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March 18, 2020

By Email

Mr. Steven VanderPloeg
U.S. Army Corps of Engineers
Norfolk District, Western Virginia Regulatory Section
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236

Re: James River Water Supply Project (NAO-2014-00708) - Supplemental Information Package

Dear Mr. Vanderploeg:

On behalf of the James River Water Authority (JRWA), Timmons Group is pleased to submit this Supplemental Information Package for the proposed James River Water Supply Project (NAO-2014-00708). These materials are being provided to facilitate the U.S. Army Corps of Engineers' review of JRWA's pending permit application. This information is intended to supplement, and in some cases update or revise, the information provided in the Joint Permit Application submitted on March 12, 2014.

The package is being provided in electronic format for download from the Timmons file transfer protocol system. We would be happy to provide paper copies upon your request.

Should you have any questions or require additional information regarding this project, please contact JRWA's counsel, Mr. Justin Curtis (justin@aqualaw.com), or Mr. Eli Wright (eli.wright@timmons.com) at your earliest convenience. Thank you for your attention to this project.

Sincerely,
Timmons Group

Eli Wright
Senior Environmental Scientist

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Principal

Enclosure (as stated)

Cc: Ms. Jennifer Frye, U.S. Army Corps of Engineers
Mr. Tom Walker, U.S. Army Corps of Engineers
Mr. Roger Kirchen, Virginia Department of Historic Resources
Mr. Randy Owen, Virginia Marine Resources Commission
Mr. Scott Kudlas, Virginia Department of Environmental Quality
Mr. D.D. Watson, James River Water Authority

PREPARED FOR:

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**James River Water Supply Project
Supplemental Information Package
NAO-2014-0070**

March 2020

PREPARED BY:

TIMMONS GROUP 

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Richmond, Virginia 23225

EXECUTIVE SUMMARY

This Supplemental Information Package is provided as additional material in association with the permit authorization request for the proposed James River Water Supply Project (NAO-2014-00708 or 'Project'). These materials are being submitted on behalf of the James River Water Authority (JRWA or 'Applicant') in response to the U.S. Army Corps of Engineers' (USACE) discretionary decision that the standard individual permit process should be followed to further evaluate the proposed project. This information is intended to supplement, and in some cases update or revise, the information provided in the Joint Permit Application (JPA) submitted on March 12, 2014.

The purpose of the proposed project is to provide a new and reliable raw water supply of sufficient quantity to meet the short and long-term needs of Fluvanna and Louisa Counties for delivery to an agreed-upon T interconnection point planned for use by Fluvanna and Louisa Counties. The proposed project is necessary to meet the near-term and long-term water demands associated with the Counties of Fluvanna and Louisa (Counties).

The need for a new joint water supply was first identified in the mid-1990's and ultimately compelled the Counties to form the JRWA to construct and operate the James River Water System for the mutual benefit of communities in both jurisdictions. JRWA was given responsibility by the Counties to provide a convenient fixed delivery point for a water supply to the Counties. This was to be achieved through the construction, operation, and maintenance of a raw water intake on the James River and conveyance of the water to an agreed-upon interconnection point located west of Columbia and north of Route 6.

The initial 2014 JPA was submitted to regulatory agencies seeking water withdrawal authorization for a water intake structure on the north bank of the James River at a site just upstream of its confluence with the Rivanna River. The JPA included a request for Rivers and Harbors Act of 1899 (RHA) § 10 and Clean Water Act (CWA) § 404 authorization from the USACE under Nationwide Permit (NWP) 12, Section 401/Virginia Water Protection (VWP) permit authorization from the Virginia Department of Environmental Quality (DEQ), and state-owned bottomlands impact authorization from the Virginia Marine Resources Commission (VMRC) for an intake structure and associated raw water transmission line to the agreed-upon T interconnection point at Route 6.

On November 20, 2015, DEQ issued an Individual Permit for the Project (VWP Individual Permit No 14-0343) and issued subsequent permit modifications on October 25, 2016 and October 30, 2017. A third minor modification request to the DEQ permit was submitted January 31, 2018 and remains pending. On March 14, 2017 VMRC issued a permit for the encroachment on state-owned bottomlands in association with the Project (VMRC Permit No. 2014-0343).

Since the submission of the JPA in March 2014, the USACE, in cooperation with the Applicant, has been in ongoing coordination with the Virginia Department of Historic Resources (DHR), and Section 106 consulting parties to work through the National Historical Preservation Act (NHPA) Section 106 consultation process. On September 10, 2019 USACE issued a letter acknowledging parties' concerns and uncertainty regarding the proposed Project's impacts to historic properties. The USACE determined further analysis of the public interest was necessary.

JRWA has developed this package to supply the USACE with supplemental information necessary to review the project in accordance with the standard individual CWA § 404 permit

process. JRWA also has taken this opportunity to update and revise information that had been included in the original 2014 JPA.

The Project is proposed to be located in Fluvanna County immediately southwest of Columbia, Virginia within an area known as 'Point of Fork'. The project area is surrounded and crossed by modern man-made improvements including Old Columbia Road (State Road 624), a CSX rail line, Dominion Power easement, dual Colonial Gas pipelines, agricultural/silviculture fields, legacy canal features, and residential structures. The proposed water withdrawal structure and pump station would be located on the north bank of the James River just upstream of the confluence with the Rivanna River. The pump station would be built on a JRWA-owned parcel (tax parcel 61-A-4A) which will be accessed via Old Columbia Road. The proposed raw water transmission line will generally traverse agriculture and silviculture lands northwest of the pump station and pass under a CSX rail line and right-of-way. North of the CSX rail line, the project alignment will generally follow Dominion Power and Colonial Gas pipeline easements eventually passing under the Rivanna River adjacent to an existing Dominion and Colonial Gas Pipeline crossing. The project area will terminate at Route 6 in the vicinity of a Colonial Gas pipeline-owned substation. The infrastructure associated with this project includes a pump station, raw water intake, wetwell influent pipe, pump station wetwell, pump, piping and valve equipment, electrical and pump control equipment, a raw water main, and improvements to an existing access road.

The proposed Project has been reevaluated and designed to avoid and minimize impacts to aquatic resources to the maximum extent practicable. As proposed, the Project would result in unavoidable impacts to aquatic resources including 1,015 square feet (0.023 acres) of permanent wetland impacts, 248 square feet (0.006 acres) of permanent conversion impacts, 663 square feet (0.015 acres) of temporary wetland impacts, 148 linear feet (3,638 square feet) of permanent stream impacts, and 796 linear feet (64,135 square feet) of temporary stream impacts. Compensatory mitigation for unavoidable permanent impacts is proposed through the purchase of off-site mitigation credits from wetland and stream mitigation banks at standard mitigation ratios.

A review pursuant to 33 C.F.R. § 320.4(a) indicates that the public interest review factors weigh overwhelmingly in favor of authorizing the proposed Project. The Project has been designed to have a de minimis impact on environmental resources. The long-term aesthetic impacts of the Project on the landscape are limited to the modest pump station structure designed to blend into the landscape and be shielded from public view and recreational users of the James River. The land disturbed for installation of the water main will be completely restored following construction. Water quality and aquatic life will be protected during the construction and long-term operation of the water supply project through compliance with various state regulations and permits that have been previously obtained by JRWA. The most prominent potential detrimental effect of the Project will be on historic properties. The Applicant has been actively engaged in the NHPA Section 106 consultation process and comments and concerns of the USACE, DHR, and consulting parties have been expressed and will be addressed in a forthcoming revision to the treatment plan. A robust package of mitigation measures is being developed that will minimize these impacts below the level of significance. However, even if the proposed mitigation does not neutralize all detrimental effects to historic properties, they pale in comparison to the demonstrable public benefits of this necessary water supply project.

This Project will provide a much-needed short and long-term public water supply for the Counties. The land use and planning goals embodied in Fluvanna and Louisa Counties' respective

comprehensive plans cannot be fulfilled absent the ability of these local government entities to provide a source of public water to growth areas that presently have overtaxed or nonexistent public water supplies. Although the Project will have a detrimental effect on historic resources, those impacts can be mitigated and are far outweighed by the long-term public benefits of the Project. Those potential detrimental effects (to the extent they cannot be fully neutralized through mitigation) are unavoidable because the proposed Project is the only practicable alternative that fulfills the project purpose and need. Fulfilling that Project purpose and need through the proposed Project is unquestionably in the public interest.

Finally, in accordance with the CWA § 404(b)(1) guidelines, the Applicant has prepared an alternatives analysis to determine if the proposed Project is the Least Environmentally Damaging Practicable Alternative (LEDPA). This analysis evaluated a reasonable range of alternatives that could potentially accomplish the purpose and need of the proposed Project. The alternatives analysis includes evaluation of alternative water supply sources, build alternatives, and the no-action/no-permit alternative.

The five evaluated alternative water sources include the Rivanna River, Lake Anna, Cobbs Creek Reservoir, groundwater, and purchased water from neighboring communities. However, each of these potential alternative water sources have readily apparent drawbacks that eliminate them from consideration as practicable alternatives.

Evaluated Build Alternatives include six alternative raw water intake locations, with twelve different routing sub-alternatives, including the site of the proposed Project. The alternative intake locations extended along the James River from just west of the Route 15 bridge near Bremono Bluff in Fluvanna County to east of Columbia past the Fluvanna County/Goochland County border along Route 6. For each Build Alternative, one or more water main route variations were evaluated as sub-alternatives. Build Alternatives and routing sub-alternative were evaluated for practicability by taking existing technology, logistics and costs into consideration. A detailed review of constructability, site suitability, and an analysis of project costs through the life of the project were considered. Build Alternatives were also reviewed for their ability to meet the project purpose and need. Finally, the environmental impacts were considered, including impacts to aquatic resources, federally recognized threatened and endangered species, and cultural resources.

Based on the alternatives analysis it is determined that Alternative 6, the proposed Project, is the only practicable alternative that meets the Project purpose and need while minimizing environmental impacts to the greatest extent practicable. The proposed Project offers convenient access to James River for the JRWA water supply project. By locating the withdrawal structure in Fluvanna County, the Applicant can realize increased distribution efficiency, as communities in Fluvanna County and Louisa County are the intended users. Additionally, the specific location on the Hammond Parcel owned by JRWA provides the water quality and quantity needed for the Project. After consideration of available alternatives to meet the needs of the Project, the Preferred Alternative as proposed, is considered the LEDPA.

**JAMES RIVER WATER SUPPLY PROJECT
SUPPLEMENTAL INFORMATION PACKAGE**

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
1.0 INTRODUCTION.....	1
2.0 PROJECT INFORMATION	2
2.1 Project History.....	2
2.1.1 Initial Efforts by Fluvanna and Louisa Counties to Coordinate Long-Term Water Supply Needs	2
2.1.2 JRWA Formed to Construct and Operate James River Water System.....	3
2.1.3 JRWA Obtains DEQ and VMRC Permits for James River Water System	4
2.1.4 JRWA Revises Pending Application in Response to USACE Letter.....	5
2.2 Project Authorizations	6
2.2.1 Coastal Zone Management Act Consistency	8
2.2.2 Clean Water Act § 401 Water Quality Certification.....	8
2.2.3 Section 106 of National Historic Preservation Act Consultation	8
2.2.4 Section 7 of the Endangered Species Act.....	10
2.2.5 Inapplicable Authorizations and Approvals	10
2.3 Project Location	11
2.4 Project Description	20
2.4.1 Raw Water Intake and Pump Station Site	20
2.4.2 Raw Water Intake	22
2.4.3 Wetwell Influent Pipe	23
2.4.4 Pump Station Wetwell.....	24
2.4.5 Pump, Piping and Valve Equipment.....	24
2.4.6 Electrical and Pump Control Equipment.....	24
2.4.7 Raw Water Main	25
2.4.8 Existing Access Road	26
2.5 Project Schedule.....	26
3.0 PURPOSE AND NEED	27
3.1 Basic Project Purpose.....	27

3.2 Overall Project Purpose	27
3.3 Project Need	27
3.3.1 Fluvanna County Water Needs (see Appendix G-1)	27
3.3.2 Louisa County Water Needs (see Appendix G-2)	29
3.3.3 DEQ Basis of Need Concurrence	32
4.0 ALTERNATIVES ANALYSIS.....	36
4.1 Summary of Alternatives	36
4.1.1 Alternative Water Supply Sources	36
4.1.2 Build Alternatives	45
4.1.2.1 Build Alternative 1: Forsyth	48
4.1.2.2 Build Alternative 2: Bremo	48
4.1.2.3 Build Alternative 3: Columbia	48
4.1.2.4 Build Alternative 4: Goochland 1	49
4.1.2.5 Build Alternative 5: Goochland 2	49
4.1.2.6 Build Alternative 6: Hammond 1 (Proposed Action)	49
4.1.2.7 Build Alternative 6-1: POF Farm	49
4.1.2.8 Build Alternative 6-2: Hammond 2	50
4.1.3 No-Permit and No-Action Alternative	58
4.2 Alternatives Evaluation Criteria	58
4.2.1 Practicability Considerations	58
4.2.2 Ability to Meet the Project Purpose	105
4.2.3 Environmental Impacts	110
4.3 Determination of Least Environmentally Damaging Practicable Alternative.....	110
4.3.1 No-Permit and No-Action Alternative	110
4.3.2 Build Alternative 1: Forsyth	111
4.3.3 Build Alternative 2: Bremo Bluff	112
4.3.4 Build Alternative 3: Columbia	113
4.3.5 Build Alternative 4: Goochland 1	115
4.3.6 Build Alternative 5: Goochland 2	116
4.3.7 Build Alternative 6: Hammond 1 (Proposed Action/Preferred Alternative)	117
4.3.8 Build Alternative 6-1: POF Farm	118
4.3.9 Build Alternative 6-2: Hammond 2	119

5.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS.....	122
5.1 Affected Environment.....	122
5.1.1 Land Use.....	122
5.1.2 Co-location of Utilities.....	122
5.1.3 Tree Clearing.....	124
5.1.4 River Flow Impact.....	125
5.1.5 Viewshed Impact.....	127
5.1.6 Noise Abatement.....	127
5.1.7 Environmental Justice.....	128
5.1.8 Aquatic Resources.....	131
5.1.9 Threatened and Endangered Species.....	139
5.1.10 Cultural Resources.....	143
5.2 Preferred Alternative Jurisdictional Impacts.....	151
5.2.1 Proposed Jurisdictional Impacts.....	151
5.2.2 Non-Jurisdictional Impacts.....	155
5.2.3 Secondary and Cumulative Impacts.....	155
6.0 AVOIDANCE, MINIMIZATION, AND COMPENSATION.....	157
6.1 Avoidance and Minimization.....	157
6.2 Compensatory Mitigation Plan.....	158
7.0 PUBLIC INTEREST REVIEW FACTORS.....	160
7.1 Conservation.....	160
7.2 Economics.....	160
7.3 Aesthetics.....	161
7.4 General Environmental Concerns.....	162
7.5 Wetlands.....	162
7.6 Historic properties.....	162
7.7 Fish and wildlife values.....	167
7.8 Flood hazards.....	168
7.9 Floodplain values.....	169
7.10 Land use.....	169
7.11 Navigation.....	169
7.12 Shore erosion and accretion.....	169

7.13 Recreation.....	170
7.14 Water supply and conservation.....	170
7.15 Water quality	170
7.16 Energy Needs	171
7.17 Safety.....	171
7.18 Food and fiber production	172
7.19 Mineral needs	172
7.20 Considerations of property ownership.....	172
7.21 The needs and welfare of the people.....	172
7.22 Conclusion	172
8.0 PUBLIC INVOLVEMENT	174

FIGURES AND TABLES

Figure 1. Vicinity Map.....	12
Figure 2. Hydrologic Unit Code Map	13
Figure 3. Existing Conditions Map.....	14
Figure 4. Adjacent Property Owners Map.....	19
Figure 5. Daily discharge (CFS) from the Rivanna River gauge in Palmyra from 1960 through 2020 (graph obtained from the USGS website on March 17, 2020).....	38
Figure 6. Demand Centers of Fluvanna and Louisa Counties	41
Figure 7. Overview of Build Alternatives and Routing.....	47
Figure 8. Overview of Evaluated Alternative Routing Options	51
Figure 9. Build Alternative 1 Evaluated Routing Options	52
Figure 10. Build Alternative 2 Evaluated Routing Options	53
Figure 11. Build Alternative 3 Evaluated Routing Options	54
Figure 12. Build Alternative 4 Evaluated Routing Options	55
Figure 13. Build Alternative 5 Evaluated Routing Options	56
Figure 14. Build Alternative 6, 6-1, and 6-2 Evaluated Routing Options	57
Figure 15. Build Alternative 1 Pump Station Plan View	60
Figure 16. Build Alternative 2 Pump Station Plan View	61
Figure 17. Build Alternative 3 Pump Station Plan View	64
Figure 18. Build Alternative 4 Pump Station Plan View	65
Figure 19. Build Alternative 5 Pump Station Plan View	66
Figure 20. Build Alternative 6 Pump Station Plan View	67
Figure 21. Build Alternative 6-1 Pump Station Plan View	68
Figure 22. Build Alternative 6-2 Pump Station Plan View	69
Figure 23. Rivanna River Confluence Sediment Plume - 2013 VGIN Aerial Imagery	82
Figure 24. Rivanna River Confluence Sediment Plume - 2013 VGIN Infrared Imagery	83
Figure 25. Routes to 3-Phase Power Tie-in Locations.....	92
Figure 26. Environmental Justice Study Area.....	129
Figure 27. Limits of Proposed Atlantic Pigtoe Critical Habitat along James River.....	141
Table 1. Project Authorizations as Required by Federal, Interstate, State, and Local Agencies. 7	
Table 2. Summary of County Approved Water Supply Plans with Projected Demands	34
Table 3. Rivanna Drainage Areas	37
Table 4. Minimum Low Flow Rates	38
Table 5. Pipeline Production Along VDOT Right-of-Way	73
Table 6. Approximate Lengths of Rock Excavation	75
Table 7. Rail Line Crossing Considerations.....	77
Table 8. Easement Requirements.....	80
Table 9. Intake and Wetwell Data.....	87
Table 10. Pump Station Site Distance to 3-Phase Power.....	90
Table 11. Proximity to Residential Dwellings	93
Table 12. Opinion of Probable Costs - Total Project Costs Summary.....	97
Table 13. Pipeline Requirements	99
Table 14. 12 MGD Design Flow Rate Pump Calculations	100
Table 15. Increase in Annual Pumping Costs to T Interconnect	101
Table 16. Estimated Increase in Annual WTP Operation Costs.....	102
Table 17. Estimated Construction Cost Escalation Multiplier by Year.....	104

Table 18. Total Estimated Cost by Alternative Adjusted for Construction Cost Escalation.....	104
Table 19. Contributing Drainage Areas	106
Table 20. Estimated Project Timelines by Alternative.....	109
Table 21. Practicability Criteria Evaluated for Project Alternatives.....	121
Table 22. Water main Co-Location of Utilities	123
Table 23. Tree Clearing Requirements	124
Table 24. Potential River Impacts.....	126
Table 25. Analysis of EJ Populations within EJ Study Area.....	130
Table 26. Estimated Impacts to Aquatic Resources by Build Alternative	133
Table 27. Estimated Permanent Impacts to Aquatic Resources by Build Alternative.....	133
Table 28. Summary of anticipated State-owned Bottomland Impacts by alternative.....	135
Table 29. Estimated Jurisdictional Aquatic Resources Mitigation Summary by Build Alternative	138
Table 30. Summary of IPAC Results for Federal Protected Species by Build Alternative	140
Table 31. Summary of Proposed Mussel Survey Needs by Build Alternative	142
Table 32. Comparison of Cultural Resources Background Research by Build Alternative	146
Table 33. Proposed Aquatic Resources Impacts Table	153
Table 34. Proposed Wetland Compensatory Mitigation Requirement.....	158
Table 35. Historic Recourse Summary of USACE Effects Determinations and Applicant Proposed Responses.....	163

APPENDICES

APPENDIX A **ENG FORM 4345**

APPENDIX B **REGULATORY COMPLIANCE CHECKLIST**

APPENDIX C **COLLECTED INTERJURISDICTIONAL AGREEMENTS**

Appendix C-1 Memorandum of Understanding between the Fluvanna County Board of Supervisors and the Louisa County Board of Supervisors Concerning Provision of Public Water Service

Appendix C-2 An Agreement between Louisa County, Virginia, Fluvanna County, Virginia, The Louisa County Water Authority, and the James River Water Authority Regarding the James River Water Pipeline Documents

Appendix C-2-1 An Agreement between Louisa County, Virginia, Fluvanna County, Virginia, The Louisa County Water Authority, and the James River Water Authority Regarding the James River Water Pipeline

Appendix C-2-2 Addendum No. 1 to "Agreement between Louisa County, Virginia, Fluvanna County, Virginia, The Louisa County Water Authority, and the James River Water Authority Regarding the James River Water Pipeline"

Appendix C-3 James River Water Authority Standard Terms and Conditions

Appendix C-4 Procurement Policy of James River Water Authority

Appendix C-5 Resolution Signifying the Intention of the Board of Supervisors of the County of Fluvanna to Create a Joint Water Authority Under the Virginia Water and Waste Authorities Act and Setting Forth its Articles of Incorporation

Appendix C-6 Articles of Incorporation of James River Water Authority

Appendix C-7 James River Water Authority Bylaws

Appendix C-8 Service Agreement among James River Water Authority and the County of Fluvanna, Virginia, and the County of Louisa, Virginia

Appendix C-9 Resolution of the Board of Supervisors of the County of Fluvanna, Virginia, Approving the Execution and Delivery of a Support Agreement

Appendix C-10 A Resolution of the Board of Supervisors of the County of Louisa Virginia Approving the Execution and Delivery of a Support Agreement

Appendix C-11 Resolution Providing for the Issuance and Sale of a Revenue Bond, Series 2016, of the James River Water Authority and Providing for the Form, Details and Payment Thereof

Appendix C-12 Board of Directors James River Water Authority Resolution: Resolution Approving Public Uses and Authorizing Acquisition of Necessary Property by Eminent Domain

Appendix C-13 Reimbursement Agreement between James River Water Authority and the County of Fluvanna, Virginia

APPENDIX D **PROJECT AUTHORIZATIONS/ AGENCY DECISIONS**

Appendix D-1 VWP Individual Permit No. 14-0343 and Supporting Documents

Appendix D-1-1 Initial VWP Individual Permit No. 14-0343 Permit

Appendix D-1-2 Initial VWP Individual Permit No. 14-0343 Fact Sheet

Appendix D-1-3 Minor Modification No. 1 of VWP Individual Permit No. 14-0343 Permit

<i>Appendix D-1-4</i>	Minor Modification No. 1 of VWP Individual Permit No. 14-0343 Fact Sheet
<i>Appendix D-1-5</i>	Minor Modification No. 2 of VWP Individual Permit No. 14-0343 Permit
<i>Appendix D-1-6</i>	Minor Modification No. 2 of VWP Individual Permit No. 14-0343 Fact Sheet
<i>Appendix D-1-7</i>	Minor Modification No. 3 of VWP Individual Permit No. 14-0343 Request
<i>Appendix D-2</i>	Commonwealth of Virginia Marine Resources Commission Permit Documents
<i>Appendix D-2-1</i>	Initial Commonwealth of Virginia Marine Resources Commission Permit 2014-0343
<i>Appendix D-2-2</i>	Commonwealth of Virginia Marine Resources Commission Permit 2014-0343 Extension Letter
<i>Appendix D-3</i>	DEQ CZMA Applicability Determination
<i>Appendix D-4</i>	Preliminary Jurisdictional Determination Documents
<i>Appendix D-4-1</i>	2014 NAO-2014-0708 Preliminary Jurisdictional Determination Letter
<i>Appendix D-4-2</i>	2016 NAO-2014-0708 Preliminary Jurisdictional Determination Letter
<i>Appendix D-5</i>	Anticipatory Burial Permit DHR File No. 2015-0984
<i>Appendix D-6</i>	Special Use Permit Documents
<i>Appendix D-6-1</i>	Special Use Permit Fluvanna County Board of Supervisors Action Report 09/23/2015
<i>Appendix D-6-2</i>	Special Use Permit Fluvanna County Board of Supervisors Approved Minutes 09/23/2015
<i>Appendix D-6-3</i>	Special Use Permit Fluvanna County Board of Supervisors Package 01/06/2016
<i>Appendix D-6-4</i>	Special Use Permit Fluvanna County Board of Supervisors Action Report 01/06/2016
<i>Appendix D-6-5</i>	Special Use Permit Fluvanna County Board of Supervisors Approved Minutes 01/06/2016
<i>Appendix D-7</i>	VPDES Construction General Permit Authorization VRO-17-181
<i>Appendix D-8</i>	Site Development Plan Approval SDP 17:08
<i>Appendix D-9</i>	VDH Waterworks Construction Permit Approval Letter
<i>Appendix D-10</i>	USACE Issued Letter NAO-2014-00708

APPENDIX E SITE CONDITIONS AND DETAILS

<i>Appendix E-1</i>	Historic Aerials
<i>Appendix E-2</i>	JRWA Owned Easement Plats and Pump Station Parcel
<i>Appendix E-3</i>	Geotechnical and Bathymetric Reports
<i>Appendix E-3-1</i>	Subsurface Exploration and Geotechnical Evaluation James River Water Authority Pump Station and Intake
<i>Appendix E-3-2</i>	Rivanna River Crossing - Draper Aden Associates Boring Logs
<i>Appendix E-3-3</i>	Geotechnical Engineering Report James River Water Authority Water Supply Proposed Pump Station
<i>Appendix E-3-4</i>	James River Topographic and Bathymetric Survey

APPENDIX F	PROJECT ENGINEERING DETAILS
<i>Appendix F-1</i>	Pump Selection Submittal
<i>Appendix F-2</i>	Rivanna River HDD Select Sheets
APPENDIX G	COUNTY WATER PLANS
<i>Appendix G-1</i>	Fluvanna County Regional Water Supply Plan
<i>Appendix G-2</i>	Louisa County Long Range Regional Water Supply Plan
APPENDIX H	ALTERNATIVE ANALYSIS
<i>Appendix H-1</i>	Alternative Water Supply Screening Support Documents
<i>Appendix H-1-1</i>	Dominion Letter Regarding Louisa County Application for Water Withdrawal from Lake Anna
<i>Appendix H-1-2</i>	Groundwater Support Documents
<i>Appendix H-1-2-1</i>	County of Louisa Water Quality Management Plan and Groundwater Study
<i>Appendix H-1-2-2</i>	Fluvanna County Geology and Water Well Productivity
<i>Appendix H-1-3</i>	RWSA Letter
<i>Appendix H-2</i>	Pump Station Details
<i>Appendix H-3</i>	Memorandum Regarding Meeting with Mathew W. Reynolds, VDOT State Utilities & Property Manager Right of Way & Utilities Division
<i>Appendix H-4</i>	Alternative Water Main Rock Excavation Exhibit
<i>Appendix H-5</i>	CSX Crossings and Documents
<i>Appendix H-5-1</i>	Facility Encroachment Agreement
<i>Appendix H-5-2</i>	CSX Preferred Alternative Letter
<i>Appendix H-5-3</i>	Proposed Access Road and Rail Line Crossing Profiles
<i>Appendix H-6</i>	Selected Virginia Administrative Code
<i>Appendix H-6-1</i>	Virginia Administrative Code Title 12. Health Agency 5. Department of Health Chapter 590. Waterworks Regulations 12VAC5-590-200 Procurement of Obtaining a Construction Permit
<i>Appendix H-6-2</i>	Virginia Administrative Code Title 9. Environment Agency 25. State Water Control Board. Chapter 260. Water Quality Standards Part IX. River Basin Section Tables 9VAC25-260-360. Section Number and Descriptive Columns
<i>Appendix H-7</i>	Geotechnical Reports
<i>Appendix H-7-1</i>	Bremo Bridge Geotechnical Report
<i>Appendix H-7-2</i>	Columbia Bridge Geotechnical Report
<i>Appendix H-8</i>	3-Phase Power Tie-in Locations Support Document
<i>Appendix H-9</i>	Cost Consideration Support Documents
<i>Appendix H-9-1</i>	Construction Cost Considerations
<i>Appendix H-9-2</i>	Opinion of Probable Cost
<i>Appendix H-9-3</i>	2015 Memo vs. 2020 Alternatives Cost Comparison
<i>Appendix H-9-4</i>	Property Acquisition Cost Analysis
<i>Appendix H-10</i>	Co-location of Utilities Exhibit
<i>Appendix H-11</i>	Environmental Justice Documents
<i>Appendix H-11-1</i>	EJSCREEN Environmental Justice Minority Populations
<i>Appendix H-11-2</i>	EJSCREEN Environmental Justice Low Income Population
<i>Appendix H-11-3</i>	Environmental Justice Study Area Census Block Raw Data
<i>Appendix H-12</i>	Aquatic Resource Documentation
<i>Appendix H-12-1</i>	StreamStats Report
<i>Appendix H-12-2</i>	Estimated Jurisdictional Waters of the U.S. Delineation Map

<i>Appendix H-12-3</i>	Estimates Jurisdictional Waters of the U.S. Impacts Map
<i>Appendix H-12-4</i>	Environmental Inventory Map – Alternate Sites
<i>Appendix H-13</i>	Threatened and Endangered Species Information
<i>Appendix H-14</i>	Virginia Cultural Resources Information System Mapping

APPENDIX I

JURISDICTIONAL RESOURCE IMPACT DETAILS

<i>Appendix I-1</i>	Select Engineering Details
<i>Appendix I-2</i>	United Stream Methodology and Functions and Values Assessments
<i>Appendix I-2-1</i>	United Stream Methodology Forms
<i>Appendix I-2-2</i>	Functions and Values Assessments
<i>Appendix I-3</i>	Letter of Credit Availability
<i>Appendix I-4</i>	Preliminary Jurisdictional Waters of the U.S. Impacts Map

APPENDIX J

PUBLIC INTEREST

<i>Appendix J-1</i>	FEMA Mapping
<i>Appendix J-2</i>	Fluvanna Review - News Report and Associated Photographs

APPENDIX K

PUBLIC INVOLVEMENT INFORMATION

<i>Appendix K-1</i>	Public Notice - Central Virginia Newspapers Review Order Confirmation
<i>Appendix K-2</i>	Public Meeting PowerPoint: James River Water Authority – Water Withdrawal Permit Relocation 02/04/2014
<i>Appendix K-3</i>	Louisa County James River Water Authority Public Information Meeting PowerPoint 12/16/2014
<i>Appendix K-4</i>	Louisa County James River Water Authority Public Information Meeting PowerPoint 04/07/2015
<i>Appendix K-5</i>	Public Notice VMRC and DEQ in Richmond Times-Dispatch 05/07/2015 (actual size on 11x17)
<i>Appendix K-6</i>	Public Notice VMRC and DEQ in Richmond Times-Dispatch 05/07/2015 (200% size on 8.5x11)
<i>Appendix K-7</i>	DEQ Public Notice – Environmental Permit
<i>Appendix K-8</i>	County of Fluvanna Notice of Public Hearing: Public Hearing on SUP 15:08
<i>Appendix K-9</i>	Notice of Public Hearing James River Water Authority
<i>Appendix K-10</i>	Commonwealth of Virginia Marine Resource Commission Notice of Public Hearing
<i>Appendix K-11</i>	James River Water Authority Project Brief PowerPoint 08/2018

APPENDIX L

SECTION 7 DOCUMENTS

<i>Appendix L-1</i>	IPaC Official Species List
<i>Appendix L-2</i>	NLEB Consistency Letter
<i>Appendix L-3</i>	Species Conclusion Table

APPENDIX M

SECTION 106 DOCUMENTS

<i>Appendix M-1</i>	NHPA § 110(K) JRWA Response
<i>Appendix M-1-1</i>	JRWA Compliance with Section 110(k) of the National Historic Preservation Act Letter
<i>Appendix M-1-2</i>	Counsel Report on Eric Mai Declaration

ACRONYMS AND ABBREVIATIONS

AC	Acres
ACHP	Advisory Council on Historical Preservation
ACS	American Community Survey
APE	Area of Potential Effect
Applicant	James River Water Authority
BMP	Best Management Practices
CCR	Cobbs Creek Reservoir
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CMU	Concrete Masonry Units
Counties	Louisa County and Fluvanna County
CR	Compensation Requirement
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DEQ	Virginia Department of Environmental Quality
DHR	Virginia Department of Historic Resources
DIP	Ductile Iron Pipe
Dominion	Dominion Energy, Dominion Virginia Power, Virginia Power and Electric Company or any other previous name utilized by Dominion Energy
ECS	Erosion and Sediment Control
ECTI	East Coast Transmission, Inc
EJ	Environmental Justice
EJSCREEN	Environmental Justice Screening Tool
EPA	Environmental Protection Agency
FESE	Federally Endangered/State Endangered

FT	Federally Threatened
FTST	Federally Threatened/State Threatened
FPS	Feet per Second
FT	Feet
GPD	Gallons per Day
HDD	Horizontal Directional Drilling
IF	Impact Factor
IPaC	Information, Planning, and Consultation System
JD	Jurisdictional Determination
JPA	Joint Permit Application
JRWA	James River Water Authority
LEDPA	Least Environmentally Damaging Practicable Alternative
LF	Linear Feet
MGD	Million Gallons per Day
MOA	Memorandum of Agreement
NHD	National Hydrography Dataset
NHL	Virginia's National Historic Landmarks
NHPA	National Historical Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWP	Nationwide Permit
O&M	Operations and Maintenance
OPPC	Opinion of Probable Project Cost
PEM	Palustrine Emergent Wetland
PFO	Palustrine Forested Wetlands

POW	Palustrine Open Water
PSS	Palustrine Scrub-Shrub Wetland
PJD	Preliminary Jurisdiction Determination
Project	James River Water System Project
Proposed Action	Build Alternative 6/ Preferred Alternative/ Hammond 1
R3	Perennial Stream Channel
RCI	Reach Condition Index
RHA	Rivers and Harbors Act of 1899
Route 624	Point of Fork Road
Route 656	Bremo Road
RWSA	Rivanna Water & Sewer Authority
R/W or ROW	Right-of-Way
RWPS	Raw Water Pump Stations
SHPO	State Historic Preservation Office
SQ FT	Square Feet
SQ MI	Square Miles
ST	State Threatened
T&E Species	Threatened and Endangered Species
USACE	US Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	US Fish and Wildlife Service
USGS	United States Geological Survey
USM	United Stream Methodology
VaFWIS	Virginia Fish and Wildlife Information Service
VCRIS	Virginia Cultural Resources Information System

VDGIF	Virginia Department of Game and Inland Fisheries
VDH	Virginia Department of Health
VDOT	Virginia Department of Transportation
VESCL	Virginia Erosion & Sediment Control Law
VESCR	Virginia Erosion & Sediment Control Regulations
VGIN	Virginia Geographic Information Network
VLR	Virginia Landmarks Register
VMRC	Virginia Marine Resources Commission
VPDES	Virginia Pollutant Discharge System
VWP	Virginia Water Protection
WERMS	Wildlife Environmental Review Map Service
WOTUS	Waters of the United States
WSWG	Water Supply Working Group
WTP	Water Treatment Plant

1.0 INTRODUCTION

This Supplemental Information Package is submitted on behalf of the James River Water Authority (JRWA or 'Applicant'), a political subdivision of the Commonwealth of Virginia and a water authority created under the Virginia Water and Waste Authorities Act, Va. Code §§ 15.2-5100 et seq. This information is provided as additional material in association with the permit authorization request for the proposed James River Water System Project to be located near Columbia, Virginia (NAO-2014-00708 or 'Project'). The information in this package is provided in response to the U.S. Army Corps of Engineers (USACE) determination that the standard individual permit process is warranted to further evaluate the proposed project as stated in a letter received by the Applicant and dated September 10, 2019 (see [Appendix D-10](#)). The information provided herein is intended to supplement, and in some cases update or revise, the information provided in the Joint Permit Application submitted on March 12, 2014.

In accordance with 33 CFR § 325.1(c) the Applicant has prepared the standard application form (see [Appendix A: ENG Form 4345](#)). Additional supplementary material is provided throughout this support document and attachments. Per 33 CFR § 325.1(f), the Applicant will provide permit fees should the district engineer determine they are required. Please refer to [Appendix B: Regulatory Compliance Checklist](#) for a complete listing of applicable regulatory requirements addressed in this Supplemental Information Package.

The Supplemental Information and Alternatives Analysis have been developed using the best available information and field visits to confirm site conditions where feasible and practicable at the time of this submission. Timmons Group in conjunction with our Project Team Members, GAI Consultants, Faulconer Construction and MEB, have utilized this factual information along with best professional judgment to develop the basis of evaluation for this report and believe any other consultants or contractors with similar background and experience coupled with access to the same information would reach the same reasonable conclusions as presented in this supplemental information package.

2.0 PROJECT INFORMATION

The details in the Project Information section is provided per 33 CFR § 325.1 (d) (1).

2.1 Project History

2.1.1 Initial Efforts by Fluvanna and Louisa Counties to Coordinate Long-Term Water Supply Needs

The need for additional water supplies for the Counties of Louisa and Fluvanna (Counties) was first identified in the mid-1990's following completion of a *Water Resources Study for the Zion Crossroads Area* (1996) commissioned jointly by the Counties. In 2002, the Water Supply Working Group (WSWG) was commissioned by the Counties to prepare an agreement for the development of a framework for a joint water supply project to meet the needs of the Counties. That same year, a statewide drought led then-Governor Mark Warner to issue Executive Order 39 (the Virginia Water Supply Initiative), which mandated statewide long-range water supply planning to ensure growth projections could be met. In 2003, the WSWG drafted a *Memorandum of Understanding between the Fluvanna County Board of Supervisors and the Louisa County Board of Supervisors Concerning Provision of Public Water Service*. The agreement outlined the potential framework for a shared water system now known as the James River Water System Project. On March 30, 2004 the Counties officially executed the Memorandum (see [Appendix C-1](#)).

On April 2, 2004 Fluvanna County, acting on behalf of the Counties, submitted a Joint Permit Application (JPA) for three permits necessary to construct the Project: (1) Authorization under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899 (RHA) from the USACE via Nationwide Permit (NWP) 12; (2) CWA Section 401 authorization from the Virginia Department of Environmental Quality (DEQ) via the Virginia Water Protection (VWP) Program for water withdrawal and impacts to waters under state jurisdiction; (3) and authorization to use state-owned bottomlands from the Virginia Marine Resources Commission (VMRC).

These authorization requests initially proposed a water intake structure to be located on the north bank of the James River at Brems Bluff, at the end of Route 657, off Route 15 in Fluvanna County. At the time, it was anticipated Fluvanna and Louisa Counties would be able to partner with Dominion to utilize their existing intake structure and contract with East Coast Transmission, Inc. (ECTI) to utilize their existing raw water main that runs to the Tenaska Power Plant located in Fluvanna County. On March 16, 2006 the USACE issued a concurrence letter stating the project satisfied the conditions of NWP 12 (USACE Project Number 04-V0805) and on June 9, 2006 DEQ issued a VWP water withdrawal permit (DEQ VWP Permit #04-0805) for the Brems Bluff site.

2.1.2 JRWA Formed to Construct and Operate James River Water System

Between 2008 and 2009 several public meetings and a Joint Board of Supervisor's meeting were held in order to identify details of the project, costs, and potential ownership structures. Following these meetings, JRWA was formed pursuant to the Virginia Water and Waste Authorities Act and a certificate of incorporation was issued by the State Corporation Commission on April 21, 2009. On January 7, 2010 the DEQ VWP water withdrawal permit was formally transferred from Fluvanna County to the JRWA.

Between 2009 and 2010, the Counties worked on several issues regarding the formation and financing of the James River Water System Project. However, by late 2010 JRWA went dormant and ceased to meet due to issues with the economic downturn of 2009, project financing, and legal challenges.

In 2012, JRWA meetings resumed. During this time, the Bremono Bluff location was removed from consideration due to several contributing factors. After the original Bremono Bluff permit was issued, ECTI notified the Counties that they would only be able to provide "firm" capacity (ability to utilize the joint pipe 24 hours per day) in the shared water main of 1.5 million gallons per day (MGD), which was insufficient to meet the Counties' needs. Furthermore, Dominion transitioned the Bremono powerplant from a coal-fired plant to a natural gas plant and later, subsequently shut the plant down. In addition, Fluvanna County determined that the County could not afford their half of the project as it was proposed at the time and therefore left Louisa County in a position where they would need to pay for a majority of the proposed system. The infeasible costs were due, in large part, to the fact that the Bremono Bluff location would have increased the length of water main needed to nearly 10 miles, which would have significantly increased the associated disturbance, cost, and resource impacts.

Thereafter, Louisa and Fluvanna started discussions in earnest to come up with a solution that would give both Counties the ability to provide raw water to their citizens and allow the Counties to develop their own independent utility systems and use of the raw water as they saw fit. Louisa evaluated options to develop a water system that would centrally serve the County. It was determined that a water treatment plant located in the Ferncliff area could treat raw water and supply finished water to their designated growth areas. These growth areas include Zion Crossroads, Ferncliff, Shannon Hill, Gum Springs, Town of Louisa, and Town of Mineral and Lake Anna (see [Appendix G-2](#)). Louisa also determined that the shortest route to the James River would be to co-locate within or adjacent to an existing utility corridor with multiple utility easements (Central Virginia Electric Cooperative and Colonial Gas Pipeline) that route along the east side of Fluvanna County.

A Draft Project Plan and routing option was prepared and presented to the Counties in Spring 2013. In October 2013 an Interjurisdictional Agreement was signed by Fluvanna, Louisa, JRWA, and the Louisa County Water Authority (see [Appendix C-2](#)). This agreement outlined the responsibilities of the interested parties and new project routing, which moved the water withdrawal facility from the Bremono Bluff area downstream to the Columbia area, with the final project location to be determined at a later date based on engineering, planning, legal, and other considerations.

The October 2013 agreement charted the major elements of the Project, which are embodied in this pending application. It assigned JRWA responsibility for constructing, operating, and maintaining a raw water intake on the James River and associated infrastructure necessary to convey that water to a planned connection at a location to be determined west or north of Columbia near Route 6. The agreement explains that the purpose of JRWA constructing the Project up to the connection and valves is to provide a convenient fixed delivery point for Fluvanna and Louisa Counties (acting through the Louisa County Water Authority) to construct their own water mains to tap into the planned JRWA system to meet their respective long-term water supply needs. Louisa County had the more immediate need, and the agreement contemplates that Louisa would be the first to construct, at its own expense, a water main leading from the connection to a final point north. Fluvanna County would construct its own water main to connect to the JRWA system at such time as it became necessary to meet its growing water supply needs. Under the agreement, JRWA is the sole owner of the raw water intake and the water main from the James River to the agreed-upon delivery point. Each County is solely responsible for constructing, operating, and maintaining its respective water mains and associated infrastructure to connect to and receive water from the JRWA system. All relevant collected interjurisdictional agreements can be found in [Appendix C: Collected Interjurisdictional Agreements](#).

2.1.3 JRWA Obtains DEQ and VMRC Permits for James River Water System

On December 18, 2013 staff from Louisa County, Fluvanna County, and JRWA's engineering consultant, Timmons Group, met with Virginia DEQ staff (Scott Kudlas, Director of the Office Water Supply) during an informal meeting to seek guidance from DEQ staff regarding the need to find a new location for the intake. In order to seek public input regarding the proposed Project, JRWA placed a public notice in The Daily Progress newspaper from January 13, 2014 through January 19, 2014. This public notice specifically identified the new location as being in the immediate vicinity of the currently proposed Project. Additionally, on February 4, 2014, the Applicant hosted a Public Informational Meeting during which a presentation of the proposed Project was given and a request for written comments was made. No comments were received during the meeting, during the following seven-day comment period, or during the Public Notice period advertised in the Daily Progress.

In March 2014, a JPA was submitted to regulatory agencies on behalf of the JRWA seeking to rescind the previously issued Bremono Bluff water withdrawal authorizations and to reissue the permits for a water intake structure on the north bank James River at a site near Columbia, just upstream of the confluence with the Rivanna River. This JPA included a request for RHA § 10 and CWA § 404 authorization from the USACE under NWP 12, Section 401/VWP permit authorization from DEQ, and state-owned bottomlands impact authorization from the VMRC for an intake structure and associated raw water transmission line to the agreed-upon T interconnection point at Route 6.

As part of the new application review process, DEQ contacted the appropriate state regulatory agencies, reviewed public comments received during the regulatory Public Involvement process, and reviewed considerations of the Project purpose and needs and alternative sites considered. On November 20, 2015, DEQ issued an Individual Permit for the Project (VWP Individual Permit No 14-0343), which included DEQ's determination that the proposed project was the Least

Environmentally Damaging Practicable Alternative (LEDPA) under the analogous VWP regulation. Details of DEQ's interagency coordination, reviews, and findings are provided in the VWP Project Fact Sheet dated November 20, 2015 (see [Appendices D-1-1 \(VWP Permit\) and D-1-2 \(Fact Sheet\)](#)). On October 25, 2016 DEQ authorized a minor modification of their permit. This modification authorized: (1) relocation of the proposed intake structure and pump station 200 feet upstream from the previously proposed location; (2) relocation of a portion of the permitted raw water transmission line; and (3) extension of the raw water transmission line from Route 6 to the location of a proposed new water treatment plant near the Ferncliff community in Louisa County. Details of DEQ's reviews and findings are provided in the VWP Project Fact Sheet dated October 25, 2016 (see [Appendices D-1-3 \(VWP Permit\) and D-1-4 \(Fact Sheet\)](#)). On October 30, 2017 DEQ issued a second minor modification to the VWP permit. This modification authorized multiple changes including: (1) a reduction in impacts to make the VWP permit consistent with USACE NWP 12 authorization for the raw water transmission line north of Route 6 (NAO-2016-1198); (2) revisions to make the permit consistent with updates to the VWP regulations made effective in 2016; and (3) correction of clerical errors in the initial modification (see [Appendices D-1-5 \(VWP Permit\) and D-1-6 \(Fact Sheet\)](#)). A third minor modification was submitted January 31, 2018 and remains pending (See [Appendix D-1-7](#)). This minor modification seeks authorization for two additional wetland impacts and two additional stream impacts along the access road that are necessary to provide safe access to the pump station site for construction and service vehicles. Additionally, an in-depth analysis of the project area conducted for the individual permitting process led to de minimis revisions and updates to currently permitted impacts. This minor modification also seeks authorization for the revisions to currently permitted impacts. Cumulatively, this minor modification requests the authorization of additional impacts totaling 84 linear feet of permanent stream impact, 468 square feet of temporary wetland impacts, and 1,008 square feet of permanent wetland impacts. In addition, there is a reduction of 246 linear feet of temporary stream impacts. JRWA will continue to coordinate with DEQ to ensure consistency with the materials provided in this supplement package and expects to receive the minor modification approval in due course. The Applicant will transmit the same to the USACE to verify the Project's full compliance with 33 CFR § 325.2(b)(1).

On March 14, 2017, VMRC issued a permit for the encroachment on state-owned bottomlands in association with the Project (VMRC permit number 2014-0343). This permit authorized the installation of the raw water intake adjacent to the north bank of the James River and a submerged line beneath the Rivanna River (see [Appendix D-2-1](#)). On April 8, 2019, VMRC issued an extension of the permit through June 30, 2022 (see [Appendix D-2-2](#)).

2.1.4 JRWA Revises Pending Application in Response to USACE Letter

Since the submission of the JPA in March 2014, the USACE, in cooperation with the Applicant, has been in ongoing coordination with the Virginia Department of Historic Resources (DHR), and Section 106 consulting parties to work through the National Historic Preservation Act (NHPA) Section 106 process with the objective of developing and executing a Memorandum of Agreement to resolve adverse impacts to historical resources. The Advisory Council on

Historical Preservation (ACHP) signaled its intent to engage in the project coordination in July 2019 and subsequently attended the August 9, 2019, Consulting Party meeting hosted by the USACE.

On September 10, 2019, USACE issued a letter (NAO-2014-00708) acknowledging parties' concerns and uncertainty regarding the proposed Project's impacts to historic properties. The USACE determined further analysis supporting public interest was necessary (see [Appendix D-10](#)). It therefore exercised discretionary authority under 33 C.F.R. § 330.4(3) to require that this pending application be processed through the standard individual permit process rather than under the NWP program. The letter further noted that the USACE could restore authorization under an NWP at any time if warranted by the circumstances. JRWA has developed this package to supply the USACE with supplemental information necessary to review the Project in accordance with the standard individual CWA § 404 permit process. JRWA also has taken this opportunity to update and revise information that had been included in the original 2014 JPA.

2.2 Project Authorizations

A list of all authorizations by federal, interstate, and local agencies for the work, including all approvals received or denials made is summarized in Table 1 below. For all pertinent documents please see [Appendix D: Project Authorizations/ Agency Decisions](#). Summaries of the status of the relevant authorizations and approvals listed in 33 CFR §§ 320.3 and 325.2(b) follows the table.

Table 1. Project Authorizations as Required by Federal, Interstate, State, and Local Agencies.

Document	Authorization/Approval/Concurrence	Regulatory Agency	Document/Project Number:	Date Issued/Date Denied:	Notes	Appendix
DEQ Virginia Water Protection (VWP) Individual Permit Number 14-0343	Water Intake & CWA § 401 Authorization	DEQ	VWP IP 14-0343	11/20/2015	Modified 10/25/2016 & 10/30/2017 as noted above. Minor modification submitted [January 31, 2018] remains pending.	D-1-1 (Permit), D-1-2 (Fact Sheet), D-1-3 (Mod 1 Permit), D-1-4 (Mod 1 Fact Sheet), D-1-5 (Mod 2 Permit), D-1-6 (Mod 2 Fact Sheet), D-1-7 (Pending Mod)
CZMA Consistency Determination	CZMA Consistency Determination	DEQ	Email Correspondence	1/10/2020	The Project is not likely to have effects on Virginia's coastal resources or uses and federal consistency review is not required	D-3
Preliminary Jurisdictional Determination	Wetland Delineation Concurrence	USACE	NAO-2014-0708	6/11/2014	Issued on 6/11/2014; Reconfirmed 8/29/2016	D-4-1 (2014) D-4-2 (2016)
VMRC Permit	State-owned Bottomlands Impact Authorization	VMRC	VMRC 2014-0343	3/14/2017	James River Intake & Fluvanna Crossing	D-2-1 (Permit) D-2-2 (Extension)
Anticipatory Burial Permit	Anticipatory Burial Permit	DHR	DHR File No 2015-0984	10/4/2017	For Phase I/II archaeological study	D-5
NWP 12 Authorization	§404 CWA/ §10 RHA Authorization	USACE	NAO-2014-00708	9/10/2019	USACE determination that the standard individual permit process is necessary to further evaluate the proposed project	D-10
Memorandum of Agreement	NHPA Section 106 Consulting Party Agreement	USACE	NAO-2014-0708	Pending	(proposed pending revision)	
Anticipatory Burial Permit	Anticipatory Burial Permit	DHR	DHR File No 2015-0984	Pending	For planned Phase III archeological study; Intend to submit revised application following approval of Treatment Plan.	n/a
Special Use Permit	Local Zoning Approval	Fluvanna County Board of Supervisors	SUP 15:11	1/20/2016		D-6
Floodplain Permit	Local Zoning Approval	Fluvanna County	SUP 15:11	1/20/2016	Addressed during the site plan review with the County as part of Special Use Permit	
VPDES Construction General Permit Authorization/ Stormwater Management Plans	Construction Stormwater Discharges	DEQ	VRO-17-181	Pending	Previous application deemed approvable pending issuance of permit authorization from USACE; will submit new registration statement to comply with permit reissued July 1, 2019.	D-7
Site Development Plan	Site Development Plan Approval	Fluvanna County	SDP 17:08	November 20, 2018.	Revised plans to be provided to County for final approval.	D-8
Land Disturbing Permit	Erosion and Sediment Control Plan Approval	Fluvanna County	TBD	Pending	Contractor is responsible for obtaining the land disturbance permit prior to construction once bond is posted and construction commences.	
VDOT Land Use Permit	Construction and Utilities Installation across VDOT Jurisdiction	VDOT	TBD	Pending	Initial review provided as part of Site Development Plan. Contractor is responsible for obtaining the VDOT Land Use Permit prior to construction once bond is posted and construction commences.	
VDH Waterworks Construction Permit	Waterworks Permit	VDH	TBD	Pending	Project 1C (Raw Waterline) was approved for construction by VDH on 12/12/2018. Final plans for Projects 1A and 1B (Raw Water Intake and Pump Station) will be resubmitted to VDH for review and approval once the structural design is completed pending a decision on the site excavation method to be used.	D-9
Building Permit	Building Permit	Fluvanna County	TBD	Pending	Contractor is responsible for obtaining the Building Permit prior to construction once bond is posted and construction commences.	

2.2.1 Coastal Zone Management Act Consistency

The proposed activity is well outside Virginia's designated coastal resources management area and is not reasonably or likely to affect coastal uses or resources of Virginia's designated coastal resources management area. However, the Applicant submitted a formal request to the DEQ CZMA State Coastal Management Program on January 3, 2020, requesting a formal determination of CZMA applicability for the proposed Project.

A response was received on January 10, 2020, from the DEQ CZMA State Coastal Management Program Manager (Ms. Bettina Rayfield) stating the proposed Project is 'not likely to have effects on Virginia's coastal resources or uses' and 'a federal consistency review is not required.' Therefore, the requirements of the CZMA are not applicable to the proposed Project (see [Appendix D-3](#))

2.2.2 Clean Water Act § 401 Water Quality Certification

The Virginia Code provides that "[i]ssuance of a Virginia Water Protection Permit shall constitute the certification required under § 401 of the Clean Water Act." Va. Code § 62.1-44.15:20.D. As noted above, the Project issued a VWP permit by DEQ on November 20, 2015 (see [Appendices D-1-1 and D-1-2](#)). Two minor modifications of that permit were approved on October 25, 2016 and October 30, 2017, respectively (see [Appendices D-1-3 through D-1-6](#)). The Project's VWP permit, as amended, provides the Commonwealth's water quality certification for the majority of the Project's impacts.

A third minor modification was submitted to DEQ on January 31, 2018 for three minor impacts that were inadvertently excluded from the prior permit (see [Appendix D-1-7](#)). This minor modification sought authorization for two additional wetland impacts and two stream impacts along the access road that are necessary to provide safe access to the pump station site for construction and service vehicles, as well as an additional updates and a temporary impacts to a stream that were omitted due to a clerical error. Through the development of information for this submittal, including a detailed review of additional avoidance and minimization measures, the project team has identified the need to update the pending third minor modification. That update will be submitted to DEQ in conjunction with this information package. JRWA will continue to coordinate with DEQ to ensure consistency with the materials provided in this supplement package and expects to receive the minor modification approval in due course, a copy of which will be transmitted to the USACE for the permit file.

2.2.3 Section 106 of National Historic Preservation Act Consultation

The NHPA § 106 consultation process was initiated in early 2016 and remains in progress. Although informal consultation commenced at an earlier date, the USACE formally invited interested federal- and state-recognized tribes and other interested parties to become

consulting parties in June 2017. Three federally recognized tribes, four organizations, and three individuals have become consulting parties. The ACHP expressed its intention to participate in consultation in July 2019.

A consolidated Phase I archeological survey and Phase II evaluation commenced within the USACE-defined Area of Potential Effect in April 2017 in accordance with a work plan approved by DHR and the USACE. Work was suspended in May 2017 until an Anticipatory Burial Permit could be issued by DHR, in consultation with interested tribes, for deep test trenching planned for the evaluation. The Phase I/II study resumed in October 2017 with issuance of the permit (see [Appendix D-5](#)) and was completed in January 2018. A report of the study, *Phase I and Phase II Cultural Resources Survey and Excavations of the James River Water Authority (JRWA) Intake, Pump Station, and Pipeline Project Located in Fluvanna County, Virginia*, was issued in draft form for review and comment and then finalized in May 2018.

An additional Phase II evaluation was conducted for Site 44FV0269 between January and March 2019 in response to a comment from DHR. The findings of the evaluation were summarized in a report titled, *Phase II Archeological Evaluation of Site 44FV0269 Within the Area of Potential Effect, James River Water Supply Pump Station and Pipeline Alignment*, circulated in April 2019. Revisions to that report are presently underway to address comments provided by DHR.

The USACE made eligibility and adverse effects determinations in a letter to DHR dated May 30, 2018. DHR responded in a letter dated June 29, 2018. The USACE issued a revised determination for Site 44FV0269 on June 5, 2019.

JRWA provided a Proposed Memorandum of Agreement to the USACE on August 27, 2018, with revised versions provided on November 21, 2018, and January 11, 2019, to respond to comments made by DHR and consulting parties. A proposed Treatment Plan was provided to the USACE by JRWA on August 2, 2018. A revised Treatment Plan was provided on March 21, 2019, to address comments received in on the prior version. Comments were received from various parties on the most recent versions of the Memorandum of Agreement and Treatment Plan. JRWA engaged a new archeological consultant in October 2019 who is presently reviewing and revising those documents to address the comments. JRWA expects to provide the revised documents to the USACE in the near future.

Although not a requirement of Section 106 per se, JRWA submitted an application to DHR for a second Anticipatory Burial Permit on March 22, 2019, to prepare for any unanticipated discovery of human remains during the planned Phase III archeological study of the Project area. As a result of further consultation with DHR, JRWA intends to submit a revised application at a later date.

A consulting party provided a letter to the USACE on October 21, 2019, arguing that the Project is ineligible to receive a permit by operation of NHPA § 110(k). Although the letter misstates the applicable law and relies on specious allegations, JRWA prepared a response for the purpose of clarifying the record. That response is provided in [Appendix M-1](#).

Additional information on the lengthy Section 106 consultation process to date is provided in Section 7.6.

2.2.4 Section 7 of the Endangered Species Act

It is the understanding of the Applicant that the USACE initiated Section 7 Consultation in 2014 during the initial permit application review. Updated Section 7 information is provided in [Appendix L: Section 7 Documents](#) and is summarized below.

An Official Species List was obtained from U.S. Fish and Wildlife Service (USFWS) IPaC Trust Resource List database and reviewed for likely populations of federal T&E species within the project vicinity (see [Appendix L-1](#)). Based on the IPAC results of the database findings, three (3) federally protected species have known occurrences and/or the potential to exist within the vicinity of the Project Area. These species include:

- 1) Northern Long-eared Bat (*Myotis septentrionalis*) – Federally Threatened
- 2) Atlantic Pigtoe (*Fusconaia masoni*) - Proposed Federally Threatened
- 3) James Spiny mussel (*Parvaspina collina*) – Federally Endangered

A USFWS Consistency Letter for the NLEB has been generated ([Appendix L-2](#)). Approximately 1.24 acres of forested vegetation will be cleared in association with this project (see [Section 5.1.3](#)).

To determine if any threatened or endangered mussel species will be affected by the proposed Project, the Applicant has committed to conducting mussel surveys in impact locations 1,2 & 8 prior to construction as outlined in the previously issued permits from DEQ and VMRC.

A completed Species Conclusion Table, species list reports, and maps are attached for review (see [Appendix L-3](#)).

2.2.5 Inapplicable Authorizations and Approvals

The following authorizations, approvals, or consultation requirements listed in 33 CFR §§ 320.3 and 325.2(b) as potentially relevant are inapplicable here:

- Section 302 of the Marine Protection, Research, and Sanctuaries Act – the Project is not the vicinity of a designated marine sanctuary.

- Fish and Wildlife Coordination Act – the Project does not involve the control or modification of any body of water.
- Federal Power Act – Water projects are not regulated by the Federal Energy Regulatory Agency.
- Interstate Land Sales Full Disclosure Act – the Project does not involve the sale or lease of land.
- Deepwater Port Act of 1974 and Ocean Thermal Energy Conversion Act – the Project is not located in or beyond the territorial seas.
- Marine Mammal Protection Act of 1972 – the Project is not expected to affect any marine mammals.
- Wild and Scenic Rivers Act – The Commonwealth of Virginia has no designated Wild and Scenic Rivers.

2.3 Project Location

The proposed Project is primarily located in Fluvanna County immediately southwest of Columbia, Virginia within an area known as 'Point of Fork' (Figure 1) and lies within the Rivanna and Middle James – Buffalo watersheds (Hydrologic Unit Codes 02080204 and 02080203 respectively) (Figure 2. Hydrologic Unit Code Map). The project area is surrounded and crossed by modern man-made improvements including Old Columbia Road (State Road 624), a CSX rail line, Dominion Power easement, dual Colonial Gas pipeline, agricultural/silviculture fields, legacy canal features, and residential structures (Figure 3. Existing Conditions Map)

The proposed location of the Project is currently on and around Point of Fork. The proposed pump station site is located in a field that has been in agricultural use for at least 40 years. The water main corridor is in an area where significant previous activity and disturbance has occurred over the years, to include installation of the Colonial Gas Pipelines, Dominion Power electrical transmission lines, CSX rail line, a former state road (Old Columbia Road), and agricultural activities. Approximately 60% of the water main is located within existing easements and about 30% of the water main is located in fields that have been in agricultural use for many years. Although portions of the water main route are forested, these areas contain relatively recent growth as aerial photographs show the entire corridor either under agricultural use or in use as utility right-of-way as recently as the 1950's (see [Appendix E-1](#)).



Figure 1. Vicinity Map

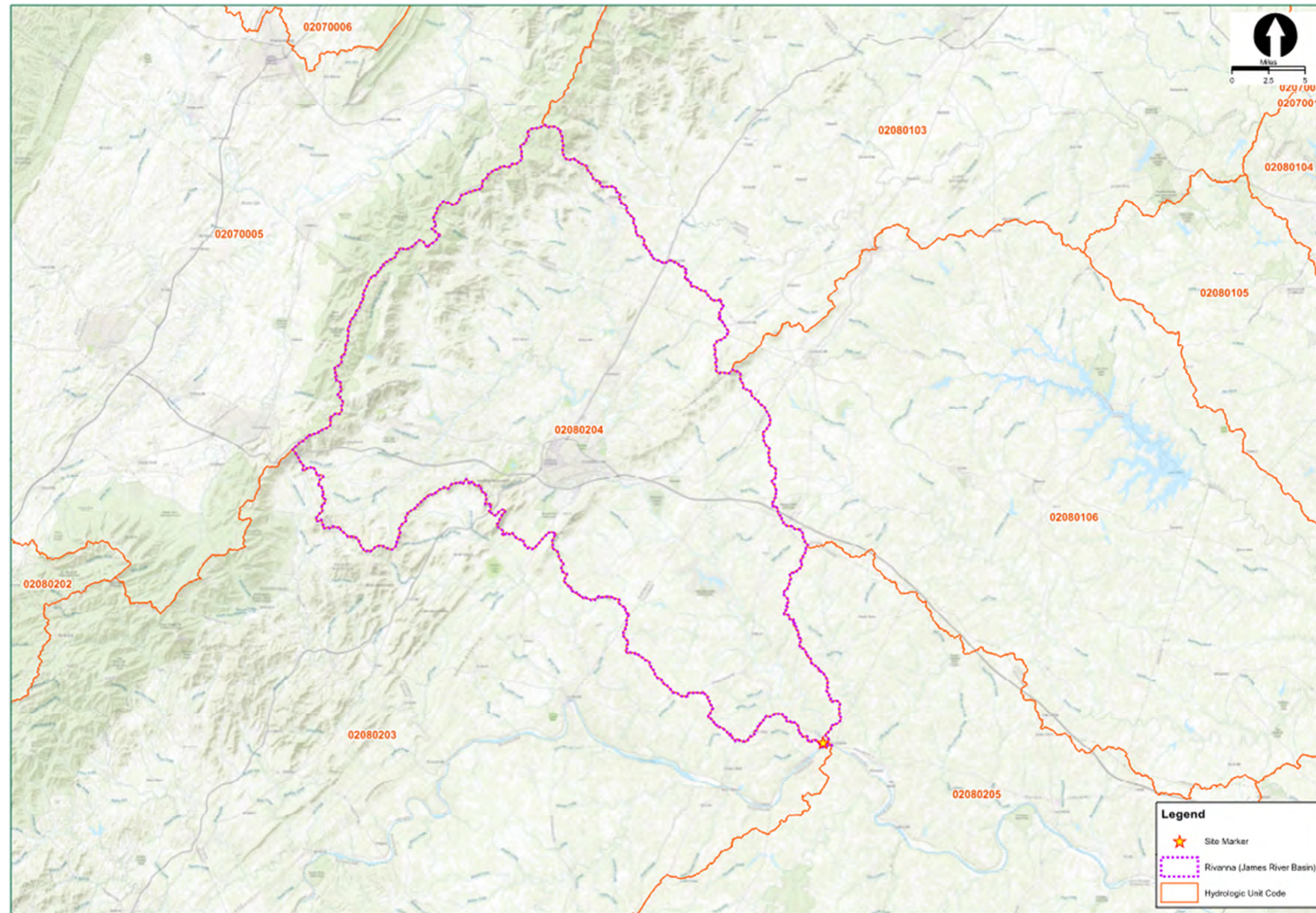


Figure 2. Hydrologic Unit Code Map

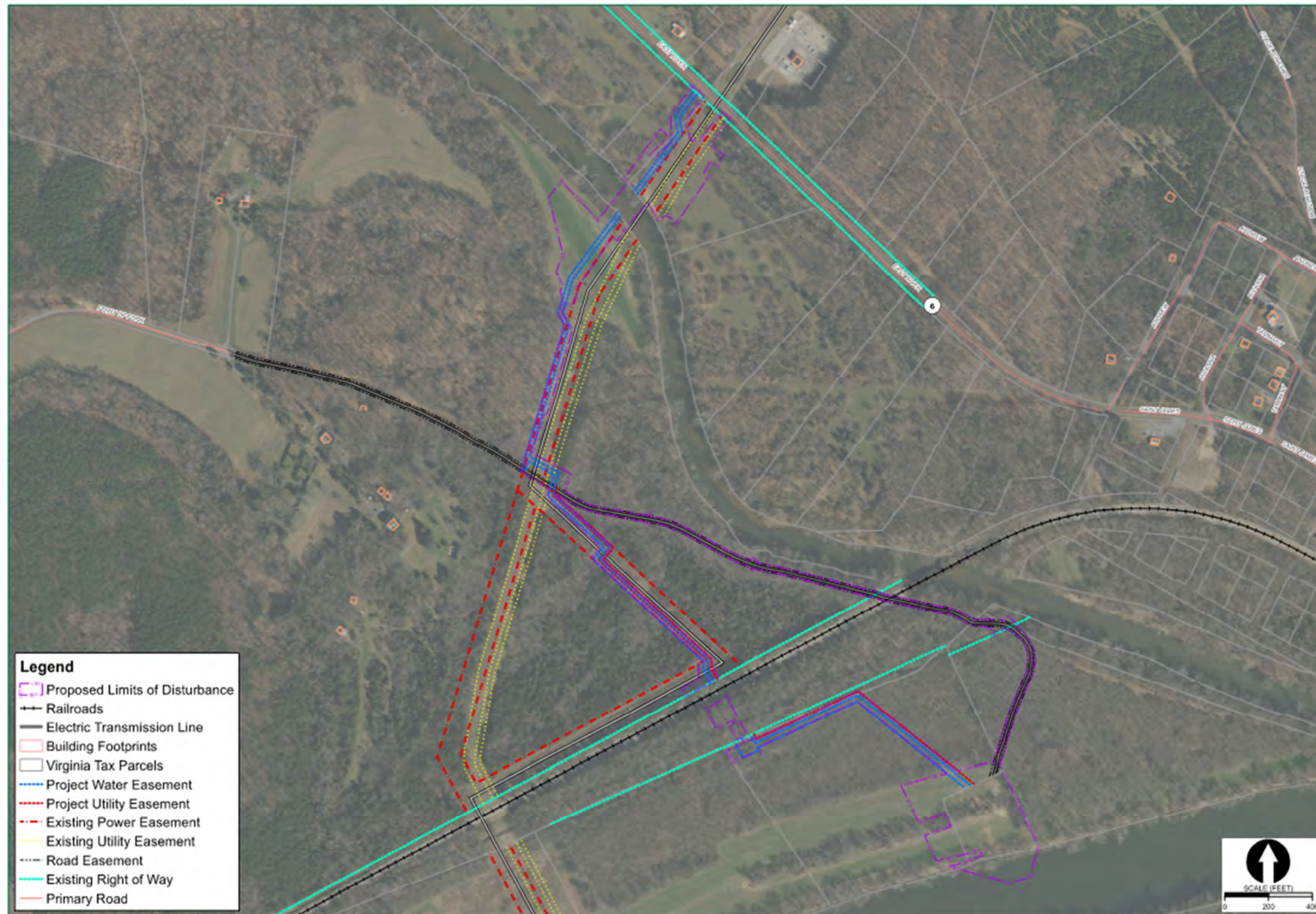


Figure 3. Existing Conditions Map



Photograph: Point of Forks circa 1958. Source: US Geological Survey



Photograph: Point of Forks circa 1984. Source: National High Altitude Photography



Photograph: Point of Forks circa 2006. Source: National Agriculture Information Program

The proposed water withdrawal structure and pump station will be located on the north bank of the James River just upstream of the confluence with the Rivanna River at the end of Route 624 (Point of Fork Road). The pump station will be built on a JRWA-owned parcel (tax parcel 61-A-4A) which will be accessed via Route 624. The raw water transmission line will generally traverse agriculture and silviculture lands northwest of the pump station and pass under a CSX rail line and easement. North of the CSX easement, the project alignment will generally follow Dominion Power easements eventually passing under the Rivanna River adjacent to an existing multi-utility crossing. The project area will terminate at Route 6 in the vicinity of a Colonial Gas pipeline-owned substation. See [Appendix E](#) for additional Site Conditions and Details.

Wetland delineations of the proposed Project corridor have been conducted in accordance with the U.S. Army Corps of Engineers (USACE) 1987 Delineation Manual and subsequently issued USACE guidance to identify the presence and location of jurisdictional wetlands and streams within the Project limits. The wetland delineations were confirmed on August 29, 2016 (USACE Project number NAO-2014-0708) (see [Appendix D-4](#)).

The Project is comprised of disturbance to all or a portion of 6 separate tax parcels. Details of easement locations can be found in [Appendix E-2: JRWA Owned Easement Plats and Pump Station Parcel](#). Adjacent property owner information, including names and addresses, can be found in Figure 4.

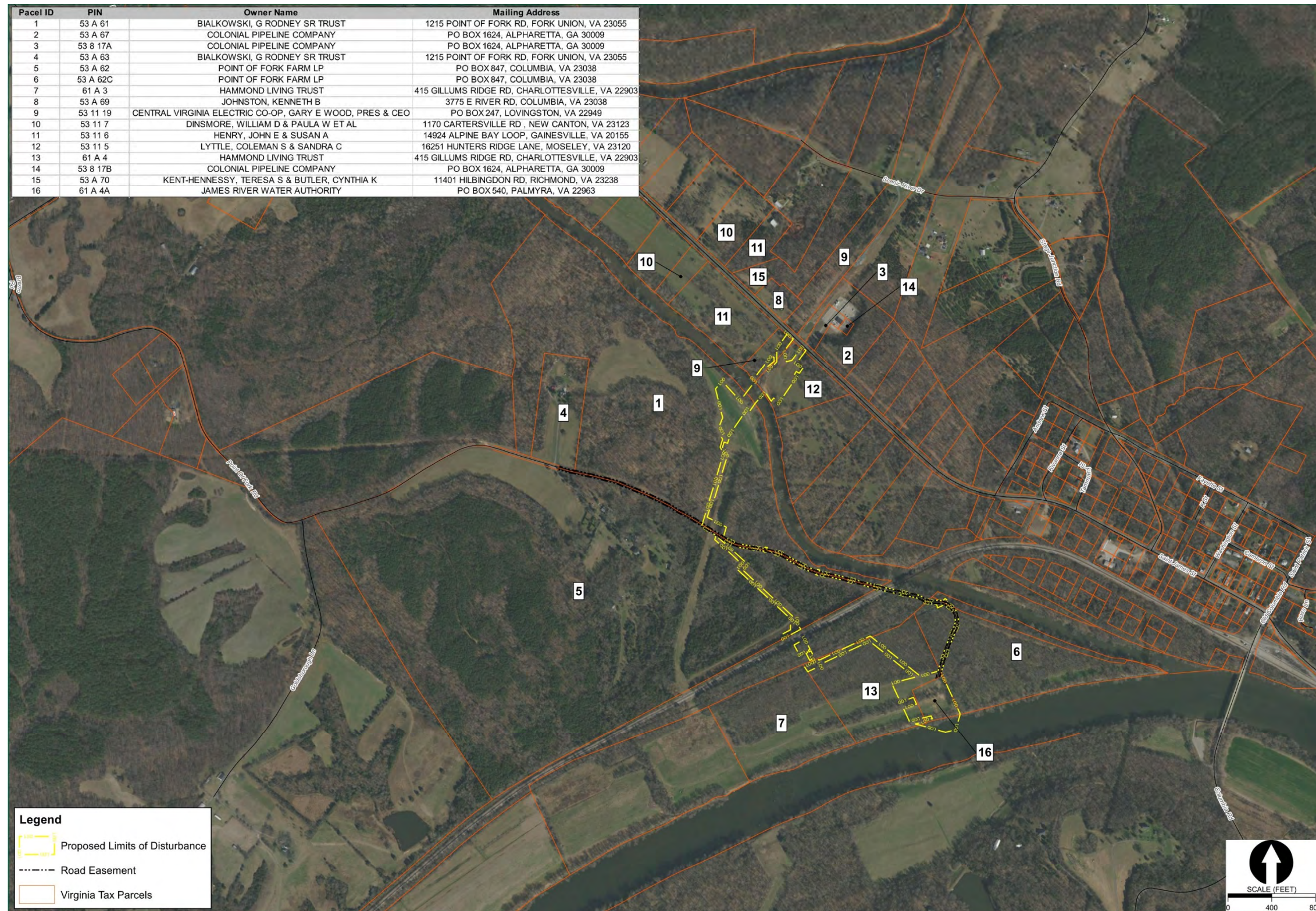


Figure 4. Adjacent Property Owners Map

2.4 Project Description

The infrastructure associated with this project is described in the section below. For additional details see [Appendix F: Project Engineering Details](#).

2.4.1 Raw Water Intake and Pump Station Site

The Pump Station will include the construction of a building located above the 100-year floodplain and supported by the wetwell and vertical columns. The ultimate building's horizontal footprint is approximately 3,500 square feet and its maximum height is approximately 37 feet above grade. It will enclose the pump and electrical equipment and will have an attached screened enclosure for a stand-by power generator and compressor for intake screen maintenance. Gravel parking for operator personnel and access for a crane will also be provided.

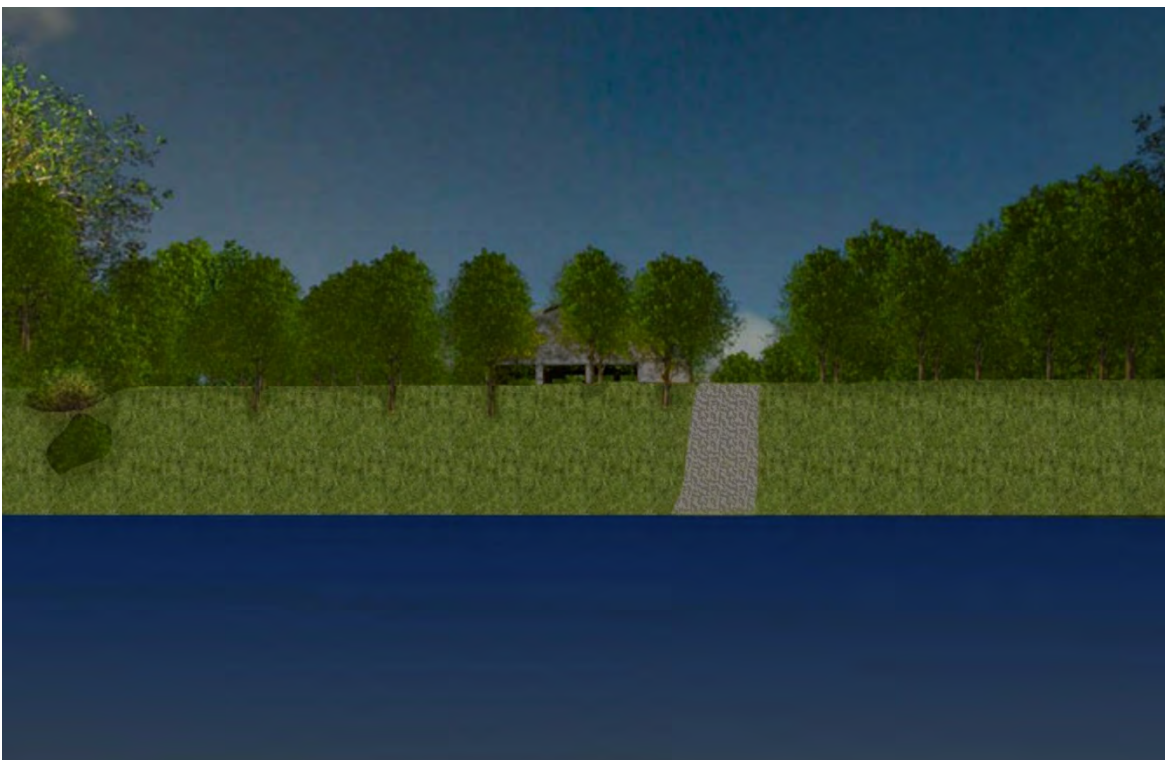
The raw water intake is placed in the bottom of the riverbed such it will be submerged during the historical low flow of the river. The intake is connected to a 30" gravity fed pipe that discharges the water into the pump station wet well. This pipe must maintain a minimum slope towards the pump station to maintain "scour" velocity such that any sediments that enter through the intake screen do not build up in the pipe.

Due to constraints of topography, geology, and constructability (as described above and in the sections below) the pump station and wetwell must be in close proximity to the raw water intake. This necessitates that the site be located within the 100-year floodplain. Therefore, the top of the wetwell and the finished building floor must be elevated above the 100-year floodplain (which will be above the existing grade) to protect the pump, control, and electrical equipment during flood events. The pump station and raw water intake are situated on an approximately 2.1-acre parcel owned by JRWA.

The pump station will be constructed with materials and colors designed to blend in with the surroundings to the extent feasible. The building will be partially shielded from view by recreational users of the James River by tree cover and its placement at the top of a steep bank. Renderings of the pumps station are provided below.



Rendering Photograph: Revit design of raw water intake pump station design.

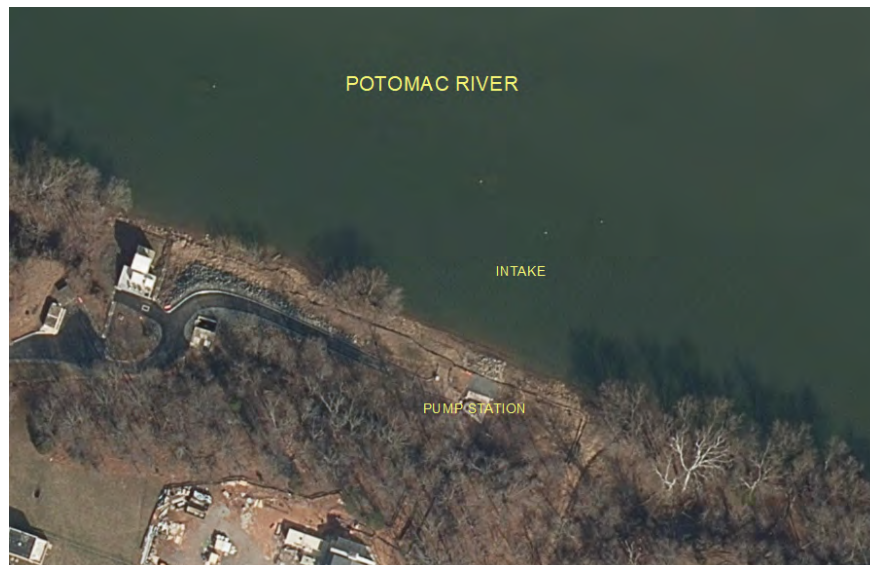


Rendered Photograph: Pump Station building and concealed intake structure as viewed from the James River.

2.4.2 Raw Water Intake

The layout proposes the construction of an intake utilizing semi-circular stainless steel wedge wire intake screens arranged in a manifold and set on the bottom of the James River's bed. These screens will be connected to the pump station wetwell by a gravity pipe. The intake screens will be provided with an air burst cleaning manifold supplied by a compressor. The intake screens will prevent large debris from entering the wetwell and thus protect the pump equipment and improve raw water quality. The intake screen openings will be sized to protect aquatic life. Although not directly applicable to this project, the intakes have been designed to be compliant with cooling water intake standards developed by the U.S. Environmental Protection Agency under Section 316(b) of the Clean Water Act for intake velocities for avoidance of impingement and entrainment of aquatic life. The minimum criterion is a screen size of 1 mm and an intake velocity of 0.5 Feet Per Second (FPS). The Virginia Department of Game and Inland Fisheries (VDGIF) recommends a more conservative intake velocity of not more than 0.25 FPS, which has been incorporated into the design as well. The slow intake velocity of this gravity-fed intake is designed to avoid trapping small fish against the screen, and it follows that it will not present a risk to recreational users of the river.

The intake screen has been sized to accommodate a maximum flow rate of up to 12 MGD. That is marginally greater than the maximum daily withdrawal presently authorized by the Project's VWP permit (up to 8.39 MGD), but provides additional capacity to allow JRWA to meet long-term water demands and seek increased permit withdrawal limits as necessary to meet the future water supply demands of the Counties. Because the intake structure is wholly submerged, it is not expected to be visible to persons recreating on the James River. The photographs below show aerial imagery of the Loudon County Water Treatment Plant on the Potomac River which is very similar in design. After construction and installation, the intake is situated to be minimally visible if not hidden from sight within the water.



Photograph: Esri World Aerial Imagery of Loudon County intake and pump station post construction.

2.4.3 Wetwell Influent Pipe

A 30" ductile iron pipe flowed by gravity will connect the intake screen manifold to the pump station wetwell. A precast concrete manhole will be provided at the bank of the river to allow a transition in the alignment and to provide an additional access point for maintenance. The manhole top will be installed at grade to be minimally visible (example installation below).



Photograph: Manhole at grade near small creek.



Photograph: Manhole installed at grade near forested area.

2.4.4 Pump Station Wetwell

The layout proposes the construction of a below-grade reinforced concrete wetwell beneath the pump station structure to permit proper submergence of the pumps during all anticipated river level operating conditions. The top of the wetwell and pump building enclosure will be elevated above the 100-year floodplain and thus will require the construction of a staircase to access the pump and valve equipment. The wetwell will be provided with appropriate access for inspection and maintenance.

The wetwell will be configured with an elongated channel to permit a “self-cleaning” maintenance operation. This will be similar to an ogee ramp style wetwell that is commonly used in wastewater pumping applications.

The wetwell will extend approximately 45 feet below existing grade to facilitate a gravity connection to the intake screens. At this depth, approximately 16-17 feet of rock excavation will be required at the proposed site. The necessity of a wetwell at greater depths is to allow the raw water to flow by gravity in the intake pipe to reach the wetwell. The water enters the intake structure at the river bottom elevation where the screen is situated. As the river bottom elevation is typically lower than the ground elevation at the pump station, an adequate depth is required to gravity flow the water from the riverbed to the submerged pumps which are located at the bottom of the wet well.

It is desirable to locate the wetwell, and subsequently the pump station, near the intake structure to minimize the length of intake piping installation and reduce siltation to avoid sedimentation in the intake structure. This is further detailed in 4.2.1.2.2 Intake and Pump Station Proximity and Depth of Wetwell.

2.4.5 Pump, Piping and Valve Equipment

The Project will include the installation of multi-stage vertical turbine pumps. Each pump will be connected to a common discharge manifold and will be provided with a check valve and gate valve. A surge relief valve will be provided to mitigate the effects of pressure surges that may occur in the raw water main during abnormal conditions such as a pipe break or power outage. An emergency pump connection will be provided to permit the use of a portable pump in the event of an equipment failure. As required by the Project’s VWP permit (Special Condition 12), the flow meter will be located on the raw water pipe adjacent to the wetwell. (“The permittee shall monitor withdrawals from the James River on a daily basis using flow totalizer technology to confirm that the withdrawals are in compliance with this permit.”).

2.4.6 Electrical and Pump Control Equipment

Electrical and pump control equipment will provide for variable speed control of pumps, alternation of lead and lag pumps and duplex, triplex, and quadplex pump operation. 3-Phase power and associated utilities will be provided to the site for operations of this equipment. Dominion Power will obtain a separate CSX Facility Encroachment Agreement for these

utilities. Utilities will be installed without above-ground disturbance across the CSX Right of Way and will parallel the authorized raw water main crossing. A stand-by power source using an on-site diesel generator will provide uninterrupted operation during power outages.

2.4.7 Raw Water Main

A 24-inch Class 350 ductile iron raw water main will proceed northwest from the pump station for approximately 800 feet through a field and recently forested field. It then proceeds west for approximately 600 feet paralleling the nearby the CSX rail right-of-way. It takes another northwestern turn, where it crosses under the CSX tracks and follows a Dominion Power electrical easement approximately 1,200 feet to Old Columbia Road (State Route 624). It takes a northeasterly turn to follow the Colonial Gas pipeline easement approximately 1,600 feet, where it crosses the Rivanna River and terminates in an agreed-upon T interconnection point at Route 6. There, the water main will connect to a raw water main constructed by Louisa County for conveyance of water to the existing Ferncliff Water Treatment Plant. The interconnection allows Fluvanna County to construct a water main to the interconnection point to draw water from the JRWA system at such time as becomes necessary to meet its residents' water demands. To the extent practical, the raw water main will be constructed in areas that have been previously disturbed and/or encumbered by other utility easements.

The crossing of the Rivanna River has been permitted by the VMRC to be constructed by open-cut or horizontal directional drill (HDD). However, it has since been determined that the project exceeds the working pressures of the typical and easier to work with HDD materials: fused high-density polyethylene (HDPE) and polyvinyl chloride (PVC). Both of these materials would have allowed for relatively small bending radii. However, welded steel piping must be utilized to withstand the working pressures associated with crossing the Rivanna River by HDD. Utilizing steel piping presents a challenge as its larger bending radius requires a much larger work area. Analysis of an HDD crossing of the Rivanna River using steel pipe indicates the need for a 3,200 square foot bore pit, 20,000 square foot pull back staging area, and a drilling length of approximately 938 feet for the crossing (see [Appendix F-2](#)). These spacing requirements exceed what is available in the current project easement areas. Additional landowners' approvals and tree clearing for staging would be required to accommodate work outside the previously coordinated easements, which would not be practicable given past landowner coordination efforts. Furthermore, additional stream impacts would be required. Therefore, the Project plans to complete the crossing using the approved cofferdam open-cut method to avoid the challenges presented with using the HDD method.

Except for the initial exit from the pump station, which is located on property owned by JRWA, the remainder of the raw water main will be constructed in utility easements previously acquired by JRWA.

The water main generally will be installed using a construction right-of-way 20 feet wide. Pipe installation generally entails excavation of a linear trench 5 feet wide and 7-8 feet deep. The pipe is lowered into the trench, which is then backfilled. Preconstruction contours will be restored following construction and the land will return to its preconstruction uses (generally agriculture), except in limited areas that will need to be maintained free of trees. A permanent

easement 20 feet wide will be minimally maintained as necessary to prevent woody vegetation from growing over top of and damaging the buried water main.

Use of the jack and bore method will be necessary to cross the CSX rail line and Route 6. For these crossings, minimum size bore pits of approximately 20 feet by 50 feet and minimum size receiving pits of approximately 10 feet by 10 feet will be excavated at both sites for the rail or road crossings. Boring equipment will be lowered into the launching (or bore) pit and drill horizontally to the receiving pit. This drilling method does not use high-pressure drilling mud, which eliminates the risk of inadvertent returns (also called “frac-outs”). Following pipe installation, the pits will be back filled, and the surface restored to preconstruction conditions.

2.4.8 Existing Access Road

An existing gravel road (Old Route 624) with a CSX rail crossing will be minimally improved to provide an all-weather access road to the site. Minimal road improvement will require a 12-foot-wide coarse grade aggregate road sufficient for the safe passage of vehicular construction and maintenance needs in all-weather conditions. Considerations for vehicle weight and turning radius (minimum turning radius of 60 feet) will be applied in the design of the road to allow temporary and permanent access to the site. Culverts will be provided beneath the access road to allow wetlands to remain hydrologically connected where required (see [Appendix I-1](#)).

The applicant possesses or will possess the requisite property interest to undertake the activity proposed in the sections identified above. Affirmation of this is provided through the signature of the applicant/ duly authorized agent on ENG Form 4345 per 33 CFR §§ 325.1(d)(8) and 325.1(c) (see [Appendix A](#)).

2.5 Project Schedule

Construction activities, to include Phase III Cultural Resources work, on the proposed Project is anticipated to commence in Summer 2020 and be completed by Summer 2023. Permit authorization is requested through Summer 2025 to provide sufficient construction time in the event that unforeseen circumstances postpone Project completion.

3.0 PURPOSE AND NEED

The information in the Purpose and Need section is provided per CFR § 325.1 (d) (1).

3.1 Basic Project Purpose

To provide a source of raw water for public water supplies.

3.2 Overall Project Purpose

The purpose of the proposed Project is to provide a new and reliable raw water supply of sufficient quantity to meet the short and long-term needs of Fluvanna and Louisa Counties for delivery to an agreed-upon T interconnection point planned for use by Fluvanna and Louisa Counties.

3.3 Project Need

Public water supply planning is a core function of cities and counties in Virginia. Communities depend on the availability of a reliable public water supply for public health and sanitation, fire suppression, economic development, and growth. As detailed in Section 2.1, Fluvanna and Louisa County recognized as early as the 1990s that their existing water supplies, which rely largely on small groundwater well systems, are inadequate to meet the projected needs of both communities. Recognizing it would be more efficient and cost-effective to address these needs collaboratively, the Counties agreed in 2003 to develop a shared water system. By 2013, the Counties agreed on the concept for this project. A joint entity, JRWA, would construct a raw water intake in the James River and deliver the water to a mutually convenient connection point that each County could tap for its own uses.

The urgent need for a new water supply has only increased since the 1990s. There is both a near and long-term need for this water in Fluvanna County and Louisa County. Details of the projected future water demands for each County were outlined in their adopted water supply plans (see [Appendix G: County Water Plans](#)) and data summarized from these plans is provided in Table 2. The Counties' respective needs for an increased water supply are summarized below.

3.3.1 Fluvanna County Water Needs (see [Appendix G-1](#))

In its 2010 Regional Water Supply Plan, Fluvanna County evaluated its then-current and future water supply needs to ensure that the needs of the people living in the County will be met. Fluvanna County's population was projected to reach a population of approximately 47,010 by 2030 and 91,816 by 2060. As a result of this projected population growth, the water demands were projected to reach 155.5 MGD by 2030 and 161.2 MGD by 2060 (increasing from the 2010 usage of 151.83). It's important to note that Dominion accounts for 148.3 MGD of the projected water demands for years 2010 through 2060. Dominion has since shut down the Brema Power Station and it is undetermined what, if any future water demands, Dominion

might have at the power station site. However, the projections for the JRWA application did not include any present or future water demands for Dominion.

This plan identified that the water demands in the more densely developed area of the County can only be met by a community water system. Specifically, the areas of greatest need include the projected demands in the Zion Crossroads Urban Development Areas, the existing demands in Fork Union, and the predicted demands in the Palmyra area of the County.

Many of the County's residents are served by individual wells. Observed declines in groundwater levels in combination with an increasing population led the 2010 report to conclude that a new community water system was needed to ensure a reliable and safe drinking water source is available that provides both the quality and quantity needed to support all citizens and business needs.

Although the 2010 Regional Water Supply Plan is approaching ten-years old, the water supply limitations identified in the report have not been resolved. No significant new public water supplies have come online in the County since the plan was issued while the population has increased more than 4% since the 2010 census. Fluvanna County has identified three areas that will benefit in the near- or long-term from an increased water supply:

(1) Zion Crossroads

The Zion Crossroads Water and Sewer System is currently being constructed in Fluvanna County to serve a majority of the Zion Crossroads Community Planning Area (CPA) for growth. This system will include nearly four miles of water and sewer lines along the US Route 250 and US Route 15 corridor to help foster commercial and industrial growth. The final completion for the system is slated for November 2020. The current water source for this area once complete is the Mechunk Creek and the allocation through the Department of Corrections allows for 75,000 gallons per day (GPD) of usage.

Zion Crossroads' current 75,000 GPD of water allocation is adequate in the near-term to supply to low-intensity water uses such as logistics, light retail, and existing single-family homes. However, an increased supply for the Zion Crossroads area is necessary to facilitate development of new land uses such as restaurants and hotels to serve the public along the growing I-64 corridor. This development is planned to serve the local labor supply within the Zion Crossroads area and allow the County to capture additional retail, food, and lodging taxes that are vital to the County's long-term growth. A long-term solution is needed to serve the Zion Crossroads area for the next 50 years, that is shared with Louisa County to the north.

(2) Fork Union

The Fork Union Sanitary District (FUSD) provides water through 26 miles of pipe to roughly 425 customers, including residences, small businesses, the Fork Union Military Academy, Carysbrook, and Fluvanna County Middle School. The district's service area includes Brems Bluff, Fork Union, Thessalonias, Cloverdale, West Bottom, and portions of Carysbrook. In

2007, the system enhanced its volume and pressure by replacing two ground-level standpipe storage tanks with two elevated storage tanks.

The Fork Union Community Planning Area (CPA) currently has a limited quantity and quality supply of water because it is dependent solely on an overtaxed groundwater system. The system has a current usage of 73,000 gallon per day (GPD). A new supply is needed to provide a sustainable source for the existing single-family homes in the district. Furthermore, Fork Union's potential growth is tied to the attraction of additional industry to include food and beverage, logistics, and manufacturing uses. An increased water supply is needed to support these planned commercial and industrial uses.

(3) Palmyra

Fluvanna County owns several wells at Pleasant Grove, which serve various portions of the park, the Fluvanna County High School, and the municipal buildings located in the vicinity. Fluvanna County also owns a well which serves the Courts building with domestic water and fire control service.

The County's plans contemplate a future public water system in Palmyra that would include existing groundwater sources but would need to be supplemented by other sources.

3.3.1.1 Consultation Regarding the Fluvanna Water and Wastewater Master Plan

On February 25, 2020, Timmons Group consulted with Fluvanna County and Dewberry to discuss the Water and Wastewater Master Plan currently underway by Dewberry on behalf of Fluvanna County. Dewberry provided an overview of the Master Plan and noted they were in the preliminary stages of plan development. As part of the Master Plan, they will be evaluating options for and timing of utilizing water from the JRWA for Zion Crossroads (Fluvanna CWS), Fork Union CWS, Palmyra CWS, Columbia CWS and other potential service areas in Fluvanna County. Since the plan is in the early stages of development, it's expected that the final plan will be released sometime later this year.

3.3.2 Louisa County Water Needs (see [Appendix G-2](#))

The 2011 Louisa County Long Range Regional Water Supply Plan outlines the Regional Water Supply Plan for all of Louisa County through the year 2050. The combined water demand for the municipal community water systems was anticipated to exceed the current permitted public source capacity as soon as 2021 and surpass the known available public water source capacity in 2041 to create an estimated public water supply deficit of approximately 841,000 GPD in 2050. The Louisa County population was projected to grow to 50,739 by 2030 and 65,183 by 2050. Population growth is hampered by the fact that existing and available public water sources are not in the vicinity of the County's designated growth areas (including Zion Crossroads, Ferncliff, Shannon Hill, Gum Spring, Gordonsville, and the Town of Mineral). To preserve the rural character of Louisa and provide adequate water supply to its citizens and businesses, the County identified a need to develop of new water source near or within the designated growth areas.

As with Fluvanna County, Louisa County's water needs have not lessened since the 2011 water supply plan was developed. The population has grown an estimated 10% since the 2010 census without a significant new water source. Louisa County has identified six areas that will benefit in the near or long-term from an increased water supply:

(1) Zion Crossroads Growth Area

This area is currently served by a public groundwater well system nearing capacity. Less than 50% of the Mixed-Use land area has been developed and much of the remaining area is planned to be more densely developed than the existing development, increasing the demand for a reliable water source. This area cannot achieve the planned level of growth, including the planned mix of commercial and residential development, without an additional water supply.

The County's Long Range Water Supply Plan projects future demand needs. Peak daily water demand for the Zions Crossroads area is forecast at 1.63 million GPD by 2050. On a near term basis, the Zion Crossroads growth area is expected to be the fastest growing residential and commercial development area in Louisa County. In recent years, several high-quality business prospects chose to locate in other localities, citing long-term water source reliability as the primary factor eliminating Louisa County from consideration.

(2) Ferncliff Growth Area

Water infrastructure has been constructed through this growth area in anticipation of the Project's completion and delivery of water to the previously agreed-upon T interconnection point. The existing water supply currently feeds one small industrial park but cannot be expanded until additional water capacity is available. This growth area is planned for industrial/commercial development. Potential businesses expected in this area, which will rely on a reliable water source, will support the families of Louisa County with quality employment opportunities.

The County's Long Range Water Supply Plan projects future demand needs. Peak daily water demand for the Ferncliff area is forecast to be over 410,000 GPD by 2050. The Ferncliff growth area cannot develop as needed or expected without a reliable water source supplied by the completion of this project.

(3) Shannon Hill Growth Area

Near-term extension of water and sewer infrastructure is planned in anticipation of an increased water supply. In 2019, Louisa County purchased approximately 700 acres of land in this growth area to develop a Regional Business/Industrial park. The Virginia Economic Development Partnership (VEDP) has endorsed this site and has committed to support Louisa County in marketing this site to global and domestic businesses. This site represents a significant investment of public capital which is intended to bring quality employment to regional citizens and provide economic stability for Louisa County. This site's utility and appeal

from an economic development standpoint are essentially on hold without a reliable and sufficient water source.

The County's Long Range Water Supply Plan projected peak day water demand for the Shannon Hill growth area to be over 206,000 GPD by 2050. However, that projection was developed prior to the planned Regional Business/Industrial Park. The planned and responsible development within this growth area cannot proceed without a high-quality public water source.

(4) Gum Springs Growth Area

Future development of water infrastructure in this growth area is anticipated. The area includes the easternmost County interchange on Interstate 64, and the County is closely monitoring development demand as it considers infrastructure deployment options. The growth area includes a large area of Mixed Use development, which would allow level of density and intensity of uses. A mix of commercial and residential development is encouraged to ensure responsible growth. This level of density and intensity requires the support of a reliable, high-quality public water source. The residential development is likely to be a denser collection of dwelling types; apartment, townhouses, and single family homes are expected to be mixed through a well-planned development. The commercial development is likely to be residential supportive businesses, such as restaurants, retail, offices and hotels.

The County's Long Range Water Supply Plan projects peak day water demand for the Gum Springs growth area to be over 313,000 GPD by 2050. However, the planned and responsible development within this growth area cannot proceed without a high-quality public water source.

(5) Towns of Louisa and Mineral

These Towns (which include growth areas) are currently interconnected by a shared water utility system. These are mixed use communities with an industrial park located between the two. A significant amount of the County's community support services are also located in these areas and rely on public water, including:

- Louisa County High School
- Louisa County Middle School
- Louisa County Career and Technical Education Center
- Louisa County Public Library
- Betty J. Queen Community Center
- Louisa County Aquatic Center
- Louisa Fire Department
- Mineral Fire Department
- Louisa Rescue Squad
- Mineral Rescue Squad
- Louisa County Sheriff's Office
- Louisa County District Court

- Louisa County Juvenile and Domestic Relations Court
- Louisa County Circuit Court

Both the Towns of Louisa and Mineral are expected to continue to develop with a mix of dense residential development and supportive commercial, such as restaurants, offices, retail, and medical services. The area between the Towns includes a large industrial park and industrially zoned land which is expected to continue development in the future. The public water system in this area is supplied by a water reservoir which is sufficient to support these towns' near-term needs but is insufficient to support projected long-term demands.

The County's Long Range Water Supply Plan projects peak day water demand for the Towns' growth area to be over 1.2 MGD by 2050. The planned and responsible development within these growth areas cannot proceed without a high-quality public water source. Currently the Town's are being served by the Northeast Creek Reservoir and treatment plant which has a safe yield capacity of 1.0 MGD.

(6) Lake Anna Growth Area

Lake Anna is the third largest lake in the Commonwealth, and the area represents a significant residential, recreational, tourism, and environmental asset to Louisa County. Commercial development, which is planned and desired for the area, has been severely limited due to the absence of a reliable water source. As a cooling system for a nuclear power generation facility, the lake itself is not an allowable withdrawal point for a potential public water system.

The existing residential development (which supports lake-related tourism and the local economy) is in desperate need of support businesses such as medical services, pharmacies, retail, restaurants, and related establishments. Associated development is severely constrained without a reliable and sufficient water source. The Mixed Use corridor of this growth area represents a significant potential future value to the County as a growing tourism and commercial destination.

The County's Long Range Water Supply Plan projects peak day water demand for the Lake Anna growth area to be over 2.6 million GPD by 2050. Lake Anna is unable to reach its potential as a residential, tourism, and commercial hub in central Virginia without the development of responsible, reliable water source.

3.3.3 DEQ Basis of Need Concurrence

As part of the Section 401/VWP permit authorization process an applicant to demonstrate to DEQ's satisfaction that there is a need and beneficial use for any requested water withdrawal amounts over the period of the 15-year permit term. DEQ conducted their own review of the project needs under their analogous VWP regulations. This analysis was based in part on the projected water demands as outlined in the 2010 Fluvanna County Regional Water Supply Plan and the 2011 Louisa County Long Range Regional Water Supply Plan. DEQ's evaluation was focused on the short- and near-term water demand as the maximum allowable VWP

water withdraw permits term is 15 years, however, DEQ staff also considered the 30-year planning needs.

A detailed, comprehensive summary of needs was developed based on the Counties' Water Supply Plans and provided to DEQ for review and approval. DEQ staff reviewed this information and concluded that JRWA had a reasonable and adequately justified need to withdraw up to 8.57 MGD (revised slightly to 8.39 MGD in Minor Modification 2) to meet the projected 15-year, near-term demands based on the Counties' Water Supply Plans. A summary of DEQ's reviews and analysis are provided in the VWP Project Fact Sheets (see Appendices D-1-2 and D-1-6).

The Counties' long-term water demands entails a much longer planning horizon than the 15 years covered by the VWP permit. As such, the project infrastructure has been designed to accommodate a future expansion to 12 MGD, which JRWA and its member Counties believe will be sufficient to meet their long-term water needs and is consistent with the DEQ analysis.

Table 2. Summary of County Approved Water Supply Plans with Projected Demands

Note that the following table was provided to DEQ on 12/17/2014 as part of the initial VWP permit review process. Figures associated with the Fluvanna CWS were later revised down slightly as part of DEQ Minor Modification 2. The revision was necessary as the Fluvanna County Correctional Center for Women submitted a permit request to DEQ in 2016 stating they would be supplying the Fluvanna CWS with a portion of their water needs. Therefore, DEQ modified the JRWA permit in order to avoid a potential duplication of withdraw authorizations. See detailed discussion in the DEQ Minor Modification 2 Factsheet (Appendix D-1-6).

	15 Year Permit Period				30 Year Planning Period					
	2020		2030		2040		2045		2050	
	Avg	Peak	Avg	Peak	Avg	Peak	Avg	Peak	Avg	Peak
Louisa County WSP (1)										
Gum Spring	58,391	87,587	118,409	177,614	161,798	242,697	165,455	276,182	209,111	313,667
Fencliff	76,322	114,483	154,773	232,160	211,910	317,865	242,844	364,266	273,778	410,667
Shannon Hill	37,931	56,897	77,500	116,250	106,517	159,776	122,037	183,055	137,556	206,334
Zion Crossroads	460,460	690,690	712,045	1,068,068	890,562	1,335,843	989,837	1,484,755	1,089,111	1,633,667
Economic Development Prospects (6)	250,000	375,000	400,000	600,000	600,000	900,000	750,000	1,125,000	900,000	1,350,000
Route 250 / I 64 Service Areas	883,104	1,324,656	1,462,727	2,194,091	1,970,787	2,956,181	2,290,172	3,435,257	2,609,556	3,914,334
LCWA	73,859	110,789	73,020	109,530	72,199	108,299	71,798	107,697	71,397	107,096
Town of Louisa	266,090	399,135	392,736	589,104	482,092	723,138	532,043	798,064	581,993	872,990
Town of Mineral	107,343	161,015	148,317	222,476	196,831	295,247	223,338	335,007	249,845	374,768
Lake Anna	496,858	745,287	1,009,242	1,513,863	1,380,674	2,071,011	1,582,930	2,374,394	1,785,185	2,677,778
North East Creek WTP Service Area (3)	944,150	1,416,225	1,623,315	2,434,973	2,131,796	3,197,694	2,410,108	3,615,162	2,688,420	4,032,630
James River Supply (Louisa)	1,827,264	2,740,881	3,086,042	4,629,063	4,102,583	6,153,875	4,700,280	7,050,419	5,297,976	7,946,964
Peak Factor - Louisa		1.50		1.50		1.50		1.50		1.50
Fluvanna County WSP (2)										
Columbia CWS	4,315	6,473	5,158	7,737	6,473	9,710	7,768	11,651	9,062	13,593
Fork Union CWS	196,116	294,174	226,020	339,030	282,525	423,788	339,030	508,545	395,535	593,303
Palmyra CWS	25,720	38,580	70,730	106,095	102,558	153,837	125,634	188,450	148,709	223,064
Proposed Fluvanna CWS	324,315	486,473	1,070,541	1,605,812	1,403,336	2,105,004	1,724,245	2,586,367	2,045,153	3,067,730
Economic Development Prospects (6)	150,000	225,000	300,000	450,000	450,000	675,000	525,000	787,500	600,000	900,000
James River Supply (Fluvanna)	700,466	1,050,699	1,672,449	2,508,674	2,244,892	3,367,338	2,721,676	4,082,513	3,198,459	4,797,689
Peak Factor - Fluvanna		1.50		1.50		1.50		1.50		1.50

(Table 2 continues on next page)

Table 2. (Cont.) Summary of County Approved Water Supply Plans with Projected Demands

Combined Projected Demands	15 Year Permit Period				30 Year Planning Period					
	2020		2030		2040		2045		2050	
	Avg	Peak	Avg	Peak	Avg	Peak	Avg	Peak	Avg	Peak
James River Water Supply (4)	2,527,720	3,791,580	4,758,491	7,137,737	6,347,475	9,521,213	7,421,955	11,132,933	8,496,435	12,744,653
Adjustment for Treatment Residuals 7.5% (5)	189,579	284,369	356,887	535,330	476,061	714,091	556,647	834,970	637,233	955,849
Total Demand	2,717,299	4,075,949	5,115,378	7,673,067	6,823,536	10,235,303	7,978,602	11,967,902	9,133,668	13,700,501
Combined Peak Month Factor for Entire System Demand	1.50		1.50		1.50		1.50		1.50	
Deduct Northeast Creek WTP Supply & Capacity	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Total Demand	1,717,299	3,075,949	4,115,378	6,673,067	5,823,536	9,235,303	6,978,602	10,967,902	8,133,668	12,700,501
Adjusted Peak Month with NEC WTP Capacity			(7) 1.62				1.57			
Max Daily Demand: 6 day per week operation			(8) 7,785,245				12,795,886			
Max Daily Peak Factor			(8) 1.89				1.83			
Current Permit Withdrawal Rate (2021)	2,850,000	5,700,000	2,850,000	5,700,000						
Louisa Portion %	48%	57%	51%	54%	53%	56%	53%	55%	53%	55%
Louisa Portion GPD	827,254	1,740,881	2,086,042	3,629,063	3,102,583	5,153,875	3,700,280	6,050,419	4,297,976	6,946,964
Fluvanna Portion %	52%	43%	49%	46%	47%	44%	47%	45%	47%	45%
Fluvanna Portion GPD	890,045	1,335,068	2,029,336	3,044,004	2,720,953	4,081,429	3,278,322	4,917,483	3,835,692	5,753,537
Total Return Flow (Assume 20% consumptive)										
Total Demand less 20% (9)	1,373,839	2,460,759	3,292,302	5,338,453	4,658,829	7,388,243	5,582,881	8,774,322	6,506,934	10,160,401
% of Total Withdrawal Return to York River Watershed	39%	45%	41%	44%	43%	45%	42%	44%	42%	44%
Total GPD to York River Watershed	661,803	1,392,705	1,668,834	2,903,250	2,482,066	4,123,100	2,960,224	4,840,335	3,438,381	5,557,571
% of Total Withdrawal Return to James River Watershed	41%	35%	39%	36%	37%	35%	38%	36%	38%	36%
Total GPD to James River Watershed	712,036	1,068,054	1,623,469	2,435,203	2,176,762	3,265,143	2,622,658	3,933,987	3,068,553	4,602,830

1 Data from Louisa County Long Range Regional Water Supply Plan, dated June 2011
 2 Data from Fluvanna County Regional Water Supply Plan, dated April 2010
 3 The Northeast Creek Water Treatment Plant is rated at 1.0 MGD per Dewberry PER, dated June 2013.
 4 It is proposed that the withdrawal limits of 4.11 MGD average daily and 7.79 MGD peak daily be permitted. These limits reflect existing permitted capacity at the Louisa Northeast Creek WTP.
 5 Proposed Demands are increase by 7.5% to account for treatment plant residuals that are not delivered to customers as treated water.
 6 Economic Development projections based upon previous prospect requests from RFI's and VEDP provided information
 7 Peak Factor for Louisa is increased above 1.62 due to adjustment of demand while recognizing existing withdrawal of 1,000,000 at the Northeast Creek WTP.
 8 Max Daily Demand and Max Daily Peak Factor are based on a 6 day per week operation or increase by the ratio of 7 divided by 6; which equates to 1.17.
 9 Assumes a consumptive use of 20% therefore 80% of flow is returned to the James and York River basins.

4.0 ALTERNATIVES ANALYSIS

4.1 Summary of Alternatives

JRWA has prepared this Alternatives Analysis to comply with 33 CFR § 325.1(e), 33 CFR § 230.10(b), and 40 CFR § 1502.14. In total, JRWA has evaluated a dozen primary alternatives and numerous additional sub-alternatives that incorporate minor water main route variations, as follows: (1) five alternative water supply sources; (2) six build alternatives and 12 water line route variations; and (3) the no-action/no-permit alternative. This analysis represents a reasonable range of alternatives that potentially could accomplish the purpose and need of the proposed Project. All documents pertaining to the alternative analysis can be found in Appendix H: Alternative Analysis.

4.1.1 Alternative Water Supply Sources

An alternatives screening process was used to determine the reasonableness of specific alternatives to be considered for detailed analysis. Reasonable alternatives were those that were considered to potentially meet the project purpose and need while still being reasonably practicable when considering overall factors associated with engineering and cost. As a first step, JRWA evaluated five alternative water sources that would not involve a direct surface water withdrawal from the James River including: the Rivanna River, Lake Anna, Cobbs Creek Reservoir, groundwater, and purchased water from neighboring communities. As explained below, however, each of these potential alternative water sources have readily apparent drawbacks that allow them to be screened from further detailed consideration as practicable alternatives. Appendix H-1 includes additional information supporting the review of these potential alternative water sources. Accordingly, these alternatives are discussed in this Section 4.1.1 but are not carried forward for additional detailed consideration and evaluation.

4.1.1.1 Alternative Water Supply 1: Rivanna River

The Rivanna River's watershed is 769 square miles, approximately 13% of the total combined James River and Rivanna River watershed of 5,844 square miles at the confluence of the two rivers at Columbia. As such, the Rivanna River watershed does not provide a sufficient quantity of water to meet the JRWA members' long-term water supply demand.

The Rivanna River watershed is already taxed as it currently serves as the primary water source for the City of Charlottesville and Albemarle County, as well as the Fluvanna Correctional Facility and Lake Monticello subdivision. The Rivanna Water and Sewer Authority (RWSA) currently maintains five reservoirs in the Rivanna watershed which serve as the primary water source for the Charlottesville and Albemarle region. In addition, the Virginia Department of Corrections maintains an off-line reservoir and withdraws from Mechunk Creek to serve the Fluvanna Correctional Facility. Lake Monticello maintains a reservoir that serves as the primary water source for the Lake Monticello community. As indicated by the *Water Study for Fluvanna County* (Anderson & Associates, Inc, 2003), the Rivanna River was severely taxed by the Lake Monticello system during the droughts of 2002, resulting in the

report conclusion that the James River was the best long-term solution to meet the County's water demands.

Furthermore, the Virginia Department of Health (VDH) limits the acceptable withdrawal of a public water supply without a reservoir, to 10% of the generally lowest flow of record at the point of withdrawal. Timmons Group staff spoke with DEQ Office of Water Supply – Water Withdrawal Permitting Department staff (Mr. Josh Rader) to discuss how safe yield and withdrawal limits are determined. A summary of those discussions follows:

DEQ performs a simulation of the stream of interest on the lowest day of flow of the period of record. This simulation considers several factors including surface water withdrawals and discharges along the stream. This simulation produces a number that is DEQ's interpretation of the lowest flow of record. This number is then used by the Virginia Department of Health (VDH) to determine the 'safe yield', which VDH has defined as 10% of the lowest flow of record.

As an example, the lowest flow of record for the Rivanna River at the confluence to the James is 6 CFS or 3.9 MGD according to USGS stream gage data. For the sake of the example, it is assumed the DEQ simulation also produces a low flow of 3.9 MGD. In this case VDH would say the safe yield is 0.39 MGD. Mr. Rader indicated this process is typical for DEQ permitting surface water withdrawals throughout the state.

The nearest stream gage on the Rivanna River upstream of the confluence with the James River, is located at Palmyra. Below is a graph from the U.S. Geological Survey (USGS) website of daily flows at the gage starting in 1960.

Based upon an ultimate withdrawal capacity for the JRWA, a source with a safe yield of 12 MGD is required for a proposed intake location on the Rivanna River at Columbia, Virginia, to meet the long-term needs of JRWA's member communities. A safe yield of 5.73 MGD would be required to meet JRWA's short-term needs. Based upon the VDH 10% low flow requirement, this would equate to 57.3 MGD (short-term needs) or 120 MGD (long-term needs) as the minimum historical flow required at the intake structure. This equates to a minimum flow rate of 88.7 to 185.7 CFS for an intake structure located on the Rivanna River in the vicinity of Columbia. The area of the drainage shed at Palmyra is 663 SQ MI as compared to 769 SQ MI drainage area of the Rivanna River at the confluence with the James River at Columbia. As such, a conversion factor of 0.862 (see Table 3 below) must be applied to relate the required flows at Palmyra to a potential intake at Columbia.

Table 3. Rivanna Drainage Areas

Rivanna Drainage Area @ Palmyra Stream Gage	663 SQ MI
Rivanna Drainage Area @ Columbia	769 SQ MI
Conversion Factor (663 / 769)	0.862

Table 4. Minimum Low Flow Rates

JRWA Withdrawal @ Columbia (MGD)	JRWA Withdrawal @ Columbia (CFS)	Req'd Flow Rate @ Columbia for 10% low flow (CFS)	Conversion Factor for Stream Gage @ Palmyra	Req'd Flow Rate @ Palmyra Stream Gage for 10% low flow (CFS)
5.73	8.87	88.7	0.862	76.4
12	18.57	185.7	0.862	160.1

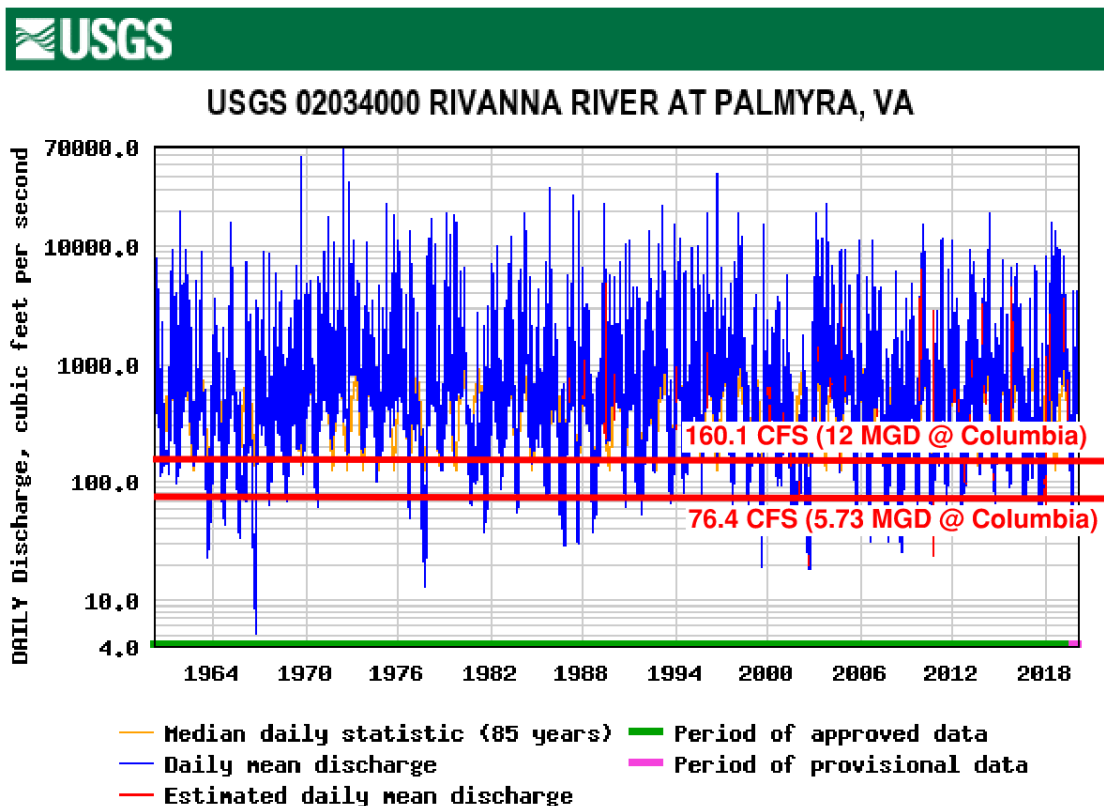


Figure 5. Daily discharge (CFS) from the Rivanna River gauge in Palmyra from 1960 through 2020 (graph obtained from the USGS website on March 17, 2020)

Based on this conversion factor, a minimum low flow of record of 160.1 CFS would be required at Palmyra to consider the safe yield acceptable to support the JRWA 12 MGD ultimate withdrawal capacity, as shown in Table 4. As is evident in the USGS graph (see Figure 5 above), the daily discharge at the Palmyra stream gage is routinely well below the required minimum flows to meet the project’s long-term needs. During the October 2002 drought, the discharge at the Palmyra stream gage was as low as 18.1 CFS and 1966, from September 9th through September 11th, the flow was 5.2 CFS; the lowest flow of record. Therefore the safe yield of the Rivanna River is 0.52 CFS, or 0.34 MGD at the Palmyra gage. Indeed, these flows would be insufficient to meet the much lower short-term needs of the

project without the construction of a reservoir. Therefore, a direct withdraw intake located anywhere on the Rivanna River will not support the Project needs.

This conclusion is supported by previous studies as outlined in the *Water Resources Study for the Zion Crossroads Area* (1996) jointly commissioned by the Counties and the *Water & Wastewater Preliminary Engineering Report and Facilities Master Plan* (1998) prepared for Fluvanna County. Both documents indicate that, without a storage reservoir, a direct water withdraw from the Rivanna River would not provide sufficient water volumes necessary to meet the regional public water supply needs. Development of an off-line reservoir for raw water storage would be the only way to meet the JRWA water supply demands from the Rivanna River. However, a raw water storage reservoir would add substantial land acquisition, construction, permitting, and maintenance costs. Planning, design, permitting, and construction of a reservoir would take significant time, in some cases 20 years or longer, as was the case for the Cobbs Creek Reservoir. Construction of a reservoir would also result in alternations of natural systems beyond what would be necessary for a direct withdraw and waterline. Therefore, a storage reservoir was considered impracticable for detailed consideration in this analysis.

In addition to the limits of available direct withdraw, excessive siltation and sedimentation in the Rivanna River presents a water quality issue. Withdraws from the Rivanna would require adding a pre-settling basin and clarifiers at the Louisa WTP which would include additional capital costs as well an increase in annual operations and maintenance costs. Detailed information regarding the siltation issues and additional equipment necessary is addressed in Section 4.2.1.2.1 Adequate Water Quality.

In sum, the Rivanna River does not have sufficient quantity of water to meet the JRWA members' short-term or long-term water supply demand, and issues of water quality from the Rivanna would of concern. Therefore, the Rivanna River as a water supply does not fulfill the project purpose and can be excluded from further analysis.

4.1.1.2 Alternative Water Supply 2: Lake Anna

Lake Anna is currently owned by Dominion Energy and is located on the north side of Louisa County and is split between Louisa and Spotsylvania Counties. Lake Anna is used for the North Anna Nuclear Power Stations hydro-power and cooling system, which is a "once-through" system that returns the full amount of the withdrawal to the Lake. The North Anna Power Station uses over 500 times the amount of the entire county of Louisa's average water demand for its cooling system and hydro units. Lake Anna cannot be used as a water supply due to its purpose of supporting the Dominion North Anna Power Station. Louisa County unsuccessfully attempted to establish a water withdrawal intake on Lake Anna in 2012. Dominion denied Louisa County access to Lake Anna for this purpose. A copy of this letter is included in [Appendix H-1-1](#) with the following excerpt provided below:

"Using Lake Anna for public water supply conflicts with Dominion's rights and responsibilities for reasons, including:

1. *Allowing another entity to control withdrawals from Lake Anna would interfere with Dominion's ability to safely and efficiently operate the Station's existing and proposed units.*
2. *Additional withdrawals would alter lake levels and downstream flows, with Dominion controls at the Lake Anna Dam in compliance with permit conditions designed to ensure protection of other beneficial uses such as recreation.*
3. *The Virginia Water Quality Standards (9VAC25-260) establish public water supply numeric criteria that are more restrictive than the existing criteria in Lake Anna could (a) result in additional restrictions on waste water discharges from the Station requiring material changes to Station operations, (b) impact Dominion's ability to perform pest/invasive species control measures, if needed, and (c) result in restrictions to existing recreational uses on Lake Anna.*
4. *By agreeing to grant access to Louisa County for a water withdrawal, Dominion may be compelled to consider future requests for additional water withdrawals from the County or other entities – which would further undermine Dominion's interest in managing Lake Anna for the reasons stated above.*

For these and other reasons, Dominion will not grant access to Louisa County, or any other entity, for the competing purpose of establishing a water withdrawal intake and infrastructure.”

Lake Anna is also a significant distance from a number of key designated service areas in Fluvanna and Louisa County, to include approximately 30 miles of water main routing to Zion Crossroads and approximately 42 miles of water main routing to Fork Union (see Figure 6).

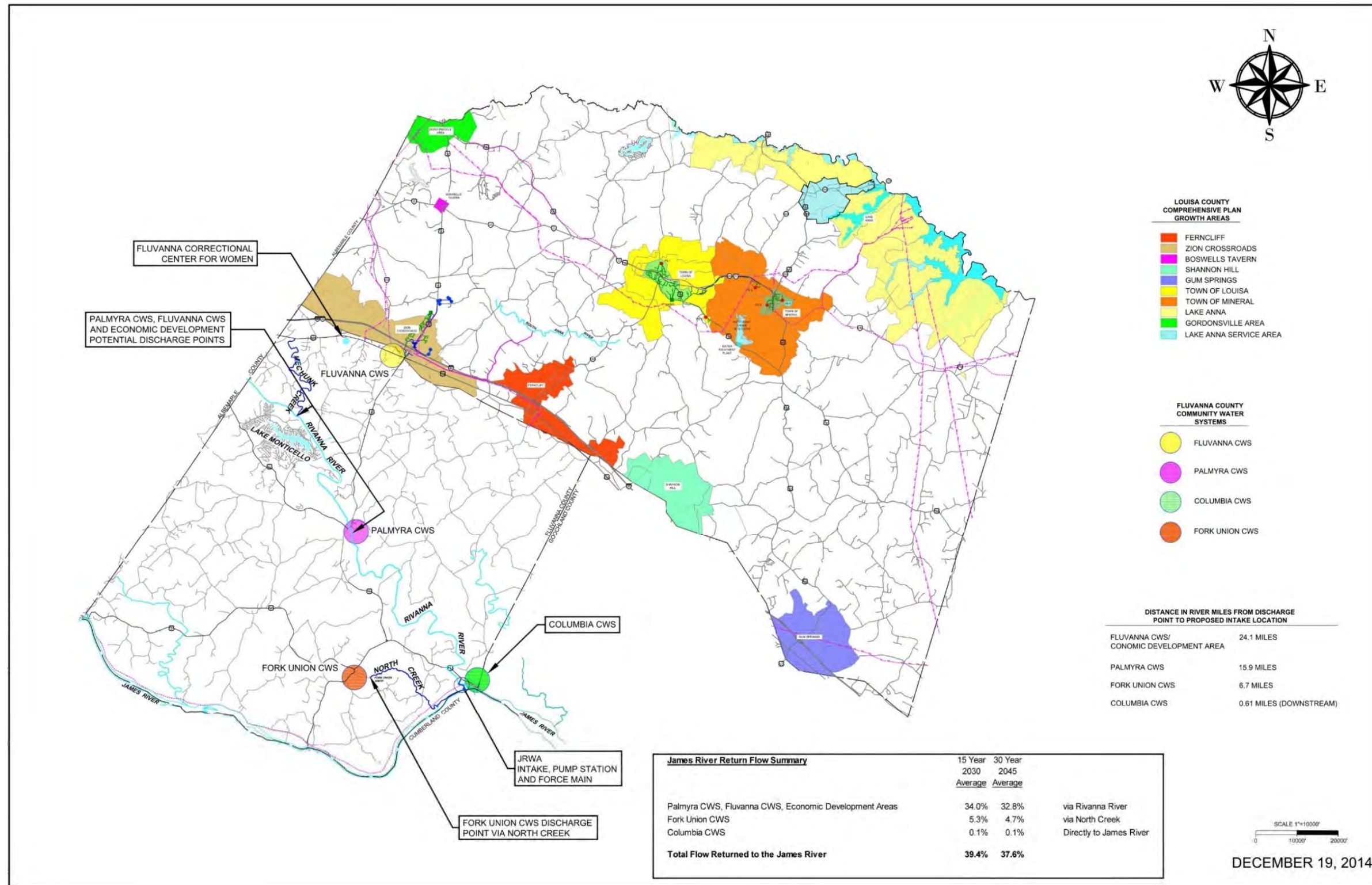


Figure 6. Demand Centers of Fluvanna and Louisa Counties

In sum, given the location of Lake Anna in the north side of Louisa County and Dominion's specific use of the lake for cooling water for the North Anna Power Station and subsequent denial for use as a public water supply, it is not a feasible nor available option for the James River Water Authority and Louisa and Fluvanna's long-term water supply demand and has been excluded from further analysis.

4.1.1.3 Alternative Water Supply 3: Cobbs Creek Reservoir

Cobbs Creek Reservoir (CCR) is a Henrico County project that will serve as a side stream reservoir and pumping facility that pumps and stores water from the James River during high flow conditions and releases this water back to the river during low-flow and drought conditions. Cobbs Creek Reservoir cannot be used as a water supply due to its purpose to provide extra water to the flow of the James River during drought or near drought conditions. Specifically, this extra water is intended to supply drinking water to Henrico County via the James River during droughts or near droughts.

Cobbs Creek Reservoir is a \$280 million construction project according to the Henrico County website, last updated January 30, 2020, and has a safe yield of 47 million gallons per day (MGD). This represents approximately \$6 per gallon ($\$280 \text{ million} / 47 \text{ MGD} = \5.96 per gallon) for capital costs to construct the reservoir. Should the JRWA need to buy capacity from Henrico County, it is anticipated it would cost a minimum of \$6 per gallon to purchase the capacity in Cobbs Creek Reservoir. That would be in addition to the costs that would be incurred to extend a water main across the James River and construct an intake and pump station on the reservoir. Below are estimated capital costs for various capacities should they be purchased by JRWA:

Potential Capital Costs for Desired Capacities:

- 8 MGD x \$6 / gal = \$48 million
- 12 MGD x \$6 / gal = \$72 million

In addition, the JRWA would need to construct a raw water intake and pump station on the Cobbs Creek Reservoir and install a water main along Columbia Road and cross the James River in close proximity to Columbia and then tie-in to the agreed-upon T interconnection point. Given the prohibitive capital costs for purchasing reservoir capacity, no further costs were evaluated for the intake, pump station, water main, and James River crossing.

In summary, Cobbs Creek Reservoir is not considered a practicable alternative and is not a viable option for the James River Water Authority.

4.1.1.4 Alternative Water Supply 4: Groundwater

Groundwater cannot be used as a water supply because existing groundwater sources in the Fluvanna and Louisa County are insufficient to meet the project need.

As the 2010 Fluvanna Regional Water Supply Plan states, groundwater resources have largely been already maximized for community scale uses. This is evidenced by the multi-year significant decrease of groundwater resources in 2002 due to lack of precipitation and droughts. This modern episode indicates unpredictable and insufficient groundwater supplies within the County and demonstrates that water demands in the more densely developed areas of the County can only be met by a surface water driven community water system.

The 2011 Louisa County Long Range Regional Water Supply Plan states much of the County, like Fluvanna, has an overreliance on groundwater wells. Given the County's goal of preserving its rural character, it is imperative to preserve groundwater resources for rural residents in the future while providing a community water system for densely developing areas. For example, the Louisa County Water Authority (LCWA) utilizes water from wells in the Zion Crossroads area to serve commercial and industrial development that are adjacent to the Green Springs National Historic District. However, the large scale use of groundwater in this area has taxed reserves and the right to withdraw water from wells has faced numerous legal challenges throughout the years and has been the subject of numerous lawsuits including Historic Green Springs, Inc., Louisa County, LCWA, the USEPA and a number of private citizens in various capacities. Reducing dependency on and use of groundwater in this general area has been a major driver behind the James River Water Project. This, in addition to a growing water demands of the Louisa County in general, support the need for a public water source supplied by surface waters to service high growth areas while preserving the rural nature of much of the County.

Beyond preserving groundwater supplies for current and rural uses, the groundwater yields within the Counties appear to be insufficient to meet the needs of the JRWA. The 1998 *County of Louisa Water Quality Management Plan and Groundwater Study* (Appendix H-1-2-1) indicates the average yield of public water supply wells in the County were about 42 gallons per minute (GPM), three times greater than the average yield of 14.5 GPM for all wells in the County. However, in order to achieve these maximum yields, significantly greater well depths (>300 feet) are required than typically well depths (<300 feet). Similarly, the *Fluvanna County Geology and Water Well Productivity* study produced by the Virginia Department of Mines Mineral and Energy (Appendix H-1-2-2) indicates that the most productive wells in Fluvanna County can be found to occur in wells > 300 feet in depth within specific rock families (slate and quartzite) and have, on average, a yield of 89 GPM. This is further validated when you look at each County's demand centers relative to their location in the respective watersheds. Per the attached Hydrologic Unit Code map (see Page 13, Figure 2), the growth areas of Zion Crossroads (both Fluvanna and Louisa), Ferncliff, Shannon Hill and Gum Springs all are located at the "head of a watershed" and adjacent to Interstate 64, which appears to be a "ridge road" as constructed.

Using the most productive figures with wells of 89 GPM as a baseline estimates (from the *Fluvanna County Geology and Water Well Productivity* study), an average deep well (> 300 feet) within an area of high productivity could produce on average of 128,160 gallons per day (GPD). Under this scenario, nearly 100 highly productive deep wells would be required to meet the 12 million gallons per day (MGD) ultimate needs of JRWA. The development of 100 highly productive deep wells across the Counties would require multiple site-specific

groundwater studies, multiple test wells and the development of well fields, individual water treatment units at the wells and/or associated infrastructure to connect these fields to a central water treatment plant and related distribution networks. The planning, logistics, testing, permitting, and costs associated with such an endeavor make groundwater withdraws impractical to meet the long-term needs of the JRWA.

In sum, groundwater is not considered to be a practicable alternative and is not a viable option for the James River Water Authority.

4.1.1.5: Alternative Water Supply 5: Purchased Water from Neighboring Communities

Fluvanna and Louisa development corridors are adjacent to Albemarle County to the west and Goochland and Hanover Counties to the east. Rivanna Water & Sewer Authority (RWSA) provides water to the City of Charlottesville and Albemarle County Service Authority and currently has a limited water supply. When the RWSA was considering water supply options in the early 2000's, it evaluated constructing a water line along Route 20 to get direct access to the James River at Scottsville and also partnering with Fluvanna and Louisa Counties to expand the water withdrawal from the James River to include additional demands for the RWSA as the RWSA expressed that it did not have an adequate water supply to serve its residents' needs and the needs of Fluvanna and Louisa Counties. Ultimately RWSA concluded they could meet their long-term water demands utilizing the existing Rivanna watershed by improving their existing reservoirs and abandoned the idea of utilizing the James River as a long-term water source.

JRWA has been informed that RWSA has currently developed their water supply system to exclusively meet the long-term needs of the City of Charlottesville and Albemarle County Service Authority and are not in a position to sell water to Louisa or Fluvanna Counties. Please see attached letter from RWSA dated March 11, 2020 (see [Appendix H-1-3](#)).

The next closest municipal water system to Fluvanna and Louisa service areas is Goochland County. Goochland County currently purchases water from Henrico County to serve the Tuckahoe Creek Service District, which is generally located along the east end of Goochland County serving multiple properties along Route 288 and I-64 up to the Manakin-Sabot/Rockville area located just off of exit 173 on I-64. The Tuckahoe Creek Service District would be the closest connection point for Louisa and Fluvanna Counties to purchase water from Goochland/Henrico and is approximately 35 miles east from Zion Crossroads and approximately 38 miles southeast from the Town of Louisa, thereby making it unfeasible to construct a line to this area and purchase water from Henrico or Goochland.

Based upon the items noted above, purchasing water from neighboring communities is not practicable alternative and therefore not a viable option.

For the reasons stated above, JRWA was not able to identify any alternative sources of water that presented a potentially feasible alternative to the James River. As such, these alternatives were not carried forward for a more detailed analysis.

4.1.2 Build Alternatives

Six alternative raw water intake locations (i.e., the Build Alternatives) were evaluated for the Project. For each Build Alternative, one or more water main route variations were evaluated as sub-alternatives. An overall map of each alternative (Figure 8) and summaries of each Build Alternative follows.

The Build Alternatives included in this analysis were developed to represent a wide-range of options for locating an intake and pump station along the James River within a reasonable radius of the agreed-upon T interconnection point. The upstream and downstream extents of the analysis were guided by a reasonable consideration of constraints. The upstream extent was established at a location near Bremono Bluff, which was the location of the original JRWA withdraw permit. This extent represents the furthest alternative to be evaluated from the agree-upon interconnection point. The downstream extent was determined to be a site in Goochland County approximately one mile downstream from the Columbia Bridge and just upstream of Elk Island. This extent was established based on multiple factors, including distance, water quality (see Section 4.2.1.2.1), and the high occurrence of known cultural resources near Elk Island. Alternative intake locations within the overall extents were also developed based on reasonable considerations including ease of access via existing CSX rail crossings and distances from wastewater treatment plant (WWTP) discharges into the James River. Locations of existing Dominion and Fork Union WWTP discharge points on the James River are shown in Figure 7. Section 4.2.1.2.1 Adequate Water Quality further details raw water withdrawals with regard to the 5-mile discharge in accordance with the Virginia Waterworks Regulations. Routing alternatives were developed to avoid sensitive resources and to be co-located with existing VDOT roads, utility corridors, or CSX right-of-way to the maximum extent feasible and / or practicable. The Build Alternatives selected for detailed analysis are summarized in the Sections below.

The evaluation of Build Alternatives has been prepared using the best available information and field investigations where practicable. This analysis is believed to be comparatively reasonable for each of the alternatives evaluated. Should additional information be acquired or due diligence be completed, it could slightly alter the results of the analysis, however, we don't believe it will alter the final conclusions of the analysis.

The proposed action, Alternative 6, has been extensively studied over a period of years, and the analysis of that alternative is based on known conditions of the currently designed intake and pump station site. For Build Alternatives 1 through 5, 6-1 and 6-2, the best available information was gathered from mapping data, online data, other reliable sources, and visual inspections where accessible. For elements that would not be materially different between alternatives—such as pump station construction costs—the information developed for Alternative 6 was used to inform the related elements of the other alternatives. The available information for the alternatives that have comparatively less information available than the proposed action is sufficient to determine whether there are any known factors that make construction *impracticable*. That is, if an alternative is demonstrated to be impracticable based on one or more factors, no further analysis is warranted. However, it must be recognized that additional information and further analysis could result in the identification of additional factors that may make a given alternative impracticable. Information on the considerations listed below was not fully developed for the Build Alternatives (other than the proposed alternative), and

therefore this analysis *assumes* that these considerations would not make an alternative impracticable but additional information could change that conclusion:

- Topography. The elevation of pump station sites must be suitable in relation to the elevation of the river bottom.
- Bathymetry. The depth and shape of the river bottom must be suitable for a submerged water intake.
- Geology. Presently unknown information about the type and depth of soils and rock could lead to constructability challenges.
- Availability of Land for Pump Station Construction, Temporary Construction Easements, Access and Water Line Easements. Fluvanna and Goochland County GIS data has been used to assess the availability of land for alternative sites, access to the sites and associated easements. However, no boundary survey, title investigations, or appraisals have been performed.

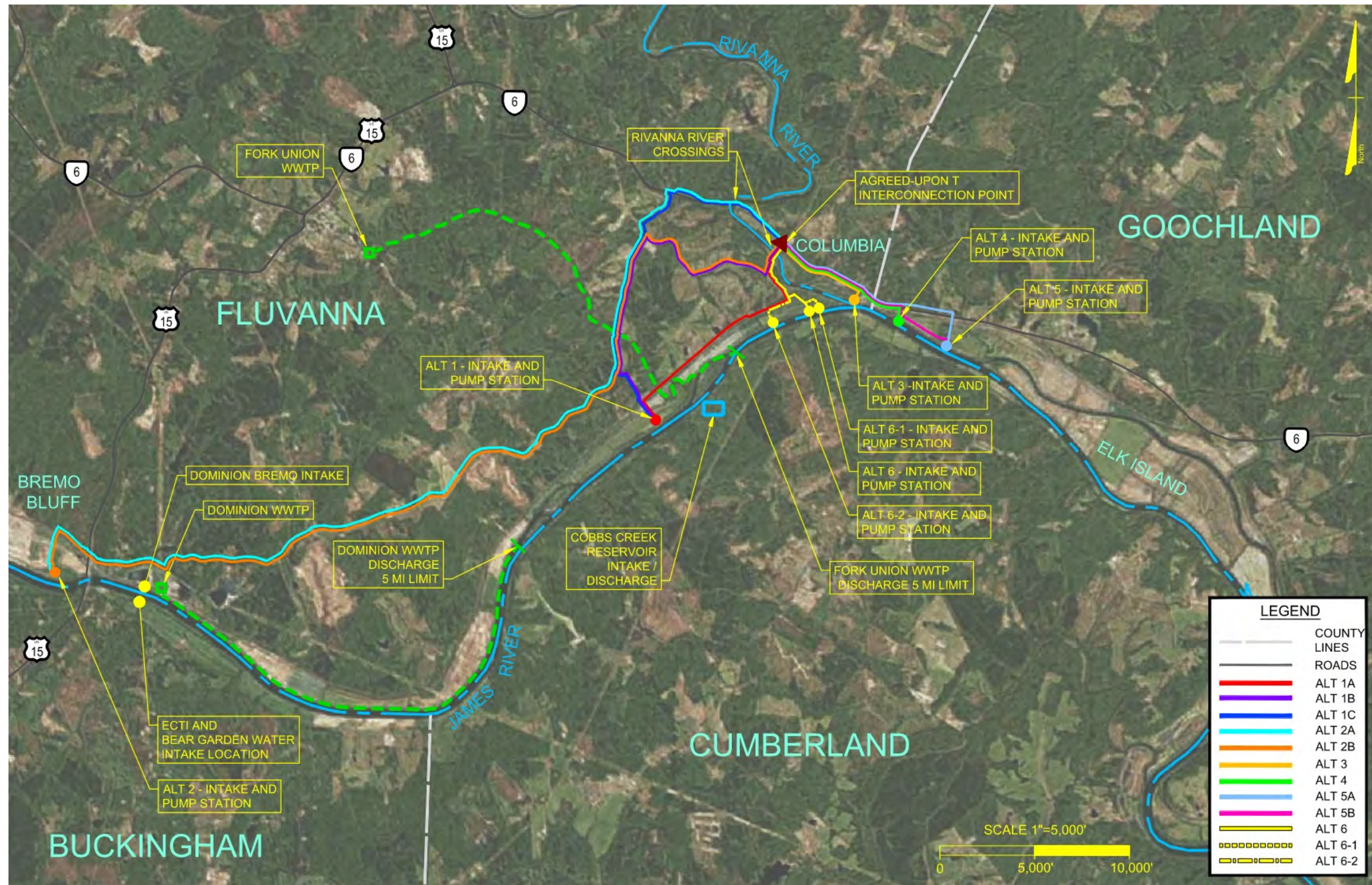


Figure 7. Overview of Build Alternatives and Routing

4.1.2.1 Build Alternative 1: Forsyth

- **Build Alternative 1** is approximately 2.3 miles upstream of the confluence of the James River and Rivanna River on property owned by Forsyth (TM 61 1 6). The evaluation considers three water main routes to this site as follows:
 - **Sub-alternative 1A**; crossing the Rivanna River and following the Colonial Pipeline and Dominion Power utility corridor as currently designed, then following the CSX rail to the alternative site.
 - **Sub-alternative 1B**; crossing the Rivanna River and following the Colonial Pipeline utility corridor as currently designed to Point of Fork Road (Route 624); then following Point of Fork Road and Bremono Road (Route 656) to the Forsyth property; then extending into the Forsyth property, crossing the CSX rail to the alternative site.
 - **Sub-alternative 1C**; following Route 6 and crossing the Rivanna River at Route 6 and continuing to Bremono Road (Route 656) to the Forsyth property; then extending into the Forsyth property, crossing the CSX rail to the alternative site.

See Figure 9. Build Alternative 1 Evaluated Routing Options for details

4.1.2.2 Build Alternative 2: Bremono

- **Build Alternative 2** is in the vicinity of Bremono Bluff west of the US 15 Bremono Bridge. It is approximately 0.35 miles upstream of the Route 15 Bridge on property owned by Orf (TM 58 A 9). The site is situated such that the intake location avoids rapids and sand bars in the vicinity. This evaluation considers two water main routes to the site as follows:
 - **Sub-alternative 2A**; following Route 6 and crossing the Rivanna River at Route 6 and continuing to Bremono Road (Route 656) to the west of the Route 15 bridge at Bremono Bluff onto CSX Road, then crossing the CSX rail and extending into the alternative site.
 - **Sub-alternative 2B**; crossing the Rivanna River and following the Colonial Pipeline utility corridor as currently designed to Point of Fork Road (Route 624) and continuing to Bremono Road (Route 656) to the west of the Route 15 bridge at Bremono Bluff onto CSX Road, then crossing the CSX rail and extending into the alternative site.

See Figure 10. Build Alternative 2 Evaluated Routing Options for details

4.1.2.3 Build Alternative 3: Columbia

- **Build Alternative 3** is in the vicinity of Columbia, downstream of the confluence of the James and Rivanna Rivers; approximately 0.4 miles downstream of the current site on the properties owned by Harry (TM 54A 1 96, TM 54A 1 79, TM 54A 1 80, and TM 54A 1 97) and Kidd (TM 54A 1 80A). The water main route is as follows:
 - Following Route 6 east to Columbia and extending into the alternative site in Columbia.

See Figure 11. Build Alternative 3 Evaluated Routing Options for details

4.1.2.4 Build Alternative 4: Goochland 1

- **Build Alternative 4** is in Goochland County, downstream of the confluence of the James and Rivanna Rivers; approximately 1/2 miles downstream of the existing Columbia Bridge on property owned by Valentine (TM 24 1 1). The water main route is as follows:
 - Following Route 6 east to Columbia and into Goochland; then crossing the CSX rail and extending into the alternative site.

See Figure 12. Build Alternative 4 Evaluated Routing Options for details

4.1.2.5 Build Alternative 5: Goochland 2

- **Build Alternative 5** is in Goochland County, downstream of the confluence of the James and Rivanna Rivers; approximately 1 mile downstream of the existing Columbia Bridge on properties owned by Welch (TM 24 2 7A). The evaluation considers two water main routes to this site as follows:
 - **Sub-alternative 5A**; following Route 6 east to Columbia and into Goochland, then crossing the CSX rail and entering the Welch property into the alternative site.
 - **Sub-alternative 5B**; following Route east to Columbia and into Goochland, then crossing the CSX rail and entering the Valentine property; extending east towards the Welch property into the alternative site.

See Figure 13. Build Alternative 5 Evaluated Routing Options for details

4.1.2.6 Build Alternative 6: Hammond 1 (Proposed Action)

- **Build Alternative 6** is the Preferred Alternative. This alternative is described more fully above in Section 2, which is incorporated here by reference.

For the purposes of this Alternatives Analysis, JRWA evaluated two variations on the proposed Project that were not sufficiently different to warrant evaluation as independent alternatives. Additional actions to avoid and minimize impacts associated with the Build Alternative 6 are discussed in Section 6 below.

4.1.2.7 Build Alternative 6-1: POF Farm

- **Build Alternative 6-1** is the original property considered in the Joint Permit Application with the intake structure approximately 0.4 miles upstream of the confluence of the James River and Rivanna River with the water transmission line following an old roadbed until it intersects with the existing Dominion Power easement. This intake and water main location are located on Point of Fork Farm LP (parcel 53-A-62C) and was included in the original Joint Permit Application. It was anticipated at the time of the application that the JRWA would be able to acquire the pump station site from Point of Fork Farm LP, however, JRWA was not able to acquire the site. Subsequently the JRWA was able to

negotiate the acquisition of a pump station parcel from the adjacent landowner, William Hammond (parcel 61-A-4), just upstream of this pump station location. Once the JRWA acquired this parcel, they requested a minor modification from DEQ to move the proposed pump station and intake structure upstream approximately 250 liner feet.

This alternative would realize the purpose and need of the project in the required configuration. However, this alternative site presented issues due to breakdowns in property owner negotiations regarding the placement of the intake structure and water main. Shifting the station upstream to the location of the Preferred Alternative minimizes property acquisition from reluctant parties and better utilizes existing easements without increasing any environmental impacts.

4.1.2.8 Build Alternative 6-2: Hammond 2

- **Build Alternative 6-2** is the intake structure approximately 0.8 miles upstream of the confluence of the James and Rivanna River with the intake and pump station located adjacent to the Colonial Gas Pipeline easement.

This alternative would realize the purpose and need of the project in the required configuration but presents issues due to safety concerns. The proximity of the pump station to the existing Colonial Gas pipeline was determined to be unsafe for blasting necessary for construction. Additionally, there is also no existing rail crossing to easily access this site, which would increase the overall cost and time needed for the project.

See Figure 14. Build Alternative 6, 6-1, and 6-2 Evaluated Routing Options for details.

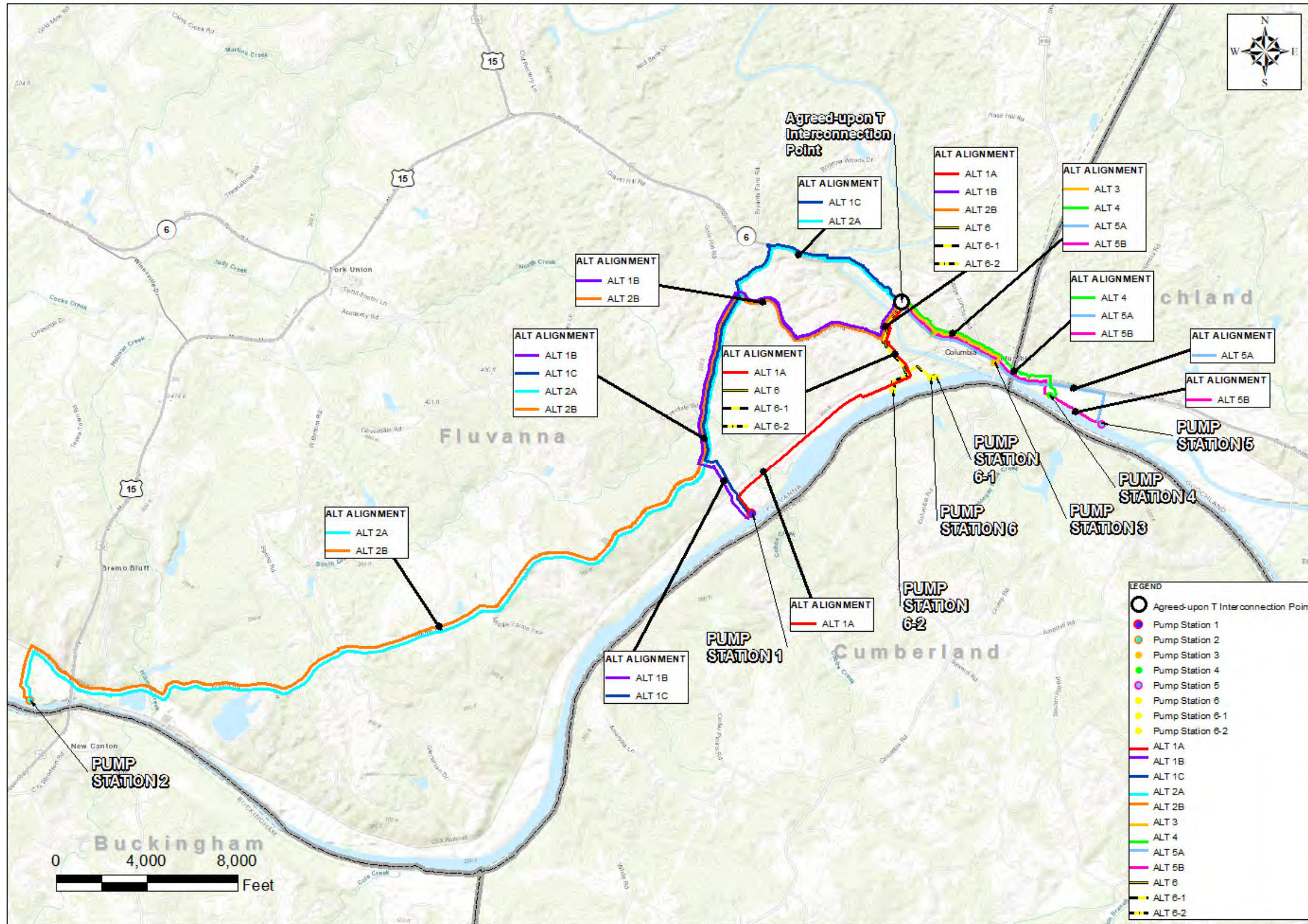


Figure 8. Overview of Evaluated Alternative Routing Options

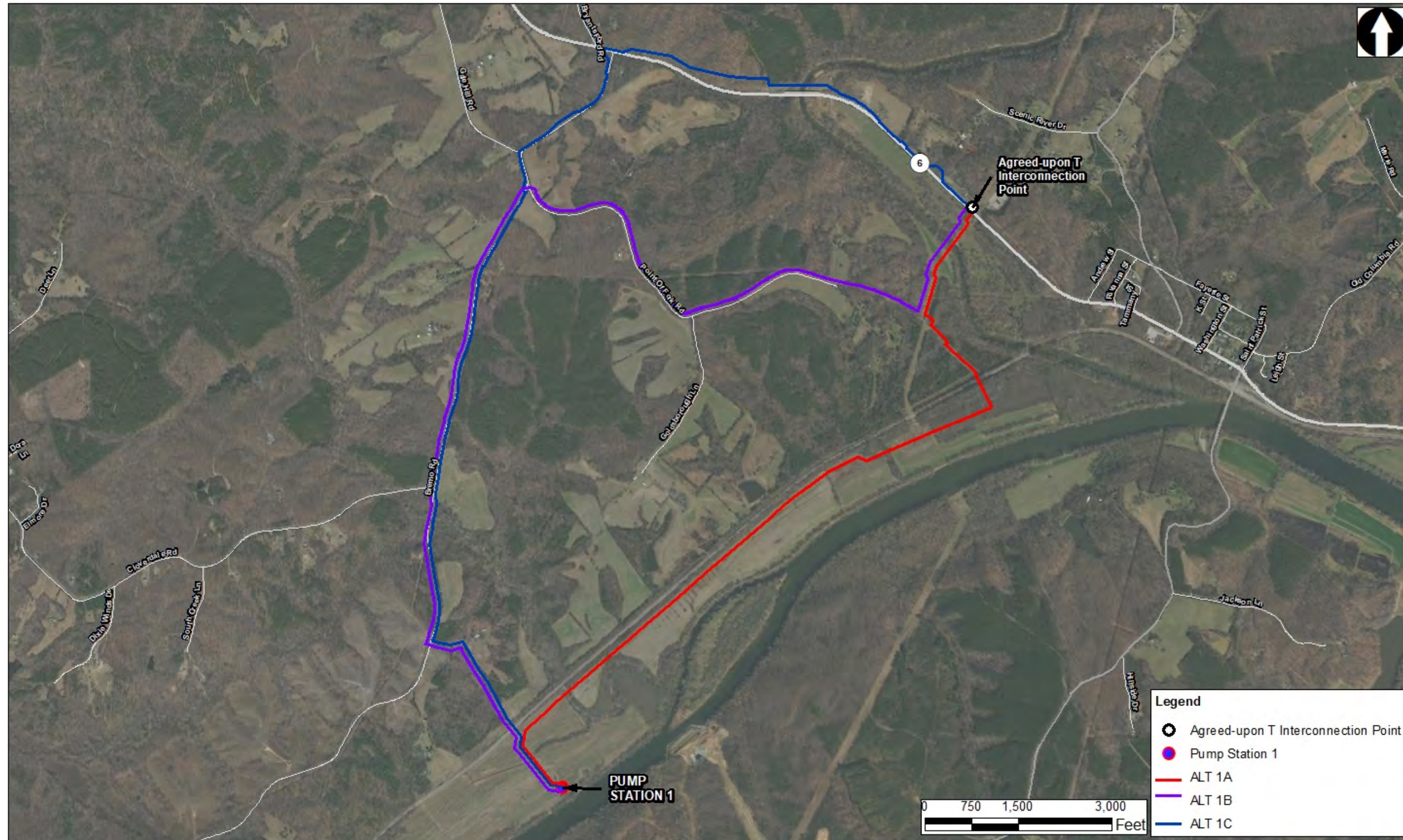


Figure 9. Build Alternative 1 Evaluated Routing Options

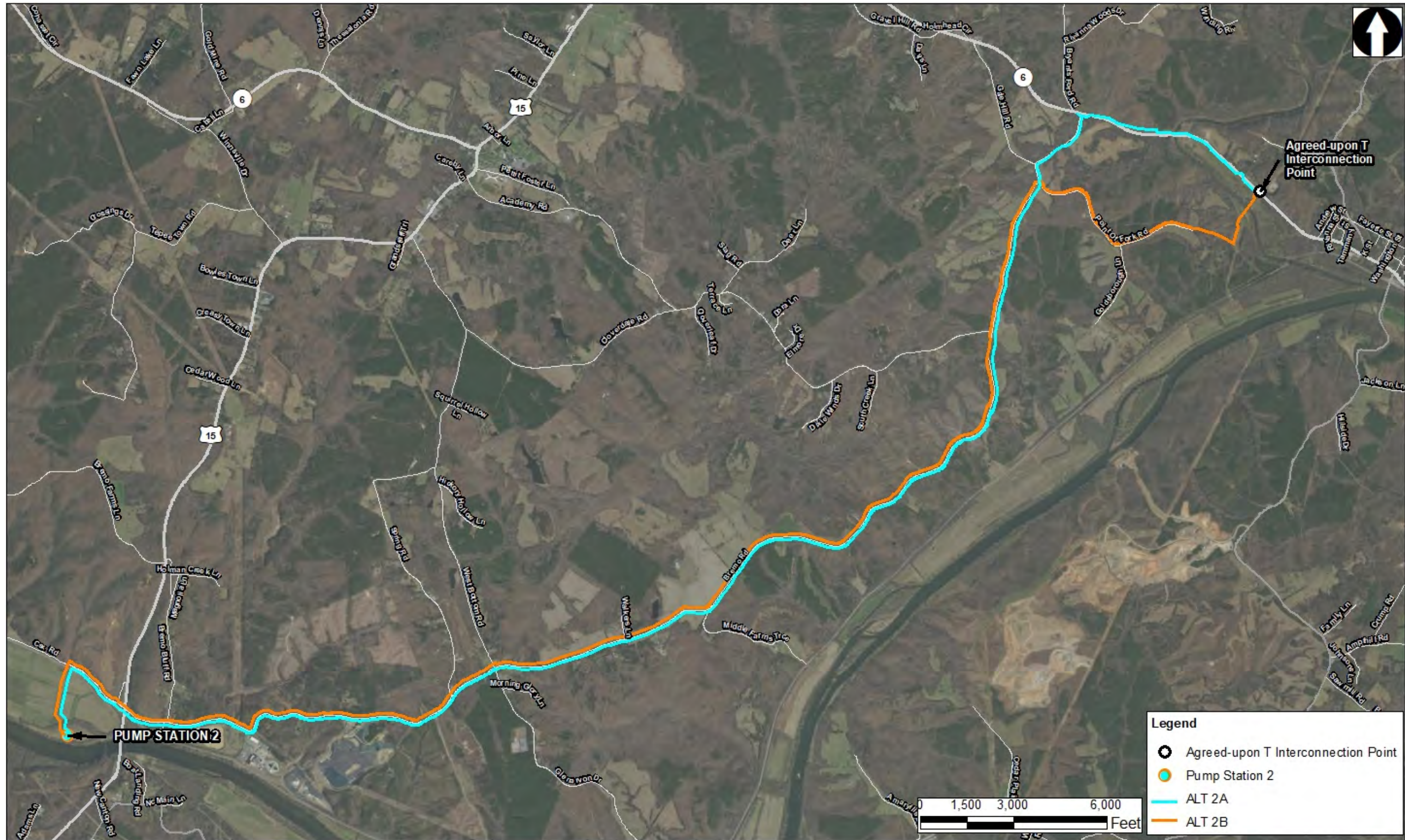


Figure 10. Build Alternative 2 Evaluated Routing Options



Figure 11. Build Alternative 3 Evaluated Routing Options

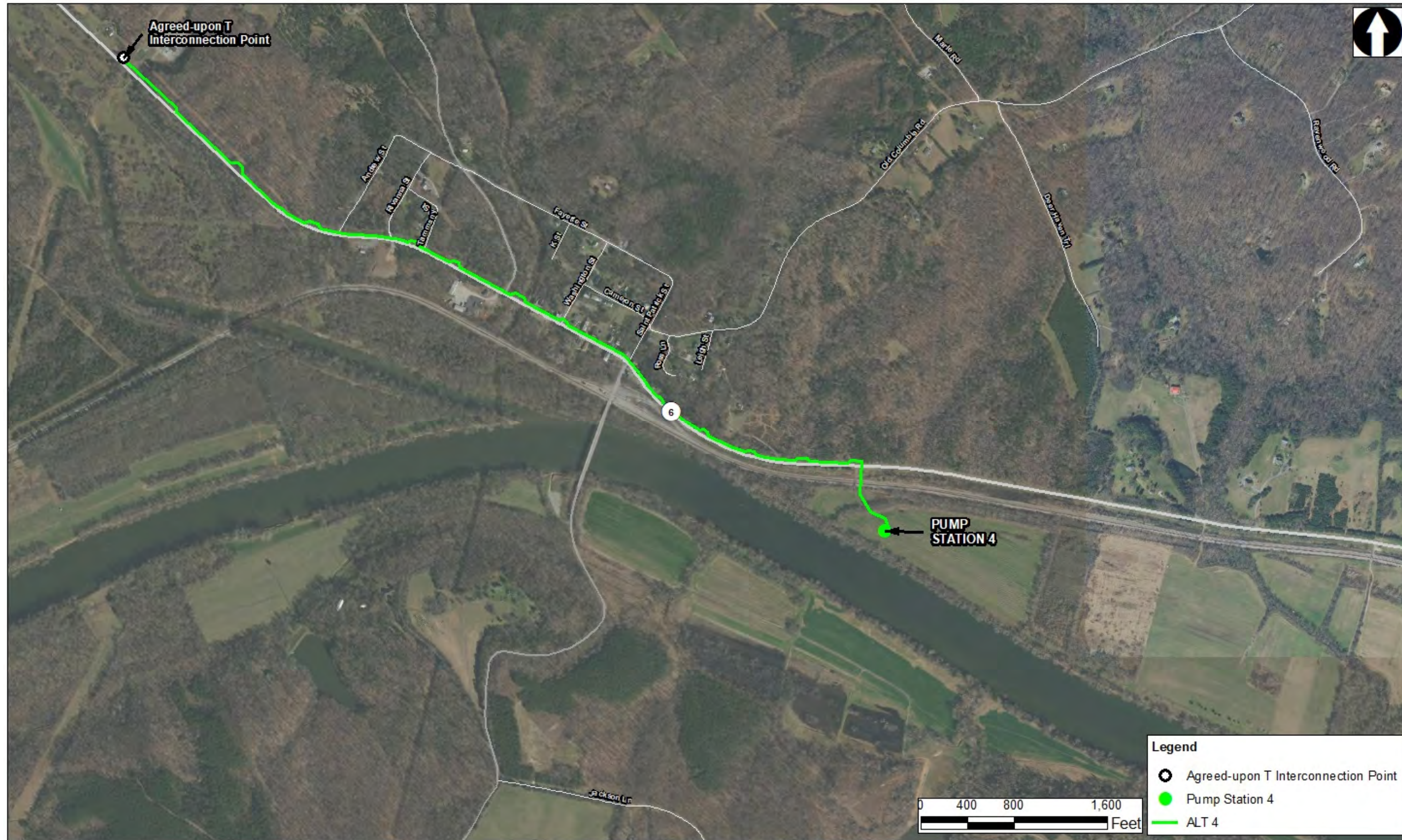


Figure 12. Build Alternative 4 Evaluated Routing Options

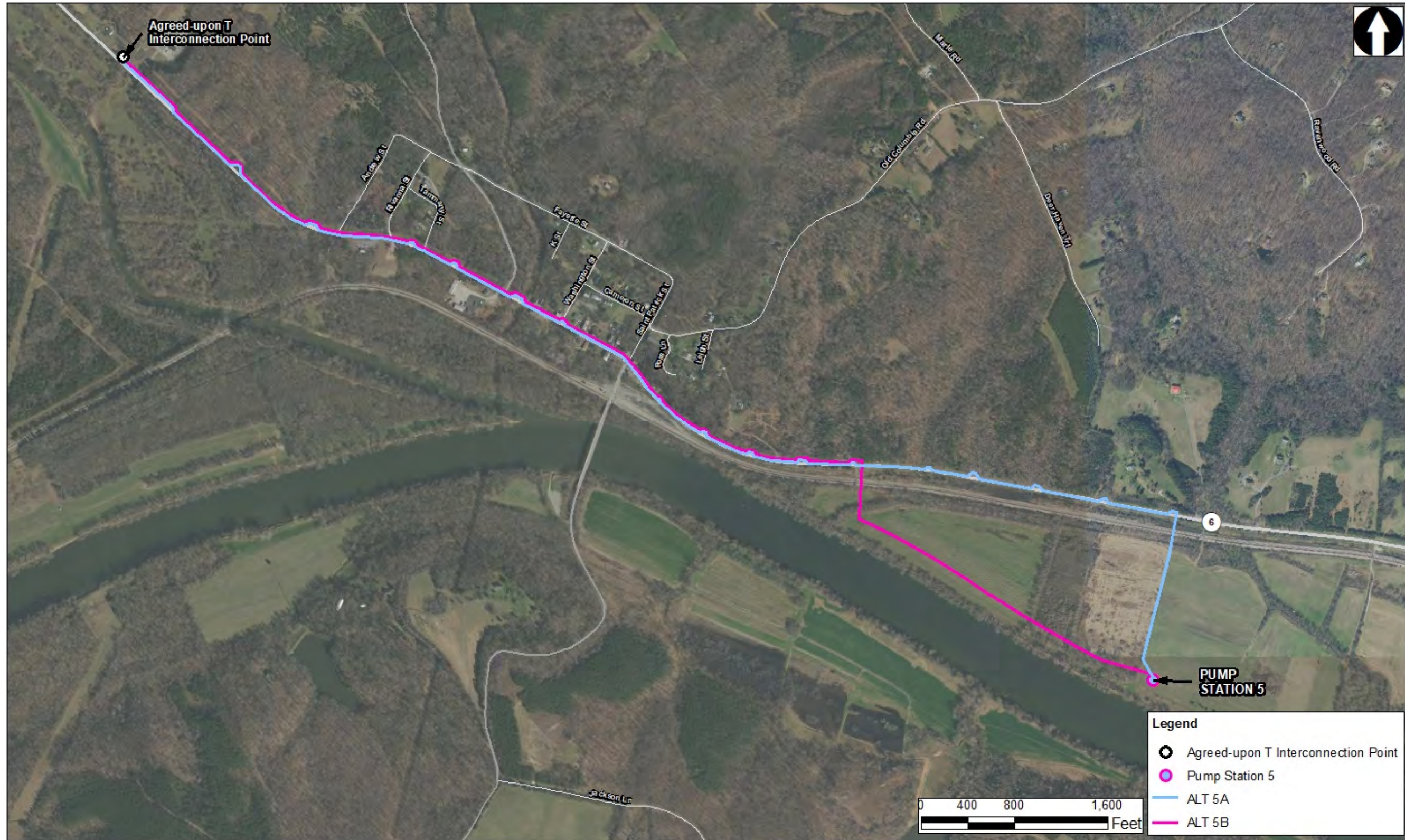


Figure 13. Build Alternative 5 Evaluated Routing Options



Figure 14. Build Alternative 6, 6-1, and 6-2 Evaluated Routing Options

4.1.3 No-Permit and No-Action Alternative

There is no feasible way to get an adequate quantity of water from the James River, or any other potential source of surface water, to the interconnection point without impacting jurisdictional waters. Boring under all jurisdictional waters would not represent a No-Permit Alternative because there is no technologically feasible way to construct the raw water intake in a surface water in a manner that would avoid the need for a permit. Although drilling a groundwater supply well immediately adjacent to the connection point could theoretically avoid jurisdictional impacts, groundwater does not provide a sufficient supply of water to meet the Project purpose. Thus, that option cannot be considered a true alternative. Accordingly, the No-Permit Alternative and No-Action Alternative are the same. The No-Action/No-Permit Alternative entails not constructing the water supply Project in any form.

4.2 Alternatives Evaluation Criteria

4.2.1 Practicability Considerations

An alternative is “practicable” if it is “available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.” 40 C.F.R. § 230.10(a)(2). This analysis applies each of the evaluation criteria noted below to each Build Alternative.

The first set of criteria evaluated were construction logistics. These criteria pertain to whether it is practicable to construct all elements of the project at the particular location. These criteria include:

- Size and Configuration of Site Suitable for Construction of a Pump Station
- Heavy Equipment Access to Pump Station Site from Public Right-of-Way
- Presence of Rock
- Constructability of Water Main
- Suitable Railroad Track Crossing Location
- Acquisition of Land and Easements

The second set of criteria evaluated were site suitability logistics. These criteria include factors that bear on whether a site is suitable for the operation and maintenance of public water supply infrastructure. These criteria include:

- Adequate Water Quality
- Intake and Pump Station Proximity and Depth of Wetwell
- River Bottom Depth at Intake Location
- Access to Suitable Power Supply
- Proximity to Residential Dwellings

The third criterion evaluated is cost. That evaluation tallies the capital construction and financing costs to determine total probable project costs.

From an engineering standpoint, the technology exists to construct a pump station and water main at any of the six build alternatives. Because technology is not a relevant basis upon which to differentiate among the alternatives it is not considered in this analysis.

4.2.1.1 Construction Logistics Considerations

4.2.1.1.1 Size and Configuration of Site Suitable for Construction of a Pump Station

The overall size and configuration of the site available for purchase must be sufficiently large to contain the pump station and offer enough additional laydown area adjacent to the structure to allow for the operation and movement of construction equipment. The site must offer favorable conditions to permit the construction of the project at a reasonable cost and in a safe manner that minimizes the impacts to traffic safety, the environment, and clearing and rock excavation. Below is a site diagram and description of each Build Alternative. An alternative would be deemed impracticable on this criterion if would not allow for the safe construction of the project. For further detail see [Appendix H-2](#) for intake structure to wetwell cross section exhibits.

Build Alternative 1 offers enough area to construct and maintain the proposed facilities. Figure 15 below shows the access road path and configuration of the site.



Figure 15. Build Alternative 1 Pump Station Plan View

Build Alternative 2 offers enough area to construct and maintain the proposed facilities. Figure 16 below shows the access road path and configuration of the site. A culvert will be installed near the site beneath the access road to provide safe access to the pump station site.



Figure 16. Build Alternative 2 Pump Station Plan View

Build Alternative 3 offers limited area to construct and maintain the proposed pump station. Figure 17 shows the access road path and the configuration of the site. The site is immediately adjacent to residential structures and the CSX rail line. Construction at this site is not practicable due to the lack of space and proximity to existing structures and rail. The construction and maintenance of the intake is not practicable due to lack of accessibility to the river. Accessing the river from Columbia Bridge was considered as an option, but that is deemed infeasible due to maintenance of traffic difficulties.

This alternative is unique compared to others in that it would require construction immediately adjacent to the CSX rail and existing residential structures. These factors would result in significant additional cost and project risks as follows:

- a. Due to the lack of area to layback excavations, the construction of the wetwell will require that the excavation be sheeted and braced to the elevation of bedrock (approximately 28.4 feet deep). This sheeted excavation will require extensive lateral bracing that will impede the progress of excavation, and construction of the structure. Implementing the project using a sheeted excavation will result in significant cost and schedule increases and greater safety risks during construction.
- b. Due to there being active rail lines between the wetwell and intake, it will be required that the gravity intake pipe be installed by jack and bored through rock with a casing pipe approximately 500 feet in length. A boring through rock of this length, while working in a sheeted excavation, will result in significant cost and schedule increases and greater safety risks during construction.
- c. Similarly, due to there being active rail lines between the wetwell and intake, it will be required that an additional casing be install approximately 500 feet in length to carry the air-burst piping used for cleaning the intake screens. A boring of this length, while working in a sheeted excavation, will result in significant cost and schedule increases and greater safety risks during construction.
- d. There is no practical way to construct an access road between the pump station and intake, thus a crane must be utilized to deliver equipment and materials to the intake locations. Considering there is not practical location other than the existing bridge at Columbia, the crane would be positioned on the bridge for the duration of the intake construction, thus requiring a lane closure and temporary traffic lights to manage traffic on a 24/7 basis during construction. Positioning a crane on the bridge, will result in significant cost and schedule increases and greater safety risks to construction workers and the public. In addition, the crane will need to be positioned such that if it were to fall, it would not land on the rail line and impede rail operations.

- e. A concrete pump truck would be required to deliver concrete to the intake site. This truck would also need to be staged on the bridge. Positioning a concrete pump truck on the bridge, will result in significant cost and schedule increases and greater safety risks to construction workers and the public.
- f. The site is very confined, thus reducing turn around space for vehicles. This will result in additional traffic control on Route 6 to allow long body vehicles to back in or out of the site. This condition will result in cost and schedule increases and greater safety risks to construction workers and the public.
- g. One or more residential structures will require demolition, this will also require residents to be relocated following federal guidelines. In addition to the human and environmental impacts, this would add additional costs, timing, and logistical obstacles to construction at this site.



Figure 17. Build Alternative 3 Pump Station Plan View

Build Alternative 4 offers enough area to construct and maintain the proposed facilities. Figure 18 below shows the access road path and configuration of the site. A culvert will be installed near the site beneath the access road to connect the existing stream feature and provide safe access to the pump station.



Figure 18. Build Alternative 4 Pump Station Plan View

Build Alternative 5 offers enough area to construct and maintain the proposed facilities. Figure 19 below shows the access road path and configuration of the site.

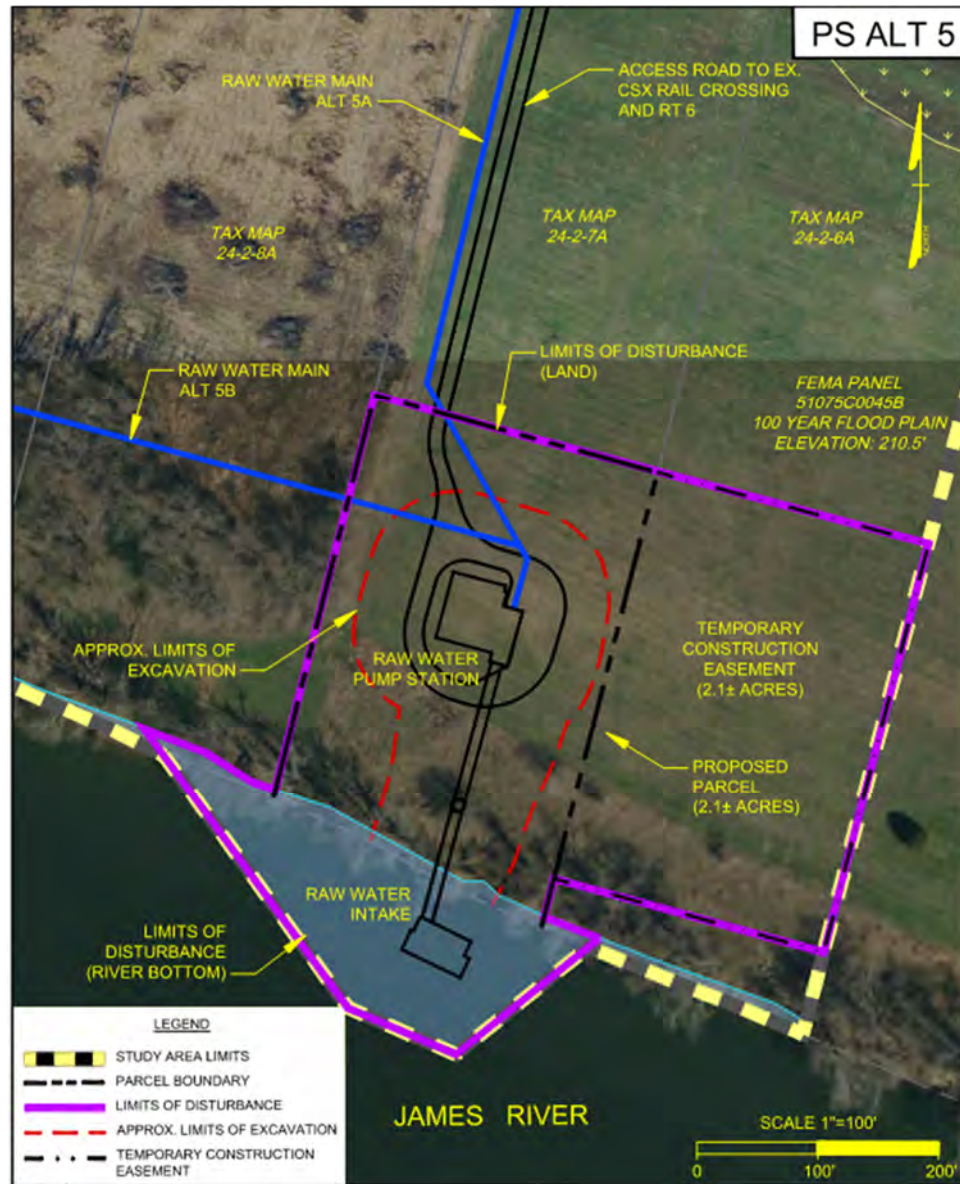


Figure 19. Build Alternative 5 Pump Station Plan View

Build Alternative 6 offers enough area to construct and maintain the proposed facilities. Figure 20 below shows the access road path and configuration of the site.



Figure 20. Build Alternative 6 Pump Station Plan View

Build Alternative 6-1 offers enough area to construct and maintain the proposed facilities, however this site is located on land owned by an unwilling landowner. Figure 21 below shows the access road path and configuration of the site.

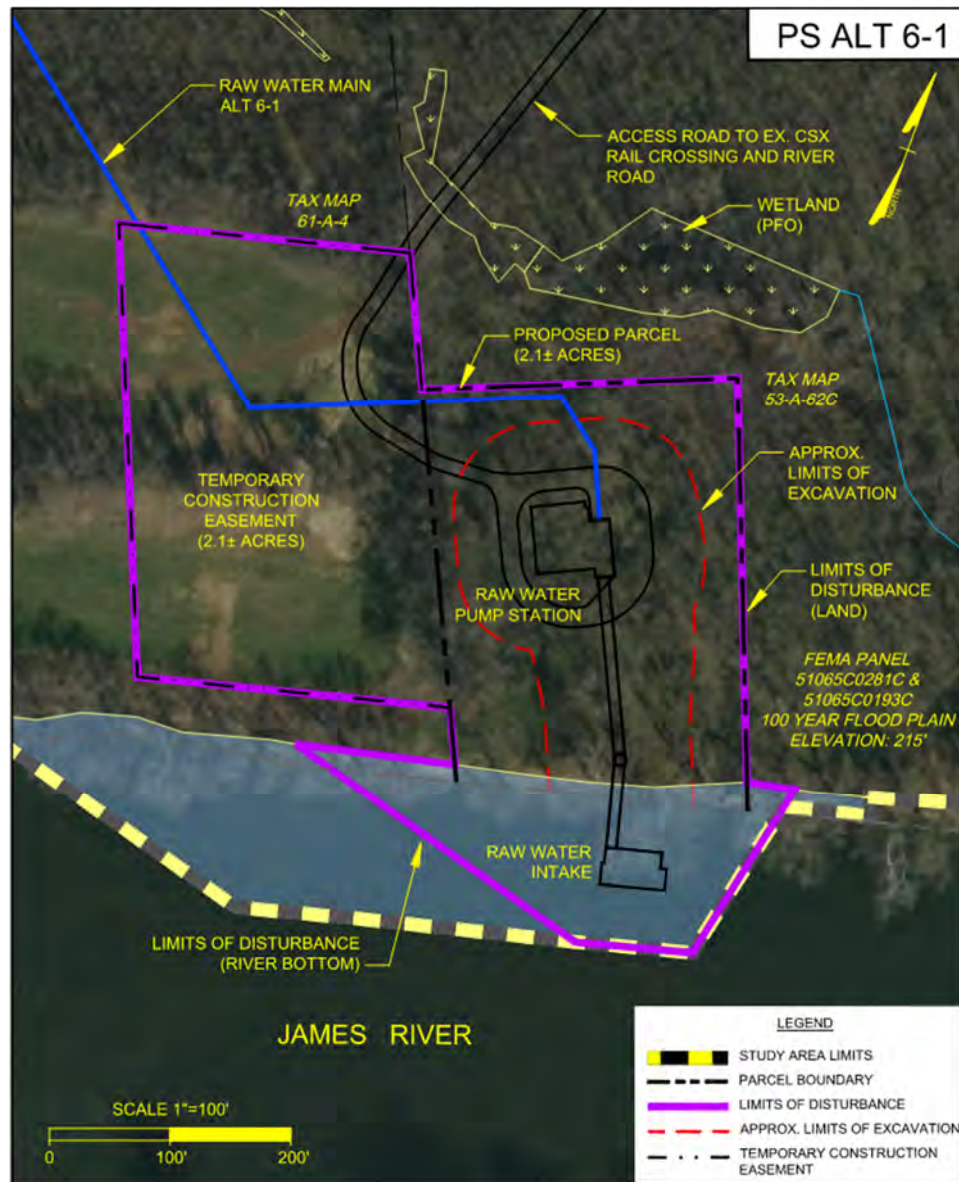


Figure 21. Build Alternative 6-1 Pump Station Plan View

Build Alternative 6-2 offers enough area to construct and maintain the proposed facilities. However, this site is very near the existing Colonial Gas pipeline. There is some risk associated with necessary blasting for excavation of the deep wetwell in proximity to the gas pipeline. Additionally, there is no close existing rail crossing to easily access this site, which would inhibit the ability to bring heavy equipment to the site. Figure 22 below shows the access road path and configuration of the site.

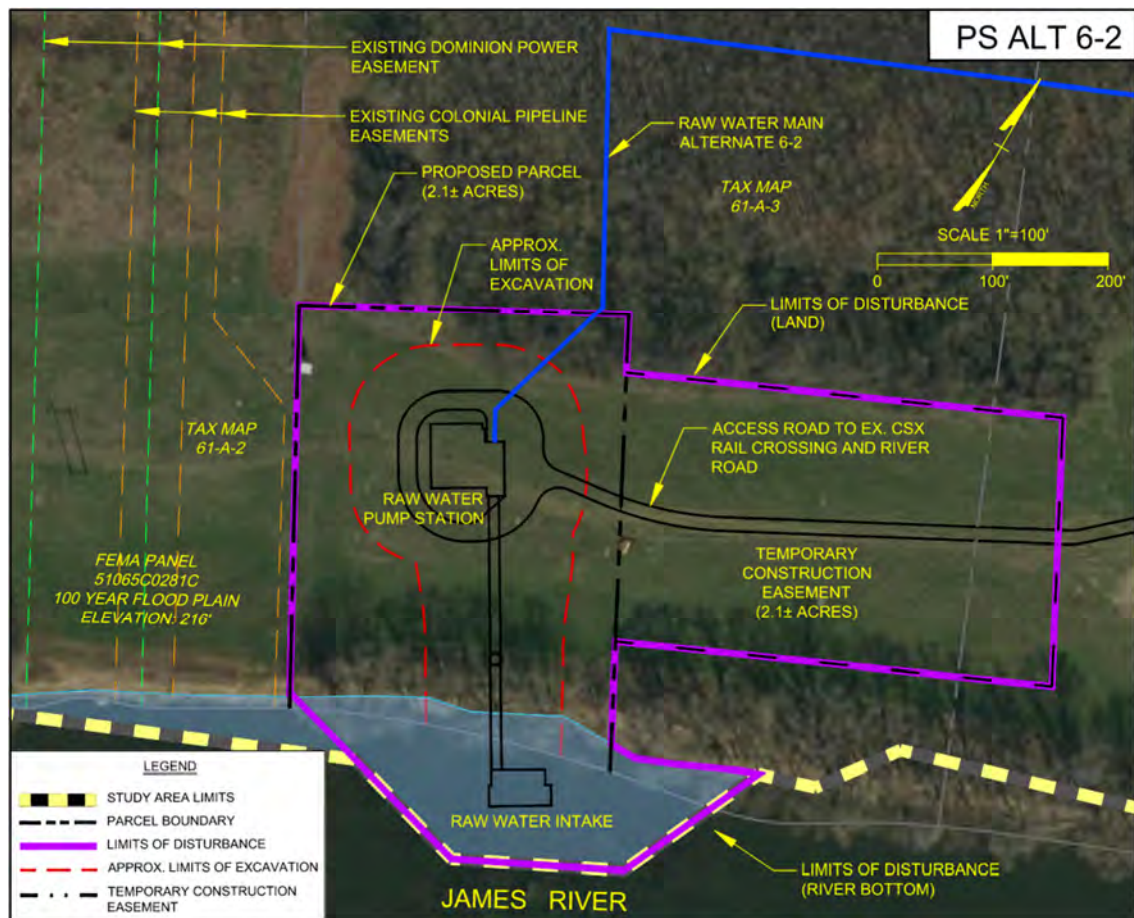


Figure 22. Build Alternative 6-2 Pump Station Plan View

4.2.1.1.2 Heavy Equipment Access to Pump Station Site

Constructing a pump station and water main requires that heavy equipment, such as cranes, excavators, and dump trucks, be brought to the site. This necessitates that the project area has an existing or newly constructed all-weather road to allow heavy equipment access from a public road. An alternative is not practicable if heavy equipment cannot safely reach the project area.

- 1) **Build Alternative 1** has an existing agricultural road with an existing single rail crossing that could be improved to an all-weather road to access the site.
- 2) **Build Alternative 2** would ultimately have access to Bremo Road via an existing private gravel road and an existing agricultural road with an existing dual rail crossing that could be improved to all-weather conditions to access the site. Given the approximate 12" vertical top of rail differential (see Table 7), it will difficult for a "low-boy" trailer (necessary to transport heavy equipment to the site) to cross the rail lines at this location. Therefore, the contractor and associated sub-contractors will need to unload heavy construction equipment prior to crossing the rail line, and then "walk" the equipment across the rail line to get to the site. This could prove to be problematic and possibly unacceptable to CSX operations for the duration of construction, presenting challenges to the practicability of this alternative.
- 3) **Build Alternative 3** pump station site would have direct access to Route 6 (Columbia Road) and would not require an access road. Construction of the intake structure would require a crane to be located on the Columbia Bridge and positioned such that the crane would not fall across the CSX rail line during construction operations. In addition, the Columbia Bridge will most likely need to be shut down for significant construction activities. A more detailed description is provided in Section 4.2.1.1.1. This could present challenges to the practicability of this alternative.
- 4) **Build Alternative 4** would have direct access to Route 6 via an existing agricultural road with an existing dual rail crossing that could be improved to an all-weather road to access the site. Given the approximate 11" vertical top of rail differential (see Table 7), it will difficult for a "low-boy" trailer (necessary to transport heavy equipment to the site) to cross the rail lines at this location. Therefore, the contractor and associated sub-contractors will need to unload heavy construction equipment prior to crossing the rail line, and then "walk" the equipment across the rail line to get to the site. This could prove to be problematic and possibly unacceptable to CSX operations for the duration of construction, presenting challenges to the practicability of this alternative.
- 5) **Build Alternative 5** would have direct access to Route 6 via an existing agricultural road with an existing dual rail crossing that could be improved to

an all-weather road to access the site. Given the approximate 11” vertical top of rail differential (see Table 7), it will difficult for a “low-boy” trailer (necessary to transport heavy equipment to the site) to cross the rail lines at this location. Therefore, the contractor and associated sub-contractors will need to unload heavy construction equipment prior to crossing the rail line, and then “walk” the equipment across the rail line to get to the site. This could prove to be problematic and possibly unacceptable to CSX operations for the duration of construction, presenting challenges to the practicability of this alternative.

- 6) **Build Alternative 6** would have direct access to Point of Fork Road via an existing access road and formerly state maintained Old Columbia Road (State Route 624) with an existing single rail crossing, of which JRWA currently owns a utility and access easement.
- 7) **Build Alternative 6-1** would have direct access to Point of Fork Road via an existing access road and formerly state maintained Old Columbia Road (State Route 624) with an existing single rail crossing, of which JRWA currently owns a utility and access easement.
- 8) **Build Alternative 6-2** would have direct access to Point of Fork Road via an existing access road and formerly state maintained Old Columbia Road (State Route 624) with an existing single rail crossing, of which JRWA currently owns a utility and access easement.

4.2.1.1.3 Excavation at Pump Station Site

The presence of rock presents a significant logistical challenge to construction of the project with regard to the Build Alternative site locations. The pump station site requires excavation of a deep vertical wetwell, thus JRWA gathered available geological information regarding the Alternative Build analyses sites to evaluate whether the presence of rock would present a logistical challenge.

Evaluation of each alternative site was based on available geological and geotechnical information in the general vicinity of each alternative. VDOT geotechnical records associated with the construction of the Columbia Bridge in Columbia and US 15 Bridge in Bremono Bluff and geotechnical reports for proposed build alternative 6 and 6-1 were used to make reasonable determinations of the depth of rock for each pump station site regarding depth to bedrock. The presence of rock is reasonably confirmed for each pump station build alternative and there are several locations where there is visible rock along the alternative water main alignments. As such, this assessment makes reasonable conclusions for the potential impact of rock excavation for the pump station construction for each alternative.

Geotechnical information is provided for Build Alternative 6 as it was obtained as part of the original Proposed Action Build Alternative analysis. The Geotechnical boring logs (see [Appendix E-3-1](#)) yielded bedrock at approximately Elevation 171, or approx. 23 feet below

ground surface in this area. The build alternatives without precise geotechnical information were reviewed with focus on the allowance for rock excavation activity such as blasting and heavy equipment access in order to construct and install the wetwell and intake structure.

- 1) **Build Alternative 1** is anticipated to have some rock excavation conditions requiring minimal excavation in the area. This does not present a significant obstacle to construction.
- 2) **Build Alternative 2** site is situated near visible rock outcroppings and thus will likely require excessive rock blasting and excavation in the area. This does not present a significant obstacle to construction.
- 3) **Build Alternative 3** site is situated near visible rock outcroppings and thus will likely require excessive rock blasting and excavation in the area. Given the site configuration, sheeted and braced excavation will be required (See Section 4.2.1.1.1). Given the likely presence of rock at the site excavation is anticipated to be problematic and a potential safety concern.
- 4) **Build Alternative 4** is anticipated to have rock excavation conditions requiring some excavation in the area. This does not present a significant obstacle to construction.
- 5) **Build Alternative 5** is anticipated to have rock excavation conditions requiring some excavation in the area. This does not present a significant obstacle to construction.
- 6) **Build Alternative 6** is anticipated to have rock excavation conditions requiring some excavation in the area. Based on the geotechnical report, bedrock is reached approximately 23 feet below ground surface. This does not present a significant obstacle to construction.
- 7) **Build Alternative 6-1** is anticipated to have rock excavation conditions requiring some excavation in the area. This does not present a significant obstacle to construction.
- 8) **Build Alternative 6-2** is anticipated to have rock excavation conditions requiring some excavation in the area. This does not present a significant obstacle to construction.

4.2.1.1.4 Constructability of Water Main

Constructability The construction requires excavation of long, but shallow, trench as well as excavation of deep bore pits for crossings of road and railroad features; therefore routing for the water main must offer favorable conditions to permit construction in a safe manner that minimizes the impacts to traffic safety, tree clearing, and rock excavation. Pipeline construction requirements with regard to VDOT R/W was provided during a meeting with VDOT December 18, 2019 (see Appendix H-3). The evaluation of water main routing was guided by these meeting notes to ensure the most effective routing without involving survey work for design means. Approximate lengths of water main production along VDOT R/W is summarized in Table 5.

Table 5. Pipeline Production Along VDOT Right-of-Way

Sub-Alternative ID	Pipeline Production Along VDOT R/W
	LF
1A	100
1B	13,100
1C	11,000
2A	46,100
2B	48,000
3	4,000
4	6,600
5A	9,500
5B	6,600
6	100
6-1	100
6-2	100

The constructability criterion also considers whether the water line route provides a practicable means of crossing the Rivanna River, CSX rail line, or other features. Potential Sub-alternative route alignments must offer favorable excavation conditions given the geological information provided in Section 4.2.1.1.3 Excavation at Pump Station Site. An exhibit (see Appendix H-4) shows the approximate limits of rock excavation required for each Sub-alternative and is summarized in Table 6 below. Photographs below illustrate examples of visible rock outcroppings that present difficulties during construction.



Photograph: Rock outcropping visible on Bremono Road near Bremono Bluff



Photograph: Rock outcroppings visible on Route 6 near Columbia and Goochland

Table 6. Approximate Lengths of Rock Excavation

Sub-Alternative ID	Approx. Length of Rock Excavation
	LF
1A	0
1B	0
1C	4,500
2A	9,200
2B	4,700
3	1,300
4	3,800
5A	6,700
5B	3,800
6	0
6-1	0
6-2	0

- 1) **Build Alternative 1** is divided into three sub-alternative water main routes. Sub-alternatives 1A and 1B permit the construction of pipe with minimal impact to traffic, clearing, and rock excavation; minimally impacting these factors results in more favorable construction conditions. Sub-alternative 1C however requires an extremely difficult crossing of the Rivanna River requiring a cofferdam open-cut method of installation at the Route 6 bridge, excessive rock excavation, and tree clearing.
- 2) **Build Alternative 2** is divided into two sub-alternative water main routes. Alternative sites 2A and 2B require excessive rock excavation along Bremono Road where high rock walls line portions of the roads resulting in challenging conditions during construction. Additionally, sub-alternative 2A requires an extremely difficult crossing of the Rivanna River requiring a cofferdam open-cut method of installation at the Route 6 bridge, excessive rock excavation, and tree clearing.
- 3) **Build Alternative 3** requires excessive rock excavation, tree clearing, and construction in close proximity to existing dwellings. These combined construction challenges result in low practicability in terms of construction.
- 4) **Build Alternative 4** requires excessive rock excavation, tree clearing, and construction in proximity of existing dwellings. These combined construction challenges result in low practicability in terms of construction.

- 5) **Build Alternative 5** is divided into two sub-alternative water main routes. Alternative sites for 5A and 5B both require excessive rock excavation, tree clearing, and construction in proximity of existing dwellings. These combined construction challenges result in low practicability in terms of construction.
- 6) **Build Alternative 6** permits the construction of pipe with minimal impact to traffic, tree clearing, and rock excavation. Minimally impacting these factors results in more favorable construction conditions.
- 7) **Build Alternative 6-1** permits the construction of pipe with minimal impact to traffic, tree clearing, and rock excavation. Minimally impacting these factors results in more favorable construction conditions.
- 8) **Build Alternative 6-2** permits the construction of pipe with minimal impact to traffic, tree clearing, and rock excavation. Minimally impacting these factors results in more favorable construction conditions.

4.2.1.1.5 Suitable Railroad Track Crossing Location

The access road to each site must be free from obstructions that would endanger equipment. Each of the alternative pump station sites except Alternative 3 would require equipment to cross CSX's rail lines, which run parallel to the James River. Road crossings of the rail lines may not be suitable for heavy equipment in all cases. Although not a construction consideration per se, the same crossing location must be suitable for providing access to the pump station on a long-term basis for operation and maintenance.

In order to allow for construction vehicles and equipment, construction traffic, and long-term operations and maintenance of the pump station and intake site, improvements to the CSX rail crossing would be required at four of the existing rail crossings (Alternatives 1, 2, 4 and 5) for the proposed pump station sites. Improvements anticipated would include upgrading the road to allow for adequate vertical curvature to accommodate this type of traffic, which would include filling in sections of the road, installing culverts as necessary to provide adequate drainage across these roads and making necessary crossing improvements such that short-term and long-term rail operations would not be disrupted. As part of this analysis, JRWA developed preliminary net fill volumes and maximum depth for any road fill required to upgrade the rail crossing that were calculated based on cross sections (see [Appendix H-5-3](#)).

It's important to note that the Alternative 6 rail crossing is in the former Old Columbia Road (Route 624) alignment and requires no improvements. CSX previously provided a permit to cross in this area (see [Appendix H-5-1](#)). All of the other existing rail crossing

locations (Alternatives 1, 2, 4 and 5) will require the execution of private road access agreement with CSX.

Below is a table summarizing the key elements to be considered when designing access road improvements across the existing rail lines:

Table 7. Rail Line Crossing Considerations

Build Alternative Location	Single or Dual Rail Crossing	Vertical Rail Separation (Dual Rail)	Estimated Net Fill Needed at Crossing	Maximum Depth of Fill
			Cubic Yards	Feet
1	Single Rail	N/A	1,466	5.8'
2	Dual Rail	Approx 12"	2,795	8.2'
3	N/A	N/A	0	N/A
4	Dual Rail	Approx 11"	1,761	10.1'
5	Dual Rail	Approx 11"	3,904	8.8'
6	Single Rail	N/A	0	N/A
6-1	Single Rail	N/A	0	N/A
6-2	Single Rail	N/A	0	N/A

- 1) **Build Alternative 1** has an existing rail crossing that has an excessive grade differential to the adjacent finished grade. For a cross-section see [Appendix H-5-3 Sheet 1](#). This condition will necessitate the construction of permanent approach ramps on each side of the crossing to permit safe access to the site with construction and maintenance equipment. Additionally, the existing rail crossing will likely require upgrades for long-term use of the crossing.

- 2) **Build Alternative 2** has an existing rail crossing that has an excessive grade differential to the adjacent finished grade. This condition will necessitate the construction of permanent approach ramps on each side of the crossing to permit safe access to the site with construction and maintenance equipment. The existing rail crossing will likely require upgrades for long-term use of the crossing. Additionally, forgoing a dual rail crossing is an avoidable risk for future operations personnel and maintenance operators that can be avoided with a single rail crossing.

In addition to approach ramps, consideration must be given to the differential in elevation between the two rail lines of approximately 12 inches. For cross-section see [Appendix H-5-3 Sheet 2](#). This differential may prove to be problematic for access of construction vehicles that could bottom out on the rails, thus creating an extremely dangerous situation considering that these are active CSX rail lines (see Section 4.2.1.1.2).

- 3) **Build Alternative 3** does not have an existing rail crossing between the pump station and intake structure. Based upon a preliminary review of the Build Alternatives, CSX discourages locating the pump station and intake at this site due to the existing electrical infrastructure and active switching yard (see [Appendix H-5-2](#)). It is strongly recommended to avoid this particularly due to the nearby electrical equipment and safety concerns.

- 4) **Build Alternative 4** has an existing rail crossing that has an excessive grade differential to the adjacent finished grade. This condition will necessitate the construction of permanent approach ramps on each side of the crossing to permit safe access to the site with construction and maintenance equipment. The existing rail crossing will likely require upgrades for long-term use of the crossing. Additionally, forgoing a dual rail crossing is an avoidable risk for future operations personnel and maintenance operators that can be avoided with a single rail crossing.

In addition to approach ramps, consideration must be given to the differential in vertical top of rail elevation between the two rail lines of approximately 11 inches. For cross-section see [Appendix H-5-3 Sheet 3](#). This differential may prove to be problematic for access of construction vehicles that could bottom out on the rails, thus creating an extremely dangerous situation considering that these are active CSX rail lines.

- 5) **Build Alternative 5** has an existing rail crossing that has an excessive grade differential to the adjacent finished grade. This condition will necessitate the construction of permanent approach ramps on each side of the crossing to permit safe access to the site with construction and maintenance equipment. The existing rail crossing will likely require upgrades for long-term use of the crossing. Additionally, forgoing a dual rail crossing is an avoidable risk for future operations personnel and maintenance operators that can be avoided with a single rail crossing.

In addition to approach ramps, consideration must be given to the differential in vertical top of rail elevation between the two rail lines of approximately 11 inches. For cross-section see [Appendix H-5-3 Sheet 4](#). This differential may prove to be problematic for access of construction vehicles that could bottom out on the rails, thus creating an extremely dangerous situation considering that these are active CSX rail lines.

- 6) **Build Alternative 6** offers access across the CSX rail line at an existing crossing of acceptable condition. For cross-section see [Appendix H-5-3 Sheet 5](#). This crossing location is currently permitted for a water main crossing and

will not require an upgrade to the road and rail crossing in CSX Right-of-Way, as such this is CSX's preferred Build Alternative (see [Appendix H-5-2](#)).

- 7) **Build Alternative 6-1** offers access across the CSX rail line at an existing crossing of acceptable condition. This crossing location is currently permitted for a water main crossing and will not require an upgrade to the road and rail crossing in CSX Right-of-Way, as such this is CSX's preferred Build Alternative (see [Appendix H-5-2](#)).
- 8) **Build Alternative 6-2** offers access across the CSX rail line at an existing crossing of acceptable condition. This crossing location is currently permitted for a water main crossing and will not require an upgrade to the road and rail crossing in CSX Right-of-Way, as such this is CSX's preferred Build Alternative (see [Appendix H-5-2](#)).

4.2.1.1.6 Acquisition of Land and Easements

Due to the time and cost of acquisition, an alternative that requires fewer easements generally presents fewer obstacles to construction. Where feasible, the water main routes were placed in or adjacent to existing public rights-of-way. Each Build Alternative would require the acquisition of property for the intake and pump station (note that the property for Build Alternative 6 has already been purchased), along with ingress / easements for access to the site. For the purposes of this analysis it was determined that land and easement acquisition costs greater than 2X the lowest costs would be impracticable (see Section 4.2.1.3 for Cost Considerations).

The pump station parcel size required for each pump station site is approximately 2 acres, which is the current size of the parcel owned by the JRWA for Build Alternative 6. For the purposes of this alternatives evaluation, JRWA assumed that each of the pump station sites would be 2 acres.

A temporary construction easement will be required around each pump station site for construction staging, laydown, equipment storage, parking for contractors, and storage of spoils materials for the excavation for construction of the pump station. For the purposes of this analysis, it was determined that the contractor would need approximately 2.1 acres for temporary construction easement, unless site conditions dictated otherwise. Based upon our evaluation it appears that site conditions will allow for all of the alternatives to be able to accommodate a 2.1-acre temporary construction easement, with the exception of Alternative 3, which is located within the town of Columbia.

Table 8. Easement Requirements

Alternative Alignment	Estimated Easements Required (1)	Total Estimated Easement Area Required (2)	
		SF	AC
1A	11	941,200	21.61
1B	18	1,051,700	24.14
1C	26	941,700	21.62
2A	81	1,928,900	44.28
2B	73	2,040,400	46.84
3	16	142,500	3.27
4	18	232,600	5.34
5A	19	307,400	7.06
5B	23	365,100	8.38
6	5 (3)	621,300	14.26
6-1	6	621,300	14.26
6-2	6	553,300	12.70

Notes:

(1) Estimated Easements Required based upon Fluvanna County GIS database from August 2019.

(2) Estimated Easement Area includes permanent and temporary construction easements required.

(3) All easements currently owned by JRWA (see Appendix P).

- 1) **Build Alternative 1** has three Sub-alternative routes. Sub-alternative 1A travels parallel along the CSX rail, sub-alternative 1B travels partially along the Bremono Road right-of-way and Point of Fork Road prescriptive easement; sub-alternative 1C travels partially along the Bremono Road right-of-way and Route 6 right-of-way; it would require a temporary construction easement for crossing the Rivanna River on Route 6. Sub-alternatives 1B and 1C are impracticable as they are estimated to exceed 2X the lowest costs.

- 2) **Build Alternative 2** has two sub-alternative routes. Sub-alternative 2A travels along the Bremono Road right-of-way and (partially prescriptive easement) and travels along the Route 6 right-of-way; it would require a temporary construction easement for crossing the Rivanna River on Route 6, sub-alternative 2B travels along the Bremono Road right-of-way (partially prescriptive easement) and along the Point of Fork Road prescriptive easement. Both sub-alternatives are impracticable as they are estimated to exceed 2X the lowest costs.

- 3) **Build Alternative 3** would require an encroachment agreement from CSX. Easements for constructing the water main along building fronts in Columbia along Route 6 will be difficult to configure.
- 4) **Build Alternative 4** travels along the Route 6 right-of-way. However, easements for constructing the water main along the building fronts in Columbia along Route 6 will be difficult to configure.
- 5) **Build Alternative 5** has two sub-alternative routes. Sub-alternatives 5A and 5B both travel along the Route 6 right-of-way, however easements for constructing the building fronts in Columbia along Route 6 will be difficult to configure.
- 6) **Build Alternative 6** currently offers approximately 14.3 acres of easements. These easements have already been obtained from prior permitting for this project.
- 7) **Build Alternative 6-1** currently offers easements already obtained from this project, except for the portion along the Point of Fork Farms property. This additional easement may be difficult to obtain due to prior property conflicts with the current owner.
- 8) **Build Alternative 6-2** currently offers easements already obtained from this project, and additional pipeline and permanent access easement required to reach the pump station from the location of Build Alternative 6.

4.2.1.2 Site Suitability Considerations

4.2.1.2.1 Adequate Water Quality

Public water supplies need to withdraw high-quality water. Utilizing low-quality water can present a public health concern and/or present challenges for the treatment of the water. The intake location must be able to withdraw water of suitable quality for treatment without excessive pre-treatment. Due to issues with excessive siltation and sedimentation, locations located downstream of the confluence of the James River and Rivanna River are not desirable. The Rivanna River suspends silt which is carried to the confluence with the James River. At the confluence much of this silt is deposited on the left bank (Columbia side) of the James River thus resulting in visible plumes of silt. These silt deposits are in proximity to Build Alternatives 3, 4, and 5. The occurrence of increased siltation downstream of the confluence can be seen consistently through historic aerial imagery. Examples are provided in Appendix E-1 (see images associated with the years 1958, 1969, 1977, 1984, 2009 and 2016). In addition, Figure 23 (2013 VGIN aerial imagery) and Figure 24 (2013 VGIN Infrared Imagery) below provides a visualization of a plumes of silt along the left (north) bank of the James River in the vicinity of Build Alternatives 3, 4, and 5.



Figure 23. Rivanna River Confluence Sediment Plume - 2013 VGIN Aerial Imagery

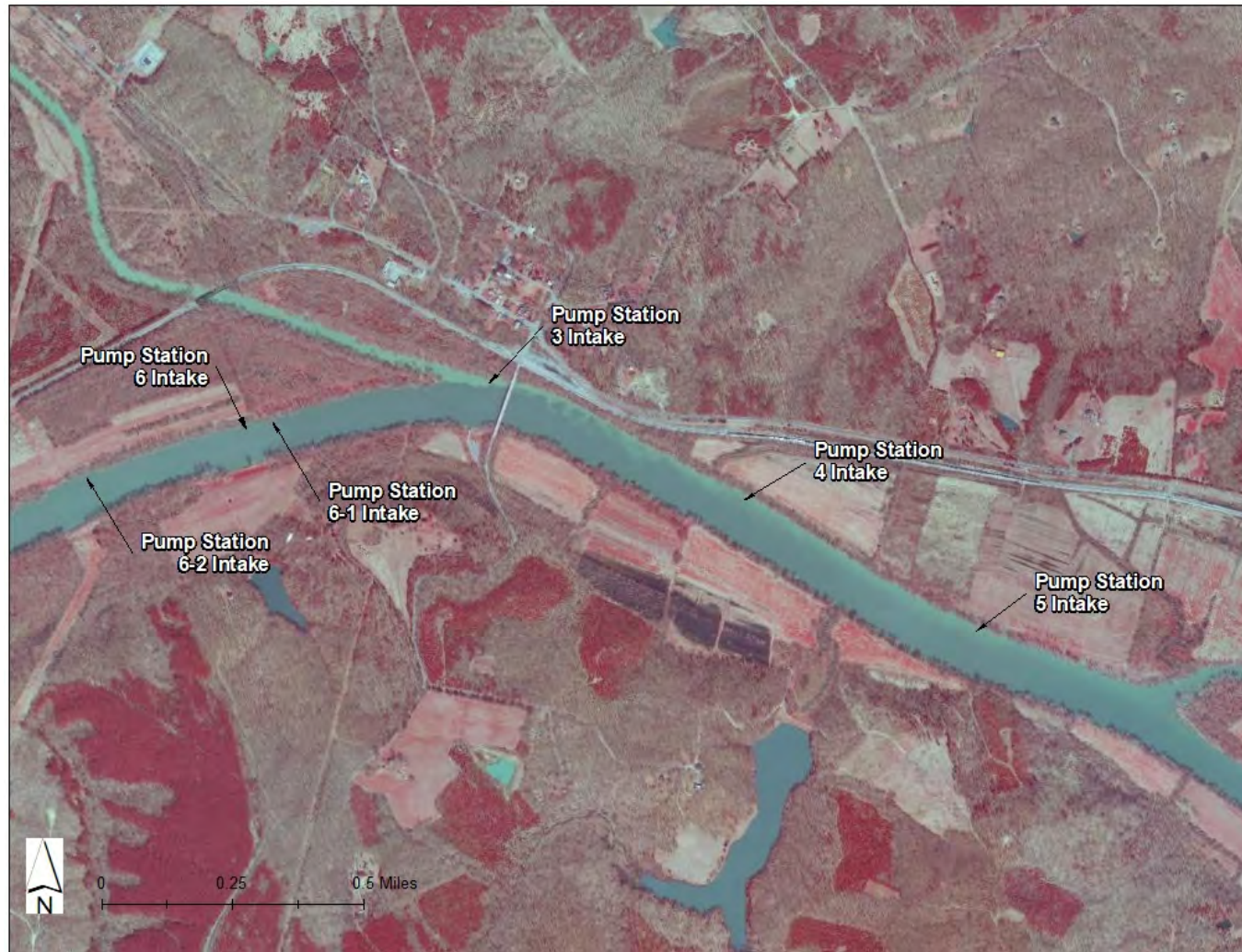


Figure 24. Rivanna River Confluence Sediment Plume - 2013 VGIN Infrared Imagery

Sediment Plume from Rivanna and James Confluence - Secondary / Induced Capital and Long-term Operational Costs to Project Partners. As discussed in Section 4.2.1.2.1, a well-defined sediment plume exists at the confluence of the Rivanna River with the James River and along the north bank of the James River for approximately 1.4 miles downstream to Elk Island. Any intake located along this section of the James River, which includes Alternatives 3, 4 and 5, would require both Fluvanna County and Louisa County to address these sedimentation issues at their respective water treatment plants.

In order to address this sedimentation issue from a water treatment process perspective, a water treatment plant would need to install an additional or enlarged pre-settling basin and clarifiers to ensure the removal of the sediment, which is considered a secondary / induced capital and long-term operational costs for each respective County. For the purposes of this evaluation, we have included the additional capital costs for the installation of an additional pre-settling basin and clarifiers at the Louisa Ferncliff WTP. The construction costs of these additional facilities are approximately \$6.1 million.

Since Fluvanna County has not yet determined the size and / or location of their future water treatment plant as of this report, the potential capital costs to improve the facilities for Fluvanna have not been included in the analysis. For this analysis to be truly complete, the costs to Fluvanna County to address the sedimentation issue at a future WTP would need to be incorporated into the cost estimates, therefore, the numbers presented in this analysis will only increase from the current analysis.

Five-Mile Discharge Path for Wastewater Treatment Plants. A second important water quality consideration is that raw water withdrawals should be located in an area that does not result in compliance issues with wastewater outfalls up to a distance of five miles upstream. As stated in the Virginia Waterworks Regulations, when applying for a construction permit with the VDH, plans must be submitted for the waterworks that includes location of all sources of pollution five miles upstream from surface water intakes (see [Appendix H-6-1](#)). Additionally, any water intake located within an area five miles upstream of the intake will need to be reviewed on a case-by-case basis in order to protect the water supply (see [Appendix H-6-2](#)). As such, the consideration for selecting alternative locations was based upon avoiding locating the intake within five miles of the existing Dominion Bremono Bluff coal ash impoundment discharge and Fork Union Wastewater Treatment Plant discharge. These lengths can be found on Figure 7.

The five-mile discharge constraint served as guidance for the selection of appropriate alternative pump station and intake structure locations along the James River. The Bremono Bluff site was chosen to be upstream of the coal ash impoundment discharge point into the James River. The downstream extent was defined to locations: (1) Past the end of the coal ash impoundment discharge point five-mile discharge path, (2) Past the end of the Fork Union Wastewater Treatment Plant's five-mile discharge path, and (3) Before the beginning of Elk Island divergence point on the James River. This divergence point would

create potential siltation issues; remaining upstream of this point is advantageous from a water quality as well as quantity viewpoint

- 1) **Build Alternative 1** is upstream of the confluence of the James River and Rivanna River and is unaffected by excess siltation or wastewater discharges.
- 2) **Build Alternative 2** is upstream of the confluence of the James River and Rivanna River and is unaffected by excess siltation or wastewater discharges.
- 3) **Build Alternative 3** is located adjacent to the confluence of the Rivanna and James River. Excessive siltation may occur due to its proximity to the confluence and would compel upgrades to the Ferncliff WTP and future water treatment plants utilizing water from the project.
- 4) **Build Alternative 4** is located downstream of the confluence of the James River and Rivanna River. Excessive siltation may occur due to its proximity to the confluence and would compel upgrades to the Ferncliff WTP and future water treatment plants utilizing water from the project.
- 5) **Build Alternative 5** is located downstream of the confluence. Excessive siltation may occur due to its proximity to the confluence and would compel upgrades to the Ferncliff WTP and future water treatment plants utilizing water from the project.
- 6) **Build Alternative 6** is upstream of the confluence of the James River and Rivanna River and is unaffected by excess siltation or wastewater discharges.
- 7) **Build Alternative 6-1** is upstream of the confluence of the James River and Rivanna River and is unaffected by excess siltation or wastewater discharges.
- 8) **Build Alternative 6-2** is upstream of the confluence of the James River and Rivanna River and is unaffected by excess siltation or wastewater discharges.

4.2.1.2.2 Intake and Pump Station Proximity and Depth of Wetwell

To be suitable for this water supply project, a site must offer the ability to construct the intake and pump station in close proximity to minimize the potential of sediment depositing in the intake piping. The intake pipe for each alternative is gravity fed and needs to be a sufficient depth and slope to allow for adequate scouring of any potential siltation and/or sedimentation that will enter through the intake screen.

To protect aquatic life and recreational users of the James River (see Section 2.4.2), the screened raw water intake is designed to receive and flow water by gravity into the wetwell

at the pump station. The depth of the wetwell is dependent on elevation change from the river bottom to the pump station site. Because the intake pipe must be installed at a declined angle to allow gravity flow, the change in elevation necessarily increases the farther the pump station is from the river. This elevation difference must be of reasonable depth to avoid excessively deep wetwells. As a result, pump stations generally must be constructed as close to the riverbank as feasible.

In addition it appears that each intake and pump station alternative will require the intake and pump station to be constructed in rock (see Section 4.2.1.1.3), thereby further supporting the need for the intake and pump station to be located in close proximity to avoid excessive construction costs due to additional unnecessary rock excavation.

River bottom and bedrock information for Build Alternative 6 is verified by geotechnical and bathymetric data previously surveyed as part of the original Proposed Action Build Alternative analysis (see [Appendix E-3](#)). Information for Build Alternative 1 was also based on these findings due to its proximity to Build Alternative 6.

River bottom and bedrock shown in the table below for Build Alternatives 2, 3, 4, and 5 are approximations based on two geotechnical reports conducted in the vicinity of the sites. The geotechnical reports for the Bremono Bluff Bridge Plans (see [Appendix H-7-1](#)) was used for Build Alternative 2, and the Columbia Bridge Plans (see [Appendix H-7-2](#)) was used for Build Alternatives 3, 4, and 5. The results in the table below are based on the proximity of each site to either bridge. However, this information may be imprecise as the assumption has been made that site characteristics will be similar due to proximity.

Exhibits were created based on the geotechnical reports information from above for an approximation on the relative depth and heights associated with each pump station site summarized below in Table 9. Based on the table, the depth of bedrock excavation required for each site is comparable. Excavation into bedrock is expected for all Build Alternatives. For further detail and profile views, see [Appendix H-2](#) for intake structure to wetwell cross section exhibits.

Table 9. Intake and Wetwell Data

Build Alternative Location	Intake Pipe Invert at Intake	Wetwell Floor	Total Height of Wetwell Walls	Pump Station Height Above Grade	Depth of Bedrock Excavation	Total Depth of Excavation
	FT	FT	FT	FT	FT	FT
1	172.3	166.0	54.0	35.8	13.8	42.5
2	194.0	187.0	47.5	36.8	14.5	35.0
3	165.6	158.0	56.0	36.8	15.1	43.5
4	165.6	159.0	53.5	33.3	14.1	44.5
5	165.6	159.0	52.5	33.3	14.1	43.5
6	165.6	159.0	57.0	36.8	14.1	44.5
6-1	165.6	159.0	57.0	36.8	14.1	44.5
6-2	165.6	159.0	57.0	36.8	14.1	44.5

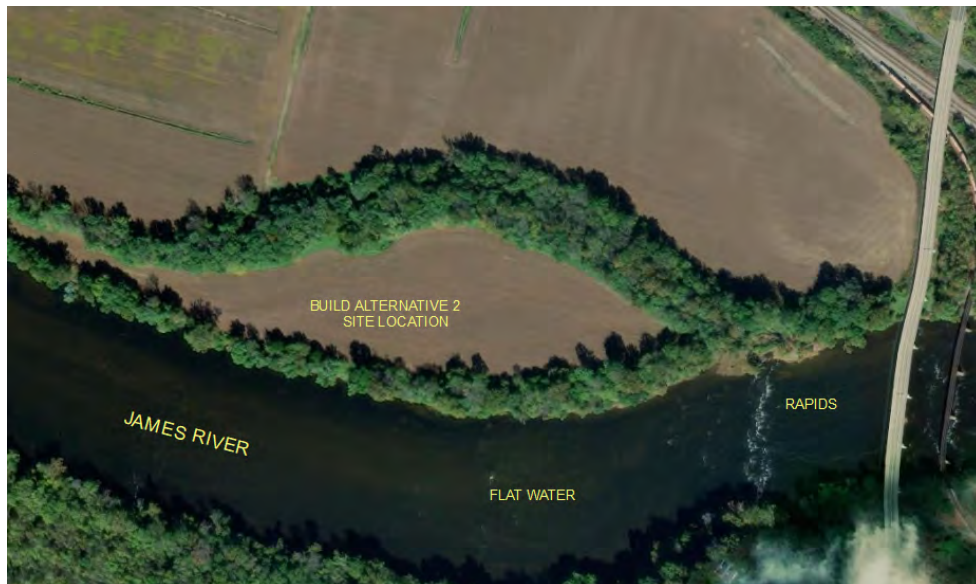
- 1) **Build Alternative 1** is anticipated to permit the construction of the intake and pump station within acceptable proximity of each other. Likewise, the wetwell depth is approximately 54 feet as shown in (see [Appendix H-2 Sheet 1](#)).
- 2) **Build Alternative 2** is anticipated to permit the construction of the intake and pump station within acceptable proximity of each other. The depth of the wetwell is approximately 47.5 feet from finished floor to the bottom of the wetwell as shown in (see [Appendix H-2 Sheet 2](#)).
- 3) **Build Alternative 3** has an active CSX line running perpendicular to the intake piping. This will require the intake and pump station to be constructed at a greater distance from one another. Additionally, the pump station has a higher relative elevation to the river bottom, thus will also require an excavation depth of approximately 56 feet (see [Appendix H-2 Sheet 3](#)) for the wetwell.
- 4) **Build Alternative 4** is anticipated to permit the construction of the intake and pump station within acceptable proximity of each other. Likewise, the wetwell depth is approximately 53.5 feet as shown in (see [Appendix H-2 Sheet 4](#)).
- 5) **Build Alternative 5** is anticipated to permit the construction of the intake and pump station within acceptable proximity of each other. Likewise, the wetwell depth is approximately 52.5 feet as shown in (see [Appendix H-2 Sheet 5](#)).
- 6) **Build Alternative 6** permits the construction of the intake and pump station to be of reasonable proximity to one another. The depth of the wetwell is appropriate at 57 feet deep as shown in in (see [Appendix H-2 Sheet 6](#)).
- 7) **Build Alternative 6-1** is assumed to be comparable to Build Alternative 6 due to its proximity to the site.

- 8) **Build Alternative 6-2** is assumed to be comparable to Build Alternative 6 due to its proximity to the site.

4.2.1.2.3 River Bottom Depth at Intake Location

The river bottom at the site must have a suitable profile to avoid causing the intake to be exposed during low-flow or drought conditions. That would inhibit its ability to withdraw water and increase the risk that the intake would be damaged. A bathymetric survey was completed for Alternative 6 (see [Appendix E-3-4](#)). The remaining Build Alternative intake sites were evaluated based on geotechnical reports from existing bridge plans near Bremo and Columbia (see [Appendix H-7](#)) due to their proximity to the sites.

Aerial imagery of the James River was also used to aid in avoiding undesirable river bottom characteristics. As shown in the example photograph below, undulating waters and rapids visible in aerial view are typically indicative of rocky river bottom terrain which should be avoided; conversely, flat waters are indicative of areas without rock outcroppings along the river bottom which is desirable for intake location. The geotechnical reports and aerial imagery assessments were used as an approximation of the river bottom characteristics in lieu of a more site-specific bathymetric survey.



Photograph: Esri World Imagery near Bremo Bluff; undulating vs. flat waters

- 1) **Build Alternative 1** currently does not have bathymetric survey therefore it is currently unknown if the site definitively offers favorable river bottom conditions; however, the Bremo Bridge plan and Build Alternative 6 geotechnical reports were used to approximate river bottom characteristics for analysis. Conditions based on

this approximation do not present difficulties regarding the river bottom and intake structure placement.

- 2) **Build Alternative 2** currently does not have bathymetric survey therefore it is currently unknown if the site definitively offers favorable river bottom conditions; however, the Bremono Bridge plan geotechnical report was used to approximate river bottom characteristics for analysis. Conditions based on this approximation do not present difficulties regarding the river bottom and intake structure placement.
- 3) **Build Alternative 3** currently does not have bathymetric survey therefore it is currently unknown if the site definitively offers favorable river bottom conditions; however, the Columbia Bridge plan geotechnical report was used to approximate river bottom characteristics for analysis. Conditions based on this approximation do not present difficulties regarding the river bottom and intake structure placement.
- 4) **Build Alternative 4** currently does not have bathymetric survey therefore it is currently unknown if the site definitively offers favorable river bottom conditions; however, the Columbia Bridge plan geotechnical report was used to approximate river bottom characteristics for analysis. Conditions based on this approximation do not present difficulties regarding the river bottom and intake structure placement.
- 5) **Build Alternative 5** currently does not have bathymetric survey therefore it is currently unknown if the site definitively offers favorable river bottom conditions; however, the Columbia Bridge plan geotechnical report was used to approximate river bottom characteristics for analysis. Conditions based on this approximation do not present difficulties regarding the river bottom and intake structure placement.
- 6) **Build Alternative 6** offers a river profile that is relatively flat across the width of the river, thus the river depth during drought conditions should be relatively consistent across the river.
- 7) **Build Alternative 6-1** offers a river profile that is relatively flat across the width of the river, thus the river depth during drought conditions should be relatively consistent across the river.
- 8) **Build Alternative 6-2** currently does not have bathymetric survey therefore it is currently unknown if the site definitively offers favorable river bottom conditions; however, the Build Alternative 6 geotechnical report was used to approximate river bottom characteristics for analysis due to the proximity of the site. Conditions based on this approximation do not present difficulties regarding the river bottom and intake structure placement.

4.2.1.2.4 Access to Suitable Power Supply

The pump station must have access to a 3-Phase power source. Sites that require long extensions of 3-Phase power will result in significant increases in cost of power installation. More distant sites could require partial routing with overhead power (i.e. along Bremono Road), necessitating additional coordination with VDOT regarding collocation of easements adjacent to VDOT right-of-way. These segments would also be at higher risk of a loss of power during high wind and icing conditions, as more of the existing overhead power lines are exposed to weather elements. Table 10 and Figure 25 on the following pages shows the approximate distance and routing to 3-phase power for each Build Alternative site location. Existing tie-in connection points for 3-Phase power were confirmed based on photographs of the existing power poles and consultation with William R. Jennings, Jr., PE, Electrical Engineer for the project (see [Appendix H-8](#)). It is anticipated that underground power would be routed from either the tie-in point or the beginning of the access road to reach the pump station on the site.

Please note that cost of getting power to the site has not been included in projected project costs (Section 4.2.1.3).

Table 10. Pump Station Site Distance to 3-Phase Power

Build Alternative Location	Approximate Distance
	Mi
1	1.0
2	1.1
3	0.08
4	0.12
5	0.34
6	0.57
6-1	0.57
6-2	0.64

- 1) **Build Alternative 1** has 3-phase power within approximately 1.0 miles of the pump station site and would need to be partially routed along Bremono Road. Additional coordination with VDOT will be required.
- 2) **Build Alternative 2** has 3-phase power within approximately 1.1 miles of the pump station site and would be partially routed along Bremono Road. Additional coordination with VDOT will be required.
- 3) **Build Alternative 3** has 3-phase power within approximately 0.08 miles of the pump station site and could be routed underground to the site.

- 4) **Build Alternative 4** has 3-phase power within approximately 0.12 miles of the pump station site and could be routed underground to the site.
- 5) **Build Alternative 5** has 3-phase power within approximately 0.34 miles of the pump station site and could be routed underground to the site.
- 6) **Build Alternative 6** has 3-phase power within approximately 0.57 miles of the pump station site and could be routed underground to the site.
- 7) **Build Alternative 6-1** has 3-phase power within approximately 0.57 miles of the pump station site and could be routed underground to the site.
- 8) **Build Alternative 6-2** has 3-phase power within approximately 0.64 miles of the pump station site and could be routed underground to the site.

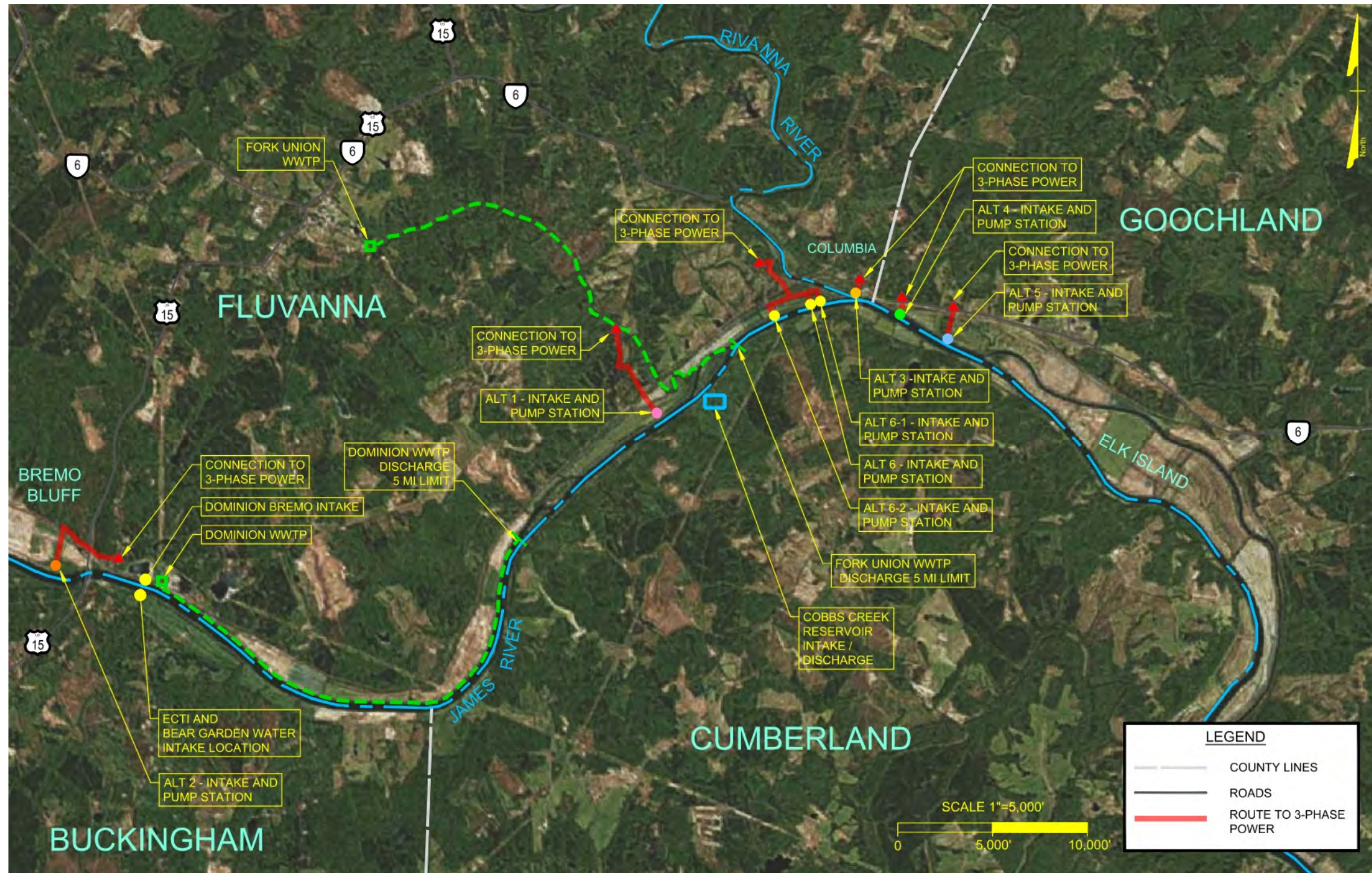


Figure 25. Routes to 3-Phase Power Tie-in Locations

4.2.1.2.5 Proximity to Residential Dwellings / Homes

It is highly undesirable to locate the intake and pump station in close proximity to residential dwellings. That avoids the pump station becoming a nuisance and minimizes hazards to public and the pump station. The approximate distance between site and residential buildings is summarized below.

Table 11. Proximity to Residential Dwellings

Build Alternative Location	Approximate Distance	Additional Comments
	LF	LF
1	2,700	Large parcel - Single Family Dwelling
2	1,300	Multiple Dwellings in Bremo Bluff
3	150	Multiple Dwellings in Columbia
4	2,000	Multiple Dwellings in Columbia
5	1,900	Large parcel - Single Family Dwelling
6	1,500	Large parcel - Single Family Dwelling
6-1	1,250	Large parcel - Single Family Dwelling
6-2	2,150	Large parcel - Single Family Dwelling

4.2.1.3 Cost Considerations

JRWA is a public water authority that is wholly funded by the approximately 63,000 residents of Louisa County and Fluvanna County. A project of this magnitude is a major undertaking for communities of this size. The ability to fund the total construction costs and the debt service on those costs, is a significant limiting factor on whether any given alternative is feasible, much less practicable. As USACE’s guidance states, “If an alleged alternative is unreasonably expensive to the applicant, the alternative is not ‘practicable.’” 45 Fed. Reg. 85336, 85343 (Dec. 24, 1980). Accordingly, the USACE may consider the circumstances of the applicant in determining what costs may be practicable. RGL 93-02 (Aug. 23, 1993).

In determining what costs are practicable, however, relatively greater weight is typically afforded to the “characteristics of the project and what constitutes a reasonable expense for these projects.” RGL 93-02 (Aug. 23, 1993). The total costs of water supply projects are highly variable and dependent on a large number of case-specific factors. Examples of variables that can significantly affect the total cost of a water supply project include the volume of water withdrawn, local power costs, spot construction and materials costs, size and length of water lines, water storage costs, local geology, easement and land acquisition costs, environmental mitigation costs, treatment technology costs, and debt financing costs. For this reason, JRWA was not able to identify any comparable projects that would provide

a basis to determine a reasonable baseline cost for projects similar to the proposed project. The most reasonable basis to determine a threshold of unreasonable expense is to compare the relative costs of the various alternatives reviewed for this project—each of which has a detailed cost estimate—with due consideration of the circumstances of the applicant and applicable judicial precedent. See [Appendix H-9](#) for Cost Consideration Supporting Documents.

JRWA asserts that any alternative that is more than 25% greater in total project costs than the proposed alternative is impracticable. The selection of a 25% cost increase as the threshold for impracticability is conservative and consistent with recent examples that have been subjected to judicial review. *E.g.*, *Friends of the Santa Clara River v. United States Army Corps of Eng'rs*, 887 F.3d 906, 921 (9th Cir. 2018) (finding 13% increase in cost sufficient to demonstrate impracticability of alternative for proposed development). Moreover, any material increase in cost arguably is unreasonably expensive given that the purpose of this project is public water supply and that the communities bearing these costs are small in relation to the costs and unable to absorb a significant increase in cost for this vital public service. A 25% cost increase in total project costs is therefore a reasonably conservative measure of impracticability in this context.

Total Project Costs Summary

The cost estimates presented below and in [Appendix H-9-2](#) take into consideration Total Project Costs to include construction and support services costs as well as additional costs that would be induced by and borne by JRWA's member communities. The categories of costs included in the estimates are as follows:

- A. Total Construction and Support Services costs to include the following elements:
 - 1) Raw water intake and pump station construction
 - i. Intake structure and gravity pipe to wetwell
 - ii. Pump station; to include all features within the building envelope
 - iii. Pump station site work
 - iv. Pump station excavation and rock removal
 - v. New access road on agricultural fields; based on length of road to be constructed
 - vi. Upgrade existing gravel access road; based on length of newly constructed road
 - vii. Rail crossing improvements per track; based on cost to construct/improve rail post construction
 - viii. Rail crossing approach fill; based on cubic yards of net fill required to grade road for equipment access to site
 - ix. Culvert/stream crossing approach fill; based on cubic yards of net fill required for culvert installation

- 2) Raw water main construction
 - i. Class 350 ductile iron pipe; based on length and diameter
 - ii. Clearing; based on length of water main requiring tree clearing for construction
 - iii. Rock excavation; based on length of water main in areas of expected rock presence
 - iv. Pipeline production adjustment along VDOT R/W
 - v. Pipeline adjustment for construction in travel lane; special conditions of construction in travel lanes such as Columbia and Bremo Bluff
 - vi. Maintenance of traffic Route 6; based on length of water main
 - vii. Maintenance of traffic secondary roads; based on length of water main
 - viii. Stream crossing (temporary); based on length of temporary stream crossings due to construction
 - ix. Jack & bore rail crossing; based on length and diameter of pipe and casing pipe
 - x. Jack & bore road crossing; based on length and diameter of pipe and casing pipe
 - xi. Rivanna River crossing; based on length and diameter of piping
 - xii. road for equipment access to site
 - 3) Professional support and administrative services; due diligence, survey, design, construction administration, permitting (VDH, VDOT, Fluvanna County, VDEQ land disturbance) and administrative services, Contractor general conditions, and Construction quality control.
- B. Property and Easement Acquisition Costs:
- 1) Easement acquisition services; plats, offer packages, appraisals, negotiation, recordation
 - 2) Easement purchase; per acre
 - 3) Property acquisition; intake and pump station site
- C. Environmental Costs:
- 1) Wetland delineation and confirmation
 - 2) Aquatic resources impacts permits (§ 401, § 404, & State-Owned Bottomlands)
 - 3) Protected species investigations
 - 4) Compensatory mitigation
- D. Cultural Resource Phase 1 Costs:
- 1) Cultural resources phase I survey
 - 2) ***Due to the potential unknowns and variability of costs, Phase II and Phase III Recovery costs WERE NOT CONSIDERED as part of this cost summary.***
-

E. Project Finance Costs:

- 1) 3% Loan origination fee
- 2) 3.75% Interest on loan over a 30-yr period

Table 12 provides a comparative summary of the total project costs for each of the twelve sub-alternatives with percent increase above the least cost alternative (Build Alternative 6 highlighted below). See Appendix H-9-2 for a detailed Opinion of Probable Project Cost (OPPC) for each alternative.

Table 12. Opinion of Probable Costs - Total Project Costs Summary

Alternative	1A Forsyth	1B Forsyth	1C Forsyth	2A Bremono	2B Bremono	3 Columbia	4 Goochland 1	5A Goochland 2	5B Goochland 2	6 Hammond 1	6-1 POF Farm	6-2 Hammond 2
Total Construction & Support Services	\$ 17,960,000	\$ 22,306,000	\$ 23,531,000	\$ 50,179,000	\$ 49,089,000	\$ 27,903,000	\$ 24,052,000	\$ 27,220,000	\$ 25,528,000	\$ 12,870,000	\$ 13,072,000	\$ 13,197,000
Property and Easement Acquisition Costs	\$ 857,000	\$ 1,111,000	\$ 1,211,000	\$ 3,076,000	\$ 2,979,000	\$ 971,000	\$ 686,000	\$ 802,000	\$ 803,000	\$ 529,000	\$ 552,000	\$ 577,000
Environmental Costs	\$ 343,000	\$ 329,000	\$ 341,000	\$ 426,000	\$ 416,000	\$ 167,000	\$ 210,000	\$ 225,000	\$ 219,000	\$ 219,000	\$ 219,000	\$ 219,000
Cultural Resource Ph I Costs	\$ 381,000	\$ 300,000	\$ 255,000	\$ 329,000	\$ 368,000	\$ 258,000	\$ 270,000	\$ 282,000	\$ 309,000	\$ 291,000	\$ 292,000	\$ 310,000
Project Finance Costs												
- 3% Loan Origination Fee	\$ 586,200	\$ 721,400	\$ 760,100	\$ 1,620,300	\$ 1,585,600	\$ 879,000	\$ 756,500	\$ 855,800	\$ 805,700	\$ 417,300	\$ 424,100	\$ 429,100
- 3.75% Interest on 30-yr loan	\$ 13,727,000	\$ 16,892,000	\$ 17,798,000	\$ 37,939,000	\$ 37,127,000	\$ 20,581,000	\$ 17,715,000	\$ 20,040,000	\$ 18,867,000	\$ 9,771,000	\$ 9,930,000	\$ 10,047,000
Total Project Costs	\$ 33,854,000	\$ 41,659,000	\$ 43,896,000	\$ 93,569,000	\$ 91,565,000	\$ 50,759,000	\$ 43,690,000	\$ 49,425,000	\$ 46,532,000	\$ 24,097,000	\$ 24,489,000	\$ 24,779,000
% Increase	40%	73%	82%	288%	280%	111%	81%	105%	93%	--	2%	3%

Below are supplemental explanations for the elements of the projects that account for differences in cost between the alternatives.

Property and Easement Acquisition Cost Analysis

For the purposes of this Alternatives Analysis, we evaluated the existing pump station parcel and easements which were purchased by the JRWA for the current Proposed Action (Build Alternative 6) to determine comparative costs for the alternatives considered. These comparative costs including evaluating the costs per acre for permanent and temporary easement acquisition, pump station land acquisition, and a costs per easement for acquisition services. For the purposes of this evaluation, we utilized the exact numbers and unit costs expended by the JRWA for each alternative considered. A detailed breakdown of the JRWA easement cost analysis can be found in [Appendix H-9-4](#) and line item estimated costs of property and easement acquisition costs for each Build Alternative can be found in [Appendix H-9-2](#).

Water Main Sizing. To minimize operations costs, construction costs, and impacts to the environment, it is desirable to minimize the length and size of the water main between the pump station and the agreed-upon point of connection at Route 6. Due to operating pressures, all piping is required to be Class 350 Ductile Iron. A list of water main requirements is below in Table 13. Pipe diameters for sub-alternatives 1A, 1B, 1C, 3, 4, 5A, 5B, 6, 6-1, and 6-1 are 24 inches. The approximate lengths of each water main route are also shown below. Sub-alternatives 2A and 2B, however, are located much farther from the agreed-upon T interconnection point; these pipe diameters will need to be 30 inches to handle the higher pressures associated with the greater pumping distance.

Table 13. Pipeline Requirements

Sub-Alternative ID	Length	Diameter
	LF	Inches
1A	14,500	24
1B	20,900	24
1C	21,300	24
2A	55,500	30
2B	55,200	30
3	5,300	24
4	8,500	24
5A	12,200	24
5B	11,200	24
6	5,100	24
6-1	5,400	24
6-2	5,100	24

Water Pumps. Table 14 below is a summary of the pump calculations for the future 12 MGD pumping rate. The pump selection submittal (see [Appendix F-1](#)) was developed for each alternative using information and costs obtained for the proposed Project.

The need to upsize pipe diameters for sub-alternative 2A and 2B is to account for the future operating conditions of the raw water pump station. The initial scenario for the pump station is to install three 350 HP pumps with a rated capacity of 3 MGD each. At any given time, two of the three pumps will be running for a total rated pumping capacity of 6 MGD. Redundancy is necessary to ensure there is no interruption in the public water supply in the event a pump must be taken offline for maintenance or experiences an unexpected failure. In this scenario, 24-inch piping is an appropriate diameter for all sub-alternatives with regard to piping and pump capabilities.

As explained above, the project has been designed to accommodate future expansion of JRWA’s permitted withdrawal volume to a maximum of 12 MGD. As demand increases in the future, four 500 HP pumps will be installed with a rated capacity of 4 MGD each. At any given time, three out of the four pumps will be running for a total pumping capacity of 12 MGD. At this pumping rate, the capacity of the 24-inch piping is notably exceeded for Sub-alternatives 2A and 2B, and the pump will exceed 600 HP in order to overcome the 217 feet and 218 feet, respectively, of additional frictional head loss per Sub-alternative. This exceeds the capability of the 500 HP pump motors due to the excessive pressure head conditions. The maximum impeller size for this pump is limited to providing 145 feet more than what is currently needed for the proposed pump station, considerably exceeding the pumps capabilities.

Table 14 below shows that at 24-inch piping, 2A and 2B exceed the 145 feet increase limit the future pumps can achieve. Assuming 650 HP motors are used in the future pumps to overcome this limit, typically these motors of this size are custom made. The increase in motor size would require upgrading electrical equipment, the generator, as well as electrical service. Therefore, sub-alternatives 2A and 2B should be upsized to 30-inch diameter pipe in order to able to meet both the present and future pressure demands without requiring water main or pump upgrades.

In both scenarios, the pumping configuration allows for maintenance procedures as well as special conditions such as high turbidity events where it is desirable to shut down one or more pumps in the event of an emergency or operational shut down. The pump station would be able to make up any additional demand while offline without running any one pump for a full 24-hour duty cycle.

Table 14. 12 MGD Design Flow Rate Pump Calculations

Sub-Alternative ID	Length	Nominal Diameter	Inside Diameter	Flow Rate	Friction Loss per 100 FT	Total Friction Loss	Increase in Head from Sub-Alt 6	Increase in Pressure from Sub-Alt 6
	LF	Inches	Inches	GPM	FT H2O / 100 ft pipe	FT	FT	PSI
1A	14,500	24	24.94	8,333	0.43	62.8	40.7	17.6
1B	20,900	24	24.94	8,333	0.43	90.6	68.5	29.6
1C	21,300	24	24.94	8,333	0.43	92.3	70.2	30.4
2A	55,500	30	31.02	8,333	0.15	83.2	61.1	26.4
2B	55,200	30	31.02	8,333	0.15	82.7	60.6	26.3
3	5,300	24	24.94	8,333	0.43	23.0	0.9	0.38
4	8,500	24	24.94	8,333	0.43	36.8	14.7	6.4
5A	12,200	24	24.94	8,333	0.43	52.9	30.8	13.3
5B	11,200	24	24.94	8,333	0.43	48.5	26.4	11.4
6	5,100	24	24.94	8,333	0.43	22.1	0.0	0.0
6-1	5,400	24	24.94	8,333	0.43	23.4	1.3	0.56
6-2	5,100	24	24.94	8,333	0.43	22.1	0.0	0.0
Sub-Alternative ID	Length	Nominal Diameter	Inside Diameter	Flow Rate	Friction Loss per 100 FT	Total Friction Loss	Increase in Head from Sub-Alt 6	Increase in Pressure from Sub-Alt 6
	LF	Inches	Inches	GPM	FT H2O / 100 ft pipe	FT	FT	PSI
2A	55,500	24	24.94	8,333	0.43	240.5	218.4	94.5
2B	55,200	24	24.94	8,333	0.43	239.2	217.1	94.0

Costs Reviewed but NOT Included as part of Total Project Cost Analysis Above

Depending on the selected alternative and overall alternative project schedule, other costs beyond those noted above will be incurred but the JRWA and its partner Counties. These additional costs HAVE NOT been included in the overall Total Project Costs Analysis considered above. However, these additional costs have been reviewed below to demonstrate the impact of these additional considerations.

Operations and Maintenance (O&M) Cost Considerations

Costs to operate and maintain utility infrastructure are important considerations while establishing design parameters. There are both fixed and variable costs to consider. Fixed costs are those that the Owner/Operator will incur regardless of the amount of product that is produced over a period; these include labor, transportation, permitting, repair parts, laboratory testing, etc. Variable costs are those that increase or decrease based on the production output; primarily, these include electrical power and chemicals.

For each Alternative, the JRWA Pump Station would have slightly different pumping head conditions which would result in variability of the electrical costs at the pump station. It is assumed for this evaluation that all other O&M fixed costs would remain the same for the JRWA on an annual basis. As such, we have prepared a comparative table (see Table 15 below) of anticipated annual electrical costs for each build alternative for 6 MGD and 12 MGD utilizing Dominion’s Schedule GS-2 Intermediate General Service rate schedule. For the purpose of this evaluation O&M fixed costs remain constant over an annual period.

Table 15. Increase in Annual Pumping Costs to T Interconnect

Alternative	Pipeline Length	Pipeline Diameter	Pumping Head To T Interconnect		Annual Pumping Cost to T interconnect		Increase in Annual Pumping Costs above Cheapest to T Interconnect		% Increase in Annual Pumping Costs above Cheapest	
			6 MGD	12 MGD	6 MGD	12 MGD	6 MGD	12 MGD	6 MGD	12 MGD
	LF	Inches								
1A	14,500	24	20.59	74.39	\$6,364	\$45,981	\$4,126	\$29,808	184%	184%
1B	20,900	24	29.68	107.22	\$9,173	\$66,276	\$6,934	\$50,103	310%	310%
1C	21,300	24	30.25	109.27	\$9,348	\$67,544	\$7,110	\$51,372	318%	318%
2A	55,500	30	26.64	96.02	\$8,234	\$59,351	\$5,995	\$43,179	268%	267%
2B	55,200	30	26.50	95.50	\$8,189	\$59,031	\$5,951	\$42,858	266%	265%
3	5,300	24	7.53	27.19	\$2,326	\$16,807	\$88	\$634	4%	4%
4	8,500	24	12.07	43.61	\$3,731	\$26,954	\$1,492	\$10,782	67%	67%
5A	12,200	24	17.32	62.59	\$5,354	\$38,687	\$3,116	\$22,515	139%	139%
5B	11,200	24	15.90	57.46	\$4,916	\$35,516	\$2,677	\$19,344	120%	120%
6	5,100	24	7.24	26.16	\$2,238	\$16,173	--	--	--	--
6-1	5,400	24	7.67	27.70	\$2,370	\$17,124	\$132	\$951	6%	6%
6-2	5,100	24	7.24	26.16	\$2,238	\$16,173	--	--	--	--

Secondary / Induced Operations and Maintenance (O&M) Costs to the Project Partners

Should the intake structure and pump station be located downstream of the confluence of the James and Rivanna Rivers, which includes Alternatives 3, 4 and 5, each County would need to account for increased treatment processes at their respective water treatment plants (WTP) due to the siltation and sedimentation anticipated along this section of the James River. As such, each locality would need to incorporate additional or enlarged pre-settling basins and clarifiers with associated chemical treatment processes to remove the excess sediment.

A major variable to consider in operating a WTP is the complexity of the treatment process and the amount and type of chemicals required to meet treatment goals. The Louisa Ferncliff WTP is

designed based on a raw water intake on the James River above the confluence of the Rivanna River, where water quality is more favorable, thus an additional pre-settling basin and clarifiers are not required based upon anticipated water quality. If the intake were to be located downstream of the confluence where excessive siltation and sedimentation occurs (Alternatives 3, 4 and 5), Louisa and subsequently Fluvanna (upon construction of a future WTP) would need to install these facilities. From a long-term O&M perspective, the clarifiers and appurtenant equipment, pumps, and chemical feeders will result in increased power, and increased chemical and labor costs. Since the pre-settling basin acts as a gravity settling basin, it is anticipated there will be minimal or negligible additional O&M costs above and beyond that of a normal WTP operation. For the purposes of this analysis, we have estimated the anticipated increase in annual O&M costs for the Ferncliff WTP based upon a 6 MGD average annual flowrate. Table 16 below summarizes the O&M costs with and without clarifiers at the WTP.

Table 16. Estimated Increase in Annual WTP Operation Costs

6 MGD Average Daily Demand		Without Clarifiers	With Clarifiers	\$ Increase	% Increase
O&M Variable Costs per Year					
RWPS		\$ 164,678.68	\$ 164,678.68	\$ -	0%
WTP		\$ 1,784,425.91	\$ 1,845,265.61	\$ 60,839.70	3%
O&M Fixed Costs per year					
RWPS		\$ 103,000.00	\$ 103,000.00	\$ -	0%
WTP		\$ 255,500.00	\$ 333,125.00	\$ 77,625.00	30%
Total O&M Costs					
RWPS	Total Annual O&M Costs	\$ 267,678.68	\$ 267,678.68	\$ -	0%
	Total O&M Costs per 1000 gal	\$ 122.23	\$ 122.23	\$ -	0%
	Estimated Annual Budget per year	\$ 0.12	\$ 0.12	\$ -	0%
WTP	Total Annual O&M Costs	\$ 2,039,925.91	\$ 2,178,390.61	\$ 138,464.70	7%
	Total O&M Costs per 1000 gal	\$ 931.47	\$ 994.70	\$ 63.23	7%
	Estimated Annual Budget per year	\$ 0.93	\$ 0.99	\$ 0.06	7%
Estimated Total Cost per 1000 gal		\$ 1.05	\$ 1.12	\$ 0.06	6%
Estimated Annual Budget at 6 MGD Average Daily Demand		\$ 2,308,000.00	\$ 2,446,000.00	\$ 138,000.00	6%

With the addition of clarifiers at the Ferncliff WTP, annual O&M costs are increased by approximately \$138,000 per year, or an approximate 6% increase in annual O&M costs. The O&M unit cost to deliver water to customers would increase from \$1.05 per 1,000 gallons to \$1.12 per 1,000 gallons. This increase in cost will be incurred for the duration of the WTP operations. The primary cause for this increase is due to the cost of the Alum used as a coagulant and one additional full-time operator.

Assumptions for Treatment Processes and Associated Costs:

1. Alum dosage was assumed to be 40 PPM (Parts Per Million) using 48.5% liquid alum with a specific gravity of 1.33.
2. The Louisa County Water Authority (LCWA) purchases Alum by bulk delivery at a current contract price of \$0.175 per gallon. This equates to an additional cost of \$10.68 per million gallons of water produced.
3. One full time operator is assumed to cost \$60,000 per year based on current (LCWA) salaries.

Potential Construction Cost Escalations for the Alternatives Analysis

To provide a reasonably equivalent foundation for the comparison of build alternatives, all Opinions of Probable Construction Cost Estimates are based upon the assumption of the project starting major construction in 2021. However, as a practical matter, it is anticipated the start of major construction will be delayed an additional three to four years for any alternative other than the proposed alternative (Build Alternative 6) due to factors associated with relocating the intake structure, pump station, and pipeline such as due diligence, easement and property acquisition, design and approvals, permitting timelines, and cultural resources investigations and recovery efforts. Therefore, it would be reasonable to assume that major construction for Build Alternatives 1, 2, 3, 4, and 5 would start in 2024 or 2025 and Build Alternatives 6-1 and 6-2 would start in 2023. As such, a reasonable construction cost increase for each of these alternatives should be considered due to the likely delay in construction as compared with Build Alternative 6.

While it is difficult to predict future construction market conditions, it is accepted industry practice to rely on previous historical data to reasonably predict future increases. Based upon the most recent Turner Construction Cost Index (CCI), the average annual CCI increase from the most recent five-year period, 2015 to 2019, is 5.1% (see CCI information below from the Turner 2019 4th Quarter Report).

Quarter	Index	Δ%
4th Quarter 2019	1177	1.29
3rd Quarter 2019	1162	1.13
2nd Quarter 2019	1149	1.23
1st Quarter 2019	1135	1.34

Year	Average Index	Δ%
2019	1156	5.5
2018	1096	5.6
2017	1038	5.0
2016	989	4.8
2015	943	4.5
2014	902	4.4
2013	864	4.1
2012	830	2.1
2011	812	1.6
2010	799	-4.0
2009	832	-8.4
2008	908	6.3
2007	854	7.7

The Turner Building Cost Index is determined by the following factors considered on a nationwide basis: labor rates and productivity, material prices and the competitive condition of the marketplace.



While the average CCI has risen 5% or greater since 2017, for the purposes of this analysis, we will utilize 5% average annual CCI for the cost adjustments. As such the appropriate multiplier would need to be applied to each of the alternatives based on the anticipated construction start date. Table 17 below identifies the appropriate multiplier that would need to be added for construction delays from 1 to 5 years:

Table 17. Estimated Construction Cost Escalation Multiplier by Year

Time Period	Annual % Increase	Multiplier	% Increase above 2021 Costs
1 year	5%	$1.05^1 = 1.05$	5%
2 years	5%	$1.05^2 = 1.10$	10%
3 years	5%	$1.05^3 = 1.16$	16%
4 years	5%	$1.05^4 = 1.22$	22%
5 years	5%	$1.05^5 = 1.28$	28%

For the purposes of the Opinions of Probable Construction Cost Estimates included in this supplemental information, JRWA did not assume any construction cost escalations for any of the Alternatives analyzed. However, this exercise illustrates an additional costs JRWA likely would incur to construct the project at Build Alternatives 1, 2, 3, 4, 5, 6-1, or 6-2. The total estimated construction and support services costs for these alternatives, adjusted for construction cost escalations, are summarized in Table 18:

Table 18. Total Estimated Cost by Alternative Adjusted for Construction Cost Escalation

Alternative	Total Construction & Support Services Cost		
	Estimate from Table 10 (2021 Start)	Estimate Adjusted for CCI Increase (Anticipated Start Date)	Potential Increase due to Delay in Start
1A	\$17,960,000	\$20,833,600 (2024)	\$2,873,600
1B	\$22,306,000	\$25,874,960 (2024)	\$3,569,000
1C	\$23,531,000	\$27,295,960 (2024)	\$3,765,000
2A	\$50,179,000	\$58,207,640 (2024)	\$8,028,600
2B	\$49,089,000	\$56,943,240 (2024)	\$7,854,200
3	\$27,903,000	\$32,367,480 (2024)	\$4,464,500
4	\$24,052,000	\$27,900,320 (2024)	\$3,848,300
5A	\$27,220,000	\$31,575,200 (2024)	\$4,355,200
5B	\$25,528,000	\$25,528,000 (2024)	\$4,084,500
6	\$12,870,000	\$12,870,000 (2021)	\$0
6-1	\$13,072,000	\$14,379,200 (2023)	\$1,307,200
6-2	\$13,197,000	\$14,516,700 (2023)	\$1,319,700

2015 Memo vs. 2020 Alternatives Analysis

In December of 2015, Timmons Group was asked to prepare a preliminary evaluation for potentially moving the pump station from the proposed Point of Fork Farm, LP location to property owned by Forsyth approximately 2 miles upstream from the proposed alternative. As such, Timmons Group prepared a limited review of the routing alternatives and potential impacts to the pump station construction. This December 2015 Memorandum (2015 Memo) was entitled "ALTERNATE INTAKE AND PUMP STATION SITE - PRELIMINARY Evaluation of the Potential Cost and Schedule Implications". The opening paragraph of the 2015 Memo states:

"Below is a PRELIMINARY evaluation of the potential cost and schedule implications to relocating the JRWA intake further upstream as proposed by Fluvanna County. Please note this is limited review based upon a limited timeline."

It is important to note that this evaluation was based upon a high-level overview of potential routing alternatives. This evaluation did not include an in-depth review and evaluation of the environmental impacts and routing alternative alignments as presented in this current analysis. The James River Water Authority requested that Timmons prepare a comparative analysis of the two evaluations (2015 Memo vs. 2020 Analysis) to address any potential questions or concerns that might arise during the review of this analysis regarding the difference in costs. The comparative analysis is included in [Appendix H-9-3](#).

4.2.2 Ability to Meet the Project Purpose

The practicability considerations discussed above must, of course, be evaluated "in light of overall project purposes." 40 C.F.R. § 230.10(a)(2). An option is not a true practicable alternative if it does not fulfill the overall project purpose. The overall project purpose "is to provide a new and reliable raw water supply of sufficient quantity to meet the short- and long-term needs of Fluvanna and Louisa Counties for delivery to an agreed-upon T interconnection point planned for use by Fluvanna and Louisa Counties." To meet this purpose, an alternative must be able to provide a raw water supply that can yield enough water to meet the current and future needs of the Counties over a 50-year planning horizon. That supply must be reliable, which means that it is not susceptible to interruptions due to droughts, storms, or other causes. Lastly, to meet the needs of the Counties, the project must be able to deliver that water to the agreed-upon T interconnection point so that both Counties—which are each paying 50% of the project costs—will have access to their share of the water from JRWA.

4.2.2.1 Water Quantity

The project must be able to meet the raw water needs of the communities. The VWP permit process requires an applicant to demonstrate to DEQ's satisfaction that there is a need and beneficial use for any requested water withdrawal amounts over the period of the 15-year permit term. JRWA's VWP permit authorizes a maximum withdrawal of 5.73 MGD initially, with preauthorized increases up to 8.39 MGD as water from the project is used to serve additional areas of the Counties (see Appendix D-1). A purpose of the project is to meet the Counties'

long-term water demands, which entails a much longer planning horizon than the 15 years covered by the VWP permit. That is why is why the project infrastructure has been designed to accommodate a future expansion to 12 MGD. JRWA and its member Counties believe that withdrawal will be sufficient to meet their water needs over a longer, 50-year planning horizon.

A surface water source’s ability to provide a given quantity of water is primarily a function of its drainage area. A raw water intake location must have an adequate upstream drainage-shed to support the withdrawal of water during all conditions to include severe drought periods. The drainage area for the Rivanna River (approximately 800 square miles as shown in Table 19 below) is significantly less than would be necessary to support a withdrawal of the volume necessary to meet the project purpose. Furthermore, the Rivanna already supports a number of upstream withdrawals by RWSA and Lake Monticello which limit the flows available to JRWA. Therefore, withdrawing from the Rivanna River would not meet the project purpose. By comparison, the James River’s drainage area is greater than 5,000 square miles in the vicinity of the project area. That is more than adequate to accommodate the quantity of water needed to be withdrawn during all conditions, including drought periods, to meet both the short- and long-term needs of the Counties.

Table 19. Contributing Drainage Areas

Build Alternative Location	Contributing Drainage Area	Comments
	Sq. Miles	
1	5,054	
2	5,014	
3	5,842	Includes Rivanna River Watershed
4	5,843	Includes Rivanna River Watershed
5	5,845	Includes Rivanna River Watershed
6	5,073	
6-1	5,073	
6-2	5,072	

Supporting documentation on drainage areas can be found in [Appendix H-12-1 Sheets 1-32](#).

4.2.2.2 Reliability of Water Supply

As public water suppliers, JRWA and its member localities have the “duty and authority to provide for a secure water supply” for their citizens. *Tidewater Ass’n of Homebuilders Inc. v. City of Va. Beach*, 400 S.E.2d 523, 529 (Va. 1991). Being unable to supply a reliable source of potable water to citizens is not an option for a public water supplier. There are multiple potential risks to a public water supply. The most common concern is drought. To mitigate against interruptions in supply from drought conditions, the water source should sufficient flow (meaning the size of the watershed plus wastewater discharges, less water withdrawals) to continue providing water during predictable low-flow conditions. Reservoirs can help mitigate drought conditions by storing water during high-flow conditions to augment instream flows during dry periods.

To ensure the reliability of JRWA's supply, it is most desirable to locate the intake downstream of the Cobbs Creek Reservoir (CCR). The CCR will serve as a side-stream reservoir and pumping facility that pumps and stores water from the river during high-low conditions and releases this water back to the river during low-flow and drought conditions. This is a very important consideration due to the increasing severity and frequency of drought conditions such as those that occurred in the 2002 to 2004 period and in 2019. Because JRWA is not proposing to construct their own reservoir, water must be pumped from the James River without interruptions due to prolonged drought conditions. The VWP permit 14-0343 issued to the JRWA (see Appendix D-1) requires that the JRWA coordinate with CCR operators to manage water withdrawals during low flow conditions.

- 1) **Build Alternative 1** is upstream of the CCR, thus there would be no beneficial use of the CCR during extreme droughts to assure that the intake is submerged.
- 2) **Build Alternative 2** is upstream of the CCR, thus there would be no beneficial use of the CCR during extreme droughts to assure that the intake is submerged.
- 3) **Build Alternative 3** is downstream of the CCR and thus could benefit from the release of water from the reservoir.
- 4) **Build Alternative 4** is downstream of the CCR and thus could benefit from the release of water from the reservoir.
- 5) **Build Alternative 5** is downstream of the CCR and thus could benefit from the release of water from the reservoir.
- 6) **Build Alternative 6** is downstream of the CCR and thus could benefit from the release of water from the Reservoir. Additionally, it is upstream of the confluence of the rivers; thus, situating it in the most desirable location of the James River regarding drought risk and water quality.
- 7) **Build Alternative 6-1** is downstream of the CCR and thus could benefit from the release of water from the Reservoir. Additionally, it is upstream of the confluence of the rivers; thus, situating it in the most desirable location of the James River regarding drought risk and water quality.
- 8) **Build Alternative 6-2** is downstream of the CCR and thus could benefit from the release of water from the Reservoir. Additionally, it is upstream of the confluence of the rivers; thus, situating it in the most desirable location of the James River regarding drought risk and water quality.

4.2.2.3 Short-Term Water Supply Needs

As discussed in Section 3.3, there is an immediate need for a new water source to be brought online. A purpose of this project is to meet that need by completing construction and commencing the flow of water in the shortest possible duration. To meet this purpose, an alternative must be capable of being constructed on a reasonable timeline.

The following steps must be completed in preparation for constructing a new water supply within the area reviewed for this project:

- Topographic survey of water main route and intake and pump station site, and access roads.
- Bathymetric survey of river bottom.
- Project design for the intake, pump station and water main
- Geotechnical investigation and report.
- Acquisition of easements and intake and pump station site.
- Obtain necessary permit and approvals from DEQ (VWP permit/401 certification, VPDES Construction General Permit), VMRC (State-owned bottomland permit), Virginia Department of Transportation (Land Use Permit), Fluvanna County (Zoning approval, floodplain permit, and building permit).
- Coordination and approvals from CSX for crossing its rail lines (see [Appendix H-5](#)).
- Environmental investigations, permitting, and mitigation.
- Completion of Phase I, and if necessary, Phases II and III, cultural resource investigations.

For each alternative, the estimated construction time is between approximately 24 and 36 months—with difference based primarily on the length of the water main and any other site-specific construction obstacles. A conservative estimate of 36 months is assumed to resolve all preliminary design, investigation, and regulatory approvals for previously unstudied sites. Based on the cultural resources revise summarized in Section 5.1.10, each alternative is expected to affect multiple cultural resources. However, given the difficulty in anticipating the extent of possible archeological investigations, the timelines associated with Cultural Resources efforts were not included in the evaluation for Alternatives 1-5, 6-1 or 6-2. As it is known that Phase III investigations would be required as part of Alternative 6, timelines associated with these efforts have been included.

Following is a table with estimate construction times for each alternative:

Table 20. Estimated Project Timelines by Alternative

Build Alternative	Add'l Due Diligence, Investigations, Design, Permitting and Approvals	Estimated Construction Time	Total Time
1A, 1B, 1C	36 months	24 months	60 months
2A, 2B	36 months	36 months	72 months
3	36 months	36 months	72 months
4	36 months	24 months	60 months
5A, 5B	36 months	24 months	60 months
6	6 months (Ph III CR Work)	24 months	30 months
6-1	12-18 months	24 months	36-42 months
6-2	12-18 months	24 months	36-42 months

JRWA estimates project completion dates as follows:

- 1) **Build Alternative 1** could be available to meet short-term water supply needs by 2025. That timeline assumes (1) 36 months for due diligence, preliminary design, investigation, property acquisition, final designs, permitting and approvals; and (2) 24 months for construction.
- 2) **Build Alternative 2** could be available to meet short-term water supply needs by 2026. That timeline assumes (1) 36 months for due diligence, preliminary design, investigation, property acquisition, final designs, permitting and approvals; and (2) 36 months for construction.
- 3) **Build Alternative 3** could be available to meet short-term water supply needs by 2026. That timeline assumes (1) 36 months for due diligence, preliminary design, investigation, property acquisition, final designs, permitting and approvals; and (2) 36 months for construction.
- 4) **Build Alternative 4** could be available to meet short-term water supply needs by 2025. That timeline assumes (1) 36 months for due diligence, preliminary design, investigation, property acquisition, final designs, permitting and approvals; and (2) 24 months for construction.
- 5) **Build Alternative 5** could be available to meet short-term water supply needs by 2025. That timeline assumes (1) 36 months for due diligence, preliminary design, investigation, property acquisition, final designs, permitting and approvals; and (2) 24 months for construction.
- 6) **Build Alternative 6** is “shovel ready” except for Phase III archeological study. This alternative could be online by 2023, assuming 6 months for Phase III work and 24 months for construction.

- 7) **Build Alternative 6-1** could be available to meet short-term water supply needs by 2024. That timeline assumes (1) 12-18 months for due diligence, preliminary design, investigation, property acquisition, final designs, permitting and approvals; and (2) 24 months for construction.
- 8) **Build Alternative 6-2** could be available to meet short-term water supply needs by 2024. That timeline assumes (1) 12-18 months for due diligence, preliminary design, investigation, property acquisition, final designs, permitting and approvals; and (2) 24 months for construction.

4.2.3 Environmental Impacts

Environmental impacts for the various Build Alternatives are more fully evaluated below in Section 5. That analysis is incorporated by reference into this section for the purpose of the make the LEDPA determination.

4.2.3.1 Build Alternatives Route Avoidance

Environmental impacts, including aquatic resources and cultural resources, were considered and avoided to greatest extent practicable in the development to alternative routing options, given practicability considerations and the purpose and need of the Project. Factors considered limiting to practicability included presence of rock, acquisition of land and easements, suitable railroad track crossing, impacts to adjacent land use, and co-location of utilities, among others.

4.3 Determination of Least Environmentally Damaging Practicable Alternative

The LEDPA analysis was conducted to document the review of the Build Alternatives and No-Permit/No-Action Alternative in compliance with 33 C.F.R. Part 230 and to identify the LEDPA in accordance with the the 404(b)(1) Guidelines, 40 CFR Part 230. A potential alternative is excluded from consideration as the LEDPA if it is found to not be a practicable alternative under one or more of the relevant review criteria as detailed above and/or if it fails to meet the overall project purpose. If more than one alternative is considered practicable under all criteria and meets the overall project purpose, the alternative with the least environmental impact would be deemed the LEDPA. The analysis concludes that Build Alternative 6 is the LEDPA.

4.3.1 No-Permit and No-Action Alternative

As discussed in Section 4.1.3, there is no feasible No-Permit scenario that could provide a new water supply capable of meeting the project purpose. Therefore, the No-Permit Alternative is the No-Action Alternative. Although the No-Action Alternative would avoid all impacts to aquatic resources, it is not a viable option given the purpose and need of the Project, which is to provide a new raw water supply of sufficient quantity and quality to meet the identified short- and long-term needs of Fluvanna and Louisa Counties. The No-Action Alternative is therefore eliminated from consideration as the LEDPA.

4.3.2 Build Alternative 1: Forsyth

Build Alternative 1 is not the LEDPA for any of the following reasons: it (1) is not practicable; (2) does not fully satisfy the overall project purpose; and (3) is not less environmentally damaging.

This alternative presents several construction logistics challenges. The need to construct ramp structures across the CSX rail line to provide heavy equipment access to the pump station site significantly complicates construction. That would necessitate additional review and negotiation with, followed by final approval by CSX, to enable JRWA to reengineer a portion of CSX's right-of-way to allow a new, permanent elevated road crossing. This entails additional cost, timing, and risk for the project. Similarly, Build Alternative 1 would require that JRWA obtain easements from between 11 and 26 landowners, which adds further cost, timing, and risk. The water main routing for this alternative are generally practicable to construct, with the exception of Sub-Alternative 1C, which would require an excessive amount of rock excavation.

Based on available information, it is assumed that this site would be suitable for construction and operation of a long-term water supply. The water quality in the James River at the location of the intake is assumed to be sufficiently unencumbered by sediment loads and the pump station could be constructed relatively close in proximity and elevation to the river. No bathymetric study has been conducted for the James River bottom at this location, and JRWA therefore assumes it is suitable. From a site suitability perspective, this site has the disadvantage of being the second farthest distance from the nearest 3-phase power source. A route would need to be extended 1.1 miles to reach the pump station site, which would require additional coordination regarding VDOT rights-of-way and would marginally increase the risk of outages at this site due to power failure.

Build Alternative 1 is unreasonably expensive to JRWA. Depending on the water main route, this alternative is between 40% and 82% more costly than the preferred alternative. The increased cost is attributable to several factors. Most significantly, this alternative would require construction of a water main that is approximately three to four times the length of the preferred route, depending on the route variation. Additional costs would be necessary for coordination with CSX and to acquire easements from between two and five times the number of landowners as compared to the preferred alternative.

Build Alternative 1 only partially meets the overall project purpose. This alternative provides a sufficient quantity and quality of water to meet the Counties' long-term water supply needs. However, the intake location upstream of the CCR release makes this intake more vulnerable to disruption during drought and low-flow conditions. Lastly, this alternative does not meet the Counties' short-term need for an increased water supply because the project would not be in service for at least 60 months.

Build Alternative 1 is not less environmentally damaging. Because the water main route is relatively longer and has fewer opportunities to be co-located with existing utility easements (between 25% for Sub-Alternative 1A to 0% for 1C) than other alternatives, it has two times or more greater permanent aquatic impacts compared to the preferred alternative or Alternative 3. Nor does it offer other environmental advantages. It has a comparable number of potential

historical resources impacts. Sub-alternative 1A impacts the second the greatest number of known archeological sites of any alternative (some of which overlap with Build Alternative 6) and a similar number of architectural properties. Sub-alternatives 1B and 1C impact comparatively fewer *known* archeological sites and comparable number of archeological properties. Because these alternatives traverse more landowners' properties, they have a greater potential to impact property owner rights and land uses. Sub-alternatives 1B and 1C also would necessitate nearly ten times the area of permanent tree-clearing compared to the least forested route (Build Alternative 3) and nearly six times the area of permanent clearing compared to Build Alternative 6.

In conclusion, Build Alternative 1 is not practicable on the basis of cost. Although it is not deemed impracticable under any single logistical criterion, it presents several disadvantages that, considered in concert, are sufficient to deem this alternative logistically impracticable. This alternative does not fully satisfy the overall project purpose. Lastly, none of its routing alternatives can be considered the least environmentally damaging. Accordingly, Build Alternative 1 is not the LEDPA.

4.3.3 Build Alternative 2: Bremo Bluff

Build Alternative 2 is not the LEDPA for any of the flowing reasons: it (1) is not practicable; (2) does not fully satisfy the overall project purpose; and (3) is not less environmentally damaging.

This alternative presents substantial construction logistics obstacles. In particular, both route alternatives (sub-alternatives 2A and 2B) traverse areas where significant amount of rock is expected, including along Bremo Road where a high rock wall adjacent to the road is present. The need to construct ramp structures across the CSX rail line to provide heavy equipment access to the pump station site significantly complicates construction. That would necessitate additional review and negotiation with, followed by final approval by CSX, to enable JRWA to reengineer a portion of CSX's right-of-way to allow a new, permanent elevated road crossing. This entails additional cost, timing, and risk for the project. This CSX line at this location is a dual rail with a significant elevation differential between the two rails. This situation presents an unacceptable risk to heavy equipment that would have to cross the rails during construction and to smaller vehicles (e.g., pickup trucks) that would need to access the pump station site on a long-term basis for operation and maintenance purposes. Additionally, Build Alternative 2 would require that JRWA obtain the greatest number of easements: between 73 and 81 easements. That is a unique logistical and unpredictable hurdle that adds considerable further cost, timing, and risk to the project.

Based on available information, it is assumed that this site would be suitable for construction and operation of a long-term water supply. The water quality in the James River at the location of the intake is assumed to be sufficiently unencumbered by sediment loads and the pump station could be constructed relatively close in proximity and elevation to the river. No bathymetric study has been conducted for the James River bottom at this location, and JRWA therefore assumes it is suitable. From a site suitability perspective, this site has the disadvantage of being approximately twice the distance from the nearest 3-phase power source as the preferred alternative, which would require additional coordination regarding VDOT rights-of-way

and would marginally increase the risk of outages at this site due to power failure. In the absence of information to the contrary, it is assumed that the river bottom conditions are would accommodate the intake structure.

Build Alternative 2 is unreasonably expensive to JRWA. Depending on the water main route, this alternative is between 280% and 288% more costly than the preferred alternative. The increased cost is attributable to several factors. Most significantly, this alternative would require construction of the longest water main of any alternative, at over 10 miles (over 10 times the length of the preferred alternative). At this length, the pipe size and pumping capacity would need to be upgraded as well to accommodate the same volume of flow. Additional costs would be necessary for coordination with CSX and to acquire approximately 14 to 16 times easements from as compared to the preferred alternative.

Build Alternative 2 only partially meets the overall project purpose. This alternative provides a sufficient quantity and quality of water to meet the Counties' long-term water supply needs. However, the intake location upstream of the CCR release makes this intake more vulnerable to disruption during drought and low-flow conditions. Lastly, this alternative does not meet the Counties' short-term need for an increased water supply because the project would not be in service for at least 72 months.

Build Alternative 2 is the most environmentally damaging alternative. Because the water main route is significantly longer and has fewer opportunities to be co-located with existing utility easements (between 0% for sub-alternative 2A to 4% for 2B) than other alternatives, it has more than ten times greater permanent aquatic impacts than the preferred alternative, and more than that when compared to Alternative 4. Neither route studied for this alternative offers any clear environmental advantages. Due to its length, this alternative would require extensive permanent tree-clearing—roughly eleven times the total area of the preferred alternative. Construction of this alternative would impact few previously identified archeological sites but a greater number of architectural properties than the preferred alternative. Because this alternative traverses many times more landowners' properties, it has a greater potential to impact property owner rights and land uses. This alternative also would require construction of an intake within the proposed critical habitat of the Atlantic Pigtoe, a species that is proposed for listing as threatened under the Endangered Species Act.

In conclusion, Build Alternative 2 is not practicable on the basis of cost. Its length coupled with the amount of rock and number of landowners from whom easements must be obtained makes construction logistically impracticable. This alternative does not fully satisfy the overall project purpose. Lastly, these routing alternatives can be considered the most environmentally damaging. Accordingly, Build Alternative 2 is not the LEDPA.

4.3.4 Build Alternative 3: Columbia

Build Alternative 3 is not the LEDPA for any of the flowing reasons: it (1) is not practicable and (2) does not fully satisfy the overall project purpose.

This alternative presents major—and potentially insurmountable—construction logistics challenges. The pump station for this alternative would have to be constructed in a tight space

in the town of Columbia immediately adjacent to an active railroad line. This creates a substantial hazard to the construction crew and freight traffic and would require extensive coordination with CSX—which would have to approve the project (notwithstanding that CSX has expressed its opposition to construction at this site). Because there is no feasible direct road access to the riverbank, heavy equipment and materials would have to be lowered into position by cranes staged on the adjacent bridge for the duration of the intake construction. That would substantially increase the time, cost, and safety hazards associated with construction, not to mention present foreseeable technical challenges that could ultimately make this method unworkable. Long-term inspections and maintenance of the intake would be similarly challenging. Construction at this site will be made additionally challenging by the fact that the pump station would require sheeted and braced excavation and will require a significant amount of rock blasting to occur in close proximity to occupied residences. Because this would require construction through a more populated area, at least three times the number of easements would have to be acquired relative to the preferred alternative. At least one occupied residence would have to be acquired and demolished to allow construction of the pump station to proceed.

Long-term operation and maintenance of a water supply at this location presents significant challenges. Because this site is located immediately downstream of where the Rivanna River empties into the James River, it will be impacted by siltation and sedimentation as well as excessive suspended solids loads in the Rivanna River, especially during precipitation events. This will lead to increased siltation and sedimentation at the intake. This lower-quality water will require additional capital upgrades and increased operation and maintenance costs for the existing Ferncliff Water Treatment Plant (\$6.1 million construction cost plus additional design and support services) and future water treatment plants that utilize this water supply. Because the pump station structure will be located in the heart of Columbia, with the nearest occupied home only 150 feet away, this site will be exposed to additional risk of vandalism and damage. In the absence of information to the contrary, it is assumed that the river bottom conditions would accommodate the intake structure.

Build Alternative 3 is unreasonably expensive to JRWA. This alternative is 111% more costly than the preferred alternative. The increased cost is attributable to several factors to include increased property acquisition costs—largely driven by the cost of relocating a family—and numerous cost increases necessitated by attempting to construct the project under such challenging conditions.

Build Alternative 3 does not fully meet the overall project purpose. This alternative provides a sufficient quantity of water to meet the Counties' long-term water supply needs. However, the intake location immediately downstream of the Rivanna River discharge makes this water supply less reliable during high-flow conditions and less beneficial as a long-term supply due to the increased treatment costs. Lastly, this alternative does not meet the Counties' short-term need for an increased water supply because the project would not be in service for at least 72 months.

Build Alternative 3 has the least impact to the aquatic environment due to its location almost wholly within a built-up town. It has no permanent wetland impacts and only 64 linear feet of permanent stream impacts. However, the limited aquatic impacts are offset by other impacts. Construction and operation at this location would require intrusive short-term and permanent impacts—including the demolition of one or two family homes—in a designated environmental justice community. Although only one previously identified archeological site is found within the

footprint of this alternative, its proximity to the riverbank suggests a probability that additional sites will be found. Construction at this location also would entail constructing a new, modern structure in full view of a potentially eligible district, as well as the demolition of one or more potentially contributing architectural resources.

In conclusion, Build Alternative 3 is not practicable on the basis of construction logistics or cost. There are significant logistical challenges to construction that call into question whether this alternative can be deemed available, must less practicable. Nor does this alternative fully satisfy the overall project purpose. Although this alternative could be characterized as the least environmentally damaging, it is not the LEDPA.

4.3.5 Build Alternative 4: Goochland 1

Build Alternative 4 is not the LEDPA for any of the following reasons: it (1) is not practicable; (2) does not fully satisfy the overall project purpose; and (3) is not less environmentally damaging.

This alternative presents moderate construction logistics challenges. This alternative would require only limited rock excavation for the pump station but potentially excessive rock excavation for the water main. The need to construct ramp structures across the CSX rail line to provide heavy equipment access to the pump station site significantly complicates construction. That would necessitate additional review and negotiation with, followed by final approval by CSX, to enable JRWA to reengineer a portion of CSX's right-of-way to allow a new, permanent elevated road crossing. This entails additional cost, timing, and risk for the project. This CSX line at this location is a dual rail with a significant elevation differential between the two rails. This situation presents an unacceptable risk to heavy equipment that would have to cross the rails during construction and to smaller vehicles (e.g., pickup trucks) that would need to access the pump station site on a long-term basis for operation and maintenance purposes. Additionally, construction at this location would require JRWA to obtain 18 easements. Lastly, adding additional risk to this alternative, JRWA would need to obtain the consent of Goochland County to construct a water supply at this location in accordance with Virginia Code § 15.2-2143.

Long-term operation and maintenance of a water supply at this location presents significant challenges. Because this site is located immediately downstream of where the Rivanna River empties into the James River, it will be impacted by siltation and sedimentation as well as excessive suspended solids loads in the Rivanna River, especially during precipitation events. This will lead to increased siltation and sedimentation at the intake. This lower-quality water will require additional capital upgrades and increased operation and maintenance costs for the existing Ferncliff Water Treatment Plant (\$6.1 million construction cost plus additional design and support services) and future water treatment plants that utilize this water supply. In the absence of information to the contrary, it is assumed that the river bottom conditions would accommodate the intake structure.

Build Alternative 4 is unreasonably expensive to JRWA. This alternative is 81% more costly than the preferred alternative. Most significantly, this alternative would require construction of a water main that is approximately two times longer than the length of the preferred route. Additional

costs would be incurred acquiring easements from nearly four times the number of landowners as compared to the preferred alternative.

Build Alternative 4 does not fully meet the overall project purpose. This alternative provides a sufficient quantity of water to meet the Counties' long-term water supply needs. However, the intake location shortly downstream of the Rivanna River discharge makes this water supply less reliable during high-flow conditions and less beneficial as a long-term supply due to the increased treatment costs. Lastly, this alternative does not meet the Counties' short-term need for an increased water supply because the project would not be in service for at least 60 months.

Build Alternative 4 is not less environmentally damaging. Because the water main route is relatively longer and has no opportunity to be co-located with existing utility easements, it has greater permanent stream and wetland impacts than the preferred alternative. Nor does it offer other significant environmental advantages. Although there are no previously identified archeological sites within the footprint of this alternative, this alternative would require construction within the floodplain of the James River in an area with numerous recorded sites along the banks. Thus, there is a material likelihood of discovering new sites. This alternative also is tied with Build Alternative 5's two routes for the highest number of previously recorded architectural properties within the limits of disturbance. This alternative would necessitate nearly three times the area of permanent tree-clearing compared to the least forested route (Build Alternative 3) and nearly twice the area of permanent clearing compared to Build Alternative 6.

In conclusion, Build Alternative 4 is not practicable on the basis of cost and site-suitability logistics. This alternative does not fully satisfy the overall project purpose and it is not the least environmentally damaging. It is not the LEDPA.

4.3.6 Build Alternative 5: Goochland 2

Build Alternative 5 is not the LEDPA for any of the following reasons: it (1) is not practicable; (2) does not fully satisfy the overall project purpose; and (3) is not less environmentally damaging.

This alternative presents moderate construction logistics challenges. This alternative would require only limited rock excavation for the pump station but potentially excessive rock excavation for the water main under either route sub-alternative. The need to construct ramp structures across the CSX rail line to provide heavy equipment access to the pump station site significantly complicates construction. That would necessitate additional review and negotiation with, followed by final approval by CSX, to enable JRWA to reengineer a portion of CSX's right-of-way to allow a new, permanent elevated road crossing. This entails additional cost, timing, and risk for the project. This CSX line at this location is a dual rail with a significant elevation differential between the two rails. This situation presents an unacceptable risk to heavy equipment that would have to cross the rails during construction and to smaller vehicles (e.g., pickup trucks) that would need to access the pump station site on a long-term basis for operation and maintenance purposes. Additionally, construction at this location would require JRWA to obtain 19 or 23 easements, depending on the route. Lastly, adding additional risk to this alternative, JRWA would need to obtain the consent of Goochland County to construct a water supply at this location in accordance with Virginia Code § 15.2-2143.

Long-term operation and maintenance of a water supply at this location presents significant challenges. Because this site is located immediately downstream of where the Rivanna River empties into the James River, it will be impacted by siltation and sedimentation as well as excessive suspended solids loads in the Rivanna River, especially during precipitation events. This will lead to increased siltation and sedimentation at the intake. This lower-quality water will require additional capital upgrades and increased operation and maintenance costs for the existing Ferncliff Water Treatment Plant (\$6.1 million construction cost plus additional design and support services) and future water treatment plants that utilize this water supply. In the absence of information to the contrary, it is assumed that the river bottom conditions are would accommodate the intake structure.

Build Alternative 5 is unreasonably expensive to JRWA. This alternative is between 93% and 105% more costly than the preferred alternative, depending on the project route. Most significantly, this alternative would require construction of a water main that is approximately twice as long as the preferred route. Additional costs would be incurred acquiring roughly four times the easements from roughly as compared to the preferred alternative.

Build Alternative 5 does not fully meet the overall project purpose. This alternative provides a sufficient quantity of water to meet the Counties' long-term water supply needs. However, the intake location shortly downstream of the Rivanna River discharge makes this water supply less reliable during high-flow conditions and less beneficial as a long-term supply due to the increased treatment costs. Lastly, this alternative does not meet the Counties' short-term need for an increased water supply because the project would not be in service for at least 60 months.

Build Alternative 5 is not less environmentally damaging. Because the water main route is relatively two times longer and has no opportunity to be co-located with existing utility rights-of-way, it has comparable permanent stream impacts but between five and eight times the permanent wetland impacts as compared to the preferred alternative. Nor does it offer other significant environmental advantages. Although there is only one previously identified archeological sites within the footprint of this alternative (both routes), this alternative would require construction within the floodplain of the James River in an area with numerous recorded sites along the banks. Thus, there is a material likelihood of discovering new sites. This alternative's two routes also are tied with Build Alternative 4 for the highest number of previously recorded architectural properties within the limits of disturbance. This alternative would necessitate approximately four to six times the area of permanent tree-clearing compared to the least forested route (Build Alternative 3) and two to three times the area of permanent clearing compared to Build Alternative 6 (depending on route).

In conclusion, Build Alternative 5 is not practicable on the basis of cost and site-suitability logistics. This alternative does not fully satisfy the overall project purpose and it is not the least environmentally damaging. It is not the LEDPA.

4.3.7 Build Alternative 6: Hammond 1 (Proposed Action/Preferred Alternative)

Build Alternative 6 is the LEDPA.

This alternative presents minimal construction logistics challenges. This alternative would require only limited rock excavation. It could take advantage of an existing single-rail crossing of the CSX rail line, which avoids the otherwise potentially significant hazards associated with Build Alternatives 2, 4, and 5. This alternative affects the fewest number of property owners (5).

There are no long-term operation and maintenance issues associated with using this location site for a water supply. From a water quality perspective, this location is at the “sweet spot”—it is downstream of the CCR release point and upstream of the Rivanna River confluence. No additional upgrades or drought mitigation measures (beyond those reasonable measures in the VWP permit) will be necessary. The river bottom at this location is known to be suitable for the intake structure.

Build Alternative 6 is the most affordable option to JRWA. This location is more than 40% less expensive than the next least cost alternative (excluding the variations in Build Alternatives 6-1 and 6-2, discussed below). The costs of this vital public water supply project have already exceeded budgeted projections, and any additional costs above and beyond that amount are not reasonable.

Build Alternative 6 fully meets the overall project purpose. It is a “shovel ready” project that represents the shortest timeline to begin fulfilling the immediate, short-term water supply needs of Fluvanna County (supplying fire hydrants) and Louisa County (supplying Ferncliff WTP). There is an adequate quantity and quality of flow in the James River at this location to reliably meet both Counties’ long-term water supply needs.

Build Alternative 6 is the second least environmentally damaging alternative overall and the least environmentally damaging of the practicable alternatives. Only Build Alternative 3 has less impact on the aquatic environment. Although Build Alternative 6 has the second most known archeological sites within the footprint, it also is the most extensively studied route as it has a complete Phase I survey and Phase II evaluation. This alternative is also in close proximity to the fewest number of architectural resources. This alternative has the highest percentage of co-location (67%) and the second lowest area of permanent tree-clearing (behind alternative 3, which is primarily in the town of Columbia). There are no adverse environmental justice or known critical habitat impacts for this location.

In conclusion, Build Alternative 6 accommodates the specific logistical requirements of the JRWA water supply project while fully meeting the project purpose and need. The Preferred Alternative offers convenient access to James River for the JRWA water supply project and by locating the withdrawal structure in Fluvanna County, the Applicant can realize increased distribution efficiency, as Fluvanna County and Louisa County are the intended clientele. Additionally, the specific location on Point of Fork provides the water quality and quantity needed for the project. Accordingly, Build Alternative 6 is the LEDPA.

4.3.8 Build Alternative 6-1: POF Farm

Build Alternative 6-1 is not the LEDPA for any of the flowing reasons: it (1) is not practicable; and (2) is not less environmentally damaging.

This alternative presents one significant construction logistics challenge. This alternative only required limited rock excavation and could take advantage of an existing single-rail crossing of the CSX rail line, which avoids a potentially significant hazard associated with Build Alternatives 2, 4, and 5. However, JRWA has already tried unsuccessfully to obtain land from one of the property owners for the pump station site (immediately adjacent to the currently proposed site) although this alternative requires the acquisition of the second fewest number of easements (6).

There are no long-term operation and maintenance issues associated with using this location site for a water supply, which is similar to Build Alternative 6 in this respect.

Build Alternative 6-1 partially meets the overall project purpose. This alternative may not meet the Counties' short-term need for an increased water supply because the project would not be in service for at least 36-42 months.

Build Alternative 6-1 is practicable as a function of cost. It is approximately 2% more costly than the preferred alternative.

The environmental impacts of Build Alternative 6-1 are comparable to Build Alternative 6.

In conclusion, this minor variation on Build Alternative 6 is not the LEDPA. Although it is similar in many respects, it presents one practicability challenge (easement acquisition) and one limitation on fulfilling the project purpose (does not meet short-term need). Moreover, this alternative does not avoid any of the sensitive areas that have a drawn third-party criticism of Build Alternative 6.

4.3.9 Build Alternative 6-2: Hammond 2

Build Alternative 6-2 is not the LEDPA for any of the following reasons: it (1) is not practicable; and (2) is not less environmentally damaging.

This alternative presents one significant construction logistics challenge. This alternative would require only limited rock excavation. It could take advantage of an existing single-rail crossing of the CSX rail line, which avoids a potentially significant hazard associated with Build Alternatives 2, 4, and 5. This alternative requires the acquisition of second fewest number of easements (6). However, this alternative presents a substantial safety concern unique to this location. Constructing a pump station at this location would require a significant amount blasting to be conducted in close proximity to the Colonial Gas pipelines. This was deemed an unacceptable hazard to construction by the project's engineers.

There are no long-term operation and maintenance issues associated with using this location site for a water supply, which is similar to Build Alternative 6 in this respect.

Build Alternative 6-2 partially meets the overall project purpose. This alternative may not meet the Counties' short-term need for an increased water supply because the project would not be in service for at least 36-42 months.

The environmental impacts of Build Alternative 6-1 are comparable to Build Alternative 6, with only a minor additional temporary wetland impact. This alternative does not offer any advantages from a cultural resources perspective, however. Although it is relatively close to Build Alternative 6, this alternative would intersect three additional previously identified archeological sites.

Build Alternative 6-1 is practicable as a function of cost. It is approximately 3% more costly than the preferred alternative.

In conclusion, this minor variation on Build Alternative 6 is not the LEDPA. Although it is similar in many respects, it presents one practicability challenge (blasting next to petroleum pipelines). Moreover, this alternative does not avoid any of the sensitive areas that have a drawn third-party criticism of Build Alternative 6.

Table 21 provides a summary of the practicality considerations considered for each Build Alternative.

Table 21. Practicability Criteria Evaluated for Project Alternatives

Section	Description	Alternatives											
		1A	1B	1C	2A	2B	3	4	5A	5B	6	6-1	6-2
4.1.2	Intake Location (Name)	Forsyth	Forsyth	Forsyth	Bremo	Bremo	Columbia	Goochland 1	Goochland 2	Goochland 2	Hammond 1	Point of Fork Farm	Hammond 2
4.2.1.1 - Construction Logistics Considerations													
4.2.1.1.1	Size and Configuration of Site Suitable for Construction of a Pump Station	Yes	Yes	Yes	Yes	Yes	Size, safety	Yes	Yes	Yes	Yes	Yes	Petroleum Pipeline
4.2.1.1.2	Heavy Equipment Access to Pump Station Site	Yes	Yes	Yes	Difficult Rail Xing	Difficult Rail Xing	Difficult Rail Xing	Difficult Rail Xing	Difficult Rail Xing	Difficult Rail Xing	Yes	Yes	Yes
4.2.1.1.3	Excavation at Pump Station Site	Yes	Yes	Yes	Yes	Yes	Rock	Yes	Yes	Yes	Yes	Yes	Yes
4.2.1.1.4	Constructability of Water Main	Yes	Yes	Rivanna Xing, Rock	Rivanna Xing, Rock	Rock	Homes, Rock	Rock	Rock	Rock	Yes	Yes	Yes
4.2.1.1.5	Suitable Railroad Track Crossing Location	Single Rail	Single Rail	Single Rail	Dual Rail	Dual Rail	N/A	Dual Rail	Dual Rail	Dual Rail	Single Rail	Single Rail	Single Rail
4.2.1.1.6	Acquisition of Land and Easements; Total Acres (Total Easements)	21.75 (11)	25.36 (18)	21.87 (26)	45.1 (81)	48.63 (73)	4.96 (16); Homes	8.39 (18)	12.08 (19)	11.39 (23)	14.26 (5)	15.23 (6); Site not available	15.25 (6)
4.2.1.2 - Site Suitability Considerations													
4.2.1.2.1	Adequate Water Quality; Location Relative to Rivanna River	Upstream	Upstream	Upstream	Upstream	Upstream	Down-stream	Down-stream	Down-stream	Down-stream	Upstream	Upstream	Upstream
4.2.1.2.2	Intake and Pump Station Proximity and Depth to	Yes	Yes	Yes	Yes	Yes	Rail line	Yes	Yes	Yes	Yes	Yes	Yes
4.2.1.2.3	River Bottom Depth at Intake Location	Assumed	Assumed	Assumed	Assumed	Assumed	Assumed	Assumed	Assumed	Assumed	Yes	Yes	Assumed
4.2.1.2.4	Access to Suitable Power Supply 3-Phase Power; Miles	1 mi; overhead power	1 mi; overhead power	1 mi; overhead power	1.1 mi; overhead power	1.1 mi; overhead power	0.08 mi	0.12 mi	0.34 mi	0.34mi	0.57 mi	0.57 mi	0.64 mi
4.2.1.2.5	Proximity to Residential Dwellings/Homes; linear feet	2,700 lf	2,700 lf	2,700 lf	1,300 lf	1,300 lf	150 lf	2,000 lf	1,900 lf	1,900 lf	1,500 lf	1,250 lf	2,150 lf
4.2.1.3 - Cost Considerations													
4.2.1.3	Cost Considerations; Total Cost (% increase)	\$33.9M (40%)	41.7M (73%)	43.9M (82%)	\$93.6M (288%)	\$91.6M (280%)	\$50.8M (111%)	\$43.7M (81%)	\$49.4M (105%)	\$46.5M (93%)	\$24.1M (--)	\$24.5M (2%)	\$24.8M (3%)
4.2.2 - Ability to Meet the Project Purpose													
4.2.2.1	Water Quantity	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4.2.2.2	Reliability of Water Supply; Location Relative to Cobb's Creek Reservoir	Upstream	Upstream	Upstream	Upstream	Upstream	Down-stream	Down-stream	Down-stream	Down-stream	Down-stream	Down-stream	Down-stream
4.2.2.3	Short-Term Water Supply Needs (Delays past 2020)	5-Yr Delay	5-Yr Delay	5-Yr Delay	6-Yr Delay	6-Yr Delay	6-Yr Delay	5-Yr Delay	5-Yr Delay	5-Yr Delay	2.5 - Yr Delay	3 to 3.5 -Yr Delay	3 to 3.5 -Yr Delay

5.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

5.1 Affected Environment

5.1.1 Land Use

The construction of water supply infrastructure has the potential to affect land above and adjacent to the site. Construction of a pump station will require a permanent, though localized, change to land use for the structure, associated parking area, and, if necessary, new access road. The water main will be buried, and the surface will be restored following construction, which will allow the land to return to its preconstruction uses. Thus, the land use impact is temporary.

To minimize temporary land use impacts, the length of the water line route should be reduced. To reduce permanent land use impacts, it is desirable to locate the intake and pump station in locations that have low-intensity uses, such as agriculture. Existing homes, businesses, and other structures also should be avoided to minimize land use impacts.

- 1) **Build Alternative 1** is positioned near agricultural land use parcels. Locating the site in this area would result in minimal impacts to the adjacent land uses.
- 2) **Build Alternative 2** is positioned near agricultural land use parcels. Locating the site in this area would result in minimal impacts to the adjacent land uses.
- 3) **Build Alternative 3** is in proximity of Route 6 and parcels of industrial and residential land uses. Locating the site in this area, especially in proximity to historic homes of Columbia, would result in significant impacts to land use. Construction at this location would require the demolition of one and possibly two occupied homes.
- 4) **Build Alternative 4** is positioned near agricultural land use parcels. Locating the site in this area would result in minimal impacts to the adjacent land uses.
- 5) **Build Alternative 5** is positioned near agricultural land use parcels. Locating the site in this area would result in minimal impacts to the adjacent land uses.
- 6) **Build Alternative 6** is positioned near agricultural land use parcels. Locating the site in this area would result in minimal impacts to the adjacent land uses.
- 7) **Build Alternative 6-1** is positioned near agricultural land use parcels. Locating the site in this area would result in minimal impacts to the adjacent land uses.
- 8) **Build Alternative 6-2** is positioned near agricultural land use parcels. Locating the site in this area would result in minimal impacts to the adjacent land uses.

5.1.2 Co-location of Utilities

It is desirable to locate new utilities in or immediately adjacent to existing utility corridors with previously cleared and encumbered rights-of-way. Working in or immediately adjacent to previously disturbed areas is desirable to minimize environmental impacts including by reducing the visual impact of a new linear utility corridor on the landscape, minimizing tree-clearing, avoiding the creation of forest fragments. Table 22 summarizes the percentage of water main that may be co-located in or immediately adjacent to existing utility corridors as shown in ([see Appendix H-10](#))

Table 22. Water main Co-Location of Utilities

Sub-Alternative ID	Percentage of Pipeline Co-located in Existing Utility Corridor
1A	25% +/-
1B	10% +/-
1C	0% +/-
2A	0% +/-
2B	4% +/-
3	0% +/-
4	0% +/-
5A	0% +/-
5B	0% +/-
6	67% +/-
6-1	63% +/-
6-2	67% +/-

- 1) **Build Alternative 1** has three sub-alternative routes. Sub-alternative 1A and 1B permit the co-location of approximately 25% and 10%, respectively, of water main within or adjacent to previously cleared and encumbered right-of-way. Sub-alternative 1C does not permit the opportunity to co-locate utilities.
- 2) **Build Alternative 2** has two Sub-alternative routes. Sub-alternative 2A does not permit the opportunity co-locate utilities. Sub-alternative 2B permits the co-location of approximately 4% of water main within or adjacent to previously cleared and encumbered right-of-way.
- 3) **Build Alternative 3** does not permit the opportunity to co-locate utilities.
- 4) **Build Alternative 4** does not permit the opportunity to co-locate utilities.
- 5) **Build Alternative 5** has two Sub-alternative routes. Sub-alternative 5A and 5B do not permit the opportunity to co-locate utilities.
- 6) **Build Alternative 6** permits the co-location of majority (67%) of water main within or adjacent to previously cleared and encumbered right-of-way.
- 7) **Build Alternative 6-1** permits the co-location of majority (63%) of water main within or adjacent to previously cleared and encumbered right-of-way.
- 8) **Build Alternative 6-2** permits the co-location of majority (67%) of water main within or adjacent to previously cleared and encumbered right-of-way.

5.1.3 Tree Clearing

Permanent clearing of trees will be required along the length of the water main. Maintaining an area above the buried pipe clear of trees protects the pipe from damage by tree roots and allows the pipe to be accessed for maintenance and repairs. A 30-foot clearing width was assumed to calculate the total area of clearing required; this included clearing for the purposes of equipment access, installation, and easement access. Areas outside of the 30-foot wide permanently maintained easement will be allowed to return to preconstruction land uses, which includes returning previously forested areas to that state (subject to the independent decisions of the landowner).

Temporary and permanent tree clearing can be minimized by avoiding forested areas. If forested areas must be impacted, the effect is reduced by avoiding the fragmentation of large forest cores. The alternatives for this project were developed to avoid forest clearing and fragmentation where feasible.

Permanent clearing information is summarized in the list and table below.

Table 23. Tree Clearing Requirements

Sub-Alternative ID	Length	Width	Area
	LF	LF	AC
1A	2,200	30	1.5
1B	9,300	30	6.4
1C	9,900	30	6.8
2A	20,100	30	13.8
2B	19,400	30	13.4
3	1,000	30	0.69
4	2,900	30	2.0
5A	5,900	30	4.1
5B	4,100	30	2.8
6	1,800	30	1.2
6-1	2,100	30	1.4
6-2	1,900	30	1.3

- 1) **Build Alternative 1** has three sub-alternatives routes. Sub-alternative 1A would require some clearing near historic canals; the total length of clearing is minimal at 2,200 LF. Sub-alternative 1B would require clearing in areas along rocky areas of Brems Road; the total length of clearing is 9,300 LF. Sub-alternative 1C would also require clearing in rocky areas along Brems Road as well as rocky portions of Route 6; the total length of clearing is 9,900 LF.
- 2) **Build Alternative 2** has two Sub-alternative routes. Sub-alternative 2A and 2B both encounter many rocky areas and narrow roads along Brems Road which will be

- difficult for clearing activities. Sub-alternative 2B also has rocky areas along Route 6. Clearing for sub-alternatives 2A and 2B are 20,100 and 19,400 LF, respectively.
- 3) **Build Alternative 3** has minimal clearing of 1,000 LF, however clearing in this area will be difficult or unachievable due to its proximity to the historic buildings in the town of Columbia.
 - 4) **Build Alternative 4** has minimal clearing of 2,900 LF, however clearing along this path will be difficult or unachievable due to its proximity to the historic buildings in the town of Columbia.
 - 5) **Build Alternative 5** has two Sub-alternative routes. Sub-alternative 5A and 5B both have minimal clearing lengths of 5,900 and 4,100 LF, respectively, however clearing along this path will be difficult due to its proximity to the historic buildings in the town of Columbia.
 - 6) **Build Alternative 6** has minimal clearing of 1,800 LF. The clearing activities along this path have relatively little disturbance consequences to the nearby areas along the route.
 - 7) **Build Alternative 6-1** has minimal clearing of 2,100 LF, however clearing in this area may be difficult or unachievable due to conflicts with the owner of the Point of Fork Farms property.
 - 8) **Build Alternative 6-2** has minimal clearing of 1,900 LF, however clearing in this area may be difficult or unachievable due to the existing Columbia gas line presenting safety concerns during clearing activities.

5.1.4 River Flow Impact

This project proposed to withdraw up to 5.73 MGD initially, with a capacity to expand to 12 MGD at a future date. Water withdrawals have the potential to impact stream flow and beneficial uses downstream of the point of withdrawal. Downstream beneficial uses that depend on the volume of water include (1) public and industrial water supplies; (2) support of aquatic life; (3) recreation; (4) navigation; and (5) assimilative capacity to manage wastewater discharges.

Potential impacts to downstream beneficial uses can be mitigated through compliance with the Virginia VWP surface water withdrawal regulations. Those regulations mandate that a VWP permit be obtained for any new or expanded surface water withdrawal greater than 10,000 GPD. To obtain a VWP permit, an applicant must demonstrate to the Virginia State Water Control Board that the proposed withdrawal will not adversely affect downstream beneficial uses (9VAC25-210-340(5), -370(D)). Any proposed James River water withdrawal associated with the project will require a VWP permit. Build Alternative 6 has already revised a VWP permit for withdraw (see [Appendix D-1](#)).

The Rivanna River naturally adds additional flow at the James River confluence. Additionally, the location of the Cobbs Creek Reservoir (CCR) in relation to the intake site is important as the CCR may release water in times of drought or low flow conditions. River flow characteristics are summarized in the list and table below.

Table 24. Potential River Impacts

Build Alternative Location	Distance to Confluence	Downstream of CCR	Distance Upstream of CCR
	Miles		Miles
1	2.3	No	0.4
2	10.1	No	7.8
3	0.1	Yes	--
4	0.4	Yes	--
5	1.1	Yes	--
6	0.4	Yes	--
6-1	0.4	Yes	--
6-2	0.8	Yes	--

1. **Build Alternative 1** is situated 0.4 miles upstream of the CCR and 2.3 miles upstream of the confluence, thus the site location may potentially expose the river to adverse impacts that cannot be mitigated by the release of water from the CCR during drought conditions.
2. **Build Alternative 2** is situated 7.8 miles upstream of the CCR and 10.1 miles upstream of the confluence, thus the site location is very likely to expose the river to adverse impacts that cannot be mitigated by the release of water from the CCR during drought conditions.
3. **Build Alternative 3** is positioned downstream of the CCR and situated 0.1 miles downstream of confluence, thus the site location minimizes the potential adverse impacts to the James River during drought conditions.
4. **Build Alternative 4** is positioned downstream of the CCR and situated 0.4 miles downstream of confluence, thus the site location minimizes the potential adverse impacts to the James River during drought conditions.
5. **Build Alternative 5** is positioned downstream of the CCR and situated 1.1 miles downstream of confluence, thus the site location minimizes the potential adverse impacts to the James River during drought conditions.
6. **Build Alternative 6** is positioned downstream of the CCR and situated 0.4 miles upstream of confluence, thus the site location minimizes the potential adverse impacts to the James River during drought conditions.
7. **Build Alternative 6-1** is positioned downstream of the CCR and situated 0.4 miles upstream of confluence, thus the site location minimizes the potential adverse impacts to the James River during drought conditions.
8. **Build Alternative 6-2** is positioned downstream of the CCR and situated 0.8 miles upstream of confluence, thus the site location minimizes the potential adverse impacts to the James River during drought conditions.

5.1.5 Viewshed Impact

Construction of a new pump station structure roughly the size of a house in a scenic riverbank setting has the potential to cause aesthetic impacts to local residents, tourists, and recreational users of the river. Depending on the site elevation relative to the 100-year flood elevation, the pump station building may be elevated above existing grade. For further detail see [Appendix H-2](#) for intake structure to wet well cross section exhibits.

To minimize viewshed impacts, the design of the pump station building can utilize façade materials, color, and architectural treatments that will lessen visual impacts. At each Build Alternative site, the pump station is set back from the riverbank to minimize the viewshed impact from the river. Additionally, vegetative screening also can be employed to shield the pump station from view.

1. **Build Alternative 1** provides enough space to install vegetative screening to minimize viewshed impacts and the structure can be designed to minimize visual impacts.
2. **Build Alternative 2** provides enough space to install vegetative screening to minimize viewshed impacts and the structure can be designed to minimize visual impacts.
3. **Build Alternative 3** will be difficult to screen due to its small footprint and proximity to adjacent structures.
4. **Build Alternative 4** provides enough space to install vegetative screening to minimize viewshed impacts and the structure can be designed to minimize visual impacts.
5. **Build Alternative 5** provides enough space to install vegetative screening to minimize viewshed impacts and the structure can be designed to minimize visual impacts.
6. **Build Alternative 6** provides enough space to install vegetative screening to minimize viewshed impacts and the structure can be designed to minimize visual impacts.
7. **Build Alternative 6-1** provides enough space to install vegetative screening to minimize viewshed impacts and the structure can be designed to minimize visual impacts.
8. **Build Alternative 6-2** provides enough space to install vegetative screening to minimize viewshed impacts and the structure can be designed to minimize visual impacts.

5.1.6 Noise Abatement

The operation of water pumps and backup generators (run periodically for testing) can create ambient noise in the area surrounding a pump station.

The following are measures can be taken to minimize audible noise from the pump station site for **all Build Alternatives**. As a result of these measures, during normal operating conditions, the pump station will be far less impactful than noise from existing CSX rail, auto/truck traffic and agricultural equipment in the proximity of these sites.

- 1) Except for the generator, mechanical equipment related to pumping of water and maintenance of the intake screens will be enclosed in a building constructed of concrete masonry units (CMU) walls and will be enclosed by a standing seam metal roof with insulation.
- 2) The generator will be enclosed within a CMU screen wall and will be provided with inlet and exhaust mufflers that will minimize audible noise.

5.1.7 Environmental Justice

Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of federal actions on minority and low-income populations. These groups are traditionally referred to as Environmental Justice (EJ) populations.

To identify the potential presence of EJ populations within the vicinity of the considered alternatives, a review of the Environmental Protection Agency (EPA) EJ screening tool, (EJSCREEN) was conducted (see [Appendices H-11](#)). EJSCREEN provides data regarding EJ populations with demographic data provided from the latest five-year average American Community Survey (ACS) estimates, which is maintained by the US Census Bureau. Although the Census Bureau collects data at the household level, the most detailed demographic data ACS provides is through census Block Groups, which represents a subdivision of a county with population generally between 600 and 3,000 people. The considered alternatives are located across five (5) census Block Groups (see Figure 26 below). For the purpose of the EJ analysis, these five census Block Groups constitutes the Environmental Justice Study Area (see [Appendix H-11-3](#)).

To determine whether EJ populations are present within the EJ Study Area, a review of minority (see [Appendix H-11-1](#)) and low-income populations (see [Appendix H-11-2](#)) was conducted. EJSCREEN provides data on these groups and provided the following definitions:

Minority: The number or percent of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. The word “alone” in this case indicates that the person is of a single race, since multiracial individuals are tabulated in another category – a non-Hispanic individual who is half white and half American Indian would be counted as a minority by this definition.

Low-Income: The number or percent of a block group’s population in households where the household income is less than or equal to twice the federal poverty level.

In accordance with Executive Order 12898 and Council on Environmental Quality guidance, an EJ Population is considered present where one or both of the following conditions were met within an EJ Study Area:

1. The minority or low-income population of the EJ Study Area exceeds 50 percent; or
2. The minority or low-income population percentage of a Census Block is meaningfully greater (greater than 10%) than the minority or low-income population percentage of the EJ Study Area.

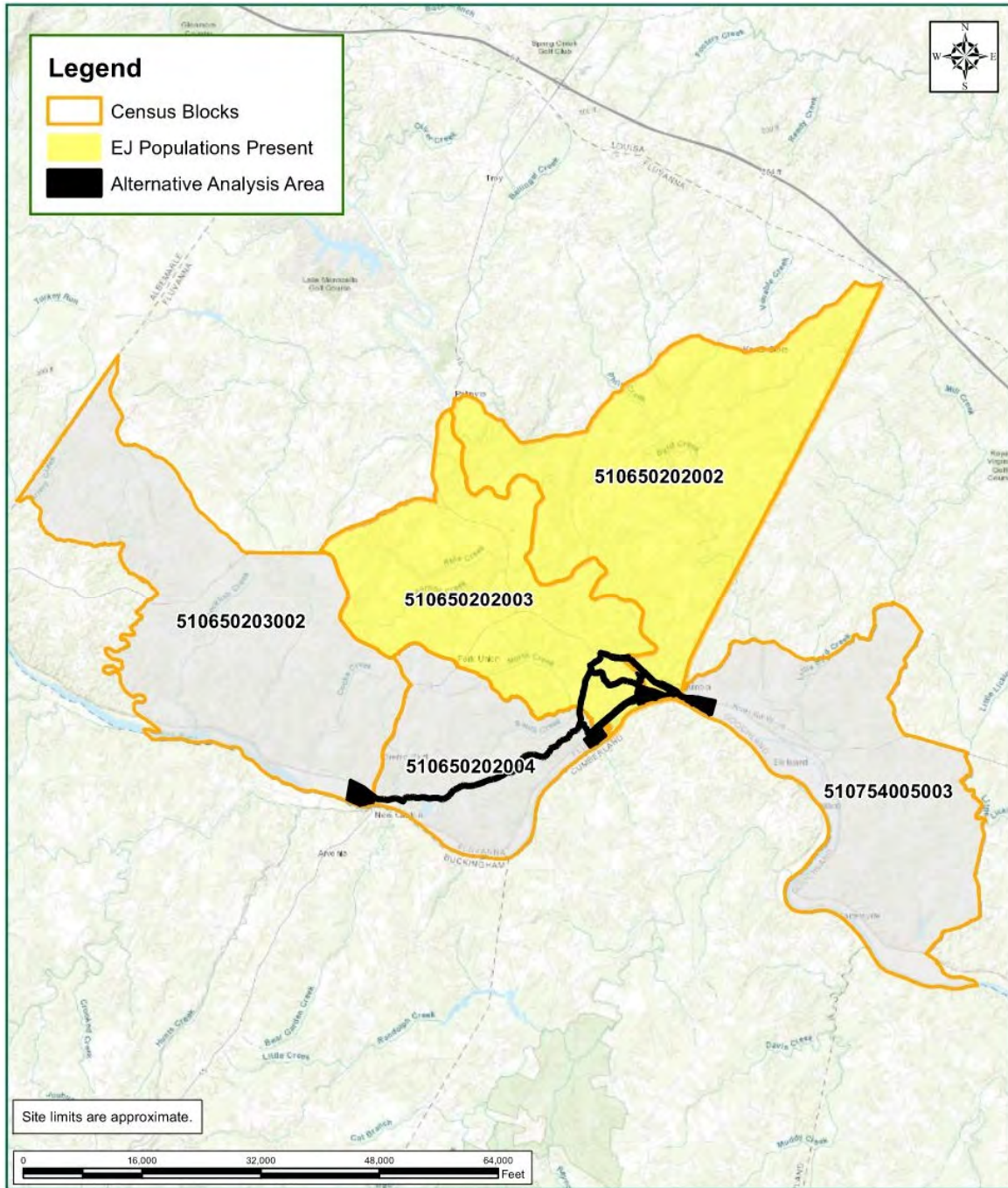


Figure 26. Environmental Justice Study Area

Data for each census Block Group and the EJ Study area are provided below:

Table 25. Analysis of EJ Populations within EJ Study Area

Census Block Group ID	Total Population	Minority Population	Minority %	Low Income Population	Low Income %
510650202002	837	48	5.7%	368	44.0%
510650202003	2204	1360	61.7%	679	30.8%
510650202004	695	238	34.2%	59	8.5%
510650203002	1873	420	22.4%	433	23.1%
510754005003	1278	435	34.0%	281	22.0%
EJ Study Area	6887	2501	36.3%	1820	26.4%
EJ Evaluation Factor (1.1 x EJ Study Area percentage)			39.9%	29.1%	

Based on the EJSCREEN data, EJ populations are present within the Study Area. Census Block Groups 510650202002 and 5106502003 both contains low income populations meaningfully greater than the low-income population percentage of the EJ Study Area. In addition, census Block Group 5106502003 contains a minority population which exceeds 50 percent of the total population and is meaningfully greater than the EJ Study Area population.

Although EJ populations are present within the Study Area, it is unlikely that any of the proposed alternatives would cause significant adverse health or environmental harm to Environmental Justice communities. Water quality impacts are not anticipated and will be addressed through Clean Water Act § 401 certification review. Adverse impacts from construction activities and changes to the viewshed are not anticipated for any Alternatives, except for Build Alternative 3 (see discussion below). Impacts related to river flow and noise have been addressed elsewhere in this document (See Sections 5.1.4 and 5.1.6). Finally, meaningful public involvement has been incorporated into the overall project planning providing residents with the opportunity to participate in decision-making related to Environmental concerns. As discussed in Sections 2.1 and 8.0, there have been many opportunities for public involvement during the project review process. Therefore, adverse impacts to Environmental Justice populations is not anticipated, with the exception of Build Alternative 3.

- 1) **Build Alternative 1** includes direct water main impacts within census Block Groups containing EJ populations. Adverse impacts are not anticipated.
- 2) **Build Alternative 2** includes direct water main impacts within census Block Groups containing EJ populations. Adverse impacts are not anticipated.
- 3) **Build Alternative 3** includes direct pump station and water main impacts within census Block Groups containing EJ populations. Adverse impacts from construction activities and changes to the viewshed are possible due to the location of the pump station within a town with a predominantly low-income population. Additionally, between one and two homes within the town likely would be demolished to allow construction of the pump station.

- 4) **Build Alternative 4** includes direct water main impacts within census Block Groups containing EJ populations. Adverse impacts are not anticipated.
- 5) **Build Alternative 5** includes direct water main impacts within census Block Groups containing EJ populations. Adverse impacts are not anticipated.
- 6) **Build Alternative 6** includes direct pump station and water main impacts within census Block Groups containing EJ populations. Adverse impacts are not anticipated.
- 7) **Build Alternative 6-1** includes direct pump station and water main impacts within census Block Groups containing EJ populations. Adverse impacts are not anticipated.
- 8) **Build Alternative 6-2** includes direct pump station and water main impacts within census Block Groups containing EJ populations. Adverse impacts are not anticipated.

5.1.8 Aquatic Resources

Construction of the water supply infrastructure has the potential to affect aquatic uses. Construction of the pump station, parking areas, access roads can represent permanent changes to the land. Construction of the water main can cause temporary impacts to aquatic resources it crosses. Installation of the water intake structure entails both temporary and permanent impacts to the riverbank and bed.

Impacts to aquatic resources is mitigated siting infrastructure and using construction techniques to avoid or minimize impacts to those resources. Unavoidable impacts can be compensated under the relevant USACE and VWP regulations.

5.1.8.1 Approximation of Resource Limits

Timmons Group utilized a combination of confirmed jurisdictional determination delineations, desktop analysis, and field verification to identify potential jurisdictional areas within proximity of the alternative alignments. A previously confirmed wetland delineation developed for the proposed project was used as a basis for this evaluation (NAO-2014-0708). In addition, areas were reviewed within a general 400-foot corridor around each alternative alignment and within parcel utilized by alternative pump stations (Study Area). An on-screen process was then utilized to digitize potential wetlands within the Desktop Delineation Area (see [Appendix H-12: Aquatic Resource Documentation](#)).

The on-screen process utilized GIS imaging software (ArcMap) by technical users with years of experience in desktop visualization of wetlands. Publicly available overlay geospatial layers were used to aid in determining and digitizing potential jurisdictional areas within the Desktop Delineation Area. Data sources utilized included Virginia Geographic Information Network (VGIN) 2017/2018 aerial imagery, shaded elevation layers, USGS maps for hydrographic/cultural/contour information, National Wetlands Inventory (NWI) from U.S. Fish and Wildlife, and hydric soils information from USDA (see [Appendix H-12-4](#)).

Potential jurisdictional features were initially indicated by the presence of NWI or National Hydrography Data within the Desktop Delineation Area. NWI was used as the base linework and then adjusted based on supplemental data layers and information. USDA Hydric soils

data was then reviewed; however, based on professional experience these areas generally represent an overestimate of wetland areas. Using LiDAR generated Digital Elevation Models from the Virginia Geographic Information Network (VGIN), wetland limits were further estimated by identifying landscape depressions likely to collect water and create wetlands. Streams channels were also estimated by identifying LiDAR based incised linear features for smaller stream and sharp topographic contours for larger streams such as the James and Rivanna Rivers. Although County GIS property boundaries were reviewed, they were not used to determine the extent of jurisdictional features. Leaf-off aerial imagery was then utilized to determine traces of aquatic resources through discoloration, changes in vegetation, and other indications of wetlands and streams. Finally, aerial imagery was used to estimate Cowardin Classifications of wetland features.

State-owned bottomlands were also approximated within the Desktop Delineation Area. State-owned bottomlands include all navigable waters in Virginia and under VRMC guidelines, all perennial streams with a drainage basin of greater than 5 square miles are considered navigable-in-fact unless evidence is provided showing otherwise. Drainage areas for all streams identified in the National Hydrography Dataset (NHD) which corresponded to proposed impacts were reviewed and drainage areas were calculated using the USGS StreamStats website (see [Appendix H-12-1](#)) to determine likely reaches of state-owned bottomlands.

Following the desktop analysis, a site visit was conducted to review limits of the possible features identified in the desktop review. On-site observations were limited to visual inspections from public roads and accesses. The end product represents an approximation of the limits of jurisdictional areas within the Desktop Delineation Area (see [Appendix H-12-2](#)). Formal delineation field work and confirmation of findings by the US. Army Corps of Engineers was outside the scope of this analysis and would be required to determine the actual extents of jurisdictional areas.

5.1.8.2 Impacts to Aquatic Resources

Impact areas were estimated for each alternative alignment based on the Desktop Delineation (see [Appendix H-12-3](#)). Impact corridors were determined based on required design criteria. Alternative alignments were adjusted where reasonable to avoid and minimize jurisdictional impacts. The table below provides a summary of jurisdictional impacts for each of the proposed alternatives

**Table 26. Estimated Impacts to Aquatic Resources by Build Alternative
NAO-2014-00708 - James River Water Authority - Supplemental Information Package**

Alternate ID	Wetland Impact									Stream Impact			
	Temporary			Permanent					Total Wetland Impacts	Temporary L.F.	Permanent L.F.	Total Stream Impacts L.F.	
	PEM	PFO	POW	PEM	PSS	PFO	POW	Conversion PFO to PEM					
	S.F.	S.F.	S.F.	S.F.	S.F.	S.F.	S.F.	S.F.	S.F.	Ac			
1A	14,096			596	1,768	764		1,362	18,586	0.43	930	287	1,217
1B	12,542			596	1,768	764		9,923	25,593	0.59	908	287	1,195
1C	13,439			596	1,768	764		10,320	26,887	0.62	837	287	1,124
2A	4,295			2,621		5,658		13,528	26,102	0.60	885	341	1,226
2B	3,398			2,621		5,658		13,131	24,808	0.57	956	341	1,297
3									-	-	378	64	442
4						56		2,068	2,124	0.05	510	163	673
5A			1,026			5,352	1,306	6,450	14,134	0.32	493	149	642
5B						5,352	1,306	2,068	8,726	0.20	489	149	638
6	367	296				1,015		248	1,926	0.04	796	148	944
6-1	367	296				1,015		248	1,926	0.04	796	148	944
6-2	367	296				1,015		449	2,127	0.05	796	148	944

PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; POW=Palustrine Open Water

Table 27. Estimated Permanent Impacts to Aquatic Resources by Build Alternative

Alternate ID	Permanent Wetland Impacts	Permanent Stream Impacts
	Ac	L.F.
1A	0.10	287
1B	0.30	287
1C	0.31	287
2A	0.50	341
2B	0.49	341
3	0	64
4	0.05	163
5A	0.30	149
5B	0.20	149
6	0.03	148
6-1	0.03	148
6-2	0.03	148

- 1) **Build Alternative 1** has three sub-alternative routes. Sub-alternative 1A proposes impacts to 0.43 acres of wetlands and 1,217 linear feet of stream. Sub-alternative 1B proposes impacts to 0.59 acres of wetlands and 1,195 linear feet of stream. Sub-alternative 1C proposes impacts to 0.62 acres of wetlands and 1,124 linear feet of stream.
- 2) **Build Alternative 2** has two sub-alternative routes. Sub-alternative 2A proposes impacts to 0.60 acres of wetlands and 1,226 linear feet of stream. Sub-alternative 2B proposes impacts to 0.57 acres of wetlands and 1,297 linear feet of stream.
- 3) **Build Alternative 3** proposes no wetland impacts. Additionally, this route proposes impacts to 442 linear feet of stream.
- 4) **Build Alternative 4** proposes impacts to 0.05 acres of wetlands and 673 linear feet of stream.
- 5) **Build Alternative 5** has two sub-alternative routes. Sub-alternative 5A proposes impacts to 0.32 acres of wetlands and 642 linear feet of stream. Sub-alternative 5B proposes impacts to 0.20 acres of wetlands and 638 linear feet of stream.
- 6) **Build Alternative 6** proposes impacts to 0.04 acres of wetlands and 944 linear feet of stream.
- 7) **Build Alternative 6-1** proposes impacts to 0.04 acres of wetlands and 944 linear feet of stream.
- 8) **Build Alternative 6-2** proposes impacts to 0.05 acres of wetlands and 944 linear feet of stream.

5.1.8.3 Aquatic Resource Impact Permitting

Authorization for impacts to aquatic resources is required through three separate permitting agencies for the proposed project as outlined below. Each agency's permitting program mandates avoidance, minimization, and mitigation measures to mitigate aquatic resource impacts within its respective jurisdiction.

- 1) Certification under Section 401 of the Clean Water Act from DEQ via a VWP permit for water withdrawals and impacts to waters under state jurisdiction.
- 2) Authorization under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 (RHA) from the USACE is required for impacts to jurisdictional waters.
- 3) Authorization from the Virginia Marine Resources Commission to use state-owned bottomlands.

Table 28. Summary of anticipated State-owned Bottomland Impacts by alternative

Alternative ID	State-owned Bottomland Impacts
1A	3
1B	3
1C	3
2A	3
2B	3
3	1
4	1
5A	1
5B	1
6	2
6-1	2
6-2	2

Build Alternative 6 (Proposed Action) has already received a VMRC permit for the intake structure impact in the James River and the crossing of the Rivanna River (see [Appendix D-2](#)).

- 1) **Build Alternative 1** has three sub-alternative routes; 1A, 1B, and 1C. All three sub-alternatives are assumed to require a VWP IP from DEQ, an IP from the USACE, and a VMRC permit to impact state-owned bottomlands at three (3) separate locations.
- 2) **Build Alternative 2** has two sub-alternative routes; 2A and 2B. Both sub-alternatives are assumed to require a VWP IP from DEQ, an IP from the USACE, and a VMRC permit to impact state-owned bottomlands at three (3) separate locations.
- 3) **Build Alternative 3** is assumed to require a VWP IP from DEQ, an IP from the USACE, and a VMRC permit to impact state-owned bottomlands at one (1) location (the intake).
- 4) **Build Alternative 4** is assumed to require an a VWP IP from DEQ, an IP from the USACE, and a VMRC permit to impact state-owned bottomlands at one (1) location (the intake).
- 5) **Build Alternative 5** has two sub-alternative routes; 5A and 5B. Both sub-alternatives are assumed to require a VWP IP from DEQ, an IP from the USACE, and a VMRC permit to impact state-owned bottomlands at one (1) location (intake location).
- 6) **Build Alternative 6** has received a VWP IP from DEQ for the intake structure and associated impacts. This permit is currently pending modification. This alternative has also received a VMRC permit for crossings of the James River and Rivanna River. JRWA is submitting this package to supply the USACE with supplemental information necessary to review the Project in accordance with the standard individual CWA § 404 permit process and obtain § 404 CWA Authorization.

- 7) **Build Alternative 6-1** may be able to modify the existing VWP IP DEQ permit to obtain CWA § 401 authorization. This alternative may also be able to modify the existing VMRC permit as the James River and utilize the existing authorization for the Rivanna River. It is assumed that this alternative will require an Individual Permit from the USACE.
- 8) **Build Alternative 6-2** may be able to modify the existing VWP IP DEQ permit to obtain CWA § 401 authorization. This alternative may also be able to modify the existing VMRC permit as the James River and utilize the existing authorization for the Rivanna River. It is assumed that this alternative will require an Individual Permit from the USACE.

5.1.8.4 Avoidance and Minimization

A detail alternatives analysis was conducted which provides details on how impacts have been avoided to the maximum extent practicable (see [Section 4.0 and 5.1](#)). The Applicant also utilized the Desktop Delineation (see [Appendix H-12-2](#)) to ensure all estimated jurisdictional features within the Project Area were mapped to aid in impact avoidance during the early phases of project planning and layout (see [Section 4.2.3.1](#)).

Impacts will be avoided to the greatest extent practicable given the Project's purpose and need. Complete avoidance of jurisdictional waters is not possible due to the linear nature of the project, location of the interconnection point, the necessity of access the James River for water withdrawal, and the utilization of existing easements or right-of-ways to reduce the burden on local landowners. Each crossing of jurisdictional features has been strategically placed to minimize and/or avoid additional wetland and stream impacts where practicable. Where possible, wetlands and streams were crossed perpendicularly to minimize impacts. Multiple layouts were examined to develop the water supply project in a manner that avoids and minimizes impacts to environmentally sensitive areas to the maximum extent practicable, while meeting the configuration requirements necessary to provide operation of the facility.

Furthermore, a project-specific Erosion and Sediment Control (ESC) plan will be developed and submitted to Fluvanna County for the selected build alternative for approval of the land disturbing activity. The ESC plan will be prepared in accordance with the Virginia Erosion & Sediment Control Law (VESCL) and Regulations (VESCRL) and the most current version of the *Virginia Erosion & Sediment Control Handbook*. The ESC plan will be approved by the locality prior to any land-disturbing activity at the Site. All regulated land-disturbing activities associated with the Project, including on- and off- site access roads, staging areas, borrow areas, stockpiles, and soil intentionally transported from the Project Area will be covered by the project specific ESC plan. During construction activities, the ESC Best Management Practices (BMPs) will be inspected and maintained throughout the life of the construction activity providing for enhanced protection for the avoided jurisdictional areas.

5.1.8.5 Compensatory Mitigation for Impacts

The compensatory mitigation requirement for unavoidable impacts associated with the project would be achieved through the purchase of off-site mitigation credits from wetland and stream mitigation banks.

Compensation for the 64 linear feet of permanent stream channel impacts associated with each alternative intake structure have are not proposed in this analysis. During § 401 permitting review, DEQ staff determined impacts to the stream channel from construction of the proposed intake will be minimal and the channel's existing functions and values will not be adversely affected.

Mitigation credits have been estimated based on standard mitigation ratios as detailed in Table 29.

Table 29. Estimated Jurisdictional Aquatic Resources Mitigation Summary by Build Alternative

Impacts Type				Alternate ID												
				1A	1B	1C	2A	2B	3	4	5A	5B	6	6-1	6-2	
Wetlands	PEM Impacts	Impact Area	Square Feet	596	596	596	2,621	2,621								
			Acres	0.01	0.01	0.01	0.06	0.06								
		Credits Required (1:1 Ratio)			0.01	0.01	0.01	0.06	0.06							
	PSS Impacts	Impact Area	Square Feet	1,768	1,768	1,768										
			Acres	0.04	0.04	0.04										
		Credits Required (1.5:1 Ratio)			0.06	0.06	0.06									
	PFO Impacts	Impact Area	Square Feet	764	764	764	5,658	5,658		56	5,352	5,352	1,015	1,015	1,015	
			Acres	0.02	0.02	0.02	0.13	0.13		0.001	0.12	0.12	0.02	0.02	0.02	
		Credits Required (2:1 Ratio)			0.04	0.04	0.04	0.26	0.26		0.002	0.24	0.24	0.04	0.04	0.04
	PFO to PEM Conversions	Impact Area	Square Feet	1,362	9,923	10,320	13,528	13,131		2,068	6,450	2,068	248	248	449	
			Acres	0.03	0.23	0.24	0.31	0.30		0.05	0.15	0.05	0.01	0.01	0.01	
		Credits Required (1:1 Ratio)			0.03	0.23	0.24	0.31	0.30		0.05	0.15	0.05	0.01	0.01	0.01
	Total Wetland Credits				0.14	0.34	0.35	0.63	0.62	-	0.05	0.39	0.29	0.05	0.05	0.05
	Streams	Stream Impacts (1:1 Ratio)*	Impact Total ‡	Linear Feet	223	223	223	277	277		99	85	85	84	84	84
Total Stream Credit				223	223	223	277	277	-	99	85	85	76*	76*	76*	

*Stream mitigation ratios can vary and are determined by the Unified Stream Methodology (USM). USMs have been completed for the stream impacts associated with Alt. 6, 6-1 & 6-2, which determined a compensation ratio of 0.90:1 for all stream impacts. Analysis assumes a ratio of 1:1 for all other stream impacts.
‡ Stream impact totals for each alternative excludes the 64 LF of intake structure impacts as compensation for these impacts is not proposed.

- 1) **Build Alternative 1** has three Sub-alternative routes. Sub-alternative 1A requires the purchase of 0.14 wetland credits and 223 stream credits. Sub-alternative 1B requires the purchase of 0.34 wetland credits and 223 stream credits. Sub-alternative 1C requires the purchase of 0.35 wetland credits and 223 stream credits.
- 2) **Build Alternative 2** had two Sub-alternative routes. Sub-alternative 2A requires the purchase of 0.63 wetland credits and 277 stream credits. Sub-alternative 2B requires the purchase of 0.62 wetland credits and 277 stream credits.
- 3) **Build Alternative 3** excluding the 64 LF of stream impact for the intake structure that compensation is not proposed for, this build alternative has no permanent impacts, and thus no wetland or stream credits to be purchased.
- 4) **Build Alternative 4** requires the purchase of 0.05 wetland credits and 99 stream credits.
- 5) **Build Alternative 5** has two Sub-alternative routes. Sub-alternative 5A requires the purchase of 0.39 wetland credits and 85 stream credits. Sub-alternative 5B requires the purchase of 0.29 wetland credits and 85 stream credits.
- 6) **Build Alternative 6** requires the purchase of 0.05 wetland credits and 76 stream credits. The United Stream Methodology was used to determine the compensation ratio for these stream impacts.
- 7) **Build Alternative 6-1** requires the purchase of 0.05 wetland credits and 76 stream credits. The United Stream Methodology was used to determine the compensation ratio for these stream impacts.
- 8) **Build Alternative 6-2** requires the purchase of 0.05 wetland credits and 76 stream credits. The United Stream Methodology was used to determine the compensation ratio for these stream impacts.

5.1.9 Threatened and Endangered Species

Construction of a water supply project has the foreseeable potential to affect threatened and endangered (T&E) species or their habitat, if present, in several respects. Upland construction and tree-felling has the potential to disturb birds, bats, and other terrestrial species. Tree-clearing and land disturbance can temporarily or permanently change habitat for birds, bats, and other species. Instream construction of a water intake structure or water main can temporarily affect aquatic life through direct disturbance, temporary loss of habitat, and increased suspended sediment and turbidity levels. The long-term operation of a water intake structure has the potential to entrap or entrain aquatic species.

The selection of an intake site and water main route should consider the impacts to populations of federally recognized T&E species. The U.S. Fish and Wildlife Service (USFWS) IPaC Trust Resource List database was reviewed for likely populations of federal T&E species within the project vicinity with additional information supplemented from the Virginia Department of Game and Inland Fisheries (DGIF), Virginia Fish and Wildlife Information Service (VaFWIS), and the Center for Conservation Biology (see [Appendix H-13](#)). The results of the IPAC database are summarized in Table 30.

Table 30. Summary of IPAC Results for Federal Protected Species by Build Alternative

Alternative ID	Northern Long-eared Bat (<i>Myotis septentrionalis</i>) FT	Atlantic Pigtoe (<i>Fusconaia masoni</i>) FP	James Spiny mussel (<i>Parvaspina collina</i>) FE	Proposed Critical Habitat Present (Atlantic Pigtoe)
1A	X	X	X	
1B	X	X	X	
1C	X	X	X	
2A	X	X	X	X
2B	X	X	X	X
3	X	X	X	
4	X	X		
5A	X	X		
5B	X	X		
6	X	X	X	
6-1	X	X	X	
6-2	X	X	X	

FE - Federally Endangered, FP - Federally Proposed, FT - Federally Threatened

The IPaC search results identified the federally threatened Northern Long-Eared Bat (*Myotis septentrionalis*) as having potential habitat within all alternatives. Review of available VDGIF NLEB location mapping indicates there are no known Northern Long-eared Bat winter hibernacula/maternity roosts within the vicinity of any of the alternatives. Therefore, reliance upon the findings of the January 6, 2016, Programmatic Biological Opinion for Final 4(d) Rule on the Northern Long-Eared Bat and Activities Exempted from Take Prohibitions to fulfill the project-specific section 7 responsibilities should be applicable to all alternatives. Tree clearing estimates for each alignment are provided in Section 5.1.3.

The IPaC search also identified two protected mussel species having potential habitat within each alternative alignment, with the exception of alternatives associated with Pump Stations 4 and 5, which are only associated with the potential for one protected mussel species. In addition, Pump Station 2 is located within a reach of the James River which has been proposed to be listed as Critical Habitat for the Atlantic Pigtoe. Per the USFWS’s proposed critical habitat ruling this proposed stretch of critical habitat (Unit JR3) encompasses a three-mile segment of the James River starting at the confluence of the Slate River and extending downstream under the crossing of VA Hwy 15 (James Madison Highway) (see Figure 27). USFWS states this stretch of the James River currently supports all breeding, feeding, and sheltering needs for the Atlantic Pigtoe.

Map of JR3 - Middle James River Critical Habitat Unit for Atlantic Pigtoe

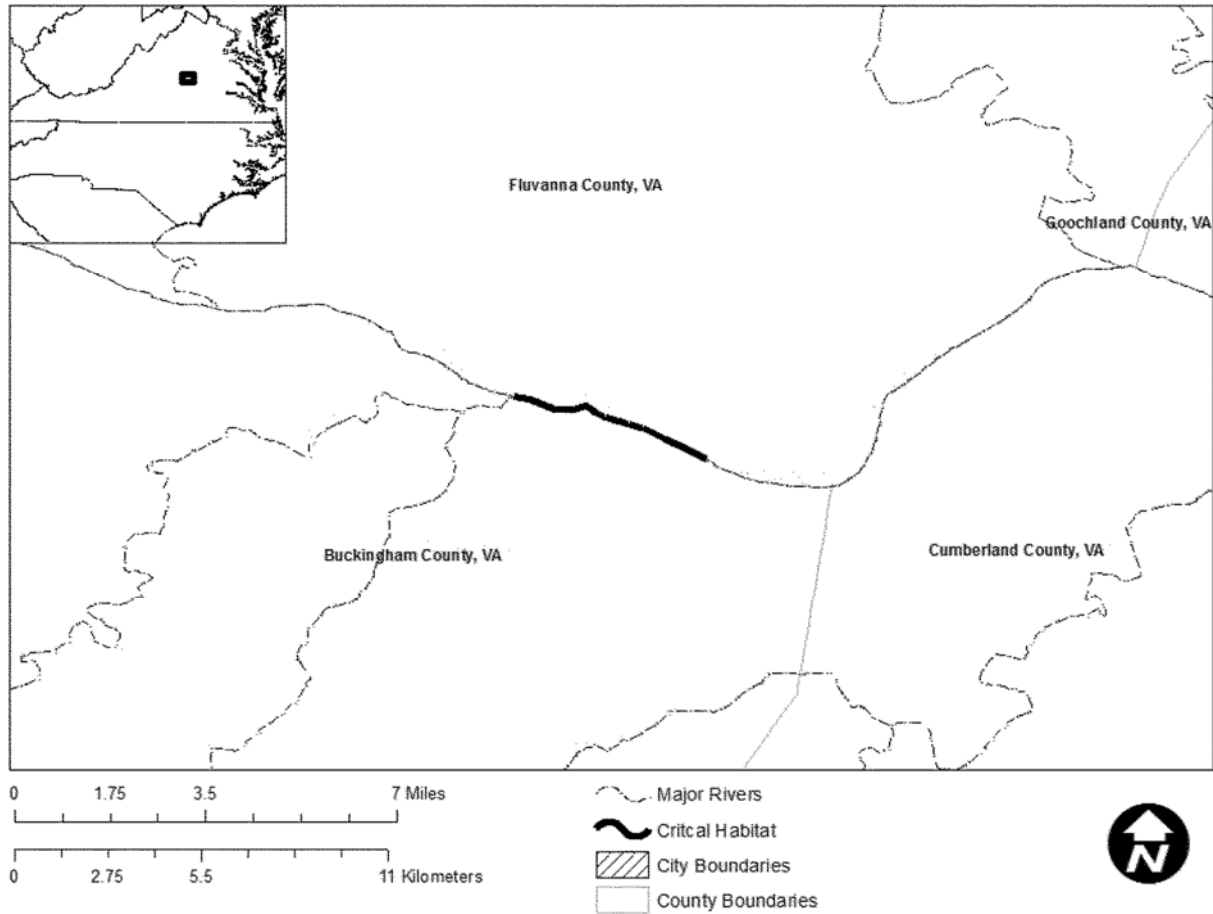


Figure 27. Limits of Proposed Atlantic Pigtoe Critical Habitat along James River.
(Source: 83 Fed. Reg. 51570, 51596 [Oct. 11, 2018])

To further determine if protected mussel species will be affected by the proposed Project, additional coordination with USFWS will be required and mussel surveys of streams with suitable habitat, as determined by the USFWS, will likely be necessary. This analysis assumes surveys will be necessary at all alternative intake locations and at identified impacted crossing of streams which are identified as NHD streams regardless of drainage area size (see [Appendices H-12-1 and H-12-4](#)). The estimated number of stream crossing and proposed mussel surveys required per alternative is summarized in Table 31.

Table 31. Summary of Proposed Mussel Survey Needs by Build Alternative

Alternative ID	Number of Stream Crossings and Intake Impacts	NHD Identified Stream Impacts (Assumed Locations of Mussel Surveys)
1A	13	5
1B	12	4
1C	17	5
2A	17	9
2B	12	8
3	3	2
4	5	2
5A	7	2
5B	7	2
6	8	2
6-1	8	2
6-2	8	2

To help minimize potential impacts to protected mussels this analysis assumes all alternative intake screen openings on the intake structure will be sized to protect aquatic life and be compliant with the standards developed by the U.S. Environmental Protection Agency under Section 316(b) of the Clean Water Act for intake velocities for avoidance of impingement and entrainment of aquatic life. The minimum criterion is a screen size of 1 mm and an intake velocity of 0.5 Feet Per Second (FPS). The Virginia Department of Game and Inland Fisheries (VDGIF) recommend an intake velocity of not more than 0.25 FPS and thus this criterion has been assumed for this analysis.

Finally, no alternatives are within 660 feet of a known bald eagle nest nor do any intersect with eagle concentration areas.

- 1) **Build Alternative 1** has three sub-alternative routes. Sub-alternatives 1A, 1B, and 1C have three (3) federally protected species with known occurrences and/or the potential to exist within the vicinity of the Project Area. Additionally, two impacts to T&E Waters are proposed for these alternatives. The intake structure and the crossing of the Rivanna River will both impact Federal Waters. Five (5) mussel surveys are proposed for Sub-alternative 1A. Four (4) mussel surveys are proposed for Sub-alternative 1B. Five (5) mussel survey are proposed for Sub-alternative 1C.
- 2) **Build Alternative 2** has two Sub-alternative routes. Sub-alternatives 2A and 2B both have three (3) federally protected species with known occurrences and/or the potential to exist within the vicinity of the Project Area. Two impacts to T&E Waters are proposed for these alternatives; an impact to State Waters for the intake structure and impact to Federal Waters for the crossing for the Rivanna River. Both Sub-alternatives would result in intake structure impacts to proposed critical habitat for the Atlantic Pigtoe. Nine (9) mussel surveys are proposed for Sub-alternative 2A. Eight (8) mussel surveys are proposed for Sub-alternative 2B.

- 3) **Build Alternative 3** has three (3) federally protected species with known occurrences and/or the potential to exist within the vicinity of the Project Area. This alternative has only one impact to T&E waters; an impact to Federal Waters for the intake structure. Two (2) mussel surveys are proposed.
- 4) **Build Alternative 4** has two (2) federally protected species with known occurrences and/or the potential to exist within the vicinity of the Project Area. This alternative has one impact to T&E waters; an impact to Federal Waters for the intake structure. Two (2) mussel surveys are proposed.
- 5) **Build Alternative 5** has two sub-alternative routes. Sub-alternative 5A and 5B both have two (2) federally protected species with known occurrences and/or the potential to exist within the vicinity of the Project Area. These alternatives have one impact to T&E waters; an impact to Federal Waters for the intake structure. Two (2) mussel surveys are proposed for both Sub-alternatives.
- 6) **Build Alternative 6** has three (3) federally protected species with known occurrences and/or the potential to exist within the vicinity of the Project Area. Additionally, two impacts to T&E Waters are proposed for this alternative. The intake structure and the crossing of the Rivanna River will both impact Federal Waters. Two (2) mussel surveys are proposed.
- 7) **Build Alternative 6-1** has three (3) federally protected species with known occurrences and/or the potential to exist within the vicinity of the Project Area. Additionally, two impacts to T&E Waters are proposed for this alternative. The intake structure and the crossing of the Rivanna River will both impact Federal Waters. Two (2) mussel surveys are proposed.
- 8) **Build Alternative 6-2** has three (3) protected species with known occurrences and/or the potential to exist within the vicinity of the Project Area. Additionally, two impacts to T&E Waters are proposed for this alternative. The intake structure and the crossing of the Rivanna River will both impact Federal Waters. Two (2) mussel surveys are proposed.

5.1.10 Cultural Resources

JRWA conducted background research to identify previously recorded cultural resources in the vicinity of the Project alternatives. Data were collected on previously recorded archaeological sites, architectural and historical resources, and previous cultural resource studies. Data were gathered from the online Virginia Cultural Resources Information System (V-CRIS) as well as previous fieldwork conducted as part of this Project. VCRIS mapping of known cultural resources in relation to alternative alignments is included for review by regulatory agencies in [Appendix H-14](#). A comparison of the background research results for each of the 12 alternatives for the Project is presented in Table 32.

Mitigation of impacts to cultural resources can be accomplished through avoidance during the siting process and through the development of mitigation through the NHPA Section 106 consultation process

5.1.10.1 Area of Potential Effect

The Area of Potential Effect (APE) is the “geographic area or areas within which an undertaking may directly or indirectly cause changes in the character of or use of historic properties, if any such properties exist” (36 CFR 800.16(d)). The APE is defined based on the potential for effect,

which may differ for aboveground cultural resources (historic structures and landscapes) and subsurface resources (archaeological sites). Specific APE boundaries for each Project alternative have not been defined. Those limits will be developed in consultation with the US Army Corps of Engineers, as the lead federal agency. The Virginia Department of Historic Resources (DHR), as the State Historic Preservation Office (SHPO) for Virginia, also will be offered an opportunity to comment on the APE after a preferred alternative has been selected. To allow consistent comparison among alternative Project alignments, standardized study areas were generated for each alternative, as described below.

The APE for direct impacts includes all areas where ground-disturbing activities may take place. This is primarily investigated for archaeological resources but is also considered for historic architectural resources. The indirect APE is the area within which cultural resources (including individual resources, historic districts, or cultural landscapes) might be within view of proposed vegetation clearing or construction of aboveground Project facilities, or otherwise potentially affected by proposed Project activities beyond direct impact on structures.

For this alternative analysis, known site locations were gathered within a three-mile radius of preliminary alternatives. A study corridor—generally 200-foot wide centered on each preliminary water main alternative plus larger expanses at river crossings and around attendant pump station locations—was used to examine cultural resources in the project vicinity and assess possible impacts. Within the study corridor, the draft limits-of-disturbance (LODs) were designed to minimize or avoid direct and indirect impacts on cultural resources and environmental features, while also considering constructability and usefulness from an engineering perspective. Once the LOD was defined for each alternative, potential direct and indirect impacts on archaeological and historic architectural resources were tabulated. The direct APE consists of the footprint of each LOD, while the indirect APE consists of the footprint of each LOD as well as a 0.25-mile buffer extending from that LOD and a 0.5-mile buffer around the attendant pump station location. While the clearing of a water main corridor is considered for visual impacts in the vicinity of recorded historic architectural resources, the potential visual impacts related to the proposed aboveground Project components such as the pump station were considered for a wider area, whether or not the pump station workspace itself is located within a recorded resource. This comparison does not take into account vegetation or topography that may screen the viewshed and ultimately reduce the extent of the indirect APE to a smaller buffer than the 0.5-mile buffer.

5.1.10.2 Cultural Resource Setting

The larger region surrounding this Project contains a plethora of previously recorded archaeological sites, as well as a number of historical farms/plantations. A majority of the recorded archaeological sites in this area are precontact-period in age, although there are also a fair number of nineteenth century sites as well. The archaeological sites tend to be located along the lowlands of the James River. It is unclear if this pattern is solely based on settlement selection or if it is partially a bias of where people have looked for archaeological sites. For this alternative analysis, it is presumed the more complex and/or significant precontact-period archaeological sites will be located on the lowlands of the James and Rivanna rivers. The architectural resources appear more scattered across the area. Most of the sites seem to have been recorded either by avocational archaeologists/historians or through private research not prompted by Section 106 of the National Historic Preservation Act (NHPA). In the vicinity of the

Project alternatives, relatively little formal survey related to Section 106 compliance studies has been conducted. Given the number of sites recorded in the area, many archaeological sites more readily discernable at or near the current ground surface may have been recorded, and the more significant architectural resources already may have been documented; however, more formal systematic survey may reveal additional archaeological sites (both at the surface and buried), as evidenced by previous studies associated with this Project, and may identify additional architectural properties for consideration.

Any location on the floodplain has a high potential to contain archaeological resources and will almost certainly require deep testing. Further, the fact that many areas have not been formally surveyed means the full potential impact is unknown for any alternative. Only Alternative 6 (Proposed Action) has been subjected to extensive formal study, and by default also portions of other overlapping alternatives. Small portions of water main Alternatives 2A and 1C, as well as minor amounts of Alternatives 1A and 2B, have been subjected to study from previous surveys; however, substantially less study has been conducted along each of those compared to Alternative 6.

Each of the water main corridor alternatives, with the exception of Alternative 4, would impact the mapped boundary of at least one previously recorded archaeological site. Many of these sites have not been formally investigated, thus the true boundaries may be larger or smaller than the boundaries recorded at the DHR. Further, most of the archaeological sites have not been evaluated by the DHR for their significance or at least no significance finding is recorded. As stated previously, only Alternative 6 has been fully subjected to systematic archaeological survey and DHR review, thus data for that route are somewhat biased when comparing quantity and type of recorded cultural resources within the Project. All the pump station alternatives are located on a floodplain. These settings have potential to contain buried archaeological sites that may not be manifested on or just below the current ground surface.

5.1.10.3 Impacts to Cultural Resources

Impacts were reviewed for each alternative alignment. Alternative alignments were adjusted where reasonable to avoid and minimize cultural impacts. Table 32 provides a summary of cultural impacts for each of the proposed alternatives.

Table 32. Comparison of Cultural Resources Background Research by Build Alternative

Description	1A	1B	1C	2A	2B	3	4	5A	5B	6	6-1	6-2
Limits-of-Disturbance* (LOD) [ac]	21.90	25.68	23.32	47.14	49.50	7.00	11.14	13.86	13.24	16.02	16.18	16.53
LOD Previous Archaeological Studies [ac]	8.14	6.31	4.25	4.55	6.61	0.00	0.00	0.00	0.00	14.04	11.72	8.59
LOD Previous Archaeological Studies [%]	37.17	24.57	18.22	9.65	13.35	0.00	0.00	0.00	0.00	87.64	72.44	51.97
LOD Higher Archaeological Potential** [ac]	19.71	13.17	10.40	15.98	18.75	4.55	7.06	8.89	9.18	14.17	14.33	14.68
LOD Higher Archaeological Potential** [%]	90.00	51.29	44.60	33.90	37.88	65.00	63.38	64.14	69.34	88.45	88.57	88.81
Study Corridor Recorded Archaeological Sites [#]	15	4	2	17	9	2	2	3	3	10	10	13
LOD Recorded Archaeological Sites [#]	10	4	1	2	5	1	0	1	1	9	9	12
LOD Recorded Archaeological Sites [ac]	5.11	4.44	0.26	0.28	4.47	0.05	0.00	0.28	0.28	9.63	8.06	6.95
LOD Recorded Archaeological Sites [NRHP-eligibility]	3 eligible; 1 not eligible; 6 unevaluated	2 eligible; 2 unevaluated	1 unevaluated	2 unevaluated	2 eligible; 3 unevaluated	1 unevaluated	0	1 unevaluated	1 unevaluated	3 eligible; 1 not eligible; 5 unevaluated	3 eligible; 1 potentially eligible; 5 unevaluated	3 eligible; 1 not eligible; 8 unevaluated
Study Corridor Recorded Architectural Sites [#]	5	7	9	23	21	31	32	33	33	3	3	3
LOD Recorded Architectural Sites [#]	4	4	4	7	7	13	14	14	14	3	3	3
LOD Recorded Architectural Sites [ac]	5.95	4.37	0.61	13.24	17.00	3.93	1.95	1.95	1.95	12.17	12.3	12.52
LOD Recorded Architectural Sites [NRHP-eligibility]	2 NRHP; 1 eligible; 1 unevaluated	3 NRHP; 1 eligible	1 NRHP; 1 eligible; 2 not eligible	1 NHL; 1 NRHP; 3 eligible; 2 not eligible	1 NHL; 3 NRHP; 3 eligible	1 eligible; 1 potentially eligible; 11 unevaluated	1 potentially eligible; 13 unevaluated	1 potentially eligible; 13 unevaluated	1 potentially eligible; 13 unevaluated	1 NRHP; 1 eligible; 1 unevaluated	1 NRHP; 1 eligible; 1 unevaluated	1 NRHP; 1 eligible; 1 unevaluated
Potential-Viewshed Recorded Architectural Sites [#]	8	9	11	37	35	58	58	59	59	20	30	7
Potential-Viewshed Recorded Architectural Sites [ac]	349.73	443.44	341.63	807.39	909.21	125.96	118.95	126.09	126.10	245.47	254.00	245.13
Potential-Viewshed Recorded Architectural Sites [NRHP-eligibility]	2 NRHP; 1 eligible; 5 unevaluated	3 NRHP; 1 eligible; 5 unevaluated	3 NRHP; 1 eligible; 3 not eligible; 4 unevaluated	1 NHL; 3 NRHP; 8 eligible; 4 not eligible; 20 unevaluated	1 NHL; 3 NRHP; 8 eligible; 1 potentially eligible; 2 not eligible; 21 unevaluated	1 NRHP; 1 eligible; 55 unevaluated	1 NRHP; 1 eligible; 1 potentially eligible; 1 not eligible; 54 unevaluated	1 NRHP; 2 eligible; 1 potentially eligible; 1 not eligible; 54 unevaluated	1 NRHP; 2 eligible; 1 potentially eligible; 1 not eligible; 54 unevaluated	1 NRHP; 1 eligible; 17 unevaluated	1 NRHP; 1 eligible; 27 unevaluated	1 NRHP; 1 eligible; 4 unevaluated

* Assumes entire LOD will be considered part of the permitted Project.

** Based on FEMA flood hazard data.

- 1) **Build Alternative 1A** would impact the most recorded archaeological sites (three (3) eligible, one (1) not eligible, six (6) unevaluated). Many of the unevaluated sites appear to have arbitrary boundaries drawn around culverts under the railroad and the Project may not impact cultural material at each of those locations. Further, two other sites were discovered by the current Project (Alternative 6), and three were expanded; thus, prior to the current Project, this alternative would not have been shown to have as high a potential to impact recorded archaeological sites as is indicated in the data table. The crossing of the Rivanna River and its approach have already been surveyed for the current Project. This alternative does traverse the greatest amount of unsurveyed lowlands which are believed to have a higher potential to contain unrecorded archaeological sites, both near surface and deeply buried. Two (2) NRHP-listed architectural resources would be crossed. One (1) would only contain a small portion of an existing access road; the other would be crossed by the water main immediately adjacent to an existing cleared utility corridor, which would likely limit the possible visual impacts related to the water main component.
- 2) **Build Alternative 1B** would impact four (4) recorded archaeological sites (two (2) eligible, two (2) unevaluated). Of the unevaluated sites, one could likely be avoided and the other may not have an archaeological component beyond the culvert under the railroad that defines the site (as discussed above). Two (2) other sites are also crossed by the current Project (Alternative 6)—one (1) was newly discovered and the other was expanded—thus, prior to the current Project, this alternative would not have been shown to have as high a potential to impact recorded archaeological sites as is indicated in the data table. The crossing of the Rivanna River and its approach have already been surveyed for the current Project. Three NRHP-listed architectural resources would be crossed by this alternative. One (1) resource would only be impacted by a small portion of an access road, one is skirted by this alternative and avoidance may be possible, and for the third resource half of the water main route is immediately adjacent to an existing cleared utility corridor which would likely limit the possible visual impact related to that project component. The skirted resource is recorded as the location of a Revolutionary War-era armory, thus the potential for additional archaeological remains may be greater in that vicinity.
- 3) **Build Alternative 1C** would impact one (1) recorded archaeological site that has not been evaluated. The site is recorded as a bridge (presumably for the railroad) and appears to have a somewhat arbitrary boundary drawn to encompass the structure; the Project may not impact archaeological remains at this location. The water main for this alternative would be situated primarily adjacent to existing roadways, thus may have a reduced likelihood of impacting intact archaeological remains. The section of this alternative leading to and crossing the Rivanna River has been previously surveyed for a bridge replacement project unrelated to the current studies; however, that survey did not sample deep deposits, thus that area still has potential for buried archaeological sites in the floodplain. One (1) NRHP-listed architectural resource would be crossed by this alternative, but primarily would be impacted by only a small portion of an access road or a turn in the water main. The eligible resource that would be affected is a canal in the vicinity of the Rivanna River crossing; however, the previous survey for the bridge replacement did not find intact remains in that area. A

Revolutionary War-era armory property would not be crossed, but this alternative skirts one side of that resource, thus the potential for additional archaeological remains may be greater in that vicinity.

- 4) **Build Alternative 2A** would impact two (2) recorded archaeological sites that have not been evaluated. Both sites are related to a canal and appear to have somewhat arbitrary boundaries drawn to encompass culverts or bridges; the Project may not impact archaeological remains at these locations. The water main for this alternative would be situated primarily adjacent to existing roadways, thus may have a reduced likelihood of impacting intact archaeological remains. The section of this alternative leading to and crossing the Rivanna River has been previously surveyed for a bridge replacement project unrelated to the current studies; however, that survey did not sample deep deposits, thus that area still has potential for buried archaeological sites in the floodplain. The pump station would be located within the property boundary of a National Historic Landmark (NHL). This may create both direct and indirect impacts on the NHL, requiring additional consultation with the National Park Service. The water main would cross one (1) NRHP-listed architectural resource and three (3) eligible resources. One (1) of the eligible resources is a bridge and can likely be avoided by constructing underneath the overpass. Another eligible resource is a canal in the vicinity of the Rivanna River crossing; however, the previous survey for a bridge replacement did not find intact remains in that area. A Revolutionary War-era armory property would not be crossed, but this alternative skirts one side of that resource, thus the potential for additional archaeological remains may be greater in that vicinity.
- 5) **Build Alternative 2B** would impact five (5) recorded archaeological sites (two (2) potentially eligible, three (3) evaluated). The two (2) eligible sites are also crossed by the current Project (Alternative 6) — one (1) was newly discovered and the other was expanded — thus, prior to the current Project, this alternative would not have been shown to have as high a potential to impact archaeological sites. The crossing of the Rivanna River and its approach have already been surveyed for the current Project. Two (2) of the unevaluated sites are related to a canal and appear to have somewhat arbitrary boundaries drawn to encompass culverts or bridges; the Project may not impact archaeological remains at these locations. The water main for this alternative would be situated primarily adjacent to existing roadways, thus may have a reduced likelihood of impacting intact archaeological remains. The pump station would be located within the property boundary of a NHL. This may create both direct and indirect impacts on the NHL, requiring additional consultation with the National Park Service. The water main would cross three NRHP-listed architectural resources and three (3) eligible resources. For one of the NRHP-listed resources, the water main corridor would again be situated adjacent to existing roadways, which may reduce the likelihood of impacting intact archaeological remains. For the second NRHP-listed resource, half of the water main route would be immediately adjacent to an existing cleared utility corridor, which would likely limit the possible visual impacts related to that portion of this alternative. The third NRHP-listed resource is a Revolutionary War-era armory property. The armory property would be skirted on one side along an existing roadway and avoidance might be possible, but the presence of the resource may also mean the potential for additional archaeological remains could be greater in that vicinity. One (1) of the eligible resources is a bridge and can likely be avoided by

- constructing underneath the overpass. The other two (2) eligible resources are a canal and a historic district; adverse effect to both of those may be avoidable.
- 6) **Build Alternative 3** would impact one recorded archaeological site that has not been evaluated. That site is a ditch that appears to be related to a railroad culvert canal and appears to have a somewhat arbitrary boundary drawn; the Project may not impact archaeological remains at this location. The pump station may impact a NRHP-eligible canal. Further, the pump station would be located within the boundary of a potentially eligible historic district and one (1) or two (2) recorded contributing architectural resources would be removed. The road frontage of nine other unevaluated contributing architectural resources within the historic district also likely would be impacted by the water main; however, these impacts likely would not be considered adverse, given the water main's location along an existing roadway. This pump station alternative could pose one of the greater potentials for visual impact on architectural resources; however, given the decline of many structures in the potentially eligible historic district, an updated survey of that district may result in a determination that the district is not eligible, although a recent formal assessment of the district has not been conducted.
 - 7) **Build Alternative 4** would have no impact on recorded archaeological sites; however, the pump station is located on the leading end of a floodplain that contains numerous recorded archaeological sites. The water main would be located adjacent to an existing roadway. Although that route would traverse a NRHP-eligible historic district and the road frontage of 13 unevaluated contributing architectural resources within the historic district, these impacts likely would not be considered adverse, given the water main's location along an existing roadway.
 - 8) **Build Alternative 5A** would impact one (1) recorded archaeological site that has not been evaluated. This site appears to be another railroad culvert that has a somewhat arbitrary boundary drawn to encompass the structure. The Project may not impact recorded archaeological remains at this location, especially because the project component would be an access road. Like Alternative 4, the pump station would be located on the leading end of a floodplain in the vicinity of numerous recorded archaeological sites. The water main would be located adjacent to an existing roadway. Although that route would traverse a NRHP-eligible historic district and the road frontage of 13 unevaluated contributing architectural resources within the historic district, these impacts likely would not be considered adverse, given the water main's location along an existing roadway.
 - 9) **Build Alternative 5B** is similar to Alternative 5A, except the water main traverses more of the floodplain. Alternative 5B would impact one recorded archaeological site that has not been evaluated. This site appears to be another railroad culvert that has a somewhat arbitrary boundary drawn to encompass the structure. The Project may not impact recorded archaeological remains at this location, especially because the project component would be an access road. Like Alternatives 4 and 5A, the pump station would be located on the leading end of a floodplain in the vicinity of numerous recorded archaeological sites. The first third of the water main also would be located along that same floodplain before then running adjacent to an existing roadway. Although that route would traverse a NRHP-eligible historic district and the road

frontage of 13 unevaluated contributing architectural resources within the historic district, these impacts likely would not be considered adverse, given the water main's location along an existing roadway.

- 10) **Build Alternative 6.** Almost the entirety of Alternative 6 (except for a small portion of access road) was surveyed as part of the current Project; therefore, potential impacts are more fully known. This alternative would impact nine recorded archaeological sites (three (3) eligible, five (5) unevaluated, one (1) not eligible). Three (3) of the sites were discovered by the current Project and three (3) others were expanded; thus, prior to the current Project, this alternative would not have been shown to have as high a potential to impact recorded archaeological sites as is indicated in the data table. Two (2) of the unevaluated sites would only be crossed by a proposed access road following an existing roadway, which likely would limit direct impacts related to that project component. Given the previous survey, it is unlikely this alternative would impact additional archaeological sites. The pump station would be located within the property boundaries of a NRHP-listed architectural resource; however, studies for the current Project resulted in a determination that the Project would have no adverse effect to that NRHP-listed resource. Much of the water main would be located immediately adjacent to existing cleared utility corridors, which limits the potential for visual impacts. The water main would cross two other recorded architectural resources: an eligible canal corridor and an unevaluated canal/railroad corridor. The water main may have direct impacts on both of those resources.
- 11) **Build Alternative 6-1** is essentially the same as Alternative 6, except the pump station is shifted slightly downstream to possibly reduce archaeological impacts. Almost the entirety of Alternative 6 (except for a small portion of access road and half of the pump station workspace) has been previously surveyed for the current Project. This alternative would impact the same nine recorded archaeological sites (three (3) eligible, five (5) unevaluated, one (1) not eligible). Three (3) of the sites were discovered by the current Project and three (3) others were expanded; thus, prior to the current Project, this alternative would not have been shown to have as high a potential to impact recorded archaeological sites as is indicated in the data table. Two (2) of the unevaluated archaeological sites would only be crossed by a proposed access road following an existing roadway, which likely would limit direct impacts related to that project component. Given the previous survey, it is unlikely this alternative would impact additional archaeological sites, although one of the eligible sites may extend further into the additional downstream area. The pump station building would still be located in the same footprint within the property boundaries of a NRHP-listed architectural resource; however, studies for the current Project resulted in a determination that the Project would have no adverse effect to that NRHP-listed resource. Much of the water main would be located immediately adjacent to existing cleared utility corridors, which limits the potential for visual impacts related to that project component. The water main would cross two (2) other recorded architectural resources: an eligible canal corridor and an unevaluated canal/railroad corridor. The water main may have direct impacts on both of those resources.

12) **Build Alternative 6-2** is similar to Alternative 6, except the pump station is shifted approximately 1,800 feet upstream. Most of the water main and all of the Rivanna River crossing has been previously surveyed for the current Project. The proposed pump station location has not been surveyed. This alternative would impact the same nine recorded archaeological sites as Alternative 6 (three (3) eligible, five (5) unevaluated, one (1) not eligible); however, three (3) additional recorded unevaluated archaeological sites would also be crossed. Impacts on one of the eligible sites would be dramatically reduced compared to Alternative 6, although impacts on the three additional sites may be cumulatively greater than that reduction. Three (3) of the sites crossed by this alternative were discovered by the current Project and three (3) others were expanded; thus, prior to the current Project, this alternative would not have been shown to have as high a potential to impact recorded archaeological sites as is indicated in the data table. Two (2) of the unevaluated sites would only be crossed by a proposed access road following an existing roadway, which likely would limit direct impacts related to that project component. The pump station would still be located within the property boundaries of a NRHP-listed architectural resource; however, studies for the current Project resulted in a determination that the Project would have no adverse effect to that NRHP-listed resource. The setting of the Alternative 6-2 pump station is similar and may result in the same effects determination. Much of the water main would be located immediately adjacent to existing cleared utility corridors, which limits the potential for visual impacts related to that project component. The water main would cross two (2) other recorded architectural resources: an eligible canal corridor and an unevaluated canal/railroad corridor. The water main may have direct impacts on both of those resources.

5.2 Preferred Alternative Jurisdictional Impacts

The proposed site was delineated in accordance with the U.S. Army Corps of Engineers (USACE) 1987 Delineation Manual and subsequently issued USACE guidance to identify the presence and location of jurisdictional wetlands and streams within the Project limits. The wetland delineations were confirmed on August 29, 2016 (USACE Project number NAO-2014-0708) (see [Appendices D-4](#)).

Following confirmation of features, streams within the project area were located via traditional survey. In addition, refinements to GPS data post processing were implemented to provide a more accurate depiction of confirmed wetland features within the project boundary. Following linework refinements, Timmons Group conducted a site field to verify the corrected data. The refined linework associated with the previously confirmed delineation, including survey located streams and updated GPS data, has been incorporated into this submittal and represents an update from previous submittals. This revised linework included the most accurate representation of impacts areas currently available.

5.2.1 Proposed Jurisdictional Impacts

The information in this section is provided per 33 C.F.R. § 325.1 (d) (4).

The development of the Project will require unavoidable impact to jurisdictional features. The proposed wetland and stream impacts are associated with the construction and operation of the proposed intake, pump station and water main for the JRWA water supply project. These

impacts have been previously discussed with the USACE in prior information submittals. However, updates to these impacts are being included as part of this supplemental information material. These changes incorporate updated feature linework, County-required erosion and sediment control measures, as well as refinements to the limits of disturbance to minimize impacts where possible (see Section 6.1 for Avoidance and Minimization). Supporting documentation can be found in Appendix I: Jurisdictional Resource Impact Details.

An updated exhibit showing the location of the proposed jurisdictional impacts is provided as Appendix I-4. Additionally, design details are provided in Appendix I-1. The functions and values of all wetlands and streams associated with permanent impacts were evaluated using the United Stream Methodology (USM) and the Highway Methodology respectively (see Appendix I-2). The total impacts for the proposed Project are summarized in Table 33:

Table 33. Proposed Aquatic Resources Impacts Table

Project	Impact ID	Wetland (sq. ft) Impact					Stream (lf and sq.ft.) Impact			
		Temporary (Construction Easement)		Permanent Conversion (15' Maintained Easement)	Permanent (Excavation/Fill)		Temporary		Permanent	
		PEM	PFO		PFO to PEM	PEM	PFO	L.F.	Sq.Ft.	L.F.
JRWA	1						355	39,000		
	2								64	3,470
	3			161						
	4			87						
	5						21	84		
	6	367								
	7						21	105		
	8						161	23,911		
	9						155	620		
	11						83	415		
	200 (access road)		255			352			12	24
	201 (access road)								72	144
	202 (access road)		41			663				
	Sub-Total	367	296	248	0	1,015	796	64,135	148	3,638
	Total	663 sq ft		248 sq ft		1,015 sq ft		796 lf	64,135 sq ft	148 lf
	0.015 ac		0.006 ac		0.023 ac			1.472 ac		0.084 ac
* PFO=Palustrine Forested Wetland; PEM=Palustrine Emergent Wetland										

Impact 1: This impact would result in the temporary impact of 355 linear feet of perennial (R3) stream channel (James River). This impact is associated with a temporary cofferdam and is necessary for the construction of the raw water intake.

Impact 2: This impact would result in the permanent impact of 64 linear feet of perennial (R3) stream channel (James River). This impact is associated with the placement of the intake structure and necessary for the construction of the raw water intake.

Impacts 3 & 4: These impacts would result in the temporary excavation and permanent conversion of 248 square feet (0.006 acres) of palustrine forested wetlands (PFO) to palustrine emergent wetlands (PEM). All elevations will be returned to preconstruction contours. These impacts are necessary for the construction, installation, and maintenance of the raw water transmission pipe.

Impacts 5, 7, 9 & 11: These impacts would result in the temporary disturbance of 280 linear feet of stream channel. All elevations will be returned to preconstruction contours. These impacts are necessary for the construction and installation of the raw water transmission pipe.

Impact 10: This impact has been avoided and is no longer proposed for the Project

Impact 6: This impact would result in the temporary impact of 367 square feet (0.008 acres) of palustrine emergent wetlands (PEM). These impacts are necessary for the construction and installation of the raw water transmission pipe. All elevations will be returned to preconstruction contours and allowed to return to an emergent wetland state following construction.

Impact 8: This impact would result in the temporary disturbance of 161 linear feet of perennial (R3) stream channel (Rivanna River). This impact is necessary for the construction and installation of the raw water transmission pipe. The crossing will be constructed through the use of inflatable coffer dams to ensure sufficient flow is continuously provided downstream of the impact area and in accordance with the previously issued VMRC permit for state-owned bottomlands impacts (VMRC #2014-0343). All elevations will be returned to preconstruction contours.

Impacts 200: This impact would result in the temporary impact of 255 square feet (0.006 acres) of palustrine forested wetlands (PFO), the permanent impact of 352 square feet (0.008 acres) of PFO, and the permanent impact of 12 linear feet of stream channel. This impact is necessary for improvements to the access road. Improvements are necessary to provide safe access for construction, supply and maintenance vehicles required for the construction and maintenance of the pump station and raw water intake. For temporary impact areas, all elevations would be returned to preconstruction contours and allowed to return to a forested wetland state following construction.

Impact 201: This impact would result in the permanent impact of 72 linear feet of stream channel. This impact is necessary for improvements to the access road. Improvements are necessary to provide safe access for the construction and maintenance of the pump station and raw water

intake. An existing culvert would be extended to allow for the widening of the existing access road to allow large construction vehicle to reach the pump station.

Impact 202: This impact would result in the temporary impact of 41 square feet (0.0009 acres) of palustrine forested wetlands (PFO) and the permanent impact of 663 square feet (0.0015 acres) of PFO. This impact is necessary for improvements to the access road. Improvements are necessary to provide safe access for construction, supply and maintenance vehicles required for the construction and maintenance of the pump station and raw water intake. For temporary impact areas, all elevations would be returned to preconstruction contours and allowed to return to a forested wetland state following construction.

5.2.2 Non-Jurisdictional Impacts

One ditch feature, identified as Feature G on the confirmed Jurisdictional Determination (JD), would be temporarily traversed as part of the proposed project. This ditch is located along the raw water transmission main between the intake structure and Impact 3. Crossing the ditch would be necessary for the construction and installation of the raw water transmission pipe. A hydrologic connection will be maintained between the jurisdictional features connected by this ditch and all elevations will be returned to preconstruction contours. As connectivity will be maintained between all jurisdictional features, the proposed ditch crossing should not constitute a jurisdictional impact.

5.2.3 Secondary and Cumulative Impacts

Secondary and cumulative impacts were considered in regard to the proposed project. Secondary, or indirect, impacts are those impacts which cannot occur without the implementation of the proposed Project and its related activities. Cumulative impacts are environmental impacts resulting from past, present, and reasonably foreseeable future activities regardless of the entities undertaking them, which may be individually minor but collectively significant.

The proposed project has minimized the possibility of adverse secondary impacts through implementation of planning practices that reduce the influence of direct impacts on water quality. These efforts include:

- Avoidance/minimization of direct wetlands/waters impacts through innovative site planning and utilization of confirmed wetland delineation
- Minimization of partial wetland/stream impacts
- Strict adherence to all state and local stormwater and sediment control measures

Although minor secondary impacts may occur including temporal loss of function at temporary impact locations, the overall scope and nature of these impacts are believed to be minimal in comparison to the overall scope of the proposed Project. Adverse secondary impacts are not expected to significantly contribute to cumulative impacts.

Positive secondary effects are foreseeable from the project. By enabling the Counties to provide a public water supply, existing and future use of overly taxed groundwater systems are expected

to be transitioned to the public water system. This is expected to have a beneficial impact on groundwater resources. As discussed in Section 3.3, water from this project will enable increased growth and economic activity to occur in areas of the Counties slated by local planning authorities for that purpose. However, that growth is not considered a secondary effect per se because it will not be “caused by” this project (40 CFR 1508.8); instead, water from this project will eliminate an impediment or limiting factor for planned growth and economic development.

Cumulative impacts for the proposed Project are to be minimal. The overall environmental footprint of this project is unusually small. The temporary and permanent impacts to aquatic resources are well below the thresholds typically associated with nationwide permits. There are no other significant direct or secondary environmental impacts to the natural or human environment to speak of. The only other potentially significant impact is to cultural resources, although those impacts are capable of mitigation below a level of significance.

Although cumulative and secondary impacts may occur as a result of the proposed Project, these impacts should be minimal as a result of appropriate land planning and strict adherence to all state and local stormwater regulation and sediment and erosion controls. The overall scope and nature of these impacts are believed to be minimal in comparison with the overall nature of the proposed Project.

6.0 AVOIDANCE, MINIMIZATION, AND COMPENSATION

6.1 Avoidance and Minimization

The information in this section is provided per CFR § 325.1 (d) (7).

The Applicant has avoided impacts to jurisdictional features to greatest extent practicable given the Project's purpose and need. Complete avoidance of WOTUS is not possible due to the linear nature of the project, location of the interconnection point, the necessity of access to the James River for water withdrawal, and the utilization of existing easements or right-of-ways to reduce the burden on local landowners. A detail alternatives analysis was conducted, including considerations of on-site alternatives, which provides details on how impacts could not have been completely avoided (see Section 4.0 and 5.1).

The Applicant utilized the Preliminary Jurisdictional Determination (NAO-2014-0708) to ensure all jurisdictional features within the Project Area were accurately mapped and to aid in impact avoidance during revisions to project layouts. Each crossing of jurisdictional features has been strategically placed to minimize and/or avoid additional wetland and stream impacts where practicable. Multiple layouts were examined to develop the water supply project in a manner that avoids and minimizes impacts to environmentally sensitive areas to the maximum extent practicable, while meeting the configuration requirements necessary to provide operation of the facility. Where possible wetlands and streams were crossed perpendicularly to minimize impacts. The alternative layouts were analyzed to determine the least environmentally damaging practicable alternative (LEDPA).

In addition, in preparation of this supplemental information package, each proposed impact location was reevaluated to ensure avoidance and minimization has been maximized at each proposed impact location. As part of this exercise, several impact areas have been further minimized:

Impact 1: This impact was previously proposed to result in the temporary impact of 485 linear feet of perennial stream channel at the James River. As part of a recent review of plans and discussions with the project contractors, it has been determined that this temporary impact can be reduced by 130 linear feet and still meet project needs.

Impacts 3 & 4: Previously, these impacts cumulatively would have resulted in the permanent conversion of 255 square feet of palustrine forested wetlands (PFO) to palustrine emergent wetlands (PEM). A recent alignment shift in this area and narrowing of the impact corridor has allowed for the reduction of these impacts by 7 square feet.

Impact 5 and 6: Upon review of the limits of disturbance in proximity to these features, it has been determined that the impact corridor could reduce from 35 feet to 20 feet. As a result, these impacts have been further reduced by 22 linear feet of stream.

Impact 8: This impact was previously proposed to result in the temporary impact of 190 linear feet of perennial stream channel at the Rivanna River. However, as part of a recent

review and discussions with the project contractors, it has been determined that this temporary impact can be reduced to 29 linear feet and still meet project needs.

Impacts 9-11: Previously, these impacts cumulatively would have resulted in temporary impact to 468 linear feet of stream channel. Following discussions with the Corps regarding the possibility of avoidance of these impacts and review of construction constraints, it was determined that some portions of these impacts could be reduced, and that Impact 10 could completely be avoided. As a result, there has been a cumulative reduction of 230 linear feet of temporary impacts in these areas.

To further ensure avoidance and minimization of potential secondary impacts, a project-specific Erosion and Sediment Control (ESC) plan will also be developed and submitted for approval of the land disturbing activity. The ESC plan will be prepared in accordance with the Virginia Erosion & Sediment Control Law (VESCL) and Regulations (VESCR) and the most current version of the *Virginia Erosion & Sediment Control Handbook*. The ESC plan will be approved by the locality prior to any land-disturbing activity at the Site. All regulated land-disturbing activities associated with the Project, including on- and off- site access roads, staging areas, borrow areas, stockpiles, and soil intentionally transported from the Project Area will be covered by the project specific ESC plan. During construction activities, the ESC Best Management Practices (BMPs) will be inspected and maintained throughout the life of the construction activity providing for enhanced protection for the avoided jurisdictional areas.

6.2 Compensatory Mitigation Plan

The information in this section is provided per CFR § 325.1 (d) (7).

Compensatory mitigation for unavoidable permanent impacts is proposed through the purchase of off-site mitigation credits from wetland and stream banks which are approved for use in the Rivanna and Middle James – Buffalo watersheds (Hydrologic Unit Codes 02080204 and 02080203 respectively) in accordance with the 2008 Final Mitigation Rule. Credit availability letters from approved wetland and stream mitigation banks are attached in [Appendix I-3](#). However, based on the market fluctuation of credit prices, the Applicant requests to identify specific mitigation banks from which credits will be purchased at a later date.

Compensation for all permanent wetland impacts is proposed at standard impact type mitigation ratios including 2:1 for permanent PFO wetland impacts and 1:1 for permanent PFO to PEM conversion impacts. Proposed credits to be purchased for wetland mitigation are summarized in Table 34:

Table 34. Proposed Wetland Compensatory Mitigation Requirement

Impact Type	Square Feet	Acres	Mitigation Ratio	Credits Required
PEM Permanent Impacts			1:1	
PSS Permanent Impacts			1.5:1	
PFO Permanent Impacts	1015	0.02	2:1	0.04
PFO to PEM Conversion	248	0.01	1:1	0.01
Total Wetland Credits				0.05

Compensatory mitigation is proposed for Impact 200 and 201, which both contain permanent stream impacts associated with improvements to the access road. Compensation for these impacts are proposed based on the Unified Stream Methodology (USM). The Applicant has completed a USM Stream Assessment Form for both unnamed tributaries to the Rivanna River that would be impacted by the access road widening. Completion of the USM worksheet indicates an Impact Factor (IF) of 1 and a Reach Condition Index (RCI) of 0.90 for both impact 200 and 201. Therefore, the calculated Compensation Requirement (CR) equals 76 stream credits ($CR = RCI \times 84 \text{ (Impact 200 + Impact 201) linear feet} \times IF$). See [Appendix I-2](#) for pertinent documents.

Compensatory mitigation for the permanent stream channel impact associated with installation of the intake at the James River (Impact 1) is not proposed. The associated impact is anticipated to have negligible effects on the function and value of the James River. This proposal is consistent with the conditions of the § 401 water quality permit which did not require compensatory mitigation for Impact 1. During previous project review, DEQ staff determined impacts to the James River from construction of the proposed intake will be minimal and the channel's existing functions and values will remain.

7.0 PUBLIC INTEREST REVIEW FACTORS

Pursuant to 33 C.F.R. § 320.4(a), the Corps must conduct a public interest review that considers the “probable impacts . . . of the proposed activity and its intended use on the public interest.” This review must balance the “benefits which reasonably may be expected to accrue from the proposal . . . against its reasonably foreseeable detriments.” This section provides a summary of information relevant to each of the 21 public interest review factors listed in § 324.4(a) and, where appropriate, the additional policies described in § 324.4(b) through (r).

7.1 Conservation

The project will have a neutral (mitigated) effect on conservation.

The only permanent aboveground structure associated with the project will be a small pump station structure with a footprint of approximately 3,500 square feet (0.08 acres), which will be constructed on land owned by JRWA in an area that was previously under agricultural use. The water main will temporarily disturb the surface but the area will be restored to its preexisting land uses following construction, except where the right-of-way is currently forested (as discussed in Section 2.3, the forested portions of the water main right-of-way contain relatively tree recent growth. Aerial photographs show the entire corridor either under non-forest agricultural use or in use as utility rights-of-way as recently as the late 1990s), in which case a narrow strip of the permanent easement (approximately 20 feet) directly over the pipe will need to remain free of woody vegetation to protect the water main. Furthermore, approximately 60% of the water main will be constructed in or immediately adjacent to existing previously cleared rights-of-way. The project will utilize an existing road to avoid construction of any new roads.

The conservation of environmental resources, including aquatic resources, historical resources, viewsheds, fish and wildlife, and floodplain values, will be accomplished and mitigated as stated in the relevant sections of this Section 7.

The project will also have a potentially significant beneficial effect on conservation of historic resources. JRWA presently owns an approximately 2.1-acre parcel of waterfront property along the James River. If the project is constructed, this parcel will remain under public ownership, with the only development being a small pump station structure. If the parcel is not used for this project, it will be offered for sale to the general public. The subsequent purchaser is unlikely to leave this valuable waterfront property in an undeveloped state

7.2 Economics

The project will have a significant beneficial effect on the economy in Louisa and Fluvanna Counties.

The public economic benefits flowing from the availability of a clean, adequate, and reliable public water supply are well known. The Commonwealth of Virginia’s State Water Resources Plan states: “As Virginia’s population and economy continue to grow, so does the need for good quality, reliable water supplies. The future of the economy depends upon having enough water for future needs.” Commonwealth of Virginia, *State Water Resources Plan* at 6 (Oct. 2015). (<https://www.deq.virginia.gov/Programs/Water/WaterSupplyWaterQuantity/WaterSupplyPlanning/StateWaterResourcesPlan.aspx>.)

In the communities to be served by this project, there is a demonstrated short and long-term need for an expanded public water supply. Both Louisa and Fluvanna Counties anticipate significant economic and population growth over the coming decades. However, existing water supplies are not sufficient to meet the projected demands and both counties project a deficit as soon as 2025. Louisa County Long Range Regional Water Supply Plan at 69 (June 2011); Fluvanna County Regional Water Supply Plan at 2-6 (Apr. 2010). A public water supply is not available or is inadequate in many areas of the counties designated for future growth in the counties' respective comprehensive plans, which are required to be developed under state law (Va. Code § 15.2-2223). The local communities in Fluvanna County and Louisa County will rely on this project to support future growth are discussed in Sections 3.3.1 and 3.3.2.

The increased development and growth that will be enabled by this project are expected to have an unquantified but significant beneficial effect on the local economy in Louisa County and Fluvanna County. Increased residential, commercial, and industrial growth would provide an expanded tax base for the respective county governments and enable them to better provide public services to their residents. The ability to provide a reliable and affordable public water supply also will enable the communities to compete for water-intensive industries. These benefits are entitled to weight under 33 C.F.R. § 320.4(q).

Constructing a new public water supply is a significant public expense that draws funds that could be put to other beneficial public purposes. As discussed above in Section 4.2.1.3, this project represents the least cost alternative for JRWA and its member communities. Thus, construction of the project at the proposed location minimizes the public financing burden while maximizing the public economic benefit of this water supply project.

7.3 Aesthetics

The project will have a negligible effect on aesthetics. The elements of the project are addressed separately below.

Raw Water Intake. The raw water intake structure in the James River will be completely submerged and is not expected to be visible to persons recreating on the James River.

Pump Station. The pump station will be the only permanent aboveground structure associated with the project. Measures were taken to effectively minimize the visual and auditory effects of the pump station on the setting, which is in a field previously used for agriculture and containing a small linear strip of trees. The structure has a footprint of approximately 3,500 square feet (0.08 acres) and will be constructed with split-face block and a standing-seam metal roof colored to blend in with the natural surroundings. The visibility of the structure from the James River will be minimized by the design and coloration of the pump station, as well as its positioning above a steep riverbank and behind a stand of trees that will remain undisturbed. The pump station structure also includes design elements and materials intended to minimize exterior noise levels. The structure's relative impact on ambient noise levels at the site must be considered in light of other sources of noise at the location, including farming equipment used for hay cultivation at and in the vicinity of the site and a CSX railroad line carrying regular freight traffic roughly 200 yards to the north of the structure. Lastly, the pump station will be shielded visibly and audibly from the surrounding area by tree cover.

Water main. The raw water transmission main consists of a 24-inch diameter raw water transmission main running approximately 4,800 feet. The water main will be buried, and the right-of-way will be restored to preconstruction conditions. Visual impacts were minimized by locating the water main, to the maximum extent practicable, in areas that have been previously disturbed and/or encumbered by other utility easements. Those areas (north of the CSX crossing) will require minor widening of existing cleared utility corridors to accommodate the water main adjacent to the existing utilities (Colonial Gas pipelines and Dominion Power transmission lines). The only wooded area that will require clearing of a new linear path is a short section of the right-of-way (approximately 1,500 feet) between the pump station and the CSX rail crossing that is presently occupied by a stand of relatively young trees. An approximately 20-foot-wide corridor will have to be maintained in a meadow state to protect the water main from damage by tree roots. The water main will have, at most, a negligible impact on the landscape.

Access Road. The project will use an existing minimally improved road (Columbia Road) for permanent access to the site. No new aesthetic impacts are associated with the road.

7.4 General Environmental Concerns

Excluding the specific environmental resources discussed elsewhere in this Section 7, there are no known or foreseeable general environmental concerns associated with the project.

7.5 Wetlands

The project will have a neutral (mitigated) effect on wetlands.

The destruction and loss of wetlands has been avoided and minimized to the maximum extent practicable in accordance with the 404(b)(1) Guidelines. The project will cause minimal permanent loss of wetlands, and none of the wetlands to be impacted perform any of the special functions listed in 33 C.F.R. § 320.4(b)(2). Proposed impacts are detailed in Section 5.2.1. Compensatory mitigation will be provided for the permanent and conversion impacts as stated in Section 6.2. The project's Virginia Water Protection permit also includes wetland mitigation requirements under state law.

7.6 Historic properties

As proposed, the project will have a detrimental effect on historic properties, but this effect is expected to be mitigated to neutral, and therefore below the level of a significant impact, through measures to be finalized through the ongoing NHPA Section 106 process.

A Phase I survey identified six archeological sites and three architectural resources that have the potential to be affected by the construction or operation of the project. Phase I and Phase II field studies were conducted for the properties from May to June 2017 and December 2017 to January 2018. Additional Phase II evaluation was conducted at Site 44FV0269 between January 2019 and March 2019. The determinations by the USACE and JRWA's proposed responses are summarized in Table 35.

Table 35. Historic Recourse Summary of USACE Effects Determinations and Applicant Proposed Responses

Historic Resource	Corps Effects Determination*	JRWA Proposed Response
Architectural Properties		
Point of Forks Plantation (032-0024)	NRHP Listed; no adverse effect	None
Rivanna Canal Navigation Historic District ca. 1854 (032-0036)	Eligible (Criteria A & C); adverse effect	Mitigate
James and Kanawha River Canal Railroad ca. 1780 (032-5124)	Eligible (Criteria A & C); adverse effect	Mitigate
Archeological Sites		
44FV0022	Eligible (Criterion D); adverse effect	Mitigate
44FV0024	Eligible (Criterion D); adverse effect	Mitigate
44FV0025	Eligible (Criterion D); adverse effect	Avoid
44FV0268	Eligible (Criterion D); adverse effect	Mitigate
44FV0269	Not eligible within project area	None
44FV0270	Eligible (Criterion D); adverse effect	Avoid

*Effects determinations were made by the USACE in a letter dated May 30, 2018 in response to JRWA's *Phase I and Phase II Cultural Resources Survey and Excavation Report for the James River Water Authority (JRWA) Intake, Pump Station, and Pipeline Project located in Fluvanna County, Virginia* (April 2018). A second effects determination was issued by the Corps on June 5, 2019, with respect to Site 44FV0269 in response to a report titled *Phase II Archeological Evaluation of Site 44FV0269 Within the Area of Potential Effect; James River Water Supply Pump Station and Pipeline Alignment* (April 2019). This latter report is presently being revised in response to comments from DHR and will be resubmitted to the Corps.

As summarized above, the USACE determined that the project could have an adverse effect on seven (7) eligible historic resources. JRWA has proposed additional measures to avoid potential effects for two (2) of the archeological sites. For the remaining two (2) architectural properties and three (3) archeological sites, JRWA proposes to mitigate the adverse effects.

JRWA proposed a suite of mitigation measures in a proposed Treatment Plan on August 2, 2018. In accordance with the NHPA Section 106 consultation process, that plan was circulated by the Corps to consulting parties on August 27, 2018. JRWA prepared a revised plan with significantly enhanced mitigation measures to address comments from DHR and consulting parties, which was submitted to the Corps on March 21, 2019. The Corps circulated the revised plan to DHR and consulting parties on May 6, 2019. Additional comments were received. JRWA engaged a new archeological consultant in October 2019 to, among other things, review those comments and prepare a new treatment plan for submission to the Corps. The new treatment plan will address all comments received on the two previous versions of the plan and provide substantial and appropriate mitigation commensurate to the adverse effect to these resources. The revised treatment plan will include a suite of complementary typical (i.e., data recovery) and alternative (e.g., donations, ongoing tribal involvement) mitigation measures designed to fully mitigate the adverse impact. [Additional mitigation measures were included in the proposed Memorandum of Agreement (MOA). Three versions of the MOA have been submitted to the USACE by JRWA

(most recently on January 11, 2019) and circulated for consulting party review. That document will be revised and resubmitted to the Corps. The final treatment plan and MOA will together comprise the full suite of historic resources mitigation measures.

Although the new treatment plan has yet to be finalized, the nature of the detrimental effects and JRWA's ability to mitigate those effects can be evaluated at this time.

Effects on Architectural Properties

The water main will cross three (3) architectural properties.

First, the water main will be installed across a section of a relic canal and towpath feature contributing to the Rivanna Canal Navigation Historic District (032-0036). Although JRWA concluded, and Corps determined, that the relic canal feature is still eligible, it has been significantly impacted by previous activities at and near the location of the crossing. The feature has been impacted by the installation of two (2) petroleum pipelines, an electrical power line, and road in the immediate vicinity of the project, as well as by cattle pens at the site of the crossing. Shovel testing revealed that the canal feature has at least three feet of fill material. Although the canal features are readily visible near the site of the project, they largely disappear at the location of the proposed impact due to other previous and unrelated impacts and land uses.

Second, the water main will be installed across a section of a relic canal and towpath feature of the James River and Kanawha Canal (032-5124). The resource in the location of the project crossing has been significantly impacted by the construction and abandonment of a railway line across the towpath, and it presently sits immediately adjacent to an operational CSX railway line.

In the case of each of the architectural properties referenced above, the project will impact a small section of a much larger linear feature at a location that is already significantly impacted by previous activities and land uses. Thus, the significance of the project's limited and incremental adverse effect is minimal with respect to the properties in their current condition and amendable to treatment. The visual impact on these features can be wholly mitigated by restoration of the existing ground surface contours and vegetation. Impacts to buried portions of the resources can be mitigated through additional measures that are still in development and will be included in the forthcoming revised treatment plan.

The project's water main also will cross a portion of the NRHP-listed Point of Forks Plantation (032-0024). Following completion of the project, the restored water main right-of-way will have no visual impact on this resource, which is reflected in the Corps' determination that there will be no adverse effect to the resource.

Effects on Archeological Sites

Elements of the project will impact three archaeological sites indicative of historical Native American occupation.

Site 44FV0022 is a deeply buried Middle and Late Archaic-period to Early and Late Woodland-period site situated on the northern floodplain of the James River. The site is in an open field that was in agricultural use prior to its purchase by JRWA. The project will impact the site by construction of an approximately 3,500-square-foot pump station structure overtop of a 40-foot-deep wetwell and the excavation of an approximately six-foot-wide trench for installation of the water main. The horizontal extent of the site could not be fully delineated because JRWA had access only to land it owns or controls. However, it appears that the site extends far beyond the boundaries of the project. The northern portion of the site (relative to the pump station) was previously disturbed by construction of the canal, towpath, and railroad associated with James River and Kanawha Canal (032-5124). The site also likely extends under and beyond the existing CSX rail line carrying regular freight traffic. For obvious reasons, JRWA could not conduct archeological excavations within the footprint of an operating railroad.

Excavation activities necessary to construct the pump station and water main are considered destructive of buried archaeological resources. However, the magnitude of the effect of project construction on this site is limited by the fact that impacts consist of excavation of one deep pit (pump station wetwell) and a narrow trench through a much larger site, as well some activity at or near the surface for construction workspace. The majority of the site will remain intact.

Site 44FV0024 is a deeply buried Archaic-period and Early and Late Woodland-period site situated on the south floodplain of the Rivanna River. The site is in an open field that is presently under agricultural use and traversed by an electrical transmission line running parallel to the water main. The project will impact the site by construction of an approximately six-foot-wide trench for installation of the water main. The site has previously been disturbed by the installation of two significantly larger petroleum pipelines (32 and 36 inches in diameter, respectively) that run parallel to JRWA's water main and through the footprint of the archeological site, as well as a large pole for the electrical transmission line. Additional impacts associated with a construction laydown area will be confined to the surface (largely over the area disturbed by the petroleum pipelines) in an area that has experienced many years of agricultural use and is not expected to affect the buried resource. As with Site 44FV0022, the site appears to extend well beyond the project's boundaries. The incremental detrimental effect of the water main excavation on this already disturbed site is limited by the fact that the impact will be confined to a single long trench through a larger site, the remainder of which will remain intact.

Site 44FV0268 is a deeply buried Archaic-period site situated on the northern floodplain of the Rivanna River. The site is in a pasture with a meandering stream occupied by the electrical transmission line and two (2) petroleum pipelines running parallel and immediately adjacent to JRWA's water main. The project will impact the site by construction of an approximately six-foot-wide trench for installation of the water main. The petroleum pipelines and a power line pole have previously impacted the site. Similar to the other two (2) sites, the site appears to extend well beyond the project's boundaries. The incremental detrimental effect of the water main excavation on this already disturbed site is limited by the fact that the impact will be confined to a single long trench through a larger site, the remainder of which will remain intact. The USACE determined that a fourth site, 44FV0269, is not eligible within the project area. DHR comments on the Phase II report are presently being addressed and a revised draft will be

submitted. JRWA expects a final concurrence decision from DHR at that time. If DHR does not concur, this analysis will be supplemented to address that site.

The three (3) archeological sites discussed in this section have been determined eligible for listing in the National Register of Historic Places under Criterion D, which means their primary significance is in the information they contain. Phase III archeological data recovery is a standard and accepted method to mitigate adverse impacts on these types of sites; 33 C.F.R. Part 325, App. C, ¶ 15(c). Such mitigation will be proposed in the forthcoming treatment plan.

The historical significance of the three affected archaeological sites is increased by the possibility that they are associated with a historical Monacan Indian settlement known as Rassawek. The precise location and boundaries of Rassawek have never been conclusively identified, and previous researchers working in the area of the project have concluded that further archeological study is necessary to make that connection. Daniel L. Mauer, *A Review of the Archaeology and Ethnohistory of the Monacan Indians*, Special Publication 10 of the Archaeological Society of Virginia (1983).

The research study that will result from implementation of the treatment plan research design will provide valuable new information that will contribute toward answering this longstanding question. Furthermore, because the project will impact only a portion of the sites and their immediate vicinity that was not previously disturbed, a significantly larger area within and around the sites will remain undisturbed and available to future researchers.

The assertion by certain consulting parties that the project will “destroy Rassawek” is hyperbolic. The location of the project, Point of Fork, has been subject to many different land uses over the past 400 years. It was heavily impacted in the past by construction of the historical canals, military arsenal, roads, farms, and, later, the railroad and public utilities. Today, the area is crisscrossed by roads and utility infrastructure, including a large electrical transmission line that presently is in the process of being upgraded with the installation of larger steel tower structures in place of smaller poles. There are two (2) large petroleum pipelines crossing the point, and CSX freight trains run through the center of the point multiple times every day. This project will be constructed alongside these prior activities that historically had, and will continue to have, a much greater relative impact on the sites. The contention that the addition of a small water main and pump to a discrete portion of this heavily used landform will be the critical act that “destroys Rassawek” grossly exaggerates the actual impact of the project and ignores the many other greater impacts that already exist; it should be given very limited weight in this analysis.

Nevertheless, to the extent the standard mitigation practice of Phase III data recovery is not deemed sufficient to wholly mitigate for the limited impacts on the archeological sites caused by the project, JRWA will provide additional mitigation. JRWA previously proposed a suite of additional mitigation measures in response to requests from consulting parties. In deference to the significance some parties attribute to the project area, the forthcoming treatment plan will continue to include additional compensatory mitigation measures that go above and beyond the type, manner, and degree of mitigation that is normally deemed acceptable for impacts on historic sites. Those measures are presently being reevaluated to respond to comments on the two (2) previous versions of the treatment plan from DHR and consulting parties. Furthermore, JRWA remains open to adopting additional mitigation measures in response to further consultation with the Corps, DHR, and consulting parties.

Consulting parties also have expressed concern about the possibility that human burials may be disturbed by project construction. No human burials have previously been documented within the footprint of the project, and no evidence of burials was discovered during the archeological field work that was conducted at the sites in 2017 and 2018. Thus, there is nothing more than speculation that project construction will in fact disturb human remains. Nevertheless, JRWA will take reasonable and appropriate measures to mitigate this possibility. The project applied for and obtained an anticipatory burial permit in October 2017 to conduct deep test trenching at Site 44FV0022. JRWA has committed to applying for an anticipatory burial permit from DHR in advance of commencing further archeological testing or project construction. Based on discussions with DHR, JRWA expects to file a renewed request for an anticipatory burial permit upon approval of the revised treatment plan and identification of an archeological principal investigator to oversee further field work. The permit application process entails further consultation with interested parties and will outline measures to be taken in event human remains are discovered unexpectedly.

Lastly, concerns have been expressed by consulting parties about the project potentially diminishing the value of the project area or specific sites through visual and auditory impacts. However, it is important to note that neither the public nor tribal representatives now have or historically have had access to the project area. The project area is generally inaccessible and is located on land owned by JRWA and several private parties. The visual impacts on the landscape will be limited to the pump station structure and a minor area of tree clearing. Auditory impacts have been minimized by the incorporation of sound shielding into the pump station design. In both cases, the visual and auditory effect on the landscape will be minimal. Moreover, the incremental effect of the project will be de minimis compared to the nearby railroad (approximately 200 yards from the pump station), improved roads, petroleum pipelines, and power transmission lines crossing the project area. Furthermore, no portion of the project area constitutes or will affect (1) "Indian Lands," "Protected Tribal Resources," or "Tribal Rights" under Corps' Tribal Consultation Policy or the Department of Defense's American Indian and Alaska Native Policy; or (2) a "Sacred Site" under the federal Memorandum of Understanding on Interagency Coordination and Collaboration for the Protection of Indian Sacred Sites and Executive Order 13007.

In sum, although the project will have a detrimental effect on historic resources, a robust collection of mitigation measures is in the process of being developed in accordance with an ongoing NHPA Section 106 consultation process to remedy that effect. These measures can and will mitigate the detrimental effect below the threshold of significance. Furthermore, not all of the effects of the project on historic resources will be negative. The new research to be developed by the project will provide valuable new information on the history and pre-history of Point of Fork.

7.7 Fish and wildlife values

The project will have a negligible effect on fish and wildlife values.

Wildlife habitat will be temporarily disturbed during construction but will be restored to preconstruction conditions as stated in Section 7.3 above. The pump station is located in a field

that previously was under agricultural use, and this minimal change to the site will have a de minimis effect on wildlife.

Fish and other aquatic life habitat in the James River will be protected by the use of an intake screen size (1 mm) and intake velocity (0.25 feet per second) that meet or exceed the standards developed by the U.S. Environmental Protection Agency under Section 316(b) of the Clean Water Act (applicable to large cooling water intakes) and the Virginia Department of Game and Inland Fisheries for the avoidance of impingement and entrainment of aquatic life. That requirement is made mandatory by the project's Virginia Water Protection permit. Temporary impacts to aquatic life will be minimized by the use of cofferdam structures and appropriate erosion and sediment control measures for installation of the water intake in the James River and the water main across the Rivanna River. As required by the project's Virginia Water Protection permit and VMRC permit, no instream construction activities (except within a cofferdam) will occur within the following time-of-year restrictions to avoid adverse impacts to threatened, endangered, or other sensitive species:

- April 15 to June 15 and August 15 to September 30 (brook floater, Atlantic Pigtoe, and green floater)
- March 15 through June 30 (anadromous fish) (James River only)

To protect mussel species, the Virginia Water Protection and VMRC permits require that JRWA employ a qualified, permitted biologist to conduct a mussel survey and relocation 100 meters upstream and 400 meters downstream of the James River impact.

Additional fish and wildlife protection measures are imposed in the attached Virginia Water Protection and VMRC permits.

Additionally, in issuing a Virginia Water Protection permit for the project, DEQ determined that the project, including the withdrawal from the James River, "may not reasonably be expected to cause or contribute to . . . [a] significant impairment of the state waters or fish and wildlife resources; . . . adverse impacts on other beneficial uses; or . . . a violation of water quality standards." 9 Va. Admin. Code § 25-210-370.D.3.

7.8 Flood hazards

The project will have no effect on flood hazards.

The project's only aboveground structure, the pump station, will be constructed within the James River 100-year floodplain (see [Appendix J-1](#)). The pump station will be constructed in accordance with a floodplain permit issued by Fluvanna County to ensure it will not cause or increase a flood hazard. Additionally, the pump station will be elevated to protect the pump, control, and electrical equipment during floods. As discussed above in Section 4.2.1.2.2, avoidance of the floodplain is not feasible because the pump station must be constructed in close proximity to the water intake structure submerged in the James River.

7.9 Floodplain values

The Project will have no effect on floodplain values.

As stated in Section 7.8, the project entails construction of a small structure within a floodplain. Adverse effects of this construction will be avoided compliance with a floodplain permit. There will be no loss of wetlands within the floodplain.

7.10 Land use

The Project will have a major beneficial effect on land use.

Local government land use decisions are entitled to significant deference. The USACE's regulations provide: "The primary responsibility for determining zoning and land use matters rests with state, local and tribal governments. The district engineer will normally accept decisions by such governments on those matters . . ." 33 C.F.R. § 320.4(j)(2) (emphasis added); see *also* 33 C.F.R. § 336.1(c)(ii) ("Where officially adopted state, regional, or local land use classifications, determinations, or policies are applicable, they normally will be presumed to reflect local views and will be considered in addition to other national factors.").

The Virginia General Assembly charged the respective JRWA-member county governments with "improv[ing] the public health, safety, convenience, and welfare of their citizens and to plan for the future development of communities." Va. Code § 15.2-2200 (emphasis added). In the exercise of their comprehensive planning duties, the Counties are responsible for the "designation of areas for the implementation of reasonable measures to provide for the continued availability, quality, and sustainability of groundwater and surface water." Va. Code § 15.2-2223.C.4. As discussed above in Sections 3.3.1, 3.3.2, and 7.2, Louisa and Fluvanna Counties have each duly adopted comprehensive plans that designate areas of their jurisdictions as growth areas that rely on the completion of this project to provide a sustainable surface water supply. Completion of this project is absolutely necessary to fulfill the land use and planning objectives of each County.

7.11 Navigation

The Project will have no effect on navigation.

There are no federal navigation channels in vicinity of the Project. The intake structure on the James River will be submerged and is not expected to have any effect on the typical types of watercraft that use this portion of the river (e.g., canoes, kayaks). The water main will be buried under the Rivanna River, and therefore will not affect navigation on that waterway.

7.12 Shore erosion and accretion

The Project will have no effect on shore erosion and accretion.

7.13 Recreation

The Project will have no effect on recreation.

The pump station site is owned by JRWA and is not presently used for or open to public recreation. As described above, the water intake structure and submerged water main will have no effect on recreational uses of the James River and Rivanna River.

7.14 Water supply and conservation

The Project will have a major beneficial effect on water supply and conservation.

As discussed in Sections 3.0, 7.2, and 7.10, the sole purpose of the Project is to provide a new and reliable water supply for residents and businesses in Louisa and Fluvanna Counties. Without the completion of this Project, the areas to be served by the Project will exhaust their available water supply capacities and population growth and economic development will be arrested as a result.

It is important to note that DEQ issued a Virginia Water Protection Permit for the Project on November 20, 2015, authorizing specified maximum daily, monthly, and annual water withdrawal amounts to be used for public water supply purposes. The permit imposes additional conditions during drought and low-flow conditions to maintain an adequate water supply for other beneficial uses of the river. In issuing that permit, DEQ determined that the quantity of water to be withdrawn by the Project will be no greater than will be put to beneficial use and that the withdrawal will not have a detrimental impact on any other users of the water from river. 9 Va. Admin. Code § 25-210-370.D. The Commonwealth's determination that the project represents an authorized beneficial use and proper allocation of water from the James River is entitled to deference pursuant to 33 C.F.R. § 320.4(m) (citing 33 U.S.C. § 1251(g)).

7.15 Water quality

The project will have a negligible effect on water quality.

Upland Construction Stormwater. Potential short-term adverse water quality impacts from upland construction activities will be avoided by compliance with the effluent limitations and other conditions of a DEQ-issued General VPDES Permit for Discharges of Stormwater from Construction Activities (9 Va. Admin. Code 25-880), including implementation of an Erosion and Sediment Control Plan and Stormwater Pollution Prevention Plan in accordance with the same.

Post-Construction Stormwater. In accordance with the requirements of the Virginia Stormwater Management Program Regulation (9 Va. Admin. Code § 25-870), DEQ-approved stormwater management plans will be implemented to control the quantity and quality of post-construction stormwater to avoid long-term water quality impacts.

In-Stream Construction. Potential water quality impacts associated with instream construction in the James River and Rivanna River will be temporary and minimized below a level of significance by the use of dry-crossing construction techniques employing cofferdams made of

non-erodible materials. This crossing method maintains instream flows during construction and minimizes temporary increases in turbidity and suspended sediment. Other instream construction conditions for the protection of water quality are imposed by the Project's Virginia Water Protection permit and VMRC permit.

Water Withdrawals from the James River. Potential water quality impacts associated by the withdrawal of water from the James River will be avoided by compliance with the conditions and limitations in the DEQ-issued Virginia Water Protection permit. That permit includes limitations on maximum daily, monthly, and annual withdrawals and additional restrictions that apply during drought and low-flow conditions to ensure water quality in the James River is protected.

State Water Quality Certification. The Virginia Water Protection permit issued to JRWA represents DEQ's certification that construction and operation of the Project will not cause or contribute to any exceedances of state water quality standards (9 Va. Admin. Code § 25-210-10; 33 U.S.C. § 1341(a)). Pursuant to 33 C.F.R. § 320.4(d), that certification should "be considered conclusive with respect to water quality considerations."

7.16 Energy Needs

The Project will have no effect on energy needs.

7.17 Safety

The Project will have a significant beneficial effect on public safety.

One of the primary intended uses of water from the Project is for public and private fire suppression. The onboard water tank capacity of fire engines and tenders is limited and finding and withdrawing water from an adequate nearby source of water to refill them when responding to large fires can be challenging. The availability of fire hydrants can significantly enhance the ability of firefighters to put out fires at homes and businesses. Pressurized fire hydrants rely on a public water supply. The Project will expand the footprint of the areas of Fluvanna and Louisa Counties that can be served by hydrants.

Fluvanna County installed ten fire hydrants in the eastern portion of Fluvanna County and one immediately across the border in Louisa County in 2019. Those hydrants will be supplied by water from the Project. At present, those hydrants are dry and unusable by fire crews. The importance of these hydrants being functional was demonstrated in an unfortunate incident that occurred on October 25, 2019. A family's home caught fire in Columbia. One of the new fire hydrants is located immediately in front of the house. However, the response from the volunteer fire departments was delayed by the need to obtain tens of thousands of gallons of water from a remote source. It took several hours to extinguish the blaze and the home was a complete loss. A news report about the incident and photographs of the home and the inoperable hydrant are attached hereto as Appendix J-2.

Commercial fire suppression systems also rely on the public water supply. There are presently several commercial fire suppression systems in Louisa County that are connected to existing

infrastructure that will be supplied by water from this Project. Those systems cannot fulfill their intended fire suppression function until this Project is complete.

The Project will have no adverse effect on safety. The enclosed pump station structure does not pose an inherent safety hazard and will be located on a remote area of private property that is generally inaccessible to the public. The submerged intake structure will have a low maximum intake velocity (0.25 feet per second) that will not pose a hazard to recreational users of the James River.

7.18 Food and fiber production

The Project will have no effect on food and fiber production.

7.19 Mineral needs

The Project will have no effect on mineral needs.

7.20 Considerations of property ownership

The project will have no effect on property ownership.

The pump station and raw water intake are situated on a parcel owned in fee simple by JRWA. The water main will be constructed within easements obtained through voluntary agreements with the underlying landowners. Furthermore, after completion of the Project, the areas subject to the water main easement will return to their preconstruction land uses.

7.21 The needs and welfare of the people

The Project will have a significant beneficial effect on the needs and welfare of the people.

As discussed above in Sections 3.0, 7.2, 7.10, and 7.14, this Project is designed to meet the needs of residents and businesses in Louisa and Fluvanna Counties for a long-term public water supply.

7.22 Conclusion

The public interest review factors weigh overwhelmingly in favor of authorizing the Project.

As described above, the Project has been designed to have a de minimis impact on environmental resources. This was accomplished in large part by co-locating the Project as much as practicable within or immediately adjacent to existing rights-of-way for a CSX rail line, a large electrical transmission line, and dual petroleum pipelines. Co-location allows the project to minimize the disturbance of undisturbed areas, aquatic resources, and forests. Impacts to streams and wetlands have been minimized to the maximum extent practicable and are almost exclusively temporary in nature. The long-term aesthetic impacts of the project on the landscape are limited to the modest pump station structure designed to blend into the landscape and be shielded from public view. The land disturbed for installation of the water main will be completely

restored following construction. Water quality and aquatic life will be protected during the construction and long-term operation of the water supply project through compliance with various state regulations and permits that have been previously obtained by JRWA.

The most prominent potential detrimental effect of the Project will be on historic properties. As the USACE is aware, JRWA has been actively engaged in the NHPA Section 106 consultation process for several years. The comments and concerns of the USACE, DHR, and consulting parties have been expressed and will be addressed in a forthcoming revision to the treatment plan. Upon close scrutiny, the actual, incremental impacts of the Project on the historic resources at Point of Fork are limited and are dwarfed by other historical and current uses of the site. Nevertheless, a robust package of mitigation measures is being developed that will minimize these impacts below the level of significance. But even if the proposed mitigation does not neutralize all detrimental effects to historic properties, they pale in comparison to the demonstrable public benefits of the project.

This project will provide a much-needed short and long-term public water supply for two growing counties. The myriad public benefits derived from a reliable and affordable source of drinking water are obvious. In particular, the land use and planning goals embodied Fluvanna and Louisa Counties' respective comprehensive plans cannot be fulfilled absent the ability of these local government entities to provide a source of public water to identified growth areas that presently have an overtaxed or nonexistent water supplies. Similarly, the increased residential, commercial, and industrial growth that will be enabled by the water supplied by this project will have significant long-term economic benefits for both counties. A safe public water supply provides public health benefits to residents and increases public safety by providing a source of water to build out a system of hydrants for fire departments and to install commercial fire suppression systems.

In conclusion, although the Project will have a detrimental effect on historic resources, those impacts can be mitigated and, in any event, are far outweighed by the long-term public benefits of the Project. Furthermore, those detrimental effects (to the extent they cannot be fully neutralized through mitigation) are unavoidable because Section 4 demonstrates that the proposed Project is the only practicable alternative that fulfills the project purpose and need. Fulfilling that project purpose and need through the proposed Project is overwhelmingly in the public's interest.

8.0 PUBLIC INVOLVEMENT

Public involvement has been a critical part of the development of this project. From 2012 - January 2016 there were 80 public meeting held in Fluvanna County discussing water and sewer infrastructure options. As part of this early public involvement, 15 James River Water Project Community and Neighborhood meetings were held as summarized below:

- February 4, 2014 Public Info Meeting for JRWA Permit Withdrawal Location, Spring Creek
- June 10, 2014 Comp Plan Community Meeting, Fork Union
- June 12, 2014 Comp Plan Community Meeting, Palmyra
- June 17, 2014 Comp Plan Community Meeting, Lake Monticello
- October 20, 2014 Comp Plan Community Meeting, Troy
- October 21, 2014 Comp Plan Community Meeting, Palmyra
- December 16, 2014 Town Hall Meeting, Kents Store
- April 7, 2015 Town Hall Meeting, Kents Store
- September 10, 2015 Technical Review Committee Meeting, Palmyra
- September 10, 2015 Neighborhood Meeting, Palmyra
- September 23, 2015 Planning Commission Public Hearing, Palmyra
- November 10, 2015 Community Meeting, Fork Union
- December 2, 2015 BOS Public Hearing, Palmyra
- January 7, 2016 Technical Review Committee Meeting, Palmyra
- January 7, 2016 Neighborhood Meeting, Fork Union
- Numerous JRWA Monthly Board Meetings

In order to seek additional public input regarding the proposed Project, the Applicant placed Public Notice information in The Daily Progress newspaper from January 13, 2014 – January 19, 2014. On February 4, 2014, the Applicant hosted a Public Comment Meeting regarding the proposed Project. During this meeting, the Applicant's representatives gave a presentation regarding the proposed Project and requested written comments (to be received during the seven days following the meeting). No comments were received by the Applicant during that meeting or during the following seven days.

As part of the initial JPA application review process, DEQ and VMRC conducted their own public involvement coordination. DEQ contacted the appropriate state regulatory agencies and reviewed public comments received during the regulatory Public Involvement process. VMRC held a Public Meeting to discuss the state-owned bottomlands impacts associated with the project on June 28, 2016. Per state regulatory guidelines, the regulatory agencies considered public comments before each agency issued their respective permits. See [Appendix K: Public Involvement Information](#) for supporting documentation.

Per 33 C.F.R. §§ 325.1(d)(10) and 325.3(a), the applicant believes the agency has sufficient information to issue a public notice. Should public notice be required in a local newspaper, the paper of local record is The Daily Progress (685 West Rio Road Charlottesville, VA 22901; 434-978-7200).

APPENDIX A
ENG FORM 4345

17. DIRECTIONS TO THE SITE

The proposed Project is primarily located in Fluvanna County, Virginia immediately southwest of Columbia within an area known as 'Point of Fork'.

The proposed intake is located on the north bank of the James River approximately 0.4 miles upstream of the confluence with the Rivanna River. The site can be accessed from the terminus of Route 624 (Point of Fork Road). See Support Document for Vicinity Map.

18. Nature of Activity (Description of project, include all features)

The infrastructure associated with this project includes a pump station, raw water intake, wet well influent pipe, pump station wet well, pump, piping and valve equipment, electrical and pump control equipment, a raw water pipeline, and improvements to an existing access road. Discharges of fill is proposed. See 'Project Description' section in Support Document for details.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the proposed project is to provide a new and reliable raw water supply of sufficient quantity to meet the short- and long-term needs of Fluvanna and Louisa Counties for delivery to an existing interconnection point planned for use by Fluvanna and Louisa Counties .

See 'Project Need' section in Support Document for additional details.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

Due to the linear nature of the project impacts to jurisdictional features are unavoidable. Each impact of jurisdictional features has been strategically placed to minimize and/or avoid additional wetland and stream impacts. Where possible wetlands and streams were crossed perpendicularly to minimize impacts. See 'Proposed Jurisdictional Impact' section in Support Document for details.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
-------------------------------	-------------------------------	-------------------------------

See Support Document and Drawings

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 0.11 acres (wetlands and streams)

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

The Applicant has avoided and minimized impacts to greatest extent practicable given the project's purpose and need, including the utilization of a Preliminary Jurisdictional Determination (NAO-2014-0708) and a detail alternatives analysis. Compensatory mitigation for unavoidable permanent impacts are proposed to be achieved through the purchase of off-site mitigation credits from commercial wetland and stream mitigation banks. Wetland mitigation credits are proposed based on standard mitigation ratios for wetland impacts. Stream credits are proposed based on Unified Stream Methodology Stream Assessments. See the 'Avoidance, Minimization and Compensation' section of Support Document for additional details.

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

N/A

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

a. Address- See 'Adjacent Property Owner' figure in Support Document

City - State - Zip -

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
See Support Doc. -	Project Authorization	Section			

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.


 2020-03-17
 SIGNATURE OF APPLICANT DATE


 2020-03-17
 SIGNATURE OF AGENT DATE

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

APPENDIX B
REGULATORY COMPLIANCE CHECKLIST

REGULATORY COMPLIANCE CHECKLIST

Requirement	Citation	Reference Location	Note
Standard Application Requirements			
Pre-Application Meeting	33 CFR § 325.1(b)	Section 2.1	See referenced text for brief project history.
Application Form ENG Form 4345	33 CFR § 325.1(c)	App. A	
Proposed Activity Plan Drawings	33 CFR § 325.1(d)(1)	App. I-1 & I-4	
Purpose and Need	33 CFR § 325.1(d)(1)	Section 3	
Project Schedule	33 CFR § 325.1(d)(1)	Section 2.5	
Adjoining Property Owners	33 CFR § 325.1(d)(1)	Section 2.3	See Figure 4.
Adjacent Structures	33 CFR § 325.1(d)(1)	n/a	No adjacent structures.
Other Required Authorizations	33 CFR § 325.1(d)(1)	Section 2.2	See Table 1.
Related Activities	33 CFR § 325.1(d)(2)	n/a	None.
Mitigation	33 CFR § 325.1(d)(7)	Section 6.2	
Signature	33 CFR § 325.1(d)(8)	App. A	
Permit Fee	33 CFR § 325.1(f)	n/a	Applicant is local government authority.
Particular Permit Requirements			
CWA 401 Certification	33 CFR § 325.2(b)(1)	Section 2.2.2	Minor modification pending; see referenced text.
CZMA Consistency	33 CFR § 325.2(b)(2)	Section 2.2.1 & App. D-3	Federal consistency review not required
NHPA Consultation	33 CFR § 325.2(b)(3)	Sections 2.2.3 & 7.6	Pending; see referenced text.
ESA Consultation	33 CFR § 325.2(b)(5)	Section 2.2.4	Pending; see referenced text.
Related Laws			
CWA 401 Certification	33 CFR § 320.3(a)	Section 2.2.2	Minor modification pending; see referenced text.
CZMA Consistency	33 CFR § 320.3(b)	Section 2.2.1 & App. D-3	Federal consistency review not required
NEPA Review	33 CFR § 320.3(d)	Passim	Information provided throughout this document intended to support USACE's NEPA review.

NHPA Consultation	33 CFR § 320.3(g)	Sections 2.2.3 & 7.6	Pending; see referenced text.
ESA Consultation	33 CFR § 320.3(i)	Section 2.2.4	Pending; see referenced text.
Wild & Scenic Rivers	33 CFR § 320.3(l)	n/a	None with project area.
Permit Evaluation Factors			
Public Interest Review	33 CFR § 320.4(a)	Section 7	See referenced text for information to support review.
Effect on Wetlands	33 CFR § 320.4(b)	Sections 5.2 and 6.2	See referenced text for information to support review.
Fish & Wildlife	33 CFR § 320.4(c)	Sections 5.1.8 & 7.7	See referenced text for information to support review.
Water Quality	33 CFR § 320.4(d)	Sections 2.2.2 & 7.15	Minor modification pending; see referenced text.
Historic, Cultural, Scenic, & Recreational	33 CFR § 320.4(e)	Sections 2.2.3, 7.3, 7.7 & 7.13	See referenced text for information to support review.
CZMA Consistency	33 CFR § 320.4(e)	Section 2.2.1 & App. D-3	Federal consistency review not required
Other Required Authorizations	33 CFR § 320.4(j)	Section 2.2	See Table 1.
Floodplain Protection	33 CFR 320.4(l)	Sections 7.8 & 7.9	
State Water Supply Determination	33 CFR 320.4(m)	Section 7.14	
Environmental Benefits	33 CFR 320.4(p)	Section 5.2.3	
Economic Benefits	33 CFR 320.4(q)	Section 7.2	
Mitigation	33 CFR 320.4(q)	Section 6.2	
404(b)(1) Guidelines			
LEDPA Analysis	40 CFR § 230.10(a)	Section 4.3	
Discharge Prohibitions	40 CFR § 230.10(b)	Sections 2.2.2 & 2.2.4	
Significant Degradation Prohibition	40 CFR § 230.10(c)	Section 2.2.2	
Avoidance and Minimization	40 CFR § 230.10(d)	Section 6.1	
Short- and Long-Term Effects	40 CFR § 230.11	Sections 2.2.2, 5.2.1, & 7.15	See referenced text for information to support review.
Effects on Physical Substrates	40 CFR § 230.11(a)	Sections 2.2.2, 5.2.1, & 7.15	See referenced text for information to support review.
Effects on Water Circulation	40 CFR § 230.11(b)	Sections 2.2.2 & 5.2.1	See referenced text for information to support review.

Effects of TSS/Turbidity	40 CFR § 230.11(c)	Sections 2.2.2, 5.1.8.4, & 7.15	
Contaminants	40 CFR § 230.11(d)	Sections 2.2.2 & 7.15	
Effects on Aquatic Ecosystem		Sections 2.2.2 & 7.7	
Cumulative Effects on Aquatic Ecosystem	40 CFR § 230.11(g)	Section 2.2.2	
Secondary Effects on Aquatic Ecosystem	40 CFR § 230.11(h)	Section 2.2.2 & 5.2.3	
Compensatory Mitigation	40 CFR § 230.93	Section 6.2	
Mitigation Plan	40 CFR § 230.94(c)	Section 6.2	
National Environmental Policy Act			
Purpose and Need	33 CFR § 230.10(b); 40 CFR § 1502.13	Section 3	
Impact Significance Review	33 CFR § 230.11; 40 CFR § 1508.13	Sections 4.3 & 7	See referenced text for information to support review.
Alternatives Analysis	33 CFR § 230.10(b); 40 CFR § 1502.14	Section 4	
Affected Environment	33 CFR § 230.10(b); 40 CFR § 1502.15	Section 5	
Environmental Consequences	33 CFR § 230.10(b); 40 CFR § 1502.16	Sections 4 - 7	
Limitation on Actions	33 CFR § 230.22; 40 CFR § 1506.1	n/a	No construction commenced.

APPENDIX C COLLECTED INTERJURISDICTIONAL AGREEMENTS

APPENDIX C-1

MEMORANDUM OF UNDERSTANDING BETWEEN THE FLUVANNA COUNTY BOARD OF SUPERVISORS AND THE LOUISA COUNTY BOARD OF SUPERVISORS CONCERNING PROVISION OF PUBLIC WATER SERVICE

APPENDIX C-2

AN AGREEMENT BETWEEN LOUISA COUNTY, VIRGINIA, FLUVANNA COUNTY, VIRGINIA, THE LOUISA COUNTY WATER AUTHORITY, AND THE JAMES RIVER WATER AUTHORITY REGARDING THE JAMES RIVER WATER PIPELINE DOCUMENTS

APPENDIX C-2-1

AN AGREEMENT BETWEEN LOUISA COUNTY, VIRGINIA, FLUVANNA COUNTY, VIRGINIA, THE LOUISA COUNTY WATER AUTHORITY, AND THE JAMES RIVER WATER AUTHORITY REGARDING THE JAMES RIVER WATER PIPELINE

APPENDIX C-2-2

ADDENDUM NO. 1 TO "AGREEMENT BETWEEN LOUISA COUNTY, VIRGINIA, FLUVANNA COUNTY, VIRGINIA, THE LOUISA COUNTY WATER AUTHORITY, AND THE JAMES RIVER WATER AUTHORITY REGARDING THE JAMES RIVER WATER PIPELINE"

APPENDIX C-3

JAMES RIVER WATER AUTHORITY STANDARD TERMS AND CONDITIONS

APPENDIX C-4

PROCUREMENT POLICY OF JAMES RIVER WATER AUTHORITY

APPENDIX C-5

RESOLUTION SIGNIFYING THE INTENTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF FLUVANNA TO CREATE A JOINT WATER AUTHORITY UNDER THE VIRGINIA WATER AND WASTE AUTHORITIES ACT AND SETTING FORTH ITS ARTICLES OF INCORPORATION

APPENDIX C-6

ARTICLES OF INCORPORATION OF JAMES RIVER WATER AUTHORITY

APPENDIX C-7

JAMES RIVER WATER AUTHORITY BYLAWS

APPENDIX C-8

SERVICE AGREEMENT AMONG JAMES RIVER WATER AUTHORITY AND THE COUNTY OF FLUVANNA, VIRGINIA, AND THE COUNTY OF LOUISA, VIRGINIA

APPENDIX C-9

RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF FLUVANNA, VIRGINIA, APPROVING THE EXECUTION AND DELIVERY OF A SUPPORT AGREEMENT

APPENDIX C-10

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF LOUISA VIRGINIA APPROVING THE EXECUTION AND DELIVERY OF A SUPPORT AGREEMENT

APPENDIX C-11

RESOLUTION PROVIDING FOR THE ISSUANCE AND SALE OF A REVENUE BOND, SERIES 2016, OF THE JAMES RIVER WATER AUTHORITY AND PROVIDING FOR THE FORM, DETAILS AND PAYMENT THEREOF

APPENDIX C-12

BOARD OF DIRECTORS JAMES RIVER WATER AUTHORITY RESOLUTION: RESOLUTION APPROVING PUBLIC USES AND AUTHORIZING ACQUISITION OF NECESSARY PROPERTY BY EMINENT DOMAIN

APPENDIX C-13

REIMBURSEMENT AGREEMENT BETWEEN JAMES RIVER WATER AUTHORITY AND THE COUNTY OF FLUVANNA, VIRGINIA

APPENDIX C-1

**MEMORANDUM OF UNDERSTANDING BETWEEN THE FLUVANNA COUNTY BOARD OF SUPERVISORS AND THE
LOUISA COUNTY BOARD OF SUPERVISORS CONCERNING PROVISION OF PUBLIC WATER SERVICE**



COPY

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE
FLUVANNA COUNTY BOARD OF SUPERVISORS
AND THE
LOUISA COUNTY BOARD OF SUPERVISORS
CONCERNING PROVISION OF PUBLIC WATER SERVICE**

WHEREAS, both Counties have authorized, by action of the respective County Boards, for selected members of the Boards and staff to work together on the seven tasks outlined in Section 7.0 Next Step in the "Report of Recommended Water Supply Alternatives" dated October 2, 2002 (attached) and to negotiate toward an agreement between the Counties on joint water supply and service from the James River, and

WHEREAS, the Water Supply Work Group has met on a number of occasions beginning in November 2002, and

WHEREAS, both Counties have acknowledged needs for public water services, which the James River can satisfy, and

WHEREAS, the Counties find the best solution to their respective water needs is to provide service from the James River, and

WHEREAS, under this memorandum of understanding between the Fluvanna County Board of Supervisors and the Louisa County Board of Supervisors, hereinafter referred to as the Counties, the following understandings are acknowledged,

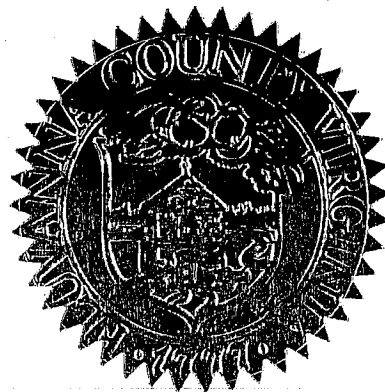
NOW THEREFORE BE IT RESOLVED THAT THE PARTIES INTEND AS FOLLOWS:

1. Each County will own and operate the lines and facilities within its boundaries.
2. The Counties each will have 50% of the capacity in the system, unless otherwise agreed and adjusted by contract at a later date.
3. The Counties each will invest in the system at a rate of 50% of the capital costs to build facilities needed to create the total capacity. This percentage corresponds with the percentage of capacity that will be reserved for each County.

4. It is recognized that the Louisa County Zion Cross Roads water tank is needed for pressure and storage and Fluvanna will credit Louisa County with 50% of the capital cost of the water tank.
5. Louisa County will purchase water at a wholesale rate. This wholesale rate will not include the capital cost of the original construction of the system.
6. Louisa County recognizes that the James River will be the primary source for water supply in the Zion Crossroads Area.
7. Both Counties agree that the water intake permitting process will be undertaken and started immediately in order to permit up to 6,000,000 gallons per day for withdrawal from the James River. The Counties will split the cost of this work equally. It is anticipated that the cost of permitting will be approximately \$30,000.
8. Both Counties agree to advertise for engineering services to commence design of the water system including detailed cost estimates. The Counties will split the cost of this work equally, except for those lines that serve only one County.
9. The initial phase of the water project is anticipated to be designed, permitted and constructed during the next 48 months. This phase of the project will include the water intake on the James River, a water treatment plant, and piping to deliver the water to the Fork Union Sanitary District, Zion Crossroads and the Fluvanna Correctional Facility.
10. It is anticipated that the water plant at the Fluvanna Correctional facility will continue to operate while the water system is being constructed. Louisa's water supply will be used for backup supply of the prison until the water supply from the James River is connected.
11. The joint Water Supply Work Group has drafted a three phase timetable and cost sharing plan for provision of the foregoing service.
12. It is the intent of the parties that the final agreement of the parties for the permanent implementation of the projects outlined hereinabove shall be set out in a formal contract to be negotiated between them. The parties agree to negotiate such agreement in good faith, but it is expressly understood that the parties do not intend to bind themselves with respect to the subject matter of this memorandum of understanding; that there are outstanding unresolved issues; and that there shall be no such final agreement unless and until the governing bodies of the parties shall have both agreed to all the terms and to the form thereof.

Witness the signatures of the respective authorized agents of the parties.

Board of Supervisors of Louisa County	Board of Supervisors of Fluyanna County
By <u><i>Fitzgerald A. Brown</i></u> Its Chairman	By <u><i>[Signature]</i></u> Is Chairman
Date: <u>3/30/04</u>	Date: <u>3/30/04</u>



**Report of Recommended Water Supply Alternative
Water Supply Work Group
October 2, 2002**

1.0 Introduction

The Board of Supervisors created the water supply work group at their regular meeting on June 19, 2002 in order to develop a recommendation to provide a more reliable water supply source for the Fork Union Sanitary District (FUSD) and other County needs. The work group was directed to return a recommendation to the Board of Supervisors by October 2, 2002. A copy of the extract and the presentation made at the June 19, 2002 Board of Supervisors' meeting is attached in Appendix A.

The Board of Supervisors selected the work group members at this meeting. The members include: Cecil Cobb, Supervisor of the Fork Union District; Len Gardner, Supervisor of the Rivanna District; Macon Sammons, County Administrator; Pat Groot, Grants Administrator; and John Robins, Director of Public Works.

This group has met seven times in order to review options and make a recommendation for a course of action with which the County can proceed that will provide a more reliable water supply. During the course of investigation of the various options it became clear that one of the better options for water supply would be the James River. While reviewing the costs of the components of a water supply using the James River, it was also very clear that the FUSD could not financially support this without help. Using partners to defray the cost of construction and operations was included in order to make this a financially viable solution.

Many studies have been undertaken presenting possible scenarios to provide water to various parts of Fluvanna County. The data in these studies were used in portions of this report. The data presented in these studies were reviewed and updated or modified to better represent possible future conditions as seen by the Work Group. No new studies were undertaken to complete this report. This new report was developed and assembled solely by the Water Supply Work Group.

This report presents the results of the deliberations, discussions and recommendations of this work group. It briefly touches on some of the background information concerning the difficulties faced by FUSD and other well users in the County; the estimates for needs in the County over the next 25 years; a recommended course of action; the estimated costs associated with this course of action; possible partners to share in the costs for construction and operations; and recommendations on what to do next.

2.0 Background

Within Fluvanna County, there are several public water supply systems. These are supplied by both groundwater and surface water supplies. Some examples include the following:

- The water system at Lake Monticello is supplied using water from the Rivanna River.
- The water system at the Women's Prison is supplied using water from the Mechunk Creek.
- The FUSD system is supplied using water wells and filter plants.
- The systems in Palmyra and Columbia are also using water wells to supply water to their customers.

These systems are undergoing various stresses due to the prolonged and severe drought that the east coast is experiencing at the present.

The degree of stress that each water system is facing is dependent upon primarily the source supply of water. Overall, it appears that the larger the source of water that is supplying the water system the better the system is dealing with the conditions caused by the drought. The small water system in Palmyra and Columbia as well as in FUSD are faced with shortages of supply from their groundwater wells as well as the uncertainty of being able to accurately monitor the level of the water that provides this supply. This makes it difficult to face this severe drought not knowing when the wells may run dry.

The Mechunk Creek, which is a small tributary that runs into the Rivanna River and then eventually into the James River, supplies the women's prison. The women's prison during this drought has been down to only 30 days of stored water on hand. The stored water was their only source of water at that time because the creek did not have any running water in it. They have been able to weather the drought so far not because they use the Mechunk Creek, a relatively small source of water, as a supply source but because they have a 35,000,000-gallon raw water storage pond next to the prison. They have used this pond successfully to store water from the creek during rain events. Even with this storage capability they have been very low on water and are currently reviewing plans to find water from another source.

The Lake Monticello water system is in better shape since the Rivanna River is larger than the Mechunk Creek. However, as can be readily noticed the Rivanna River is also very low and the Lake Monticello water system may also feel the effects of this prolonged drought.

Systems in the area that have dealt better with the drought are those that have a reliable source of water and adequate storage for raw water. One such system is in Louisa County. Adequate storage in the form of a reservoir allows for collection of water when the rivers are running full. The stored water can be used during the dry periods, such as now.

3.0 Estimated Demands for Water

There have been several studies concerning water supply, storage, treatment and distribution over the last 25 years. Information in this section was obtained from projections of demand by Timmons in their report entitled "Water and Wastewater, Preliminary Engineering Report and Facility Master Plan" dated November 6, 1998.

The projections were based on the growth areas in the County and the historic growth rate trends. The projected demands shown in this report seemed high to the Work Group and were decreased to reflect what seems more probably in the foreseeable future. These projected demands for water are shown in the following table. The areas that are represented are voting districts and are the ones that could be served readily by the water system that will be discussed later in this report.

Table No. 1 – Projected Water Demands (in gallons/day)

Area	2005	2010	2015	2025	Comments
Fork Union	200,000	250,000	275,000	300,000	
Palmyra	50,000	250,000	500,000	1,000,000	Route 250 Corridor
Columbia	50,000	100,000	200,000	300,000	Route 250 Corridor
Women's Prison	150,000	150,000	150,000	150,000	No projects known at this time
Louisa County	50,000	250,000	750,000	1,200,000	Zion Cross Roads Area and Route 250 Corridor
TOTALS	500,000	1,000,000	1,875,000	2,950,000	

4.0 Recommended Project Scope

The Work Group reviewed and discussed options to develop a more reliable water supply. It was decided that the bottom line for almost any feasible option is to use the James River in conjunction with a storage facility or reservoir. In this way the high flow conditions of the James can be used as a resource and not simply watched as it passes by the County on its way to the Atlantic. The recommendation of the Work Group is as follows:

1. The source of the water will be the James River;
2. The water intake will be the existing (although unused) intake for the Fork Union Sanitary District that is located just downstream of the bridge at Bremono Bluff. (In addition, in the future, excess water during high flow conditions can be obtained

- from the East Coast Transport Incorporated (ECTI) intake for storage in a possible future County reservoir);
3. The water can be transported using the ECTI pipeline, along with separate new pipelines built by the County primarily in road right-of-ways;
 4. Water treatment would be built in the general vicinity of Routes 15 and 649. The water treatment plant would be developed so that it is modular and capable of being expanded. This reduces the cost of the initial phase while still allowing the expansion of the system as demand requires it to be increased in capacity;
 5. Water storage in a reservoir can be made anywhere along the pipeline alignment from the James River to the water treatment plant (in the raw water transport leg of the system). The location of such a reservoir would be based on topography, soil and rock conditions, wetlands, historic and endangered species identification and availability of land. A study of the possible locations will need to be made if this course of action is chosen;

The system is made up of many components including the water intake, storage, treatment, conveyance and distribution lines.

5.0 Estimated Cost of Project

The costs of the system as presented in the recommendation above are estimated as follows:

TABLE 2 – Cost Estimate of Total Project

Component	Approximate Cost	Comments
Upgrade of Existing Water Intake for FUSD to accommodate up to 3,000,000 gal/day	\$1,500,000	
Pipeline on Route 649	\$600,000	16 inch pipeline
Reservoir	\$3,000,000	
Water Treatment Plant	\$9,000,000	Treatment Plant to treat up to 3,000,000 gal/day
Pipeline to connect water treatment plant to FUSD	\$500,000	16 inch pipeline
Pipeline to connect water treatment plant to Palmyra and Pleasant Grove	\$600,000	16 inch pipeline
Pipeline from Palmyra to Zion Cross Roads	\$2,500,000	16 inch pipeline
Pipeline from Zion Cross Roads to Women's Prison on Route 250	\$600,000	12 inch pipeline
TOTAL Cost of Project	\$18,300,000	

These are the overall costs for development of the full scale of this project. The system should be approached in phases to match the demands and to reduce both the capital costs and the operations costs. A phased approach costs estimate is as follows:

TABLE 3 – Cost Estimate of Phased Approach

Component	Phase One Cost (2003-2005)	Phase Two Cost (2005-2010)	Phase Three Cost (2010-2020)
Upgrade of Existing Water Intake for FUSD	\$1,500,000 Upgrade intake to withdraw 3,000,000 gal/day		
Pipeline on Route 649	\$600,000		
Reservoir			\$3,000,000
Water Treatment Plant	\$3,000,000 Build Plant to treat 1,000,000 gal/day	\$3,000,000 Expand Plant to treat 2,000,000 gal/day	\$3,000,000 Expand Plant to treat 3,000,000 gal/day
Pipeline to connect water treatment plant to FUSD	\$500,000		
Pipeline to connect water treatment plant to Palmyra and Pleasant Grove		\$600,000	
Pipeline from Palmyra to Zion Cross Roads		\$2,500,000	
Pipeline from Zion Cross Roads to Women's Prison on Route 250	\$1,000,000 Use Water from Louisa to Supply Prison Needs for Short Term		
TOTAL Cost of Project	\$6,600,000	\$6,100,000	\$6,000,000

Note: These estimates use today's dollars and are not adjusted to reflect changes in cost of living or inflation.

This is just one example of a phased approach to this project. Depending on how the project scope is developed and the actual water demands change in the future this phased approach will likely differ.

Funding for this project will likely be through low interest loans. Of course, any grant money that is available would be actively pursued. At this time it is low likelihood that grants will be available for this project. Therefore, the planning for funding this project is based on full funding with no grant money being included.

In preparation of this report, the Work Group has briefly explored the debt service that would be required using various scenarios of the project scope and partnerships. This was done in order to understand the order of magnitude of debt service that this project could require. The attached letter explains the debt services that were reviewed and what the annual cost would be for six different scenarios. The information on Debt Service is attached in Appendix C.

6.0 Possible Partnering to Share Costs

As can be seen from the estimates of cost for this recommendation, the costs are out of reach of Fluvanna County, alone. It is clear that the James River would provided the most reliable source of water for FUSD, but FUSD can not afford the costs to build or operate a surface water treatment plant with only 435 customers. As such the system was extended beyond FUSD to provide other customers and to spread out the costs to build and operate the water system.

In order to further reduce the burden of the capital and operating costs it is recommended that partners be brought into the project. These partners could share both the capital and operating costs. The share of these costs can be split in a number of different ways. One example is to make available a quantity of water to a partner proportional to the level of investment in the project. Some potential partners that were contacted for exploratory discussions during the work group's investigation and deliberations include Louisa County Board of Supervisors, the Department of Corrections, and the Fluvanna County Schools. There was some interest expressed at least unofficially by all parties. If the Board of Supervisors wishes to pursue this concept, it is important that a directive be made that these possible partners be contacted and a proposal presented to them so that the details of a partnership can be discussed and negotiated.

7.0 Next Step

If the Board of Supervisors desires to pursue the recommendations further it is recommended that the following steps be initiated:

1. Reactivate the FUSD intake on the James River. This could require permit application fees on the order of \$5000. Again this could be funded from the Capital Improvements Program budget for Water and Sewer development that was authorized for this fiscal year.
2. Direct the work Group to develop a plan and begin negotiations for potential partnerships with Louisa County Board of Supervisors, the Department of Corrections, and the Fluvanna County School Board.
3. Direct the Work Group to prepare a proposal of the management structure (e.g. County Department of Utilities, Sanitary District, multi-jurisdictional Authority, etc.) for the water system that can be returned to the Board of Supervisors for review;

4. Direct the Work Group to identify and recommend methods and policies that can be used to control growth along the pipeline alignments so that the work will be complete in accordance with the Adopted County Comprehensive Plan.
5. A preliminary engineering report be developed to provide design details of the project and a detailed phased approach to building it. This report should have detailed engineering cost estimates. This report could be used in securing financing and applications for grants, if any are available. The estimated cost for this work is nearly \$20,000. It can be funded from the Capital Improvements Program budget for Water and Sewer development that was authorized for this fiscal year.
6. Pursue low interest loans, grants and other financing strategies.
7. Revisit the decision process once these steps have been completed. This should be in the spring of 2003.

APPENDIX C-2

**AN AGREEMENT BETWEEN LOUISA COUNTY, VIRGINIA, FLUVANNA COUNTY, VIRGINIA, THE LOUISA COUNTY
WATER AUTHORITY, AND THE JAMES RIVER WATER AUTHORITY REGARDING THE JAMES RIVER WATER
PIPELINE DOCUMENTS**

APPENDIX C-2-1
AN AGREEMENT BETWEEN LOUISA COUNTY, VIRGINIA, FLUVANNA COUNTY, VIRGINIA, THE LOUISA COUNTY
WATER AUTHORITY, AND THE JAMES RIVER WATER AUTHORITY REGARDING THE JAMES RIVER WATER
PIPELINE

**AN AGREEMENT BETWEEN LOUISA COUNTY, VIRGINIA, FLUVANNA COUNTY,
VIRGINIA, THE LOUISA COUNTY WATER AUTHORITY, AND THE JAMES RIVER
WATER AUTHORITY REGARDING THE JAMES RIVER WATER PIPELINE**

Dated as of October 1, 2013

AGREEMENT

This Agreement ("Agreement") is made and entered into this first day of October, 2013, by and between LOUISA COUNTY, VIRGINIA, a political subdivision of the Commonwealth of Virginia with powers vested in its Board of Supervisors ("Louisa"), FLUVANNA COUNTY, VIRGINIA, a political subdivision of the Commonwealth of Virginia with powers vested in its Board of Supervisors ("Fluvanna"), the LOUISA COUNTY WATER AUTHORITY, a political subdivision of the Commonwealth of Virginia and a water authority created under the Virginia Water And Waste Authorities Act with powers vested in its Board of Directors ("LCWA"), and the JAMES RIVER WATER AUTHORITY, a political subdivision of the Commonwealth of Virginia and a water authority created under the Virginia Water and Waste Authorities Act with powers vested in its Board ("JRWA").

WHEREAS, Louisa, Fluvanna, LCWA, and JRWA (each a "Party" and collectively "the Parties") mutually desire to enter into this Agreement for the purpose of delineating their respective rights and duties regarding a water pipeline (the "James River Pipeline" or "Pipeline") from a point on the James River near the Town of Columbia to a point in Louisa County;

WHEREAS, the Parties wish to work cooperatively to provide a reliable public water supply to the citizens of Louisa and Fluvanna Counties;

WHEREAS, the Parties recognize that the current Virginia Department of Environmental Quality ("DEQ") water withdrawal permit held by JRWA for the Brems Bluff area ("the Brems Bluff Permit") should be moved to an area near the Town of Columbia ("the Columbia Permit");

WHEREAS, the planning, design, acquisition of real property, and construction of the James River Pipeline will require, among other things, a great deal of planning, engineering work, and site acquisition;

WHEREAS, the cost of the James River Pipeline may run into the tens of millions of dollars, and bonds may be necessary; and

WHEREAS, LCWA and JRWA have authority to enter this Agreement with one another and with each of the Counties, under Va. Code §§ 15.2-5114(11), 15.2-5115, and 15.2-5147, Fluvanna and Louisa may enter into this agreement pursuant to Va. Code § 15.2-5147 as regarding the authorities, and with each other pursuant to Va. Code § 15.2-2148;

NOW THEREFORE, in consideration of \$10.00, cash in hand paid, as well as the mutual covenants, warranties, and agreements set forth herein, and intending to be legally bound, the Parties agree as follows:

1. Covenants Of The Parties

Subject to the terms and conditions of this Agreement, the Parties mutually covenant and agree that:

1.1 Funding of Property Acquisition, Design, and Construction

(a) *JRWA.*

- i. JRWA agrees to fund, construct, operate, and maintain the James River intake and associated structures, the James River pipeline from the intake facility to a point near Route 6 west or north of the Columbia Community Planning Area (CPA), as the CPA is shown on the Fluvanna County Comprehensive Plan at the date of execution of this Agreement, as well as "T" connections and valves to allow Fluvanna and Louisa/LCWA connection to the JRWA system. The precise location of the point will be determined and agreed by the Parties at a later date based on engineering, planning, legal, and other considerations. JRWA will also bear the cost of the acquisition of all real property rights necessary to build the portion of the James River Pipeline that it will own, as laid out in Section 1.2(a), below.
- ii. JRWA may fund its portion of the cost of the activities set out in Section 1.1(a)(i), above, through any lawful means including by issuance of bonds, through a direct contribution from Fluvanna and Louisa, or charge a connection fee and/or periodic water reservation charge to Fluvanna and Louisa proportional to its flow reservation. The amount of the charge which will be fairly and reasonably calculated to amortize the cost of constructing, operating, and maintaining the portion of the James River Pipeline referenced in Section 1.1(a)(i), above. JRWA is encouraged to apply for grants, gifts, subsidized loans, and other sources of funding.
- iii. The fixed baseline operations and maintenance ("O&M") costs of JRWA property, incurred in the absence or regardless of flow, will be split evenly between Fluvanna and Louisa/LCWA. The variable O&M costs which can be attributed to water flows will be proportionally split based on actual water flow to each party, regardless of each party's actual customer location.

(b) *Fluvanna.*

- i. If, after the effective date of this Agreement but prior to the start of final design of the Pipeline, Fluvanna identifies a location on the Louisa portion of the James River Pipeline at which Fluvanna desires to make a "T" connection, Louisa agrees to construct such "T" connection and the necessary increased pipe capacity, including any associated design, construction, and acquisition costs, at no cost to Fluvanna. The precise location of the point will be determined and agreed by the Parties at a later date based on engineering, planning, legal, and other considerations.

- ii. In the event that Fluvanna decides to make additional connections to the James River Pipeline beyond the ones described in Sections 1.1(a)(i) and 1.1(b)(i) above, Fluvanna agrees to pay the incremental increase in costs of design, construction, and property acquisition up to the location of the additional "T" connections, plus the marginal cost of the additional "T" connections over the cost of a straight pipe, to that location.
 - iii. If, after design of the Pipeline has begun, Fluvanna identifies additional locations at which it desires to make a "T" connection to the James River Pipeline, Fluvanna agrees to pay Louisa/LCWA a fair and reasonable periodic reservation fee for the conveyance of the water to that point on the line. The amount of the fee will be fairly and reasonably calculated to amortize the incremental costs of design, construction, and property acquisition and ongoing O&M costs proportional to the flow capacity of the water reserved to Fluvanna.
- (c) *Louisa & LCWA.*
- i. Louisa and LCWA agree to fund, construct, operate, and maintain the James River Pipeline from a point near Route 6 west or north of the Columbia Community Planning Area (CPA), as the CPA is shown on the Fluvanna County Comprehensive Plan at the date of execution of this Agreement (*see* Section 1.1(a), above).
 - ii. Louisa and LCWA agree that they will fund and acquire all real property rights necessary to build the portion of the James River Pipeline that they will own, as laid out in Sections 1.2(a) and (b), below.
- (d) *Route of the Pipeline.* The Parties agree that Attachment A to this Agreement shows the general or approximate location of the James River Pipeline. The specific location will be determined by the Parties in accordance with engineering, planning, legal, and other considerations at a later date. The Party that is contemplated to have responsibility for O&M under this Agreement will have final responsibility for choosing the specific route of the Pipeline. The specific route must substantially conform to the general or approximate location shown on Attachment A unless otherwise specifically agreed by the Parties.

1.2 Ownership

- (a) *In General.* The Parties agree that they will each own such real and personal property as they each acquire or construct, subject to the limitations and specific procedures set forth in this subsection.
- (b) *Property of Louisa/LCWA.* All real and personal property to be acquired, constructed, operated, and maintained by either Louisa or LCWA under

this Agreement may be acquired, constructed, operated, maintained, and owned by either Louisa or LCWA under the terms of whatever operating agreement(s) may be operative between them.

1.3 Reservation of Capacity

- (a) *In General.* This Agreement contemplates that allocation of water between Fluvanna and Louisa will be in accordance with the needs of each county as established and agreed in the Columbia Permit water withdrawal application and DEQ's summary findings of need regarding the Columbia Permit.
- (b) *Temporary Reallocation.* Raw water capacity may be reallocated on a temporary basis. Costs and terms for such temporary reallocations will be fair and reasonable in accordance with law and will be determined by JRWA on request by any of the Parties.
- (c) *Bulk Purchases.* In lieu of or in addition to the procedures laid out in Section 1.2 above for allocation of ownership of the Pipeline, Fluvanna may purchase raw or finished water from Louisa/LCWA, or Louisa/LCWA may purchase raw or finished water from Fluvanna, at a mutually agreed bulk rate. Such rates will be fair and reasonable in accordance with law and will be determined by JRWA on request by any of the Parties.
- (d) *Future Expansion to Columbia Permit.* Unless otherwise agreed by the Parties, if at any time any Party seeks an expansion of the Columbia Permit, JRWA will make such application and be reimbursed by the Party or Parties seeking an expansion. The expansion in the withdrawal permitted by the Columbia Permit will then be reserved to the Party or Parties seeking the expansion.

1.4 Comprehensive Planning, Zoning, and Other Approvals.

- (a) *Fluvanna County Comprehensive Plan.* Fluvanna will take all necessary and legally permissible steps to determine consistency with and/or amend its Comprehensive Plan so as to make the James River Pipeline shown on Attachment A to this Agreement a feature whose general or approximate location, character, and extent are shown on its Comprehensive Plan in accordance with Va. Code Ann. § 15.2-2232 (2012). A determination of substantial conformance or appropriate amendments to the Fluvanna Comprehensive Plan will be completed by November 30, 2013.
- (b) *Fluvanna County Zoning Ordinance.* Fluvanna will take all necessary and legally permissible steps to ensure that the James River Pipeline and its facilities are and remain permitted under its Zoning Ordinance.

- (c) *Local Permits.* JRWA and Louisa/LCWA will obtain construction permits for their portions of the intake, supporting structures, and the James River Pipeline and will make all reasonable efforts to restore all property to its condition prior to the construction or maintenance of the Pipeline.
- (d) *Conservation Easements and Agricultural & Forestal Districts.* To the extent the James River Pipeline passes through an area that is subject to a County conservation easement or an agricultural and forestal district, all Parties agree to take all necessary and legally permissible steps necessary to permit the Pipeline in said area or district.
- (e) *Consent to Use of Property and Power of Eminent Domain.* By executing this Agreement, Fluvanna authorizes JRWA and LCWA to establish, construct, use and maintain the facilities contemplated in this Agreement, and to use the power of eminent domain within its jurisdiction for the purposes contemplated in this Agreement, as required by Va. Code Ann. § 15.2-5114(6) (2012).

1.5 Cooperation on State and Federal Regulatory Approvals.

- (a) *Withdrawal Permit.* JRWA agrees that it will apply for, and pay all costs associated with acquiring, the Columbia Permit. The Parties mutually agree that in pursuit of such permit, JRWA may relinquish the Bremo Bluff Permit. The Parties agree to take all reasonable and legally permissible steps to support JRWA's application.
- (b) *State Board of Health.* The Parties mutually agree to take all necessary and legally permissible steps to obtain the permit from the State Board of Health required by Va. Code Ann. § 32.1-172 (2011).
- (c) *Further Cooperation.* The Parties mutually agree to take all necessary and legally permissible steps to obtain any other local, state, or federal approvals necessary for the James River Pipeline and related facilities.

1.6 Litigation Cooperation.

- (a) *Third Parties.* Notwithstanding anything to the contrary contained in this Agreement, if any action or proceeding by any third party is instituted or threatened to be instituted challenging any transaction or action contemplated by this Agreement, the Parties will mutually use their reasonable best efforts to (i) contest, resist, or resolve any such proceeding or action and (ii) have vacated, lifted, reversed, or overturned any injunction adverse to the Parties or any one thereof resulting from such proceeding or action.
- (b) *Eminent Domain.* The Parties agree that they will mutually use all necessary and legally permissible means for the acquisition of property,

including, but not limited to, easement rights as contemplated in this Agreement at the lowest reasonable price.

- (c) *Obtaining Permits.* If litigation becomes reasonably necessary in order to obtain any of the permits necessary for the objects contemplated in this Agreement, the Parties will mutually use their reasonable best efforts and take all necessary and legally permissible steps to prosecute such litigation to a successful conclusion.

2. Representations And Warranties.

Each of the Parties represents and warranties to the other Parties as follows:

- (a) *Organization in Good Standing.* Each of the Parties is a political subdivision of the Commonwealth duly organized, validly existing, and in good standing under the laws of the Commonwealth of Virginia. In particular, and without limitation, Fluvanna, Louisa, and JRWA stipulate and agree that the rights and obligations of the Parties set forth in this Agreement are consistent with JRWA's purpose and powers as set forth in Paragraph 4 of its Articles of Incorporation.
- (b) *Authorization and Enforceability.* Each of the Parties has the full power and lawful authority, through its governing body, to execute this Agreement and perform its obligations contemplated herein and has duly and validly authorized the execution of this Agreement.

This Agreement constitutes the legal, valid, and binding obligation of each of the Parties, enforceable against each of the Parties in accordance with its terms, except as such enforceability may be limited by applicable laws relating to bankruptcy, insolvency, fraudulent conveyance, reorganization, or affecting creditor's rights generally.

- (c) *Noncontravention.* The Parties' performance of the obligations contemplated by this Agreement will not (i) require any further approvals or consents from any third party other than those approvals or consents mandated by law, ordinance, or regulation in effect as of the date of this Agreement; (ii) violate any law, ordinance, or regulation; or (iii) conflict with or result in a breach of, or constitute a default under, any contract, lease, permit, or other agreement or commitment to which any of the Parties is a party; except where the approvals, consents, violations, or conflicts would have no effect on the ability of any Party to fully consummate all terms of this Agreement.
- (d) *Budgets.* Each of the Parties is responsible for keeping its own budgets relating to this Agreement.

3. Termination.

- 3.1 This Agreement may be terminated only as follows:
- (a) By mutual written consent of all Parties;
 - (b) By any Party, if any state or federal approval necessary to its performance under the terms of this Agreement is refused by a final decision not subject to appeal following diligent pursuit thereof; or
 - (c) By any Party, upon a material breach by any other Party of any covenant, warranty, representation, agreement, or provisions of this Agreement that has not been (i) cured within 30 days after a non-breaching Party gives written notices of said breach to the breaching Party; or (ii) waived by the non-breaching Party.
- 3.2 The effect of termination of this Agreement will be as follows:
- (a) Each Party's right of termination under Section 3.1 of this Agreement is in addition to any other rights it may have under this Agreement or otherwise, and the exercise of a right of termination will not be an election of remedies.
 - (b) If this Agreement is terminated pursuant to Section 3.1 of this Agreement, all further obligations of the Parties under this Agreement will terminate.

4. Remedies.

- 4.1 Specific Performance.
- (a) The Parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement is not performed in accordance with its specific terms or is otherwise breached.
 - (b) The Parties agree that, in the event that there is a disagreement between them regarding compliance with the terms and conditions of this Agreement, prior to filing any suit the disagreement will be submitted by the Parties to a neutral mediator for at least 60 days for assistance in reaching a resolution of the disagreement satisfactory to all Parties.
 - (c) Each Party agrees that, in the event of any breach or threatened breach by any other Party of any covenant, warranty, or obligation contained in this agreement, the non-breaching Parties will be entitled (in addition to any other remedy that may be available, whether in law or equity) to seek and obtain (i) a decree or order of specific performance to enforce the observation and performance of such covenant, warranty, or obligation, and (ii) an injunction restraining such breach or threatened breach.

5. Miscellaneous.

- 5.1 Entire Agreement. This Agreement constitutes the entire agreement between the Parties concerning its subject matter and supersedes all prior oral or written agreements, understandings, representations, and warranties, as well as courses of dealing among the Parties.
- 5.2 Amendment. This Agreement may be amended or modified only by a writing executed by all Parties.
- 5.3 Extension or Waiver of Performance. The Parties may jointly extend the time or waive the performance of any of the obligations of any other, waive any inaccuracies in the warranties or representations made by the other, or waive compliance with any of the covenants, conditions, or agreements contained in this Agreement, provided that any such extension or waiver must be in writing and signed by all other Parties in the case of a waiver, or by all Parties in the case of an extension.
- 5.4 Assignment or Delegation. No Party shall assign, delegate, or otherwise transfer any of its duties, rights, or obligations under this Agreement without the prior written consent of all other Parties.
- 5.5 Successors and Assigns; Binding Effect. This Agreement is binding on, and inures to the benefit of, the Parties and their respective successors and permitted assigns.
- 5.6 Governing Law. This Agreement is to be governed and construed under the laws of the Commonwealth of Virginia.
- 5.7 Notices. All notices provided in this Agreement must be in writing, and may be delivered in person; sent by U.S. registered and certified mail, return receipt requested; or sent by Federal Express or other nationally-recognized overnight courier from which a receipt may be obtained to the chief administrative officer and chief legal counsel of each of the other Parties.
- 5.8 Construction. In the event of any ambiguity or question of intent or interpretation arises, this Agreement will be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement.

Any reference to any federal, state, local, or foreign statute shall be deemed to refer to all statutes, rules, and regulations referenced therein or promulgated thereunder, unless the context requires otherwise.

Words used herein, regardless of the number and gender specifically used, shall be deemed and construed to include any other number, singular or plural, and any other gender, masculine, feminine, or neuter, as the context may require. The word "including" means included, without limitation.

- 5.9 Remedies. The remedies afforded in this Agreement are cumulative to each other and to all other remedies provided by law.
- 5.10 Time of the Essence. Where a specific date or time is stated in this Agreement, time is of the essence of this Agreement.
- 5.11 Waiver. Except as otherwise provided herein, no delay of or omission in the exercise of any right, power or remedy accruing to any Party as a result of any breach or default by any other Party under this Agreement will impair any such right, power, or remedy; nor shall it be construed as a waiver of or acquiescence in such breach or default, or any similar breach or default occurring later; nor shall any waiver of a single breach or default be deemed a waiver of any other breach or default occurring before or after the waiver.
- 5.12 Jurisdiction and Venue. Each Party irrevocably submits to the exclusive jurisdiction of the Circuit Courts for Louisa County and Fluvanna County, at the option of the plaintiff in such suit, and the appellate courts therefrom, for the purposes of any suit or action arising out of this Agreement.
- 5.13 Third-Party Beneficiaries. Nothing herein expressed or implied is intended or should be construed to confer on or give to any person other than the Parties any rights or remedies under or by reason of this Agreement.
- 5.14 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original copy of this Agreement and all of which, when taken together, shall be deemed to constitute one and the same agreement.

[Signatures Appear on Next Page]

FOR LOUISA COUNTY, VIRGINIA:

[Signature] Date: Oct 1, 2013
Chairman, Board of Supervisors

FOR FLUVANNA COUNTY, VIRGINIA:

[Signature] Date: 02 Oct 2013
Chairman, Board of Supervisors

FOR THE LOUISA COUNTY WATER
AUTHORITY:

[Signature] Date: 10.9.13
Chairman, Board of Directors

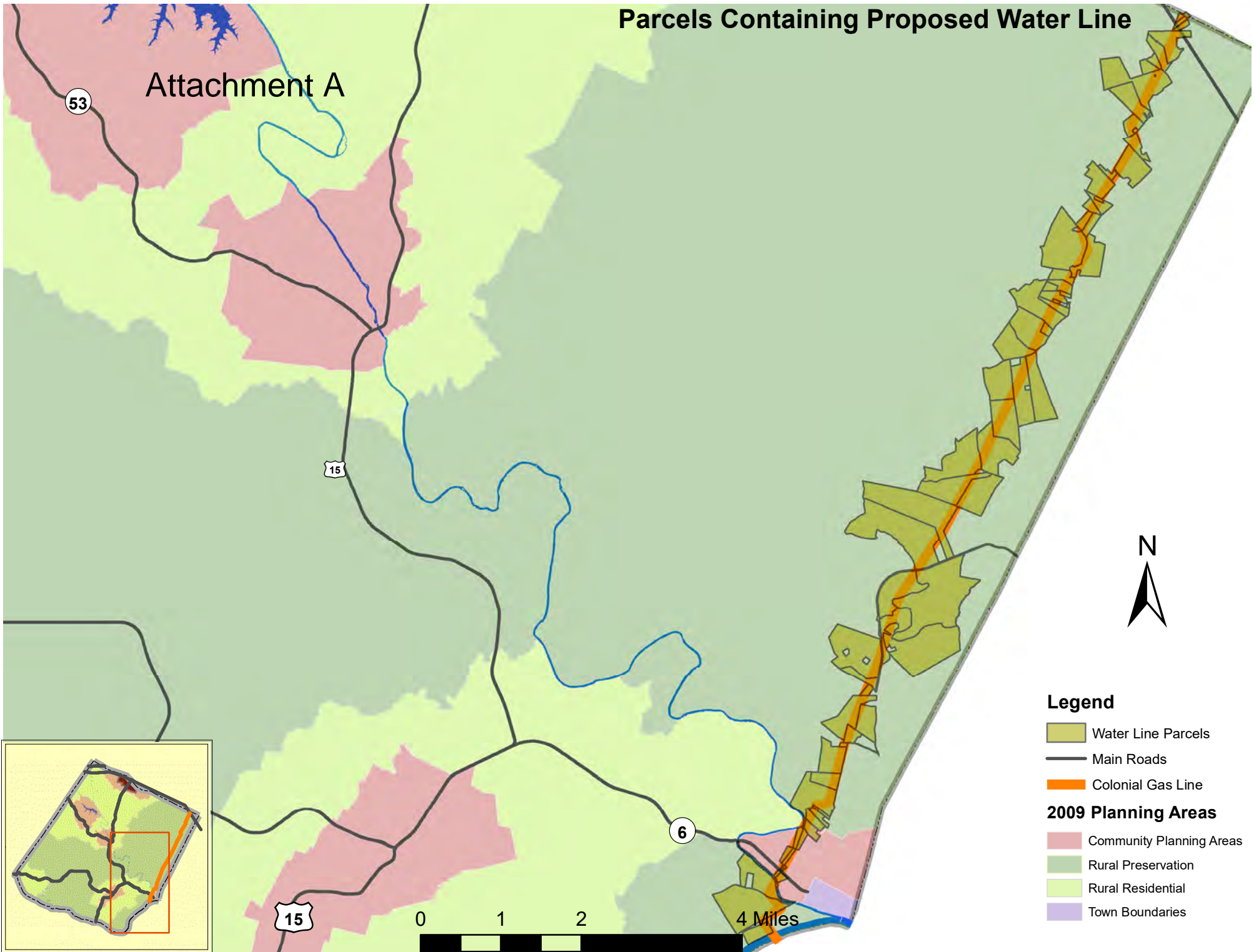
FOR THE JAMES RIVER WATER
AUTHORITY:

[Signature] Date: 15 Oct 13
Chairman, Board of Directors



Parcels Containing Proposed Water Line

Attachment A



Legend

- Water Line Parcels
- Main Roads
- Colonial Gas Line

2009 Planning Areas

- Community Planning Areas
- Rural Preservation
- Rural Residential
- Town Boundaries

APPENDIX C-2-2

**ADDENDUM NO. 1 TO “AGREEMENT BETWEEN LOUISA COUNTY, VIRGINIA, FLUVANNA COUNTY, VIRGINIA,
THE LOUISA COUNTY WATER AUTHORITY, AND THE JAMES RIVER WATER AUTHORITY REGARDING THE JAMES
RIVER WATER PIPELINE”**

ADDENDUM NO. 1 TO

**“AGREEMENT BETWEEN LOUISA COUNTY, VIRGINIA, FLUVANNA COUNTY,
VIRGINIA, THE LOUISA COUNTY WATER AUTHORITY AND THE JAMES RIVER
WATER AUTHORITY REGARDING THE JAMES RIVER WATER PIPELINE”
DATED OCTOBER 1, 2013**

November ____, 2015

The parties hereby agree to supplement the Agreement among them, dated October 1, 2013, as follows, in order more clearly to express the intent of the parties, their respective rights and duties thereunder and to protect the public health, safety and general welfare of the citizens of Louisa and Fluvanna Counties. The terms of this Addendum shall not be deemed to amend the Agreement except as expressly stated herein, and the rights and obligations of the parties to the Agreement shall in all other respects be unchanged.

1. Louisa County and LCWA will design and construct the system to be able to deliver not less than 400,000 gallons per day of treated water to Fluvanna County’s Zion Crossroads connection point. Louisa County and LCWA will make all reasonable efforts to complete construction of the project in an expeditious manner by December 31, 2018.


2. Treated water will be provided to Fluvanna County at LCWA’s standard rate for commercial customers.

3. LCWA agrees to provide additional treated water capacity reservation for Fluvanna County when requested, absent a valid utility-related reason why such capacity cannot be reserved.

4. If additional capacity is not available within the then-existing capabilities of the system, LCWA will consider Fluvanna County capital contributions for treatment plant and other system expansion(s) at the time of the request for such additional capacity reservations. Depending on the financial factors in such a transaction, rate reductions may be considered.

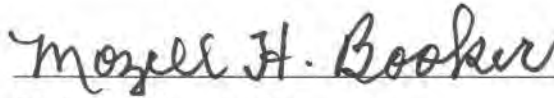
Witness the following signatures and seals.

FOR LOUISA COUNTY, VIRGINIA:


Chairman, Board of Supervisors

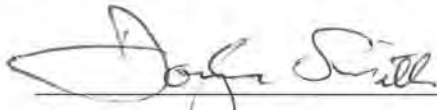
Date: 11/16/15

FOR FLUVANNA COUNTY, VIRGINIA:


Chairman, Board of Supervisors


Date: 11/18/15

FOR LOUISA COUNTY WATER AUTHORITY:


Chairman, Board of Directors

Date: 11/18/15


FOR THE JAMES RIVER WATER AUTHORITY:



Chairman, Board of Directors

Date: 1 Dec 15

APPROVED AS TO FORM:


Attorney for Louisa County


County Attorney for Fluvanna County


Louisa County Water Authority Attorney


James River Water Authority Attorney

APPENDIX C-3
JAMES RIVER WATER AUTHORITY STANDARD TERMS AND CONDITIONS

**JAMES RIVER WATER AUTHORITY
STANDARD TERMS AND CONDITIONS**

1. General Provisions

1.1 Unless otherwise agreed to in a writing signed by the governing body of the James River Water Authority, these Standard Terms and Conditions apply to and govern all purchases, regardless of the type of goods or services purchased, by the James River Water Authority (the “Authority”) from _____ (the “Vendor”).

2. Definitions

- 2.1 “Solicitation” means the vehicle by which the Authority solicited pricing, and if applicable other terms, by which it could acquire goods or services from Vendor, regardless of whether the vehicle was an Invitation for Bid, Request for Proposal, Request for Quote, telephone quote or any other means permissible under Virginia law.
- 2.2 “Contract Documents” means all documents that constitute any legal and binding agreement between the Vendor and the Authority, including these Standard Terms and Conditions.
- 2.3 “Contract Period” means the time period from the time that Vendor first becomes legally bound to provide goods or services to the Authority in response to a Solicitation until all of Vendor’s contractual obligations to the Authority, arising out the Solicitation, cease.
- 2.4 “Obligations” means any and all legal obligations of Vendor under any Contract Documents.

3. Laws of the Commonwealth

- 3.1 The Contract Documents shall be governed in all respects whether as to validity, construction, performance, or otherwise by the laws of the Commonwealth of Virginia. Vendor represents and warrants to the Authority that during the Contract Period it:
 - a) Will comply and conform with the provisions of the Civil Rights Act of 1964, as amended, the Virginia Fair Employment Contracting Act of 1975, as amended, and the Virginia Human Rights Act, as amended, where applicable;
 - b) Not employ illegal alien workers or otherwise violate the provisions of the Immigration Reform and Control Act of 1986; and

- c) Comply with all federal, state and local laws and regulations applicable to the performance of the services procured.

4. Policies

4.1 In every contract of over \$10,000, the Vendor agrees during the Contract Period that Vendor:

- a) Will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Vendor; and
- b) Will post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause; and
- c) Will state that the Vendor is an equal opportunity employer in all solicitations or advertisements for employees placed by or on behalf of the Vendor to perform under the Contract Documents. All notices, advertisements, and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section; and
- d) Will include the provisions of the foregoing subparagraphs in every subcontract or purchase order exceeding \$10,000 issued by Vendor in order to fulfill its Obligations, so that the provisions will be binding upon each subcontractor or vendor employed by Vendor.

4.2 In every contract of over \$10,000, the Vendor agrees during the Contract Period the Vendor shall:

- a) Provide a drug-free workplace for its employees;
- b) Post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in its workplace and specify the actions which will be taken against any employee for a violation;
- c) State in all of its solicitations or advertisements for employees that the Vendor maintains a drug-free workplace; and

- d) Include the provisions of this sub-paragraph in every subcontract or purchase order of over \$10,000, so that said provisions shall be binding upon each subcontractor or subvendor.
- e) For purposes of this sub-paragraph, "drug-free workplace" means a site for the performance of work done in connection with a specific contract awarded to a Vendor under a Solicitation and in accordance with the Virginia Public Procurement Act.
- f) In addition to the provisions contained herein, the Vendor shall comply with the federal Drug Free Workplace Act.

4.3 Pursuant to Section 2.2-4343.1 of the Code of Virginia, in all Solicitations, contracts, and purchase orders, the Authority does not discriminate against faith-based organizations.

- a) "Faith-based Organization" means a religious organization that is or applies to be a Vendor to provide goods or services for programs funded by the block grant provided pursuant to the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, P.L. 104-193.
- b) If Vendor is a faith-based organization, then Vendor shall give to each individual who applies for or receives goods, services, or disbursements provided pursuant to this Agreement the following notice in bold-face type:

NOTICE

Neither the Authority's selection of a charitable or faith-based provider of services nor the expenditure of funds under this contract is an endorsement of the provider's charitable or religious character, practices, or expression. No provider of services may discriminate against you on the basis of religion, a religious belief, or your refusal to actively participate in a religious practice. If you object to a particular provider because of its religious character, you may request assignment to a different provider. If you believe that your rights have been violated, please discuss the complaint with your provider or notify the appropriate person as indicated in this form.

5. Certifications

5.1 The Vendor certifies that Vendor's response to the Solicitation:

- a) Has been prepared without prior participation, understanding, agreement, or connection with any corporation, firm or other person that is also submitting a bid/offer in response to the same Solicitation;

- b) Is in all respects fair, without misrepresentations of fact, and free from collusion or fraud;
 - c) Is in full compliance with the Virginia Conflicts of Interest Act;
 - d) Is or is intended to be competitive and free from any collusion with any person, firm or corporation; and
 - e) Has been prepared without the benefit of being provided information not available to the general public, or other potential bidders, such as insider information known to Authority employees or other sources which may have gained such information from interaction with Authority employees.
- 5.2 The Vendor has not offered or received any kickback from any other bidder or vendor, supplier, manufacturer, or subcontractor in connection with the bid/offer on this solicitation. A kickback is defined as an inducement for the award of a contract, subcontracts or order, in the form of any payment, loan, subscription, advance, deposit of money, services or anything, present or promised, unless consideration of substantially equal or greater value is exchanged. Further, no person shall demand or receive any payment, loan, subscription, advance, and deposit of money, services or anything of value in return for an agreement not to compete on a public contract;
- 5.3 The Vendor is not a party to nor has he participated in nor is obligated or otherwise bound by agreement, arrangement or other understanding with any person, firm or corporation relating to the exchange of information concerning bids, prices, terms or conditions upon which the contract resulting from the acceptance of his bid proposal is to be performed;
- 5.4 The Vendor understands that collusive bidding is a violation of the Virginia Governmental Frauds Act and federal Law, and can result in fines, prison sentences, and civil damage awards and agrees to abide by all conditions of this proposal; and
- 5.5 Neither Vendor, Vendor's subcontractors, nor any person acting on Vendor's behalf, have conferred, or will confer, on any public employee having official responsibility for a procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value is exchanged.

6. Warranties

- 6.1 The Vendor represents and warrants that it has the requisite experience, skills, capabilities, and manpower to perform the Obligations in a good and workmanlike fashion, that it is a legal business entity chartered or authorized to do business in Virginia having all necessary licenses required by law, that the person signing any of the Contract Documents has been fully authorized to do so, and his signature will legally bind the Vendor to perform its Obligations. Any goods or services furnished by the Vendor under the Contract Documents shall be covered by the most favorable warranties provided by the Vendor to any customer, but in no event shall such warranty be less than one (1) year from date of completion of services or sale of goods, as applicable.
- 6.2 Vendor warrants to the Authority that all materials and equipment furnished shall be new, unless otherwise specified, and that Vendor's Work shall be of good quality, free from faults and defects and in strict conformance with the Contract Documents. All materials and work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. This warranty shall be in addition to, and not in limitation of, any other warranty or remedy required by law or by the Contract Documents.
- 6.3 The Vendor agrees that if warranties set forth in the Contract Documents are in any respect breached, the Vendor will pay to the Authority the full contract price agreed to by the Authority to be paid for the supplies, materials, equipment or services furnished under the bid or proposal. These rights and remedies are in addition to and do not limit those rights and remedies otherwise available to the Authority.

7. Modifications, Additions or Changes

- 7.1 Modifications, additions or changes to these terms and conditions may not be made except in writing and agreed to by the Authority. No fixed priced contract may be increased by more than twenty-five (25) percent of the amount of the contract or \$50,000, whichever is greater, without the approval of the Authority. The amount of any contract may not be increased for any purpose without adequate consideration provided to the Authority.

8. Procurement Code

- 8.1 Solicitations are subject to the Virginia Public Procurement Act and any revisions thereto, which are hereby incorporated into this contract in their entirety. **ANY SOLICITATION OR CONTRACT DOCUMENTS THAT ARE ISSUED, REQUESTED OR EXECUTED IN VIOLATION OF VIRGINIA LAW ARE VOID AB INTIO, AND ARE OF NO EFFECT, REGARDLESS OF WHETHER ANY PURCHASE HAS BEEN MADE UNDER THE CONTRACT DOCUMENTS AND IRRESPECTIVE OF THE AMOUNT**

OR LENGTH OF VENDOR'S PERFORMANCE UNDER THE CONTRACT DOCUMENTS. The Virginia Public Procurement Act is contained within the Code of Virginia, beginning at § 2.2-4300.

9. Bid Acceptance Period

9.1 Any bid in response to a Solicitation shall be valid for 60 days. At the end of the 60 days, the bid may be withdrawn at the written request of the bidder. If the bid is not withdrawn at that time, it remains in effect until an award is made or the Solicitation is cancelled.

10. Indemnification

10.1 The Vendor agrees to indemnify, defend and hold harmless the Authority and its officers, agents, and employees from any claims, damages and actions of any kind or nature, whether at law or in equity, arising from or caused by (i) the use of any materials, goods, or equipment of any kind or nature furnished by the Vendor; (ii) any services of any kind or nature provided by the Vendor; or (iii) Vendor's performance of its Obligations, provided that such liability is not attributable to the sole negligence on the part of the Authority.

11. Assignment

11.1 Neither the Obligations nor the Contract Documents may be assigned, sublet, or transferred, in whole or in part, without the written consent of the Authority.

12. Audit

12.1 The Vendor hereby agrees to retain all books, records, and other documents relative to Vendor's Obligations and the Contract Documents for five (5) years after final payment or after all other pending matters are closed, whichever is longer. The Authority and its authorized agents, auditors, the grantor of the funds to the Authority, the Comptroller of Virginia or of the United States, or any of their duly authorized representatives shall have access to any such books, documents, papers and records of the Vendor for the purpose of making audits, examinations, excerpts or transcriptions.

13. Ownership of Documents

13.1 Any reports, studies, photographs, negatives, or other documents prepared by Vendor in the performance of its Obligations shall be remitted to the Authority by the Vendor, without demand therefore, upon the earliest of (i) completion of its Obligations; (ii) completion of the Contract Period; or (iii) termination, cancellation or expiration of the Contract Documents. Vendor shall not use, willingly allow or cause to have such materials used for any purpose other than performance of the Obligations without the prior written consent of the Authority.

The Authority shall own the intellectual property rights to all materials produced under this Agreement.

14. Payment and Performance Bond

14.1 If Vendor's Obligations include construction, the amount of which exceeds \$100,000, the Vendor shall furnish to the Authority the bonds required under § 2.2-4337 of the Virginia Public Procurement Act within the Virginia Code, and shall otherwise fully comply with the requirements of such Code and Act. The Authority reserves the right to require payment and/or performance bonds in the amount of the Obligations for any other projects, goods or services, whether or not required by such sections of the Code and Act.

15. Required Payment

15.1 The Vendor covenants and agrees to:

- a) Within seven (7) days after receipt of any amounts paid to the Vendor under the Agreement,
- b) pay any subcontractor for its proportionate share of the total payment received from the Authority attributable to the work under the Agreement performed by such subcontractor, or
- c) notify the Authority and the subcontractor, in writing, of its intention to withhold all or a part of the subcontractor's payment and the reason therefore.

15.2 Vendor agrees to provide its federal employer identification number or social security number, as applicable, as a condition precedent to the Authority being required to make any payment to the Vendor under the Contract Documents.

15.3. Vendor agrees to pay interest at the legal rate or such other rate as may be agreed to in writing by the subcontractor and the Vendor on all amounts owed by the Vendor that remain unpaid after seven (7) days following receipt by the Vendor of payment from the Authority for work performed by the subcontractor in furtherance of Vendor meeting its Obligations to the Authority, except for amounts withheld pursuant to subparagraph 15.1(c) above.

15.4 Vendor agrees to include in its contracts with any and all subcontractors the requirements of 15.1(a), 15.1(b), and 15.1(c) above.

16. Liability Coverage

16.1 Unless otherwise expressly excepted in the Solicitation documents prepared by the Authority, the Vendor shall take out and maintain during the Contract Period such bodily injury, liability and property damage liability insurance as shall protect it and the Authority from claims for damages for personal injury, including death, as well as from claims for property damage, which could arise from Vendor's performance of its Obligations. Such insurance shall at least have the coverages and be in the amounts set forth in section 19 "Insurance and Bond Requirements" set forth below and shall name the "James River Water Authority" as additional insureds. Such insurance must be issued by a company admitted to do business within the Commonwealth of Virginia and with at least an AM Best rating of A-. Within 10 days after Vendor is awarded a contract in response to a Solicitation, and in no event later than the first day on which Vendor provides goods or services to the Authority, the Vendor shall provide the Authority with a certificate of insurance showing such insurance to be in force and providing that the insurer shall give the Authority at least 30 days' notice prior to cancellation or other termination of such insurance.

17. Loss or Damage in Transit

17.1 Delivery by a Vendor to a common carrier does not constitute delivery to the Authority. Any claim for loss or damage incurred during delivery shall be between the Vendor and the carrier. The Authority accepts title only when goods are received regardless of the F.O.B. point noted in the Solicitation or the Contract Documents. The receiving agency will note all apparent damages in transit on the freight bill and notify the Vendor. Discovery of concealed damages or loss will be reported by the receiving agency to the carrier and the Vendor within 15 days of receipt and prior to removal from the point of delivery if possible. The Vendor shall make immediate replacement of the damaged or lost merchandise or be in default of the Contract Documents. It shall be the Vendor's responsibility to file a claim against the carrier. If damage is to a small quantity, with the approval of the agency, the Vendor may deduct the amount of damage or loss from his or her invoice to the agency in lieu of replacement.

18. Freight

18.1 By signing any response to a Solicitation the bidder certifies that the bid price(s) offered for F.O.B. destination include only the actual freight charges at the lowest and best rate and is based upon the actual weight of the goods to be shipped. Freight charges are, therefore, established for each individual purchase. If a requirement is bid F.O.B. origin, the Vendor shall prepay the charges and add the amount to the invoice. A copy of the freight bill should be attached to all invoices that include freight charges. In a solicitation specifying F.O.B. origin the Authority will consider freight cost in the evaluation of bids.

19. Insurance and Bond Requirements

- 19.1 The Vendor shall maintain the following insurance to protect it from claims that could arise from performance of the Obligations, including claims (i) under the Workmen’s Compensation Act; (ii) for personal injury, including death; and (iii) for damage to property, regardless of whether such claims arise out of Vendor’s actions or inactions, or those of Vendor’s subcontractor or other persons directly or indirectly employed by either of them:
- a) Worker’s Compensation and Employer’s Liability. Vendor shall procure and maintain Worker’s Compensation and Employer’s Liability Insurance covering all of its employees in conformance with the laws of any state, district or territory of the United States of America in which work towards meeting Vendor’s Obligations are to be performed. Such insurance shall not have a limit of liability less than the following:
 - a) Bodily Injury by accident, \$500,000 for each accident;
 - b) Bodily Injury by disease, \$500,000 policy limit;
 - c) Bodily Injury by disease, \$500,000 for each employee.
 - b) Commercial General Liability Insurance. This coverage shall include contractual liability, underground hazard, explosion and collapse, hazard, property damage, independent Vendor, and personal injury insurance in support of section 10 of this Agreement entitled “Indemnification”. This policy shall be endorsed to include the Authority as additional insured’s during the Contract Period and shall state that this insurance is primary insurance as regards any other insurance carried by the Authority. Vendor shall procure and maintain Public Liability Insurance in an amount not less than:
 - a) \$1,000,000 for each occurrence involving bodily injury;
 - b) \$1,000,000 for each occurrence involving property damage;
 - c) \$2,000,000 aggregate limits.
 - c) Comprehensive Automobile Liability. Vendor shall procure and maintain Comprehensive Automobile Liability Insurance covering all automobiles, trucks, tractors, trailers, or other automobile equipment, whether owned, not owned, or hired by the Vendor, with the following limits:
 - a) \$1,000,000 for each occurrence involving personal injury;
 - b) \$1,000,000 for each occurrence involving property damage;
 - c) \$2,000,000 aggregate limits.
 - d) The Vendor shall purchase and maintain insurance coverage in a sufficient amount to cover all potential claims on his tools, equipment and machinery.
- 19.2 The Authority reserves the right to require insurance of any Vendor in greater amounts provided notice of such requirements is stated in the solicitation.

19.3 All insurance policies required under this paragraph, or otherwise required by the Solicitation or Contract Documents, shall include a clause waiving any and all subrogation rights against the Authority.

19.4 Insurance policies shall provide for notification to the Authority of non-payment of any premium and shall give the Authority the right to make the premium payment thereunder within a reasonable time, if the insurance policy is in danger of lapsing during the Contract Period. Any premium payments made by the Authority shall be deducted from amounts due Vendor under the Contract.

20. Compliance With Laws

20.1 All work performed shall be in accordance with all local, state and federal codes, laws and regulations, including but not limited to: Virginia Conflict of Interest Act, Virginia Fair Employment Contracting Act, Virginia Freedom of Information Act, Virginia Prompt Payment Act, and the Virginia Public Procurement Act.

21. No Waiver

21.1 Any failure of the Authority to demand rigid adherence to one or more of the terms of the Contract Documents, on one or more occasions, shall not be construed as a waiver nor deprive the Authority of the right to insist upon strict compliance with the terms of the Contract Documents. Moreover, it is the Authority's position and Vendor hereby agrees that the legal theories of Implied Waiver, Statute of Limitation, Estoppel, and Laches do not apply as defenses that the Vendor may assert in any action by the Authority. Any waiver of a term of this Agreement, in whole or in part, must be in writing and signed by the party granting the waiver to be effective.

22. Termination and Cancellation

22.1 The Authority shall have the unilateral right to terminate any contract with Vendor for default on the terms of that contract, or any other contract between the Vendor and the Authority.

22.2 The Authority has the unilateral right to cancel and terminate any contract with Vendor, in whole or in part, without penalty, merely out of convenience, and shall require no breach of contract by Vendor as a condition of termination. This right of termination for convenience may be exercised at the sole unconditional discretion of the Authority. If a contract is terminated in whole or in part for the convenience of the Authority, the Vendor shall be paid the contracted price for the service or goods actually provided or rendered up to the date of the termination of the respective contract, but shall not be paid any other fees or lost profits.

22.3 Any contract cancellation notice shall not relieve the Vendor of the obligation to perform on all outstanding orders issued prior to the effective date of cancellation.

23. Availability of Funds

23.1 It is understood and agreed between the parties herein that the Authority shall be bound hereunder only to the extent of the funds available and duly appropriated or which may hereafter become available and duly appropriated for the purpose of fulfilling the Authority's obligations with respect to the Contract Documents.

24. Billing, Method of Payment and Offset Rights

24.1 Billing shall be done monthly based on the contracted rate bid by the Vendor and submitted to the Fluvanna County Administration Department. The Authority will remit payment within 30 days of receipt of a correct invoice. Incorrect invoices shall be subject to correction and/or rejection by the Fluvanna County Administration Department.

24.2 Vendor agrees that the Authority has the unilateral right to offset any bill submitted to Authority by Vendor, or any payment owed to Vendor by the Authority, by any amount due to the Authority from Vendor pursuant to the Contract Documents, or any other agreement, contract or transaction between Authority and Vendor.

25. Tax Exemption

25.1 The James River Water Authority, as a political subdivision of the Commonwealth of Virginia, is exempt from any Federal excise tax and Virginia sales and use tax under VA Code §15.2-5132. The James River Water Authority's tax identification number is [27-0317733](https://www.irs.gov/efile).

26. Work Site Damages

26.1 Any damages, including damage to finished surfaces, resulting from Vendor's performance of its Obligations shall be repaired to the satisfaction of the Authority at the Vendor's expense.

27. Choice of Law

27.1 To ensure uniformity of the enforcement of the Contract Documents, and irrespective of the fact that either of the parties now is, or may become, a resident

of a different state, this Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

28. Forum Selection

- 28.1 Vendor agrees, and submits, to sole and exclusive jurisdiction and venue in either of the following courts: the General District or Circuit Courts of Louisa County, Virginia, or the General District or Circuit Courts of Fluvanna County, Virginia; for resolution of any and all claims, causes of action or disputes between Vendor and the Authority. The Vendor agrees hereby to waive any jurisdictional or venue defenses related to any such action brought in such courts, and further agrees to not remove or file any such action in Federal Court.
- 28.2 Vendor agrees that service by registered mail to the address set forth in Paragraph 31.1 of these Standard Terms and Conditions shall constitute sufficient service of process for any such action.

29. Severability

- 29.1 If any provision of any one, or all of the Contract Documents is held to be illegal, invalid, or unenforceable, or is found to be against public policy for any reason, such provision shall be fully severable and the remainder of the Contract Documents shall be construed and enforced as if such illegal, invalid, or unenforceable provision had never been part of the Contract Documents, and the remaining provisions of the Contract Documents shall remain in full force and effect and shall not be affected by the illegal, invalid, or unenforceable provision, or by its severance.

30. Attorneys' Fees

- 30.1 Should the Authority employ an attorney to either (i) institute and maintain a suit against Vendor arising out of the Contract Documents or Vendor's Obligations; (ii) assist in enforcing or defending any of the Authority's rights under the Contract Documents; (iii) protect the Authority's interest in any matter arising under a contract with Vendor; (iv) collect damages for the breach of a contract or any other amounts owed to the Authority; or (v) recover on a surety bond given by the Vendor, then the Authority shall be entitled to recover its attorneys' fees, costs, charges, and expenses expended or incurred therein from the Vendor if the Authority prevails in court, regardless whether the Authority recovers at law or in equity.

31. Notices

31.1 All requests, notices and other communications required or permitted to be given under the Contract Documents shall be in writing. Delivery of a notice shall be deemed to have been made when such notice is either:

- a) Duly mailed by first-class mail, postage prepaid, return receipt requested, or any comparable or superior postal or air courier service then in effect; or
- b) Transmitted by hand delivery, telegram, telex, telecopy or facsimile transmission, to the party entitled to receive the same at the address indicated below or at such other address as such party shall have specified by written notice to the other party. Notices to the Authority shall be sent to:

James River Water Authority
123 Main Street
Fluvanna, Virginia 22963

With a copy to:
County Attorney
Louisa County
P.O. Box 160
Louisa, VA 23093

And a copy to:
County Attorney
Fluvanna County
132 Main Street
Palmyra, VA 22963

32. Contractual Claims Procedure

32.1 Contractual claims or disputes by Vendor against the Authority, whether for money or other relief, except for claims or disputes exempted by law from the procedure set forth herein, shall be submitted in writing no later than sixty (60) days after final payment; provided, however, that Vendor shall give the Authority written notice of its intention to file a claim or dispute within fifteen (15) days after the occurrence upon which the claim or dispute shall be based. Any written notice of Vendor's intention to file such a claim or dispute need not detail the amount of the claim, but shall state the facts and/or issues relating to the claim in sufficient detail to identify the claim, together with its character and scope. Whether or not Vendor files such written notice, Vendor shall proceed with the work as directed. If Vendor fails to make its claim or dispute, or fails to give notice of its intention to do so as provided herein, then such claim or dispute shall be deemed forfeited.

- 32.2 The Authority, upon receipt of a detailed claim, may at any time render its decision and shall render such decision within one hundred twenty (120) days of final payment. Each such decision rendered shall be forwarded to the Vendor by written notice.
- 32.3 If the Vendor disagrees with the decision of the Authority concerning any pending claim, the Vendor shall promptly notify the Authority by written notice that the Vendor is proceeding with the work under protest. Any claim not resolved, whether by failure of the Vendor to accept the decision of the Authority or under a written notice of Vendor's intention to file a claim or a detailed claim not acted upon by the governing body of the Authority, shall be specifically exempt by the Vendor from payment request, whether progress or final. Pendency of claims shall not delay payment of amounts agreed due in the final payment.
- 32.4 The Authority's decision on contractual claims shall be final and conclusive unless the Vendor appeals within six months of the date of the final decision on the claim by instituting legal action in the appropriate court.

33. Correction of Defective Work

- 33.1 Vendor shall promptly replace or correct any work or materials which Authority rejects as failing to conform to the requirements of the Contract Documents. If Vendor does not do so within a reasonable time, Authority shall have the right to replace or correct the defective work or materials and Vendor shall be liable to Authority for the cost thereof. If, in the opinion of Authority, it is not expedient to correct or replace all or any part of rejected work or materials, then Authority, at its option, may deduct from the payment due, or to become due, to Vendor such amounts as, in Authority's judgment, will represent the higher of: (i) the difference between the fair value of the rejected work and materials and the value thereof, if the work had complied with the Contract Documents; or (ii) the cost of correction.

I agree to these terms and conditions, and understand that they apply to and govern all purchases, regardless of the type of goods or services purchased, by the James River Water Authority from Vendor.

Name Title

Vendor _____

Date _____

APPENDIX C-4
PROCUREMENT POLICY OF JAMES RIVER WATER AUTHORITY

**Procurement Policy
of
James River Water Authority**

1.0 Introduction:

It is the intent of the James River Water Authority (the “**Authority**”) to obtain high quality goods and services at a reasonable cost and to conduct its purchasing procedures in a fair and impartial manner without impropriety or the appearance of impropriety and at all times in accordance with the provisions of this policy (this “**Procurement Policy**”). Maximum feasible competition will be sought, giving all qualified vendors access to Authority business with no offeror arbitrarily or capriciously excluded.

All procurement transactions shall be conducted in a manner that provides full and open competition, consistent with the ethical standards specified in Article 6 (§2.2-4367 et seq.) of the Virginia Public Procurement Act (“**Ethics in Public Contracting Article**”), Chapter 43 of Title 2.2 of the Code of Virginia of 1950, as amended (the “**Code**”), and the State and Local Government Conflict of Interest Act, §2.2-3100 et seq. of the Code (the “**Conflict of Interest Act**”).

2.0 Procurement Policy

2.1 Procurement of Goods and Nonprofessional Services.

2.1.1 Purchases of all parts, supplies and nonprofessional services valued at less than \$500 shall be procured after comparing offered prices by way of telephone, catalog, or other similar means. No permanent documentation of price comparison is required. When a purchase is made pursuant to this subsection, the purchase shall be made from the vendor quoting the lowest price, unless the Authority reasonably determines that it is in the best interest of the Authority that such purchase be made from another supplier quoting a higher price.

2.1.2 Except as permitted by law, contracts with non-governmental contractors for the purchase or lease of goods or nonprofessional services which in the aggregate are valued at more than \$500 and less than \$30,000 shall be awarded by solicitation of informal bids or quotations, preferably in writing, from three or more bidders or offerors, where practicable. When a purchase is made pursuant to this subsection, the purchase shall be made from the vendor quoting the lowest price, unless the Authority makes a written determination that it is in the best interest of the Authority that such purchase be made from another supplier quoting a higher price.

2.1.3 Except as permitted by law, contracts with non-governmental contractors for the purchase or lease of goods or nonprofessional services which in the aggregate are valued at \$30,000 or more, but

**Procurement Policy
of
James River Water Authority**

less than \$50,000, shall be awarded by solicitation of informal bids or quotations in writing, from a minimum of four bidders or offerors. When a purchase is made pursuant to this subsection, the purchase shall be made from the vendor quoting the lowest price, unless the Authority makes a written determination that it is in the best interest of the Authority that such purchase be made from another supplier quoting a higher price.

- 2.1.4 Except as permitted by law, contracts with non-governmental contractors for the purchase or lease of goods or nonprofessional services which in the aggregate are valued at more than \$50,000 shall be procured through competitive sealed bidding¹. If, in advance of the purchase, the Chairman of the Authority determines in writing that competitive sealed bidding is either not practicable or not fiscally advantageous, the Authority may procure the parts, supplies, and nonprofessional services through competitive negotiation². When competitive sealed bidding is used, the following factors shall be considered, in addition to price, when determining the lowest responsible bidder and the responsiveness of the bid: (a) the ability, capacity, and skill of the bidder to perform the contract or provide the service required; (b) whether the bidder can perform the contract or provide the service promptly, or within the time specified, without delay or interference; (c) the character, integrity, reputation, judgment, experience, and efficiency of the bidder; (d) the quality of performance of previous contracts or services; (e) the previous and existing compliance by the bidder with laws and ordinances relating to the contract or service; (f) the sufficiency of financial resources and ability of the bidder to perform the contract or provide the service; (g) the quality, availability, and adaptability of the goods or services to the particular use required; (h) the ability of the bidder to perform future maintenance and service for use of the subject of the contract; (i) the number and scope of conditions attached to the bid; and (j) any other condition or criteria included in the request for bids or the instructions to bidders.

¹ The Virginia Public Procurement Act defines competitive sealed bidding as a method of contractor selection, other than for professional services, which includes the following elements: (i) issuance of a written invitation to bid; (ii) public notice of the invitation to bid; (iii) public opening and announcement of all bids received; (iv) evaluation of bids; and (v) award to the lowest responsive and responsible bidder.

² The Virginia Public Procurement Act defines competitive negotiation as a method of contractor selection and includes the following elements: (i) an issuance of a written request for proposal; (ii) public notice of the request for proposal; (iii) selection of two or more offerors deemed to be fully qualified and best suited among those submitting proposals, and (iv) negotiate with each offeror and award the contract to the offeror who has put forth the best proposal.

**Procurement Policy
of
James River Water Authority**

2.1.5 In addition to the requirements set forth in the request for bids or the instructions to bidders, evaluation of bids may be based upon special qualifications of potential contractors, life-cycle costing, value analysis, and other criteria such as inspection, testing, quality, workmanship, delivery, and suitability for a particular purpose, which are helpful in determining acceptability.

2.1.6 Procurement of goods and nonprofessional services shall not be split to avoid the minimum amounts specified in this section.

2.2 Sole Source Procurement.

2.2.1 Upon written determination by the Chairman of the Authority that there is only one source for parts or supplies practically available, a contract may be awarded without competitive sealed bidding or competitive negotiation. The Chairman of the Authority shall issue a written notice stating that only one source was determined to be practicably available, and identify that which is being procured, the contractor selected, and the date on which the contract was or will be awarded.

2.3 Emergency Procurement.

2.3.1 Emergency procurement may be made without formal sealed bidding or competitive negotiation with a written determination by the Chairman of the Authority of the basis of the emergency, identification of what is being procured, the contractor selected, and the date of the contract award; however, such procurement shall be made with such competition as is practicable under the circumstances.

2.4 Goods and Services Provided by Local Governments

2.4.1 Goods and services provided by local governments may be used without competitive bidding. A cost analysis must accompany the requisition which demonstrates this is a low-cost alternative.

2.5 Procurement of Legal and Related Services.

2.5.1 Contracts for legal services, expert witnesses, and other services associated with litigation, regulatory proceedings, or other legal matters shall be exempt from price competition.

2.6 Procurement of Other Professional Services.

**Procurement Policy
of
James River Water Authority**

- 2.6.1 All professional services valued at less than \$30,000 shall be procured on the basis of three quotes, where practicable.
- 2.6.2 All professional services valued at \$30,000 or more shall be procured on the basis of competitive negotiation, as defined in the Virginia Public Procurement Act.
- 2.6.3 Procurement of professional services shall not be split to avoid the \$30,000 minimum.

2.7 Construction Procurement and Prequalification.

- 2.7.1 Competitive sealed bidding shall be the preferred method of construction procurement for the Authority, provided, however, that the Authority may enter into a contract for construction on a fixed price or not-to-exceed price design-build or construction management basis provided subject to the requirements specified in §2.2-4308 of the Virginia Public Procurement Act, Chapter 43 of Title 2.2 of the Code, as amended.
- 2.7.2 The Authority shall be permitted to prequalify prospective contractors for construction contracts valued at \$100,000 or more, subject to the requirements specified in §2.2-4317 of the Virginia Public Procurement Act, Chapter 43 of Title 2.2 of the Code, as amended. In evaluating requests for prequalification, the Authority shall determine whether offerors possess the management, financial soundness, and history of performance that indicate apparent ability to complete successfully the plans and/or specifications of the construction procurement solicitation.

2.8 Assignment of Procurement Contracts.

- 2.8.1 The Authority shall be permitted to accept an assignment of an existing contract for the purchase or lease of goods or the provision of professional or nonprofessional services from the Commonwealth of Virginia or another state or local governmental entity provided that such contract was procured by the assigning entity in accordance with applicable law.

2.9 Preference for Local Vendors.

- 2.9.1 If more than one bid or proposal received pursuant to the terms of this Procurement Policy is for the same total amount or unit price, quality and service being equal, the tie bidders shall be invited to resubmit written bids below the original price, and award shall be made to the lower bidder. If upon rebidding the bidders are again

**Procurement Policy
of
James River Water Authority**

equal, preference shall be given to goods and services produced in (i) the Counties of Fluvanna and/or Louisa; or (ii) the Commonwealth of Virginia (in that order), or provided by persons or entities located in (i) the Counties of Fluvanna and/or Louisa; or (ii) the Commonwealth of Virginia (in that order).

2.10 Anti-Discrimination Provisions.

2.10.1 The Authority shall not discriminate in the procurement process because of the race, religion, color, sex, or national origin of the bidder or offeror.

2.10.2 As provided in the Virginia Public Procurement Act, all procurement contracts of more than \$10,000 shall include the following provisions:

2.10.1.1 During the performance of this contract, the contractor agrees as follows: (a) the contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability, or other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor; (b) the contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause; (c) the contractor, in all solicitations or advertisements for employees placed by or on behalf of the contractor, will state that such contractor is an equal opportunity employer; and (d) notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements in this section.

2.10.1.2 During the performance of this contract, the contractor agrees to (a) provide a drug-free workplace for the contractor's employees, (b) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the

**Procurement Policy
of
James River Water Authority**

actions that will be taken against employees for violation of such prohibition, and (c) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace.

2.11 Participation of Small, Women-, Minority- and Service Disabled Veteran-Owned Businesses.

2.11.1 Pursuant to §2.2-4310 of the Virginia Public Procurement Act, Chapter 43 of Title 2.2 of the Code, the Chairman of the Authority shall establish a program to facilitate the participation of small businesses and businesses owned by women, minorities, and service disabled veterans in the Authority's procurement transactions.

2.12 Certification of Compliance.

2.12.1 All Authority employees or officials who have official responsibility for any aspect of a procurement transaction must sign a statement certifying that they have complied with all provisions of the Ethics in Public Contracting Article of the Virginia Public Procurement Act, and the Conflicts of Interests Act.

2.12.2 Any Authority employee or official required to sign a certification who knowingly makes a false statement in such certification shall be guilty of committing a Class 1 Misdemeanor. Upon conviction, any Authority employee or official, in addition to any other fine or penalty provided by law, shall forfeit his or her employment or appointment.

2.12.3 An Annual Certification of Compliance form, attached hereto as Exhibit A, shall be distributed each year for all appropriate Authority employees and/or officials to sign. This form is to be signed on or before July 1 of each year, and forwarded to the Treasurer of the Authority (provided, however, that any such form signed by the Treasurer shall be forwarded to the Chairman of the Authority), with a copy to the Authority's general outside legal counsel. As new employees are hired, new officials are appointed, or purchasing related duties change, the form must be appropriately updated and forwarded to the Treasurer of the Authority, with a copy to the Authority's general outside legal counsel. The forms will be maintained on file with the Treasurer of the Authority for three (3) years after the current calendar year (provided, however, that any such forms signed by the Treasurer

**Procurement Policy
of
James River Water Authority**

shall be maintained on file with the Chairman of the Authority for three (3) years after the current calendar year).

Exhibit A
to
Procurement Policy
of
James River Water Authority

**ANNUAL CERTIFICATION OF COMPLIANCE
WITH THE VIRGINIA PUBLIC PROCUREMENT ACT AND CONFLICT OF
INTEREST ACT**

Pursuant to the provisions of Section 2.2-4375 of the Virginia Public Procurement Act, Chapter 43 of Title 2.2 of the Code of Virginia of 1950, as amended, I, [EMPLOYEE / OFFICIAL NAME], [EMPLOYEE / OFFICIAL TITLE], DO HEREBY CERTIFY as follows:

1. During the past fiscal year, in my capacity as [EMPLOYEE TITLE], I had official responsibility for some aspect of one or more procurement transaction involving the James River Water Authority (the "Authority").
2. I have complied with all of the provisions of Article 6 (§2.2-4367 et seq.) of the Virginia Public Procurement Act, Chapter 43 of Title 2.2 of the Code of Virginia of 1950, as amended (the "Code"), and the State and Local Government Conflict of Interest Act, §2.2-3100 et seq. of the Code.
3. I am aware that if I knowingly make a false statement in this Annual Certification of Compliance, I shall be guilty of committing a Class 1 Misdemeanor. Upon conviction, in addition to any other fine or penalty provided by law, I shall forfeit my employment or appointment with the Authority, as applicable.

WITNESS my hand this ___ day of _____, 20__.

[Employee / Official Name]
[Employee / Official Title]

APPENDIX C-5

**RESOLUTION SIGNIFYING THE INTENTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF FLUVANNA TO
CREATE A JOINT WATER AUTHORITY UNDER THE VIRGINIA WATER AND WASTE AUTHORITIES ACT AND
SETTING FORTH ITS ARTICLES OF INCORPORATION**

**RESOLUTION SIGNIFYING THE INTENTION OF THE BOARD OF SUPERVISORS
OF THE COUNTY OF FLUVANNA TO CREATE A JOINT WATER AUTHORITY
UNDER THE VIRGINIA WATER AND WASTE AUTHORITIES ACT AND SETTING
FORTH ITS ARTICLES OF INCORPORATION**

WHEREAS, Fluvanna County desires to obtain bulk water from the James River in order to supplement water service to the residents and commercial and industrial establishments in the County; and

WHEREAS, since 2004, Fluvanna County and Louisa County have worked together on a project to obtain joint water supply and service from the James River in order to meet their respective water needs; and

WHEREAS, the Board of Supervisors has determined the most efficient and practicable manner to provide such services is to form a regional water authority, which may be created pursuant to the Virginia Water and Waste Authorities Act (Chapter 51, Title 15.2, §§ 15.2-5100 *et seq.*, VA Code Ann.)(“the Act”); and

WHEREAS, the Board of Supervisors advertised its intention to create a regional water authority and conducted a public hearing, as required by law, to be held on March 18, 2009; and

WHEREAS, the Board of Supervisors hereby adopts this resolution to create the articles of incorporation of this new authority.

NOW, THEREFORE, BE IT RESOLVED on this 18th day of March, 2009, by the Fluvanna County Board of Supervisors as follows:

Section 1. The Fluvanna County Board of Supervisors hereby signifies its intention to create a water authority pursuant to the Act, to be known as “James River Water Authority” (“Authority”) in order to accomplish the goal of solving their joint water needs by working with the Louisa County Board of Supervisors to provide for service from the James River.

Section 2. The purpose for which the Authority is to be formed is stated in its Articles of Incorporation as hereinafter set forth.

Section 3. The Articles of Incorporation of the Authority shall be as follows:

**ARTICLES OF INCORPORATION
OF
JAMES RIVER WATER AUTHORITY**

The Board of Supervisors of Fluvanna County and the Board of Supervisors of Louisa County, having both signified their intention to create an authority pursuant to the Virginia Water and Waste Authorities Act (Chapter 51, Title 15.2, §§ 15.2-5100 *et seq.*, VA Code Ann.), which shall be a public body politic and corporate, hereby certify:

1. **Name.** The name of the Authority shall be the “James River Water Authority”, and the address of its principal office shall be the Fluvanna County Office Building, Main Street, Palmyra, Virginia 22963.

2. **Incorporating Political Subdivisions.** The names of the incorporating political subdivisions are the County of Fluvanna, Virginia (“Fluvanna County”), and the County of Louisa, Virginia (“Louisa County”). Fluvanna County and Louisa County, as the incorporating political subdivisions, hereby acknowledge, covenant, and agree that these Articles of Incorporation shall not be further amended or changed without the express agreement of their governing bodies, as the incorporating political subdivisions. Furthermore none of the following actions shall be taken or permitted to occur by the Board of the Authority without the affirmative vote of a majority of the members appointed by the respective boards of supervisors of Fluvanna County and Louisa County on the Board of the Authority:

- a. The inclusion of additional political subdivisions in the Authority;
- b. Additional agreements with other political subdivisions, entities or persons, for the bulk sale of water or wholesale service of water.

3. **Authority Board.**

a. The powers of the Authority shall be exercised by a board of six (6) members consisting of the following:

- 1. John Y. Gooch, P.O. Box 540, Palmyra, Virginia 22963, Fluvanna County Board of Supervisors Member
- 2. G. Cabell Lawton, IV, P.O. Box 540, Palmyra, Virginia 22963, Fluvanna County Administrator
- 3. Thomas E. Payne, P. O. Box 540, Palmyra, Virginia 22963, a citizen of Fluvanna County appointed by the Fluvanna Board of Supervisors
- 4. _____,
Louisa County Board of Supervisors Member _____

5. Dale Mullen, P.O. Box 160, Louisa, Virginia 23093, Louisa County Administrator

6. _____, _____, Louisa County Water Authority General Manager or other citizen of Louisa County appointed by the Louisa Board of Supervisors

b. The terms of office of each of the initial members of the Board shall begin on the date of the issuance of a certificate of incorporation or charter for the Authority by the State Corporation Commission. The governing body of each of the participating counties shall appoint the members as set forth above.

c. The terms of the members of the board serving by virtue of their offices in their appointing county shall expire upon their ceasing to hold such offices or, after a term of four (4) years, whichever occurs first. The terms of the citizen appointees shall not exceed four (4) years. The governing body of each county is empowered to remove at any time, without cause, any member appointed by it and appoint a successor member to fill the unexpired term of the removed member's term. Each member of the board shall serve without compensation. However, each member shall be reimbursed by the Authority for the amount of actual expenses incurred in the performance of Authority duties.

d. No tiebreaker shall be appointed nor shall the number of members of the Board be changed without the concurrence of the respective Boards of Supervisors of Fluvanna County and Louisa County.

4. **Purpose and Powers.** The purpose for which the Authority is formed is to exercise those pertinent powers set forth in §§ 15.2-5100 *et seq.* VA Code Ann., to acquire, purchase, finance, construct, reconstruct, operate, and maintain facilities for developing a bulk or wholesale supply of potable water for the Counties of Fluvanna and Louisa, including without limitation sources of water supply, water intakes, reservoirs, filtration and purification plants, pumping stations, transmission lines, and storage facilities, together with all appurtenant equipment and appliances necessary or suitable thereto and all properties, rights, licenses, easements or franchises relating thereto and deemed necessary and convenient by the Authority for their operation.

The Authority may contract with any lawful entity to furnish water delivered to its facilities upon such terms as the Authority shall determine; provided, however, that any such contract shall include as a party thereto Fluvanna County and Louisa County (or any agency designated by either County for the purpose by its Board of Supervisors).

5. **Audit.** The Authority shall cause an annual audit of its books and records to be made by the State Auditor of Public Accounts or an independent certified public accountant at the end of each fiscal year and a certified copy thereof is to be filed promptly with the County Administrator of each of the participating counties.

6. **Estimates Impracticable.** Fluvanna County and Louisa County have determined it is not practicable to provide preliminary estimates of capital costs, proposals for specific

projects to be undertaken by the Authority or preliminary estimates of initial wholesale rates for water services at the current time.

IN WITNESS WHEREOF, the Board of Supervisors of the Fluvanna County and the Board of Supervisors of Louisa County have caused these Articles of Incorporation to be executed by their respective Chairmen, and their respective seals to be affixed, this _____ day of _____, 2009.

COUNTY OF FLUVANNA

By: _____
Chairman
Board of Supervisors

(SEAL)
ATTEST:

Clerk, Board of Supervisors

COUNTY OF LOUISA

By: _____
Chairman
Board of Supervisors

(SEAL)
ATTEST:

Clerk, Board of Supervisors

Section 4. The first members of the Authority Board shall be those persons specified in the Articles of Incorporation filed with the State Corporation Commission (“S.C.C.”) and shall expire as specified in the Articles of Incorporation.

Section 5. The Chairman of the Board of Supervisors is hereby authorized and directed to execute the Articles of Incorporation in substantially the form set forth above, to cause the executed Articles of Incorporation to be filed with the S.C.C. on or after the date of the

public hearing required by Section 6 hereof, together with proof of publication of the notice of such public hearing and to do all things necessary for the creation of the Authority.

Section 6. A public hearing was held by the Board of Supervisors as otherwise set forth herein. Notice of the public hearing, including a copy of the Board's resolution or a descriptive summary thereof, was published at least one time, 30 days prior to the date of the public hearing, in The Fluvanna Review, a newspaper having general circulation in the County, substantially as follows:

Notice of Public Hearing
FLUVANNA COUNTY BOARD OF SUPERVISORS

The Fluvanna County Board of Supervisors will hold a special public hearing on the following items at 7:00 p.m. on March 18, 2009, in the Circuit Court Room, Fluvanna County Courts Building located at Palmyra, Virginia:

Public Hearing: On a resolution to be considered for adoption by the Fluvanna County Board of Supervisors signifying its intention to create a joint water authority, pursuant to § 15.2-5100 *et seq.* VA Code Ann. The purpose of the resolution is to create the James River Water Authority, a joint water authority with Louisa County, to acquire, purchase, finance, construct, reconstruct, operate, and maintain facilities for developing a supply of potable water for Fluvanna County and Louisa County.

More information and a copy of the proposed resolution are available for review in the Administration Office, located at Palmyra, Virginia, Monday through Friday, 8:30 a.m. to 5:00 p.m., and the phone number is 434-591-1910.

Any parties wishing to be heard are requested to attend the public hearing.

It is the County's intent to comply with the requirements of the Americans with Disabilities Act. Should you need special accommodations, please contact the County Administrator's Office at the number listed above prior to March 15, 2009.

By Order of the Board of Supervisors

Section 7. After consultation with the Board of Supervisors of Louisa County and with the public works staffs of Fluvanna County, the Board of Supervisors has determined it is not practicable to provide preliminary estimates of capital costs, proposals for specific projects to

be undertaken by the Authority or preliminary estimates of initial wholesale service rates for such water services at the current time.

A Copy, teste:

Alice F. Jones, Clerk, Board of Supervisors
Fluvanna County, Virginia

APPENDIX C-6
ARTICLES OF INCORPORATION OF JAMES RIVER WATER AUTHORITY

**ARTICLES OF INCORPORATION
OF
JAMES RIVER WATER AUTHORITY**

The Board of Supervisors of Fluvanna County and the Board of Supervisors of Louisa County, having both signified their intention to create an authority pursuant to the Virginia Water and Waste Authorities Act (Chapter 51, Title 15.2, §§ 15.2-5100 *et seq.*, VA Code Ann.), which shall be a public body politic and corporate, hereby certify:

1. **Name.** The name of the Authority shall be the "James River Water Authority", and the address of its principal office shall be the Fluvanna County Office Building, Main Street, Palmyra, Virginia 22963.

2. **Incorporating Political Subdivisions.** The names of the incorporating political subdivisions are the County of Fluvanna, Virginia ("Fluvanna County"), and the County of Louisa, Virginia ("Louisa County"). Fluvanna County and Louisa County, as the incorporating political subdivisions, hereby acknowledge, covenant, and agree that these Articles of Incorporation shall not be further amended or changed without the express agreement of their governing bodies, as the incorporating political subdivisions. Furthermore none of the following actions shall be taken or permitted to occur by the Board of the Authority without the affirmative vote of a majority of the members appointed by the respective boards of supervisors of Fluvanna County and Louisa County on the Board of the Authority:

- a. The inclusion of additional political subdivisions in the Authority;
- b. Additional agreements with other political subdivisions, entities or persons, for the bulk sale of water or wholesale service of water.

3. **Authority Board.**

a. The powers of the Authority shall be exercised by a board of six (6) members consisting of the following:

1. John Y. Gooch, 362 Oliver Creek Road, Troy, Virginia 22974, Fluvanna County Board of Supervisors Member (Fluvanna County appointee)- four (4) year term subject to subsection 3.c. below.
2. G. Cabell Lawton, IV, 132 Main Street, Palmyra, Virginia 22963, Fluvanna County Administrator (Fluvanna County appointee) - four (4) year term subject to subsection 3.c. below.
3. Thomas E. Payne, 345 Paynes Lane, Troy, Virginia 22974, a citizen of Fluvanna County (Fluvanna County appointee) - four (4) year term.
4. John E. Thomasson, 125 West Street, Louisa, Virginia 23093, a citizen of Louisa County (Louisa County appointee) - two (2) year term.
5. Dale Mullen, 1 Woolfolk Avenue, Louisa, Virginia 23093, Louisa County Administrator (Louisa County appointee) - four (4) year term subject to subsection 3.c. below.
6. Goodman B. Duke, 304 Club Road, Louisa, Virginia 23093, a citizen of Louisa County (Louisa County appointee) - three (3) year term.

b. The terms of office of each of the initial members of the Board shall begin on the date of the issuance of a certificate of incorporation or charter for the Authority by the State Corporation Commission. The governing body of each of the participating counties shall appoint the members as set forth above.

c. The terms of the members of the board serving by virtue of their offices in their appointing county shall expire upon their ceasing to hold such offices or, after a term of four (4) years, whichever occurs first. The terms of the citizen appointees shall not exceed four (4) years. The governing body of each county is empowered to remove at any time, without cause, any member appointed by it and appoint a successor member to fill the unexpired term of the removed member's term. Each member of the board shall serve without compensation. However, each member shall be reimbursed by the Authority for the amount of actual expenses incurred in the performance of Authority duties.

d. No tiebreaker shall be appointed nor shall the number of members of the Board be changed without the concurrence of the respective Boards of Supervisors of Fluvanna County and Louisa County.

4. **Purpose and Powers.** The purpose for which the Authority is formed is to exercise those pertinent powers set forth in §§ 15.2-5100 *et seq.* VA Code Ann., to acquire, purchase, finance, construct, reconstruct, operate, and maintain facilities for developing a bulk or wholesale supply of potable water for the Counties of Fluvanna and Louisa, including without limitation sources of water supply, water intakes, reservoirs, filtration and purification plants, pumping stations, transmission lines, and storage facilities, together with all appurtenant equipment and appliances necessary or suitable thereto and all properties, rights, licenses, easements or franchises relating thereto and deemed necessary and convenient by the Authority for their operation.

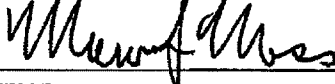
The Authority may contract with any lawful entity to furnish water delivered to its facilities upon such terms as the Authority shall determine; provided, however, that any such contract shall include as a party thereto Fluvanna County and Louisa County (or any agency designated by either County for the purpose by its Board of Supervisors).

5. **Audit.** The Authority shall cause an annual audit of its books and records to be made by the State Auditor of Public Accounts or an independent certified public accountant at the end of each fiscal year and a certified copy thereof is to be filed promptly with the County Administrator of each of the participating counties.

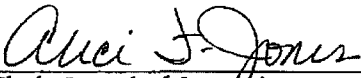
6. **Estimates Impracticable.** Fluvanna County and Louisa County have determined it is not practicable to provide preliminary estimates of capital costs, proposals for specific projects to be undertaken by the Authority or preliminary estimates of initial wholesale rates for water services at the current time.

IN WITNESS WHEREOF, the Board of Supervisors of Fluvanna County and the Board of Supervisors of Louisa County have caused these Articles of Incorporation to be executed by their respective Chairmen, and their respective seals to be affixed, this 20th day of April, 2009.

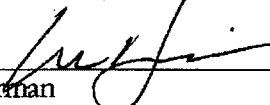
COUNTY OF FLUVANNA

By: 
Chairman
Board of Supervisors


(SEAL)
ATTEST:


Clerk, Board of Supervisors

COUNTY OF LOUISA

By: 
Chairman
Board of Supervisors

(SEAL)
ATTEST:


Clerk, Board of Supervisors

APPENDIX C-7
JAMES RIVER WATER AUTHORITY BYLAWS

JAMES RIVER WATER AUTHORITY

BYLAWS

ARTICLE I PREAMBLE AND POWERS

1.1 The Act. Subject to the Articles of Incorporation, the James River Water Authority (the “Authority”) shall have all of the rights, powers and duties and shall be subject to the limitations and restrictions set forth in the Virginia Water and Waste Authorities Act, Chapter 51, Title 15.2 of the Code of Virginia of 1950, as amended (the “Act”). These bylaws are made pursuant to the authority contained in the Act.

ARTICLE II BOARD MEMBERS

2.1 Members. The Board of the Authority (“Board”) shall consist of six (6) members. The Board of Supervisors of the Counties of Fluvanna and Louisa (collectively the “Governing Bodies”) shall each appoint three (3) members of the Board. Members are to be appointed for a term of four years and may be reappointed.

ARTICLE III MEETINGS

3.1 Regular Meetings. Regular meeting of the Board shall be held monthly, at 10:30 a.m. on the first Tuesday of the month at the Spring Creek Sports Club, 181 Clubhouse Way, Zion Crossroads, Virginia 22942. The Board may by resolution change the date and frequency, and may fix the time and place of any regular meeting at any time prior to the meeting and may adjourn any meeting from time to time or to another place. The June meeting on the first Tuesday of the month shall be the annual meeting of the Board.

3.2 Special Meetings. Special meetings may be called by the Chairman, or his or her representative, upon 24 hours notice to all members and alternate members by telephone, by written notice delivered by hand or by facsimile machine. Such notice shall include the time, date, place and purpose of such special meeting.

3.3 Emergency Meetings. Emergency meetings may be called by the Chairman, or his or her representative, upon 4 hours notice to all members and alternate members by telephone, by written notice, by hand or by facsimile machine. Such notice shall include the time, date, place and purpose of such emergency meeting. The declaration of emergency must be approved by affirmative vote of the members at the emergency meeting.

3.4 Quorum. A majority of the members of the Board shall constitute a quorum (four of the six members constitutes a quorum).

3.5 Voting. Each member of the Board shall be entitled to one vote on matters before the Board. A vote of the majority of members is necessary for any action taken by the Board (i.e. four affirmative votes are necessary no matter how many members are present).

3.6 Public Meetings. All meetings shall be open to the public, except when, pursuant to the provision of Section 2.2-3711 of the Code of Virginia of 1950, as amended, the members have voted to hold an executive or closed meeting and no resolution, ordinance, rule, contract, regulation or motion adopted, passed or agreed to in an executive or closed session shall become effective unless the members following such session, reconvene in an open meeting and take a vote of the membership on such resolution, ordinance, rule, contract, regulation or motion.

3.7 Order of Business. The order of business for each regular meeting of the Board shall be:

1. Call to Order
2. Adoption of Agenda
3. Items from the Public
4. Approval of Minutes of Preceding Meeting
5. Financial Report
6. Discussion/Information Items
7. Action Items
8. Consent Agenda
9. Closed Meeting
10. Adjournment

The Board may by resolution revise the order of business at any meeting.

ARTICIVE IV OFFICE AND RECORDS

4.1 Office. The principal office of the Authority shall be the Fluvanna County Office Building in Fluvanna County oat Main Street, Palmyra, Virginia 22963.

4.2 Records. The Authority's books and records shall be maintained at the principal office and shall be open for inspection to any member of the Board or alternate upon request. By resolution, from time to time, the Board may modify this.

ARTICLE V
OFFICERS AND DUTIES

5.1 Officers. Officers of the Authority shall consist of a Chairman, Vice-Chairman, a Secretary, and a Treasurer. All officers shall be members.

5.2 Terms of Office. All officers shall be elected for a term of two years and shall hold office until June 30 of each even numbered year, unless a shorter term specified in the resolution electing such officer. An election of officers shall be held at the June meeting on the third Thursday of each even numbered year, with duly elected officers beginning office on July 1 of such year. A special election of officer(s) shall be held to fill the unexpired term of officer(s) that are no longer able to perform their duties. Officers may succeed themselves.

5.3 Chairman. The Chairman shall preside at all meetings of the Board at which he or she is present. The Chairman shall have the powers and perform such duties as conferred upon the office of Chairman. The Chairman shall sign all contracts and other instruments to be executed on behalf of the Authority, unless the Board authorizes or assigns another officer or the Executive Director to do so.

5.4 Vice-Chairman. The Vice-Chairman shall act as Chairman in the Chairman's absence and shall possess such powers and perform such duties as are conferred upon the Chairman and perform other such duties as the Board may assign.

5.5 Secretary. The Secretary shall act as clerk of the Board. He or she shall give notice of the meetings, keep minutes, affix the seal of the Authority to all documents which require such seal to be affixed and perform other duties as may be assigned by the Board. The Secretary may be assisted by the staff of the Authority.

5.6 Treasurer. The Treasurer shall have general charge and supervision of all financial books and accounts of the Authority. He or she shall perform other duties incident with the job of Treasurer and perform other duties as may be assigned. The Treasurer may be assisted by the staff of the Authority.

The Secretary and Treasurer positions may be filled by one person.

5.7 Additional Officers. In addition to the officers above mentioned, the Board may provide for such deputies, assistants, committees and other officers, as it may deem necessary. Such additional officers need not be members.

ARTICLE VI
INDEMNIFICATION

6.1 Limit on Liability. In every instance in which Virginia law as it exists on the date hereof or may hereafter be amended, permits the limitation or elimination of

liability of directors or officers of a corporation to the corporation or its shareholders, the directors and officers of the Authority shall not be liable to the Authority. The liability of a director or officer of the Authority, to the Authority, for damages assessed against such director or officer is eliminated, provided such director or officer has discharged his or her duties in accordance with the applicable statutory standards of conduct for directors and officers. The liability of a director or officer shall not be eliminated or limited if the director or officer engaged in willful misconduct, or a knowing violation of the criminal law, or of any federal or state law.

6.2 Indemnification of Officers and Members. The Authority shall indemnify any person who was or is a party or who is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative, arbitral or investigative by reason of the fact that he or she is or was an officer or member of the Authority, or is or was serving at the request of the Authority as an officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding if such person acted in good faith and in the manner such person reasonably believed to be in or not opposed to the best interests of the Authority, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not of itself create a presumption that the person did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the Authority, and, with respect to any criminal action or proceeding, had reasonable cause to believe that his or her conduct was unlawful.

To the extent that an officer or member of the Authority has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in this Section or in defense of any claim, issue or matter therein, such officer or member shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such officer or member in connection therewith.

Any indemnification this Section (unless ordered by a court) shall be made by the Authority only as authorized in the specific case upon a determination that indemnification of the officer or member is proper in the circumstances because such officer or member has met the applicable standard of conduct set forth in this Section. Such determination shall be made either (a) by the members of the Authority by a majority vote of a quorum consisting of members who were not parties to such action, suit or proceeding, or (b) if such a quorum is not obtainable, or, even if obtainable a quorum of disinterested members so directs, by independent legal counsel in a written opinion.

Expenses (including attorneys' fees) incurred in defending an action, suit or proceeding, whether civil, criminal, administrative, arbitral or investigative, may be paid by the Authority in advance of the final disposition of such action, suit or proceeding

as authorized in the manner provided in this Section upon receipt of an undertaking by or on behalf of the officer or member to repay such amount unless it shall ultimately be determined that such officer is entitled to be indemnified by the Authority as authorized in this Article.

Each such indemnity shall continue as to a person who has ceased to have the capacity referred to above and shall inure to the benefit of the heirs, executors and administrators of such a person.

The Authority shall have power to make any other or further indemnity to any person permitted under the laws of the Commonwealth of Virginia.

ARTICLE VII COMMITTEES

7.1 Special or Standing Committees. The Board may establish such special or standing committees, as it may deem necessary or desirable for the conduct of business. Persons serving on such committees may be reimbursed for their expenses. The Board may establish such technical and advisor bodies as it deems appropriate and members of such bodies need not be a member of the Board. Nothing in this Article shall be construed to limit the Authority's powers to contract with consultants and experts and to pay them for their services.

ARTICLE VIII ADMINISTRATION

8.1 Executive Director. The Board may select and employ an Executive Director and shall pay such compensation as deemed appropriate. The Executive Director shall be the chief executive officer of the Authority responsible for the day to day operations of the Authority. Under the policies and directives established by the Authority the Executive Director shall have charge and responsibility for all personnel, operations and business of the Authority. The Executive Director shall be responsible for payment of bills, receipt of monies and records of revenues and expenses. The Executive Director shall prepare an annual budget for Board consideration and shall be responsible for the administration of the approved budget, to include budget reports to the Board. The Executive Director shall perform all other duties, incident to chief executive officer, and shall perform such other duties and have such other powers as the Board may designate.

8.2 Staff. The Board may approve and the Executive Director will administer such staff as approved by the Board. The Authority may establish employment positions and compensation and benefit plans for the staff as deemed appropriate.

8.3 Assistant Executive Director. An Assistant Executive Director may be employed by the Authority to perform those duties assigned by the Executive Director

and act for the Executive Director in his absence. The Assistant Executive Director is authorized to sign checks for the Authority. 6

8.4 Emergency Powers. In case of an emergency, such as a significant failure of equipment or pipe line, flood, fire or natural disaster that endanger the safe operation of the facilities of the Authority, the Executive Director is authorized to take such actions as the Executive Director deems necessary. As soon as practical, the Executive Director will inform the Board of such actions. The Chairman may call a Board meeting at the Chairman's discretion to discuss the emergency pursuant to Sections 3.2 and 3.3.

ARTICLE IX
FINANCES AND PAYMENTS

9.1 Funds. Monies of the Authority shall be deposited or kept in bank or banks, as the Board shall designate from time to time. Each check, draft or voucher on the Authority's funds shall be signed by the Executive Director or Assistant Executive Director, if any, and countersigned by the Chairman, Vice-Chairman or Treasurer of the Authority.

9.2 Audits. At least annually, the Authority shall cause an audit to be made by an independent certified accountant of the Authority's funds. Audit results shall be reported to the Board and the County Administrators of the Governing Bodies.

9.3 Trustee. The Board may appoint a bank or other financial institution to act as trustee of Authority funds.

ARTICLE X
FISCAL YEAR

10.1 Fiscal year. The fiscal year of the Authority shall be July 1 to June 30 of the following year.

ARTICLE XI
COUNSEL

11.1 Legal Counsel. The Authority may engage legal counsel to advise and represent it in legal matters and proceedings and to act as counsel to the Authority.

ARTICLE XII
RULES OF PROCEDURE

12.1 Procedures. Robert's Rules of Order shall govern all matters of procedure not specifically addressed by the Bylaws.

12.2 Minutes of Meetings. Minutes shall be kept for each meeting of the Board and the number of votes for or against any resolution, authorization or policy shall be recorded. 7

ARTICLE XIII
OFFICIAL SEAL

13.1 Seal. The official seal of the Authority shall consist of the embossed impression of a circular metallic disc containing in the outer rim the words “James River Water Authority” and in the inner circle the words “Seal” and “Virginia”.

ARTICLE XIV
AMENDMENTS

14.1 Amendments of Bylaws. Except as otherwise provided by law, these Bylaws may be amended, added to, altered or repealed in whole or part by the Authority at any meeting of the Authority, provided that notice of the proposed amendment, addition, alteration or repeal is given in the notice of such meeting, and that all members of the Authority are present at such meeting.

APPENDIX C-8

**SERVICE AGREEMENT AMONG JAMES RIVER WATER AUTHORITY AND THE COUNTY OF FLUVANNA, VIRGINIA,
AND THE COUNTY OF LOUISA, VIRGINIA**

SERVICE AGREEMENT

THIS SERVICE AGREEMENT (this “Agreement”), made and entered into as of April 1st, 2015, by and among the **JAMES RIVER WATER AUTHORITY** (the “Authority”), and the **COUNTY OF FLUVANNA, VIRGINIA**, and the **COUNTY OF LOUISA, VIRGINIA** (the “Counties” or individually the “County”).

RECITALS:

WHEREAS, the Authority is a public body politic and corporate created in 2009 upon agreement of the governing bodies of the Counties, and in accordance with the Virginia Water and Waste Authorities Act, Virginia Code § 15.2-5100, et seq. (the “Act”), for the purpose of servicing the water needs of the Counties; and

WHEREAS, the County of Fluvanna, Virginia and the County of Louisa, Virginia are counties and political subdivisions of the Commonwealth of Virginia (the “Commonwealth”);

WHEREAS, the Counties entered into a Memorandum of Understanding executed on March 30, 2004 stating their mutual intention to enter into a formal contract for the development of a joint water supply and service utilizing the James River (the “MOU”); and

WHEREAS, the Authority, the Counties and the Louisa County Water Authority (“LCWA”) entered into an agreement (the “2013 Interjurisdictional Agreement”) dated October 1, 2013 to reflect the desire to move the James River intake from Bremono Bluff to Columbia, Virginia and to set forth the parties’ respective rights and duties with respect to a James River Pipeline Project; and

WHEREAS, the Authority and the Counties desire to enter into this Agreement to provide for, among other things, the development of a System for the supply of raw water by the Authority to the Counties, the sale of raw water by the Authority to the Counties, the allocation of the Authority’s capacity to the Counties and the method for fixing and collecting rates and charges for the use by the Counties of the Authority’s water system.

NOW, THEREFORE, in consideration of the premises and the mutual covenants and agreements herein contained, the parties hereto agree as follows:

ARTICLE I DEFINITIONS

“Bond Fund” shall mean the Bond Fund established in the Trust Agreement.

“Bonds” shall mean, collectively, any series of bonds, notes, debt, capital leases or other obligations issued by the Authority.

“Capital Costs” shall mean the debt service payments required to pay any Bonds issued by the Authority and other capital improvement costs, including required payments to the

Operating Fund, required payments to the Debt Service Reserve Fund, and required payments to any Bond Fund.

“Consulting Engineer” shall mean the Consulting Engineer retained by the Authority s referenced in the Trust Agreement.

“Debt Service Reserve Fund” shall mean the Debt Service Reserve Fund established in the Trust Agreement.

“Fiscal Year” shall mean in respect to the Authority the twelve months beginning on July 1 and ending on June 30, or such other twelve month period as may be determined by the Authority.

“Fixed Operating and Maintenance Costs” shall mean any Operating and Maintenance Costs that are incurred by the Authority in the absence of or regardless of the amount of System water flow to the Counties.

“Gross Revenues” shall mean all moneys received by the Authority in connection with or as a result of its ownership or operation of the System.

“MGD” shall mean million gallons per 24 hour day.

“Month” or “Monthly” shall mean calendar month, unless this Agreement specifies otherwise.

“Operating and Maintenance Costs” shall mean all current expenses directly or indirectly attributable to the ownership or operation of the System, including, without intending to limit or restrict any proper definition of such expenses under any applicable laws or generally accepted accounting principles, reasonable and necessary usual expenses of administration, operation, maintenance and repair, costs for billing and collecting the rates, fees and charges for the use of or the services furnished by the System, insurance and surety bond premiums and other charges and fees necessary for the maintenance of adequate insurance coverage for the Authority and the System, legal, engineering and auditing expense, expenses and compensation of the Trustee, and other current expenses of the Authority required to be paid by law or under the Trust Agreement, but shall not include Capital Costs.

“Operating Fund” shall mean the Operating Fund established in the Trust Agreement.

“Replacement Fund” shall mean the Replacement Fund established in the Trust Agreement.

“System” shall mean the raw water intake, raw water pump station, booster pump stations, raw water storage facilities, raw water pipelines and all associated appurtenances necessary for a complete and functional installation, all plants, systems, facilities, equipment or property owned, operated or maintained by the Authority and used in connection with the supply, storage or distribution of raw water, including, without limitation, dams, water supply systems,

water distribution systems, reservoirs, wells, intakes, mains, laterals, pumping stations, standpipes, filtration plants, purification plants, hydrants, meters, valves and equipment and apparatus, all properties, rights, easements and franchises relating thereto. The raw water intake and raw water pump station shall be constructed along the James River in the vicinity of the Town of Columbia in the County of Fluvanna. The raw water pipeline shall proceed northward from the intake facility to a point near Route 6 and the Columbia Community Planning Area (“CPA”), as the CPA is shown on the Fluvanna County Comprehensive Plan as of the date of the execution of this Agreement, and shall include “T” connections and valves to allow the Counties to connect to the System. Booster pump stations, raw water storage facilities and associated appurtenances shall be constructed as required along the pipeline route on Authority owned and/or leased property.

“**Trust Agreement**” shall mean the Agreement of Trust, or any similar agreement, if any, between the Authority and the Trustee designated therein, entered into for the purpose of allowing the Authority to issue Bonds, as supplemented and amended from time to time.

“**Trustee**” shall mean the Trustee or its successor serving as such under the Trust Agreement.

“**Variable Operating and Maintenance Costs**” shall mean any Operating and Maintenance Costs that are incurred by the Authority attributable to the amount of water flowing from the System to each County.

ARTICLE II CONSTRUCTION, OPERATION AND FINANCING OF RAW WATER INTAKE SYSTEM

Section 2.1 **Agreement to Construct.** The Authority, subject to obtaining financing therefor, agrees to construct and operate the System.

Section 2.2 **Agreement to Finance.** The Authority anticipates financing the costs of designing, constructing, and equipping the System, including expenses associated with the financing, as well as the acquisition of property, through the issuance of Bonds. Any issuance of Bonds by the Authority shall require the approval of the governing bodies of each County.

ARTICLE III PROVISION OF SERVICES

Section 3.1 **Supply of Raw Water**

(a) The Counties, subject to subsection (c), shall each have an allocation of 50% of the raw water provided by the System.

(b) The Authority shall use its best efforts to remain in a position to furnish raw water as herein provided to the Counties, but its obligation shall be limited to the amount of raw water available.

(c) A County may temporarily or permanently reallocate any portion of its allocated capacity to the other County on such terms as may be mutually agreeable. The County shall give the Authority written notice of any such transfer and the Authority shall change the capacity allocations on its books and records. However, these reallocations shall not alter the obligations of each County unless agreed to by the parties.

(d) The Authority will not sell raw water to any governmental entity, person, firm, or corporation that is not a party to this Agreement without the prior approval of the Counties.

(e) Notwithstanding any other provisions of this Agreement, a County may assign its capacity allocation to anyone without consent of the other County or the Authority.

(f) The raw water allocation above shall supersede the provisions of the 2013 Interjurisdictional Agreement contained in Paragraph 1.3(a) therein.

Section 3.2 Purchase of Raw Water.

(a) Each County shall have the right to purchase from the Authority raw water for use and/or for resale up to their respective allocation.

(b) In the event the Authority is unable to furnish all of the raw water required under this Agreement, each County shall have the right to construct, acquire, utilize, purchase, procure or take water from any facilities other than the System constructed by the Authority.

Section 3.3 Expansion of System.

(a) Either County may request an expansion of the capacity of the System and issue bonds to finance the cost of such expansion. The County requesting such an expansion shall be solely responsible for all capital costs of the expansion, and shall promptly reimburse the Authority for any additional costs incurred by the Authority occasioned by the construction necessary for such an expansion as such costs are incurred. The County requesting such an expansion shall be allocated the entire additional capacity created through the expansion.

(b) If both of the Counties simultaneously request an expansion of the capacity of the System, the provision of this subsection shall apply to each in proportion to the capacities each has requested. Following completion of an expansion, any resulting increases in routine Operating Expenses shall be paid for by the Counties according to their proportional interest in the System as provided for in Article IV.

(c) The Authority must approve any such expansion.

ARTICLE IV PAYMENTS

Section 4.1 Payments for Variable Operating and Maintenance Costs

The Variable Operating and Maintenance Costs which can be attributed to water flows shall be proportionally split between the Counties based on actual water flow to each Party. The Authority will invoice each County on the tenth day of each month for its proportionate share of the Variable Operating and Maintenance Costs based on actual usage during the previous month. Within 90 days after the end of each Fiscal Year, the payments from each County for Variable Operating and Maintenance Costs shall be adjusted to account for any excess or deficit in the amount of Variable Operating and Maintenance Costs actually paid by the County during such Fiscal Year. Each County that has paid Variable Operating and Maintenance Costs to the Authority in an amount less than its share of total Variable Operating and Maintenance Costs shall promptly pay to the Authority for deposit directly into the Operating Fund from any funds legally available to it on a subject to appropriation basis the amount of such deficit. If a County has paid Variable Operating and Maintenance Costs in excess of its share of total Variable Operating and Maintenance Costs for the Fiscal Year, then the Authority shall credit such County with the amount of the excess against future Variable Operating and Maintenance Costs becoming due under Section 4.1 of this Agreement.

Section 4.2 Payments for Fixed Operating and Maintenance Costs and Bonds

(a) The Fixed Operating and Maintenance Costs incurred in the absence or regardless of flow, and the monthly debt service charges for Bonds issued by the Authority for purposes of constructing the Authority's System, improving or repairing the System or refunding any outstanding series of Bonds issued for such purpose, shall be divided evenly between Counties.

(b) The Authority will invoice each County on the tenth day of each month for its half of the Fixed Operating and Maintenance Costs for the previous month. The Counties each shall pay, on a subject to appropriation basis, to the Authority, at least ten (10) days in advance of each payment date on any series of Bonds, their half of the monthly debt service charges sufficient to pay when due the principal of, premium, if any, and interest on the Bonds and provision for any reserves therefor. All such monthly debt service charges shall be calculated based on the period of the debt service payment by the Authority. For example, if the Authority is obligated to make semiannual payments on a debt, the corresponding advance Monthly debt service charges payable by each County concerning that debt shall be one-sixth of each County's share of the semiannual payment.

Section 4.3 Annual Reserve Payments

On the first day of each Fiscal Year, the Authority shall bill to each County, and each County agrees to pay to the Authority, its proportionate share (as determined pursuant to Section 6.4) of an Operating and Maintenance reserve payment equal to sixty (60) days of its projected Annual Budget less Capital Costs and the funds on hand in the operating fund.

Section 4.4 Invoices

Except as otherwise provided in this Agreement, on the tenth day of each Month, the Authority shall prepare and submit invoices to the Counties for payment of all charges and surcharges payable to the Authority by the Counties hereunder. The Counties shall pay the amount invoiced within 30 days after receipt of such invoice. Failure to pay in full any uncontested amounts within 30 days of the date of receipt shall cause the County to be liable for interest on the unpaid amount at a rate of one (1) point above the prime interest rate announced from time to time by the bank with which the Authority maintains its primary banking relationship.

Section 4.5 Payment Disputes

If any County disputes any portion of the charges billed to it by the Authority, it shall so notify the Authority within 10 days of receipt of the invoice. If the payment dispute is unresolved within 30 days of the date of the County's receipt of the invoice, the County shall be liable for interest on the unpaid amount at a rate of one (1) point above the prime interest rate announced from time to time by the bank with which the Authority maintains its primary banking relationship if the amount in question is determined to have been appropriately billed to the County. The Authority may make such other rules as it deems appropriate for resolution of payment disputes.

Section 4.6 Payment from Participating Jurisdictions

Each County agrees to promptly pay from any funds legally available to it on a subject to appropriation basis, all amounts required by this Agreement. Each County hereby directs its County Administrator to include in each annual budget submitted to the governing body of his or her County or in an amendment thereto, sufficient funds to cover the County's payment obligations required by this Agreement. If at any time the revenues available to the Authority shall be insufficient to pay in a timely fashion any of the Fixed Operating and Maintenance Costs, Variable Operating and Maintenance Costs, or Capital Costs, the Authority shall notify each County of the amount of such insufficiency and the County Administrator of the County shall request a supplemental appropriation from the governing body of the County for its share of the amount necessary to make such payment. Nothing in this Agreement shall be deemed to constitute a pledge of the faith and credit or the taxing power of either County. The obligations herein of each County are independent and no County shall have any obligation to pay any amounts owed to the Authority by any other County.

**ARTICLE V
METERS**

Section 5.1 Installation of Meters

In order to permit the delivery to the Participating Jurisdictions of raw water sold to each County, the Authority shall permit the Counties or an authority created under the Act by the County to connect its system with the raw water supply mains maintained by the Authority, the

specific location of such connection to be designated by the Authority in a location or locations not inconsistent with the 2013 Interjurisdictional Agreement and reasonably acceptable to the Counties. The volume of raw water delivered to such County shall be determined by a meter or meters installed by the Authority.

Section 5.2 Failure of Meters to Register

In the event the meter or meters so installed shall fail to register correctly the flow of raw water for any period of time, the amount of raw water supplied by the Authority shall be determined by the average daily consumption of raw water over a period of 30 days preceding the date when such meter or meters failed to register the correct flow.

**ARTICLE VI
ANNUAL BUDGET**

Section 6.1 Budget Request and Adoption of Annual Budget

By February 1st each year, the Authority shall submit its budget request to the Counties for the operation of the System for the ensuing Fiscal Year, which shall be called the Annual Budget. The Annual Budget shall be adopted by June 30 of each year.

Section 6.2 Report of Consulting Engineer and Estimate of Water Usage

Prior to making its budget request and preparing the Annual Budget, the Authority shall obtain a report from an engineer giving advice and making recommendations as to the proper maintenance, repair and operation of the Authority's System, including any capital expenditures, during the ensuing Fiscal Year and estimating the amount necessary for such purposes. In addition each County shall give the Authority an estimate of total water usage during the ensuing Fiscal Year.

Section 6.3 Details of Annual Budget

The budget request and Annual Budget shall be prepared in such manner as to show in reasonable detail all rates, fees and other charges to be derived by the Authority to pay, in the ensuing Fiscal Year (i) all Operating Expenses expected to be incurred in connection with the ownership or operation of the Authority's System, (ii) any amount required to be paid, if any, into the Replacement Fund, (iii) the amount of principal of a premium, if any, and interest on the Bonds, that shall become due, including any amount necessary to be paid into the Debt Service Reserve Fund to restore the balance therein to the amount of the Debt Service Reserve, and (iv) any other lawful costs and expenses the Authority deems necessary or desirable.

Section 6.4 Amendments to Annual Budget

The Authority may amend the Annual Budget at any time during the Fiscal Year.

Section 6.5 Delay in Adoption of Annual Budget

Section 6.5 Delay in Adoption of Annual Budget

If for any reason an Annual Budget has not been adopted within the time required by Section 6.1 of this Article VI, the last previously adopted Annual Budget will be deemed to provide for and regulate and control expenditures during such Fiscal Year until an Annual Budget for such Fiscal Year has been adopted.

**ARTICLE VII
MISCELLANEOUS**

Section 7.1 Sale or Transfer of System

Each County agrees not to sell, transfer or dispose of its water system unless:

- (a) The transferee agrees to comply with the terms of this Agreement to the extent applicable to raw water delivered by the Authority;
- (b) The transferee agrees to fix and collect rates and charges sufficient to satisfy the obligation of the transferring County under Article IV above, to the extent such County does not fix and collect such rate and charges; and
- (c) The transferee agrees to make payments to the Authority required to be made by the transferring County to the extent such payments are not made by the County.
- (d) In addition, each County agrees not to sell, transfer or dispose of more than five percent (5%) of the book value of its water system in any one year (excluding obsolete, unnecessary or unused parts of its water system unless:
 - (i) such transfer is to another governmental unit within the meaning of Section 141 of the Internal Revenue Code of 1986, as amended; and
 - (ii) the sale, transfer or other disposal is approved by the Authority.
- (e) Notwithstanding the foregoing, no such sale, transfer or disposition shall release the transferring County from any obligation or liability under this Agreement or affect any County agreement or understanding between the County and the transferee.

Section 7.2 Amendments

This Agreement may be changed or modified only with the consent of the Authority and each of the Counties. Such modification may be requested by any party, in which event a joint meeting of such governing bodies shall be held not less than 90 days after giving such notice, at which joint meeting the requested changes or modifications shall be considered and discussed. No such change or modification may be made which will affect adversely the prompt payment when due of all moneys required to be paid, by each of the Counties under the terms of this

Agreement and no such change shall be effective that would cause a violation of any provision of the resolution authorizing or the indenture securing the bonds.

Section 7.3 Compliance with Laws

This Agreement shall be subject to all valid rules, regulations and laws applicable hereto passed or promulgated by the United States of America, the Commonwealth, or any governmental body or agency having lawful jurisdiction or any authorized representative or agency of any of them.

Section 7.4 Distribution Upon Dissolution

At such time as it shall become necessary to determine the respective interests of the Counties in the assets of the Authority for the purpose of distributing or otherwise disposing of the same, unless otherwise required under Section 15.2-5109 of the Act, the interest of each County shall be in the ratio that the capacity of the System allocated to such County at such time bears to the entire capacity of the System.

Section 7.5 Rates Charged by Participating Jurisdictions

Nothing in this Agreement shall in any way affect the rights and obligations of the Counties to charge such rates as it may determine for the use of water and other facilities and services supplied by its System, as now existing or hereafter extended and enlarged.

Section 7.6 Audit of Authority Books and Records


The Authority agrees to have made an annual audit of the books and records of the Authority and to deliver to each of the Counties a copy of the annual audit within 10 days after receiving the annual audit.

Section 7.7 Term of Agreement

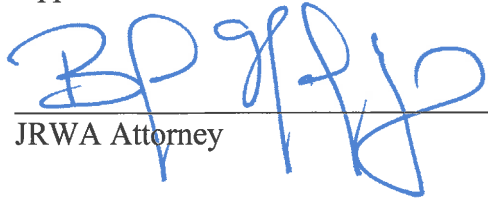
This Agreement shall continue in force and effect for a period from the date hereof and for so long as the Authority shall remain in existence.

IN WITNESS WHEREOF, the parties caused this Service Agreement to be signed by their respective officers thereunto duly authorized, and this Agreement to be dated as of the date and year first above written.

JAMES RIVER WATER AUTHORITY

By: 
Chairman

Approved as to Form


JRWA Attorney


COUNTY OF FLUVANNA, VIRGINIA

By: 
Chair, Board of Supervisors

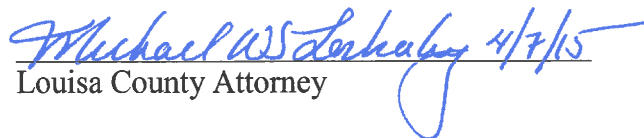
Approved as to Form


Fluvanna County Attorney

COUNTY OF LOUISA, VIRGINIA

By: 
Chair, Board of Supervisors

Approved as to Form

 4/7/15
Louisa County Attorney

APPENDIX C-9

**RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF FLUVANNA, VIRGINIA, APPROVING THE
EXECUTION AND DELIVERY OF A SUPPORT AGREEMENT**

**RESOLUTION OF THE BOARD OF SUPERVISORS OF THE
COUNTY OF FLUVANNA, VIRGINIA APPROVING THE EXECUTION
AND DELIVERY OF A SUPPORT AGREEMENT**

WHEREAS, the James River Water Authority (the “Water Authority”) is a public body politic and corporate and a political subdivision of the Commonwealth of Virginia (the “Commonwealth”) exercising public and essential governmental functions and created by resolutions duly adopted by the Board of Supervisors of the County of Fluvanna, Virginia (the “Board of Supervisors”) and the Board of Supervisors of the County of Louisa, Virginia in accordance with the Virginia Water and Waste Authorities Act, as amended (Chapter 51, Title 15.2, Code of Virginia of 1950, as amended), for the purpose of servicing the water needs of the County of Fluvanna, Virginia (the “County”) and the County of Louisa, Virginia (collectively, the “Member Jurisdictions”);

WHEREAS, the Water Authority is authorized to contract debts and to issue, as evidence thereof, notes, bonds or other obligations payable from revenues from a revenue-producing undertaking of the Water Authority, and the Water Authority now desires to finance the design and construction of a raw water intake, a pump station and a raw water pipeline, as well as the acquisition of land and right-of-way necessary therefor (collectively, the “Project”) through the issuance of its Revenue Bond, Series 2016 in a maximum principal amount not to exceed \$10,000,000 (the “Local Bond”);

WHEREAS, the Water Authority and the Member Jurisdictions are entering into a Service Agreement (the “Service Agreement”), which provides for payments by each Member Jurisdiction to the Water Authority for services to be rendered to the Member Jurisdictions by the Water Authority, and sets forth certain other responsibilities of the parties;

WHEREAS, the Water Authority has been advised that the Virginia Resources Authority (“VRA”), a public body corporate and political subdivision of the Commonwealth, is willing to purchase the Local Bond on terms favorable to the Water Authority;

WHEREAS, VRA has indicated its willingness to purchase such Local Bond in accordance with the terms of a Local Bond Sale and Financing Agreement, dated as of April 1, 2016, between VRA and the Water Authority (the “Financing Agreement”); and

WHEREAS, VRA has indicated that its agreement to purchase the Local Bond will be conditioned upon each of the Member Jurisdictions undertaking non-binding obligations to appropriate from time to time moneys to the Water Authority in connection with payments due under the Service Agreement, which constitute the principal source of and security for the payment of the debt service on the Local Bond, as set forth in the Support Agreement to be dated as of May 1, 2016 (the “Support Agreement”), among the Water Authority, the County and VRA, the most recent draft of which has been presented to this meeting;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF THE COUNTY OF FLUVANNA, VIRGINIA, THAT:

1. It is found and determined that the best interests of the County and its citizens will be served by the agreement by the Board of Supervisors to enter into the Support Agreement to satisfy one of VRA’s conditions to the purchase of the Local Bond.
2. The Board of Supervisors acknowledges that (i) the obligations of the Water Authority to determine, and of the Member Jurisdictions to pay, the charges for the use of and for services to be furnished by the System (as defined in the Financing Agreement) are crucial to the security for the Local Bond, (ii) VRA would not purchase the Local Bond without the security and credit enhancement provided by the Support Agreement, (iii) VRA will be a third party beneficiary of the Service Agreement for so long as the Local Bond remains outstanding, and (iv) VRA is treating the Support Agreement as a

“local obligation” within the meaning of Section 62.1-199 of the Virginia Code, which in the event of a nonpayment thereunder authorizes VRA or the trustee for VRA’s bonds to file an affidavit with the Governor that such nonpayment has occurred pursuant to Section 62.1-216.1 of the Virginia Code. Section 62.1-216.1 provides that if the Governor is satisfied that such nonpayment has occurred, the Governor will immediately make an order directing the Comptroller to withhold all further payment to the County of all funds, or of any part of them, appropriated and payable by the Commonwealth to the County for any and all purposes, and the Governor will, while the nonpayment continues, direct in writing the payment of all sums withheld by the Comptroller, or as much of them as is necessary, to VRA, so as to cure, or cure insofar as possible, such nonpayment.

3. In consideration of the Water Authority’s issuance of the Local Bond and VRA’s agreement to purchase the Local Bond pursuant to the terms of the Financing Agreement, the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator, any of whom may act, is hereby authorized and directed to execute and deliver the Support Agreement. The Support Agreement shall be in substantially the form presented to this meeting, which is hereby approved, with such completions, omissions, insertions or changes not inconsistent with this Resolution as may be approved by the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator, in their sole discretion, the execution thereof by the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator to constitute conclusive evidence of his or her approval of such completions, omissions, insertions or changes.
4. The County Administrator is hereby authorized and directed to carry out the obligations imposed on him by the Support Agreement, and to take all proper steps on behalf of the County as may be required in connection with the Water Authority’s financing of the Project or with the carrying out of any matter authorized by this Resolution or the Support Agreement.
5. Nothing contained herein or in the Support Agreement is or shall be deemed to be a lending of the credit of the County to the Water Authority, VRA or to any holder of the Local Bond or to any other person, and nothing herein contained is or shall be deemed to be a pledge of the faith and credit or the taxing power of the County, nor shall anything contained herein or in the Support Agreement legally bind or obligate the Board of Supervisors to appropriate funds for purposes described in the Support Agreement.
6. All actions previously taken by representatives or agents of the County in furtherance of the financing of the Project, the issuance of the Local Bond and/or the execution and delivery of the Support Agreement are hereby ratified, approved and confirmed.
7. No covenant, condition, agreement or obligation contained in the Support Agreement shall be deemed to be a covenant, condition, agreement or obligation of any officer, employee or agent of the County in his or her individual capacity, and no officer of the County executing the Support Agreement shall be liable personally on the Support Agreement or be subject to any personal liability or accountability by reason of the execution and delivery thereof.
8. This Resolution shall take effect immediately.

The undersigned Clerk of the Board of Supervisors of the County of Fluvanna, Virginia hereby certifies that the foregoing constitutes a true, correct and complete copy of a Resolution duly adopted by the Board of Supervisors of the County of Fluvanna, Virginia at a meeting duly called and held on March 16, 2016, during which a quorum was present and acting throughout, by the vote set forth below, and that such Resolution has not been repealed, revoked, rescinded or amended:

<u>Board Member</u>	<u>Present/Absent</u>	<u>Vote</u>
John M. Sheridan	Present	Yes
Mozell H. Booker	Present	Yes
Patricia B. Eager	Present	Yes
Anthony P. O'Brien	Present	Yes
Donald W. Weaver	Present	Yes

WITNESS my signature as Clerk of the Board of Supervisors of the County of Fluvanna, Virginia, this 16th day of March, 2016.



Kelly Belanger Harris

Clerk
Board of Supervisors of the County of Fluvanna,
Virginia

(SEAL)

**SUPPORT AGREEMENT
JAMES RIVER WATER AUTHORITY**

THIS SUPPORT AGREEMENT (this “Support Agreement”) is made as of May 1, 2016, among the **COUNTY OF FLUVANNA, VIRGINIA** (the “County”), the **JAMES RIVER WATER AUTHORITY** (the “Water Authority”), and the **VIRGINIA RESOURCES AUTHORITY** (“VRA”), as purchaser of the Local Bond, as hereinafter defined, pursuant to a Local Bond Sale and Financing Agreement dated as of April 1, 2016 (the “Financing Agreement”), between VRA and the Water Authority.

RECITALS:

WHEREAS, the Water Authority is a public body politic and corporate and a political subdivision of the Commonwealth of Virginia (the “Commonwealth”) exercising public and essential governmental functions and created by resolutions duly adopted by the Board of Supervisors of the County (the “Board”) and the Board of Supervisors of the County of Louisa, Virginia in accordance with the Virginia Water and Waste Authorities Act, as amended (Chapter 51, Title 15.2, Code of Virginia of 1950, as amended), for the purpose of servicing the water needs of the County and the County of Louisa, Virginia (collectively, the “Member Jurisdictions”);

WHEREAS, the Water Authority is authorized to contract debts and to issue, as evidence thereof, notes, bonds or other obligations payable from revenues from a revenue-producing undertaking of the Water Authority, and the Water Authority now desires to finance the design and construction of a raw water intake, a pump station and a raw water pipeline, as well as the acquisition of land and right-of-way necessary therefor (collectively, the “Project”) through the issuance of its Revenue Bond, Series 2016 in a maximum principal amount not to exceed \$10,000,000 (the “Local Bond”);

WHEREAS, the Water Authority and the Member Jurisdictions are entering into a Service Agreement (the “Service Agreement”), which provides for payments by each Member Jurisdiction to the Water Authority for services to be rendered to the Member Jurisdictions by the Water Authority, and sets forth certain other responsibilities of the parties;

WHEREAS, the Water Authority has determined that it is in its best interest to issue and sell its Revenue Bond, Series 2016 (the “Local Bond”), to VRA pursuant to the terms of the Financing Agreement to finance the Project; and

WHEREAS, as a condition to the purchase by VRA of the Local Bond, VRA is requiring each of the Member Jurisdictions to enter into a support agreement substantively identical to this Support Agreement;

AGREEMENT

NOW, THEREFORE, for and in consideration of the issuance of the Local Bond by the Water Authority, the purchase of the Local Bond by VRA and of the mutual covenants herein set forth, the parties hereto agree as follows:

1. Unless otherwise defined, each capitalized term used in this Support Agreement shall have the meaning given it in the Financing Agreement.

2. The Water Authority shall use its best efforts to issue the Local Bond for the purpose described in the Recitals above.

3. If at any time the revenues available to the Water Authority shall be insufficient to pay in a timely fashion any of the debt service payments due on the Local Bond (the "Debt Service"), either because (i) the Water Authority has failed to charge the County its allocable portion of the Debt Service (a "County Debt Service Payment") as required to make such Debt Service payment or (ii) the County has failed to make a County Debt Service Payment as provided under the Service Agreement, the Water Authority shall notify the County and VRA of the amount of such insufficiency and the County Administrator of the County shall request a supplemental appropriation from the Board in the amount necessary to make such payment.

4. The County Administrator shall present each request for appropriation pursuant to paragraph 3 above to the Board, and the Board shall consider such request at the Board's next regularly scheduled meeting at which it is possible to satisfy any applicable notification requirement. Promptly after such meeting, the County Administrator shall notify VRA as to whether the County Debt Service Payment so requested was appropriated. If the Board shall fail to make any such appropriation, the Water Authority shall add the amount of such requested appropriation to the amounts to be otherwise charged to the County for the Water Authority's next fiscal year.

5. The Board hereby undertakes a non-binding obligation to appropriate such County Debt Service Payments as may be requested from time to time pursuant to paragraph 3 above, to the fullest degree and in such manner as is consistent with the Constitution and laws of the Commonwealth. The Board, while recognizing that it is not empowered to make any binding commitment to make such appropriations in future fiscal years, hereby states its intent to make such appropriations in future fiscal years, and hereby recommends that future Boards do likewise.

6. The County and the Water Authority acknowledge that (i) the obligations of the Water Authority to determine, and of the Member Jurisdictions to pay, the charges for the use of and for services to be furnished by the System (as defined in the Financing Agreement) are crucial to the security for the Local Bond, (ii) VRA would not purchase the Local Bond without the security and credit enhancement provided by this Support Agreement, (iii) VRA will be a third party beneficiary of the Service Agreement for so long as the Local Bond remains outstanding and (iv) VRA is treating this Support Agreement as a "local obligation" within the meaning of Section 62.1-199 of the Virginia Code, which in the event of a nonpayment hereunder authorizes VRA or the Trustee to file an affidavit with the Governor that such

nonpayment has occurred pursuant to Section 62.1-216.1 of the Virginia Code. Section 62.1-216.1 provides that if the Governor is satisfied that the nonpayment has occurred, the Governor will immediately make an order directing the Comptroller to withhold all further payment to the County of all funds, or of any part of them, appropriated and payable by the Commonwealth to the County for any and all purposes, and the Governor will, while the nonpayment continues, direct in writing the payment of all sums withheld by the Comptroller, or as much of them as is necessary, to VRA, so as to cure, or cure insofar as possible, such nonpayment.

7. Nothing herein contained is or shall be deemed to be a lending of the credit of the County to the Water Authority, VRA or to any holder of the Local Bond or to any other person, and nothing herein contained is or shall be deemed to be a pledge of the faith and credit or the taxing power of the County, nor shall anything herein contained legally bind or obligate the Board to appropriate funds for the purposes described herein.

8. Any notices or requests required to be given hereunder shall be deemed given if sent by registered or certified mail, postage prepaid, addressed (i) if to the County, to 132 Main Street, Palmyra, Virginia 22963, Attention: County Administrator, (ii) if to the Water Authority, to c/o Fluvanna County as fiscal agent, 132 Main Street, Palmyra, Virginia 22963, Attention: Fluvanna County Administrator, and (iii) if to VRA, to 1111 East Main Street, Suite 1920, Richmond, Virginia 23219, Attention: Executive Director. Any party may designate any other address for notices or requests by giving notice.

9. It is the intent of the parties hereto that this Support Agreement shall be governed by the laws of the Commonwealth.

10. This Support Agreement shall remain in full force and effect until the Local Bond and all other amounts payable by Water Authority under the Financing Agreement have been paid in full.

11. This Support Agreement may be executed in any number of counterparts, each of which shall be an original and all of which together shall constitute but one and the same instrument.

[REMAINDER OF PAGE LEFT BLANK; SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties hereto have each caused this Support Agreement to be executed in their respective names as of the date first above written.

COUNTY OF FLUVANNA, VIRGINIA

By:  3/16/16
County Administrator

JAMES RIVER WATER AUTHORITY

By: _____
Chairman

VIRGINIA RESOURCES AUTHORITY

By: _____
Executive Director

#26149873v4

APPENDIX C-10

**A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF LOUISA VIRGINIA APPROVING THE
EXECUTION AND DELIVERY OF A SUPPORT AGREEMENT**

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 21st day of March 2016, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	APPROVED [UNANIMOUS]
MOVER:	Fitzgerald A. Barnes, Patrick Henry District Supervisor
SECONDER:	Stephanie L. Koren, Mineral District Supervisor
AYES:	Barlow, Barnes, Gentry Jr., Havasy, Wade, Koren, Williams

**A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE COUNTY OF LOUISA,
VIRGINIA APPROVING THE EXECUTION AND DELIVERY OF A SUPPORT AGREEMENT**

WHEREAS, the James River Water Authority (the "Water Authority") is a public body politic and corporate and a political subdivision of the Commonwealth of Virginia (the "Commonwealth") exercising public and essential governmental functions and created by resolutions duly adopted by the Board of Supervisors of the County of Louisa, Virginia (the "Board of Supervisors") and the Board of Supervisors of the County of Fluvanna, Virginia in accordance with the Virginia Water and Waste Authorities Act, as amended (Chapter 51, Title 15.2, Code of Virginia of 1950, as amended), for the purpose of servicing the water needs of the County of Louisa, Virginia (the "County") and the County of Fluvanna, Virginia (collectively, the "Member Jurisdictions");

WHEREAS, the Water Authority is authorized to contract debts and to issue, as evidence thereof, notes, bonds or other obligations payable from revenues from a revenue-producing undertaking of the Water Authority, and the Water Authority now desires to finance the design and construction of a raw water intake, a pump station and a raw water pipeline, as well as the acquisition of land and right-of-way necessary therefore (collectively, the "Project") through the issuance of its Revenue Bond, Series 2016 in a maximum principal amount not to exceed \$10,000,000 (the "Local Bond");

WHEREAS, the Water Authority and the Member Jurisdictions are entering into a Service Agreement (the "Service Agreement"), which provides for payments by each Member Jurisdiction to the Water Authority for services to be rendered to the Member Jurisdictions by the Water Authority, and sets forth certain other responsibilities of the parties;

WHEREAS, the Water Authority has been advised that the Virginia Resources Authority ("VRA"), a public body corporate and political subdivision of the Commonwealth, is willing to purchase the Local Bond on terms favorable to the Water Authority;

WHEREAS, VRA has indicated its willingness to purchase such Local Bond in accordance with the terms of a Local Bond Sale and Financing Agreement, dated as of April 1, 2016, between VRA and the Water Authority (the "Financing Agreement"); and

WHEREAS, VRA has indicated that its agreement to purchase the Local Bond will be conditioned upon each of the Member Jurisdictions undertaking non-binding obligations to appropriate from time to time moneys to the Water Authority in connection with payments due under the Service

Agreement, which constitute the principal source of and security for the payment of the debt service on the Local Bond, as set forth in the Support Agreement to be dated as of May 1, 2016 (the "Support Agreement"), among the Water Authority, the County and VRA, the most recent draft of which has been presented to this meeting;

NOW, THEREFORE, BE IT RESOLVED, on this 21st day of March 2016, that the Louisa County Board of Supervisors hereby states:

1. It is found and determined that the best interests of the County and its citizens will be served by the agreement by the Board of Supervisors to enter into the Support Agreement to satisfy one of VRA's conditions to the purchase of the Local Bond.

2. The Board of Supervisors acknowledges that (i) the obligations of the Water Authority to determine, and of the Member Jurisdictions to pay, the charges for the use of and for services to be furnished by the System (as defined in the Financing Agreement) are crucial to the security for the Local Bond, (ii) VRA would not purchase the Local Bond without the security and credit enhancement provided by the Support Agreement, (iii) VRA will be a third party beneficiary of the Service Agreement for so long as the Local Bond remains outstanding, and (iv) VRA is treating the Support Agreement as a "local obligation" within the meaning of Section 62.1-199 of the Virginia Code, which in the event of a nonpayment thereunder authorizes VRA or the trustee for VRA's bonds to file an affidavit with the Governor that such nonpayment has occurred pursuant to Section 62.1-216.1 of the Virginia Code. Section 62.1-216.1 provides that if the Governor is satisfied that such nonpayment has occurred, the Governor will immediately make an order directing the Comptroller to withhold all further payment to the County of all funds, or of any part of them, appropriated and payable by the Commonwealth to the County for any and all purposes, and the Governor will, while the nonpayment continues, direct in writing the payment of all sums withheld by the Comptroller, or as much of them as is necessary, to VRA, so as to cure, or cure insofar as possible, such nonpayment.

3. In consideration of the Water Authority's issuance of the Local Bond and VRA's agreement to purchase the Local Bond pursuant to the terms of the Financing Agreement, the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator, any of whom may act, is hereby authorized and directed to execute and deliver the Support Agreement. The Support Agreement shall be in substantially the form presented to this meeting, which is hereby approved, with such completions, omissions, insertions or changes not inconsistent with this Resolution as may be approved by the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator, in their sole discretion, the execution thereof by the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator to constitute conclusive evidence of his or her approval of such completions, omissions, insertions or changes.

4. The County Administrator is hereby authorized and directed to carry out the obligations imposed on him by the Support Agreement, and to take all proper steps on behalf of the County as may be required in connection with the Water Authority's financing of the Project or with the carrying out of any matter authorized by this Resolution or the Support Agreement.


5. Nothing contained herein or in the Support Agreement is or shall be deemed to be a lending of the credit of the County to the Water Authority, VRA or to any holder of the Local Bond or to any other person, and nothing herein contained is or shall be deemed to be a pledge of the faith and credit or the taxing power of the County, nor shall anything contained herein or in the Support Agreement legally bind or obligate the Board of Supervisors to appropriate funds for purposes described in the Support Agreement.

6. All actions previously taken by representatives or agents of the County in furtherance of the financing of the Project, the issuance of the Local Bond and/or the execution and delivery of the Support Agreement are hereby ratified, approved and confirmed.

7. No covenant, condition, agreement or obligation contained in the Support Agreement shall be deemed to be a covenant, condition, agreement or obligation of any officer, employee or agent of the County in his or her individual capacity, and no officer of the County executing the Support Agreement shall be liable personally on the Support Agreement or be subject to any personal liability or accountability by reason of the execution and delivery thereof.

8. This Resolution shall take effect immediately.

A Copy, teste:



Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia

**SUPPORT AGREEMENT
JAMES RIVER WATER AUTHORITY**

THIS SUPPORT AGREEMENT (this “Support Agreement”) is made as of May 1, 2016, among the **COUNTY OF LOUISA, VIRGINIA** (the “County”), the **JAMES RIVER WATER AUTHORITY** (the “Water Authority”), and the **VIRGINIA RESOURCES AUTHORITY (“VRA”)**, as purchaser of the Local Bond, as hereinafter defined, pursuant to a Local Bond Sale and Financing Agreement dated as of April 1, 2016 (the “Financing Agreement”), between VRA and the Water Authority.

RECITALS:

WHEREAS, the Water Authority is a public body politic and corporate and a political subdivision of the Commonwealth of Virginia (the “Commonwealth”) exercising public and essential governmental functions and created by resolutions duly adopted by the Board of Supervisors of the County (the “Board”) and the Board of Supervisors of the County of Fluvanna, Virginia in accordance with the Virginia Water and Waste Authorities Act, as amended (Chapter 51, Title 15.2, Code of Virginia of 1950, as amended), for the purpose of servicing the water needs of the County and the County of Fluvanna, Virginia (collectively, the “Member Jurisdictions”);

WHEREAS, the Water Authority is authorized to contract debts and to issue, as evidence thereof, notes, bonds or other obligations payable from revenues from a revenue-producing undertaking of the Water Authority, and the Water Authority now desires to finance the design and construction of a raw water intake, a pump station and a raw water pipeline, as well as the acquisition of land and right-of-way necessary therefor (collectively, the “Project”) through the issuance of its Revenue Bond, Series 2016 in a maximum principal amount not to exceed \$10,000,000 (the “Local Bond”);

WHEREAS, the Water Authority and the Member Jurisdictions are entering into a Service Agreement (the “Service Agreement”), which provides for payments by each Member Jurisdiction to the Water Authority for services to be rendered to the Member Jurisdictions by the Water Authority, and sets forth certain other responsibilities of the parties;

WHEREAS, the Water Authority has determined that it is in its best interest to issue and sell its Revenue Bond, Series 2016 (the “Local Bond”), to VRA pursuant to the terms of the Financing Agreement to finance the Project; and

WHEREAS, as a condition to the purchase by VRA of the Local Bond, VRA is requiring each of the Member Jurisdictions to enter into a support agreement substantively identical to this Support Agreement;

AGREEMENT

NOW, THEREFORE, for and in consideration of the issuance of the Local Bond by the Water Authority, the purchase of the Local Bond by VRA and of the mutual covenants herein set forth, the parties hereto agree as follows:

1. Unless otherwise defined, each capitalized term used in this Support Agreement shall have the meaning given it in the Financing Agreement.

2. The Water Authority shall use its best efforts to issue the Local Bond for the purpose described in the Recitals above.

3. If at any time the revenues available to the Water Authority shall be insufficient to pay in a timely fashion any of the debt service payments due on the Local Bond (the "Debt Service"), either because (i) the Water Authority has failed to charge the County its allocable portion of the Debt Service (a "County Debt Service Payment") as required to make such Debt Service payment or (ii) the County has failed to make a County Debt Service Payment as provided under the Service Agreement, the Water Authority shall notify the County and VRA of the amount of such insufficiency and the County Administrator of the County shall request a supplemental appropriation from the Board in the amount necessary to make such payment.

4. The County Administrator shall present each request for appropriation pursuant to paragraph 3 above to the Board, and the Board shall consider such request at the Board's next regularly scheduled meeting at which it is possible to satisfy any applicable notification requirement. Promptly after such meeting, the County Administrator shall notify VRA as to whether the County Debt Service Payment so requested was appropriated. If the Board shall fail to make any such appropriation, the Water Authority shall add the amount of such requested appropriation to the amounts to be otherwise charged to the County for the Water Authority's next fiscal year.

5. The Board hereby undertakes a non-binding obligation to appropriate such County Debt Service Payments as may be requested from time to time pursuant to paragraph 3 above, to the fullest degree and in such manner as is consistent with the Constitution and laws of the Commonwealth. The Board, while recognizing that it is not empowered to make any binding commitment to make such appropriations in future fiscal years, hereby states its intent to make such appropriations in future fiscal years, and hereby recommends that future Boards do likewise.

6. The County and the Water Authority acknowledge that (i) the obligations of the Water Authority to determine, and of the Member Jurisdictions to pay, the charges for the use of and for services to be furnished by the System (as defined in the Financing Agreement) are crucial to the security for the Local Bond, (ii) VRA would not purchase the Local Bond without the security and credit enhancement provided by this Support Agreement, (iii) VRA will be a third party beneficiary of the Service Agreement for so long as the Local Bond remains outstanding and (iv) VRA is treating this Support Agreement as a "local obligation" within the meaning of Section 62.1-199 of the Virginia Code, which in the event of a nonpayment hereunder authorizes VRA or the Trustee to file an affidavit with the Governor that such

nonpayment has occurred pursuant to Section 62.1-216.1 of the Virginia Code. Section 62.1-216.1 provides that if the Governor is satisfied that the nonpayment has occurred, the Governor will immediately make an order directing the Comptroller to withhold all further payment to the County of all funds, or of any part of them, appropriated and payable by the Commonwealth to the County for any and all purposes, and the Governor will, while the nonpayment continues, direct in writing the payment of all sums withheld by the Comptroller, or as much of them as is necessary, to VRA, so as to cure, or cure insofar as possible, such nonpayment.

7. Nothing herein contained is or shall be deemed to be a lending of the credit of the County to the Water Authority, VRA or to any holder of the Local Bond or to any other person, and nothing herein contained is or shall be deemed to be a pledge of the faith and credit or the taxing power of the County, nor shall anything herein contained legally bind or obligate the Board to appropriate funds for the purposes described herein.

8. Any notices or requests required to be given hereunder shall be deemed given if sent by registered or certified mail, postage prepaid, addressed (i) if to the County, to 1 Woolfolk, Avenue, Louisa, Virginia 23093, Attention: County Administrator, (ii) if to the Water Authority, to c/o Fluvanna County as fiscal agent, 132 Main Street, Palmyra, Virginia 22963, Attention: Fluvanna County Administrator, and (iii) if to VRA, to 1111 East Main Street, Suite 1920, Richmond, Virginia 23219, Attention: Executive Director. Any party may designate any other address for notices or requests by giving notice.

9. It is the intent of the parties hereto that this Support Agreement shall be governed by the laws of the Commonwealth.

10. This Support Agreement shall remain in full force and effect until the Local Bond and all other amounts payable by Water Authority under the Financing Agreement have been paid in full.

11. This Support Agreement may be executed in any number of counterparts, each of which shall be an original and all of which together shall constitute but one and the same instrument.

[REMAINDER OF PAGE LEFT BLANK; SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties hereto have each caused this Support Agreement to be executed in their respective names as of the date first above written.



COUNTY OF LOUISA, VIRGINIA

By: 
County Administrator

JAMES RIVER WATER AUTHORITY

By: _____
Chairman

VIRGINIA RESOURCES AUTHORITY

By: _____
Executive Director

**RESOLUTION OF THE BOARD OF SUPERVISORS OF THE
COUNTY OF LOUISA, VIRGINIA APPROVING THE EXECUTION AND
DELIVERY OF A SUPPORT AGREEMENT**

WHEREAS, the James River Water Authority (the “Water Authority”) is a public body politic and corporate and a political subdivision of the Commonwealth of Virginia (the “Commonwealth”) exercising public and essential governmental functions and created by resolutions duly adopted by the Board of Supervisors of the County of Louisa, Virginia (the “Board of Supervisors”) and the Board of Supervisors of the County of Fluvanna, Virginia in accordance with the Virginia Water and Waste Authorities Act, as amended (Chapter 51, Title 15.2, Code of Virginia of 1950, as amended), for the purpose of servicing the water needs of the County of Louisa, Virginia (the “County”) and the County of Fluvanna, Virginia (collectively, the “Member Jurisdictions”);

WHEREAS, the Water Authority is authorized to contract debts and to issue, as evidence thereof, notes, bonds or other obligations payable from revenues from a revenue-producing undertaking of the Water Authority, and the Water Authority now desires to finance the design and construction of a raw water intake, a pump station and a raw water pipeline, as well as the acquisition of land and right-of-way necessary therefor (collectively, the “Project”) through the issuance of its Revenue Bond, Series 2016 in a maximum principal amount not to exceed \$10,000,000 (the “Local Bond”);

WHEREAS, the Water Authority and the Member Jurisdictions are entering into a Service Agreement (the “Service Agreement”), which provides for payments by each Member Jurisdiction to the Water Authority for services to be rendered to the Member Jurisdictions by the Water Authority, and sets forth certain other responsibilities of the parties;

WHEREAS, the Water Authority has been advised that the Virginia Resources Authority (“VRA”), a public body corporate and political subdivision of the Commonwealth, is willing to purchase the Local Bond on terms favorable to the Water Authority;

WHEREAS, VRA has indicated its willingness to purchase such Local Bond in accordance with the terms of a Local Bond Sale and Financing Agreement, dated as of April 1, 2016, between VRA and the Water Authority (the “Financing Agreement”); and

WHEREAS, VRA has indicated that its agreement to purchase the Local Bond will be conditioned upon each of the Member Jurisdictions undertaking non-binding obligations to appropriate from time to time moneys to the Water Authority in connection with payments due under the Service Agreement, which constitute the principal source of and security for the payment of the debt service on the Local Bond, as set forth in the Support Agreement to be dated as of May 1, 2016 (the “Support Agreement”), among the Water Authority, the County and VRA, the most recent draft of which has been presented to this meeting;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF THE COUNTY OF LOUISA, VIRGINIA, THAT:

1. It is found and determined that the best interests of the County and its citizens will be served by the agreement by the Board of Supervisors to enter into the Support Agreement to satisfy one of VRA’s conditions to the purchase of the Local Bond.

2. The Board of Supervisors acknowledges that (i) the obligations of the Water Authority to determine, and of the Member Jurisdictions to pay, the charges for the use of and for services to be furnished by the System (as defined in the Financing Agreement) are crucial to the security for the Local Bond, (ii) VRA would not purchase the Local Bond without the security and credit enhancement provided by the Support Agreement, (iii) VRA will be a third party beneficiary of the Service Agreement for so long as the Local Bond remains outstanding, and (iv) VRA is treating the Support Agreement as a "local obligation" within the meaning of Section 62.1-199 of the Virginia Code, which in the event of a nonpayment thereunder authorizes VRA or the trustee for VRA's bonds to file an affidavit with the Governor that such nonpayment has occurred pursuant to Section 62.1-216.1 of the Virginia Code. Section 62.1-216.1 provides that if the Governor is satisfied that such nonpayment has occurred, the Governor will immediately make an order directing the Comptroller to withhold all further payment to the County of all funds, or of any part of them, appropriated and payable by the Commonwealth to the County for any and all purposes, and the Governor will, while the nonpayment continues, direct in writing the payment of all sums withheld by the Comptroller, or as much of them as is necessary, to VRA, so as to cure, or cure insofar as possible, such nonpayment.
3. In consideration of the Water Authority's issuance of the Local Bond and VRA's agreement to purchase the Local Bond pursuant to the terms of the Financing Agreement, the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator, any of whom may act, is hereby authorized and directed to execute and deliver the Support Agreement. The Support Agreement shall be in substantially the form presented to this meeting, which is hereby approved, with such completions, omissions, insertions or changes not inconsistent with this Resolution as may be approved by the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator, in their sole discretion, the execution thereof by the Chairman or Vice Chairman of the Board of Supervisors or the County Administrator to constitute conclusive evidence of his or her approval of such completions, omissions, insertions or changes.
4. The County Administrator is hereby authorized and directed to carry out the obligations imposed on him by the Support Agreement, and to take all proper steps on behalf of the County as may be required in connection with the Water Authority's financing of the Project or with the carrying out of any matter authorized by this Resolution or the Support Agreement.
5. Nothing contained herein or in the Support Agreement is or shall be deemed to be a lending of the credit of the County to the Water Authority, VRA or to any holder of the Local Bond or to any other person, and nothing herein contained is or shall be deemed to be a pledge of the faith and credit or the taxing power of the County, nor shall anything contained herein or in the Support Agreement legally bind or obligate the Board of Supervisors to appropriate funds for purposes described in the Support Agreement.
6. All actions previously taken by representatives or agents of the County in furtherance of the financing of the Project, the issuance of the Local Bond and/or the execution and delivery of the Support Agreement are hereby ratified, approved and confirmed.
7. No covenant, condition, agreement or obligation contained in the Support Agreement shall be deemed to be a covenant, condition, agreement or obligation of any officer, employee or agent of the County in his or her individual capacity, and no officer of the County executing the Support Agreement shall be liable personally on the Support

Agreement or be subject to any personal liability or accountability by reason of the execution and delivery thereof.

8. This Resolution shall take effect immediately.

*

The undersigned Clerk of the Board of Supervisors of the County of Louisa, Virginia hereby certifies that the foregoing constitutes a true, correct and complete copy of a Resolution duly adopted by the Board of Supervisors of the County of Louisa, Virginia at a meeting duly called and held on March 21, 2016, during which a quorum was present and acting throughout, by the vote set forth below, and that such Resolution has not been repealed, revoked, rescinded or amended:

<u>Board Member</u>	<u>Present/Absent</u>	<u>Vote</u>
	Present	Yes
Troy J. Wade, Chairman	Present	Yes
Stephanie L. Koren, Vice Chairman	Present	Yes
Tommy Barlow	Present	Yes
Fitzgerald A. Barnes	Present	Yes
Willie L. Gentry, Jr.	Present	Yes
Richard Havasy	Present	Yes
Toni Williams	Present	Yes

WITNESS my signature as Clerk of the Board of Supervisors of the County of Louisa, Virginia, this 25th day of March, 2016.



Clerk
Board of Supervisors of the County of Louisa,
Virginia

(SEAL)

**RESOLUTION OF THE BOARD OF SUPERVISORS OF LOUISA COUNTY,
VIRGINIA AUTHORIZING THE EXECUTION AND DELIVERY OF A
LOCAL LEASE ACQUISITION AGREEMENT AND
FINANCING LEASE AND RELATED DOCUMENTS**

WHEREAS, the Board of Supervisors of Louisa County, Virginia (the “Board”) has determined that Louisa County, Virginia (the “County”) has an immediate need for the construction of a water treatment plant, water lines and related water system infrastructure including a water storage tank, and sewer lines and related sewer system infrastructure and desires to finance the same including related expenses and costs of issuance (collectively, the “Project”);

WHEREAS, there has been presented to the Board a plan for the financing of the Project which would not create debt of the County for purposes of the Virginia Constitution;

WHEREAS, pursuant to such financing plan, the Virginia Resources Authority (the “VRA”) would use a portion of the proceeds of its Infrastructure and State Moral Obligation Revenue Bonds (Virginia Pooled Financing Program), Series 2016A (as defined in the below defined Lease, the “Related Series of VRA Bonds” and as referenced below, the “VRA Bonds”) to finance the Project in accordance with the terms of a Local Lease Acquisition Agreement and Financing Lease, dated as of April 1, 2016 (the “Lease”), between the County and VRA;

WHEREAS, the County will enter into a Prime Lease, dated as of May 1, 2016 (the “Prime Lease”) with VRA whereby the County will lease certain real estate, which may include any or all of the real estate upon which the Project is to be located, owned by the County, as may be required by VRA (the “Real Estate”), and the associated improvements and property located on the Real Estate (the “Improvements”) to VRA;

WHEREAS, the County will enter into the Lease with VRA pursuant to which VRA will lease the Real Estate and the Improvements back to the County and the County will make rental payments corresponding in amount and timing to the debt service on the portion of the VRA Bonds issued to finance the Project (the “Rental Payments”);

WHEREAS, pursuant to the Lease, the County will undertake and complete the Project;

WHEREAS, the County has indicated that the amount of proceeds being requested from VRA is approximately \$42,439,950 (the “Proceeds Requested”) plus amounts necessary to pay any capitalized interest and the costs of issuance, or such other amount requested by the County in writing and approved by VRA prior to the pricing of the VRA Bonds, provided such amount does not exceed the maximum aggregate principal amount of the principal components of the Rental Payments under the Lease as authorized pursuant to this Resolution;

WHEREAS, VRA has advised the County that VRA’s objective is to pay the County as the purchase price for the Lease an amount which, in VRA’s judgment, reflects the market value of the Rental Payments under the Lease (the “VRA Purchase Price Objective”), taking into consideration the maximum authorized principal amount of the principal components of the Rental Payments under the Lease, the Proceeds Requested and such factors as the purchase price to be received by VRA for the VRA Bonds, the issuance costs of the VRA Bonds (consisting of

the underwriters' discount and other costs incurred by VRA (collectively, the "VRA Costs") and the market conditions relating to the sale of the VRA Bonds;

WHEREAS, such factors may result in, among other things, (i) the aggregate principal amount of the principal components of the Rental Payments under the Lease being greater than the Proceeds Requested in order to receive an amount of proceeds that is substantially equal to the Proceeds Requested, or (ii) the County receiving less than the Proceeds Requested if the maximum authorized aggregate principal amount of the principal components of the Rental Payments under the Lease set forth in paragraph 2 of this Resolution does not exceed the Proceeds Requested by at least the amount of the VRA Costs and any original issue discount;

WHEREAS, there have been made available to the members of the Board at this meeting preliminary drafts of the following documents (collectively, the "Documents") in connection with the transactions described above, copies of which shall be filed with the records of the Board:

(a) Prime Lease;

(b) Lease; and

(c) Leasehold Deed of Trust and Security Agreement, dated as of May 1, 2016 (the "Deed of Trust"), from VRA to the deed of trust trustees thereunder for the benefit of U.S. Bank National Association, as trustee (the "Trustee"); and

WHEREAS, the payments due under the Lease shall be subject to appropriation by the County for each fiscal year;

BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF LOUISA COUNTY, VIRGINIA:

1. The Board hereby finds and determines that it is in the best interests of the County to proceed with the financing of the Project. After consideration of the methods of financing the Project, it is hereby determined that it is in the best interests of the County to accept, and the County does hereby accept, the offer from VRA for the financing of the Project as contemplated by the Lease.

2. The maximum aggregate principal amount of the principal components of the Rental Payments under the Lease shall not exceed \$45,625,000, the interest component of the Rental Payments under the Lease shall be calculated at a rate not to exceed 5.50% (exclusive of "supplemental interest" as provided in the Lease) and the Lease and the Prime Lease shall terminate no later than October 1, 2050. As a result of the actual costs of the Project becoming more accurately determined, the final aggregate principal amount of the principal components of the Rental Payments may be less than the authorized maximum aggregate principal amount of the principal components of the Rental Payments set forth in the preceding sentence. The interest components of the Rental Payments under the Lease shall be payable on each April 1 and October 1, commencing October 1, 2016. The principal components of the Rental Payments under the Lease shall be payable on each October 1, commencing no later than October 1, 2017

and ending no later than October 1, 2045. Given the VRA Purchase Price Objective and market conditions, it may become necessary to enter into the Lease with the aggregate principal amount of the principal components of the Rental Payments greater than the Proceeds Requested. If the limitation on the maximum aggregate principal amount of the principal components of the Rental Payments under the Lease set forth in this paragraph 2 restricts VRA's ability to generate the Proceeds Requested, taking into account the VRA Costs, the VRA Purchase Price Objective and market conditions, the purchase price of the Lease will result in an amount less than the Proceeds Requested. Subject to the foregoing limitations, the County authorizes VRA to establish the final aggregate principal amount of the principal components of the Rental Payments under the Lease, the final interest components of the Rental Payments under the Lease and the interest rates at which the same are calculated, the final termination date of the Lease and the final principal amortization schedule as evidenced by the principal components of the Rental Payments under the Lease. No further action or approval of such financing terms shall be necessary on the part of the County. The Rental Payments and any penalties or premiums due under the Lease shall be payable on the dates and in the amounts set forth in the Lease, and the payment thereof shall be subject to appropriation by the County. The County may, at its option, redeem, prepay or refund the Rental Payments due under the Lease upon the terms set forth therein. The interest component of the Rental Payments payable under the Lease shall be computed on the basis described in the Lease.

As set forth in the Lease, the County agrees to pay, subject to appropriation, the "supplemental interest" and other charges as provided therein, including such amounts as may be necessary to maintain or replenish the VRA Reserve and, on the demand of VRA, a late payment penalty if any Rental Payment on the Lease is not paid within ten days after its due date.

The Rental Payments and other amounts payable under the Lease shall be payable in lawful money of the United States of America.

3. The Documents shall be in substantially the forms submitted to this meeting, which are hereby approved, with such completions, omissions, insertions and changes (including changes of dates of documents) as may be subsequently approved by the Chairman and Vice Chairman of the Board and the County Administrator, any of whom may act, which approval shall be evidenced conclusively by the execution and delivery of the Documents to which the County is a party by such Chairman or Vice Chairman of the Board or the County Administrator.

4. The Chairman and Vice Chairman of the Board and the County Administrator, any of whom may act, are each hereby authorized and directed to execute and deliver the Documents to which the County is a party and to acknowledge and consent to, if necessary, the provisions of the Deed of Trust. The Chairman and Vice Chairman of the Board and the County Administrator, any of whom may act, are each hereby also authorized to cause the recording, with the Circuit Court Clerk's Office of Louisa County, Virginia, of the Prime Lease, the Lease and the Leasehold Deed of Trust, if so requested by VRA. The Clerk and Deputy County Clerk of the Board, either of whom may act, are each hereby authorized and directed to affix the County seal to any of the Documents to which the County is a party and to attest the same.

5. The Chairman and Vice Chairman of the Board and the County Administrator and other appropriate officials of the County, including the Clerk and Deputy Clerk of the Board, are each hereby authorized to execute and deliver all other certificates, instruments and documents, including the Non-Arbitrage Certificate and Tax Compliance Agreement, dated the date of its execution and delivery, between VRA and the County, in the name and on behalf of the County and to take all such further action (a) as they may consider necessary or desirable to carry out the intent and purpose of this Resolution, the financing of the Project or the execution, delivery and performance of the Documents to which the County is a party or (b) as may be reasonably requested by VRA in connection with any of the foregoing.

6. The County authorizes and consents to the inclusion of information with respect to the County in VRA's Preliminary Official Statement and VRA's Official Statement in final form, both prepared in connection with the sale of the VRA Bonds. The Chairman and Vice Chairman of the Board and the County Administrator are each authorized and directed to take whatever actions are necessary and/or appropriate to aid VRA in ensuring compliance with Securities and Exchange Commission Rule 15c2-12.

7. The Board hereby selects and designates Troutman Sanders LLP as Bond Counsel with respect to the financing contemplated by the Lease.

8. The County has heretofore received and reviewed the Information Statement describing the State Non-Arbitrage Program of the Commonwealth of Virginia ("SNAP") and the Contract Creating the State Non-Arbitrage Program Pool I (the "Contract"), and the County hereby authorizes the use of SNAP in connection with the investment of the proceeds received by the County under the Lease, if the Chairman and Vice Chairman of the Board and the County Administrator, any of whom may act, determine that the utilization of SNAP is in the best interest of the County. The County acknowledges that the Treasury Board of the Commonwealth of Virginia is not, and shall not be, in any way liable to the County in connection with SNAP, except as otherwise provided in the Contract.

9. No covenant, condition, agreement or obligation contained herein or the Documents shall be deemed to be a covenant, condition, agreement or obligation of any officer, employee or agent of the County in his or her individual capacity, and no officer of the County executing the Lease shall be liable personally on the Lease or be subject to any personal liability or accountability by reason of the execution and delivery thereof. No officer, employee or agent of the County shall incur any personal liability with respect to any other action taken by him or her pursuant to this Resolution, provided he or she acts in good faith.

10. The Board previously adopted on March 16, 2015 a reimbursement resolution in connection with the Project. The Board hereby amends the maximum principal amount of the indebtedness related to the Project as set forth in such resolution from \$45,250,000 to \$45,625,000. The provisions of such resolution relating to the reimbursement of "original expenditures", except as modified by the preceding sentence, remain in full force and effect and are ratified and confirmed hereby.

11. All acts of the Chairman and Vice Chairman of the Board and the County Administrator and other officers of the County, regardless of whether such acts occurred prior to or occur after the adoption of this Resolution, that are in conformity with the purposes and intent of this Resolution and in furtherance of the plan of financing, the execution and delivery of the Lease and the undertaking of the Project are hereby approved and ratified.

12. The Project and the property subject to the Deed of Trust (the "Collateral Property") are hereby declared to be essential to the efficient operation of the County, and the Board anticipates that the Project and the Collateral Property will continue to be essential to the operation of the County during the term of the Lease. The Board, while recognizing that it is not empowered to make any binding commitment to make appropriations beyond the current fiscal year, hereby states its intent to make annual appropriations in future fiscal years in amounts sufficient to permit the County to make all payments under the Lease and hereby recommends that future Boards of Supervisors do likewise during the term of the Lease. If the County exercises its right not to appropriate money for Rental Payments under the Lease, the County understands that VRA, or the Trustee as assignee of VRA, may terminate the Lease or otherwise exclude the County from possession of the Collateral Property or any portion thereof to the extent provided in the Lease and the Deed of Trust.

13. All resolutions, ordinances or parts thereof in conflict herewith are repealed.

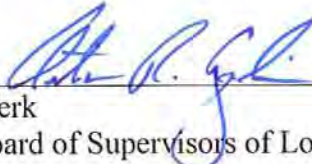
14. This Resolution shall take effect immediately.

Adopted: March 21, 2016

The undersigned Clerk of the Board of Supervisors of Louisa County, Virginia hereby certifies that the foregoing constitutes a true, correct and complete copy of a Resolution duly adopted by the Board of Supervisors of Louisa County, Virginia at a meeting duly called and held on March 21, 2016, during which a quorum was present and acting throughout, by the vote set forth below, and that such Resolution has not been repealed, revoked, rescinded or amended:

<u>Board Member</u>	<u>Present/Absent</u>	<u>Vote</u>
Troy J. Wade, Chairman	Present	Yes
Stephanie L. Koren, Vice Chairman	Present	Yes
Fitzgerald A. Barnes	Present	Yes
Tommy Barlow	Present	Yes
Willie L. Gentry, Jr.	Present	Yes
Richard Havasy	Present	Yes
Toni Williams	Present	Yes

WITNESS my signature as Clerk of the Board of Supervisors of Louisa County, Virginia, this 25th day of March, 2016.


 Clerk
 Board of Supervisors of Louisa County, Virginia

#26110947v7
 209493.000012

Address for Notices:
County of Louisa, Virginia
1 Woolfolk Avenue
Louisa, Virginia 23093
Attention: County Administrator

COUNTY OF LOUISA, VIRGINIA

By: *Christian R. Goodwin*
Name: Christian R. Goodwin
Title: County Administrator

[SEAL]

ATTEST:

Alexandra M. Dixon
Name: Alexandra M. Dixon
Title: Deputy Clerk, Board of Supervisors

COMMONWEALTH OF VIRGINIA)

COUNTY OF LOUISA) to-wit:

The foregoing instrument was acknowledged before me in the County of Louisa, Virginia, this 28 day of March 2016, by Christian R. Goodwin, as the County Administrator of the County of Louisa, Virginia, on behalf of the County.

My commission expires: June 30, 2019

Registration No.: 7667586

Lauren Elise Compton
Notary Public



COMMONWEALTH OF VIRGINIA)

COUNTY OF LOUISA) to-wit:

The foregoing instrument was acknowledged before me in the County of Louisa, Virginia, this 28 day of March 2016, by Alexandra M. Dixon, as the Deputy Clerk of the Board of Supervisors of the County of Louisa, Virginia, on behalf thereof.

My commission expires: June 30, 2019

Registration No.: 7667586

Lauren Elise Compton
Notary Public



APPENDIX C-11

RESOLUTION PROVIDING FOR THE ISSUANCE AND SALE OF A REVENUE BOND, SERIES 2016, OF THE JAMES RIVER WATER AUTHORITY AND PROVIDING FOR THE FORM, DETAILS AND PAYMENT THEREOF

**RESOLUTION PROVIDING FOR THE ISSUANCE AND SALE OF
A REVENUE BOND, SERIES 2016, OF THE JAMES RIVER
WATER AUTHORITY AND PROVIDING FOR THE FORM,
DETAILS AND PAYMENT THEREOF**

WHEREAS, the James River Water Authority (the “Authority”) is a public body politic and corporate and a political subdivision of the Commonwealth of Virginia (the “Commonwealth”) exercising public and essential governmental functions and created by resolutions duly adopted by the Board of Supervisors of the County of Fluvanna and the Board of Supervisors of the County of Louisa in accordance with the Virginia Water and Waste Authorities Act, as amended (Chapter 51, Title 15.2, Code of Virginia of 1950, as amended) (the “Act”), for the purpose of servicing the water needs of the County of Fluvanna, Virginia and the County of Louisa, Virginia (collectively, the “Member Jurisdictions”); and

WHEREAS, the Authority is authorized to contract debts and to issue, as evidence thereof, notes, bonds or other obligations payable from revenues from a revenue-producing undertaking of the Authority, and the Authority now desires to finance the design and construction of a raw water intake, a pump station and a raw water pipeline, as well as the acquisition of land and right-of-way necessary therefor (collectively, the “Project”) through the issuance of a revenue bond; and

WHEREAS, the Virginia Resources Authority (the “VRA”) has a program for the purpose of purchasing and acquiring obligations issued by water and waste authorities to finance projects such as the Project, and the Authority has applied to VRA for the purchase of the Authority’s Revenue Bond, Series 2016 (the “Local Bond”), the proceeds of which will be used to finance the costs of the Project and pay the costs of issuing the Local Bond and any other financing costs including the funding of one or more required reserves; and

WHEREAS, VRA has agreed to purchase such Local Bond from the proceeds of its Infrastructure and State Moral Obligation Revenue Bonds (Virginia Pooled Financing Program), Series 2016A (the “VRA Bonds”) in accordance with the terms of a Local Bond Sale and Financing Agreement, dated as of April 1, 2016 (the “Financing Agreement”), between VRA and the Authority; and

WHEREAS, the Authority has indicated that the amount of proceeds being requested from VRA for the Project and other costs is \$9,146,460 (the “Proceeds Requested”) plus amounts necessary to pay any capitalized interest and the costs of issuance and one or more required reserves if the Authority opts to debt fund such reserve, or such other amount requested by the Authority in writing and approved by VRA prior to the pricing of the VRA Bonds, provided such sum does not exceed the maximum principal amount of the Local Bond authorized pursuant to this Resolution; and

WHEREAS, VRA has advised the Authority that VRA’s objective is to pay the Authority as the purchase price for the Local Bond an amount which, in VRA’s judgment, reflects the market value of the Local Bond (the “VRA Purchase Price Objective”), taking into consideration such factors as the maximum authorized par amount of the Local Bond, the

Proceeds Requested, the purchase price to be received by VRA for the VRA Bonds, the issuance costs of the VRA Bonds (consisting of the underwriters' discount and other costs incurred by VRA (collectively, the "VRA Costs")) and other market conditions relating to the sale of the VRA Bonds; and

WHEREAS, such factors may result in the Authority receiving an amount other than the Proceeds Requested and consequently (i) the principal amount of the Local Bond may be greater than the Proceeds Requested in order to receive an amount of proceeds that is substantially equal to the Proceeds Requested, or (ii) if the maximum authorized aggregate amount of the Local Bond set forth in paragraph 3 of this Resolution does not exceed the Proceeds Requested by at least the amount of the VRA Costs and any original issue discount, the amount to be paid to the Authority, given the VRA Purchase Price Objective and market conditions, will be less than the Proceeds Requested; and

WHEREAS, the forms of the Financing Agreement and the Local Bond have been made available to the members of the Authority and filed in the Authority's records;

BE IT RESOLVED BY THE JAMES RIVER WATER AUTHORITY:

1. Issuance of Local Bond and Use of Proceeds. Pursuant to the Constitution and statutes of the Commonwealth, including the Act, the Authority hereby approves the issuance and sale of the Local Bond to provide funds to finance the Project and pay the costs of issuing the Local Bond and any other financing costs including the funding of one or more required reserves.

2. Method of Sale. After consideration of the methods of sale of the Local Bond, it is hereby determined that it is in the best interest of the Authority to accept, and the Authority does hereby accept, the offer from VRA to purchase the Local Bond. The Local Bond is hereby sold to VRA in accordance with the terms and provisions set forth in the Financing Agreement.

3. Local Bond Details. The Local Bond shall be issued as a single, registered bond without coupons, shall be designated "Revenue Bond, Series 2016", shall be numbered R-1, shall be dated the date required by VRA, shall be in a principal amount not to exceed \$10,000,000, shall bear interest at the rate or rates to be set forth therein and shall mature no later than October 1, 2046. The Authority authorizes the issuance and sale of the Local Bond at a "true" interest cost not to exceed 5.50% (exclusive of "supplemental interest" as provided in the Financing Agreement). Given the VRA Purchase Price Objective and market conditions, it may become necessary to issue the Local Bond in an aggregate amount greater than the Proceeds Requested. If the limitation on the maximum aggregate principal amount of the Local Bond set forth in this paragraph 3 restricts VRA's ability to generate the Proceeds Requested, taking into account the VRA Costs, the VRA Purchase Price Objective and market conditions, the purchase price of the Local Bond will result in an amount less than the Proceeds Requested. Subject to the foregoing limitations, the Authority authorizes VRA to establish the final principal amount of the Local Bond, the final interest rate or rates on the Local Bond, and the final maturity date and the final principal amortization schedule (including principal installment dates and amounts) for the Local Bond. No further action or approval of such financing terms shall be necessary on the part of the Authority. The principal of and premium, if any, and interest on the Local Bond shall be payable

on the dates and in the amounts set forth in the Local Bond and the Financing Agreement. The Authority may, at its option, redeem, prepay or refund the Local Bond upon the terms set forth in the Financing Agreement. Interest on the Local Bond shall be computed on the basis described in the Financing Agreement and the form of the Local Bond.

As set forth in the Financing Agreement, the Authority agrees to pay such “supplemental interest” and other charges as provided therein, including such amounts as may be necessary to maintain or replenish the VRA Reserve (as defined in the Financing Agreement) and, on the demand of VRA, a late payment penalty if any principal or interest payment on the Local Bond is not paid within ten days after its due date.

The principal of and premium, if any, and interest on the Local Bond shall be payable in lawful money of the United States of America.

4. Approval of Bond Documents. The Financing Agreement and the Local Bond (the “Bond Documents”) shall be in substantially the forms made available at this meeting, which are hereby approved, with such completions, omissions, insertions and changes (including changes of the dates thereof) as may be approved by the Chairman and the Vice Chairman of the Authority, either of whom may act, which approval shall be evidenced conclusively by the execution and delivery of such Bond Documents.

5. Execution and Delivery of Local Bond. The Chairman and the Vice Chairman of the Authority, either of whom may act, are each hereby authorized and directed to execute the Local Bond and the Secretary and the Assistant Secretary, either of whom may act, are each authorized and directed to fix the Authority’s seal thereon and to attest such seal.

6. Execution and Delivery of Financing Agreement. The Chairman and the Vice Chairman of the Authority, either of whom may act, are each hereby authorized and directed to execute the Financing Agreement and to deliver it to VRA.

7. Authorization of Execution and Delivery of Other Documents. The Chairman and the Vice Chairman of the Authority and other appropriate officials of the Authority are each hereby authorized to (i) execute and deliver all other certificates, instruments and documents in the name and on behalf of the Authority, including without limitation the Non-Arbitrage Certificate and Tax Compliance Agreement, dated the date of execution and delivery, between VRA and the Authority, and the Support Agreements, each dated as of May 1, 2016, among VRA, the Authority and each Member Jurisdiction and (ii) take all such further action (a) as they may consider necessary or desirable to carry out the intent and purpose of this Resolution, the issuance of the Local Bond, the financing of the Project and the execution, delivery and performance of the Financing Agreement or (b) as may be reasonably requested by VRA in connection with any of the foregoing.

8. Preparation of Printed Local Bond. The Authority shall initially issue the Local Bond in typewritten form. Upon request of the registered owner and upon presentation of the Local Bond at the office of the Registrar (as hereinafter defined), the Authority shall arrange to have prepared, executed and delivered in exchange as soon as practicable the Local Bond in printed form in an aggregate principal amount equal to the unpaid principal of the Local Bond in

typewritten form, of the same form and maturity and registered in such names as requested by the registered owners or their duly authorized attorneys or legal representatives. The printed Local Bond may be executed by the manual or facsimile signature of the Chairman or Vice Chairman and the Authority's seal affixed thereto and attested by the manual or facsimile signature of the Secretary or the Assistant Secretary of the Authority. The typewritten Local Bond surrendered in any such exchange shall be canceled.

9. Registration and Transfer of the Local Bond. The Authority appoints the Director of Finance of the Authority's fiscal agent as paying agent and registrar (the "Registrar") for the Local Bond. If deemed to be in its best interest, the Authority may at any time appoint a qualified bank or trust company or any other person or entity as successor Registrar. Upon surrender of a Local Bond at the office of the Registrar, together with an assignment duly executed by the registered owner or its duly authorized attorney or legal representative in such form as shall be satisfactory to the Registrar, the Authority shall execute, and the Registrar shall authenticate and deliver in exchange, a new Local Bond or Local Bonds having an equal aggregate principal amount, of the same form and maturity, bearing interest at the same rate or rates and registered in such name as requested by the then registered owner or its duly authorized attorney or legal representative. Any such exchange shall be at the expense of the Authority, except that the Registrar may charge the person requesting such exchange the amount of any tax or other governmental charge required to be paid with respect thereto.

The Registrar shall treat the registered owner as the person or entity exclusively entitled to payment of principal, premium, if any, and interest, and the exercise of all other rights and powers of the owner.

10. Mutilated, Lost or Destroyed Local Bond. If a Local Bond has been mutilated, lost or destroyed, the Authority shall execute and deliver a new Local Bond of like form, date and tenor in exchange and substitution for, and upon cancellation of, such mutilated Local Bond or in lieu of and in substitution for such lost or destroyed Local Bond; provided, however, that the Authority shall so execute and deliver a new Local Bond only if the registered owner has paid the reasonable expenses and charges of the Authority in connection therewith and, in the case of a lost or destroyed Local Bond, (a) has filed with the Authority evidence satisfactory to the Authority that such Local Bond was lost or destroyed and (b) has furnished to the Authority satisfactory indemnity.

11. Pledge of Revenues and Limited Obligation. In accordance with the provisions of the Financing Agreement, the Authority pledges the Net Revenues Available for Debt Service (as defined in the Financing Agreement) to the payment of principal of, premium, if any, and interest on, the Local Bond. The Authority has no taxing power. The Local Bond shall not be deemed to constitute a pledge of the faith and credit of the Commonwealth or any political subdivision thereof, including the Authority and the Member Jurisdictions. Neither the Commonwealth nor any political subdivision thereof, including the Authority and the Member Jurisdictions, shall be obligated to pay the principal of, premium, if any, or interest on, the Local Bond or other costs incident thereto except from the Net Revenues Available for Debt Service and other moneys specifically pledged therefor under the Financing Agreement, and neither the faith and credit nor the taxing power of the Commonwealth or any political subdivision thereof,

including the Authority and the Member Jurisdictions, is pledged to the payment of the principal of, premium, if any, or interest on, the Local Bond or other costs incident thereto.

12. Official Statement. The Authority authorizes and consents to the inclusion of information with respect to the Authority and, if necessary, the Member Jurisdictions in VRA's Preliminary Official Statement and VRA's Official Statement in final form, both prepared in connection with the sale of the VRA Bonds. The Chairman and the Vice Chairman of the Authority are each authorized and directed to take whatever actions are necessary and/or appropriate to aid VRA in ensuring compliance with Securities and Exchange Commission Rule 15c2-12.

13. SNAP Investment Authorization. The Authority has heretofore received and reviewed the Information Statement (the "Information Statement") describing the State Non-Arbitrage Program of the Commonwealth ("SNAP") and the Contract Creating the State Non-Arbitrage Program Pool I (the "Contract"), and the Authority hereby authorizes the use of SNAP in connection with the investment of the proceeds of the Local Bond, if the Chairman or Vice Chairman determines that the utilization of SNAP is in the best interest of the Authority. The Authority acknowledges that the Treasury Board of the Commonwealth is not, and shall not be, in any way liable to the Authority in connection with SNAP, except as otherwise provided in the Contract.

14. Other Actions. All actions of Authority officials taken heretofore or hereafter in conformity with the purposes and intent of this Resolution are ratified, approved and confirmed.

15. Limitation of Liability of Officials of the Authority. No covenant, condition, agreement or obligation contained herein shall be deemed to be a covenant, condition, agreement or obligation of any officer, employee or agent of the Authority in his or her individual capacity. No officer of the Authority executing the Local Bond shall be liable personally on the Local Bond or be subject to any personal liability or accountability by reason of the issuance thereof. No officer, employee or agent of the Authority shall incur any personal liability with respect to any other action taken by him or her pursuant to this Resolution, provided he or she acts in good faith.

16. Selection of Bond Counsel. The Authority hereby appoints the law firm of Troutman Sanders LLP, Richmond, Virginia, as bond counsel to supervise the proceedings and approve the issuance of the Local Bond.

17. Amendment to Reimbursement Resolution. The Authority previously adopted on August 5, 2014 a reimbursement resolution in connection with the Project. The Authority hereby amends the maximum principal amount of the indebtedness related to the Project as set forth in such resolution from \$7,000,000 to \$10,000,000. The provisions of such resolution relating to the reimbursement of "Expenditures", except as modified by the preceding sentence, remain in full force and effect and are ratified and confirmed hereby.

18. Repeal of Conflicting Actions. All resolutions, ordinances or parts thereof in conflict herewith are repealed.

19. Effective Date. This Resolution and the provisions contained herein shall become effective immediately upon enactment.

CERTIFICATION

The undersigned Secretary of the James River Water Authority hereby certifies (1) that the foregoing constitutes a true, correct and complete copy of a Resolution adopted by the James River Water Authority at a meeting duly called and held on March __, 2016, with the members present and absent and voting on the Resolution as set forth below; (2) that such meeting was duly convened and held in all respects in accordance with law; and (3) that the foregoing Resolution has not been repealed, revoked, rescinded or amended.

<u>NAME</u>	<u>VOTE</u>			
	<u>PRESENT</u>	<u>ABSENT</u>	<u>AYE</u>	<u>NAY</u>

APPROVED BY JRWA ON MARCH 30, 2016

WITNESS, my hand and the seal of the James River Water Authority this _____ day of March, 2016.

JAMES RIVER WATER AUTHORITY

By _____
Secretary

(SEAL)

UNITED STATES OF AMERICA
COMMONWEALTH OF VIRGINIA
JAMES RIVER WATER AUTHORITY
REVENUE BOND
SERIES 2016

The **JAMES RIVER WATER AUTHORITY**, a public body politic and corporate and a political subdivision of the Commonwealth of Virginia (the "Authority"), for value received, hereby promises to pay, solely from the sources described below, to the Virginia Resources Authority ("VRA"), as the registered owner hereof, or registered assigns or legal representatives, a principal sum equal to \$ _____, subject to prior redemption as hereinafter provided.

Principal of this Bond is payable in installments (the "Installments") on each October 1, beginning October 1, 2017. Each Installment shall be in the applicable amount specified in Schedule 1 attached hereto. If not sooner paid, the entire remaining principal balance hereof shall be due and payable on October 1, 2046.

Interest on the unpaid principal hereof shall be payable on each April 1 and October 1, beginning October 1, 2016. The per annum rate of interest payable with respect to the portion of the principal amount hereof which is payable as a particular Installment shall be the applicable rate specified in Schedule 1 attached hereto. Interest hereon shall accrue from the date hereof and shall be calculated on the basis of a year of 360 days consisting of twelve 30-day months.

All payments of principal of, premium (if any) and interest on this Bond shall be paid directly to U.S. Bank National Association, as trustee for VRA (the "VRA Trustee"), for as long as VRA is the registered owner hereof. If any payment of principal or premium (if any) or interest on this Bond is scheduled to be made on a date which is not a business day, such payment shall be made on the next succeeding business day. If such payment is made on such next succeeding business day, no additional interest shall accrue for the period after the date on which such payment is scheduled to be made.

Principal of and premium (if any) and interest on this Bond are payable in lawful money of the United States of America.

If any installment of principal of, premium (if any) or interest on this Bond is not paid within ten days after its due date, the Authority shall pay to the registered owner hereof a late payment charge in an amount equal to 5.0% of the amount of the overdue installment.

If any failure of the Authority to pay all or any portion of any required payment of the principal of, premium (if any) or interest on this Bond results in a withdrawal from or a drawing on any VRA Reserve (as defined in the hereinafter defined Financing Agreement), the interest rates applicable to this Bond shall be increased to interest rates sufficient to reimburse the VRA

Reserve for any forgone investment earnings on the funds withdrawn therefrom and/or pay any interest, fees or penalties assessed as a result of the withdrawal from or drawing on the VRA Reserve. The increment of interest payable pursuant to the increase in rates shall be referred to as "Supplemental Interest." The Authority's obligation to pay Supplemental Interest shall commence on the date of the withdrawal or drawing of funds from the VRA Reserve occasioned by the Authority's failure to pay a required payment or portion thereof as described above (the "Supplemental Interest Commencement Date"). The Authority's obligation to pay Supplemental Interest shall terminate on the date on which the Authority makes all payments required but outstanding since the date of the initial failure to pay (the "Supplemental Interest Termination Date"). From the Supplemental Interest Commencement Date to the Supplemental Interest Termination Date, Supplemental Interest shall be due and payable on the regularly scheduled interest payment dates provided for in this Bond. As soon as reasonably possible after the Supplemental Interest Commencement Date, VRA shall deliver to the Authority a certificate as to the increase in interest rates and the amount of Supplemental Interest. The certificate shall set forth in reasonable detail the basis for the increase in interest rates and the manner of calculation of the increase and the amount of Supplemental Interest. Such certificate shall be conclusive (absent manifest error) as to the interest rate increase and amount of Supplemental Interest set forth therein. In determining the interest rate increase and the amount of Supplemental Interest, VRA may use any reasonable averaging and attribution methods. Supplemental Interest shall accrue only while VRA or the VRA Trustee is the registered owner of this Bond, and any installment of Supplemental Interest shall be payable only to the extent that VRA shall have furnished the aforesaid certificate setting forth the amount of such installment.

The Authority's obligations to pay the amounts described in this Bond shall not be discharged in whole or in part by any amount withdrawn from or drawn on a VRA Reserve.

Subject to the Authority's right to apply Revenues (as defined in the Financing Agreement) to the payment of Operating Expenses (as defined in the Financing Agreement) and the Authority's obligation to apply Revenues to the payment of prior bonds, if any, secured by Revenues, the Revenues are irrevocably pledged to secure the payment of the principal of, premium (if any) and interest on this Bond as the same shall become due. The Authority has covenanted in the Financing Agreement that it will fix and collect rates, fees and other charges for the use of, and for services furnished by, the Project (as hereinafter defined) in accordance with the provisions of the Financing Agreement. This Bond is a limited obligation of the Authority payable solely as described in the first sentence of this paragraph. The principal of, premium, if any, and interest on this Bond will not be deemed to constitute a general obligation debt or a pledge of the faith and credit of the Commonwealth of Virginia or any of its political subdivisions, including the Authority and the Member Jurisdictions (as hereinafter defined). NEITHER THE COMMONWEALTH OF VIRGINIA NOR ANY OF ITS POLITICAL SUBDIVISIONS, INCLUDING THE AUTHORITY AND THE MEMBER JURISDICTIONS, IS DIRECTLY OR INDIRECTLY OR CONTINGENTLY OBLIGATED TO PAY THE PRINCIPAL OF, PREMIUM, IF ANY, OR INTEREST ON THIS BOND OR OTHER COSTS INCIDENT THERETO OR TO LEVY ANY TAXES THEREFOR OR TO MAKE ANY APPROPRIATION FOR THEIR PAYMENT EXCEPT FROM THE FUNDS OF THE AUTHORITY PLEDGED FOR SUCH PURPOSE. NEITHER THE FAITH AND CREDIT NOR THE TAXING POWER OF THE COMMONWEALTH OF VIRGINIA OR ANY OF ITS POLITICAL SUBDIVISIONS, INCLUDING THE AUTHORITY AND THE MEMBER

JURISDICTIONS, IS PLEDGED TO THE PAYMENT OF THE PRINCIPAL OF, PREMIUM, IF ANY, OR INTEREST ON THIS BOND OR OTHER COSTS INCIDENT HERETO. THIS BOND SHALL NOT CONSTITUTE AN INDEBTEDNESS WITHIN THE MEANING OF ANY CONSTITUTIONAL OR STATUTORY DEBT LIMITATION OR RESTRICTION. THE AUTHORITY HAS NO TAXING POWER.

This Bond is authorized and issued pursuant to (i) the Virginia Water and Waste Authorities Act, as amended (Chapter 51, Title 15.2, Code of Virginia of 1950, as amended), and (ii) a resolution adopted by the Authority on March __, 2016, for the purpose of financing the design and construction of a raw water intake, a pump station and a raw water pipeline, as well as the acquisition of land and right-of-way necessary therefor (collectively, the "Project") owned and operated by the Authority to service the water needs of the County of Fluvanna, Virginia and the County of Louisa, Virginia (collectively, the "Member Jurisdictions"). It is also issued pursuant to the terms of a Local Bond Sale and Financing Agreement, dated as of April 1, 2016 (the "Financing Agreement"), between the Authority and VRA to evidence a loan by the VRA to the Authority to finance the costs of the Project and pay the costs of issuing the Local Bond and any other financing costs including the funding of any required reserves. The obligations of the Authority under this Bond shall terminate when all amounts due and to become due pursuant to this Bond and the Financing Agreement have been paid in full.

This Bond is subject to defeasance, redemption, repayment and refunding to the extent and on the terms set forth in the Financing Agreement.

If an Event of Default (as defined in the Financing Agreement) occurs, the principal of this Bond may be declared immediately due and payable by the registered owner by written notice to the Authority.

Notwithstanding anything in this Bond to the contrary, in addition to the payments of the principal and interest provided for by this Bond, the Authority shall also pay, but solely from the Revenues, such additional amounts, if any, which may be necessary to provide for payment in full of all amounts due under the Financing Agreement. The Financing Agreement may be amended as provided therein.

No covenant, condition, agreement or obligation contained herein shall be deemed to be a covenant, condition, agreement or obligation of any officer, employee or agent of the Authority in his or her individual capacity, and no officer of the Authority executing this Bond shall be liable personally on this Bond or be subject to any personal liability or accountability by reason of the issuance hereof.

The Director of Finance of the fiscal agent of the Authority shall act as Registrar (the "Registrar") until a different Registrar is selected and shall maintain registration books for the registration and the registration of transfer of this Bond. Payments of principal and interest shall be made by check or draft mailed or by wire to the registered owner, at its address as it appears on the registration books kept for that purpose at the principal office of the Registrar, except that payments hereunder shall be made directly to the VRA Trustee for as long as VRA is the registered owner hereof. The final payment of principal shall be payable upon presentation and surrender of this Bond to the Registrar. The transfer of this Bond may be registered only on the

books kept for the registration and registration of transfer of this Bond upon surrender thereof to the Registrar at his or her address together with an assignment duly executed by the registered owner in person or by his duly authorized attorney or legal representative in such form as shall be satisfactory to the Registrar. Upon any such transfer, the Authority shall execute and deliver, in exchange for this Bond, a new registered Bond registered in the name of the transferee. Prior to due presentment for registration of transfer, the Registrar shall treat the registered owner as the person exclusively entitled to payment of principal of, premium, if any, and interest on this Bond and to the exercise of all other rights and powers of the owner.

If this Bond has been mutilated, lost or destroyed, the Authority shall execute and deliver a new Bond of like date and tenor in exchange or substitution for, and upon cancellation of, such mutilated Bond or in lieu of and in substitution for such lost or destroyed Bond; *provided*, that the Authority shall execute and deliver such Bond only if the registered owner has paid the reasonable expenses and charges of the Authority and the Registrar in connection therewith and, in the case of a mutilated Bond, such mutilated Bond shall first be surrendered to the Registrar, and in the case of a lost or destroyed Bond, the registered owner has furnished to the Authority and the Registrar (if different from the Authority or its officials) (a) evidence satisfactory to them that such Bond was lost or destroyed and the registered owner was the owner thereof and (b) indemnity satisfactory to them.

Any failure or delay by the registered owner to exercise any right hereunder or under the Financing Agreement shall not be construed as a waiver of the right to exercise the same or any other rights at any time.

This Bond shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia. Whenever possible, each provision of this Bond shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Bond shall be prohibited by or invalid under such law, such provisions shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provision or the remaining provisions of this Bond. This Bond shall apply to and bind the Authority's successors and assigns to the extent provided herein and shall inure to the benefit of the registered owner, its successors and assigns.

All acts, conditions and things required to happen, exist or be performed precedent to and in the issuance of this Bond have happened, exist and have been performed.

[THE REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the James River Water Authority has caused this Bond to be signed by the manual signature of its Chairman or Vice Chairman, its seal to be impressed hereon and attested by its Secretary or Assistant Secretary and this Bond to be dated the ____ day of _____, 2016.

JAMES RIVER WATER AUTHORITY

By _____
Chairman

APPROVED BY JRWA ON MARCH 30, 2016

(SEAL)

ATTEST:

Secretary, James River Water Authority

CERTIFICATE OF AUTHENTICATION

This Bond is one of the bonds of the series designated herein and described in the within mentioned resolution.

**Director of Finance,
County of Fluvanna, Virginia, as Bond
Registrar**

By _____
Authorized Signature

Date of authentication: _____, 2016

ASSIGNMENT

FOR VALUE RECEIVED the undersigned hereby sell(s), assign(s) and transfer(s) unto

(please print or typewrite Name and Address including postal zip code of Transferee)

**PLEASE INSERT SOCIAL SECURITY OR OTHER
IDENTIFYING NUMBER OF TRANSFEREE**

the within Bond and all rights thereunder, hereby irrevocably constituting and appointing _____, Attorney, to transfer said Bond on the books kept for the registration thereof, with full power of substitution in the premises.

Dated:

Signature Guaranteed

NOTICE: Signature(s) must be guaranteed by a member firm of the New York Stock Exchange or a commercial bank or trust company or by an institution participating in the Securities Transfer Agent Medallion Program or similar program.

(Signature of Registered Owner)

NOTICE: The signature above must correspond with the name of the Registered Owner as it appears on the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.

APPENDIX C-12

**BOARD OF DIRECTORS JAMES RIVER WATER AUTHORITY RESOLUTION: RESOLUTION APPROVING PUBLIC USES
AND AUTHORIZING ACQUISITION OF NECESSARY PROPERTY BY EMINENT DOMAIN**

**BOARD OF DIRECTORS
JAMES RIVER WATER AUTHORITY
RESOLUTION**

At a regular meeting of the Board of Directors of the James River Water Authority held in the Spring Creek Sports Club, 181 Clubhouse Way, Zion Crossroads, Virginia, at 10:30 a.m. on the 5th day of April 2016, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Directors, the vote being recorded in the minutes of the meeting as shown below:

<u>PRESENT</u>	<u>VOTE</u>
Goodman B. Duke	AYE
D. D. Watson.....	AYE
Joe Chesser.....	ABSENT
Mark Dunning.....	AYE
Christian R. Goodwin	AYE
Steven M. Nichols.....	AYE

On the motion of Mr. Watson, seconded by Mr. Nichols, which carried by a vote of 5-0 the following resolution was adopted:

**RESOLUTION APPROVING PUBLIC USES AND AUTHORIZING ACQUISITION OF
NECESSARY PROPERTY BY EMINENT DOMAIN**

WHEREAS, the James River Water Authority (the "Authority") is planning to construct a raw water intake and pump station and pipeline with associated appurtenances using the James River in Fluvanna County as a source ("Project"); and

WHEREAS, the intake structure and pumping station are to be utilized by the Counties of Fluvanna and Louisa as customers of the JRWA; and

WHEREAS, this Project is an important part of each County's plans to provide reliable and adequate sources of water for the future needs of their respective citizens; and

WHEREAS, the intake structure is proposed to be located beneath the water surface in the James River, upstream of its confluence with the Rivanna River and from the uptake structure, underground pipes will carry water drawn from the river to a raw water pump station situated on higher ground where it will be necessary to construct an above-ground structure, and an access driveway, at the pump station site and additional underground piping will convey water from the pump station, in a northerly direction, to a point north of Route 6 west of Columbia; and

WHEREAS, the Authority has determined that in order to construct the Project it must acquire approximately 2.0 acres in fee simple on tax map parcel 61-A-4 and/or easements on the following Tax Map Parcels: 61-A-4, 53-A-61, 53-A-62, 53-A-62C, 53-A-63, 53-11-5, 53-11-19 ("Property") by condemnation or other means; and

WHEREAS, the Authority has conducted a public hearing in accordance with Virginia Code §15.2-1903(B) to determine the necessity for condemnation and has carefully considered the recommendations of staff and public testimony, if any, at the public hearing; and

WHEREAS, the Board finds it necessary and proper to use its statutory “quick-take” powers” pursuant to Virginia Code §15.2-5114 and §25.1-300 et seq. to enter on the affected properties in order to take and use the property needed to begin work on the Project.

NOW THEREFORE, BE IT RESOLVED,

1. that the construction of the raw water intake and pump station and pipeline with associated appurtenances using the James River in Fluvanna County as a source Project is for a public use, necessary for the health and welfare and in the best interests of the people served by the Authority; and
2. that the acquisition of the Property is necessary for the construction of the raw water intake and pump station and pipeline with associated appurtenances using the James River in Fluvanna County as a source and the Authority hereby certifies that it has reviewed such acquisitions for compliance with Virginia Code §1-219 and has determined that they are authorized thereunder as a public use for which the Authority may exercise its powers of eminent domain; and
3. that the Authority shall cause bona fide offers of just compensation to be made to each of the following owners of Property, setting forth the compensation and damages offered by the Authority for the acquisition of Property which shall be at 100% of the fair market value:


Parcel	Owner	Fee Simple +/-	Easement Area Acreage +/-		
			Perm. Utility	Temp. Const.	Perm. Access
61-A-4	Hammond	2.0	0.52	4.21	0.10
53-A-61	Bialkowski	0.0	0.76	2.49	1.38
53-A-62	Point of Fork Farm	0.0	0.66	0.67	1.33
53-A-62C	Point of Fork Farm	0.0	0.00	0.00	0.54
53-A-63	Bialkowski	0.0	0.00	0.00	0.18
53-11-5	Lyttle	0.0	0.21	0.77	0.00
53-11-19	CVEC	0.0	0.11	0.52	0.00

4. that if the owners of any of the above parcels have not accepted the Authority’s offer of fair market value and executed the necessary documents by the deadline date specified in the letter making such offer, then the Authority or his designee is authorized to file a Certificate of Take and Certificate of Deposit among the land records of Fluvanna County; and
5. that the Authority or their designees are further authorized and directed to sign the required Certificates and to deposit the estimated fair market value of the required temporary construction easements with the Clerk of the Fluvanna County Circuit Court

on behalf of the Authority and for the benefit of the respective property owners, in accordance with the applicable state statutes; and

6. Upon the filing of such Certificates, the deposit of such funds and the completion of any other statutory requirements for exercise of the "quick-take" condemnation process, the Authority shall be deemed to have acquired each of the rights to the Property described above, and the Authority staff, project engineers and project contractor and their respective employees, subcontractors and agents shall be authorized to enter on each of the properties to execute the Project; and
7. Notwithstanding the foregoing, the Authority or its representative is authorized to continue negotiating with the owners of the parcels described above to obtain a voluntary settlement and conveyance if, in his sole judgment there is a reasonable possibility that such negotiation will be successful.

BE IT FURTHER RESOLVED that this Resolution, as approved by the James River Water Authority Board upon due consideration and after all required public notice and hearing, shall take effect immediately this 5th day of April, 2016.



Chairman, Goodman B. Duke
James River Water Authority

This is a true copy of the Resolution

Attest:



Name: STEVEN M. NICHOLS

Title: JRWA BOARD MEMBER

APPENDIX C-13
REIMBURSEMENT AGREEMENT BETWEEN JAMES RIVER WATER AUTHORITY AND THE COUNTY OF FLUVANNA,
VIRGINIA

THIS AGREEMENT (this “Agreement”), made and entered into as of June 1, 2016 (“Effective Date”), by and between the **JAMES RIVER WATER AUTHORITY** (the “Authority”), and the **COUNTY OF FLUVANNA, VIRGINIA** (“County”).

RECITALS:

WHEREAS, the Authority, the County, Louisa County and the Louisa County Water Authority (“LCWA”) entered into an agreement (the “2013 Interjurisdictional Agreement”) dated October 1, 2013 to reflect the desire to move the James River intake from Bremo Bluff to near Columbia, Virginia and to set forth the parties’ respective rights and duties with respect to a James River pipeline project (“Project”);

WHEREAS, the Authority applied for a special use permit to construct the Project on tax map number 53-A-62C in the County Fluvanna, which was rejected by the County on December 2, 2015; and

WHEREAS, the Authority subsequently applied to the County for a special use permit to Construct the Project on tax map number 61-A-4, which is adjacent to the property that was previously denied a special use permit; and

WHEREAS, on January 20, 2016, the County approved a special use permit for the Authority to construct the Project on tax map number 61-A-4; and

WHEREAS, the Authority has incurred additional Project costs associated with moving and redesigning the Project to the adjacent property.

NOW, THEREFORE, in consideration of the promises and the mutual covenants and agreements herein contained, the parties hereto agree as follows:

Section 1. The County agrees to pay the amount of \$525,039.00 to the Authority within 30 days of the Effective Date of this Agreement as payment in full for the additional costs incurred by the Authority associated with relocating the Project to tax map number 61-A-4.

Section 2. The Authority agrees to apply the amount received under Section 1 above towards the payment of the guaranteed maximum price as described in the Comprehensive Agreement between the Authority and Faulconer Construction Company, Inc., for the construction of the James River Water Authority’s project.

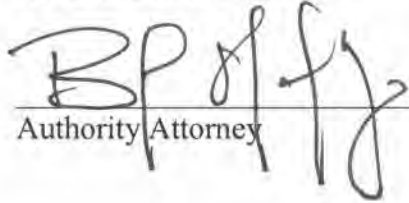
Section 3. This Agreement shall be governed by the laws of the Commonwealth of Virginia.

IN WITNESS WHEREOF, the parties caused this Agreement to be signed by their respective officers thereunto duly authorized, and this Agreement to be dated as of the date and year first above written.

JAMES RIVER WATER AUTHORITY

By:  _____
Chairman

Approved as to Form

 _____
Authority Attorney

COUNTY OF FLUVANNA, VIRGINIA

By:  _____
Chair, Board of Supervisors

Approved as to Form

 _____
Fluvanna County Attorney

APPENDIX D
PROJECT AUTHORIZATIONS/ AGENCY DECISIONS

APPENDIX D-1

VWP INDIVIDUAL PERMIT NO. 14-0343 AND SUPPORTING DOCUMENTS

APPENDIX D-1-1

INITIAL VWP INDIVIDUAL PERMIT NO. 14-0343 PERMIT

APPENDIX D-1-2

INITIAL VWP INDIVIDUAL PERMIT NO. 14-0343 FACT SHEET

APPENDIX D-1-3

MINOR MODIFICATION NO. 1 OF VWP INDIVIDUAL PERMIT NO. 14-0343 PERMIT

APPENDIX D-1-4

MINOR MODIFICATION NO. 1 OF VWP INDIVIDUAL PERMIT NO. 14-0343 FACT SHEET

APPENDIX D-1-5

MINOR MODIFICATION NO. 2 OF VWP INDIVIDUAL PERMIT NO. 14-0343 PERMIT

APPENDIX D-1-6

MINOR MODIFICATION NO. 2 OF VWP INDIVIDUAL PERMIT NO. 14-0343 FACT SHEET

APPENDIX D-1-7

MINOR MODIFICATION NO. 3 OF VWP INDIVIDUAL PERMIT NO. 14-0343 REQUEST

APPENDIX D-2

COMMONWEALTH OF VIRGINIA MARINE RESOURCES COMMISSION PERMIT DOCUMENTS

APPENDIX D-2-1

INITIAL COMMONWEALTH OF VIRGINIA MARINE RESOURCES COMMISSION PERMIT 2014-0343

APPENDIX D-2-2

COMMONWEALTH OF VIRGINIA MARINE RESOURCES COMMISSION PERMIT 2014-0343 EXTENSION LETTER

APPENDIX D-3

DEQ CZMA APPLICABILITY DETERMINATION

APPENDIX D-4

PRELIMINARY JURISDICTIONAL DETERMINATION DOCUMENTS

APPENDIX D-4-1

2014 NAO-2014-0708 PRELIMINARY JURISDICTIONAL DETERMINATION LETTER

APPENDIX D-4-2

2016 NAO-2014-0708 PRELIMINARY JURISDICTIONAL DETERMINATION LETTER

APPENDIX D-5

ANTICIPATORY BURIAL PERMIT DHR FILE NO. 2015-0984

APPENDIX D-6

SPECIAL USE PERMIT DOCUMENTS

APPENDIX D-6-1

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS ACTION REPORT 09/23/2015

APPENDIX D-6-2

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS APPROVED MINUTES 09/23/2015

APPENDIX D-6-3

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS PACKAGE 01/06/2016

APPENDIX D-6-4

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS ACTION REPORT 01/06/2016

APPENDIX D (CONTINUED)
PROJECT AUTHORIZATIONS/ AGENCY DECISIONS

APPENDIX D-6-5

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS APPROVED MINUTES 01/06/2016

APPENDIX D-7

VPDES CONSTRUCTION GENERAL PERMIT AUTHORIZATION VRO-17-181

APPENDIX D-8

SITE DEVELOPMENT PLAN APPROVAL SDP 17:08

APPENDIX D-9

VDH WATERWORKS CONSTRUCTION PERMIT APPROVAL LETTER

APPENDIX D-10

USACE ISSUED LETTER NAO-2014-00708

APPENDIX D-1
VWP INDIVIDUAL PERMIT NO. 14-0343 AND SUPPORTING DOCUMENTS

APPENDIX D-1-1
INITIAL VWP INDIVIDUAL PERMIT NO. 14-0343 PERMIT



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VWP Individual Permit Number 14-0343

Effective Date: November 20, 2015

Expiration Date: November 19, 2030

VIRGINIA WATER PROTECTION PERMIT ISSUED PURSUANT TO THE STATE WATER CONTROL LAW AND SECTION 401 OF THE CLEAN WATER ACT

Based upon an examination of the information submitted by the owner, and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341 et seq.) and the State Water Control Law and regulations adopted pursuant thereto, the State Water Control Board (board) has determined that there is a reasonable assurance that the activity authorized by this permit, if conducted in accordance with the conditions set forth herein, will protect instream beneficial uses and will not violate applicable water quality standards. The board finds that the effect of the impact, together with other existing or proposed impacts to surface waters, will not cause or contribute to a significant impairment to state waters or fish and wildlife resources.

Permittee: James River Water Authority

Address: c/o Fluvanna County Administrator
132 Main Street, P.O. Box 540, Palmyra, Virginia 22963

Activity Location: The proposed intake is located on the north bank of the James River, just upstream of the confluence with the Rivanna River at the end of Route 624, near the Town of Columbia in Fluvanna County, Virginia.

Activity Description: This permit authorizes the construction and operation of a new surface water withdrawal intake to withdraw surface water from the James River as described in Part I.F and the installation of a raw water transmission pipe from the intake structure to Route 6 within the vicinity of the Rivanna River. Impacts to the James River associated with the construction of the intake structure are authorized for 0.09 acre (64 linear feet) of permanent impact and 0.032 acre 0.90 acre (485 linear feet) of temporary impact. Impacts associated with the construction of a raw water transmission pipe are authorized to permanently impact 0.01 acre of palustrine forested wetland and temporarily impact 0.001 acre of palustrine emergent wetland and 120 linear feet of a stream channel. Compensation for the permanent impact of 0.01 acre of palustrine forested wetland shall be provided through the purchase of 0.02 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for area in which the permitted impact site is located. The credit sale must be in accordance with the approved Mitigation Banking Instrument for the mitigation bank. Compensation for permanent stream channel impacts is not required.

The permitted activity shall be in accordance with this Permit Cover Page, Part I - Special Conditions, and Part II - General Conditions.



Director, Office of Water Supply

11/20/15

Date

Part I – Special Conditions

A. Authorized Activities

1. This permit authorizes the construction and operation of a new surface water withdrawal intake to withdraw surface water from the James River as described in Part I.F and the installation of a raw water transmission pipe from the intake structure to Route 6 within the vicinity of the Rivanna River.
2. This permit authorizes the following surface water impacts:
 - a. Impacts to the James River associated with the construction of the intake structure are authorized for 0.09 acre (64 linear feet) of permanent impact and 0.90 acre (485 linear feet) of temporary impact.
 - b. Impacts associated with the construction of a raw water transmission pipe are authorized to permanently impact 0.01 acre of palustrine forested wetland and temporarily impact 0.001 acre of palustrine emergent wetland and 120 linear feet of a stream channel.
3. Authorized impacts shall be as depicted on Sheets 1 and 2 of the plans entitled “JRWA Raw Water Intake, Pump Station and Force Main, Environmental Impact Summary” dated December 19, 2014, revised May 18, 2015 and received May 20, 2015. Authorized activities shall be conducted as described in the Joint Permit Application dated March 12, 2014, and received March 14, 2014, and supplemental materials, revisions and clarifications received through May 20, 2015.
4. The permittee shall notify the DEQ prior to any additional impacts to surface waters, including wetlands; of any modifications of the intake structure; and of any change to the type of surface water impacts associated with this project. Any additional impacts, modifications, or changes shall be subject to individual permit review and/or modification of this permit.

B. Permit Term

1. This permit is valid for fifteen (15) years from the date of issuance. A new permit may be necessary for the continuance of the authorized activities, including water withdrawals, or any permit requirement that has not been completed, including compensation provisions.
2. The permittee shall notify DEQ in writing at least 120 calendar days prior to the expiration of this permit if an extension of the permit term is required.

C. Standard Project Conditions

1. The activities authorized by this permit shall be executed in such a manner that any impacts to beneficial uses are minimized. As defined in § 62.1-10(b) of the Code, "beneficial use" means both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to,

domestic (including public water supply), agricultural, electric power generation, commercial, and industrial uses. Public water supply uses for human consumption shall be considered the highest priority.

2. No activity shall substantially disrupt the movement of aquatic life indigenous to the water body, including those species that normally migrate through the area, unless the primary purpose of the activity is to impound water.
3. Flows downstream of the project area shall be maintained to protect all uses.
4. No activity shall cause more than minimal adverse effect on navigation, and no activity shall block more than half of the width of the stream at any given time.
5. The activity shall not impede the passage of normal or expected high flows, and any associated structure shall withstand expected high flows.
6. Continuous flow of perennial springs shall be maintained by the installation of spring boxes, French drains, or other similar structures.
7. Construction activities shall be conducted in accordance with the below Time-of-Year Restrictions:
 - a. No instream work in any stream channel shall occur from April 15 through June 15 and August 15 through September 30 of any year to protect the state endangered brook floater and state threatened Atlantic pigtoe and green floater. Construction activities within the confines of the cofferdam are not included within this Time-of-Year Restriction.
 - b. No instream work in the James River shall occur from March 15 through June 30 of any year to protect anadromous fish. Construction activities within the confines of the cofferdam are not included within this Time-of-Year Restriction.
8. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity.
9. All in-stream activities shall be conducted during low-flow conditions whenever practicable.
10. All construction, construction access, and demolition activities associated with this project shall be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by this permit. Wet, excess, or waste concrete shall be prohibited from entering surface waters.
11. All fill material placed in surface waters shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable laws and regulations.
12. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters.

13. Machinery or heavy equipment in temporarily impacted wetlands shall be placed on mats or geotextile fabric, or other suitable means shall be implemented, to minimize soil disturbance to the maximum extent practical. Mats, fabrics, or other measures shall be removed as soon as the work is complete in the temporarily impacted wetland.
14. Heavy equipment is authorized for use within the stream channel during project construction or stream restoration activities when site conditions prohibit access from the streambank. The equipment shall be stationed on cobble bars and the activities conducted in the dry or during low flow conditions, whenever possible.
15. Temporary disturbances to wetlands, stream channels, and/or stream banks during project construction activities shall be avoided and minimized to the maximum extent practicable.
16. All temporarily disturbed wetland areas shall be restored to preconstruction conditions within 30 calendar days of completing work in the areas, which shall include re-establishing pre-construction contours, and planting or seeding with appropriate wetland vegetation according to cover type (emergent, scrub/shrub, or forested), except for invasive species identified on DCR's Invasive Alien Plant Species of Virginia list. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed surface waters through the second year post-disturbance.
17. All temporarily impacted streams and stream banks shall be restored to their original elevations and contours within 30 calendar days following the construction at that stream segment, and the banks shall be seeded or planted with the same vegetative cover type originally present along the banks, including supplemental erosion control grasses if necessary but not including invasive species identified on DCR's Invasive Alien Plant Species of Virginia list.
18. All materials (including fill, construction debris, excavated materials, and woody materials, that are temporarily placed in wetlands, in stream channels, or on stream banks) shall be placed on mats or geotextile fabric, shall be immediately stabilized to prevent the material or leachate from entering surface waters, and shall be entirely removed within 30 calendar days following completion of that construction activity. After removal, disturbed areas shall be returned to original contours, shall be stabilized, and shall be restored to the original vegetated state within 30 calendar days.
19. Temporary in-stream construction features such as cofferdams shall be made of non-erodible materials.
20. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.
21. All non-impacted surface water and any required upland buffers that are within the project or right-of-way limits, and that are within fifty feet of any project activities, shall be clearly flagged or demarcated for the life of the construction activity within that area. The permittee shall notify all contractors and subcontractors that *no activities are to occur in these marked areas*.

22. All required notifications and submittals shall include project name and permit number and be submitted to the DEQ office stated below, to the attention of the Water Withdrawal Permit Manager, unless directed in writing by DEQ subsequent to the issuance of this permit: Department of Environmental Quality-Office of Water Supply, P.O. Box 1105, Richmond, Virginia 23219.
23. All reports required by this permit and other information requested by DEQ shall be signed by the permittee or a person acting in the permittee's behalf, with the authority to bind the permittee. A person is a duly authorized representative only if *both* criteria below are met. If a representative authorization is no longer valid because of a change in responsibility for the overall operation of the facility, a new authorization shall be immediately submitted to DEQ.
 - a. The authorization is made in writing by the permittee.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
24. All submittals shall contain the following signed certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
25. Any fish kills or spills of fuels or oils shall be reported to DEQ immediately upon discovery at (804) 698-4000. If DEQ cannot be reached, the spill shall be reported to the Virginia Department of Emergency Management (DEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802.
26. DEQ shall be notified in writing within 24 hours or as soon as possible on the next business day when potential environmentally threatening conditions are encountered which require debris removal or involve potentially toxic substances. Measures to remove the obstruction, material, or toxic substance or to change the location of any structure are prohibited until approved by DEQ.

D. Stream Modifications, Including Installation of the James River Intake

1. Prior to commencing work in the James River or along its shoreline, the permittee shall:
 - a. Perform a mussel survey and relocation 100 meters upstream through 400 meters downstream of the James River authorized impact area no more than six months prior to the start of construction unless otherwise approved by Virginia Department of Game and Inland Fisheries

(DGIF) and DEQ. The survey shall be performed by a qualified, permitted biologist and conducted in accordance with DGIF and U.S. Fish and Wildlife Services draft Freshwater Mussel Guidelines for Virginia dated March 7, 2008.

- b. Submit a report summarizing survey results to DGIF and DEQ for review and approval. The agencies review and approval shall be completed prior to commencing work in the James River or along its shoreline. The report shall reference DGIF's project number: ESSLog# 22598. Based upon the results, DGIF will provide final recommendations regarding the protection of listed species known from the area.
2. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, such activities shall occur only in the dry, allowing all concrete to harden and cure prior to contact with open water.
3. Redistribution of existing stream substrate for erosion control purposes is prohibited.
4. Material removed from the stream bottom shall not be deposited into surface waters unless otherwise authorized in this permit.
5. Riprap apron for all outfalls shall be designed in accordance with Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction.
6. For streambank protection activities, structures and backfill shall be placed as close to the streambank as practical, while still avoiding and minimizing impacts to surface waters to the maximum extent practical. No material shall be placed in excess of the minimum necessary for erosion protection.
7. Asphalt and materials containing asphalt or other toxic substances shall not be used in the construction of submerged sills, breakwaters, dams, or weirs.

E. Installation of Utilities

1. All utility line work in surface waters shall be performed in a manner that minimizes disturbance in each area. Temporarily disturbed surface waters shall be restored in accordance with Part I.C.16, C.17, and C.18, unless otherwise authorized by this permit.
2. Material resulting from trench excavation may be temporarily sidecast into wetlands not to exceed a total of 90 calendar days, provided the material is not placed in a manner such that it is dispersed by currents or other forces.
3. The trench for a utility line cannot be constructed in a manner that drains wetlands (e.g., backfilling with extensive gravel layers creating a French drain effect).

F. Surface Water Withdrawals

1. Surface water withdrawn from the James River and authorized under this permit shall be only used for public water supply.
2. The safe yield of the surface water withdrawal project as authorized under this permit is the annual average daily volume of 4.12 million gallons per day (mgd).
3. The withdrawal of water from the James River shall not exceed the limits established in the table below. The withdrawal limits are to be phased in based upon completion of capital improvements necessary to begin water service to areas identified for each Tier:

Tier	Maximum Daily Withdrawal (mgd)	Maximum Monthly Withdrawal (mg)	Maximum Annual Withdrawal (mg)
1	5.82	119.35	1,024.8
2	7.69	157.71	1,354.2
3	8.57	175.62	1,507.92

- a. Tier 1 contains the withdrawal limits to meet the justified demands of the service areas of Zion Crossroads and Ferncliff in Louisa County and Fluvanna CWS in Fluvanna County and the economic development prospects as identified in the application for both Counties.
 - b. Tier 2 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 1 and the service areas of Shannon Hill, Town of Louisa, Town of Mineral, Louisa County Water Authority and Lake Anna in Louisa County.
 - c. Tier 3 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 2 and the service areas of Gum Springs in Louisa County and the Fork Union, Columbia and Palmyra CWS in Fluvanna County.
4. The localities (Fluvanna and Louisa Counties) through the permittee shall provide to DEQ for review no later than June 30, 2017 for Tier 1 and within three (3) years of permit issuance for Tier 2 and 3, a plan(s) that identifies the specific capital improvements and associated schedule for completion that Fluvanna and Louisa Counties must implement to treat and transport water withdrawn from the authorized intake to service areas identified for each Tier in Part I.F.3. Any changes to the plan(s) that relates to this permit shall be submitted to DEQ for review. The plan(s) shall include, at a minimum, the following for each Tier:
 - a. Summarize the capital improvements that must be completed for water to be transported from the authorized intake, treated and distributed to the service areas identified for each Tier. These capital improvements shall include infrastructure such as pipelines, water treatment plants and associated storage facilities.

- b. Identify the location(s) of wastewater treatment facilities, both private and municipal, that will treat any part of the water withdrawn from the authorized intake and the watershed to which the return flow will be discharged.
 - c. The anticipated dates to complete each phase of the identified capital improvements.
 5. The withdrawal limits established in Part I.F.3 are authorized in accordance with the following:
 - a. Tier 1: The permittee shall submit to DEQ for review and approval by January 1, 2018 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 1 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - b. Tier 2: The permittee shall submit to DEQ for review and approval by January 1, 2021 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 2 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - c. Tier 3: The permittee shall submit to DEQ for review and approval by January 1, 2023 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 3 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - d. Should capital improvements necessary to begin water service to areas identified for a specific Tier be completed later in the permit term than identified above, the permittee may submit to DEQ for review and approval a request for authorization of withdrawal limits established for a specific Tier. Any such request shall include written confirmation that capital improvements identified in the plan required by Part I.F.4 for a specific Tier are complete to obtain authorization to withdraw water at the volumes identified under that Tier and discussion of project status including justification for the request.
 - e. If capital improvements for a specific Tier are complete for only a portion of the service area or areas identified for that Tier, the permittee may submit to DEQ for review and approval a request for a portion of the withdrawal volumes for a specific Tier sufficient to meet the demands of those service area or areas. Any such request shall include the following: proposed revision to the specific Tier, including water demands associated with the service area or areas as identified in the application materials, written confirmation that capital improvements identified in the plan required by Part I.F.4 are complete for those service area or areas, and discussion of project status including justification for the request. Any such request will require a modification of the permit, which may be considered under a minor modification, to adjust the withdrawal volumes for a particular Tier, not to exceed the volumes identified for Tier 3 in Part I.F.3.
 6. The permittee shall estimate flows at the James River intake in units of cubic feet per second (cfs) on a daily basis by monitoring the stream flow gages detailed herein and by applying the equation “Flows at the intake = $(Q_{SC} + Q_{HD} + Q_{SL}) * 1.03$,” where:

- a. Q_{SC} is the previous day's provisional mean daily flow at the U.S. Geologic Survey (USGS) gage No. 02029000 (James River at Scottsville, Virginia);
 - b. Q_{HD} is the previous day's provisional mean daily flow at the USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia);
 - c. Q_{SL} is the previous day's provisional mean daily flow at the USGS gage No. 02030500 (Slate River near Arvon, Virginia);
 - d. 1.03 is the adjustment factor for drainage area.
7. The permittee shall make reasonable effort to coordinate with the operators of the Cobbs Creek Reservoir when provisional stream flows at the permittee's intake estimated in accordance with Part I.F.6 is equal to or less than the 10th percentile flow of 778 cfs. Coordination shall occur in accordance with the DEQ approved protocol required by Part I.F.8.
 8. Prior to withdrawing surface water from the James River, the permittee shall develop and submit for DEQ approval a protocol for coordinating with the operators of the Cobbs Creek Reservoir when provisional stream flows at the intake fall below the 10th percentile, as identified in Part I.F.7. Such protocol, to the extent reasonable, should be developed in coordination with the operators of the Cobbs Creek Reservoir, with assistance by DEQ. The protocol shall include, at a minimum, the permittee informing the operators of the Cobbs Creek Reservoir of their current and intended operations and stipulating the frequency of periodic updates during extended low flow events. DEQ shall have 30 days from receipt of the proposed protocol to review and provide comments.
 9. The permittee shall submit a drought management plan to DEQ for review and approval 90 days prior to initiating the surface water withdrawal. Any revisions to the approved plan shall be submitted to DEQ for review and approval prior to implementing the change. The plan shall include, at a minimum, the following:
 - a. Development of drought stages, including when and how each stage will be implemented. The emergency drought stage shall be initiated when a drought emergency is declared by the Commonwealth of Virginia in the Northern Piedmont Drought Evaluation Region or the Middle James Drought Evaluation Region or by either Fluvanna or Louisa County in accordance with either County's Drought Management Ordinance. Once authorization is granted by DEQ to the permittee to withdrawal volumes above those identified in Tier 1 (Part I.F.3), voluntary and mandatory drought stages shall be initiated when the fourteen (14) day rolling average of James River flows at the intake are equal to or less than the values in the below table. James River flows at the intake shall be estimated in accordance with Part I.F.6.

Drought Stage	James River Flow at Intake, 14-day Rolling Average (cfs)	
	November - June	July - October
Voluntary	≤ 1,241	≤ 975
Mandatory	≤ 913	≤ 750

- b. Requirement to operate the James River intake in a manner that ensures the instantaneous withdrawal does not exceed 13,980 gallons per minute (31.1 cfs) during the Mandatory Drought Stage.
 - c. A description of the conservation measures to be implemented during each drought stage.
10. When a drought emergency is declared by the Commonwealth of Virginia in the Northern Piedmont Drought Evaluation Region or the Middle James Drought Evaluation Region or by either Fluvanna or Louisa County in accordance with either County’s Drought Management Ordinance, the permittee shall implement either the provisions directed by the Commonwealth, the Drought Management Ordinance, the Drought Management Plan required by Part I.F.9 of this permit or the mandatory conservation measures as detailed in Attachment A of this permit, whichever is the most restrictive. The permittee shall be responsible for determining when drought emergencies are declared. The permittee shall retain records documenting that mandatory conservation measures were implemented during declared drought emergencies.
 11. The intake screens shall be designed so that screen openings are not larger than 1 millimeter in width and height and the screen face intake velocities are not greater than 0.25 feet per second.
 12. The permittee shall monitor withdrawals from the James River on a daily basis using flow totalizer technology to confirm that the withdrawals are in compliance with this permit. Such meters shall produce volume determinations within plus or minus 5 percent of actual flows. A defective meter or other device must be repaired or replaced within 60 days. A defective meter is not grounds for not reporting the withdrawals. During any period when a meter is defective, generally accepted engineering practice shall be used to estimate withdrawals and the period during which the meter was defective must be clearly identified in the report.
 13. On each day that pumping occurs, the permittee must monitor and record the following, for each pump:
 - a. Date and time.
 - b. Total amount of water withdrawn each day.
 - c. The maximum rate of withdrawal that occurred each date (in gpm).
 - d. The provisional stream flow in cfs as measured at the following stream gages: USGS gage No. 02029000 (James River at Scottsville, Virginia), USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia), and USGS gage No. 02030500 (Slate River near Arvonnia, Virginia).

- e. The provisional stream flow at the intake in cfs as estimated in accordance with Part I.F.6.
 - f. Identify whether stream flows at the intake fell below the 10th percentile requiring coordination with the operators of the Cobbs Creek Reservoir and if water supply storage releases from the upstream Cobbs Creek Reservoir occurred.
14. The permittee shall submit a water withdrawal monitoring report to DEQ semi-annually. The semi-annual monitoring period shall be as follows: January through June and July through December. The daily records shall be tabulated by month. The report shall be submitted to DEQ by January 31st and July 31st of every year within the permit term. Submittal of the report may take the form of electronic reporting or another form determined to be acceptable by DEQ. In the event the electronic reporting system is not available, the permittee may submit the report by electronic mail. The report shall include the following information:
- a. The permittee's name and address.
 - b. The permit number.
 - c. The source(s) from which water is withdrawn.
 - d. The location (latitude and longitude) of the water withdrawal.
 - e. Information listed in Part I.F.13.
 - f. The cumulative volume (million gallons) of water withdrawn each month and for the calendar year.
 - g. The average daily volume (mgd) of water withdrawn as calculated the last day of the monitoring period.
 - h. In the last report for the calendar year, the largest single day withdrawal volume (mgd) that occurred in the year and the month in which it occurred.
 - i. The method of measuring each withdrawal.
 - j. Documentation of any coordination conducted in accordance with Part I.F.7 during the reporting period.
 - k. If during a semi-annual reporting period a drought emergency is declared, the report shall include a summary of mandatory conservation measures implemented during the drought event.
15. Water withdrawal monitoring and reporting activities shall comply with this section, Part I.C, and Part II. All records and information that result from the monitoring and reporting activities required by this permit, including any records of maintenance activities to the withdrawal system,

shall be retained for the life of the permit. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or as requested by the State Water Control Board.

G. Construction Monitoring and Submittals (Impact Site)

1. Final plans for the project construction activities authorized by this permit shall be submitted thirty (30) calendar days prior to initiating any land disturbance or construction in permitted impact areas. Construction shall be performed in accordance with the final construction plans submitted to DEQ, which shall be in compliance with the permit. Any changes to the final plans for permitted areas shall be submitted to DEQ immediately upon determination that changes are necessary. DEQ approval shall be required prior to implementing the changes.
2. The permittee shall submit written notification at least ten (10) calendar days prior to the initiation of land disturbance or construction activities in permitted areas. The notification shall include a projected schedule for initiating and completing work at each permitted impact area.
3. Site inspections shall be conducted at least once every calendar month and recorded on the *Monthly VWP Permit Inspection Checklist* (Attachment B) by the permittee or the permittee's qualified designee during active construction within authorized surface water impact areas. Monthly inspections shall be conducted in the following areas: all authorized permanent and temporary impact areas; all avoided surface waters, including wetlands, stream channels, and open water; surface water areas within 50 feet of any land disturbing activity; and all on-site areas designated for permanent preservation. The *Monthly VWP Permit Inspection Checklist* (Attachment B) shall be completed in its entirety for each monthly inspection and shall be kept on-site and made available for review by DEQ staff upon request during normal business hours.
4. The *VWP Permit Construction Status Update Form* (Attachment C) shall be completed in June and December and shall be submitted and received by DEQ no later than January 31st and July 31st of every year for the duration of this permit. The *VWP Permit Construction Status Update Form* (Attachment C) shall include reference to the VWP permit authorization number and one of the following statements for each authorized surface water impact location:
 - a. Construction activities not yet commenced;
 - b. Construction activities have commenced;
 - c. Construction activities have commenced but are currently inactive, or;
 - d. Construction activities are complete.
5. The permittee shall notify DEQ within 24 hours of discovering impacts to surface waters including wetlands, stream channels, and open water that are not authorized by this permit. The notification shall include the completed *Monthly VWP Permit Inspection Checklist* (Attachment B), photographs, estimated acreage and/or linear footage of impacts, and a description of the impacts.

6. The permittee shall submit written notification of completion within 30 calendar days after the completion of all activities in all permitted impact areas authorized under this permit.

H. Compensatory Mitigation

1. Compensation for the permanent impact of 0.01 acre of palustrine forested wetland shall be provided through the purchase of 0.02 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for area in which the permitted impact site is located. The credit sale must be in accordance with the approved Mitigation Banking Instrument for the mitigation bank.
2. Documentation that an approved wetland mitigation bank has debited the required mitigation credits from the mitigation bank ledger shall be submitted to and received by DEQ prior to initiating work in permitted impact areas.

Part II – General Conditions

A. Duty to Comply

The permittee shall comply with all conditions of the VWP permit. Nothing in the VWP permit regulations shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any VWP permit violation is a violation of the law, and is grounds for enforcement action, VWP permit termination, revocation, modification, or denial of an application for a VWP permit extension or reissuance.

B. Duty to Cease or Confine Activity

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a VWP permit has been granted in order to maintain compliance with the conditions of the VWP permit.

C. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the permit which may have a reasonable likelihood of adversely affecting human health or the environment.

D. VWP Permit Action

1. A VWP permit may be modified, revoked and reissued, or terminated as set forth in 9 VAC 25-210 et seq.
2. If a permittee files a request for VWP permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the VWP permit terms and conditions shall remain effective until the request is acted upon by the board. This provision shall not be used to extend the expiration date of the effective VWP permit. If the permittee wishes to continue an activity regulated by the VWP permit after the expiration date of the VWP permit, the permittee must apply for and obtain a new VWP permit or comply with the provisions of 9 VAC 25-210-185 (VWP Permit Extension).

VWP permits may be modified, revoked and reissued or terminated upon the request of the permittee or other person at the board's discretion, or upon board initiative to reflect the requirements of any changes in the statutes or regulations, or as a result of VWP permit noncompliance as indicated in the Duty to Comply subsection above, or for other reasons listed in 9 VAC 25-210-180 (Rules for Modification, Revocation and Reissuance, and Termination of VWP permits).

E. Inspection and Entry

Upon presentation of credentials, any duly authorized agent of the board may, at reasonable times and under reasonable circumstances:

1. Enter upon any permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the VWP permit conditions;
2. Inspect any facilities, operations or practices (including monitoring and control equipment) regulated or required under the VWP permit; and
3. Sample or monitor any substance, parameter or activity for the purpose of ensuring compliance with the conditions of the VWP permit or as otherwise authorized by law.

F. Duty to Provide Information

1. The permittee shall furnish to the board any information which the board may request to determine whether cause exists for modifying, revoking, reissuing or terminating the VWP permit, or to determine compliance with the VWP permit. The permittee shall also furnish to the board, upon request, copies of records required to be kept by the permittee.
2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as required by the board prior to commencing construction.

G. Monitoring and Records Requirements

1. Monitoring of parameters, other than pollutants, shall be conducted according to approved analytical methods as specified in the VWP permit. Analysis of pollutants will be conducted according to 40 CFR Part 136 (2000), Guidelines Establishing Test Procedures for the Analysis of Pollutants.
2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the VWP permit, and records of all data used to complete the application for the VWP permit, for a period of at least three years from the date of the expiration of a granted VWP permit. This period may be extended by request of the board at any time.
4. Records of monitoring information shall include:
 - a. The date, exact place and time of sampling or measurements;
 - b. The name of the individuals who performed the sampling or measurements;
 - c. The date and time the analyses were performed;

- d. The name of the individuals who performed the analyses;
- e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used;
- f. The results of such analyses; and
- g. Chain of custody documentation.

H. Transferability

This VWP permit may be transferred to a new permittee only by modification to reflect the transfer, by revoking and reissuing the permit, or by automatic transfer. Automatic transfer to a new permittee shall occur if:

1. The current permittee notifies the board within 30 days of the proposed transfer of the title to the facility or property;
2. The notice to the board includes a written agreement between the existing and proposed permittee containing a specific date of transfer of VWP permit responsibility, coverage and liability to the new permittee, or that the existing permittee will retain such responsibility, coverage, or liability, including liability for compliance with the requirements of any enforcement activities related to the permitted activity; and
3. The board does not within the 30-day time period notify the existing permittee and the new permittee of its intent to modify or revoke and reissue the VWP permit.

I. Property rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize injury to private property or any invasion of personal rights or any infringement of federal, state or local law or regulation.

J. Reopener

Each VWP permit shall have a condition allowing the reopening of the VWP permit for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the board. Cause for reopening VWP permits includes, but is not limited to when the circumstances on which the previous VWP permit was based have materially and substantially changed, or special studies conducted by the board or the permittee show material and substantial change, since the time the VWP permit was issued and thereby constitute cause for VWP permit modification or revocation and reissuance.

K. Compliance with State and Federal Law

Compliance with this VWP permit constitutes compliance with the VWP permit requirements of the State Water Control Law. Nothing in this VWP permit shall be construed to preclude the institution of any legal action under or relieve the permittee from any responsibilities, liabilities, or other penalties established pursuant to any other state law or regulation or under the authority preserved by § 510 of the Clean Water Act.

L. Severability

The provisions of this VWP permit are severable.

M. Permit Modification

A VWP permit may be modified, but not revoked and reissued except when the permittee agrees or requests, when any of the following developments occur:

1. When additions or alterations have been made to the affected facility or activity which require the application of VWP permit conditions that differ from those of the existing VWP permit or are absent from it;
2. When new information becomes available about the operation or activity covered by the VWP permit which was not available at VWP permit issuance and would have justified the application of different VWP permit conditions at the time of VWP permit issuance;
3. When a change is made in the promulgated standards or regulations on which the VWP permit was based;
4. When it becomes necessary to change final dates in schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc. However, in no case may a compliance schedule be modified to extend beyond any applicable statutory deadline of the Act;
5. When changes occur which are subject to "reopener clauses" in the VWP permit; or
6. When the board determines that minimum instream flow levels resulting from the permittee's withdrawal of water are detrimental to the instream beneficial use and the withdrawal of water should be subject to further net limitations or when an area is declared a Surface Water Management Area pursuant to §§ 62.1-242 through 62.1-253 of the Code of Virginia, during the term of the VWP permit.

N. Permit Termination

After notice and opportunity for a formal hearing pursuant to Procedural Rule No. 1 (9 VAC 25-230-100) a VWP permit can be terminated for cause. Causes for termination are as follows:

1. Noncompliance by the permittee with any condition of the VWP permit;
2. The permittee's failure in the application or during the VWP permit issuance process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time;
3. The permittee's violation of a special or judicial order;
4. A determination by the board that the permitted activity endangers human health or the environment and can be regulated to acceptable levels by VWP permit modification or termination;
5. A change in any condition that requires either a temporary or permanent reduction or elimination of any activity controlled by the VWP permit; and
6. A determination that the permitted activity has ceased and that the compensatory mitigation for unavoidable adverse impacts has been successfully completed.

O. Civil and Criminal Liability

Nothing in this VWP permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this VWP permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under § 311 of the Clean Water Act or §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Unauthorized Discharge of Pollutants

Except in compliance with this VWP permit, it shall be unlawful for the permittee to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances;
2. Excavate in a wetland;
3. Otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, to animal or aquatic life, to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses;
4. On or after October 1, 2001 conduct the following activities in a wetland:

- a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;
- b. Filling or dumping;
- c. Permanent flooding or impounding;
- d. New activities that cause significant alteration or degradation of existing wetland acreage or functions.

R. Permit Extension

Any permittee with an effective VWP permit for an activity that is expected to continue after the expiration date of the VWP permit, without any change in the activity authorized by the VWP permit, shall submit written notification requesting an extension. The permittee must file the request prior to the expiration date of the VWP permit. Under no circumstances will the extension be granted for more than 15 years beyond the original effective date of the VWP permit. If the request for extension is denied, the VWP permit will still expire on its original date and, therefore, care should be taken to allow for sufficient time for the board to evaluate the extension request and to process a full VWP permit modification, if required.

Attachment A – Water Conservation

Mandatory Non-essential Water Use Restrictions

The following non-essential water uses will be prohibited during periods of declared drought emergencies. Please note the exceptions that follow each prohibited use. These prohibitions and exceptions will apply to uses from all sources of water and will only be effective when the Governor of Virginia or the Virginia Drought coordinator declares a Drought Emergency. Water use restrictions shall not apply to the agricultural production of food or fiber, the maintenance of livestock including poultry, nor the commercial production of plant materials, *provided that best management practices are applied to assure the minimum amount of water is utilized.*

1. *Unrestricted irrigation of lawns is prohibited.*

- Newly sodded and seeded areas may be irrigated to establish cover on bare ground at the minimum rate necessary for no more than a period of 60 days. Irrigation rates may not exceed one inch of applied water in any 7-day period.
- Gardens, bedding plants, trees, shrubs and other landscape materials may be watered with hand held containers, hand held hoses equipped with an automatic shutoff device, sprinklers or other automated watering devices at the minimum rate necessary but in no case more frequently than twice per week. Irrigation should not occur during the heat of the day.
- All allowed lawn irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Irrigation systems may be tested after installation, routine maintenance or repair for no more than ten minutes per zone.

2. *Unrestricted irrigation of golf courses is prohibited.*

- Tees and greens may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
- Localized dry areas may be irrigated with a hand held container or hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Greens may be cooled by syringing or by the application of water with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Fairways may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary not to exceed one inch of applied water in any ten-day period.

- Fairways, tees and greens may be irrigated during necessary overseeding or resodding operations in September and October at the minimum rate necessary. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period.
- Newly constructed fairways, tees and greens and areas that are re-established by sprigging or sodding may be irrigated at the minimum rate necessary not to exceed one inch of applied water in any seven-day period for a total period that does not exceed 60 days.
- Fairways, tees and greens may be irrigated without regard to the restrictions listed above so long as:
 - The only water sources utilized are water features whose primary purpose is stormwater management;
 - Any water features utilized do not impound permanent streams;
 - During declared Drought Emergencies these water features receive no recharge from other water sources such as ground water wells, surface water intakes, or sources of public water supply; and,
 - All irrigation occurs between 9:00 p.m. and 10:00 a.m.
- All allowed golf course irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Rough areas may not be irrigated.

3. ***Unrestricted irrigation of athletic fields is prohibited.***

- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at a rate not to exceed one inch per application or more than a total of one inch in multiple applications during any ten-day period. All irrigation water must fall on playing surfaces with no outlying areas receiving irrigation water directly from irrigation heads.
- Localized dry areas that show signs of drought stress and wilt (curled leaves, foot-printing, purpling) may be syringed by the application of water for a cumulative time not to exceed fifteen minutes during any twenty four hour period. Syringing may be accomplished with an automated irrigation system or with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. during necessary overseeding, sprigging or resodding operations at the minimum rate necessary for a period that does not exceed 60 days. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period. Syringing is permitted during signs of drought stress and wilt (curled leaves, foot-printing, purpling).

- All allowed athletic field irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
 - Irrigation is prohibited on athletic fields that are not scheduled for use within the next 120-day period.
 - Water may be used for the daily maintenance of pitching mounds, home plate areas and base areas with the use of hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary.
 - Skinned infield areas may utilize water to control dust and improve playing surface conditions utilizing hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary no earlier than two hours prior to official game time.
4. ***Washing paved surfaces such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, and patios is prohibited.***
- Driveways and roadways may be pre-washed in preparation for recoating and sealing.
 - Tennis courts composed of clay or similar materials may be wetted by means of a hand-held hose equipped with an automatic shutoff device at the minimum rate necessary for maintenance. Automatic wetting systems may be used between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
 - Public eating and drinking areas may be washed using the minimum amount of water required to assure sanitation and public health.
 - Water may be used at the minimum rate necessary to maintain effective dust control during the construction of highways and roads.
5. ***Use of water for washing or cleaning of mobile equipment including automobiles, trucks, trailers and boats is prohibited.***
- Mobile equipment may be washed using hand held containers or hand held hoses equipped with automatic shutoff devices provided that no mobile equipment is washed more than once per calendar month and the minimum amount of water is utilized.
 - Construction, emergency or public transportation vehicles may be washed as necessary to preserve the proper functioning and safe operation of the vehicle.
 - Mobile equipment may be washed at car washes that utilize reclaimed water as part of the wash process or reduce water consumption by at least 10% when compared to a similar period when water use restrictions were not in effect.

- Automobile dealers may wash cars that are in inventory no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.
 - Automobile rental agencies may wash cars no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.
 - Marine engines may be flushed with water for a period that does not exceed 5 minutes after each use.
6. ***Use of water for the operation of ornamental fountains, artificial waterfalls, misting machines, and reflecting pools is prohibited.***
- Fountains and other means of aeration necessary to support aquatic life are permitted.
7. ***Use of water to fill and top off outdoor swimming pools is prohibited.***
- Newly built or repaired pools may be filled to protect their structural integrity.
 - Outdoor pools operated by commercial ventures, community associations, recreation associations, and similar institutions open to the public may be refilled as long as:
 - Levels are maintained at mid-skimmer depth or lower;
 - Any visible leaks are immediately repaired;
 - Backwashing occurs only when necessary to assure proper filter operation;
 - Deck areas are washed no more than once per calendar month (except where chemical spills or other health hazards occur);
 - All water features (other than slides) that increase losses due to evaporation are eliminated; and
 - Slides are turned off when the pool is not in operation.
 - Swimming pools operated by health care facilities used in relation to patient care and rehabilitation may be filled or topped off.

- Indoor pools may be filled or topped off.
 - Residential swimming pools may be filled only to protect structural integrity, public welfare, safety and health and may not be filled to allow the continued operation of such pools.
8. *Water may be served in restaurants, clubs, or eating-places only at the request of customers.*



MONTHLY VWP PERMIT INSPECTION CHECKLIST (Attachment B)

An inspection of all permitted impact areas, avoided waters and wetlands, and permanently preserved waters, wetlands and upland areas must be conducted at least once every month during active construction activities. Maintain this record on-site and available for inspection by DEQ staff.

Project Name	James River Water Supply Project	VWP Permit #	14-0343	Inspection Date	
Inspector Name & Affiliation		Phone # & Email Address			

Based on a reading of VWP Permit No. 14-0343, including authorized impacts depicted on Sheets 1 and 2 of the plans entitled "JRWA Raw Water Intake, Pump Station and Force Main, Environmental Impact Summary" dated December 19, 2014, revised May 18, 2015 and received May 20, 2015, and my inspection on the date referenced above, to the best of my knowledge this project (___ is in compliance / ___ is not in compliance) with the VWP Permit.

I certify that the information contained in this report is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Inspector

Date

REVIEWED DURING SITE INSPECTION	Yes	No	N/A	Notes & Corrective Action Taken / Date Completed (use back of page if necessary)
Unauthorized impacts to surface waters, including wetlands, or upland preservation areas have occurred .* <i>(This includes sedimentation impacts due to inadequate or failed erosion controls.)</i>	<input type="checkbox"/>	<input type="checkbox"/>		
Non-impacted wetlands, streams and preservation areas within 50 feet of construction are clearly marked to prevent unpermitted impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Temporary impacts are being restored to original contours, stabilized, and allowed to re-establish with wetland vegetation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Construction activities are not substantially disrupting aquatic life movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E&S controls are present, properly maintained, and functioning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
In-stream work is being performed in the dry with the appropriate use of cofferdams, sheetpiling, etc., to minimize stream bottom disturbance and turbidity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pipes and/or culverts for road crossings are countersunk to provide for the re-establishment of low flow fish passage and/or a natural stream bottom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Time-of-year restrictions regarding impacts to surface waters are being adhered to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Water quality monitoring is being conducted during stream impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Streams and wetlands are free from any sheen or discoloration that may indicate a spill of oil, lubricants, concrete or other pollutants. **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Heavy equipment is placed on mats or geotextile fabric when working in wetlands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Exposed slopes/stream banks are stabilized immediately upon completion of work in each impact area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

* If unauthorized impacts have occurred, you **must** email or fax a copy of this report to DEQ within 24 hours of discovery. Email: Craig.Nicol@deq.virginia.gov or Fax: 804-698-4302

** Any fish kills, or spills of fuels or oils must be reported **immediately upon discovery** to DEQ at 804-527-5020. If outside of normal business hours, contact Virginia Dept. of Emergency Management at 1-800-468-8892 or the National Response Center at 1-800-424-8802.

Notes

Please note that the permit contains additional construction conditions other than those listed above. The permittee is responsible for compliance with all conditions in the permit. Problems or concerns associated with these other conditions should be noted below.



VWP PERMIT CONSTRUCTION STATUS UPDATE FORM (Attachment C)

Attached to VWP Permit No. 14-0343, issued on November 20, 2015

Date (check one):

June ____, _____

December ____, _____

VWP Permit No: _____ 14-0343 _____

Project Name: _____ James River Water Supply Project _____

Status within each authorized surface water impact location, as identified on Sheets 1 and 2 of the plans entitled “JRWA Raw Water Intake, Pump Station and Force Main, Environmental Impact Summary” dated December 19, 2014, revised May 18, 2015 and received by DEQ on May 20, 2015: (check one of the following status options for each impact number/location.)

Impact number	Construction activities started	Construction activities not started	Construction activities started but currently not active	Construction activities complete
AA				
O				
Q				
R				
S				
T				
Y				
Z				

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Authorized Signature: _____

Print Name: _____

Title: _____ Phone: _____

Date: _____ Email: _____

SEND TO: Craig.Nicol@deq.virginia.gov or VA DEQ, Office of Water Supply (Attn: Craig Nicol), P.O. Box 1105, Richmond, VA 23218

APPENDIX D-1-2
INITIAL VWP INDIVIDUAL PERMIT NO. 14-0343 FACT SHEET

November 20, 2015

FACT SHEET

Virginia Water Protection Individual Permit No. 14-0343
James River Water Supply Project, Fluvanna County, Virginia

DEQ has reviewed the application for the Virginia Water Protection (VWP) Individual Permit Number 14-0343 and has determined that the project qualifies for a revoke and reissuance of an individual permit. Based on the information provided in the application and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341 et seq.) and the State Water Control Law and regulations, DEQ has determined that there is a reasonable assurance that the activity authorized by this permit will protect instream beneficial uses, will not violate applicable water quality standards, and will not cause or contribute to significant impairment of state waters or fish and wildlife resources, provided the permittee complies with all permit conditions.

Surface water impacts have been avoided and minimized to the maximum extent practicable. The proposed permit also addresses no net loss of wetland acreage and function through compensatory mitigation. Permitted wetland impacts have been inventoried in evaluating this proposed permit.

The following details the application review process and summarizes relevant information for developing the Part I - Special Conditions for permit issuance.

1. Contact Information:

Permittee Legal Name and Address:

James River Water Authority
c/o Fluvanna County Administrator
132 Main Street
P.O. Box 540
Palmyra, Virginia 22963
Attn: Mr. Steven M. Nichols, Fluvanna County Administrator

Permittee Contact Information:

Mr. Goodman B. Duke, Chairman of James River Water Authority (primary contact)
Phone: (540) 894-7982
Email: Bbd304@comcast.net

Mr. Steven M. Nichols, Fluvanna County Administrator
Phone: (434) 591-1910
Email: snichols@fluvannacounty.org

Mr. Christian Goodwin, Louisa County Administrator
Phone: (540) 967-3400
Email: CGoodwin@louisa.org

Property Owner Legal Name and Address:

Point of Fork Farm, LP
P.O. Box 847
Columbia, Virginia 23038
Attn: Ms. Barbara S. Gillam, POF Development Corporation

Agent Legal Name and Address:

Timmons Group	
1001 Boulders Parkway, Suite 300	
Richmond, Virginia 23225	
Attn: David J. Saunders, PE	Joseph C. Hines, PE
Phone: (804) 200-6388	(804) 200-6380
Email: David.Saunders@timmons.com	Joe.Hines@timmons.com

2. JPA Processing Dates:

Received Application for Revoke and Reissuance:	March 14, 2014
Letters sent to VDH, VDGIF, VDCR, VMRC:	March 26, 2014
Coordinated with Water Supply Planning Program:	March 27, 2014
1 st Request for Additional Information Sent:	March 28, 2014
Response to 1 st Request for Additional Information Received:	June 11, 2014
2 nd Request for Additional Information Sent:	July 8, 2014*
Response to 2 nd Request for Additional Information Received:	September 12, 2014
Letter(s) sent to Local Government(s):	
Fluvanna and Cumberland Counties:	September 16, 2014
Town of Columbia	September 17, 2014
Letters sent to Commissioner of Revenue:	N/A (Information provided in JPA)
Letters sent to Riparian Land Owners:	September 25, 2015
3 rd Request for Additional Information Sent:	September 26 and 30, 2014
Response to 3 rd Request for Additional Information Received:	October 30, 2014
4 th Request for Additional Information Sent:	November 10, 2014
Response to 4 th Request for Additional Information Received:	December 5, 2014
5 th Request for Additional Information Sent:	December 12 and 16, 2014
Response to 5 th Request for Additional Information Received:	December 17 and 23, 2014 and January 27, 2015
Joint Publication with VMRC of Received JPA:	May 6, 2015, revision on May 7, 2015
6 th Request for Additional Information Sent:	May 6, 2015 and May 13, 2015
Permit Fee Deposited by Accounting:	May 14, 2015
Application Complete:	May 14, 2015
Response to 6 th Request for Additional Information Received:	May 20, 2015
Draft Permit Package Issued:	August 20, 2015
Copy of Public Notice sent to DEQ Central Office:	August 20, 2015
Public Notice Published:	August 22, 2015
Copy of Public Notice sent to Admin. Board Planning:	August 24, 2015
Received Verification of Publication:	August 26, 2015
Processing Deadline (120 days from Complete Application):	September 10, 2015

End of 30-Day Public Comment Period: September 21, 2015
Permit Issuance Date: November 20, 2015

*The second request for additional information was provided in a meeting format. The meeting was unable to be held within 15 days of receiving the additional information submittal; however it was scheduled within the 15 day timeframe. At the time of scheduling, staff informed the permittee the Joint Permit Application (JPA) was incomplete.

3. Project Location:

The proposed intake is located on the north bank of the James River, just upstream of the confluence with the Rivanna River at the end of Route 624, near the Town of Columbia in Fluvanna County, Virginia.

City/County:	Fluvanna County
Waterbody:	James River
Basin:	James River Basin
Subbasin:	Upper Middle James River
Section:	10
Class:	III
Special Standards:	None
HUC:	02080203
Latitude & Longitude of Intake:	38°44'58" N, -78°10'13" W
U.S.G.S. Quadrangle:	Columbia and Lakeside Village
State Watershed No.:	H20R

4. Project Description:

Project Purpose

The James River Water Authority (JRWA) proposes to construct and operate a new raw water intake to withdraw surface water from the James River, just upstream of its confluence with the Rivanna River, and installation of associated water lines to meet the water demands associated with the Counties of Fluvanna and Louisa. The types of water use are residential, commercial, and industrial. This permit action is a revoke/reissuance of VWP Permit No. 04-0805 with an issuance date of June 12, 2006, in which the intake was proposed to be located further upstream at Bremono Bluff. The activity will be reissued under VWP Permit No. 14-0343.

The construction activities of the proposed project consist of the following: intake structure, pump station, electrical/control building and installation of a raw water transmission pipe from the intake structure to Route 6 within the vicinity of the Rivanna River. Extension of water transfer lines past Route 6 will be evaluated under separate application at an unknown future date.

Existing VWP Permit

The project permitted under VWP Permit No. 04-0805 was never constructed. The original proposed intake was to be located on the north bank of the James River at Bremono Bluff, at the end of Route 657, off of Route 15. The water volumes authorized in that permit was a maximum daily withdrawal of 5.7 million gallons per day (mgd) and a maximum annual volume of 1.1 billion gallons (bg). The permit included a condition to reduce the maximum annual volume by 54.75 million gallons (mg) should the Department of Corrections pursue a renewal of VWP Permit No. 95-0957 (permit expires March 5, 2017)

to withdraw from Mechunk Creek and by 460 mg if Louisa County pursued an alternative water supply system to provide water to the Zion Crossroads area from Bowlers Mill Reservoir. Additionally, VWP Permit No. 04-0805 restricted sale of water to East Coast Transport Inc., Central Water Storage Corporation, or Tenaska Virginia Partners Power Plant in Fluvanna County near Cunningham or to the proposed power plant in Buckingham due to a separate water allocation to those entities that was provided under VWP Permit No. 01-1282. The proposed water demand for this reissuance did not include any of the above anticipated water demands and thus, further review or restrictions in this permit was not needed.

5. Water Withdrawal Use, Need and Demand:

Purpose of Water Uses

The JRWA proposes to construct and operate a new raw water intake to withdraw surface water for public water supply on the James River to meet the water demands for the Counties of Fluvanna and Louisa. The proposed public water supply use includes, but is not limited to, residential, commercial, and industrial. The intake is proposed to be located on the north bank of the James River, just upstream of the confluence with the Rivanna River. The permittee projects an average daily demand of 4.12 mgd and 6.98 mgd and a peak day demand of 7.79 mgd and 12.80 mgd in the Years 2030 and 2045, respectively.

Basis of Need

The JRWA's stated need is to construct and operate a new raw water intake to withdraw surface water to meet the long term water demands of the Counties of Fluvanna and Louisa as outlined in their adopted water supply plans dated April 2010 and June 2011, respectively. Existing water supply sources, a combination of surface and groundwater, were identified in the water supply plans as insufficient to meet long term demands of existing service areas or designated growth areas identified by the Counties. The James River Water Supply Project is proposed to meet the long term demands of those service areas that are located in reasonable proximity to the intake.

The Counties' populations are anticipated to continue to grow steadily over the time period reviewed in their respective water supply plans. The population projections for each County are based upon linear extrapolations. The Louisa County Long Range Regional Water Supply Plan dated June 2011 identified that a new water source should be developed for areas proposed to be supplied by municipal community water systems by 2021 and by 2034 to support growth in existing service areas. In the Fluvanna County Regional Water Supply Plan dated April 2010, existing supplies were also reported as inadequate to support continued growth. The plan also identified that for some service areas, such as the Fork Union Community Water System, that existing supplies were adequate, however; continued use was undesirable due to limited quantity and poor quality resulting in the desire to discontinue reliance upon groundwater sources.

The table below provides the anticipated population growth trends for Fluvanna and Louisa Counties.

Table 1. Population Projections

Year	Louisa County ⁽¹⁾		Fluvanna County ⁽²⁾
	Louisa County Comprehensive Plan	VEC Community Profile	VEC
2000	25,407	25,627	Not available
2010	30,003	33,153 (Census data)	28,971
2020	34,599	41,889	37,433
2030	39,195	50,739	47,010
2040	43,791	57,474	58,763
2050	48,387	65,183	73,453

Notes:

- (1) Obtained from Table 3: Population Projection by Source of the Louisa County Long Range Regional Water Supply Plan dated June 2011
- (2) Obtained from Table 7-3: Projected Population, 2010-2060 of the Fluvanna County Regional Water Supply Plan dated April 2010.

The Counties also propose to use the new water source to meet the water demands of future business prospects. The Counties are currently engaged in economic development marketing efforts to attract new industry prospects to the region, particularly along the Interstate 64 corridor. Based upon information provided in the additional information response dated September 12, 2014, and the letter from the Central Virginia Partnership for Economic Development dated September 12, 2014, both counties are proactively marketing to the following industries: business and financial services, information technology (data centers), advanced manufacturing, bioscience and medical devices, agribusiness and food processing, and defense and security. The Counties have indicated their marketing efforts are limited due to insufficient water supply to meet water requirements of these targeted industries. As a result, the Counties have either been unable to respond to bids or have been eliminated from site searches due to the lack of available water supply.

For additional information, see page 1 of Appendix C of the Joint Permit Application (JPA) dated March 12, 2014, Comment Nos. 1 and 2 of additional information response dated September 12, 2014, and the letter from the Central Virginia Partnership for Economic Development dated September 12, 2014.

Water Demand Projection

The water demands for municipal water systems in Louisa County were estimated in terms of residential and commercial water uses and based upon historical water system data and population information to calculate the typical daily water use rate per person for existing service areas. This estimate was also used as a basis for estimates of the water use rate per person in designated growth areas or proposed municipal service areas in Louisa County. Water demands for Fluvanna County were projected based on the 2009 Comprehensive Plan and the 2029 Future Land Use Map along with population projections and existing water system data. The total water demands for the project were increased by 7.5 percent to account for leakage, non-metered use and water production losses.

Due to the diverse nature of industries the Counties are targeting, the water needs for each varies due to type of business. The Counties estimate the potential range of water needs for each type based upon the information obtained from the Central Virginia Partnership for Economic Development, recent project inquiries and consulted with Dominion Virginia Power regarding minimum water capacity requirements to become a certified data center (obtained from additional information response dated September 12, 2014):

Brewery	225,000 to 280,000 gallons per day (gpd)
Advanced Manufacturing	300,000 to 750,000 gpd
Pharmaceutical	80,000 to 690,000 gpd
Agri-Business	80,000 to 230,000 gpd
Certified Data Center Site	500,000 gpd

The above water demands result in an average demand of 322,960 gpd for all industry types. This average was used to develop reasonable demands associated with future business prospects. The total water demand for the James River Water Supply Project assumes 1 to 2 new business prospects will locate to each County within the 15 year permit term.

All proposed service areas for the new withdrawal are currently supplied by groundwater, with the exception of Northeast Creek Water Treatment Plant (WTP) Service Area (encompassing Louisa County Water Authority, Town of Louisa, Town of Mineral and Lake Anna), which is supplied by surface water from the Northeast Creek Reservoir. This surface water supply and new and existing groundwater supplies are anticipated to be inadequate to meet all of the identified demand. The proposed withdrawal from the James River is the Counties' preferred alternative to meet the identified future demands.

The Northeast Creek Reservoir has a Virginia Department of Health permitted capacity of 1 million gallon per day (mgd). As the water demands for the Northeast Creek WTP Service Area are proposed to be met both by the Northeast Creek Reservoir and the proposed James River withdrawal, JRWA took that in consideration by subtracting the permitted capacity of the reservoir from the total anticipated demand for the proposed project. Staff reviewed the method JRWA used and found it adequate to account for the demand that would continue to be met by another water supply source.

A summary of the JRWA's water demand projections is provided in the below table (information obtained from the table entitled "Summary of County Approved Water Supply Plans with Project Demands" dated March 5, 2014, and revised December 17, 2014, submitted by email dated December 17, 2014):

Table 2: Water Demands by Service Area

Service Area	Average Daily Demand (gpd)		Peak Daily Demand (gpd)	
	Year 2030	Year 2045	Year 2030	Year 2045
Louisa County:				
Gum Spring	118,409	185,455	177,614	278,182
Ferncliff	154,773	242,844	232,160	364,266
Shannon Hill	77,500	122,037	116,250	183,054
Zion Crossroads	712,045	989,837	1,068,068	1,484,755
LCWA	73,020	71,798	109,530	107,697
Town of Louisa	392,736	532,043	589,104	798,064
Town of Mineral	148,317	223,338	222,476	335,007
Lake Anna	1,009,242	1,582,930	1,513,863	2,374,394
Economic Development Prospects	400,000	750,000	600,000	1,125,000
<i>Subtotal</i>	<i>3,086,042</i>	<i>4,700,282</i>	<i>4,629,063</i>	<i>7,050,419</i>
Fluvanna County:				
Columbia CWS	5,158	7,768	7,736	11,651
Fork Union CWS	226,020	339,030	339,030	508,545
Palmyra CWS	70,730	125,634	106,095	188,450
Proposed Fluvanna CWS	1,070,541	1,724,246	1,605,812	2,586,367
Economic Development Prospects	300,000	525,000	450,000	787,500
<i>Subtotal</i>	<i>1,672,449</i>	<i>2,721,676</i>	<i>2,508,674</i>	<i>4,082,513</i>
James River Water Supply Project				
<i>TOTAL</i>	<i>4,758,491</i>	<i>7,421,955</i>	<i>7,137,737</i>	<i>11,132,933</i>
7.5 percent water losses	356,887	556,647	535,330	834,970
Minus 1 mg WTP capacity provided from the Northeast Creek Reservoir	-1,000,000	-1,000,000	-1,000,000	-1,000,000
<i>GRAND TOTAL</i>	<i>4,115,378</i>	<i>6,978,602</i>	<i>6,673,067</i>	<i>10,967,902</i>
Peak Daily Demand for a 6 day per week operating schedule			7,785,245	12,795,886

To determine the maximum day and monthly volumes, the Counties proposed a peak day factor of 1.89 and a peak month factor of 1.62 for the 15 year permit term. As the proposed intake does not have historical data upon which to base the proposed peak factors, surrogate data was used from historic water well production and water billings in the Zion Crossroads Service Area for the summer months from 2008 through 2012. The Counties requested a higher peak day factor to accommodate their proposed operations of the intake, which is a six day per week operating schedule. The peak day factor was calculated from the difference between peak day demand and peak day withdrawal needed to meet that demand if only operating the intake six days per week. The peak month factor of 1.62 is proposed based upon historic records for the system at Zion Crossroads. Justifications given by the Counties for the proposed peak factors are that the proposed intake is a new system which is anticipated to be operated consistent with the system at Zion Crossroads (which is proposed to be one of the first areas serviced by the new water source), as well as consistent with the water supply plans for each County. The Counties commented that because the system is proposed, there are unknown variables associated with its operation. They suggested that during the next reissuance of the project, this aspect could be revised to reflect actual usage. These proposed factors are higher than the standards used by DEQ for a peak day (1.6) and peak month (1.25).

DEQ reviewed the proposed peak day and month factors using historical water withdrawal data reported annually to DEQ using information from the Virginia Water Users Database (VWUDS). Data for the service areas served by the Louisa County Water Authority were queried and reviewed because the permittee reviewed the records for this Authority in developing their proposed peak factors. As the proposed project is a new source, there is no historical data to which to refer. Of these service areas, only the Northeast Creek Reservoir is a surface water supply, the rest being groundwater supplies. Staff notes the Northeast Creek Reservoir source is a reservoir system while the proposed system is a direct stream withdrawal without storage.

Staff reviewed the data associated with several systems reported by Louisa County Water Authority, including the Zion Crossroads system, for reference. The peak day factors for the Northeast Creek Reservoir ranged from 1.5 to 2.26, with the five year average of 1.93. The peak month factor for this source ranged from 1.09 to 1.26, with a five year average of 1.16. For comparison, the peak day and peak month factors for the two Zion Crossroads wells ranged from 1.30 to 12.17 and 1.63 to 12.17, respectively. The two wells averaged together over the previous five years results in a peak month of 4.01. The wide ranges are due to zero or very low pumpage from the wells during many months. As the groundwater sources are not operated continuously throughout the year, it is staff opinion that this type of system is less representative than the Northeast Creek Reservoir which is operated continuously throughout the year, of the proposed project. For this reason, staff believes the data for Northeast Creek Reservoir is the most representative data set to use as a comparison with the proposed peaking factors.

Based upon this review, staff concurs with the use of the proposed peak day factor of 1.89 based the data reviewed and the Counties' proposed operations of the intake. However, staff does not find sufficient justification for the proposed peak month factor of 1.62 based upon the data reviewed. Therefore, DEQ proposes to use the standard peak month factor of 1.25.

Staff evaluated the permittee's demand using the average daily demand of 4.12 mgd projected for Year 2030

- Average Daily: 4.12 mgd
- Peak (maximum) day: $4.12 \times 1.89 \times 1.10 = 8.57$ mgd
 - Peak Day Factor (1.89) obtained from application.
 - VDH certification (10 percent capacity)
- Maximum Monthly: $4.12 \times 1.25 \times 1.10 \times 31 = 175.62$ million gallons (mg)
 - Peak Month Factor (1.25) using standard factor.
 - VDH certification (10 percent capacity)
- Maximum Annual: $(4.12 \times 366) = 1,507.92$ mg

The requested and calculated water demand volumes for the intake on the proposed project are summarized in the below table:

Table 3: Requested Water Demands and Calculated Withdrawal Limits

	JPA Water Demand Volumes for Year 2030	Staff Calculated Withdrawal Limits (Tier 3)⁽³⁾
Average Daily Volume (mgd)	4.12	4.12
Peak Day Volume (mgd)	7.79 ⁽¹⁾	8.57
Maximum Monthly Volume (mg)	226.64 ⁽²⁾	175.62
Maximum Annual Volume (mg)	1,474.6 ⁽²⁾	1,507.92

Notes:

- (1) The peak day volume requested is that which enables demands to be met through a six day per week operating schedule.
- (2) The maximum monthly and annual volumes were not updated since the original submittal of the JPA. These values are included here for reference only and do not reflect revisions made to the demands through the application process.
- (3) See Permit Withdrawal Limitations and Instream Flow Requirement subsection under Section 7 below.

The volumes calculated above by staff are the basis for limits in the permit for this project.

Staff concluded that the water demand and statement of need is reasonable and has been adequately justified by the applicant through the information submitted in the VWP permit application process.

6. Alternatives Reviewed:

JRWA reviewed three locations for the proposed new placement of the withdrawal intake as part of this permit application. The three sites considered were:

- The selected site located just upstream of the confluence of the James and Rivanna Rivers near the Town of Columbia.
- Downstream of the confluence of the James and Rivanna Rivers and the Town of Columbia
- Upstream of the confluence of the James and Rivanna Rivers at the Colonial Pipeline crossing.

The permittee selected the proposed intake site based upon ranking each of the three locations using 10 criteria, such as proximity to a power source and a maintained road, security and potential environmental impacts. Impacts to the James River were minimized by positioning infrastructure as close as possible to the river bank. Impacts to surface waters due to the raw water transmission line were minimized through using perpendicular crossings and directional drilling the crossing of the Rivanna River.

Based upon staff review of the proposed project, the preferred alternative avoids and minimizes surface water impacts to the maximum extent practicable and it is the least environmentally damaging and practicable alternative.

Information regarding project alternatives can be found under No. 9 of the JPA Narrative submitted with the JPA dated March 12, 2014.

7. Water Withdrawal Volumes and Instream Flow Requirements:

Staff reviewed the proposed withdrawal using the water demand volumes forecasted for Years 2030 to evaluate cumulative impacts as this is near the scope of the 15-year permit term. This was the period reviewed because the project consists of a direct stream intake with no proposed storage. Therefore, water withdrawal limits for this permit cycle are based on water demand projections for the Year 2030. The demand for the Year 2045 was reviewed only for an understanding of the long term projections.

Water Withdrawal Volumes Requested in JPA

JRWA requested authorization of the following withdrawal volumes based upon the water demand projected for the Year 2030:

- Average Daily: 4.12 mgd
- Maximum Daily: 7.79 mgd
- Maximum Monthly: 170 mg
- Maximum Annual: 1,117 mg

See Table 3 under Section 6 for information regarding the permittee's proposed maximum daily, monthly and annual volumes.

Return Flow / Consumptive Use

As this system is proposed, historic information is not available so estimates were based upon reasonable projections. The permittee anticipates water production losses will be approximately 7.5 percent. Also, the permittee projects that of the total raw water withdrawn, the total return flow projected for the Year 2030 will be 41 percent and 39.4 percent for Louisa and Fluvanna Counties, respectively.

Cumulative Impact Analysis

A cumulative impact analysis was conducted by staff on the proposed water withdrawal. This analysis reviewed the withdrawal volumes requested to evaluate any potential cumulative impacts to existing beneficial uses and existing water users and determine instream flow requirements to limit any impacts to those existing beneficial uses. Based upon the results of the analysis, staff determined the proposed project as limited in the draft permit, will protect existing beneficial uses while meeting the permittee's purpose and need.

A summary of staff's modeling analysis is attached to this fact sheet (Attachment A).

Permit Withdrawal Limitations and Instream Flow Requirements

The permit limits surface water withdrawals to the volume justified based upon the application materials submitted and staff modeling analyses. Based upon this information, the permit proposes the following limits on the withdrawal volumes that are based upon the completion of capital improvements to areas proposed to be serviced by the JRWA, as identified in the JPA and additional informational submittals.

- The withdrawal of water from the James River shall not exceed the limits established in the table below. The withdrawal limits are to be phased in based upon completion of capital improvements necessary to begin water service to areas identified for each Tier:

Tier	Maximum Daily Withdrawal (mgd)	Maximum Monthly Withdrawal (mg)	Maximum Annual Withdrawal (mg)
1	5.82	119.35	1,024.8
2	7.69	157.71	1,354.2
3	8.57	175.62	1,507.92

- a. Tier 1 contains the withdrawal limits to meet the justified demands of the service areas of Zion Crossroads and Ferncliff in Louisa County and Fluvanna CWS in Fluvanna County and the economic development prospects as identified in the application for both Counties.
- b. Tier 2 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 1 and the service areas of Shannon Hill, Town of Louisa, Town of Mineral, Louisa County Water Authority and Lake Anna in Louisa County.
- c. Tier 3 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 2 and the service areas of Gum Springs in Louisa County and the Fork Union, Columbia and Palmyra CWS in Fluvanna County

The withdrawal limits for Tier 3 represents the total withdrawal volume for the entire permitted project (the withdrawal limit identified in Section 5) for the 15 year permit term. The service areas associated with Tiers 1 and 2 are based upon the capital improvements schedule provided in the additional information response dated September 12, 2014. The withdrawal limits for Tiers 1 and 2 were calculated in the same manner as identified in Section 5. Authorization to withdraw at the limits identified under each Tier may be requested by the permittee upon completion of the capital improvements to provide water to the service areas identified for each Tier.

- The permittee shall estimate flows at the James River intake in units of cubic feet per second (cfs) on a daily basis by monitoring the stream flow gage detailed herein and by applying the equation “Flows at the intake = $(Q_{SC} + Q_{HD} + Q_{SL}) * 1.03$,” where:
 - a. Q_{SC} is the previous day’s provisional mean daily flow at the U.S. Geologic Survey (USGS) gage No. 02029000 (James River at Scottsville, Virginia);
 - b. Q_{HD} is the previous day’s provisional mean daily flow at the USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia);
 - c. Q_{SL} is the previous day’s provisional mean daily flow at the USGS gage No. 02030500 (Slate River near Arvonnia, Virginia);
 - d. 1.03 is the adjustment factor for drainage area.

The calculation to estimate flows at the intake uses three upstream gages closest to the intake that best represents the drainage area of the intake. Additionally, as the gages are located upstream of the intake and also of the release from the Cobbs Creek Reservoir, provisional stream flows measured at the gage do not include withdrawals from the proposed intake or releases from the Cobbs Creek Reservoir. This equation is to be used to estimate the fourteen (14) day rolling average of flows at the intake to determine

compliance with the drought triggers for implementing the voluntary and mandatory drought stages identified in Part I.F.9.

Drought triggers identified in Part I.F.9.a were constructed based on recommendations from the James River Instream Flow Study: Henrico County Water Supply Withdrawal Final Report, dated September 1991, and which are compatible with the triggers in use by other water users in this portion of the James River such as Henrico County and the City of Richmond. Because of varying rates of inflow between the JRWA intake and the fall line of the James River, area-scaled flow triggers were adjusted to produce a better synchronization with downstream users, and to provide time for drought response implementation. These triggers are aimed at reducing demands during drought to protect aquatic habitat from substantial loss during critical low flow periods. By scaling upstream the drought triggers from the existing beneficial users at the fall line, the drought response framework will greatly increase the likelihood that during low flows, all these users will be conserving water in an equitable manner. This drought condition is designed to reduce the possibility of the JRWA withdrawals causing existing beneficial users downstream to go into conservation more frequently.

JRWA requested the requirement to implement drought stages based upon drought triggers be correlated with initiating withdrawal volumes above their previously authorized withdrawal volume. DEQ found this request reasonable as the previous permit did not include drought flow triggers and these triggers were proposed by staff in response to concerns received from Henrico County and the City of Richmond regarding JRWA's request for an increase in their withdraw volume. Withdrawal volumes identified as Tier 1 (Part I.F.3) closely correlate with the volumes of the previous permit. Therefore, the permit requires drought triggers be implemented once withdrawal volumes above Tier 1 are authorized.

- The permittee shall make reasonable effort to coordinate with the operators of the Cobbs Creek Reservoir when provisional stream flow at the permittee's intake estimated in accordance with Part I.F.6 is equal to or less than the 10th percentile flow of 778 cfs. Coordination shall occur in accordance with the DEQ approved protocol required by Part I.F.8.

The permittee is required to coordinate with the operators of the Cobbs Creek Reservoir (permitted under VWP Permit No. 05-0852 and currently held by Henrico County) when provisional stream flows at the permittee's intake estimated in accordance with Part I.F.6 is equal to or less than the 10th percentile flow of 778 cfs. The purpose for this condition is to promote communication between the permittee and the operators of the Cobbs Creek Reservoir during low flow events for improved management of the resource due to the close proximity of the projects to one another and to ensure downstream uses for which the releases from Cobbs Creek Reservoir are being provided are not impacted by the permittee's withdrawals. At a minimum, coordination between the two entities should entail JRWA informing the operators of the Cobbs Creek Reservoir of their current and intended operations and providing periodic updates during extended low flow events as stipulated in the approved protocol. The protocol for coordination is required by Part I.F.8 to be developed prior to withdrawing water from the James River. It is to be developed, to the extent reasonable, in coordination with the operators of the Cobbs Creek Reservoir, with assistance by DEQ.

The value selected to trigger this coordination represents the estimated lowest 10th percentile flow at the intake based upon the lowest 10th percentile that occurred over the period of record for each of the three upstream stream gages used to estimate flows at the intake. This value was calculated in the same manner as the provisional stream flow at the intake using the below 10th percentile flows (lowest of which all occurred in September) for each of the three gages:

- USGS gage No. 02029000 (James River at Scottsville, VA): 11 cubic cfs
- USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, VA): 21.9 cfs
- USGS gage No. 02030500 (Slate River near Arvonias, VA): 722 cfs

Safe Yield of the Project

The safe yield of a surface water withdrawal project is the maximum volume of water that can be withdrawn on an average daily basis during the drought of record (for the area in which the withdrawal is located) to meet the needs of the project while still protecting the existing beneficial uses of the waterbody. This value is subject to change should one or a combination of the following occur: the annual average daily demands of the project change, a new drought of record occurs, or changes to withdrawal limitations in the permit are considered to protect beneficial uses. It should be noted that this value does not represent the total volume of water present at the intake location in the James River during the drought of record.

The safe yield of this surface water withdrawal project was determined based upon the operating rules included in the permit under the conditions of the drought of record for the area in which the project is located. The safe yield of the surface water withdrawal project under these operating rules is the annual average daily volume of 4.12 mgd based upon the 2002 drought of record.

See Attachment A for more information on the modeling analysis.

8. Water Supply Plan Review:

The JPA was coordinated with Water Supply Planning staff on March 27, 2014, who responded on May 2, 2014. The Louisa County Long Range Regional Water Supply Plan dated June 2011 and the Fluvanna County Regional Water Supply Plan dated April 2010 (Plans), submitted for Louisa and Fluvanna Counties, respectively, were developed in accordance with the Water Supply Planning Regulation 9VAC25-780.

In the Plans, the proposed project consisting of a new intake on the James River and the currently authorized VWP Permit No. 04-0805 was the selected alternative to meet the identified projected water demands. However, at the time the Plans were written, the project was not being actively pursued by the Counties. Since that time, the Counties have decided to continue to pursue this regional water supply project identified in the Plans. The Counties formed the James River Water Authority (JRWA), which was established as a wholesale water authority to provide retail delivery to the identified service areas within each County.

The water demand projections considered in this application review are the same as those discussed in the Plans, with the exception of water demands proposed for economic development prospects, which were not considered in the Plans. The water demands for municipal water systems in Louisa County were estimated in terms of residential and commercial water uses and based upon historical water system data and population information to calculate the typical daily water use rate per person for existing service areas. Water demands for Fluvanna County were projected based on the 2009 Comprehensive Plan and the 2029 Future Land Use Map along with population projections and existing water system data. The permittee requested staff consider in this application water demands associated with economic development prospects under the assumption that 1 to 2 new business prospects will locate to each

County within the 15 year permit term. Staff determined this difference in projected water demands between the Plan and the JPA were reasonable.

The preferred alternative proposed in the JPA is consistent with the Plan as described with the minor exception noted in the paragraph above. The applicable sections of the plan were considered in staff's evaluation of the proposed project.

9. Surface Water Impacts:

Surface water impacts due to the proposed water line were minimized by crossing surface waters perpendicularly when possible and following existing roads and easements. Impacts to the Rivanna River will be avoided by directionally drill the crossing.

This permit authorizes the following surface water impacts:

- Impacts to the James River associated with the construction of the intake structure are authorized for 0.09 acre (64 linear feet) of permanent impact and 0.90 acre (485 linear feet) of temporary impact.
- Impacts associated with the construction of a raw water transmission pipe are authorized to permanently impact 0.01 acre of palustrine forested (PFO) wetland and temporarily impact 0.001 acre of palustrine emergent (PEM) wetland and 120 linear feet of a perennial stream channel.

Authorized impact areas shall be as depicted on Sheets 1 and 2 of the plans entitled "JRWA Raw Water Intake, Pump Station and Force Main, Environmental Impact Summary" dated December 19, 2014, revised May 18, 2015, and received May 20, 2015.

Water quality impacts are expected to be temporary and minimal provided the permittee abides by the conditions of the permit. A loss of state waters shall occur. However, the impacts have been avoided and minimized to the greatest extent practicable.

10. Compensation for Unavoidable Impacts:

Compensation for the permanent impact of 0.01 acre of PFO wetland shall be provided at a mitigation to loss ratio of 2:1 through the purchase of 0.02 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for area in which the permitted impact site is located. The credit sale must be in accordance with the approved Mitigation Banking Instrument for the mitigation bank.

Compensation for permanent stream channel impacts associated with installation of the intake in the James River were not required for this proposed project as staff determined impacts to the stream channel from construction of the new intake will be minimal and the channel's existing functions and values will remain.

The compensation conforms with the preference hierarchy of the 2008 Compensatory Mitigation Rule issued by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers (USACE) and DEQ's Guidance Memorandum No. 09-2004 (Applying Compensatory Mitigation Preferences Provided in the EPA Mitigation Rule to Virginia Water Protection Permitting).

11. Site Inspection:

A site visit was conducted on February 13, 2015. A summary of the site inspection is located in VWP Permit File No. 14-0343.

12. Relevant Regulatory Agency Comments:

As part of the application review process, DEQ contacted the appropriate state regulatory agencies. Any relevant agency comments were addressed in the VWP individual permit Part I - Special Conditions. Therefore, the staff anticipates no adverse effect on water quality and fish and wildlife resources provided the permittee adheres to the permit conditions.

Summary of State Agency Comments and Actions

By email dated March 26, 2015, comments were requested from the following state agencies: Virginia Department of Game and Inland Fisheries (DGIF), Virginia Department of Conservation and Recreation (DCR), Virginia Marine Resources Commission (VMRC) and the Virginia Department of Health (VDH). Failure to provide comments within 45 calendar days of the DEQ request for comments infers that the agency has no comments on the project activities. Comments were not received from VDH or USFWS.

VMRC

VMRC provided comments in a letter dated and transmitted by email on April 29, 2014, that the proposed project fall within their jurisdiction and a permit would be required. They commented that they were waiting for a response to their request for additional information before proceeding with the public interest review and state agency review.

DEQ coordinated with VMRC on April 30, 2014, and July 8, 2014, during which VMRC said they were still waiting for information they requested from the permittee on March 19, 2014.

DEQ received a copy of a letter on October 13, 2014, from VMRC to the permittee dated October 6, 2014. VMRC's letter stated they had not received the additional information requested on March 19, 2014, and therefore, they were formally inactivating the application request.

DEQ coordinated with VMRC on October 17, 2014 to inquire about the letter and status of VMRC's review. VMRC informed DEQ on October 17, 2014 that the application would remain inactive until the additional information they requested was received.

DEQ contacted VMRC on March 20, 2015, to inquire on the status of their review of the proposed project. VMRC said the application continued to be inactive as the requested information still had not been received. VMRC confirmed that they had not proceeded with the public interest review, which includes public notice of the application, because the application was inactive. As such, a joint notification of the application with VMRC and DEQ was unable to occur.

DEQ informed VMRC as to the status of their review and that a draft permit would not be provided until a joint notification of the application could occur. DEQ requested VMRC contact DEQ when VMRC could move forward with such notification.

VMRC received the requested information enabling them to move forward in April 2015. VMRC published a joint public notice of the application on May 6, 2015, and republished on May 7, 2015, to

correct a printing error that occurred in the first publication of the notice. VMRC coordinated the status of publishing the joint public notice with DEQ by copying staff on their correspondence with JRWA's consultant, Timmons Group, regarding the publication. Additionally, VMRC asked and obtained DEQ's input on the draft joint public notice on April 30, 2015.

DCR

DCR provided the following comments in a memorandum dated May 6, 2014, and transmitted by email on May 6, 2014:

- The Rivanna River to Mouth at James Stream Conservation Unit is within the project site, which include the following natural heritage resources: Yellow lance (not listed) and Green floater (state threatened). Additionally, the federally and state endangered James spinymussel has been historically documented in the James River. Lastly, the Rivanna River and James River have been designated by DGIF as "Threatened and Endangered Species Waters" due to Atlantic pigtoe (state threatened) in the Rivanna River and Brook floater (state endangered) in the James River.
- Recommended the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations.
- Recommended coordination with DGIF and U.S. Fish and Wildlife Service as those agencies have regulatory authority for the management and protection of the identified threatened and endangered species.

Staff requested comments from DGIF on the proposed project on March 26, 2014 and coordinated with USFWS on March 20, 2015.

VDH

VDH corresponded with DEQ on May 7, 2014, to receive another copy other JPA, which was provided the same day. No comments were received from VDH regarding this proposed project.

DGIF

DGIF provided comments to DEQ by email dated May 13, 2014. Although the comments were not received within the 45 day comment period, DEQ accepted the comments as the comments were late by only one day. The comments are summarized below:

Withdrawal and Intake Structure:

- State threatened Atlantic pigtoes are documented in the project area. The James River has been designated a Threatened and Endangered Species waters due to the presence of this species, state endangered brook floaters, and state threatened green floaters. The Rivanna River has been designated a Threatened and Endangered Species waters due to the presence state threatened Atlantic pigtoes and state threatened green floaters. Recommended protection of these species from instream work by the following:
 - The permittee performing a mussel survey and relocation 100 meters upstream through 400 meters downstream of impact area in the James River. The survey is to be performed by a qualified, permitted biologist, preferably no more than six months prior to the start of construction. The survey shall be conducted in accordance with Virginia Department of Game and Inland Fisheries and U.S. Fish and Wildlife Services draft Freshwater Mussel Guidelines for Virginia dated March 7, 2008. Survey results should be coordinated with

DGIF, upon which they will make final recommendations regarding the protection of listed species known from the area. All survey reports should reference the ESSLog# 22598.

- Adhere to a time of year restriction on all instream work from April 15 through June 15 and August 15 through September 30 of any year.

The recommended survey and time of year restriction was added as special conditions of the permit.

- Recommend that all instream work in the James River adhere to a time of year restriction from March 15 through June 30 of any year to protect anadromous fish as the James River and Rivanna River has been designated Potential Anadromous Fish Use Areas.

The recommended time of year restriction was added as special condition of the permit.

- Recommended conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams or turbidity curtains to isolate the construction area, blocking no more than 50% of the streamflow at any given time, stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, revegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, we recommend that such activities occur only in the dry, allowing all concrete to harden and cure prior to contact with open water.

The special conditions of the permit address these activities.

- Recommended that the intake be fitted with a 1mm mesh screen and that the intake through velocity not exceed 0.25 fps to protect resident aquatic species from impingement and entrainment.

The recommendation was included as a special condition of the permit.

- Recommended that no more than 10 percent of flow be withdrawn at any time. Requested DEQ confirm that no more than 10 percent of flow is withdrawn at any time, or at least is minimized to the greatest extent possible (with DGIF's review and input).

The results of staff's cumulative impact analysis predicts the withdrawal volume will be less than DGIF's recommended flow-by in most flow events during the drought of record. DEQ coordinated with DGIF on May 11, 2015, the results of the cumulative impact analysis and staff's proposal to include this recommendation. However, in response to concerns voiced by significant downstream users in June 2015 that this limitation was not restrictive for this withdrawal, staff proposed instead flow triggers scaled to flows at the intake for when the permittee shall implement voluntary and mandatory conservation measures to reduce water use. It is staff position that DGIF's comment is addressed through the requirement for drought flow triggers. Staff communicated to DGIF the change from a flow-by requirement to drought flow triggers in a phone conversation on July 29, 2015.

In response to public comments received by DEQ during the draft permit, a maximum instantaneous limit on the withdrawal during the Mandatory Drought stage was included in Part I.F.9 as it was identified during low flow events, the instantaneous withdrawal rate may exceed 10 percent of the instream flow.

- Documented bald eagle nests are in the general project vicinity. Although DGIF does not anticipate this project to result in adverse impacts upon this species, recommended coordination with the USFWS regarding possible impacts upon eagles.

DEQ coordinated with USFWS on March 20, 2015. Further information regarding this coordination can be found under this section in the subsection pertaining to coordination with federal agencies.

- Recommend coordination with DCR's Department of Natural Heritage as the project is located within 2 miles of a documented occurrence of a state or federal threatened or endangered plant or insect species and/or other Natural Heritage coordination species.

Staff requested comments from DCR on the proposed project on March 26, 2014.

New pipeline or other structures to be constructed:

- Recommend that the permittee avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable to minimize overall impacts to wildlife and our natural resources. DGIF also recommended maintaining undisturbed naturally vegetated buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams.

Staff reviewed the proposed impacts to surface waters and determined those proposed have been minimized to the maximum extent practicable. It is impracticable to require a setback as the activities are water dependent.

- Recommended that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape.

Oversight of stormwater management and erosion and sediment control measures is the responsibility of DEQ-Stormwater Management or the locality, if such responsibility has been delegated. Any such requirements will be implemented under the oversight of that program.

- Recommended that all tree removal and ground clearing adhere to a time of year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year.

This time of year restriction was not included in the permit as its not associated with a threatened or endangered species. The recommendation was forwarded to the permittee for their consideration.

- Recommended adherence to erosion and sediment controls during ground disturbance.

Oversight of stormwater management and erosion and sediment control measures is the responsibility of DEQ-Stormwater Management or the locality, if such responsibility has been delegated. Any such requirements will be implemented under the oversight of that program.

Summary of Federal Agency Comments and Actions

The project qualifies for a U.S. Army Corps of Engineers (USACE) permit, which was under review by the USACE as of the date of this document.

At the recommendation of DGIF, staff coordinated with the U.S. Fish and Wildlife Service (USFWS) on March 20, 2015 regarding potential for the project to impact the bald eagle. No response was received from USFWS within the 45 day comment period. Therefore, DEQ infers that USFWS has no comments on the project activities.

13. Public Involvement during Application Process:

Pre-Application

In accordance with 9 VAC 25-210-75.B.3 of the VWP Permit Program regulations, those who intend on submitting an application for a new or expanded major surface water withdrawal provide an opportunity for public comment on the proposed project, and shall assist in identifying public concerns or issues prior to filing a VWP individual permit application. The regulation also says that if the potential permittee receives a request for a public information meeting, at least one meeting must be held.

The permittee public noticed the proposed project in “*Daily Progress*” from January 13, 2014, through January 19, 2014. The permittee also held an informational meeting on February 4, 2014, during which a presentation of the proposed project was given. A copy of the presentation given can be found under Appendix I of the JPA dated March 12, 2014. The permittee did not receive any comments during the meeting or during the period advertised for accepting comments.

Riparian/Adjacent Landowner Notification and Inquiries during the Application Process

Staff received a copy of letter sent from C. James Summers, Attorney at Law, dated April 7, 2014, that was sent to the Fluvanna County Administrator. The letter was in response to a County meeting held on March 27, 2014, during which concerns were voiced by citizens present on the proposed project. Those concerns pertained to the potential impact on historic resources, noise pollution and disrupted views due to the project activities. These concerns are not within the purview of the VWP Permit Program, but were being addressed by the County through its site plan approval authority.

The permittee provided staff with information on the riparian and adjacent landowners by email dated September 16, 2014. Staff reviewed this information and noticed that landowners in Fluvanna County were not included. Staff obtained this information from Fluvanna County’s website.

Staff notified riparian landowners located adjacent to the impact area and within one-half mile downstream of each distinct impact area by letter dated September 25, 2014. In response to this notification, staff received a response from Fred Hardy on September 29, 2014, who questioned the potential impact from noise pollution, extent of DEQ’s notification, and likelihood of a permit being issued. DEQ responded to Mr. Hardy’s inquiry on October 7, 2014. An additional inquiry was received from Mr. Hardy on December 22, 2014, to which staff responded the same day.

During a site inspection staff conducted on February 13, 2014, with representatives from the Timmons Group, consultant for the permittee, staff was informed that they had met with Mr. Hardy several times, including the day prior, to address his concerns. Some of these actions include placement of the intake in the preferred location (not located within a rapid) and locating the pump station further back from the river behind a group of trees to help shield the building from view. Staff was informed Timmons Group would continue to work with the citizen, on the permittee's behalf, to address any concerns.

Staff received an email on November 23, 2014, from the Doug Smith, President of the Lake Anna Civic Association, requesting a copy of the application and additional information submittals, which was provided on November 25, 2014, and December 1, 2014.

Notifications of riparian and adjacent landowners were conducted in accordance with DEQ's Guidance Memorandum No. 11-2005 (Revised Local Government, Riparian Property Owner, Adjacent Property Owner or Resident, and General Public Notification Procedures for VPDES, VPSA and VWP Permit Applications and Draft Permits).

Significant Stakeholder Meeting

Staff met with representatives from the City of Richmond and Henrico County on June 3, 2015. The purpose of the meetings was for staff to present to representatives from each locality the results from DEQ's analysis of the proposed project and aspects of a draft permit as both localities are significant downstream users from the project. DEQ extended the cumulative impact analysis down to the fall line to evaluate the potential impacts from this project to water uses by the City of Richmond and Henrico County and on the operations of the Cobbs Creek Reservoir. Based upon staff's analysis, the proposed project is predicted to have minimal effect on the significant downstream users and operations of the Cobbs Creek Reservoir. A summary of both meetings and a copy of the presentation provided to the localities can be found in the file for VWP Permit No. 14-0343.

14. Draft Permit Public Comment Period:

Comments received during Public Comment Period

The public notice was published in the *Richmond Times Dispatch* on August 22, 2015. The public comment period ran from August 23, 2015 to September 21, 2015.

During the public comment period, staff received the following inquiries on the project:

- Nature of the project and proposed changes requested from Susan Lascolette, Chair of the Goochland Board of Supervisors and Anne Darby with the Richmond Regional Planning District Commission.
- Paul Peterson with ARCADIS requested information on the status of the public comment period and inquired on the applicability of the time-of-year restrictions on instream work.
- DEQ addressed an inquiry from Art Petrini with Henrico County regarding any precedence the proposed project may set for future James River withdrawals and potential for the proposed project to affect the Cobbs Creek project.

During the public comment period, staff received one (1) set of written comments from the City of Richmond. Staff did not receive any requests for a public hearing.

The following comments were received by DEQ from the City of Richmond (City), which includes reiterations of statements previously provided to DEQ by email on June 29, 2015, in response to their review of an informal draft permit.

- Statement that any increase in withdrawal volumes above the currently permitted amounts in the James Basin is viewed by the City in context of what they consider their water rights and actions they believe will infringe on those rights.
- The draft permit should not authorize a withdrawal volume on a daily or instantaneous basis above 5.7 mgd, which is the existing authorized maximum limit in VWP Permit No. 04-0805.
- The draft permit should include water conservation measures that are as stringent as those required by VWP Permit No. 88-0898 for Henrico County's James River withdrawal for their Water Treatment Plant.
- Statement that the proposed project should be treated as an entirely new permit due to the magnitude of the proposed changes, including a more detailed review of the withdrawal's proposed impacts.
- Fifteen (15) specific comments regarding the permit conditions contained within the draft VWP permit, which are identified in detail under Attachment B of this fact sheet.

A summary of the City's comments and staff responses to those comments are provided under Part I of Attachment B of this fact sheet. Staff met with the City on November 6, 2015, to discuss their concerns regarding the City's rights to use the water in the James River. At the meeting, staff provided to the City the draft fact sheet which contained responses to their comments under Attachment B. The City provided additional comments to DEQ by email on November 17, 2015, to which DEQ replied by letter dated November 19, 2015.

Comments received after the Close of the Public Comment Period

Following the close of the public comment period on September 21, 2015, the following comments were received by DEQ from the Richmond Regional Planning District Commission (RRPDC) and Goochland County on September 24, 2015 (RRPDC submitted revised comments on September 25, 2015, to include those provided by Goochland County).

- Cumulative impacts from multiple projects affect the water levels of the James River, putting a strain on the water resources for the Richmond Region. (RRPDC)
- Concerns of what the cumulative impacts of the proposed project and Cobbs Creek project (currently authorized under VWP Permit No. 05-0852), which are located in close vicinity of one another, may be on water resources in Goochland County. (Goochland County)
- An additional comment was received from Goochland County that is not within the purview of the VWP Permit Program as it pertains to historic resources.

Although the above comments were received after the close of the official comment period, staff considered the comments. Staff responses to the above comments are provided under Part II of Attachment B of this fact sheet.

The following comments and inquiries were received by DEQ from four (4) citizens near the end October 2015, approximately one month after the close of the official public comment period. DEQ found there was not sufficient reason to consider these comments and reopen the public comment period as the concerns are either similar to those received during the comment period or are not within the jurisdiction of the VWP Permit Program.

- Concerns of potential adverse impacts to the historical resources located in the area of the proposed intake.
- Concerns of potential impacts to the land on which the proposed project will be located, including comments about property rights.
- Concerns about the potential hydrologic impacts that may result from the project.

DEQ received an inquiry from a reporter with the Central Virginian on October 20, 2015, for information on the status of the permit and comments received during the comment period. This information was provided to the reporter the same day the inquiry was received.

Revisions to the Draft Permit in Response to Public Comments

Staff considered the comments received and revised portions of the draft permit in response to those comments. The portions of the draft permit revised in response to public comments are summarized below:

- Part I.F.9 of the permit was revised to include an instantaneous maximum withdrawal limit of 13,980 gpm (31.1 cfs) to be implemented when the Mandatory Drought Stage flow trigger is reached. This revision is in response to the City of Richmond's comment the permit did not include a maximum hourly or instantaneous limit and that such a limit should be added to protect downstream uses during periods of low flow. Staff considered the comment in terms of the Virginia Department of Game and Inland Fisheries (DGIF) recommendation that no more than 10 percent of the flow be withdrawn at any time. Staff found that during periods of low flow, although the maximum day withdrawal of 8.57 mgd is less than 10 percent of the James River flow, the instantaneous withdrawal may be more than 10 percent. Staff revised the draft permit to limit withdrawal rate to that which is protective of aquatic resources and downstream beneficial uses during low flow events when the withdrawal rate may exceed 10 percent of stream flow.
- Part I.F.12. of the permit was revised to lower the flow meter accuracy standard from 10 percent to 5 percent in response to the City of Richmond's comment that a flow meter accuracy of 10 percent was not sufficient and that the permit should be revised to require a lower tolerance. Based upon staff review available standards and discussion with other operators, the percent accuracy of flow meters for 90-10,000 gallons per minute varies between 2.5 percent and 5 percent for new installations, depending on system specifics. Staff revised the permit to reflect current standards for flow meter accuracy.

During the final review of the draft permit, staff identified an error in Part I.F.13 in the list of data monitoring requirements that pertains to recordation of data. Staff revised this condition to accurately require data monitoring and recordation that reflects the permit requirements.

15. Special Conditions:

The following conditions were developed to protect instream beneficial uses, to ensure compliance with applicable water quality standards, to prevent significant impairment of state waters or fish and wildlife resources, and to provide for no net loss of wetland acreage and function through compensatory mitigation and success monitoring and reporting.

Section A *Authorized Activities*

- Nos. 1-2 addresses the activities authorized by this permit, including the withdrawal of surface water, impact types and limits.
- No. 3 states that the authorized activities shall be conducted in accordance with the application materials and any subsequent materials received during the application process.
- No. 4 requires the permittee to notify DEQ of any changes to the authorized activities or of new activities which require a VWP permit.

Section B *Permit Term*

- Nos. 1 and 2 addresses the permit term and re-issuance process to ensure that all permit conditions are completed.

Section C *Standard Project Conditions*

- No. 1 addresses the requirement for the minimization of adverse impacts to instream beneficial uses.
- No. 2 ensures that the project will be executed in a manner that limits the disruption of the movement of aquatic life.
- No. 3 ensures that downstream flows will be maintained to protect both instream and off-stream beneficial uses
- No. 4 ensures the minimization of adverse effects on navigation.
- No. 5 ensures the passage of high flows.
- No. 6 requires maintenance of continuous flow of perennial springs for the protection of instream beneficial use.
- No. 7 requires that the permittee adhere to time-of-year restrictions recommended by the Department of Game and Inland Fisheries for the protection of fish and wildlife resources.
- No. 8 ensures that dredging and filling operations will minimize stream bottom disturbances and turbidity.
- No. 9 requires instream activities to be conducted during low-flow conditions to protect instream beneficial uses.
- Nos. 10 through 12 provide requirements and limitations on the entry of various materials (including concrete, fill, construction and waste material, fuels, lubricants, and untreated stormwater runoff) into state waters.
- Nos. 13 and 14 limit the use of machinery and equipment in surface waters to protect beneficial uses
- Nos. 15 through 19 require temporary disturbances to surface waters during construction to be avoided and minimized to the maximum extent practicable and the restoration of such temporary disturbances.
- No. 20 prohibits the violation of Water Quality Standards in surface waters as a result of project activities
- No. 21 requires the identification of all non-impacted surface waters in the vicinity of the proposed activity to prevent unpermitted impacts
- Nos. 22 through 26 set forth all reporting requirements concerning construction, monitoring, compensation, and restoration as required by current law and regulations.

Section D *Stream Modifications, Including Intake/Outfall Structures*

- No. 1 requires the permittee conduct a mussel survey and relocation in the James River no more than six months prior to commencing work in the James River or along its shoreline. All surveys and review

and approval of the survey results are required to be completed prior to work in the James River being initiated.

- No. 2 requires that concrete installation work be conducted in the dry to minimize harm to the aquatic environment and its residents resulting from use of the Tremie method. This permit condition was included at the recommendation of DGIF.
- No. 3 prohibits the use of stream substrate for erosion control to avoid additional impacts to state waters.
- No. 4 requires upland disposal of material removed from stream substrate to avoid unpermitted impacts to surface waters.
- No. 5 ensures riprap placement conforms to current law and regulation.
- Nos. 6 and 7 direct the placement and contents of materials for the construction of submerged structures, and on-bank storage and staging of materials, to protect water quality and fish and wildlife resources.

Section E Installation of Utilities

- No. 1 requires the minimization of disturbance to surface waters and restoration to preconstruction conditions following utility line installation.
- No. 2 sets a 90-day time limit for temporary sidecasting during trench excavation to minimize impacts to surface waters.
- No. 3 provides the requirements for trench construction to avoid the drainage of surface waters.

Section F Surface Water Withdrawals

- No. 1 states the use of the water withdrawal is only for public water supply.
- No. 2 identifies the safe yield for the surface water withdrawal project as authorized under this permit.
- No. 3 establishes the water withdrawal limit for the intake on the James River. The limits were evaluated based upon the anticipated demand for 2030, the time period that coincides with the 15 year permit term. The withdrawal limits are phased based upon anticipated capital improvement plans to provide water service from the new intake to service areas identified in the JPA and additional information submittals. The limits in the permit were determined through staff evaluation of the water demand using standard calculations (see Section 5 for more details).
- No. 4 requires the localities (Fluvanna and Louisa Counties) through the permittee submit a plan(s) that outlines the specific infrastructure and associated schedule for Fluvanna and Louisa Counties to complete improvements necessary to begin treatment and transport water withdrawn from the James River intake to service areas identified for a specific Tier. The intent of this condition is to clearly identify the capital improvements associated with each Tier that must be completed by Fluvanna and Louisa Counties in order for the water to be withdrawn, transported and utilized within a service area or areas. Additionally, the permittee shall identify the wastewater treatment facilities, both private and municipal, and the location of any return flows from those facilities. The intent of this information is to identify return flows, which at the time of permit issuance, are assumed to be zero, limiting future water available in the water budget. Water discharged directly back to the James River or one of its tributaries needs to be reallocated back to the system water budget as known to keep it current. Completion of capital improvements identified in this plan will serve as the permittee's justification in any request for authorization of withdrawal limits for a particular Tier as identified in Part I.F.3
- No. 5 establishes the schedule for completion of the capital improvements identified in the plan required by Part I.F.4 prior to the permittee being granted authorization to operate at the withdrawal volumes associated with each Tier identified in Part I.D.3. The deadlines provided for each Tier are based upon the additional informational submittal dated September 12, 2014. The intent of the condition is

for an increase in withdrawal limits to coincide with completion of infrastructure necessary to transmit water from the new intake to the identified service area or areas to prevent allocation of water withdrawal volumes which may not be realized due to unforeseen circumstances and thus, are not put to beneficial use within the permit term. Should capital improvements for a particular Tier be completed later than anticipated, the condition allows the permittee to request authorization at a later date. Additionally, should only a portion of the capital improvements be completed for a particular Tier, the condition acknowledges that the permittee may request a revision to the Tier volumes, not to exceed the volumes identified for Tier 3 in Part I.F.3. This type of change will require a modification of the permit, which may be considered under a minor modification action as this change constitutes only a change in project plans because the maximum withdrawal volumes evaluated and approved for this project under this permit will not be affected. However, any request to increase the withdrawal volumes above that identified for Tier 3 in Part I.F.3 may require a major modification of the permit.

- No. 6 identifies the method the permittee shall use to estimate the previous day's provisional stream flow at the intake. This equation is to be used to estimate the fourteen (14) day rolling average to determine compliance with the drought triggers identified in No. 9.
- No. 7 requires the permittee to coordinate with the operators of the Cobbs Creek Reservoir project. This coordination is required only when provisional flows at the permittee's intake estimated in accordance with Part I.F.6 is equal to or less than the 10th percentile flow of 778 cfs. The permittee is only required to coordinate during low flows as these are the timeframes when it is also more likely releases from the Cobbs Creek Reservoir may occur. The intent of this condition is to promote communication during low flow events for improved management of the resource due to the close proximity of the projects to one another and to ensure downstream uses for which the releases from Cobbs Creek Reservoir are being provided are not impacted by the permittee's withdrawals. Staff acknowledges that this requirement does not bind any entity other than JRWA, the permittee of this permit. Therefore, the permittee may demonstrate compliance with this condition by making a reasonable effort to coordinate, as may be evidenced through documenting the submittal of information to the operators of the Cobbs Creek Reservoir in accordance with the approved protocol.
- No. 8 requires the permittee to develop a protocol outlining how the permittee will carry out the requirement to coordinate with the operators of the Cobbs Creek Reservoir.
- No. 9 requires the permittee to develop a drought management plan for DEQ review and approval that identifies the conservation measures to be implemented for each drought stage. This condition identifies the instream flow triggers to be implemented once withdrawal volumes above Tier 1 (Part I.F.3) are authorized, which are based upon a fourteen (14) day rolling average of James River flows at the intake, for implementing the voluntary and mandatory drought stages. Additionally, the permittee is required to comply with an instantaneous withdrawal limit once the mandatory drought stage is implemented to ensure the rate of withdrawal does not exceed 10 percent of the stream flow to protect aquatic resources and downstream beneficial uses. The emergency drought stage shall be implemented in accordance with No. 10.
- No. 10 requires conservation measures be implemented to protect instream flows when a drought emergency is declared.
- No. 11 ensures that intake structure specifications and monitoring protect aquatic wildlife resources.
- No. 12 requires the permittee to monitor withdrawals from the James River daily using flow totalizer technology to determine compliance with the permit. The condition also includes percent accuracy for such meters and measures the permittee should take in case of a defective meter.
- Nos. 13 through 15 requires monitoring and reporting to protect all beneficial uses. Flexibility is provided as to the method by which the reports are submitted to allow for future improvements in the form DEQ receives data.

Section G *Construction Monitoring and Submittals (Impact Site)*

Nos. 1 through 6 addresses monitoring, submittals and notifications required for monitoring construction activities within authorized impact areas.

Section H *Compensatory Mitigation*

No. 1 describes the compensatory mitigation required to mitigate for the permitted impacts.

Nos. 1 and 2 identifies the requirement to submit documentation of the purchase of mitigation bank credits prior to initiating impacts to surface waters to ensure no net loss of surface water area and function.

16. General Conditions:

General Conditions are applied to all VWP individual permits, as stated in the VWP Permit Program regulation.

17. General Standard:

This project may result in minimal, temporary impacts to beneficial uses related to the propagation and growth of aquatic life as defined in the General Standard. Provided the permittee abides by the conditions of the permit, no substances shall enter state waters in concentrations, amounts or combinations that would contravene established standards or interfere with beneficial uses or are inimical or harmful to human, animal, plant, or aquatic life.

18. Staff Findings and Recommendations:

- The proposed activity is consistent with the provisions of the Clean Water Act and State Water Control Law, and will protect beneficial uses.
- The proposed permit addresses avoidance and minimization of surface water impacts to the maximum extent practicable.
- The effect of the impact will not cause or contribute to significant impairment of state waters or fish and wildlife resources.
- The proposed permit conditions address no net loss of wetland acreage and function through compensatory mitigation.
- This permit is proposed to prevent unpermitted impacts.
- The draft permit reflects the required consultation with and full consideration of the written recommendations of VMRC, VDH, DCR and DGIF. The staff invited, but did not receive, comments from VDH and USFWS.

Staff recommends VWP Individual Permit Number 14-0343 be issued as proposed.

Approved:



Director, Office of Water Supply

11/20/15
Date

Attachment A – DEQ Modeling Summary

Part I – Summary of Model Development

Introduction

An analysis was performed to determine the feasibility of withdrawing surface water from the James River from a new intake structure Fluvanna County, Virginia. The James River Water Authority (JRWA) proposes to construct and operate a new raw water intake to withdrawal surface water from the James River to meet the water demands for the Counties of Fluvanna and Louisa. The intake is proposed to be located on the north bank of the James River, just upstream of the confluence with the Rivanna River. This permit will replace existing VWP Permit No. 04-0805, issued to the JRWA, for a new intake located further downstream on the north bank of the James River at Bremo Bluff, which is located at the end of Route 657, off of Route 15.

The withdrawal volumes proposed as limitations of the permit are as follows:

Table 1. Permit Withdrawal Limitations

Tier	Maximum Daily Withdrawal (mgd)	Maximum Monthly Withdrawal (mg)	Maximum Annual Withdrawal (mg)
1	5.82	119.35	1,024.8
2	7.69	157.71	1,354.2
3	8.57	175.62	1,507.92

The Tiers identified in the above table correspond with the completion of capital improvements to transfer water from the new intake to areas proposed to be serviced by the JRWA, as identified in the JPA and additional informational submittals. The volumes identified by Tier 3 were evaluated in the cumulative impact analysis (CIA).

A series of water budget modeling simulations were conducted using the VAHydro operational model to evaluate the propose withdrawal's potential affect on stream flows.

Model Inputs

Estimation of Stream Flow at the Intake Location

A comparison of estimated stream flow rates at the proposed intake location was made using two methods, the VAHydro operational model and available data from the closest USGS stream gauging station, No. 02035000 (James River at Cartersville, Virginia), located approximately 9.3 miles downstream. The USGS gage is located downstream of the proposed intake location, with a drainage area of 6,252 square miles compared to the drainage area of the proposed intake of 5,076 square miles.

Daily mean stream flow rates at the intake location were estimated by multiplying the daily mean flow rates reported by the USGS stream gauging station, No. 02035000 (James River at Cartersville, Virginia) by 0.81, which is the ratio of the intake drainage area (5,076 square miles) to that of the gauged drainage area (6,252 square miles). The comparison indicated that the stream flows estimated by VAHydro are more conservative than those of the USGS estimated stream flows. Therefore, VAHydro was selected for estimating stream flows for the modeling simulations.

Daily mean flow at intake in cubic feet per second (cfs) = (daily mean discharge at USGS gaging Station No. 02045500 (cfs) * 0.81)

Determination of Drought Period

The time series of estimated daily flow using VAHydro at the proposed intake location for the period from January 1, 1984 through December 31, 2005, was examined to determine the drought of record at the intake location during which the proposed withdrawal should be evaluated. The simulation showed that the duration of low flows in the James River occurred from 1998 through 2002 (as shown in Figure 1). Staff then conducted a comparison of the lowest recorded flows at USGS stream gauging station, No. 02035000 (James River at Cartersville, Virginia) to identify if there were other years outside of the period of flows simulated by VAHydro that warrant consideration. This review identified that lowest flows at the USGS gage occurred in 1966 and 2002. Based upon the historical flow data as measures at the USGS gage, the Drought of Record at the intake occurred in 2002. Therefore, the simulation period for the modeling analysis was 2002.

Figure 1. VA Hydro Estimated Monthly Mean Stream Flows at the Intake

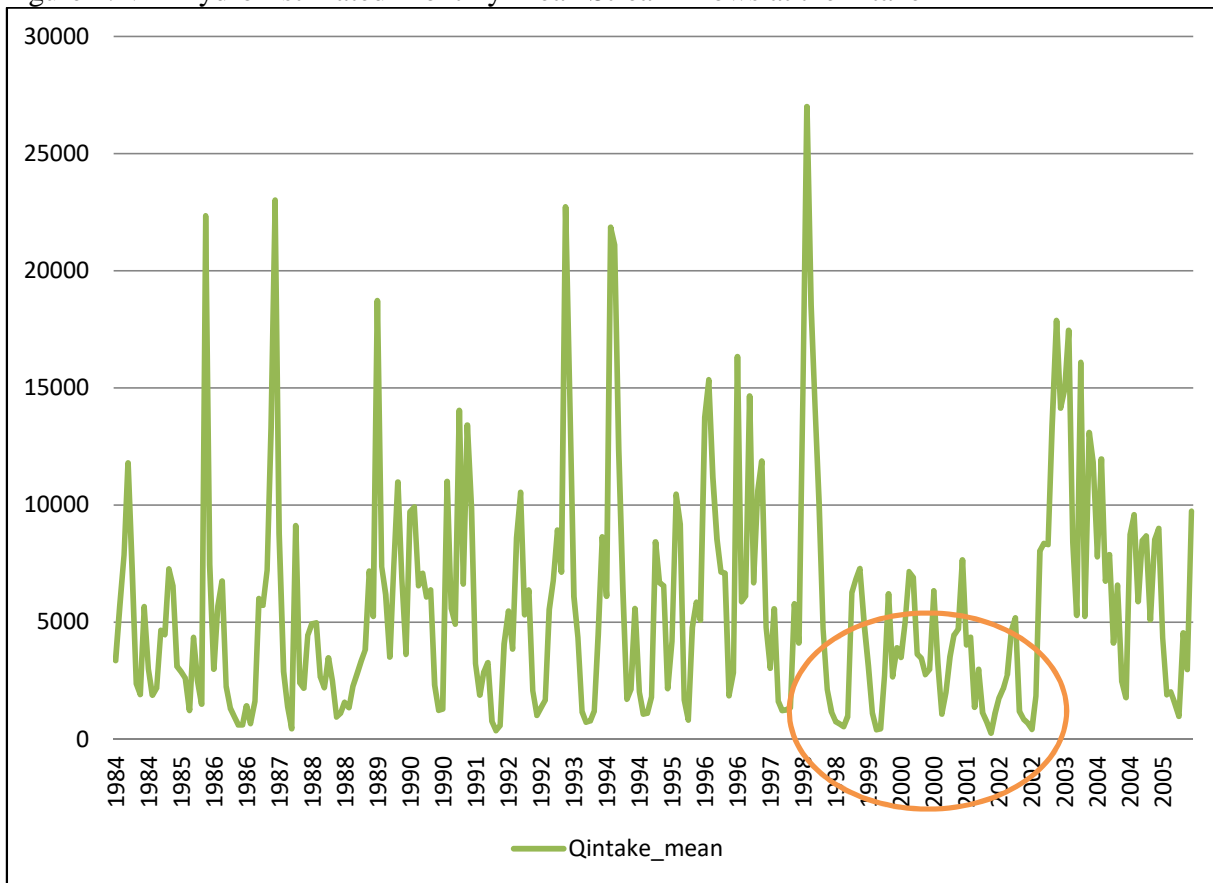


Table 2. Comparison of Percentile Stream Flows from July through October of 1966 and 2002 at the USGS stream gauging station, No. 02035000 (James River at Cartersville, Virginia)

Month	1966			2002		
	# days with flow < 25th pctl	# days with flow < 10th pctl	# days with flow < 5th pctl	# days with flow < 25th pctl	# days with flow < 10th pctl	# days with flow < 5th pctl
July	31	31	31	30	22	17
August	31	27	18	29	22	18
September	14	14	14	27	26	19
October	0	0	0	15	6	2
Total	76	72	63	101	76	56

Calculation of Annual Percent Distribution

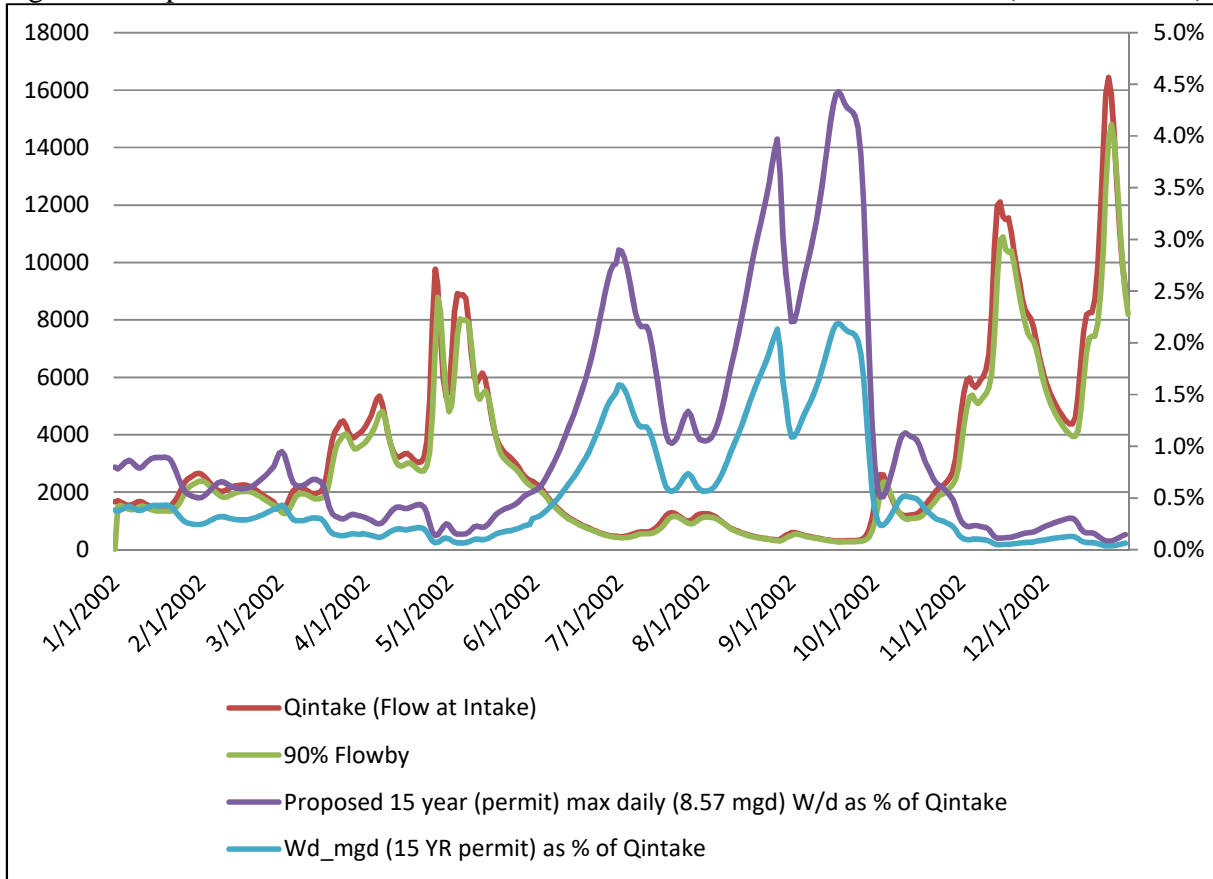
The annual percent distribution informs the simulation as to how to distribute the maximum annual demand over the twelve months of the year. Staff calculated an annual percent distribution using historical water withdrawal data reported annually to DEQ through the Virginia Water Users Database (VWUDS). Data for the service areas served by the Louisa County Water Authority were queried and reviewed because the permittee reviewed the records for this Authority in developing their proposed peak factors. As the proposed project is a new source, there is no historical data to which to refer. Of these service areas, only the Northeast Creek Reservoir is a surface water supply, the rest being groundwater supplies. Staff notes the Northeast Creek Reservoir source is a reservoir system while the proposed system is a direct stream withdrawal without storage. Staff reviewed the data associated with several systems reported by Louisa County Water Authority, including the Zion Crossroads system, for reference. However, as the groundwater sources are not operated continuously throughout the year, it is staff opinion that this system is less representative than the Northeast Creek Reservoir which is operated continuously throughout the year. For this reason, staff chose the data for Northeast Creek Reservoir for use in the development of an annual percent distribution for modeling purposes.

Stream Flow Analysis

Flows Just Past the Proposed Intake Site

Stream flows in the James River were reviewed by conducting a simulation using the proposed withdrawal permit limitations (based upon Year 2030 projected demands). In this simulation (Model Run 25), which included a flow-by of 90 percent, the proposed project was modeled at comprising less than 4.5 percent of stream flows during the 2002 Drought of Record.

Figure 2. Proposed Permit Withdrawal Limit as a Percent of Flows at the Intake (Model Run 25)



Part II – Cumulative Impact Analysis Summary

Executive Summary

Cumulative impacts to the James River between the proposed JRWA intake and the tidal zone below the City of Richmond intakes were analyzed for potential impacts to assimilative capacity, instream flows, and off-stream water supply needs. Estimates of upstream withdrawals were based on permitted and exempt amounts at their maximum expected values during the permit term ending between 2015 through 2030. Impacts to water quality were the most substantial, ranging from -5 percent at the intake to -4.3 percent below the USGS stream gauging station, No. 02035000 (James River at Cartersville, Virginia) (Table 3, “Change in 7Q10”). Flows during the drought of record were predicted to decrease by -3.1 percent at the JRWA intake and -2 percent at the City of Richmond intake (Table 3, “Drought of Record Minimum 30-day Flow”). Storage in the Cobb’s Creek pump-store reservoir was predicted to decrease by -1 percent, and releases were expected to increase +1 percent during the simulated drought of 2002 (see Table 4). The analysis predicted that the Henrico County and City of Richmond intakes would experience no change in either frequency of drought restrictions or unmet demands. Because maximum permitted amounts generally exceed actual use amounts during a permit term, the potential changes to the flow metrics of interest is considered to be a worst case scenario.

Table 3: Impacts to flow metrics.

River Location	Change in 7Q10	Change in August Low Flow	September Drought Warning Flow	Drought of Record Minimum 30-day flow
James above Cartersville below Rivanna (Cobbs release)	+1.7%*	-0.3%	-2.0%	-1.9%
James River @ Cartersville	+1.2%*	-0.2%	-1.8%	-1.8%
James below Cartersville	-4.3%	-0.2%	-1.5%	-1.7%
James River @ Huguenot Bridge (Below Henrico Intake)	-1.7%	-0.2%	-0.3%	-1.5%
Fall Line below Richmond Intake†	-4.2%**	-0.3%	-1.3%	-2.0%

Notes:

* Due to flow alterations from Gathright Dam and Cobb’s Creek, 7 day low flows are expected to decline between 4-5 percent, though 7Q10 values increase. EPA guidelines [question the use of 7Q10 under significant flow alterations](#).

** 7Q10 calculations are not applicable in tidal areas.

†Henrico County may purchase up to 35 MGD from City of Richmond. Lists design capacity of intake at 45 in SWRP. Modeled flows at Fall line of James river may be artificially low due to failure to fully account for transfers from Richmond to Henrico.

Table 4: Operations impacts at Cobb’s Creek and downstream users in Richmond and Henrico during the simulated drought of 2002.

Run Description	Cobbs Minimum Storage	Change in Min Storage %	Mean Cobbs Refill (MGD)	Mean Cobbs Release (cfs)	Change in Mean Release%	Unmet Demand in Richmond & Henrico	Change to Frequency of Drought Restrictions
Permit Term Existing (2002)	4,800	n/a	41.8	46.5	n/a	n/a	n/a
Permit Term Existing + JRWA (2002)	4,734	-1%	41.8	46.8	+1%	0%	0%

Modeling Details

The JRWA intake was modeled using the VAHydro operational model. Intake flow-by was set at 90 percent of instantaneous flow at the intake location. This flow-by provided adequate water to satisfy the requested annual demand of 1507.92 MG (monthly variations in JRWA demands shown in Figure 3). The VAHydro model was run from 1984-2005 with demands set to the maximum allowable withdrawal for permitted users active during the proposed permit term 2015-2030. Table 5 shows a comparison between the demands in this simulation (“Permit Term Max 2015-2030”), present day demands (Table 5,

“Current Demands”), and projected demands in the year 2040 (Table 5, “State Water Plan 2040”). Flow-by rules for Henrico and City of Richmond demands were modeled according to Army Corps of Engineers 401 certificate. In addition to flow-by rules, the systems were modeled with conservation reductions of 5 percent, 10 percent and 15 percent at Drought watch, warning and emergency conditions. As a result of these conservation reductions, the Max withdrawal for the City of Richmond of 95 MGD amounted to 93.4 MGD in practice during 1984-2005 simulation period.

Table 5: Withdrawal comparison between Current, VWP Permit term max, and State Water Resource Plan 2040 projected demands in the James River watershed above the Cobbs Creek intake.

Location	Permit Term Max 2015-2030	Current Demands (2009-2013)	% Difference Permit Max vs. Current	State Water Plan 2040	% Difference Permit Max vs. SWP
Above Cobb's Creek Intake	311 MGD	220 MGD	+41%	281 MGD	+11%
James River At Fall Line	451 MGD ^{††}	317 MGD [†]	+42%	401 MGD	+12%

Notes:

[†] Henrico 25.8 MGD Current, 75.2 MGD Permit max, 35 MGD may come from City of Richmond, resulting in only 42.5 MGD withdrawal from James at Henrico intake.

^{††} City of Richmond increasing from 73 - 82 MGD in State Water Plan, with a Max of 95 MGD.

Figure 3: Monthly demand patterns simulated for JRWA intake.

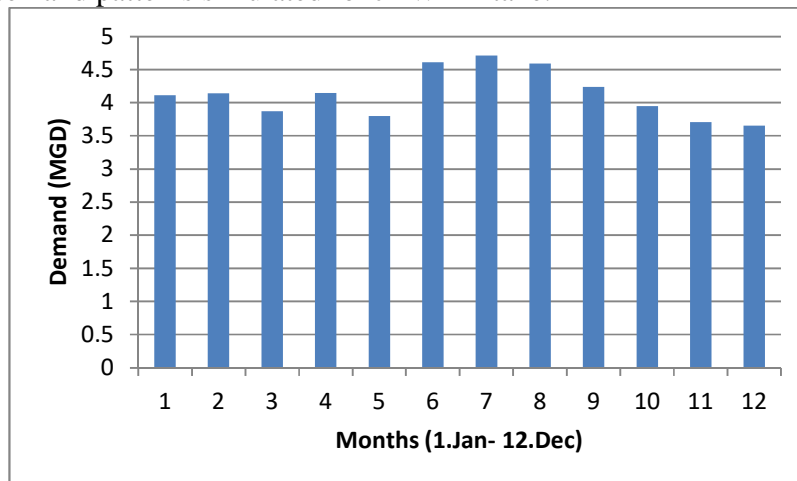


Figure 4: Modeled Percent change in September Drought Warning Flow (10th %) due to the proposed JRWA intake.

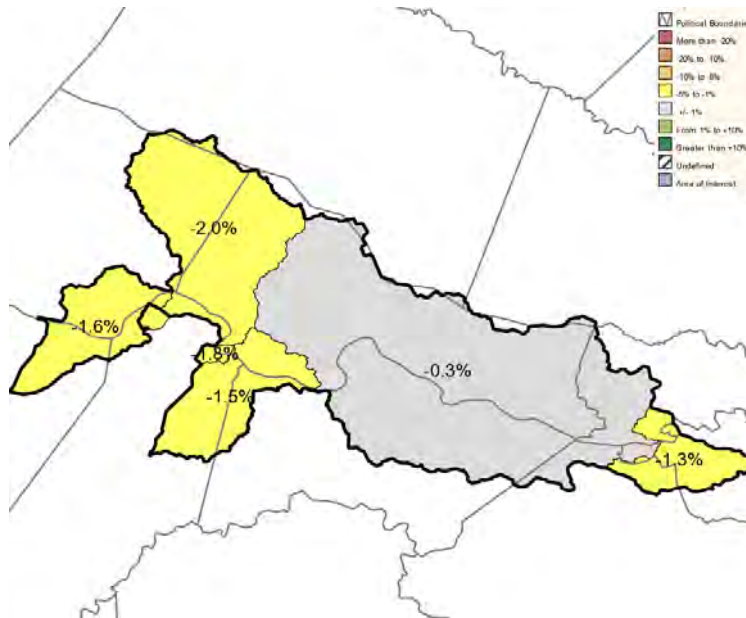


Figure 5: Modeled Percent change in drought of record flow due to the proposed JRWA intake. Based on cumulative flow and withdrawal timeseries during September of 2002.

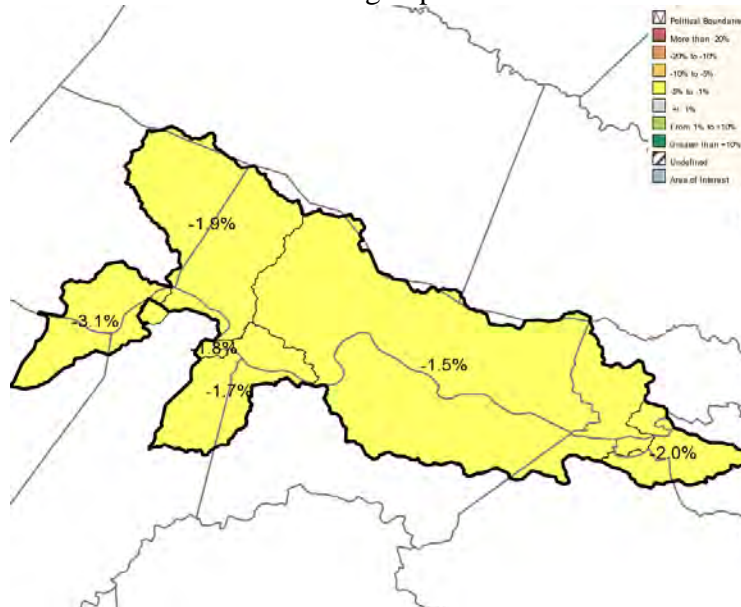


Figure 6: Modeled Percent change in 7Q10 flow due to the proposed JRWA intake. Based on cumulative flow and withdrawal timeseries during from 1984-2005 meteorological and flow conditions.

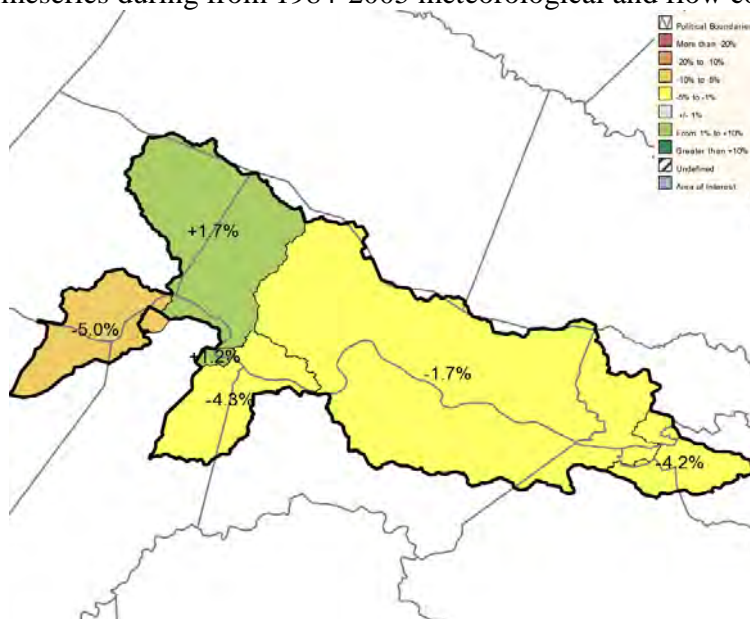
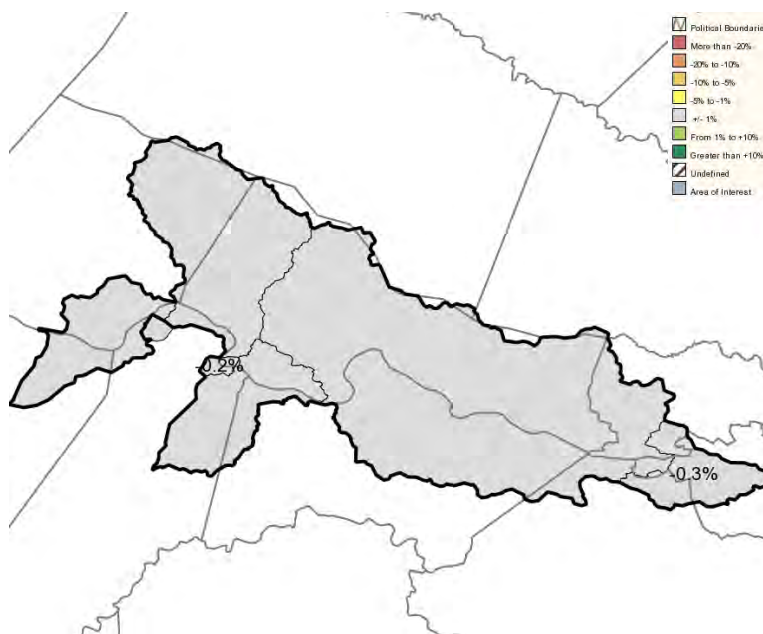


Figure 7: Modeled Percent change in August Low Flow flow due to the proposed JRWA intake. Based on cumulative flow and withdrawal timeseries during from 1984-2005 meteorological and flow conditions.



Attachment B – Summary of Public Comments and Staff Responses

Comments received in response to the public notice of the draft permit during the official comment period from the City of Richmond are summarized in the first section of this Attachment. Comments received after the close of the public comment period from the Richmond Regional Planning District Commission and Goochland County are summarized in the second section of this Attachment.

Part I - Comments from the City of Richmond (City)

General comments received on September 21, 2015:

- 1. The City stated their water supply premise under which they operate and base their assessment of all DEQ legislative and administrative proposals is in light of their common law riparian rights and their property right, obtained through private conveyances, to withdraw at least 645 cubic feet per second (cfs), or 417 million gallons per day (mgd) of water from the James River. The City stated that “These rights are reinforced an (sic) supplemented by the City's riparian rights and rights derived from the contracts with the James River and Kanawha Company in 1880 and 1890. The rights now owned by the City were affirmed in 1914 by the Supreme Court of Virginia in a case involving a predecessor in title.” The City stated they will “view any increase in the proposed water withdraw from the currently permitted amounts in the James River basin in context of the City's water rights and will vigorously defend against actions which we believe will infringe on those rights.”*

The Code of Virginia dictates that surface waters are natural resources which should be regulated by the Commonwealth and further that the regulation, control, development, and use of such waters for all purposes beneficial to the public are with the jurisdiction of the Commonwealth which in the exercise of its police powers may establish measures to effectuate the proper and comprehensive utilization and protection of such waters. *See Va. Code § 62.1-11.* While each riparian proprietor has an equal right to the reasonable use of the water running by or through his land for every useful purpose to which it can be applied without material diminution to the prejudice of the lower proprietor unless he has acquired a right to do so by grant, prescription or license, the right of a lower riparian owner of the natural flow of the stream is subject to a reasonable use of the water by the upper riparian owners as it runs through their land before reaching his. As described on Attachment A, the proposed withdrawal is reasonable and will not materially diminish the quantity of water in the River.

Finally, the State Water Control Board and the Department of Environmental Quality are without authority to determine private property rights and the fact that any owner holds a certificate issued by the Board or the Department under the State Water Control Law shall not constitute a defense in any civil action involving those rights. *See Va. Code §62.1-44.22.*

- 2. The City commented the draft permit should not authorize a withdrawal volume on a daily or instantaneous basis above 5.7 mgd, which is the existing authorized maximum limit in VWP Permit No. 04-0805. Additionally, they commented that the proposed project should be treated as an entirely new permit due to the magnitude of the proposed changes, including a more detailed review of the withdrawal's proposed impacts.*

The permit action for the proposed project is a revoke/reissuance of VWP Permit No. 04-0805, of which the James River Water Authority (JRWA) is the current permittee. The administrative process for a reissuance is same as a new issuance, with the exception that the reissued permit supersedes the permit previously authorized. Therefore, an application for reissuance must also submit a complete application that meets the informational requirements in the current regulation and any reissued permit must meet the requirements of the current VWP Permit Program laws and regulation. Therefore, staff's review of the proposed project was conducted on the applicant's stated purpose and need and projected water demands for the entire project, not just the proposed increase in volume above that which is currently authorized under VWP Permit No. 04-0805.

In accordance with the application requirements of 9VAC25-210-80.B.2, applicants may submit their water supply plans to demonstrate the need established through the water supply planning process. JRWA's stated purpose and need is to construct and operate a new raw water intake to meet the long term water demands of the Counties of Fluvanna and Louisa as outlined in their adopted water supply plans dated April 2010 and June 2011, respectively. The water demand projections considered in this application review are the same as those discussed in the Plans, with the exception of water demands proposed for economic development prospects. The permittee requested staff consider in this application water demands associated with economic development prospects under the assumption that 1 to 2 new business prospects will locate to each County within the 15 year permit term, which staff found reasonable.

The review by staff also included a cumulative impact analysis of the potential effect of the project on downstream users, such as the City. The analysis looked at the worst case scenario, which consisted of permitted or known excluded users operating at their maximum expected values during the permit term during the drought of record (2002). The analysis took a conservative approach by assuming the proposed project was a 100 percent consumptive with no conservation measures. The analysis predicted that the Henrico County and the City intakes would experience no change in either frequency of drought restrictions or unmet demands. Based upon concerns voiced by the City and Henrico County during the application process, staff included low flow values in the draft permit (Part I.F.9.a) that requires JRWA initiate conservation measures when those triggers are met during low flow events. These flow values were developed based upon those used by Henrico County and the City. Based upon the results of the analysis, staff determined the proposed project as limited in the draft permit, will not adversely affect existing beneficial uses.

3. *Commented that the draft permit should include water conservation measures that are as stringent as those required by VWP Permit No. 88-0898 for Henrico County's James River withdrawal for their Water Treatment Plant. More specifically, the City commented that the following provision found in Henrico's VWP Permit should also be applied to this permit:*

"The permittee shall enact a water conservation plan during low flow conditions. Specifically, the permittee shall take steps to call for voluntary conservation whenever the 14 day rolling average of natural streamflow falls below 1700 cubic feet per second (cfs) from November 1st through June 30th or below 1200 cfs from July 1st to October 31st. The permittee shall also take steps to enact a mandatory conservation plan whenever the 14 day rolling average of natural streamflow falls below 1250 cfs from November 1st to June 30th or below 700 cfs from July 1st to October 31st."

Based upon concerns voiced by the City and Henrico County during the application process, staff included low flow values in the draft permit (Part I.F.9) that requires JRWA implement conservation measures when those triggers are met during low flow events. These flow triggers controlling the implementation of water conservation measures were constructed based on recommendations from the James River Instream Flow Study: Henrico County Water Supply Withdrawal Final Report, dated September 1991, and are compatible with the triggers in use by Henrico County and the City and the above provision, which is included in Part I.D.5 of Henrico County's permit (VWP Permit No. 88-0898). Because of varying rates of inflow between the JRWA intake and the fall line of the James River, area-scaled flow triggers were adjusted to produce a better synchronization with downstream users, and to provide time for drought response implementation. By scaling upstream the drought triggers from the existing beneficial users at the fall line, the drought response framework will greatly increase the likelihood that during low flows, all of these users will be conserving water in an equitable manner. This drought condition is designed to reduce the possibility of the JRWA withdrawals causing existing beneficial users downstream to go into conservation more frequently.

Specific comments received September 21, 2015, on permit conditions:

1. *Part I.A – Comment that the permit does not specifically authorize a withdrawal of water as drafted. If the intent is to authorize a withdrawal from the James River, the City views any change of the permit to clarify that intent as a significant change that would require a new public comment period.*

Staff disagrees that the permit is vague regarding the authorized activities and that the permit does not clearly authorize a withdrawal of water from the James River. The permit clearly states the withdrawal of surface water is an authorized activity under Part I.A.1 in the phrase "...operation of a new surface water intake structure on the James River." However, staff revised the "Activity Description" of permit coverage page and Part I.A of the permit to clarify the operation of the intake means to withdraw surface water.

2. *Part I.C.3 – Comment downstream uses in the Richmond area, including existing public water supply uses, will be negatively impacted by the withdrawal. Comments that the permit does not provide adequate requirements or information as to what the permittee will do to protect downstream uses or will do to augment flows in the James River to offset the withdrawal.*

9VAC25-210-110 of the VWPP Program regulations require that instream flow conditions be established that limit the volume and rate of the withdrawal while giving consideration of the withdrawal's effect on the hydrologic regime within the affected reach. The VWPP Program regulations do not require that a permit for a water withdrawal include a requirement to offset a withdrawal through augmentation of flows.

The cumulative impact analysis conducted by staff reviewed the potential impacts from the proposed withdrawal on the hydrologic regime and downstream existing beneficial uses. This analysis evaluated the worst case scenario, which consisted of permitted or known excluded users operating at their maximum expected values during the permit term during the drought of record (2002). The analysis took a conservative approach by assuming the proposed project was a 100 percent consumptive with no conservation measures. The draft permit (Part I.F.4.b)

requires information be submitted to DEQ on returns flows to improve the water budget for any future reissuance application.

The analysis predicted that downstream flows during the drought of record decrease by -3.1 percent at the JRWA intake and -2 percent at the City of Richmond intake. In response to concerns voiced by the City and Henrico County during the application process, staff included low flow values in the draft permit (Part I.F.9.a) that requires JRWA initiate conservation measures when those triggers are met during low flow events. These flow values were developed based upon those used by Henrico County and the City. Based upon the results of the analysis, the proposed withdrawal will not adversely affect existing beneficial uses and the project as limited in draft permit is protective of existing beneficial uses.

- 3. Part I.C. and D – Concerns that the construction of the James River intake has the potential to adversely affect the water quality of downstream public water supply intakes for Henrico County and the City of Richmond.*

JRWA proposes to use a cofferdam to allow construction of the intake to occur in the dry. Adherence to the conditions contained within Parts I.C and I.D will minimize any potential adverse impacts to existing downstream beneficial uses that may occur during the construction of the water supply intake on the James River.

- 4. Part I.F.2 – Questions regarding the basis for a safe yield of 4.12 mgd annual average safe yield and how it was determined. The City asked what the safe yield is during recurring periods of low river levels during summer/fall seasons.*

The safe yield of a surface water withdrawal project is the maximum volume of water that can be withdrawn on an average daily basis during the drought of record (for the area in which the withdrawal is located) to meet the needs of the project while still protecting the existing beneficial uses of the waterbody. The safe yield of this surface water withdrawal project was determined based upon the operating rules included in the permit under the conditions of the drought of record for the area in which the project is located. The safe yield of the surface water withdrawal project under these operating rules is the annual average daily volume of 4.12 mgd based upon the 2002 drought of record. This value is subject to change should one or a combination of the following occur: the annual average daily demands of the project change, a new drought of record occurs, or changes to withdrawal limitations in the permit are considered to protect beneficial uses. It should be noted that this value does not represent the total volume of water present at the intake location in the James River during the drought of record.

- 5. Part I.F.3 – Commented the proposed withdrawal limits above that of the existing VWP Permit No. 04-0805 appear unjustified at this time. Additionally, the City stated they view the proposed increase above the currently permitted volume as infringing upon their recognized legal rights to the first 645 cfs of flow in the James River.*

As mentioned above under No. 2 of the General Comments subsection, in accordance with the application requirements of 9VAC25-210-80.B.2, applicants may submit their water supply plans to demonstrate the need established through the water supply planning process. JRWA's stated purpose and need is to construct and operate a new raw water intake to meet the long term water demands of the Counties of Fluvanna and Louisa as outlined in their adopted water supply plans

dated April 2010 and June 2011, respectively. The water demand projections considered in this application review are the same as those discussed in the Plans, with the exception of water demands proposed for economic development prospects. The permittee requested staff consider in this application water demands associated with economic development prospects under the assumption that 1 to 2 new business prospects will locate to each County within the 15 year permit term, which staff found reasonable. The water demands for municipal water systems in Louisa County were estimated in terms of residential and commercial water uses and based upon historical water system data and population information to calculate the typical daily water use rate per person for existing service areas. Water demands for Fluvanna County were projected based on the 2009 Comprehensive Plan and the 2029 Future Land Use Map along with population projections and existing water system data.

The JRWA requested authorization of withdrawal volumes sufficient to meet water demands projected for the Year 2030, which is within the 15 year permit term, for both residential growth and economic development within the service areas of the project. Based upon the application and additional supplemental information provided during the application process, staff concluded that the water demand and statement of need is reasonable and has been adequately justified.

As mentioned under No. 2 of the “Specific Comments” subsection, based the results of the cumulative impact analysis conducted by staff, the proposed withdrawal will have a minimal impact on downstream flows and the project as limited in draft permit is protective of existing beneficial uses.

The withdrawal limits under Part I.F.3 propose to authorize a withdrawal with a maximum daily limit of 8.57 mgd, which is to be phased in based upon completion of capital improvements as the proposed project is in the development stage. The intent of the condition is for an increase in withdrawal limits to coincide with completion of infrastructure necessary to transmit water from the new intake to the identified service area or areas to prevent allocation of water withdrawal volumes which may not be realized due to unforeseen circumstances and thus, are not put to beneficial use within the permit term.

6. *Part I.F.3 – Commented that the withdrawal limits do not include a maximum hourly or instantaneous withdrawal limit. The City requested that a maximum instantaneous limit no higher than the maximum daily limit be added to protect downstream uses during periods of low flow in the James River.*

Staff considered the comment in terms of the Virginia Department of Game and Inland Fisheries (DGIF) recommendation that no more than 10 percent of the flow be withdrawn at any time. The proposed Tier 3 maximum daily withdrawal rate of 8.57 mgd represents 4 percent of the period-of-record lowest daily mean discharge (195 mgd), calculated using the three upstream USGS stream gage stations identified in Part I.F.6. However, staff identified there are times when the withdrawal may result in more than 10 percent of the lowest recorded daily mean flow of 302 cubic feet per second. Staff revised Part I.F.9 of the permit to include an instantaneous maximum withdrawal limit of 13,980 gpm (31.1 cfs) to be implemented when the Mandatory Drought Stage flow trigger is reached, which is the period of time when the withdrawal rate may exceed 10 percent of stream flow.

7. *Part I.F.4. – Comment that the implication of this permit condition is that capital improvement plans have not be developed to transport or treat the withdrawal, which the City believes clearly indicates there is no actual need for the increase in withdrawal above those in the existing VWP Permit No. 04-0805.*

Demonstration of a project's purpose and need may be established by an applicant using a variety of resources. VWP Permit Program regulations do not require applicants include as justification of their purpose and need documentation that identifies the project as part of a capital improvement plan. In accordance with the application requirements of 9VAC25-210-80.B.2, applicants may submit their water supply plans to demonstrate need established through the water supply planning process. The justification for JRWA's stated purpose and need is based upon their adopted water supply plans of the Counties of Fluvanna and Louisa dated April 2010 and June 2011, respectively, and on-going efforts for economic development. The JRWA requested authorization of withdrawal volumes sufficient to meet water demands projected for the Year 2030, which is within the 15 year permit term, for both residential growth and economic development efforts for the service areas of the project. Based upon the application and additional supplemental information provided during the application process, staff concluded that the water demand and statement of need is reasonable and has been adequately justified.

As mentioned previously, the withdrawal limits under Part I.F.3 propose to authorize a withdrawal with a maximum daily limit of 8.57 mgd, which is to be phased in based upon completion of capital improvements as the proposed project is in the development stage. The intent of the phasing withdrawal limits is for any increase to coincide with completion of infrastructure necessary to transmit water from the new intake to the identified service area or areas to prevent allocation of water withdrawal volumes which may not be realized due to unforeseen circumstances and thus, are not put to beneficial use within the permit term. The purpose of the information required by Part I.F.4 is to identify the capital improvements necessary to service areas identified for each Tier and completion of those identified capital improvements will serve as the permittee's justification in any request for authorization of withdrawal limits for a particular Tier as identified in Part I.F.3

8. *Part I.F.5.d and e – Comment that these conditions of the draft permit cause the schedule for completing capital improvements for each withdrawal Tier meaningless. The City stated the request by JRWA to increase the withdrawal above the current limits established in VWP Permit No. 04-0805 is called into question by what the City believes is a the lack of defined need and JRWA's failure to act under the existing VWP Permit No. 04-0805.*

Prior performance under a previous or existing permit does not preclude an applicant from requesting revisions to their project. Staff reviews any such request based upon demonstrated purpose and need as justified in the application and any additional information materials. As stated in previous responses above, staff's review of the project concluded that the water demand and statement of need is reasonable and has been adequately justified.

The draft permit proposes to authorize a withdrawal with a maximum daily limit of 8.57 mgd, which is to be phased in based upon the completion of capital improvements as the proposed project is in the development stage. Part I.F.5 of the permit establishes the schedule for completion of the capital improvements identified in the plan required by Part I.F.4 prior to the permittee being granted authorization to operate at the withdrawal volumes associated with each

Tier identified in Part I.D.3. JRWA requested the draft permit allow for flexibility due to the uncertainty that exists in projecting the completion of capital improvements. Staff considered this request and found it reasonable as staff's intent for phasing the withdrawal is that authorization of any volume up to 8.57 mgd occur concurrent with immediate need to use the water.

9. *Part I.F.7 – The City questioned what is meant by the condition that requires JRWA to coordinate with the operators of Cobbs Creek Reservoir. The City states the condition is too vague and needed clarification.*

The intent of Part I.F.7 is to promote communication during low flow events for improved management of the resource due to the close proximity of the projects to one another and to ensure downstream uses for which the releases from Cobbs Creek Reservoir are being provided are not impacted by the JRWA's withdrawals. The protocol of the nature of the coordination is addressed under Part I.F.8, which requires JRWA submit for DEQ approval a plan that stipulates the specifics of that coordination with the operators of the Cobbs Creek Reservoir. Part I.F.8 outlines the minimum requirements of such a plan while providing flexibility in the specifics of the plan to best meet the needs of the entities involved and enable the plan to evolve based upon actual implementation. Public notice is not required for submission or approval of plans not required to be submitted as part of an application (9VAC25-210-140.E).

10. *Part I.F.8 – Comment that the condition was not meaningful with respect to providing for augmentation of flow in the James River to offset the withdrawal by JRWA and does not provide protection of existing downstream. The City also commented that this protocol needed to be an enforceable provision of the permit that is subject to review and public comment.*

As stated in the above response, the intent of this condition is to promote communication during low flow events for improved management of the resource and to ensure downstream uses for which the releases from Cobbs Creek Reservoir are being provided are not impacted by the JRWA's withdrawals. This condition is not intended to address augmentation of JRWA's withdrawal through releases from the Cobbs Creek Reservoir. Rather, the condition requires JRWA develop a protocol that outlines how communication will occur with the operators of the Cobbs Creek Reservoir. Plans required by a permit condition become an enforceable part of the permit. Public notice is not required for submission or approval of plans not required to be submitted as part of an application (9VAC25-210-140.E).

11. *Part I.F.9 – Commented that the table under Part I.F.9.a for Drought Stage thresholds was blank and Part I.F.9.b appeared to be incomplete and thus could not be fully evaluated. The City requested this information be provided and the draft permit put out for public comment again.*

The draft permit public noticed on August 22, 2015, included flow values in the table under Part I.F.9.a. These flow triggers controlling the implementation of water conservation measures were constructed based on recommendations from the James River Instream Flow Study: Henrico County Water Supply Withdrawal Final Report, dated September 1991, and are compatible with the triggers in use by Henrico County and the City.

Part I.F.9 requires the permittee to develop a drought management plan for DEQ review and approval. Part I.F.9.b provides the permittee flexibility to develop the specific conservation measures in their drought management plan that is appropriate for their system. Public notice is

not required for submission or approval of plans not required to be submitted as part of an application (9VAC25-210-140.E).

12. *Part I.F.12 – Comment that the proposed 10 percent accuracy for metering withdrawal flows is not adequate for pumped and piped raw water transmission system. The City recommends an accuracy tolerance of plus or minus 2 percent.*

Based upon information staff obtained through review of available standards for flow meters and consulting with other operators, the percent accuracy of flow meters for 90-10,000 gallons per minute varies between 2.5 percent and 5 percent for new installations, depending on system specifics. Staff revised Part I.F.12 of the permit to lower the flow meter accuracy standard from 10 percent to 5 percent to reflect current accuracy standards for flow meters.

13. *Part II.H – The City requested that the provision for "automatic transfer" be stricken from the permit.*

Part II of the draft permit consists of general permit conditions required by VWP Permit Program regulation (9VAC25-210-180.E) for all VWP permits and may not be revised.

14. *Part II.I – The City commented that the proposed increase in withdrawal above the current permitted limits in VWP Permit No. 04-0805 will infringe on property rights held by the City to water in the James River.*

See response to No. 1 under General Comments subsection.

Part II of the draft permit consists of general permit conditions required by VWP Permit Program regulation (9VAC25-210-180.E) for all VWP permits and may not be revised.

15. *Attachment A – Comment that this section only addresses mandatory water use restrictions during a State declared Drought Emergency. The City requested that JRWA implement water restrictions in a manner consistent with and coordinated with other downstream public water supply systems supplied by the James River (City of Richmond, Henrico County, Chesterfield County and Hanover County). The City also commented that the provisions for water use restrictions contained in Attachment A are not as detailed or restrictive as those used in the metro Richmond area.*

Attachment A is included with any surface water withdrawal permit and represents the minimum measures that must be implemented during a drought emergency.

This comment is most relevant for consideration in the development of the drought management plan required by Part I.F.9 that is to address conservation measures in each drought stage. Staff believes the comment has merit and will encourage JRWA to develop their plan in light of this comment.

Additional comments received on November 17, 2015:

1. *The City reiterated their previous statement regarding their water supply premise under which they operate and base their assessment of all DEQ legislative and administrative proposals is in*

light of their common law riparian rights and their property right, obtained through private conveyances, to withdraw at least 645 cubic feet per second (cfs), or 417 million gallons per day (mgd) of water from the James River. The City stated they view “any increase in proposed withdrawals from the James River that could adversely reduce flows in the Richmond area within the context of the City's water rights and will vigorously defend against actions which we believe will infringe on those rights.”

The Code of Virginia dictates that surface waters are natural resources which should be regulated by the Commonwealth and further that the regulation, control, development, and use of such waters for all purposes beneficial to the public are with the jurisdiction of the Commonwealth which in the exercise of its police powers may establish measures to effectuate the proper and comprehensive utilization and protection of such waters. *See* Va. Code § 62.1-11. While each riparian proprietor has an equal right to the reasonable use of the water running by or through his land for every useful purpose to which it can be applied without material diminution to the prejudice of the lower proprietor unless he has acquired a right to do so by grant, prescription or license, the right of a lower riparian owner of the natural flow of the stream is subject to a reasonable use of the water by the upper riparian owners as it runs through their land before reaching his. As described in Attachment A, the proposed withdrawal is reasonable and will not materially diminish the quantity of water in the River.

Finally, the State Water Control Board and the Department of Environmental Quality are without authority to determine private property rights. The issuance of a VWP permit does not and, by law, cannot affect private property rights, and the fact that any owner holds a certificate issued by the Board or the Department under the State Water Control Law shall not constitute a defense in any civil action involving those rights. *See* Va. Code § 62.1-44.22.

- 2. The City voiced concerns that DEQ did not provide adequate notice and opportunity for comment of the draft VWP permit. This concern included a comment that the existence of a permit fact sheet was not clearly made known during the comment period and that the draft permit proposes vague permit requirements such as development of plans after permit issuance, and thus, were not available for comment.*

DEQ believes adequate notice and opportunity was provided for the public and specifically, for the City, to comment on the draft VWP permit. The public notice for this project consisted of standard template language used for all VWP draft permits, which was prepared in accordance with the requirements of Va. Code § 62.1-44.15:01. The last section of the published draft permit public notice clearly identified to the reader that documents and additional information were available to the public upon request. As a courtesy, DEQ notified the City of the upcoming public comment period and provided a copy of the draft permit. Based upon DEQ's files, the City did not contact DEQ for additional information or documents.

Plans required for compliance with a permit are developed after permit issuance and become an enforceable part of the permit. Such plans are not subject to public comment as public notice is not required for submission or approval of plans not required to be submitted as part of an application (9VAC25-210-140.E).

- 3. Comment that many of the City's earlier technical comments are still valid but highlighted their main concern that the permit fact sheet does not contain sufficient data to support DEQ's*

statements that the proposed withdrawal will not have adverse downstream impacts. The City questioned why an assessment of potential impacts related to dissolved oxygen (D.O.) levels and algae blooms was not conducted.

The purpose of a permit fact sheet is to summarize DEQ's review of a proposed project, justification for the Agency's permit decision and any needed clarification of permit conditions. While the document summarizes the data analysis, it does not contain the data reviewed; however, this information is part of the permit file.

The cumulative impact analysis conducted by staff reviewed potential impacts from the proposed withdrawal through an analysis of flow. This is the primary surrogate for analyzing potential impacts to existing beneficial uses such as aquatic habitat, waste assimilation, and downstream water supply. Results from the flow analysis that identify minimal change to downstream flows indicate minimal change to water quality and thus, do not warrant further analysis. The analysis of the proposed withdrawal predicted that downstream flows during the drought of record decrease by -2 percent at the City of Richmond intake.

4. *The City questioned the accuracy of the data in the fact sheet as it pertains to the City's raw water intake and Henrico County's raw water intake.*

The value of 95 mgd was used for the City based upon staff's review of the City's unpermitted raw water intake. The reported maximum capacity (887 mgd) of the City's unpermitted intake on the James River is more than 9 times greater than the maximum annual average withdrawal (95.69 mgd) reported to DEQ through the Virginia Water Users Database System (VWUDS). However, the description of the intake given on the City's VWP Exclusion Form submitted to DEQ indicates that the 887 mgd capacity includes the capacity of the gates connecting the river at Williams Dam with the Kanawha Canal, not just the intake that is located on the canal. Therefore, the reported maximum annual average withdrawal was used. This withdrawal rate (95.69 mgd) dates from 2002 and is greater than the projected demand listed in the City's water supply plan document. DEQ determined this value was reasonable for use in the analysis projecting for the proposed permit term of 2015-2030.

Staff conducted a similar review of the withdrawal volumes for Henrico County, which is a permitted withdrawal. The VWP permit limits the withdrawal to 75.21 mgd; however, the County's maximum annual average withdrawal reported to DEQ through VWUDS is 28.88 mgd with a permitted daily maximum of 46.33. The permitted value of 75.21 mgd was used in the cumulative impact analysis projecting for the proposed permit term of 2015-2030s.

Upon further review of the cumulative impact analysis section of the fact sheet, staff identified typographical error in using the term "permit max" for the value of 95 million gallons per day (mgd) for the City in the footnotes for Table 5 and the paragraph above this table. The word "permit" should be revised to "unpermitted" when referenced to the City's maximum volumes. Additionally, staff identified a typographical error in the footnote for Henrico County. The value of 45 mgd should be 42.5 mgd. Corrections were made to the fact sheet to address these errors.

5. *The City commented that DEQ should recognize property rights even though issuance of a VWP permit does not convey any property rights as the City believes it's proper and prudent for DEQ to*

do so. Additionally, the City believes it's appropriate for DEQ to consider possible adverse impacts to beneficial uses protected by the City's water rights.

DEQ may not adjudicate property rights as it's not within the Agency's purview or authority to do so. Moreover, the issuance of a VWP permit does not, and by law, cannot affect private property rights. DEQ does have responsibility for reviewing activities within the jurisdiction of VWP Permit Program to determine potential impacts that may result to existing beneficial uses. Such review was conducted for the proposed withdrawal project and based upon our analysis; staff determined the proposed project, as limited in the draft permit, will protect existing beneficial uses while meeting the permittee's purpose and need.

Part II - Richmond Regional Planning District Commission (RRPDC) and Goochland County

Comments from RRPDC:

1. *Comment that cumulative impacts from multiple projects affect the water levels of the James River, putting a strain on the water resources for the Richmond Region.*

Staff agrees that multiple projects can result in cumulative impacts on a waterbody that may affect water supply. To assess this type of impact, staff conducts a cumulative impact analysis on all application for surface water withdrawals. Staff's review of this project looked at its potential effect on existing downstream users using the worst case scenario, which consisted of permitted or known excluded users operating at their maximum expected values during the permit term during the drought of record (2002). The analysis took a conservative approach by assuming the proposed project was a 100 percent consumptive with no conservation measures. The analysis predicted that the Henrico County and the City intakes would experience no change in either frequency of drought restrictions or unmet demands. Based upon concerns voiced by the City of Richmond and Henrico County during the application process, staff included low flow values in the draft permit (Part I.F.9.a) that requires JRWA initiate conservation measures when those triggers are met during low flow events. These flow values were developed based upon those used by Henrico County and the City. Based upon the results of the analysis, staff determined the proposed project as limited in the draft permit, will not adversely affect existing beneficial uses.

Comments from Goochland County:

2. *Concern of what the cumulative impacts of the proposed project and Cobbs Creek project (currently authorized under VWP Permit No. 05-0852), which are located in close vicinity of one another, may be on water resources in Goochland County.*

Staff's review of the proposed withdrawal included a cumulative impact analysis to evaluate the project's potential effect on existing downstream users. The model, which included the operating rules for the Cobbs Creek Reservoir, was based upon the worst case scenario consisting of permitted or known excluded users operating at their maximum expected values during the permit term during the drought of record (2002). The analysis took a conservative approach by assuming the proposed project was a 100 percent consumptive with no conservation measures. The analysis predicted that downstream flows during the drought of record were predicted to decrease by -3.1 percent at the JRWA intake and -2 percent at the City of Richmond (City) intake. In response to

concerns voiced by the City and Henrico County during the application process, staff included low flow values in the draft permit (Part I.F.9.a) that requires JRWA initiate conservation measures when those triggers are met during low flow events. These flow values were developed based upon those used by Henrico County and the City. Based upon the results of the analysis, the proposed withdrawal will not adversely affect existing beneficial uses and the project as limited in draft permit is protective of existing beneficial uses.

3. *Comment that a Monocan Indian village, Rassawek, is located in the vicinity of the proposed intake.*

The oversight of historic resources is not within the purview of the VWP Permit Program. The U.S. Army Corps of Engineers does have oversight of historic resources and staff recommends the commenter coordinate with this agency.

APPENDIX D-1-3
MINOR MODIFICATION NO. 1 OF VWP INDIVIDUAL PERMIT NO. 14-0343 PERMIT



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VWP Individual Permit Number 14-0343

Effective Date: November 20, 2015

Minor Modification No. 1: October 25, 2016

Expiration Date: November 19, 2030

VIRGINIA WATER PROTECTION PERMIT ISSUED PURSUANT TO THE STATE WATER CONTROL LAW AND SECTION 401 OF THE CLEAN WATER ACT

Based upon an examination of the information submitted by the owner, and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341 et seq.) and the State Water Control Law and regulations adopted pursuant thereto, the State Water Control Board (board) has determined that there is a reasonable assurance that the activity authorized by this permit, if conducted in accordance with the conditions set forth herein, will protect instream beneficial uses and will not violate applicable water quality standards. The board finds that the effect of the impact, together with other existing or proposed impacts to surface waters, will not cause or contribute to a significant impairment to state waters or fish and wildlife resources.

Permittee: James River Water Authority

Address: c/o Fluvanna County Administrator
132 Main Street, P.O. Box 540, Palmyra, Virginia 22963

Activity Location: The proposed intake is located on the north bank of the James River, just upstream of the confluence with the Rivanna River at the end of Route 624, near the Town of Columbia in Fluvanna County, Virginia. The proposed raw water transmission pipeline extends from the intake location through eastern Fluvanna County to the location of the proposed Louisa Water Treatment Plant near Ferncliff, Virginia.

Activity Description: This permit authorizes the construction and operation of a new surface water withdrawal intake to withdraw surface water from the James River as described in Part I.F and the installation of a raw water transmission pipe from the intake structure to the location of the proposed Louisa Water Treatment Plant near Ferncliff, Virginia. Impacts to the James River associated with the construction of the intake structure are authorized for 0.08 acre (64 linear feet) of permanent impact and 0.90 acre (485 linear feet) of temporary impact. Impacts associated with the construction of a raw water transmission pipeline are authorized to permanently impact 0.082 acre of palustrine scrub-shrub wetlands and 0.155 acre of palustrine forested wetland, and temporarily impact 1.313 acre of palustrine emergent wetland, 0.249 acre of palustrine scrub-shrub wetland, 0.173 acre of palustrine forested wetland and 6,190 linear feet of intermittent and perennial stream channels. Compensation for the permanent wetland impacts shall be provided through the purchase of 0.433 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for area in which the permitted impact site is located. The credit sale must be in accordance with the approved

Mitigation Banking Instrument for the mitigation bank. Compensation for permanent stream channel impacts is not required.

The permitted activity shall be in accordance with this Permit Cover Page, Part I - Special Conditions, and Part II - General Conditions.



Director, Office of Water Supply

10/25/16

Date

Part I – Special Conditions

A. Authorized Activities

1. This permit authorizes the construction and operation of a new surface water withdrawal intake to withdraw surface water from the James River as described in Part I.F and the installation of a raw water transmission pipeline from the intake structure to the location of the proposed Louisa Water Treatment Plant near Ferncliff, Virginia.
2. This permit authorizes the following surface water impacts:
 - a. Impacts to the James River associated with the construction of the intake structure are authorized for 0.08 acre (64 linear feet) of permanent impact and 0.90 acre (485 linear feet) of temporary impact.
 - b. Impacts associated with the construction of a raw water transmission pipeline are authorized to permanently impact 0.082 acre of palustrine scrub-shrub (PSS) wetland and 0.155 acre of palustrine forested (POF) wetland, and temporarily impact 1.313 acre of palustrine emergent (PEM) wetland, 0.249 acre of PSS wetland, 0.173 acre of POF wetland and 6,190 linear feet of intermittent and perennial stream channels, including temporary impacts associated with construction of a pipeline crossing of the Rivanna River.
3. Authorized impacts shall be as depicted and listed on the following:
 - a. Sheet 1 entitled “Relocated Intake, Pump Station and Raw Water Pipeline Owned by the JRWA” dated June 26, 2016 and received June 27, 2016
 - b. Unnumbered sheet entitled “Plan Set A: 24 inch Raw Water Main” dated April 14, 2016 and received June 27, 2016
 - c. Sheet C-5 entitled “Intake and River Cross Section” dated May, 2015 and received June 27, 2016
 - d. Sheet VMRC 2 entitled “Raw Water Main Rivanna River Crossing” dated February 24, 2016 and received June 27, 2016
 - e. Index Maps 1 through 8, entitled “Figure 3: Preliminary Jurisdictional Waters of the U.S. Impacts Map”, dated June 22, 2016 and received June 29, 2016
 - f. Sheets 1 through 75, entitled “Preliminary Jurisdictional Waters of the U.S. Impacts Map – Detail”, dated June 22, 2016 and received June 29, 2016
 - g. Attachment 2 entitled “Updated Impacts Table” dated September 23, 2016 and received September 23, 2016.
4. Authorized activities shall be conducted as described in the Joint Permit Application dated March 12, 2014, and received March 14, 2014, the request for permit modification dated June 26, 2016 and received June 27, 2016, and supplemental materials, revisions and clarifications received through September 23, 2016.
5. The permittee shall notify the DEQ prior to any additional impacts to surface waters, including wetlands; of any modifications of the intake structure; and of any change to the type of surface

water impacts associated with this project. Any additional impacts, modifications, or changes shall be subject to individual permit review and/or modification of this permit.

B. Permit Term

1. This permit is valid for fifteen (15) years from the date of issuance. A new permit may be necessary for the continuance of the authorized activities, including water withdrawals, or any permit requirement that has not been completed, including compensation provisions.
2. The permittee shall notify DEQ in writing at least 120 calendar days prior to the expiration of this permit if an extension of the permit term is required.

C. Standard Project Conditions

1. The activities authorized by this permit shall be executed in such a manner that any impacts to beneficial uses are minimized. As defined in § 62.1-10(b) of the Code, "beneficial use" means both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural, electric power generation, commercial, and industrial uses. Public water supply uses for human consumption shall be considered the highest priority.
2. No activity shall substantially disrupt the movement of aquatic life indigenous to the water body, including those species that normally migrate through the area, unless the primary purpose of the activity is to impound water.
3. Flows downstream of the project area shall be maintained to protect all uses.
4. No activity shall cause more than minimal adverse effect on navigation, and no activity shall block more than half of the width of the stream at any given time.
5. The activity shall not impede the passage of normal or expected high flows, and any associated structure shall withstand expected high flows.
6. Continuous flow of perennial springs shall be maintained by the installation of spring boxes, French drains, or other similar structures.
7. Construction activities shall be conducted in accordance with the below Time-of-Year Restrictions:
 - a. No instream work in any stream channel shall occur from April 15 through June 15 and August 15 through September 30 of any year to protect the state endangered brook floater and state threatened Atlantic pigtoe and green floater. Construction activities within the confines of the cofferdam are not included within this Time-of-Year Restriction.

- b. No instream work in the James River or in the Rivanna River shall occur from March 15 through June 30 of any year to protect anadromous fish. Construction activities within the confines of the cofferdam are not included within this Time-of-Year Restriction.
8. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity.
9. All in-stream activities shall be conducted during low-flow conditions whenever practicable.
10. All construction, construction access, and demolition activities associated with this project shall be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by this permit. Wet, excess, or waste concrete shall be prohibited from entering surface waters.
11. All fill material placed in surface waters shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable laws and regulations.
12. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters.
13. Machinery or heavy equipment in temporarily impacted wetlands shall be placed on mats or geotextile fabric, or other suitable means shall be implemented, to minimize soil disturbance to the maximum extent practical. Mats, fabrics, or other measures shall be removed as soon as the work is complete in the temporarily impacted wetland.
14. Heavy equipment is authorized for use within the stream channel during project construction or stream restoration activities when site conditions prohibit access from the streambank. The equipment shall be stationed on cobble bars and the activities conducted in the dry or during low flow conditions, whenever possible.
15. Temporary disturbances to wetlands, stream channels, and/or stream banks during project construction activities shall be avoided and minimized to the maximum extent practicable.
16. All temporarily disturbed wetland areas shall be restored to preconstruction conditions within 30 calendar days of completing work in the areas, which shall include re-establishing pre-construction contours, and planting or seeding with appropriate wetland vegetation according to cover type (emergent, scrub/shrub, or forested), except for invasive species identified on DCR's Invasive Alien Plant Species of Virginia list. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed surface waters through the second year post-disturbance.
17. All temporarily impacted streams and stream banks shall be restored to their original elevations and contours within 30 calendar days following the construction at that stream segment, and the banks shall be seeded or planted with the same vegetative cover type originally present along the banks, including supplemental erosion control grasses if necessary but not including invasive species identified on DCR's Invasive Alien Plant Species of Virginia list.

18. All materials (including fill, construction debris, excavated materials, and woody materials, that are temporarily placed in wetlands, in stream channels, or on stream banks) shall be placed on mats or geotextile fabric, shall be immediately stabilized to prevent the material or leachate from entering surface waters, and shall be entirely removed within 30 calendar days following completion of that construction activity. After removal, disturbed areas shall be returned to original contours, shall be stabilized, and shall be restored to the original vegetated state within 30 calendar days.
19. Temporary in-stream construction features such as cofferdams shall be made of non-erodible materials.
20. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.
21. All non-impacted surface water and any required upland buffers that are within the project or right-of-way limits, and that are within fifty feet of any project activities, shall be clearly flagged or demarcated for the life of the construction activity within that area. The permittee shall notify all contractors and subcontractors that *no activities are to occur in these marked areas*.
22. All required notifications and submittals shall include project name and permit number and be submitted to the DEQ office stated below, to the attention of the Water Withdrawal Permit Manager, unless directed in writing by DEQ subsequent to the issuance of this permit: Department of Environmental Quality-Office of Water Supply, P.O. Box 1105, Richmond, Virginia 23219.
23. All reports required by this permit and other information requested by DEQ shall be signed by the permittee or a person acting in the permittee's behalf, with the authority to bind the permittee. A person is a duly authorized representative only if *both* criteria below are met. If a representative authorization is no longer valid because of a change in responsibility for the overall operation of the facility, a new authorization shall be immediately submitted to DEQ.
 - a. The authorization is made in writing by the permittee.
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
24. All submittals shall contain the following signed certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate,

and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

25. Any fish kills or spills of fuels or oils shall be reported to DEQ immediately upon discovery at (804) 698-4000. If DEQ cannot be reached, the spill shall be reported to the Virginia Department of Emergency Management (DEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802.
26. DEQ shall be notified in writing within 24 hours or as soon as possible on the next business day when potential environmentally threatening conditions are encountered which require debris removal or involve potentially toxic substances. Measures to remove the obstruction, material, or toxic substance or to change the location of any structure are prohibited until approved by DEQ.

D. Stream Modifications, Including Installation of the James River Intake and Rivanna River Raw Water Transmission Line Crossing

1. Prior to commencing work in the James River or along its shoreline, the permittee shall:
 - a. Perform a mussel survey and relocation 100 meters upstream through 400 meters downstream of the James River authorized impact area no more than six months prior to the start of construction unless otherwise approved by Virginia Department of Game and Inland Fisheries (DGIF) and DEQ. The survey shall be performed by a qualified, permitted biologist and conducted in accordance with DGIF and U.S. Fish and Wildlife Services draft Freshwater Mussel Guidelines for Virginia dated March 7, 2008.
 - b. Submit a report summarizing survey results to DGIF and DEQ for review and approval. The agencies review and approval shall be completed prior to commencing work in the James River or along its shoreline. The report shall reference DGIF's project number: ESSLog# 22598. Based upon the results, DGIF will provide final recommendations regarding the protection of listed species known from the area.
2. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, such activities shall occur only in the dry, allowing all concrete to harden and cure prior to contact with open water.
3. Redistribution of existing stream substrate for erosion control purposes is prohibited.
4. Material removed from the stream bottom shall not be deposited into surface waters unless otherwise authorized in this permit.
5. Riprap apron for all outfalls shall be designed in accordance with Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction.

6. For streambank protection activities, structures and backfill shall be placed as close to the streambank as practical, while still avoiding and minimizing impacts to surface waters to the maximum extent practical. No material shall be placed in excess of the minimum necessary for erosion protection.
7. Asphalt and materials containing asphalt or other toxic substances shall not be used in the construction of submerged sills, breakwaters, dams, or weirs.

E. Installation of Utilities

1. All utility line work in surface waters shall be performed in a manner that minimizes disturbance in each area. Temporarily disturbed surface waters shall be restored in accordance with Part I.C.16, C.17, and C.18, unless otherwise authorized by this permit.
2. Material resulting from trench excavation may be temporarily sidecast into wetlands not to exceed a total of 90 calendar days, provided the material is not placed in a manner such that it is dispersed by currents or other forces.
3. The trench for a utility line cannot be constructed in a manner that drains wetlands (e.g., backfilling with extensive gravel layers creating a French drain effect).

F. Surface Water Withdrawals

1. Surface water withdrawn from the James River and authorized under this permit shall be only used for public water supply.
2. The safe yield of the surface water withdrawal project as authorized under this permit is the annual average daily volume of 4.12 million gallons per day (mgd).
3. The withdrawal of water from the James River shall not exceed the limits established in the table below. The withdrawal limits are to be phased in based upon completion of capital improvements necessary to begin water service to areas identified for each Tier:

Tier	Maximum Daily Withdrawal (mgd)	Maximum Monthly Withdrawal (mg)	Maximum Annual Withdrawal (mg)
1	5.82	119.35	1,024.8
2	7.69	157.71	1,354.2
3	8.57	175.62	1,507.92

- a. Tier 1 contains the withdrawal limits to meet the justified demands of the service areas of Zion Crossroads and Ferncliff in Louisa County and Fluvanna CWS in Fluvanna County and the economic development prospects as identified in the application for both Counties.

- b. Tier 2 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 1 and the service areas of Shannon Hill, Town of Louisa, Town of Mineral, Louisa County Water Authority and Lake Anna in Louisa County.
 - c. Tier 3 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 2 and the service areas of Gum Springs in Louisa County and the Fork Union, Columbia and Palmyra CWS in Fluvanna County.
4. The localities (Fluvanna and Louisa Counties) through the permittee shall provide to DEQ for review no later than June 30, 2017 for Tier 1 and within three (3) years of permit issuance for Tier 2 and 3, a plan(s) that identifies the specific capital improvements and associated schedule for completion that Fluvanna and Louisa Counties must implement to treat and transport water withdrawn from the authorized intake to service areas identified for each Tier in Part I.F.3. Any changes to the plan(s) that relates to this permit shall be submitted to DEQ for review. The plan(s) shall include, at a minimum, the following for each Tier:
- a. Summarize the capital improvements that must be completed for water to be transported from the authorized intake, treated and distributed to the service areas identified for each Tier. These capital improvements shall include infrastructure such as pipelines, water treatment plants and associated storage facilities.
 - b. Identify the location(s) of wastewater treatment facilities, both private and municipal, that will treat any part of the water withdrawn from the authorized intake and the watershed to which the return flow will be discharged.
 - c. The anticipated dates to complete each phase of the identified capital improvements.
5. The withdrawal limits established in Part I.F.3 are authorized in accordance with the following:
- a. Tier 1: The permittee shall submit to DEQ for review and approval by January 1, 2018 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 1 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - b. Tier 2: The permittee shall submit to DEQ for review and approval by January 1, 2021 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 2 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - c. Tier 3: The permittee shall submit to DEQ for review and approval by January 1, 2023 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 3 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - d. Should capital improvements necessary to begin water service to areas identified for a specific Tier be completed later in the permit term than identified above, the permittee may

submit to DEQ for review and approval a request for authorization of withdrawal limits established for a specific Tier. Any such request shall include written confirmation that capital improvements identified in the plan required by Part I.F.4 for a specific Tier are complete to obtain authorization to withdraw water at the volumes identified under that Tier and discussion of project status including justification for the request.

- e. If capital improvements for a specific Tier are complete for only a portion of the service area or areas identified for that Tier, the permittee may submit to DEQ for review and approval a request for a portion of the withdrawal volumes for a specific Tier sufficient to meet the demands of those service area or areas. Any such request shall include the following: proposed revision to the specific Tier, including water demands associated with the service area or areas as identified in the application materials, written confirmation that capital improvements identified in the plan required by Part I.F.4 are complete for those service area or areas, and discussion of project status including justification for the request. Any such request will require a modification of the permit, which may be considered under a minor modification, to adjust the withdrawal volumes for a particular Tier, not to exceed the volumes identified for Tier 3 in Part I.F.3.
6. The permittee shall estimate flows at the James River intake in units of cubic feet per second (cfs) on a daily basis by monitoring the stream flow gages detailed herein and by applying the equation “Flows at the intake = $(Q_{SC} + Q_{HD} + Q_{SL}) * 1.03$,” where:
 - a. Q_{SC} is the previous day’s provisional mean daily flow at the U.S. Geologic Survey (USGS) gage No. 02029000 (James River at Scottsville, Virginia);
 - b. Q_{HD} is the previous day’s provisional mean daily flow at the USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia);
 - c. Q_{SL} is the previous day’s provisional mean daily flow at the USGS gage No. 02030500 (Slate River near Arvonnia, Virginia);
 - d. 1.03 is the adjustment factor for drainage area.
 7. The permittee shall make reasonable effort to coordinate with the operators of the Cobbs Creek Reservoir when provisional stream flows at the permittee’s intake estimated in accordance with Part I.F.6 is equal to or less than the 10th percentile flow of 778 cfs. Coordination shall occur in accordance with the DEQ approved protocol required by Part I.F.8.
 8. Prior to withdrawing surface water from the James River, the permittee shall develop and submit for DEQ approval a protocol for coordinating with the operators of the Cobbs Creek Reservoir when provisional stream flows at the intake fall below the 10th percentile, as identified in Part I.F.7. Such protocol, to the extent reasonable, should be developed in coordination with the operators of the Cobbs Creek Reservoir, with assistance by DEQ. The protocol shall include, at a minimum, the permittee informing the operators of the Cobbs Creek Reservoir of their current and intended operations and stipulating the frequency of periodic updates during extended low flow

events. DEQ shall have 30 days from receipt of the proposed protocol to review and provide comments.

9. The permittee shall submit a drought management plan to DEQ for review and approval 90 days prior to initiating the surface water withdrawal. Any revisions to the approved plan shall be submitted to DEQ for review and approval prior to implementing the change. The plan shall include, at a minimum, the following:
 - a. Development of drought stages, including when and how each stage will be implemented. The emergency drought stage shall be initiated when a drought emergency is declared by the Commonwealth of Virginia in the Northern Piedmont Drought Evaluation Region or the Middle James Drought Evaluation Region or by either Fluvanna or Louisa County in accordance with either County’s Drought Management Ordinance. Once authorization is granted by DEQ to the permittee to withdrawal volumes above those identified in Tier 1 (Part I.F.3), voluntary and mandatory drought stages shall be initiated when the fourteen (14) day rolling average of James River flows at the intake are equal to or less than the values in the below table. James River flows at the intake shall be estimated in accordance with Part I.F.6.

Drought Stage	James River Flow at Intake, 14-day Rolling Average (cfs)	
	November - June	July - October
Voluntary	≤ 1,241	≤ 975
Mandatory	≤ 913	≤ 750

- b. Requirement to operate the James River intake in a manner that ensures the instantaneous withdrawal does not exceed 13,980 gallons per minute (31.1 cfs) during the Mandatory Drought Stage.
 - c. A description of the conservation measures to be implemented during each drought stage.
10. When a drought emergency is declared by the Commonwealth of Virginia in the Northern Piedmont Drought Evaluation Region or the Middle James Drought Evaluation Region or by either Fluvanna or Louisa County in accordance with either County’s Drought Management Ordinance, the permittee shall implement either the provisions directed by the Commonwealth, the Drought Management Ordinance, the Drought Management Plan required by Part I.F.9 of this permit or the mandatory conservation measures as detailed in Attachment A of this permit, whichever is the most restrictive. The permittee shall be responsible for determining when drought emergencies are declared. The permittee shall retain records documenting that mandatory conservation measures were implemented during declared drought emergencies.
11. The intake screens shall be designed so that screen openings are not larger than 1 millimeter in width and height and the screen face intake velocities are not greater than 0.25 feet per second.

12. The permittee shall monitor withdrawals from the James River on a daily basis using flow totalizer technology to confirm that the withdrawals are in compliance with this permit. Such meters shall produce volume determinations within plus or minus 5 percent of actual flows. A defective meter or other device must be repaired or replaced within 60 days. A defective meter is not grounds for not reporting the withdrawals. During any period when a meter is defective, generally accepted engineering practice shall be used to estimate withdrawals and the period during which the meter was defective must be clearly identified in the report.
13. On each day that pumping occurs, the permittee must monitor and record the following, for each pump:
 - a. Date and time.
 - b. Total amount of water withdrawn each day.
 - c. The maximum rate of withdrawal that occurred each date (in gpm).
 - d. The provisional stream flow in cfs as measured at the following stream gages: USGS gage No. 02029000 (James River at Scottsville, Virginia), USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia), and USGS gage No. 02030500 (Slate River near Arvon, Virginia).
 - e. The provisional stream flow at the intake in cfs as estimated in accordance with Part I.F.6.
 - f. Identify whether stream flows at the intake fell below the 10th percentile requiring coordination with the operators of the Cobbs Creek Reservoir and if water supply storage releases from the upstream Cobbs Creek Reservoir occurred.
14. The permittee shall submit a water withdrawal monitoring report to DEQ semi-annually. The semi-annual monitoring period shall be as follows: January through June and July through December. The daily records shall be tabulated by month. The report shall be submitted to DEQ by January 31st and July 31st of every year within the permit term. Submittal of the report may take the form of electronic reporting or another form determined to be acceptable by DEQ. In the event the electronic reporting system is not available, the permittee may submit the report by electronic mail. The report shall include the following information:
 - a. The permittee's name and address.
 - b. The permit number.
 - c. The source(s) from which water is withdrawn.
 - d. The location (latitude and longitude) of the water withdrawal.
 - e. Information listed in Part I.F.13.

- f. The cumulative volume (million gallons) of water withdrawn each month and for the calendar year.
 - g. The average daily volume (mgd) of water withdrawn as calculated the last day of the monitoring period.
 - h. In the last report for the calendar year, the largest single day withdrawal volume (mgd) that occurred in the year and the month in which it occurred.
 - i. The method of measuring each withdrawal.
 - j. Documentation of any coordination conducted in accordance with Part I.F.7 during the reporting period.
 - k. If during a semi-annual reporting period a drought emergency is declared, the report shall include a summary of mandatory conservation measures implemented during the drought event.
15. Water withdrawal monitoring and reporting activities shall comply with this section, Part I.C, and Part II. All records and information that result from the monitoring and reporting activities required by this permit, including any records of maintenance activities to the withdrawal system, shall be retained for the life of the permit. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or as requested by the State Water Control Board.

G. Construction Monitoring and Submittals (Impact Sites)

- 1. Final plans for the project construction activities authorized by this permit shall be submitted thirty (30) calendar days prior to initiating any land disturbance or construction in permitted impact areas. Construction shall be performed in accordance with the final construction plans submitted to DEQ, which shall be in compliance with the permit. Any changes to the final plans for permitted areas shall be submitted to DEQ immediately upon determination that changes are necessary. DEQ approval shall be required prior to implementing the changes.
- 2. The permittee shall submit written notification at least ten (10) calendar days prior to the initiation of land disturbance or construction activities in permitted areas. The notification shall include a projected schedule for initiating and completing work at each permitted impact area.
- 3. Site inspections shall be conducted at least once every calendar month and recorded on the *Monthly VWP Permit Inspection Checklist* (Attachment B) by the permittee or the permittee's qualified designee during active construction within authorized surface water impact areas. Monthly inspections shall be conducted in the following areas: all authorized permanent and temporary impact areas; all avoided surface waters, including wetlands, stream channels, and open water; surface water areas within 50 feet of any land disturbing activity; and all on-site areas designated for permanent preservation. The *Monthly VWP Permit Inspection Checklist*

(Attachment B) shall be completed in its entirety for each monthly inspection and shall be kept on-site and made available for review by DEQ staff upon request during normal business hours.

4. The *VWP Permit Construction Status Update Form* (Attachment C) shall be completed in June and December and shall be submitted and received by DEQ no later than January 31st and July 31st of every year for the duration of this permit. The *VWP Permit Construction Status Update Form* (Attachment C) shall include reference to the VWP permit authorization number and one of the following statements for each authorized surface water impact location:
 - a. Construction activities not yet commenced;
 - b. Construction activities have commenced;
 - c. Construction activities have commenced but are currently inactive, or;
 - d. Construction activities are complete.
5. The permittee shall notify DEQ within 24 hours of discovering impacts to surface waters including wetlands, stream channels, and open water that are not authorized by this permit. The notification shall include the completed *Monthly VWP Permit Inspection Checklist* (Attachment B), photographs, estimated acreage and/or linear footage of impacts, and a description of the impacts.
6. The permittee shall submit written notification of completion within 30 calendar days after the completion of all activities in all permitted impact areas authorized under this permit.

H. Compensatory Mitigation

1. Compensation for the permanent impact of 0.155 acre of palustrine forested wetland shall be provided through the purchase of 0.31 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for the area in which the permitted impact sites are located. The credit sale must be in accordance with the approved Mitigation Banking Instrument for the mitigation bank.
2. Compensation for the permanent impact of 0.082 acre of palustrine scrub-shrub wetland shall be provided through the purchase of 0.123 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for the area in which the permitted impact sites are located. The credit sale must be in accordance with the approved Mitigation Banking Instrument for the mitigation bank.
3. Documentation that an approved wetland mitigation bank has debited the required mitigation credits from the mitigation bank ledger shall be submitted to and received by DEQ prior to initiating work in permitted impact areas.

Part II – General Conditions

A. Duty to Comply

The permittee shall comply with all conditions of the VWP permit. Nothing in the VWP permit regulations shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any VWP permit violation is a violation of the law, and is grounds for enforcement action, VWP permit termination, revocation, modification, or denial of an application for a VWP permit extension or reissuance.

B. Duty to Cease or Confine Activity

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a VWP permit has been granted in order to maintain compliance with the conditions of the VWP permit.

C. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the permit which may have a reasonable likelihood of adversely affecting human health or the environment.

D. VWP Permit Action

1. A VWP permit may be modified, revoked and reissued, or terminated as set forth in 9 VAC 25-210 et seq.
2. If a permittee files a request for VWP permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the VWP permit terms and conditions shall remain effective until the request is acted upon by the board. This provision shall not be used to extend the expiration date of the effective VWP permit. If the permittee wishes to continue an activity regulated by the VWP permit after the expiration date of the VWP permit, the permittee must apply for and obtain a new VWP permit or comply with the provisions of 9 VAC 25-210-185 (VWP Permit Extension).

VWP permits may be modified, revoked and reissued or terminated upon the request of the permittee or other person at the board's discretion, or upon board initiative to reflect the requirements of any changes in the statutes or regulations, or as a result of VWP permit noncompliance as indicated in the Duty to Comply subsection above, or for other reasons listed in 9 VAC 25-210-180 (Rules for Modification, Revocation and Reissuance, and Termination of VWP permits).

E. Inspection and Entry

Upon presentation of credentials, any duly authorized agent of the board may, at reasonable times and under reasonable circumstances:

1. Enter upon any permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the VWP permit conditions;
2. Inspect any facilities, operations or practices (including monitoring and control equipment) regulated or required under the VWP permit; and
3. Sample or monitor any substance, parameter or activity for the purpose of ensuring compliance with the conditions of the VWP permit or as otherwise authorized by law.

F. Duty to Provide Information

1. The permittee shall furnish to the board any information which the board may request to determine whether cause exists for modifying, revoking, reissuing or terminating the VWP permit, or to determine compliance with the VWP permit. The permittee shall also furnish to the board, upon request, copies of records required to be kept by the permittee.
2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as required by the board prior to commencing construction.

G. Monitoring and Records Requirements

1. Monitoring of parameters, other than pollutants, shall be conducted according to approved analytical methods as specified in the VWP permit. Analysis of pollutants will be conducted according to 40 CFR Part 136 (2000), Guidelines Establishing Test Procedures for the Analysis of Pollutants.
2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the VWP permit, and records of all data used to complete the application for the VWP permit, for a period of at least three years from the date of the expiration of a granted VWP permit. This period may be extended by request of the board at any time.
4. Records of monitoring information shall include:
 - a. The date, exact place and time of sampling or measurements;
 - b. The name of the individuals who performed the sampling or measurements;
 - c. The date and time the analyses were performed;
 - d. The name of the individuals who performed the analyses;

- e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used;
- f. The results of such analyses; and
- g. Chain of custody documentation.

H. Transferability

This VWP permit may be transferred to a new permittee only by modification to reflect the transfer, by revoking and reissuing the permit, or by automatic transfer. Automatic transfer to a new permittee shall occur if:

1. The current permittee notifies the board within 30 days of the proposed transfer of the title to the facility or property;
2. The notice to the board includes a written agreement between the existing and proposed permittee containing a specific date of transfer of VWP permit responsibility, coverage and liability to the new permittee, or that the existing permittee will retain such responsibility, coverage, or liability, including liability for compliance with the requirements of any enforcement activities related to the permitted activity; and
3. The board does not within the 30-day time period notify the existing permittee and the new permittee of its intent to modify or revoke and reissue the VWP permit.

I. Property rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize injury to private property or any invasion of personal rights or any infringement of federal, state or local law or regulation.

J. Reopener

Each VWP permit shall have a condition allowing the reopening of the VWP permit for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the board. Cause for reopening VWP permits includes, but is not limited to when the circumstances on which the previous VWP permit was based have materially and substantially changed, or special studies conducted by the board or the permittee show material and substantial change, since the time the VWP permit was issued and thereby constitute cause for VWP permit modification or revocation and reissuance.

K. Compliance with State and Federal Law

Compliance with this VWP permit constitutes compliance with the VWP permit requirements of the State Water Control Law. Nothing in this VWP permit shall be construed to preclude the institution of any legal action under or relieve the permittee from any responsibilities, liabilities, or other penalties established pursuant to any other state law or regulation or under the authority preserved by § 510 of the Clean Water Act.

L. Severability

The provisions of this VWP permit are severable.

M. Permit Modification

A VWP permit may be modified, but not revoked and reissued except when the permittee agrees or requests, when any of the following developments occur:

1. When additions or alterations have been made to the affected facility or activity which require the application of VWP permit conditions that differ from those of the existing VWP permit or are absent from it;
2. When new information becomes available about the operation or activity covered by the VWP permit which was not available at VWP permit issuance and would have justified the application of different VWP permit conditions at the time of VWP permit issuance;
3. When a change is made in the promulgated standards or regulations on which the VWP permit was based;
4. When it becomes necessary to change final dates in schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc. However, in no case may a compliance schedule be modified to extend beyond any applicable statutory deadline of the Act;
5. When changes occur which are subject to "reopener clauses" in the VWP permit; or
6. When the board determines that minimum instream flow levels resulting from the permittee's withdrawal of water are detrimental to the instream beneficial use and the withdrawal of water should be subject to further net limitations or when an area is declared a Surface Water Management Area pursuant to §§ 62.1-242 through 62.1-253 of the Code of Virginia, during the term of the VWP permit.

N. Permit Termination

After notice and opportunity for a formal hearing pursuant to Procedural Rule No. 1 (9 VAC 25-230-100) a VWP permit can be terminated for cause. Causes for termination are as follows:

1. Noncompliance by the permittee with any condition of the VWP permit;

2. The permittee's failure in the application or during the VWP permit issuance process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time;
3. The permittee's violation of a special or judicial order;
4. A determination by the board that the permitted activity endangers human health or the environment and can be regulated to acceptable levels by VWP permit modification or termination;
5. A change in any condition that requires either a temporary or permanent reduction or elimination of any activity controlled by the VWP permit; and
6. A determination that the permitted activity has ceased and that the compensatory mitigation for unavoidable adverse impacts has been successfully completed.

O. Civil and Criminal Liability

Nothing in this VWP permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this VWP permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under § 311 of the Clean Water Act or §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Unauthorized Discharge of Pollutants

Except in compliance with this VWP permit, it shall be unlawful for the permittee to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances;
2. Excavate in a wetland;
3. Otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, to animal or aquatic life, to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses;
4. On or after October 1, 2001 conduct the following activities in a wetland:
 - a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;
 - b. Filling or dumping;

- c. Permanent flooding or impounding;
- d. New activities that cause significant alteration or degradation of existing wetland acreage or functions.

R. Permit Extension

Any permittee with an effective VWP permit for an activity that is expected to continue after the expiration date of the VWP permit, without any change in the activity authorized by the VWP permit, shall submit written notification requesting an extension. The permittee must file the request prior to the expiration date of the VWP permit. Under no circumstances will the extension be granted for more than 15 years beyond the original effective date of the VWP permit. If the request for extension is denied, the VWP permit will still expire on its original date and, therefore, care should be taken to allow for sufficient time for the board to evaluate the extension request and to process a full VWP permit modification, if required.

Attachment A – Water Conservation

Mandatory Non-essential Water Use Restrictions

The following non-essential water uses will be prohibited during periods of declared drought emergencies. Please note the exceptions that follow each prohibited use. These prohibitions and exceptions will apply to uses from all sources of water and will only be effective when the Governor of Virginia or the Virginia Drought coordinator declares a Drought Emergency. Water use restrictions shall not apply to the agricultural production of food or fiber, the maintenance of livestock including poultry, nor the commercial production of plant materials, *provided that best management practices are applied to assure the minimum amount of water is utilized.*

1. *Unrestricted irrigation of lawns is prohibited.*

- Newly sodded and seeded areas may be irrigated to establish cover on bare ground at the minimum rate necessary for no more than a period of 60 days. Irrigation rates may not exceed one inch of applied water in any 7-day period.
- Gardens, bedding plants, trees, shrubs and other landscape materials may be watered with hand held containers, hand held hoses equipped with an automatic shutoff device, sprinklers or other automated watering devices at the minimum rate necessary but in no case more frequently than twice per week. Irrigation should not occur during the heat of the day.
- All allowed lawn irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Irrigation systems may be tested after installation, routine maintenance or repair for no more than ten minutes per zone.

2. *Unrestricted irrigation of golf courses is prohibited.*

- Tees and greens may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
- Localized dry areas may be irrigated with a hand held container or hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Greens may be cooled by syringing or by the application of water with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Fairways may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary not to exceed one inch of applied water in any ten-day period.
- Fairways, tees and greens may be irrigated during necessary overseeding or resodding operations in September and October at the minimum rate necessary. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period.

- Newly constructed fairways, tees and greens and areas that are re-established by sprigging or sodding may be irrigated at the minimum rate necessary not to exceed one inch of applied water in any seven-day period for a total period that does not exceed 60 days.
- Fairways, tees and greens may be irrigated without regard to the restrictions listed above so long as:
 - The only water sources utilized are water features whose primary purpose is stormwater management;
 - Any water features utilized do not impound permanent streams;
 - During declared Drought Emergencies these water features receive no recharge from other water sources such as ground water wells, surface water intakes, or sources of public water supply; and,
 - All irrigation occurs between 9:00 p.m. and 10:00 a.m.
- All allowed golf course irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Rough areas may not be irrigated.

3. ***Unrestricted irrigation of athletic fields is prohibited.***

- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at a rate not to exceed one inch per application or more than a total of one inch in multiple applications during any ten-day period. All irrigation water must fall on playing surfaces with no outlying areas receiving irrigation water directly from irrigation heads.
- Localized dry areas that show signs of drought stress and wilt (curled leaves, foot-printing, purpling) may be syringed by the application of water for a cumulative time not to exceed fifteen minutes during any twenty four hour period. Syringing may be accomplished with an automated irrigation system or with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. during necessary overseeding, sprigging or resodding operations at the minimum rate necessary for a period that does not exceed 60 days. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period. Syringing is permitted during signs of drought stress and wilt (curled leaves, foot-printing, purpling).
- All allowed athletic field irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.

- Irrigation is prohibited on athletic fields that are not scheduled for use within the next 120-day period.
 - Water may be used for the daily maintenance of pitching mounds, home plate areas and base areas with the use of hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary.
 - Skinned infield areas may utilize water to control dust and improve playing surface conditions utilizing hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary no earlier than two hours prior to official game time.
4. ***Washing paved surfaces such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, and patios is prohibited.***
- Driveways and roadways may be pre-washed in preparation for recoating and sealing.
 - Tennis courts composed of clay or similar materials may be wetted by means of a hand-held hose equipped with an automatic shutoff device at the minimum rate necessary for maintenance. Automatic wetting systems may be used between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
 - Public eating and drinking areas may be washed using the minimum amount of water required to assure sanitation and public health.
 - Water may be used at the minimum rate necessary to maintain effective dust control during the construction of highways and roads.
5. ***Use of water for washing or cleaning of mobile equipment including automobiles, trucks, trailers and boats is prohibited.***
- Mobile equipment may be washed using hand held containers or hand held hoses equipped with automatic shutoff devices provided that no mobile equipment is washed more than once per calendar month and the minimum amount of water is utilized.
 - Construction, emergency or public transportation vehicles may be washed as necessary to preserve the proper functioning and safe operation of the vehicle.
 - Mobile equipment may be washed at car washes that utilize reclaimed water as part of the wash process or reduce water consumption by at least 10% when compared to a similar period when water use restrictions were not in effect.
 - Automobile dealers may wash cars that are in inventory no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water

consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.

- Automobile rental agencies may wash cars no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.
- Marine engines may be flushed with water for a period that does not exceed 5 minutes after each use.

6. *Use of water for the operation of ornamental fountains, artificial waterfalls, misting machines, and reflecting pools is prohibited.*

- Fountains and other means of aeration necessary to support aquatic life are permitted.

7. *Use of water to fill and top off outdoor swimming pools is prohibited.*

- Newly built or repaired pools may be filled to protect their structural integrity.
- Outdoor pools operated by commercial ventures, community associations, recreation associations, and similar institutions open to the public may be refilled as long as:
 - Levels are maintained at mid-skimmer depth or lower;
 - Any visible leaks are immediately repaired;
 - Backwashing occurs only when necessary to assure proper filter operation;
 - Deck areas are washed no more than once per calendar month (except where chemical spills or other health hazards occur);
 - All water features (other than slides) that increase losses due to evaporation are eliminated; and
 - Slides are turned off when the pool is not in operation.
- Swimming pools operated by health care facilities used in relation to patient care and rehabilitation may be filled or topped off.
- Indoor pools may be filled or topped off.
- Residential swimming pools may be filled only to protect structural integrity, public welfare, safety and health and may not be filled to allow the continued operation of such pools.

8. *Water may be served in restaurants, clubs, or eating-places only at the request of customers.*



MONTHLY VWP PERMIT INSPECTION CHECKLIST (Attachment B)

An inspection of all permitted impact areas, avoided waters and wetlands, and permanently preserved waters, wetlands and upland areas must be conducted at least once every month during active construction activities. Maintain this record on-site and available for inspection by DEQ staff.

Project Name	James River Water Supply Project	VWP Permit #	14-0343	Inspection Date	
Inspector Name & Affiliation		Phone # & Email Address			

Based on a reading of VWP Permit No. 14-0343, including authorized impacts as identified by the plans listed in Special Condition Part I.A.3 of the permit, and my inspection on the date referenced above, to the best of my knowledge this project (___ is in compliance / ___ is not in compliance) with the VWP Permit.

List the Impact Site Number(s) inspected on this date: _____

I certify that the information contained in this report is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Inspector

Date

REVIEWED DURING SITE INSPECTION	Yes	No	N/A	Notes & Corrective Action Taken / Date Completed (use back of page if necessary)
Unauthorized impacts to surface waters, including wetlands, or upland preservation areas have occurred . <i>(This includes sedimentation impacts due to inadequate or failed erosion controls.)</i>	<input type="checkbox"/>	<input type="checkbox"/>		
Non-impacted wetlands, streams and preservation areas within 50 feet of construction are clearly marked to prevent unpermitted impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Temporary impacts are being restored to original contours, stabilized, and allowed to re-establish with wetland vegetation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Construction activities are not substantially disrupting aquatic life movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E&S controls are present, properly maintained, and functioning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
In-stream work is being performed in the dry with the appropriate use of cofferdams, sheetpiling, etc., to minimize stream bottom disturbance and turbidity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pipes and/or culverts for road crossings are countersunk to provide for the re-establishment of low flow fish passage and/or a natural stream bottom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Time-of-year restrictions regarding impacts to surface waters are being adhered to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Water quality monitoring is being conducted during stream impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Streams and wetlands are free from any sheen or discoloration that may indicate a spill of oil, lubricants, concrete or other pollutants. **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Heavy equipment is placed on mats or geotextile fabric when working in wetlands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Exposed slopes/stream banks are stabilized immediately upon completion of work in each impact area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

* If unauthorized impacts have occurred, you **must** email or fax a copy of this report to DEQ within 24 hours of discovery.
Email: Previn.Smith@deq.virginia.gov or Fax: 804-698-4302

** Any fish kills, or spills of fuels or oils must be reported **immediately upon discovery** to DEQ at 804-527-5020. If outside of normal business hours, contact Virginia Dept. of Emergency Management at 1-800-468-8892 or the National Response Center at 1-800-424-8802.

Notes

Please note that the permit contains additional construction conditions other than those listed above. The permittee is responsible for compliance with all conditions in the permit. Problems or concerns associated with these other conditions should be noted below.



VWP PERMIT CONSTRUCTION STATUS UPDATE FORM (Attachment C)

Attached to VWP Permit No. 14-0343, issued on November 20, 2015 and modified on October 25, 2016.

Date (check one):

June ____, _____

December ____, _____

VWP Permit No: _____ 14-0343 _____

Project Name: _____ James River Water Supply Project _____

Status within each authorized surface water impact location, as identified by the plans listed in Special Condition Part I.A. 3 of the permit: (check one of the following status options for each impact number/location for authorized impacts numbered 1 through 158.)

Impact number	Construction activities started	Construction activities not started	Construction activities started but currently not active	Construction activities complete

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Authorized Signature: _____

Print Name: _____

Title: _____ Phone: _____

Date: _____ Email: _____

SEND TO: Previn.Smith@deq.virginia.gov or VA DEQ, Office of Water Supply (Attn: Previn Smith), P.O. Box 1105, Richmond, VA 23218

APPENDIX D-1-4

MINOR MODIFICATION NO. 1 OF VWP INDIVIDUAL PERMIT NO. 14-0343 FACT SHEET

October 25, 2016

FACT SHEET

Minor Modification No. 1 of Virginia Water Protection Individual Permit No. 14-0343
James River Water Supply Project, Fluvanna County, Virginia

DEQ has reviewed the request for a modification of Virginia Water Protection (VWP) Individual Permit Number 14-0343 and determined that the proposed changes qualify for a minor modification of the VWP permit in accordance with VWP Permit Program Regulation 9 VAC 25-210-180.F 2, 5, and 8. Based on the information provided in the application and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341 et seq.) and the State Water Control Law and regulations, DEQ has determined that there is a reasonable assurance that the activity authorized by this permit will not adversely affect existing beneficial uses.

Surface water impacts have been avoided and minimized to the maximum extent practicable. The proposed permit also addresses no net loss of wetland acreage and function through compensatory mitigation. Permitted wetland impacts have been inventoried in evaluating this proposed permit.

The following details the minor modification application review process.

1. Processing Dates:

Modification requested:	June 26, 2016
Letter(s) sent to Local Government(s):	September 23, 2016
Letters sent to Riparian/Adjacent Land Owners*:	September 23, 2016
Minor Modification Permit Approved:	October 25, 2016

*Riparian landowner information was obtained on-line from the Fluvanna County and Louisa County on-line GIS databases. Therefore, the Commissioners of Revenue for these counties were not contacted for riparian landowner information.

2. Project Description:

The James River Water Authority (JRWA) proposes to construct and operate a new raw water intake to withdraw surface water from the James River, just upstream of its confluence with the Rivanna River, and installation of associated water lines to meet the water demands associated with the Counties of Fluvanna and Louisa. The types of water use are residential, commercial, and industrial.

3. Minor Modification Description:

This action is a minor modification to the permit issued on November 20, 2015. The construction activities of the permitted project consist of the following: intake structure, pump station, electrical/control building, and installation of a raw water transmission line from the intake structure to just north of Route 6 within the vicinity of the Rivanna River.

The modification authorizes: 1) relocation of the proposed intake structure and pump station, 2) relocation of a portion of the permitted raw water transmission line, and 3) extension of the raw water transmission line from due north of Route 6 to the location of a proposed new water treatment plant near the Ferncliff community in Louisa County.

The permittee requested a relocation of the proposed intake structure to approximately 250 linear feet upstream of the previously authorized location. Access to the requested new location is through the property adjacent to the previously authorized intake location. Therefore, the permittee also requested a partial relocation of the raw water transmission line from the intake to the location of the previously authorized crossing of the Rivanna River. The permittee also requested authorization for the temporary stream impacts related to an open-cut stream crossing of the Rivanna River in order to provide the option for either continuing with the previous plan to construct the crossing via direction drilling or to use an open cut.

The permittee requested authorization to extend the raw water transmission line from the end of the previously authorized location along an approximately 13-mile long route through eastern Fluvanna County to the location of the proposed Louisa Water Treatment Plant near Ferncliff, Virginia. The need for later authorization of this raw water line extension via permit modification was recognized during review and issuance of the permit. At the time of the original Joint Permit Application (March 12, 2014), and extending through the time of permit issuance (November 20, 2015), the specific alignment that would be proposed for the remaining raw water transmission line was unknown. By the time of the request for the permit modification (June 26, 2016), the currently proposed alignment of the raw water transmission line was established.

4. Avoidance and Minimization Efforts

The permittee's efforts to avoid and minimize impacts to surface waters resulting from the proposed modifications included 1) use of a new Preliminary Jurisdictional Wetland Delineation to adjust the raw water line alignment in order to avoid impacts to the maximum extent where possible, 2) use of existing maintained easements, 3) reduction of the width of planned easements from 20 ft. to 15 ft., and 4) crossing jurisdictional features perpendicularly. The easement for the proposed raw water line extension was lengthened near Shannon Hill Road in Fluvanna County in order to avoid two temporary stream crossings of Byrd Creek.

The permittee also conducted an Endangered Species Project Review to gauge the potential presence of Endangered Species Act (ESA) listed species or state endangered or threatened species within the vicinity of the updated project area. The Review indicated the potential presence of Northern Long-Eared Bat (NLEB). However, the Survey did not indicate the presence of any known maternity roosts or hibernacula within close proximity to the project.

5. Surface Water Impacts

The modification request proposed temporary stream impacts of 485 linear feet (0.9 acre) and permanent stream impacts to 64 linear feet (0.08 acre) to the James River due to construction and installation of the surface water intake at the new proposed location. The proposed temporary stream impacts due to intake construction are the same as previously authorized. The proposed permanent stream impact is 0.01 acre less than the previously authorized 0.09 acre for the intake footprint. No

increase in permanent stream impacts, due to the relocation and extension of the raw water transmission line, are proposed.

The proposed relocation and extension of the raw water transmission line would cause permanent conversion impacts of 0.155 acre for palustrine forested wetlands (POF) and 0.082 acre of palustrine scrub-shrub (PSS) wetlands, for a total permanent wetland impact of 0.237 acre. The previously authorized permanent wetland impact for raw water line construction was for 0.01 acre. Therefore, the cumulative additional permanent wetland impact proposed by the modification equals 0.227 acre.

The proposed relocation and extension of the raw water transmission line would temporarily impact a total of 1.313 acres of Palustrine Emergent Wetland (PEM), 0.249 acre of PSS wetlands and 0.173 acre of POF wetlands. Temporary stream impacts due to the relocation and extension of the raw water transmission line would total 2.162 acres (6,190 linear feet). These temporary stream impacts include 190 linear feet (0.309 acre) related to an optional open-cut crossing of the Rivanna River at the same location where a directionally drilled crossing was proposed in the original JPA.

The necessary and unavoidable temporary impacts to wetlands and streams located within the construction easement encompassing the relocation and extension of the raw water transmission line will be restored by the permittee to avoid permanent impacts at these locations. All temporary impact sites will be returned to their pre-existing surface contours after disturbance and stabilized by applying an appropriate seed mix. PFO and PSS wetlands that are temporarily impacted will also be planted with native woody stems of species appropriate for wetland conditions at a minimum density of 400 stems per acre.

An extension of the raw water transmission line to a water treatment plant location is required for the project to be viable. This extension was planned during the original permit application but could not be included in the permit due to uncertainty in the final alignment. Therefore, the extension of the project boundary to include the transmission line extension is considered directly related off-site work. The cumulative additional wetland impacts that are proposed total less than 0.25 acre and no additional permanent stream impacts are proposed. Therefore, the modification request meets the requirements of [9VAC25-210-180 \(E\) \(7\)](#) regarding additional impacts authorized by a minor permit modification.

This permit authorizes the following surface water impacts:

- Impacts to the James River associated with the construction of the intake structure are authorized for 0.08 acre (64 linear feet) of permanent impact and 0.90 acre (485 linear feet) of temporary impact.
- Impacts associated with the construction of a raw water transmission pipeline from the intake location to the proposed location of a new water treatment plant near Ferncliff in Louisa County are authorized to permanently impact 0.082 acre of palustrine scrub-shrub (PSS) wetlands and 0.155 acre of palustrine forested (PFO) wetland, and temporarily impact 1.313 acre of palustrine emergent (PEM) wetland, 0.249 acre of PSS wetland, 0.173 acre of POF wetland and 6, 190 linear feet of intermittent and perennial stream channels.

Authorized impact areas shall be as depicted and listed on the following:

- Sheet 1 entitled “Relocated Intake, Pump Station and Raw Water Pipeline Owned by the JRWA” dated June 26, 2016 and received June 27, 2016
- Unnumbered sheet entitled “Plan Set A: 24 inch Raw Water Main” dated April 14, 2016 and received June 27, 2016
- Sheet C-5 entitled “Intake and River Cross Section” dated May, 2015 and received June 27, 2016
- Sheet VMRC 2 entitled “Raw Water Main Rivanna River Crossing” dated February 24, 2016 and received June 27, 2016
- Index Maps 1 through 8, entitled “Figure 3: Preliminary Jurisdictional Waters of the U.S. Impacts Map”, dated June 22, 2016 and received June 29, 2016
- Sheets 1 through 75, entitled “Preliminary Jurisdictional Waters of the U.S. Impacts Map – Detail”, dated June 22, 2016 and received June 29, 2016
- Attachment 2 entitled “Updated Impacts Table” contained in the response to a request for additional information dated September 23, 2016 and received September 23, 2016.

Water quality impacts are expected to be temporary and minimal provided the permittee abides by the conditions of the permit. A loss of state waters shall occur. However, the impacts have been avoided and minimized to the greatest extent practicable.

6. Compensation for Unavoidable Surface Water Impacts

To provide compensation for permanent wetland impacts due to the relocation and extension of the raw water transmission line, the permittee will purchase off-site wetland mitigation credits from a Wetland and Stream Mitigation Bank that is authorized to sell credits in the watershed where the impacts are located (Rivanna River/Byrd Creek). Wetland mitigation credits will be purchased using standard compensatory mitigation ratios:

- 2:1 compensation ratio for permanent impacts to PFO wetlands (0.155 acre X 2 = 0.31 credits)
- 1.5:1 compensation ratio for permanent impacts to PSS wetlands (0.082 acre X 1.5 = 0.123 credits)

Therefore the permittee will purchase a total of 0.433 wetland mitigation credits. The permittee performed a search of the U.S. Army Corps of Engineers Regulatory In-Lieu Fee and Bank Information Tracking System (RIBITS) dated September 8, 2016, which indicated that adequate credits were available. However, if adequate credits are not available when needed, the permittee will purchase credits from the Virginia Aquatic Resources Trust Fund. The permittee also submitted a Wetland Credit Availability letter from James River Mitigation LLC dated September 4, 2016 that the availability at that time of 1.33 wetland credits.

7. Relevant Regulatory Agency Comments

The Department of Game and Inland Fisheries (DGIF) was contacted on September 23, 2016 because the proposed extension of the raw water line will result in surface water impacts beyond the original project boundary within the Byrd Creek watershed in Fluvanna County. DGIF responded on October 5, 2016 that they had no comments on the project.

8. Riparian/Adjacent Landowner Notification

Notification letters were sent to 82 riparian landowners whose properties lie within one-half mile downstream of proposed impacts along the raw water line extension. One letter was returned marked as “attempted – unable to forward”. Questions regarding the notification letter were received from five landowners. One landowner questioned via email whether the proposed project would affect drainage on their property and if there would be a public hearing and/or written public documents available. DEQ responded that as long as the project adheres to the conditions of the permit there would be no effect on drainage downstream and that, if the proposal qualifies as a minor modification, there would not be a public hearing and also that documents regarding the project are available at the address on the notification letter. Four other landowners responded to the notification via telephone. All four of these landowners had questions regarding the meaning of the letter. The purpose and meaning of the letter was explained to two of respondents on the telephone; the other two each left a voice message containing their question, but repeated attempts by DEQ to reply were unsuccessful.

A notification letter was sent to the Louisa County Administrator on September 23, 2016. No response was received from Louisa County.

9. Revisions to Part I - Special Conditions:

Staff revised the following conditions of the permit:


- Parts I.A.1 through 3 were changed to identify and describe the authorization for the extension of the raw water transmission pipeline and the corresponding changes in proposed permanent and temporary impacts. Previous condition I.A.3 was expanded into two conditions (I.A.3 and I.A.4).
- Part I.C.7b was revised to include a time-of-year restriction on instream work in the Rivanna River for the proposed open-cut pipeline crossing.
- Parts I.G.3 and I.G.4 and the corresponding Attachments B and C were revised to account for the changes in permanent and temporary impacts.
- Part I.H.1 was revised to account for the change in permanent impacts to POF wetlands and Part I.H.2 was added to account for the addition of proposed permanent impacts to PSS wetlands.

10. Staff Findings and Recommendations:

- The proposed activity is consistent with the provisions of the Clean Water Act and State Water Control Law, and will protect instream beneficial uses.
- The proposed permit addresses avoidance and minimization of wetland impacts to the maximum extent practicable.
- The effect of the impact, together with other existing or proposed impacts to wetlands, will not cause or contribute to significant impairment of state waters or fish and wildlife resources.
- The proposed permit conditions address no net loss of wetland acreage and function through compensatory mitigation and adequately assess compensation implementation via success monitoring and reporting.

Staff recommends VWP Individual Permit Number 14-0343 be modified as proposed.

Approved:



Director, Office of Water Supply

10/25/16
Date

APPENDIX D-1-5
MINOR MODIFICATION NO. 2 OF VWP INDIVIDUAL PERMIT NO. 14-0343 PERMIT



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VWP Individual Permit Number 14-0343
Effective Date: November 20, 2015
Minor Modification No. 1: October 25, 2016
Minor Modification No. 2: October 30, 2017
Expiration Date: November 19, 2030

VIRGINIA WATER PROTECTION PERMIT ISSUED PURSUANT TO THE STATE WATER CONTROL LAW AND SECTION 401 OF THE CLEAN WATER ACT

Based upon an examination of the information submitted by the owner, and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341 et seq.) and the State Water Control Law and regulations adopted pursuant thereto, the State Water Control Board (board) has determined that there is a reasonable assurance that the activity authorized by this permit, if conducted in accordance with the conditions set forth herein, will protect instream beneficial uses and will not violate applicable water quality standards. The board finds that the effect of the impact, together with other existing or proposed impacts to surface waters, will not cause or contribute to a significant impairment to state waters or fish and wildlife resources.

Permittee: James River Water Authority

Address: c/o Fluvanna County Administrator
132 Main Street, P.O. Box 540, Palmyra, Virginia 22963

Activity Location: The proposed intake is located on the north bank of the James River, just upstream of the confluence with the Rivanna River at the end of Route 624, near the Town of Columbia in Fluvanna County, Virginia. The proposed raw water transmission pipeline extends from the intake location through eastern Fluvanna County to the location of the proposed Louisa Water Treatment Plant near Ferncliff, Virginia.

Activity Description: This permit authorizes the construction and operation of a new surface water withdrawal intake to withdraw surface water from the James River as described in Part I.F and impacts to surface water associated with the installation of a raw water transmission pipeline from the intake structure to the location of the proposed Louisa Water Treatment Plant near Ferncliff, Virginia. Impacts to the James River associated with the construction of the intake structure are authorized for 0.08 acre (64 linear feet) of permanent impact and 0.82 acre (315 linear feet) of temporary impact. Impacts associated with the construction of a raw water transmission pipeline are authorized to permanently impact 0.082 acre of palustrine scrub-shrub

wetlands and 0.141 acre of palustrine forested wetland, and temporarily impact 0.996 acre of palustrine emergent wetland, 0.194 acre of palustrine scrub-shrub wetland, 0.083 acre of palustrine forested wetland and 2,688 linear feet of intermittent and perennial stream channels. Compensation for the permanent wetland impacts shall be provided through the purchase of 0.405 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for area in which the permitted impact site is located. The credit sale must be in accordance with the approved Mitigation Banking Instrument for the mitigation bank. Compensation for permanent stream channel impacts is not required.

The permitted activity shall be in accordance with this Permit Cover Page, Part I - Special Conditions, and Part II - General Conditions.



Director, Office of Water Supply

10/27/17

Date

Part I – Special Conditions

A. Authorized Activities

1. This permit authorizes the construction and operation of a new surface water withdrawal intake to withdraw surface water from the James River as described in Part I.F and impacts to surface waters associated with the installation of a raw water transmission pipeline from the intake structure to the location of the proposed Louisa Water Treatment Plant near Ferncliff, Virginia.
2. This permit authorizes the following surface water impacts:
 - a. Impacts to the James River associated with the construction of the intake structure are authorized for 0.08 acre (64 linear feet) of permanent impact and 0.82 acre (315 linear feet) of temporary impact.
 - b. Impacts associated with the construction of a raw water transmission pipeline are authorized to permanently impact 0.082 acre of palustrine scrub-shrub (PSS) wetland and 0.141 acre of palustrine forested (PFO) wetland, and temporarily impact 0.996 acre of palustrine emergent (PEM) wetland, 0.194 acre of PSS wetland, 0.083 acre of PFO wetland and 2,688 linear feet of intermittent and perennial stream channels, including temporary impacts associated with construction of a pipeline crossing of the Rivanna River.
3. Authorized impacts shall be as depicted and listed on the following:
 - a. Sheet 1 entitled “Relocated Intake, Pump Station and Raw Water Pipeline Owned by the JRWA” dated June 26, 2016 and received June 27, 2016;
 - b. Unnumbered sheet entitled “Plan Set A: 24 inch Raw Water Main” dated April 14, 2016 and received June 27, 2016;
 - c. Sheet C-5 entitled “Intake and River Cross Section” dated May, 2015 and received June 27, 2016;
 - d. Sheet VMRC 2 entitled “Raw Water Main Rivanna River Crossing” dated February 24, 2016 and received June 27, 2016;
 - e. Index Maps 1 through 8 and index sheet, entitled “Figure 3: Preliminary Jurisdictional Waters of the U.S. Impacts Map”, dated June 22, 2016, revised January 3, 2017 and June 9, 2017, and received August 3, 2017;
 - f. Sheets 1 through 74, entitled “Preliminary Jurisdictional Waters of the U.S. Impacts Map – Detail”, dated June 22, 2016, revised January 3, 2017 and June 9, 2017, and received August 3, 2017;
 - g. Minor Modification 2 Impacts Table – James River Water Supply Project, dated June 8, 2017, and received August 3, 2017; and
 - h. Minor Modification 2: Wetland Compensatory Mitigation Summary, dated June 8, 2017 and received August 3, 2017.
4. Authorized activities shall be conducted as described in the Joint Permit Application dated March 12, 2014, and received March 14, 2014, the request for permit modification dated June 26, 2016 and received June 27, 2016, supplemental materials, revisions and clarifications received through

September 23, 2016, and the request for a second modification dated and received on May 18, 2017, and corresponding supplemental materials, revisions and clarifications received through September 28, 2017.

5. The permittee shall notify the DEQ prior to any additional impacts to surface waters, including wetlands; of any modifications of the intake structure; and of any change to the type of surface water impacts associated with this project. Any additional impacts, modifications, or changes shall be subject to individual permit review and/or modification of this permit.

B. Permit Term

1. This permit is valid for fifteen (15) years from the date of issuance. A new permit may be necessary for the continuance of the authorized activities, including water withdrawals, or any permit requirement that has not been completed, including compensation provisions.
2. The permittee shall submit a new permit application at least 270 days before the expiration date of this permit, if the surface water withdrawal activities are to be continued.

C. Standard Project Conditions

1. The activities authorized by this permit shall be executed in such a manner that any impacts to beneficial uses are minimized. As defined in § 62.1-44.3 of the Code, "beneficial use" means both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. The preservation of instream flows for purposes of the protection of navigation, maintenance of waste assimilation capacity, the protection of fish and wildlife resources and habitat, recreation, cultural and aesthetic values is an instream beneficial use of Virginia's waters. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural uses, electric power generation, commercial, and industrial uses.
2. No activity shall substantially disrupt the movement of aquatic life indigenous to the water body, including those species that normally migrate through the area, unless the primary purpose of the activity is to impound water.
3. Flows downstream of the project area shall be maintained to protect all uses.
4. No activity shall cause more than minimal adverse effect on navigation, and no activity shall block more than half of the width of the stream at any given time.
5. The activity shall not impede the passage of normal or expected high flows, and any associated structure shall withstand expected high flows.
6. Continuous flow of perennial springs shall be maintained by the installation of spring boxes, French drains, or other similar structures.

7. Construction activities shall be conducted in accordance with the below Time-of-Year Restrictions:
 - a. To protect state-endangered Brook Floaters and state-threatened Atlantic Pigtoes and Green Floaters, or other state or federally listed mussel species, activities shall be conducted in accordance with any Time-of-Year restriction(s) recommended for listed species by the Virginia Department of Game and Inland Fisheries. The permittee shall retain a copy of the agency correspondence concerning the Time-of-Year restriction(s), or the lack thereof, for the duration of the construction phase of the project. Construction activities within the confines of the cofferdam are not included within any Time-of-Year Restrictions.
 - b. No instream work in the James River or in the Rivanna River shall occur from March 15 through June 30 of any year to protect anadromous fish. Construction activities within the confines of the cofferdam are not included within this Time-of-Year Restriction.
8. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity.
9. All in-stream activities shall be conducted during low-flow conditions whenever practicable.
10. All construction, construction access, and demolition activities associated with this project shall be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by this permit. Wet, excess, or waste concrete shall be prohibited from entering surface waters.
11. All fill material placed in surface waters shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable laws and regulations.
12. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters.
13. Machinery or heavy equipment in temporarily impacted wetlands shall be placed on mats or geotextile fabric, or other suitable means shall be implemented, to minimize soil disturbance to the maximum extent practical. Mats, fabrics, or other measures shall be removed as soon as the work is complete in the temporarily impacted wetland.
14. Heavy equipment is authorized for use within the stream channel during project construction or stream restoration activities when site conditions prohibit access from the streambank. The equipment shall be stationed on cobble bars and the activities conducted in the dry or during low flow conditions, whenever possible.
15. Temporary disturbances to wetlands, stream channels, and/or stream banks during project construction activities shall be avoided and minimized to the maximum extent practicable.

16. All temporarily disturbed wetland areas shall be restored to preconstruction conditions within 30 calendar days of completing work in the areas, which shall include re-establishing pre-construction contours, and planting or seeding with appropriate wetland vegetation according to cover type (emergent, scrub/shrub, or forested), except for invasive species identified on DCR's Invasive Alien Plant Species of Virginia list. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed surface waters through the second year post-disturbance.
17. All temporarily impacted streams and stream banks shall be restored to their original elevations and contours within 30 calendar days following the construction at that stream segment, and the banks shall be seeded or planted with the same vegetative cover type originally present along the banks, including supplemental erosion control grasses if necessary but not including invasive species identified on DCR's Invasive Alien Plant Species of Virginia list.
18. All materials (including fill, construction debris, excavated materials, and woody materials, that are temporarily placed in wetlands, in stream channels, or on stream banks) shall be placed on mats or geotextile fabric, shall be immediately stabilized to prevent the material or leachate from entering surface waters, and shall be entirely removed within 30 calendar days following completion of that construction activity. After removal, disturbed areas shall be returned to original contours, shall be stabilized, and shall be restored to the original vegetated state within 30 calendar days.
19. Temporary in-stream construction features such as cofferdams shall be made of non-erodible materials.
20. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.
21. All non-impacted surface water and any required upland buffers that are within the project or right-of-way limits, and that are within fifty feet of any project activities, shall be clearly flagged or demarcated for the life of the construction activity within that area. The permittee shall notify all contractors and subcontractors that *no activities are to occur in these marked areas*.
22. All required notifications and submittals shall include project name and permit number and be submitted to the DEQ office stated below, to the attention of the Water Withdrawal Permit Manager, unless directed in writing by DEQ subsequent to the issuance of this permit: Department of Environmental Quality, Office of Water Supply, P.O. Box 1105, Richmond, Virginia 23218.
23. All reports required by this permit and other information requested by DEQ shall be signed by the permittee or a person acting in the permittee's behalf, with the authority to bind the permittee. A person is a duly authorized representative only if *both* criteria below are met. If a representative authorization is no longer valid because of a change in responsibility for the overall operation of the facility, a new authorization shall be immediately submitted to DEQ.
 - a. The authorization is made in writing by the permittee.

- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

24. All submittals shall contain the following signed certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

25. Any fish kills or spills of fuels or oils shall be reported to DEQ immediately upon discovery at (804) 698-4000. If DEQ cannot be reached, the spill shall be reported to the Virginia Department of Emergency Management (DEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802.
26. DEQ shall be notified in writing within 24 hours or as soon as possible on the next business day when potential environmentally threatening conditions are encountered which require debris removal or involve potentially toxic substances. Measures to remove the obstruction, material, or toxic substance or to change the location of any structure are prohibited until approved by DEQ.

D. Stream Modifications, Including Installation of the James River Intake and Raw Water Transmission Line Stream Crossings

1. The permittee shall perform a mussel survey and relocation, if required, prior to commencing work in any of the following authorized impact areas:
 - a. Impact locations 1 and 2 (James River intake);
 - b. Impact location 8 (Rivanna River);
 - c. Impact location 43 (Byrd Creek);
 - d. Impact location 74 (Horsepen Creek); and
 - e. Impact locations 59 and 72, if threatened or endangered species are found at impact locations 43 and 74, respectively.

All work at stream crossing impact sites not listed above shall occur when the stream is not flowing or behind cofferdams. No flow "dry" conditions can be naturally occurring (seasonal break in flow) or created through the installation of cofferdams or similar techniques to isolate the impact site.

2. Each mussel survey shall be performed 100 meters upstream through 400 meters downstream of each authorized impact area identified in Part I.D.1 no more than six months prior to the start of construction at each location, unless otherwise approved by Virginia Department of Game and Inland Fisheries (DGIF) and DEQ. Each survey shall be performed by a qualified, permitted

biologist and conducted in accordance with DGIF and U.S. Fish and Wildlife Services draft Freshwater Mussel Guidelines for Virginia dated March 7, 2008, or as amended.

3. The permittee shall submit a report or reports summarizing the results of each mussel survey to DGIF and DEQ for review and approval. The agencies review and approval of surveys completed for impact locations 1, 2 and 7 through 11 shall be completed prior to commencing work in the James River or the Rivanna River. The agencies review and approval of mussel surveys completed for impact locations 43 and 74 shall be completed prior to commencing work at impact locations 59 (unnamed tributary to Byrd Creek) and impact location 72 (unnamed tributary to Horsepen Creek), or any other impact location identified as a perennial stream tributary to Byrd Creek (impact locations 52, 63, 80, 84, 105, 109, 113, 114 and 117). The report(s) shall reference DGIF's project number: ESSLog# 22598. Based upon the results, DGIF will provide final recommendations regarding the protection of listed species known from the area. The recommendations may include relocations of documented listed species, and/or requests for adherence to TOYR at sites not currently listed in Part I.D.1. Mussel relocations shall be conducted in accordance with the DGIF and U.S. Fish and Wildlife Services draft Freshwater Mussel Guidelines for Virginia dated March 7, 2008, or as amended.
4. To minimize harm to the aquatic environment and its residents resulting from use of the Tremie method to install concrete, installation of grout bags, and traditional pouring of concrete, such activities shall occur only in the dry, allowing all concrete to harden and cure prior to contact with open water.
5. Redistribution of existing stream substrate for erosion control purposes is prohibited.
6. Material removed from the stream bottom shall not be deposited into surface waters unless otherwise authorized in this permit.
7. Riprap apron for all outfalls shall be designed in accordance with Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction.
8. For streambank protection activities, structures and backfill shall be placed as close to the streambank as practical, while still avoiding and minimizing impacts to surface waters to the maximum extent practical. No material shall be placed in excess of the minimum necessary for erosion protection.
9. Asphalt and materials containing asphalt or other toxic substances shall not be used in the construction of submerged sills, breakwaters, dams, or weirs.

E. Installation of Utilities

1. All utility line work in surface waters shall be performed in a manner that minimizes disturbance in each area. Temporarily disturbed surface waters shall be restored in accordance with Part I.C.16, C.17, and C.18, unless otherwise authorized by this permit.

2. Material resulting from trench excavation may be temporarily sidecast into wetlands not to exceed a total of 90 calendar days, provided the material is not placed in a manner such that it is dispersed by currents or other forces.
3. The trench for a utility line cannot be constructed in a manner that drains wetlands (e.g., backfilling with extensive gravel layers creating a French drain effect).

F. Surface Water Withdrawals

1. Surface water withdrawn from the James River and authorized under this permit shall be only used for public water supply.
2. The safe yield of the surface water withdrawal project as authorized under this permit is the annual average daily volume of 4.12 million gallons per day (mgd).
3. The withdrawal of water from the James River shall not exceed the limits established in the table below. The withdrawal limits are to be phased in based upon completion of capital improvements necessary to begin water service to areas identified for each Tier.

Tier	Maximum Daily Withdrawal (mgd)	Maximum Monthly Withdrawal (mg)	Maximum Annual Withdrawal (mg)
1	5.73	117.4	1,008
2	7.45	152.7	1,311
3	8.39	172.0	1,477

- a. Tier 1 contains the withdrawal limits to meet the justified demands of the service areas of Zion Crossroads and Ferncliff in Louisa County and Fluvanna CWS in Fluvanna County and the economic development prospects as identified in the application for both Counties.
 - b. Tier 2 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 1 and the service areas of Shannon Hill, Town of Louisa, Town of Mineral, Louisa County Water Authority and Lake Anna in Louisa County.
 - c. Tier 3 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 2 and the service areas of Gum Springs in Louisa County and the Fork Union, Columbia and Palmyra CWS in Fluvanna County.
4. The localities (Fluvanna and Louisa Counties) through the permittee shall provide to DEQ for review no later than June 30, 2017 for Tier 1 and within three (3) years of permit issuance for Tier 2 and 3, a plan(s) that identifies the specific capital improvements and associated schedule for completion that Fluvanna and Louisa Counties must implement to treat and transport water withdrawn from the authorized intake to service areas identified for each Tier in Part I.F.3. Any changes to the plan(s) that relates to this permit shall be submitted to DEQ for review. The plan(s) shall include, at a minimum, the following for each Tier:
 - a. Tier 1 contains the withdrawal limits to meet the justified demands of the service areas of Zion Crossroads and Ferncliff in Louisa County and Fluvanna CWS in Fluvanna County and the economic development prospects as identified in the application for both Counties.
 - b. Tier 2 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 1 and the service areas of Shannon Hill, Town of Louisa, Town of Mineral, Louisa County Water Authority and Lake Anna in Louisa County.
 - c. Tier 3 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 2 and the service areas of Gum Springs in Louisa County and the Fork Union, Columbia and Palmyra CWS in Fluvanna County.

- a. Summarize the capital improvements that must be completed for water to be transported from the authorized intake, treated and distributed to the service areas identified for each Tier. These capital improvements shall include infrastructure such as pipelines, water treatment plants and associated storage facilities.
 - b. Identify the location(s) of wastewater treatment facilities, both private and municipal, that will treat any part of the water withdrawn from the authorized intake and the watershed to which the return flow will be discharged.
 - c. The anticipated dates to complete each phase of the identified capital improvements.
5. The withdrawal limits established in Part I.F.3 are authorized in accordance with the following:
- a. Tier 1: The permittee shall submit to DEQ for review and approval by January 1, 2018 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 1 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - b. Tier 2: The permittee shall submit to DEQ for review and approval by January 1, 2021 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 2 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - c. Tier 3: The permittee shall submit to DEQ for review and approval by January 1, 2023 written confirmation that capital improvements identified in the plan required by Part I.F.4 for Tier 3 are complete to obtain authorization to withdraw water at the volumes identified under this Tier.
 - d. Should capital improvements necessary to begin water service to areas identified for a specific Tier be completed later in the permit term than identified above, the permittee may submit to DEQ for review and approval a request for authorization of withdrawal limits established for a specific Tier. Any such request shall include written confirmation that capital improvements identified in the plan required by Part I.F.4 for a specific Tier are complete to obtain authorization to withdraw water at the volumes identified under that Tier and discussion of project status including justification for the request.
 - e. If capital improvements for a specific Tier are complete for only a portion of the service area or areas identified for that Tier, the permittee may submit to DEQ for review and approval a request for a portion of the withdrawal volumes for a specific Tier sufficient to meet the demands of those service area or areas. Any such request shall include the following: proposed revision to the specific Tier, including water demands associated with the service area or areas as identified in the application materials, written confirmation that capital improvements identified in the plan required by Part I.F.4 are complete for those service area or areas, and discussion of project status including justification for the request. Any such request will require a modification of the permit, which may be considered under

a minor modification, to adjust the withdrawal volumes for a particular Tier, not to exceed the volumes identified for Tier 3 in Part I.F.3.

6. The permittee shall estimate flows at the James River intake in units of cubic feet per second (cfs) on a daily basis by monitoring the stream flow gages detailed herein and by applying the equation “Flows at the intake = $(Q_{SC} + Q_{HD} + Q_{SL}) * 1.03$,” where:
 - a. Q_{SC} is the previous day’s provisional mean daily flow at the U.S. Geologic Survey (USGS) gage No. 02029000 (James River at Scottsville, Virginia);
 - b. Q_{HD} is the previous day’s provisional mean daily flow at the USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia);
 - c. Q_{SL} is the previous day’s provisional mean daily flow at the USGS gage No. 02030500 (Slate River near Arvonnia, Virginia);
 - d. 1.03 is the adjustment factor for drainage area.
7. The permittee shall make reasonable effort to coordinate with the operators of the Cobbs Creek Reservoir when provisional stream flows at the permittee’s intake estimated in accordance with Part I.F.6 is equal to or less than the 10th percentile flow of 778 cfs. Coordination shall occur in accordance with the DEQ approved protocol required by Part I.F.8.
8. Prior to withdrawing surface water from the James River, the permittee shall develop and submit for DEQ approval a protocol for coordinating with the operators of the Cobbs Creek Reservoir when provisional stream flows at the intake fall below the 10th percentile, as identified in Part I.F.7. Such protocol, to the extent reasonable, should be developed in coordination with the operators of the Cobbs Creek Reservoir, with assistance by DEQ. The protocol shall include, at a minimum, the permittee informing the operators of the Cobbs Creek Reservoir of their current and intended operations and stipulating the frequency of periodic updates during extended low flow events. DEQ shall have 30 days from receipt of the proposed protocol to review and provide comments.
9. The permittee shall submit a drought management plan to DEQ for review and approval 90 days prior to initiating the surface water withdrawal. Any revisions to the approved plan shall be submitted to DEQ for review and approval prior to implementing the change. The plan shall include, at a minimum, the following:
 - a. Development of drought stages, including when and how each stage will be implemented. The emergency drought stage shall be initiated when a drought emergency is declared by the Commonwealth of Virginia in the Northern Piedmont Drought Evaluation Region or the Middle James Drought Evaluation Region or by either Fluvanna or Louisa County in accordance with either County’s Drought Management Ordinance. Once authorization is granted by DEQ to the permittee to withdrawal volumes above those identified in Tier 1 (Part I.F.3), voluntary and mandatory drought stages shall be initiated when the fourteen (14) day rolling average of James River flows at the intake are equal to or less than the

values in the below table. James River flows at the intake shall be estimated in accordance with Part I.F.6.

Drought Stage	James River Flow at Intake, 14-day Rolling Average (cfs)	
	November - June	July - October
Voluntary	≤ 1,241	≤ 975
Mandatory	≤ 913	≤ 750

- b. Requirement to operate the James River intake in a manner that ensures the instantaneous withdrawal does not exceed 13,980 gallons per minute (31.1 cfs) during the Mandatory Drought Stage.
 - c. A description of the conservation measures to be implemented during each drought stage.
10. When a drought emergency is declared by the Commonwealth of Virginia in the Northern Piedmont Drought Evaluation Region or the Middle James Drought Evaluation Region or by either Fluvanna or Louisa County in accordance with either County's Drought Management Ordinance, the permittee shall implement either the provisions directed by the Commonwealth, the Drought Management Ordinance, the Drought Management Plan required by Part I.F.9 of this permit or the mandatory conservation measures as detailed in Attachment A of this permit, whichever is the most restrictive. The permittee shall be responsible for determining when drought emergencies are declared. The permittee shall retain records documenting that mandatory conservation measures were implemented during declared drought emergencies.
 11. The intake screens shall be designed so that screen openings are not larger than 1 millimeter in width and height and the screen face intake velocities are not greater than 0.25 feet per second.
 12. The permittee shall monitor withdrawals from the James River on a daily basis using flow totalizer technology to confirm that the withdrawals are in compliance with this permit. Such meters shall produce volume determinations within plus or minus 5 percent of actual flows. A defective meter or other device must be repaired or replaced within 60 days. A defective meter is not grounds for not reporting the withdrawals. During any period when a meter is defective, generally accepted engineering practice shall be used to estimate withdrawals and the period during which the meter was defective must be clearly identified in the report.
 13. On each day that pumping occurs, the permittee must monitor and record the following, for each pump:
 - a. Date and time.
 - b. Total amount of water withdrawn each day.

- c. The maximum rate of withdrawal that occurred each date (in gpm).
 - d. The provisional stream flow in cfs as measured at the following stream gages: USGS gage No. 02029000 (James River at Scottsville, Virginia), USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia), and USGS gage No. 02030500 (Slate River near Arvon, Virginia).
 - e. The provisional stream flow at the intake in cfs as estimated in accordance with Part I.F.6.
 - f. Identify whether stream flows at the intake fell below the 10th percentile requiring coordination with the operators of the Cobbs Creek Reservoir and if water supply storage releases from the upstream Cobbs Creek Reservoir occurred.
14. The permittee shall submit a water withdrawal monitoring report to DEQ semi-annually. The semi-annual monitoring period shall be as follows: January through June and July through December. The daily records shall be tabulated by month. The report shall be submitted to DEQ by January 31st and July 31st of every year within the permit term. Submittal of the report may take the form of electronic reporting or another form determined to be acceptable by DEQ. In the event the electronic reporting system is not available, the permittee may submit the report by electronic mail. The report shall include the following information:
- a. The permittee's name and address.
 - b. The permit number.
 - c. The source(s) from which water is withdrawn.
 - d. The location (latitude and longitude) of the water withdrawal.
 - e. Information listed in Part I.F.13.
 - f. The cumulative volume (million gallons) of water withdrawn each month and for the calendar year.
 - g. The average daily volume (mgd) of water withdrawn as calculated the last day of the monitoring period.
 - h. In the last report for the calendar year, the largest single day withdrawal volume (mgd) that occurred in the year and the month in which it occurred.
 - i. The method of measuring each withdrawal.
 - j. Documentation of any coordination conducted in accordance with Part I.F.7 during the reporting period.

- k. If during a semi-annual reporting period a drought emergency is declared, the report shall include a summary of mandatory conservation measures implemented during the drought event.
15. Water withdrawal monitoring and reporting activities shall comply with this section, Part I.C, and Part II. All records and information that result from the monitoring and reporting activities required by this permit, including any records of maintenance activities to the withdrawal system, shall be retained for the life of the permit. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or as requested by the State Water Control Board.

G. Construction Monitoring and Submittals (Impact Sites)

1. Final plans for the project construction activities authorized by this permit shall be submitted thirty (30) calendar days prior to initiating any land disturbance or construction in permitted impact areas. Construction shall be performed in accordance with the final construction plans submitted to DEQ, which shall be in compliance with the permit. Any changes to the final plans for permitted areas shall be submitted to DEQ immediately upon determination that changes are necessary. DEQ approval shall be required prior to implementing the changes.
2. The permittee shall submit written notification at least ten (10) calendar days prior to the initiation of land disturbance or construction activities in permitted areas. The notification shall include a projected schedule for initiating and completing work at each permitted impact area.
3. Site inspections shall be conducted at least once every calendar month and recorded on the *Monthly VWP Permit Inspection Checklist* (Attachment B) by the permittee or the permittee's qualified designee during active construction within authorized surface water impact areas. Monthly inspections shall be conducted in the following areas: all authorized permanent and temporary impact areas; all avoided surface waters, including wetlands, stream channels, and open water; surface water areas within 50 feet of any land disturbing activity; and all on-site areas designated for permanent preservation. The *Monthly VWP Permit Inspection Checklist* (Attachment B) shall be completed in its entirety for each monthly inspection and shall be kept on-site and made available for review by DEQ staff upon request during normal business hours.
4. The *VWP Permit Construction Status Update Form* (Attachment C) shall be completed in June and December and shall be submitted and received by DEQ no later than January 31st and July 31st of every year for the duration of this permit. The *VWP Permit Construction Status Update Form* (Attachment C) shall include reference to the VWP permit authorization number and one of the following statements for each authorized surface water impact location:
 - a. Construction activities not yet commenced;
 - b. Construction activities have commenced;
 - c. Construction activities have commenced but are currently inactive, or;

- d. Construction activities are complete.
5. The permittee shall notify DEQ within 24 hours of discovering impacts to surface waters including wetlands, stream channels, and open water that are not authorized by this permit. The notification shall include the completed *Monthly VWP Permit Inspection Checklist* (Attachment B), photographs, estimated acreage and/or linear footage of impacts, and a description of the impacts.
6. The permittee shall submit written notification of completion within 30 calendar days after the completion of all activities in all permitted impact areas authorized under this permit.

H. Compensatory Mitigation

1. Compensation for the permanent impact of 0.141 acre of palustrine forested wetland shall be provided through the purchase of 0.282 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for the area in which the permitted impact sites are located. The credit sale must be in accordance with the approved Mitigation Banking Instrument for the mitigation bank.
2. Compensation for the permanent impact of 0.082 acre of palustrine scrub-shrub wetland shall be provided through the purchase of 0.123 wetland credit from the Virginia Aquatic Resources Trust Fund and/or a DEQ approved mitigation bank that is authorized to sell credits for the area in which the permitted impact sites are located. The credit sale must be in accordance with the approved Mitigation Banking Instrument for the mitigation bank.
3. Documentation that an approved wetland mitigation bank has debited the required mitigation credits from the mitigation bank ledger shall be submitted to and received by DEQ prior to initiating work in permitted impact areas.

Part II – General Conditions

A. Duty to Comply

The permittee shall comply with all conditions of the VWP permit. Nothing in the VWP permit regulations shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any VWP permit violation is a violation of the law, and is grounds for enforcement action, VWP permit termination, revocation, modification, or denial of an application for a VWP permit extension or reissuance.

B. Duty to Cease or Confine Activity

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a VWP permit has been granted in order to maintain compliance with the conditions of the VWP permit.

C. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the permit which may have a reasonable likelihood of adversely affecting human health or the environment.

D. VWP Permit Action

1. A VWP permit may be modified, revoked and reissued, or terminated as set forth in 9 VAC 25-210 et seq.
2. If a permittee files a request for VWP permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the VWP permit terms and conditions shall remain effective until the request is acted upon by the board. This provision shall not be used to extend the expiration date of the effective VWP permit. If the permittee wishes to continue an activity regulated by the VWP permit after the expiration date of the VWP permit, the permittee must apply for and obtain a new VWP permit or comply with the provisions of 9 VAC 25-210-185 (VWP Permit Extension).

VWP permits may be modified, revoked and reissued or terminated upon the request of the permittee or other person at the board's discretion, or upon board initiative to reflect the requirements of any changes in the statutes or regulations, or as a result of VWP permit noncompliance as indicated in the Duty to Comply subsection above, or for other reasons listed in 9 VAC 25-210-180 (Rules for Modification, Revocation and Reissuance, and Termination of VWP permits).

E. Inspection and Entry

Upon presentation of credentials, any duly authorized agent of the board may, at reasonable times and under reasonable circumstances:

1. Enter upon any permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the VWP permit conditions;
2. Inspect any facilities, operations or practices (including monitoring and control equipment) regulated or required under the VWP permit; and
3. Sample or monitor any substance, parameter or activity for the purpose of ensuring compliance with the conditions of the VWP permit or as otherwise authorized by law.

F. Duty to Provide Information

1. The permittee shall furnish to the board any information which the board may request to determine whether cause exists for modifying, revoking, reissuing or terminating the VWP permit, or to determine compliance with the VWP permit. The permittee shall also furnish to the board, upon request, copies of records required to be kept by the permittee.
2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as required by the board prior to commencing construction.

G. Monitoring and Records Requirements

1. Monitoring of parameters, other than pollutants, shall be conducted according to approved analytical methods as specified in the VWP permit. Analysis of pollutants will be conducted according to 40 CFR Part 136 (2000), Guidelines Establishing Test Procedures for the Analysis of Pollutants.
2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the VWP permit, and records of all data used to complete the application for the VWP permit, for a period of at least three years from the date of the expiration of a granted VWP permit. This period may be extended by request of the board at any time.
4. Records of monitoring information shall include:
 - a. The date, exact place and time of sampling or measurements;
 - b. The name of the individuals who performed the sampling or measurements;
 - c. The date and time the analyses were performed;
 - d. The name of the individuals who performed the analyses;

- e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used;
- f. The results of such analyses; and
- g. Chain of custody documentation.

H. Transferability

This VWP permit may be transferred to a new permittee only by modification to reflect the transfer, by revoking and reissuing the permit, or by automatic transfer. Automatic transfer to a new permittee shall occur if:

1. The current permittee notifies the board within 30 days of the proposed transfer of the title to the facility or property;
2. The notice to the board includes a written agreement between the existing and proposed permittee containing a specific date of transfer of VWP permit responsibility, coverage and liability to the new permittee, or that the existing permittee will retain such responsibility, coverage, or liability, including liability for compliance with the requirements of any enforcement activities related to the permitted activity; and
3. The board does not within the 30-day time period notify the existing permittee and the new permittee of its intent to modify or revoke and reissue the VWP permit.

I. Property rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize injury to private property or any invasion of personal rights or any infringement of federal, state or local law or regulation.

J. Reopener

Each VWP permit shall have a condition allowing the reopening of the VWP permit for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the board. Cause for reopening VWP permits includes, but is not limited to when the circumstances on which the previous VWP permit was based have materially and substantially changed, or special studies conducted by the board or the permittee show material and substantial change, since the time the VWP permit was issued and thereby constitute cause for VWP permit modification or revocation and reissuance.

K. Compliance with State and Federal Law

Compliance with this VWP permit constitutes compliance with the VWP permit requirements of the State Water Control Law. Nothing in this VWP permit shall be construed to preclude the institution of any legal action under or relieve the permittee from any responsibilities, liabilities, or other penalties established pursuant to any other state law or regulation or under the authority preserved by § 510 of the Clean Water Act.

L. Severability

The provisions of this VWP permit are severable.

M. Permit Modification

A VWP permit may be modified, but not revoked and reissued except when the permittee agrees or requests, when any of the following developments occur:

1. When additions or alterations have been made to the affected facility or activity which require the application of VWP permit conditions that differ from those of the existing VWP permit or are absent from it;
2. When new information becomes available about the operation or activity covered by the VWP permit which was not available at VWP permit issuance and would have justified the application of different VWP permit conditions at the time of VWP permit issuance;
3. When a change is made in the promulgated standards or regulations on which the VWP permit was based;
4. When it becomes necessary to change final dates in schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc. However, in no case may a compliance schedule be modified to extend beyond any applicable statutory deadline of the Act;
5. When changes occur which are subject to "reopener clauses" in the VWP permit; or
6. When the board determines that minimum instream flow levels resulting from the permittee's withdrawal of water are detrimental to the instream beneficial use and the withdrawal of water should be subject to further net limitations or when an area is declared a Surface Water Management Area pursuant to §§ 62.1-242 through 62.1-253 of the Code of Virginia, during the term of the VWP permit.

N. Permit Termination

After notice and opportunity for a formal hearing pursuant to Procedural Rule No. 1 (9 VAC 25-230-100) a VWP permit can be terminated for cause. Causes for termination are as follows:

1. Noncompliance by the permittee with any condition of the VWP permit;
2. The permittee's failure in the application or during the VWP permit issuance process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time;
3. The permittee's violation of a special or judicial order;
4. A determination by the board that the permitted activity endangers human health or the environment and can be regulated to acceptable levels by VWP permit modification or termination;
5. A change in any condition that requires either a temporary or permanent reduction or elimination of any activity controlled by the VWP permit; and
6. A determination that the permitted activity has ceased and that the compensatory mitigation for unavoidable adverse impacts has been successfully completed.

O. Civil and Criminal Liability

Nothing in this VWP permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this VWP permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under § 311 of the Clean Water Act or §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Unauthorized Discharge of Pollutants

Except in compliance with this VWP permit, it shall be unlawful for the permittee to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances;
2. Excavate in a wetland;
3. Otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, to animal or aquatic life, to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses;
4. On or after October 1, 2001 conduct the following activities in a wetland:
 - a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;

- b. Filling or dumping;
- c. Permanent flooding or impounding;
- d. New activities that cause significant alteration or degradation of existing wetland acreage or functions.

R. Permit Extension

Any permittee with an effective VWP permit for an activity that is expected to continue after the expiration date of the VWP permit, without any change in the activity authorized by the VWP permit, shall submit written notification requesting an extension. The permittee must file the request prior to the expiration date of the VWP permit. Under no circumstances will the extension be granted for more than 15 years beyond the original effective date of the VWP permit. If the request for extension is denied, the VWP permit will still expire on its original date and, therefore, care should be taken to allow for sufficient time for the board to evaluate the extension request and to process a full VWP permit modification, if required.

Attachment A – Water Conservation

Mandatory Non-essential Water Use Restrictions

The following non-essential water uses will be prohibited during periods of declared drought emergencies. Please note the exceptions that follow each prohibited use. These prohibitions and exceptions will apply to uses from all sources of water and will only be effective when the Governor of Virginia or the Virginia Drought coordinator declares a Drought Emergency. Water use restrictions shall not apply to the agricultural production of food or fiber, the maintenance of livestock including poultry, nor the commercial production of plant materials, *provided that best management practices are applied to assure the minimum amount of water is utilized.*

1. *Unrestricted irrigation of lawns is prohibited.*

- Newly sodded and seeded areas may be irrigated to establish cover on bare ground at the minimum rate necessary for no more than a period of 60 days. Irrigation rates may not exceed one inch of applied water in any 7-day period.
- Gardens, bedding plants, trees, shrubs and other landscape materials may be watered with hand held containers, hand held hoses equipped with an automatic shutoff device, sprinklers or other automated watering devices at the minimum rate necessary but in no case more frequently than twice per week. Irrigation should not occur during the heat of the day.
- All allowed lawn irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Irrigation systems may be tested after installation, routine maintenance or repair for no more than ten minutes per zone.

2. *Unrestricted irrigation of golf courses is prohibited.*

- Tees and greens may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
- Localized dry areas may be irrigated with a hand held container or hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Greens may be cooled by syringing or by the application of water with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Fairways may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary not to exceed one inch of applied water in any ten-day period.
- Fairways, tees and greens may be irrigated during necessary overseeding or resodding operations in September and October at the minimum rate necessary. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period.

- Newly constructed fairways, tees and greens and areas that are re-established by sprigging or sodding may be irrigated at the minimum rate necessary not to exceed one inch of applied water in any seven-day period for a total period that does not exceed 60 days.
- Fairways, tees and greens may be irrigated without regard to the restrictions listed above so long as:
 - The only water sources utilized are water features whose primary purpose is stormwater management;
 - Any water features utilized do not impound permanent streams;
 - During declared Drought Emergencies these water features receive no recharge from other water sources such as ground water wells, surface water intakes, or sources of public water supply; and,
 - All irrigation occurs between 9:00 p.m. and 10:00 a.m.
- All allowed golf course irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.
- Rough areas may not be irrigated.

3. ***Unrestricted irrigation of athletic fields is prohibited.***

- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. at a rate not to exceed one inch per application or more than a total of one inch in multiple applications during any ten-day period. All irrigation water must fall on playing surfaces with no outlying areas receiving irrigation water directly from irrigation heads.
- Localized dry areas that show signs of drought stress and wilt (curled leaves, foot-printing, purpling) may be syringed by the application of water for a cumulative time not to exceed fifteen minutes during any twenty four hour period. Syringing may be accomplished with an automated irrigation system or with a hand held hose equipped with an automatic shutoff device at the minimum rate necessary.
- Athletic fields may be irrigated between the hours of 9:00 p.m. and 10:00 a.m. during necessary overseeding, sprigging or resodding operations at the minimum rate necessary for a period that does not exceed 60 days. Irrigation rates during this restoration period may not exceed one inch of applied water in any seven-day period. Syringing is permitted during signs of drought stress and wilt (curled leaves, foot-printing, purpling).
- All allowed athletic field irrigation must be applied in a manner to assure that no runoff, puddling or excessive watering occurs.

- Irrigation is prohibited on athletic fields that are not scheduled for use within the next 120-day period.
 - Water may be used for the daily maintenance of pitching mounds, home plate areas and base areas with the use of hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary.
 - Skinned infield areas may utilize water to control dust and improve playing surface conditions utilizing hand held containers or hand held hoses equipped with an automatic shutoff device at the minimum rate necessary no earlier than two hours prior to official game time.
4. ***Washing paved surfaces such as streets, roads, sidewalks, driveways, garages, parking areas, tennis courts, and patios is prohibited.***
- Driveways and roadways may be pre-washed in preparation for recoating and sealing.
 - Tennis courts composed of clay or similar materials may be wetted by means of a hand-held hose equipped with an automatic shutoff device at the minimum rate necessary for maintenance. Automatic wetting systems may be used between the hours of 9:00 p.m. and 10:00 a.m. at the minimum rate necessary.
 - Public eating and drinking areas may be washed using the minimum amount of water required to assure sanitation and public health.
 - Water may be used at the minimum rate necessary to maintain effective dust control during the construction of highways and roads.
5. ***Use of water for washing or cleaning of mobile equipment including automobiles, trucks, trailers and boats is prohibited.***
- Mobile equipment may be washed using hand held containers or hand held hoses equipped with automatic shutoff devices provided that no mobile equipment is washed more than once per calendar month and the minimum amount of water is utilized.
 - Construction, emergency or public transportation vehicles may be washed as necessary to preserve the proper functioning and safe operation of the vehicle.
 - Mobile equipment may be washed at car washes that utilize reclaimed water as part of the wash process or reduce water consumption by at least 10% when compared to a similar period when water use restrictions were not in effect.
 - Automobile dealers may wash cars that are in inventory no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water

consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.

- Automobile rental agencies may wash cars no more than once per week utilizing hand held containers and hoses equipped with automatic shutoff devices, automated equipment that utilizes reclaimed water as part of the wash process, or automated equipment where water consumption is reduced by at least 10% when compared to a similar period when water use restrictions were not in effect.
 - Marine engines may be flushed with water for a period that does not exceed 5 minutes after each use.
6. ***Use of water for the operation of ornamental fountains, artificial waterfalls, misting machines, and reflecting pools is prohibited.***
- Fountains and other means of aeration necessary to support aquatic life are permitted.
7. ***Use of water to fill and top off outdoor swimming pools is prohibited.***
- Newly built or repaired pools may be filled to protect their structural integrity.
 - Outdoor pools operated by commercial ventures, community associations, recreation associations, and similar institutions open to the public may be refilled as long as:
 - Levels are maintained at mid-skimmer depth or lower;
 - Any visible leaks are immediately repaired;
 - Backwashing occurs only when necessary to assure proper filter operation;
 - Deck areas are washed no more than once per calendar month (except where chemical spills or other health hazards occur);
 - All water features (other than slides) that increase losses due to evaporation are eliminated; and
 - Slides are turned off when the pool is not in operation.
 - Swimming pools operated by health care facilities used in relation to patient care and rehabilitation may be filled or topped off.
 - Indoor pools may be filled or topped off.
 - Residential swimming pools may be filled only to protect structural integrity, public welfare, safety and health and may not be filled to allow the continued operation of such pools.
8. ***Water may be served in restaurants, clubs, or eating-places only at the request of customers.***



MONTHLY VWP PERMIT INSPECTION CHECKLIST (Attachment B)

An inspection of all permitted impact areas, avoided waters and wetlands, and permanently preserved waters, wetlands and upland areas must be conducted at least once every month during active construction activities. Maintain this record on-site and available for inspection by DEQ staff.

Project Name	James River Water Supply Project	VWP Permit #	14-0343	Inspection Date	
Inspector Name & Affiliation	Phone # & Email Address				

Based on a reading of VWP Permit No. 14-0343, including authorized impacts as identified by the plans listed in Special Condition Part I.A.3 of the permit, and my inspection on the date referenced above, to the best of my knowledge this project (___ is in compliance / ___ is not in compliance) with the VWP Permit.

List the Impact Site Number(s) inspected on this date: _____

I certify that the information contained in this report is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Inspector

Date

REVIEWED DURING SITE INSPECTION	Yes	No	N/A	Notes & Corrective Action Taken / Date Completed (use back of page if necessary)
Unauthorized impacts to surface waters, including wetlands, or upland preservation areas have occurred .* (This includes sedimentation impacts due to inadequate or failed erosion controls.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Non-impacted wetlands, streams and preservations areas within 50 feet of construction are clearly marked to prevent unpermitted impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Temporary impacts are being restored to original contours, stabilized, and allowed to re-establish with wetland vegetation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Construction activities are not substantially disrupting aquatic life movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E&S controls are present, properly maintained, and functioning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
In-stream work is being performed in the dry with the appropriate use of cofferdams, sheetpiling, etc., to minimize stream bottom disturbance and turbidity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pipes and/or culverts for road crossings are countersunk to provide for the re-establishment of low flow fish passage and/or a natural stream bottom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Time-of-year restrictions regarding impacts to surface waters are being adhered to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Water quality monitoring is being conducted during stream impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Streams and wetlands are free from any sheen or discoloration that may indicate a spill of oil, lubricants, concrete or other pollutants. **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Heavy equipment is placed on mats or geotextile fabric when working in wetlands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Exposed slopes/stream banks are stabilized immediately upon completion of work in each impact area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

* If unauthorized impacts have occurred, you must email or fax a copy of this report to DEQ within 24 hours of discovery. Email: Previn.Smith@deq.virginia.gov or Fax: 804-698-4302

** Any fish kills, or spills of fuels or oils must be reported **immediately upon discovery** to DEQ at 804-527-5020. If outside of normal business hours, contact Virginia Dept. of Emergency Management at 1-800-468-8892 or the National Response Center at 1-800-424-8802.

Notes

Please note that the permit contains additional construction conditions other than those listed above. The permittee is responsible for compliance with all conditions in the permit. Problems or concerns associated with these other conditions should be noted below.



VWP PERMIT CONSTRUCTION STATUS UPDATE FORM (Attachment C)

Attached to VWP Permit No. 14-0343, issued on November 20, 2015, and modified on October 25, 2016, and October 30, 2017.

Date (check one):

June ____, _____

December ____, _____

VWP Permit No: _____ 14-0343 _____

Project Name: _____ James River Water Supply Project _____

Status within each authorized surface water impact location, as identified by the plans listed in Special Condition Part I.A. 3 of the permit: (check one of the following status options for each impact number/location for authorized impacts numbered 1 through 158.)

Impact number	Construction activities started	Construction activities not started	Construction activities started but currently not active	Construction activities complete

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Authorized Signature: _____

Print Name: _____

Title: _____

Phone: _____

Date: _____

Email: _____

SEND TO: Previn.Smith@deq.virginia.gov or VA DEQ, Office of Water Supply (Attn: Previn Smith), P.O. Box 1105, Richmond, VA 23218

APPENDIX D-1-6
MINOR MODIFICATION NO. 2 OF VWP INDIVIDUAL PERMIT NO. 14-0343 FACT SHEET

October 30, 2017

FACT SHEET

Minor Modification No. 2 of Virginia Water Protection Individual Permit No. 14-0343
James River Water Supply Project, Fluvanna County, Virginia

DEQ has reviewed the request for a modification of Virginia Water Protection (VWP) Individual Permit Number 14-0343 and determined that the proposed changes qualify for a minor modification of the VWP permit in accordance with VWP Permit Program Regulation 9 VAC 25-210-180.E 1, 5, and 6, and 9 VAC25-210-380.B.2. Based on the information provided in the application and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341 et seq.) and the State Water Control Law and regulations, DEQ has determined that there is a reasonable assurance that the activity authorized by this permit will not adversely affect existing beneficial uses.

Surface water impacts have been avoided and minimized to the maximum extent practicable. The proposed permit also addresses no net loss of wetland acreage and function through compensatory mitigation. Permitted wetland impacts have been inventoried in evaluating this proposed permit.

The following details the minor modification application review process.

1. Minor Modification Processing Dates:

Modification requested:	May 17, 2017
Coordination request to DGIF:	May 19, 2017
Request for additional information sent:	May 24, 2017 and June 9, 2017
Additional information received:	May 24, 2017, August 3, 17 & 30, 2017, and September 28, 2017
Responses from DGIF:	May 30, 2017, June 12, 2017, & August 28, 2017
Minor Modification Permit Approved:	October 30, 2017

2. Project Description:

The James River Water Authority (JRWA) proposes to construct and operate a new raw water intake to withdraw surface water from the James River, just upstream of its confluence with the Rivanna River, and install associated water lines to meet the water demands associated with the Counties of Fluvanna and Louisa. The types of water use are residential, commercial, and industrial.

3. Minor Modification Description:

This action is a minor modification to the permit issued on November 20, 2015 and modified October 25, 2016. The construction activities of the permitted project consist of the following: intake structure, pump station, electrical/control building, and installation of a raw water transmission line from the intake structure to the location of a new water treatment plant near the Ferncliff community in Louisa County.

The following changes were made to permit conditions as part of this modification:

- 1) Parts I.A.2-4 were modified to allow for a reduction in permanent and temporary surface water impacts associated with installation of the raw water transmission pipeline;
- 2) Part I.B.2 was revised to include a requirement to submit an application for a new permit at least 270 days prior to the expiration date of the current permit;
- 3) Part I.C.1. was revised to include the current definition of “beneficial uses” from [§ 62.1-44.3](#) of the State Water Control Law that was incorporated into the 2016 revision of the VWP Permit Program Regulation ([9VAC25-210-10](#)).
- 4) Part I.C.7.a was modified to specify that activities related to construction of the raw water transmission pipeline should be conducted in accordance with any time-of-year restrictions (TOYR) recommended by DGIF with respect to state or federally listed mussel species;
- 5) Part I.D. was modified to clarify the requirements for mussel surveys at stream crossings related to construction of the raw water transmission pipeline, and a new special condition (Part I.D.3) was added to require mussel surveys at two specific stream crossing locations;
- 6) Part I.F.3 was modified to include a reduction in authorized withdrawals of 27.375 million gallons per year (mgy), which is equivalent to an annual average daily withdrawal of 75,000 gallons per day (0.075 million gallons per day (mgd)); and
- 7) Part I.H.1 was modified to account for a proposed reduction in permanent wetland impacts and subsequent reduction in required wetland mitigation credits.

Parts I.A.2-4:

The U.S. Army Corps of Engineers (USACE) Nationwide Permit (12) number NAO-2016-1198, issued on February 22, 2017 for construction of the raw water transmission line and a water treatment plant near Ferncliff in Louisa County, authorized surface water impacts associated with a 15-ft wide construction easement at many of the stream crossing locations. The impact maps associated with the current VWP permit used a 30-ft construction easement at many of these impact locations. As a result, the current VWP permit authorizes a larger number of temporary impact sites than the USACE permit. The permittee requested that the VWP permit be modified so that the surface water impacts associated with the construction of the raw water transmission pipeline match those authorized by the NWP (12) permit. The permittee submitted revised impact maps and tables with adjusted impact locations and areas. These documents can be found in the permit file.

Part I.B.2:

This condition previously required the permittee to notify DEQ at least 120 days prior to permit expiration if an extension will be requested. However, section [9VAC25-210-350](#), which was added to the VWP regulations in 2016, specifically requires the submittal of a new permit application at least 270 days prior to the permit expiration date. Inclusion and compliance with this revised condition will then allow DEQ to grant an administrative continuance of the permit if the new permit hasn't been issued for the next 15-year term by the time of the current expiration date (November 19, 2030).

Part I.C.1:

This condition was revised to use the updated definition of “beneficial use” that is currently listed in the VWP Permit Program Regulation ([9VAC25-210-10](#)) as revised in 2016, and defined in [§ 62.1-44.3](#) of the State Water Control Law.

Part I.C.7a:

The current VWP permit requires TOYR for instream work in any stream channel to protect the state-endangered brook floater and state-threatened Atlantic pigtoe and green floater mussel species. This condition was written prior to the first modification that added construction of the extended raw water transmission pipeline from Rte 6 in Fluvanna County to the Ferncliff area in Louisa County. There are 56 stream crossings proposed for the raw water transmission pipeline. Twenty-three (23) of these proposed crossings are located at perennial streams and thirty-three (33) are located at intermittent and/or ephemeral stream channels.

The permittee initially requested that Part I.C.7.a be revised to require a TOYR condition only for those proposed stream crossings that are less than one mile upstream of the Rivanna River and the James River. After subsequent correspondence and discussions with DGIF (see Section 7 below), the applicant submitted a revised request on August 30, 2017. The revised request proposed TOYR requirements for the following:

- instream work within the James River (impacts 1 & 2);
- the proposed Rivanna River stream crossing (impact 8); and
- 4 proposed crossings of perennial and intermittent streams that discharge directly to the Rivanna River (impacts 7, 9, 10 & 11),

The permittee will also observe a TOYR at the proposed crossing of Byrd Creek (impact 43), a tributary to the James River and the proposed crossing of Horsepen Creek (impact 74), a tributary to Byrd Creek if recommended by DGIF, based upon mussel survey results.

DGIF has recommended mussel surveys at all of these proposed impact locations (see Section 7 below). Therefore, Part I.C.7.a was revised to require the permittee to conduct activities in accordance with any Time-of-Year restriction(s) recommended by DGIF with respect to any state or federally listed mussel species. Construction activities within the confines of a coffer dam are not included in any TOYR. However, the coffer dam must be installed and uninstalled outside the TOYR period.

Part I.D

The current permit requires mussel surveys and relocations (if required) only with reference to work in the James River or along its shoreline, and does not include mussel survey requirements for instream work related stream crossings conducted for installation of the raw water transmission pipeline. The permittee proposed that, because the Rivanna River is a designated T&E water due to the presence of state-endangered brook floater and state-threatened Atlantic pigtoe and green floater mussel species, a mussel survey requirement should also be required for the proposed Rivanna River crossing (impact 8). After subsequent correspondence and discussions with DGIF (see Section 7 below), the applicant submitted a revised request on August 30, 2017. The revised request proposed mussel surveys at the following impact sites in addition to the James River intake location (impacts 1 & 2):

- the proposed Rivanna River stream crossing (impact 8);
- the proposed crossing of Byrd Creek, a tributary to the James River (impact 43); and
- the proposed crossing of Horsepen Creek, a tributary to Byrd Creek (impact 74).

The permittee proposed that, if T&E mussel species are found as a result of the survey at impact site 43, an additional mussel survey should be conducted at the next upstream crossing in the Byrd Creek watershed (impact 59). Likewise, an additional survey would be conducted at impact site 72 (an

unnamed tributary to Horsepen Creek) if the survey at impact site 74 resulted in the presence of T&E species at that location.

Part I.D.1 was revised to include requirements for mussel surveys (and relocations if needed) at the proposed stream crossings at the Rivanna River, and at impact sites 43 (Byrd Creek) and 74 (Horsepen Creek). The permittee's suggested requirement for additional surveys, if needed, at impact locations 59 and 72 was also added.

Part I.F.3:

When the application for VWP permit no. 14-0343 (reissuance of previous permit no. 04-0805) was evaluated, the permittee's projected demand calculations included an annual average demand of 75,000 gpd for the then-proposed Fluvanna Community Water System (CWS). This annual demand was included because at the time the permittee understood that the Fluvanna Correctional Center for Women (FCCW) future water demand would be accounted for by this permit. Consequently, an annual average demand of approximately 1.07 mgd for the Fluvanna CWS was included in the total authorized withdrawals. However, the FCCW submitted an application during 2016 for reissuance of their existing VWP permit no. 95-0957. During the evaluation of this application (assigned the new number 16-0946) FCCW indicated that, pursuant to an October 16, 2013 Memorandum of Agreement (MOA) with JRWA, FCCW would be supplying up to 75,000 gpd to the Fluvanna CWS during the next 15-year permit term. Therefore, in order to resolve a potential duplication of authorized withdrawals, JRWA requested modification of Part I.F.3 to reduce the authorized maximum annual withdrawal by 27.45 mgd (annual average of 75,000 gpd), with the modification applied to the Fluvanna CWS service area. Table 1 below (revised from Table 2 in the Fact Sheet prepared for the November, 2015 reissuance of this permit) lists the revised justified demands for the JRWA service areas, with those for the Fluvanna CWS and subsequent Totals and Grand Totals listed in bold italics.

Table 1: JRWA Revised Water Demands by Service Area*

Service Area	Average Daily Demand (gpd)		Peak Daily Demand (gpd)	
	Year 2030	Year 2045	Year 2030	Year 2045
Louisa County:				
Gum Spring	118,409	185,455	177,614	278,182
Ferncliff	154,773	242,844	232,160	364,266
Shannon Hill	77,500	122,037	116,250	183,054
Zion Crossroads	712,045	989,837	1,068,068	1,484,755
LCWA	73,020	71,798	109,530	107,697
Town of Louisa	392,736	532,043	589,104	798,064
Town of Mineral	148,317	223,338	222,476	335,007
Lake Anna	1,009,242	1,582,930	1,513,863	2,374,394
Economic Development Prospects	400,000	750,000	600,000	1,125,000
<i>Subtotal</i>	<i>3,086,042</i>	<i>4,700,282</i>	<i>4,629,063</i>	<i>7,050,419</i>
Fluvanna County:				
Columbia CWS	5,158	7,768	7,736	11,651
Fork Union CWS	226,020	339,030	339,030	508,545
Palmyra CWS	70,730	125,634	106,095	188,450
<i>Proposed Fluvanna CWS</i>	<i>995,541</i>	<i>1,649,246</i>	<i>1,493,312</i>	<i>2,473,869</i>
Economic Development Prospects	300,000	525,000	450,000	787,500
<i>Subtotal</i>	<i>1,597,449</i>	<i>2,646,858</i>	<i>2,396,173</i>	<i>3,970,015</i>

James River Water Supply Project				
TOTAL	4,683,491	7,346,960	7,025,238	11,020,434
7.5 percent water losses	351,262	551,022	526,893	826,533
Minus 1 mg WTP capacity provided from the Northeast Creek Reservoir	-1,000,000	-1,000,000	-1,000,000	-1,000,000
GRAND TOTAL	4,034,753	6,897,982	6,552,131	10,846,967

Staff evaluated the permittee's demand using the revised average daily grand total demand of 4.04 mgd projected for Year 2030, using the same calculations as those used for the 2015 reissuance, to determine the following revised withdrawal limits for the permit period:

- Average Daily: 4.035 mgd
- Peak (maximum) day: $4.035 \times 1.89 \times 1.10 = 8.39$ mgd
 - Peak Day Factor (1.89) obtained from application.
 - VDH certification (10 percent capacity)
- Maximum Monthly: $4.035 \times 1.25 \times 1.10 \times 31 = 171.99$ million gallons (mg)
 - Peak Month Factor (1.25) using standard factor.
 - VDH certification (10 percent capacity)
- Maximum Annual: $(4.03 \times 366) = 1,476.81$ mg

Based upon the revised water demands by service area (Table 1), updated withdrawal limits by Tier were calculated and are listed below. For further information, see the Fact Sheet dated November 20, 2015 in the permit file.

Table 2: Updated Withdrawal Limits by Tier

Tier	Maximum Daily Withdrawal (mgd)	Maximum Monthly Withdrawal (mg)	Maximum Annual Withdrawal (mg)
1	5.73	117.4	1,008
2	7.45	152.7	1,311
3	8.39	172.0	1,477

- a. Tier 1 contains the withdrawal limits to meet the justified demands of the service areas of Zion Crossroads and Ferncliff in Louisa County and Fluvanna CWS in Fluvanna County and the economic development prospects as identified in the application for both Counties.
- b. Tier 2 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 1 and the service areas of Shannon Hill, Town of Louisa, Town of Mineral, Louisa County Water Authority and Lake Anna in Louisa County.
- c. Tier 3 contains the withdrawal limits to meet the justified demands of the service areas identified in Tier 2 and the service areas of Gum Springs in Louisa County and the Fork Union, Columbia and Palmyra CWS in Fluvanna County

The volumes calculated above by staff are the basis for limits in the permit for this project.

Part I.H.1:

The current permit requires compensation for permanent impacts to 0.155 acre of PFO wetland in the form of a purchase of 0.310 wetland credit. The proposed permanent PFO impacts were reduced to 0.141 acre. At the same 2:1 mitigation ratio, the resulting purchase requirement is 0.282 wetland credits. There was no change to the PSS permanent impact of 0.082 acre (required mitigation credit of 0.123). Therefore, the total wetland mitigation credit purchase requirement was changed from 0.433 to 0.405.

4. Avoidance and Minimization Efforts

The permittee's efforts to avoid and minimize impacts to surface waters resulting from the proposed project modifications included the reduction of the width of maintained easements from 30 ft. to 15 ft. at many locations throughout the length of the raw water transmission line. This change reduced the area of proposed permanent wetland impact sites from 0.237 acres to 0.223 acre. Total temporary stream impacts were reduced from 6,190 linear feet to 3,003 linear feet.

5. Surface Water Impacts

The proposed permanent and temporary stream impacts due to intake construction are the same as previously authorized. No permanent stream impacts due to the construction of the raw water transmission line are proposed.

Construction of the proposed raw water transmission line as now proposed would cause permanent conversion impacts of 0.141 acre for palustrine forested wetlands (PFO), which is a reduction of 0.14 acre from the previously authorized 0.155 acre (Table 3). Construction of the proposed raw water transmission line would cause permanent conversion impacts of 0.082 acre of palustrine scrub-shrub (PSS) wetlands, which is the same as previously authorized. Therefore, the total proposed permanent wetland impact equals 0.223 acre. The previously authorized permanent wetland impact for raw water line construction was for 0.237 acre. Therefore, the modification results in a reduction in total permanent wetland impact of 0.014 acre.

Construction of the proposed raw water transmission line as now proposed would temporarily impact a total of 0.991 acre of Palustrine Emergent Wetland (PEM), a reduction of 0.317 acre from the previously authorized 1.313 acres. The modification would temporarily impact 0.194 acre of PSS wetlands (a reduction of 0.055 acre from the previously authorized 0.249 acre), and 0.083 acre of PFO wetlands (a reduction of 0.09 acre from the previously authorized 0.173 acre). Temporary stream impacts due to the construction of the raw water transmission line would total 3,003 linear feet, compared to the previously authorized 6,190 linear feet. These temporary stream impacts include 190 linear feet (0.309 acre) related to an optional open-cut crossing of the Rivanna River at the same location where a directionally drilled crossing was proposed in the original JPA.

Table 3: Surface Water Impacts:

Impact Type	Previously Permitted Impact (ac)	Modified Permitted Impact (ac)
PEM-permanent	0	0
PSS-permanent	0.082	0.082
PFO-permanent	0.155	0.141
PEM-temporary	1.313	0.991

PSS-temporary	0.249	0.194
PFO-temporary	0.173	0.083
Stream-permanent	64 linear ft	64 linear ft
Stream-temporary	6,190 linear ft	3,003 linear ft

The necessary and unavoidable temporary impacts to wetlands and streams located within the construction easement encompassing the construction of the raw water transmission line will be restored by the permittee to avoid permanent impacts at these locations. All temporary impact sites will be returned to their pre-existing surface contours after disturbance and stabilized by applying an appropriate seed mix. PFO and PSS wetlands that are temporarily impacted will also be planted with native woody stems of species appropriate for wetland conditions at a minimum density of 400 stems per acre.

This permit authorizes the following surface water impacts:

- impacts to the James River associated with the construction of the intake structure are authorized for 0.08 acre (64 linear feet) of permanent impact and 0.82 acre (315 linear feet) of temporary impact, and
- impacts associated with the construction of a raw water transmission line from the intake location to the proposed location of a new water treatment plant near Ferncliff in Louisa County are authorized to permanently impact 0.082 acre of palustrine scrub-shrub (PSS) wetlands and 0.141 acre of palustrine forested (PFO) wetlands, and temporarily impact 0.996 acre of palustrine emergent (PEM) wetlands, 0.194 acre of PSS wetlands, 0.083 acre of PFO wetlands and 2688 linear feet of intermittent and perennial stream channels.

Authorized impact areas shall be as depicted and listed on the following:

- Sheet 1 entitled "Relocated Intake, Pump Station and Raw Water Pipeline Owned by the JRWA" dated June 26, 2016 and received June 27, 2016;
- Unnumbered sheet entitled "Plan Set A: 24 inch Raw Water Main" dated April 14, 2016 and received June 27, 2016;
- Sheet C-5 entitled "Intake and River Cross Section" dated May, 2015 and received June 27, 2016;
- Sheet VMRC 2 entitled "Raw Water Main Rivanna River Crossing" dated February 24, 2016 and received June 27, 2016;
- Index Maps 1 through 8 and index sheet, entitled "Figure 3: Preliminary Jurisdictional Waters of the U.S. Impacts Map", dated June 22, 2016, revised January 3, 2017 and June 9, 2017, and received August 3, 2017;
- Sheets 1 through 74, entitled "Preliminary Jurisdictional Waters of the U.S. Impacts Map – Detail", dated June 22, 2016, revised January 3, 2017 and June 9, 2017, and received August 3, 2017;
- Minor Modification 2 Impacts Table – James River Water Supply Project, dated June 8, 2017, and received August 3, 2017; and
- Minor Modification 2: Wetland Compensatory Mitigation Summary, dated June 8, 2017 and received August 3, 2017.

Water quality impacts are expected to be temporary and minimal provided the permittee abides by the conditions of the permit. A loss of state waters shall occur. However, the impacts have been avoided and minimized to the greatest extent practicable.

6. Compensation for Unavoidable Surface Water Impacts

To provide compensation for permanent wetland impacts due to the relocation and extension of the raw water transmission line, the permittee will purchase off-site wetland mitigation credits from a Wetland and Stream Mitigation Bank that is authorized to sell credits in the watershed where the impacts are located (Rivanna River/Byrd Creek). Wetland mitigation credits will be purchased using standard compensatory mitigation ratios:

- 2:1 compensation ratio for permanent impacts to PFO wetlands (0.141 acre X 2 = 0.282 credits)
- 1.5:1 compensation ratio for permanent impacts to PSS wetlands (0.082 acre X 1.5 = 0.123 credits)

Therefore the permittee will purchase a total of 0.405 wetland mitigation credits. The permittee performed a search of the U.S. Army Corps of Engineers Regulatory In-Lieu Fee and Bank Information Tracking System (RIBITS) dated September 8, 2016, which indicated that adequate credits were available. However, if adequate credits are not available when needed, the permittee will purchase credits from the Virginia Aquatic Resources Trust Fund. The permittee also submitted a Wetland Credit Availability letter from James River Mitigation LLC dated September 4, 2016 that stated the availability at that time of 1.33 wetland credits.

7. Relevant Regulatory Agency Comments

Staff coordinated with DGIF regarding the request for modification on May 19, 2017. DGIF responded via email on May 30, 2017 with a request for additional information regarding the details of the proposed stream crossings (exact locations, stream type (ephemeral, intermittent or perennial), and whether mussel surveys had already been performed.

After subsequent consultation and discussions between DGIF, DEQ staff, and the permittee, DGIF recommended TOYR and the performance of mussel surveys from 100 meters upstream to 400 meters downstream at two perennial stream crossings (impact locations 43 and 74). DGIF also recommended that, based on the results of these surveys, additional mussel surveys and TOYR may be required at impact location 59 (upstream of impact location 43 on Byrd Creek) and impact location 72 (upstream of impact location 74 on Horsepen Creek, a perennial tributary to Byrd Creek), and potentially other upstream locations on these streams.

DGIF noted that for crossings of ephemeral or intermittent streams, work should be performed when the stream is not flowing or in the dry behind cofferdams, and, in these cases, adherence to TOYR would not be needed. DGIF also noted that their comments were related to the waterline project only (north of Rte 6). However, they supported the need for specifying TOYR and mussel surveys at impact locations in the James and Rivanna rivers and TOYR for the small direct tributaries to the Rivanna south of Rt 6 (impact locations 1, 2, and 7 through 11). Staff further coordinated with DGIF on October 19, 2017, with a request to review an initial draft of the related special conditions. DGIF responded with suggested changes on October 23, 2017,

Part I.C.7.a was revised to include the recommendations made by DGIF regarding TOYR. Part I.D was expanded to include requirements for mussel surveys at the Rivanna River crossing and at the most downstream crossings of Byrd Creek (impact location 43) and Horsepen Creek (impact location 74). The revised condition also requires the submittal of a survey report or reports for DEQ and DGIF approval, with the potential for additional surveys at the next upstream perennial stream crossings (impact locations 59 and 72), or other impact locations, if listed species are found at the locations of the initial surveys.

8. Riparian/Adjacent Landowner Notification

Notifications to riparian landowners and the local government were not conducted because no new or increased impacts were proposed.

9. Revisions to Part I - Special Conditions

Staff revised the following conditions of the permit:

- Parts I.A 1 through 4 were changed to identify and describe the authorization for the impacts to surface waters associated with construction of the raw water transmission pipeline and the corresponding changes in proposed permanent and temporary impacts.
- Part I.B.2 was revised to include a requirement to submit an application for a new permit at least 270 days prior to the expiration date of the current permit.
- Part I.C.7.a was revised to require the permittee to conduct activities in accordance with any Time-of-Year restriction(s) recommended by DGIF with respect to any state or federally listed mussel species. Construction activities within the confines of a coffer dam are not included in any TOYR.
- Part I.D was revised and expanded to require mussel surveys at specified impact locations where stream crossings are proposed across the Rivanna River (impact location 8), Byrd Creek (impact location 43), and Horsepen Creek (impact location 74) no more than six months prior to the start of construction at each location. Part I.D.1.f includes a provision that, if threatened or endangered species are found by the mussel surveys at impact locations 43 and 74, additional mussel surveys will be required at impact locations 59 (unnamed tributary to Byrd Creek) and impact location 72 (unnamed tributary to Horsepen Creek), respectively, or other perennial stream sites as recommended by DGIF.
- Part I.F.3 was revised to incorporate a reduction in authorized withdrawals from the James River intake due to the change in source (FCCW rather than this permit) for a portion of the Fluvanna CWS service area.
- Part I.H.1 was revised to account for the reduction in permanent impacts to PFO wetlands.

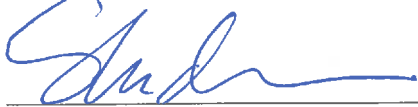
10. Staff Findings and Recommendations:

- The proposed activity is consistent with the provisions of the Clean Water Act and State Water Control Law, and will protect instream beneficial uses.
- The proposed permit addresses avoidance and minimization of wetland impacts to the maximum extent practicable.
- The effect of the impact, together with other existing or proposed impacts to wetlands, will not cause or contribute to significant impairment of state waters or fish and wildlife resources.

- The proposed permit conditions address no net loss of wetland acreage and function through compensatory mitigation and adequately assess compensation implementation via success monitoring and reporting.

Staff recommends VWP Individual Permit Number 14-0343 be modified as proposed.

Approved:



Director, Office of Water Supply

10/27/17

Date

APPENDIX D-1-7
MINOR MODIFICATION NO. 3 OF VWP INDIVIDUAL PERMIT NO. 14-0343 REQUEST



1001 Boulders Parkway
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Richmond, VA 23225

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January 29, 2018

Mr. Brian McGurk
Department of Environmental Quality
629 East Main Street
Richmond, VA 23219

Electronic submission via email

**Re: JRWA VWP Individual Permit – 14-0343
Impact Revisions – Minor Mod 3
Fluvanna County, Virginia**

Applicant: JRWA

Dear Mr. McGurk,

As we discussed, the applicant has determined that there is a need for improvements to an existing roadway that will serve as an access road for the proposed JRWA pump station and intake structure. Attached please find updated impact exhibits for your use and photos of the existing roadway. Additionally, it appears that there may have been typographical errors in the DEQ Minor Modification No. 2. Specifically, temporary impacts to the James River include 485 linear feet (0.90 ac.), not 315 LF, as referenced in the permit. Cumulative impacts for the project are described below and in the attached summary table.

In order to provide construction equipment access to the pump station and intake site and provide safe vehicular ingress and egress, the existing gravel roadway will be widened to approximately 20 linear feet, within a 30-foot easement. Impacts have been minimized by utilizing an existing roadbed and consist of a culvert extension and the placement of fill material in adjacent wetlands. The proposed impacts for the roadway include 446 sq.ft. (0.01) of temporary impact to PFO wetlands for construction access, 245 sq.ft. (0.006 ac.) of permanent wetland impact, and 40 linear feet of permanent stream impact.

Cumulative impacts for the Project include: 43,369 sq.ft. (0.996 ac) of temporary disturbance to PEM wetlands, 8,472 sq.ft. (0.194 ac) of temporary disturbance to PSS wetlands, 4,064 sq.ft. (0.093 ac) of temporary disturbance to PFO wetlands, 6,140 sq.ft. (0.141 ac) of permanent conversion from PFO to PEM wetland, 3,572 sq.ft. (0.082 ac.) of permanent conversion from PSS to PEM wetlands, 245 sq.ft. (0.006 ac) of permanent fill to PFO wetlands, 3,173 LF (2.194 ac) of temporary stream impact, and 104 LF (0.081 ac.) of permanent stream impact. Impacts are described in detail in the table below and on the attached Impact maps.

If required, the applicant proposes payment to an approved mitigation bank in the amount of 36 stream credits (USM attached) and 0.01 wetland credits to satisfy mitigation requirements.

Please contact Todd Preuninger at (804) 200-6399 or todd.preuninger@timmons.com if you have questions concerning the information that is provided.

Sincerely,
Timmons Group



Todd Preuninger
Senior Environmental Scientist

Attachments

1. Revised Impact Exhibits
2. USM Forms/Photos
3. Letter of Credit Availability

JRWA

Stream Assessment Summary Form (Form 2)

Unified Stream Methodology for use in Virginia

Project #	Applicant	Date
33927	JRWA	01/29/2018
Evaluators	HUC	Locality
Todd Preuninger	02080204	Louisa

Stream Name	Reach ID	Length of Impact (L _I) (feet)	Reach Condition Index (RCI)	Impact Factor (IF)	Compensation Requirement (CR) (L _I × RCI × IF)
UNT to Rivanna	Impact 201	40	0.90	1	36
	Total L_I	40		Total CR	36

Note: Round all feet & CR's to the nearest whole number.

Stream Assessment Form (Form 1)


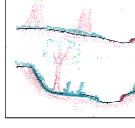



Unified Stream Methodology for use in Virginia

For use in wadeable channels classified as intermittent or perennial

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	SAR #	Impact/SAR length	Impact Factor
33927	JRWA	Louisa	R3	02080204	01/29/2018	Impact 201	40	1

Name(s) of Evaluator(s)	Stream Name and Information
Todd Preuninger	UNT to Rivanna

1. Channel Condition: Assess the cross-section of the stream and prevailing condition (erosion, aggradation)

	Conditional Category					
	Optimal	Suboptimal	Marginal	Poor	Severe	
Channel Condition	 Very little incision or active erosion; 80-100% stable banks. Vegetative surface protection or natural rock, prominent (80-100%). AND/OR Stable point bars/bankfull benches are present. Access to their original floodplain or fully developed wide bankfull benches. Mid-channel bars, and transverse bars few. Transient sediment deposition covers less than 10% of bottom.	 Slightly incised, few areas of active erosion or unprotected banks. Majority of banks are stable (60-80%). Vegetative protection or natural rock prominent (60-80%) AND/OR Depositional features contribute to stability. The bankfull and low flow channels are well defined. Stream likely has access to bankfull benches, or newly developed floodplains along portions of the reach. Transient sediment covers 10-40% of the stream bottom.	 Often incised, but less than Severe or Poor. Banks more stable than Severe or Poor due to lower bank slopes. Erosion may be present on 40-60% of both banks. Vegetative protection on 40-60% of banks. Streambanks may be vertical or undercut. AND/OR 40-60% of stream is covered by sediment. Sediment may be temporary/transient, contribute to stability, may be forming/present. AND/OR V-shaped channels have vegetative protection on > 40% of the banks and depositional features which contribute to stability.	 Overwidened/incised. Vertically/laterally unstable. Likely to widen further. Majority of both banks are near vertical. Erosion present on 60-80% of banks. Vegetative protection present on 20-40% of banks, and is insufficient to prevent erosion. AND/OR 60-80% of the stream is covered by sediment. Sediment is temporary/transient in nature, and contributing to instability. AND/OR V-shaped channels have vegetative protection is present on > 40% of the banks and stable sediment deposition is absent.	 Deeply incised (or excavated), vertical/lateral instability. Severe incision, flow contained within the banks. Streambed below average rooting depth, majority of banks vertical/undercut. Vegetative protection present on less than 20% of banks, is not preventing erosion. Obvious bank sloughing present. Erosion/raw banks on 80-100%. AND/OR Aggrading channel. Greater than 80% of stream bed is covered by deposition, contributing to instability. Multiple thread channels and/or subterranean flow.	CI
Score	3	2.4	2	1.6	1	1.6
NOTES>>						

2. RIPARIAN BUFFERS: Assess both bank's 100 foot riparian areas along the entire SAR. (rough measurements of length & width may be acceptable)

	Conditional Category						
	Optimal	Suboptimal	Marginal	Poor			
Riparian Buffers	Tree stratum (dbh > 3 inches) present, with > 60% tree canopy cover and a non-maintained understory. Wetlands located within the riparian areas.	High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory. Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 30% tree canopy cover and a maintained understory. Recent cutover (dense vegetation).	High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with <30% tree canopy cover.	Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay production, ponds, open water. If present, tree stratum (dbh > 3 inches) present, with <30% tree canopy cover with maintained understory.	High Poor: Lawns, mowed, and maintained areas, nurseries; no-till cropland; actively grazed pasture, sparsely vegetated non-maintained area, recently seeded and stabilized, or other comparable condition.	Low Poor: Impervious surfaces, mine spoil lands, denuded surfaces, row crops, active feed lots, trails, or other comparable conditions.	NOTES>> North of Robious Road stream is located in an actively grazed pasture. On the south side, the impact area is located in an existing maintained (grassed) DOT right-of-way.
Condition Scores	1.5	High 1.2 Low 1.1	High 0.85 Low 0.75	High 0.6 Low 0.5			

1. Delineate riparian areas along each stream bank into Condition Categories and Condition Scores using the descriptors.	Ensure the sums of % Riparian Blocks equal 100																
2. Determine square footage for each by measuring or estimating length and width. Calculators are provided for you below.																	
3. Enter the % Riparian Area and Score for each riparian category in the blocks below.																	
Right Bank	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">% Riparian Area></td> <td style="text-align: center;">100%</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">100%</td> </tr> <tr> <td>Score ></td> <td style="text-align: center;">1.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	% Riparian Area>	100%						100%	Score >	1.2						
% Riparian Area>	100%						100%										
Score >	1.2																
Left Bank	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">% Riparian Area></td> <td style="text-align: center;">100%</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">100%</td> </tr> <tr> <td>Score ></td> <td style="text-align: center;">1.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	% Riparian Area>	100%						100%	Score >	1.2						
% Riparian Area>	100%						100%										
Score >	1.2																
CI= (Sum % RA * Scores*0.01)/2																	
Rt Bank CI >	1.20																
Lt Bank CI >	1.20																

3. INSTREAM HABITAT: Varied substrate sizes, water velocity and depths; woody and leafy debris; stable substrate; low embeddedness; shade; undercut banks; root mats; SAV; riffle poole complexes, stable features.

	Conditional Category				
	Optimal	Suboptimal	Marginal	Poor	
Instream Habitat/ Available Cover	Habitat elements are typically present in greater than 50% of the reach.	Stable habitat elements are typically present in 30-50% of the reach and are adequate for maintenance of populations.	Stable habitat elements are typically present in 10-30% of the reach and are adequate for maintenance of populations.	Habitat elements listed above are lacking or are unstable. Habitat elements are typically present in less than 10% of the reach.	CI
Score	1.5	1.2	0.9	0.5	1.20

Stream Impact Assessment Form Page 2

Project #	Applicant	Locality	Cowardin Class.	HUC	Date	Data Point	SAR length	Impact Factor
33927	JRWA	Louisa	R3	02080204	01/29/2018	Impact 201	40	1

4. CHANNEL ALTERATION: Stream crossings, riprap, concrete, gabions, or concrete blocks, straightening of channel, channelization, embankments, spoil piles, constrictions, livestock

NOTES>> channel has been straightned - existing culvert present at crossing

Channel Alteration	Conditional Category					
	Negligible	Minor	Moderate	Severe		
Channelization, dredging, alteration, or hardening absent. Stream has an unaltered pattern or has naturalized.	Less than 20% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	20-40% of the stream reach is disrupted by any of the channel alterations listed in the parameter guidelines.	40 - 60% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	60 - 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines. If stream has been channelized, normal stable stream meander pattern has not recovered.	Greater than 80% of reach is disrupted by any of the channel alterations listed in the parameter guidelines AND/OR 80% of banks shored with gabion, riprap, or cement.	
SCORE	1.5	1.3	1.1	0.9	0.7	0.5

0.50

REACH CONDITION INDEX and STREAM CONDITION UNITS FOR THIS REACH

NOTE: The CIs and RCI should be rounded to 2 decimal places. The CR should be rounded to a whole number.

THE REACH CONDITION INDEX (RCI) >> 0.90

RCI= (Sum of all CI's)/5

COMPENSATION REQUIREMENT (CR) >> 36

CR = RCI X LF X IF

INSERT PHOTOS:

DESCRIBE PROPOSED IMPACT:





Virginia Wetland Consulting LC

January 30, 2018

Mr. Todd Preuinger
Timmons Group
1001 Boulder Parkway, Suite 300
Richmond, VA 23225

RE: Weatherbury Mitigation Bank – Wetland Credits
Letter of Credit Availability
Project – James River Water Authority (JRWA)

Dear Mr. Preuinger:

This letter is to confirm the availability of authorized wetland and USM stream credits at the Weatherbury Mitigation Bank located in Chesterfield County. TCPII Weatherbury, LLC has been authorized by the Corps of Engineers and Department of Environmental Quality to transfer credits in the approved service area. Current available credits include up to 6.826 wetland credits and 1,493 USM credits to resolve impacts permitted under federal and state regulations.

These credits are available in accordance with the approved Weatherbury Mitigation Banking Instrument dated November 16, 2009.

If you have any questions or need additional information, please give me a call.



























Sincerely,
Virginia Wetland Consulting LC

A handwritten signature in black ink, appearing to read 'A. J. Hudson', written over a light gray rectangular background.

A. James Hudson, PWS, PWD
Agent for TCPII Weatherbury, LLC


Cc: Mr. David Jacobson, TCPII Weatherbury, LLC

Legend

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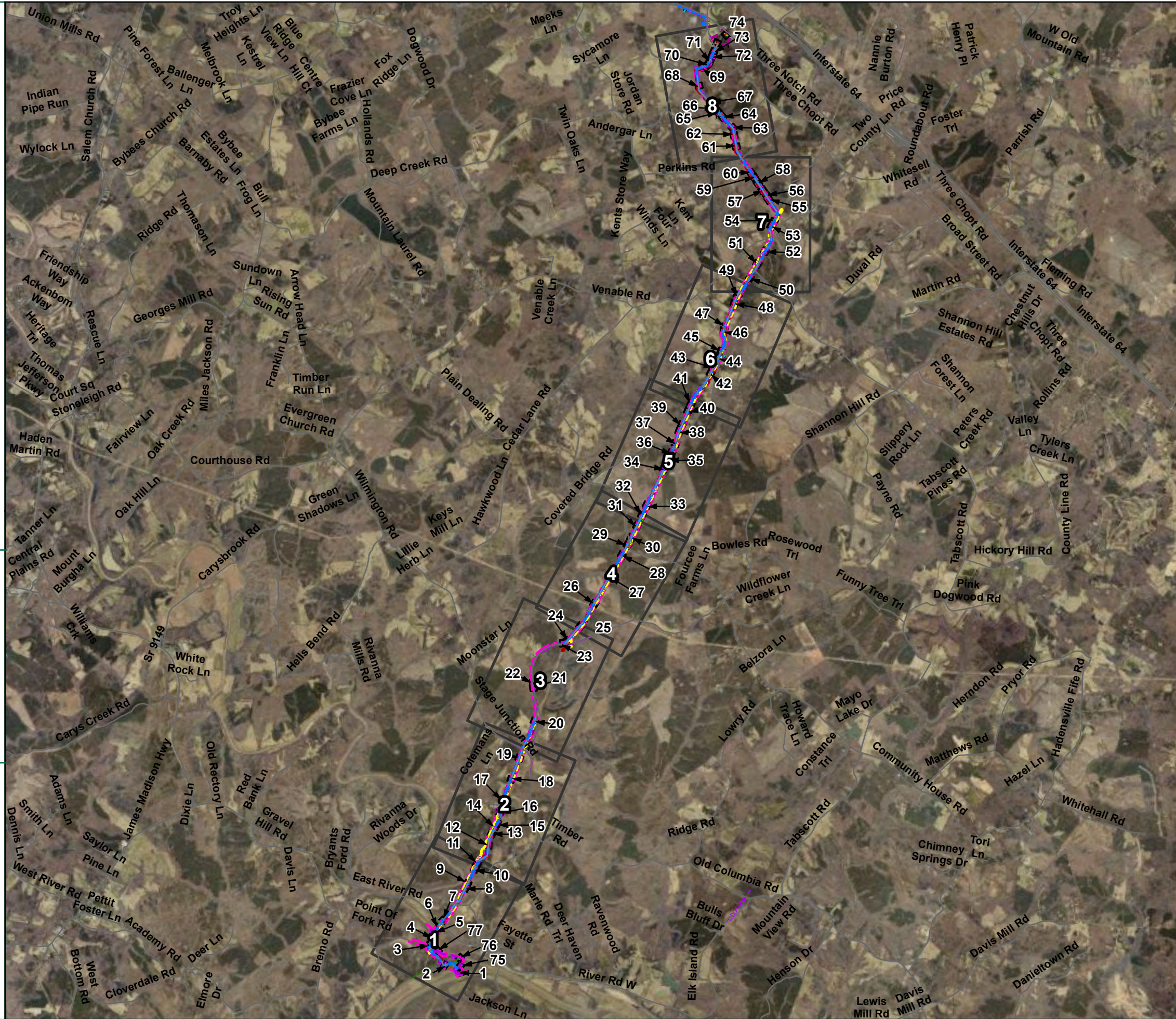
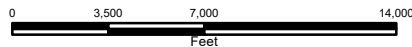
		YOUR VISION ACHIEVED THROUGH OURS		THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1648 www.timmons.com	
		Site Development Residential Infrastructure Technology Environmental			
SHEET NO. 33927 NOTES	JOB NUMBER 33927	JAMES RIVER WATER SUPPLY PROJECT		DESIGNED BY L. MAJOR DRAWN BY T. FREUNINGER CHECKED BY E. MORRIS SCALE N/A	
		LOUISA & FLUVANNA COUNTY, VIRGINIA		DATE 06/22/2016	
		PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - NOTES		REVISION DESCRIPTION	
		1/3/17 Impacts updated as a result of edits to the limits of disturbance.		6/9/17 Impacts reduced as a result of reduction to the limits of disturbance.	
12/20/17 Map updated per impact revisions east of East River Rd.		12/20/17 Map updated per impact revisions east of East River Rd.		12/20/17 Map updated per impact revisions east of East River Rd.	

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TIMMONS GROUP

JAMES RIVER WATER SUPPLY PROJECT LOUISIA & FLUVANNA COUNTY, VIRGINIA

FIGURE 3: PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP

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JOB NUMBER
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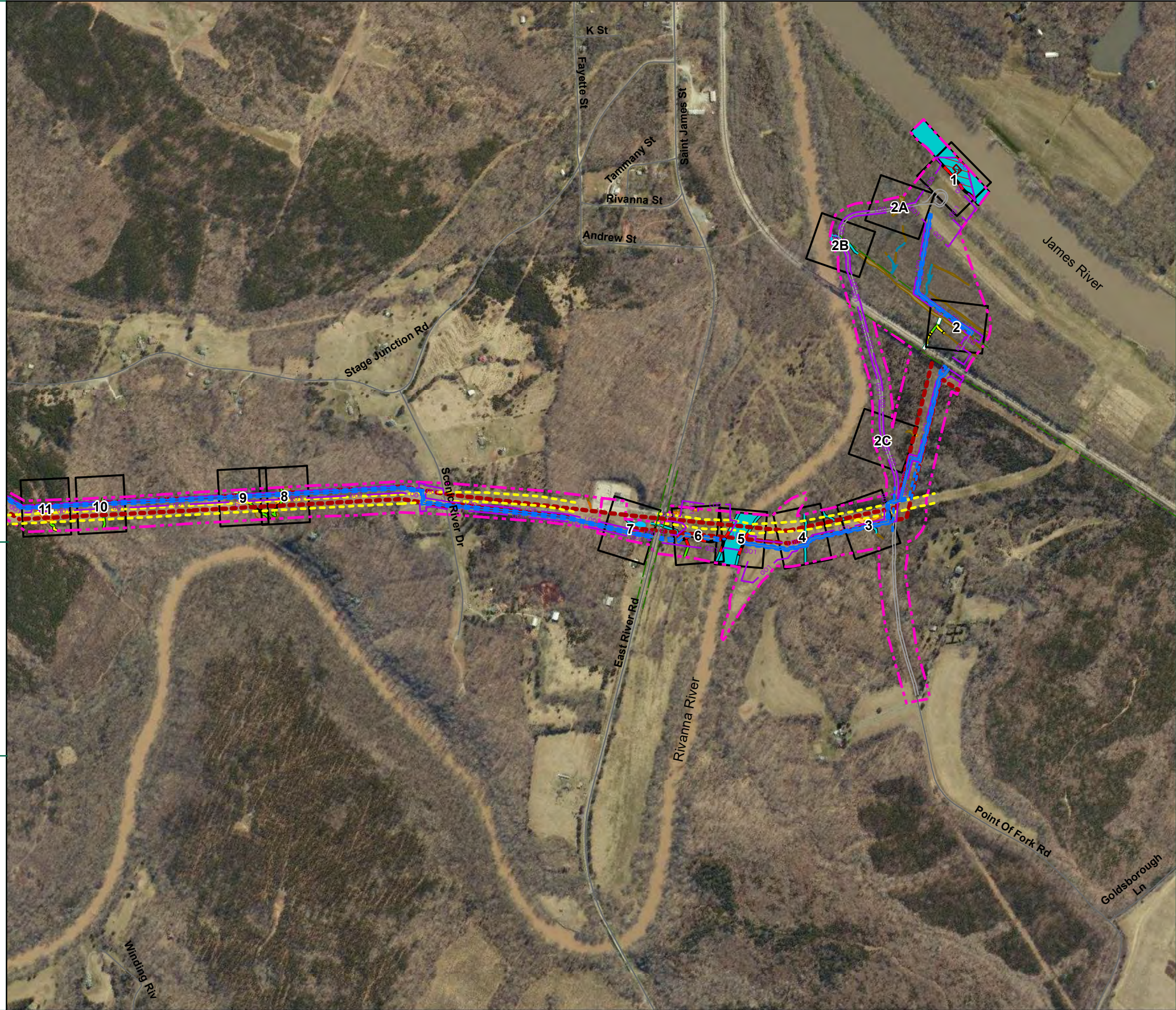
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DRAWN BY
L. MAJOR
DESIGNED BY
B. NORRIS
CHECKED BY
T. PREUNINGER
SCALE
1" = 800'

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JAMES RIVER WATER SUPPLY PROJECT
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






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B. NORRIS
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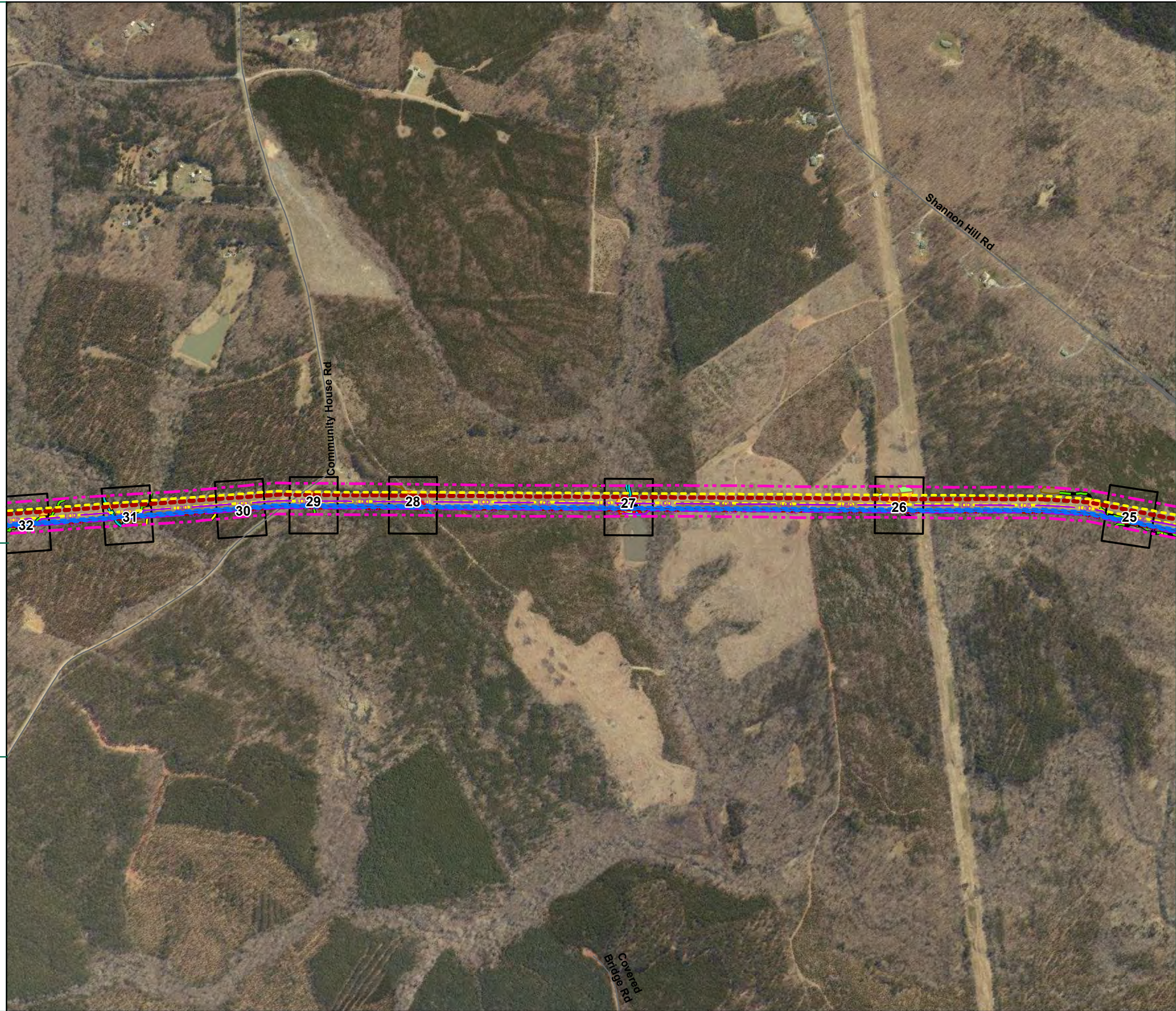
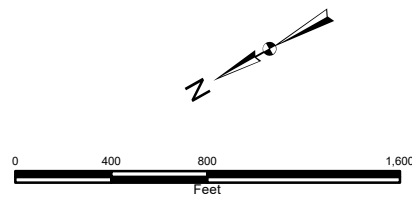
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DATE
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DRAWN BY
 L. MAJOR

DESIGNED BY
 B. NORRIS

CHECKED BY
 T. PREUNINGER

SCALE
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FIGURE 3: PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP

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CHECKED BY
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DESIGNED BY
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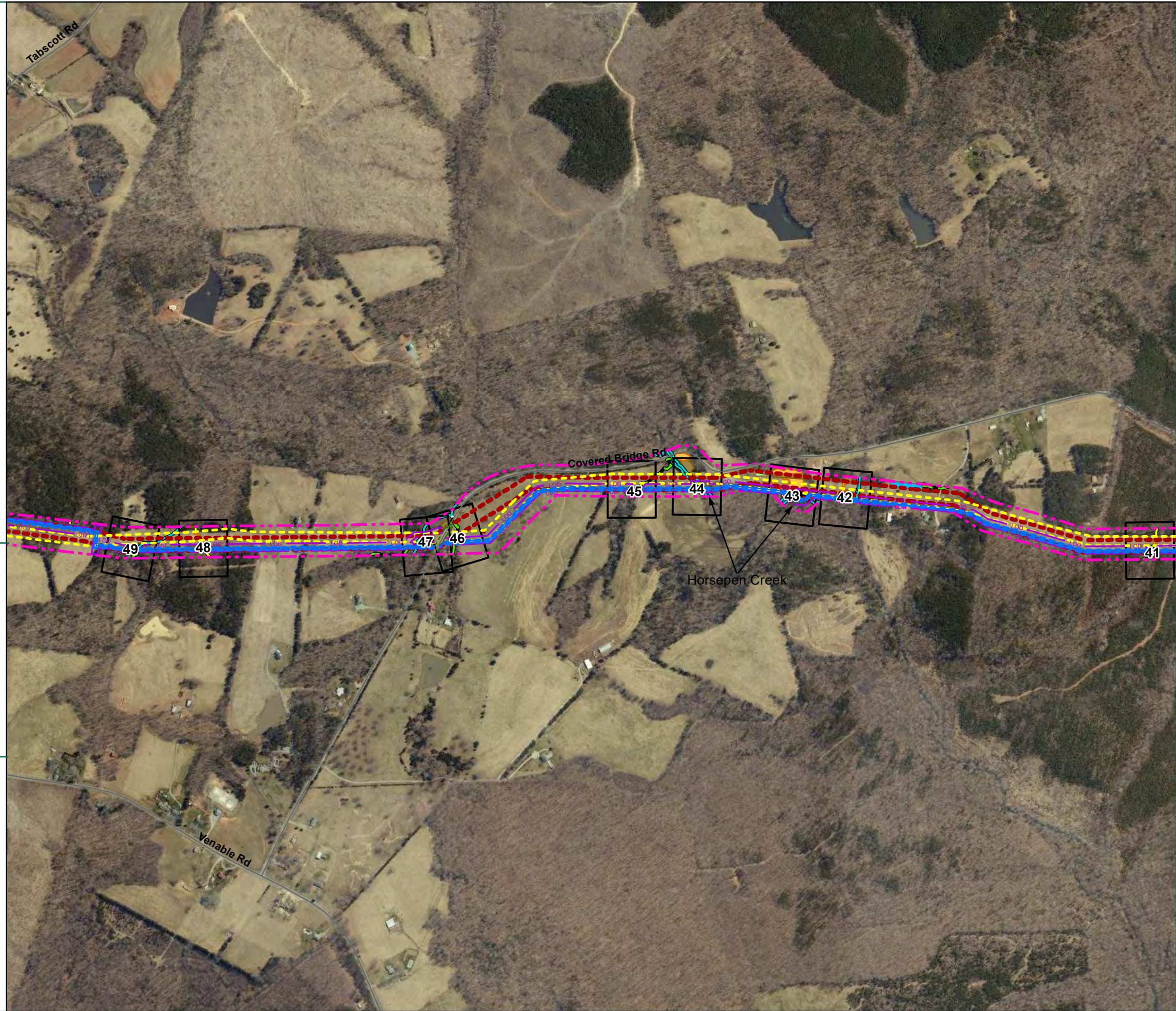
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5. COWARDIN STREAM CLASSIFICATIONS ARE BASED SOLELY ON FIELD OBSERVATIONS. NO FORMAL STREAM ASSESSMENT METHODOLOGY WAS COMPLETED TO DETERMINE THESE COWARDIN CLASSIFICATIONS.



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JAMES RIVER WATER SUPPLY PROJECT LOUISIA & FLUVANNA COUNTY, VIRGINIA

FIGURE 3: PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP

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7/3/17	Impacts updated as a result of edits to the limits of disturbance.
6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.
12/20/17	Map updated per impact revisions east of East River Rd.

DATE	06/22/2016
DRAWN BY	L. MAJOR
DESIGNED BY	B. NORRIS
CHECKED BY	T. PREUNINGER

SCALE
1" = 800'

JOB NUMBER	33927
SHEET NO.	INDEX 7

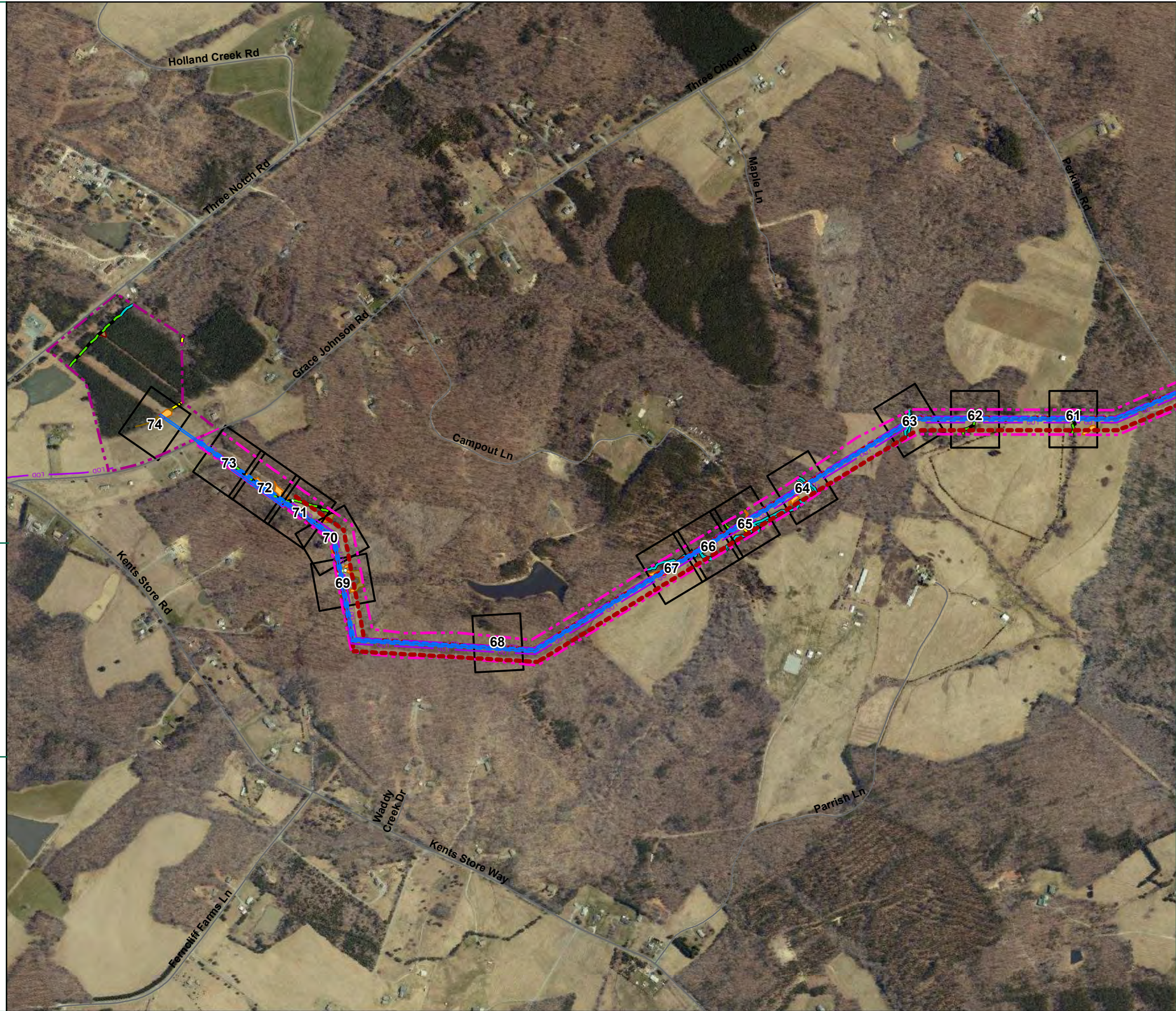
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Legend

- Project Study Limits - 447 Acres
- Water Treatment Facility - 26.1 Acres
- Sheet Index - Detail Sheets
- Impact Identifier
- LOD Proposed Limits of Disturbance
- Proposed 24" Raw Water Line
- Proposed 20' Water Easement
- Right of Way
- Existing Utility Easement
- Existing Power Easement
- Permanent Stream Impact
- Temporary Stream Impact
- Culvert
- Perennial Stream (R3)
- Intermittent Stream (R4)
- Ephemeral Stream (R6)
- Ditch
- Excavation/Fill Impact
- Construction Easement Impact
- Maintained Easement Impact
- Perennial Stream (R3)
- Palustrine Emergent (PEM) Wetlands
- Palustrine Forested (PFO) Wetlands
- Palustrine Scrub-Shrub (PSS) Wetlands
- Palustrine Open Water (POW)

NOTES:

1. WATERS OF THE U.S. WITHIN THE PROJECT STUDY LIMITS HAVE BEEN GPS LOCATED BY TIMMONS GROUP.
2. WATERS OF THE U.S. HAVE NOT BEEN CONFIRMED BY THE U.S. ARMY CORPS OF ENGINEERS.
3. PROJECT STUDY LIMITS ARE APPROXIMATE.
4. IMAGERY FROM ESRI ONLINE. TOPOGRAPHY BASED ON TIMMONS GROUP SURVEY DATA.
5. COWARDIN STREAM CLASSIFICATIONS ARE BASED SOLELY ON FIELD OBSERVATIONS. NO FORMAL STREAM ASSESSMENT METHODOLOGY WAS COMPLETED TO DETERMINE THESE COWARDIN CLASSIFICATIONS.



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JAMES RIVER WATER SUPPLY PROJECT

LOUISIA & FLUVANNA COUNTY, VIRGINIA

FIGURE 3: PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP

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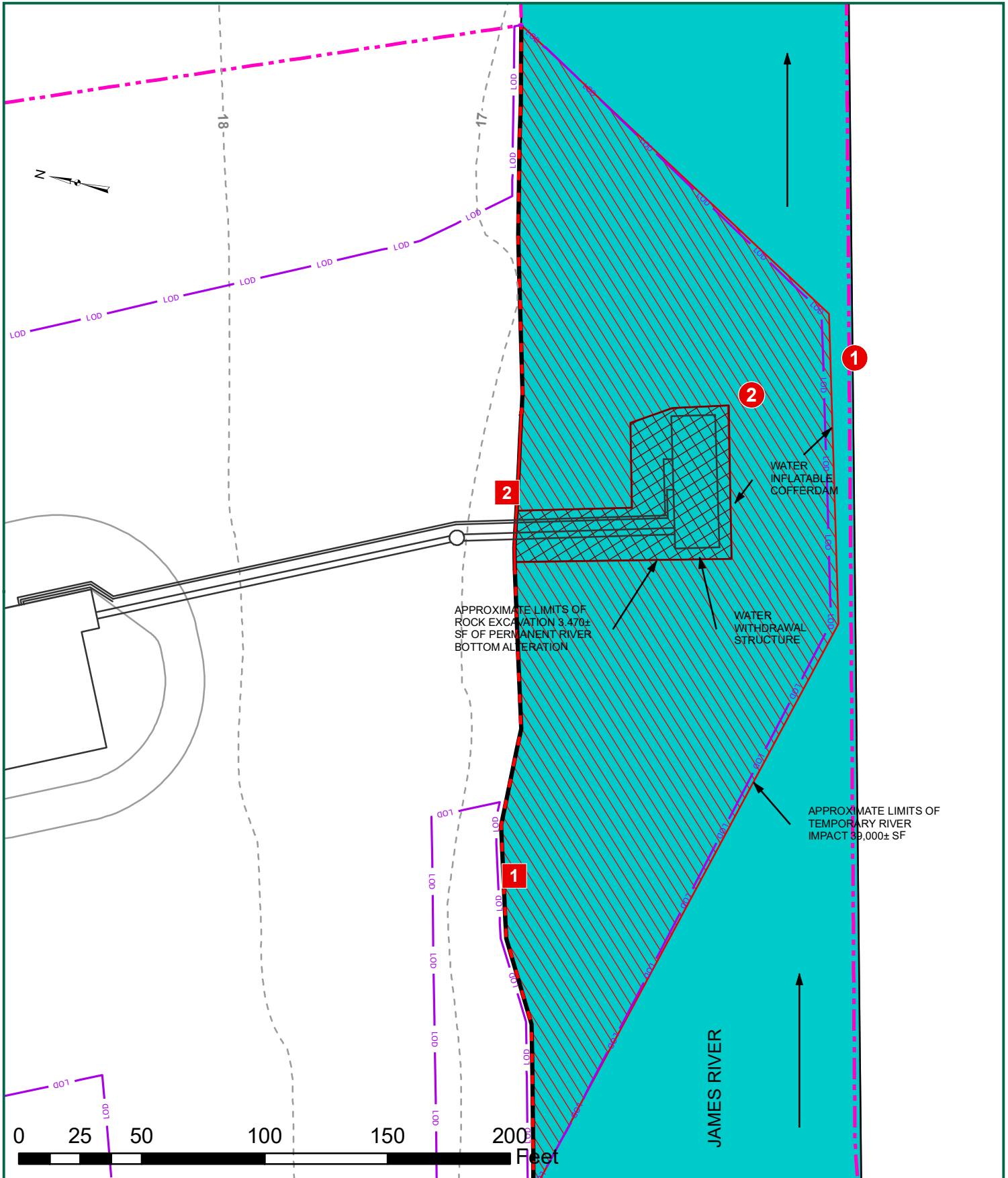
DATE	REVISION DESCRIPTION
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DATE	06/22/2016
DRAWN BY	L. MAJOR
DESIGNED BY	B. NORRIS
CHECKED BY	T. PREUNINGER
SCALE	1" = 800'

JOB NUMBER
33927

SHEET NO.
INDEX 8

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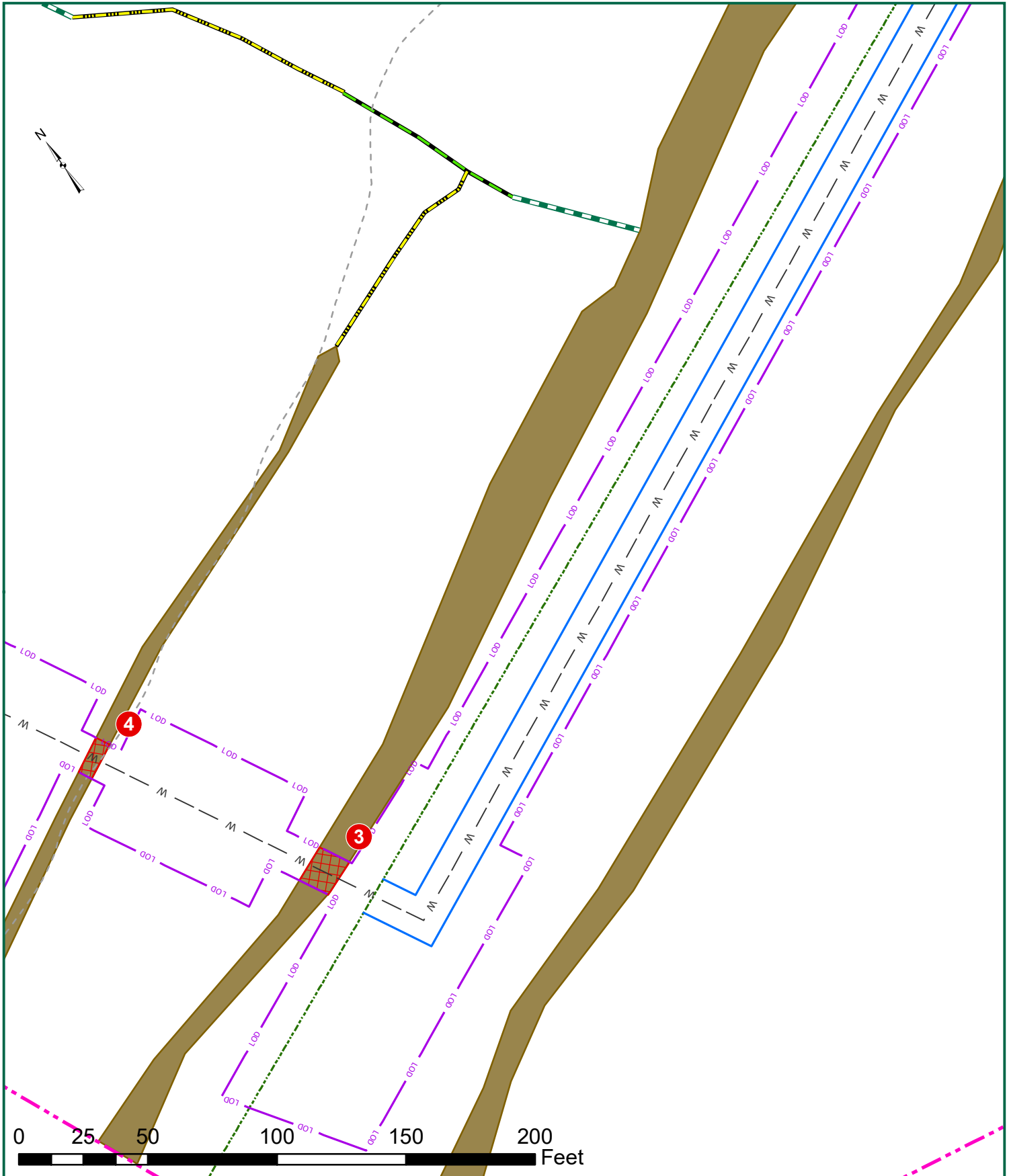


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SHEET NO. 1 OF 74	JOB NUMBER 33927	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA		CHECKED BY T. FREUNINGER	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	REVISION DESCRIPTION	
		PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL						DATE 1/3/17	Impacts updated as a result of edits to the limits of disturbance.
								DATE 6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.
								DATE 12/20/17	Map updated per impact revisions east of East River Rd.



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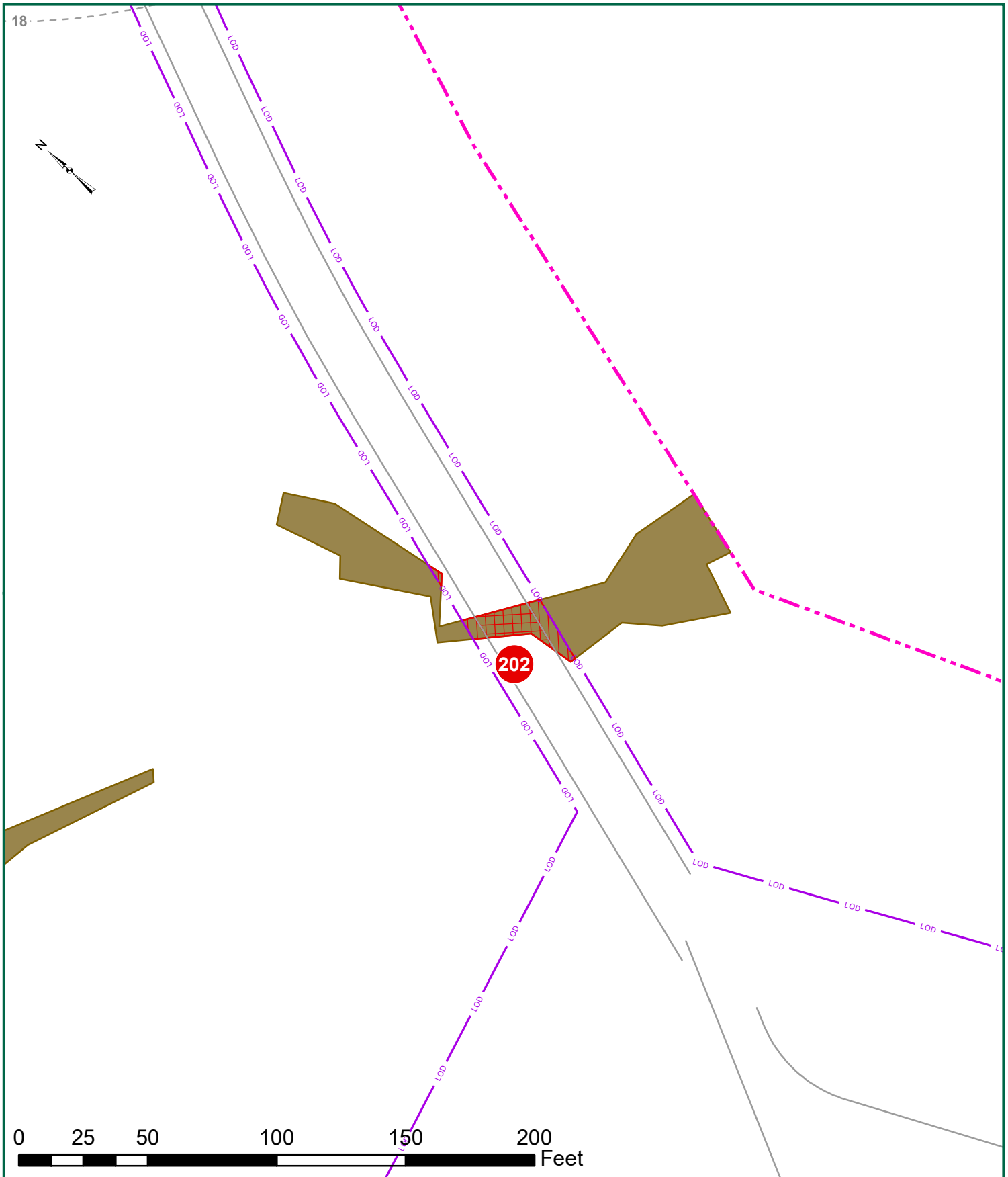
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	LOUISA & FLUVANNA COUNTY, VIRGINIA		DATE 1/3/17	IMPACTS UPDATED AS A RESULT OF EDITS TO THE LIMITS OF DISTURBANCE		
	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL		DATE 6/9/17	IMPACTS REDUCED AS A RESULT OF REDUCTION TO THE LIMITS OF DISTURBANCE		
			DATE 12/20/17	MAP UPDATED PER IMPACT REVISIONS EAST OF EAST RIVER RD.		



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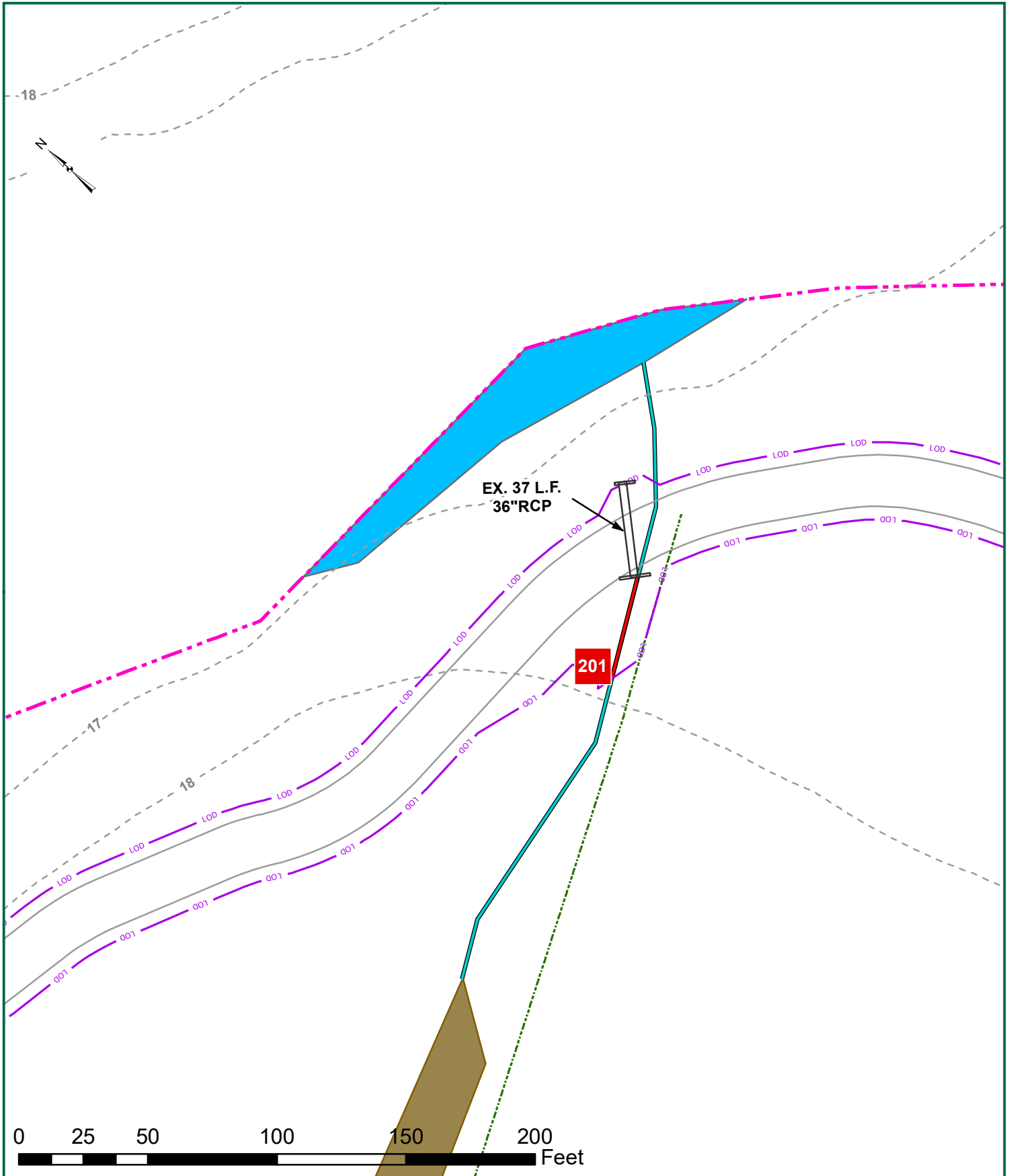
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	LOUISA & FLUVANNA COUNTY, VIRGINIA						
	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL						

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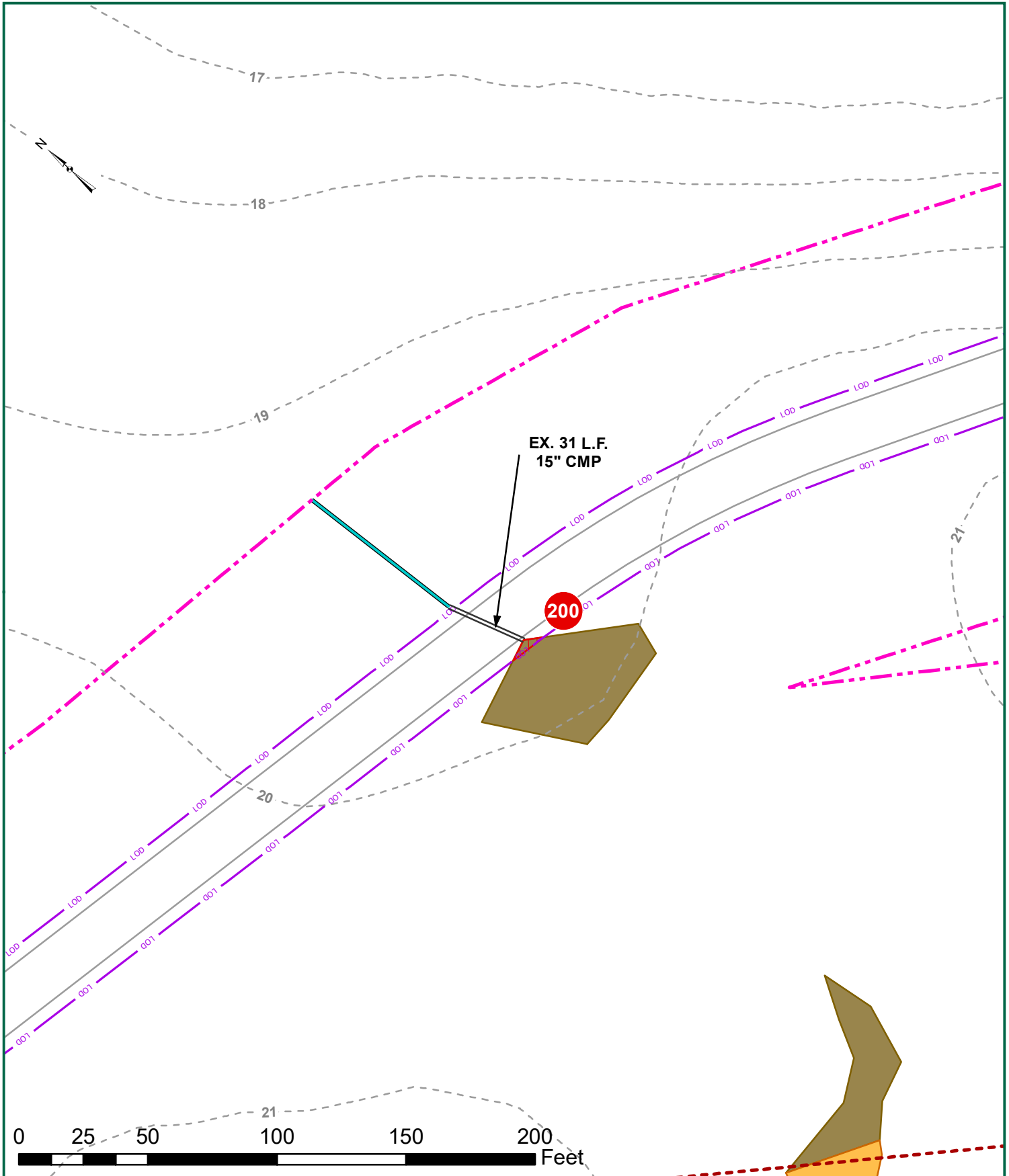
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		DATE 6/9/17				
		DATE 12/20/17				
		DATE 				
PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL						

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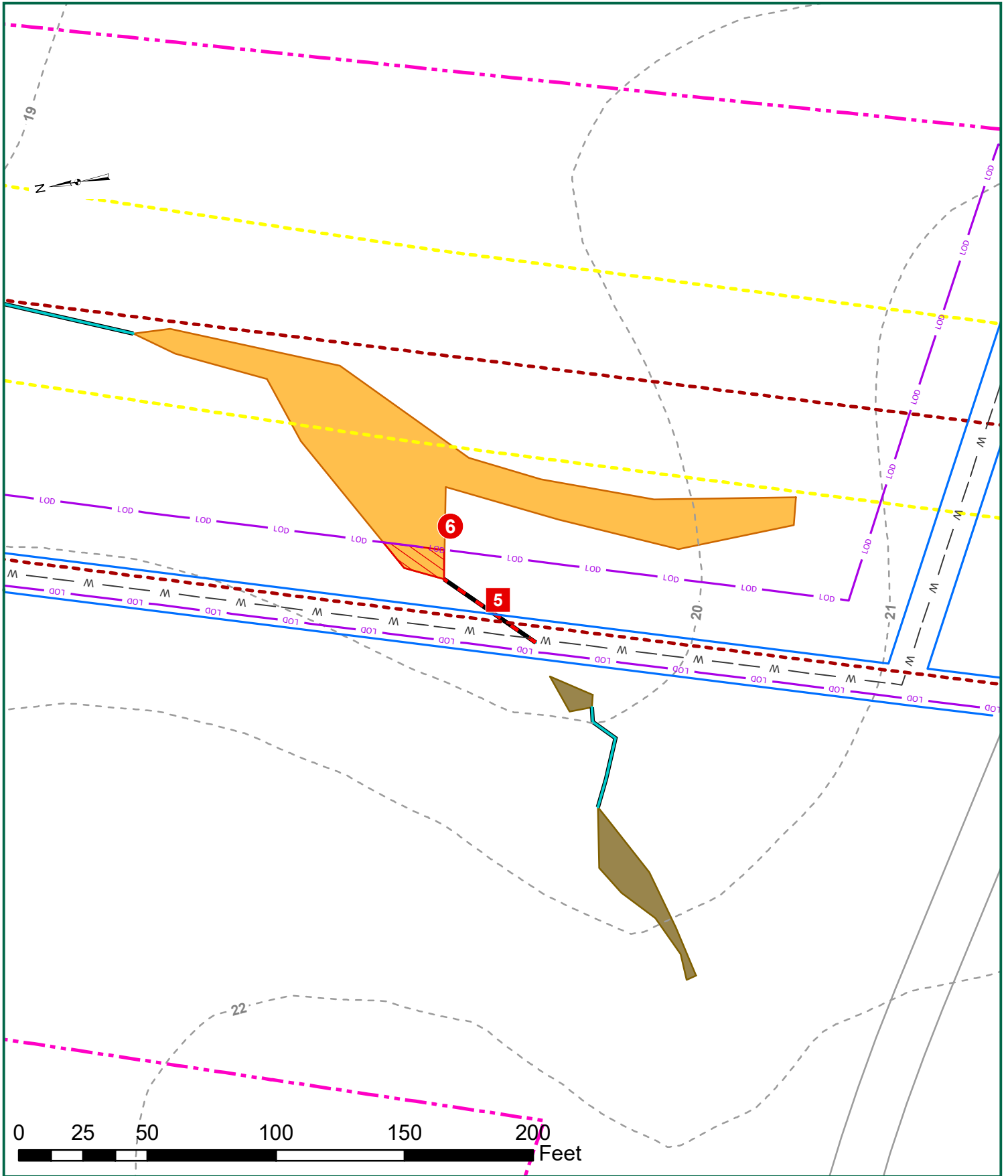
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LOUISA & FLUVANNA COUNTY, VIRGINIA		PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL							

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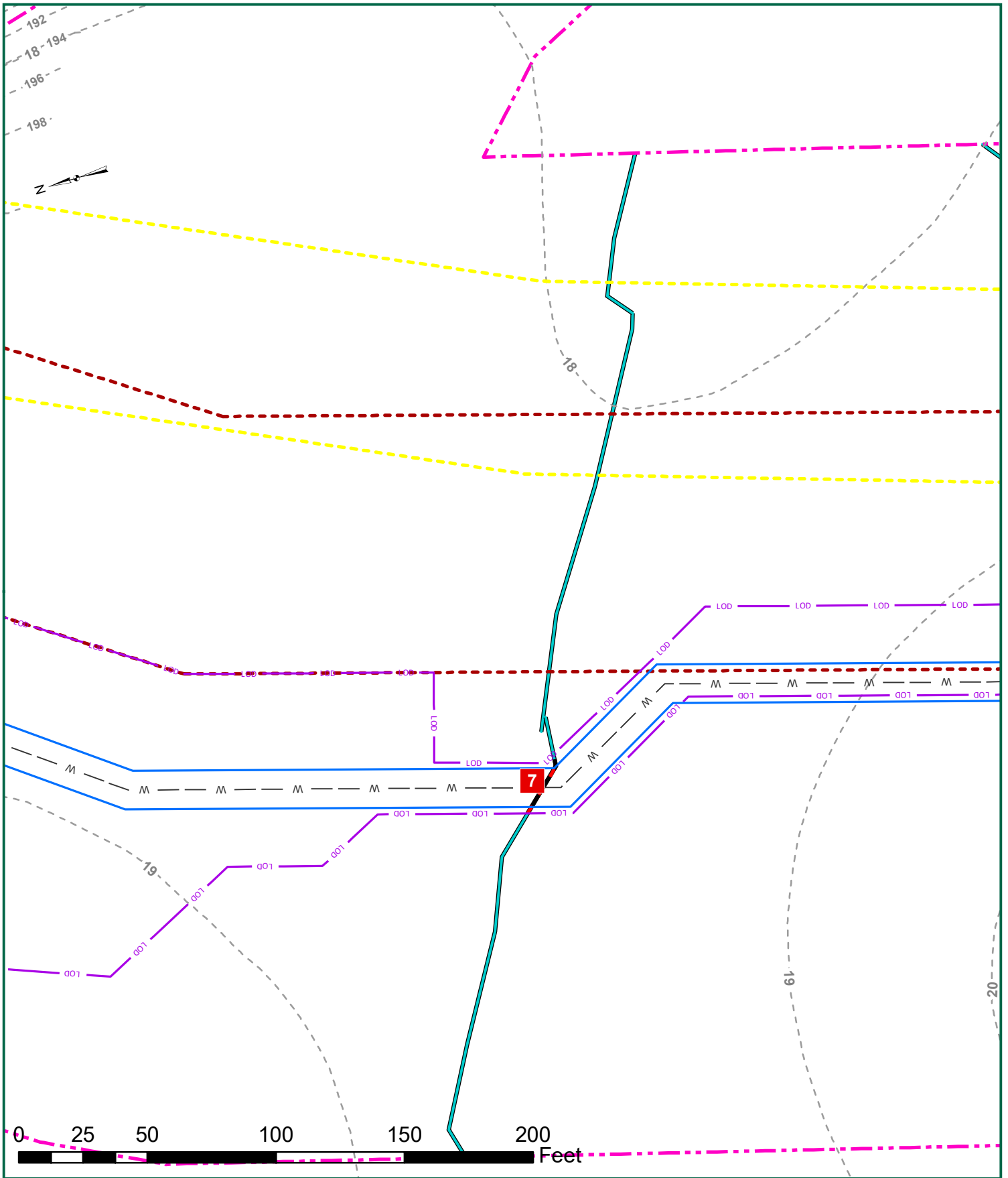
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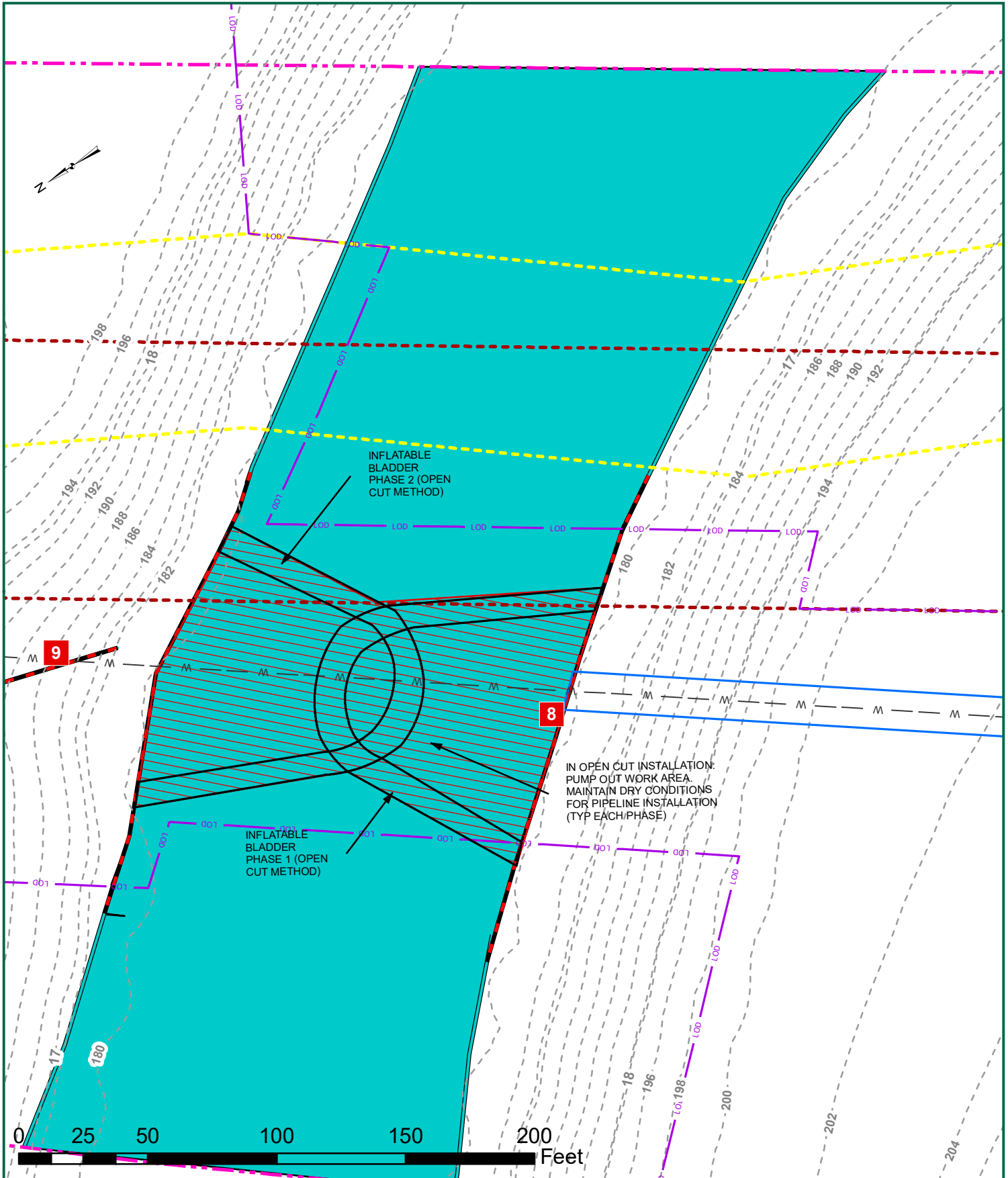
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JOB NUMBER 33927 SHEET NO. 3 OF 74	JAMES RIVER WATER PROJECT	CHECKED BY T. FREUNINGER DESIGNED BY E. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016 SCALE 1" = 50'	DATE	REVISION DESCRIPTION
	LOUISA & FLUVANNA COUNTY, VIRGINIA		1/3/17	Impacts updated as a result of edits to the limits of disturbance.
	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL		6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.
			12/20/17	Map updated per impact revisions east of East River Rd.

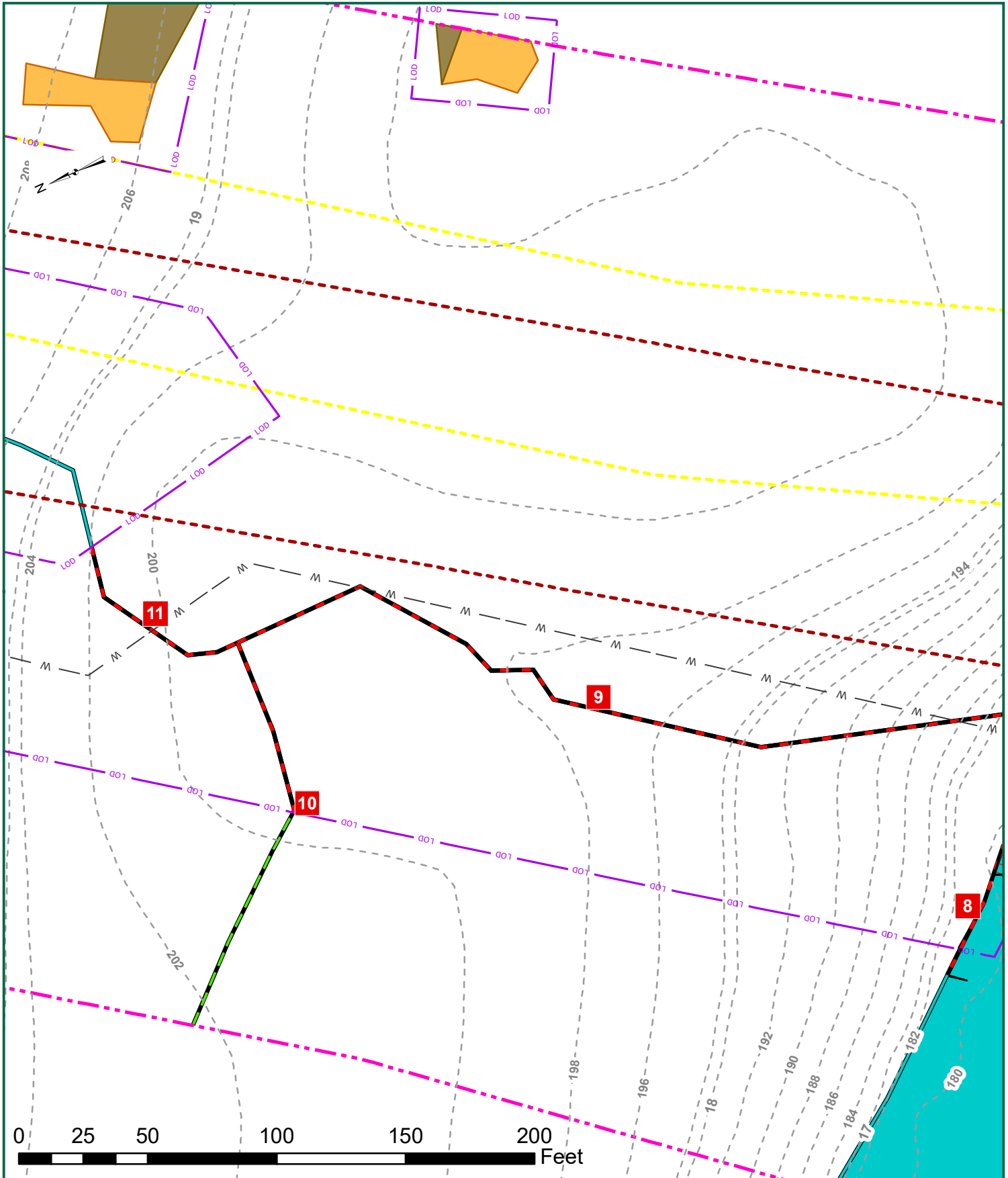


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JOB NUMBER 33927 SHEET NO. 4 OF 74	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY E. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th>REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1/3/17</td> <td>Impacts updated as a result of edits to the limits of disturbance.</td> </tr> <tr> <td style="text-align: center;">6/9/17</td> <td>Impacts reduced as a result of reduction to the limits of disturbance.</td> </tr> <tr> <td style="text-align: center;">12/20/17</td> <td>Map updated per impact revisions east of East River Rd.</td> </tr> </tbody> </table>	DATE	REVISION DESCRIPTION	1/3/17	Impacts updated as a result of edits to the limits of disturbance.	6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.	12/20/17	Map updated per impact revisions east of East River Rd.
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PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL												



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<h2>JAMES RIVER WATER PROJECT</h2> LOUISA & FLUVANNA COUNTY, VIRGINIA			DATE 1/3/17 6/9/17 12/20/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.	
SHEET NO. 5 OF 74	JOB NUMBER 33927	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL	CHECKED BY T. FREUNINGER	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR
SCALE 1" = 50'			DATE 06/22/2016		

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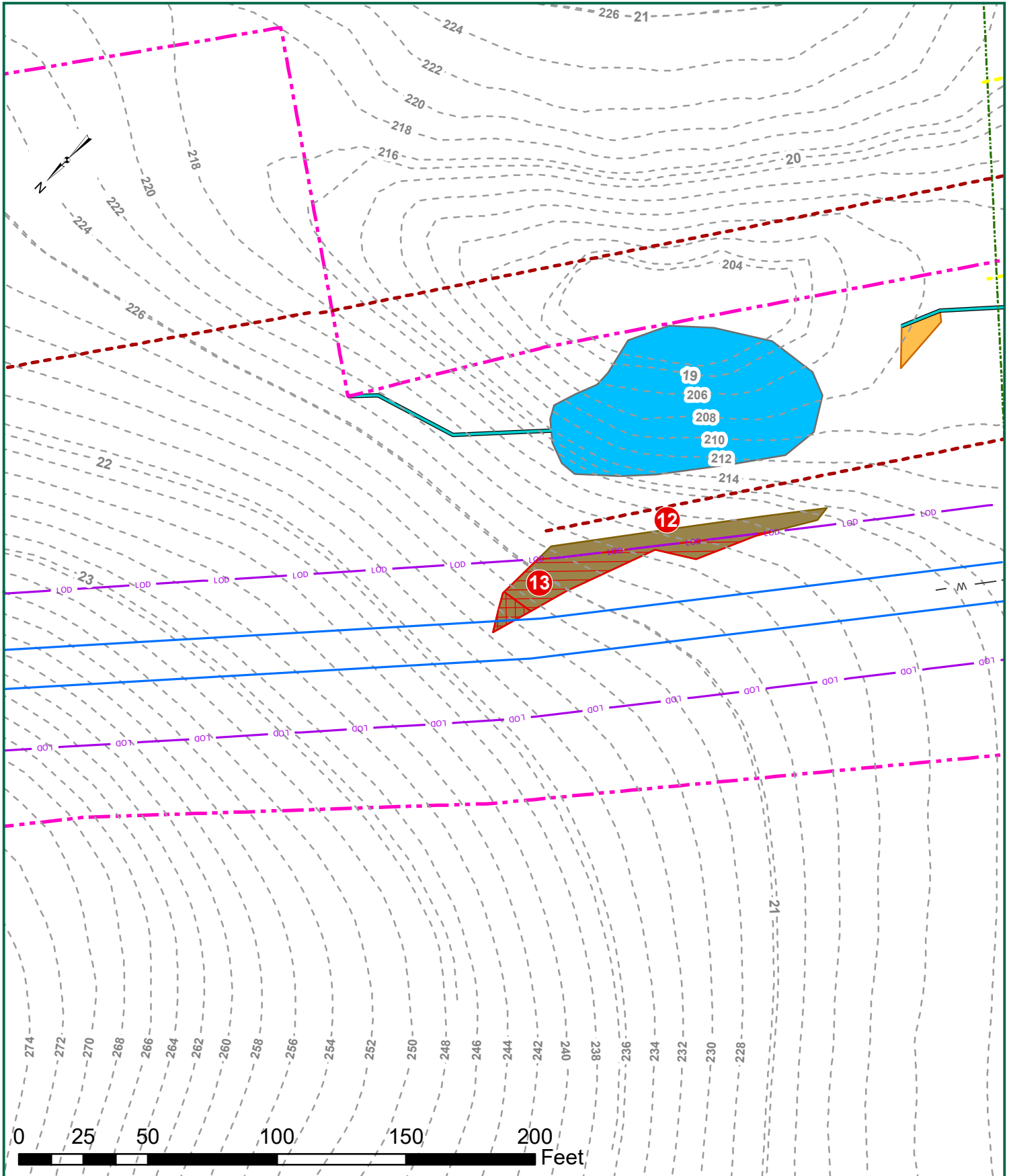
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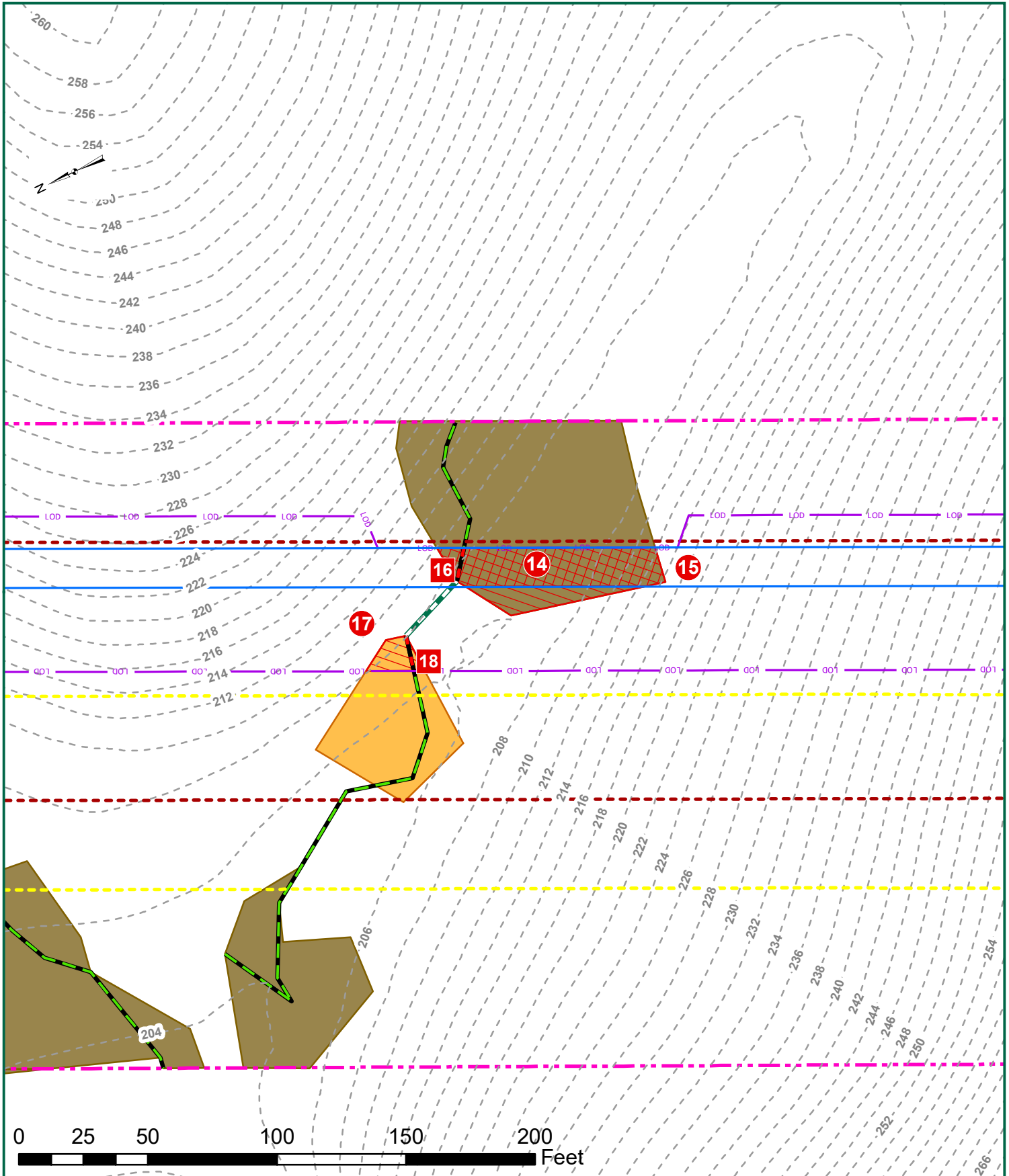
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	LOUISA & FLUVANNA COUNTY, VIRGINIA			PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL					



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JOB NUMBER 33927	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA		REVISION DESCRIPTION
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	SHEET NO. 7 OF 74	CHECKED BY T. FREUNINGER	DESIGNED BY E. MORRIS
SCALE 1" = 80'		DATE 06/22/2016	DATE 12/20/17

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JAMES RIVER WATER PROJECT

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PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL

DESIGNED BY
L. MAJOR

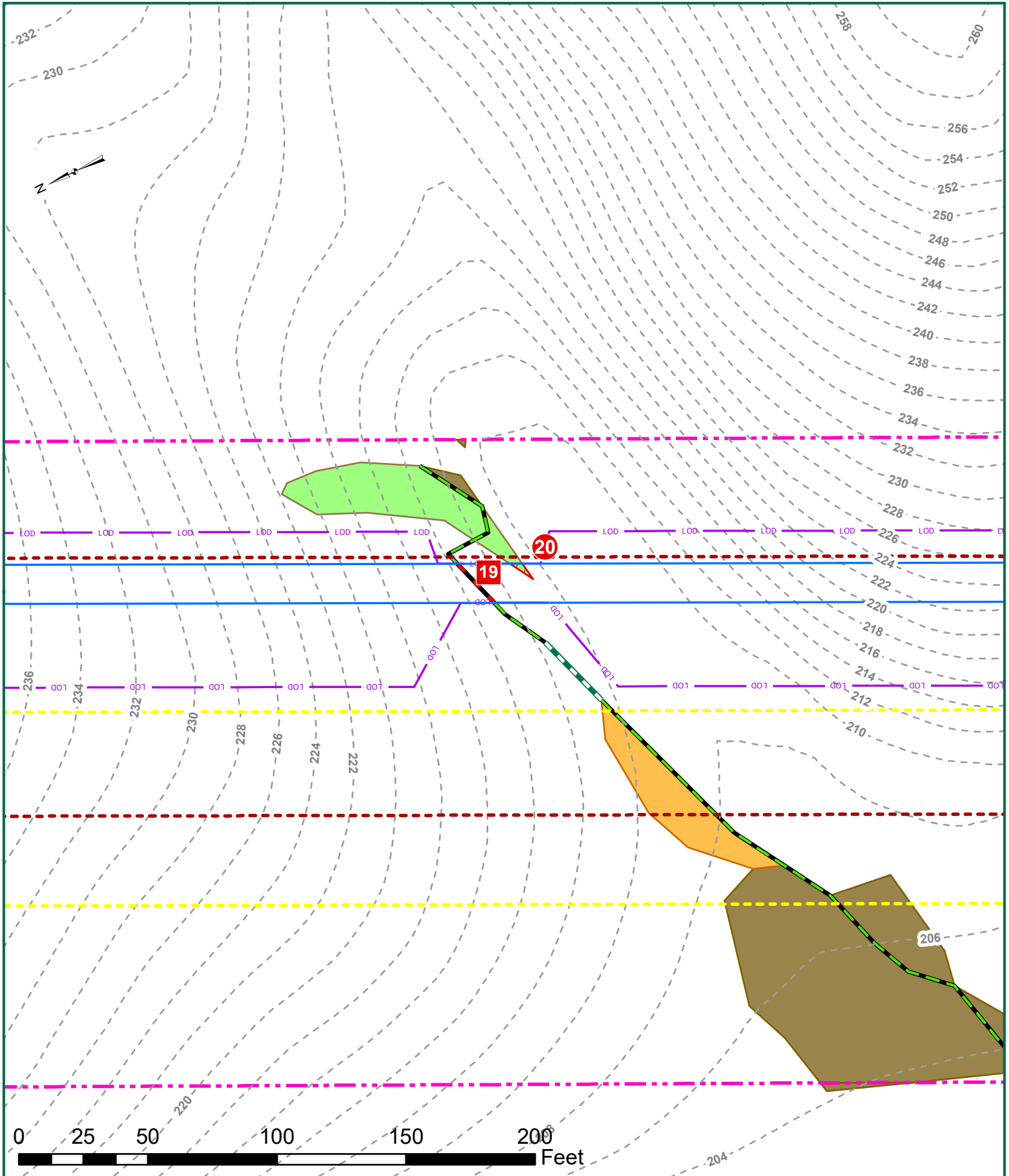
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T. FREUNINGER

SCALE
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DATE
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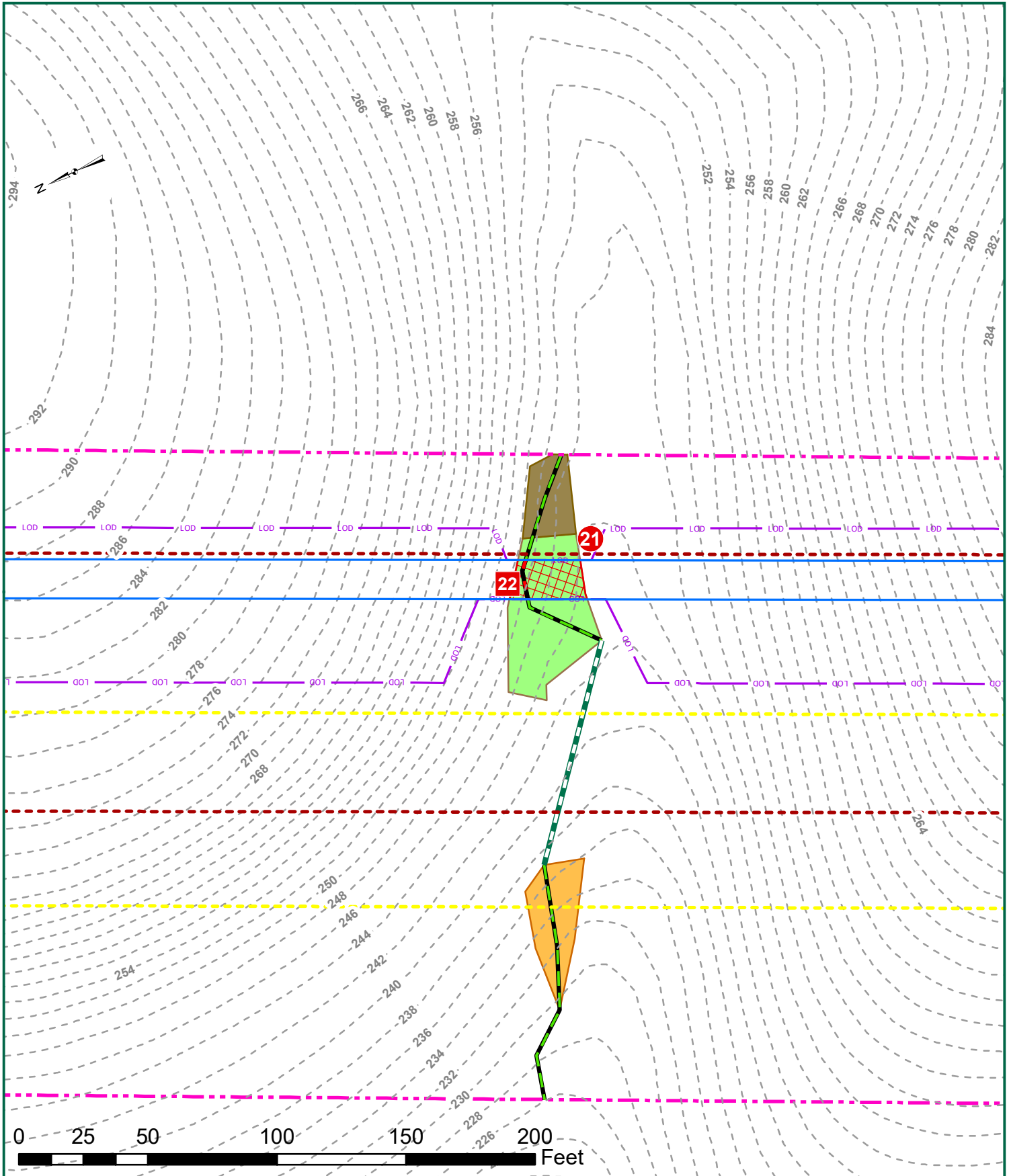
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JOB NUMBER 33927 SHEET NO. 9 OF 74	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="font-size: x-small; margin: 0;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 80'	DESIGNED BY E. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016	DATE 1/3/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance
	<h3 style="margin: 0;">PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL</h3>			DATE 6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.
				DATE 12/20/17	Map updated per impact revisions east of East River Rd.

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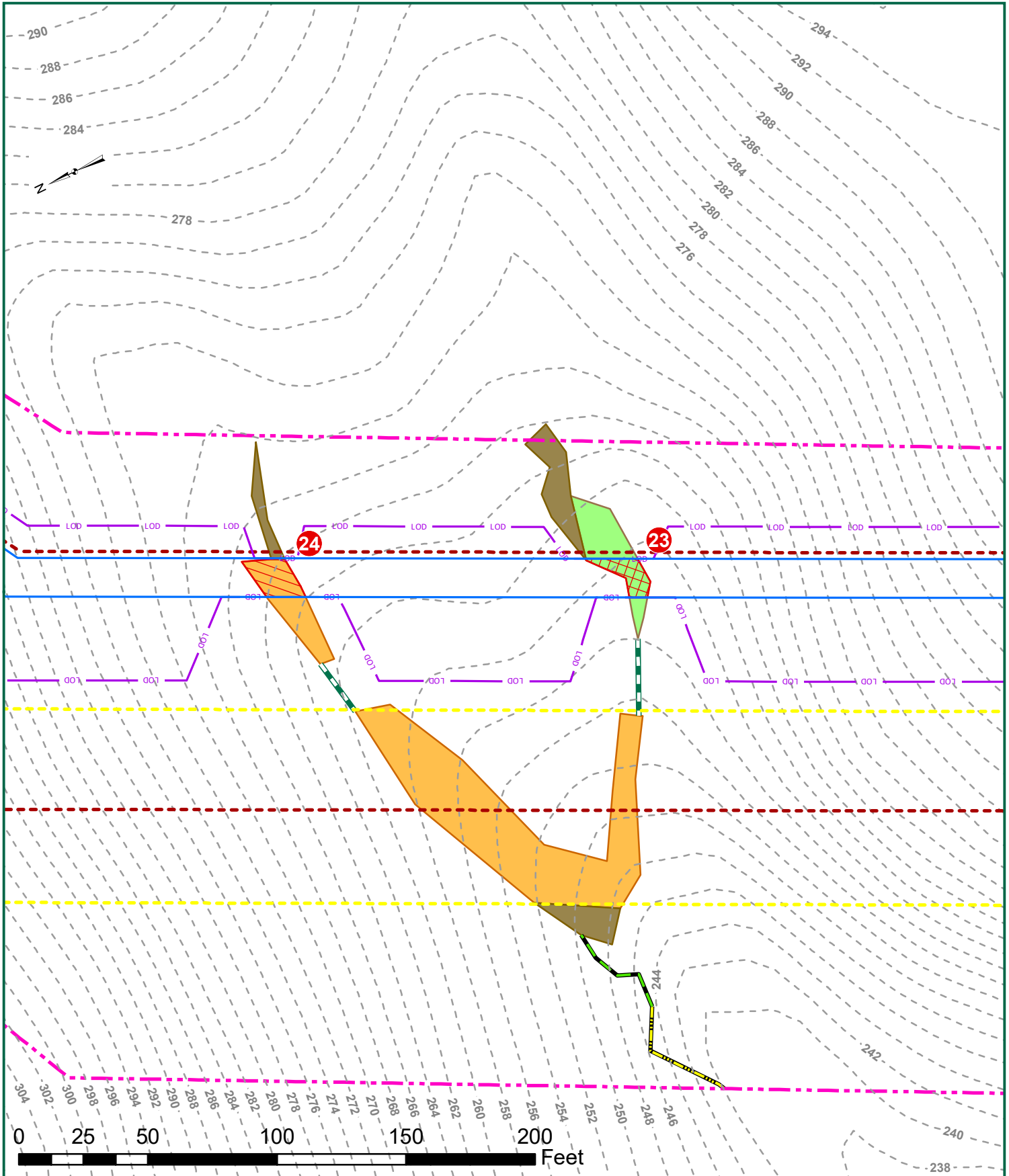
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SHEET NO. 10 OF 74	JOB NUMBER 33927	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY E. MORRIS	DRAWN BY L. MALOR	DATE 06/22/2016	REVISION DESCRIPTION
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JAMES RIVER WATER PROJECT

LOUISA & FLUVANNA COUNTY, VIRGINIA

DESIGNED BY
E. MORRIS

CHECKED BY
T. FREUNINGER

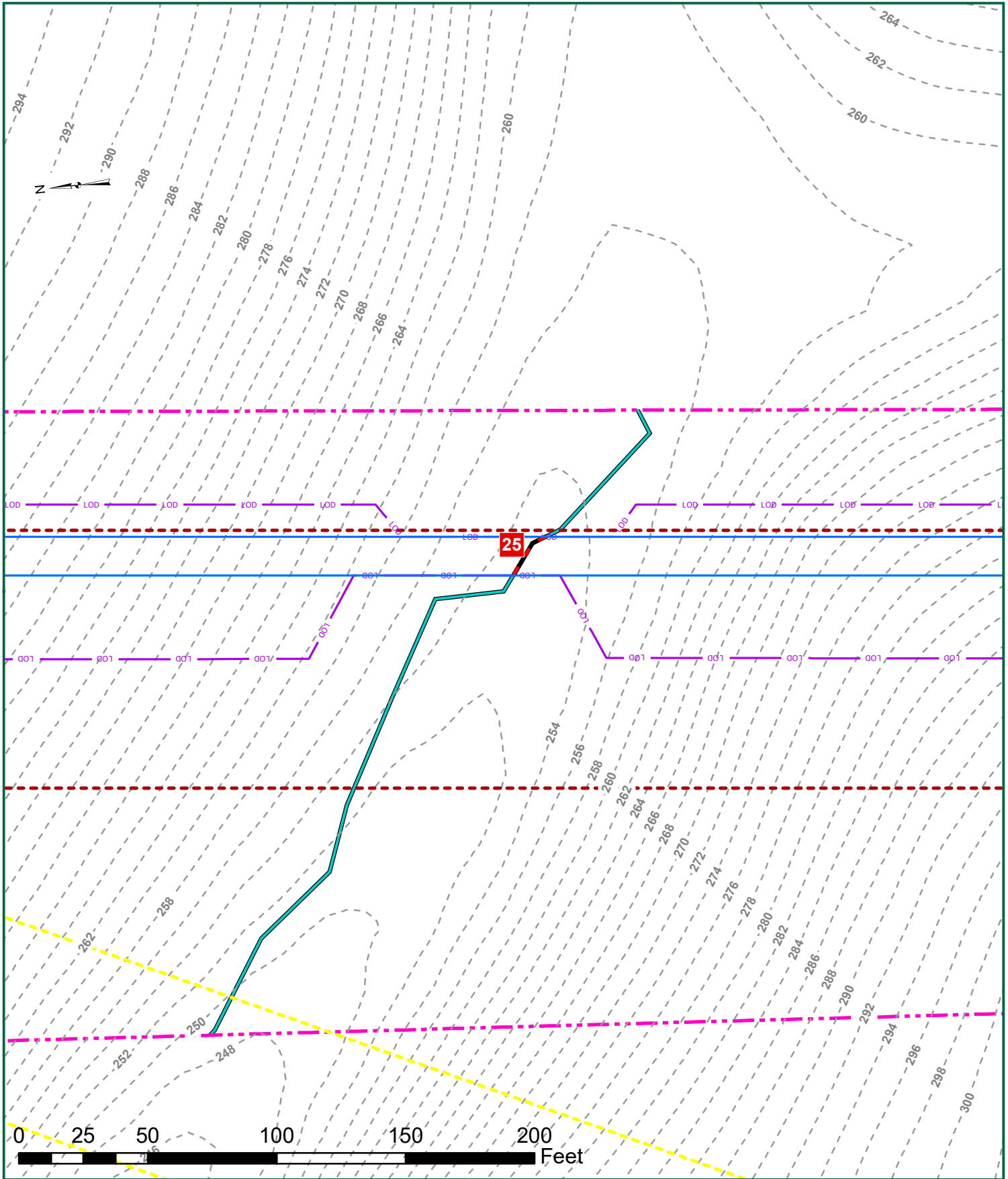
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JOB NUMBER
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SHEET NO.
17 OF 74

PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL



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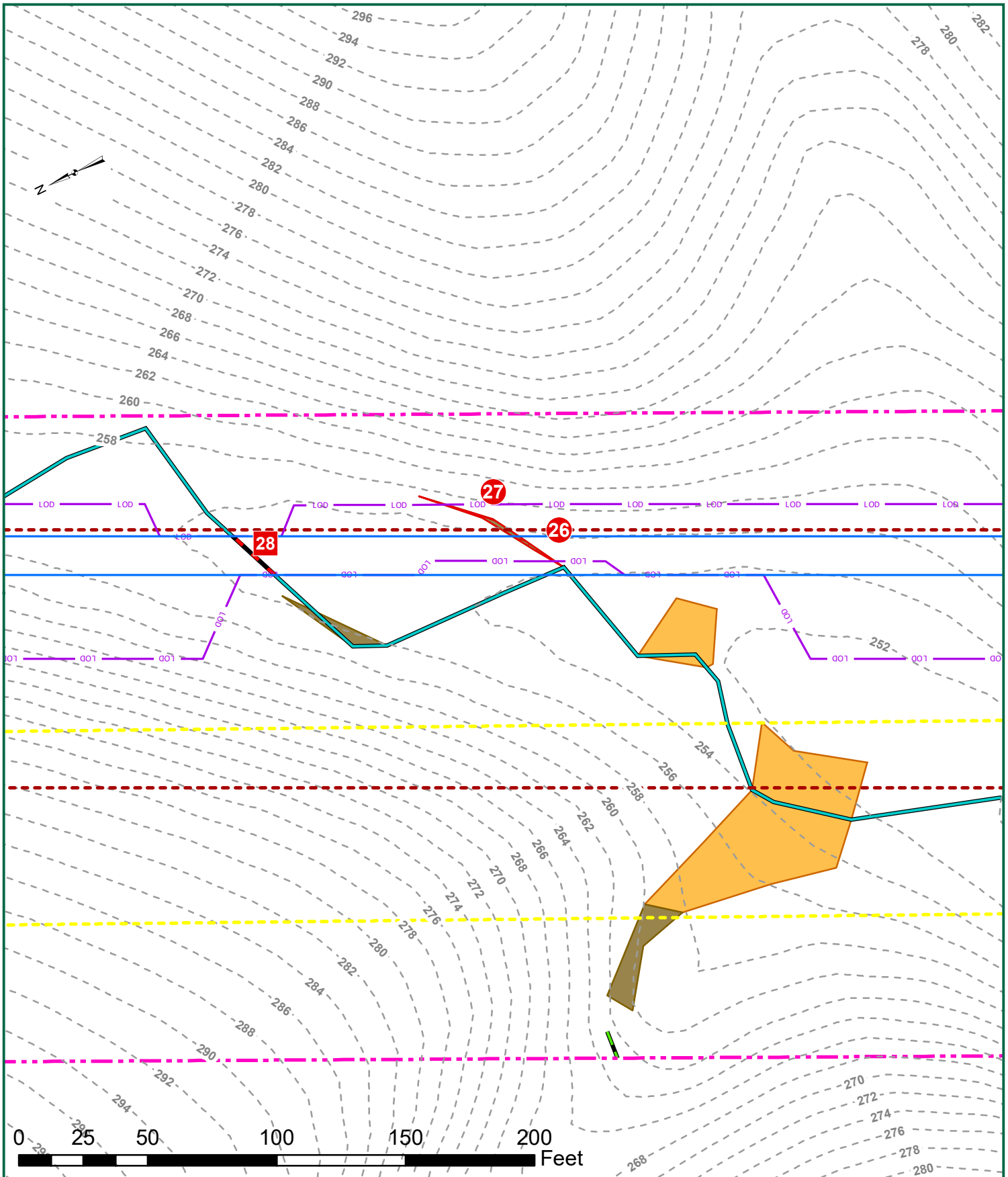
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SHEET NO. 12 OF 74	JOB NUMBER 33927	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	REVISION DESCRIPTION
		<h3 style="margin: 0;">PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL</h3>				DATE 1/3/17 6/9/17 12/20/17	Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.



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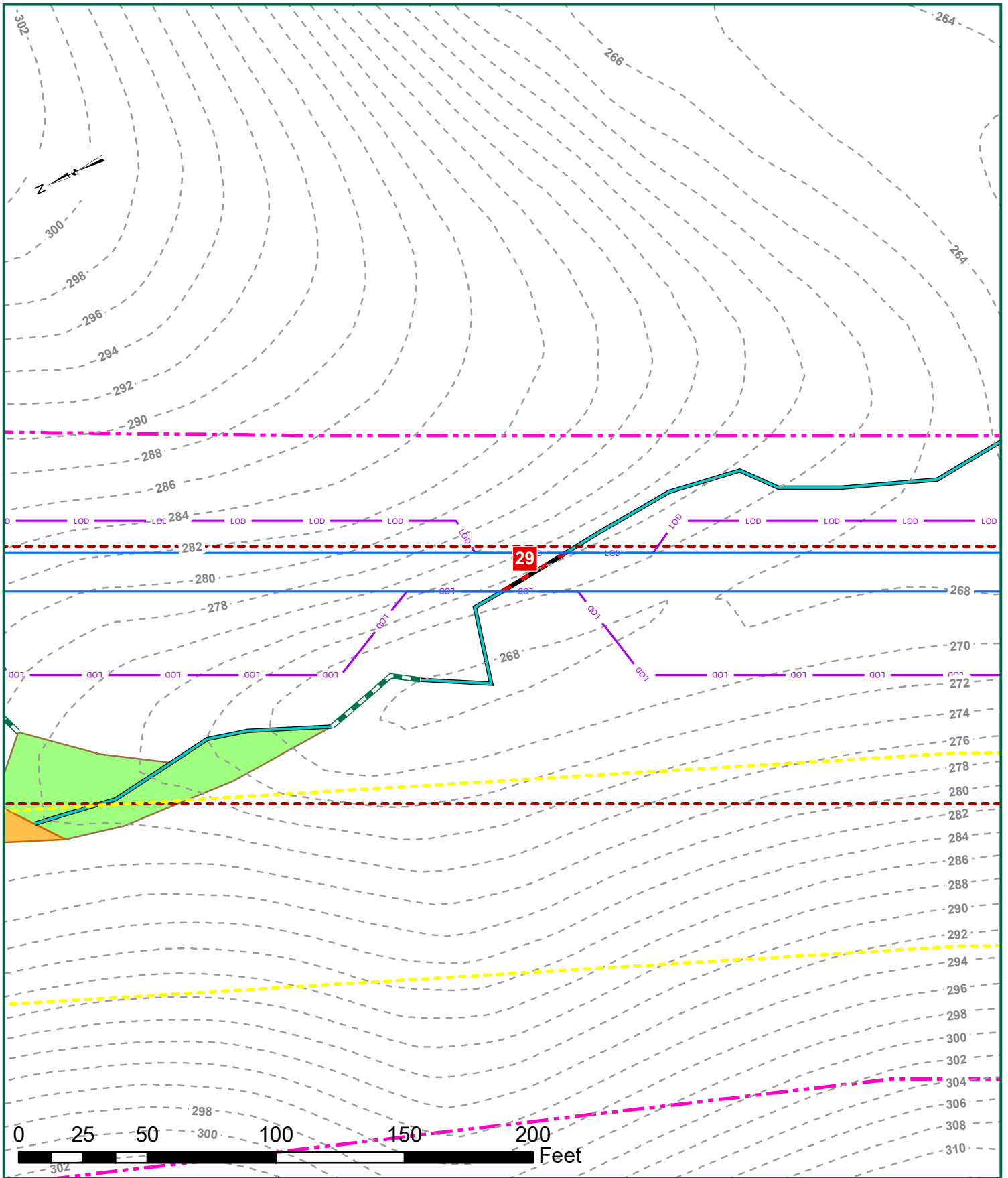
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						1/3/17 6/9/17 12/20/17

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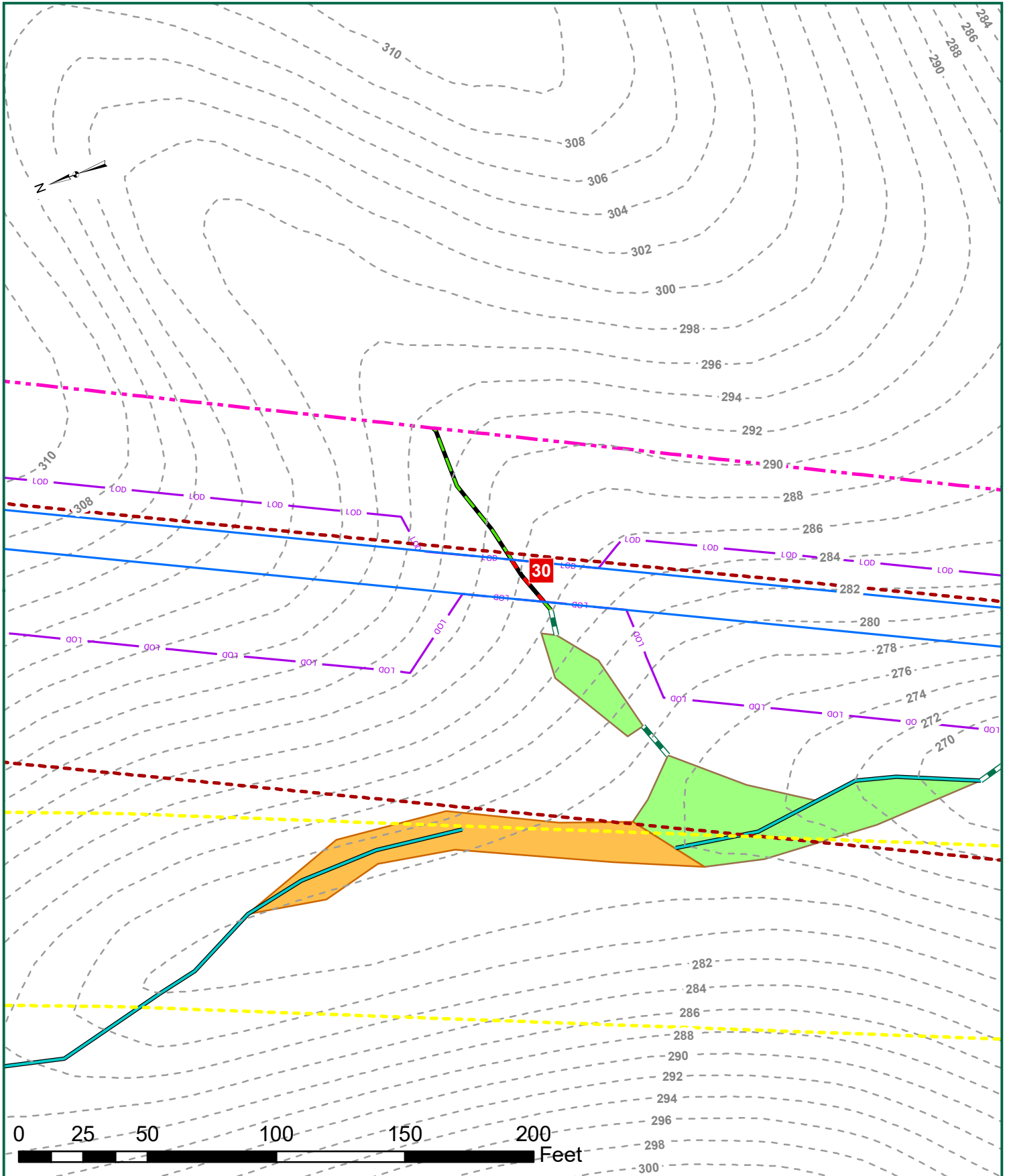
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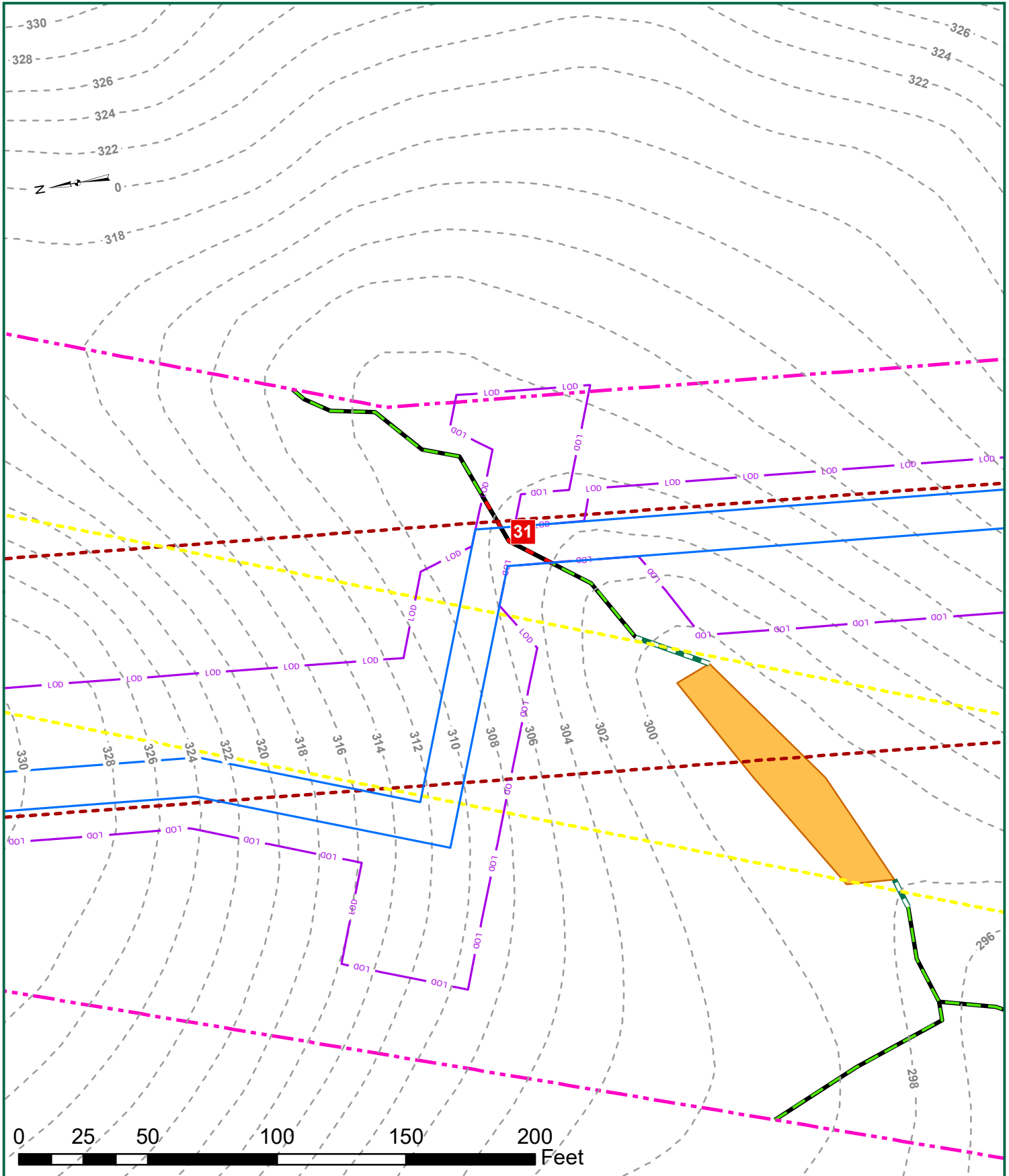
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SHEET NO. 14 OF 74 JOB NUMBER 33927	JAMES RIVER WATER PROJECT	CHECKED BY T. FREUNINGER DESIGNED BY E. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016 SCALE 1" = 50'	DATE 1/3/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance.
	LOUISA & FLUVANNA COUNTY, VIRGINIA		DATE 6/9/17	REVISION DESCRIPTION Impacts reduced as a result of reduction to the limits of disturbance.
	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL		DATE 12/20/17	REVISION DESCRIPTION Map updated per impact revisions east of East River Rd.
			DATE 	REVISION DESCRIPTION



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JOB NUMBER 33927 SHEET NO. 15 OF 74	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL	CHECKED BY T. FREUNINGER	REVISION DESCRIPTION
		DESIGNED BY B. MORRIS	1/3/17 Impacts updated as a result of edits to the limits of disturbance
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SCALE 1" = 50'		DATE 06/22/2016	



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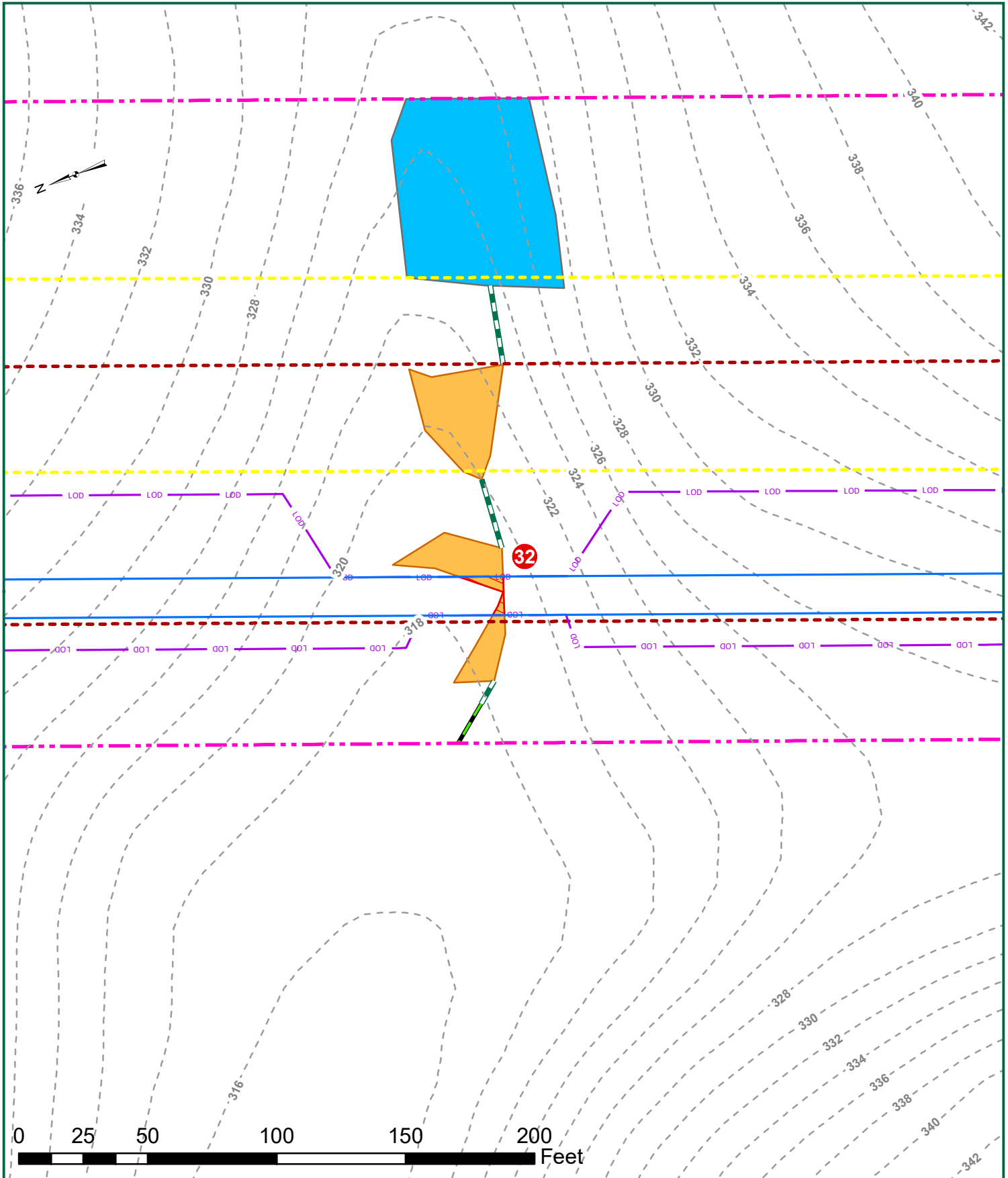
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LOUISA & FLUVANNA COUNTY, VIRGINIA			
PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL			
JOB NUMBER 33927	SHEET NO. 16 OF 74	CHECKED BY T. FREUNINGER	SCALE 1" = 50'
DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	DATE 12/20/17
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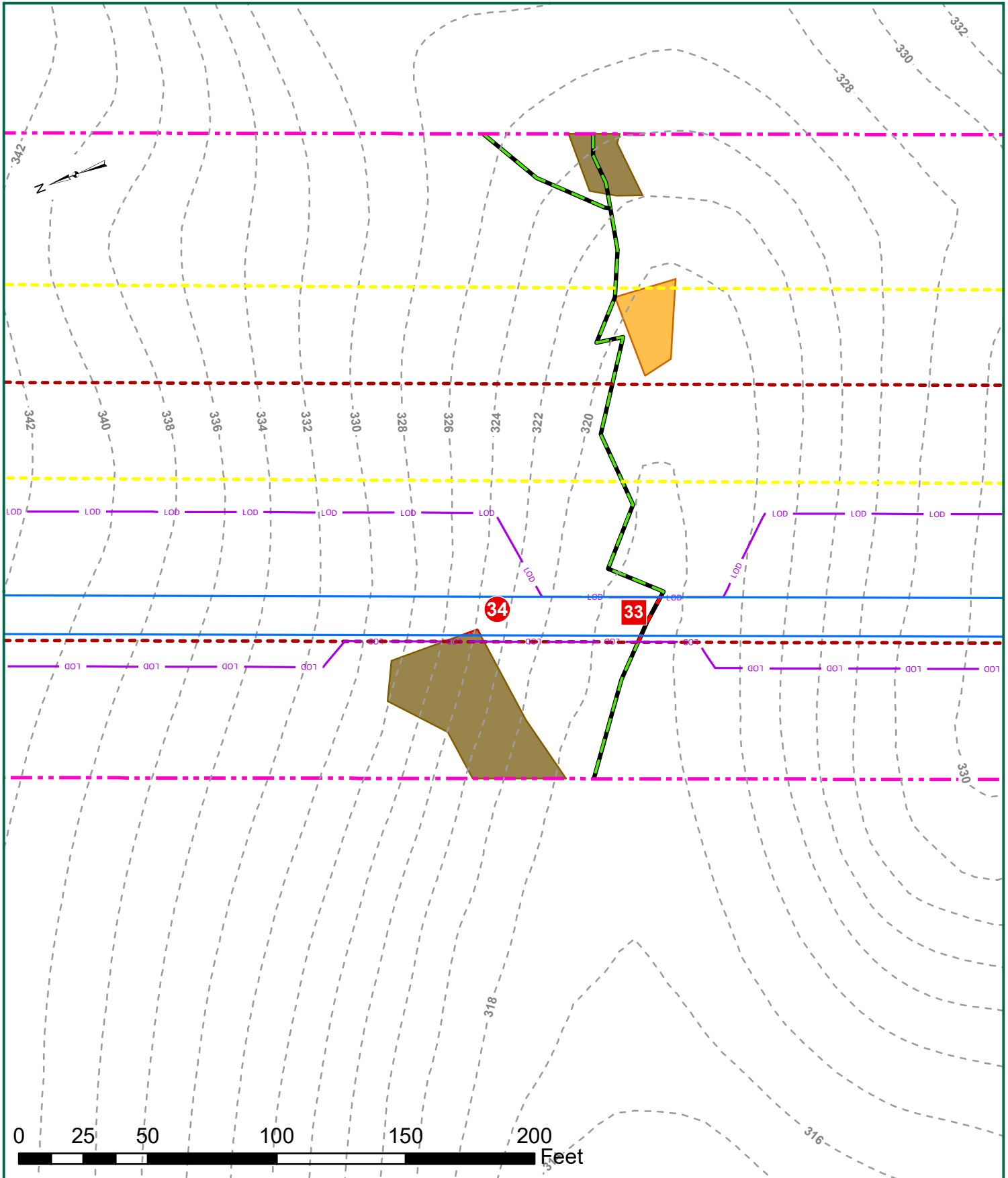


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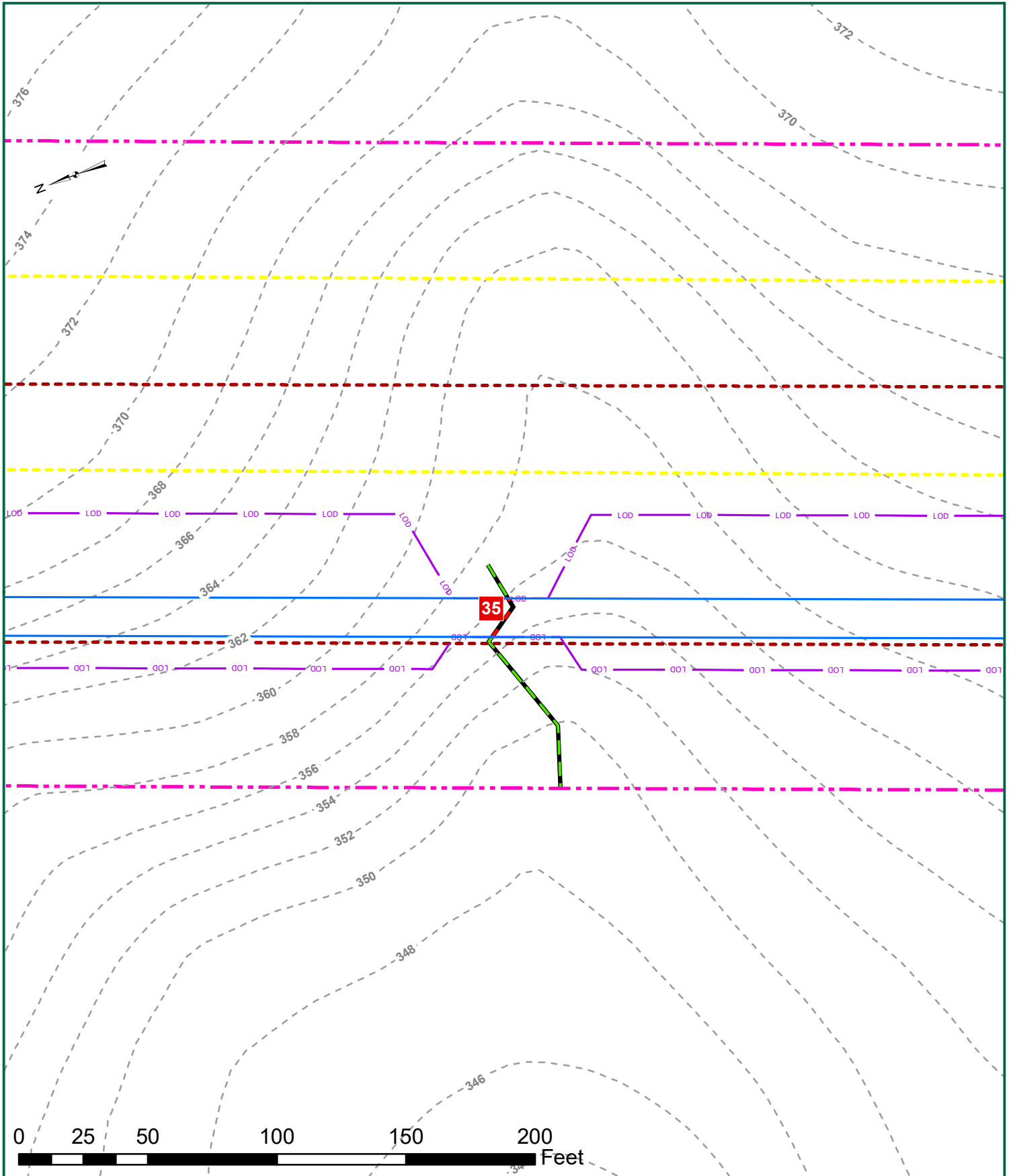
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SHEET NO. 17 OF 74	JOB NUMBER 33927	JAMES RIVER WATER PROJECT		SCALE 1" = 80'	CHECKED BY T. FREUNINGER	DESIGNED BY B. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	REVISION DESCRIPTION	
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		Site Development Residential Infrastructure Technology Environmental									
<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>		<table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 85%;">REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1/3/17</td> <td>Impacts updated as a result of edits to the limits of disturbance</td> </tr> <tr> <td style="text-align: center;">6/9/17</td> <td>Impacts reduced as a result of reduction to the limits of disturbance</td> </tr> <tr> <td style="text-align: center;">12/20/17</td> <td>Map updated per impact revisions east of East River Rd.</td> </tr> </tbody> </table>		DATE	REVISION DESCRIPTION	1/3/17	Impacts updated as a result of edits to the limits of disturbance	6/9/17	Impacts reduced as a result of reduction to the limits of disturbance	12/20/17	Map updated per impact revisions east of East River Rd.
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JOB NUMBER 33927 SHEET NO. 18 OF 74	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY B. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016								



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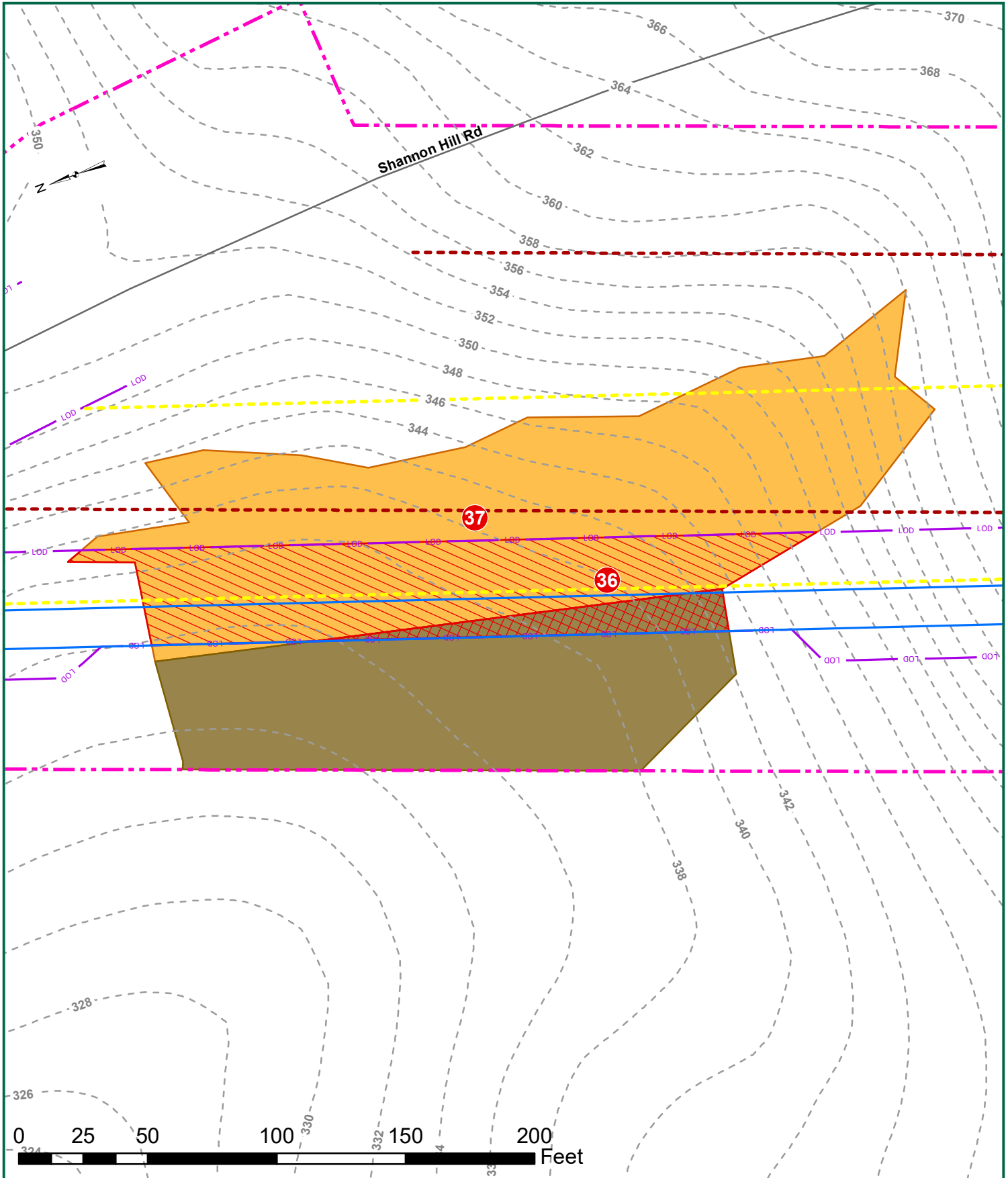
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SHEET NO. 19 OF 74	JOB NUMBER 33927	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA		CHECKED BY T. FREUNINGER	DESIGNED BY B. MORRIS	DRAWN BY L. MADOR	DATE 06/22/2016	DATE	REVISION DESCRIPTION
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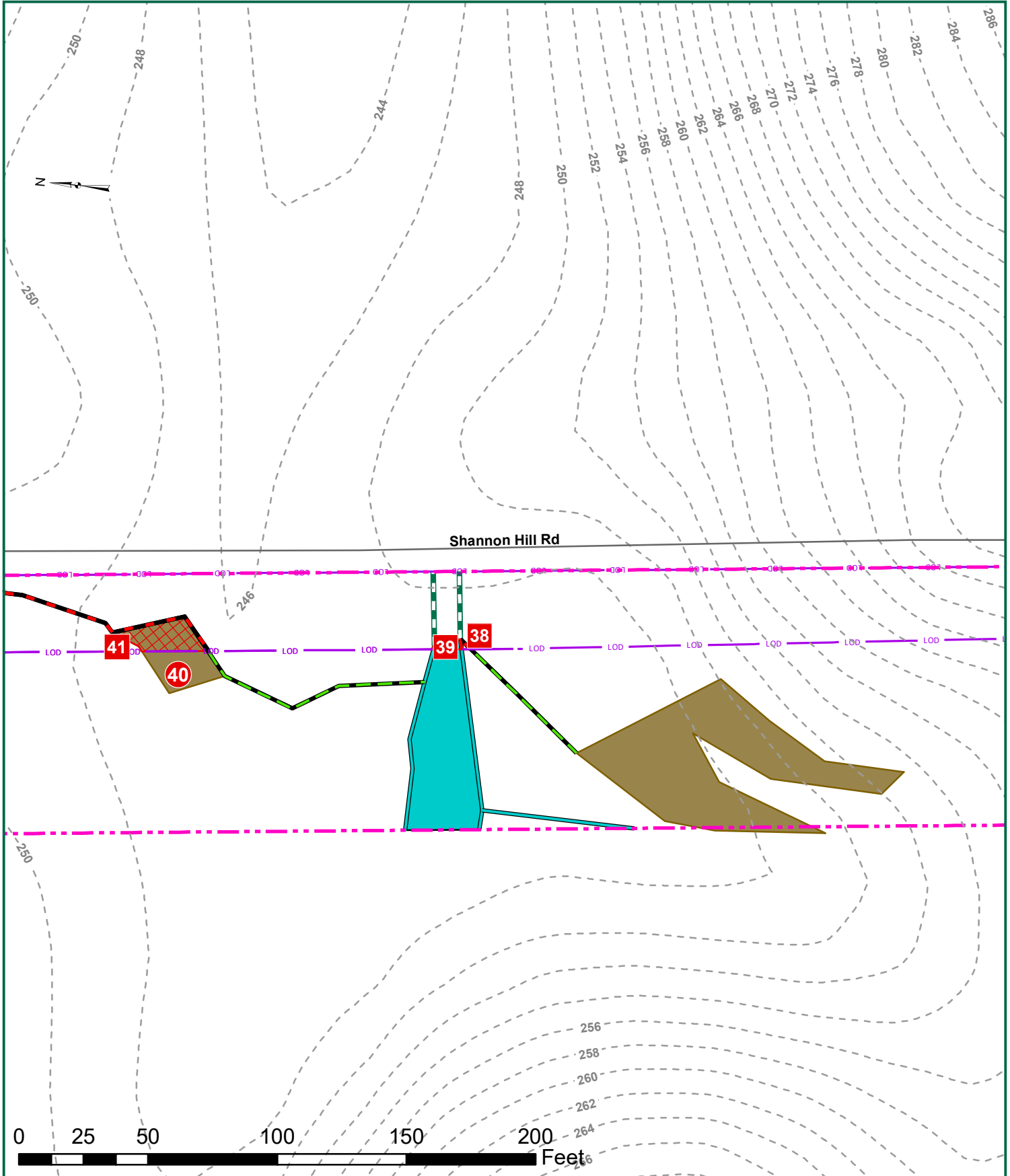


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SHEET NO. 20 OF 74	JOB NUMBER 33927	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA		CHECKED BY T. FREUNINGER	DESIGNED BY B. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	DATE 1/3/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance
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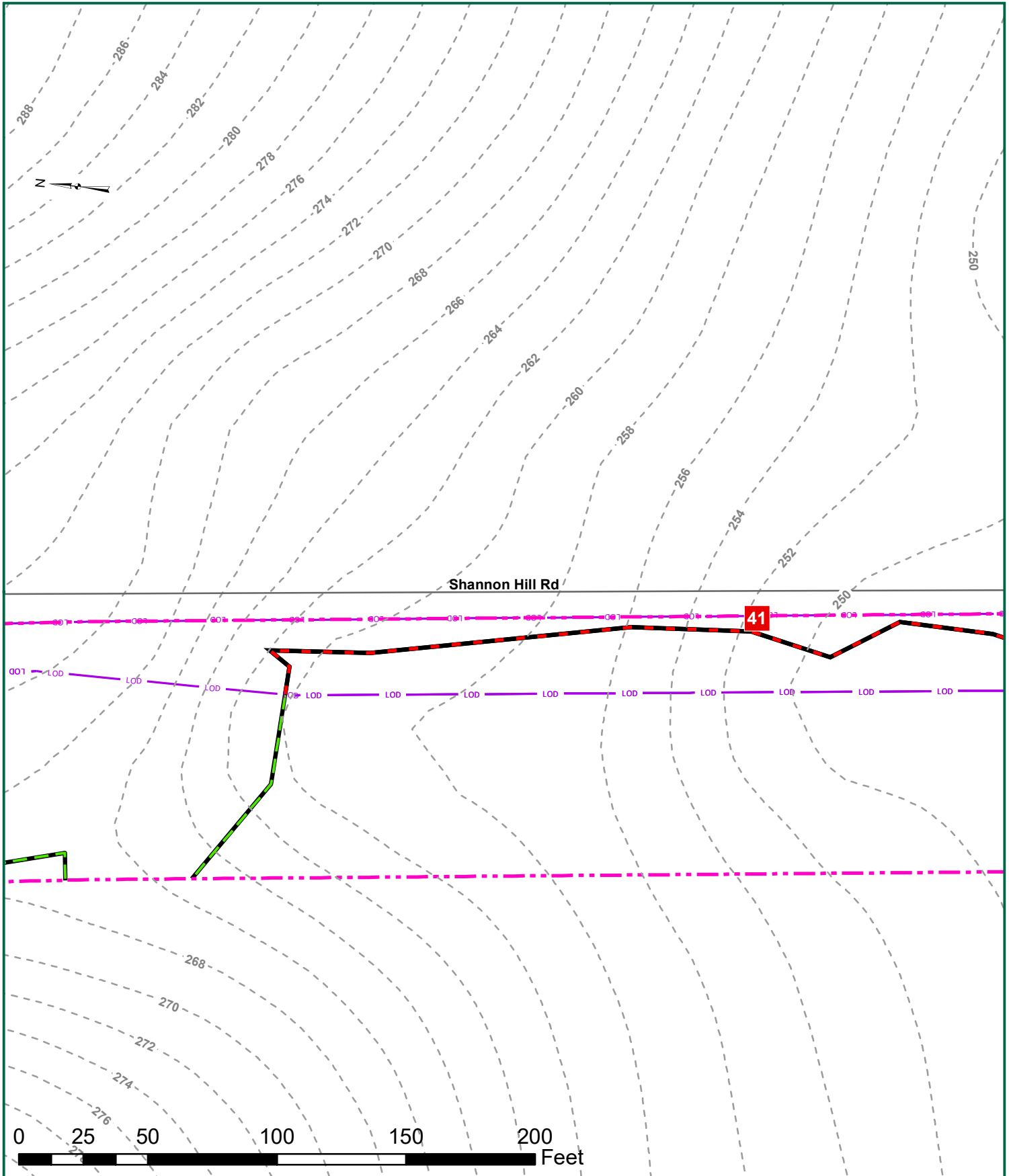
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JOB NUMBER 33927 SHEET NO. 21 OF 74	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 80'	DESIGNED BY E. MORRIS DRAWN BY L. MALOR DATE 06/22/2016	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th>REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1/3/17</td> <td>Impacts updated as a result of edits to the limits of disturbance.</td> </tr> <tr> <td>6/9/17</td> <td>Impacts reduced as a result of reduction to the limits of disturbance.</td> </tr> <tr> <td>12/20/17</td> <td>Map updated per impact revisions east of East River Rd.</td> </tr> </tbody> </table>	DATE	REVISION DESCRIPTION	1/3/17	Impacts updated as a result of edits to the limits of disturbance.	6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.	12/20/17	Map updated per impact revisions east of East River Rd.
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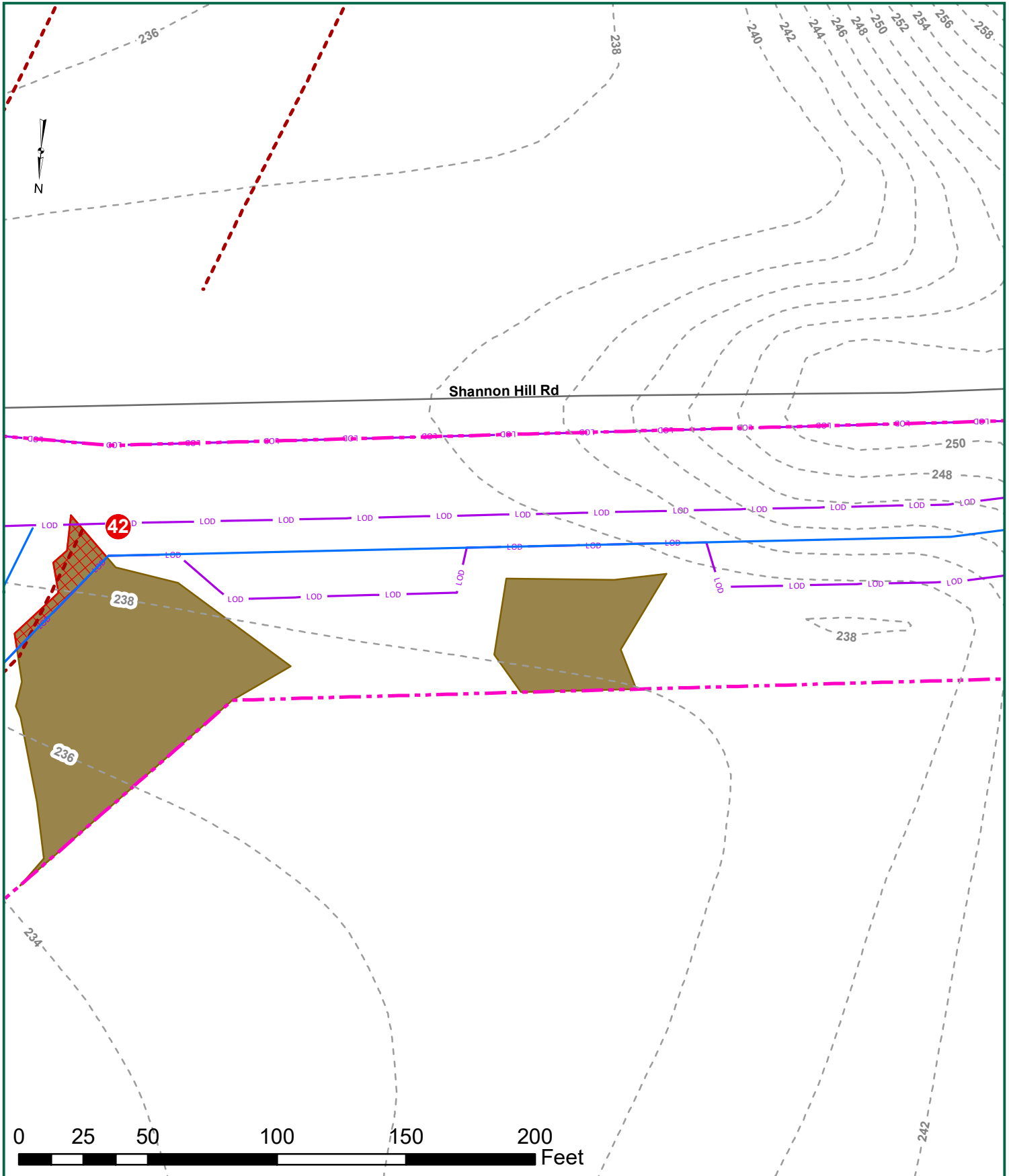
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JOB NUMBER 33927 SHEET NO. 22 OF 74	JAMES RIVER WATER PROJECT	DESIGNED BY L. MADOR CHECKED BY T. FREUNINGER SCALE 1" = 50'	DATE	REVISION DESCRIPTION	
	LOUISA & FLUVANNA COUNTY, VIRGINIA		DATE	1/3/17	Impacts updated as a result of edits to the limits of disturbance.
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LOUISA & FLUVANNA COUNTY, VIRGINIA

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SHEET NO. 23 OF 74

JOB NUMBER 33927

DRAWN BY L. MALOR

DATE 06/22/2016

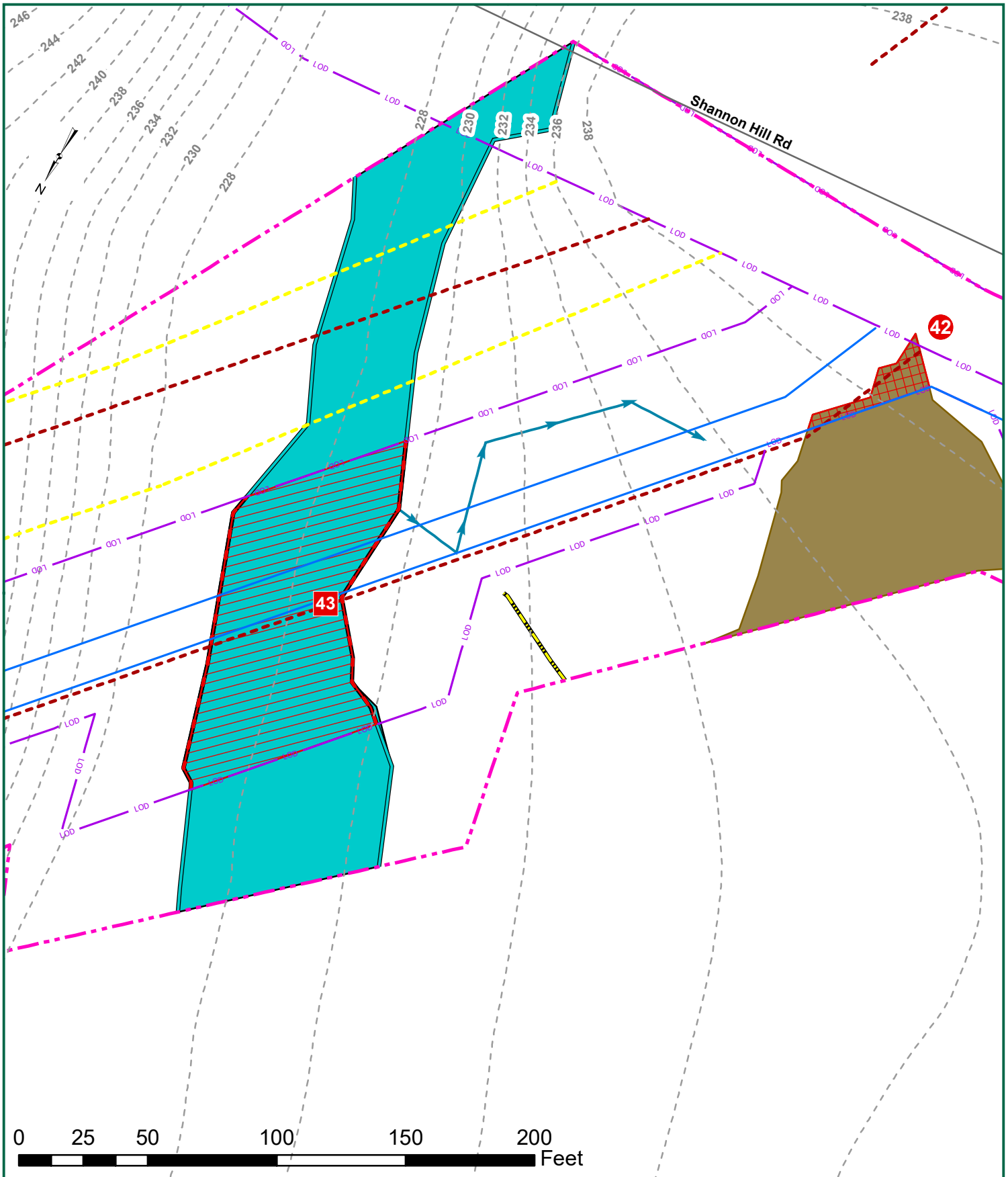
DESIGNED BY B. MORRIS

CHECKED BY T. FREUNINGER

SCALE 1" = 50'

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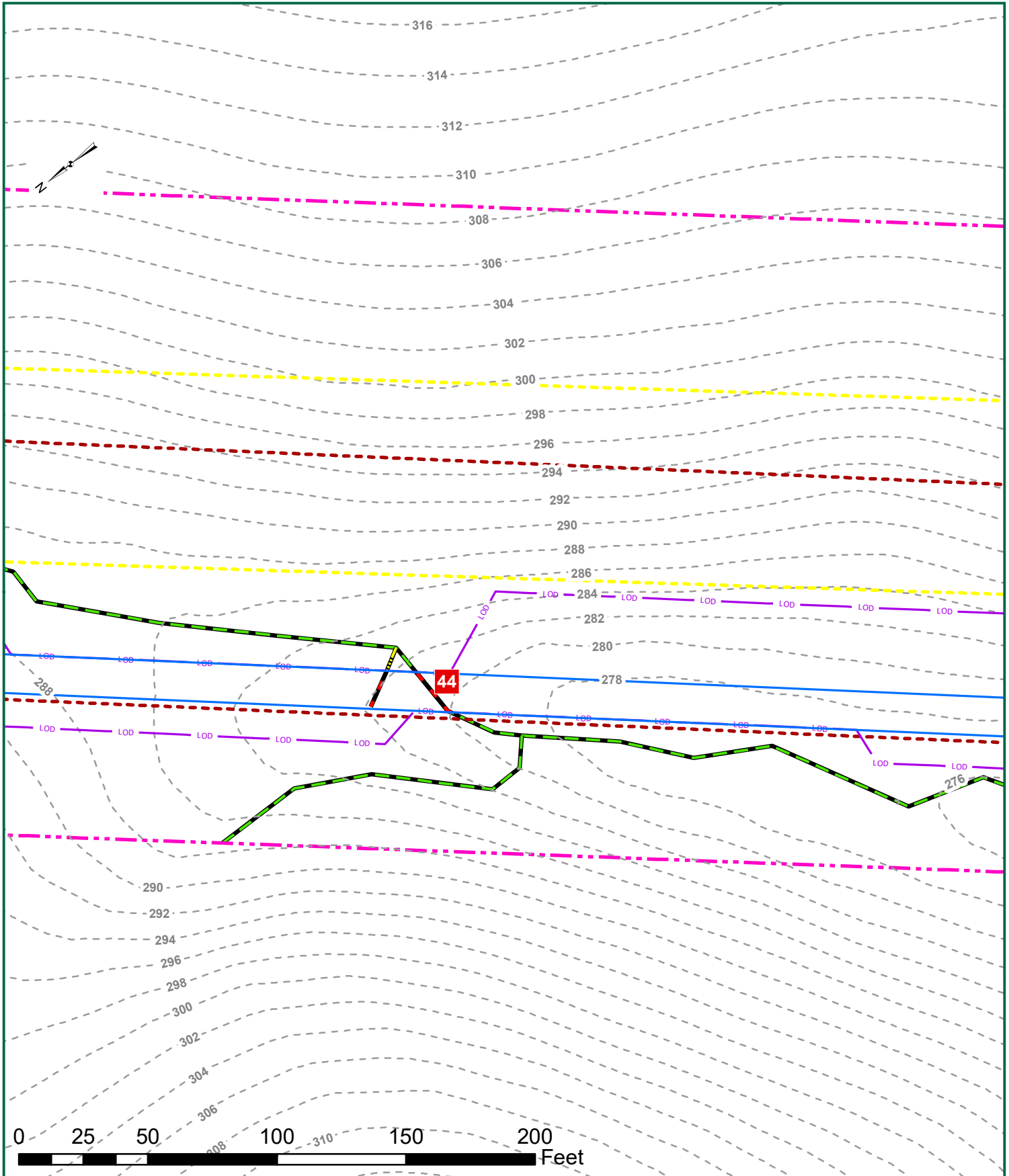
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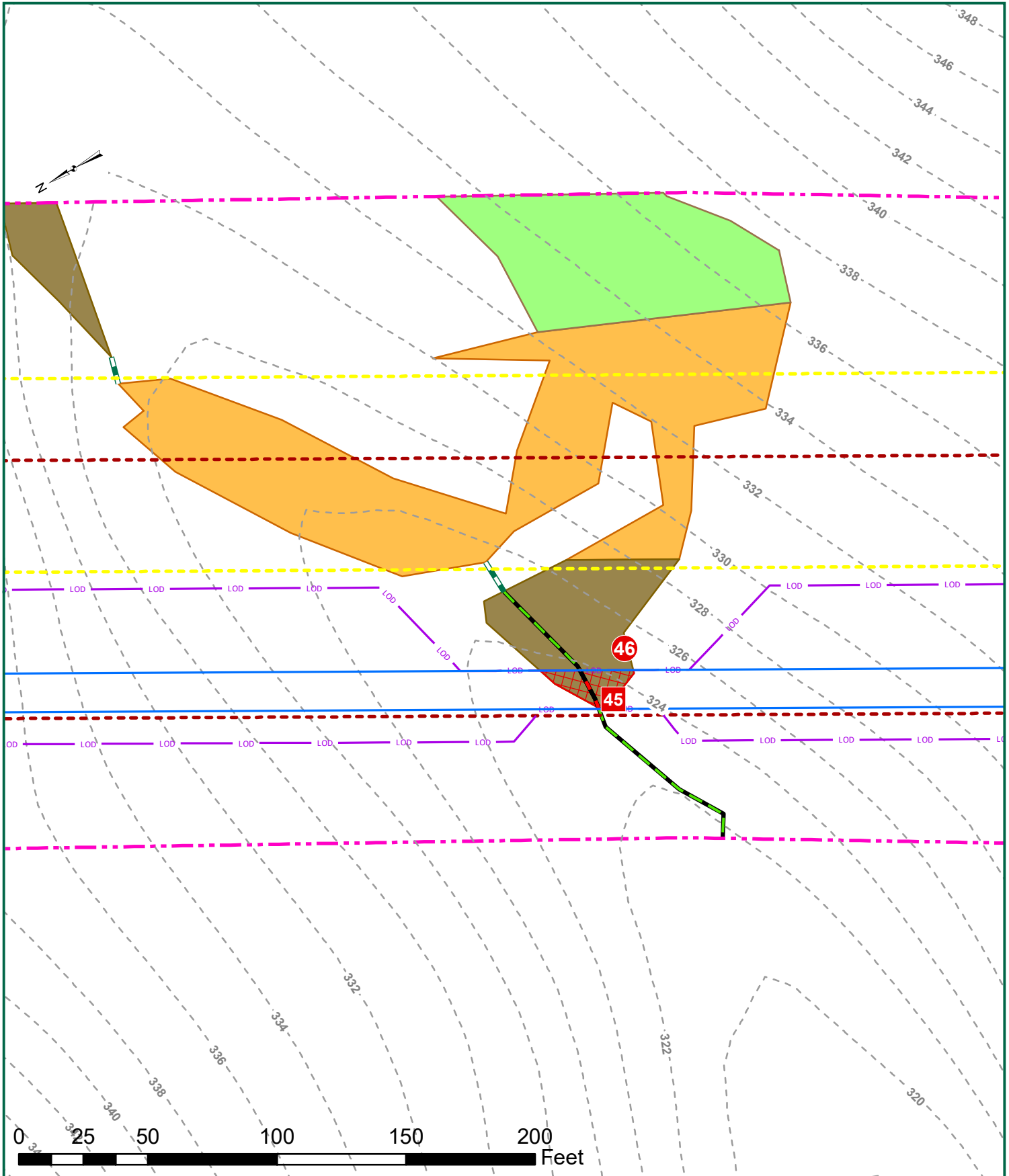
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JOB NUMBER 33927 SHEET NO. 25 OF 74	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY B. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016	DATE	REVISION DESCRIPTION
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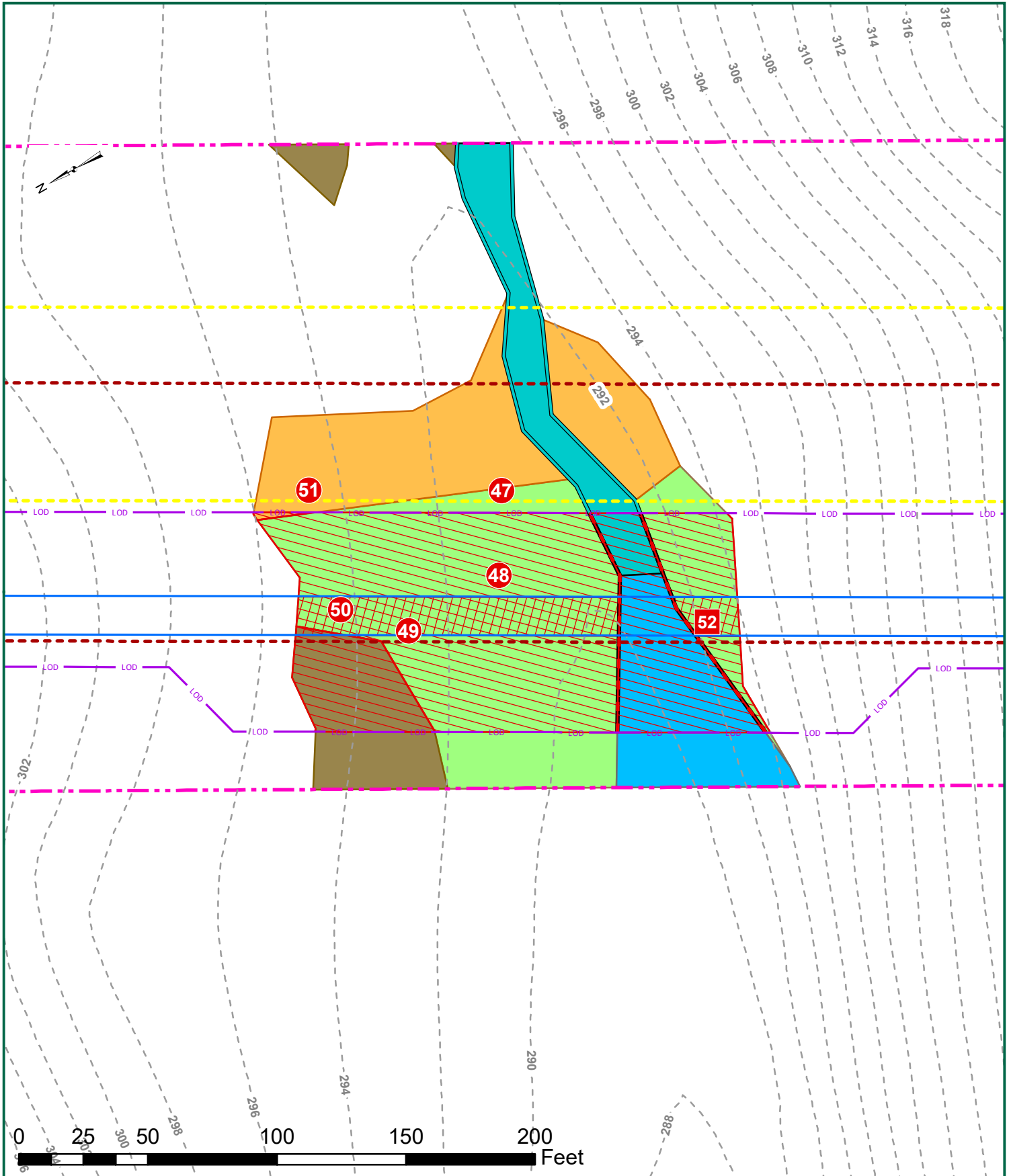
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JAMES RIVER WATER PROJECT

LOUISA & FLUVANNA COUNTY, VIRGINIA

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SHEET NO. 27 OF 74

JOB NUMBER 33927

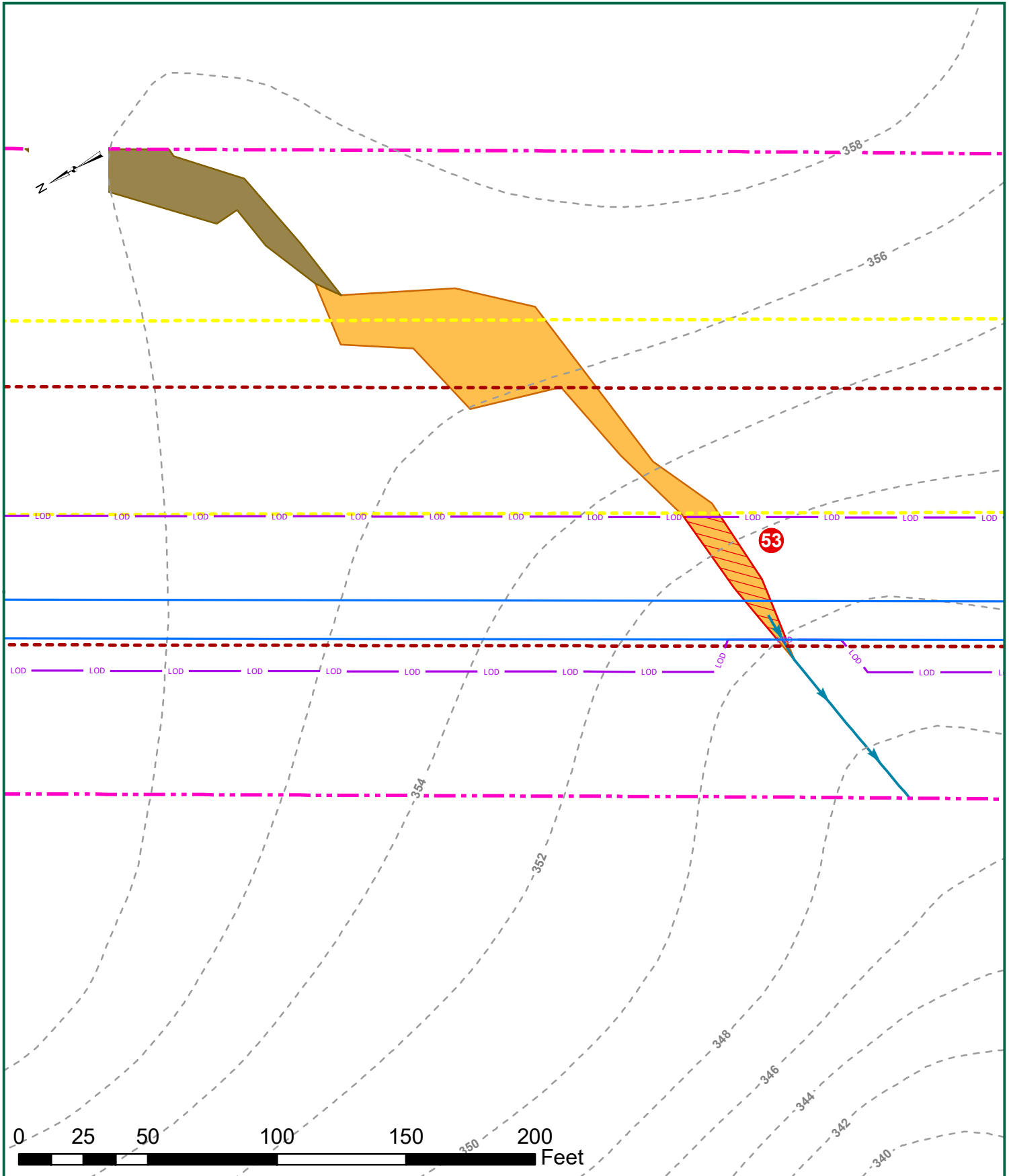
SCALE 1" = 50'

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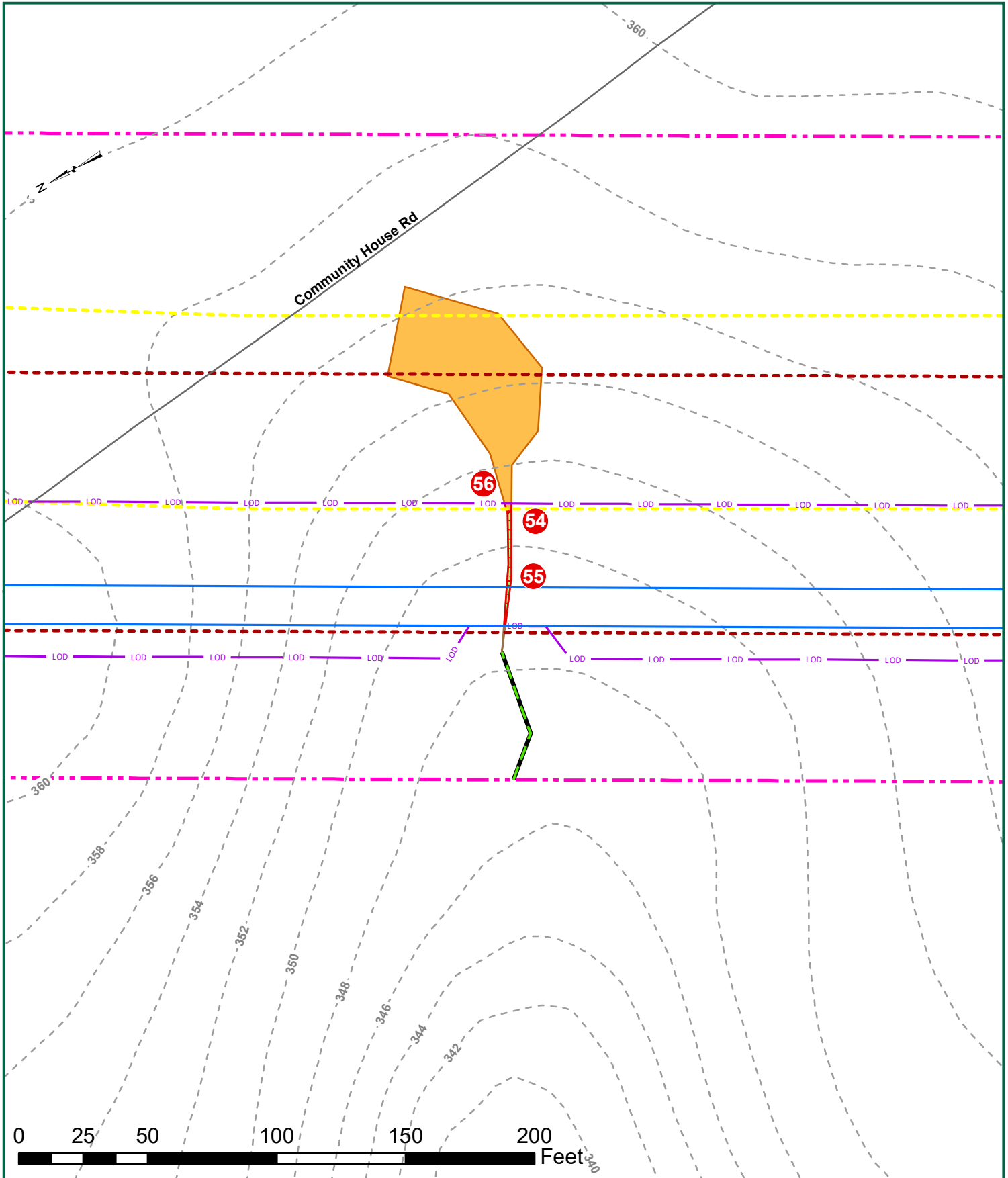
DESIGNED BY E. MORRIS

DRAWN BY L. MALJOR

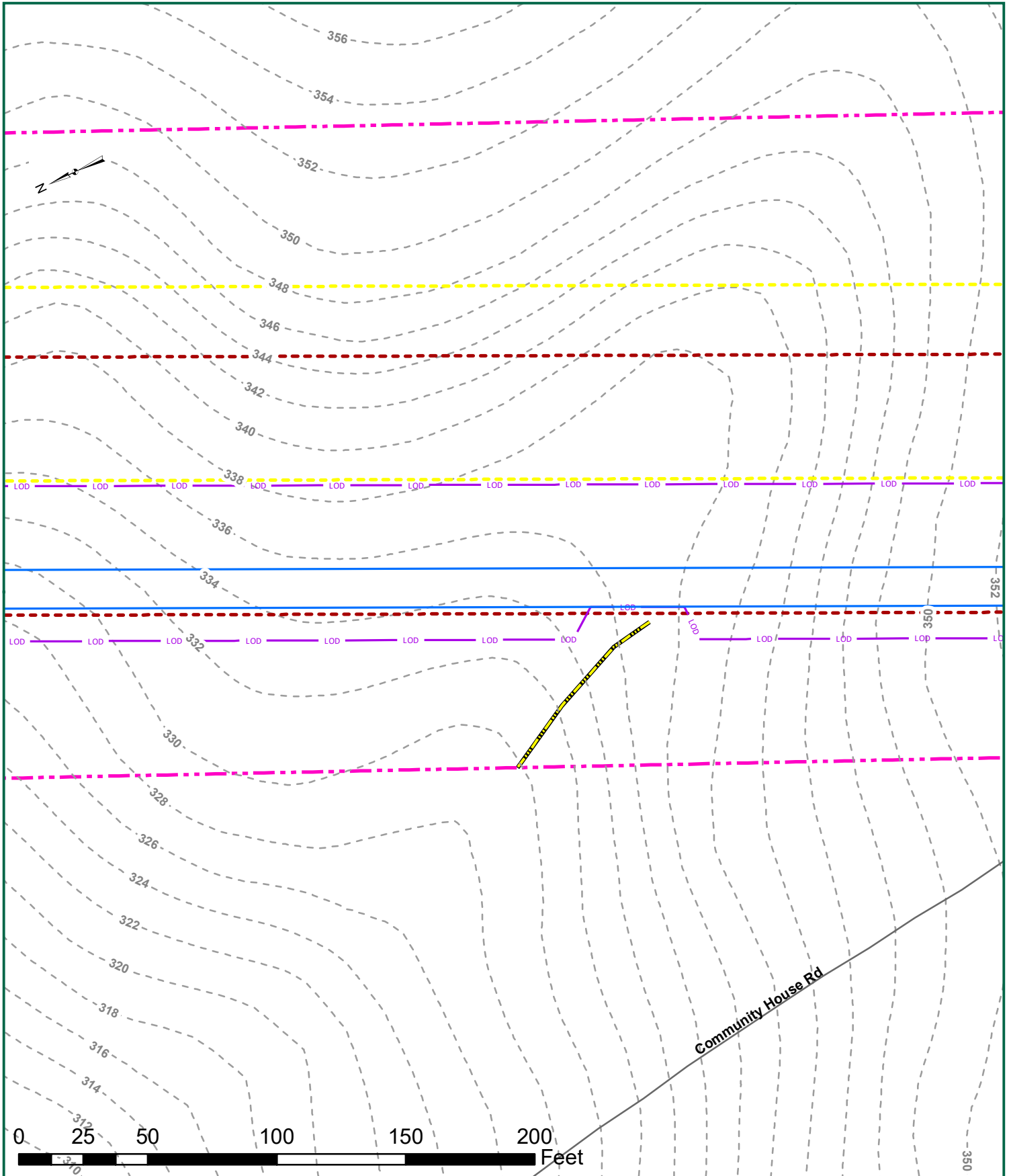
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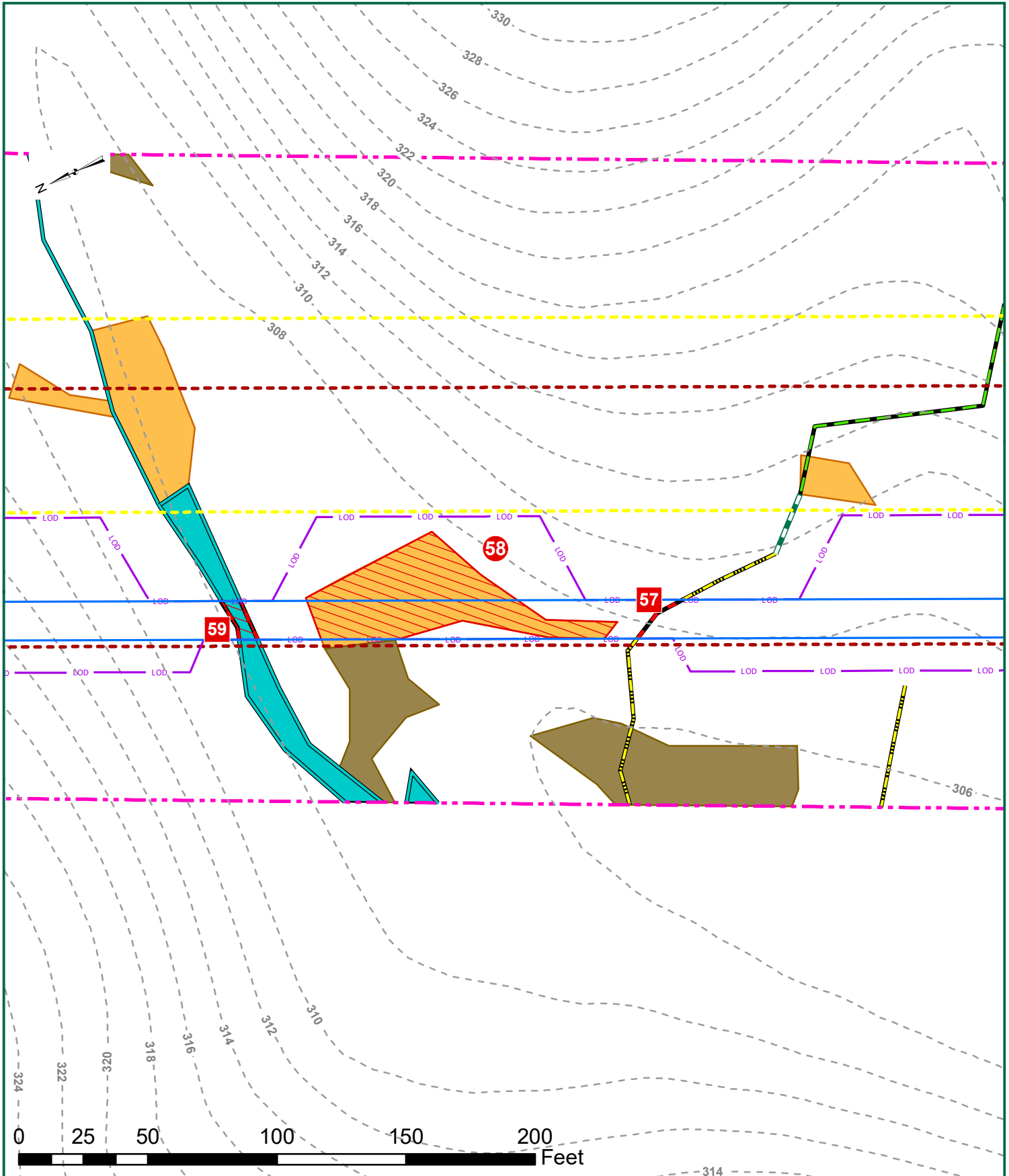
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JOB NUMBER 33927 SHEET NO. 28 OF 74	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA		REVISION DESCRIPTION
	CHECKED BY T. FREUNINGER	DESIGNED BY B. MORRIS	DATE 1/3/17 6/9/17 12/20/17
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JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA		Site Development Residential Infrastructure Technology Environmental									
JOB NUMBER 33927	SHEET NO. 30 OF 74	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL	<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1/3/17</td> <td>Impacts updated as a result of edits to the limits of disturbance</td> </tr> <tr> <td>6/9/17</td> <td>Impacts reduced as a result of reduction to the limits of disturbance.</td> </tr> <tr> <td>12/20/17</td> <td>Map updated per impact revisions east of East River Rd.</td> </tr> </tbody> </table>	DATE	REVISION DESCRIPTION	1/3/17	Impacts updated as a result of edits to the limits of disturbance	6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.	12/20/17	Map updated per impact revisions east of East River Rd.
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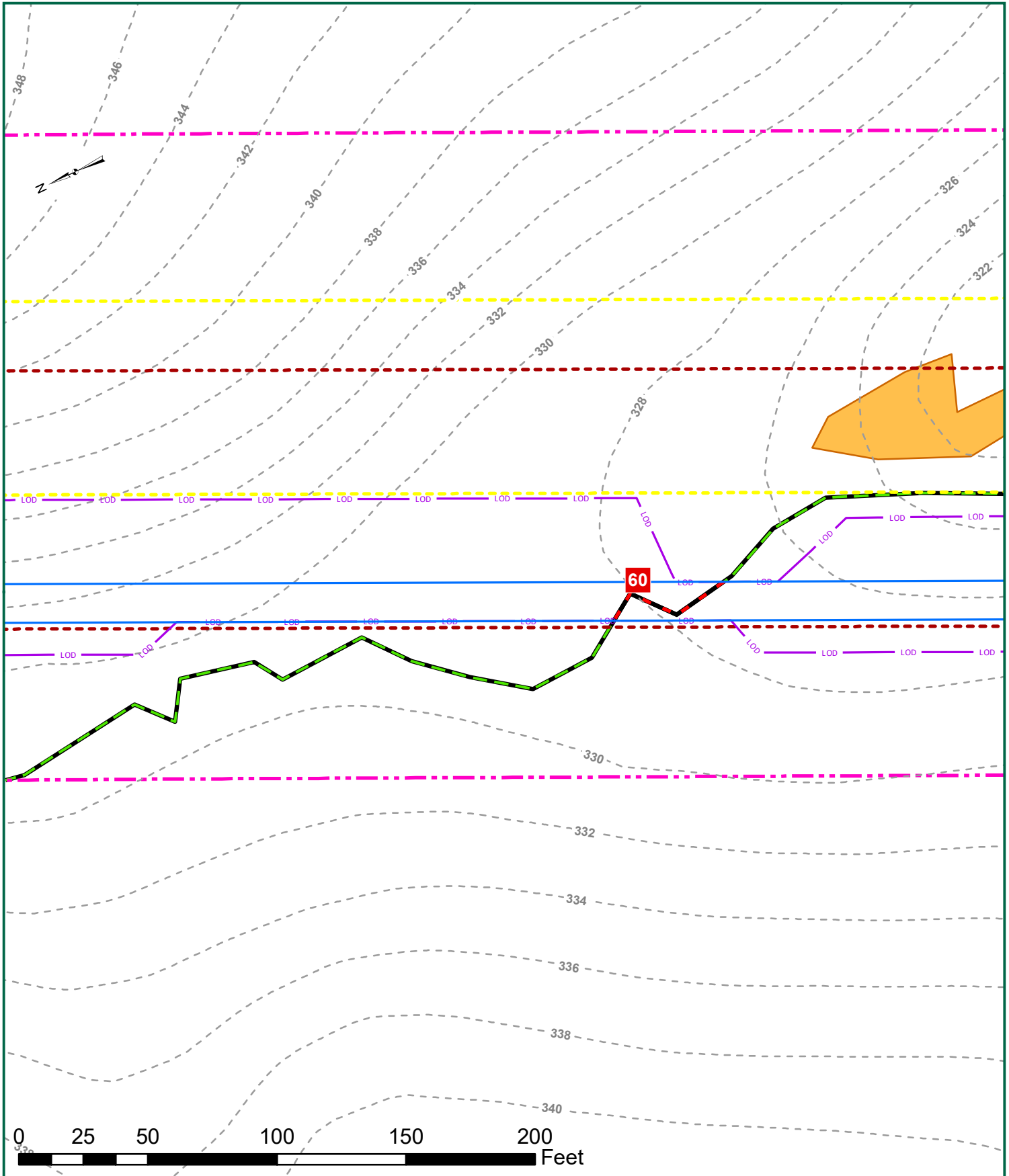
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LOUISA & FLUVANNA COUNTY, VIRGINIA			DATE 6/9/17	Impacts updated as a result of edits to the limits of disturbance.			
PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL		DATE 12/20/17	Impacts reduced as a result of reduction to the limits of disturbance.				
JOB NUMBER 33927	SHEET NO. 31 Of 74	Map updated per impact revisions east of East River Rd.					

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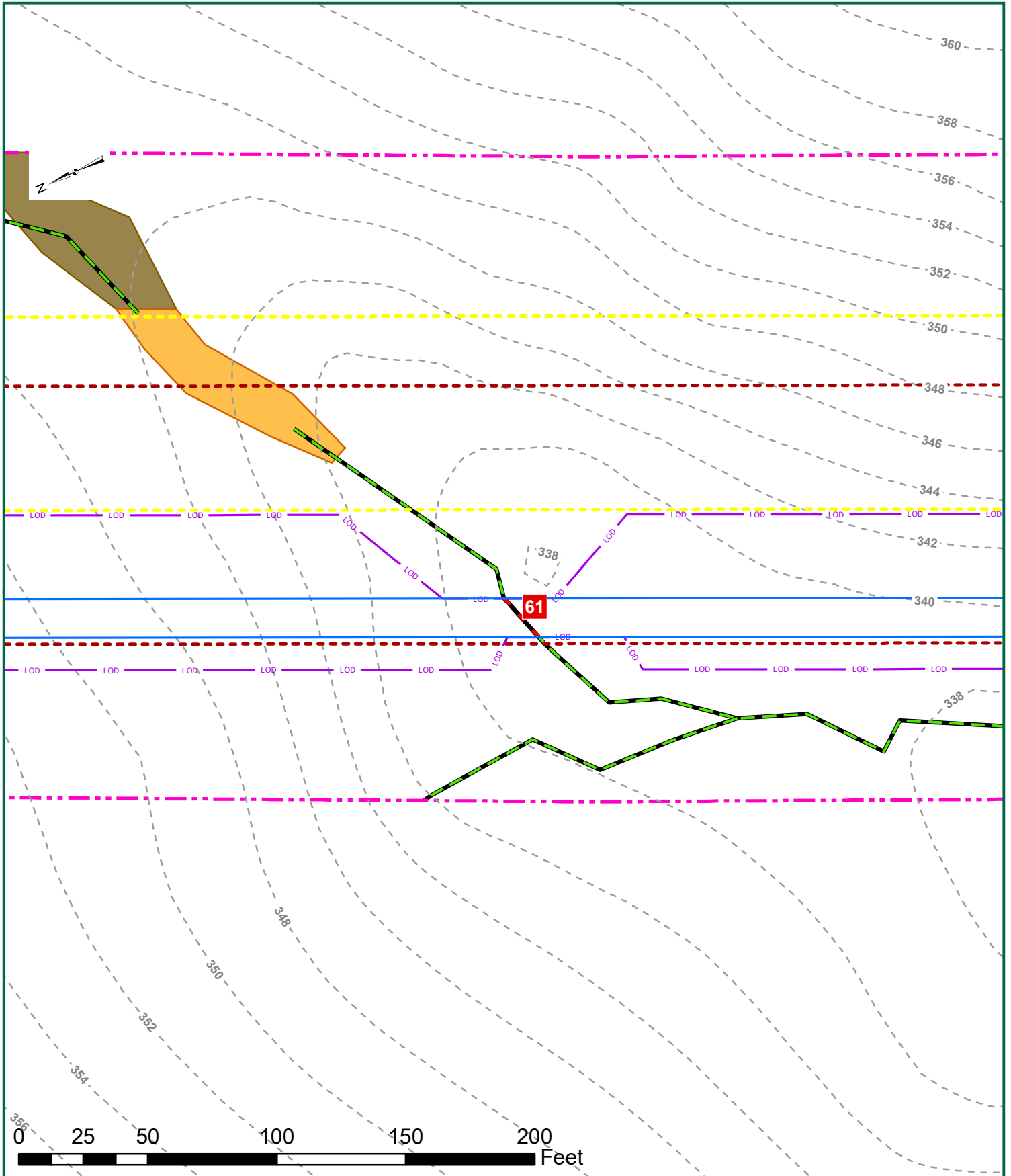
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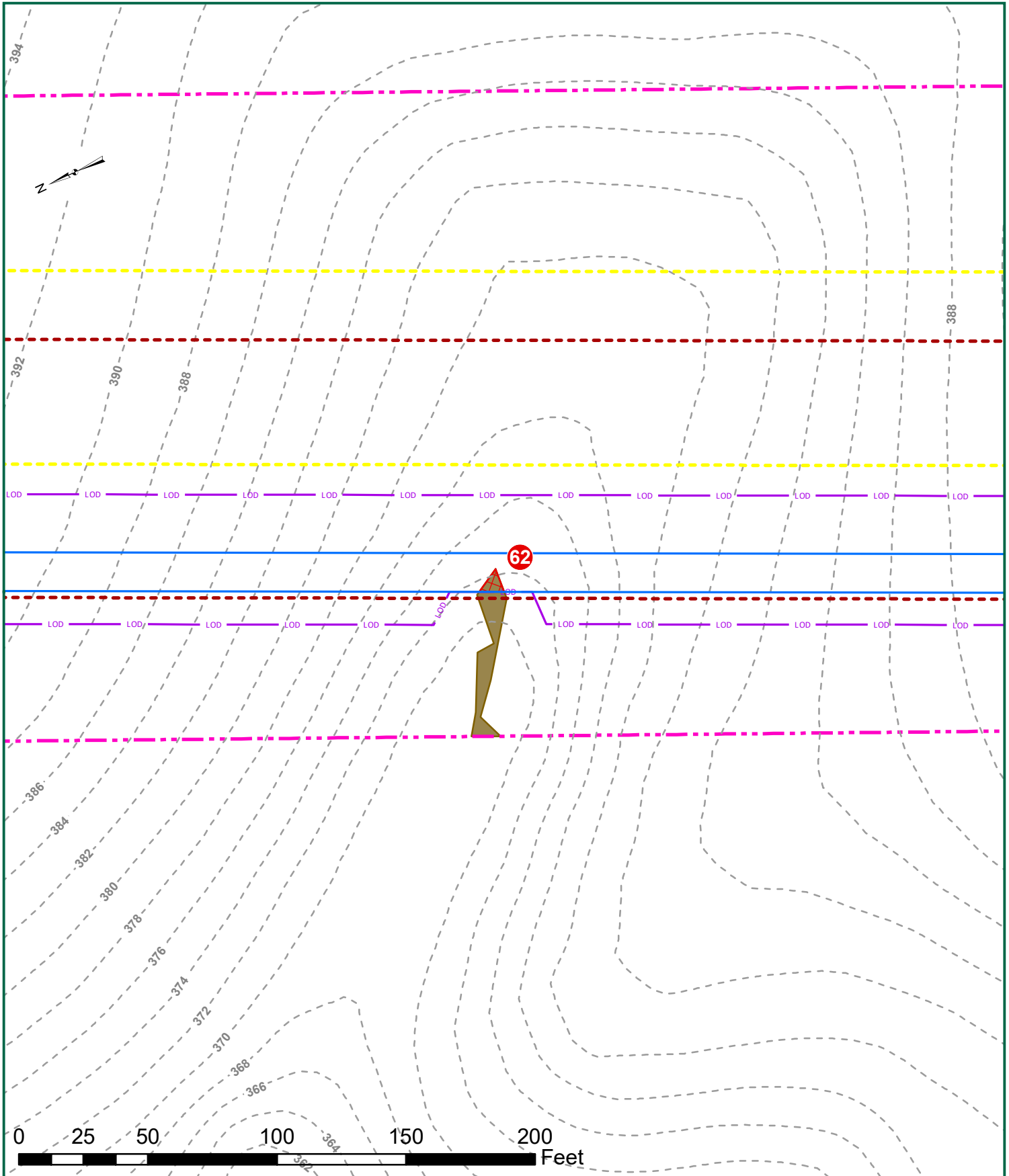
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JOB NUMBER 33927 SHEET NO. 32 OF 74	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY B. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	DATE 1/3/17 6/9/17 12/20/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.	
	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL							



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<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>		DESIGNED BY L. MAJOR CHECKED BY T. FREUNINGER SCALE 1" = 50'	
SHEET NO. 33 OF 74	JOB NUMBER 33927	DATE 06/22/2016	
<h3 style="margin: 0;">PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL</h3>		REVISION DESCRIPTION 1/3/17 Impacts updated as a result of edits to the limits of disturbance. 6/9/17 Impacts reduced as a result of reduction to the limits of disturbance. 12/20/17 Map updated per impact revisions east of East River Rd.	



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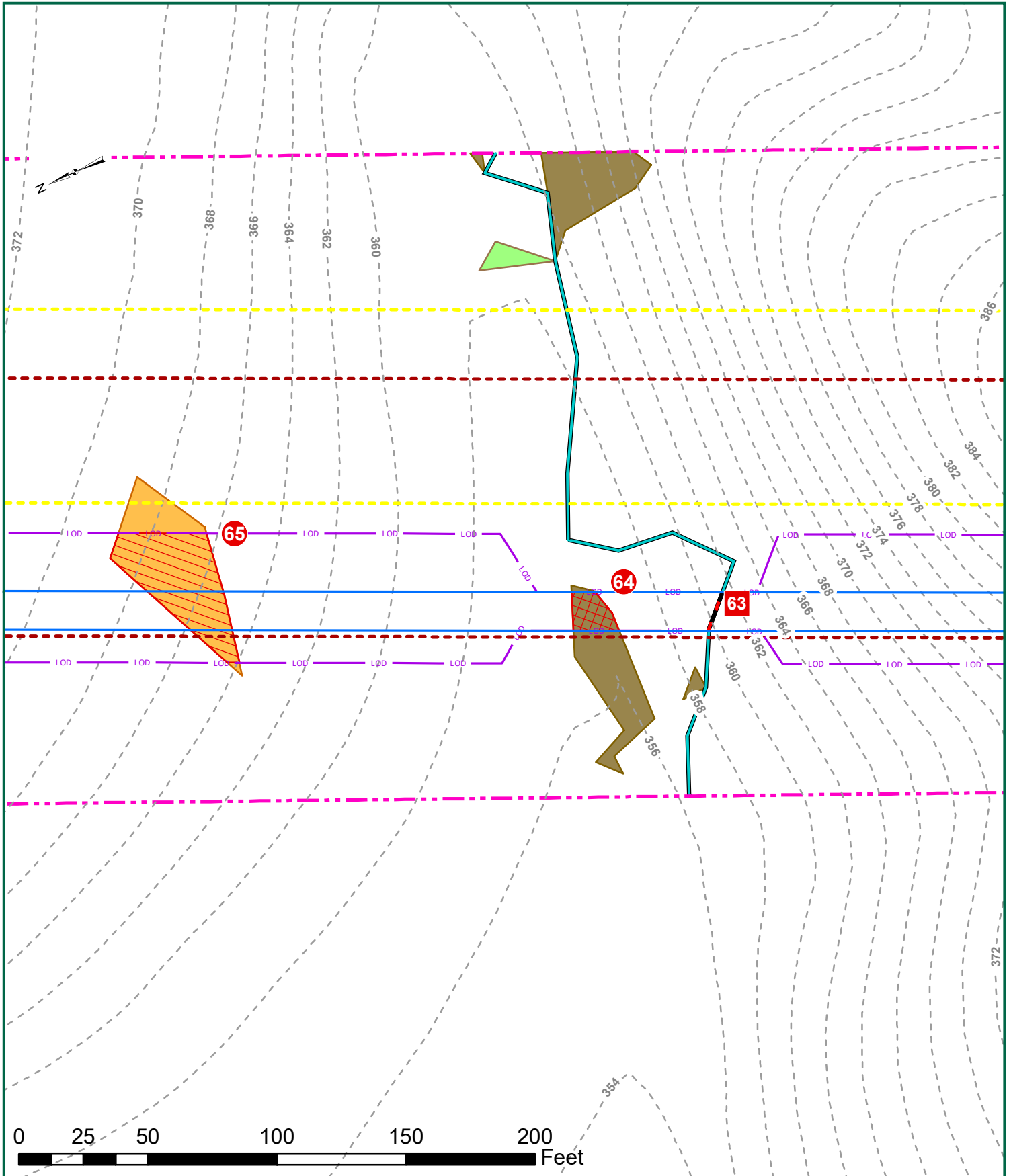
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SHEET NO. 34 Of 74	JOB NUMBER 33927	JAMES RIVER WATER PROJECT	CHECKED BY T. PREUNINGER	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	DATE	REVISION DESCRIPTION
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PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL

DESIGNED BY
L. MALOR

CHECKED BY
T. FREUNINGER

SCALE
1" = 50'

DATE

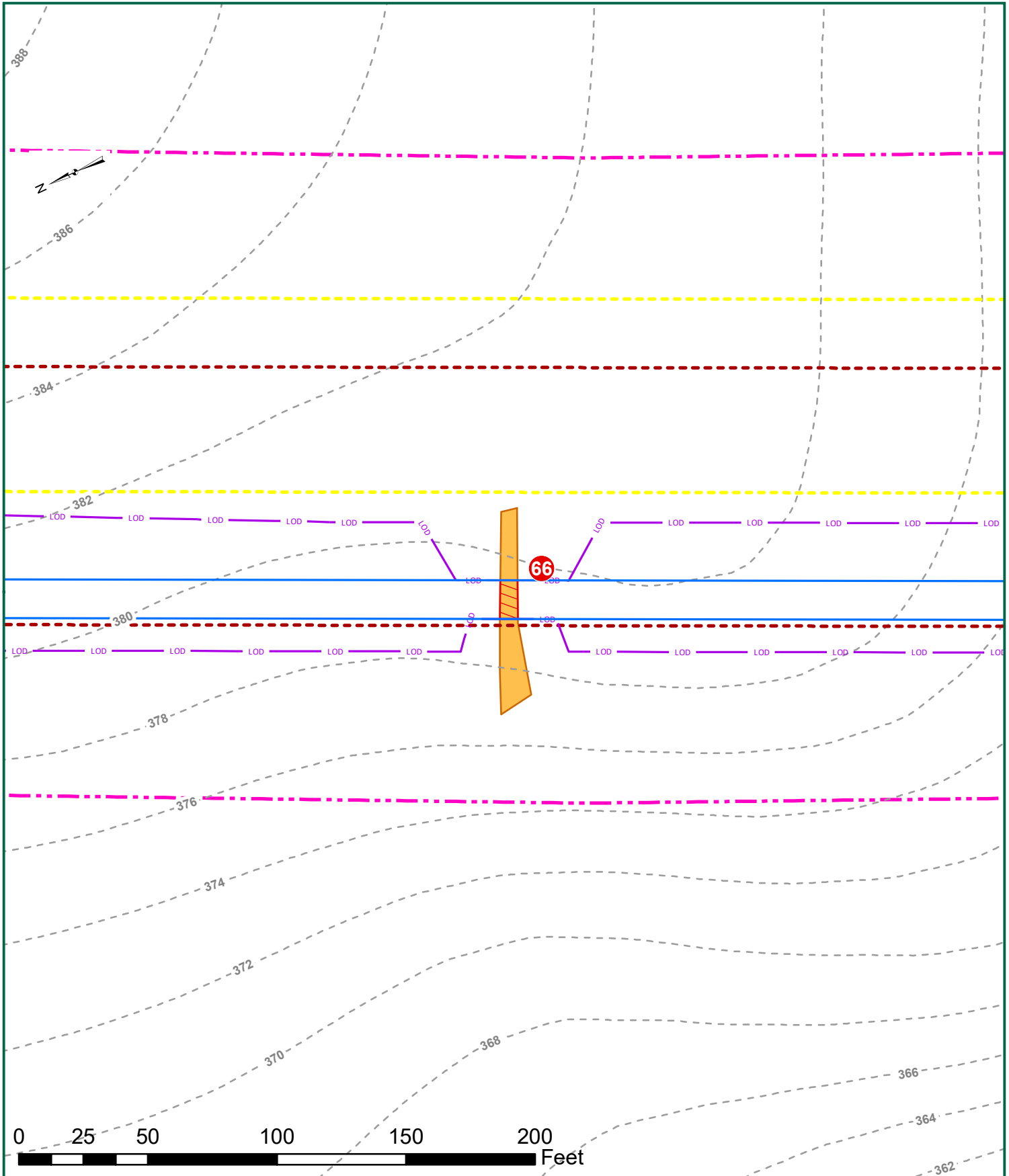
DATE	REVISION DESCRIPTION
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JOB NUMBER
33927

SHEET NO.
35 OF 74

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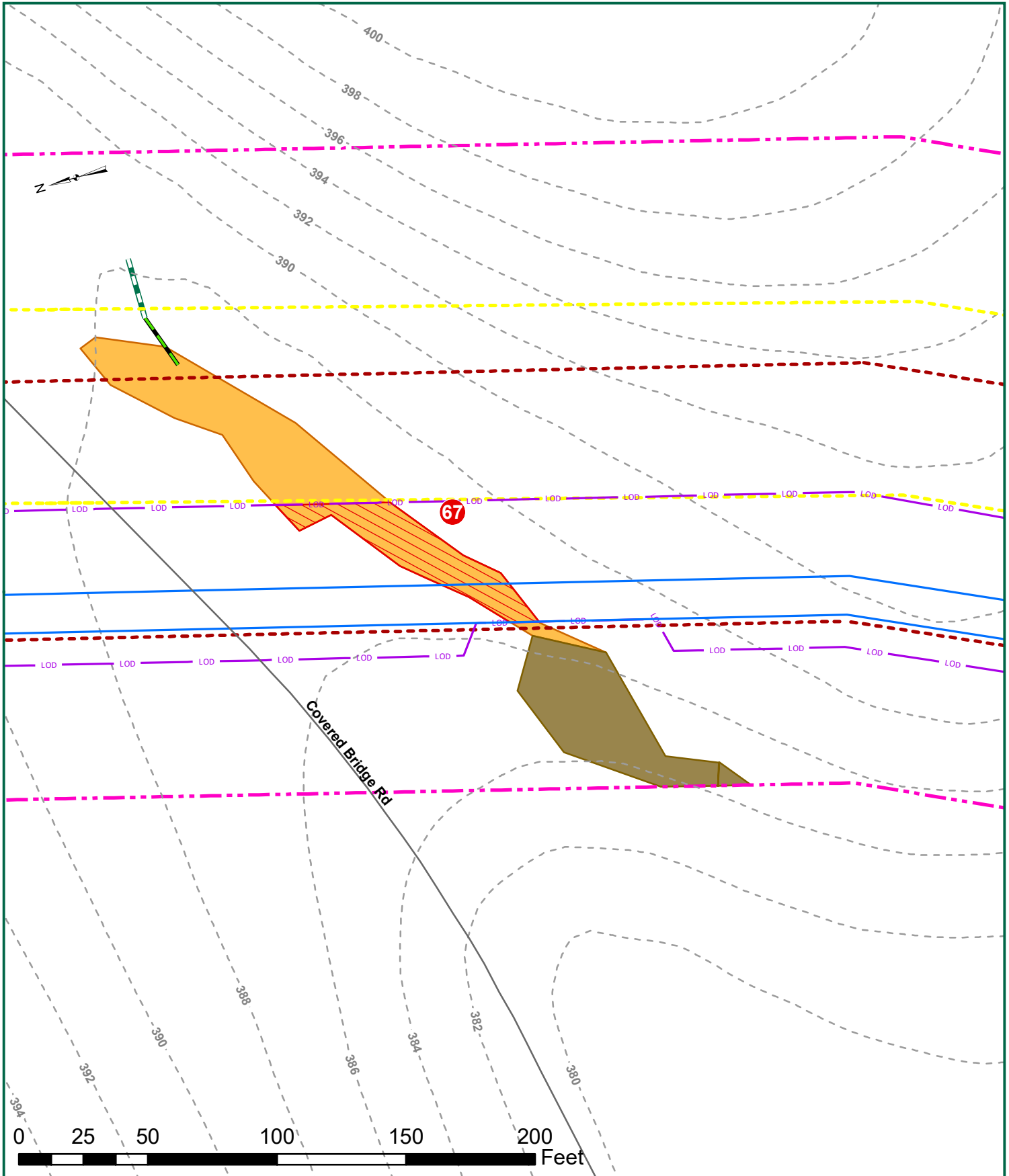
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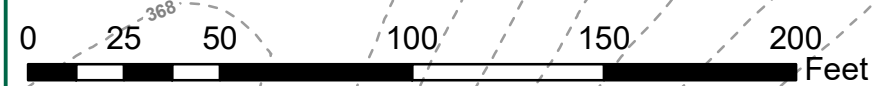
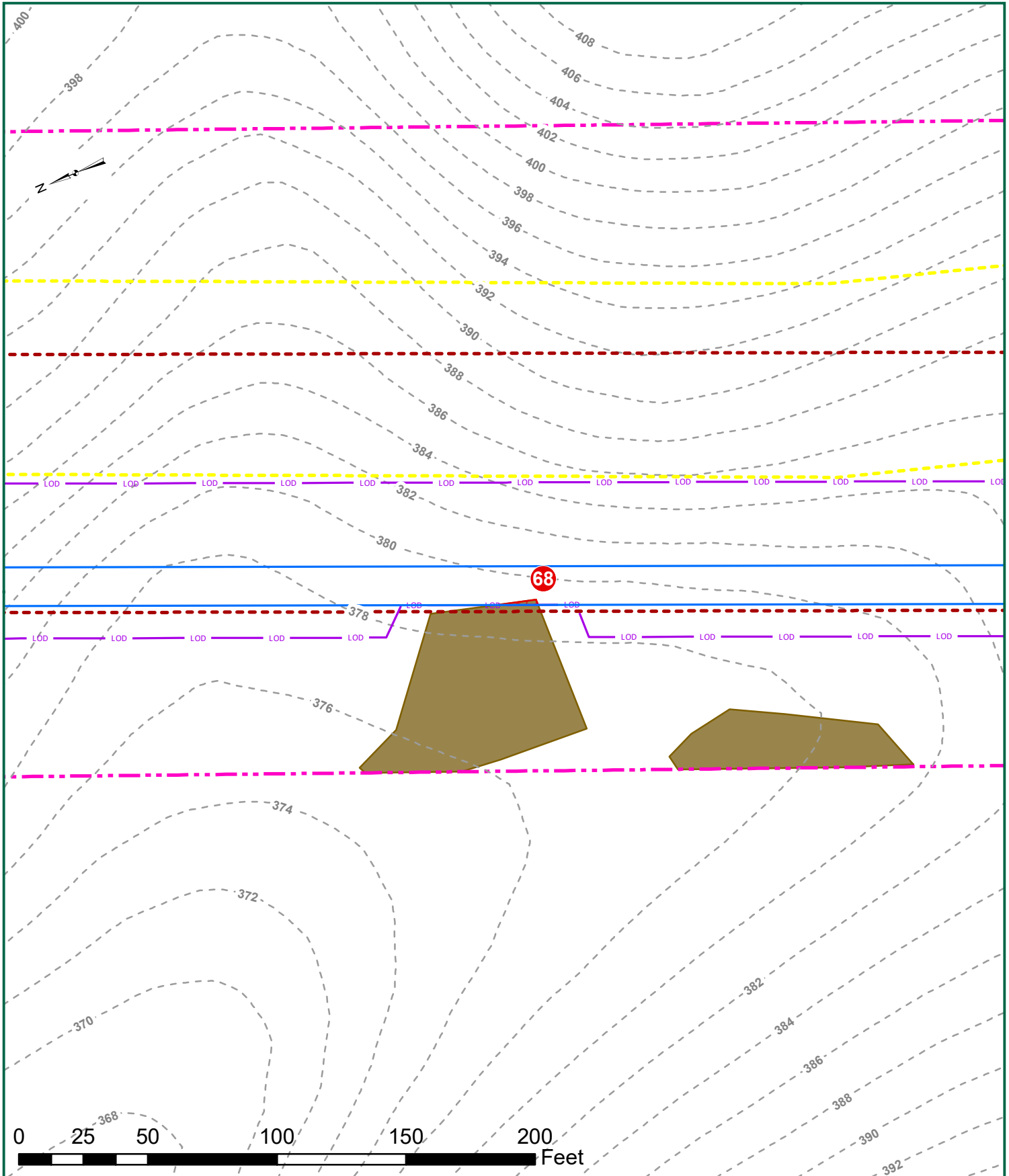
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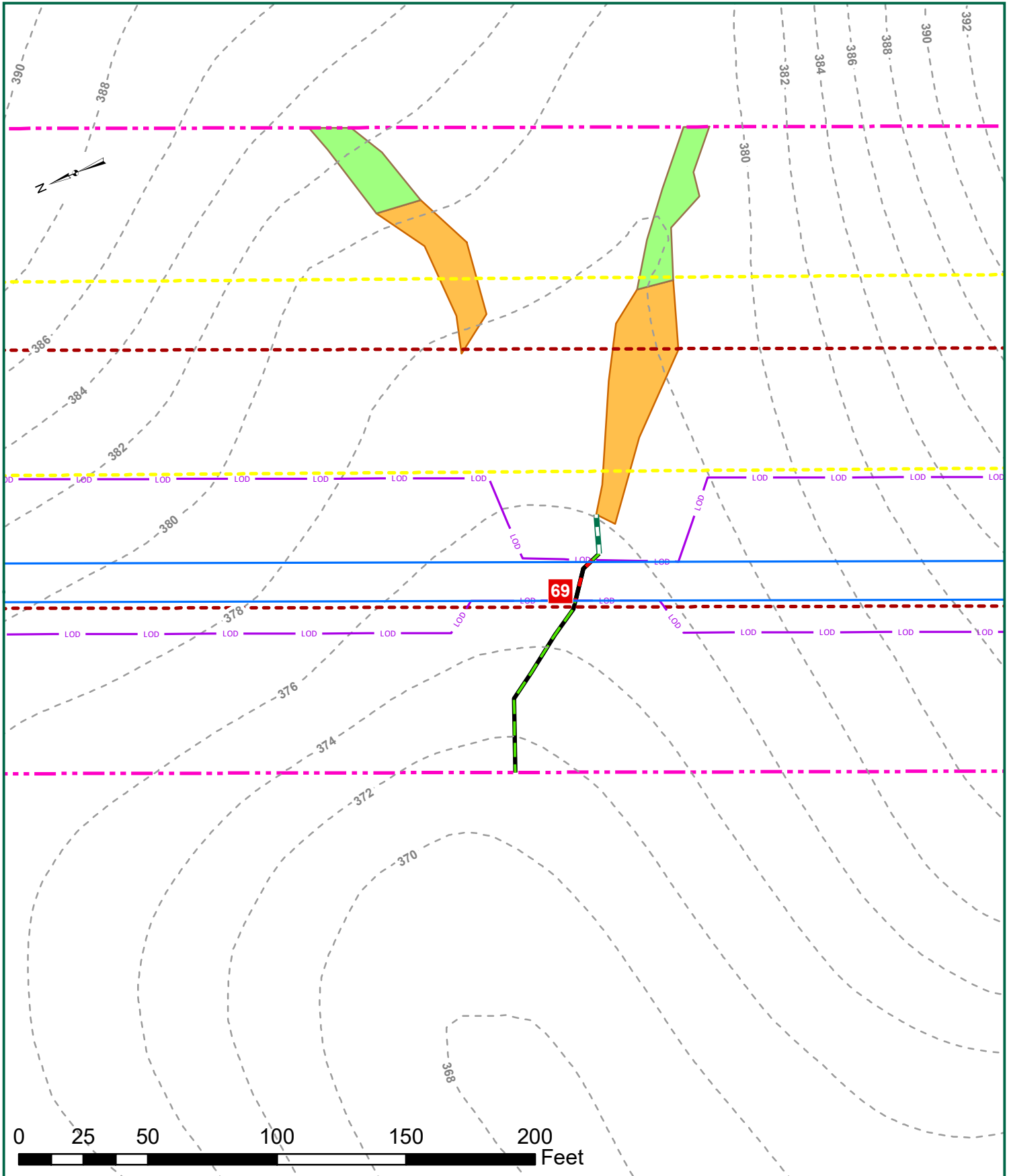
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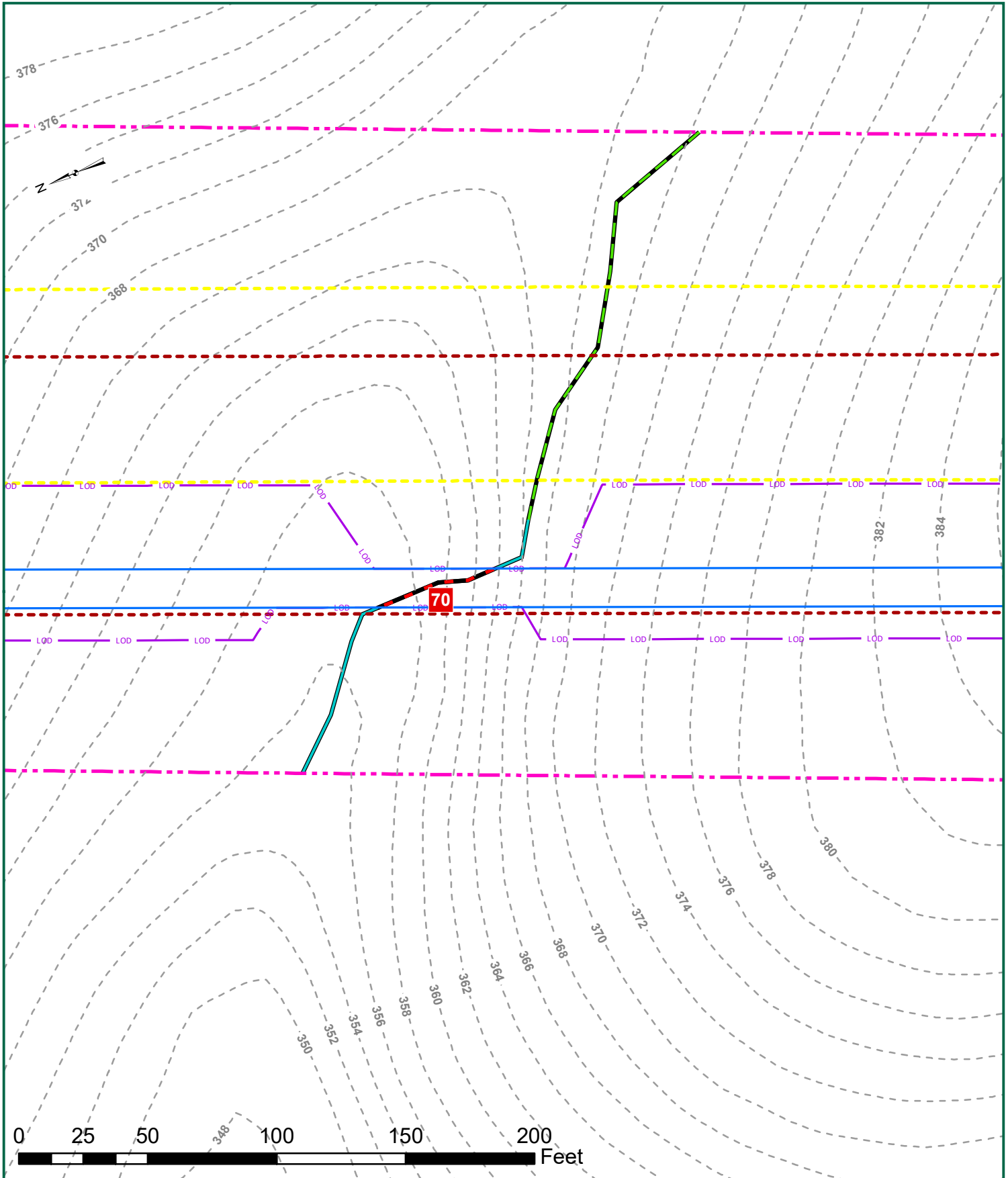
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		LOUISA & FLUVANNA COUNTY, VIRGINIA			1/3/17	Impacts updated as a result of edits to the limits of disturbance.
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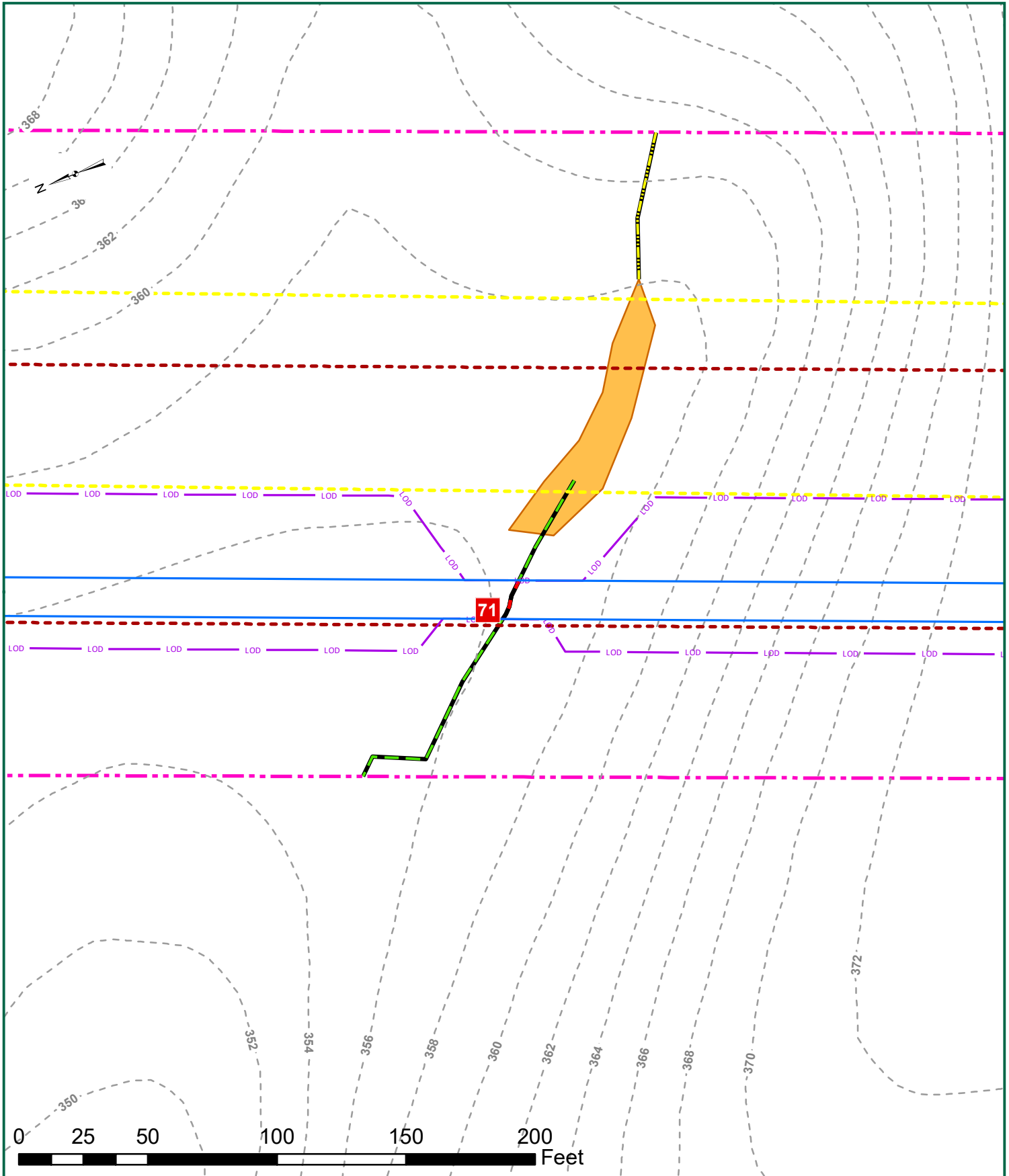
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SHEET NO. 40 OF 74	JOB NUMBER 33927	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="font-size: x-small; margin: 0;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 80'	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	REVISION DESCRIPTION	
		<h3 style="margin: 0;">PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL</h3>				DATE 1/3/17	Impacts updated as a result of edits to the limits of disturbance	
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JOB NUMBER
33927

SHEET NO.
41 OF 74

CHECKED BY
T. FREUNINGER

SCALE
1" = 50'

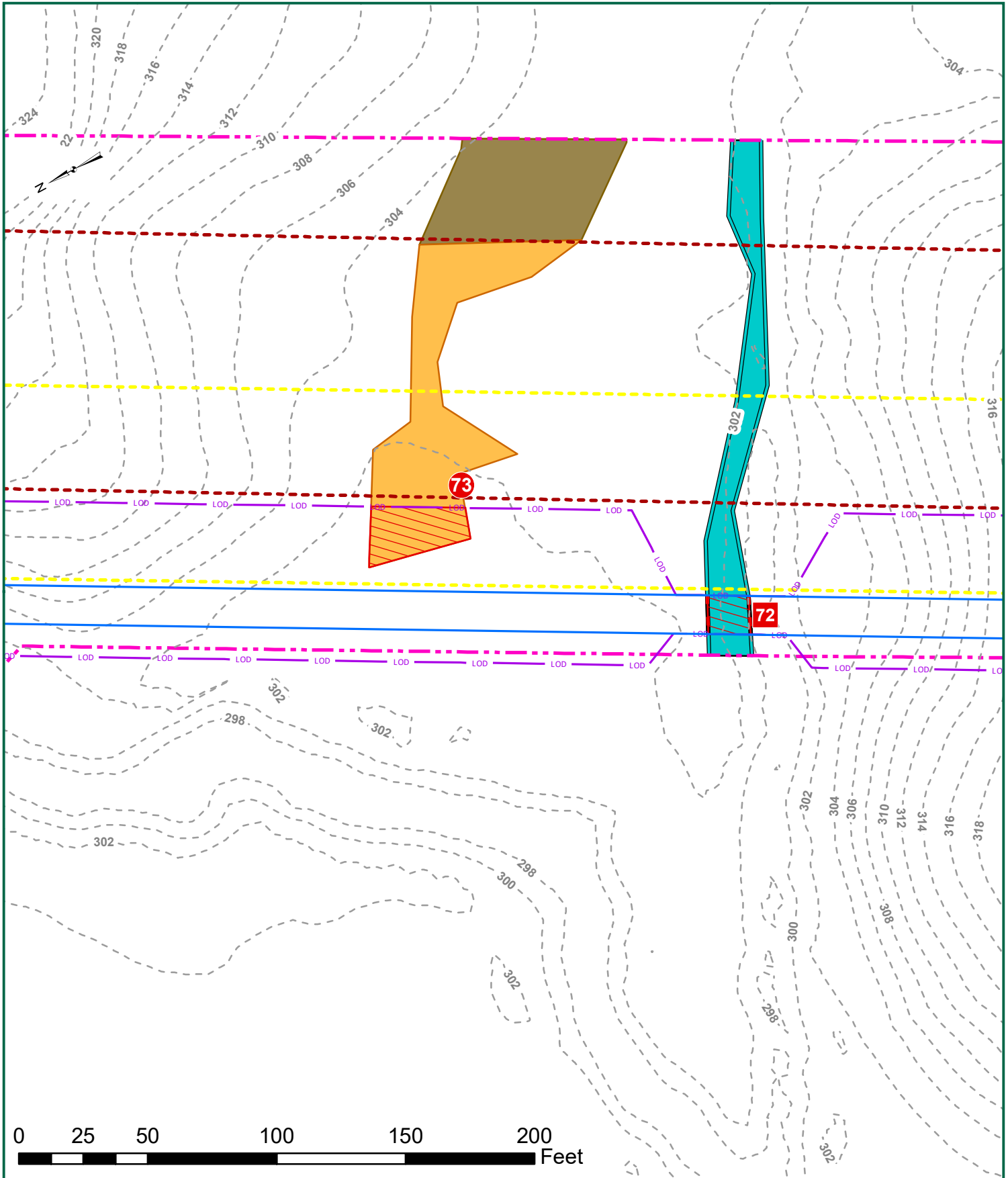
DESIGNED BY
E. MORRIS

DRAWN BY
L. MADOR

DATE
06/22/2016

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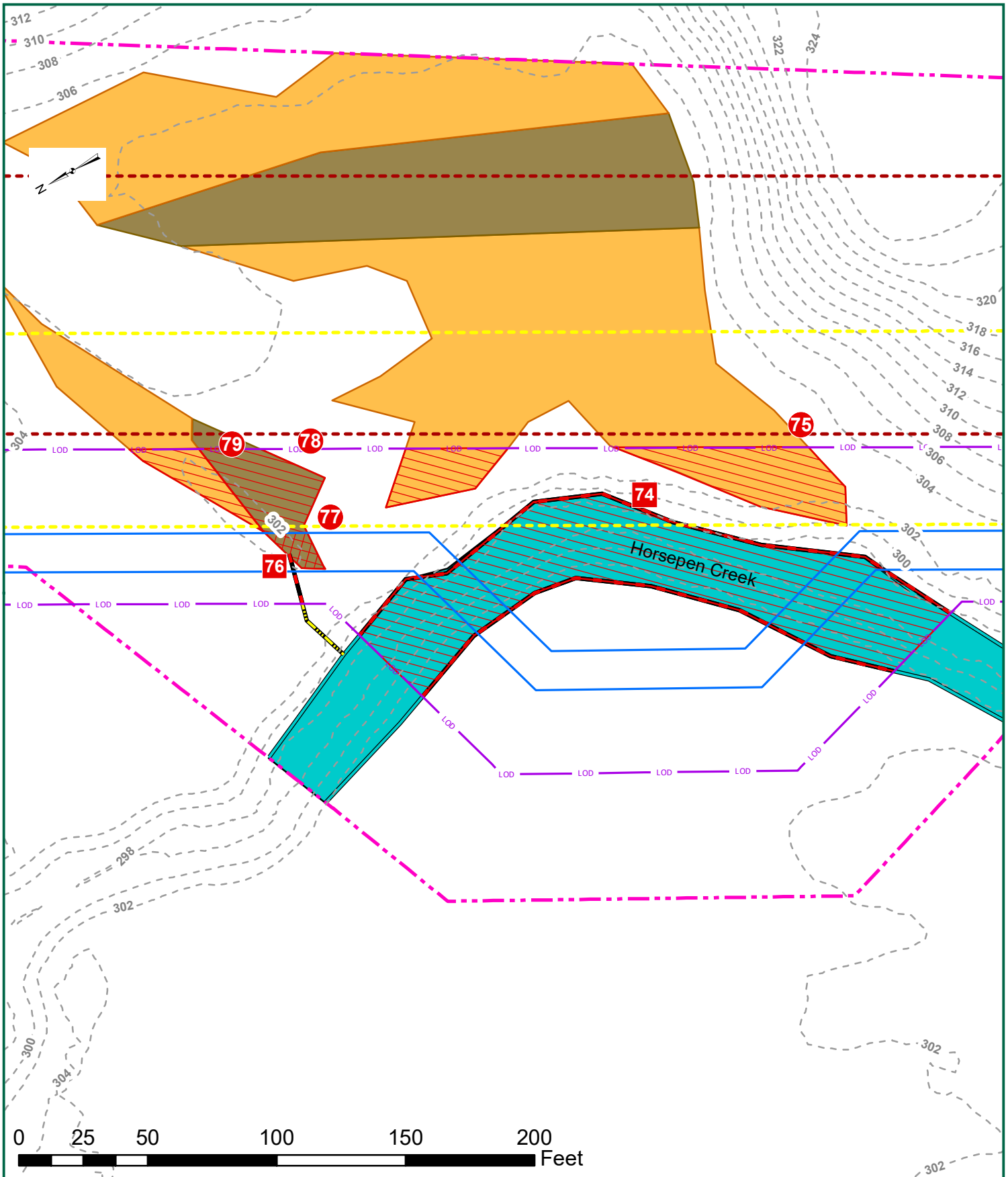
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JOB NUMBER 33927 SHEET NO. 42 OF 74	JAMES RIVER WATER PROJECT	DESIGNED BY L. MAJOR CHECKED BY T. FREUNINGER SCALE 1" = 50'	DATE 06/22/2016	REVISION DESCRIPTION
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JOB NUMBER
33927

SHEET NO.
43 OF 74

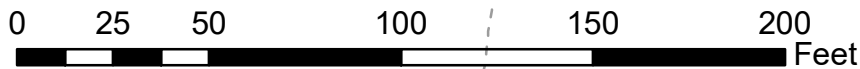
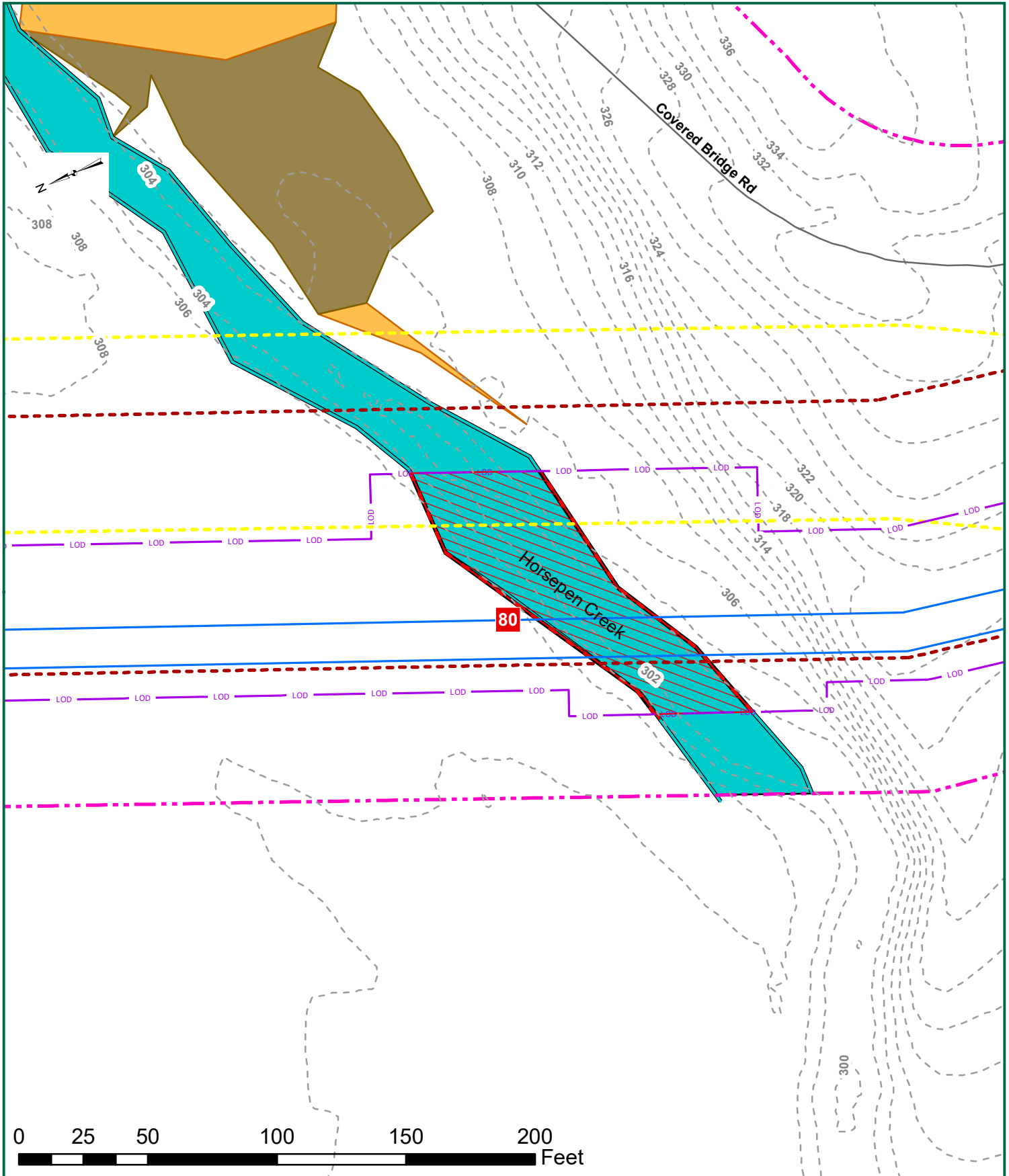
CHECKED BY
T. FREUNINGER

SCALE
1" = 50'

DESIGNED BY
E. MORRIS

DRAWN BY
L. MAJOR

DATE
06/22/2016



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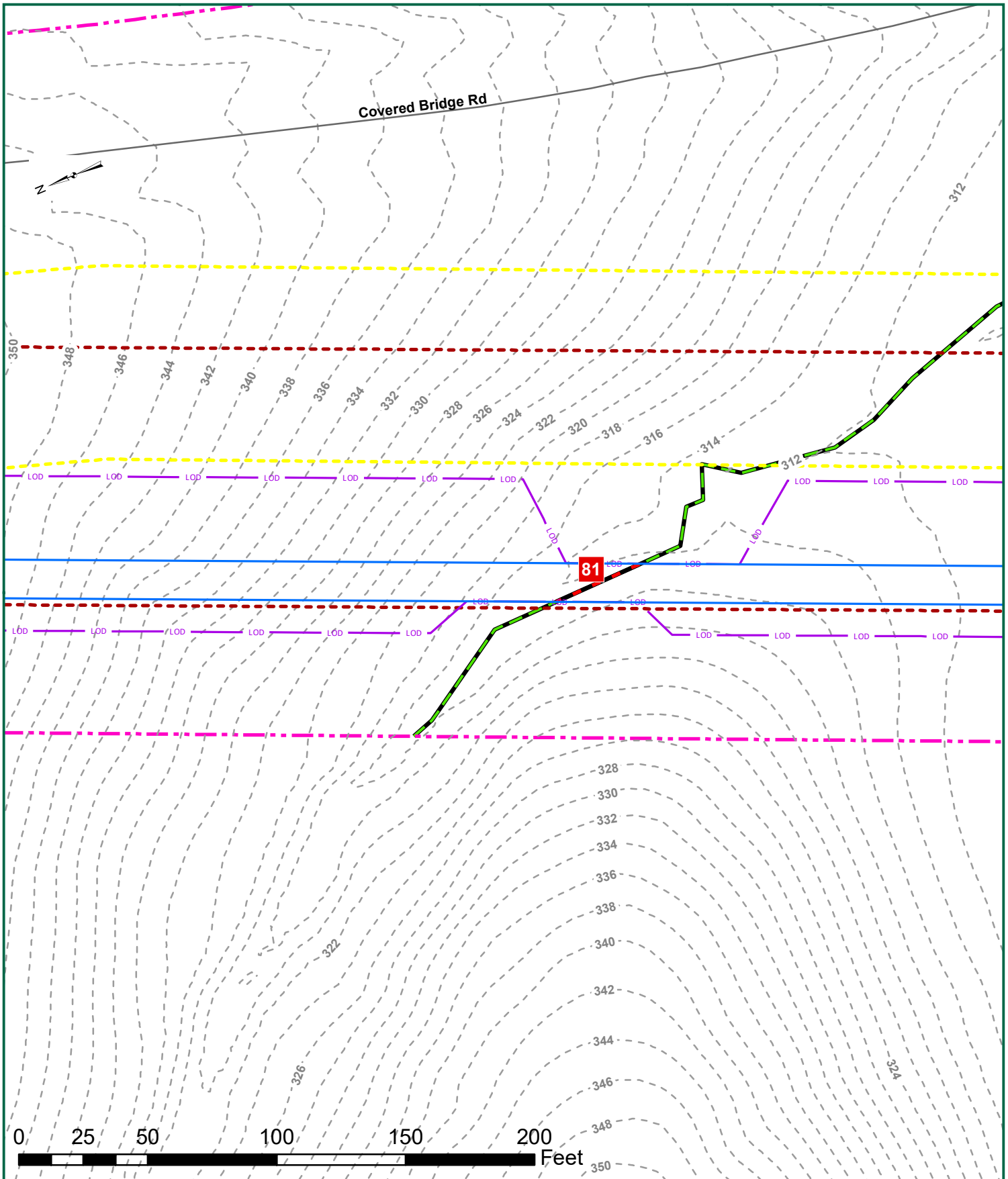
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DESIGNED BY
 E. MORRIS
 CHECKED BY
 T. FREUNINGER
 SCALE
 1" = 50'

DATE	REVISION DESCRIPTION
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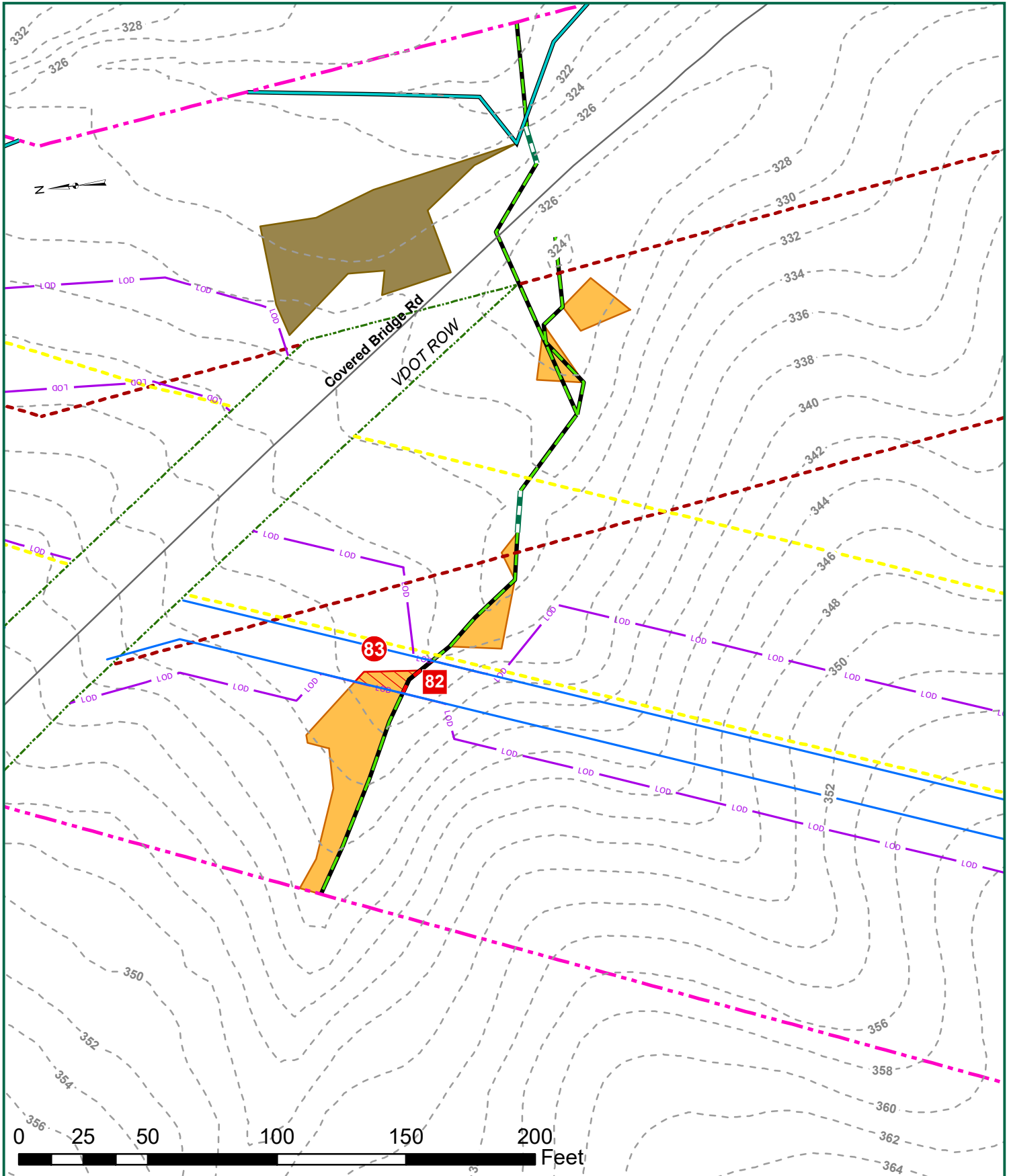
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JOB NUMBER 33927 SHEET NO. 45 OF 74	JAMES RIVER WATER PROJECT	DESIGNED BY E. MORRIS CHECKED BY T. FREUNINGER SCALE 1" = 50'	DATE 06/22/2016	DATE 1/3/17 6/9/17 12/20/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.
	LOUISA & FLUVANNA COUNTY, VIRGINIA		DRAWN BY L. MAJOR	DATE 06/22/2016	DATE 1/3/17 6/9/17 12/20/17

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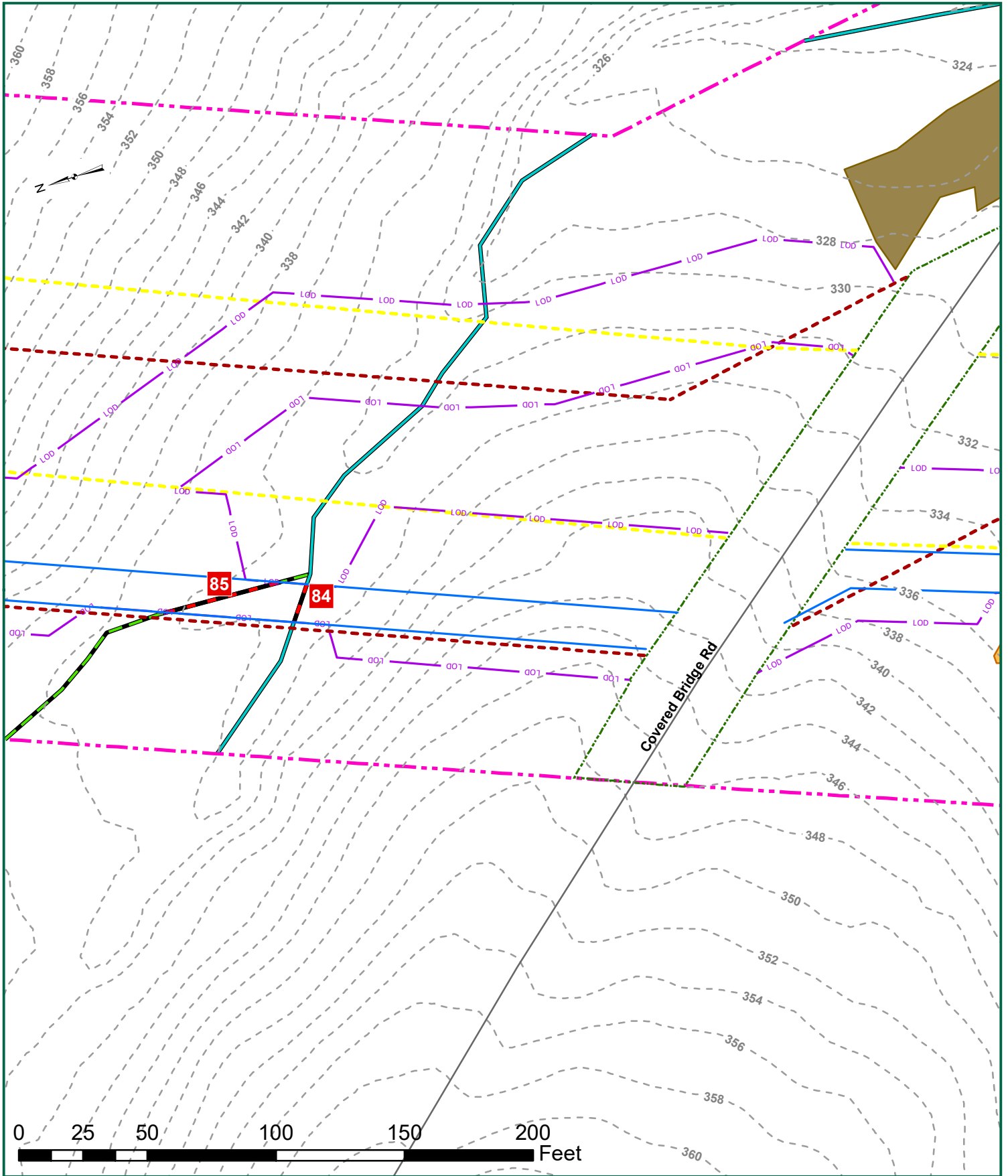
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JOB NUMBER 33927 SHEET NO. 46 OF 74	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA	CHECKED BY T. FREUNINGER SCALE 1" = 80'	DESIGNED BY E. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016	DATE	REVISION DESCRIPTION
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JAMES RIVER WATER PROJECT

LOUISA & FLUVANNA COUNTY, VIRGINIA

DRAWN BY: L. MAJOR
DATE: 06/22/2016

DESIGNED BY: B. MORRIS

CHECKED BY: T. FREUNINGER

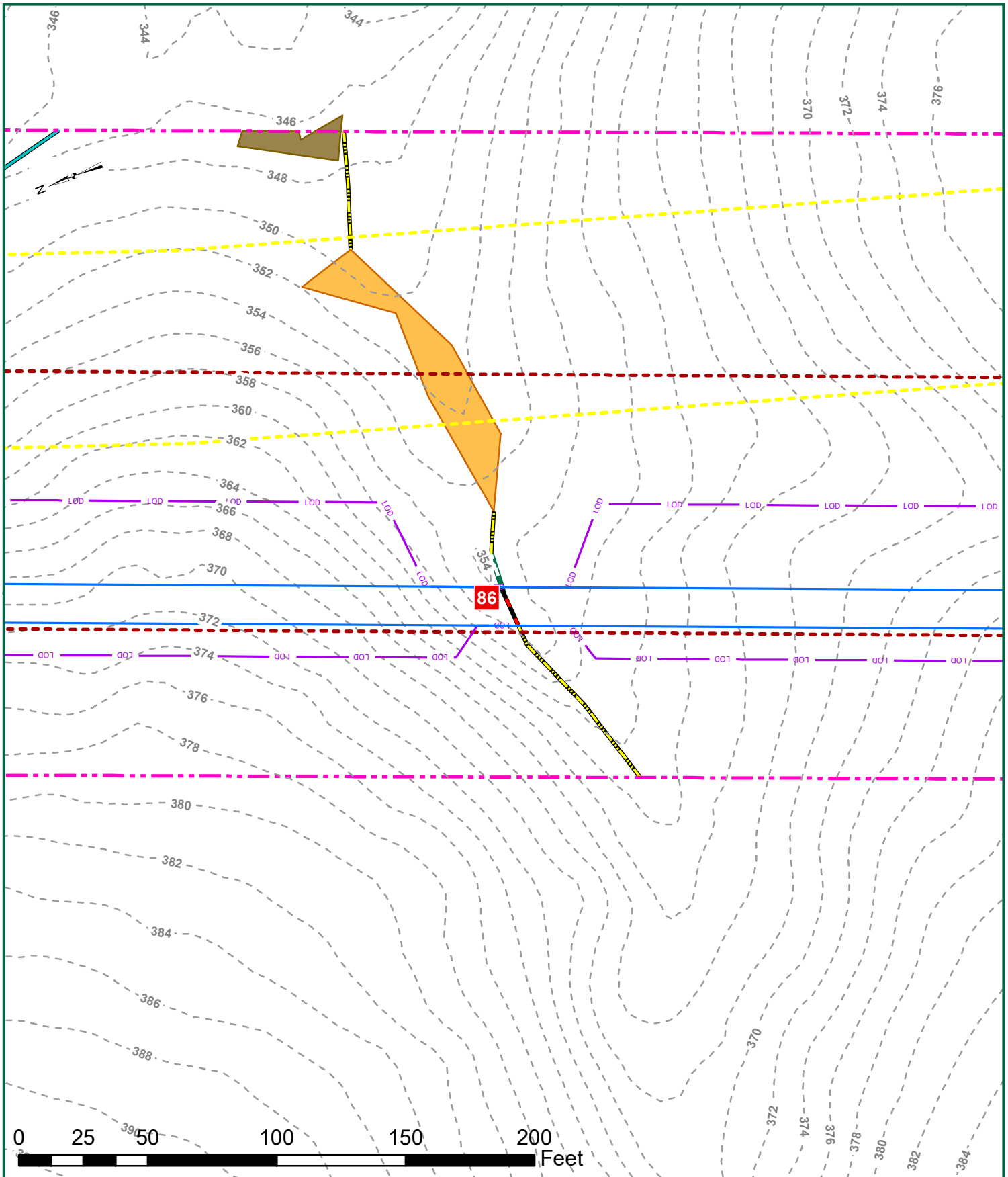
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SHEET NO. 47 OF 74

JOB NUMBER 33927

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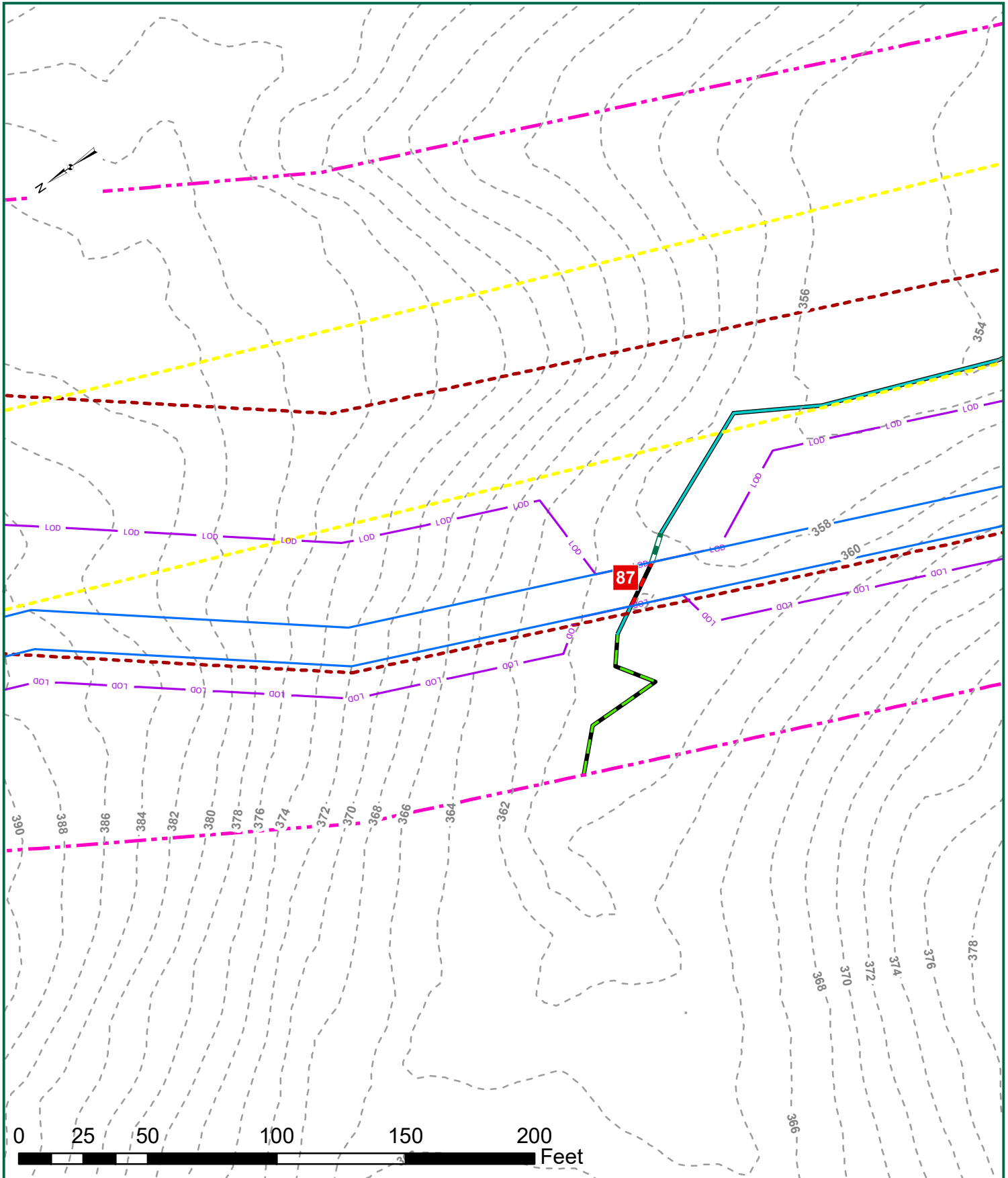
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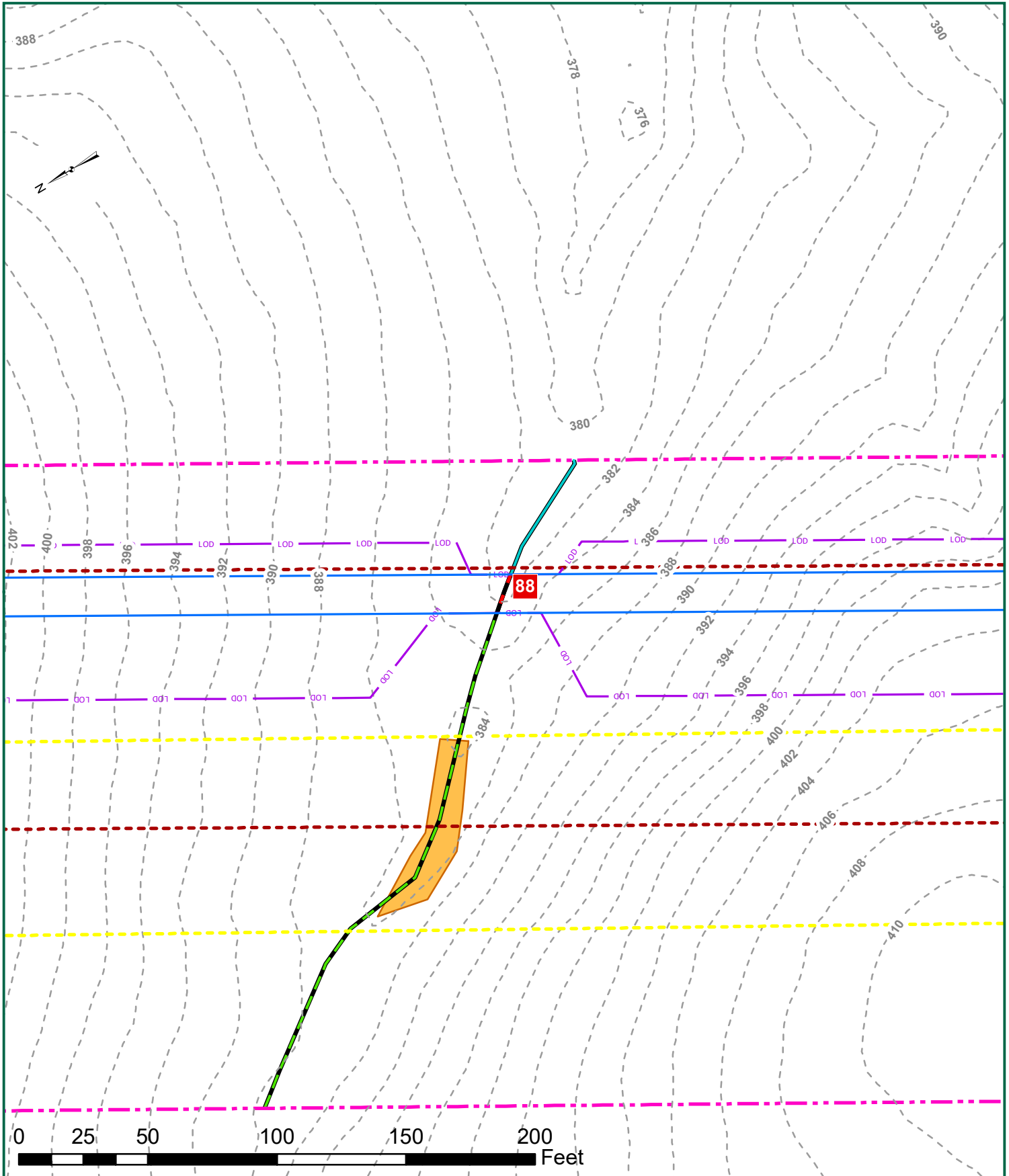
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SHEET NO. 48 OF 74	JOB NUMBER 33927	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="font-size: x-small; margin: 0;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 80'	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	DATE 1/3/17 6/9/17 12/20/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.
		<h3 style="margin: 0;">PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL</h3>						

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<h2>JAMES RIVER WATER PROJECT</h2> <p>LOUISA & FLUVANNA COUNTY, VIRGINIA</p>			DESIGNED BY L. MAJOR	DATE 06/22/2016	REVISION DESCRIPTION
PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL			CHECKED BY T. FREUNINGER	DATE 12/20/17	Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.
JOB NUMBER 33927	SHEET NO. 49 OF 74	SCALE 1" = 50'	DRAWN BY L. MAJOR	DATE 06/22/2016	REVISION DESCRIPTION



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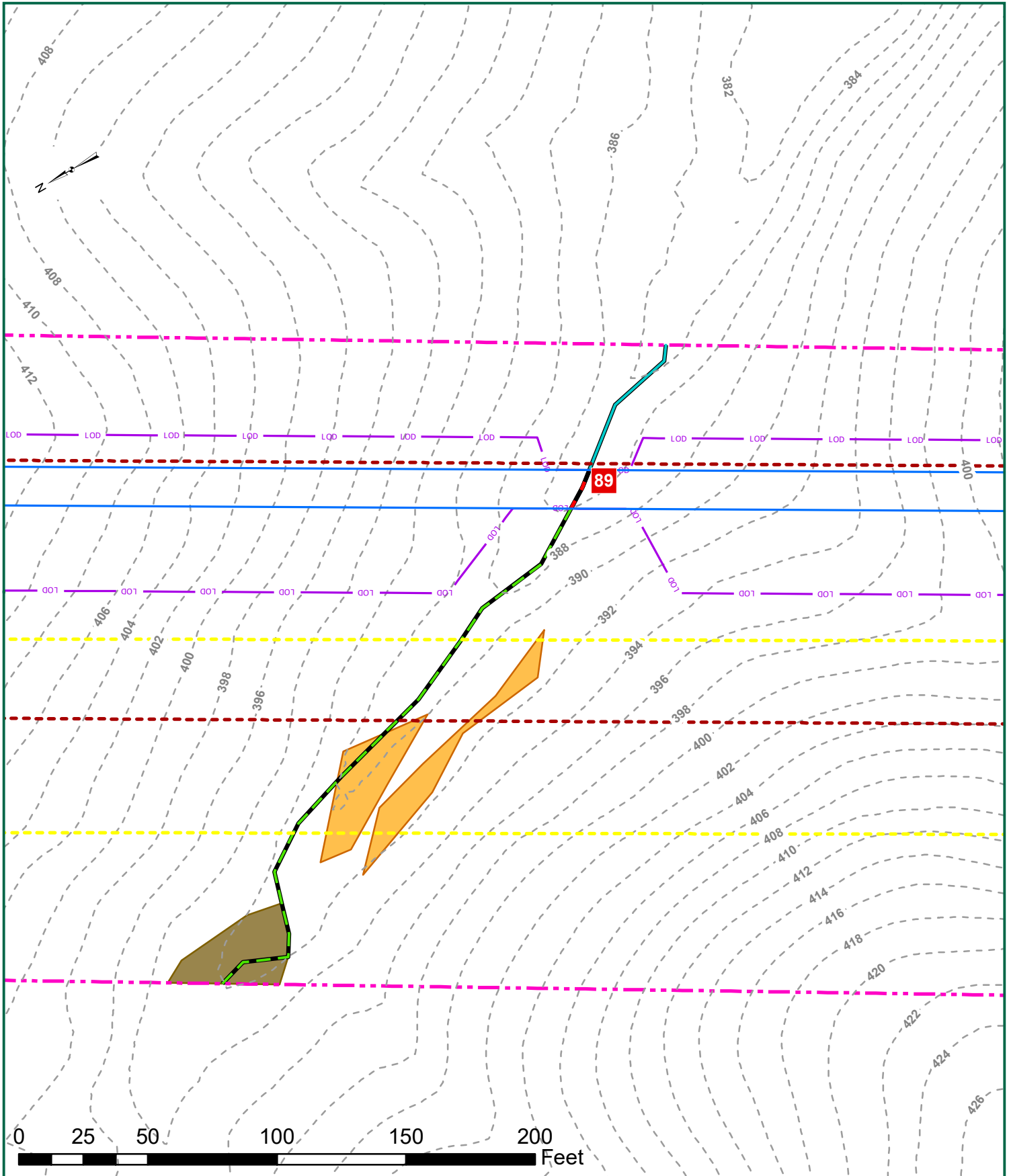
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JOB NUMBER 33927 SHEET NO. 50 OF 74	JAMES RIVER WATER PROJECT	CHECKED BY T. FREUNINGER DESIGNED BY E. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016 SCALE 1" = 50'	DATE 1/3/17 6/9/17 12/20/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.
	LOUISA & FLUVANNA COUNTY, VIRGINIA			
	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL			



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JAMES RIVER WATER PROJECT
 LOUISA & FLUVANNA COUNTY, VIRGINIA

PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL

DESIGNED BY
E. MORRIS

CHECKED BY
T. FREUNINGER

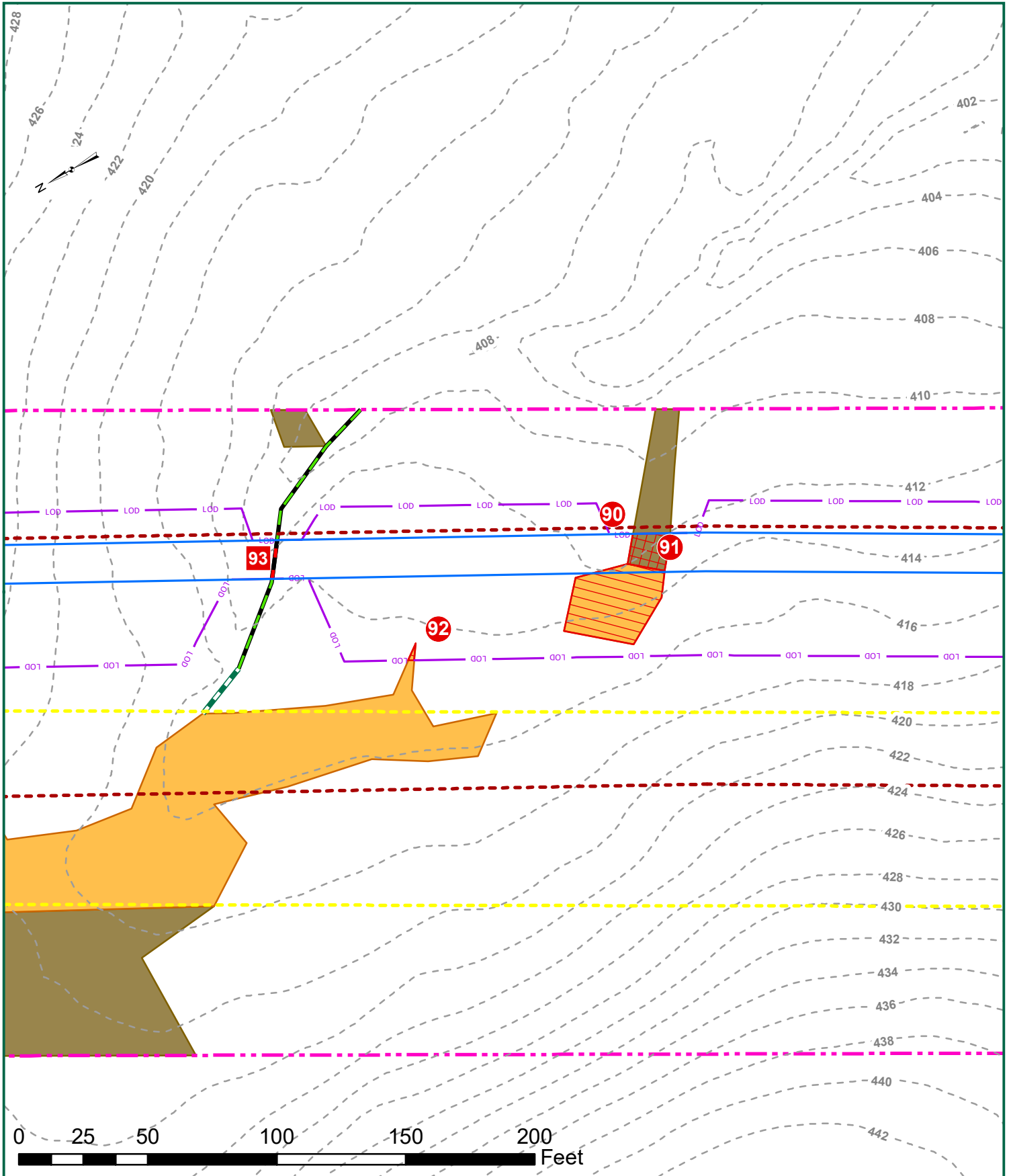
SCALE
1" = 80'

DRAWN BY
L. MAJOR

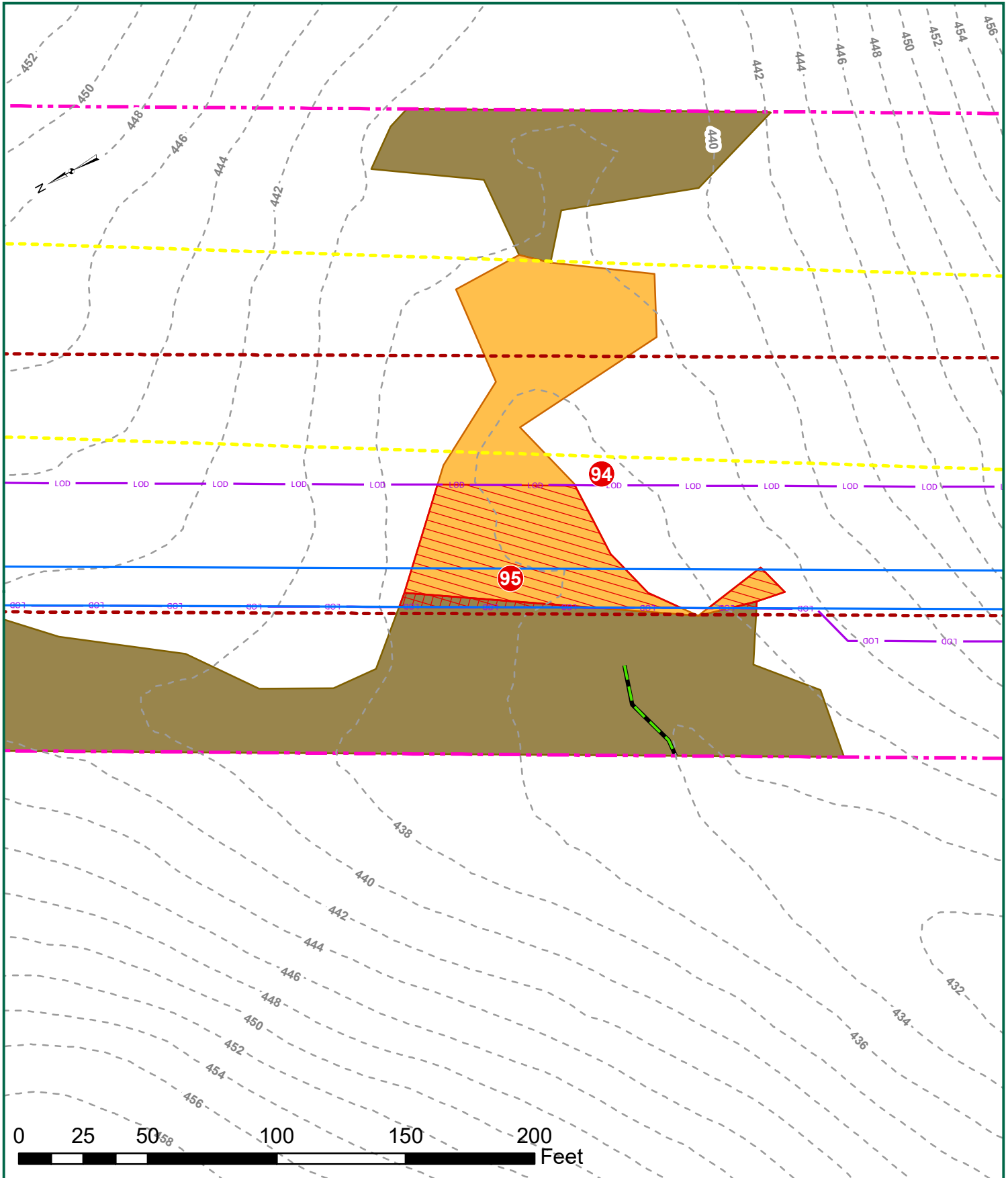
DATE
06/22/2016

DATE	REVISION DESCRIPTION
1/3/17	Impacts updated as a result of edits to the limits of disturbance.
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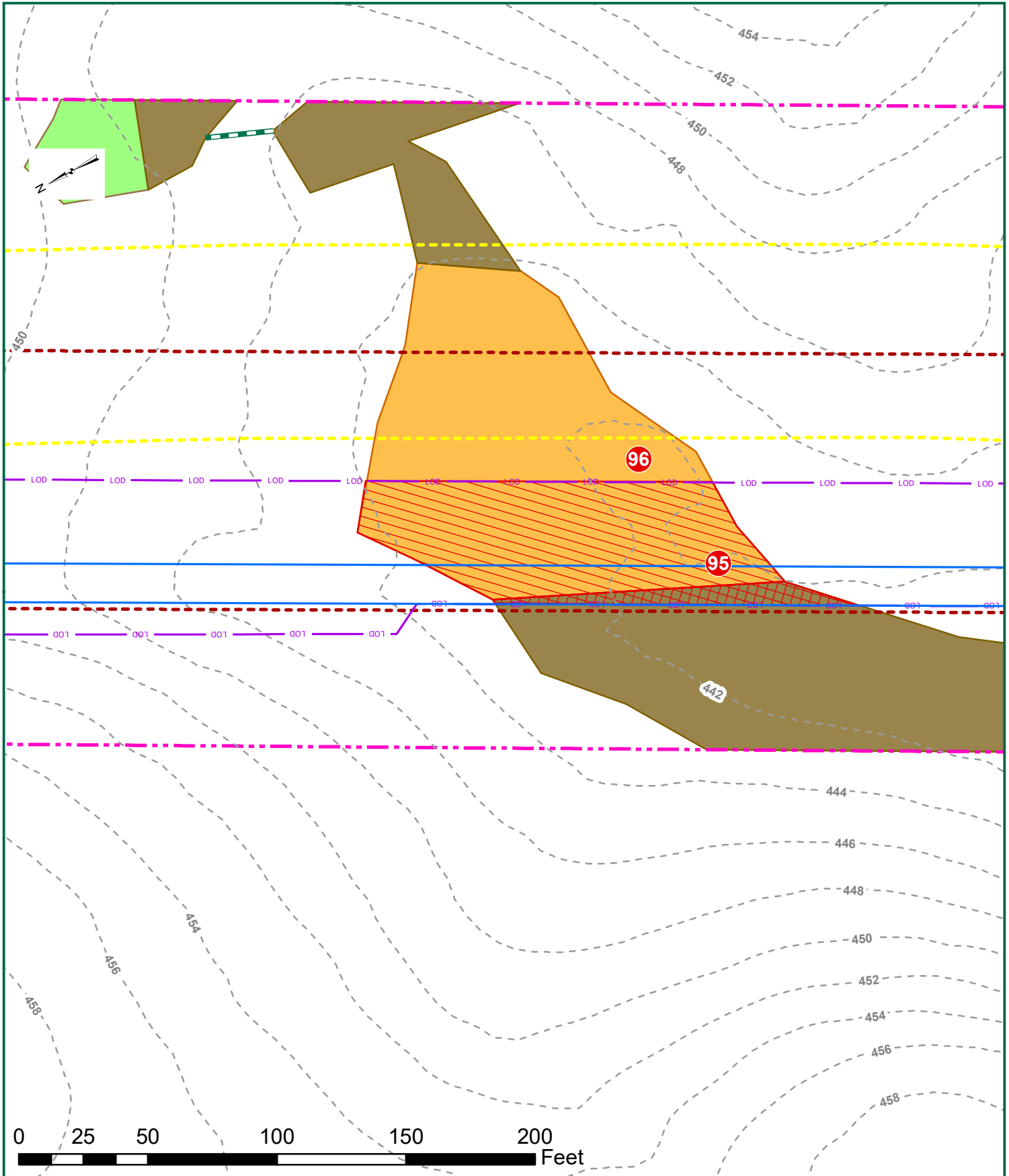
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		Site Development Residential Infrastructure Technology Environmental												
JOB NUMBER 33927 SHEET NO. 52 OF 74	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>			CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY E. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th style="width: 85%;">REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1/3/17</td> <td>Impacts updated as a result of edits to the limits of disturbance.</td> </tr> <tr> <td style="text-align: center;">6/9/17</td> <td>Impacts reduced as a result of reduction to the limits of disturbance.</td> </tr> <tr> <td style="text-align: center;">12/20/17</td> <td>Map updated per impact revisions east of East River Rd.</td> </tr> </tbody> </table>	DATE	REVISION DESCRIPTION	1/3/17	Impacts updated as a result of edits to the limits of disturbance.	6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.	12/20/17	Map updated per impact revisions east of East River Rd.
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PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL														



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SHEET NO. 53 OF 74	JOB NUMBER 33927	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>		CHECKED BY T. FREUNINGER	DESIGNED BY B. MORRIS			
		<h3 style="margin: 0;">PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL</h3>				SCALE 1" = 50'		
		DRAWN BY L. MAJOR	DATE 06/22/2016				DATE 1/3/17	REVISION DESCRIPTION <i>Impacts updated as a result of edits to the limits of disturbance.</i>
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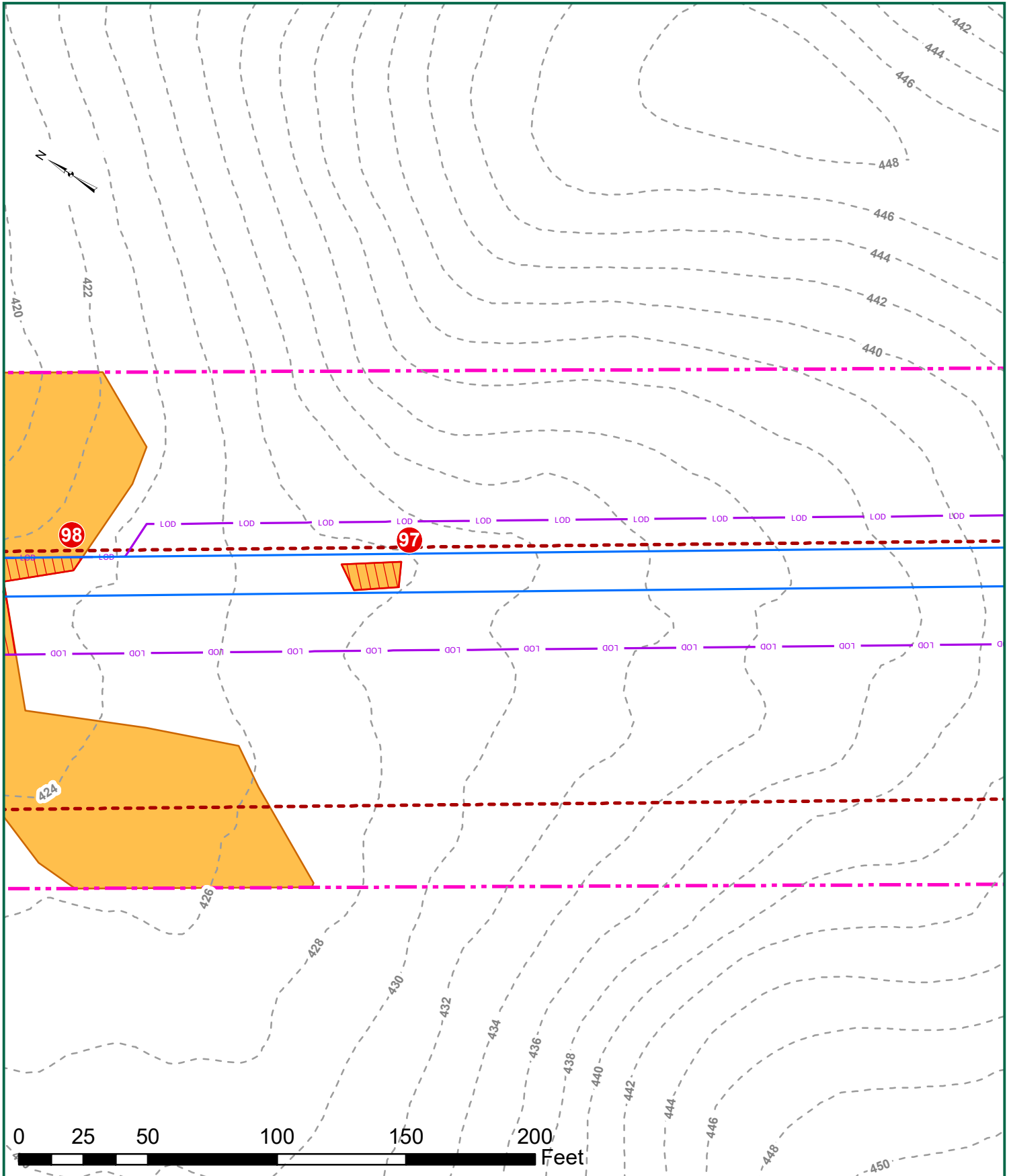
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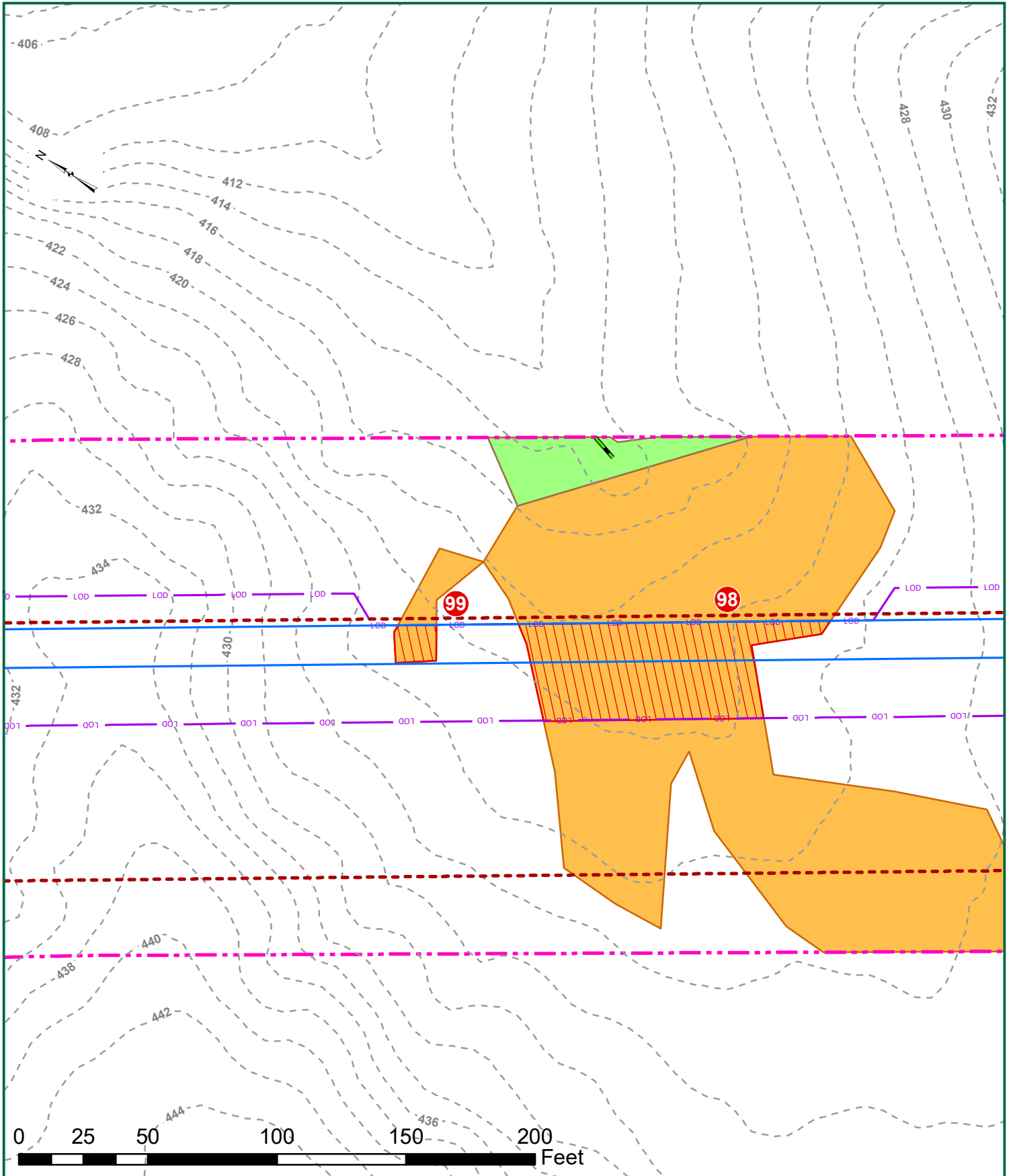
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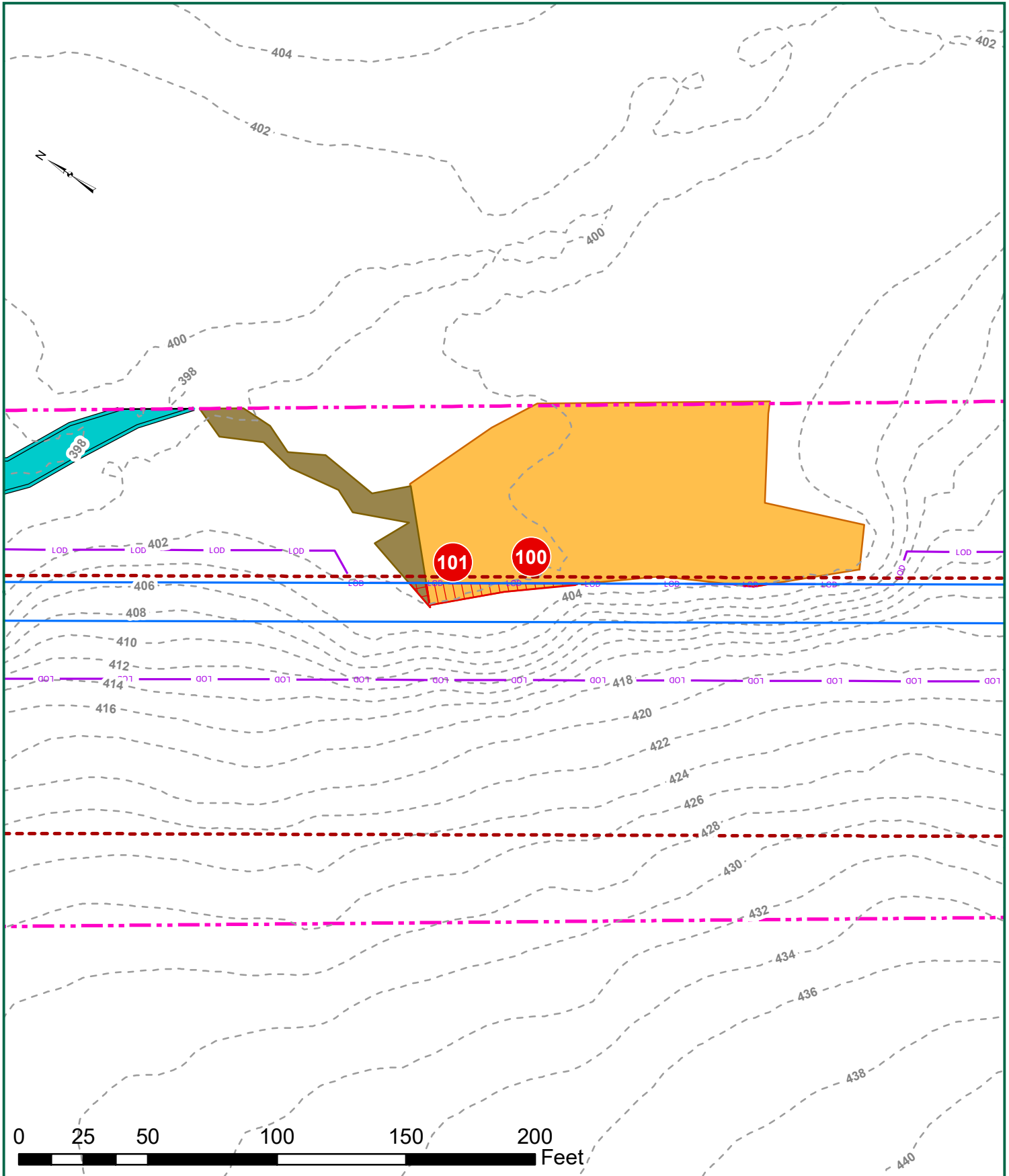
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JOB NUMBER 33927	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	DATE 1/3/17	REVISION DESCRIPTION
SHEET NO. 55 OF 74	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL	SCALE 1" = 50'				6/9/17	Impacts updated as a result of edits to the limits of disturbance.
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<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>			<h3 style="margin: 0;">PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL</h3>		
SHEET NO. 56 OF 74	JOB NUMBER 33927	CHECKED BY T. FREUNINGER	DESIGNED BY B. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016
SCALE 1" = 50'		REVISION DESCRIPTION			
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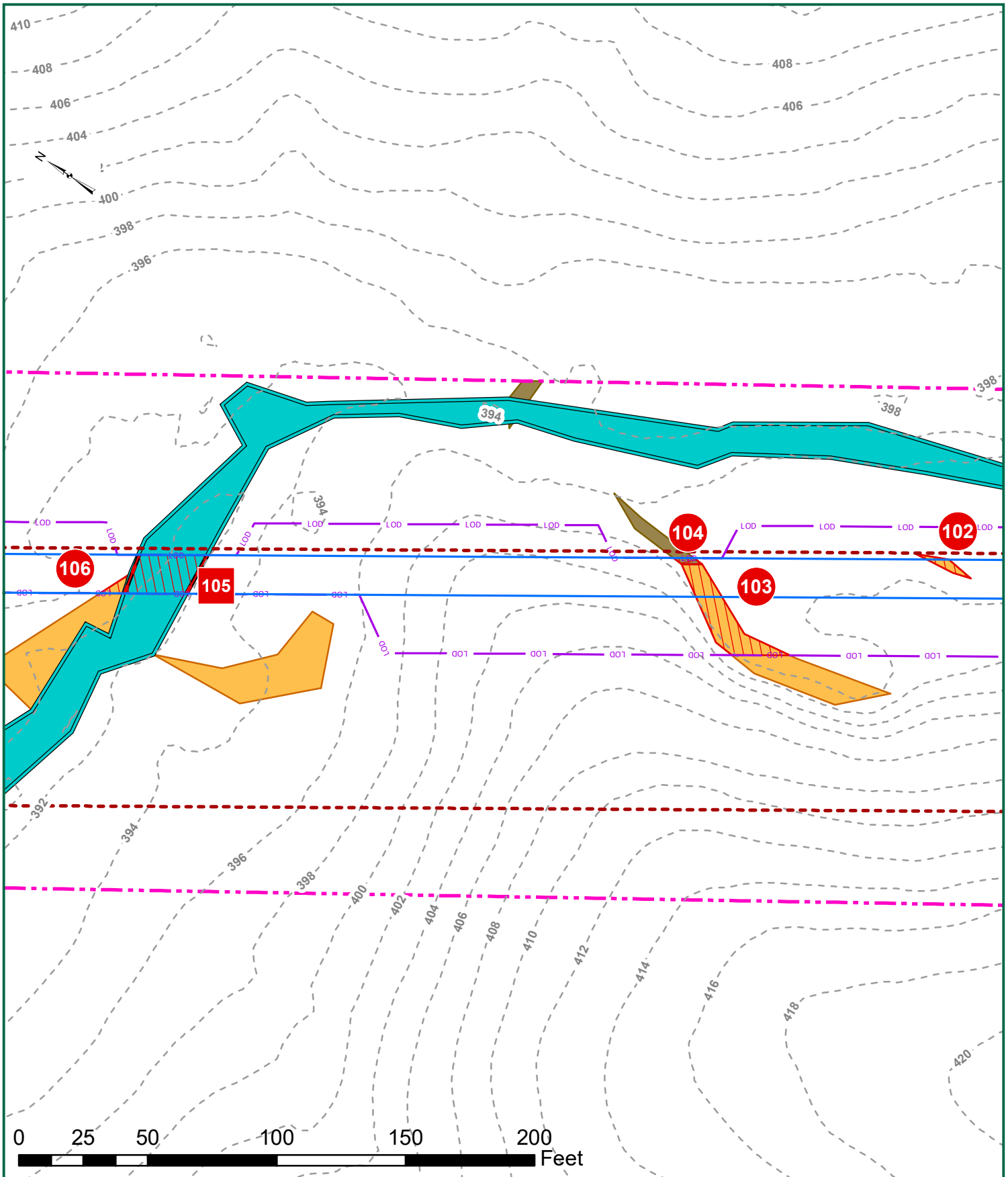
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JOB NUMBER 33927 SHEET NO. 57 OF 74	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p> <h3 style="margin: 0;">PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL</h3>	CHECKED BY T. FREUNINGER SCALE 1" = 80'	DESIGNED BY B. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="font-size: x-small;">DATE</th> <th style="font-size: x-small;">REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td style="font-size: x-small;">1/3/17</td> <td style="font-size: x-small;">Impacts updated as a result of edits to the limits of disturbance</td> </tr> <tr> <td style="font-size: x-small;">6/9/17</td> <td style="font-size: x-small;">Impacts reduced as a result of reduction to the limits of disturbance.</td> </tr> <tr> <td style="font-size: x-small;">12/20/17</td> <td style="font-size: x-small;">Map updated per impact revisions east of East River Rd.</td> </tr> </tbody> </table>	DATE	REVISION DESCRIPTION	1/3/17	Impacts updated as a result of edits to the limits of disturbance	6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.	12/20/17	Map updated per impact revisions east of East River Rd.
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JAMES RIVER WATER PROJECT

LOUISA & FLUVANNA COUNTY, VIRGINIA

CHECKED BY
T. FREUNINGER

DESIGNED BY
E. MORRIS

DRAWN BY
L. MAJOR

DATE
06/22/2016

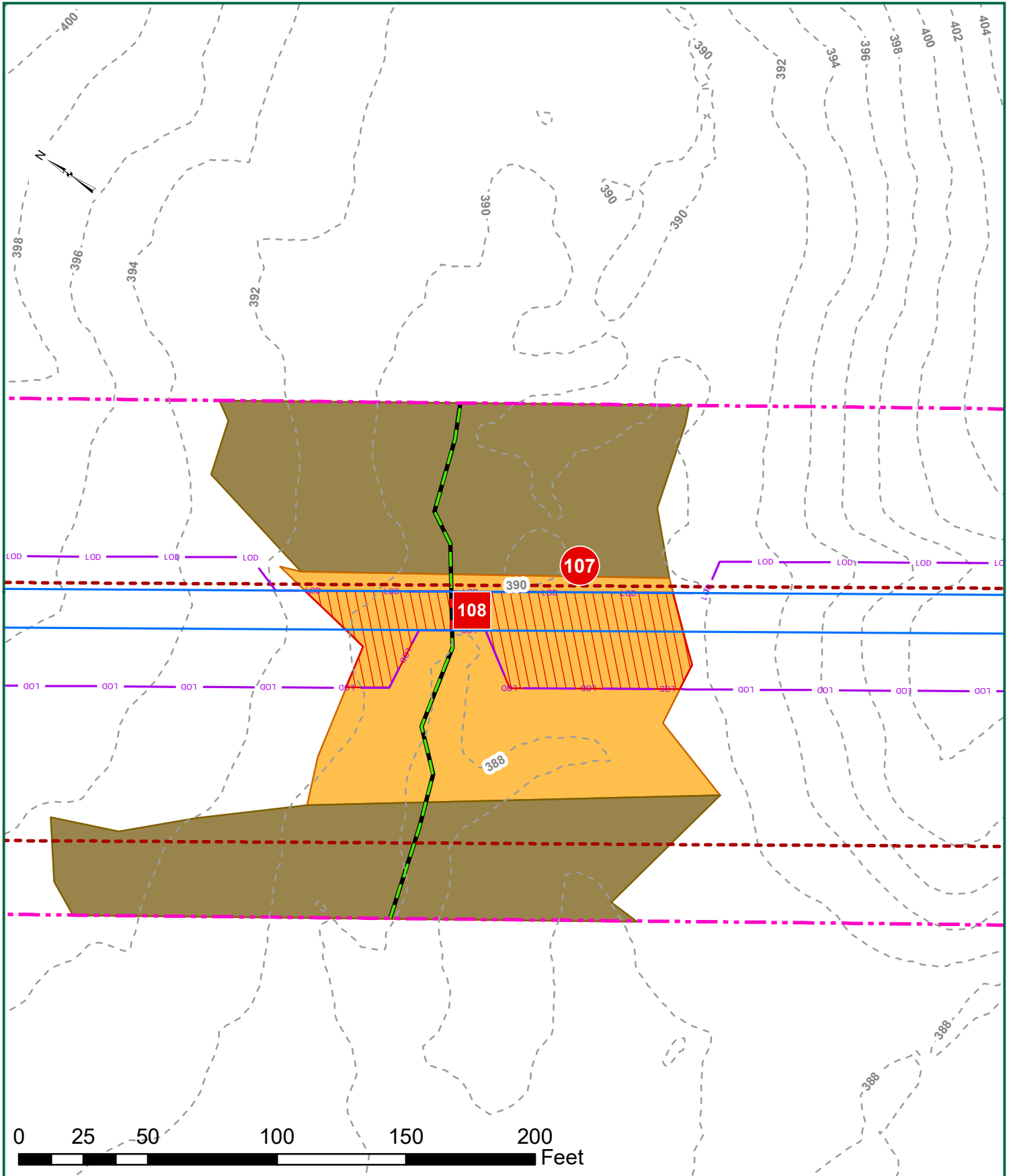
SCALE
1" = 50'

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JOB NUMBER
33927

SHEET NO.
58 OF 74

PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL



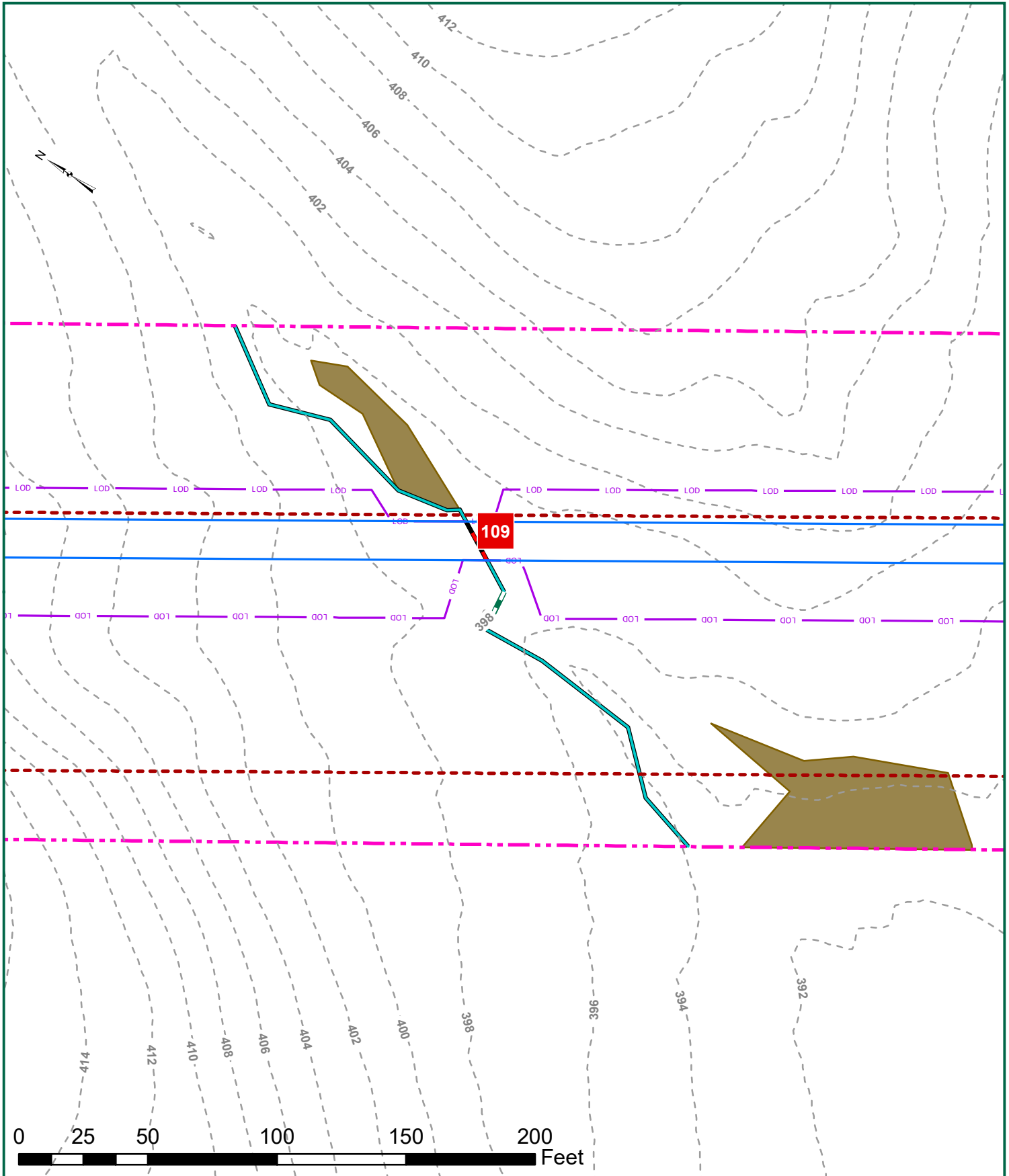
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	LOUISA & FLUVANNA COUNTY, VIRGINIA		DATE 1/3/17	IMPACTS updated as a result of edits to the limits of disturbance		
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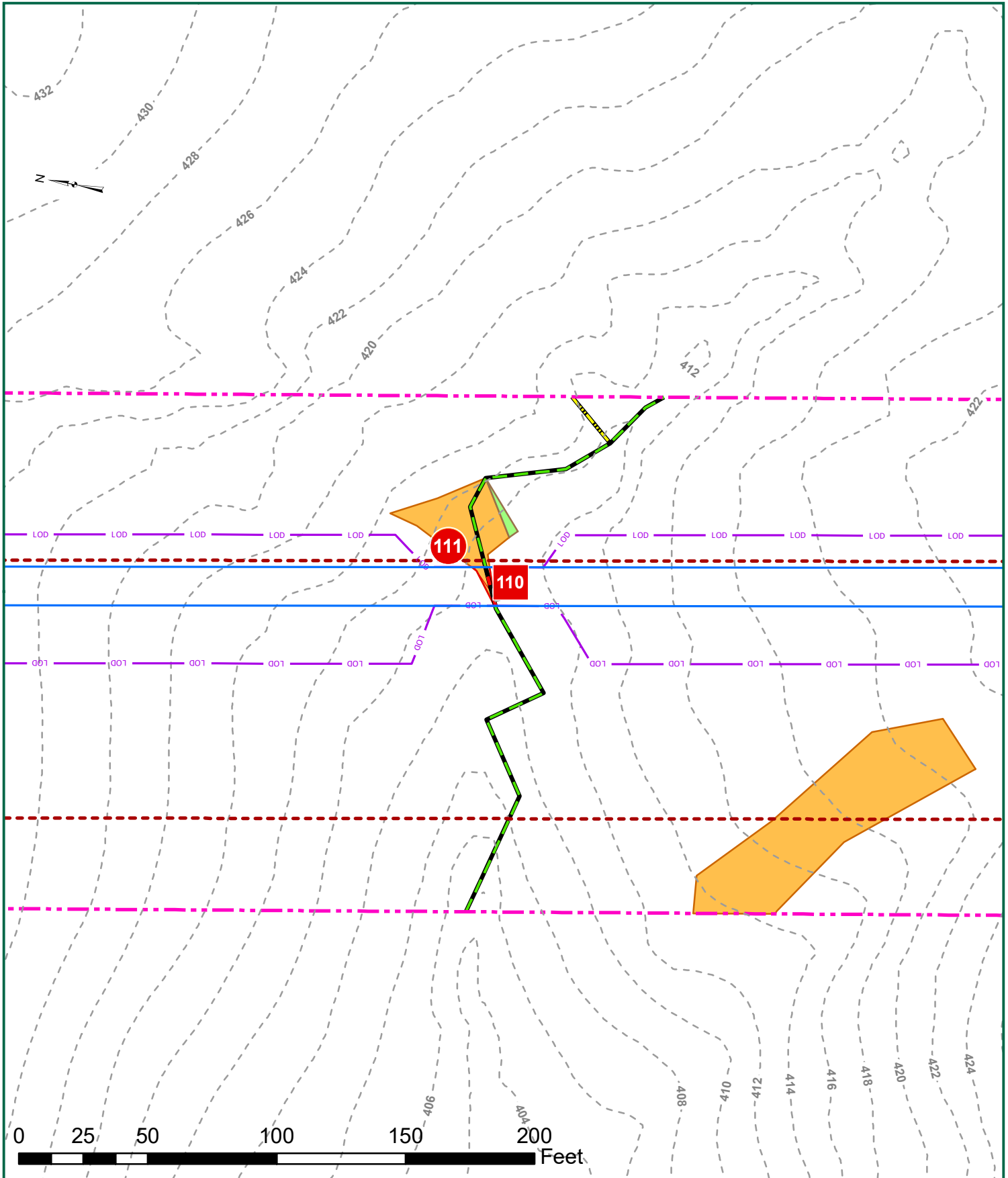
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JOB NUMBER 33927 SHEET NO. 60 OF 74	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	
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JAMES RIVER WATER PROJECT
 LOUISA & FLUVANNA COUNTY, VIRGINIA

PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL

DESIGNED BY
L. MAJOR

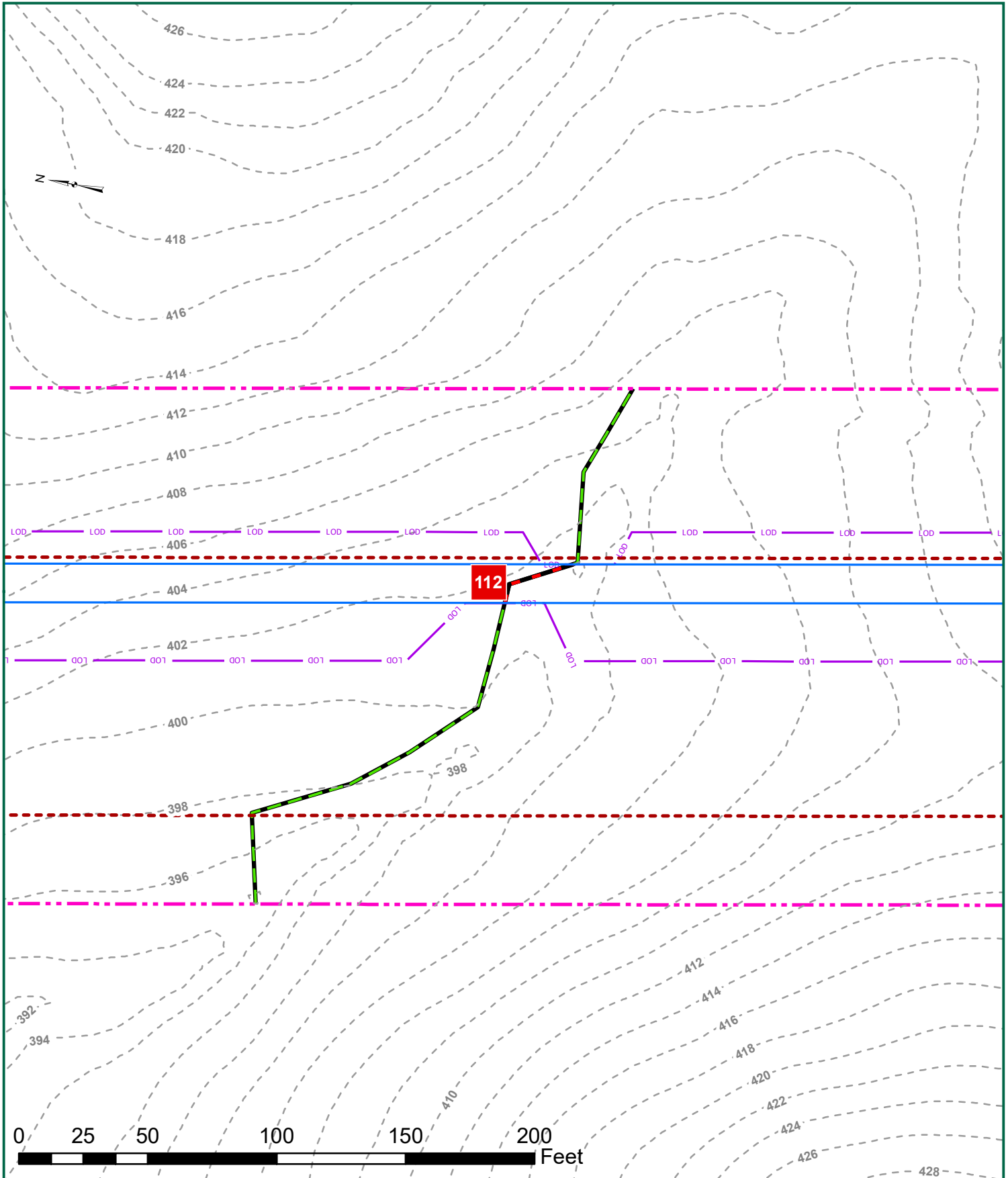
CHECKED BY
T. FREUNINGER

SCALE
1" = 50'

DRAWN BY
L. MAJOR

DATE
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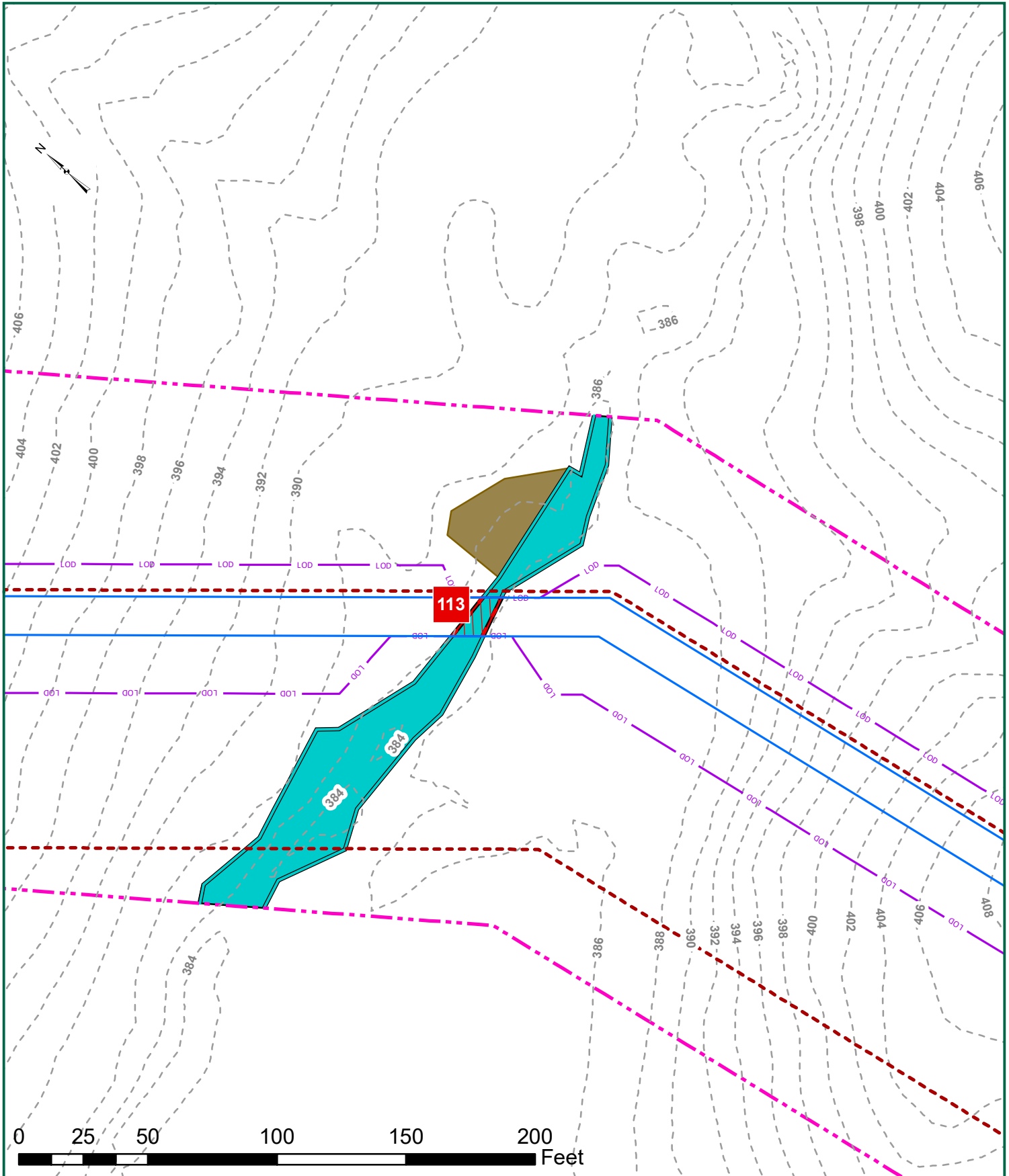
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	LOUISA & FLUVANNA COUNTY, VIRGINIA		DATE 6/9/17	REVISION DESCRIPTION Impacts reduced as a result of reduction to the limits of disturbance.
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	SCALE 1" = 50'			



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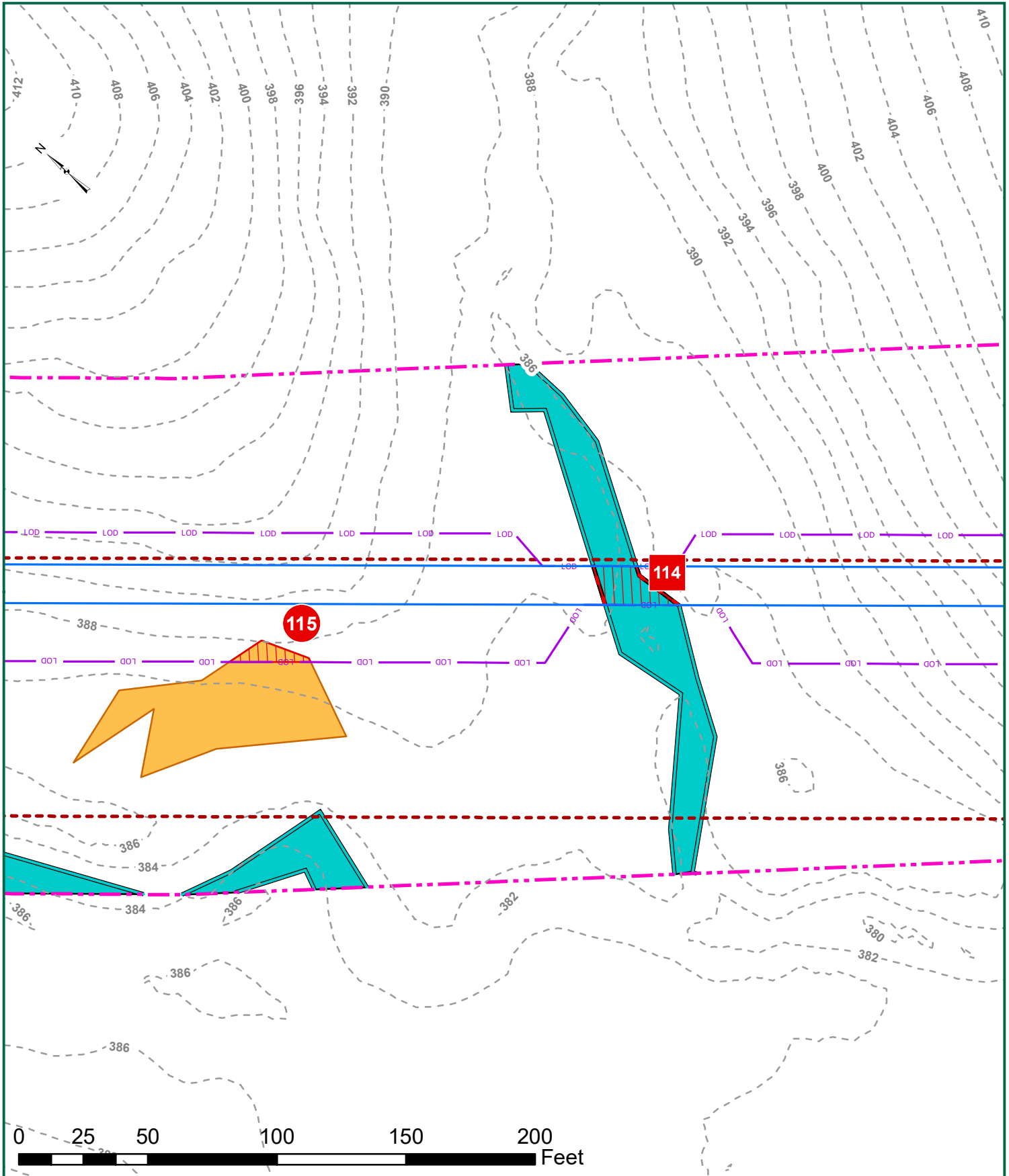
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SHEET NO. 63 OF 74	JOB NUMBER 33927	<h2>JAMES RIVER WATER PROJECT</h2> <p>LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY E. MORRIS DRAWN BY L. MAJOR DATE 06/22/2016	DATE	REVISION DESCRIPTION
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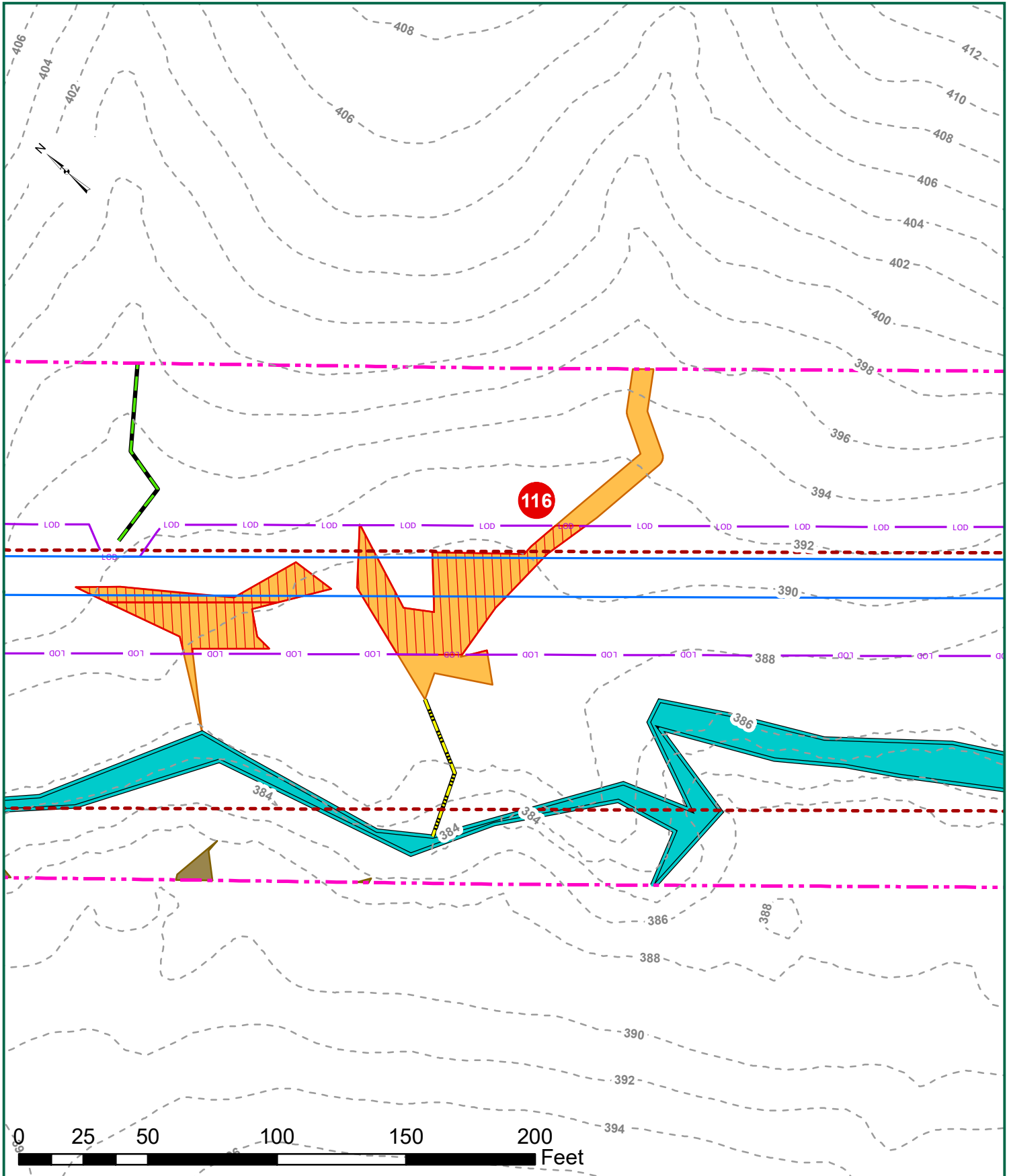
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JAMES RIVER WATER PROJECT		REVISION DESCRIPTION	
LOUISA & FLUVANNA COUNTY, VIRGINIA			
JOB NUMBER 33927	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL	DATE	1/3/17 Impacts updated as a result of edits to the limits of disturbance
SHEET NO. 64 Of 74	SCALE 1" = 50'	DATE	6/9/17 Impacts reduced as a result of reduction to the limits of disturbance.
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	DESIGNED BY E. MORRIS	DATE	
	DRAWN BY L. MAJOR	DATE	
	06/22/2016		

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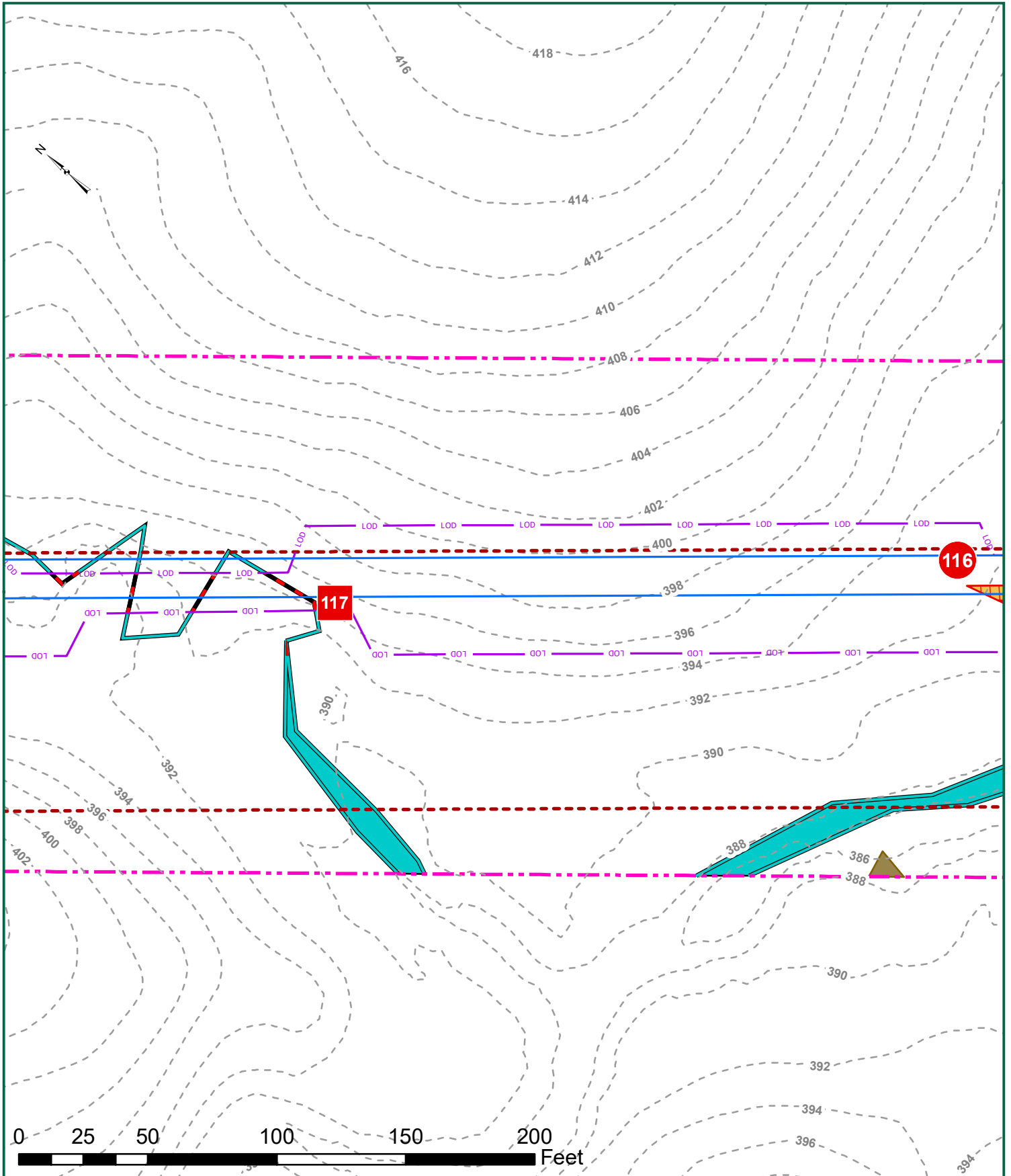
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JOB NUMBER 33927 SHEET NO. 65 OF 74	JAMES RIVER WATER PROJECT		DRAWN BY L. MAJOR DATE 06/22/2016 CHECKED BY T. FREUNINGER DESIGNED BY B. MORRIS SCALE 1" = 50'	DATE	REVISION DESCRIPTION
	LOUISA & FLUVANNA COUNTY, VIRGINIA			1/3/17	Impacts updated as a result of edits to the limits of disturbance
	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL			6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.
				12/20/17	Map updated per impact revisions east of East River Rd.

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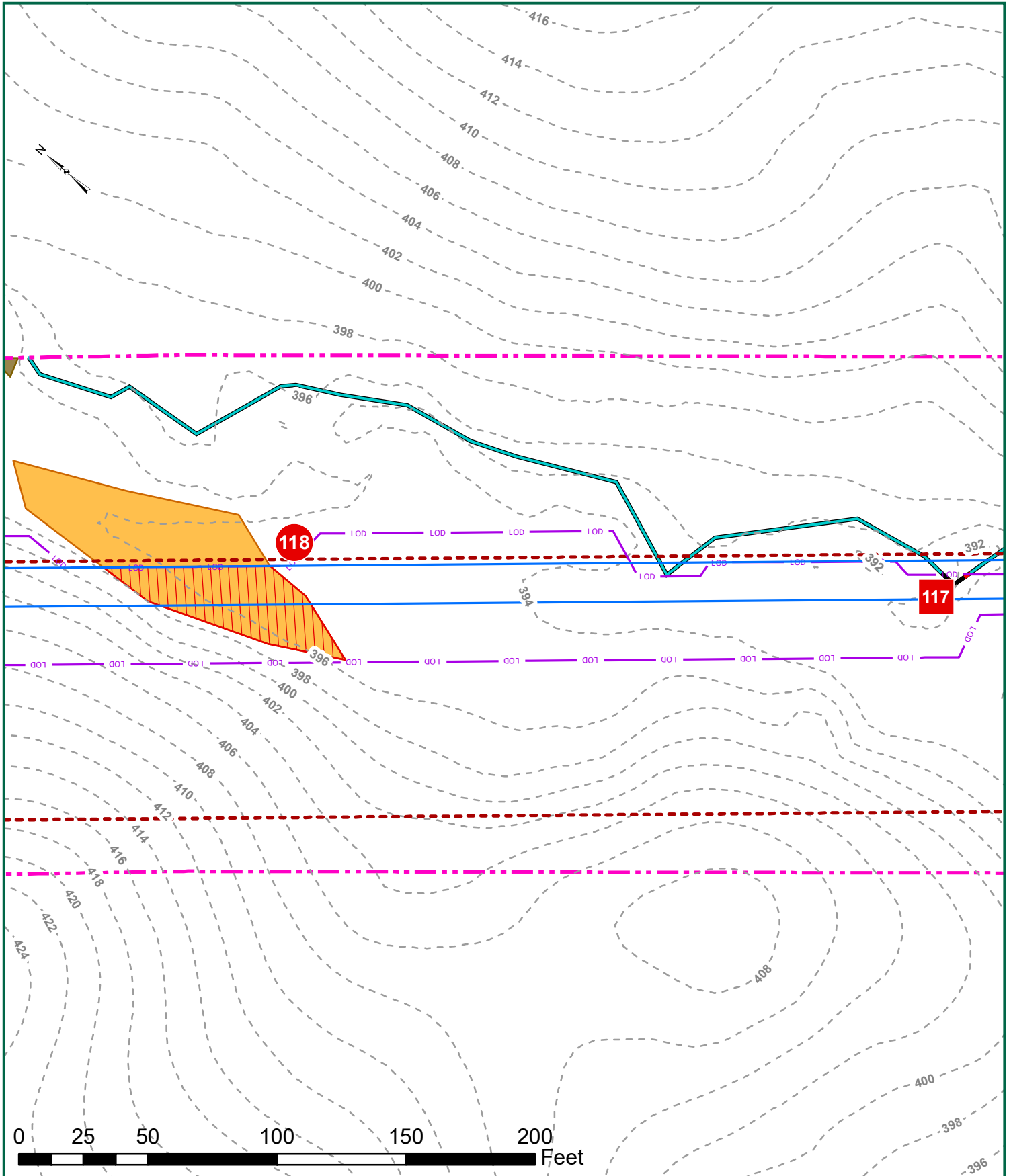
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JOB NUMBER 33927 SHEET NO. 66 OF 74	JAMES RIVER WATER PROJECT	SCALE 1" = 50'	CHECKED BY T. FREUNINGER	DESIGNED BY B. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	DATE 1/3/17 6/9/17 12/20/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.	
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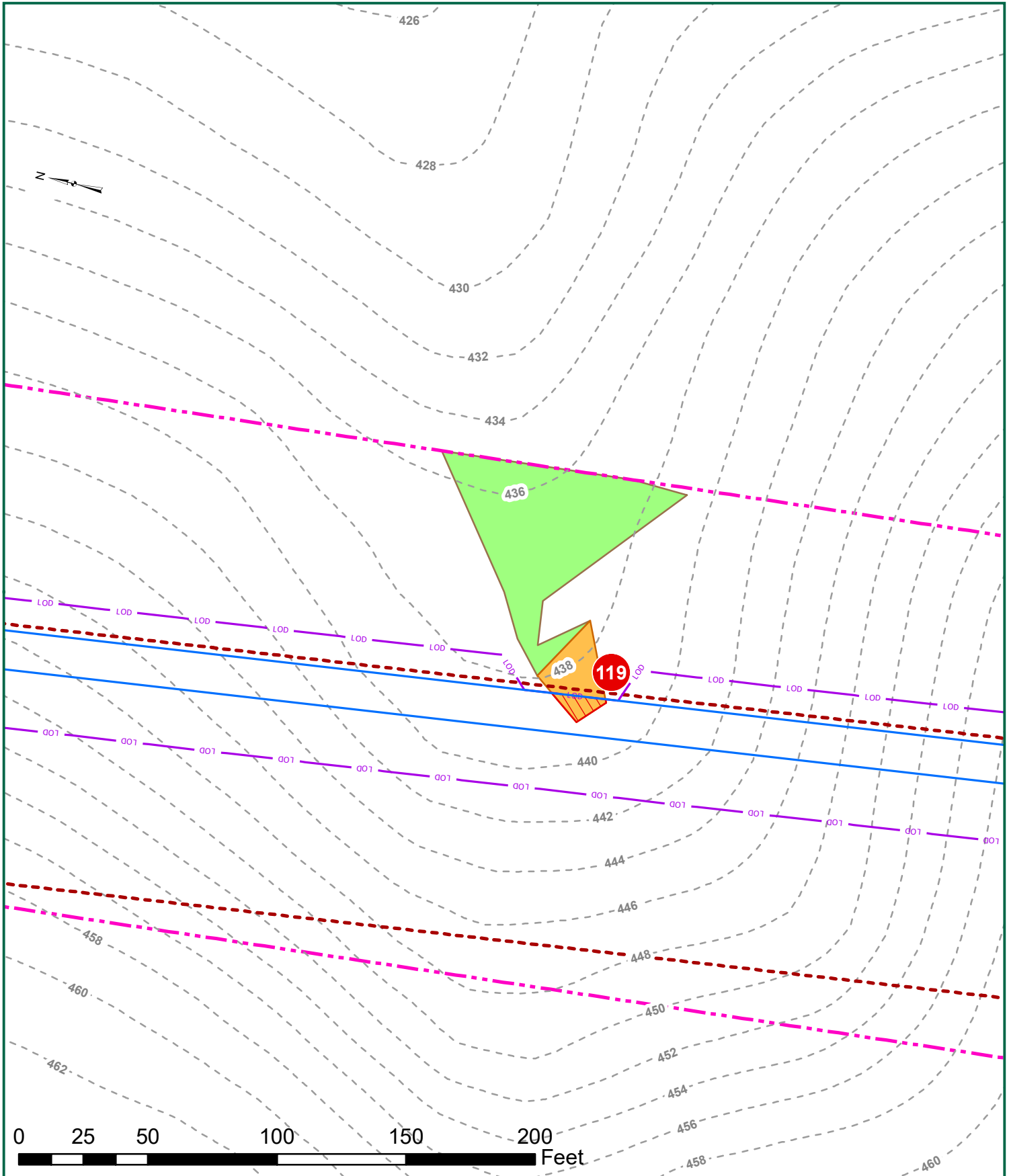
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JOB NUMBER 33927	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER	DESIGNED BY B. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016								
SHEET NO. 67 OF 74	PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL	SCALE 1" = 50'	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th>REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td style="font-size: x-small;">1/3/17</td> <td style="font-size: x-small;">Impacts updated as a result of edits to the limits of disturbance.</td> </tr> <tr> <td style="font-size: x-small;">6/9/17</td> <td style="font-size: x-small;">Impacts reduced as a result of reduction to the limits of disturbance.</td> </tr> <tr> <td style="font-size: x-small;">12/20/17</td> <td style="font-size: x-small;">Map updated per impact revisions east of East River Rd.</td> </tr> </tbody> </table>			DATE	REVISION DESCRIPTION	1/3/17	Impacts updated as a result of edits to the limits of disturbance.	6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.	12/20/17	Map updated per impact revisions east of East River Rd.
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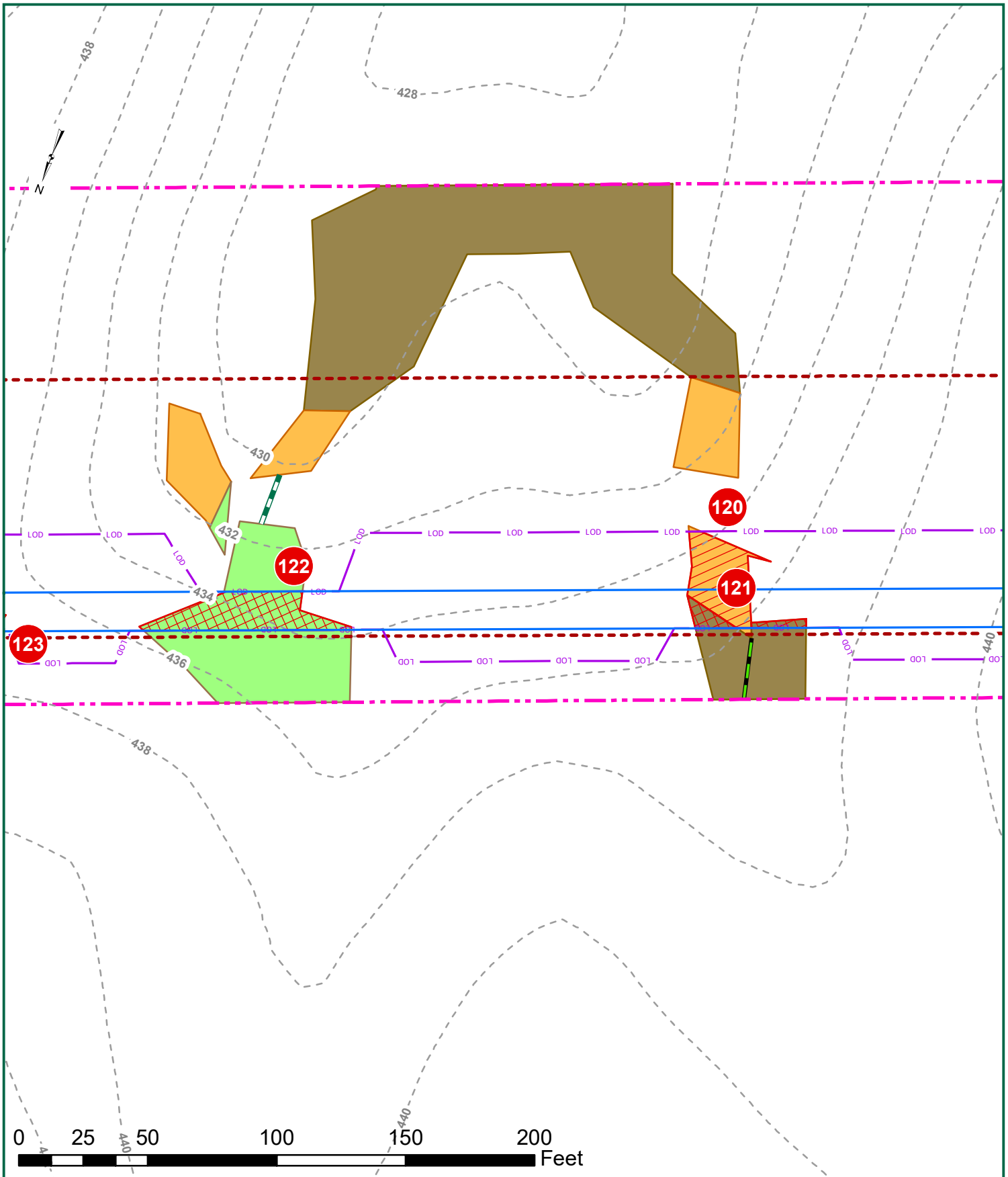
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JOB NUMBER 33927 SHEET NO. 68 OF 74	JAMES RIVER WATER PROJECT LOUISA & FLUVANNA COUNTY, VIRGINIA	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR DATE 06/22/2016	DATE 1/3/17	REVISION DESCRIPTION
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JAMES RIVER WATER PROJECT

LOUISA & FLUVANNA COUNTY, VIRGINIA

CHECKED BY
T. FREUNINGER

DESIGNED BY
B. MORRIS

DRAWN BY
L. MAJOR

DATE
06/22/2016

SCALE
1" = 50'

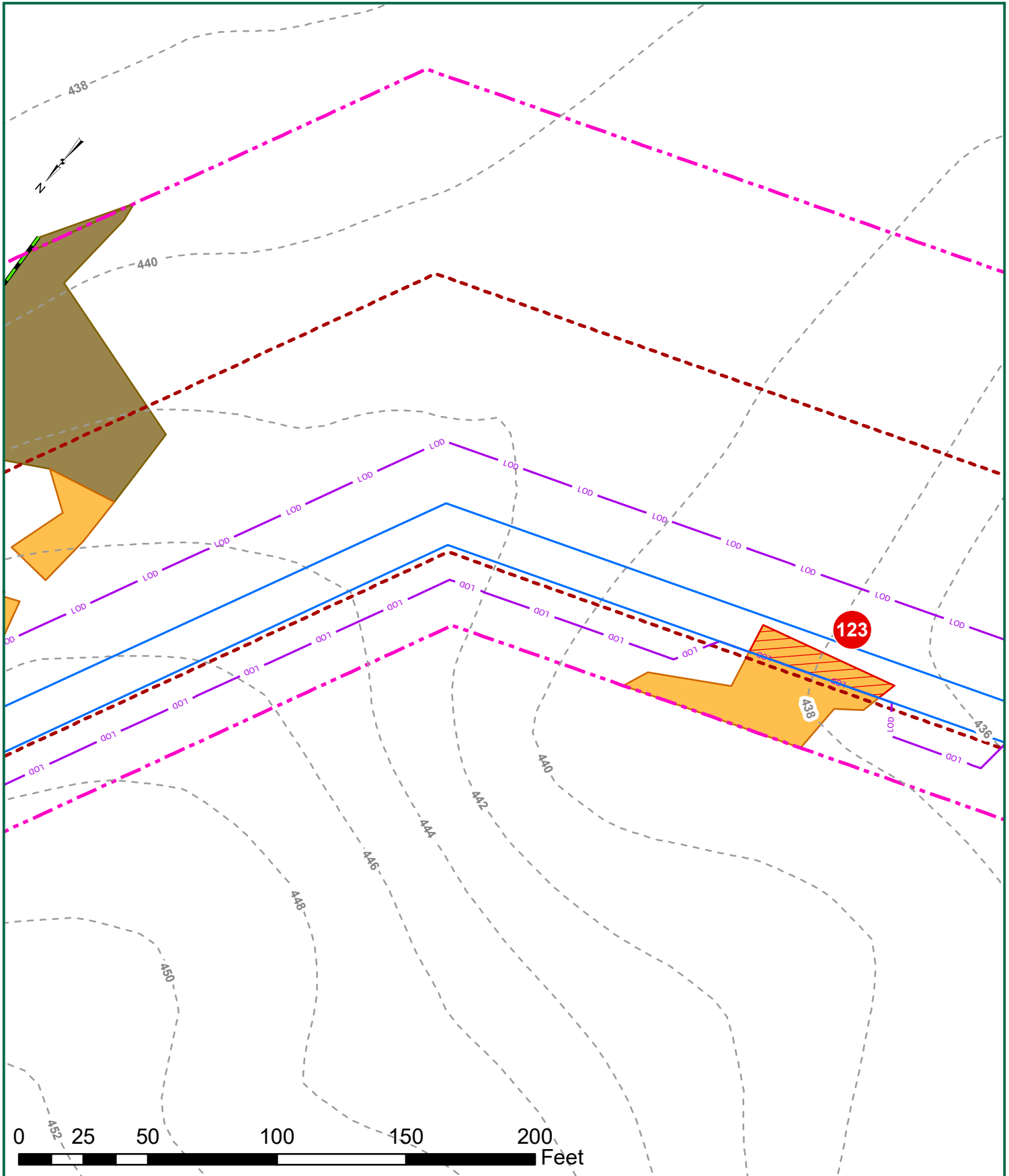
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JOB NUMBER
33927

SHEET NO.
69 OF 74

PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL

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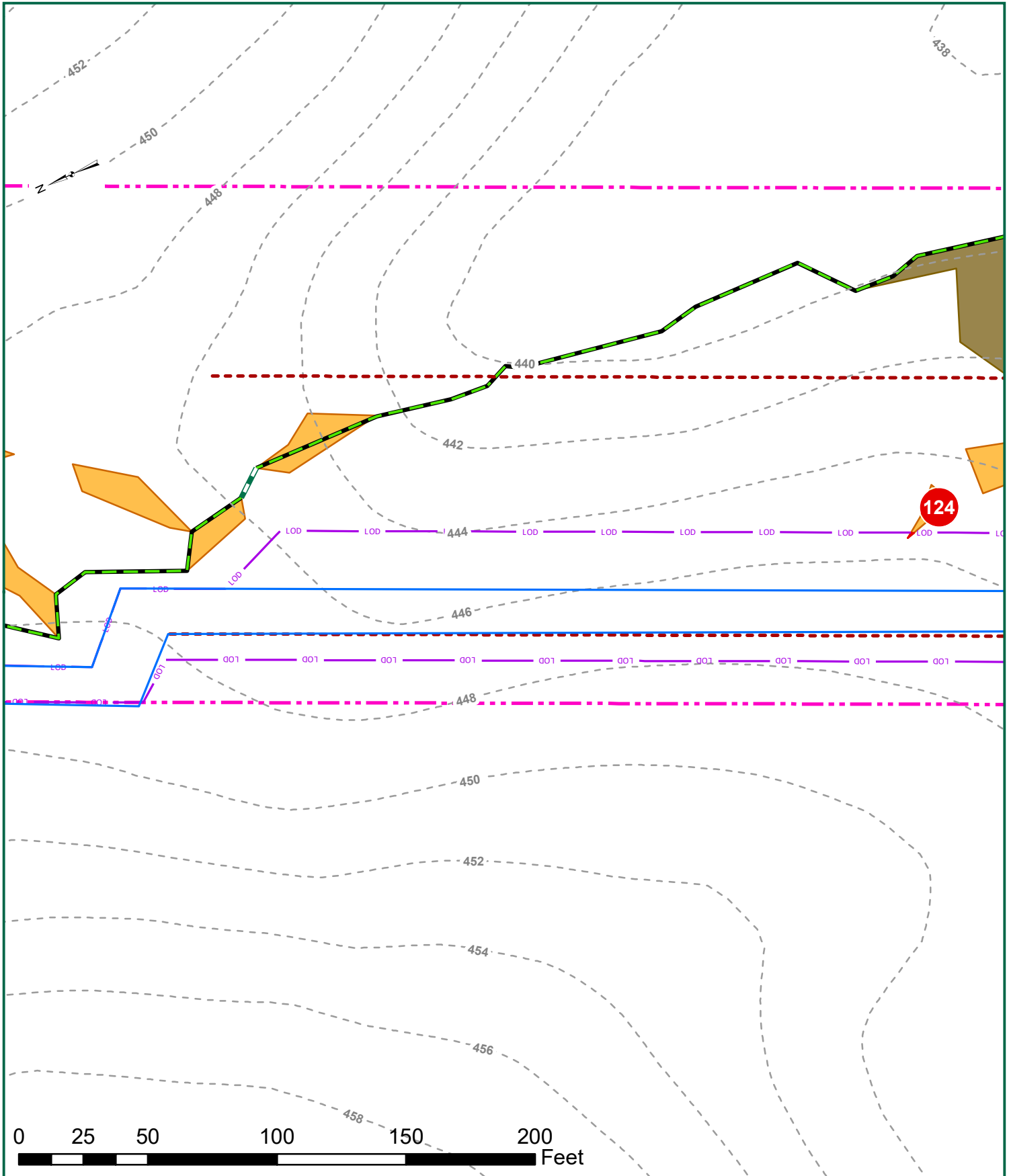
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JOB NUMBER 33927 SHEET NO. 70 OF 74	JAMES RIVER WATER PROJECT	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY E. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	DATE 1/3/17 6/9/17 12/20/17	REVISION DESCRIPTION Impacts updated as a result of edits to the limits of disturbance. Impacts reduced as a result of reduction to the limits of disturbance. Map updated per impact revisions east of East River Rd.	
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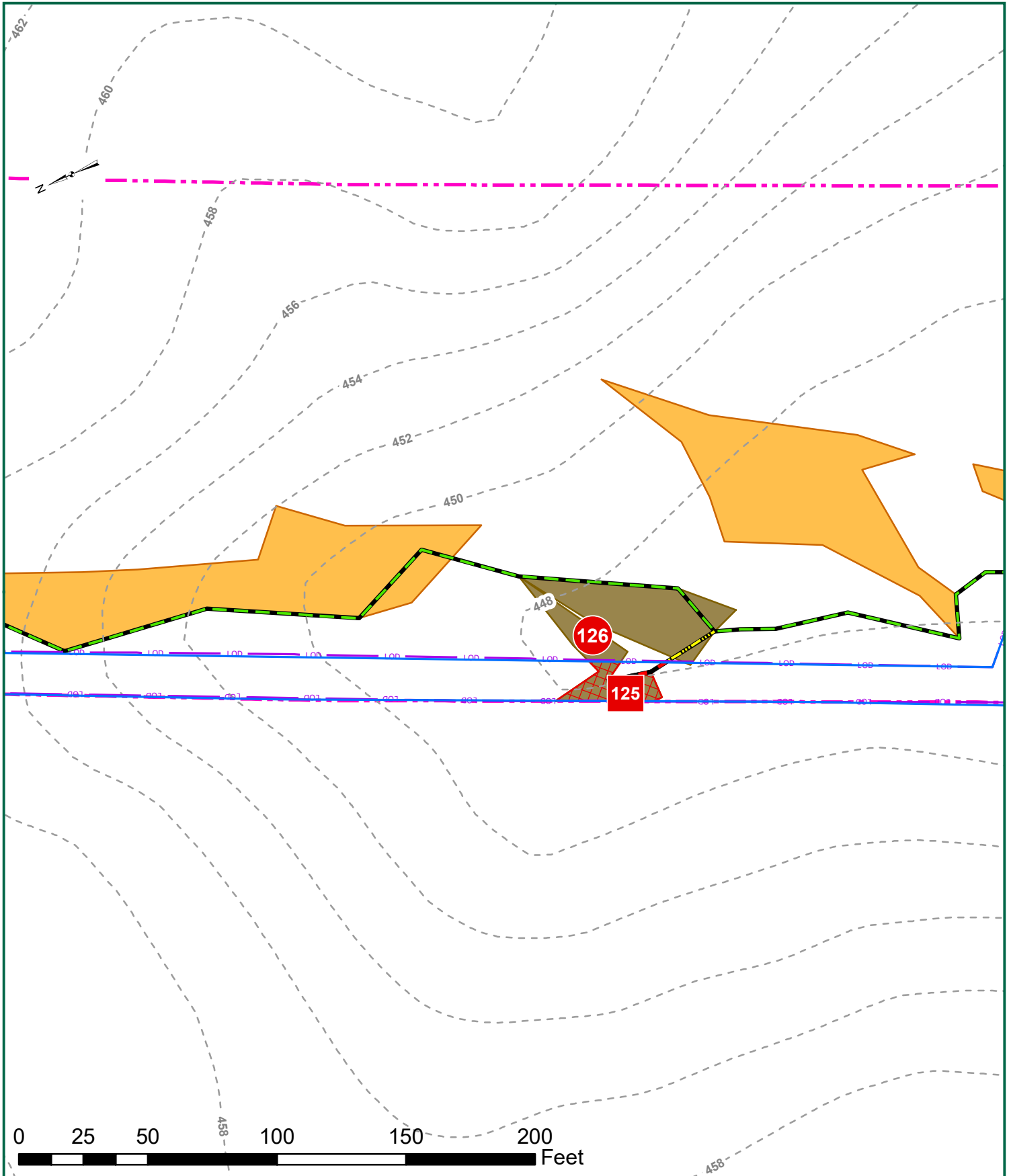
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SHEET NO. 71 OF 74	JOB NUMBER 33927	<h2>JAMES RIVER WATER PROJECT</h2> <p>LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 80'	DESIGNED BY B. MORRIS	DRAWN BY L. MAJOR	DATE 06/22/2016	REVISION DESCRIPTION	
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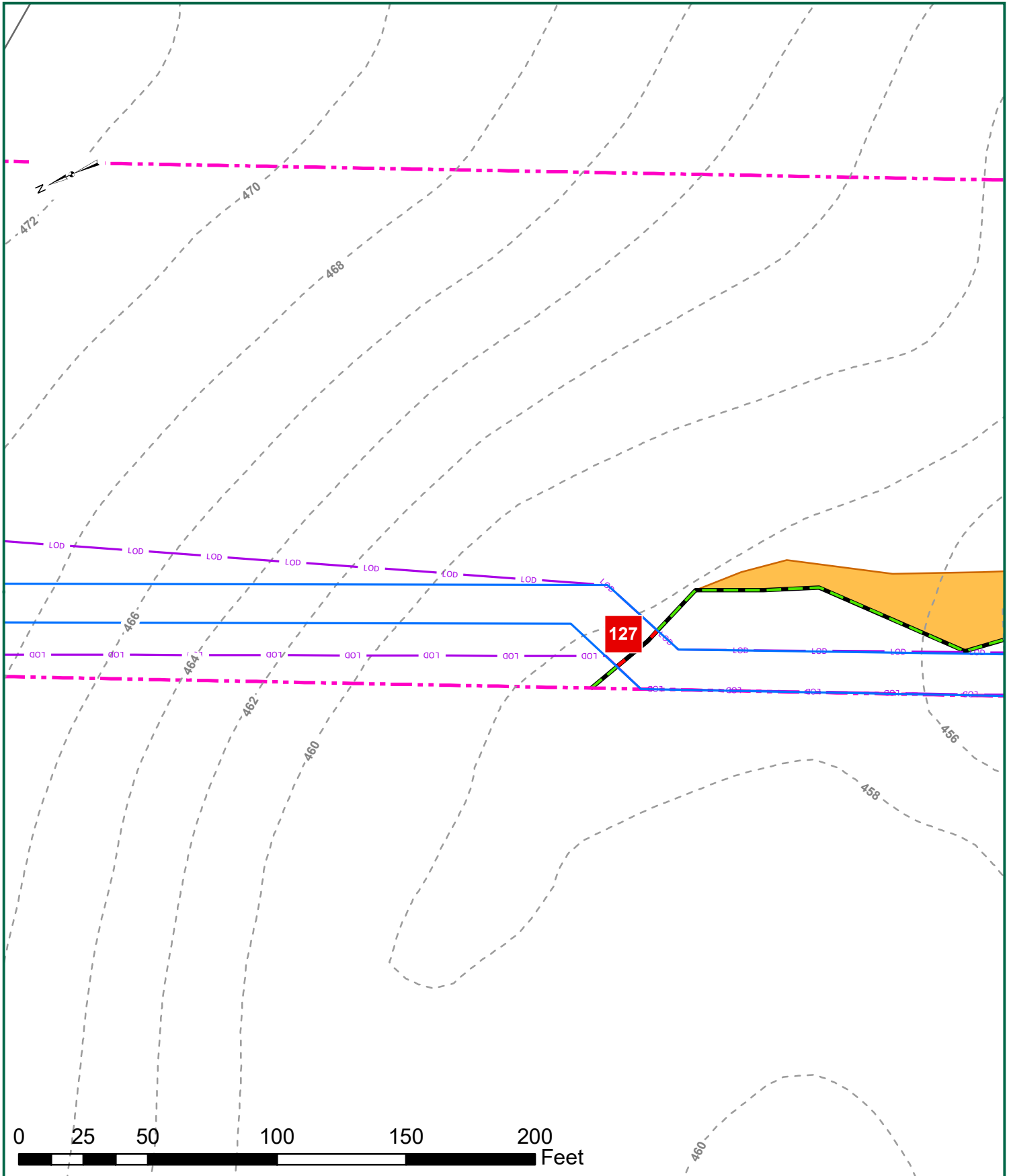
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JOB NUMBER 33927 SHEET NO. 72 OF 74	<h2 style="margin: 0;">JAMES RIVER WATER PROJECT</h2> <p style="margin: 0; font-size: small;">LOUISA & FLUVANNA COUNTY, VIRGINIA</p>	CHECKED BY T. FREUNINGER SCALE 1" = 50'	DESIGNED BY B. MORRIS DRAWN BY L. MALJOR DATE 06/22/2016	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DATE</th> <th>REVISION DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1/3/17</td> <td>Impacts updated as a result of edits to the limits of disturbance.</td> </tr> <tr> <td style="text-align: center;">6/9/17</td> <td>Impacts reduced as a result of reduction to the limits of disturbance.</td> </tr> <tr> <td style="text-align: center;">12/20/17</td> <td>Map updated per impact revisions east of East River Rd.</td> </tr> </tbody> </table>	DATE	REVISION DESCRIPTION	1/3/17	Impacts updated as a result of edits to the limits of disturbance.	6/9/17	Impacts reduced as a result of reduction to the limits of disturbance.	12/20/17	Map updated per impact revisions east of East River Rd.
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JAMES RIVER WATER PROJECT

LOUISA & FLUVANNA COUNTY, VIRGINIA

PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL

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JOB NUMBER
33927

SHEET NO.
73 OF 74

DESIGNED BY
E. MORRIS

CHECKED BY
T. FREUNINGER

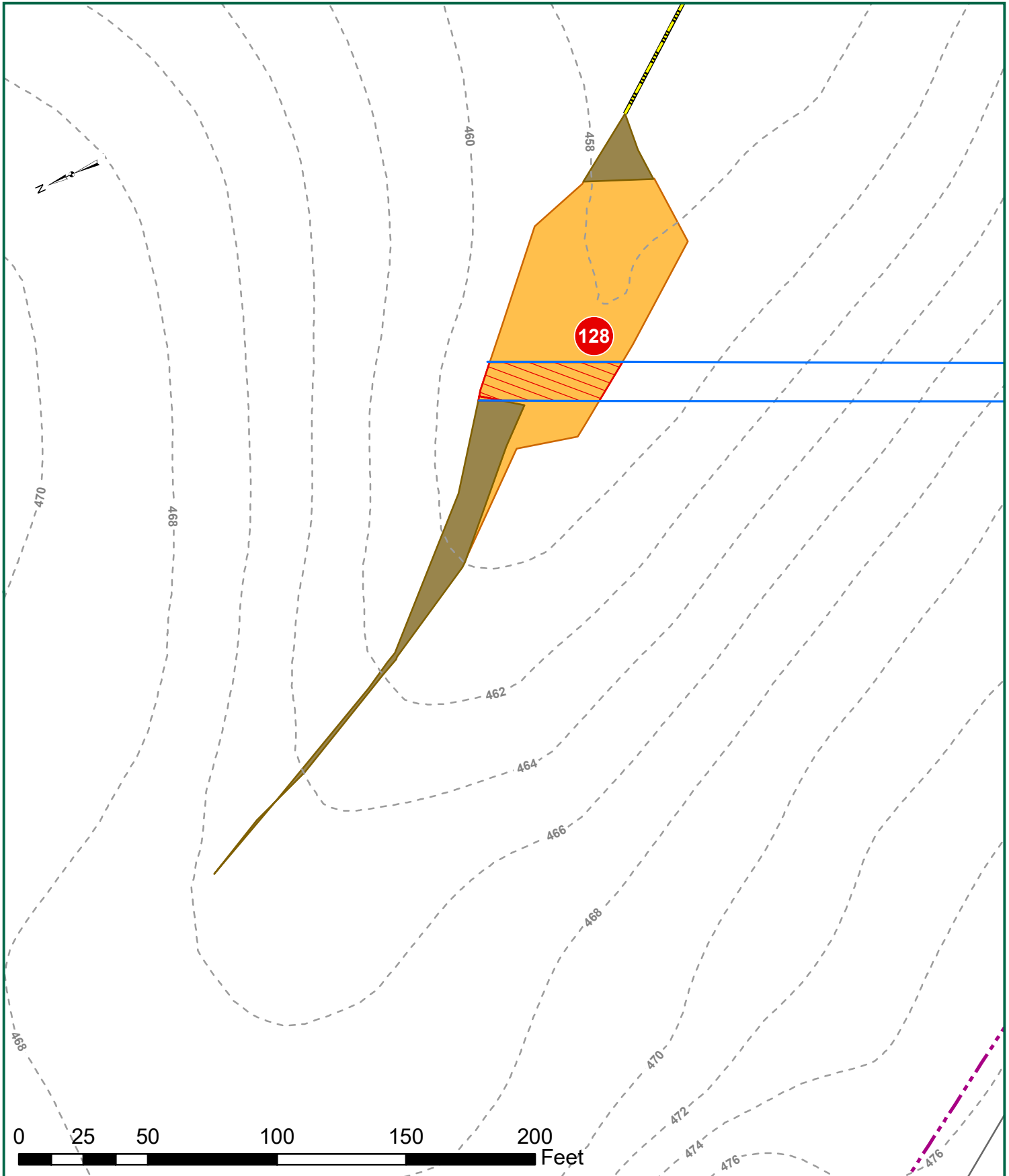
SCALE
1" = 50'

DRAWN BY
L. MAJOR

DATE
06/22/2016

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JAMES RIVER WATER PROJECT

LOUISA & FLUVANNA COUNTY, VIRGINIA

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SHEET NO. 74 OF 74

JOB NUMBER 33927

PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. IMPACTS MAP - DETAIL

CHECKED BY T. FREUNINGER

DESIGNED BY E. MORRIS

DRAWN BY L. MALOR

DATE 06/22/2016

SCALE 1" = 50'

APPENDIX D-2
COMMONWEALTH OF VIRGINIA MARINE RESOURCES COMMISSION PERMIT DOCUMENTS

APPENDIX D-2-1

INITIAL COMMONWEALTH OF VIRGINIA MARINE RESOURCES COMMISSION PERMIT 2014-0343



COMMONWEALTH of VIRGINIA

*Marine Resources Commission
2600 Washington Avenue
Third Floor
Newport News, Virginia 23607*

Molly Joseph Ward
Secretary of Natural Resources

John M.R. Bull
Commissioner

March 14, 2017

James River Water Authority
Attn: Steven Nichols, Fluvanna Co. Admin.
c/o Timmons Group
1001 Boulders Parkway, Suite 300
Richmond, VA 23225

Re: VMRC #2014-0343

Dear Mr. Nichols:

Enclosed is the Marine Resources Commission permit to install a 5.82 MGD raw water intake adjacent to the north bank of the James River, just upstream of the confluence with the Rivanna River near the Town of Columbia, and a submerged water line beneath approximately 150 linear feet of the Rivanna River in Fluvanna County, to meet the water demands of Fluvanna and Louisa County.

A yellow placard is also enclosed. This placard reflects the authorized activities for inspection purposes and must be conspicuously displayed at the work site throughout the construction phase. Failure to properly post the placard in a prominent location will be considered a violation of your permit conditions.

YOU ARE REMINDED THAT ANY DEVIATION FROM THE PERMIT OR ATTACHED DRAWINGS REQUIRES PRIOR AUTHORIZATION FROM THE MARINE RESOURCES COMMISSION. FAILURE TO OBTAIN THE NECESSARY MODIFICATION WILL BE CONSIDERED A VIOLATION AND COULD SUBJECT YOU TO CIVIL CHARGES IN AMOUNTS NOT TO EXCEED \$10,000 PER VIOLATION.

The work authorized by this permit is to be completed by June 30, 2019. Please note that in conformance with Special Condition 17 of your permit you are to notify the Commission 15 days prior to commencement of your permitted project. The enclosed self-addressed, stamped, postcard is to be used for this purpose. All other conditions of the permit will remain in effect.

An Agency of the Natural Resources Secretariat

www.mrc.virginia.gov

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD

Please be advised that you may also require issuance of a U. S. Army Corps of Engineers permit before you begin work on this project. You may wish to contact them directly to verify any permitting requirements.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony Watkinson", with a long horizontal flourish extending to the right.

Tony Watkinson
Chief, Habitat Management

TW/rdo:lra

HM

Enclosure

cc: Property Owner
Applicant

**COMMONWEALTH OF VIRGINIA
MARINE RESOURCES COMMISSION
PERMIT**

The Commonwealth of Virginia, Marine Resources Commission, hereinafter referred to as the Commission, on this 28th day of June 2016 hereby grants unto:

**James River Water Authority
132 Main Street
Palmyra, VA 22963**

hereinafter referred to as the Permittee, permission to:

- Encroach in, on, or over State-owned subaqueous bottoms pursuant to Chapter 12, Subtitle III, of Title 28.2 of the Code of Virginia.
- Use or develop tidal wetlands pursuant to Chapter 13, Subtitle III, of Title 28.2 of the Code of Virginia.

Permittee is hereby authorized to install a 5.82 MGD raw water intake adjacent to the north bank of the James River, just upstream of the confluence with the Rivanna River near the Town of Columbia, and a submerged water line beneath approximately 150 linear feet of the Rivanna River in Fluvanna County, to meet the water demands of Fluvanna and Louisa County. All activities authorized herein shall be accomplished in conformance with the plans and revised drawings dated received June 27, 2016, and February 9, 2017, which are attached and made a part of this permit.

This permit is granted subject to the following conditions:

- (1) The work authorized by this permit is to be completed by **June 30th, 2019**. The Permittee shall notify the Commission when the project is completed. The completion date may be extended by the Commission in its discretion. Any such application for extension of time shall be in writing prior to the above completion date and shall specify the reason for such extension and the expected date of completion of construction. All other conditions remain in effect until revoked by the Commission or the General Assembly.
- (2) This permit grants no authority to the Permittee to encroach upon the property rights, including riparian rights, of others.
- (3) The duly authorized agents of the Commission shall have the right to enter upon the premises at reasonable times, for the purpose of inspecting the work being done pursuant to this permit.
- (4) The Permittee shall comply with the water quality standards as established by the Department of Environmental Quality, Water Division, and all other applicable laws, ordinances, rules and regulations affecting the conduct of the project. The granting of this permit shall not relieve the Permittee of the responsibility of obtaining any and all other permits or authority for the projects.
- (5) This permit shall not be transferred without written consent of the Commissioner.
- (6) This permit shall not affect or interfere with the right vouchsafed to the people of Virginia concerning fishing, fowling and the catching of and taking of oysters and other shellfish in and from the bottom of acres and waters not included within the terms of this permit.
- (7) The Permittee shall, to the greatest extent practicable, minimize the adverse effects of the project upon adjacent properties and wetlands and upon the natural resources of the Commonwealth.
- (8) This permit may be revoked at any time by the Commission upon the failure of the Permittee to comply with any of the terms and conditions hereof or at the will of the General Assembly of Virginia.
- (9) There is expressly excluded from the permit any portion of the waters within the boundaries of the Baylor Survey.
- (10) This permit is subject to any lease of oyster planting ground in effect on the date of this permit. Nothing in this permit shall be construed as allowing the Permittee to encroach on any lease without the consent of the leaseholder. The Permittee shall be liable for any damages to such lease.
- (11) The issuance of this permit does not confer upon the Permittee any interest or title to the beds of the waters.
- (12) All structures authorized by this permit, which are not maintained in good repair, shall be completely removed from State-owned bottom within three (3) months after notification by the Commission.
- (13) The Permittee agrees to comply with all of the terms and conditions as set forth in this permit and that the project will be accomplished within the boundaries as outlined in the plans attached hereto. Any encroachment beyond the limits of this permit shall constitute a Class 1 misdemeanor.
- (14) This permit authorizes no claim to archaeological artifacts that may be encountered during the course of construction. If, however, archaeological remains are encountered, the Permittee agrees to notify the Commission, who will, in turn notify the Department of Historic Resources. The Permittee further agrees to cooperate with agencies of the Commonwealth in the recovery of archaeological remains if deemed necessary.
- (15) The Permittee agrees to indemnify and save harmless the Commonwealth of Virginia from any liability arising from the establishment, operation or maintenance of said project.

The following special conditions are imposed on this permit:

- (16) The yellow placard accompanying this permit document must be conspicuously displayed at the work site.
- (17) Permittee agrees to notify the Commission a minimum of 15 days prior to the start of the activities authorized by this permit.
- (18) Permittee agrees that no instream construction shall be conducted between March 15 through June 30 of any year, to protect anadromous fishes and mussel species, and August 15 through September 30 of any year, to protect mussel species.
- (19) The instream construction activities shall be accomplished during low flow periods and within cofferdams constructed of non-erodible materials in such a manner that no more than half the width of the waterway is obstructed at any point in time.
- (20) All area of State-owned bottom and adjacent lands disturbed by this activity shall be restored to their original contours and natural conditions within thirty (30) days from the date of completion of the authorized work. All excess materials shall be removed to an upland site and contained in such a manner to prevent its reentry into State waters.
- (21) Erosion and sediment control measures shall be in conformance with the 1992 Third Edition of the Virginia Erosion and Sediment Control Handbook and shall be employed throughout construction.
- (22) If it is determined that blasting is necessary at any of the crossings, the Department of Game and Inland Fisheries shall be notified a minimum of 48 hours in advance of the blasting.
- (23) The Permittee agrees to follow the attached contingency / clean-up plan to address potential frac-outs or related spills associated with any directional drilling activities.
- (24) The Permittee agrees to conduct a mollusc survey and relocation effort, performed from 100 meters upstream through 400 meters downstream of the intake location and Rivanna River crossing, unless specifically waived or modified in writing by the Department of Game & Inland Fisheries. This survey should be performed by a qualified, permitted biologist. Any relocations should be coordinated with the Department of Game & Inland Fisheries and no federally listed species should be relocated without first coordinating with the USFWS.

Description of Fees	Amount	Unit of Measure	Rate	Total	Frequency	After-The-Fact
Permit Fee				\$100.00	One-Time	
Total Permit Fees				\$100.00		

This permit consists of 19 Pages

PERMITTEE

Permittee's signature is affixed hereto as evidence of acceptance of all of the terms and conditions herein.

In cases where the Permittee is a corporation, agency or political jurisdiction, please assure that the individual who signs for the Permittee has proper authorization to bind the organization to the financial and performance obligations which result from activity authorized by this permit.

PERMITTEE

Accepted for James River Water Authority

By *[Signature]* Chairman
(Name) (Title)

7th day of March, 20 17

State of Virginia
City (or County) of Louisa, to-wit:

I, Alexandra Dixon a Notary Public in and for said City (or County) and State hereby certify that Goodman B. Duke, Permittee, whose name is signed to the foregoing, has acknowledged the same before me in my City (or County) and State aforesaid.

Given under my hand this 7th day of March, 20 17
My Commission Expires: January 31, 2021



Notary Public *[Signature]*

COMMISSION

IN WITNESS WHEREOF, the Commonwealth of Virginia, Marine Resources Commission has caused these presents to be executed in its behalf by Tony Watkinson, Chief, Habitat Management
(Name) (Title) Marine Resources Commission

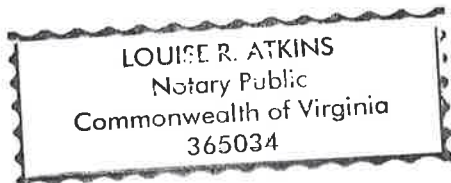
14th day of March, 20 17

By *[Signature]*

State of Virginia
City of Newport News, to-wit:

I, Louise R. Atkins, a Notary Public within and for said City, State of Virginia, hereby certify that Tony Watkinson, whose name is signed to the foregoing, bearing the 28th day of June 2016, has acknowledged the same before me in City aforesaid.

Given under my hand this 14th day of March, 20 17
My Commission Expires: January 31, 2021



Notary Public *[Signature]*



APPROXIMATE PROJECT LIMITS

TIMMONS GROUP

JAMES RIVER WATER PROJECT
 JAMES RIVER WATER AUTHORITY
RAW WATER INTAKE AND PUMP STATION

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 CORPORATE OFFICE
 1071 BOULDER PASSAGE, SUITE 200, RICHMOND, VA 23225
 TEL: 804.288.5700 FAX: 804.588.5818 www.timmons.com

NOT FOR
 CONSTRUCTION

DATE: 6/27/2016
 DRAWN BY: J. CARTE
 CHECKED BY: D. SANDGERS
 SCALE: AS SHOWN

PROJECT NO: 24957
 SHEET NO: 5/10

DATE: 6/27/2016
 DRAWN BY: J. CARTE
 CHECKED BY: D. SANDGERS
 SCALE: AS SHOWN

DATE: 6/27/2016
 DRAWN BY: J. CARTE
 CHECKED BY: D. SANDGERS
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 CHECKED BY: D. SANDGERS
 SCALE: AS SHOWN

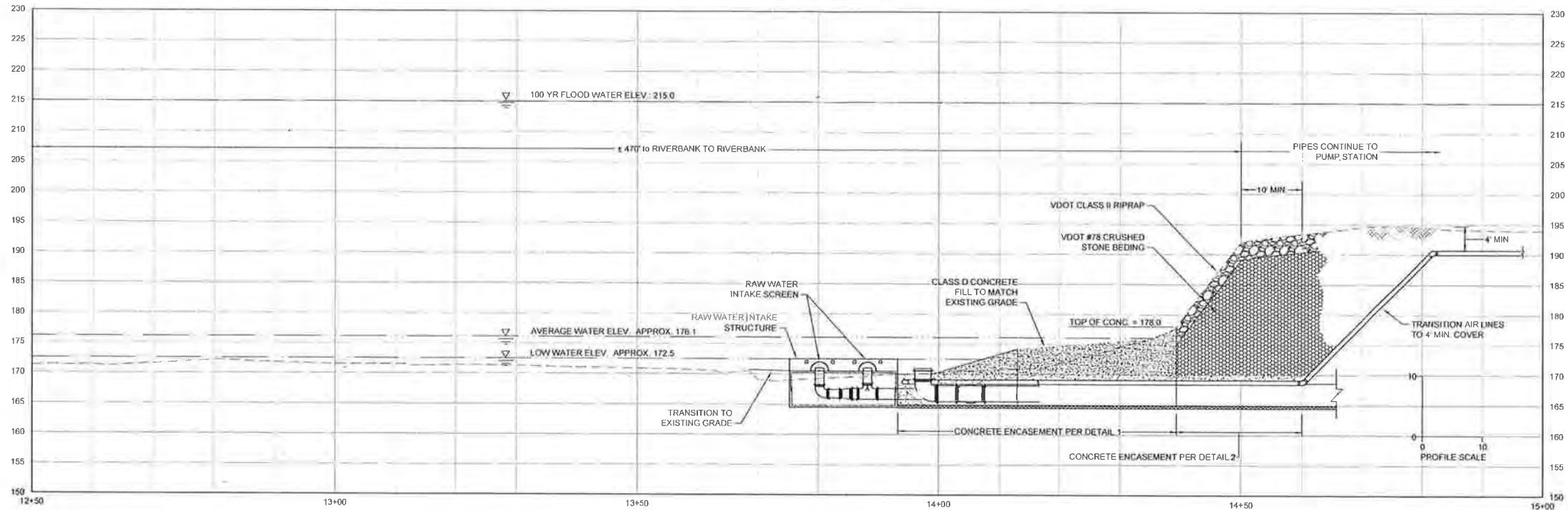
DATE: 6/27/2016
 DRAWN BY: J. CARTE
 CHECKED BY: D. SANDGERS
 SCALE: AS SHOWN

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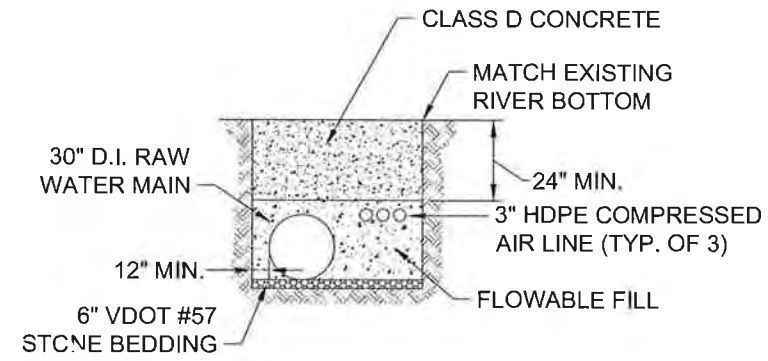
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Approved by: [Signature]

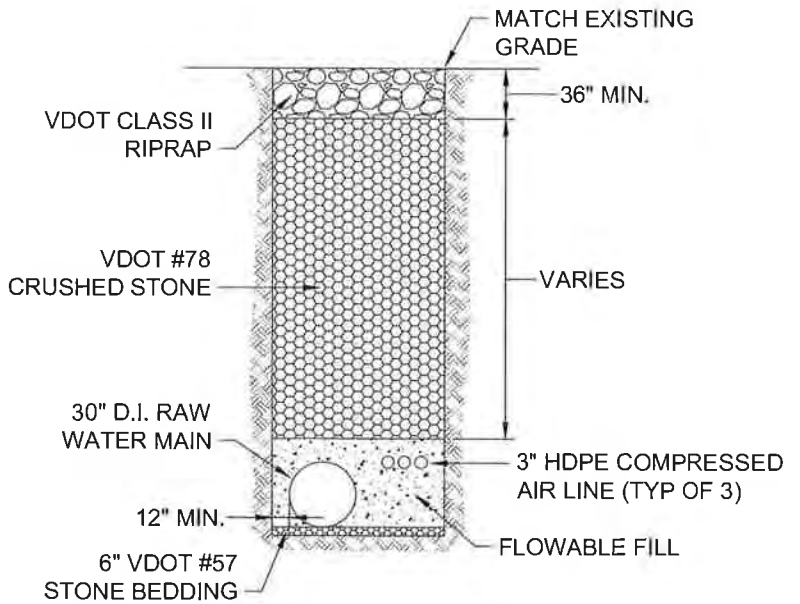
Additional Info/Revision
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 By Virginia Marine Resources Commission at 1:49 pm, Jun 27, 2014



RAW WATER INTAKE PROFILE



CONCRETE ENCASEMENT DETAIL 1



CONCRETE ENCASEMENT DETAIL 2



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Site Development | **Residential** | **Infrastructure** | **Technology**

DATE	REVISION DESCRIPTION
MAY 2015	

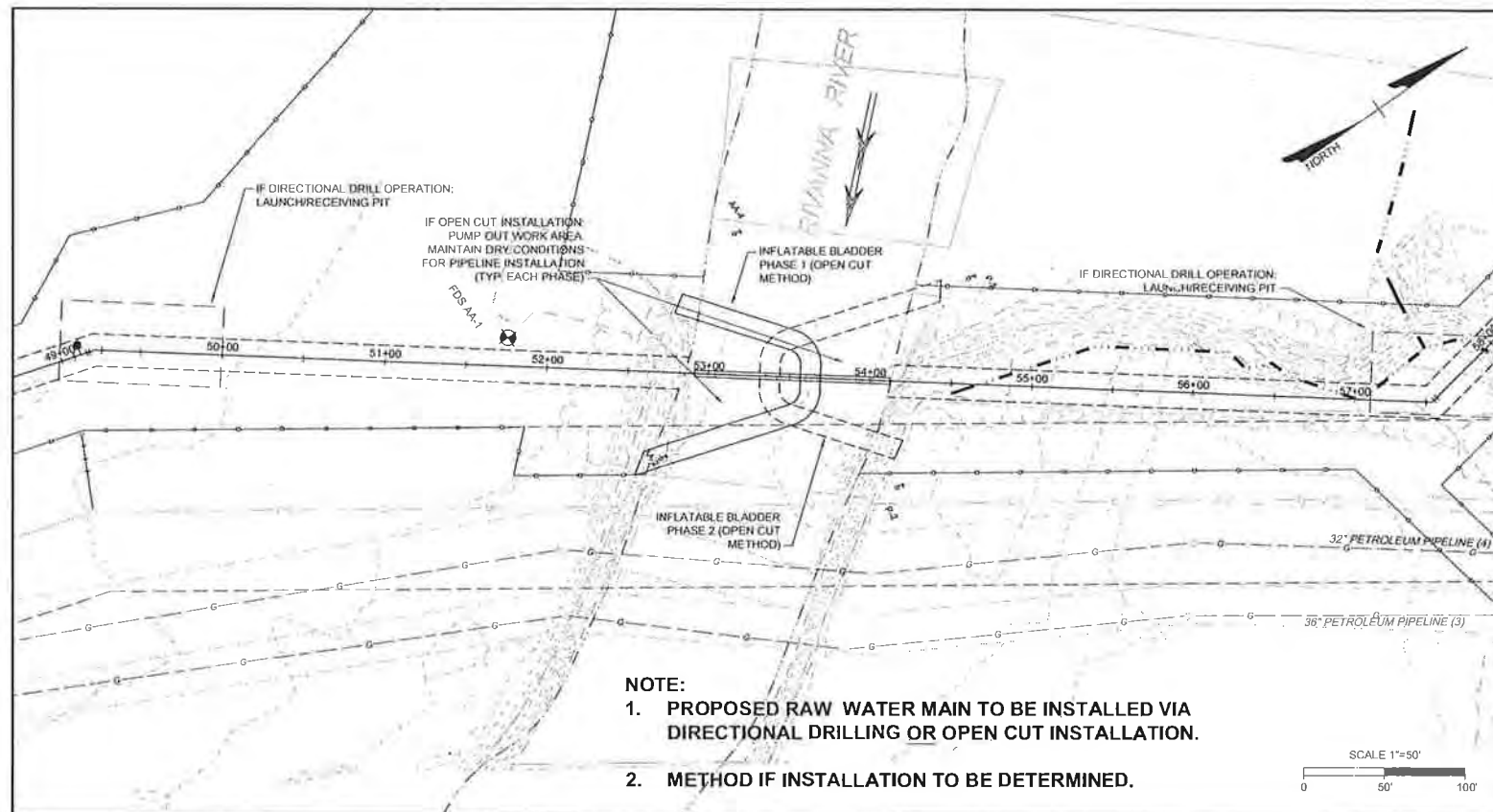
DRAWN BY: J. MARSHALL
 DESIGNED BY: J. MARSHALL
 CHECKED BY: D. SAUNDERS
 SCALE:

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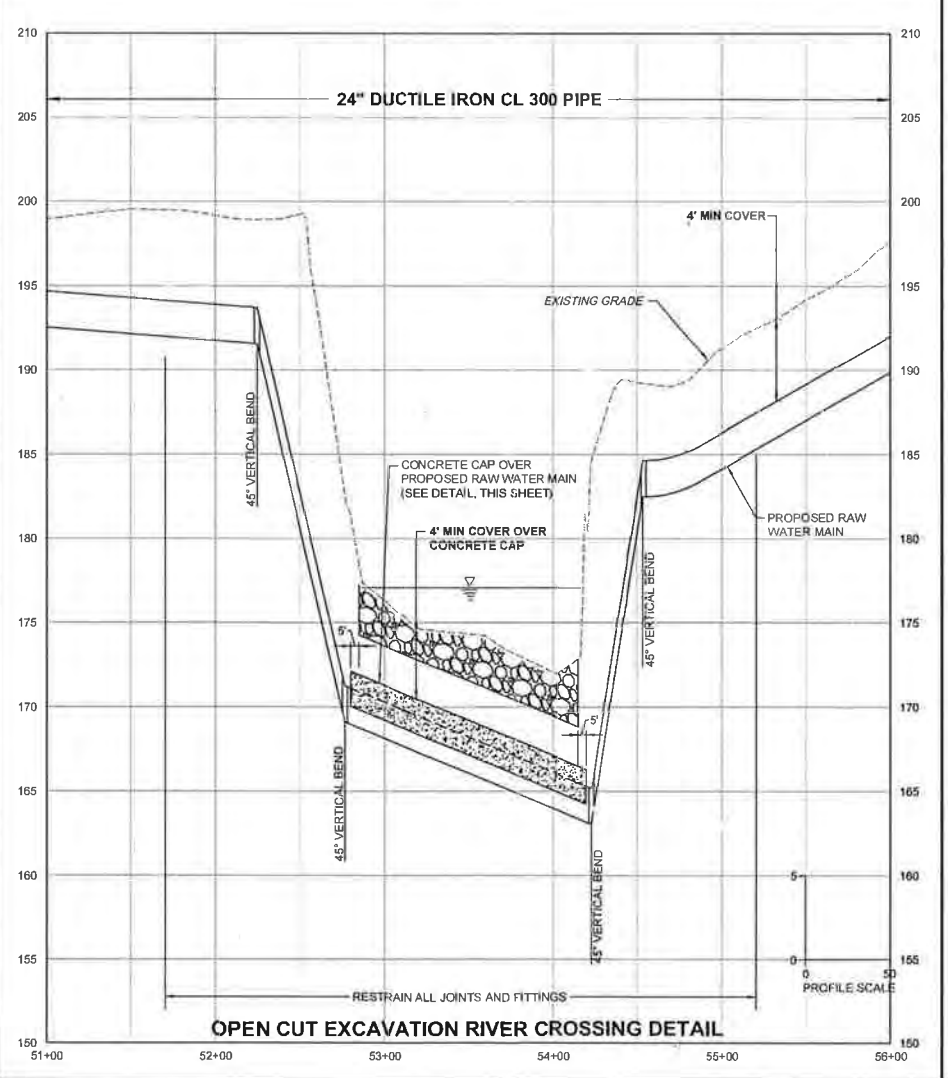
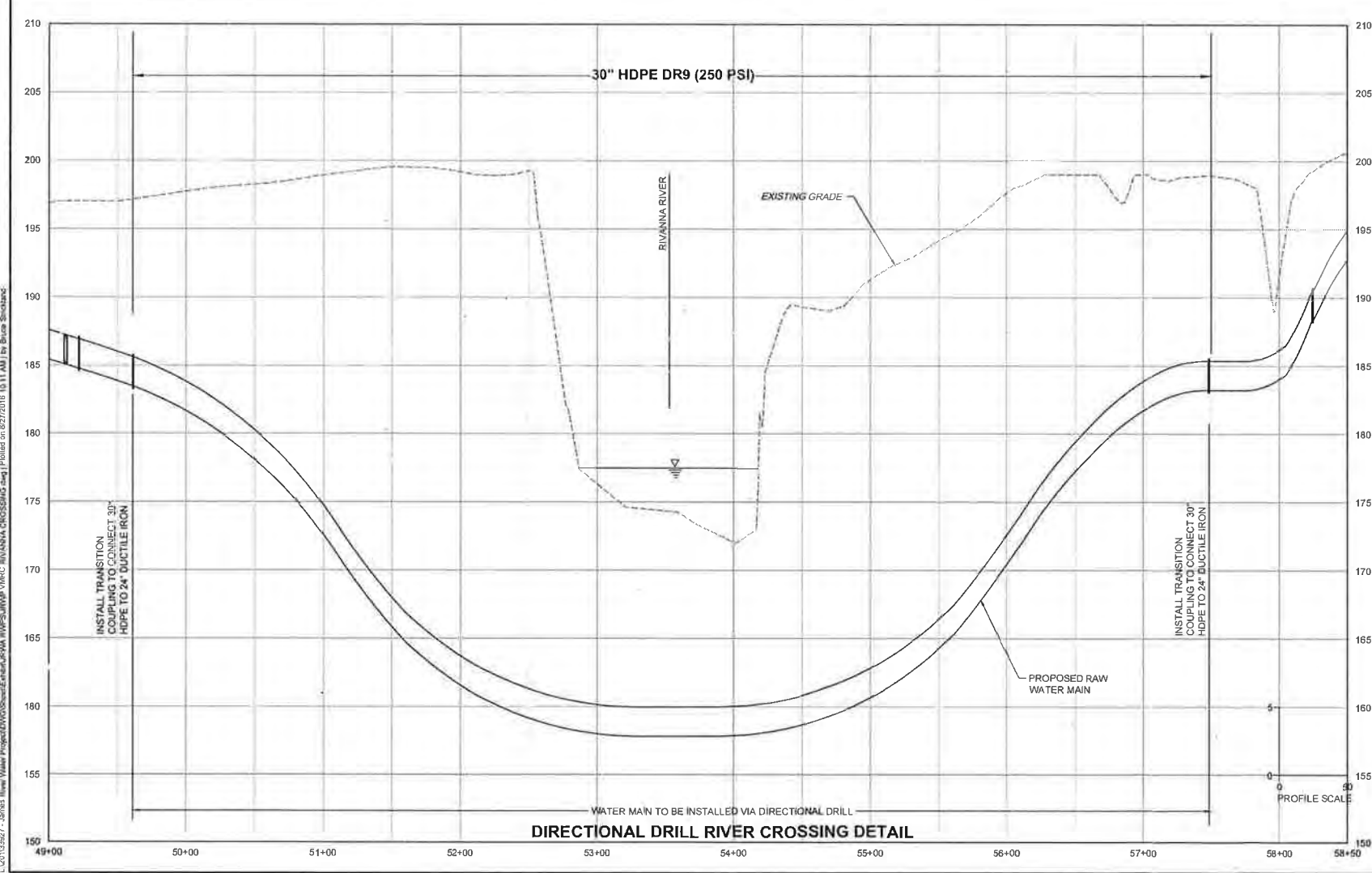
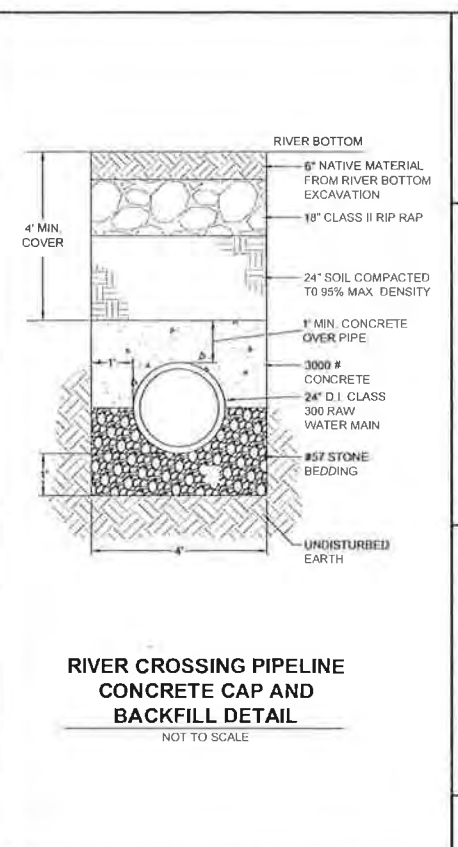
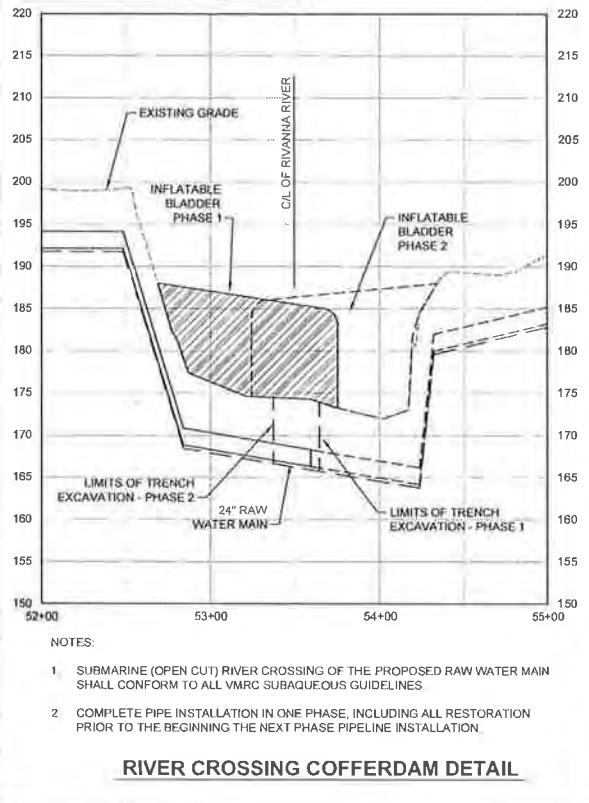
JAMES RIVER WATER PROJECT
 JAMES RIVER WATER AUTHORITY
 INTAKE AND RIVER CROSS SECTION

JOB NO: 33927
 SHEET NO: C-5

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 By Virginia Marine Resources Commission at 1:56 pm, Jun 27, 2018



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DATE	REVISION DESCRIPTION
6-23-2016	revised alignment

DATE: 2-24-2016
 DRAWN BY: J. CARTER
 DESIGNED BY: D. SAUNDERS
 CHECKED BY: D. SAUNDERS
 SCALE: AS SHOWN

FAULCONER CONSTRUCTION COMPANY
 IN ASSOCIATION WITH
TIMMONS GROUP AND
MEB General Contractors

JAMES RIVER WATER PROJECT
 JAMES RIVER WATER AUTHORITY
 RAW WATER MAIN RIVANNA RIVER CROSSING

JOB NO: 33927
 SHEET NO: VMRC 2

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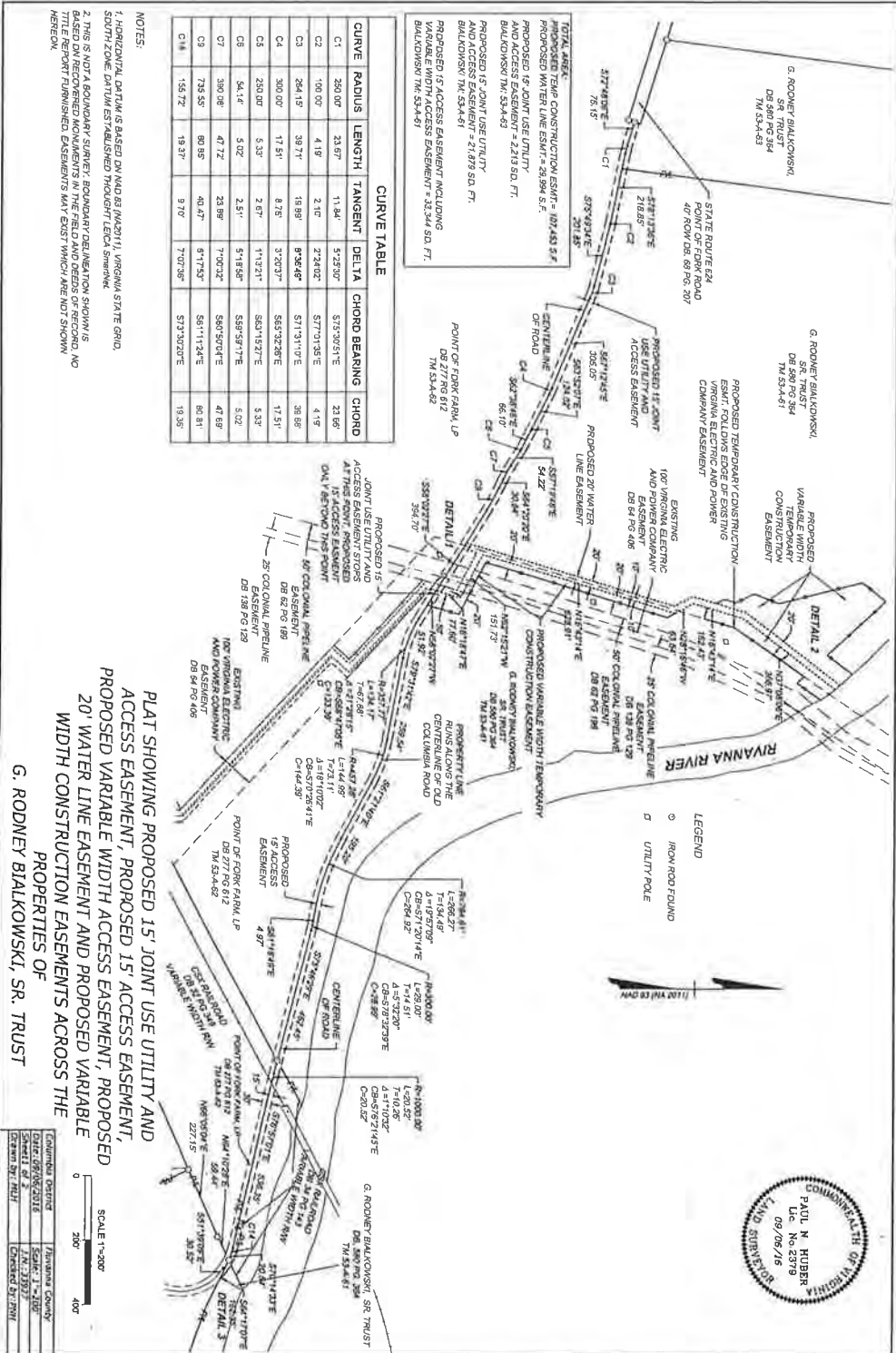
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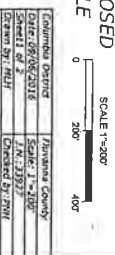


CURVE TABLE

CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING	CHORD
C1	250.00'	23.57'	11.84'	5°23'07"	S73°30'51"E	23.66'
C2	100.00'	4.18'	2.10'	2°24'02"	S77°31'35"E	4.19'
C3	254.19'	39.71'	18.89'	9°56'49"	S71°31'10"E	38.69'
C4	300.00'	17.51'	8.75'	3°20'37"	S85°32'28"E	17.51'
C5	250.00'	5.33'	2.67'	1°12'11"	S83°15'27"E	5.32'
C6	54.14'	5.02'	2.51'	5°18'58"	S59°59'17"E	5.02'
C7	390.08'	47.72'	23.89'	7°00'32"	S68°50'04"E	47.69'
C8	735.55'	99.95'	49.07'	8°17'35"	S61°11'24"E	89.81'
C9	153.72'	19.37'	9.70'	7°07'35"	S73°30'20"E	19.35'

NOTES:
 1. HORIZONTAL DATUM IS BASED ON NAD 83 (MAD 2011), VIRGINIA STATE GRID.
 2. THIS IS NOT A BOUNDARY SURVEY. BOUNDARY DELINEATION SHOWN IS BASED ON RECOVERED MONUMENTS IN THE FIELD AND DEEDS OF RECORD. NO TITLE REPORT FURNISHED. EASEMENTS MAY EXIST WHICH ARE NOT SHOWN HEREON.

PLAT SHOWING PROPOSED 15' JOINT USE UTILITY AND ACCESS EASEMENT, PROPOSED 15' ACCESS EASEMENT, PROPOSED VARIABLE WIDTH ACCESS EASEMENT, PROPOSED 20' WATER LINE EASEMENT AND PROPOSED VARIABLE WIDTH CONSTRUCTION EASEMENTS ACROSS THE PROPERTIES OF G. RODNEY BIALKOWSKI, SR. TRUST



Compared District	Virginia County
DATE: 08/05/2016	SCALE: 1" = 200'
DRAWN BY: TML	CHECKED BY: TML

**JAMES RIVER WATER SUPPLY PROJECT LOUISA COUNTY
OWNED SYSTEM**

CONTINGENCY PLAN FOR DIRECTIONAL DRILLING

TABLE OF CONTENTS

1.0	Introduction and Purpose	3
2.0	Description of Work	3
3.0	Site Supervisor/Foremen Responsibilities	4
4.0	Equipment	4
5.0	Training	5
6.0	Drilling Procedures	5
6.1	Vac-Truck	6
6.2	Field Response to Frac-Out Occurrence	6
6.3	Response Close-out Procedures	7
6.4	Construction Re-start	7
6.5	Bore Abandonment	7
7.0	Notification	7
7.1	Communicating with Regulatory Agency Personnel	8
7.2	Documentation	8
8.0	Project Completion and Clean-up	8

FRAC-OUT CONTINGENCY PLAN (FCP)

1.0 Introduction and Purpose

Directional bore operations have a potential to release drilling fluids into the surface environment through frac-outs (A frac-out is the condition where drilling mud is released through fractured bedrock into the surrounding rock and sand and travels toward the surface.) Because drilling muds consist largely of a bentonite clay-water mixture, they are not classified as toxic or hazardous substances. However, if it is released into water bodies, bentonite has the potential to adversely impact fish and invertebrates.

While drilling fluid seepage associated with a frac-out is most likely to occur near the bore entry and exit points where the drill head is shallow, frac-outs can occur in any location along a directional bore. This Frac-Out Contingency Plan (FCP) establishes operational procedures and responsibilities for the prevention, containment, and clean-up of frac-outs associated with the proposed directional drilling utility project of associated with the James River Water Supply Project Louisa County Owned System. All personnel and Sub-Contractors responsible for the work must adhere to this plan during the directional drilling process.

The specific objectives of this plan are to:

1. Minimize the potential for a frac-out associated with directional drilling activities;
2. Provide for the timely detection of frac-outs;
3. Protect the environmentally sensitive riverbed and associated riparian vegetation;
4. Ensure an organized, timely, and "minimum-impact" response in the event of a frac-out and release of drilling bentonite; and
5. Ensure that all appropriate notifications are made immediately to the customer, management and safety personnel.

2.0 Description of Work:

The proposed project consists of: *(Explain work task in detail to crew members.)*

Drilling operations will be halted by the drill rig operators immediately upon detection of a drop in drilling pressure or other evidence of a frac-out. The clean-up of all spills shall begin immediately. Management & safety department shall be notified immediately of any spills and shall be consulted regarding clean-up procedures. A spill kit shall be on-site and used if a frac-out occurs. A vacuum truck and containment materials, such as straw bales, shall also be on-site prior to and during all operations. The Site Supervisor will be immediately notified. In the event of a frac-out, the on-site foreman/supervisor will conduct an evaluation of the situation and direct recommended mitigation actions, based on the following guidelines:

- a. If the frac-out is minor, easily contained, has not reached the surface and is not threatening sensitive resources, drilling operations may resume after use of a leak stopping compound or redirection of the bore;

- b. If the frac-out has reached the surface, any material contaminated with Bentonite shall be removed by hand to a depth of 2-feet, contained and properly disposed of, as required by law. The drilling contractor shall be responsible for ensuring that the bentonite is either properly disposed of at an approved disposal facility or properly recycled in an approved manner. The Site Supervisor shall notify and take any necessary follow-up response actions in coordination with agency representatives. The Site Supervisor will coordinate the mobilization of equipment stored at off-site locations (e.g., vacuum trucks) on an as needed basis;

3.0 Site Supervisor/Foremen Responsibilities:

The Site Supervisor/Foremen has overall responsibility for implementing this FCP. The Site Supervisor/Foremen will ensure that all employees are trained prior to all drilling. The Site Supervisor/Foremen shall be notified immediately when a frac-out is detected. The Site Supervisor/Foremen will be responsible for ensuring that the safety department is aware of the frac-out, coordinating personnel, response, cleanup, regulatory agency notification and coordination to ensure proper clean-up, disposal of recovered material and timely reporting of the incident. The Site Supervisor/Foremen shall ensure all waste materials are properly containerized, labeled, and removed from the site to an approved disposal facility by personnel experienced in the removal, transport and disposal of drilling mud.

The Site Supervisor/Foremen shall be familiar with all aspects of the drilling activity, the contents of this Frac-out Contingency Plan and the conditions of approval under which the activity is permitted to take place. The Site Supervisor/Foremen shall have the authority to stop work and commit the resources (personnel and equipment) necessary to implement this plan. The Site Supervisor/Foremen shall assure that a copy of this plan is available (onsite) and accessible to all construction personnel. The Site Supervisor/Foremen shall ensure that all workers are properly trained and familiar with the necessary procedures for response to a frac-out, prior to commencement of drilling operations.

4.0 Equipment:

The Site Supervisor shall ensure that:

- All equipment and vehicles are to be checked and maintained daily to prevent leaks of hazardous materials;
- Spill kits and spill containment materials are available on-site at all times and that the equipment is in good working order;
- Equipment required to contain and clean up a frac-out release will either be available at the work site or readily available at an offsite location within 15-minutes of the bore site; and
- If equipment is required to be operated near a riverbed, absorbent pads and plastic sheeting for placement beneath motorized equipment shall be used to protect the riverbed from engine fluids;

5.0 Training

Prior to the start of construction, the Site Supervisor/Foremen, shall ensure that the crew members receive training in the following:

- The provisions of the Frac-out Contingency Plan, equipment maintenance and site specific permit and monitoring requirements;
- Inspection procedures for release prevention and containment equipment and materials;
- Contractor/crew obligation to immediately stop the drilling operation upon first evidence of the occurrence of a frac-out and to immediately report any frac-out releases;
- Contractor/crew member responsibilities in the event of a release;
- Operation of release prevention and control equipment and the location of release control materials, as necessary and appropriate; and
- Protocols for communication with agency representatives who might be on-site during the clean-up effort.

6.0 Drilling Procedures

The following procedures shall be followed each day, prior to the start of work. The Frac-out Contingency Plan shall be available on-site during **all** construction. The Site Supervisor/Foremen shall be on-site at any time that drilling is occurring or is planned to occur. The Site Supervisor/Foremen shall ensure that a Job Briefing meeting is held at the start of each day of drilling to review the appropriate procedures to be followed in case of a frac-out. Questions shall be answered and clarification given on any point over which the drilling crew or other project staff has concerns.

Drilling pressures shall be closely monitored so they do not exceed those needed to penetrate the formation. Pressure levels shall be monitored randomly by the operator. Pressure levels shall be set at a minimum level to prevent frac-outs. During the pilot bore, maintain the drilled annulus. Cutters and reamers will be pulled back into previously-drilled sections after each new joint of pipe is added.

Exit and entry pits shall be enclosed by silt fences and straw. A spill kit shall be on-site and used if a frac-out occurs. A vacuum truck shall be readily available on-site prior to and during all drilling operations. Containment materials (Straw, silt fencing, sand bags, frac-out spill kits, etc.) shall be staged on-site at location where they are readily available and easily mobilized for immediate use in the event of an accidental release of drilling mud (frac-out). If necessary, barriers (straw bales or sedimentation fences) between the bore site and the edge of the water source, shall be constructed, prior to drilling, to prevent released bentonite material from reaching the water.

Once the drill rig is in place, and drilling begins, the drill operator shall stop work whenever the pressure in the drill rig drops, or there is a lack of returns in the entrance pit. At this time the Site Supervisor/Foremen shall be informed of the potential frac-out. The Site Supervisor/Foremen and the drill rig operator(s) shall work to coordinate the likely location of the frac-out. The location of the frac-out shall be recorded and notes made on the location and measures taken to address the concern. The following subsections shall be adhered to when addressing a frac-out situation.

Water containing mud, silt, bentonite, or other pollutants from equipment washing or other activities, shall not be allowed to enter a lake, flowing stream or any other water source. The Bentonite used in the drilling process shall be either disposed of at an approved disposal facility or recycled in an approved manner. Other construction materials and wastes shall be recycled, or disposed of, as appropriate.

6.1 Vac-Truck:

A vacuum truck shall be staged at a location from which it can be mobilized and relocated so that any place along the drill shot, can be reached by the apparatus, within 10 minutes of a frac-out.

6.2 Field Response to Frac-out Occurrence:

The response of the field crew to a frac-out release shall be immediate and in accordance with procedures identified in this Plan. All appropriate emergency actions that do not pose additional threats to sensitive resources will be taken, as follows:

- a. Directional boring will stop immediately;
- b. The bore stem will be pulled back to relieve pressure on frac-out;
- c. The Site Supervisor/Foremen will be notified to ensure that management and the safety department is notified, adequate response actions are taken and notifications made;
- d. The Site Supervisor/Foremen shall evaluate the situation and recommend the type and level of response warranted, including the level of notification required;
- e. If the frac-out is minor, easily contained, has not reached the surface and is not threatening sensitive resources, a leak stopping compound shall be used to block the frac-out. If the use of leak stopping compound is not fully successful, the bore stem shall be redirected to a new location along the desired drill path where a frac-out has not occurred;
- f. If the frac-out has reached the surface, any material contaminated with Bentonite shall be removed by hand, to a depth of 2-feet, contained and properly disposed of, as required by law. A dike or berm may be constructed around the frac-out to entrap released drilling fluid, if necessary. Clean sand shall be placed and the area returned to pre-project contours; and
- g. If a frac-out occurs, reaches the surface and becomes widespread, the Site Supervisor/Foremen shall authorize a readily accessible vacuum truck and bulldozer stored off-site to be mobilized. The vacuum truck may be either positioned at either end of the line of the drill so that the frac-out can be reached by crews on foot, or may be pulled by a bulldozer, so that contaminated soils can be vacuumed up.

6.3 Response Close-out Procedures:

When the release has been contained and cleaned up, response closeout activities will be conducted at the direction of the Site Supervisor/Foremen and shall include the following:

- a. The recovered drilling fluid will either be recycled or hauled to an approved facility for disposal. No recovered drilling fluids will be discharged into streams, storm drains or any other water source;
- b. All frac-out excavation and clean-up sites will be returned to pre-project contours using clean fill, as necessary; and
- c. All containment measures (fiber rolls, straw bale, etc.) will be removed, unless otherwise specified by the Site Supervisor/Foremen.

6.4 Construction Re-start:

For small releases not requiring external notification, drilling may continue, if 100 percent containment is achieved through the use of a leak stopping compound or redirection of the bore and the clean-up crew remains at the frac-out location throughout the construction period.

For releases requiring external notification and/or other agencies, construction activities will not restart without prior approval from the safety department.

6.5 Bore Abandonment:

Abandonment of the bore will only be required when all efforts to control the frac-out within the existing directional bore have failed.

7.0 Notification:

In the event of a Frac-out that reaches a water source, the Site Supervisor/Foremen will notify safety department so they can notify the appropriate resource agencies. All agency notifications will occur within 24 hours and proper documentation will be accomplished in a timely and complete manner. The following information will be provided:

1. Name and telephone number of person reporting;
2. Location of the release;
3. Date and time of release;
4. Type and quantity, estimated size of release;
5. How the release occurred;
6. The type of activity that was occurring around the area of the frac-out;
7. Description of any sensitive areas, and their location in relation to the frac-out;
8. Description of the methods used to clean up or secure the site; and
9. Listing of the current permits obtained for the project.

7.1 Communicating with Regulatory Agency Personnel:

All employees and subcontractors will adhere to the following protocols when permitting Regulatory Agency Personnel arrive on site. Regulatory Agency Personnel will be required to comply with appropriate safety rules. Only the Site Supervisor/Foremen and the safety department are to coordinate communication with Regulatory Agency Personnel.

7.2 Documentation:

The Site Supervisor/Foremen shall record the frac-out event in his or her daily log. The log will include the following: Details on the release event, including an estimate of the amount of bentonite released, the location and time of release, the size of the area impacted, and the success of the clean-up action. The log report shall also include the: Name and telephone number of person reporting; Date, How the release occurred; The type of activity that was occurring around the area of the free-out: Description of any sensitive areas, and their location in relation to the frac-out: Description of the methods used to clean up or secure the site; and a listing of the current permits obtained for the project.

8.0 Project Completion and Clean-up:

- a. All materials and any rubbish-construction debris shall be removed from the construction zone at the end of each workday;
- b. Sump pits at bore entry and exits will be filled and returned to natural grade; and
- c. All protective measures (fiber rolls, straw bale, silt fence, etc.) will be removed unless otherwise specified by the Site Supervisor/Foremen.

14-0343

Permit # _____



Commonwealth of Virginia Marine Resources Commission Authorization

A Permit has been issued to:

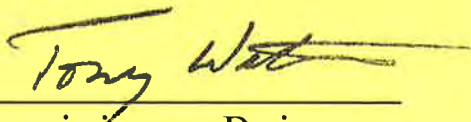
James River Water Authority
132 Main Street
Palmyra, VA 22963

The Permittee is hereby authorized to:

install a 5.82 MGD raw water intake adjacent to the north bank of the James River, just upstream of the confluence with the Rivanna River near the Town of Columbia, and a submerged water line beneath approximately 150 linear feet of the Rivanna River in Fluvanna County, to meet the water demands of Fluvanna and Louisa County.

Issuance Date: February 27, 2017

Expiration Date: June 30, 2019



Commissioner or Designee

This Notice Must Be Conspicuously Displayed At Site Of Work

APPENDIX D-2-2

COMMONWEALTH OF VIRGINIA MARINE RESOURCES COMMISSION PERMIT 2014-0343 EXTENSION LETTER



COMMONWEALTH of VIRGINIA

Marine Resources Commission

Building 96
380 Fenwick Road
Fort Monroe, VA 23651

April 8, 2019

Matthew J. Strickler
Secretary of Natural Resources

Steven G. Bowman
Commissioner

James River Water Authority
Attn: Steven Nichols, Fluvanna Co. Admin.
c/o Timmons Group
1001 Boulders Parkway, Suite 300
Richmond, VA 23225

Re: VMRC Permit #14-0343

Dear Mr. Nichols:

In response to your agent's recent request, the expiration date for the above-referenced permit has been extended until June 30, 2022. The permit authorizes the installation of a 5.82 MGD raw water intake adjacent to the north bank of the James River, just upstream of the confluence with the Rivanna River near the Town of Columbia, and a submerged water line beneath approximately 150 linear feet of the Rivanna River in Fluvanna County.

Please attach this letter to the previously issued permit as evidence of the authorization contained herein. All of the original permit conditions remain in effect.

You may also need to request an extension from the U. S. Army Corps of Engineers and the Department of Environmental Quality for any permits they require. Should you have any questions regarding this matter, or if we can be of further assistance, please do not hesitate to contact Mr. Randy Owen of my staff at (757) 247-2251.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tony Watkinson".

Tony Watkinson
Chief, Habitat Management

TW/rdo:lra

HM

cc: Department of Environmental Quality #4
U.S. Army Corps of Engineers #2
Applicant *An Agency of the Natural Resources Secretariat*

www.mrc.virginia.gov

Telephone (757) 247-2200 (757) 247-2292 V/TDD Information and Emergency Hotline 1-800-541-4646 V/TDD

APPENDIX D-3
DEQ CZMA APPLICABILITY DETERMINATION

Eli Wright

From: Rayfield, Bettina <bettina.rayfield@deq.virginia.gov>
Sent: Friday, January 10, 2020 11:31 AM
To: Eli Wright
Subject: Re: CZMA Applicability - JRWA Project, Fluvanna County

Mr. Wright,

Given the location of the project, it is not likely to have effects on Virginia's coastal resources or uses. Therefore a federal consistency review is not required.

Please let me know if you need additional information.

Ms. Bettina Rayfield

Manager

Environmental Impact Review and Long Range Priorities Program

[804.698.4204](tel:804.698.4204)

Bettina.rayfield@DEQ.Virginia.gov

Department of Environmental Quality

1111 East Main Street, Suite 1400

Richmond, Virginia 23219

Mailing address

Post Office Box 1105

Richmond, Virginia 23218

www.DEQ.Virginia.gov

For program updates and public notices please subscribe to Constant Contact: <https://lp.constantcontact.com/su/MVcCump/EIR>

On Fri, Jan 3, 2020 at 5:47 PM Eli Wright <Eli.Wright@timmons.com> wrote:

Hello Bettina,

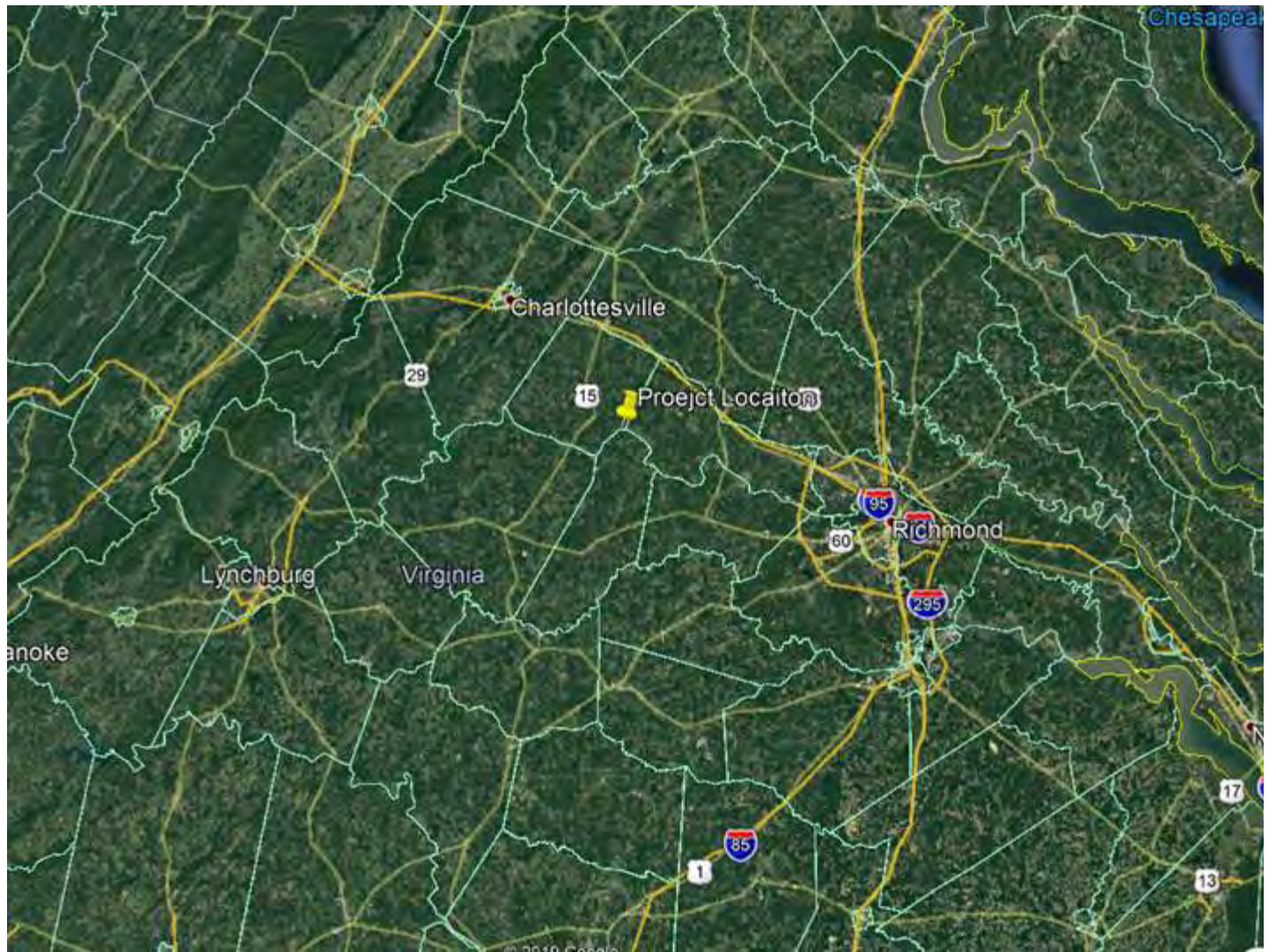
I wanted to follow-up on a conversation we had a few weeks ago regarding applicability of federal consistency regulations of the Coastal Zone Management Act (CZMA) to a specific project. Below I have provide some additional details of the proposed project we discussed. In order to help project planning, I would like to request a formal determination of applicability to ensure compliance with CZMA.

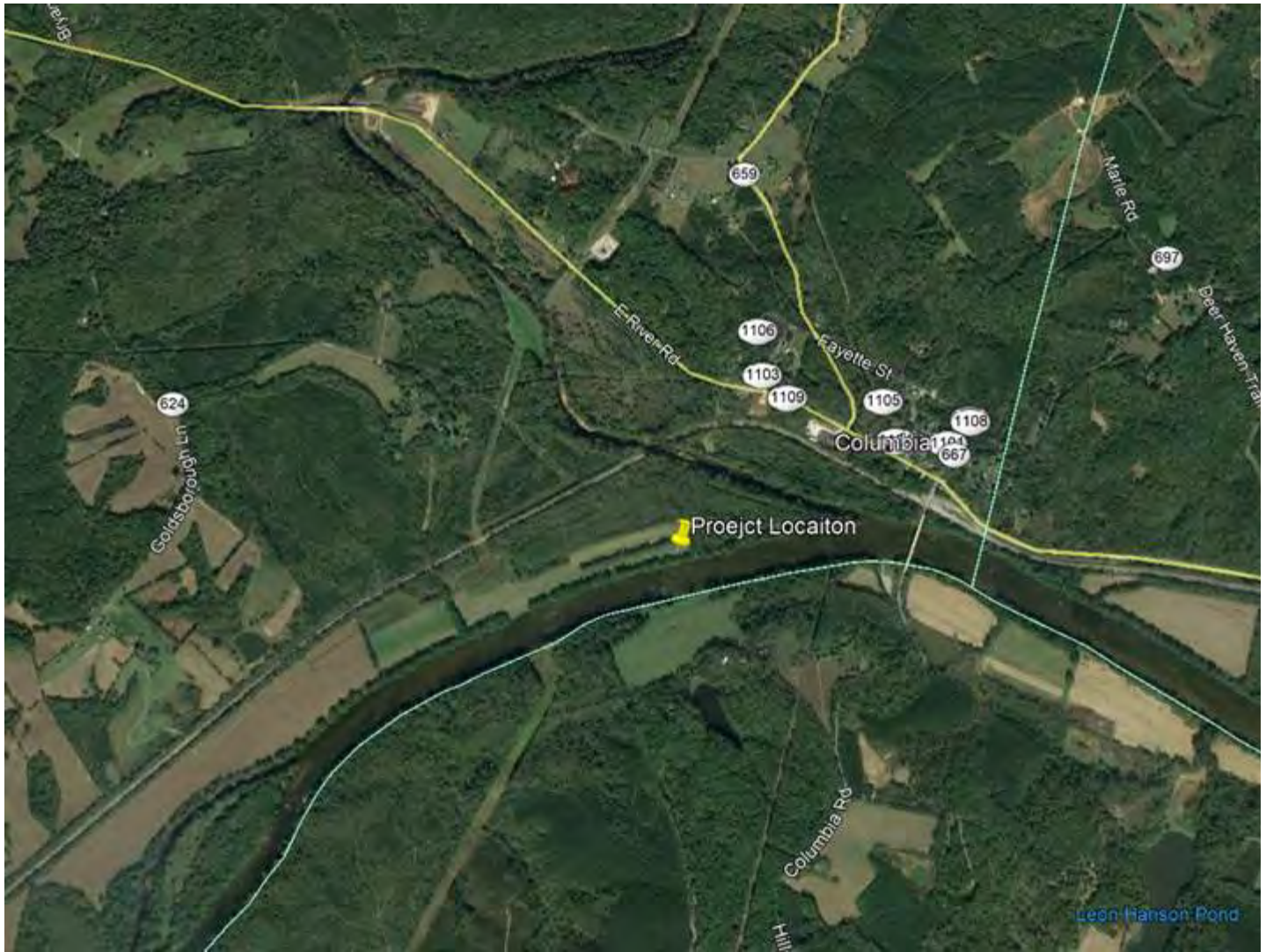
The project is the James River Water Authority (JRWA) proposed raw water intake and pump station project located in Fluvanna County near Columbia. JRWA proposes a water withdrawal structure and pump station to be located on the north bank of the James River just upstream of the confluence with the Rivanna River at the end of Route 624 (Point of Fork Road) to supply raw water to both Louisa and Fluvanna Counties. A raw water transmission line will generally traverse agriculture and silviculture lands northwest of the pump station and pass under a CXS rail line and easement. North of the CXS easement, the project alignment will generally follow Dominion Power easements eventually passing under the Rivanna River adjacent to an existing utility crossing. The project area will terminate immediately north of Route 6 in the vicinity of a Colonial Gas pipeline-owned substation. Below are some screenshots of the approximate location and attached are exhibits of the approximate project layout.

Impacts to jurisdictional waters are proposed as part of this project. Applications for permit coverages for this project has been submitted to the appropriate regulatory agencies. The Virginia Department of Environmental Quality (DEQ) has issued a VWP Individual Permit for water withdraw and jurisdictional impacts associated with this project (VWP-14-0343). The US Army Corps of Engineers (USACE) has assigned this project USACE project number NAO-2014-00708 and after review the USACE determined that the appropriate permitting process for this proposed activity is the standard individual permit process. As such, the CZMA might be considered applicable to this project under 15 C.F.R. part 930, subpart D (Federal license or permit activities). An authorization decision has not yet been issued by USACE.

It is believed this project will not have direct or indirect impact on any land, water use, or natural resource of the coastal zone, especially given the nature of this project and its location outside of Virginia's designated coastal zone. However, consistent with guidance and recommendations on DEQ's website , we request a determination of CZMA applicability for this project from the DEQ Office of Environmental Impact Review Staff.

If you have any question or need additional information please contact me directly.





Thanks,

Eli Wright

Senior Environmental Scientist

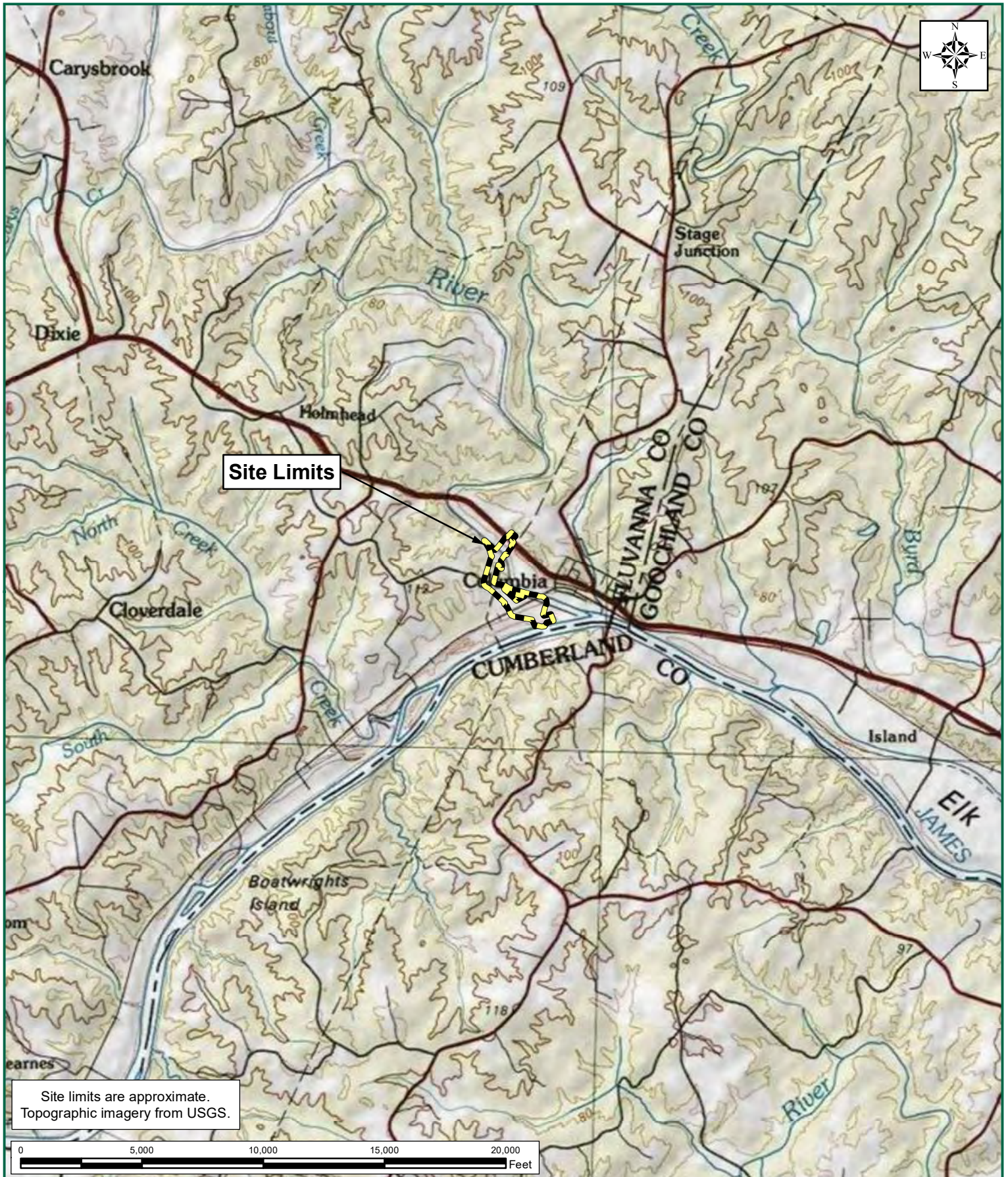
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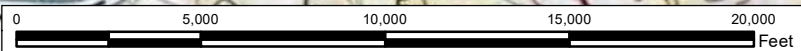
Office: 804.200.6582 | Cell: 727.560.9896 | Fax: 804.560.1648

| Eli.Wright@timmons.com

To send me files greater than 20MB [click here.](#)



Site limits are approximate.
Topographic imagery from USGS.



JAMES RIVER WATER AUTHORITY
FLUVANNA COUNTY, VIRGINIA
FIGURE 1: VICINITY MAP

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 33927
PROJECT STUDY LIMITS: 73.1 ACRES
LATITUDE: 37.751640
LONGITUDE: -78.174063

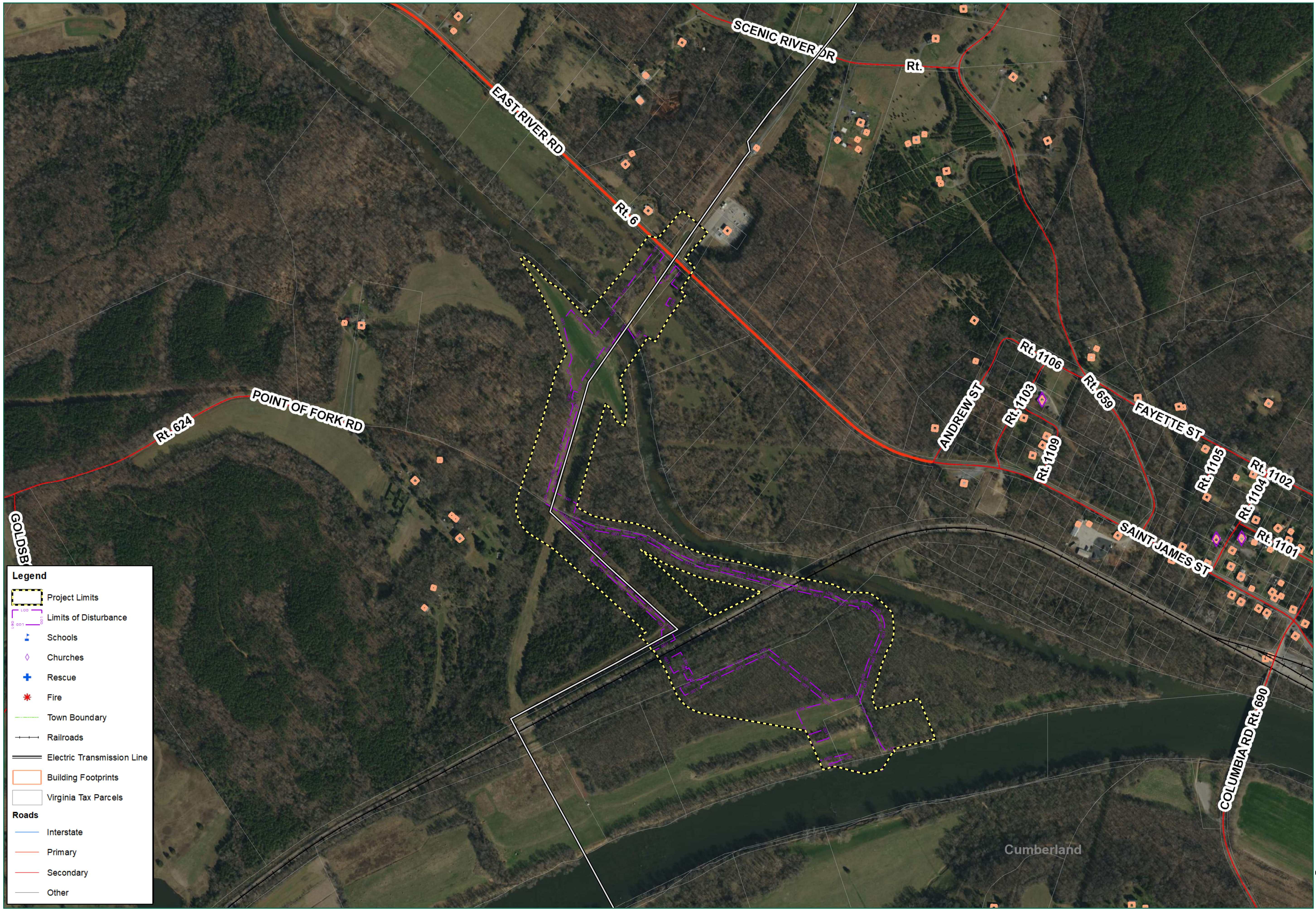
U.S.G.S. QUADRANGLE(S): LAKESIDE VILLAGE, COLUMBIA
DATE(S): 2016
WATERSHED(S): MIDDLE JAMES-BUFFALO, RIVANNA (JAMES RIVER BASIN)
HYDROLOGIC UNIT CODE(S): 02080203, 02080204

REVISIONS	
#	DESCRIPTION

DRAWING DESCRIPTION
**FIGURE 3:
 EXISTING
 CONDITIONS MAP**

SCALE (FEET)

 0 300 600
 PLANS PRINTED AS 11X17 ARE HALF SCALE
 SCALE SHEET NUMBER
 H:1" = 300' 1

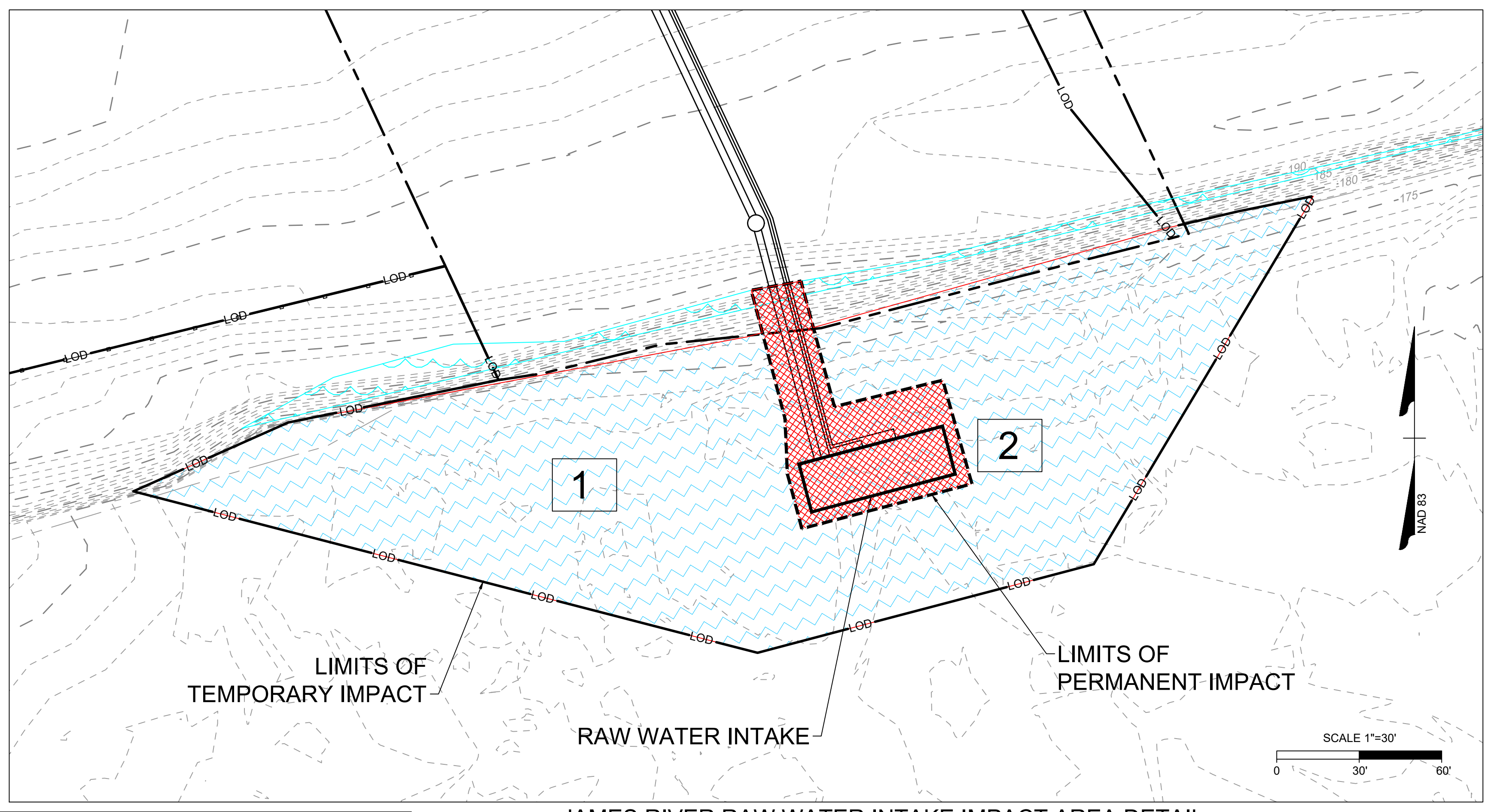
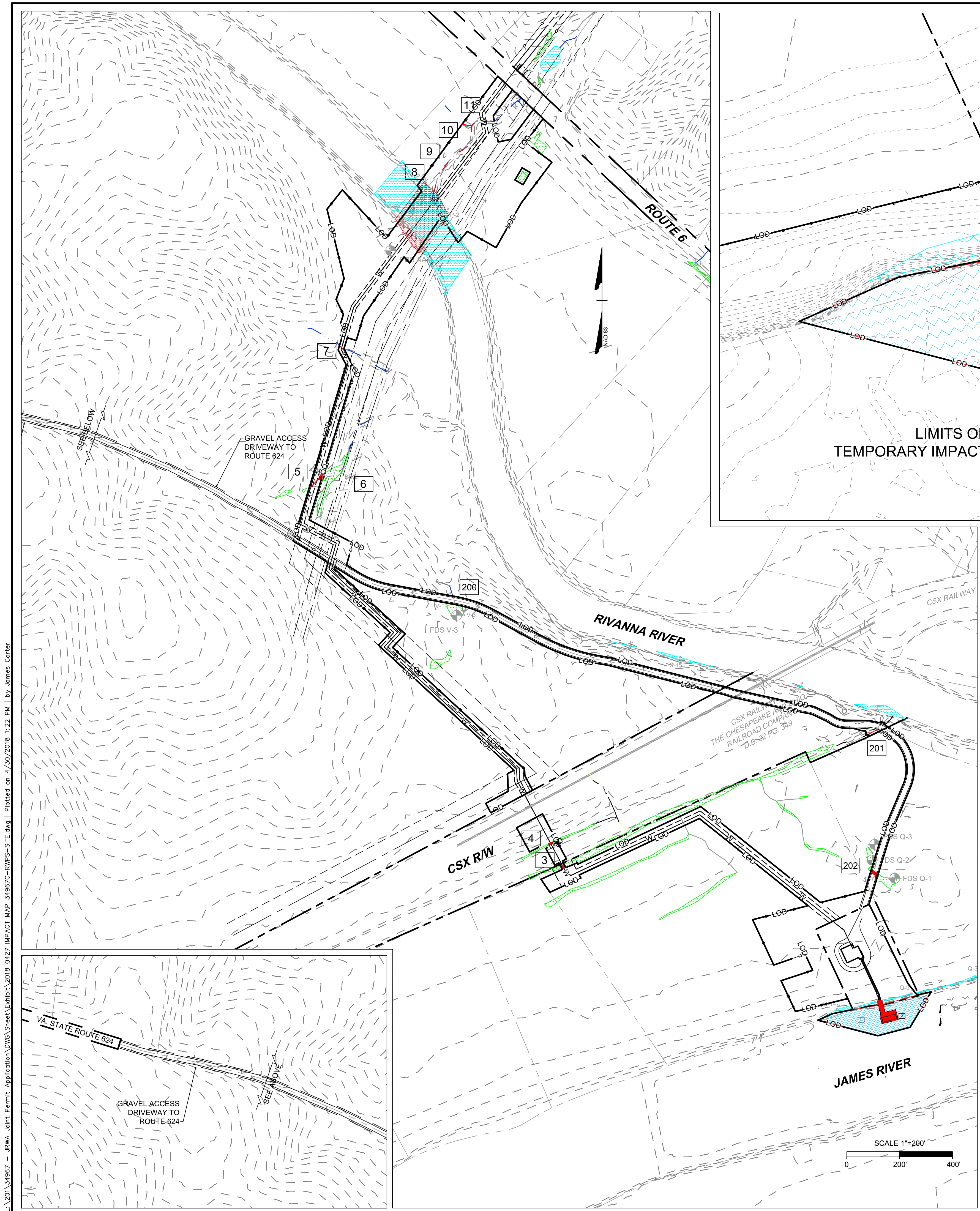


Legend

- Project Limits
- Limits of Disturbance
- Schools
- Churches
- Rescue
- Fire
- Town Boundary
- Railroads
- Electric Transmission Line
- Building Footprints
- Virginia Tax Parcels

Roads

- Interstate
- Primary
- Secondary
- Other



JAMES RIVER RAW WATER INTAKE IMPACT AREA DETAIL

LEGEND

xx	WETLAND FLAG	l.f.	LINEAR FEET	LOD	LIMITS IF DISTURBANCE
XX	FIELD DATA STATION	Ac.	ACRES	---	TEMPORARY CONSTRUCTION EASEMENT
s.f.	SQUARE FEET	1	IMPACT LOCATION	---	PERMANENT JRWA UTILITY EASEMENT
				---	PERMANENT UTILITY EASEMENT
				---	PROPERTY LINES

Environmental Impacts Table - James River Water Authority

Project	Impact ID	Wetland (sq. ft.)						Stream (lf and sq.ft.)				
		Impact			Excavation/Fill			Temporary		Permanent		
		PEM	PSS	PFO	PSS	PFO	PEM	PFO	L.F.	Sq.Ft.	L.F.	Sq. Ft.
JRWA	1								485	39,000		
	2										64	3,470
	3											
	4					161						
	5					94						
	6	195							43	172		
	7								24	120		
	8								190	28,218		
	9								320	1,280		
	10								38	114		
	11								110	550		
	Sub-Total	195	0	0	0	255	0	0	1,210	69,454	64	3,470
	Total		195 sq ft 0.004 ac		255 sq ft 0.006 ac		0 sq ft 0.000 ac		1,210 lf 1.594 ac	69,454 sq ft	64 lf	3,470 sq ft 0.080 ac

* PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland

Access Road Environmental Impacts Table

Project	Impact ID	Wetland (sq. ft.)						Stream (lf)			
		Impact			Conversion			Impact			
		Temporary	Permanent	ROW	Permanent	PSS	PFO	Temporary	Permanent		
JRWA	200			29							
	201										40
	202			172		245					
	Sub-Total	0	0	201	0	245	0	0	0	0	40
	Total		201 sq ft 0.005		245 sq ft 0.006 ac		0 sq ft 0.000 ac		0 lf		40 lf

* PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland; PEM=Palustrine Emergent Wetland; ROW= Riverine Open Water

NOTE: REFER TO THE "PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. MAP - DETAIL" SHEETS FOR ADDITIONAL INFORMATION OF EACH IMPACT AREA

RELOCATED INTAKE, PUMP STATION AND RAW WATER PIPELINE OWNED BY THE JRWA

NOTE: INTAKE STRUCTURE RELOCATED APPROX. 250 UPSTREAM

THIS DRAWING PREPARED AT THE
CORPORATE OFFICE
1001 BOULDERS PARKWAY, SUITE 300, RICHMOND, VA 23225
TEL: 804.280.6500 FAX: 804.286.1016 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE: 4-30-2018
DRAWN BY: J. CARTER
DESIGNED BY: D. SAUNDERS
CHECKED BY: D. SAUNDERS
SCALE: AS SHOWN

TIMMONS GROUP

JRWA RAW WATER INTAKE, PUMP STATION AND FORCE MAIN
FLUVANNA COUNTY, VIRGINIA

ENVIRONMENTAL IMPACT SUMMARY

JOB NO. 34967
SHEET NO. 1 OF 2

L:\2011\34967 - JRWA Joint Permit Application\DWG\Sheets\Site\Site.dwg | Plotted on 4/30/2018 1:22 PM | By James Carter

APPENDIX D-4
PRELIMINARY JURISDICTIONAL DETERMINATION DOCUMENTS

APPENDIX D-4-1

2014 NAO-2014-0708 PRELIMINARY JURISDICTIONAL DETERMINATION LETTER



Reply to
Attention of

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1096

June 11, 2014

PRELIMINARY JURISDICTIONAL DETERMINATION

Southern Virginia Regulatory Section
NAO-2014-0708 (James River)

James River Water Authority
C/o Goodman Duke
132 Main Street
Palmyra, Virginia 22963

Dear Mr. Goodman:

This letter is in regard to your request for a preliminary jurisdictional determination for waters of the U.S. (including wetlands) on an approximately 72.7 acre linear project, near the confluence of the James River and the Rivanna River, in Fluvanna County, Virginia.

The map entitled "James River Water Authority, Fluvanna County, Virginia, Drawing 4: Preliminary Wetlands Delineation Map", by Timmons Group dated February 6, 2014, and Corps date stamped as received April 30, 2014 (*copy enclosed*) provides the locations of waters and/or wetlands on the property listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* and the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation and the presence of an ordinary high water mark.

Discharges of dredged or fill material, including those associated with mechanized landclearing, into waters and/or wetlands on this site may require a Department of the Army permit and authorization by state and local authorities including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps preliminary jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

This is a preliminary jurisdictional determination and is therefore not a legally binding determination regarding whether Corps jurisdiction applies to the waters or wetlands in question. Accordingly, you may either consent to jurisdiction as set out in this preliminary jurisdictional determination and the attachments hereto if you agree with the determination, or you may request and obtain an approved jurisdictional determination.

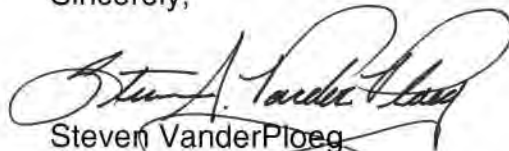
This preliminary jurisdictional determination and associated wetland delineation map may be submitted with a permit application.

Enclosed is a copy of the "Preliminary Jurisdictional Determination Form". Please review the document, sign, and return one copy to Mr. Steven VanderPloeg, either via email or via standard mail to *9100 Arboretum Parkway, Suite 235, Richmond, Virginia 23236* within 30 days of receipt and keep one for your records. This delineation of waters and/or wetlands is valid for a period of five years from the date of this letter unless new information warrants revision prior to the expiration date.

If you have any questions, please contact Steven VanderPloeg at 804-323-3780 or steven.a.vanderploeg@usace.army.mil

Copies of this verification have been provided to Virginia Department of Environmental Quality, Valley Regional Office; Mr. Brian Bressinger, Timmons Group; and Fluvanna County, Department of Planning and Zoning.

Sincerely,



Steven VanderPloeg
Environmental Scientist
Southern Virginia Regulatory Section

Enclosures: Preliminary Jurisdictional Determination Form; Wetland/Waters Delineation Map; Supplemental Preapplication Information

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION:

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): June 11, 2014

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:
James River Water Authority
C/o Goodman Duke
132 Main Street
Palmyra, Virginia 22963

C. DISTRICT OFFICE: Norfolk District (CENAO-REG)

FILE NAME: James River Water Authority

FILE NUMBER: NAO-2014-0708

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:
(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: **VIRGINIA** County/parish/borough: Fluvanna City:

Center coordinates of site (lat/long in degree decimal format):

Latitude: 37.7508 ° N Longitude: 78.1679 ° W

Universal Transverse Mercator:

Name of nearest waterbody: James River and Rivanna River

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 5656 linear feet; 1-10 width (ft); and/or acres.

Cowardin Class: R3, R4

Stream Flow:

Wetlands: 2.6 acres

Cowardin Class: POW, PSS, PEM, ROW, PFO

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal: James River and Rivanna River

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s): April 24, 2014

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.
2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.
3. This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:


SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply) - checked items should be included in case file and, where checked and requested, appropriately reference sources below.

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
Timmons Group

- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report. Timmons Group
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps. 02080203, 02080204, 02080205
- U.S. Geological Survey map(s). Cite scale & quad name: 1"=2,000" - Columbia
- USDA Natural Resources Conservation Service Soil Survey.
 - Citation: COE GIS Database
- National wetlands inventory map(s). Cite name: COE GIS Database
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Goggle Earth 2014
 - or Other (Name & Date):
- Previous determination(s):
 - File no. and date of response letter:
- Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.


 Signature
 Regulatory Project Manager
 (REQUIRED)

6/11/2014
 Date

 Signature of person requesting
 Preliminary JD
 (REQUIRED, unless obtaining the signature is
 impracticable)

 Date



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-109

JUNE 11, 2014

Supplemental Preapplication Information

Project Number: NAO-2014-0708
Applicant: James River Water Authority
Project Location: Fluvanna County

1. A search of the Virginia Department of Historic Resources data revealed the following:

- The following known architectural resources are located on the property:
 - 032-0036 Rivanna Canal Navigation Historic District - potentially eligible
 - 032-0024 Point of Fork Plantation -
 - 200-0021 Columbia Historic District - potentially eligible
 - 200-0006 Factor's House/Bryant House
 - 200-0010 Shepherd Store (Walton Store)
 - 200-0019 Apartment House
 - 200-0011 Walton House
 - 200-0005 Well House (Williams House)
 - 200-0004 Cabell Masonic Lodge
 - 200-0003 Columbia Railroad Station also 200-0021-0029
 - 200-0014 Miss Alice Walton's Store (Gibson Store) also 200-0021-0034
 - 200-0007 Ferry House also 200-0021-0032
 - 200-0016 Joe Manley House

- The following known archaeological resources are located on the property:
 - 44FV0025 - Prehistoric/Unknown
 - 44FV0024 - Historic/Unknown, Prehistoric/Unknown
 - 44FV0019 - Late Woodland
 - 44FV0020 - Woodland
 - 44FV0021 - Woodland
 - 44FV0032 Columbia Lock & Dam - 19th Century
 - 44FV0067 Columbia Lock & Dam - 19th Century
 - 44FV0033 Columbia Aqueduct –
 - 44FV0022 - Late Woodland
 - 44FV0065 Rivanna Aqueduct - 19th Century
 - 44FV0135 - 19th Century
 - 44FV0066 - 19th Century

NOTE:

- 1) *The information above is for planning purposes only. In most cases, the property has not been surveyed for historic resources. Undiscovered historic resources may be located on the subject property or adjacent properties and this supplemental information is not intended to satisfy the Corps' requirements under Section 106 of the National Historic Preservation Act (NHPA).*
- 2) *Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after*

consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.

2. A search of the data supplied by the U.S. Fish & Wildlife Service, the Virginia Department of Conservation and Recreation and the Virginia Department of Game and Inland Fisheries revealed the following:
 - The following federally-listed species may occur within the vicinity of the subject property:
 - James spiny mussel (*Pleurobema collina*) - Federally Endangered
 - The following state-listed (or other) species may occur within the vicinity of the subject property:
 - Green Floater, (*Lasmigona subviridis*) - State Threatened
 - Atlantic Pigtoe, (*Fusconaia masoni*) - Federal Species of Concern, State Threatened

Please note this information is being provided to you based on the preliminary data you submitted to the Corps relative to project boundaries and project plans. Consequently, these findings and recommendations are subject to change if the project scope changes or new information becomes available and the accuracy of the data.

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS

THIS DRAWING REFERRED AT THE CORNER OF THE RIVANNA COUNTY COURTHOUSE, 1001 BRADLEY STREET, SUITE 100, RIVANNA, VA 22181



Resource ID	Classification				Resource Description
	REG #1	REG #2	ROW #1	ROW #2	
A	1.000	1.000	1.000	1.000	WETLAND
B	1.000	1.000	1.000	1.000	WETLAND
C	1.000	1.000	1.000	1.000	WETLAND
D	1.000	1.000	1.000	1.000	WETLAND
E	1.000	1.000	1.000	1.000	WETLAND
F	1.000	1.000	1.000	1.000	WETLAND
G	1.000	1.000	1.000	1.000	WETLAND
H	1.000	1.000	1.000	1.000	WETLAND
I	1.000	1.000	1.000	1.000	WETLAND
J	1.000	1.000	1.000	1.000	WETLAND
K	1.000	1.000	1.000	1.000	WETLAND
L	1.000	1.000	1.000	1.000	WETLAND
M	1.000	1.000	1.000	1.000	WETLAND
N	1.000	1.000	1.000	1.000	WETLAND
O	1.000	1.000	1.000	1.000	WETLAND
P	1.000	1.000	1.000	1.000	WETLAND
Q	1.000	1.000	1.000	1.000	WETLAND
R	1.000	1.000	1.000	1.000	WETLAND
S	1.000	1.000	1.000	1.000	WETLAND
T	1.000	1.000	1.000	1.000	WETLAND
U	1.000	1.000	1.000	1.000	WETLAND
V	1.000	1.000	1.000	1.000	WETLAND
W	1.000	1.000	1.000	1.000	WETLAND
X	1.000	1.000	1.000	1.000	WETLAND
Y	1.000	1.000	1.000	1.000	WETLAND
Z	1.000	1.000	1.000	1.000	WETLAND
AA	1.000	1.000	1.000	1.000	WETLAND
BB	1.000	1.000	1.000	1.000	WETLAND
CC	1.000	1.000	1.000	1.000	WETLAND
DD	1.000	1.000	1.000	1.000	WETLAND
EE	1.000	1.000	1.000	1.000	WETLAND
FF	1.000	1.000	1.000	1.000	WETLAND
GG	1.000	1.000	1.000	1.000	WETLAND
HH	1.000	1.000	1.000	1.000	WETLAND
II	1.000	1.000	1.000	1.000	WETLAND
JJ	1.000	1.000	1.000	1.000	WETLAND
KK	1.000	1.000	1.000	1.000	WETLAND
LL	1.000	1.000	1.000	1.000	WETLAND
MM	1.000	1.000	1.000	1.000	WETLAND
NN	1.000	1.000	1.000	1.000	WETLAND
OO	1.000	1.000	1.000	1.000	WETLAND
PP	1.000	1.000	1.000	1.000	WETLAND
QQ	1.000	1.000	1.000	1.000	WETLAND
RR	1.000	1.000	1.000	1.000	WETLAND
SS	1.000	1.000	1.000	1.000	WETLAND
TT	1.000	1.000	1.000	1.000	WETLAND
UU	1.000	1.000	1.000	1.000	WETLAND
VV	1.000	1.000	1.000	1.000	WETLAND
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YY	1.000	1.000	1.000	1.000	WETLAND
ZZ	1.000	1.000	1.000	1.000	WETLAND
AAA	1.000	1.000	1.000	1.000	WETLAND
BBB	1.000	1.000	1.000	1.000	WETLAND
CCC	1.000	1.000	1.000	1.000	WETLAND
DDD	1.000	1.000	1.000	1.000	WETLAND
EEE	1.000	1.000	1.000	1.000	WETLAND
FFF	1.000	1.000	1.000	1.000	WETLAND
GGG	1.000	1.000	1.000	1.000	WETLAND
HHH	1.000	1.000	1.000	1.000	WETLAND
III	1.000	1.000	1.000	1.000	WETLAND
JJJ	1.000	1.000	1.000	1.000	WETLAND
KKK	1.000	1.000	1.000	1.000	WETLAND
LLL	1.000	1.000	1.000	1.000	WETLAND
MMM	1.000	1.000	1.000	1.000	WETLAND
NNN	1.000	1.000	1.000	1.000	WETLAND
OOO	1.000	1.000	1.000	1.000	WETLAND
PPP	1.000	1.000	1.000	1.000	WETLAND
QQQ	1.000	1.000	1.000	1.000	WETLAND
RRR	1.000	1.000	1.000	1.000	WETLAND
SSS	1.000	1.000	1.000	1.000	WETLAND
TTT	1.000	1.000	1.000	1.000	WETLAND
UUU	1.000	1.000	1.000	1.000	WETLAND
VVV	1.000	1.000	1.000	1.000	WETLAND
WWW	1.000	1.000	1.000	1.000	WETLAND
XXX	1.000	1.000	1.000	1.000	WETLAND
YYY	1.000	1.000	1.000	1.000	WETLAND
ZZZ	1.000	1.000	1.000	1.000	WETLAND
AAA	1.000	1.000	1.000	1.000	WETLAND
BBB	1.000	1.000	1.000	1.000	WETLAND
CCC	1.000	1.000	1.000	1.000	WETLAND
DDD	1.000	1.000	1.000	1.000	WETLAND
EEE	1.000	1.000	1.000	1.000	WETLAND
FFF	1.000	1.000	1.000	1.000	WETLAND
GGG	1.000	1.000	1.000	1.000	WETLAND
HHH	1.000	1.000	1.000	1.000	WETLAND
III	1.000	1.000	1.000	1.000	WETLAND
JJJ	1.000	1.000	1.000	1.000	WETLAND
KKK	1.000	1.000	1.000	1.000	WETLAND
LLL	1.000	1.000	1.000	1.000	WETLAND
MMM	1.000	1.000	1.000	1.000	WETLAND
NNN	1.000	1.000	1.000	1.000	WETLAND
OOO	1.000	1.000	1.000	1.000	WETLAND
PPP	1.000	1.000	1.000	1.000	WETLAND
QQQ	1.000	1.000	1.000	1.000	WETLAND
RRR	1.000	1.000	1.000	1.000	WETLAND
SSS	1.000	1.000	1.000	1.000	WETLAND
TTT	1.000	1.000	1.000	1.000	WETLAND
UUU	1.000	1.000	1.000	1.000	WETLAND
VVV	1.000	1.000	1.000	1.000	WETLAND
WWW	1.000	1.000	1.000	1.000	WETLAND
XXX	1.000	1.000	1.000	1.000	WETLAND
YYY	1.000	1.000	1.000	1.000	WETLAND
ZZZ	1.000	1.000	1.000	1.000	WETLAND

LEGEND

- PROJECT STUDY LIMITS (S77 ACROSS)
- R1 STREAMS
- R2 STREAMS
- ARBITRATIONAL DITCH
- WETLAND FLAG
- FIELD DATA STATION
- STREAM SYSTEM IDENTIFICATION
- WETLAND SYSTEM IDENTIFICATION
- PALUSTRINE FORESTED (PFI) WETLAND
- PALUSTRINE SCRUB SHRUB (PSS) WETLAND
- PALUSTRINE EMERGENT (PEM) WETLAND
- RIVERINE OPEN WATER (ROW) WETLAND
- PALUSTRINE OPEN WATER (POW) WETLAND

NOTES:

1. AREAS OF THE U.S. WITHIN THE PROJECT STUDY LIMITS HAVE BEEN IDENTIFIED BY TIMMONS GROUP.
2. AREAS OF THE U.S. WITHIN THE PROJECT STUDY LIMITS HAVE BEEN IDENTIFIED BY THE U.S. ARMY CORPS OF ENGINEERS.
3. PROJECT STUDY LIMITS ARE APPROXIMATE.
4. DETAIL OBTAINED FROM ERM ONLINE 2015.

APPENDIX D-4-2

2016 NAO-2014-0708 PRELIMINARY JURISDICTIONAL DETERMINATION LETTER



Reply to
Attention of

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1096

August 29, 2016

PRELIMINARY JURISDICTIONAL DETERMINATION

Western Virginia Regulatory Section
NAO-2014-0708 (James River)

James River Water Authority
C/o Steven Nichols
132 Main Street
Palmyra, Virginia 22963

Dear Mr. Nichols:

This letter is in regard to your request for a preliminary jurisdictional determination for waters of the U.S. (including wetlands) on an approximately 75.3 acre linear project, near the confluence of the James River and the Rivanna River, in Fluvanna County, Virginia.

The map entitled "James River Water Authority – Additional Areas, Fluvanna County, Virginia, Figure 1A: Preliminary Jurisdictional Waters of the U.S. Delineation Map", by Timmons Group dated April 19, 2016, with a revision date of February 22, 2016 and Corps date stamped as received May 24, 2016 (*copy enclosed*) provides the locations of waters and/or wetlands on the property listed above. The basis for this delineation includes application of the Corps' 1987 Wetland Delineation Manual *and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* and the positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation and the presence of an ordinary high water mark.

Discharges of dredged or fill material, including those associated with mechanized land clearing, into waters and/or wetlands on this site may require a Department of the Army permit and authorization by state and local authorities including a Virginia Water Protection Permit from the Virginia Department of Environmental Quality (DEQ), a permit from the Virginia Marine Resources Commission (VMRC) and/or a permit from your local wetlands board. This letter is a confirmation of the Corps preliminary jurisdiction for the waters and/or wetlands on the subject property and does not authorize any work in these areas. Please obtain all required permits before starting work in the delineated waters/wetland areas.

This is a preliminary jurisdictional determination and is therefore not a legally binding determination regarding whether Corps jurisdiction applies to the waters or wetlands in question. Accordingly, you may either consent to jurisdiction as set out in this preliminary jurisdictional determination and the attachments hereto if you agree with the determination, or you may request and obtain an approved jurisdictional determination.

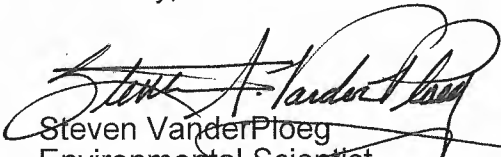
This preliminary jurisdictional determination and associated wetland delineation map may be submitted with a permit application.

Enclosed is a copy of the "Preliminary Jurisdictional Determination Form". Please review the document, sign, and return one copy to Mr. Steven VanderPloeg, either via email or via standard mail to *9100 Arboretum Parkway, Suite 235, Richmond, Virginia 23236* within 30 days of receipt and keep one for your records. This delineation of waters and/or wetlands is valid for a period of five years from the date of this letter unless new information warrants revision prior to the expiration date.

If you have any questions, please contact Steven VanderPloeg at 804-323-7071 or steven.a.vanderploeg@usace.army.mil

Copies of this verification have been provided to Virginia Department of Environmental Quality, Valley Regional Office; Mr. Dan Cox, Timmons Group; and Fluvanna County, Department of Planning and Zoning.

Sincerely,


Steven VanderPloeg
Environmental Scientist
Western Virginia Regulatory Section

Enclosures: Preliminary Jurisdictional Determination Form; Wetland/Waters Delineation Map; Supplemental Preapplication Information

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

BACKGROUND INFORMATION:

A. REPORT COMPLETION DATE FOR PRELIMINARY JURISDICTIONAL DETERMINATION (JD): August 30, 2016

B. NAME AND ADDRESS OF PERSON REQUESTING PRELIMINARY JD:

James River Water Authority
C/o Steven Nichols
132 Main Street
Palmyra, Virginia 22963

C. DISTRICT OFFICE: Norfolk District (CENAO-REG)

FILE NAME: James River Water Authority

FILE NUMBER: NAO-2014-0708

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE ATTACHED TABLE TO DOCUMENT MULTIPLE WATERBODIES AT DIFFERENT SITES)

State: **VIRGINIA** County/parish/borough: Fluvanna City:

Center coordinates of site (lat/long in degree decimal format):

Latitude: 37.7508 ° N Longitude: 78.1679 ° W

Universal Transverse Mercator:

Name of nearest waterbody: James River and Rivanna River

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 1490 linear feet; 1-10 width (ft); and/or acres.

Cowardin Class: R3, R4, R6

Stream Flow:

Wetlands: 0.96 acres

Cowardin Class: PEM, PFO

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:

Non-Tidal: James River and Rivanna River

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s): April 20, 2016

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

3. This preliminary JD finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA:

Data reviewed for preliminary JD (check all that apply) - checked items should be included in case file and, where checked and requested, appropriately reference sources below.


- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
Timmons Group

- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report. Timmons Group
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps. 02080203, 02080204, 02080205
- U.S. Geological Survey map(s). Cite scale & quad name: 1"=2,000" - Columbia
- USDA Natural Resources Conservation Service Soil Survey.
 - Citation: COE GIS Database
- National wetlands inventory map(s). Cite name: COE GIS Database
- State/Local wetland inventory map(s):
- FEMA/FIRM maps:
- 100-year Floodplain Elevation: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): Goggle Earth 2014
 - or Other (Name & Date):
- Previous determination(s):
 - File no. and date of response letter:
- Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.


 Signature
 Regulatory Project Manager
 (REQUIRED)

8/31/16
 Date


 Signature of person requesting
 Preliminary JD
 (REQUIRED, unless obtaining the signature is impracticable)

9/8/16
 Date



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT CORPS OF ENGINEERS
FORT NORFOLK 803 FRONT STREET
NORFOLK VIRGINIA 23510-109

AUGUST 30, 2016

Supplemental Preapplication Information

Project Number: NAO-2014-0708
Applicant: James River Water Authority
Project Location: Fluvanna County

1. A search of the Virginia Department of Historic Resources data revealed the following:

- The following known architectural resources are located on the property:
- 032-0036 Rivanna Canal Navigation Historic District - potentially eligible
 - 032-0024 Point of Fork Plantation -
 - 200-0021 Columbia Historic District - potentially eligible
 - 200-0006 Factor's House/Bryant House
 - 200-0010 Shepherd Store (Walton Store)
 - 200-0019 Apartment House
 - 200-0011 Walton House
 - 200-0005 Well House (Williams House)
 - 200-0004 Cabell Masonic Lodge
 - 200-0003 Columbia Railroad Station also 200-0021-0029
 - 200-0014 Miss Alice Walton's Store (Gibson Store) also 200-0021-0034
 - 200-0007 Ferry House also 200-0021-0032
 - 200-0016 Joe Manley House

- The following known archaeological resources are located on the property:
- 44FV0025 - Prehistoric/Unknown
 - 44FV0024 - Historic/Unknown, Prehistoric/Unknown
 - 44FV0019 - Late Woodland
 - 44FV0020 - Woodland
 - 44FV0021 - Woodland
 - 44FV0032 Columbia Lock & Dam - 19th Century
 - 44FV0067 Columbia Lock & Dam - 19th Century
 - 44FV0033 Columbia Aqueduct --
 - 44FV0022 - Late Woodland
 - 44FV0065 Rivanna Aqueduct - 19th Century
 - 44FV0135 - 19th Century
 - 44FV0066 - 19th Century

NOTE:

- 1) *The information above is for planning purposes only. In most cases, the property has not been surveyed for historic resources. Undiscovered historic resources may be located on the subject property or adjacent properties and this supplemental information is not intended to satisfy the Corps' requirements under Section 106 of the National Historic Preservation Act (NHPA).*
- 2) *Prospective permittees should be aware that Section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after*

consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.

2. A search of the data supplied by the U.S. Fish & Wildlife Service, the Virginia Department of Conservation and Recreation and the Virginia Department of Game and Inland Fisheries revealed the following:

The following federally-listed species may occur within the vicinity of the subject property:

- James spinymussel (*Pleurobema collina*) - Federally Endangered
- Northern Long-eared Bat (*Myotis septentrionalis*)

The following state-listed (or other) species may occur within the vicinity of the subject property:

- Green Floater, (*Lasmigona subviridis*) - State Threatened
- Atlantic Pigtoe, (*Fusconaia masoni*) - Federal Species of Concern, State Threatened

Please note this information is being provided to you based on the preliminary data you submitted to the Corps relative to project boundaries and project plans. Consequently, these findings and recommendations are subject to change if the project scope changes or new information becomes available and the accuracy of the data.



Previously Confirmed Waters of the U.S. (June 11, 2014)									
Resource Identification	PFO (sq ft)	PSS (sq ft)	FIGM (sq ft)	ROW (sq ft)	R3 (ft)	R4 (ft)	R6 (ft)	Ditch (ft)	Resource Description Notes*
Total	24,188	846	12,917	70,757	4,568	5,403	253	847	Confirms COE #NAO-2014-0708
Total Wetland Area =	113,276 sq ft								
Total Stream Length =	11,071 ft								

Classification									
Resource Identification	PFO (sq ft)	PSS (sq ft)	FIGM (sq ft)	ROW (sq ft)	R3 (ft)	R4 (ft)	R6 (ft)	Ditch (ft)	Resource Description Notes*
a	2,890								NTAV
B	5,972								NTAV
C	22,734								NTAV
D	1,717								NTAV
E							86		NTAV
F						128	163		NTAV
G								327	NTAV
H	1,730								NTAV
I								106	NTAV
J								172	NTAV
K	1,150	870							NTAV
L	576								NTAV
M	105								NTAV
N						134			NTAV
O						250			NTAV
P			43,638						NTAV
Q						124			NTAV
R	116	606							NTAV
S	1,315	816							NTAV
T	1,423								NTAV
U				13,654					NTAV
Total	39,718	0	2,292	57,232	384	252	248	605	
Total Wetland Area =	42,010 sq ft								
Total Stream Length =	1,490 ft								

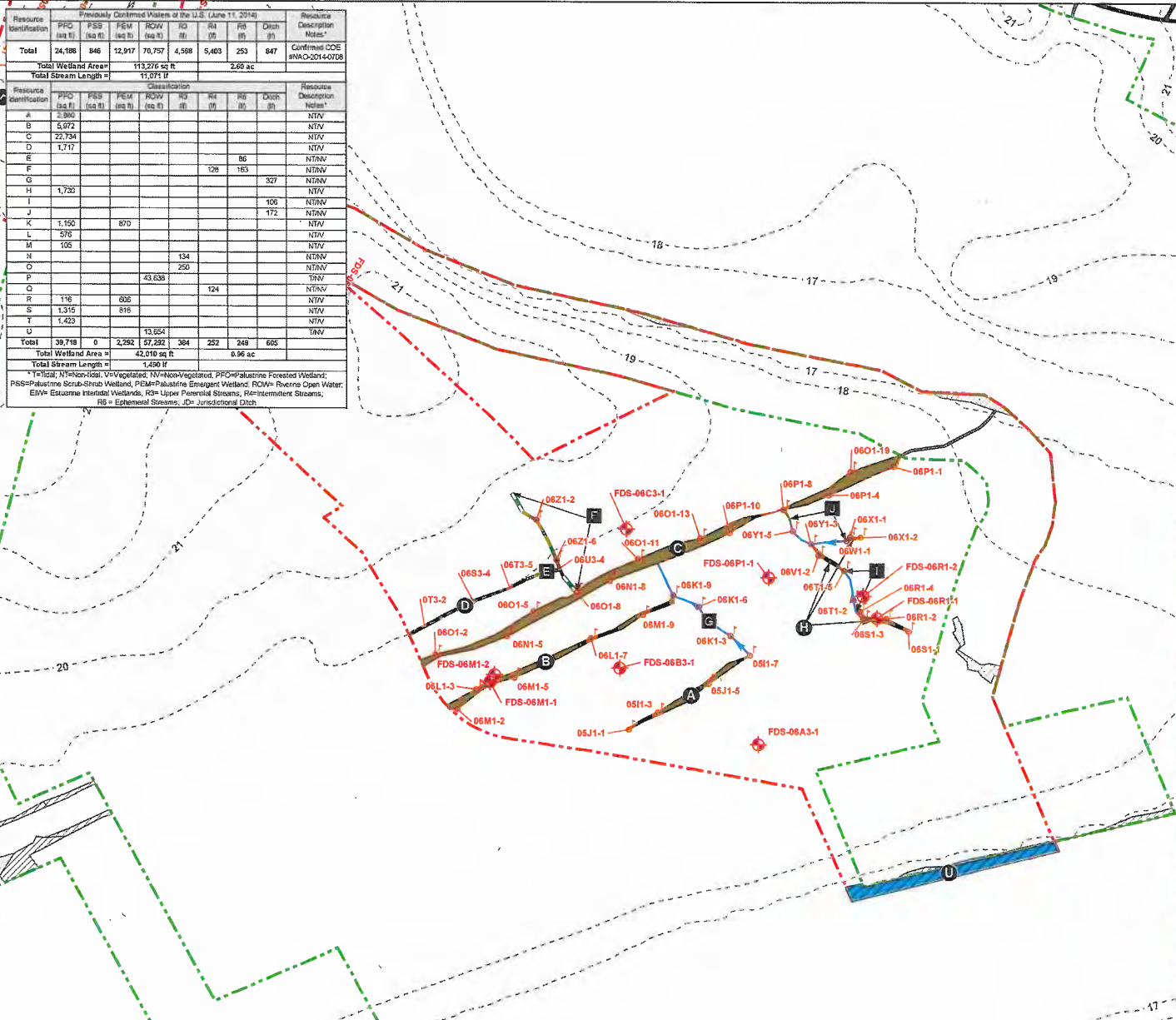
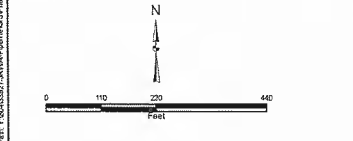
* F=Facial, N=Non-Vegetated, V=Vegetated, NV=Non-Vegetated, PFO=Palustrine Forested Wetland; PSS=Palustrine Scrub-Shrub Wetland, PEM=Palustrine Emergent Wetland, ROW= Riverine Open Water; EIW= Estuarine Inter tidal Wetlands, R3= Upper Perennial Streams, R4=Intermittent Streams, R6= Ephemeral Streams, D= Jurisdictional Ditch

Legend

- Previously Confirmed Delineation
- 06/11/2014 COE # NAO-2014-0708
- JRWA Additional Delineation Limits - 75.3 acres
- Wetland Flag
- Field Data Station
- Culvert
- Ephemeral Stream (R6)
- Intermittent Stream (R4)
- Perennial Stream (R3) - Centerline
- Ditch
- Palustrine Emergent (PEM) Wetlands
- Palustrine Forested (PFO) Wetlands
- Palustrine Scrub-Shrub (PSS) Wetlands
- Riverine Open Water (ROW)

NOTES:

1. WATERS OF THE U.S. WITHIN THE PROJECT STUDY LIMITS HAVE BEEN GPS LOCATED BY TIMMONS GROUP.
2. WATERS OF THE U.S. HAVE NOT BEEN CONFIRMED BY THE U.S. ARMY CORPS OF ENGINEERS.
3. PROJECT STUDY LIMITS ARE APPROXIMATE.
4. TOPOGRAPHY BASED ON USGS LIDAR DATA.
5. COWARDIN STREAM CLASSIFICATIONS ARE BASED SOLELY ON FIELD OBSERVATIONS. NO FORMAL STREAM ASSESSMENT METHODOLOGY WAS COMPLETED TO DETERMINE THESE COWARDIN CLASSIFICATIONS.



TIMMONS GROUP

JAMES RIVER WATER AUTHORITY - ADDITIONAL AREAS
LOUISIANA AND FLORIANNA COUNTY, VIRGINIA

FIGURE 1A: PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. DELINEATION MAP

THIS DRAWING PREPARED AT THE
CORPORATE OFFICE,
10110 FIVE POINTS BLVD., SUITE 100,
FALLS CHURCH, VA 22044
TEL: 800.800.8400 FAX: 561.568.1458 WWW.TIMMONSGROUP.COM

YOUR WATERS ASSESSMENT THROUGH OURS	
DATE	REVISION DESCRIPTION
04/19/2016	
02/27/2016	Revised per COE site visit

DATE: 04/19/2016
DRAWN BY: B. NORRIS
DESIGNED BY: B. NORRIS
CHECKED BY: J. BOHDAN
SCALE: 1" = 220'

JOB NUMBER: 33827
SHEET NO.: 1 OF 2

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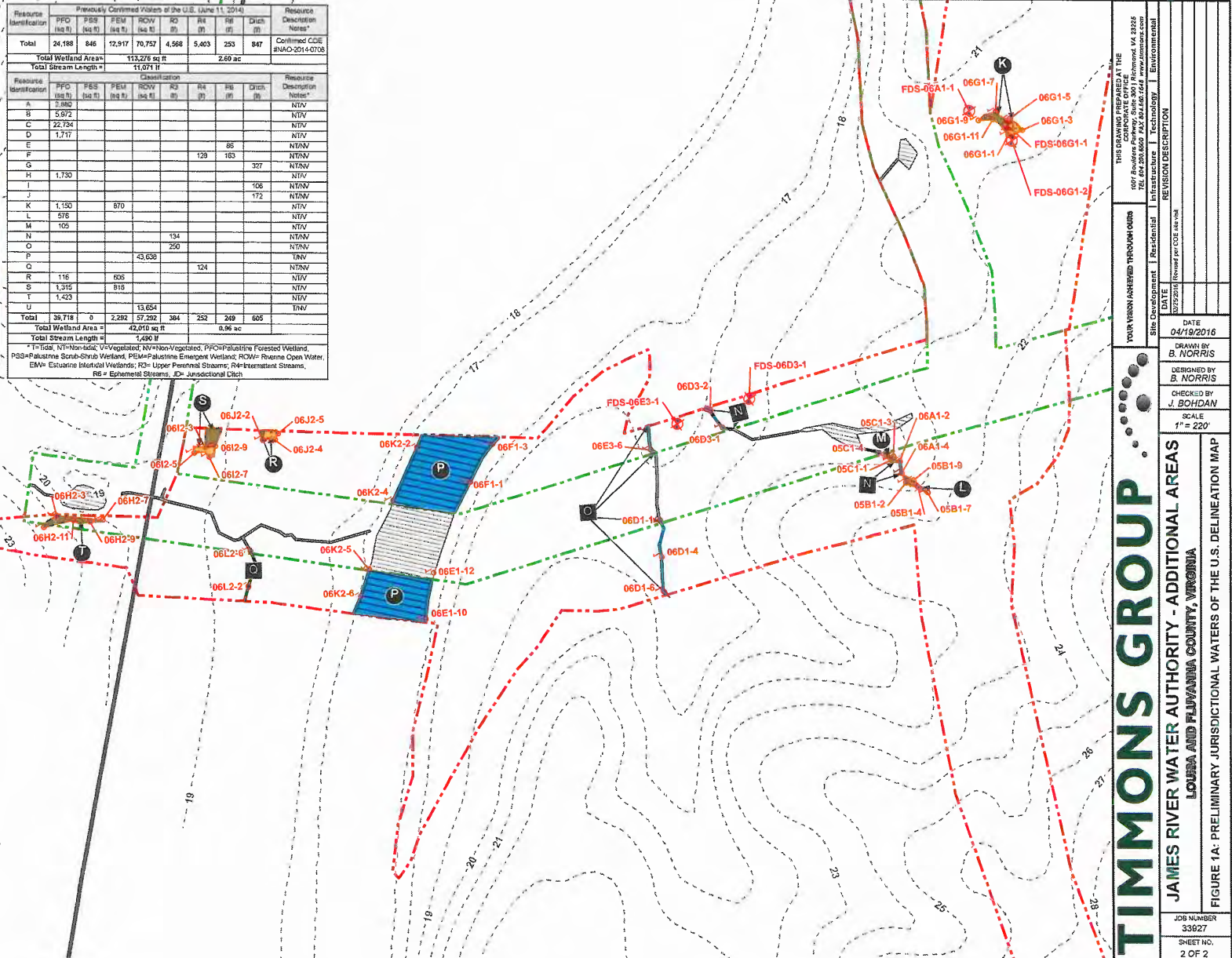
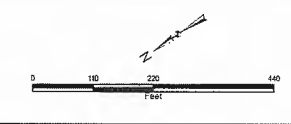
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Total Stream Length =		11,071 ft								
Resource Identifier	PFO (sq ft)	PSS (sq ft)	PEM (sq ft)	ROW (sq ft)	R3 (ft)	R4 (ft)	R6 (ft)	Ditch (ft)	Resource Description Notes*	
A	5,880								NTV	
B	5,972								NTV	
C	22,784								NTV	
D	1,217								NTV	
E							88		NTNV	
F					129	183			NTNV	
G								327	NTNV	
H	1,730								NTV	
J								106	NTNV	
K	1,150	870							NTV	
L	578								NTV	
M	105				134				NTNV	
O				250					NTNV	
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T	1,423								NTV	
U				13,634					TNV	
Total	39,718	0	2,282	57,292	384	252	249	605		
Total Wetland Area =		42,010 sq ft								
Total Stream Length =		5,494 ft								

* T= Tidal, N= Non-tidal, V= Vegetated, NV= Non-Vegetated, PFO= Palustrine Forested Wetland, PSS= Palustrine Scrub-Shrub Wetland, PEM= Palustrine Emergent Wetland, ROW= Riverine Open Water, EM= Estuarine Intertidal Wetlands, R3= Upper Perennial Streams, R4= Intermittent Streams, R6= Ephemeral Streams, D= Intersection Ditch

Legend

- Previously Confirmed Delineation
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- Palustrine Forested (PFO) Wetlands
- Palustrine Scrub-Shrub (PSS) Wetlands
- Riverine Open Water (ROW)

- NOTES:**
1. WATERS OF THE U.S. WITHIN THE PROJECT STUDY LIMITS HAVE BEEN GPS LOCATED BY TIMMONS GROUP.
 2. WATERS OF THE U.S. HAVE NOT BEEN CONFIRMED BY THE U.S. ARMY CORPS OF ENGINEERS.
 3. PROJECT STUDY LIMITS ARE APPROXIMATE.
 4. TOPOGRAPHY BASED ON USGS LIDAR DATA.
 5. COWARDIN STREAM CLASSIFICATIONS ARE BASED SOLELY ON FIELD OBSERVATIONS. NO FORMAL STREAM ASSESSMENT METHODOLOGY WAS COMPLETED TO DETERMINE THESE COWARDIN CLASSIFICATIONS.



TIMMONS GROUP

JAMES RIVER WATER AUTHORITY - ADDITIONAL AREAS
LOUISA AND PLUMANNIA COUNTY, VIRGINIA

FIGURE 1A: PRELIMINARY JURISDICTIONAL WATERS OF THE U.S. DELINEATION MAP

DATE: 04/19/2016

DRAWN BY: B. NORRIS

DESIGNED BY: B. NORRIS

CHECKED BY: J. BOHDAN

SCALE: 1" = 20'

YOUR VISION. ANCHORED THROUGH COE'S.

Site Development | Residential | Infrastructure | Technology | Environmental

THE US ARMY CORPS OF ENGINEERS
CORPORATE OFFICE | 800 EAST VA 23206
207 BRUNNEN AVENUE | SUITE 200
ALEXANDRIA, VA 22304

JOB NUMBER: 33927

SHEET NO.: 2 OF 2

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APPENDIX D-5
ANTICIPATORY BURIAL PERMIT DHR FILE NO. 2015-0984



COMMONWEALTH of VIRGINIA

Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Molly Joseph Ward
Secretary of Natural Resources

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
www.dhr.virginia.gov

October 4, 2017

James River Water Authority
Attn: Mr. Steven M. Nichols
Fluvanna County Administrator
132 Main Street
Palmyra, VA 22963

Re: Application for the Removal and Temporary Curation of Human Remains Located at Point of Fork, Fluvanna County, Virginia
DHR File No. 2015-0984

Dear Mr. Nichols:

In accordance with Section 10.1-2305 of the *Code of Virginia*, final regulations adopted by the Virginia Board of Historic Resources and published in the Virginia Register on July 15, 1991, and following review by the Department, the Department of Historic Resources on this 4th day of October, 2017, hereby grants to the James River Water Authority permission to remove and temporarily curate human remains that may accidentally be disturbed by, or identified during laboratory analysis resulting from, planned archaeological investigations in and around property associated with the James River Water Authority's proposed raw water intake and pipeline at Point of Fork in Fluvanna County, Virginia. Any such removal and temporary curation shall take place only after consultation with the affected Indian Tribes/Nations (defined below). This is not a recovery permit and does not provide legal permission for the purposeful archaeological recovery of buried human remains. Any such activity must receive a separate permit issued by this office. This permit is to be considered effective as of today's date.

The granting of this permit signifies that:

1. The Department is aware that the recovery is part of the James River Water Supply Project, which is under review by the Review and Compliance Division (DHR Project Review No. 2015-0984).

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

2. The Department is aware that archaeological sites 44FV0019, 44FV0020, 44FV0021, and 44FV0022, all formally recorded in the VDHR's permanent archives, are located partially or entirely within the James River Water Supply Project. The Department is further aware that archaeological survey conducted in the early 1980s resulted in reports of exposed human remains within the boundaries of site 44FV0021, and that the area in general is believed to correspond to the Monacan village known as Rassawek.
3. The Department is aware that the federally-recognized Pamunkey Indian Tribe and Delaware Nation, as well as the Commonwealth-recognized Monacan Indian Nation, Rappahannock Tribe, and Upper Mattaponi Indian Tribe, have requested consulting party status pursuant to the federal project, and are hereinafter defined for the purposes of this permit as the "affected Indian Tribes/Nations".
4. The Department understands that the Permittee, an authority created pursuant to Code of Virginia Chapter 51, Title 15.2 §§ 15.2-5100 *et seq.*, incorporates two (2) municipal authorities (Fluvanna and Louisa Counties) that receive federal funding and thus meet the definition of "museum" under the Native American Graves Protection and Repatriation Act of 2001 (Public Law 101-601; 25 U.S.C. 3001-3013) (NAGPRA). As such, any action pertaining to the discovery, inadvertent disturbance, removal or subsequent treatment of human remains conducted pursuant to this permit must meet the terms and requirements of NAGPRA.
5. The Department has received from the Permittee and has approved a statement detailing the goals and objectives of the project.
6. The Department has reviewed the vita of the professionally-qualified archaeologist responsible for the proposed work and has found her qualified to complete the work.
7. The Department has received accurate information as to the location of the project area and the proposed investigations, to include both shovel and deep testing, designed to evaluate soil strata and composition, and to preliminarily identify archaeological deposits and features within the project area.
8. The Department has received assurances that there are adequate resources to carry out the research design and treatment plan, and to ensure the respectful treatment of all human remains and associated funerary items that may accidentally be disturbed during archaeological delineation of the possible unmarked cemetery.
9. The Department has worked with the federally-recognized Pamunkey Indian Tribe and Delaware Nation in the development and implementation of this permit pursuant to the terms and conditions of NAGPRA, and understands that the Pamunkey Indian Tribe and Delaware Nation have expressed their intent to participate in the federal process as consulting parties.

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2801 Kensington Avenue
Richmond, VA 23221
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Fax: (804) 367-2391

10. The Department has consulted with the state-recognized Monacan Indian Nation, Rappahannock Tribe, and Upper Mattaponi Indian Tribe at their request and in recognition of their interest in the project area.
11. The Department has concluded that issuance of this anticipatory burial permit is necessary in order to ensure that any and all buried remains and associated funerary items inadvertently disturbed during archaeological investigation of the James River Water Supply project area will be properly treated, and that important information about Fluvanna County's history will be properly recorded.

This permit is granted subject to the following conditions:

1. The Permittee shall ensure that the project archaeologist carries a copy of this permit at all times during fieldwork associated with this permit.
2. The Permittee shall proceed in accordance with the approved research design as proposed in the permit application, with the exception that no human remains or known/presumed funerary objects will be purposefully removed from the property absent the prior written approval from the Department and the affected Indian Tribes/Nations. Any changes to this methodology must receive the prior written approval of the Department.
3. Under no circumstances shall burial chambers be excavated or *in situ* human remains archaeologically recovered under this permit. Should it become necessary to disinter buried human remains, the Permittee must apply for a recovery permit in consultation with the Pamunkey Indian Tribe and Delaware Nation as required by NAGPRA and the Monacan Indian Nation, Rappahannock Tribe, and Upper Mattaponi Indian Tribe as required by Code of Virginia §10.1-2305 and its implementing regulations.
4. The Permittee shall ensure that all earthmoving activity within the project area takes place at the direction and under the supervision of the supervising archaeologist, who shall be allowed to dictate the terms under which soil is removed.
5. Upon discovery of human remains or funerary objects, all ground disturbance shall cease and the area of discovery shall be secured from further disturbance. The Permittee shall notify the Department and the affected Indian Tribes/Nations by telephone within twenty-four (24) hours of discovery. This notification must be followed up in writing (email is sufficient). The Permittee shall take all necessary precautions to avoid additional disturbance or displacement, including establishment of a minimum fifty (50)-foot buffer around the discovery location. There shall be no additional activity within the established fifty (50)-foot buffer until consultation with the affected Indian Tribes/Nations has concluded and an approved treatment plan is in place.

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6. Posting or otherwise publishing written descriptions, digital images, or any other information about or involving human remains discovered on this site in print media, digital media, or in any other fashion is strictly forbidden. Any such action will result in immediate revocation of this permit.
7. The Permittee shall, in consultation with the affected Indian Tribes/Nations, prepare a plan for final disposition of any remains and associated funerary items and submit it to the Department for review and comment. The Department will itself consult with the affected Indian Tribes/Nations and will reach a decision on final disposition within sixty (60) days of receipt. No reburial or other disposition shall take place in the absence of the Department's prior written approval.
8. The Permittee shall inform the Department and affected Indian Tribes/Nations in writing of the commencement of field work conducted under this permit.
9. The Permittee shall inform the Department and affected Indian Tribes/Nations in writing of the completion of field work involving the recovery of human remains and/or associated funerary artifacts, and the completion of the final disposition of those remains and associated artifacts, within two (2) weeks of implementation.
10. The Permittee shall ensure that the architectural and archaeological resource forms, mapping, and other archival data associated with this property are updated and accepted by the Department prior to submittal of the final report.
11. Prior to April 4, 2018, the Permittee shall prepare a technical report(s) of the field investigations involving the recovery of human remains conducted under this permit and submit one copy of it (them) to the Department for review and approval, with a copy to affected Indian Tribes/Nations for review and comment. All reports shall meet the federal standards entitled *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (48 FR 44716-44742, September 29, 1983) and the Department's *Guidelines for Historic Resources Survey in Virginia* (2011 and as amended or revised). All comments received within thirty (30) days of report receipt shall be addressed in the final report(s).
12. All archaeological materials (with the exception of human remains and associated funerary or ceremonial objects) resulting from investigations conducted under this permit, including artifacts, field records and photographs, shall be placed in the Department's collections upon completion of the study and shall be curated in accordance with the Department's *State Curation Standards* (2011 and as amended or superseded).
13. The Department retains the right to revoke this permit upon the initiative of the Director, or upon the request of any interested party, for violations of any of the above conditions or if good cause is otherwise demonstrated.

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Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
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Richmond, VA 23221
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14. The Department retains the right to inspect the field investigations conducted under this permit. The Permittee shall make a reasonable effort to ensure that Department representatives have access to the work site during the field investigations

This permit shall be valid for six (6) months from the date of issuance. This permit is not transferable.

Sincerely,



Julie V. Langan
Director

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APPENDIX D-6
SPECIAL USE PERMIT DOCUMENTS

APPENDIX D-6-1

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS ACTION REPORT 09/23/2015

**FLUVANNA COUNTY PLANNING COMMISSION
ACTIONS TAKEN ON September 23, 2015**

No.	Item	Action
1	Minutes of August 26, 2015; approved as presented.	<u>COMMISSION APPROVED</u> 5-0-0
2	SUP 15:06 – Louisa County Water Authority – A request for a special use permit to allow for major utilities with respect to the construction of a raw water pipeline from near Route 6 along the James River north to the Louisa County and Fluvanna County border. The properties are currently zoned A-1 (Agricultural General) and the properties are located in the Columbia Election District The Tax Parcel Numbers of the properties affected by the proposal areas follows: 67-12-A3, 14-9-4, 14-A-14, 14-A-20A, 14-A-14A, 14-A-13, 14-A-20, 23-A-51, 23-A-61, 23-A-50, 23-A-62, 23-12-D, 23-12-A, 23-A-66, 23-A-67, 23-A-72B, 23-A-70, 23-A-96, 23-A-97, 23-A-99, 23-A-101, 23-A-102, 23-A-103, 23-A-37, 23-A-36E, 23-A-36A, 34-A-2, 34-A-4, 34-3-A, 34-3-B1, 34-3-B3, 34-3-C, 34-3-C1, 34-3-B2, 34-2-A, 34-A-17, 34-A-16, 34-A-18, 34-1-1, 34-1-3, 34-1-5, 34-1-4, 33-A-30A, 44-A-46, 44-A-46A, 44-3-1, 44-3-2, 44-2-3, 44-2-5, 44-2-4, 44-2-2, 44-2-1, 44-A-15, 44-A-17, 44-A-18, 44-A-31, 44-1-2, 44-1-3B, 54-A-10A, 54-A-14A, 54-1-1A, 54-6-C, 54-1-1, 54-2-1, 54-A-41, 54-A-43, 54-11-Z, 54-11-Y, 54-11-X, 53-11-27, 53-11-26, and 53-11-19.	<u>Commission recommended approval</u> <u>4-1-0</u>
3	SUP 15:08 – James River Water Authority – A request for a special use permit to allow for major utilities with respect to the construction of a raw water supply system which includes a raw water intake and pump station at the subject properties denoted by Tax parcel Numbers: 53-A-62, 53-A-62C, 53-A-61, 53-11-5, and 53-11-19. The properties are currently zoned A-1 (Agricultural General) and the properties are located in the Columbia Election District and encompass approximately 305.202 acres.	<u>Commission recommended approval</u> <u>4-1-0</u>

4. **ZMP 15:02 – Steven L. Peters** - An ordinance to amend the Fluvanna County Zoning Map with respect to 21.5 acres of Tax Map 8, Section A, Parcel A14A to rezone the same from A-1, Agricultural, General to B-1, Business, General (conditional). The affected property is located on the northwest corner of the intersection of Thomas Jefferson Parkway (Route 53), and Lake Monticello Road. The property is located in the Palmyra Election District and is within the Rivanna Community Planning Area

Commission recommended approval
5-0-0

5. **ZMP 15:05– Robin M. Travis** - An ordinance to amend the Fluvanna County Zoning Map with respect to 4.688 acres of Tax Map 5, Section A, Parcel 45 to rezone the same from A-1, Agricultural, General to B-1, Business, General. The affected property is located on the north side of Richmond Road (Route 250), approximately .40 miles northwest of its intersection with James Madison Highway (Route 15). The property is located in the Columbia Election District and is within the Zion Crossroads Community Planning Area.

Commission recommended approval
5-0-0

APPENDIX D-6-2

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS APPROVED MINUTES 09/23/2015

FLUVANNA COUNTY PLANNING COMMISSION REGULAR MEETING MINUTES

Circuit Court Room--Fluvanna County Courts

September 23rd, 2015

7:00 p.m.

MEMBERS PRESENT: Barry Bibb, Chairman
Ed Zimmer, Vice Chairman
Lewis Johnson
Patricia Eager
Donald Gaines
Tony O'Brien Board of Supervisors Rep

ALSO PRESENT: Jason Stewart, Planning and Zoning Administrator
Steven Tugwell, Senior Planner
Jay Lindsey, Planner
Deidre Creasy, Senior Program Support Assistant
Frederick Payne, Fluvanna County Attorney

CALL TO ORDER/PLEDGE OF ALLEGIANCE

Barry Bibb, Chairman called the meeting to order at 7:00p.m., after which the Pledge of Allegiance was recited.

PLANNING DIRECTOR'S REPORT (Mr. Stewart)

1. Board of Supervisors Actions:

September 2, 2015:

Adopted - I move to adopt a resolution to authorize renewal of the Bourne Tract Agricultural/Forestal District, which consists of 13 parcels totaling 271.657 acres, for an additional 8 year period, expiring on August 1, 2023.

Mr. Stewart gave a presentation on Subdivision Roads.

2. Board of Zoning Appeals Actions:

No September meeting.

3. Technical Review Committee:

September 10, 2015:

SUP 15:06 – Louisa County Water Authority – A request for a special use permit to allow for major utilities with respect to the construction of a raw water pipeline from near Route 6 along the James River north to the Louisa County and Fluvanna County border. The properties are currently zoned A-1 (Agricultural General) and the properties are located in the Columbia Election District. The Tax Parcel Numbers of the properties affected by the proposal are as follows: 67-12-A3, 14-9-4, 14-A-14, 14-A-20A, 14-A-14A, 14-A-13, 14-A-20, 23-A-51, 23-A-61, 23-A-50, 23-A-62, 23-12-D, 23-12-A, 23-A-66, 23-A-67, 23-A-72B, 23-A-70, 23-A-96, 23-A-97, 23-A-99, 23-A-101, 23-A-102, 23-A-103, 23-A-37, 23-A-36E, 23-A-36A, 34-A-2, 34-A-4, 34-3-A, 34-3-B1, 34-3-B3, 34-3-C, 34-3-C1, 34-3-B2, 34-2-A, 34-A-17, 34-A-16, 34-A-18, 34-1-1, 34-1-3, 34-1-5, 34-1-4, 33-A-30A, 44-A-46, 44-A-46A, 44-3-1, 44-3-2, 44-2-3, 44-2-5, 44-2-4, 44-2-2, 44-2-1, 44-A-15, 44-A-17, 44-A-18, 44-A-31, 44-1-2, 44-1-3B, 54-A-10A, 54-A-14A, 54-1-1A, 54-6-C, 54-1-1, 54-2-1, 54-A-41, 54-A-43, 54-11-Z, 54-11-Y, 54-11-X, 53-11-27, 53-11-26, and 53-11-19.

SUP 15:07– Raymond Goffin - A request for a special use permit to operate an outdoor recreation facility with respect to 46.02 acres of Tax Map 18, Section A, Parcel 12. The property is currently zoned A-1 (Agricultural, General) and is located on the northern side of State Route 619 (Ruritan Lake Road) approximately one-half mile northwest of its intersection with Sclaters Ford Road. The property is located within the Cunningham Election District and is within the Rural Residential Planning Area.

SUP 15:08 – James River Water Authority – A request for a special use permit to allow for major utilities with respect to the construction of a raw water supply system which includes a raw water intake and pump station at the subject properties denoted by Tax parcel Numbers: 53-A-62, 53-A-62C, 53-A-61, 53-11-5, and 53-11-19. The properties are currently zoned A-1 (Agricultural General) and the properties are located in the Columbia Election District and encompass approximately 305.202 acres.

SUP 15:09 – Rountop Limited Partnership - A request to amend Special Use Permit SUP 14:04 to allow for an expansion of the educational facility to 75 occupants in 6 Centre Ct., and 49 occupants in 7 Centre Ct. with respect to 6.343 acres of a portion of Tax Map 18A, Section 4, Parcel 13A. The property is zoned B-1 (Business, General) and is located on the north side of Slice Road, approximately 500 feet from its intersection with Route 600 (South Boston Road). The property is located in the Palmyra Election District and is within the Rivanna Community Planning Area.

PUBLIC COMMENTS #1

Chairman Bibb opened the floor for the first section of public comments.

With no one wishing to speak, Chairman Bibb closed the first public comment section.

APPROVAL OF MINUTES

MOTION: Mr. Zimmer moved to accept the minutes of August 26, 2015, Mr. Johnson **seconded**. **The motion carried a vote of 5-0-0. AYES: Bibb, Eager, Johnson and Gaines NAYS: None. ABSTAIN: None**

SUBDIVISIONS: None

SITE DEVELOPMENT PLANS: None

Public Hearings:

SUP 15:06 – Louisa County Water Authority – A request for a special use permit to allow for major utilities with respect to the construction of a raw water pipeline from near Route 6 along the James River north to the Louisa County and Fluvanna County border. The properties are currently zoned A-1 (Agricultural General) and the properties are located in the Columbia Election District the Tax Parcel Numbers of the properties affected by the proposal are as follows: 67-12-A3, 14-9-4, 14-A-14, 14-A-20A, 14-A-14A, 14-A-13, 14-A-20, 23-A-51, 23-A-61, 23-A-50, 23-A-62, 23-12-D, 23-12-A, 23-A-66, 23-A-67, 23-A-72B, 23-A-70, 23-A-96, 23-A-97, 23-A-99, 23-A-101, 23-A-102, 23-A-103, 23-A-37, 23-A-36E, 23-A-36A, 34-A-2, 34-A-4, 34-3-A, 34-3-B1, 34-3-B3, 34-3-C, 34-3-C1, 34-3-B2, 34-2-A, 34-A-17, 34-A-16, 34-A-18, 34-1-1, 34-1-3, 34-1-5, 34-1-4, 33-A-30A, 44-A-46, 44-A-46A, 44-3-1, 44-3-2, 44-2-3, 44-2-5, 44-2-4, 44-2-2, 44-2-1, 44-A-15, 44-A-17, 44-A-18, 44-A-31, 44-1-2, 44-1-3B, 54-A-10A, 54-A-14A, 54-1-1A, 54-6-C, 54-1-1, 54-2-1, 54-A-41, 54-A-43, 54-11-Z, 54-11-Y, 54-11-X, 53-11-27, 53-11-26, and 53-11-19.

SUP 15:08 – James River Water Authority – A request for a special use permit to allow for major utilities with respect to the construction of a raw water supply system which includes a raw water intake and pump station at the subject properties denoted by Tax parcel Numbers: 53-A-62, 53-A-62C, 53-A-61, 53-11-5, and 53-11-19. The properties are currently zoned A-1 (Agricultural General) and the properties are located in the Columbia Election District and encompass approximately 305.202 acres.

Senior Planner Steve Tugwell conducted a brief presentation and addressed the Board

Bibb: Inquired if condition #5 where it discussed construction Monday-Saturday and some Sundays, if there is inclement weather is that accurate?

Senior Planner Tugwell: Advised it may be the case.

Gaines: Asked has an estimated time of completion been given?

Senior Planner Tugwell: Deferred the question to Mr. Wade.

Zimmer: Asked were VDOT standards provided for performing open cut sections on affected roadways?

Senior Planner Tugwell: Advised the planning office doesn't have the information, but it can be requested from Mr. Wood at VDOT.

Stewart: Explained, per Mr. Wood VDOT would prefer the open cut sections be completed at night.

Zimmer: Asked what are the VDOT standards for working on Sundays?

Stewart: Advised he is unable to speak for VDOT, but can inquire about those requirements.

Bibb: Allowed the applicant's time to come forward to speak on the two different SUP's

Stewart: Explained that Andy Wade would be representing the Louisa Water Authority and Joe Hines is representing the JRWA.

15:06 Applicant: Andy Wade advised he is the Economic Development Director for Louisa County and the in house project manager for the Louisa portion of the project. Explained he was here to seek approval of a raw water line to extend from Rt. 6 to the Louisa/Fluvanna County Line. He then explained that the project has taken on additional costs to ensure the adjoining property owners concerns from the neighborhood meetings were addressed. Likewise, clarified that restoring erosion will be done when the temperature rises and not during the winter.

Bibb: Confirmed that it was approximately 2 years to complete the project with the applicant and the possibility of not being able to work on Sundays could make that process longer.

15:06 Applicant: Explained that the contractor doesn't have intentions of working on Sundays unless there are time constraints. However, having the opportunity to do so would be beneficial to the project.

Bibb: Confirmed with the applicant that the project is being paid for by Louisa County with the exception of fire hydrants.

15:08 Applicant #2 Joel Hines: Explained that the project was adequately represented by Senior Planner Steve Tugwell's presentation. Explained the intent is to minimize impact to the systems involved with this particular project and explained that the JRWA is 50% owned by Fluvanna and 50% owned by Louisa so each will pay for half of their portion.

Bibb: Confirmed that the JRWA portion is related to the connection point.

15:08 Applicant #2: Explained the logistics of how the facility will run.

Bibb: Confirmed with the applicant that the water pump station will be enclosed.

Zimmer: Inquired what is the maximum capacity of the pump station and the lines?

15:08 Applicant #2: Explained the maximum size of the pump station is for 12 MGD's, which is needed during a peak day

O'Brien: Inquired what the initial capacity will be?

15:08 Applicant #2: Explained the initial capacity will be 6 MGD's with the ability to expand to 12 MGD's.

O'Brien: Inquired what amount will the transmission lines running to Ferncliff support?

15:08 Applicant #2: Offered an explanation in relation to locations and connection points.

Eager: Confirmed with the applicant that once the pipeline gets to the Zions Cross Roads/Ferncliff area, Louisa is responsible for the fees.

O'Brien: Confirmed with the applicant a timeline of 24 to 30 months for the entire project and for Louisa to take water to Zions Cross Roads.

15:08 Applicant #2: Offered a brief rundown of how the County could supply water to the different areas, Zions Cross Roads, Pleasant Grove etc. Also spoke of the state mandated 50 year water plan.

Zimmer: Asked is there a current agreement for Louisa to provide water to Fluvanna County?

15:08 Applicant #2: Advised he is not in a position to comment on that.

O'Brien: Explained at present there are negotiations but nothing is finalized at this time so that is a concern.

Bibb: Asked Nichols if he had any idea about any other negotiations in regards to Fluvanna County having the availability of treated water any time soon?

Nichols: Explained the County has received correspondence from Louisa County that they have agreed to provide water treatment at the Ferncliff water treatment plant at a price that has already been set. What is still being negotiated is the reservation of certain types of capacity and the future of growth capacity of that plant. As the plant grows or needs to grow from each County, who would pay for the cost of plant expansion? The County has received from the Louisa Board of Supervisors written documentation which is also outlined in the October 13th interjurisdictional agreement related to treatment. Expectantly, before the October 21st Board of Supervisors meeting reservation numbers will be finalized, but there is already an agreement to treat water. Addressing the treated water going to Zions Cross Roads, the Louisa County project includes the pipeline for treated water going from Ferncliff to Zions Cross Roads which is part of the project plan.

Eager: When Fluvanna donated our withdrawal permit to the JRWA were we reimbursed for the cost of that permit?

Nichols: Explained no recollection of any dollar cost change when the JRWA was formed as a joint authority between Louisa and Fluvanna County. The existing Fluvanna Permit was just transferred to the JRWA. There was no cost, dollars that changed hands, or any fee sharing because the permit had been placed for Fluvanna County for a number of years but had never been exercised.

Stewart: Stewart and Bibb agreed SUP 15:08 would have the 1st public hearing and motion since it was the actual intake system and the 15:06 SUP public hearing would follow.

Public Hearing Comments

Chairman Bibb opened the floor for the SUP 15:08 JRWA public hearing section of public comments.

Mark Moss/Columbia District: 14045 James Madison Hwy: Advised he is present at the meeting as President of the Fluvanna Historical Society and hopes the Board has been taking into consideration the rights of all the property owners. There are two properties that the historical society had a meeting in reference to that he is present to speak on their behalf. The two places, Point of Fork and Gum Creek are on the National Registry of Historic Places. The National Registry of Historic Places handles honorary designation of property by the Department of Interior that has local and regional historic significance. Point of Fork is important because it is a major James River Plantation house which is the site of the Point of Fork arsenal and also the site of the Monacan Indian settlement. This site is very important in the history of Fluvanna County, in fact the Point of Fork arsenal is on the Fluvanna County Flag. Gum Creek is equally important as one of the oldest single residence in Fluvanna County. It was built by one of the wealthiest men in Fluvanna County for his son. He then advised he is asking that the Board give real consideration to ensuring that the project does not in any way destroy the fabric of these two historic sites in Fluvanna County. Next, he asked if another condition could be put on 15:08 and 15:06 to say that this project would take into consideration the historic importance of these two properties and it will minimize any damage to the historic fabric of these properties.

Barbara Seay: Point of Fork, Explained that she is speaking on behalf of Point of Fork. She then clarified that the work being proposed is not near Point of Fork but actually on Point of Fork. She reiterated as Mr. Moss outlined that Point of Fork is the site of all kinds of history as there is no way

the land can be reclaimed after the damage is done. Likewise, this is a precious habitat and green site for animals and once it is destroyed, it will never come back the same again. Also, this is the reason that many Fluvanna natives are at the meeting, the green space and the heritage. Lastly, she explained she is totally opposed to this project being on the Point because it will be a huge eyesore.

RT Harry, 467 Martin Kings Rd: Advised he had some questions and wanted to know the exact site that the water will be extracted from the James River? Also he does not see where this is benefiting Fluvanna County; it seems it is for Louisa counties pure benefit. Likewise wanted to know how this will affect taxes?

Payne: Advised Bibb that the Planning Commission is allowed to ask for answers to questions.

Bibb: Asked the applicant to come forward and show the exact place on the map where the work would be conducted.

Applicant #1: Came forward and proceeded to explain and show exactly where the work would occur and confirmed that both projects are on the edge of the Point of Fork property.

Frank Hardy: Lives across from the pumping station and explained to the Planning Commission to have a meeting for the public, open to the public, for the benefit of the public where the public can't hear what the Commission members are saying is not productive.

Suzy Morris: 6840 Thomas Jefferson Pkwy, Palmyra, Va. She explained that she is a lifelong Fluvanna resident and was shocked to find out that Point of Fork was chosen spot for this project. Also she was upset to find out that the rural preservation area of the comprehensive plan was changed to allow this project. She thinks it is a sacrilege to this sight with all of the history there and Fluvanna is supposed to be proud of its history. Likewise, she is concerned about uncertainties unknown right now in regards to acreage amounts and the large amounts of acreage in the special use permit. Why is all of this coming in? Is this for future plans and what are those future plans? Stated she believes the County should have public hearings because many people in Fluvanna are unaware that this is happening. Also, discussed that right now there are no mandated hookups but what if there are not enough customers? Where will a treatment plant go and what if the County decides they are not making enough money or needs another one? She then expressed concerns about the river being low and how at some points in the year people are able to walk across the James River. Next she asked how is the County going to pay for this project when they are already paying 5million a year on the schools and is under a 92 million dollar deficit. Lastly, what is the depth of the hole in the river bottom going to be and how much dynamite will be used?

Jim Summers 1841 Colonial Rd: He stated he lives on the river and hopes the Board considers implementing noise abatement requirements. He explained that to his understanding there are going to be big generators and pumps installed in the structure where the pumping station is and the generators will be turned down and tested occasionally to make sure electrical power is not interrupted in a power outage. His concern is that there is not a specific requirement that special noise abatement be required for the issuance of this Special Use permit. Also explained when the gas pipeline there occasionally compresses, it makes a lot of noise.

Fred Hardy Lives on the Southside of the river in Cumberland County: Explained that his main concerns are aesthetics and noise pollution. How can a structure so big be built without destroying or adversely affecting the Point of Fork property. He expressed that there is no place with more history in Fluvanna County then Point of Fork. He went on to discuss soldiers in history trained at Point of Fork.

G. Bialkowski, 1215 Point of Fork Rd: He explained that his property is adjoined to the Point of Fork Property and he is absolutely against wrecking a pristine environment. He already hears one gas

pumping station across Rt. 6 every time it turns on and didn't move to the country to live in the city. Likewise, in reference to working on Saturdays and Sundays he is against it because that is the only times people have to relax. He also stated, he can't believe that there isn't a better place this can be put. Where are the other places that have been recommended? He can't figure out why this is the chosen spot. He closed with, this is an abomination and he is against it. Likewise anyone who votes for it he's going to try to vote you out of office.

Peter Gilliam 1214 Point of Fork Rd: This is not historically, environmentally or fiscally responsible for the County to spend more money. He also spoke of seeing signs advising not to eat the fish and has no clue what this project will do to the river. Advised that the County is just finding out about it and this has been the plan all along and the government is getting out of control.

Jane Snead ford 5388 James Madison Hwy: Advises she has lived in Fluvanna since the age of 2 and considers herself a lifelong native. She is a history teacher that does not want to see this beautiful area defaced. She then explained that the County needs to look at the aesthetics and the history of our Country that we are losing. This project can be delayed to conduct other studies and another place can be found to put the pump station and sink hole in. She pleaded to please look for other options and don't refer this to the Board of Supervisors yet.

Chairman Bibb opened the floor for the SUP 15:06 JRWA public hearing section of public comments.

Lindsey Nolte: 1317 Stage Junction Rd, Expressed that she has environmental concerns and will consent if Louisa County adheres to her list of procedures and Fluvanna ensures that they are enforced. The list is as follows: 1. No use of pesticides, 2. Safeguard buffers of grass seeds, wildflowers, shrubs and trees amongst streams. 3. Prohibit driving heavy equipment across stream beds, 4. Do not plant fescue because it destroys quail nesting sites. 5. Protect plant essentials to butterflies and pollen, and maximum autonomy within the limits of safety. (Gave the commission copies)

Pete Gilliam: 1214 Point of Fork Rd asked what sense does it make for Fluvanna to pump water to Louisa and then buy it back. If Louisa County wanted water from the James they should have built their County on the James River. Closed with it has to be a more sound and sensible way to get water if they want water there.

Mark Creasey: 4499 Nahor Rd, Charlottesville, Va Advised he owns property on the line and thinks that their should be more people within the County equipped to answer his questions. He also has concerns about the statement lowest reasonable price in the information he received from the County when it should say highest reasonable price to help the landowners.

Chairman Bibb closed the public hearing section and opened Planning Commission discussion.

Nichols: Asked if he could have an opportunity to go down the list of comments and questions that arose because he thinks he can address most of them. He also expressed how much he appreciated the thoughtful considerations, questions and concerns raised by citizens. He then communicated that he is positive the answers he provides to the commission and to the citizens are not going to be to everybody's satisfaction, but he will try to do the best that he can and answer the questions truthfully. He explained there was a question about adding a condition about considering historic citing and minimizing impact. While the commission would consider that and add it as a condition, it is absolutely already a requirement to be built in because the project has to be reviewed and approved by The Department of Historic Resources, Game and Inland Fisheries, the Corp of Engineers, The Department of Environmental Quality and there are two more agencies as well. We are very sensitive to the fact on both projects that there are historic resources near and adjacent to the area that need to be protected and preserved but there is state and federal oversight to ensure that as well.

The actual location of intake is the area shown on the map. The pumping station and intake would be in the river itself, close to the edge and under the surface of the river. The intake will be

below the surface of the water because that was felt to be a better design than the original design of having a structure that was above the river where water will be captured. This proposed design allows water to drop down into the intake.

Advised there was a question in reference to taxes and he is unsure of that answer. He then explained questions in reference to taxes are an issue for the Board of Supervisors consideration. Many things impact our taxes or revenues. This year is a particularly good revenue year because the state revenues, jobs and revenue collections are better and gas prices are down. He then explained any capital projects have the ability of impacting taxes but the Board of Supervisors will have to face that question.

Explained there was a question about 305 acres in the motion which is a bit misleading. 305 acres is listed for the project but the entire 305 acres will not be affected. The 305 acres represent the breadth of the tax map parcels that are touched. Only a very small portion will be actually affected. The land that is currently identified for the pumping station is 2.7 acres on the Point of Fork the easement access and up through the adjacent CVEC electric easement. The number of acres that is not allowed to be used by citizens that own those properties is very small. However that does not minimize that there is going to be impact on someone's property when a structure is placed there.

Addressed the question will hookups be mandated to the water system? Answered No, it is raw water and hookups will not be required. Also explained there are no intentions of doing anything with raw water until it is sent to the Louisa plant to be treated. If Fluvanna in the future needs to use raw water for other areas of the County we may need a water treatment plant decades down the line to treat the water. Likewise, expressed that there is no formal construction plans or designs other than what is being proposed tonight.

Addressed the question where will the water plant be? Responded with, the only water plant contemplated in the two SUP's will be in Louisa County in the Ferncliff area. In reference to low water, the Department of Environmental Quality has put specific drought restrictions into the permit that is expected to be issued within the next couple of weeks. The drought conditions and requirements will have to be met at minimal levels on the voluntary basis and higher levels on the mandatory basis under the Commonwealth of Virginia. Next, confirmed comments about hundreds of others already hooked up to the James River as being absolutely true. There are many other intakes along the James river from the Headlands to the Atlantic Ocean. There are also many significant withdrawals upstream and also downstream for instance at the Cobb Creek reservoir that services Henrico, Goochland and Powhatan. He clarified; our permit is reduced from the amount that the Department of Corrections withdraws from the Mechunk Creek. If the Department of Corrections stopped drawing from the Mechunk Creek the permit could be raised by about 250,000 gallons per day. This is because all the watersheds are tied together under the Department of Environmental Qualities conservation when they issue a permit.

Clarified he was unsure of the depth of the hole in the river because he is not an engineer. However, there are engineers present to answer that question but the final engineer processes have not been finalized because there is no guaranteed price negotiated on the project yet. However he is confident that after a couple years of the construction project being completed there will be nothing visible except the building structure. Next, explained this is not the first time a pipeline has been built. Usually once the project is complete there is no effect outside of the easements and the land will be restored to its original condition or better. The only exception is the area that the County hopes to purchase for the plan itself which will be an open area. Unsure if dynamite will be used but if it has to be used it will be within the state regulations of what, how and when it can be done.

Addressed noise abatement and explained that he couldn't agree more in reference to minimizing noise in pristine/open areas. However, this project will have to meet the noise ordinance in the County code of Fluvanna, for noise levels in rural agricultural areas which is 60 decibels during the day and 55 decibels at night. Likewise advised those are just the levels for our County code, but the way this project is being engineered even if someone is a very short distance from the pump they will not be able to hear it running. Gave a brief explanation of a similar plant that was visited and 50 feet away from the pump it could not be heard running. The proposed structure will be fully enclosed so it is unlikely that the pumps will be heard at all unless the door is opened.

Addressed electric generator testing and stated that their absolutely would be a generator on site that will be able to handle the plant in reference to power outages etc. The generator will be low sound because it is not like the open one through Colonial Pipeline. Next, explained the citizens' concerns are valid and important and if it was his property he would certainly have similar concerns. Then was stated, the size of the structure is 40X60 and will be substantially above ground because requirements have to be made to avoid the floodplain. One of the reasons that the structure is larger than what was originally discussed is because they are trying to enclose everything so there is nothing outside to disturb sound or sight other than the envelope of the building itself. The building is being engineered to be as aesthetically responsible for a pristine area like Point of Fork as possible.

Agreed that working on weekends is always a concern no matter the project. Likewise, no one likes construction being done at 2am in the morning. He explained he is well aware of this because of recent construction going on in his neighborhood. Yes, It is annoying but it is also a part of the developer expanding his neighborhood. Explained that he is absolutely positive that the contractors he uses for these projects will be as respectful as they can and ensure that disruptions are minimized although there will be some.

Addressed the comment about a project like this not being done before and the river being destroyed by explaining this type of project is done all the time. Now set aside the historic nature of Point of Fork, but this type of project is done frequently statewide and nationwide. While most people don't like it in their backyard, it ended up being a very good engineering location.

Addressed the comment that this project was done in secret by stating that he has been here since 2012 and many public meetings have been conducted. Likewise this project has been talked about for at least two decades prior to today. The project has been an open book for 20 years and he really wishes that each citizen could know about every issue and how it will affect them every single time. Expressed if anyone can show us a way to improve we are open to that but in this case the information was on websites, in open meetings and public records.

He agreed that the environmental concerns are important and reiterated that this project cannot be conducted without the oversight of the agencies listed earlier. Each of the state and federal agencies have very specific and strict rules that has to be followed in relation to the environment, streams, use of pesticides, access to the river, etc. Hopefully how strict the state and federal government are on projects like this will mitigate adverse impacts of this project on citizens.

Then addressed the statement made that water is pumped to Louisa and then bought back by Fluvanna by stating, we are participating in a joint intake and the exercising of a permit that is a part of the James River Water Authority, a dual constitutional body that is comprised of 3 Board members from Fluvanna and 3 from Louisa. Then he explained that Louisa is building the pipeline with their own dollars and when our water transits through that pipeline at Rt.6 Fluvanna will pay for operational costs based on the flow of our water. We have been in conversation for years with Louisa on treating raw water, not buying raw water. The permit that the James River Water association owns is 50/50 half Fluvanna and half Louisa. This allows the County to not have to build a treatment plant because we can share with Louisa and just pay for the treatment of our raw water and then pump it back to Zions Cross Roads.

Lastly addressed the question about how much will be paid for land and easements and confirmed amounts related to easements connected to the LCWA will be taken care of by Louisa and the amounts are unknown for the JRWA.

Bibb: Inquired about alternative routes and advised that in his analysis, alternative routes would cost more money and go thru more citizens properties and wanted to see what Mr. Nichols thought of that.

S. Nichols: Advised that Mr. Bibb's assumptions were correct and that with the route that is used currently 90% of the pipeline is being used on existing easements to minimize impact.

O'Brien: Asked what other sites were being considered and why they were not used?

S. Nichols: Proceeded to show some of the areas that were considered on the map and discussed issues with bedrock, the flow of the river and cost.

O'Brien: Inquired about an accurate interpretation of how the area around the building will look.

S. Nichols: Advised that everything around the 2.7 acres will still remain wooded as it is now, trees will have to be removed off the river front, but they will grow back.

Zimmer: Inquired has the project purchased the land in regards to the 305 acre portion?

S. Nichols: Advised no, the 305 is only the number of acreage that the parcels of land will touch, adjoining properties.

O'Brien: Inquired what is the actual width of the pipe coming in?

Applicant: 70 to 80 ft. and offered an explanation of the construction of the pipe.

S. Nichols: Reiterated regulations for the project and all of the departments involved in monitoring the work done and explained that the pipeline will be built in the same with of the electric easement for the most part.

O'Brien: What is the impact of subterraneous pipelines and plant life that will be able to grow back?

Applicant: The intent is to restore vegetation that will be equal to or better than what was there.

O'Brien: Inquired would there be large trees there?

Applicant: No, because it would not be good for large trees to grow in an existing easement because access may have to be made at some point.

O'Brien: Will the county have oversight in Louisa to monitor their portion of the project?

S. Nichols: Our Building inspectors will be on site periodically to ensure the County code is being followed, but the builder of the project has to follow various rules and will have construction site inspectors. Likewise he clarified with Mrs. Eager that the work is proposed to be done on the tip of Point of Fork and that is the issue that the historical society is concerned with.

Eager: Asked will the county be required to buy stream or wetlands credits?

S. Nichols: Answered no not according to this project and the DEQ permits.

Applicant: The applicant clarified with Mr. Zimmer that rather than having to buy credits the restoration will be done onsite.

Chairman Bibb closed the public hearing section and opened Planning Commission discussion.

Zimmer: Advised that he would like to talk about the conditions. No construction on Sunday and after a demonstrated need, the construction company can ask for a change to that. Two week notifications in relation to road closures by mail, fan mail etc. Also Condition number 7 should say as soon as weather permits.

Payne: Offered suggested language condition #5 to except in cases of emergencies including prevention of danger to public health, safety and welfare and a mediation of soil erosion and as requested by VDOT in the case of work done on public highways, all construction activity for the raw waterline major

utilities shall occur between 7am and 5pm Monday thru Saturday. Applicants shall comply with VDOT standards for performing open cuts sections on affected roadways.

Payne: Changed condition #7 eliminated "Weather Permitting" Also after the second "land" and before the last sentence added "or as soon thereafter as conditions permit."

Payne: Advised that his thought is deprivation of access to property should be prohibited or minimized because there is no access for emergency vehicles etc. Offered suggested language for #4 stating vehicular access shall be maintained at all times with no disruption of access to extend more than 3 hours at a time.

Applicant: Advised #4 as written originally is acceptable and he accepts the changes to 5 and 7 and advised door hangers will be placed on doors and the contractor information will be placed on them to ensure the homeowner can reach the contractor at all times.

Payne: Advised #8 noise Issue applies only to JRWA (JRWA 15:08) and gave suggested language, withdrawal and pumping facility shall be so designed and built as to minimize sound propagation beyond the limits of buildings and other structures, to the maximum extent feasible.

5 minute recess, meeting re-started at 9:27 P.M.

Bibb: Gave a recap of the meeting prior to the recess and explained Fred Payne had given proper wording for the conditions. Also Mrs. Nolting submitted paperwork to the Board in reference to environmental concerns and he went over those items.

Zimmer: Asked the applicant about ongoing property maintenance and the cycle of the maintenance in relation to pesticides etc.

Applicant: Explained that CVEC will currently maintain easements as they have been doing, also as long as the work is co-located in their easement, it will be subject to what is done currently.

O'Brien: Explained that one challenge is looking at the comprehensive plan and how this works for the County and also economic benefit to the County of Fluvanna. It was also explained how grateful he was for the generosity and patience of the people in the County of Fluvanna because this has been going on for over 20 years. Clarified that it is not clear in this venue how this project is benefiting us, explained there has been a lot of discussion and negotiations that are still ongoing and it would be critical that those negotiations are resolved prior to this project being approved at the Board level. Advised that this is a joint deal and they are looking out for the County of Fluvanna.

Payne: Explained it is a proper question to ask, to what extent are these projects in the interest of Fluvanna County and it deserves an answer. Also agreed with Mr. O'Brien's point of the Board of Supervisors will ensure it will be in the public's interest of the citizens of Fluvanna and concerns will be address. Also expressed and acknowledged that there are time constraints.

Eager: Asked Payne if he is satisfied that in 30 days everyone will have the answer they need and this matter will go to the Board of Supervisors?

Payne: Advised that if the Planning Commission agrees with what he has stated, negotiations have to be worked out by the time the Board considers it as Mr. O'Brien explained. Also wanted to add a word to condition number #8 where it says to the maximum extent feasible, he wants to change to reasonably feasible.

Eager: Advised that she has a feeling that she is being asked to approve something without all of the information they should have in front of them.

Payne: Advised Mrs. Eager she has the right to defer the matter or recommend denial.

Zimmer: Asked Mrs. Eager if she feels the Planning Commission has all the information they need to make a decision based on their functions. He also explained that it is evident the Board does not, but reiterated does the Planning Commission have enough information at this time?

Eager: Explained she was concerned about the public and is there a possible better place to put this so that it is not on Point of Fork.

O'Brien: Mentioned that many years have gone into the planning of the project, location etc. and it is time sensitive and he is confident that the County staff will make the area look as much like it did as possible.

Johnson: Advised that he is a member of the Fork Union Sanitary district and they are getting their water from wells. His concern is that Fork Union would have an issue if they experience a lot of growth and he doesn't necessarily agree with the location of the intake but the water has to be taken out of the river.

MOTION:

Mr. Zimmer moved to recommend approval of SUP 15:08—, Mr. Gaines seconded. The motion carried with a vote of 4-1-0. **AYES: Bibb, Zimmer, Johnson & Gaines NAYS: Eager ABSTAIN: None**

MOTION:

Mr. Johnson moved to recommend approval of SUP 15:06 —, Mr. Gaines seconded. The motion carried with a vote of 4-1-0. **AYES: Bibb, Zimmer, Johnson & Gaines NAYS: Eager ABSTAIN: None**

Bibb: Thanked the public for coming tonight

ZMP 15:02 – Steven L. Peters - An ordinance to amend the Fluvanna County Zoning Map with respect to 21.5 acres of Tax Map 8, Section A, Parcel A14A to rezone the same from A-1, Agricultural, General to B-1, Business, General (conditional). The affected property is located on the northwest corner of the intersection of Thomas Jefferson Parkway (Route 53), and Lake Monticello Road. The property is located in the Palmyra Election District and is within the Rivanna Community Planning Area.

Senior Planner Steve Tugwell conducted a brief presentation and addressed the Board

Eager: Asked had Mr. Tugwell spoke with Mr. Wood or just received the email?

Senior Planner Steve Tugwell: Advised he only sent the email

Zimmer: Advised that Mr. Wood's contingency seems to be that 6 years is not enough to get everything completed.

Senior Planner Steve Tugwell: Agreed and advised that is also his understanding from the emails.

Gaines: Asked the applicant were they aware of why VDOT didn't think the 6 years was adequate?, Have the two parties been in contact and if so what happened?

Applicant Justin Shimp: Offered his understanding of the meeting with VDOT in terms of # of years and funding. Likewise advised the HP2 has been filed and submitted for funding.

Zimmer: Clarified this is just a 6 year window to approve funding.

O'Brien: Advised that it has been voted on by the Board of supervisors and the majority agrees that it was an important area for safety concerns and putting it on the HP pathway generally expedites the process.

Eager: Confirmed with Mr. O' Brien that Rt. 618 was made a priority over Rt. 15 in terms of roundabouts by the Board of Supervisors.

Public Hearing Comments

Chairman Bibb opened the floor for the public hearing section of public comments.

Crystal Shifflet: 8268 Thomas Jefferson PKWY, Explained that her daughter almost wrecked and she has seen so many accidents and the intersection and road needs to be fixed before anything is built. She also explains the geographies around the area and all that has happened in regards to accidents in the area.

Bibb: Asked Mr. Shimp what traffic mitigation would be done prior to a roundabout? Turn lanes, sight distances etc.

Applicant Justin Shimp: Confirmed that they will have full left and right turn lanes by VDOT standards if the roundabout is not approved or until it is approved.

Zimmer: Expressed concerns about conflicting VDOT reports.

Payne: Advised a pretty clear issue and spoke about rezoning and explained the choices are to recommend with the proffers as they exist or recommend denial.

Zimmer: How are safety concerns going to be addressed until a roundabout can be built?

Applicant Justin Shimp: Advised VDOT standards will be followed before the establishment is built, but requiring a roundabout before the business is built is unreasonable.

Chairman Bibb closed the public hearing section and opened Planning Commission discussion.

Bibb: If this is approved and they get over 20,000 sq. feet after 6 years will they have to come back?

Payne: Explained the proffer will have to be amended.

Eager: Explained that it seems the applicant would come back if he needed an extension on the proffer.

MOTION:

Mr. Gaines moved to recommend approval of ZMP 1502 –, Mr. Zimmer seconded. The motion carried with a vote of 5-0-0. **AYES: Bibb, Zimmer, Eager, Johnson & Gaines NAYS: None. ABSTAIN: None**

ZMP 15:05– Robin M. Travis - An ordinance to amend the Fluvanna County Zoning Map with respect to 4.688 acres of Tax Map 5, Section A, Parcel 45 to rezone the same from A-1, Agricultural, General to B-1, Business, General. The affected property is located on the north side of Richmond Road (Route 250), approximately .40 miles northwest of its intersection with James Madison Highway (Route 15). The property is located in the Columbia Election District and is within the Zion Crossroads Community Planning Area.

Senior Planner Steve Tugwell conducted a brief presentation and addressed the Board

Applicant: Declined to speak unless needed.

Public Hearing Comments

Chairman Bibb opened the floor for the public hearing section of public comments.

Chairman Bibb closed the public hearing section and opened Planning Commission discussion.

Bibb: Advised it is in a growth area and in the community planning area.

Eager: Explanation of a floating zone, however explained that the Board doesn't have the ability to do so at this time.

Zimmer: Advised it is exactly what they are looking for in the Zions Cross Roads area.

MOTION:

Mrs. Eager moved to recommend approval of ZMP 1505, Mr. Zimmer seconded. The motion carried with a vote of 5-0-0. **AYES: Bibb, Zimmer, Johnson, Eager & Gaines NAYS: None. ABSTAIN: None**

PRESENTATIONS: None

UNFINISHED BUSINESS: None

NEW BUSINESS: None

PUBLIC COMMENTS #2

Chairman Bibb opened the floor for the second section of public comments.

With no one wishing to speak, Chairman Bibb closed the second public comment section.

ADJOURN

There being no further business, Chairman Bibb adjourned the Planning Commission meeting of September 23, 2015 at 10:19 p.m.

Minutes recorded by Deidre Creasy, Senior Program Assistant.

Barry A. Bibb, Chairman
Fluvanna County Planning Commission

APPENDIX D-6-3

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS PACKAGE 01/06/2016



FLUVANNA COUNTY BOARD OF SUPERVISORS

REGULAR MEETING AGENDA

Circuit Courtroom, Fluvanna Courts Building

January 20, 2016 at 7:00 pm

TAB AGENDA ITEMS

1 – CALL TO ORDER, PLEDGE OF ALLEGIANCE, MOMENT OF SILENCE

2 – ADOPTION OF AGENDA

3 – COUNTY ADMINISTRATOR'S REPORT

4 – BOARD OF SUPERVISORS' UPDATES

5 – PUBLIC COMMENTS #1 (5 minutes each)

6 – JOINT PUBLIC HEARING OF THE BOARD OF SUPERVISORS AND THE PLANNING COMMISSION

CALL TO ORDER — PLANNING COMMISSION (PC CHAIR)

ANNOUNCE PUBLIC HEARING TOPICS (BOS CHAIR)

O SUP 15:11 James River Water Authority—Jason Stewart, Planning and Zoning Administrator

P SUP 15:12 Louisa County Water Authority—Jason Stewart, Planning and Zoning Administrator

STAFF BRIEFINGS FOR BOTH SUPs (with BOS and PC questions, as appropriate)

APPLICANT COMMENTS FOR BOTH SUPs (with BOS and PC questions, as appropriate)

OPEN SUP 15:11 (JRWA) JOINT PUBLIC HEARING FOR PUBLIC COMMENT (BOS CHAIR)

CLOSE SUP 15:11 JOINT PUBLIC HEARING (BOS CHAIR)

PLANNING COMMISSION – DISCUSSION ON SUP 15:11 (JRWA) (Led by PC Chair)

PLANNING COMMISSION - MOTION / VOTE ON SUP 15:11 (if applicable)

BOS - DISCUSSION ON SUP 15:11 (JRWA) (Led by BOS Chair)

BOS - MOTION / VOTE ON SUP 15:11 (if applicable)

OPEN SUP 15:12 (LCWA) JOINT PUBLIC HEARING FOR PUBLIC COMMENT (BOS CHAIR)

CLOSE SUP 15:12 JOINT PUBLIC HEARING (BOS CHAIR)

PLANNING COMMISSION – DISCUSSION ON SUP 15:12 (LCWA) (Led by PC Chair)

PLANNING COMMISSION - MOTION / VOTE ON SUP 15:12 (if applicable)

BOS - DISCUSSION ON SUP 15:12 (LCWA) (Led by BOS Chair)

BOS - MOTION / VOTE ON SUP 15:12 (if applicable)

PLANNING COMMISSION ADJOURNS (PC Chair)

7 – ACTION MATTERS

Q Appointment to TJPDC Rural Transportation Advisory Council—Steven M. Nichols, County Administrator

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*For the Hearing-Impaired – Listening device available in the Board of Supervisors Room upon request. TTY access number is 711 to make arrangements.
For Persons with Disabilities – If you have special needs, please contact the County Administrator's Office at 591-1910.*

- R Appointment to the Board of Zoning Appeals, At-Large Position—Steven M. Nichols, County Administrator
- S Appointment Thomas Jefferson Area Community Criminal Justice Board (CCJB)—Steven M. Nichols, County Administrator

8 – PRESENTATIONS (normally not to exceed 10 minutes each)

None

9 – CONSENT AGENDA

- T Minutes of January 6, 2016—Kelly Belanger Harris, Clerk of the Board
- U Accounts Payable, December 2015—Eric Dahl, Finance Director

10 – UNFINISHED BUSINESS

TBD

11 – NEW BUSINESS

TBD

12 – PUBLIC COMMENTS #2 (5 minutes each)

13 – CLOSED MEETING

TBD

14 – ADJOURN



Steven M. Nichols

2016.01.14

14:07:45 -05'00'

County Administrator Review

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PLEDGE OF ALLEGIANCE

I pledge allegiance to the flag
of the United States of America
and to the Republic for which it stands,
one nation, under God, indivisible,
with liberty and justice for all.

ORDER

1. It shall be the duty of the Chairman to maintain order and decorum at meetings. The Chairman shall speak to points of order in preference to all other members.
2. In maintaining decorum and propriety of conduct, the Chairman shall not be challenged and no debate shall be allowed until after the Chairman declares that order has been restored. In the event the Board wishes to debate the matter of the disorder or the bringing of order; the regular business may be suspended by vote of the Board to discuss the matter.
3. No member or citizen shall be allowed to use abusive language, excessive noise, or in any way incite persons to use such tactics. The Chairman and/or the County Administrator shall be the judge of such breaches, however, the Board may vote to overrule both.
4. When a person engages in such breaches, the Chairman shall order the person's removal from the building, or may order the person to stand silent, or may, if necessary, order the person removed from the County property.

PUBLIC HEARING RULES OF PROCEDURE

1. PURPOSE
 - The purpose of a public hearing is to receive testimony from the public on certain resolutions, ordinances or amendments prior to taking action.
 - A hearing is not a dialogue or debate. Its express purpose is to receive additional facts, comments and opinion on subject items.
2. SPEAKERS
 - Speakers should approach the lectern so they may be visible and audible to the Board.
 - Each speaker should clearly state his/her name and address.
 - All comments should be directed to the Board.
 - All questions should be directed to the Chairman. Members of the Board are not expected to respond to questions, and response to questions shall be made at the Chairman's discretion.
 - Speakers are encouraged to contact staff regarding unresolved concerns or to receive additional information.
 - Speakers with questions are encouraged to call County staff prior to the public hearing.
 - Speakers should be brief and avoid repetition of previously presented comments.
3. ACTION
 - At the conclusion of the public hearing on each item, the Chairman will close the public hearing.
 - The Board will proceed with its deliberation and will act on or formally postpone action on such item prior to proceeding to other agenda items.
 - Further public comment after the public hearing has been closed generally will not be permitted.

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FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT

○

Meeting Date: January 20, 2016

AGENDA TITLE:	SUP 15:11 – James River Water Authority				
MOTION(s):	I move that the Board of Supervisors [approve/deny/defer] SUP 15:11, a special use permit request to allow construction of raw water supply system major utility, including a raw water intake, pump station, and raw water pipeline, on an approximately 2 acre pump station site and within a portion of 330 acres of Tax Map Parcels 53-A-62, 53-A62C, 53-A-61, 53-11-5, and 53-11-19, and 61-A-4, subject to the ten (10) conditions listed in the staff report [if approved].				
CATEGORY	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
	x				
STAFF CONTACT(S):	Jason Stewart, Planning & Zoning Administrator, Steve Tugwell, Senior Planner				
PRESENTER(S):	Jason Stewart, Planning & Zoning Administrator, Steve Tugwell, Senior Planner				
RECOMMENDATION(s):	The Planning Commission will make a recommendation to the Board of Supervisors at the joint public hearing on January 20, 2016.				
TIMING:	Current				
DISCUSSION:	Request for a special use permits to allow for major utilities to construct a raw water supply system which includes a raw water intake and pump station.				
FISCAL IMPACT:	Project is estimated at \$8-10M cost which is equally shared by Fluvanna County and Louisa County under the James River Water Authority.				
POLICY IMPACT:	The Board of Supervisors may: <ul style="list-style-type: none"> • Approve these requests, allowing the major utilities; OR • Deny this request, preventing the major utilities; OR • Defer this request and make a final decision at a later date. 				
LEGISLATIVE HISTORY:	Review of proposed major utilities in accordance with Chapter 22, Article 4 of the Fluvanna County Code (Zoning Ordinance: Uses permitted by special use permit only). Application SUP 15:11 was received on December 17, 2015. A previous proposal was denied by the Board of Supervisors on December 2, 2015 by a vote of 2-2. (SUP 15:08)				

ENCLOSURES:	Staff Report (with accompanying attachments)				
REVIEWS	Legal	Finance	Purchasing	HR	Other
	X				X



COUNTY OF FLUVANNA

"Responsive & Responsible Government"

P.O. Box 540 Palmyra, VA 22963 (434) 591-1910 FAX (434) 591-1911 www.co.fluvanna.va.us

STAFF REPORT

To: Fluvanna County Planning Commission & BOS
Case Number: SUP 15:11
Tax Map: See attached

From: Planning Staff
District: Col. & Fork Union
Date: January 20, 2016

General Information: This request is to be heard by the Planning Commission and the Board of Supervisors on Wednesday, January 20, 2016 at 7:00 p.m. in the Circuit Courtroom in the Courts Building.

Owner/Applicant: JRWA/Timmons Group

Representative: James River Water Authority/Timmons Group

Requested Action: Request for a special use permit to allow for major utilities with respect to the construction of a raw water supply system. (Attachment A)

Location: The affected properties are located within the Columbia and Fork Union election districts. (Attachment B)

Existing Zoning: A-1, Agricultural, General

Existing Land Use: Agricultural and Residential

Planning Area: Rural Preservation

Adjacent Land Use: Adjacent properties are all zoned A-1, Agricultural, General.

Zoning History: SUP 15:08 was denied by the Board of Supervisors on 12/2/2015. At a special meeting on 12/7/2015, the Board of Supervisors voted to consider a new application and waived the usual twelve (12) month waiting period for resubmission.

Comprehensive Plan:

Infrastructure:

The water systems section of the Infrastructure chapter of the Comprehensive Plan states that *"the availability of water and sewer infrastructure can be considered the primary constraint on development in the county. The economic development of Zion Crossroads depends on the*

provision of water and sewer, and the development in the rest of the county will be largely influenced by the location, availability, and capacity of new infrastructure. Infrastructure plans vary for different parts of the county. All of these options, and more, are the issues which require comprehensive analysis during the ongoing process of developing a County-wide Water & Sewer Master Plan.”

Implementation Goals and Strategies:

Goal 2 of the Land Use chapter and Community Design chapter of the Comprehensive Plan states, “*to provide public water to the county’s community planning areas as feasible and discourage public and central potable water and sewer connections to residential, commercial, and industrial uses in the rural preservation area.*” And;

Goal 1 of the Infrastructure chapter of the Comprehensive Plan

states, “*to develop a comprehensive public water system to serve the county’s community planning areas, and; design and construct a water line from the James River to Zion Crossroads in cooperation with Louisa County through the JRWA.*” This goal appears to be congruent with the 2013 agreement with Louisa County, through the jointly-held James River Water Authority (created under the Virginia Water and Waste Authorities Act), will result in a pipeline which draws water from the James River near Columbia on Fluvanna’s southern boundary for transmittal to Louisa County on Fluvanna’s northern boundary. (Attachment C)

Analysis:

The Fluvanna County Zoning Ordinance defines major utilities as: *Facilities for the distribution, collection, treatment, production, transmission and generation of public, private and central utilities including, but not limited to, transmission lines, production plants, electrical substations, pumping stations, treatment facilities, and communication facilities.* Sec. 22-4-2.2 permits major utilities in the A-1 zoning district by special use permit only.

This application proposes two (2) siting options for the raw water intake facility, and two (2) options for the pumping station. Each option would contain a two (2) acre area to house the facility. Option one is a portion of Tax Map 53-A-62C, (The Point of Fork, LP parcel), and option 2 is Tax Map 61-A-4, (the Hammond parcel). There are three (3) potential routes from the pumping station to the raw waterline.

The proposed raw water pumping station will be approximately 40x60 in size, or 2,400 square feet. This building would be located on a 2 acre parcel that will be served by a 30-foot wide access and utility easement. The pumping station SUP comprises five (5) parcels which contain approximately 305 acres, however the actual area that will be utilized for easements and the facility itself make up only a fraction of that area. The exterior façade of the pumping facility is planned to be earth-toned split-faced block. (Attachment D)

The main objective and purpose of this project is to convey raw water which will supply long-term water needs of both Fluvanna and Louisa counties. The applicant has stated that, “*The Fluvanna County Board of Supervisors signed and executed the Interjurisdictional Agreement with Louisa County, the Louisa County Water Authority (LCWA), and the James River Water Authority (JRWA) on October 2, 2013. Conforming to the terms set forth in the*

Interjurisdictional Agreement, the Fluvanna County Board of Supervisors voted to amend the Fluvanna County Comprehensive Plan on November 20, 2013 to allow and support this project, which will be located in the eastern end of the county in what is designated as rural preservation area. Furthermore, the Fluvanna County Board of Supervisors also approved and executed the James River Water Authority Service Agreement on April 1, 2015. It is JRWA's belief that this project is advantageous and important to the future growth of Fluvanna County and the actions of the Fluvanna County Board of Supervisors to date further signify our belief. JRWA also offers additional advantages including, but not limited to the following:

- 1) Long-term, sustainable water supply to meet your Long-Term Water Supply Plan needs;*
- 2) Economic Development Driver;*
- 3) 50% share of the raw water capacity.*

The applicant has also stated that "the James River Water Authority proposes to construct a new 24" diameter raw water pipeline. The proposed improvements associated with this application include a below-ground 24" raw water pipeline which is part of the James River Water Authority Project. There will be a raw water pump station constructed in association with this application as well as a raw water intake structure and appurtenances." Additionally, "the raw waterline will be buried with a minimum cover of three (3) feet. During construction, the surrounding property/neighborhood owners will see and hear construction crews and equipment working to install the piping in the ground. Upon completion of the project, the disturbed ground will be returned to its original condition or better prior to the pipe crew leaving the area. Instances of erosion after stabilization will be addressed by the contractor upon being notified. The pump station will use muted tones on the exterior and will be constructed in a way that minimizes the visual effects of the facility."

If SUP 15:11 for a major utility is approved, staff recommends the following ten (10) conditions:

1. Construction, operation, and maintenance of the raw waterline major utility shall comply with all local, State, and Federal requirements.
2. The project shall comply with all Virginia erosion and sediment control regulations as specified in the 1992 Virginia Erosion and Sediment Control Handbook as amended.
3. For construction of the raw waterline major utility occurring adjacent to existing development, adequate dust and siltation control measures shall be taken to prevent adverse effects on the adjacent property. It is intended that the present and future results of the proposed raw waterline major utility not create adverse effects on the public health, safety, comfort, or convenience, or value of the surrounding property and uses thereon.
4. Vehicular access to all residences along the affected right-of-ways shall be maintained at all times.
5. Except in cases of emergencies including prevention of danger to public health, safety, and welfare and a mediation of soil erosion and as requested by VDOT in the case of work done on public highways, all construction activity for the raw waterline major utility shall occur between 7:00 a.m. and 5:00 p.m. Monday through Saturday. Applicant shall comply with VDOT standards for performing open-cut sections on affected roadways.
6. The applicant shall avoid removing trees and bushes along the raw waterline major utility corridor, except as necessary in order to facilitate the utility. Trees and bushes damaged

during construction shall be replaced with a tree or bush of equal type as approved by the Planning Director.

7. Any areas or land associated with this project that may become disturbed as a result of construction of the raw waterline major utility shall be restored to its original condition or better prior to the pipe crew's departure of the respective areas and/or land. This includes restoration of any/all areas of erosion.
8. Withdrawal and pumping facilities shall be so designed and built as to minimize sound propagation beyond the limits of buildings and other structures, to the maximum extent reasonably feasible.
9. The use that is permitted with this special use permit is limited to the raw water intake structure, raw water pumping facility and ancillary raw water pipelines, fittings and appurtenances, including reasonable temporary access routes for construction and permanent access roads for ongoing operations and maintenance.
10. In no event shall any of the foregoing conditions be construed to be duplicative of, contradictory to or inconsistent with any statute, rule, regulation or condition imposed under the authority of State or federal law; but all such conditions shall, on the contrary, be construed as arising out of the police power of the County pursuant to Title 15.2 of the Virginia Code (1950), as amended.

When evaluating proposed uses for a special use permit, in addition to analyzing the potential adverse impacts of the use, staff utilizes two (2) general guidelines for evaluation as set forth in the zoning ordinance.

First, the proposed use should not tend to change the character and established pattern of the area or community.

The subject properties are located within the Rural Preservation Planning Area, within close proximity of existing agricultural and residential zoning and uses. The location of the proposed raw waterline major utility pipeline is predominately within the existing Central Virginia Electric Cooperative easement(s), therefore outside and beyond initial phases of construction, visible changes to the character and established pattern of this area should be minimal. The applicant has also stated in writing that they will restore any areas to their original state or better, should they become disturbed as a result of this process.

Second, the proposed use should be compatible with the uses permitted by-right in that zoning district and shall not adversely affect the use/or value of neighboring property.

Major utilities require a special use permit in the A-1 zoning district. Since a predominant section of the proposed waterline utility will be placed within an existing easement, properties within the neighborhood and community should not be adversely affected. The pumping station will be the approximate size of a medium-sized single-family dwelling, which is a by-right use in the A-1 zoning district.

Neighborhood Meeting: January 7, 2016

There were approximately thirty attendees at the Thursday, January 7, 2016 neighborhood meeting. The general questions, concerns and comments appeared to be with regard to the

impact to personal property as a result of the construction of the waterline. There were also comments regarding who will be responsible for future maintenance and pump replacement, how wide the clearing will have to be for the equipment to operate, and what the exact height of the pumping station will be.

Attendees also appeared concerned about the historic impact constructing the water line may have, and what the pumping station may do to the view-shed of neighboring properties. There were general questions regarding the exterior building materials and color of the pumping station, and whether or not the pumps would be completely under roof. Someone asked what the approximate date would be for water availability to the Zions Crossroad area.

Technical Review Committee: January 7, 2016

1. Mark Wood with VDOT stated they are good with both applications (SUP 15:11 & 15:12), and that they are actively working with both the Louisa County Water Authority and the James River Water Authority to provide what VDOT requirements will be in regards to any road improvements and open-cut sections along impacted roadways;
2. Mr. Bibb, Planning Commission Chairman inquired if one of the two potential siting locations for the intake facility/pumping station was preferred over the other, and whether or not the same number of fire hydrants will be involved with the new route. Mr. Bibb also asked if 90% of the properties are within the existing right-of-way, and how many properties will need to be negotiated for the acquisition of easements;
 - Mr. Nichols, Fluvanna County Administrator and JRWA Board Member stated that the preferred site is the “blue site and route”, which is delineated as the “Hammond” property on the applicant’s renderings;
 - Andy Wade with the Louisa County Water Authority stated that 48 of the 72 property owners have replied with consent agreements, and he confirmed that 90% of the properties are still within CVEC easements, and that the water line will need to cross the gas line four (4) times to stay within the CVEC easement; Mr. Wade also clarified that he is working with VDOT and the remaining property owners to acquire their consent to be able to go through their easements;
3. Roger Black with Erosion & Sediment Control asked if they intend on applying through the state or locally. Mr. Saunders with Timmons replied they intend on initially applying through the County;
4. Wayne Stephens, County Engineer, commented they he has been looking at the closest, easiest, and most feasible pipe routing in order to be able to serve the Fork Union Sanitary District;
5. The Health Dept. stated that they have no comments on either application. (Attachment E)

Planning Commission:

The Planning Commission will make a recommendation to the Board of Supervisors at the joint public hearing on January 20, 2016.

Board of Supervisors:

A previous proposal was denied by the Board of Supervisors on December 2, 2015 by a vote of 2-2. (SUP 15:08)

Conclusion:

The Planning Commission and the Board of Supervisors should consider any potential adverse impacts that may be associated with this project.

Suggested Motion:

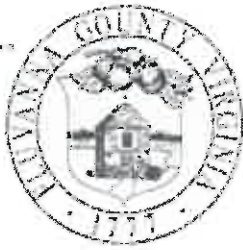
I move that the Planning Commission recommend [approval/denial] of SUP 15:11, a special use permit request to allow construction of raw water supply system major utility, including a raw water intake, pump station, and raw water pipeline, on an approximately 2 acre pump station site and within a portion of 330 acres of Tax Map Parcels 53-A-62, 53-A62C, 53-A-61, 53-11-5, and 53-11-19, and 61-A-4, subject to the ten (10) conditions listed in the staff report [if approved].

I move that the Board of Supervisors [approve/deny/defer] SUP 15:11, a special use permit request to allow construction of raw water supply system major utility, including a raw water intake, pump station, and raw water pipeline, on an approximately 2 acre pump station site and within a portion of 330 acres of Tax Map Parcels 53-A-62, 53-A62C, 53-A-61, 53-11-5, and 53-11-19, and 61-A-4, subject to the ten (10) conditions listed in the staff report [if approved].

Attachments:

- A – SUP 15:11 Application and APO letter
- B – James River Water Project map
- C – Comprehensive Plan excerpt – Implementation and Goals and Infrastructure
- D - JRWA project layout, site renderings, and graphics
- E - TRC comment letter

Copy: Joe Hines via email - Joe.Hines@timmons.com
The Planning Commission - planningcommission@fluvannacounty.org
Mr. Fred Payne, Esquire via email - fpayne@fluvannacounty.org
File



COMMONWEALTH OF VIRGINIA
COUNTY OF FLUVANNA

Application for Special Use Permit (SUP)

Received
DEC 17 2015

Owner of Record: William Robert Hammond, See Attached List Applicant of Record: James River Water Authority

E911 Address: _____ E911 Address: 132 Main Street Palmyra VA 22963
Phone: _____ Fax: _____ Phone: 434-591-1910 Fax: 434-591-1913
Email: _____ Email: _____

Representative: _____
E911 Address: _____
Phone: _____ Fax: _____
Email: _____
Note: If applicant is anyone other than the owner of record, written authorization by the owner designating the applicant as the authorized agent for all matters concerning the request shall be filed with this application.
Is property in Agricultural Forestal District? No Yes
If Yes, what district: _____

Tax Map and Parcel(s): 61 A 4 and Attached List Deed Book Reference: DB 922 PG 484 plus attachments
Acreage: 329.7 Zoning: A-1 Deed Restrictions? No Yes (Attach copy)
Request for a SUP in order to: build raw water supply system Proposed use of Property: utility-raw water supply

*Two copies of a plan must be submitted, showing size and location of the lot, dimensions and location of the proposed building, structure or proposed use, and the dimensions and location of the existing structures on the lot.

By signing this application, the undersigned owner/applicant authorizes entry onto the property by County Employees, the Planning Commission, and the board of Supervisors during the normal discharge of their duties in regard to this request and acknowledges that county employees will make regular inspections of the site.

Date: 12/11/15 Signature of Owner/Applicant: _____
Subscribed and sworn to before me this 11 day of December, 20 15
Notary Public: Kelly Belanger Harris Register # 7587854
My commission expires: 8/31/18
Certification Date: 12/11/15
Zoning Administrator: _____



All plats must be folded prior to submission to the Planning Department for review. Rolled plats will not be accepted.

OFFICE USE ONLY	
Date Received: <u>12/17/15</u> Pre-Application Meeting:	PH Sign Deposit Received: _____ Application #: <u>SUP 15 011</u>
\$800.00 fee plus mailing costs paid:	Mailing Costs: \$20.00 Adjacent Property Owner(APO) after 1st 15, Certified Mail
Amendment of Condition: \$400.00 fee plus mailing costs paid:	
Telecommunications Tower \$1,500.00 fee plus mailing costs paid:	\$5,500 w/Consultant Review paid:
Election District: <u>Columbia + Fork Union</u>	Planning Area: <u>Road Preservation</u>
Public Hearings	
Planning Commission	Board of Supervisors
Advertisement Dates: <u>1/7/16 + 1/14/16</u>	Advertisement Dates: <u>1/7/16 + 1/14/16</u>
APO Notification: <u>1/6/2016</u>	APO Notification: <u>1/6/2016</u>
Date of Hearing: <u>1/20/2016</u>	Date of Hearing: <u>1/20/2016</u>
Decision: _____	Decision: _____

FLUVANNA COUNTY JRWA SUP PARCEL LIST

<u>PARCEL</u>	<u>OWNER</u>	<u>ZONING</u>	<u>DEED BOOK/PAGE</u>
53 11 19	CENTRAL VIRGINIA ELECTRIC COOPERATIVE	A-1	D.B. 308 PG. 224
53 11 5	COLEMAN S. & SANDRA C. LYTTLE 16251 HUNTERS RIDGE LANE MOSELY, VA 23120	A-1	D.B. 187, PG. 701
53 A 61	RODNEY G. BIALKOWSKI, SR. TRUST 1215 POINT OF FORK ROAD FORK UNION, VA. 23055	A-1	D.B. 580, PG. 364
53 A 62	POINT OF FORK FARM LP P.O. BOX 847 COLUMBIA, VA. 23038	A-1	D.B. 277, PG. 612
53 A 62C	POINT OF FORK FARM LP P.O. BOX 847 COLUMBIA, VA. 23038	A-1	D.B. 273, PG. 269
61 A 4	WILLIAM ROBERT HAMMOND	A-1	D.B. 922 PG. 484

DESCRIBE BRIEFLY THE IMPROVEMENTS PROPOSED. STATE WHETHER NEW BUILDINGS ARE TO BE CONSTRUCTED, EXISTING BUILDINGS ARE TO BE USED, OR ADDITIONS MADE TO EXISTING BUILDINGS.

THE JAMES RIVER WATER AUTHORITY PROPOSES TO CONSTRUCT A NEW 24" DIAMETER RAW WATER PIPELINE. THE PROPOSED IMPROVEMENTS ASSOCIATED WITH THIS APPLICATION INCLUDE A BELOW GROUND 24" RAW WATER PIPELINE WHICH IS PART OF THE JAMES RIVER WATER AUTHORITY PROJECT. THERE WILL BE a RAW WATER PUMP STATION CONSTRUCTED IN ASSOCIATION WITH THIS APPLICATION AS WELL AS A RAW WATER INTAKE STRUCTURE AND APPURTENANCES

NECESSITY OF USE: DESCRIBE THE REASON FOR THE REQUESTED CHANGE:

THE USE IS TO CONVEY RAW WATER TO SUPPLY THE LONG TERM WATER NEEDS OF BOTH FLUVANNA COUNTY AND LOUISA COUNTY FOR THE FORESEEABLE FUTURE.

PROTECTION OF ADJOINING PROPERTY: DESCRIBE THE EFFECTS OF THE PROPOSED USE ON ADJACENT PROPERTY AND THE SURROUNDING NEIGHBORHOOD. WHAT PROTECTION WILL BE OFFERED ADJOINING PROPERTY OWNERS?

THE RAW WATERLINE WILL BE BURIED WITH A MINIMUM COVER OF 3'. DURING CONSTRUCTION, THE SURROUNDING PROPERTY/NEIGHBORHOOD OWNERS WILL SEE AND HEAR CONSTRUCTION CREWS AND EQUIPMENT WORKING TO INSTALL THE PIPING IN THE GROUND. UPON COMPLETION OF THE PROJECT, THE DISTURBED GROUND WILL BE RETURNED TO ITS ORIGINAL CONDITION OR BETTER PRIOR TO THE PIPE CREW LEAVING THE AREA. INSTANCES OF EROSION AFTER STABILIZATION WILL BE ADDRESSED BY THE CONTRACTOR UPON BEING NOTIFIED. THE PUMP STATION WILL USE MUTED TONES ON THE EXTERIOR AND WILL BE CONSTRUCTED IN WAY THAT MINIMIZES THE VISUAL EFFECTS OF THE FACILITY.

ENHANCEMENT OF THE COUNTY: WHY DOES THE APPLICANT BELIEVE THAT THE REQUESTED CHANGE WOULD BE ADVANTAGEOUS TO THE COUNTY OF FLUVANNA? (SUBSTANTIATE WITH FACTS)

THE FLUVANNA COUNTY BOARD OF SUPERVISORS (FCBOS) SIGNED AND EXECUTED THE INTERJURISDICTIONAL AGREEMENT (IA) WITH LOUISA COUNTY, THE LOUISA COUNTY WATER AUTHORITY (LCWA) AND THE JAMES RIVER WATER AUTHORITY (JRWA) ON OCTOBER 2, 2013. CONFORMING TO THE TERMS SET FORTH IN THE IA, THE FCBOS VOTED TO AMEND THE FLUVANNA COUNTY COMPREHENSIVE PLAN ON NOVEMBER 20, 2013 TO ALLOW AND

SUPPORT THIS PROJECT, WHICH WILL BE LOCATED IN THE EASTERN END OF THE COUNTY IN WHAT IS DESIGNATED A RURAL PRESERVATION AREA. FURTHERMORE, THE FCBO'S ALSO APPROVED AND EXECUTED THE JAMES RIVER WATER AUTHORITY SERVICE AGREEMENT ON APRIL 1, 2015. IT IS JRWA'S BELIEF THAT THIS PROJECT IS ADVANTAGEOUS AND IMPORTANT TO THE FUTURE GROWTH OF FLUVANNA COUNTY AND THE ACTIONS OF THE FCBO'S TO DATE FURTHER SIGNIFY OUR BELIEF. JRWA ALSO OFFERS ADDITIONAL ADVANTAGES INCLUDING, BUT NOT LIMITED TO THE FOLLOWING: 1) LONG TERM, SUSTAINABLE WATER SUPPLY TO MEET FLUVANNA COUNTY'S LONG TERM WATER SUPPLY PLAN NEEDS; 2) ECONOMIC DEVELOPMENT DRIVER; 3) 50 PERCENT SHARE OF THE RAW WATER CAPACITY.

PLAN: FURNISH PLOT PLAN SHOWING BOUNDARIES AND DIMENSIONS OF PROPERTY, WIDTH OF ABUTTING ROW'S, LOCATION AND SIZE OF BUILDINGS ON THE SITE, ROADWAYS, WALKS, OFF-STREET PARKING AND LOADING SPACE, LANDSCAPING, ETC. ARCHITECT'S SKETCHES SHOWING ELEVATIONS OF PROPOSED BUILDINGS AND COMPLETE PLANS ARE DESIRABLE AND MAY BE REQUIRED WITH THE APPLICATION. REMARKS:

THE ATTACHED EXHIBITS DEMONSTRATE THE FINAL ROUTING OF THE RAW WATER PIPELINE THROUGH THE IDENTIFIED PARCELS TO JUST NORTH OF ROUTE 6. ALL OF THE REQUESTED EASEMENTS WILL BE PERMANENT. THE EXHIBITS IDENTIFY THE WIDTH OF THE NEW EASEMENT, THE LOCATION OF THE 24 INCH RAW WATER PIPELINE WITHIN THE NEW EASEMENT AND THE LOCATION OF THE NEW EASEMENT WITHIN THE CVEC EASEMENT (WHERE APPLICABLE).

Memorandum

DATE: December 31, 2015
RE: Planning Commission APO Letter
TO: Jason Stewart
FROM: James Newman

Please be advised the attached letter went out to the attached list of Adjacent Property Owners for the January 20, 2016 Joint Planning Commission and Board of Supervisors Meeting.



COUNTY OF FLUVANNA

“Responsive & Responsible”

P.O. Box 540 Palmyra, VA 22963 (434) 591-1910 FAX (434) 591-1911 www.fluvannacounty.org

NOTICE OF PUBLIC HEARING

December 22, 2015

Owner name
Owner address
TMP
Re: Public Hearing on SUP 15:11

Dear Owner Name,

This letter is to notify you that the Fluvanna County Board of Supervisors will hold a public hearing on the above referenced item as noted below:

Purpose: Board of Supervisors’ and Planning Commission Joint Public Hearing

Day/Date: Wednesday, January 20, 2016

Time: 7:00 PM

Location: Fluvanna County Circuit Court Room, Palmyra, VA

The applicant or applicant’s representative will be present at the Board of Supervisors meeting for the special use permit request that is described as follows:

SUP 15:11 – James River Water Authority – A request for a special use permit to allow for major utilities with respect to the construction of a raw water supply system which includes a raw water intake and pump station at the subject properties denoted by Tax parcel Numbers: 53-A-62, 53-A-62C, 53-A-61, 53-11-5, 53-11-19, and 61A-4. The properties are currently zoned A-1 (Agricultural General) and the properties are located in the Columbia and Fork Union Election Districts and encompass approximately 330 acres. The proposed raw water intake and pump station structures will encompass approximately 2 acres.

You are welcome to attend the Public hearing and you will have an opportunity to comment, if desired. The tentative agenda and staff report for this action is available for public review on the County website at: <http://fluvannacounty.org/government/bos/agendasactionsminutes>. You can also view the report in the Fluvanna County Planning and Zoning Department during working hours (8:00 am – 5:00 pm, Monday through Friday).

If you have any questions regarding this special use permit application or the Public Hearing, please contact me at 434-591-1910.

Jason Stewart
Planning & Zoning Administrator

TMP	Name	Address	Zip
53 8 17A	JOHNSTON, KENNETH B	3775 E RIVER RD	23038
53 A 60	ARSENAL AT POINT OF FORK, LLC	18 East Main Street	23219
53 A 61	BIALKOWSKI, G RODNEY SR TRUST	1215 POINT OF FORK RD	23055
53 A 61	BIALKOWSKI, G RODNEY SR TRUST	1215 POINT OF FORK RD	23055
53 A 62	POINT OF FORK FARM LP	1210 POINT OF FORK RD	23038
53 A 62	POINT OF FORK FARM LP	1210 POINT OF FORK RD	23038
53 A 62	POINT OF FORK FARM LP	1210 POINT OF FORK RD	23038
53 A 62	POINT OF FORK FARM LP	1210 POINT OF FORK RD	23038
53 A 62A	POINT OF FORK FARM LP	PO BOX 847	23038
53 A 62A	POINT OF FORK FARM LP	PO BOX 847	23038
53 A 62C	POINT OF FORK FARM LP	PO BOX 847	23038
53 A 63	BIALKOWSKI, G RODNEY SR TRUST	1215 POINT OF FORK RD	23055
53 A 63	BIALKOWSKI, G RODNEY SR TRUST	1215 POINT OF FORK RD	23055
53 A 67	COLONIAL PIPELINE COMPANY	PO BOX 1624	30009
53 A 67	COLONIAL PIPELINE COMPANY	PO BOX 1624	30009
53 A 69	JOHNSTON, KENNETH B	3775 EAST RIVER RD	23038
53 11 4	LYTTLE, COLEMAN S. & SANDRA C	16251 HUNTERS RIDGE LN	23120
53 11 4	LYTTLE, COLEMAN S. & SANDRA C	16251 HUNTERS RIDGE LN	23120
53 11 5	LYTTLE, COLEMAN S & SANDRA C	16251 HUNTERS RIDGE LN	23120
53 11 5	LYTTLE, COLEMAN S & SANDRA C	16251 HUNTERS RIDGE LN	23120
53 11 5	LYTTLE, COLEMAN S & SANDRA C	16251 HUNTERS RIDGE LN	23120
53 11 6	HENRY, JOHN E & SUSAN A	14924 ALPINE BAY LOOP	20155
53 11 17	DOOLEY, WILLIAM E & ARNDT, PATRICIA	133 SCENIC RIVER DR	23038
53 11 18	CENTRAL VIRGINIA ELECTRIC CO-OP	PO BOX 247	22949
53 11 18	CENTRAL VIRGINIA ELECTRIC CO-OP	PO BOX 247	22949
53 11 19	CENTRAL VIRGINIA ELECTRIC CO-OP	PO BOX 247	22949
53 11 19	CENTRAL VIRGINIA ELECTRIC CO-OP	PO BOX 247	22949
53 11 20	DROEGE, KENNETH E	351 SCENIC RIVER DR	23038
53 11 26	WYLIE, PAUL D JR & SALLY C	188 SCENIC RIVER DR	23038
53 11 27	HENRY, JOHN E & SUSAN A	14924 ALPINE BAY LOOP	20155
54A 1 98	CSX TRANSPORTATION TAX DEPT	500 WATER STREET	32202
54A 1 99	CSX TRANSPORTATION TAX DEPT	500 WATER STREET	32202
54A A 2	HARRY, RICHARD T & DONNA M	467 MARTIN KINGS RD	22902
61 A 1	541 GOLDSBOROUGH LANE, LLC	1500 STONY CREEK COURT	23233
61 A 4	HAMMOND, WILLIAM ROBERT	615 TEPEE TOWN RD	22903
61 A 3	HAMMOND, WILLIAM ROBERT	615 TEPEE TOWN RD	22903

James River Water Project

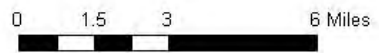


Legend

- Main Roads
- James River Raw Water Pipeline
- Water

2009 Planning Areas

- Community Planning Areas
- Rural Preservation
- Rural Residential
- Town Boundaries



in-stream flow may be restricted by natural conditions and the demands of upstream localities and industrial users.

Other systems include the Fork Union Sanitary District, the Central Elementary system, the Fluvanna County High School system, and privately owned systems operating in Palmyra and Columbia. All of these systems draw from public wells. The county's other residents draw their water from private sources such as wells or springs.

The Fork Union Sanitary District provides water through twenty-six miles of pipe to roughly 425 customers, including residences, small businesses, Dominion's Bremono Bluff power plant, the Fork Union Military Academy, Carysbrook, and Fluvanna County Middle School. The district's service area includes Bremono Bluff, Fork Union, Thessalonias, Cloverdale, West Bottom, and portions of Carysbrook. In 2007, the system enhanced its volume and pressure by replacing two ground-level standpipe storage tanks with two elevated storage tanks. While this increased pressure was a positive step for the system, it highlighted the fact that the remaining infrastructure was aging.

The availability of water and sewer infrastructure can be considered the primary constraint on development in the county. The economic development of Zion Crossroads depends on the provision of water and sewer, and development in the rest of the county will be largely influenced by the location, availability, and capacity of new infrastructure. Infrastructure plans vary for different parts of the county. All of these options, and more, are the issues which require comprehensive analysis during the ongoing process of developing a County-wide Water & Sewer Master Plan.

Zion Crossroads

The county is preparing to issue a request for proposals (RFP) for the water system's design. The initial source and capacity of water and sewer will come from the purchase of excess from the Department of Corrections, whose Women's Correctional Facility is located on Route 250, west of Zion Crossroads. Potential additional water sources include groundwater, an upgrade of DoC's Water Treatment Plant, and JRWA raw water, which could be treated by either Louisa County or the construction of a new treatment plant.

Potential additional sources of sewer capacity include an expansion of DoC's Wastewater Treatment Plant, a purchase of capacity from a neighboring municipality such as Louisa or Albemarle County, or the construction of a wastewater treatment plant with sub-surface disposal.

Fork Union

The county is investigating two existing wells as potential additional water sources (Carysbrook & FUMA). A rate increase is being sought to fund system improvements. Major maintenance and repairs are needed for the Morris and Omohundro wells and water treatment plants.

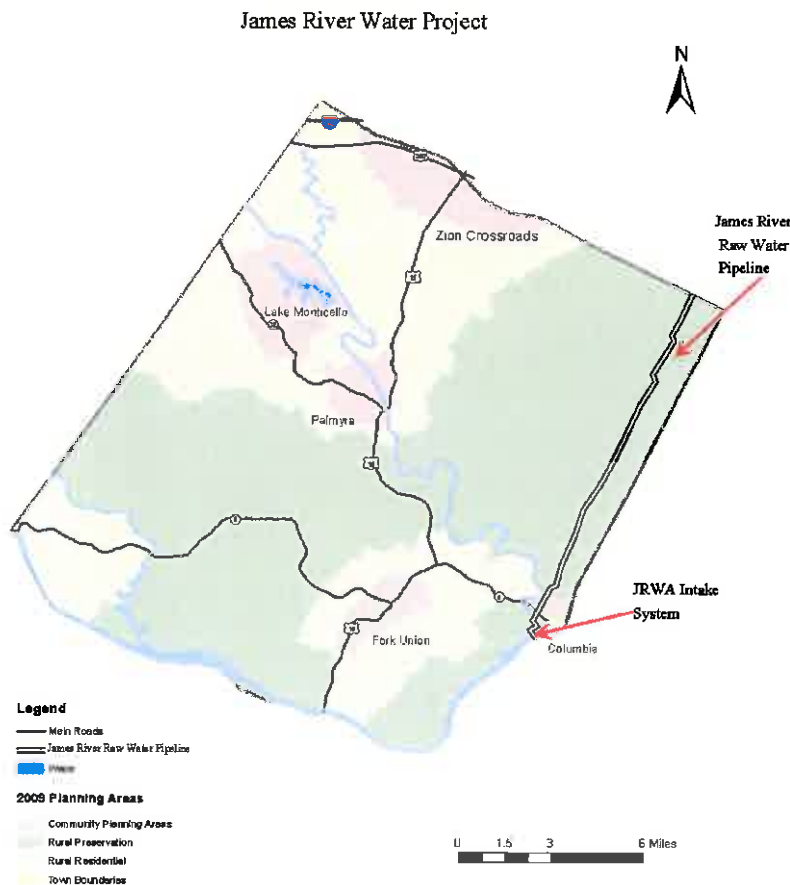
A hydrogeologic study is recommended when funding becomes available. Extending or expanding FUSD water system is not advisable until an additional water source is on-line and certain water line improvements/replacements have been completed. To date, it does not appear the provision of sewer service to the Fork Union area has been seriously investigated.

Palmyra

There is an existing water system, owned by Aqua in Palmyra (formerly held by Sydnor) which must be accounted for when considering the provision of public water service to the area. Fluvanna County owns several wells at Pleasant Grove, which serve various portions of the park and the municipal buildings located there. Fluvanna County also owns a well which serves the Courts building with domestic water and fire control service.

Potential sources of water for a future public water system in Palmyra include existing and newly developed groundwater resources, a feeder line from Zion Crossroads or Fork Union/Carysbrook, a purchase of excess water from Lake Monticello, or the establishment of a water treatment plant (WTP) in or near Palmyra. The Palmyra WWTP has limited sewer capacity, and according to the DEQ's nutrient regulations, limited-to-no ability to expand.

Figure I-2, James River Raw Water Project



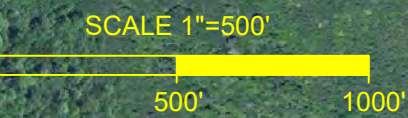
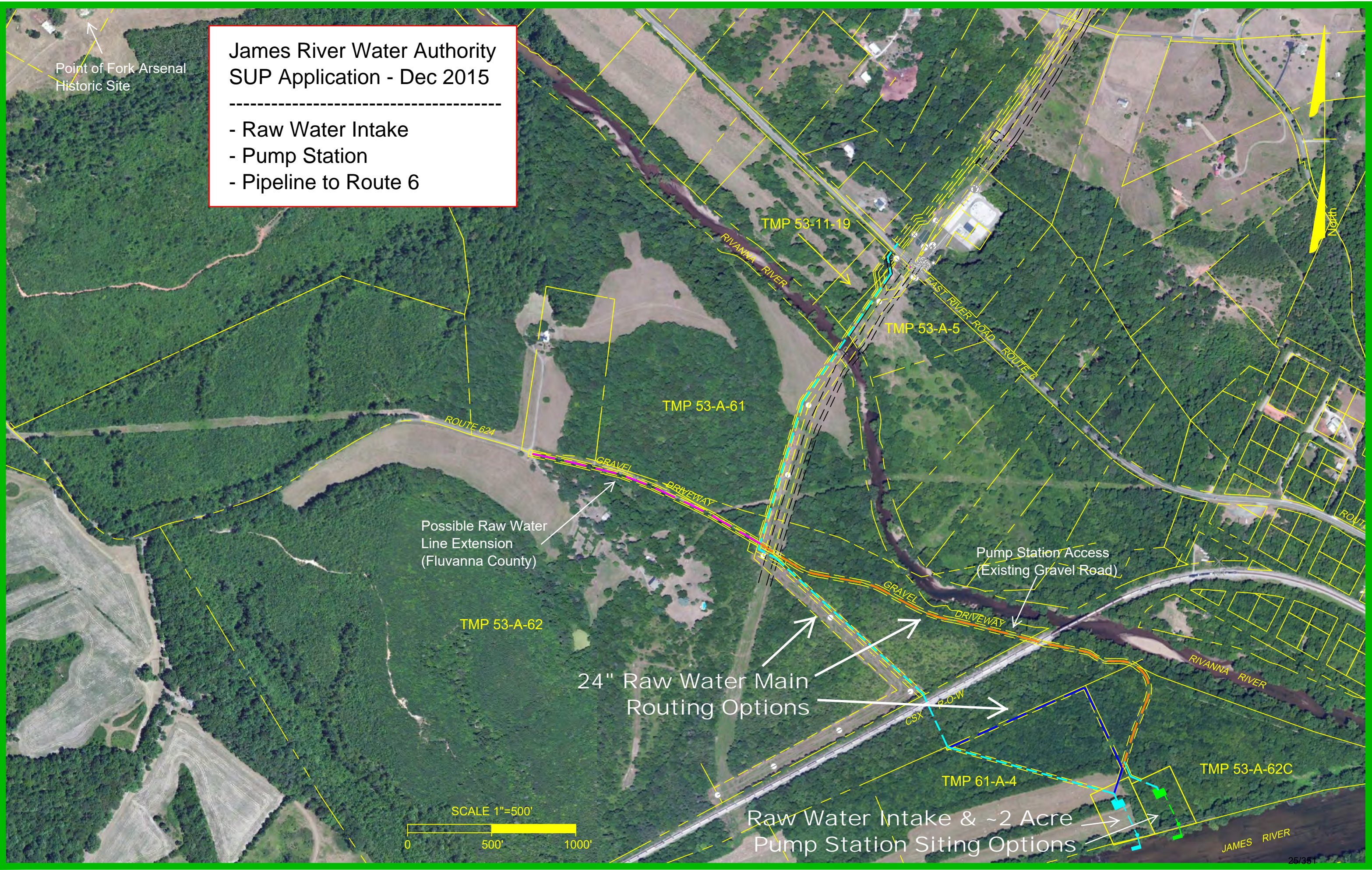
Goal	Strategy	Timeline	Tasked To
	(e) Adopt zoning and subdivision regulations that allow for higher-density, compact developments in the Zion Crossroads CPA.		
	(2) Provide public water to the county's community planning areas as feasible and discourage public and central potable water and sewer connections to residential, commercial, and industrial uses in the rural preservation area.	5 year	Dept. of Public Works
	(3) Develop a cash proffer recommendation, impact fee ordinance, and level-of-services standards, in accordance with state code, to fairly assess the fiscal impact of development on public services and infrastructure.	2016	Planning Comm. and Staff
	(4) To promote infill development, ensure adequate infrastructure is constructed or upgraded to support development in existing communities.	Ongoing	Planning Comm. and Staff; Dept. of Public Works
	(5) Ensure appropriate infrastructure is available to support mixed-use development.	Ongoing	Planning Comm. and Staff; Dept. of Public Works
B	To preserve and enhance Fluvanna's unique identity and rural character.		
	(1) Examine the impacts of large-lot developments versus rural cluster developments and amend the zoning and subdivision ordinances as appropriate.	2016	Planning Comm. and Staff
	(2) Protect the forest, wildlife habitats, and the rural community landscape as part of a development's green infrastructure.	Ongoing	Planning Comm. and Staff
	(3) Require developments located in fire-prone areas such as pine plantations to implement firewise practices and other defensible space techniques as recommended by the Virginia Dept. of Forestry and local public safety officials.	2016	Planning Comm. and Staff
	(4) Work with electric power companies to facilitate the replacement of current overhead facilities with underground lines, and require all new lines to be placed underground.	2016	Dept. of Public Works
C	To preserve and enhance Fluvanna's unique identity and rural character.		
	(1) Require rezoning requests and other development plans to identify any open space or other natural or cultural resource shown by maps or observed through field inspection, and include measures that will mitigate disturbance to these resources.	2016	Planning Comm. and Staff
	(2) Require a subdivision's open space to:	Ongoing	Planning Comm. and Staff
	(a) Be located so as to further the rural character of the area, particularly related to views from public roads and other developments.		

Goal	Strategy	Timeline	Tasked To
	(b) Be designed for maximum connectivity to other open spaces of existing or potential adjacent developments, or to act as buffers to agricultural activities.		
	(c) Be privately maintained and not be further developed as part of the associated project, or without further public or legal discussion and formal action.		
D	To promote village-scaled development in the Palmyra and Fork Union communities.		
	(1) Improve the streetscape of the village communities by installing traffic-calming measures, improving existing sidewalks, and installing new sidewalks, street lighting, and so on.	2016 and Ongoing	VDOT; Dept. of Public Works
	(2) Encourage the establishment of new local businesses and support existing local business in village cores.	Ongoing	Community Development
Chapter 3 – Infrastructure			
A	To develop a comprehensive public water system to serve the county’s community planning areas.		
	(1) Design and construct a water line from the James River to Zion Crossroads in cooperation with Louisa County through the JRWA.	5 year	Public Works; JRWA
	(2) Complete the state-mandated Master Water and Sewer Plan to identify sources for the county’s long-term water needs; particularly for each of its community planning areas.	2016	Public Works
	(3) Establish requirements for hydrogeological studies to determine groundwater capacity for development that proposes to use wells to serve the project.	2016	Public Works/ Planning Staff and Commission
B	To provide central sewer to the community planning areas.		
	(1) Provide central sewer service in Zion Crossroads in partnership with both Louisa County and private developers.	5 year	Public Works
	(2) Work with the private sector to develop a public sewer system to serve the Fork Union community planning area to enable future growth in this area, and to assist current residents with their aging (and increasingly failing) septic systems.	5 year	Public Works
	(3) Work with development projects in all community planning areas for the provision of central sewer whether publicly or privately owned and operated.	Ongoing	Public Works
C	To regulate private utilities, whether centralized or decentralized.		
	(1) Require development to determine future septic suitability and groundwater resources for the proposed project, and its potential impact on surrounding wells.	Ongoing	Health Dept.
	(2) Discourage the use of central sewer in the rural preservation areas and carefully limit its use in the rural residential areas to primarily cluster developments.	Ongoing	Public Works and Planning Staff

Point of Fork Arsenal
Historic Site

James River Water Authority SUP Application - Dec 2015

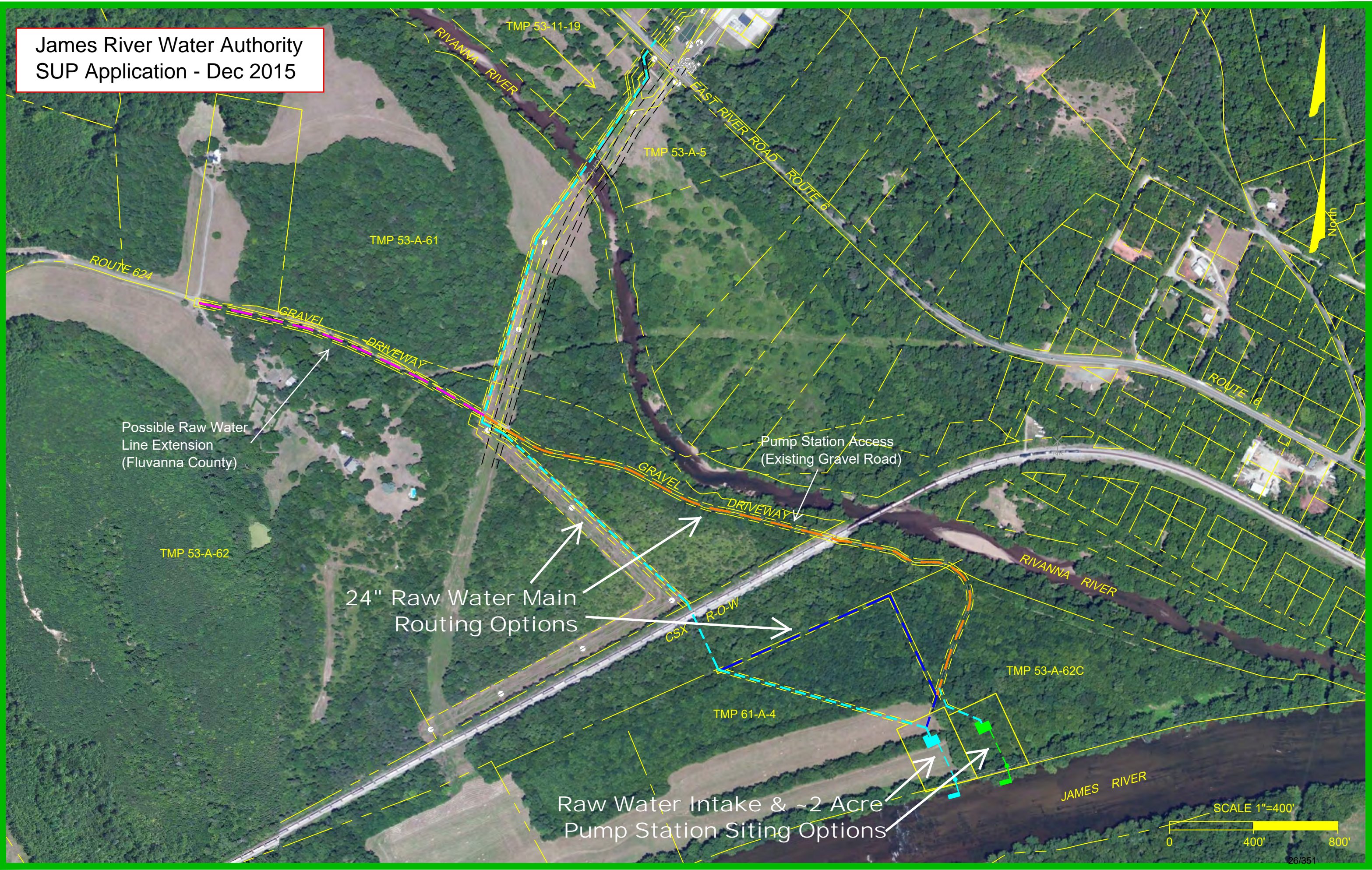
- Raw Water Intake
- Pump Station
- Pipeline to Route 6



24" Raw Water Main
Routing Options

Raw Water Intake & ~2 Acre
Pump Station Siting Options

James River Water Authority
SUP Application - Dec 2015



James River Water Authority
SUP Application - Dec 2015



GRAVEL
DRIVEWAY

Pump Station Access
(Existing Gravel Road)

RIVANNA
RIVER

TMP 53-A-62

CSX
R-O-W

Pump Station Access
(Existing Gravel Road)

TMP 53-A-62C

24" Raw Water Main
Routing Options

TMP 61-A-4

Raw Water Intake & ~2 Acre
Pump Station Siting Options

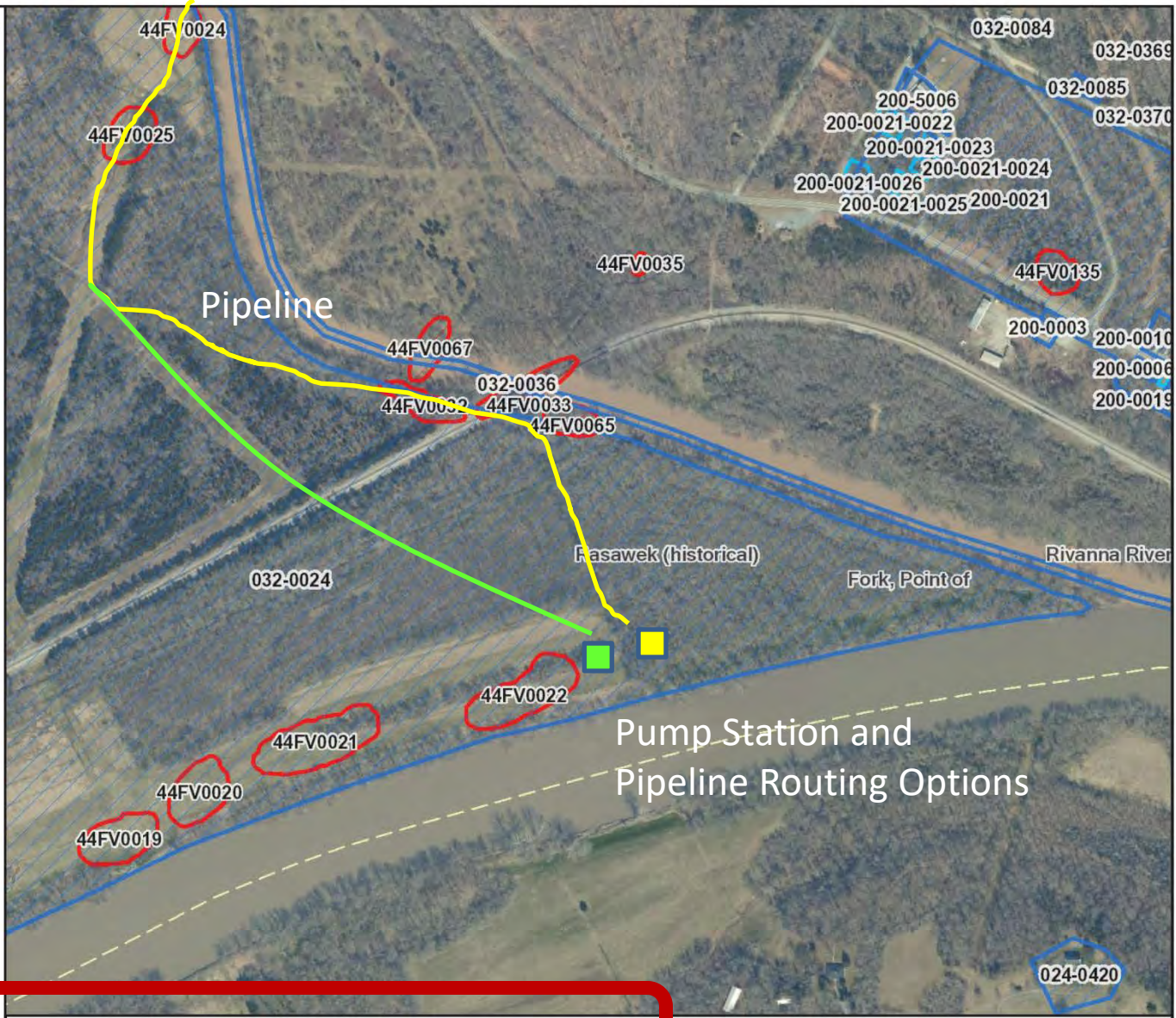
JAMES
RIVER

SCALE 1"=200'

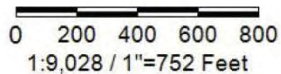


Legend

- Architecture Resources
- Architecture Labels
- Individual Historic District Properties
- Archaeological Resources
- Archaeology Labels
- DHR Easements
- USGS GIS Place names
- County Boundaries



Feet

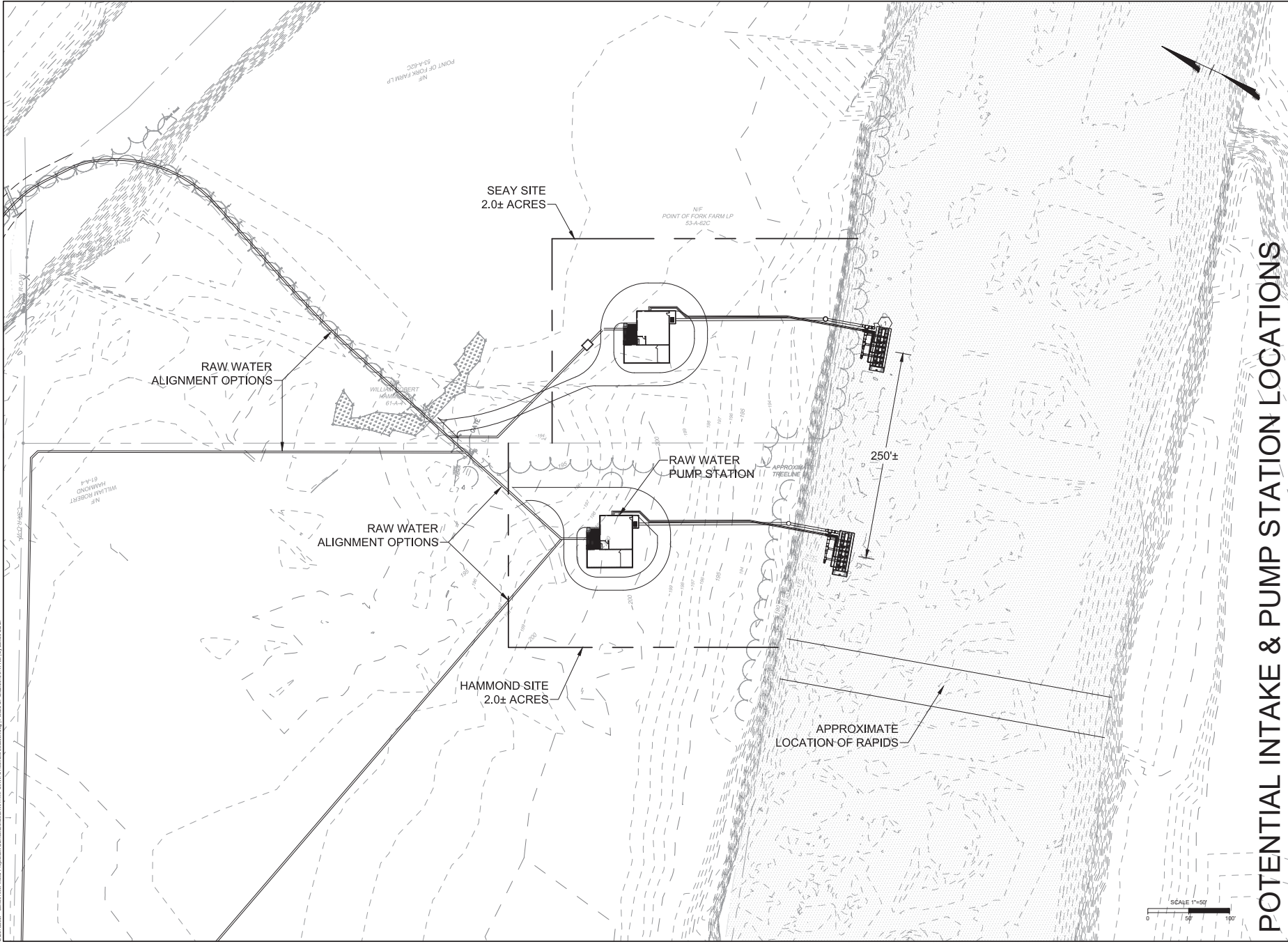


Title: Point of Fork

Date: 11/30/2015

DISCLAIMER: Records of the Virginia Department of Historic Resources (DHR) have been gathered over many years from a variety of sources and the representation of these records is not guaranteed under any conditions. The map is for general information purposes and is not intended for engineering, legal or other site-specific uses. Map may contain errors and is provided "as-is". More information is available in the DHR Archives located at DHR's Richmond office.

Notice if AE sites: Locations of archaeological sites may be sensitive to the National Historic Preservation Act (NHPA), and the Archaeological Resources Protection Act (ARPA) and Code of Virginia §2.2-3705.7 (10). Release of precise locations may threaten archaeological sites and historic resources.



POTENTIAL INTAKE & PUMP STATION LOCATIONS

FAULCONER IN ASSOCIATION WITH TIMMONS GROUP AND MEB General Contractors	YOUR VISION. ACHIEVED THROUGH OURS. 1001 Leaders Parkway, Suite 300 Piedmont, VA 23225 TEL: 804.266.6500 FAX: 804.266.6105 www.timmons.com	THE ENGINEERS AT THE CONTRACTOR OFFICE 1001 Leaders Parkway, Suite 300 Piedmont, VA 23225 TEL: 804.266.6500 FAX: 804.266.6105 www.timmons.com
	JAMES RIVER WATER PROJECT JAMES RIVER WATER AUTHORITY RWPS ALTERNATE LOCATION	Site Development Residential Infrastructure Technology
335-100 33927 SHEET NO. ALT	DATE DEC, 2015	DRAWN BY J. MARSHALL
		DESIGNED BY D. SAUNDERS
		CHECKED BY D. SAUNDERS
		SCALE AS SHOWN

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James River Water Authority Pump Station Renderings

Fluvanna County



31/351

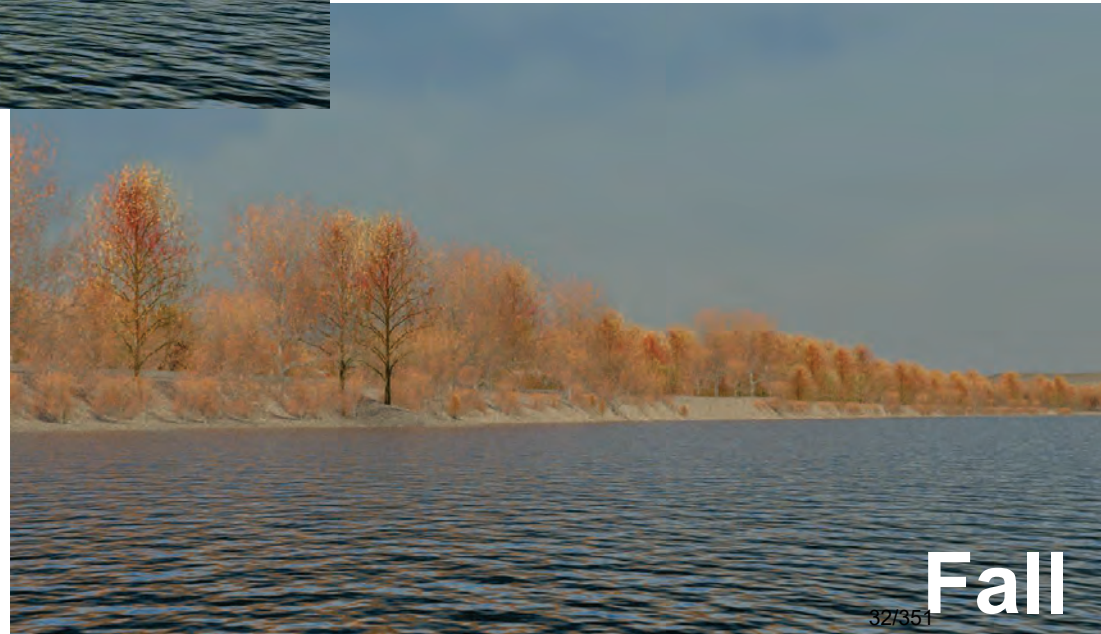
James River Water Authority Pump Station Renderings

Fluvanna County



Summer

View A
Looking Down
Stream from 1000 ft



Fall

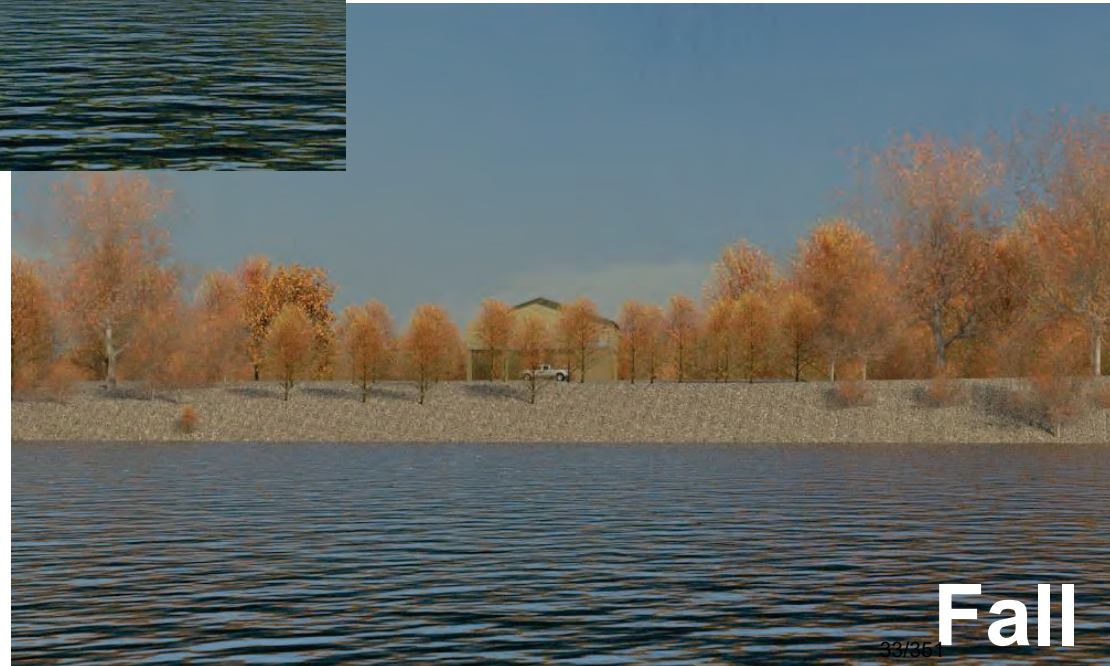
32/351

James River Water Authority Pump Station Renderings

Fluvanna County



Summer



Fall

View B
Looking Directly at
Pump Station from
425 ft

James River Water Authority Pump Station Renderings

Fluvanna County



Summer



Fall

34/351

View C
Looking Up Stream
from 1000 ft

James River Water Authority Pump Station Renderings

Fluvanna County



Summer

View D
Looking from
Opposite Side
of the River



Fall

James River Water Authority Pump Station Renderings

Fluvanna County



Summer

Looking from overhead

James River Water Authority Pump Station Renderings

Fluvanna County



Looking from the
Columbia Bridge



James River Water Authority Pump Station

Fluvanna County



Photo Looking from the Columbia Bridge

38/351

James River Water Project

Emergency Archaeological Discovery Plan

Timmons Group has prepared this Emergency Discovery Plan related to the potential for encountering historic sites and/or discovering cultural resource artifacts during the construction of the James River Authority waterline in Fluvanna County, Virginia.

In the event that previously unidentified archaeological resources or artifacts are discovered during land-disturbing activities within the project area, the construction contractor shall immediately halt all activity within a one hundred (100)-foot radius of the discovery, immediately notify the Authority/County, and implement interim measures to protect the discovery from looting and vandalism. Any artifacts upon discovery shall be the property of Fluvanna County.

For verification purposes, a representative from Authority/County shall be notified to inspect the construction site to determine the extent of the discovery and ensure that construction activities have halted. Actions will be taken to clearly mark the area of discovery; implement additional measures, as appropriate, to protect the discovery from looting and vandalism. A professional archaeologist shall inspect the construction site to determine the extent of the discovery and provide recommendations regarding its National Register of Historic Places eligibility and treatment; and notify the U. S. Army Corps of Engineers (Corps) and the Virginia Department of Historic Resources (VDHR) of the discovery describing the measures that have been implemented. Construction work may continue in the area outside the archaeological resource as defined by the Corps and VDHR, or their designated representative.

Within forty-eight (48) hours of receipt of the notification, the professional archaeologist shall provide VDHR and other consulting parties with its assessment of the National Register of Historic Places eligibility of the discovery and the intended action to resolve any determined adverse effect(s). Within five (5) working days of the original notification of discovery, the Corps, in consultation with VDHR and the other consulting parties, will review the assessment and make a formal determination on the National Register of Historic Places eligibility of the resource.

If the resource is determined eligible for the National Register of Historic Places, the contractor and professional archaeologist shall prepare a plan for its avoidance, protection, or recovery of information. The Corps and VDHR shall approve such plan and provide copies to other consulting parties, prior to implementation.

Work in the affected area shall not proceed until either:

the development and implementation of appropriate data recovery or other recommended mitigation procedures, or

the determination is made that the located resources are not eligible for inclusion on the National Register of Historic Places.

In the encountering of burials, the professional archaeologist shall treat all human remains and associated funerary objects encountered during the course of actions taken as a result of this Agreement in a manner consistent with the Advisory Council on Historic Preservation *Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects* (February 23, 2007, available online at <http://www.achp.gov/docs/hrpolicy0207.pdf>). All reasonable efforts will be made to avoid disturbing gravesites, including those containing Native American human remains and associated artifacts. If the contractor/ professional archaeologist/Authority/County agrees that avoidance of the human remains is not prudent and feasible, the professional archaeologist shall apply for a permit from VDHR for the archaeological removal of human remains in accordance with provisions of the *Virginia Antiquities Act*, Section 10.1-2305 of the *Code of Virginia*, and with the final regulations adopted by the Virginia Board of Historic Resources and published in the Virginia Register of July 15, 1991.

All parties on the property shall make a good faith effort to ensure that the general public is excluded from viewing any American Indian burial site or associated funerary artifacts. The consulting parties to this agreement shall release no photographs of any American Indian burial site or associated funerary artifacts to the press or general public. The Corps shall notify the appropriate Federally-recognized Tribe(s) and/or individual Virginia tribes(s), as appropriate when burials, human skeletal remains, or funerary artifacts are encountered on the project, prior to any analysis or recovery. The Corps shall deliver any American Indian human skeletal remains and associated funerary artifacts recovered pursuant to this agreement to the individual tribe to be reinterred. The disposition of any other human skeletal remains and associated funerary artifacts shall be governed as specified in any permit issued by VDHR or any order of the local court authorizing their removal.

Disturbance of human burials, whether willful or accidental, is prohibited under state law without appropriate permits (see Code of Virginia 18.2-126). Conviction of unlawful disturbance or disinterment is punishable by two to ten years in prison and up to \$100,000 in fines.

James River Water Project

Specimen Tree Care & Protection Plan:

Area surrounding individual specimen trees or groups of specimen trees to be protected during construction with orange tree protection fence, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated. No material shall be stockpiled for an extended period of time within tree protection zones.

Excavation Near Specimen Trees:

- A. Where utility trenches are required within protection zones, avoid cutting main lateral specimen tree roots or taproots when possible. Cut smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- B. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.
- C. Do not allow exposed roots to dry out before placing permanent backfill. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

Root Pruning:

- A. Prune roots of specimen trees that are affected by temporary and permanent construction. Roots damaged during excavation will be exposed and cut/pruned per the requirements defined in this section. Cut roots of concern manually by cleanly cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts.
- B. Coat cut ends of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other coating formulated for use on damaged plant tissues and that is acceptable to arborist.
- C. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
- D. Cover exposed roots with burlap and water regularly when prolonged exposure is anticipated.

Crown Pruning:

- A. Prune branches that are affected by temporary and permanent construction.
- B. Cut branches with sharp pruning instruments; do not break or chop.
- C. Do not apply pruning paint to wounds.
- D. Chip or remove branches.



COUNTY OF FLUVANNA

"Responsive & Responsible Government"

P.O. Box 540 Palmyra, VA 22963 (434) 591-1910 FAX (434) 591-1911 www.co.fluvanna.va.us

January 7, 2016

James River Water Authority
132 Main Street
Palmyra, VA 22963

Re: SUP 15:11 JRWA special use permit request for a major utility (raw water intake and pumping station facility)

Tax Map: 53-11-19, 53-11-5, 53-A-61, 53-A-62, 53-A-62C, and 61-A-4

Dear Applicant:

The following comments are the result of the Technical Review Committee meeting that was held on Thursday, January 7, 2016.

1. Mark Wood with VDOT stated they are good with both applications (SUP 15:11 & 15:12), and that they are actively working with both the Louisa County Water Authority and the James River Water Authority to provide what VDOT requirements will be in regards to any road improvements and open-cut sections along impacted roadways;
2. Mr. Bibb, Planning Commission Chairman inquired if one of the two potential siting locations for the intake facility/pumping station was preferred over the other, and whether or not the same number of fire hydrants will be involved with the new route. Mr. Bibb also asked if 90% of the properties are within the existing right-of-way, and how many properties will need to be negotiated for the acquisition of easements;
 - Mr. Nichols, Fluvanna County Administrator and JRWA Board Member stated that the preferred site is the "blue site and route", which is delineated as the "Hammond" property on the applicant's renderings.
 - Andy Wade with the Louisa County Water Authority stated that 48 of the 72 property owners have replied with consent agreements, and he confirmed that 90% of the properties are still within CVEC easements, and that the water line will need to cross under the gas line four (4) times to stay within the CVEC easement; Mr. Wade also clarified that he is working with VDOT and the remaining property owners to acquire their consent to be able to go through their easements;

3. Roger Black with Erosion & Sediment Control asked if they intend on applying through the state or locally. Mr. Saunders with Timmons replied they intend on initially applying through the County.
4. Wayne Stephens, County Engineer, commented they he has been looking at the closest, easiest, and most feasible pipe routing in order to be able to serve the Fork Union Sanitary District;
5. The Health Dept. stated that they have no comments on either application;

The Planning Commission & Board of Supervisors will have a joint Public Hearing to consider this item at their Wednesday, January 20, 2016 meeting. Your attendance is required at this meeting.

If you have any questions or need additional information, please contact me at 434-591-1910.

Sincerely,

Steve Tugwell
Senior Planner
Dept. of Planning & Community Development

cc: File

FLUVANNA COUNTY BOARD OF SUPERVISORS AGENDA ITEM

Meeting Date: January 20, 2016

AGENDA TITLE:	SUP 15:12 – Louisa County Water Authority				
MOTION(s):	I move that the Board of Supervisors [approve/deny/defer] SUP 15:12, a special use permit request to allow construction of raw water supply system major utility, including a raw water pipeline, from near Route 6 in southeastern Fluvanna County and north to the Fluvanna County and Louisa County border near Ferncliff, within a portion of the attached list of Tax Map Parcel numbers, subject to the nine (9) conditions listed in the staff report [if approved].				
CATEGORY	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
	X				
STAFF CONTACT(S):	Jason Stewart, Planning & Zoning Administrator, Steve Tugwell, Senior Planner				
PRESENTER(S):	Jason Stewart, Planning & Zoning Administrator, Steve Tugwell, Senior Planner				
RECOMMENDATION(s):	The Planning Commission will make a recommendation to the Board of Supervisors at the joint public hearing on January 20, 2016.				
TIMING:	Current				
DISCUSSION:	Request for a special use permits to allow for major utilities to construct a raw water pipeline to support a raw water supply system.				
FISCAL IMPACT:	Project construction costs are funded by the Louisa County Water Authority.				
POLICY IMPACT:	The Board of Supervisors may: <ul style="list-style-type: none"> • Approve these requests, allowing the major utilities; OR • Deny this request, preventing the major utilities; OR • Defer this request and make a final decision at a later date. 				
LEGISLATIVE HISTORY:	Review of proposed major utilities in accordance with Chapter 22, Article 4 of the Fluvanna County Code (Zoning Ordinance: Uses permitted by special use permit only). Application SUP 15:12 was received on December 17, 2015. A previous proposal was denied by the Board of Supervisors on December 2, 2015 by a vote of 2-2. (SUP 15:06)				
ENCLOSURES:	Staff Report (with accompanying attachments)				

REVIEWS	Legal	Finance	Purchasing	HR	Other
	X				X



COUNTY OF FLUVANNA

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STAFF REPORT

To: Fluvanna County Board of Supervisors
Case Number: SUP 15:12
Tax Map: See attached

From: Planning Staff
District: Col. & Fork Union
Date: January 20, 2016

General Information: This request is to be heard by the Board of Supervisors on Wednesday, January 20, 2016 at 7:00 p.m. in the Circuit Courtroom in the Courts Building.

Owner/Applicant: Louisa County Water Authority/ Timmons Group

Representative: Andy Wade/Timmons Group

Requested Action: Request for a special use permit for a major utility to construct a raw water pipeline with respect to multiple Tax Map and Parcel numbers (see attached). (Attachment A)

Location: The affected properties are located within the Columbia and Fork Union election districts. (Attachment B)

Existing Zoning: A-1, Agricultural, General

Existing Land Use: Agricultural and Residential

Planning Area: Rural Preservation

Adjacent Land Use: Adjacent properties are all zoned A-1, Agricultural, General.

Zoning History: SUP 15:06 was denied by the Board of Supervisors on 12/2/2015. At a special meeting on 12/7/2015, the Board of Supervisors voted to consider a new application and waived the usual twelve (12) month waiting period for resubmission.

Comprehensive Plan:

Infrastructure:

The water systems section of the Infrastructure chapter of the Comprehensive Plan states that *“the availability of water and sewer infrastructure can be considered the primary constraint on development in the county. The economic development of Zion Crossroads depends on the provision of water and sewer, and the development in the rest of the county will be largely influenced by the location, availability, and capacity of new infrastructure. Infrastructure plans vary for different parts of the county. All of these options, and more, are the issues which require comprehensive analysis during the ongoing process of developing a County-wide Water & Sewer Master Plan.”*

Implementation Goals and Strategies:

Goal 2 of the Land Use chapter and Community Design chapter of the Comprehensive Plan states, *“to provide public water to the county’s community planning areas as feasible and discourage public and central potable water and sewer connections to residential, commercial, and industrial uses in the rural preservation area.”* And;

Goal 1 of the Infrastructure chapter of the Comprehensive Plan

states, *“to develop a comprehensive public water system to serve the county’s community planning areas, and; design and construct a water line from the James River to Zion Crossroads in cooperation with Louisa County through the JRWA.”* This goal appears to be congruent with the 2013 agreement with Louisa County, through the jointly-held James River Water Authority (created under the Virginia Water and Waste Authorities Act), will result in a pipeline which draws water from the James River near Columbia on Fluvanna’s southern boundary for transmittal to Louisa County on Fluvanna’s northern boundary. (Attachment C)

Analysis:

This is a special use permit application for a major utility to construct a raw water pipeline from the James River in southeastern Fluvanna County that will extend northeast to Louisa County. This project includes seventy-two parcels, all of which are zoned A-1, Agricultural, General. The waterline is considered a *major utility*, and as such requires a special use permit within the A-1 zoning district. The zoning ordinance defines a major utility as, *“Facilities for the distribution, collection, treatment, production, transmission and generation of public, private and central utilities including, but not limited to, transmission lines, production plants, electrical substations, pumping stations, treatment facilities, and communication facilities.”*

According to the applicant’s narrative, the proposed improvements related to the waterline include a below-ground 24” raw water pipeline which is part of the James River Water Project. *“There will be no buildings constructed in association with this application. The location of the pipeline is predominately within Central Virginia Electric Cooperative (CVEC) existing*

easement(s). At locations requested/specified by the County of Fluvanna, there will be fire hydrants along the raw water pipeline route”.

The main objective and purpose of this project is to convey raw water which will supply long-term water needs of both Fluvanna and Louisa counties.

The applicant has stated that *“the raw waterline will be buried in the ground anywhere from three (3) feet to eight (8) feet for the entire length of the pipe through Fluvanna County. During construction, the surrounding property/neighborhood owners will see and hear construction crews and equipment working to install the piping in the ground. Upon completion of the project, the disturbed ground will be returned to its original condition or better prior to the pipe crew leaving the area. Instances of erosion after stabilization will be addressed by the contractor upon being notified”.*

The applicant has also stated that, “The Fluvanna County Board of Supervisors signed and executed the Interjurisdictional Agreement with Louisa County, the Louisa County Water Authority (LCWA), and the James River Water Authority (JRWA) on October 2, 2013. Conforming to the terms set forth in the Interjurisdictional Agreement, the Fluvanna County Board of Supervisors voted to amend the Fluvanna County Comprehensive Plan on November 20, 2013 to allow and support this project, which will be located in the eastern end of the county in what is designated as rural preservation area. Furthermore, the Fluvanna County Board of Supervisors also approved and executed the James River Water Authority Service Agreement on April 1, 2015. It is LCWA’s belief that this project is advantageous and important to the future growth of Fluvanna County and the actions of the Fluvanna County Board of Supervisors to date further signify our belief. LCWA also offers additional advantages including, but not limited to the following:

- 1) Long-term, sustainable water supply to meet your Long-Term Water Supply Plan needs;*
- 2) Economic Development Driver;*
- 3) Potential for reduced homeowner’s insurance premiums once the hydrant are installed;*
- 4) 50% share of the raw water capacity. (Attachment D)*

If SUP 15:12 for a major utility is approved, staff recommends the following nine (9) conditions:

1. Construction, operation, and maintenance of the raw waterline major utility shall comply with all local, State, and Federal requirements.
2. The project shall comply with all Virginia erosion and sediment control regulations as specified in the 1992 Virginia Erosion and Sediment Control Handbook as amended.
3. For construction of the raw waterline major utility occurring adjacent to existing development, adequate dust and siltation control measures shall be taken to prevent adverse effects on the adjacent property. It is intended that the present and future results of the proposed raw waterline major utility not create adverse effects on the public health, safety, comfort, or convenience, or value of the surrounding property and uses thereon.

4. Vehicular access to all residences along the affected right-of-ways shall be maintained at all times.
5. Except in cases of emergencies including prevention of danger to public health, safety, and welfare and remediation of soil erosion and as requested by VDOT in the case of work done on public highways, all construction activity for the raw waterline major utility shall occur between 7:00 a.m. and 5:00 p.m. Monday through Saturday. Applicant shall comply with VDOT standards for performing open-cut sections on affected roadways. (Attachment E)
6. The applicant shall avoid removing trees and bushes along the raw waterline major utility corridor, except as necessary in order to facilitate the utility. Trees and bushes damaged during construction shall be replaced with a tree or bush of equal type as approved by the Planning Director.
7. Any area or land associated with this project that may become disturbed as a result of construction of the raw waterline major utility shall be restored to original condition or better prior to the pipe crew's departure from the affected area and/or land or as soon thereafter as conditions permit. This includes restoration of any/all areas of erosion.
8. The use that is permitted with this special use permit is limited to the raw water pipelines, fittings and appurtenances as currently proposed by the applicant, including reasonable roads and other access for construction and ongoing maintenance.
9. In no event shall any of the foregoing conditions be construed to be duplicative of, contradictory to or inconsistent with any statute, rule, regulation or condition imposed under the authority of State or federal law; but all such conditions shall, on the contrary, be construed as arising out of the police power of the County pursuant to Title 15.2 of the Virginia Code (1950), as amended.

When evaluating proposed uses for a special use permit, in addition to analyzing the potential adverse impacts of the use, staff utilizes two (2) general guidelines for evaluation as set forth in the zoning ordinance.

First, the proposed use should not tend to change the character and established pattern of the area or community.

The subject properties are located within the Rural Preservation Planning Area, within close proximity of existing agricultural and residential zoning and uses. The location of the proposed raw waterline major utility pipeline is predominately within the existing Central Virginia Electric Cooperative easement(s), therefore outside and beyond initial phases of construction, visible changes to the character and established pattern of this area should be minimal. The applicant has also stated in writing that they will restore any areas to their original state or better, should they become disturbed as a result of this process.

Second, the proposed use should be compatible with the uses permitted by-right in that zoning district and shall not adversely affect the use/or value of neighboring property.

Major utilities require a special use permit in the A-1 zoning district. Since a predominant section of the proposed waterline utility will be placed within an existing easement, properties within the neighborhood and community should not be adversely affected. The pumping station will be the approximate size of a medium-sized single-family dwelling, which is a by-right use in the A-1 zoning district.

Neighborhood Meeting: January 7, 2016

There were approximately thirty attendees at the Thursday, January 7, 2016 neighborhood meeting. The general questions, concerns and comments appeared to be with regard to the impact to personal property as a result of the construction of the waterline. There were also comments regarding who will be responsible for future maintenance and pump replacement, how wide the clearing will have to be for the equipment to operate, and what the exact height of the pumping station will be.

Attendees also appeared concerned about the historic impact constructing the water line may have, and what the pumping station may do to the view-shed of neighboring properties. There were general questions regarding the exterior building materials and colors of the pumping station, and whether or not the pumps would be completely under roof. Someone asked what the approximate date would be for water availability to the Zions Crossroad area.

Technical Review Committee: January 7, 2016

1. Mark Wood with VDOT stated they are good with both applications (SUP 15:11 & 15:12), and that they are actively working with both the Louisa County Water Authority and the James River Water Authority to provide what VDOT requirements will be in regards to any road improvements and open-cut sections along impacted roadways;
2. Mr. Bibb, Planning Commission Chairman inquired if one of the two potential siting locations for the intake facility/pumping station was preferred over the other, and whether or not the same number of fire hydrants will be involved with the new route. Mr. Bibb also asked if 90% of the properties are within the existing right-of-way, and how many properties will need to be negotiated for the acquisition of easements;
 - Mr. Nichols, Fluvanna County Administrator and JRWA Board Member stated that the preferred site is the “blue site and route”, which is delineated as the “Hammond” property on the applicant’s renderings;
 - Andy Wade with the Louisa County Water Authority stated that 48 of the 72 property owners have replied with consent agreements, and he confirmed that 90% of the properties are still within CVEC easements, and that the water line will need to cross the gas line four (4) times to stay within the CVEC easement; Mr. Wade also clarified that he is working with VDOT and the remaining property owners to acquire their consent to be able to go through their easements;

3. Roger Black with Erosion & Sediment Control asked if they intend on applying through the state or locally. Mr. Saunders with Timmons replied they intend on initially applying through the County;
4. Wayne Stephens, County Engineer, commented they he has been looking at the closest, easiest, and most feasible pipe routing in order to be able to serve the Fork Union Sanitary District;
5. The Health Dept. stated that they have no comments on either application. .
(Attachment F)

Planning Commission:

The Planning Commission will make a recommendation to the Board of Supervisors at the joint public hearing on January 20, 2016.

Board of Supervisors:

A previous proposal was denied by the Board of Supervisors on December 2, 2015 by a vote of 2-2. (SUP 15:06)

Conclusion:

The Board of Supervisors should consider any potential adverse impacts that may be associated with this project.

Suggested Motions:

I move that the Planning Commission recommend [**approval/denial**] of SUP 15:12, a request for a special use permit to allow for major utilities with respect to the construction of a raw water pipeline from near Route 6 along the James River north to the Louisa County and Fluvanna County border with respect to the attached list of Tax Map & Parcel Numbers, [if approved] subject to the nine (9) conditions listed in the staff report.

I move that the Board of Supervisors [approve/deny/defer] SUP 15:12, a special use permit request to allow construction of raw water supply system major utility, including a raw water pipeline, from near Route 6 in southeastern Fluvanna County and north to the Fluvanna County and Louisa County border near Ferncliff, within a portion of the attached list of Tax Map Parcel numbers, subject to the nine (9) conditions listed in the staff report [if approved].

Attachments:

A – Application, letter from the applicant, exhibits & agency agreements, property owner list, and APO letter

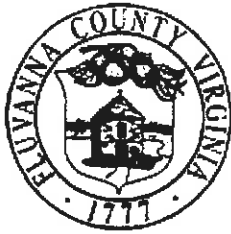
B – James River Water Project map

C – Comprehensive Plan excerpt – Implementation and Goals and Infrastructure

- D - Raw waterline exhibits and agency agreements
- E - VDOT open-cut standards
- F - TRC comment letter

Copy: Andy Wade, Louisa County Water Authority, via email - awade@louisa.org;
Joe Hines via email - Joe.Hines@timmons.com
Pamela Baughman via email - pbaughman@louisa.org
The Planning Commission - planningcommission@fluvannacounty.org
Mr. Fred Payne, Esquire via email - fpayne@fluvannacounty.org
File

* 540 901 4581
540 994 - 1190 (cell)



COMMONWEALTH OF VIRGINIA



Application for Special Use Permit (SUP)

Received
DEC 17 2015

Fluvanna County

Owner of Record: Several property owners - See attached list

Applicant of Record: Louisa County Water Authority

E911 Address: See attached list

E911 Address: 23 Loudin Lane, Louisa VA 23093

Phone: _____ Fax: _____

Phone: 540 967 1122 Fax: 540 967 0656

Email: _____

Email: pbaughman@louisa.org Awade@louisa.org *

Representative:

Note: If applicant is anyone other than the owner of record, written authorization by the owner designating the applicant as the authorized agent for all matters concerning the request shall be filed with this application.

E911 Address: _____

Phone: _____ Fax: _____

Is property in Agricultural Forestal District? No Yes

Email: _____

If Yes, what district: Columbia

Tax Map and Parcel(s): See attached list

Deed Book Reference: See attached property list (AFD)

Acreage: See list Zoning: See list

Deed Restrictions? No Yes (Attach copy)

Request for a SUP in order to: Construct a raw water pipeline- Major Utility

Proposed use of Property: Location of a 24" raw water line

*Two copies of a plan must be submitted, showing size and location of the lot, dimensions and location of the proposed building, structure or proposed use, and the dimensions and location of the existing structures on the lot.

By signing this application, the undersigned owner/applicant authorizes entry onto the property by County Employees, the Planning Commission, and the board of Supervisors during the normal discharge of their duties in regard to this request and acknowledges that county employees will make regular inspections of the site.

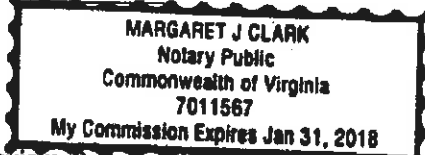
Date: 12/7/2015 Signature of Owner/Applicant: _____

Signature of Pamela S. Baughman

Subscribed and sworn to before me this Seventh day of December 2015

Notary Public: Margaret J. Clark Register # 7011567

My commission expires: Jan 31, 2018



Certification: Date: _____

Zoning Administrator: _____

All plats must be folded prior to submission to the Planning Department for review. Rolled plats will not be accepted.

OFFICE USE ONLY	
Date Received: <u>12/17/15</u> Pre-Application Meeting:	PH Sign Deposit Received: _____ Application #: SUP <u>15-012</u>
\$800.00 fee plus mailing costs paid:	Mailing Costs: \$20.00 Adjacent Property Owner (APO) after 1st 15, Certified Mail
Amendment of Condition: \$400.00 fee plus mailing costs paid:	
Telecommunications Tower \$1,500.00 fee plus mailing costs paid:	\$5,500 w/Consultant Review paid:
Election District: <u>Columbia + Fork Union</u>	Planning Area: <u>Rural Preservation</u>
Public Hearings	
Planning Commission	Board of Supervisors
Advertisement Dates: <u>1/7/16 + 1/14/16</u>	Advertisement Dates: <u>1/7/16 + 1/14/16</u>
APO Notification: <u>1/6/2016</u>	APO Notification: <u>1/8/2016</u>
Date of Hearing: <u>1/20/2016</u>	Date of Hearing: <u>1/20/2016</u>
Decision: _____	Decision: _____

Fluvanna County Department of Planning & Community Development * Box 540 * Palmyra, VA 22963 * (434)591-1910 * Fax (434)591-1911

This form is available on the Fluvanna County website: www.fluvannacounty.org

Describe briefly the **improvements** proposed. State whether new buildings are to be constructed, existing buildings are to be used, or additions made to existing buildings.

Planning Dept.

See attached narrative

NECESSITY OF USE: Describe the reason for the requested change.

See attached narrative

PROTECTION OF ADJOINING PROPERTY: Describe the effects of the proposed use on adjacent property and the surrounding neighborhood. What protection will be offered adjoining property owners?

See attached narrative

ENHANCEMENT OF COUNTY: Why does the applicant believe that this requested change would be advantageous to the County of Fluvanna? (Please substantiate with facts.)

See attached narrative

PLAN: Furnish plot plan showing boundaries and dimensions of property, width of abutting right-of-ways, location and size of buildings on the site, roadways, walks, off-street parking and loading space, landscaping, etc. Architect's sketches showing elevations of proposed buildings and complete plans are desirable and may be required with the application. Remarks:

See attached narrative and exhibits.

Describe briefly the improvements proposed. State whether new buildings are to be constructed, existing buildings are to be used, or additions made to existing buildings.

The proposed improvements associated with this application include a below ground 24" raw water pipeline which is part of the James River Water Project. There will be no buildings constructed in association with this application. The location of the pipeline is predominantly within Central Virginia Electric Cooperative (CVEC) existing easement(s). At locations requested/specified by the County of Fluvanna, there will be fire hydrants along the raw water pipeline route.

NECESSITY OF USE: Describe the reason for the requested change:

The use is to convey raw water to supply the long term water needs of both Fluvanna County and Louisa County for the foreseeable future.

PROTECTION OF ADJOINING PROPERTY: Describe the effects of the proposed use on adjacent property and the surrounding neighborhood. What protection will be offered adjoining property owners?

The raw water line will be buried in the ground anywhere from 3 feet to 8 feet for the entire length of the pipe through Fluvanna County. During construction, the surrounding property/neighborhood owners will see and hear construction crews and equipment working to install the piping in the ground. Upon completion of the project, the disturbed ground will be returned to its original condition or better prior to the pipe crew leaving the area. Instances of erosion after stabilization will be addressed by the contractor upon being notified.

ENHANCEMENT OF COUNTY: Why does the applicant believe that this requested change would be advantageous to the County of Fluvanna? (Substantiate with facts)

The Fluvanna County Board of Supervisors (FCBOS) signed and executed the Interjurisdictional Agreement (IA) with Louisa County, the Louisa County Water Authority (LCWA) and the James River Water Authority (JRWA) on October 2, 2013. Conforming to the terms set forth in the IA, the FCBOS voted to amend the Fluvanna County Comprehensive Plan on November 20, 2013 to allow and support this project,

which will be located in the eastern end of the county in what is designated a rural preservation area. Furthermore, the FCBOS also approved and executed the James River Water Authority Service Agreement on April 1, 2015. It is LCWA's belief that this project is advantageous and important to the future growth of Fluvanna County and the actions of the FCBOS to date further signify our belief. LCWA also offers additional advantages including, but not limited to the following: 1) Long term, sustainable water supply to meet your Long Term Water Supply Plan needs; 2) Economic Development Driver; 3) Potential for reduced home owners insurance premiums once the hydrants are installed; 4) 50 percent share of the raw water capacity.

PLAN: Furnish plot plan showing boundaries and dimensions of property, width of abutting ROW's, location and size of buildings on the site, roadways, walks, off-street parking and loading space, landscaping, etc. Architect's sketches showing elevations of proposed buildings and complete plans are desirable and may be required with the application. Remarks:

The attached easement exhibits demonstrate the final routing of the raw water pipeline through the County of Fluvanna. Each individual property owner that we cross (71) and the neighboring property owners have been delineated on the exhibits. All of the requested easements will be permanent. The exhibits identify the width of the new easement, the location of the 24 inch raw water pipeline within the new easement and the location of the new easement within the CVEC easement (where applicable).

Received
AUG 05 2015
Planning Dept.

SUP 15:06 LCWA

TMP	Name	Address	City, State	Zip
61-A-4	William Hammond	415 Gillums Ridge Rd	Charlottesville, Va	22903
61-A-1	541 Goldsborough Lane LLC	1500 StoneyCreek Ct	Richmond, Va	23233
53-A-63	G. Rodney Bialkowski	1215 Point of Fork Rd	Fork Union, Va	23055
53-11-6	John and Susan Henry	14924 Alpine bay Loop	Gainesville, Va	20155
53-11-4	Coleman and Sandra Lyttle	16251 Hunters Ridge lane	Moseley, Va	23120
53-A-60	Arsenal at point of Fork LLC	18 East Main St	Richmond, Va	23219
53-A-69	Kenneth Johnston	3775 E. River Rd	Columbia, Va	23038
53-11-20	Kenneth Droege	351 Scenic River Dr	Columbia, Va	23038
53-11-18	Central Virginia Electric Co-op	P.O. Box 247	Lovingston, Va	22949
53-11-5	Coleman and Sandra Lyttle	16251 Hunters Ridge lane	Moseley, Va	23120
53-11-25	James & Roseann Knepper	308 Scenic River Dr	Columbia, Va	23038
53-11-17	William Dooley & Patricia Arndt	133 Scenic River Dr	Columbia, Va	23038
53-11-28A	Stephanie Baskfield	50 Scenic River Dr	Columbia, Va	23038
53-11-28B	George & Ana Carr	610 Stage Junction Rd	Columbia, Va	23038
53-11-29	Philip and Susan Clifton	785 Stage Junction Rd	Columbia, Va	23038
54-A-45	Fermey & Darlene Payne	911 Stage Junction Rd	Columbia, Va	23038
54-A-44A	Mary T. Bowles	979 Stage Junction Rd	Columbia, Va	23038
54-A-44B	Mary Helen Johnson	1003 Stage Junction Rd	Columbia, Va	23038
54-A-41	Richard & Julia Rose	749 Carysbrook Rd	Fork Union, Va	23055
54-11-ZA	Rosa Payne	1149 Stage Junction Rd	Columbia, Va	23038
53-A-74	Bobbie Jo Eubank	530 Old Hundred Rd	Midlothian, Va	23114
53-3-2	George Sutton	8 Courtside Ln	Ashland, va	23005
54-4-41A	Stage Coach Properties LLC	P.O. Box 7427	Charlottesville, Va	22906
54-A-38	Michael White	9435 Bright Way Ct	Richmond, Va	23294
54-A-37	John & Barbara Lowe	P.O. Box 922	Scottsville, Va	24590
54-7-4	Mary Malone	P.O. Box 340905	Jamaica, NY	11434
54-7-3	Joseph Green	7826 Antionette Dr	Richmond, Va	23227
54-7-2	Lee Roy Dickerson	6048 Landing Point Way	Sacramento, Ca.	95823
54-7-1	Cora Harding	3216 Griffin Ave	Richmond, Va	23222
54-A-15	June Settle	10226 Dutch Hollow Rd	Rixeyville, Va	22737
54-6-B	Rotche & Suann Strickland	P.O. Box 36	Fork Union, Va	23055
54-A-14	Charles Frazier	2483 Stage Junction Rd	Columbia, Va	23038
54-6-A	Marilyn Johnson	566 Rose Hill Rd	Columbia, Va	23038
54-1-1C	Gladys Lancaster	646 Rose Hill Rd	Columbia, Va	23038
54-A-5A	Dorothy Pervall	1105 Canvas Back Ct	Upper Marlboro, Md	20774
54-A-5	Dorothy Pervall	1105 Canvas Back Ct	Upper Marlboro, Md	20774
54-A-7	Stephen & Pamela Gentry	385 Colemans Lane	Columbia, Va	23038
54-A-8	James Garrant	13408 Accent Way	Germantown, Md	20874
44-1-1	Thomas & Shirley Poore	3456 Bremo Rd	Bremo Bluff, Va	23022
54-A-11	Jose Luiz Viana	P.O. Box 10240	Rockville, Md	20849
54-A-10	Robert & Joanne Maughan	11524 Birchill Lane	Glen Allen, Va	23059
44-1-3	Jose Luiz Viana	P.O. Box 10240	Rockville, Md	20849
44-A-18A	William & Patricia Johnson	317 Shannon Hill Rd	Columbia, Va	23038
44-A-18B	Victor & Mary Gresham	3806 Stage Junction Rd	Columbia, Va	23038
44-A-22	Frances Carper/Thomas Davis	3220 Azalea Pl	Lynchburg, Va	24503

44-A-22A	Frances Carper/Thomas Davis	3220 Azalea Pl	Lynchburg, Va	24503
44-A-21	George & Elenora Bland	310 Stoneridge Way	Covington, Ga.	30016
44-A-13	Harriet Loving	6115 Stage Junction Rd	Columbia, Va	23038
44-A-14B	Kenneth & Bonnie Dickerson	364 Moonstar Ln	Columbia, Va	23038
44-5-14	Kenneth & Athena Low	332 Moonstar Ln	Columbia, Va	23038
44-A-12	Harold Turner	1074 Shannon Hill Rd	Columbia, Va	23038
44-A-8	John Rafferty & Rebecca Newlon	148 Kellam Dr	Louisa, Va	23093
44-A-7	John Rafferty & Rebecca Newlon	148 Kellam Dr	Louisa, Va	23093
44-2-2	John Jones	1401 Windsor Way	Manakin Sabot, Va	23103
44-2-4	Hall Revocable Trust	11189 Lake Shore Court	Glen Allen, Va	23059
44-2-5	Jeffery & Emily Lukhard	2426 Shannon Hill Rd	Columbia, Va	23038
44-A-2	Robert Breschel	3145 French Hill Dr	Powhatan, Va	23139
33-A-29	Simorg South Forests LLC	15 Piedmont Center Suite 1250	Atlanta, Ga	30305
33-A-30	Simorg South Forests LLC	15 Piedmont Center Suite 1250	Atlanta, Ga	30305
33-A-31	Myrtle Holland	P.O. Box 1049	Tappahannock, Va	22560
44-A-46A	Franetta Bland	2586 Community House Rd	Columbia, Va	23038
44-4-4	Fools Gold LLC	2415 Grenoble Rd	Henrico, Va	23294
44-4-3	Fools Gold LLC	2415 Grenoble Rd	Henrico, Va	23294
44-4-2	Fools Gold LLC	2415 Grenoble Rd	Henrico, Va	23294
45-A-3	Charles Dickerson	225 33rd St. N.E.	Washington, D.C.	20019
45-A-1	Margaret Massie	2931 Community House Rd	Columbia, Va	23038
45-1-1	Dana & Denise Bennett	2995 Community House Rd	Columbia, Va	23038
45-1-2	Margaret Massie	2931 Community House Rd	Columbia, Va	23038
45-A-2	Thomas & Tami Raniszewzki	29 Dupont Prwy P.O. Box 81	Saint Georges, De	19733
34-1-2	Karen & Charles Wright	3197 Community House Rd	Columbia, Va	23038
34-1-1	Beckman Revocable Trust	2299 Covered Bridge Rd	Kents Store, Va	23084
34-1-3D	James Wright	341 Douglas Ave	Portsmouth, Va	23707
34-A-22	Green Spring Timber	26 Zion park Rd	Troy, Va	22974
34-1-3C	Keith C. Wright	3197 Community House Rd	Columbia, Va	23038
34-1-3B	Keith C. Wright	3197 Community House Rd	Columbia, Va	23038
34-1-3A	Jeffrey & Helen Counts	2573 Covered Bridge Rd	Kents Store, Va	23038
33-A-34	David & Becky Peterson	2706 Covered Bridge Rd	Kents Store, Va	23084
33-A-34B	William & Susan Hughes	2022 Covered Bridge Rd	Kents Store, Va	23084
33-A-37	William & Susan Hughes	2022 Covered Bridge Rd	Kents Store, Va	23084
34-A-17	Carolyn Copenhaver	2018 Covered Bridge Rd	Kents Store, Va	23084
33-A-1	Elizabeth Sadler Revocable Trust	3826 Thomas Jefferson Pkwy	Palmyra, Va	22963
34-3-C1A	Kevin & Heather Kidd	1562 Covered Bridge Rd	Kents Store, Va	23084
34-3-C2	Janice & Alva Jones	1490 Covered Bridge Rd	Kents Store, Va	23084
34-A-3	Equity Trust Company	6 Riva Ridge lane	Stafford, Va	22566
34-A-14	Brandon & Marla Miller	6 Riva Ridge lane	Stafford, Va	22566
34-A-12	Fools Gold LLC	2415 Grenoble Rd	Henrico, Va	23294
34-A-5	Cody & Paula Stevenson	663 Covered Bridge Rd	Kents Store, Va	23084
34-A-2B	Jeffrey & Cheryl Potter	474 Covered Bridge Rd	Kents Store, Va	23084
23-A-36	Cecil & Sandra Ross	10806 Foxmore Ave	Richmond, Va	23233
22-A-66	Howard G.L.	P.O. Box 9	Rockville, Va	23146
34-A-2A	Howard G.L.	P.O. Box 9	Rockville, Va	23146
23-A-52	Thomas & Helen Fleming	P.O. Box 55	Kents Store, Va	23084

23-A-35	Carol & Mary Henley	4165 Tapscott Rd	Columbia, Va	23038
23-A-38B	Robert Hucks	6220 Venable Rd	Kents Store, Va	23086
23-A-104	George Minor Estate	11598 Game Preserve Rd	Gaithersburg, Md	20878
23-A-1	Lawrence Bowman	6736 Venable Rd	Kents Store, Va	23084
23-A-100	Henry & Virginia Sheridan	6368 Venable Rd	Kents Store, Va	23084
23-A-101A	Canaan Soul Saving St Pentecost	6576 Venable Rd	Kents Store, Va	23084
23-A-99F	Grapetree Group LLC	7506 Venable Rd	Kents Store, Va	23084
23-A-99A	Carroll & Patricia Morse	236 Tabscott Rd	Kents Store, Va	23084
23-A-95	Frank & Nan Brown	P.O. Box 39	Kents Store, Va	23084
23-A-99C	Jacqueline Able Family Trust	6736 Venable Rd	Kents Store, Va	23084
23-A-78B	Andrew & Donna Sheridan	89 Covered Bridge Rd	Kents Store, Va	23084
23-A-98	Patricia Woodson	1 Tabscott Rd	Kents Store, Va	23084
23-A-79C	Spencer Lee Barrett	7000 Venable Rd	Kents Store, Va	23084
23-A-79A	Jean M Richardson	7084 Venable Rd	Kents Store, Va	23084
23-A-80A	Jean M Richardson	7084 Venable Rd	Kents Store, Va	23084
23-A-84	Karen Haley	7388 Venable Rd	Kents Store, Va	23084
23-A-71	Anthony Smith	2435 Dogwood Dr	Palmyra, Va	22963
23-A-81	Roger Rothwell	P.O. Box 24061	Christianed, St Croix	524
23-A-72A	William & Deborah Hunsberger	7215 Venable Rd	Kents Store, Va	23084
23-A-69	Julia Key	7625 Venable Rd	Kents Store, Va	23084
23-A-66	William Hodge Jr	639 Way Station Ln	Kents Store, Va	23084
23-13-A	Paul Maosha	3706 Coles Point Way	Glen Allen, Va	23060
23-A-45A	Technical Marketing Internationa	17939 Joplin Rd	Triangle, Va	22172
23-A-64	William Weisneburger	17937 Joplin Rd	Triangle, Va	22172
23-1-3	Marian Quigley	410 Way Station Ln	Kents Store, Va	23084
23-16-6	Parrish Revocable	1 Reedy Pl	Bluffton, Sc	29909
23-16-7	Parrish Revocable	1 Reedy Pl	Bluffton, Sc	29909
23-16-8	Marvin & Marlene Dunivan	1792 Perkins Rd	Kents Store, Va	23084
23-16-9	Parrish Revocable	1 Reedy Pl	Bluffton, Sc	29909
23-A-62	Parrish Revocable	1 Reedy Pl	Bluffton, Sc	29909
23-A-61	David & Nancy Hahn	8915 Braeburn Dr	Annandale, Va	22003
23-12-C	Perkins Living Trust	7090 Covenant Woods Dr D 306	Mechanicsville, Va	23111
23-A-9	Stacy Ringle	P.O. Box 69	Kents Store, Va	23084
23-A-11A	Gregory & Jeanette Jackson	2932 Kents Store Way	Kents Store, Va	23084
23-A-11	Gregory & Jeanette Jackson	2932 Kents Store Way	Kents Store, Va	23084
23-A-6	Robert & Elizabeth Parrish	90 Parrish Lane	Kents Store, Va	23084
23-A-5	William Weisneburger	17937 Joplin Rd	Triangle, Va	22172
14-A-10	William Weisneburger	17937 Joplin Rd	Triangle, Va	22172
14-A-11	William Weisneburger	17937 Joplin Rd	Triangle, Va	22172
23-11-1	Clifton Palmateer	4 Russell Rd	Fredricksburg, Va	22405
23-11-2	Charles & Shelia Palmateer	315 Maple Ln	Kents Store, Va	23084
14-1-2	James Palmateer	88 Maple Ln	Kents Store, Va	23084
14-8-3	Janet Grubbs	1011 Leigh Mountain Rd	Green Bay, Va	23942
14-8-2	Janet Grubbs	1011 Leigh Mountain Rd	Green Bay, Va	23942
14-A-12	Odessa Parrish	P.O. Box 103	Kents Store, Va	23084
14-9-4	Arnell Simmons	6221 Cheverly Park Dr	Cheverly, Md	20785
14-A-13	Christopher Pucsek	49 Ponderosa Ln	Palmyra, Va	22963

14-A-14A	Shelia Waddy	69 Waddy Creek Dr	Kents Store, Va	23084
14-A-14	Gwendolyn Jones	65 Waddy Creek Dr	Kents Store, Va	23084
67-12-A3	Garnett and Linda Jackson	481 Kents Store Rd	Kents Store, Va	23084
14-A-20A	Janet Grubbs	1011 Leigh Mountain Rd	Green Bay, Va	23942
14-A-20	R&R VA. Corp	9505 Minna Drive	Richmond, Va	23229
23-A-51	William D. Weisenburger	P.O. Box 6	Kents Store, Va	23084
23-A-50	Robert O. Parrish ET.AL	819 Parrish Lane	Kents Store, Va	23084
23-12-D	Smart Living Trust	F301-7090 Covenant Woods Dr.	Mechanicsville, Va	23111
23-12-A	William D. Weisenburger Jr.	17932 Joplin Rd	Triangle, Va	22172
23-A-67	Mark & Mary Creasey	4499 Nahor Road	Charlottesville, Va	22902
23-A-72B	Steven & Deborah Miller	4230 Chestnut Hills Dr	Louisa, Va	23093
23-A-70	Estate of John Scott	13207 Piedmont Vista Dr	Haymarket, Va.	20169
23-A-96	William Haley Jr	10546 Louisa Rd	Gordonsville, Va	22942
23-A-97	Lorraine Everett	Sterling Valley Farm	Kresgeville, Pa	18333
23-A-99	Grapetree Group LLC	7506 Venable Rd	Kents Store, Va	23084
23-A-101	Canaan Saving Station Church	3718 Oak Avenue	Gwynn Oak, Md	21207
23-A-102	Martha jane Brice	103 Brice Lane	Kents Store, Va	23084
23-A-103	George Minor Estate	5807 Crown Street	Captiol Heights, Md	20743
23-A-37	Robert Hucks	6220 Venable Rd	Kents Store, Va	23084
23-A-36E	John & Kristie Sheridan	445 Covered Bridge Rd	Kents Store, Va	23084
23-A-36A	Michael & Celeste Cottrell	595 Covered Bridge Rd	Kents Store, Va	23084
34-A-2	Michael & Deborah Lewis	194 Covered Bridge Rd	Kents Store, Va	23084
34-A-4	Equity Trust Company	6 Riva Ridge lane	Stafford, Va	22556
34-3-A	A. Neal & Mary Smith	1450 Covered Bridge Rd	Kents Store, Va	23084
34-3-B1	A. Neal & Mary Smith	1450 Covered Bridge Rd	Kents Store, Va	23084
34-3-B3	A. Neal & Mary Smith	1450 Covered Bridge Rd	Kents Store, Va	23084
34-3-C	Nellie Richardson	1508 Covered Bridge Rd	Kents Store, Va	23084
34-3-C1	Charlotte Kidd	1562 Covered Bridge Rd	Kents Store, Va	23084
34-3-B2	William B. Morgan III	1700 Covered Bridge Rd	Kents Store, Va	23084
34-2-A	William & Susan Hughes	2022 Covered Bridge Rd	Kents Store, Va	23084
34-A-16	William & Susan Hughes	2022 Covered Bridge Rd	Kents Store, Va	23084
34-A-18	William & Susan Hughes	2022 Covered Bridge Rd	Kents Store, Va	23084
34-1-1	Beckman Revocable Trust	2299 Covered Bridge Rd	Kents Store, Va	23084
34-1-3	Keith C. Wright	3197 Community House Rd	Columbia, Va	23038
34-1-5	Miller Revocable Trust	295 Phillips Ln	Bumpass, Va	23024
34-1-4	Edward & Barbara Windsor	29091 Red Stone Lane	Mechanicsville, Va	20659
33-A-30A	Simorg South Forests LLC	15 Piedmont Ctr Suite 1250	Atlanta, Ga	30305
44-A-46	Helen Stinson Et. AL	P.O. Box 84	New Canton, Va	23123
44-3-1	C. Allen & Loretta Haden	133 Sugar Bush	Williamsburg, Va	23188
44-3-2	Diamond Branch Farms LLC	16332 Mile Branch Rd	Rockville, Va	23146
44-2-3	C. Allen & Loretta Haden	133 Sugar Bush	Williamsburg, Va	23188
44-2-1	John E. Jones	1401 Windsor Way	Manakin Sabot, Va	23103
44-A-15	Mary C. Turner	1074 Shannon Hill Rd	Columbia, Va	23038
44-A-17	Emma Purcell Alexander	P.O. Box 666	Louisa, Va	23093
44-A-18	Mary Anne Greshanm	13101 Middle Ridge Way	Richmond, Va	23233
44-A-31	Hall Revocable Trust	11189 Lake Shore Court	Glen Allen, Va	23059
44-1-2	Hall Revocable Trust	11189 Lake Shore Court	Glen Allen, Va	23059

44-1-3B	Jose Luiz Viana	P.O. Box 10240	Rockville, MD	20849
54-A-10A	Robert & Joanne Maughan	11524 Birchill Lane	Glen Allen, Va	23059
54-A-14A	Anne-Marie McHale/Nina Hudock	2489 Stage Junction Rd	Columbia, Va	23038
54-1-1A	J.C. McCarty	3605 Ammons Ave	Richmond, Va	23223
54-6-C	Rotche & Suann Strickland	P.O. Box 36	Fork Union, Va	23055
54-1-1	Rotche & Suann Strickland	P.O. Box 36	Fork Union, Va	23055
54-2-1	Grace Lindsay Nolting	1317 Stage Junction Rd	Columbia, Va	23038
54-A-43	Emma Jean Wells	1181 Stage Junction Rd	Columbia, Va	23038
54-11-Z	Louis SR. & Rosa Payne	P.O. Box 861	Columbia, Va	23038
54-11-Y	Mary Theresa Bowles	979 Stage Junction Rd	Columbia, Va	23038
54-11-X	Fermey & Darlene Payne	911 Stage Junction Rd	Columbia, Va	23038
53-11-27	John & Susan Henry	14924 Alpine bay Loop	Gainesville, Va	20155
53-11-26	Paul Jr. & Sally Wylie	188 Scenic River Dr	Columbia, Va	23038
53-11-19	Central Virginia Electric Co-op	P.O. Box 247	Lovingston, Va	22949

Received

AUG 05 2015

- MEANS THERE IS LIMITED INFO. LISTED ON THE KDR SPREADSHEET

AFD

Agricultural Forestal District

FLUVANNA COUNTY JRWA PARCEL LIST - Rte. 6 to Louisa County

Planning Dept.

PARCEL	OWNER	ZONING	ACREAGE	LOCATION	CVEC (Yes/N)	DOMINION (Yes/No)
67 12 A3	GARNETT AND LINDA S. JACKSON 481 KENT STORE ROAD <i>KS LOUISA, 23093 23084</i>	C-2	26.03	LOUISA	Yes	
14 9 4	ARNELL W. SIMMONS ET AL 6221 CHEVERLY PARK DRIVE CHEVERLY, MD. 20785				No	
14 A 14	GWENDOLYN D. JONES 65 WADDY CREEK DRIVE KENTS STORE, VA. 23084	A-1	10.11	FLUVANNA	Yes	
14 A 20A	JANET M. GRUBBS 1011 LEIGH MOUNTAIN ROAD GREEN BAY, VA. 23942	A-1	13.91	FLUVANNA	Yes	
14 14A	<i>Shelia Waddy</i>				No	
14 A 13	CHRISTOPHER E. PUCSEK 49 PONDEROSA LANE PALMYRA, VA. 22963	A-1	10.93	FLUVANNA	Yes	
14 A 20	R & R VA. CORP. 9505 MINNA DRIVE RICHMOND, VA. 23229	A-1	83.7	FLUVANNA	Yes	
23 A 51	WILLIAM D. WEISENBURGER P.O. BOX 6 KENTS STORE, VA. 23084	A-1	116.03	FLUVANNA	Yes	
23 A 61	DAVID J. & NANCY B. HAHN 8915 BRAEBURN DRIVE ANNANDALE, VA. 22003				Yes	
23 A 50	ROBERT O. PARRISH ET AL 819 PARRISH LANE	A-1	159.39	FLUVANNA	Yes	

	KENTS STORE, VA. 23084					
23 A 62	PARRISH REVOCABLE LIVING TRUST 1 REEDY PLACE BLUFFTON, SC 29909				Yes	
23 12 D	SMART LIVING TRUST F301 7090 COVENANT WOODS DRIVE MECHANICSVILLE, VA. 23111	A-1	52.22	FLUVANNA	Yes	
23 12 A	WILLIAM D. WEISENBURGER, JR 17932 JOPLIN ROAD TRIANGLE, VA. 22172	A-1	53.12	FLUVANNA	Yes	
23 A 66	WILLIAM R. HODGE JR. ET AL 639 WAY STATION LANE KENTS STORE, VA. 23084	A-1	152.55	FLUVANNA	Yes	
23 A 67	MARK A. & MARY. N. CREASEY 4499 NAHOR ROAD CHARLOTTESVILLE, VA. 22902	A-1	65.15	FLUVANNA	Yes	
23 A 72B	STEVEN B. & DEBORAH K. MILLER 4230 CHESTNUT HILLS DRIVE LOUISA, VA. 23093	A-1	26.06	FLUVANNA	Yes	
23 A 70	ESTATE OF JOHN M. SCOTT 13207 PIEDMONT VISTA DRIVE HAYMARKET, VA 20169	A-1	1.92	FLUVANNA	Yes	
23 A 96	WILLIAM B. HALEY, JR. 10546 LOUISA ROAD GORDONSVILLE, VA. 22942	A-1	24.32	FLUVANNA	Yes	
23 A 97	LORRAINE S. EVERETT STERLING VALLEY FARM KRESGEVILLE, PA. 18333	A-1	79.73	FLUVANNA	Yes	
23 A 99	GRAPETREE GROUP LLC 7506 VENABLE ROAD KENTS STORE, VA. 23084	A-1	9.71	FLUVANNA	Yes	

23 A 101	CANAAN SAVING STATION CHURCH 3718 OAK AVENUE GWYNN OAK MD. 21207	A-1	58.27	FLUVANNA	Yes	
23 A 102	MARTHA JANE BRICE 103 BRICE LANE KENTS STORE, VA. 23084	A-1	3.11	FLUVANNA	Yes	
23 A 103	GEORGE MINOR ESTATE 5807 CROWN STREET CAPITOL HEIGHTS, MD 20743	A-1	19.38	FLUVANNA	Yes	
23 A 37	ROBERT C. HUCKS 6220 VENABLE ROAD KENTS STORE, VA. 23084	A-1	13.43	FLUVANNA	Yes	
23 A 36E AFD	JOHN M. & KRISTIE L. SHERIDAN 445 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	13.89	FLUVANNA	Yes	
23A 36A	MICHAEL V. & CELESTE R. COTTRELL 595 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	18.35	FLUVANNA	Yes	
34 A 2	MICHAEL W. & DEBORAH H. LEWIS 194 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	181.59	FLUVANNA	Yes	
34 A 4	EQUITY TRUST COMPANY 6 RIVA RIDGE LANE STAFFORD, VA. 22556	A-1	81.21	FLUVANNA	Yes	
34 3 A	A. NEAL & MARY C. SMITH 1450 COVERED BRIDGE LANE KENTS STORE, VA. 23084	A-1	27.29	FLUVANNA	No	
34 3 B1	A. NEAL & MARY C. SMITH 1450 COVERED BRIDGE LANE KENTS STORE, VA. 23084	A-1	19.82	FLUVANNA	No	

34 3 B3	NEAL & MARY C. SMITH 1450 COVERED BRIDGE LANE KENTS STORE, VA. 23084	A-1	14.38	FLUVANNA	Yes	
34 3 C	NELLIE M. RICHARDSON 1508 COVERED BRIDGE LANE KENTS STORE, VA. 23084	A-1	21.6	FLUVANNA	Yes	
34 3 C1	CHARLOTTE R. KIDD 1562 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	3.13	FLUVANNA	Yes	
34 3 B2	WILLIAM B. MORGAN, III ET UX 1700 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	17.99	FLUVANNA	Yes	
34 2 A	WILLIAM F. & SUSAN A. HUGHES 2022 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	109.69	FLUVANNA	Yes	
34 A 17	CAROLYN H. COPENHAVER 2018 COVERED BRIDGE ROAD KENTS STORE, VA. 23084				No	
AFD						
34 A 16	WILLIAM F. & SUSAN A. HUGHES 2022 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	98.92	FLUVANNA	Yes	
34 A 18	WILLIAM F. & SUSAN A. HUGHES 2022 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	77.10	FLUVANNA	Yes	
34 1 1	BECKMAN REVOCABLE TRUST 2299 COVERED BRIDGE ROAD KENTS STORE, VA. 23084	A-1	103.06	FLUVANNA	Yes	
34 1 3	KEITH C. WRIGHT 3197 COMMUNITY HOUSE ROAD COLUMBIA, VA. 23038	A-1	104.59	FLUVANNA	Yes	
34 1 5	MILLER REVOCABLE TRUST					

	5 PHILLIPS LANE BUMPASS, VA. 23024	A-1	91.01	FLUVANNA	Yes	
34 1 4	EDWARD A. & BARBARA A. WINDSOR 29091 RED STONE LANE MECHANICSVILLE MD. 20659	A-1	103.04	FLUVANNA	Yes	
33 A 30A	SIMORG SOUTH FORESTS LLC 15 PEIDMONT CENTER SUITE 1250 ATLANTA, GA. 30305	A-1	122.17	FLUVANNA	Yes	
44 A 46	HELEN STINSON ET AL P.O. BOX 84 NEW CANTON, VA. 23123	A-1	145.78	FLUVANNA	Yes	
44 A 46A	FRANETTA BLAND 2586 COMMUNITY HOUSE ROAD COLUMBIA, VA. 23038	A-1	3.32	FLUVANNA	Yes	
44 3 1	C. ALLEN & LORETTA M. HADEN 133 SUGAR BUSH WILLIAMSBURG, VA. 23188	A-1	103.44	FLUVANNA	Yes	
44 3 2	DIAMOND BRANCH FARMS LLC 16332 MILE BRANCH ROAD ROCKVILLE VA. 23146	A-1	98.16	FLUVANNA	Possible yes, depending on GIS uncertainty	
44 2 3	C. ALLEN & LORETTA M. HADEN 133 SUGAR BUSH WILLIAMSBURG, VA. 23188	A-1	238.52	FLUVANNA	Yes	
44 2 5	JEFFREY S. & EMILY I. LUKHARD 2426 SHANNON HILL ROAD COLUMBIA, VA. 23038				No	
44 2 4	HALL REVOCABLE TRUST 11189 LAKE SHORE COURT GLEN ALLEN, VA. 23059				No	
44 2 2	JOHN E. JONES 1401 WINDSOR WAY				Possible yes, depending on GIS uncertainty	

MANAKIN SABOT, VA. 23103						
44 2 1	JOHN E. JONES 1401 WINDSOR WAY MANAKIN SABOT, VA. 23103	A-1	285.24	FLUVANNA	Yes	
44 A 15 AFD	MARY C. TURNER 1074 SHANNON HILL ROAD COLUMBIA, VA. 23038				Yes	
44 A 17	EMMA PURCELL ALEXANDER P.O. BOX 666 LOUISA, VA. 23093	A-1	11	FLUVANNA	No	
44 A 18 AFD	MARY ANNE GRESHAM, ET AL 13101 MIDDLE RIDGE WAY RICHMOND, VA. 23233	A-1	186.08	FLUVANNA	Yes	
44 A 31	HALL REVOCABLE TRUST 11189 LAKE SHORE COURT GLEN ALLEN, VA. 23059	A-1	23.54	FLUVANNA	Yes	
44 1 2	HALL REVOCABLE TRUST 11189 LAKE SHORE COURT GLEN ALLEN, VA. 23059	A-1	15.96	FLUVANNA	Yes	
44 1 3B	JOSE LUIZ VIANA P.O. BOX 10240 ROCKVILLE, MD. 20849	A-1	8.26	FLUVANNA	Yes	
54 A 10A	ROBERT L. & JOANNE H. MAUGHAN 11524 BIRCHILL LANE GLEN ALLEN, VA. 23059	A-1	84.96	FLUVANNA	Yes	
54 A 14A	ANNE-MARIE H. McHALE & NINA HUDOCK 2489 STAGE JUNCTION ROAD COLUMBIA, VA. 23038	A-1	20	FLUVANNA	Yes	
54 1 1A	J.C. McCARTY ET AL 3605 AMMONS AVENUE RICHMOND, VA. 23223				No	

54 6 C	ROTCHÉ L. & SUANN STRICKLAND P.O. BOX 36 FORK UNION, VA. 23055	A-1	2.98	FLUVANNA	Yes	
54 1 1 AFD	ROTCHÉ L. & SUANN STRICKLAND P.O. BOX 36 FORK UNION, VA. 23055	A-1	69.09	FLUVANNA	Yes	
54 2 1 AFD	GRACE LINDSAY NOLTING 1317 STAGE JUNCTION ROAD COLUMBIA, VA. 23038	A-1	36.01	FLUVANNA	Yes	
54 A 41	RICHARD, JR. & JULIA N. ROSE 749 CARYSBROOK ROAD FORK UNION, VA. 23055	A-1	114.94	FLUVANNA	Yes	
54 A 43	EMMA JEAN T. WELLS 1181 STAGE JUNCTION ROAD COLUMBIA, VA. 23038	A-1	4.92	FLUVANNA	Yes	
54 11 Z	LOUIS R., SR. & ROSA L. PAYNE P.O. BOX 861 COLUMBIA, VA. 23038	A-1	12.81	FLUVANNA	Yes	
54 11 Y	MARY THERESA BOWLES 979 STAGE JUNCTION ROAD COLUMBIA, VA. 23038	A-1	17.91	FLUVANNA	Yes	
54 11 X	FERMEY J., JR. & DARLENE PAYNE 911 STAGE JUNCTION ROAD COLUMBIA, VA. 23038	A-1	17.03	FLUVANNA	Yes	
53 11 27	JOHN E. & SUSAN A. HENRY 14924 ALPINE BAY LOOP GAINESVILLE, VA. 20155	A-1	9.55	FLUVANNA	Yes	
53 11 26	PAUL D., JR. & SALLY C. WYLIE 188 SCENIC RIVER DRIVE COLUMBIA, VA. 23038	A-1	9.34	FLUVANNA	No	

53 11 19

JLL - NO OWNER LISTED

No

Yes

Fluvanna County RWM Adjacent Parcels

JRWA South of Route 6

61-A-4	1
61-A-1	1
53-A-63	1
53-11-6	1
53-11-4	1
53-A-60	1
	6

North of Route 6

53-A-69	1
53-11-20	1
53-11-18	1
53-11-5	1
53-11-25	1
53-11-17	1
53-11-28	1
53-11-29	1
54-A-45	1
54-A-44A	1
54-A-44B	1
54-A-41	1
54-11-7A	1
53-A-74	1
53-3-2	1
54-4-41A	1
54-A-39	1
54-A-38	1
54-A-37	1
54-7-4	1
54-7-3	1
54-7-2	1
54-7-1	1
54-A-15	1
54-6-B	1
54-A-14	1
54-6-A	1
54-1-1C	1
54-A-4	1
54-A-5A	1
54-A-5	1
54-A-7	1
54-A-8	1

44-1-1	1
54-A-11	1
54-A-10	1
44-1-3	1
44-A-18A	1
44-A-18B	1
44-A-22	1
44-A-22A	1
44-A-21	1
44-A-13	1
44-A-14B	1
44-5-14	1
44-A-12	1
44-A-8	1
44-A-7	1
44-2-2	1
44-2-4	1
44-2-5	1
44-A-2	1
33-A-29	1
33-A-30	1
33-A-31	1
44-A-46A	1
44-4-4	1
44-4-3	1
44-4-2	1
45-A-3	1
45-A-1	1
45-1-1	1
45-1-2	1
45-A-2	1
34-1-2	1
34-1-1	1
34-1-3D	1
34-A-22	1
34-1-3C	1
34-1-3B	1
34-1-3A	1
33-A-34	1
33-A-34B	1
33-A-37	1
34-A-17	1
33-A-1	1
34-3-C1A	1
34-3-C2	1
34-A-3	1
34-A-14	1

34-A-12	1
34-A-5	1
34-A-2B	1
23-A-36	1
22-A-66	1
34-A-2A	1
23-A-52	1
23-A-35	1
23-A-38B	1
23-A-104	1
23-A-1	1
23-A-100	1
23-A-101A	1
23-A-99F	1
23-A-99A	1
23-A-95	1
23-A-99C	1
23-A-78B	1
23-A-98	1
23-A-79C	1
23-A-79A	1
23-A-80A	1
23-A-84	1
23-A-71	1
23-A-81	1
23-A-72A	1
23-A-69	1
23-A-66	1
23-13-A	1
23-A-45A	1
23-A-64	1
23-1-3	1
23-16-6	1
23-16-7	1
23-16-8	1
23-16-9	1
23-A-62	1
23-A-61	1
23-12-C	1
23-A-9	1
23-A-11A	1
23-A-11	1
23-A-6	1
23-A-5	1
14-A-10	1
14-A-11	1
23-11-1	1

23-11-2	1
14-1-2	1
14-8-3	1
14-8-2	1
14-A-12	1
14-9-4	1
14-A-13	1
14-14A	1
14-A-14	1

TOTAL ADJOINING PARCELS: 136

Memorandum

DATE: December 31, 2015
RE: Planning Commission APO Letter
TO: Jason Stewart
FROM: James Newman

Please be advised the attached letter went out to the attached list of Adjacent Property Owners for the January 20, 2016 Joint Planning Commission and Board of Supervisors Meeting.



COUNTY OF FLUVANNA

“Responsive & Responsible

P.O. Box 540 Palmyra, VA 22963 (434) 591-1910 FAX (434) 591-1911 www.fluvannacounty.org

NOTICE OF PUBLIC HEARING

December 22, 2015

Owner Names
Owner Address
TMP
Re: Public Hearing on SUP 15:12

Dear Owner Name,

This letter is to notify you that the Fluvanna County Board of Supervisors will hold a public hearing on the above referenced item as noted below:

Purpose: Planning Commission/Board of Supervisor’s Joint Public Hearing
Day/Date: Wednesday, January 20th, 2016
Time: 7:00 PM
Location: Fluvanna County Circuit Court Room, Palmyra, VA

The applicant or applicant’s representative will be present at the Board of Supervisors meeting for the special use permit request that is described as follows:

SUP 15:12 – Louisa County Water Authority – A request for a special use permit to allow for major utilities with respect to the construction of a raw water pipeline from near Route 6 along the James River north to the Louisa County and Fluvanna County border. The properties are currently zoned A-1 (Agricultural General) and the properties are located in the Columbia Election District. The Tax Parcel Numbers of the properties affected by the proposal are as follows: 67-12-A3, 14-9-4, 14-A-14, 14-A-20A, 14-A-14A, 14-A-13, 14-A-20, 23-A-51, 23-A-61, 23-A-50, 23-A-62, 23-12-D, 23-12-A, 23-A-66, 23-A-67, 23-A-72B, 23-A-70, 23-A-96, 23-A-97, 23-A-99, 23-A-101, 23-A-102, 23-A-103, 23-A-37, 23-A-36E, 23-A-36A, 34-A-2, 34-A-4, 34-3-A, 34-3-B1, 34-3-B3, 34-3-C, 34-3-C1, 34-3-B2, 34-2-A, 34-A-17, 34-A-16, 34-A-18, 34-1-1, 34-1-3, 34-1-5, 34-1-4, 33-A-30A, 44-A-46, 44-A-46A, 44-3-1, 44-3-2, 44-2-3, 44-2-5, 44-2-4, 44-2-2, 44-2-1, 44-A-15, 44-A-17, 44-A-18, 44-A-31, 44-1-2, 44-1-3B, 54-A-10A, 54-A-14A, 54-1-1A, 54-6-C, 54-1-1, 54-2-1, 54-A-41, 54-A-43, 54-11-Z, 54-11-Y, 54-11-X, 53-11-27, 53-11-26, 53-11-19

You are welcome to attend the Public hearing and you will have an opportunity to comment, if desired. The tentative agenda and staff report for this action is available for public review on the County website at: <http://fluvannacounty.org/government/bos/agendasactionsminutes>. You can also view the report in the Fluvanna County Planning and Zoning Department during working hours (8:00 am – 5:00 pm, Monday through Friday).

If you have any questions regarding this special use permit application or the Public Hearing, please contact me at 434-591-1910.

Sincerely,

Jason Stewart
Planning and Zoning Administrator

William Hammond
415 Gillums Ridge Rd
Charlottesville, Va 22903

John and Susan Henry
14924 Alpine bay Loop
Gainesville, Va 20155

Kenneth Johnston
3775 E. River Rd
Columbia, Va 23038

Coleman and Sandra Lyttle
16251 Hunters Ridge lane
Moseley, Va 23120

Stephanie Baskfield
50 Scenic River Dr
Columbia, Va 23038

Fermey & Darlene Payne
911 Stage Junction Rd
Columbia, Va 23038

Richard & Julia Rose
749 Carysbrook Rd
Fork Union, Va 23055

George Sutton
8 Courtside Ln
Ashland, va 23005

John & Barbara Lowe
P.O. Box 922
Scottsville, Va 24590

Lee Roy Dickerson
6048 Landing Point Way
Sacramento, Ca. 95823

541 Goldsborough Lane LLC
1500 StoneyCreek Ct
Richmond, Va 23233

Coleman and Sandra Lyttle
16251 Hunters Ridge lane
Moseley, Va 23120

Kenneth Droege
351 Scenic River Dr
Columbia, Va 23038

James & Roseann Knepper
308 Scenic River Dr
Columbia, Va 23038

George & Ana Carr
610 Stage Junction Rd
Columbia, Va 23038

Mary T. Bowles
979 Stage Junction Rd
Columbia, Va 23038

Rosa Payne
1149 Stage Junction Rd
Columbia, Va 23038

Stage Coach Properties LLC
P.O. Box 7427
Charlottesville, Va 22906

Mary Malone
P.O. Box 340905
Jamaica, NY 11434

Cora Harding
3216 Griffin Ave
Richmond, Va 23222

G. Rodney Bialkowski
1215 Point of Fork Rd
Fork Union, Va 23055

Arsenal at point of Fork LLC
18 East Main St
Richmond, Va 23219

Central Virginia Electric Co-op
P.O. Box 247
Lovingston, Va 22949

William Dooley & Patricia Arndt
133 Scenic River Dr
Columbia, Va 23038

Philip and Susan Clifton
785 Stage Junction Rd
Columbia, Va 23038

Mary Helen Johnson
1003 Stage Junction Rd
Columbia, Va 23038

Bobbie Jo Eubank
530 Old Hundred Rd
Midlothian, Va 23114

Michael White
9435 Bright Way Ct
Richmond, Va 23294

Joseph Green
7826 Antionette Dr
Richmond, Va 23227

June Settle
10226 Dutch Hollow Rd
Rixeyville, Va 22737

Rotche & Suann Strickland
P.O. Box 36
Fork Union, Va 23055

Gladys Lancaster
646 Rose Hill Rd
Columbia, Va 23038

Stephen & Pamela Gentry
385 Colemans Lane
Columbia, Va 23038

Jose Luiz Viana
P.O. Box 10240
Rockville, Md 20849

William & Patricia Johnson
317 Shannon Hill Rd
Columbia, Va 23038

Frances & David Carper
3220 Azalea Pl
Lynchburg, Va 24503

Kenneth & Bonnie Dickerson
364 Moonstar Ln
Columbia, Va 23038

John Rafferty & Rebecca Newlon
148 Kellam Dr
Louisa, Va 23093

Hall Revocable Trust
11189 Lake Shore Court
Glen Allen, Va 23059

Simorg South Forests LLC
15 Piedmont Center Suite 1250
Atlanta, Ga 30305

Charles Frazier
2483 Stage Junction Rd
Columbia, Va 23038

Dorothy Pervall
1105 Canvas Back Ct
Upper Marlboro, Md 20774

James Garrant
13408 Accent Way
Germantown, Md 20874

Robert & Joanne Maughan
11524 Birchill Lane
Glen Allen, Va 23059

Victor & Mary Gresham
3806 Stage Junction Rd
Columbia, Va 23038

George & Elenora Bland
310 Stoneridge Way
Covington, Ga. 30016

Kenneth & Athena Low
332 Moonstar Ln
Columbia, Va 23038

John Rafferty & Rebecca Newlon
148 Kellam Dr
Louisa, Va 23093

Jeffery & Emily Lukhard
2426 Shannon Hill Rd
Columbia, Va 23038

Simorg South Forests LLC
15 Piedmont Center Suite 1250
Atlanta, Ga 30305

Marilyn Johnson
566 Rose Hill Rd
Columbia, Va 23038

Dorothy Pervall
1105 Canvas Back Ct
Upper Marlboro, Md 20774

Thomas & Shirley Poore
3456 Bremo Rd
Bremo Bluff, Va 23022

Jose Luiz Viana
P.O. Box 10240
Rockville, Md 20849

Frances & David Carper
3220 Azalea Pl
Lynchburg, Va 24503

Harriet Loving
6115 Stage Junction Rd
Columbia, Va 23038

Harold Turner
1074 Shannon Hill Rd
Columbia, Va 23038

John Jones
1401 Windsor Way
Manakin Sabot, Va 23103

Robert Breschel
3145 French Hill Dr
Powhatan, Va 23139

Myrtle Holland
P.O. Box 1049
Tappahannock, Va 22560

Franetta Bland
2586 Community House Rd
Columbia, Va 23038

Fools Gold LLC
2415 Grenoble Rd
Henrico, Va 23294

Dana & Denise Bennett
2995 Community House Rd
Columbia, Va 23038

Karen & Charles Wright
3197 Community House Rd
Columbia, Va 23038

Green Spring Timber
26 Zion park Rd
Troy, Va 22974

Jeffrey & Helen Counts
2573 Covered Bridge Rd
Kents Store, Va 23038

William & Susan Hughes
2022 Covered Bridge Rd
Kents Store, Va 23084

Kevin & Heather Kidd
1562 Covered Bridge Rd
Kents Store, Va 23084

Brandon & Marla Miller
6 Riva Ridge lane
Stafford, Va 22566

Jeffrey & Cheryl Potter
474 Covered Bridge Rd
Kents Store, Va 23084

Fools Gold LLC
2415 Grenoble Rd
Henrico, Va 23294

Charles Dickerson
225 33rd St. N.E.
Washington, D.C. 20019

Margaret Massie
2931 Community House Rd
Columbia, Va 23038

Beckman Revocable Trust
2299 Covered Bridge Rd
Kents Store, Va 23084

Keith C. Wright
3197 Community House Rd
Columbia, Va 23038

David & Becky Peterson
2706 Covered Bridge Rd
Kents Store, Va 23084

Carolyn Copenhaver
2018 Covered Bridge Rd
Kents Store, Va 23084

Janice & Alva Jones
1490 Covered Bridge Rd
Kents Store, Va 23084

Fools Gold LLC
2415 Grenoble Rd
Henrico, Va 23294

Cecil & Sandra Ross
10806 Foxmore Ave
Richmond, Va 23233

Fools Gold LLC
2415 Grenoble Rd
Henrico, Va 23294

Margaret Massie
2931 Community House Rd
Columbia, Va 23038

Thomas & Tami Raniszewzki
29 Dupont Parkway P.O. Box 81
Saint Georges, De 19733

James Wright
341 Douglas Ave
Portsmouth, Va 23707

Keith C. Wright
3197 Community House Rd
Columbia, Va 23038

William & Susan Hughes
2022 Covered Bridge Rd
Kents Store, Va 23084

Elizabeth Sadler Revocable Trust
3826 Thomas Jefferson Pkwy
Palmyra, Va 22963

Equity Trust Company
6 Riva Ridge lane
Stafford, Va 22566

Cody & Paula Stevenson
663 Covered Bridge Rd
Kents Store, Va 23084

Howard G.L.
P.O. Box 9
Rockville, Va 23146

Howard G.L. P.O. Box 9 Rockville,. Va 23146	Thomas & Helen Fleming P.O. Box 55 Kents Store, Va 23084	Carol & Mary Henley 4165 Tapscott Rd Columbia, Va 23038
Robert Hucks 6220 Venable Rd Kents Store, Va 23086	George Minor Estate 11598 Game Preserve Rd Gaithersburg, Md 20878	Lawrence Bowman 6736 Venable Rd Kents Store, Va 23084
Henry & Virginia Sheridan 6368 Venable Rd Kents Store, Va 23084	Canaan Soul Saving St Pentecost 6576 Venable Rd Kents Store, Va 23084	Grapetree Group LLC 7506 Venable Rd Kents Store, Va 23084
Carroll & Patricia Morse 236 Tabscott Rd Kents Store, Va 23084	Frank & Nan Brown P.O. Box 39 Kents Store, Va 23084	Jacqueline Able Family Trust 6736 Venable Rd Kents Store, Va 23084
Andrew & Donna Sheridan 89 Covered Bridge Rd Kents Store, Va 23084	Patricia Woodson 1 Tabscott Rd Kents Store, Va 23084	Spencer Lee Barrett 7000 Venable Rd Kents Store, Va 23084
Jean M Richardson 7084 Venable Rd Kents Store, Va 23084	Jean M Richardson 7084 Venable Rd Kents Store, Va 23084	Karen Haley 7388 Venable Rd Kents Store, Va 23084
Anthony Smith 2435 Dogwood Dr Palmyra, Va 22963	Roger Rothwell P.O. Box 24061 Christianed, St Croix 524	William & Deborah Hunsberger 7215 Venable Rd Kents Store, Va 23084
Julia Key 7625 Venable Rd Kents Store, Va 23084	William Hodge Jr 639 Way Station Ln Kents Store, Va 23084	Paul Maosha 3706 Coles Point Way Glen Allen, Va 23060
Technical Marketing International 17939 Joplin Rd Triangle, Va 22172	William Weisneburger 17937 Joplin Rd Triangle, Va 22172	Marian Quigley 410 Way Station Ln Kents Store, Va 23084
Parrish Revocable 1 Reedy Pl Bluffton, Sc 29909	Parrish Revocable 1 Reedy Pl Bluffton, Sc 29909	Marvin & Marlene Dunivan 1792 Perkins Rd Kents Store, Va 23084

Parrish Revocable
1 Reedy Pl
Bluffton, Sc 29909

Perkins Living Trust
7090 Covenant Woods Dr D 306
Mechanicsville, Va 23111

Gregory & Jeanette Jackson
2932 Kents Store Way
Kents Store, Va 23084

William Weisneburger
17937 Joplin Rd
Triangle, Va 22172

Charles & Shelia Palmateer
315 Maple Ln
Kents Store, Va 23084

Janet Grubbs
1011 Leigh Mountain Rd
Green Bay, Va 23942

Christopher Pucsek
49 Ponderosa Ln
Palmyra, Va 22963

Garnett and Linda Jackson
481 Kents Store Rd
Kents Store, Va 23084

William D. Weisenburger
P.O. Box 6
Kents Store, Va 23084

William D. Weisenburger Jr.
17932 Joplin Rd
Triangle, Va 22172

Parrish Revocable
1 Reedy Pl
Bluffton, Sc 29909

Stacy Ringle
P.O. Box 69
Kents Store, Va 23084

Robert & Elizabeth Parrish
90 Parrish Lane
Kents Store, Va 23084

William Weisneburger
17937 Joplin Rd
Triangle, Va 22172

James Palmateer
88 Maple Ln
Kents Store, Va 23084

Odessa Parrish
P.O. Box 103
Kents Store, Va 23084

Shelia Waddy
69 Waddy Creek Dr
Kents Store, Va 23084

Janet Grubbs
1011 Leigh Mountain Rd
Green Bay, Va 23942

Robert O. Parrish ET.AL
819 Parrish Lane
Kents Store, Va 23084

Mark & Mary Creasey
4499 Nahor Road
Charlottesville, Va 22902

David & Nancy Hahn
8915 Braeburn Dr
Annandale, Va 22003

Gregory & Jeanette Jackson
2932 Kents Store Way
Kents Store, Va 23084

William Weisneburger
17937 Joplin Rd
Triangle, Va 22172

Clifton Palmateer
4 Russell Rd
Fredricksburg, Va 22405

Janet Grubbs
1011 Leigh Mountain Rd
Green Bay, Va 23942

Arnell Simmons
6221 Cheverly Park Dr
Cheverly, Md 20785

Gwendolyn Jones
65 Waddy Creek Dr
Kents Store, Va 23084

R&R VA. Corp
9505 Minna Drive
Richmond, Va 23229

Smart Living Trust
F301 7090 Covenant Woods Dr.
Mechanicsville, Va 23111

Steven & Deborah Miller
4230 Chestnut Hills Dr
Louisa, Va 23093

Estate of John Scott
13207 Piedmont Vista Dr
Haymarket, Va. 20169

Grapetree Group LLC
7506 Venable Rd
Kents Store, Va 23084

George Minor Estate
5807 Crown Street
Captiol Heights, Md 20743

Michael & Celeste Cottrell
595 Covered Bridge Rd
Kents Store, Va 23084

A. Neal & Mary Smith
1450 Covered Bridge Rd
Kents Store, Va 23084

Nellie Richardson
1508 Covered Bridge Rd
Kents Store, Va 23084

William & Susan Hughes
2022 Covered Bridge Rd
Kents Store, Va 23084

Beckman Revocable Trust
2299 Covered Bridge Rd
Kents Store, Va 23084

Edward & Barbara Windsor
29091 Red Stone Lane
Mechanicsville, Va 20659

C. Allen & Loretta Haden
133 Sugar Bush
Williamsburg, Va 23188

William Haley Jr
10546 Louisa Rd
Gordonsville, Va 22942

Canaan Saving Station Church
3718 Oak Avenue
Gwynn Oak, Md 21207

Robert Hucks
6220 Venable Rd
Kents Store, Va 23084

Michael & Deborah Lewis
194 Covered Bridge Rd
Kents Store, Va 23084

A. Neal & Mary Smith
1450 Covered Bridge Rd
Kents Store, Va 23084

Charlotte Kidd
1562 Covered Bridge Rd
Kents Store, Va 23084

William & Susan Hughes
2022 Covered Bridge Rd
Kents Store, Va 23084

Keith C. Wright
3197 Community House Rd
Columbia, Va 23038

Simorg South Forests LLC
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Atlanta, Ga 30305

Diamond Branch Farms LLC
16332 Mile Branch Rd
Rockville, Va 23146

Lorraine Everett
Sterling Valley Farm
Kresgeville, Pa 18333

Martha jane Brice
103 Brice Lane
Kents Store, Va 23084

John & Kristie Sheridan
445 Covered Bridge Rd
Kents Store, Va 23084

Equity Trust Company
6 Riva Ridge lane
Stafford, Va 22556

A. Neal & Mary Smith
1450 Covered Bridge Rd
Kents Store, Va 23084

William B. Morgan III
1700 Covered Bridge Rd
Kents Store, Va 23084

William & Susan Hughes
2022 Covered Bridge Rd
Kents Store, Va 23084

Miller Revocable Trust
295 Phillips Ln
Bumpass, Va 23024

Helen Stinson Et. AL
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New Canton, Va 23123

C. Allen & Loretta Haden
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Williamsburg, Va 23188

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Manakin Sabot, Va 23103

Mary Anne Greshanm
13101 Middle Ridge Way
Richmond, Va 23233

Jose Luiz Viana
P.O. Box 10240
Rockville, MD 20849

J.C. McCarty
3605 Ammons Ave
Richmond, Va 23223

Grace Lindsay Nolting
1317 Stage Junction Rd
Columbia, Va 23038

Mary Theresa Bowles
979 Stage Junction Rd
Columbia, Va 23038

Paul Jr. & Sally Wylie
188 Scenic River Dr
Columbia, Va 23038

Mary C. Turner
1074 Shannon Hill Rd
Columbia, Va 23038

Hall Revocable Trust
11189 Lake Shore Court
Glen Allen, Va 23059

Robert & Joanne Maughan
11524 Birchill Lane
Glen Allen, Va 23059

Rotche & Suann Strickland
P.O. Box 36
Fork Union, Va 23055

Emma Jean Wells
1181 Stage Junction Rd
Columbia, Va 23038

Fermey & Darlene Payne
911 Stage Junction Rd
Columbia, Va 23038

Central Virginia Electric Co-op
P.O. Box 247
Lovington, Va 22949

Emma Purcell Alexander
P.O. Box 666
Louisa, Va 23093

Hall Revocable Trust
11189 Lake Shore Court
Glen Allen, Va 23059

Anne-Marie McHale/Nina Hudock
2489 Stage Junction Rd
Columbia, Va 23038

Rotche & Suann Strickland
P.O. Box 36
Fork Union, Va 23055

Louis SR. & Rosa Payne
P.O. Box 861
Columbia, Va 23038

John & Susan Henry
14924 Alpine bay Loop
Gainesville, Va 20155

James River Water Project

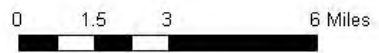


Legend

- Main Roads
- James River Raw Water Pipeline
- Water

2009 Planning Areas

- Community Planning Areas
- Rural Preservation
- Rural Residential
- Town Boundaries



in-stream flow may be restricted by natural conditions and the demands of upstream localities and industrial users.

Other systems include the Fork Union Sanitary District, the Central Elementary system, the Fluvanna County High School system, and privately owned systems operating in Palmyra and Columbia. All of these systems draw from public wells. The county's other residents draw their water from private sources such as wells or springs.

The Fork Union Sanitary District provides water through twenty-six miles of pipe to roughly 425 customers, including residences, small businesses, Dominion's Bremono Bluff power plant, the Fork Union Military Academy, Carysbrook, and Fluvanna County Middle School. The district's service area includes Bremono Bluff, Fork Union, Thessalonica, Cloverdale, West Bottom, and portions of Carysbrook. In 2007, the system enhanced its volume and pressure by replacing two ground-level standpipe storage tanks with two elevated storage tanks. While this increased pressure was a positive step for the system, it highlighted the fact that the remaining infrastructure was aging.

The availability of water and sewer infrastructure can be considered the primary constraint on development in the county. The economic development of Zion Crossroads depends on the provision of water and sewer, and development in the rest of the county will be largely influenced by the location, availability, and capacity of new infrastructure. Infrastructure plans vary for different parts of the county. All of these options, and more, are the issues which require comprehensive analysis during the ongoing process of developing a County-wide Water & Sewer Master Plan.

Zion Crossroads

The county is preparing to issue a request for proposals (RFP) for the water system's design. The initial source and capacity of water and sewer will come from the purchase of excess from the Department of Corrections, whose Women's Correctional Facility is located on Route 250, west of Zion Crossroads. Potential additional water sources include groundwater, an upgrade of DoC's Water Treatment Plant, and JRWA raw water, which could be treated by either Louisa County or the construction of a new treatment plant.

Potential additional sources of sewer capacity include an expansion of DoC's Wastewater Treatment Plant, a purchase of capacity from a neighboring municipality such as Louisa or Albemarle County, or the construction of a wastewater treatment plant with sub-surface disposal.

Fork Union

The county is investigating two existing wells as potential additional water sources (Carysbrook & FUMA). A rate increase is being sought to fund system improvements. Major maintenance and repairs are needed for the Morris and Omohundro wells and water treatment plants.

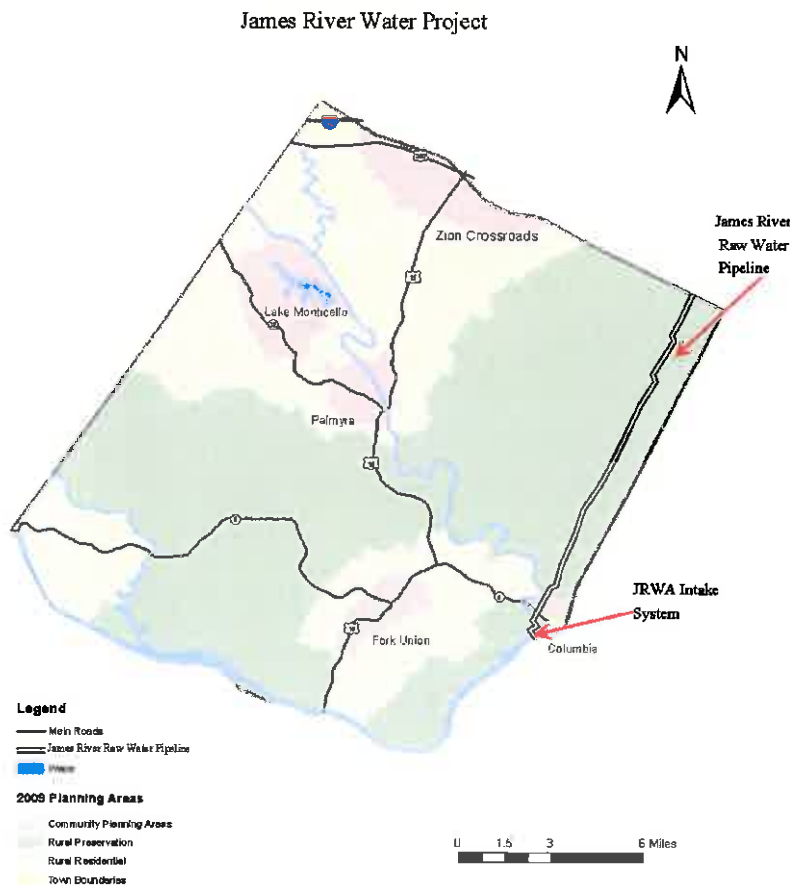
A hydrogeologic study is recommended when funding becomes available. Extending or expanding FUSD water system is not advisable until an additional water source is on-line and certain water line improvements/replacements have been completed. To date, it does not appear the provision of sewer service to the Fork Union area has been seriously investigated.

Palmyra

There is an existing water system, owned by Aqua in Palmyra (formerly held by Sydnor) which must be accounted for when considering the provision of public water service to the area. Fluvanna County owns several wells at Pleasant Grove, which serve various portions of the park and the municipal buildings located there. Fluvanna County also owns a well which serves the Courts building with domestic water and fire control service.

Potential sources of water for a future public water system in Palmyra include existing and newly developed groundwater resources, a feeder line from Zion Crossroads or Fork Union/Carysbrook, a purchase of excess water from Lake Monticello, or the establishment of a water treatment plant (WTP) in or near Palmyra. The Palmyra WWTP has limited sewer capacity, and according to the DEQ's nutrient regulations, limited-to-no ability to expand.

Figure I-2, James River Raw Water Project



Goal	Strategy	Timeline	Tasked To
	(e) Adopt zoning and subdivision regulations that allow for higher-density, compact developments in the Zion Crossroads CPA.		
	(2) Provide public water to the county's community planning areas as feasible and discourage public and central potable water and sewer connections to residential, commercial, and industrial uses in the rural preservation area.	5 year	Dept. of Public Works
	(3) Develop a cash proffer recommendation, impact fee ordinance, and level-of-services standards, in accordance with state code, to fairly assess the fiscal impact of development on public services and infrastructure.	2016	Planning Comm. and Staff
	(4) To promote infill development, ensure adequate infrastructure is constructed or upgraded to support development in existing communities.	Ongoing	Planning Comm. and Staff; Dept. of Public Works
	(5) Ensure appropriate infrastructure is available to support mixed-use development.	Ongoing	Planning Comm. and Staff; Dept. of Public Works
B	To preserve and enhance Fluvanna's unique identity and rural character.		
	(1) Examine the impacts of large-lot developments versus rural cluster developments and amend the zoning and subdivision ordinances as appropriate.	2016	Planning Comm. and Staff
	(2) Protect the forest, wildlife habitats, and the rural community landscape as part of a development's green infrastructure.	Ongoing	Planning Comm. and Staff
	(3) Require developments located in fire-prone areas such as pine plantations to implement firewise practices and other defensible space techniques as recommended by the Virginia Dept. of Forestry and local public safety officials.	2016	Planning Comm. and Staff
	(4) Work with electric power companies to facilitate the replacement of current overhead facilities with underground lines, and require all new lines to be placed underground.	2016	Dept. of Public Works
C	To preserve and enhance Fluvanna's unique identity and rural character.		
	(1) Require rezoning requests and other development plans to identify any open space or other natural or cultural resource shown by maps or observed through field inspection, and include measures that will mitigate disturbance to these resources.	2016	Planning Comm. and Staff
	(2) Require a subdivision's open space to:	Ongoing	Planning Comm. and Staff
	(a) Be located so as to further the rural character of the area, particularly related to views from public roads and other developments.		

Goal	Strategy	Timeline	Tasked To
	(b) Be designed for maximum connectivity to other open spaces of existing or potential adjacent developments, or to act as buffers to agricultural activities.		
	(c) Be privately maintained and not be further developed as part of the associated project, or without further public or legal discussion and formal action.		
D	To promote village-scaled development in the Palmyra and Fork Union communities.		
	(1) Improve the streetscape of the village communities by installing traffic-calming measures, improving existing sidewalks, and installing new sidewalks, street lighting, and so on.	2016 and Ongoing	VDOT; Dept. of Public Works
	(2) Encourage the establishment of new local businesses and support existing local business in village cores.	Ongoing	Community Development
Chapter 3 – Infrastructure			
A	To develop a comprehensive public water system to serve the county’s community planning areas.		
	(1) Design and construct a water line from the James River to Zion Crossroads in cooperation with Louisa County through the JRWA.	5 year	Public Works; JRWA
	(2) Complete the state-mandated Master Water and Sewer Plan to identify sources for the county’s long-term water needs; particularly for each of its community planning areas.	2016	Public Works
	(3) Establish requirements for hydrogeological studies to determine groundwater capacity for development that proposes to use wells to serve the project.	2016	Public Works/ Planning Staff and Commission
B	To provide central sewer to the community planning areas.		
	(1) Provide central sewer service in Zion Crossroads in partnership with both Louisa County and private developers.	5 year	Public Works
	(2) Work with the private sector to develop a public sewer system to serve the Fork Union community planning area to enable future growth in this area, and to assist current residents with their aging (and increasingly failing) septic systems.	5 year	Public Works
	(3) Work with development projects in all community planning areas for the provision of central sewer whether publicly or privately owned and operated.	Ongoing	Public Works
C	To regulate private utilities, whether centralized or decentralized.		
	(1) Require development to determine future septic suitability and groundwater resources for the proposed project, and its potential impact on surrounding wells.	Ongoing	Health Dept.
	(2) Discourage the use of central sewer in the rural preservation areas and carefully limit its use in the rural residential areas to primarily cluster developments.	Ongoing	Public Works and Planning Staff

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N/F
 ARNELL W. SIMMONS
 ET AL
 14-9-4

JACKSON
 67-12-A3

14-9-2

EXISTING 50' CVEC EASEMENT

PROPOSED 20' UTILITY EASEMENT

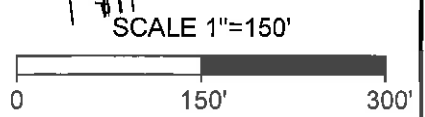
14-9-3

N/F
 GWENDOLYN D. JONES
 14-A-14

PROPOSED 24" RAW WATER
 TRANSMISSION LINE

N/F
 GARNETT & LINDA S.
 JACKSON
 67-12-A3

N/F
 SHELIA WADDY
 14-14A



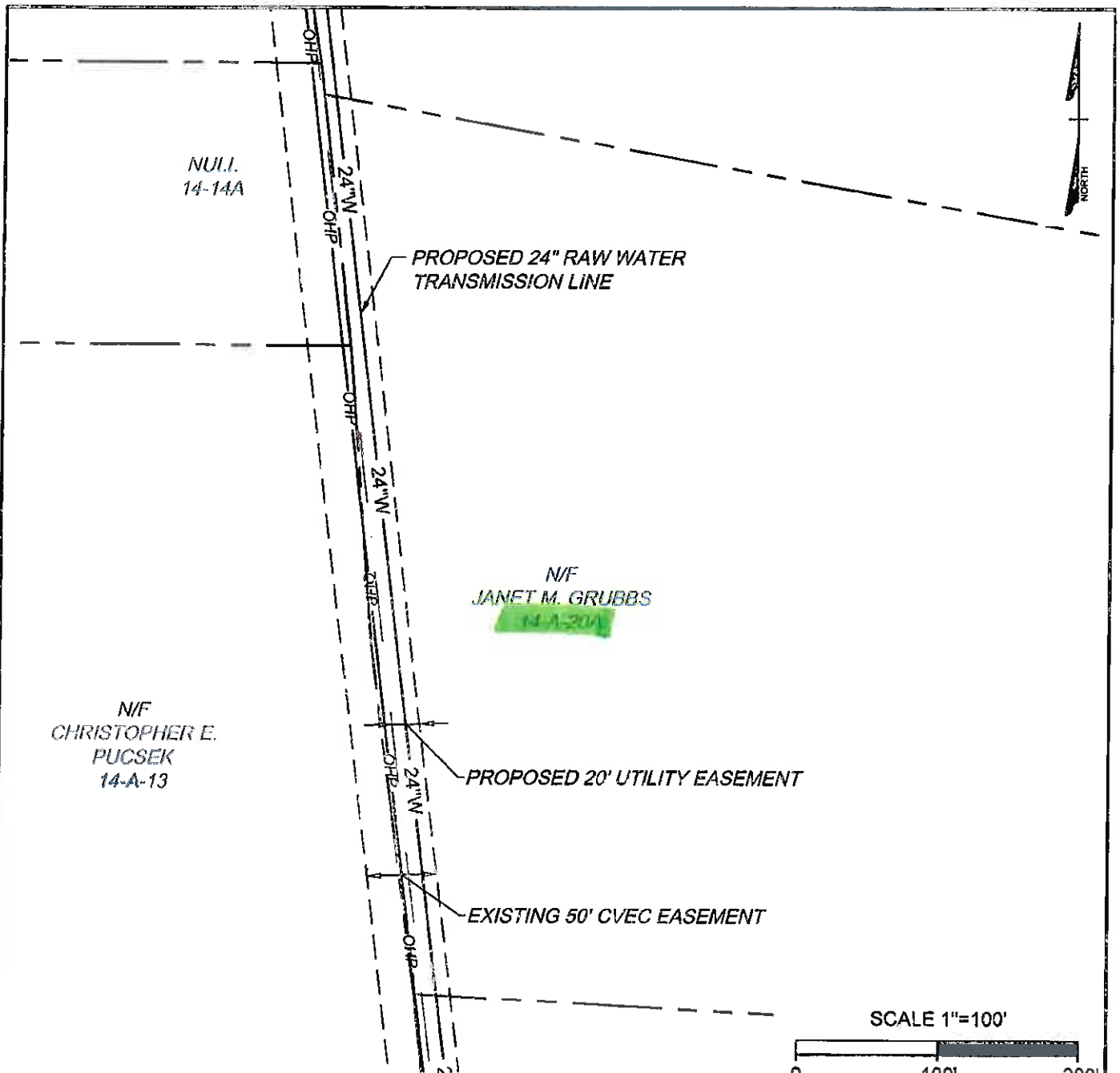
NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
 EXHIBIT MAP PARCEL 14-A-14**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 07/17/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





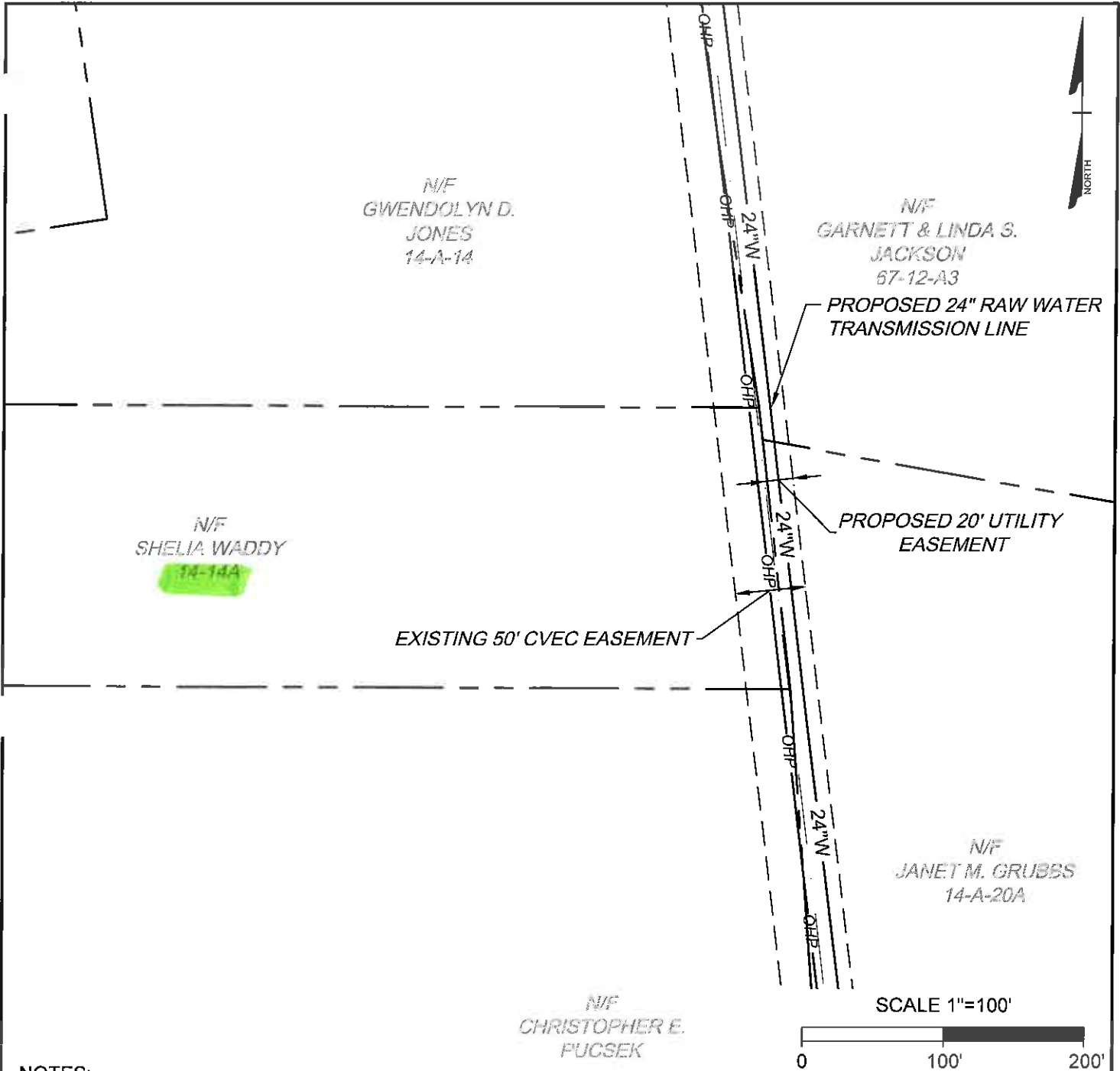
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-A-20A**

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		Date: 06/11/2015	1" = 100'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-14A**

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		Date: 07/21/2015	1" = 100'
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		Drawn by: J. ECK	Checked by: D. SAUNDERS



N/F
ARNELL W. SIMMONS
ET AL
14-9-4



NULL
14-14A

PROPOSED 24" RAW WATER
TRANSMISSION LINE

PROPOSED 20' UTILITY
EASEMENT

EXISTING 50' CVEC EASEMENT

N/F
JANET M. GRUBBS
14-A-20A

N/F
CHRISTOPHER E.
PUCSEK

SCALE 1"=100'



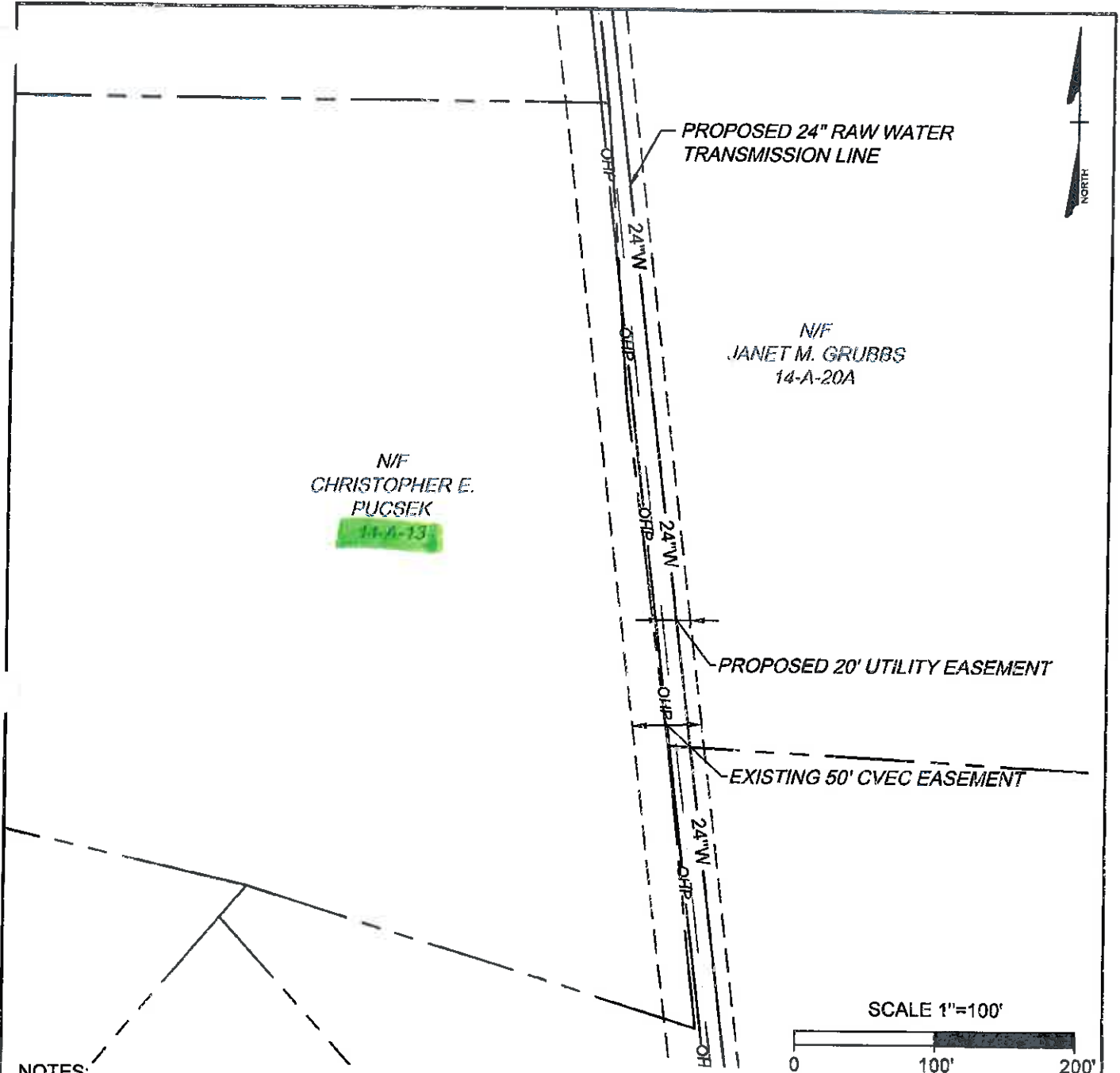
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-14A**

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		Date: 06/11/2015	1" = 100'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

TIMMONS GROUP



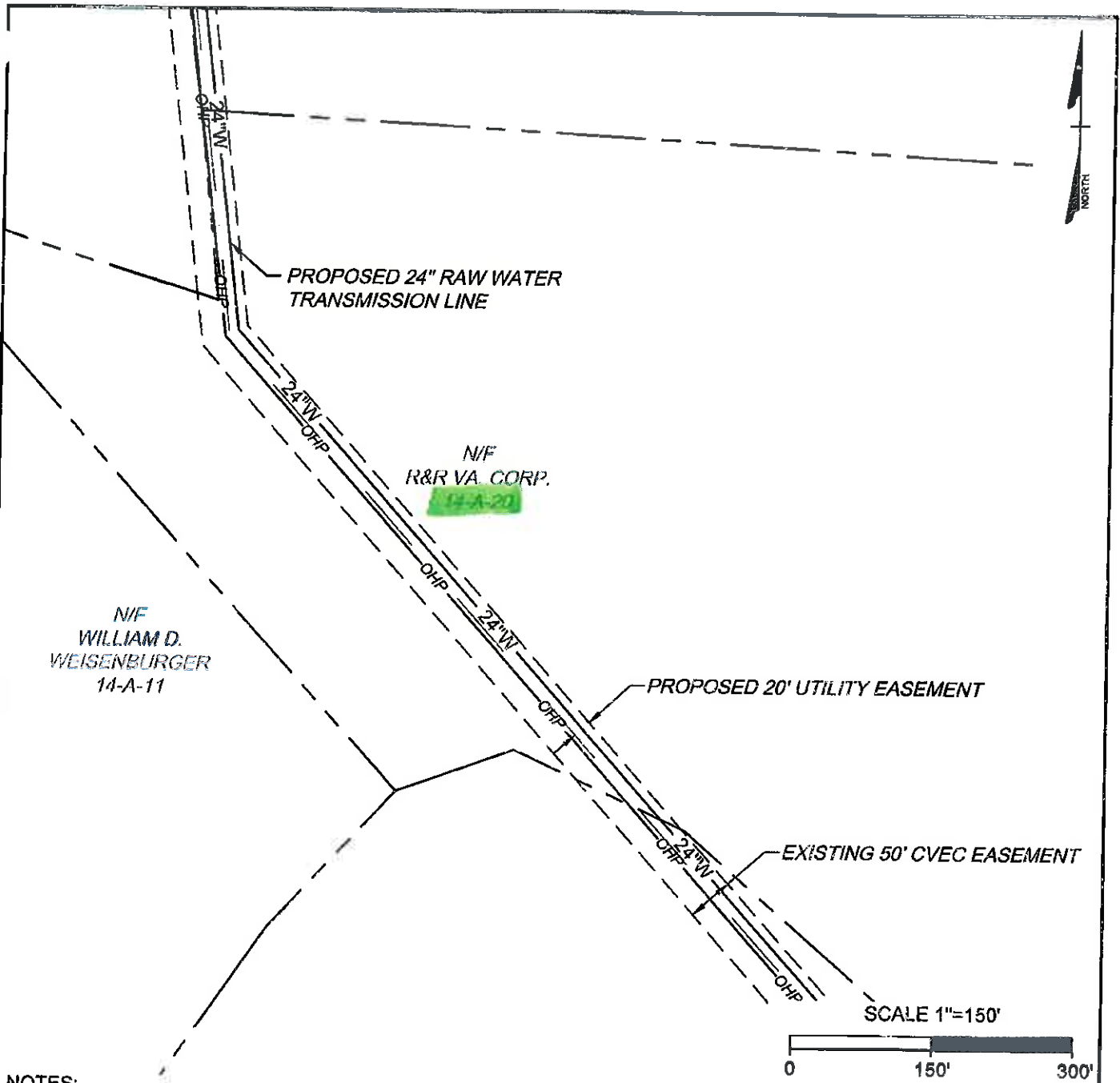
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-A-13**

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		Date: 06/11/2015	1" = 100'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-A-20**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS



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N/F
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 ET AL
 14-9-4

JACKSON
 67-12-A3

14-9-2

EXISTING 50' CVEC EASEMENT

PROPOSED 20' UTILITY EASEMENT

14-9-3

N/F
 GWENDOLYN D. JONES
 14-A-14

PROPOSED 24" RAW WATER
 TRANSMISSION LINE

N/F
 GARNETT & LINDA S.
 JACKSON
 67-12-A3

N/F
 SHELIA WADDY
 14-14A

SCALE 1"=150'



NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
 EXHIBIT MAP PARCEL 14-A-14**

COUNTY OF LOUISA, VIRGINIA

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Date: 07/17/2015

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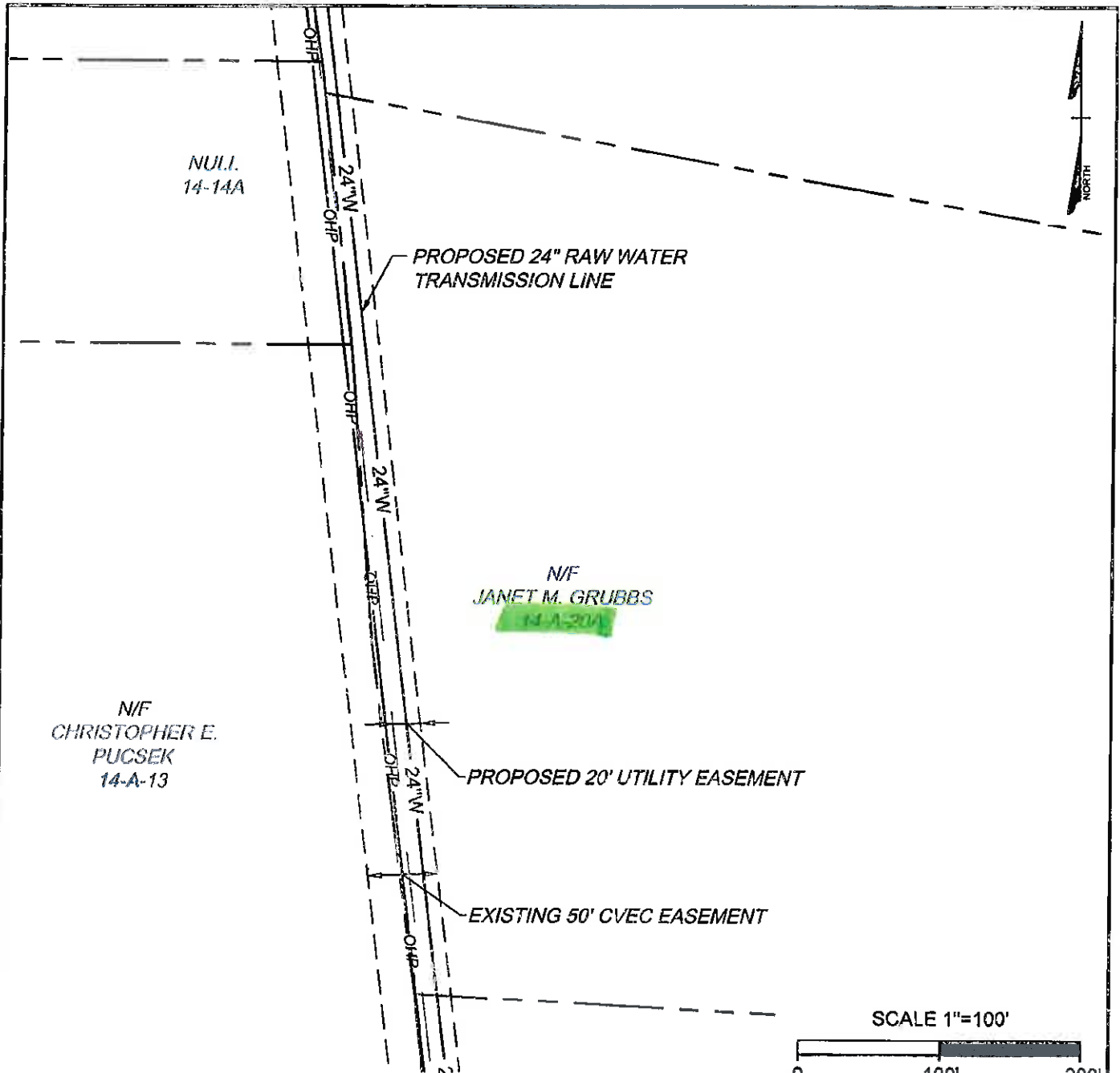
Sheet 1 of 1

J.N.: 33973

Drawn by: J. ECK

Checked by: D. SAUNDERS

TIMMONS GROUP



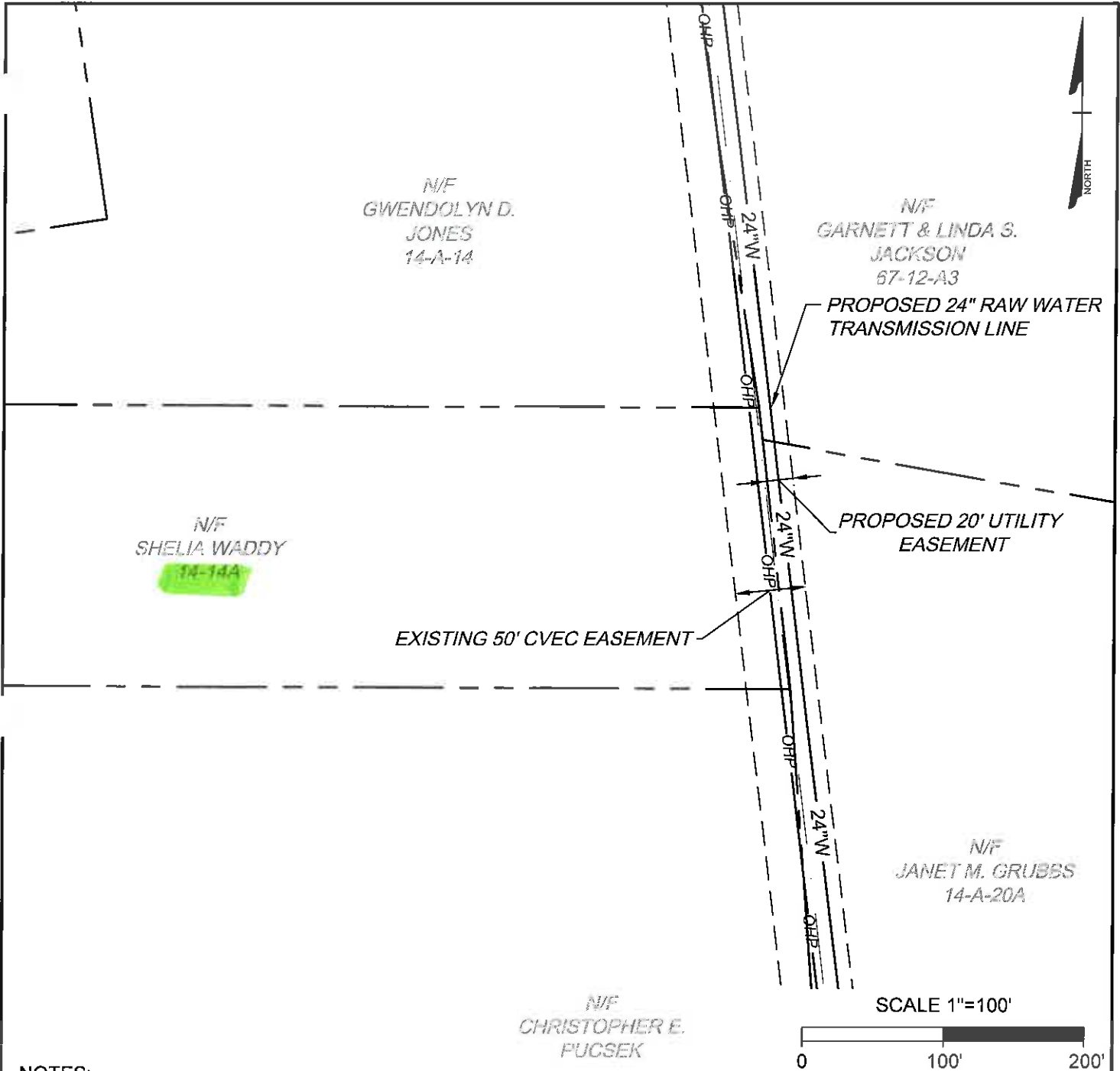
NOTES:

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2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-A-20A**

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		Date: 06/11/2015	1" = 100'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-14A**

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		Date: 07/21/2015	1" = 100'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS



N/F
ARNELL W. SIMMONS
ET AL
14-9-4



NULL
14-14A

PROPOSED 24" RAW WATER
TRANSMISSION LINE

PROPOSED 20' UTILITY
EASEMENT

EXISTING 50' CVEC EASEMENT

N/F
JANET M. GRUBBS
14-A-20A

N/F
CHRISTOPHER E.
PUCSEK

SCALE 1"=100'



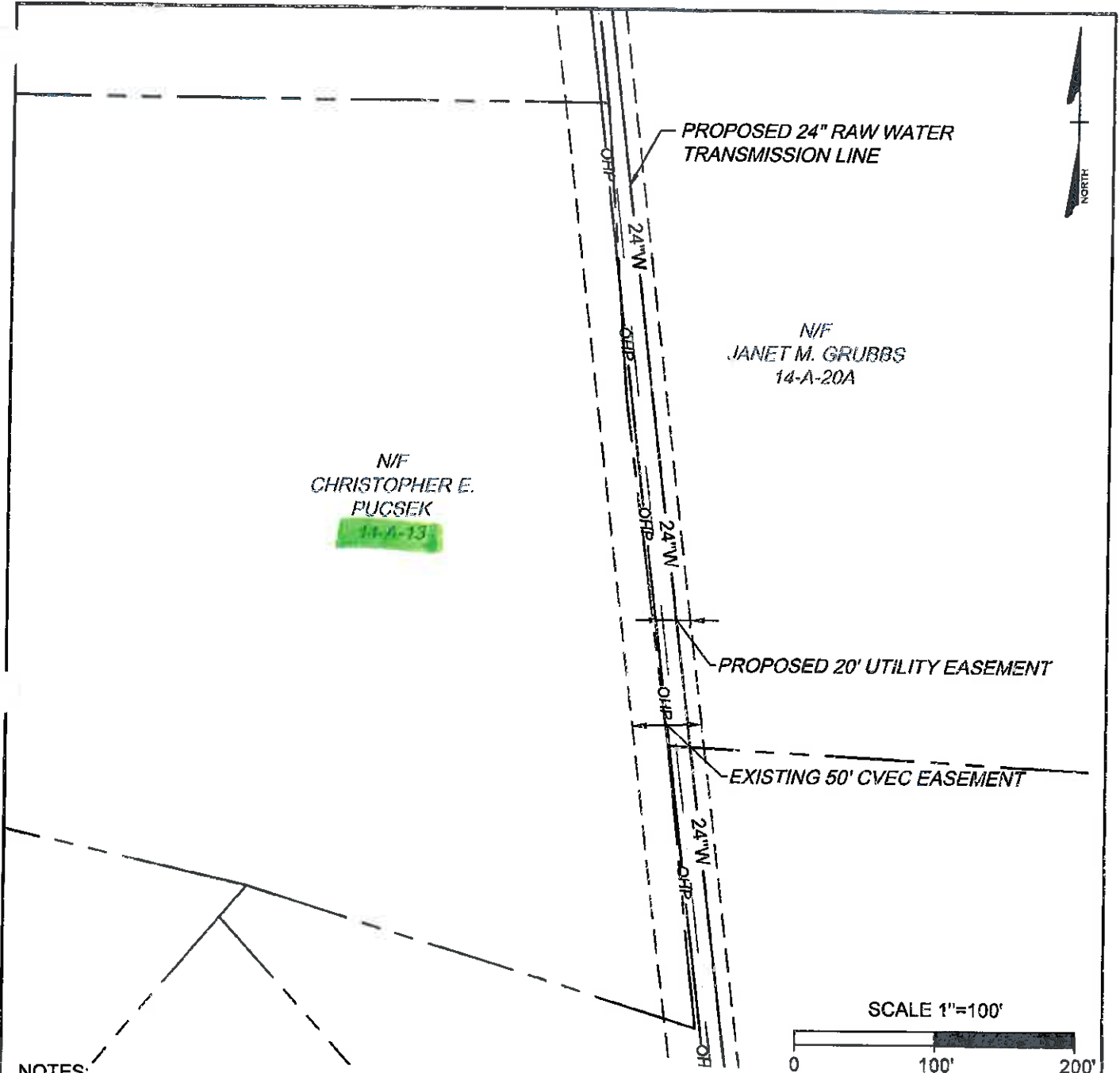
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-14A**

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		Date: 06/11/2015	1" = 100'
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		Drawn by: J. ECK	Checked by: D. SAUNDERS

TIMMONS GROUP



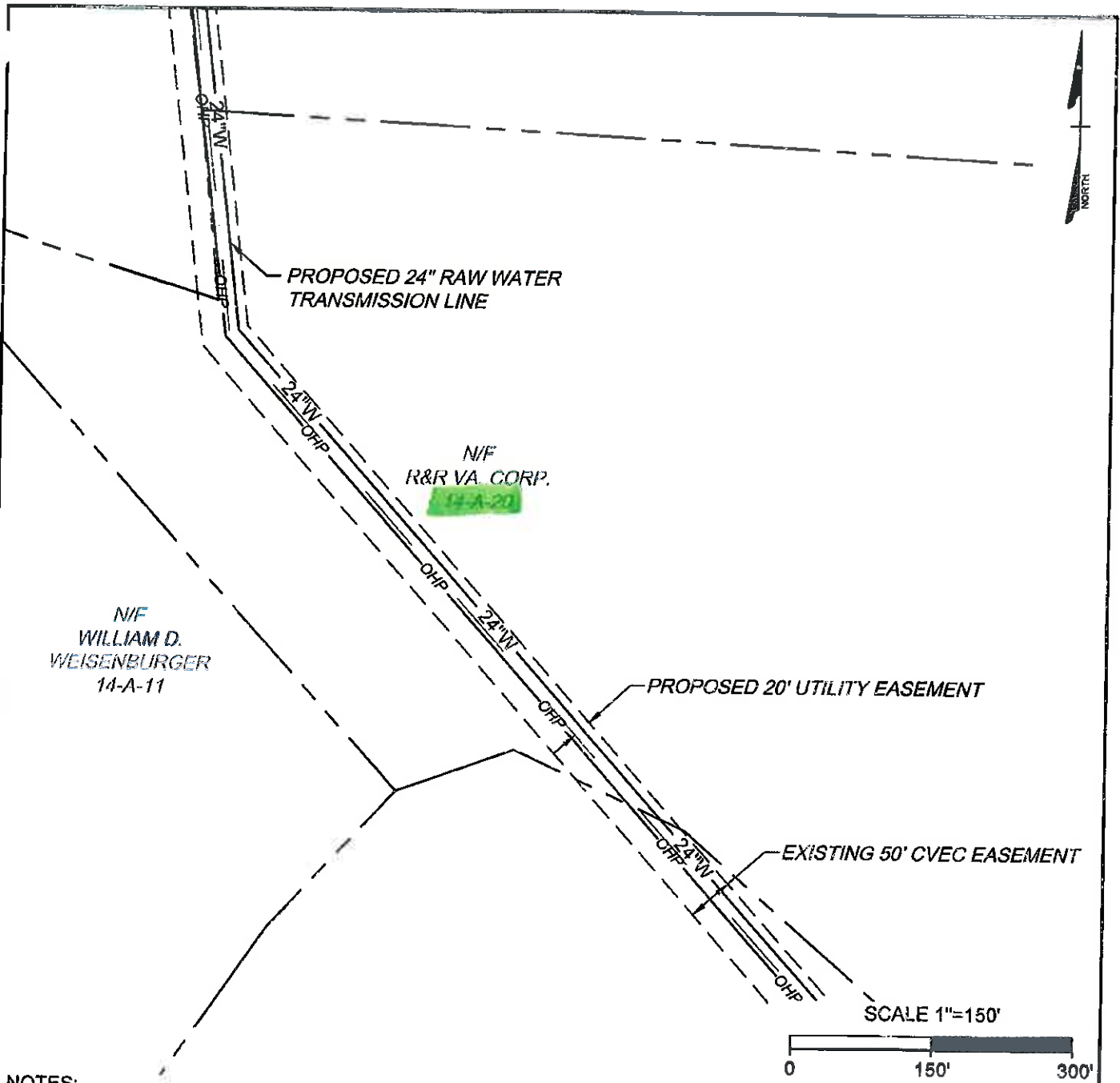
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-A-13**

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		Date: 06/11/2015	1" = 100'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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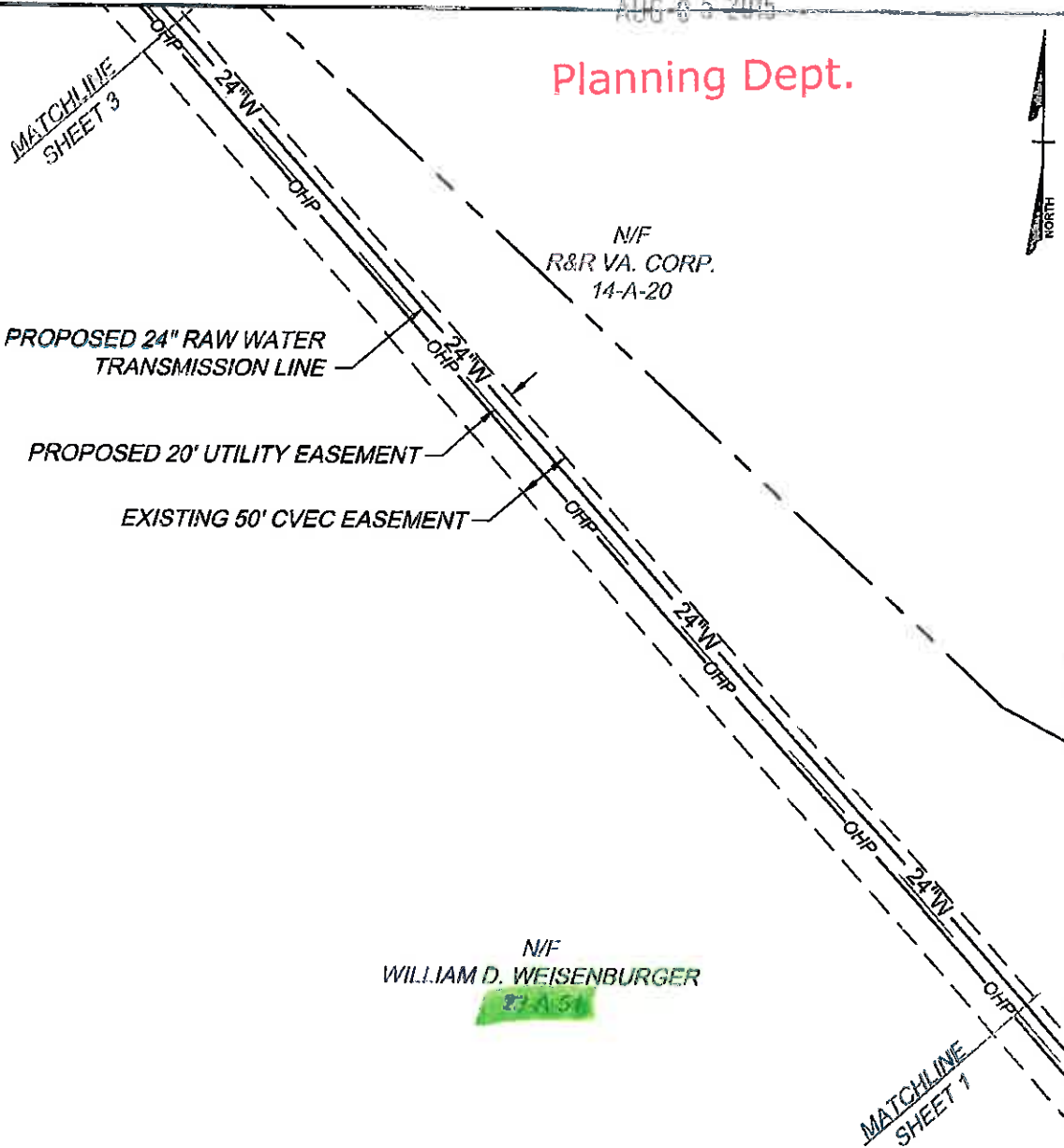
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 14-A-20**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS



AUG 05 2015

Planning Dept.



N/F
WILLIAM D. WEISENBURGER
23-A-51

SCALE 1"=150'



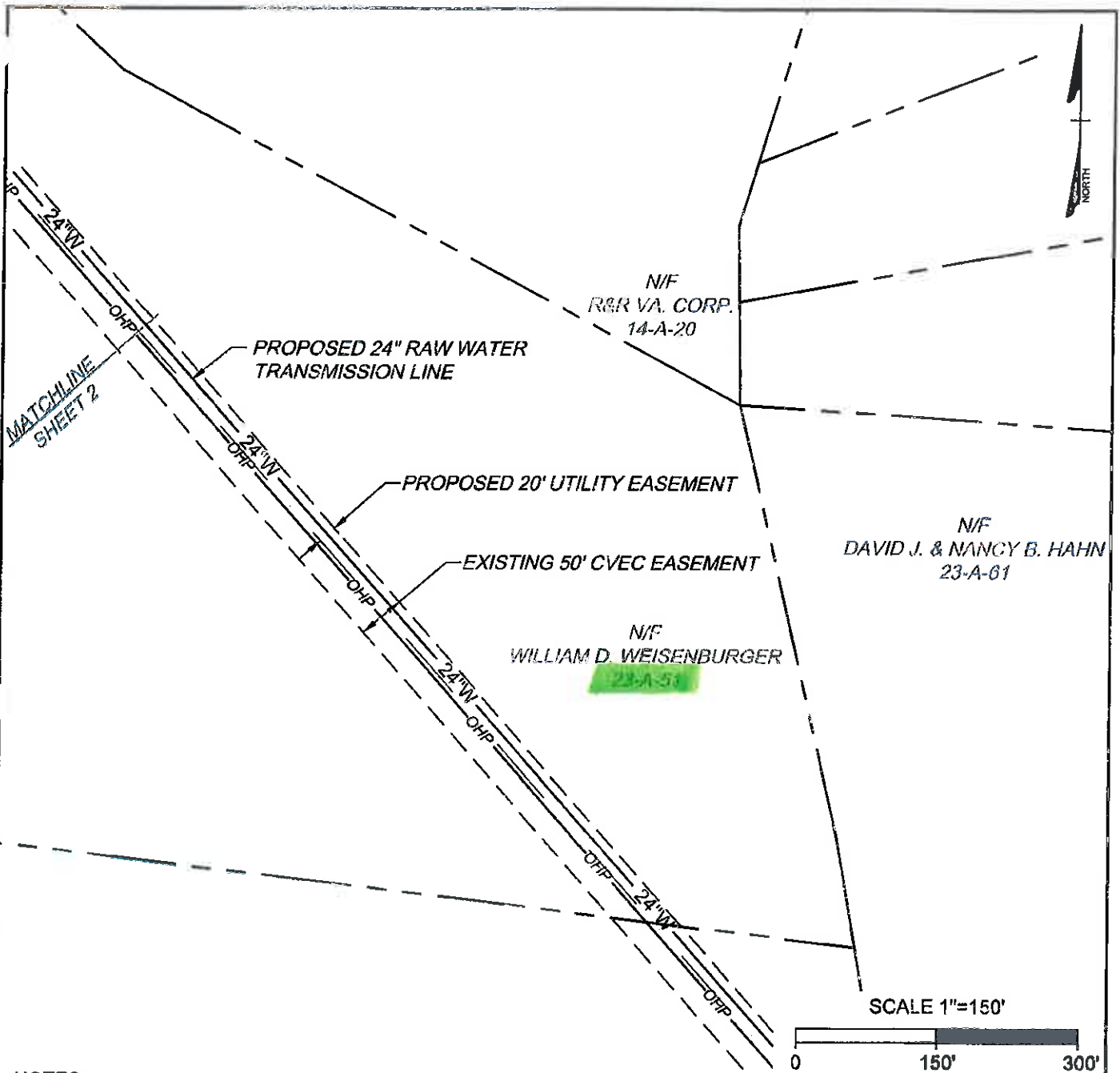
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-51**

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		Date: 06/11/2015	1" = 150'
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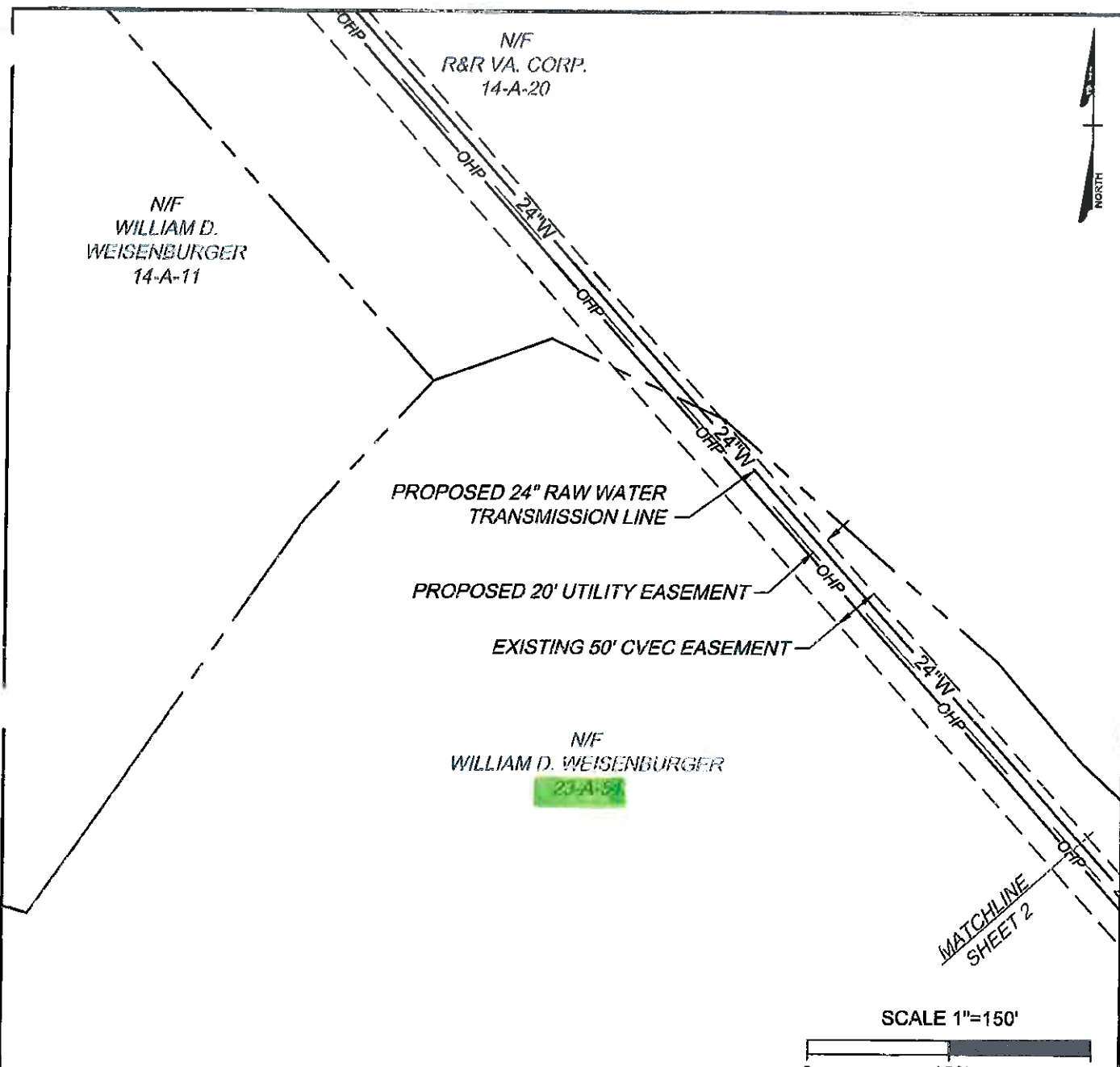
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-51**

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		Date: 06/11/2015	1" = 150'
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		Drawn by: J. ECK	Checked by: D. SAUNDERS





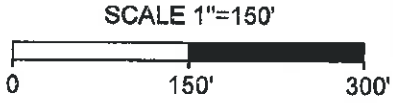
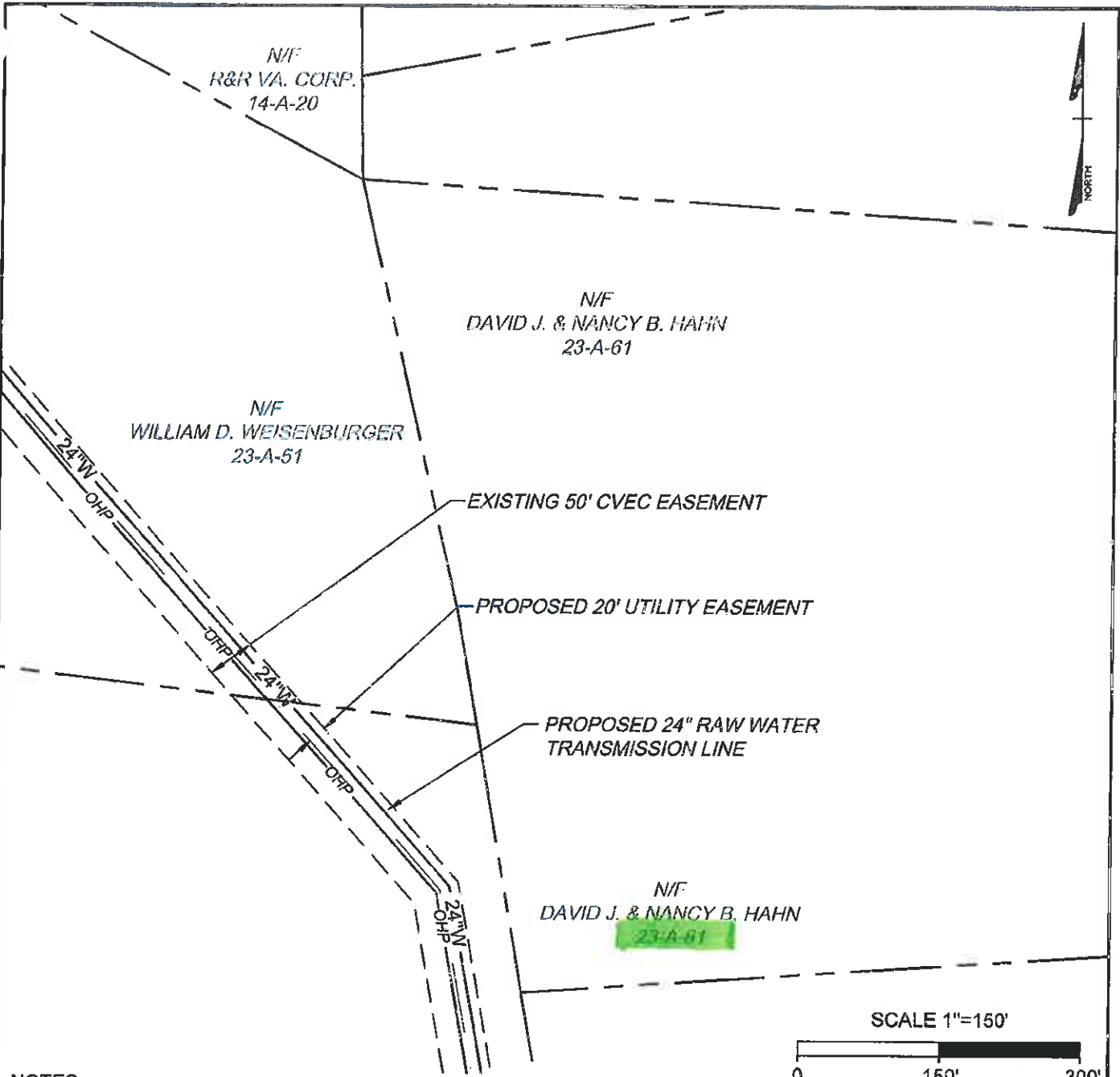
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-51**

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		Date: 06/11/2015	1" = 150'
		Sheet 3 of 3	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

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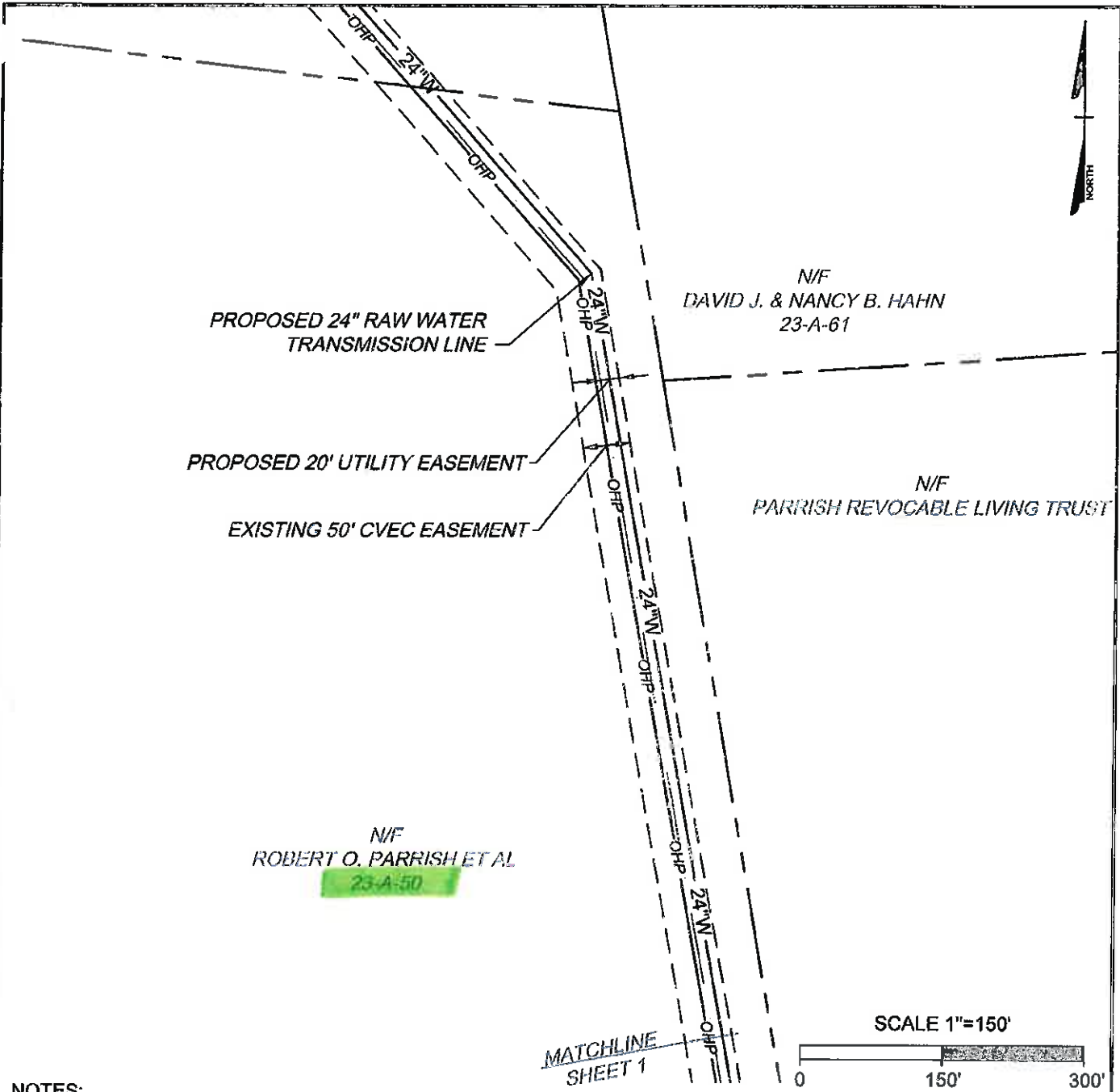
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-61**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





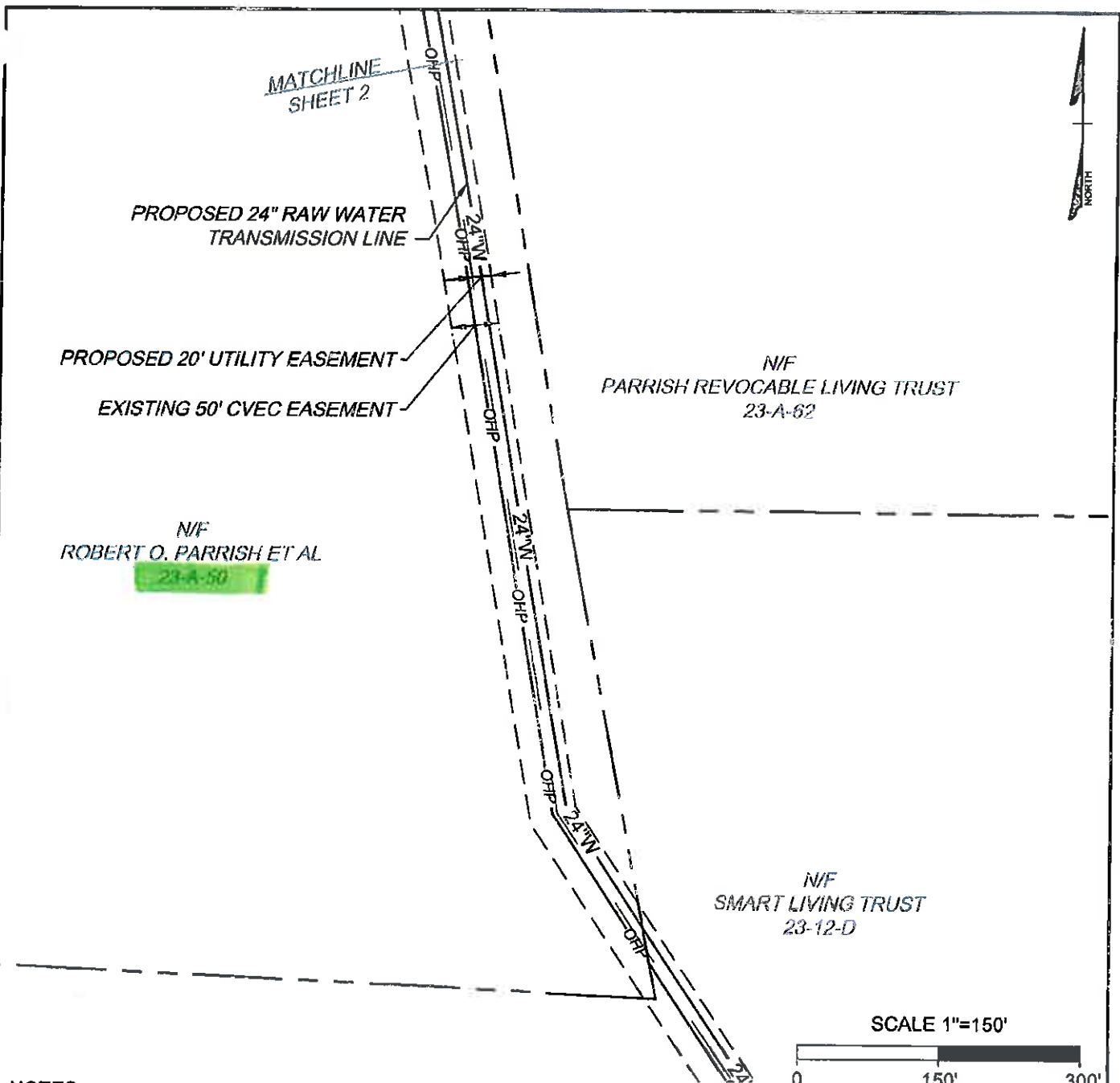
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-50**

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		Date: 06/11/2015	1" = 150'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





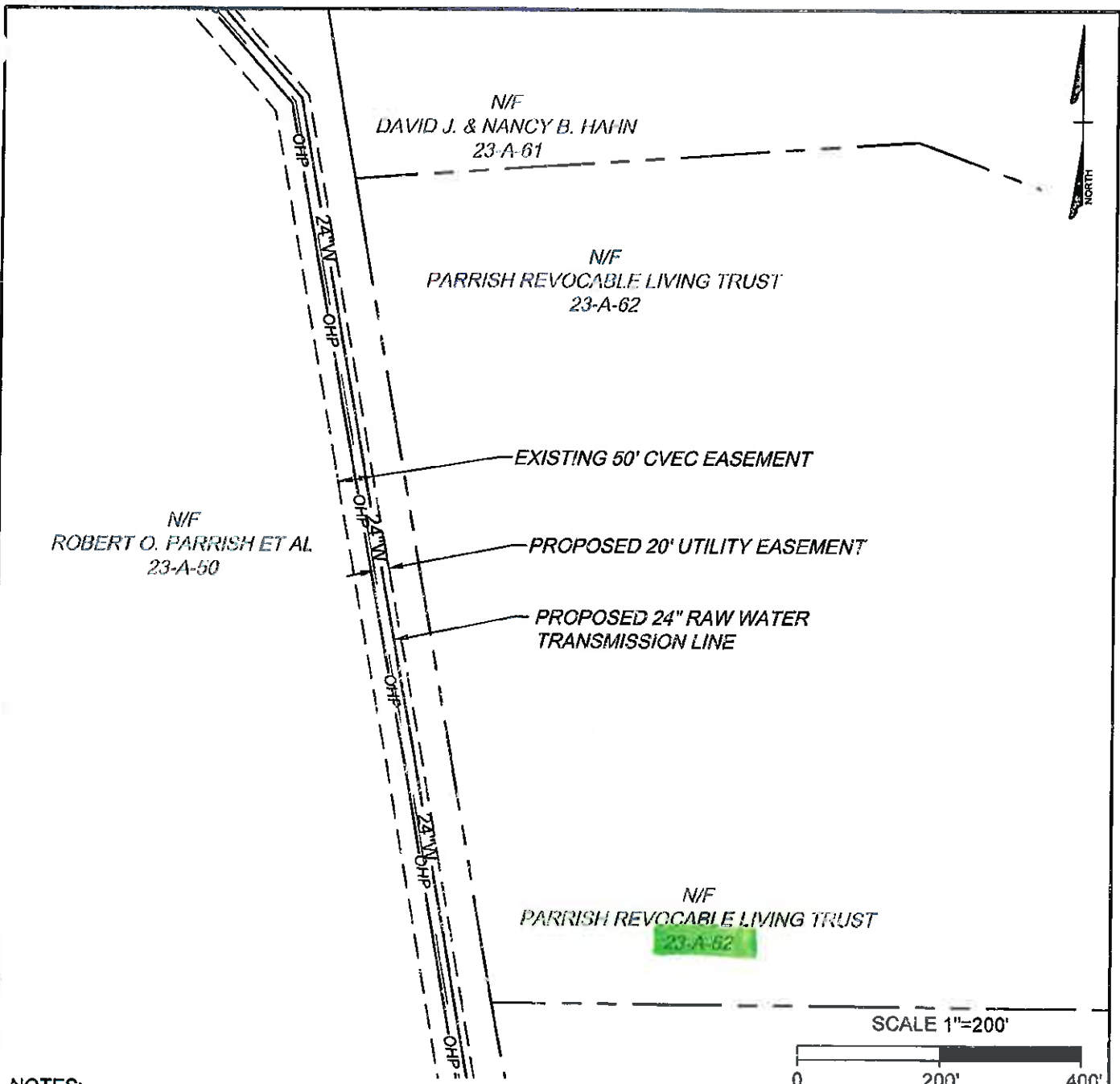
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-50**

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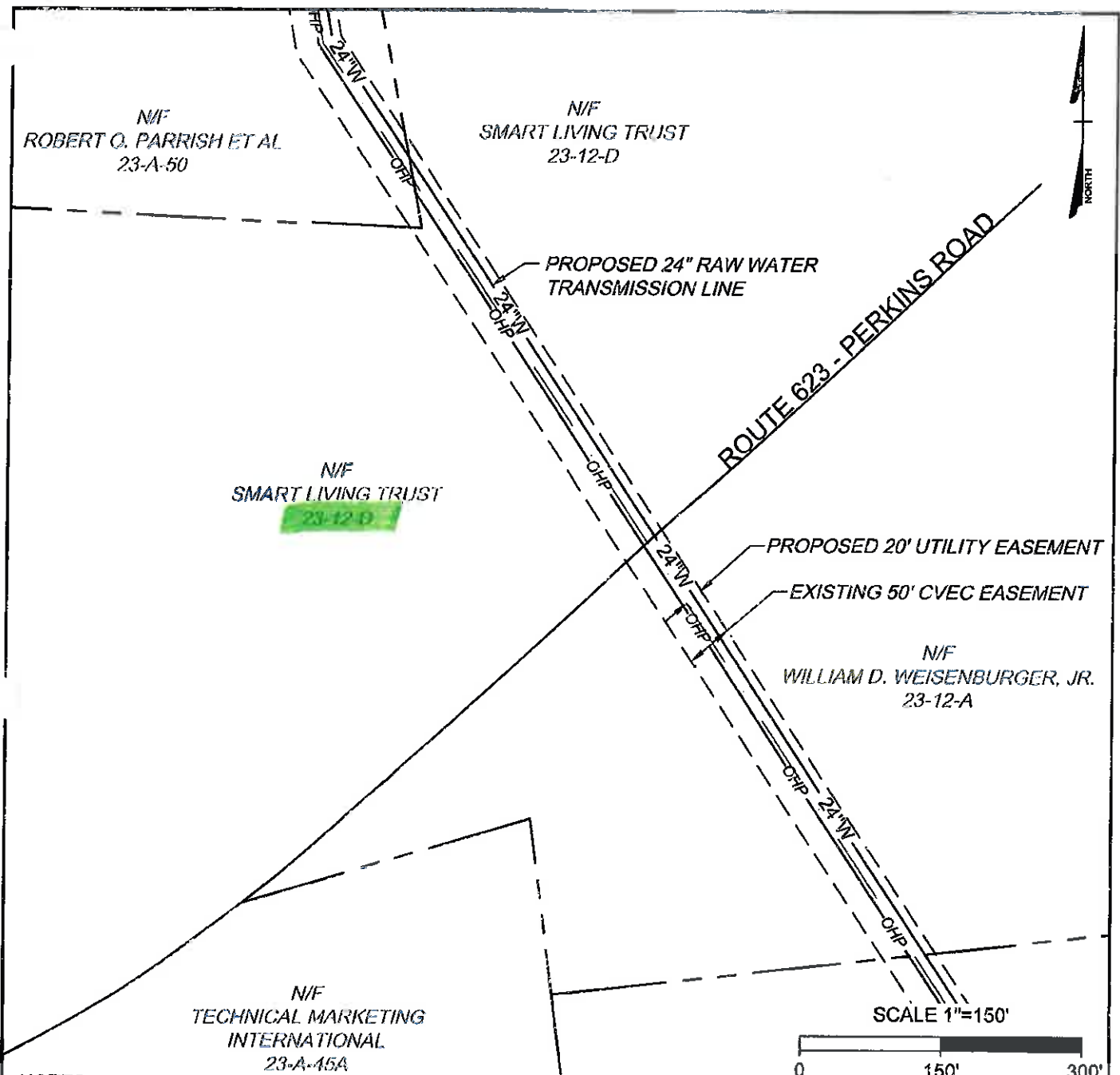
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-62**

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		Date: 06/11/2015	1" = 200'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





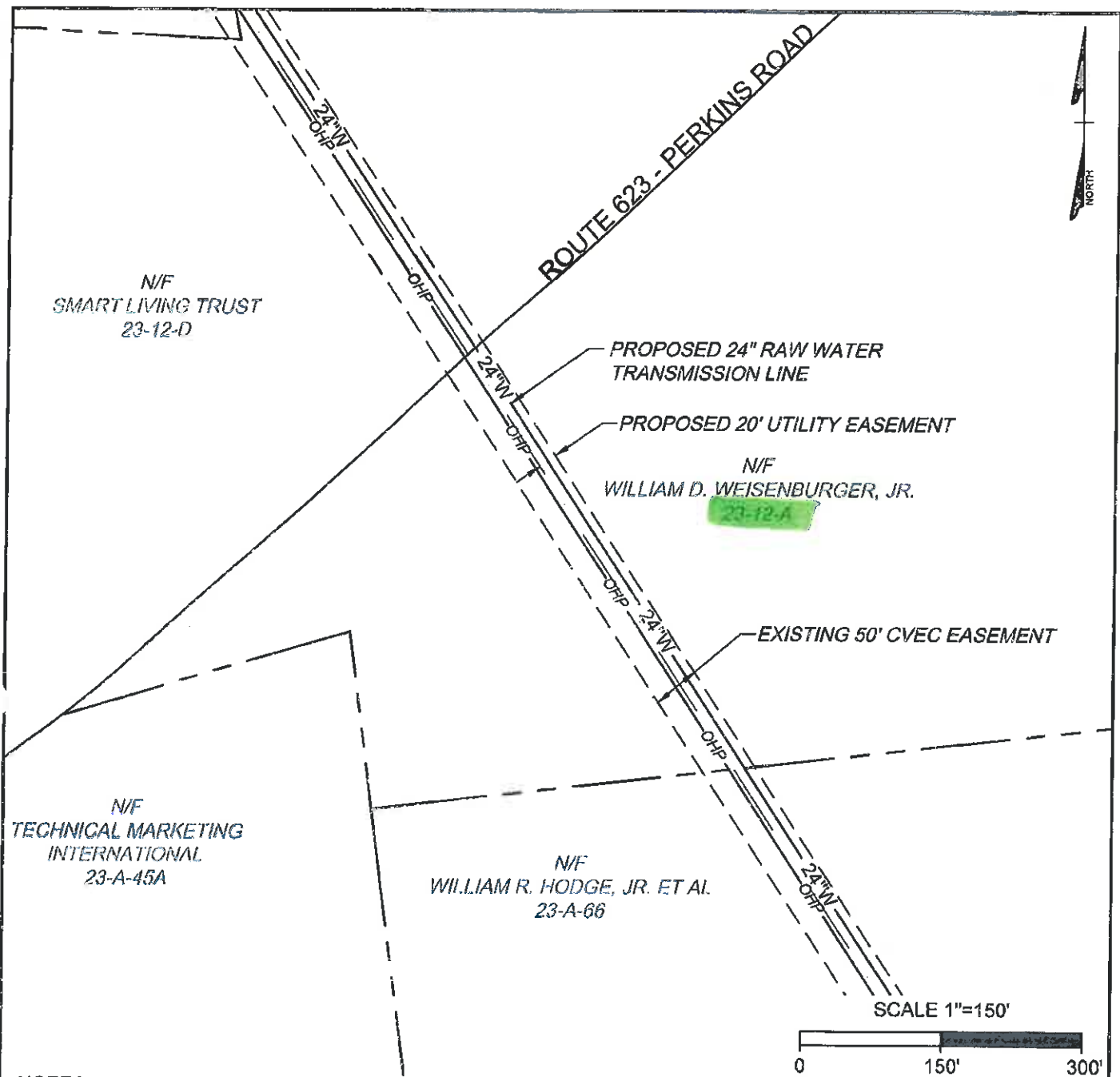
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-12-D**

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		Date: 06/11/2015	1" = 150'
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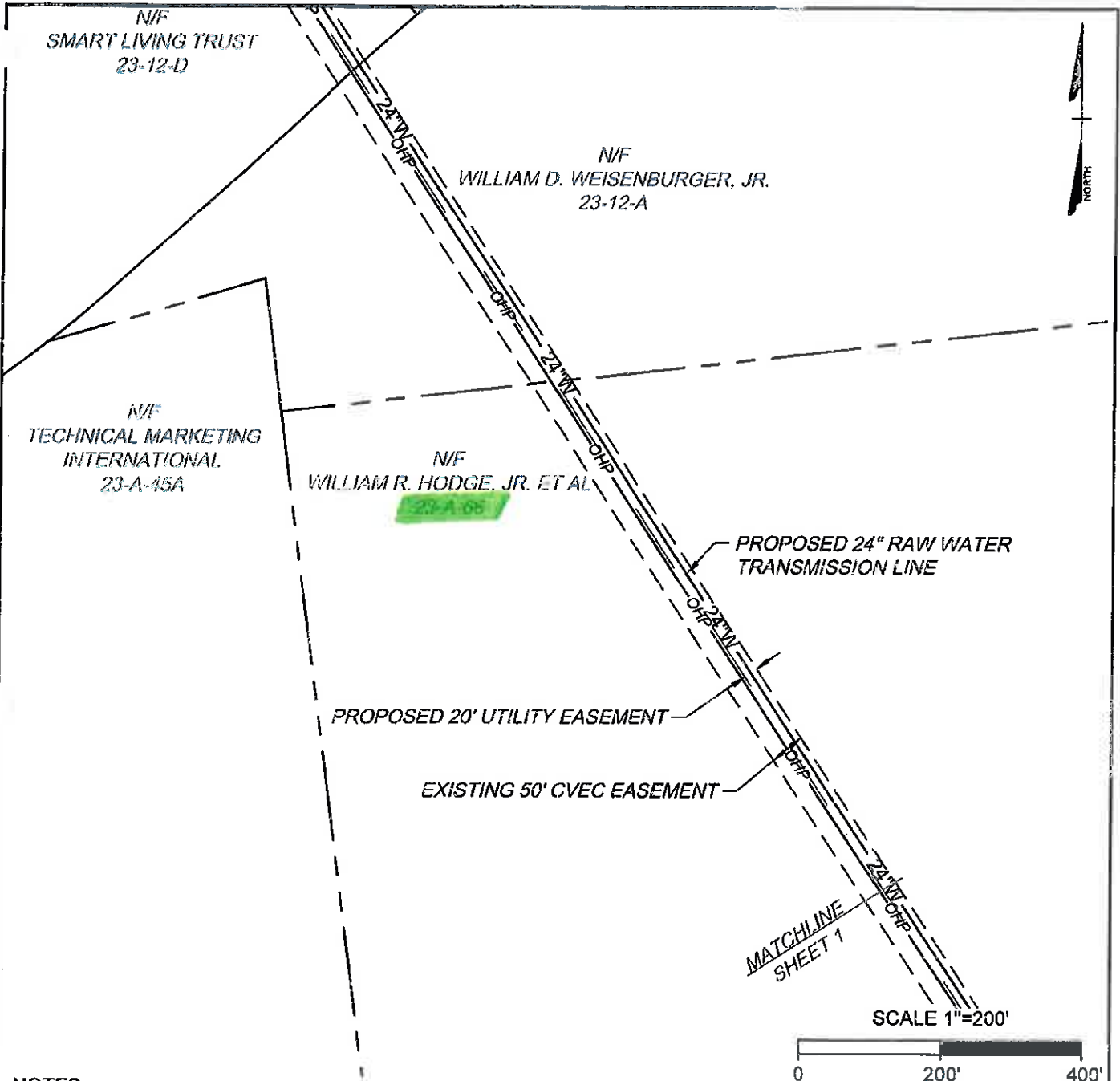
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-12-A**

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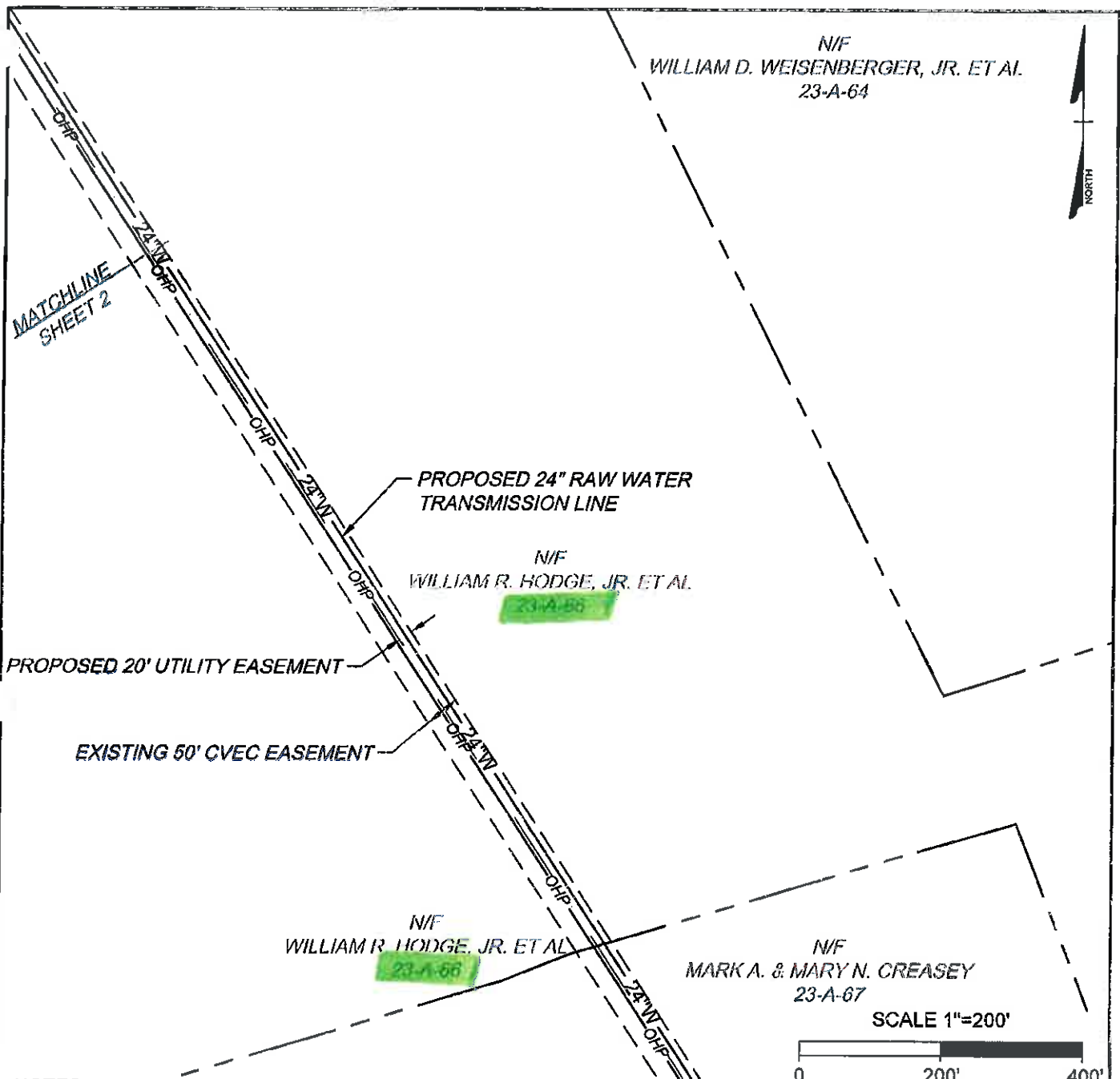
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-66**

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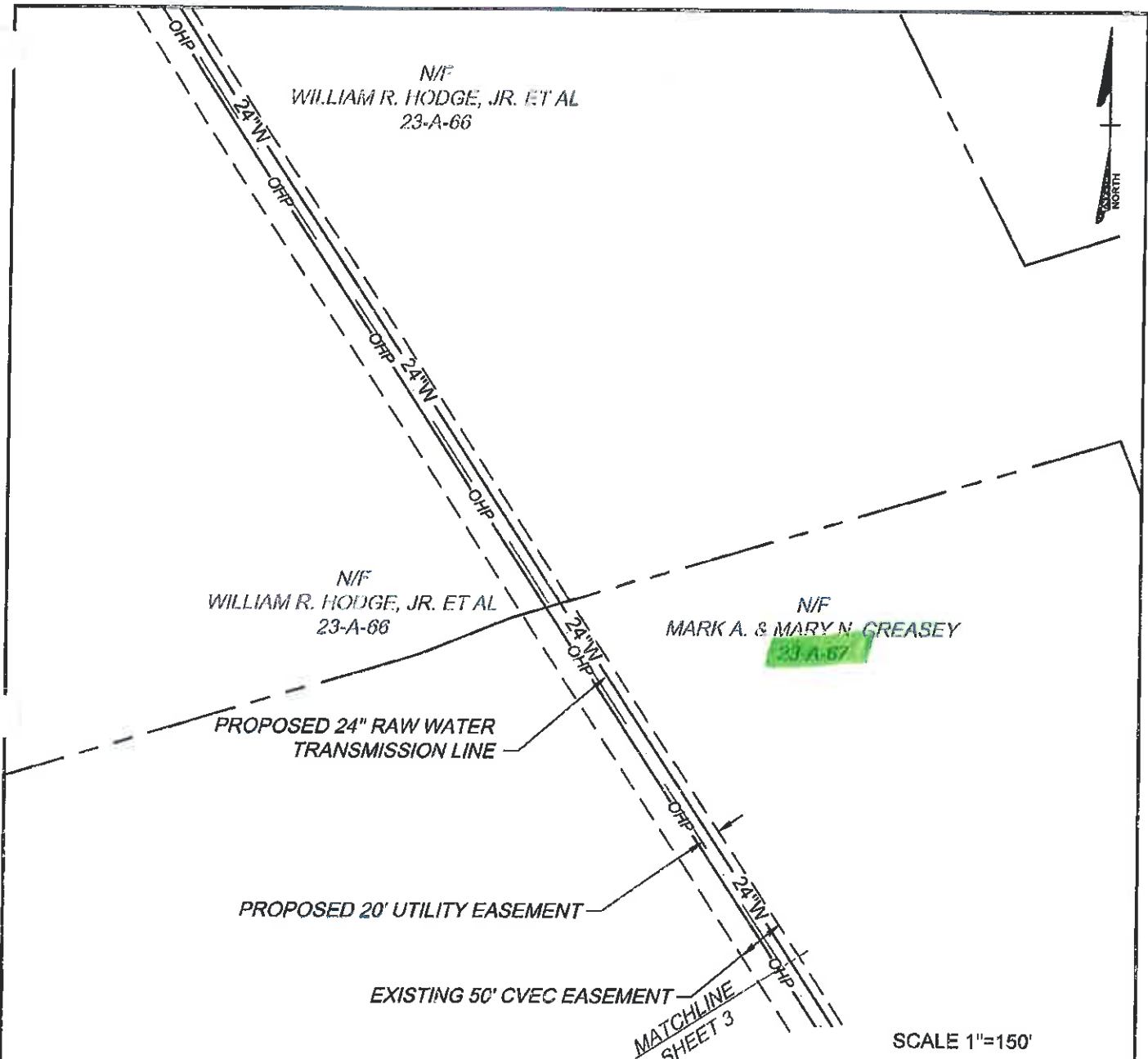
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-66**

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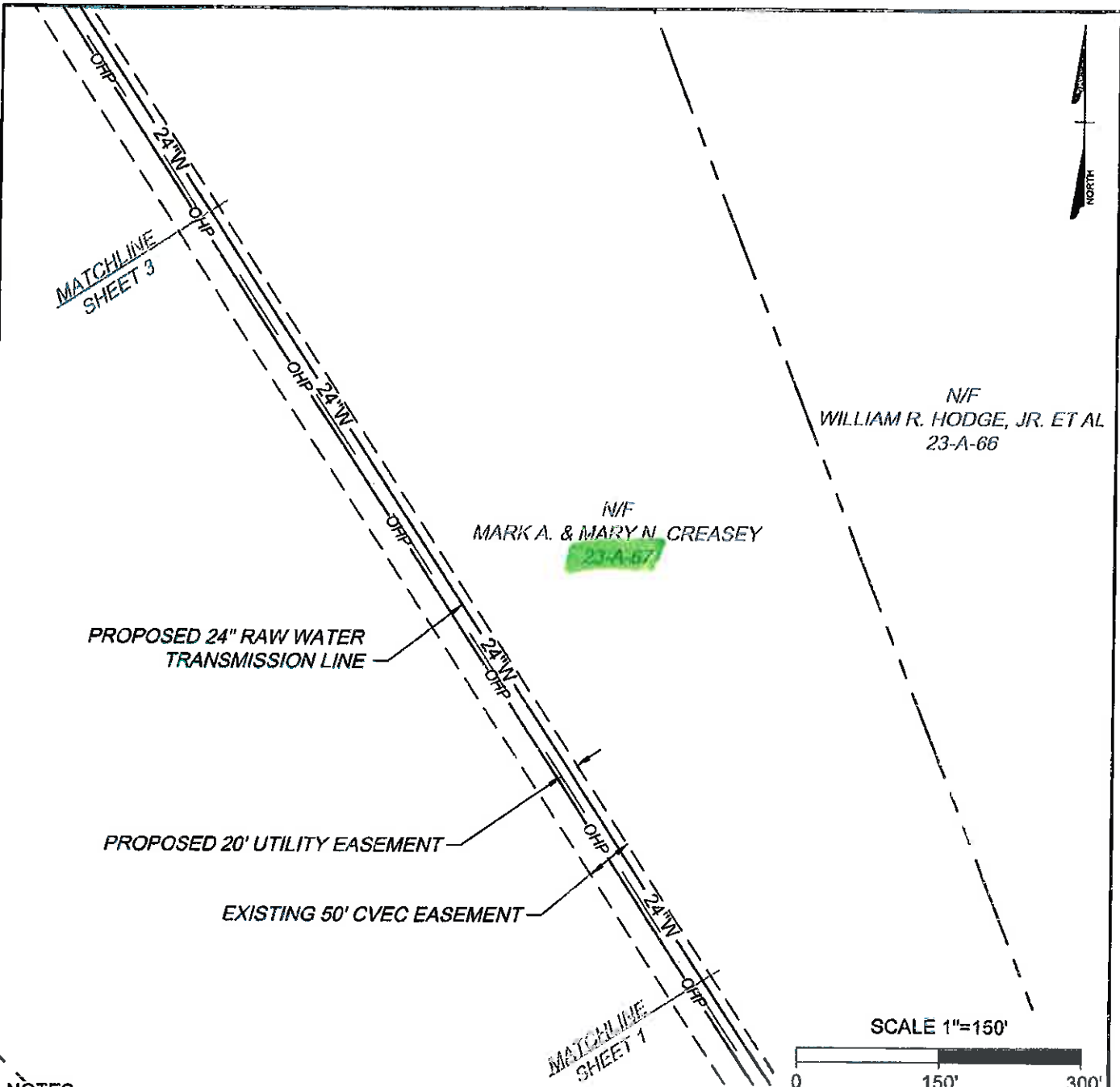
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-67**

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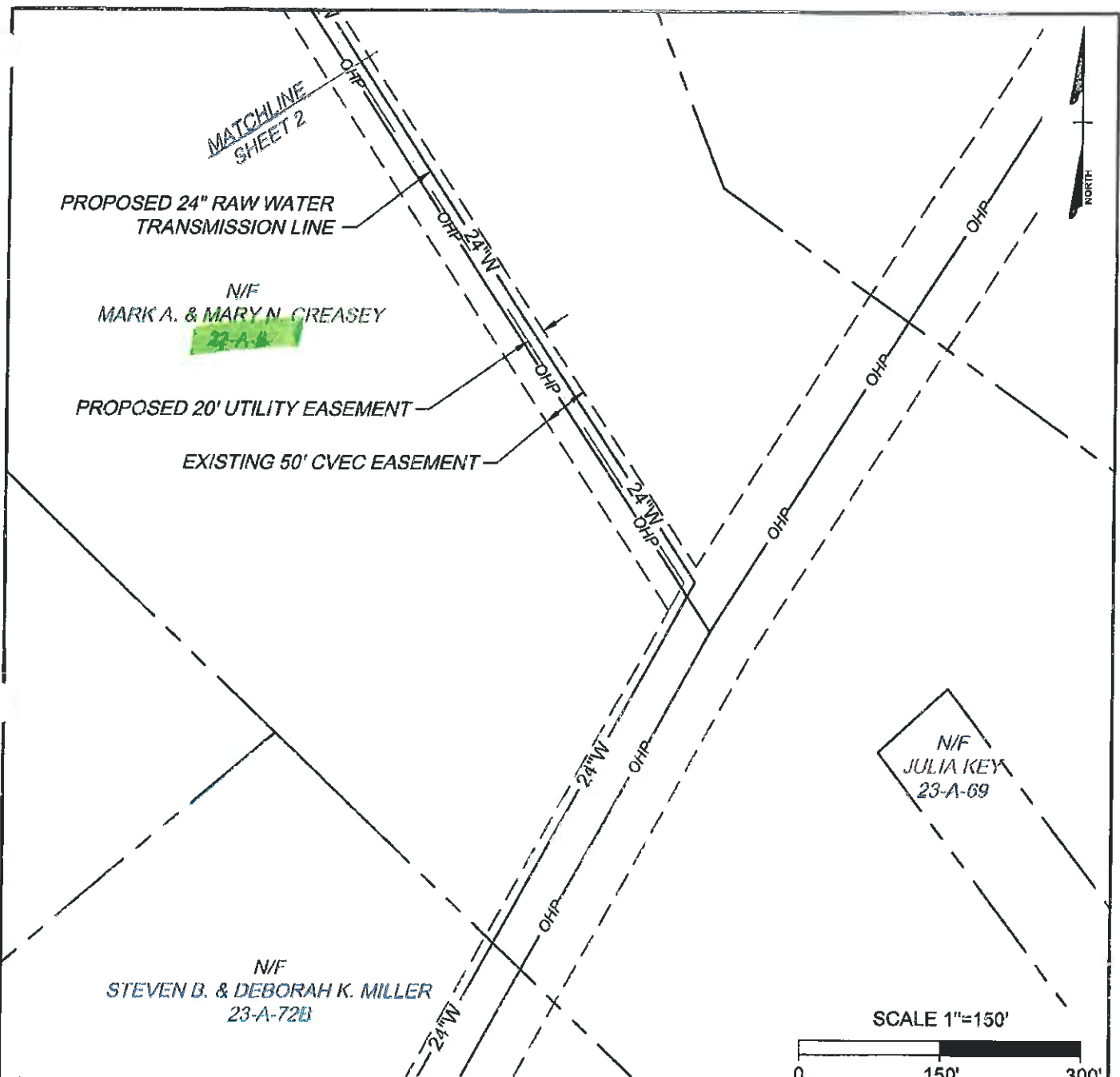
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-67**

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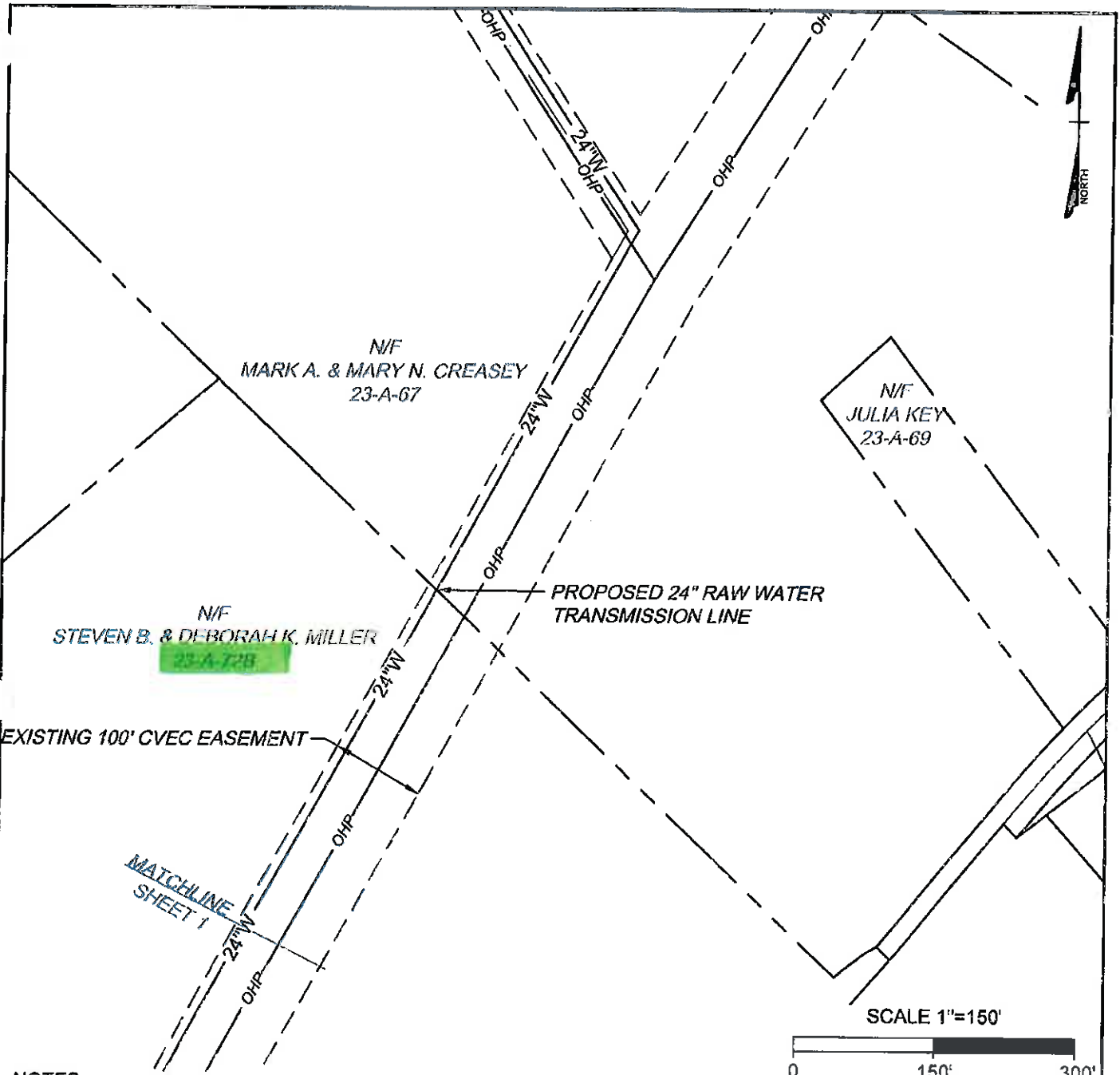
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-67**

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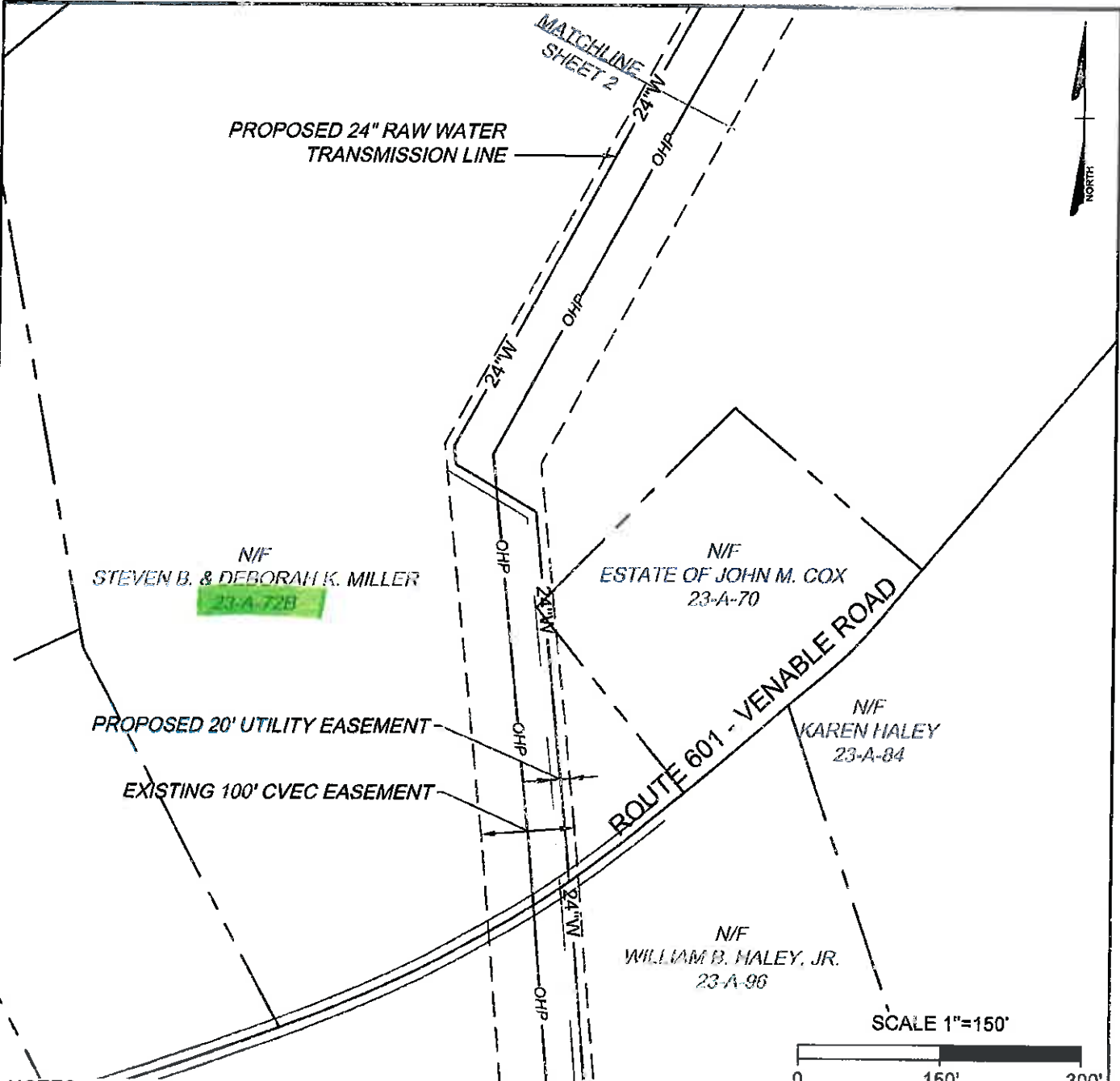
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-72B**

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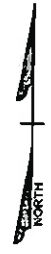
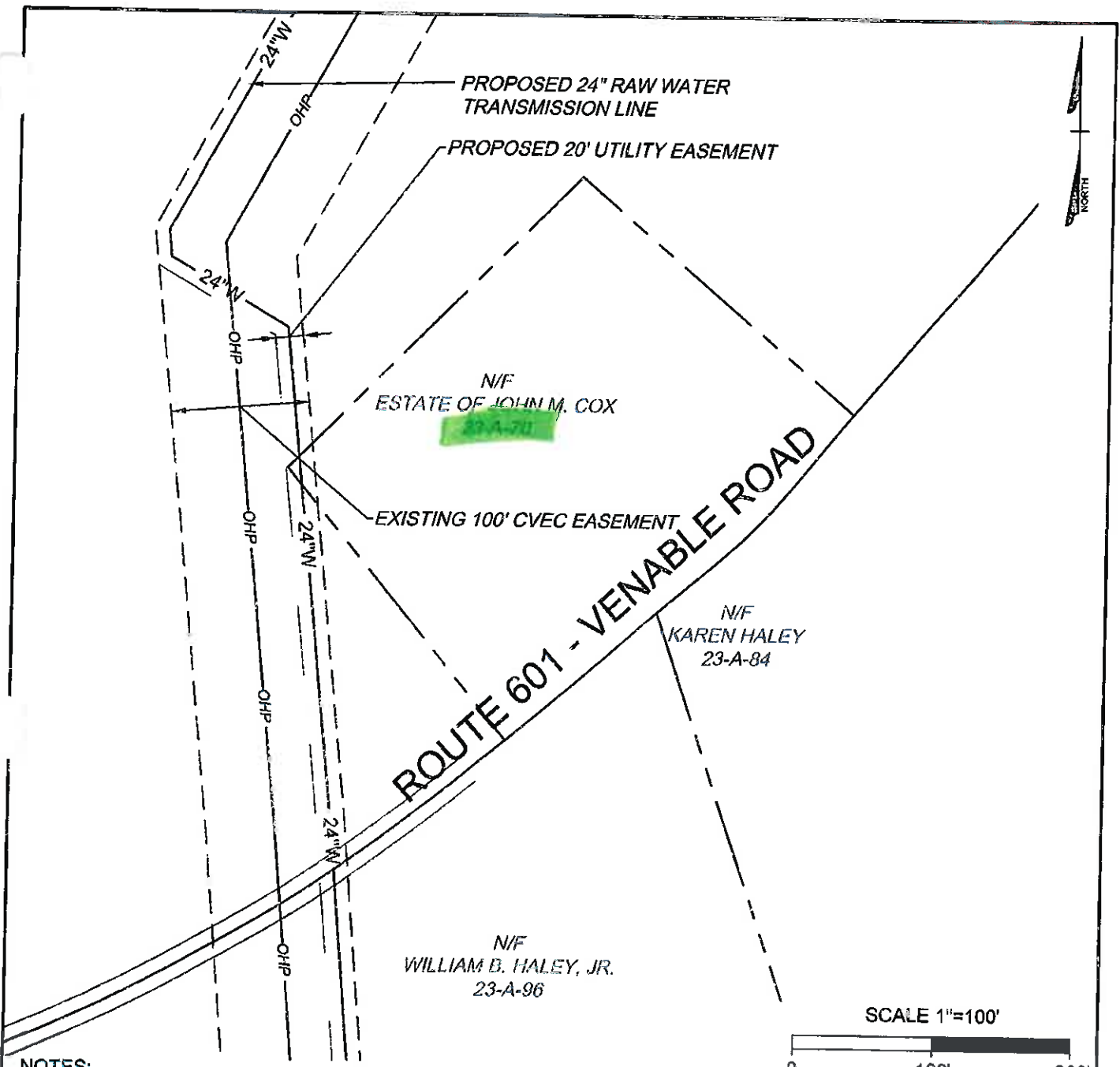
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-72B**

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YOUR VISION ACHIEVED
THROUGH OURS

COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





SCALE 1"=100'



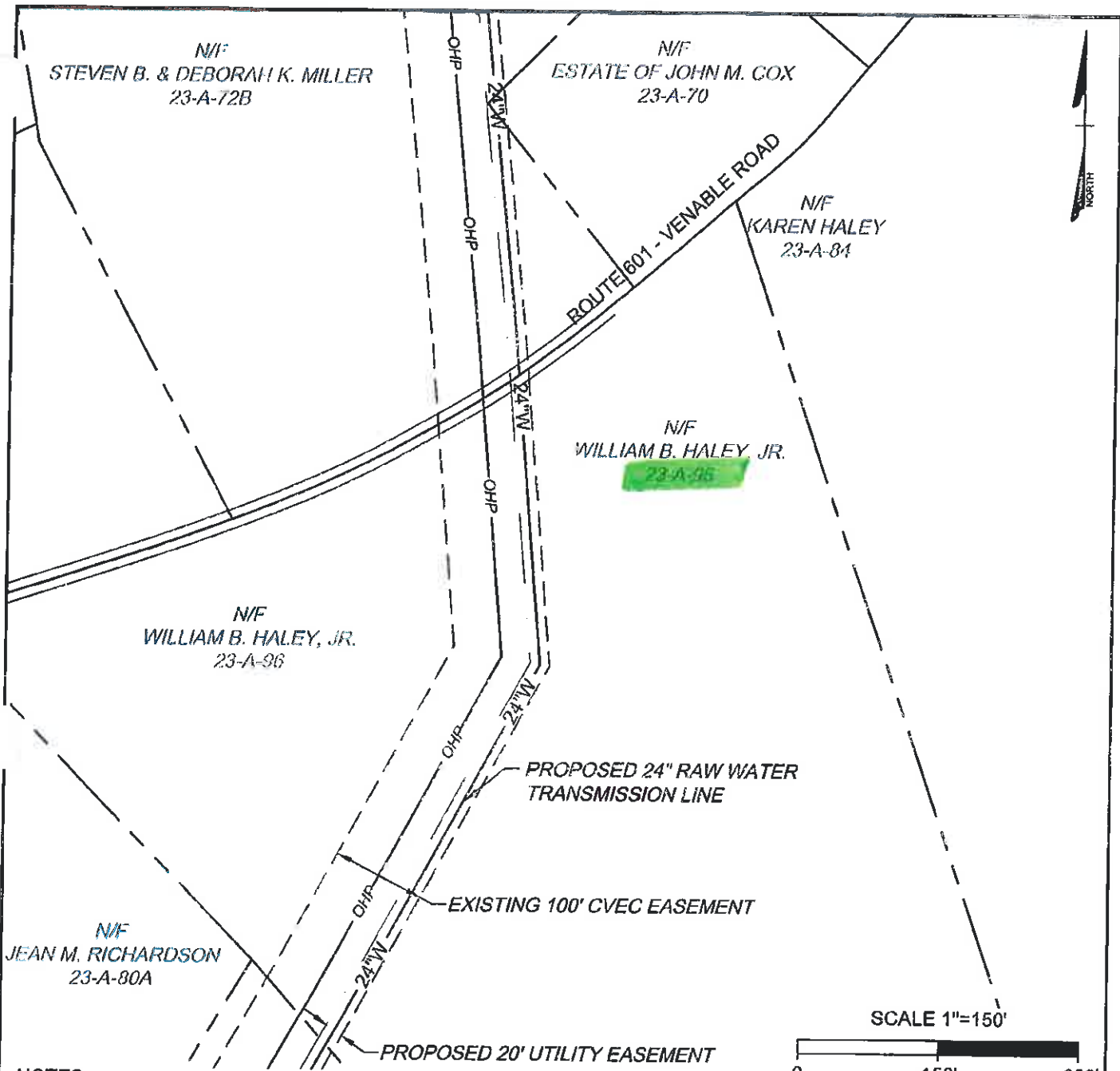
NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-70**

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		Date: 06/11/2015	1" = 100'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS



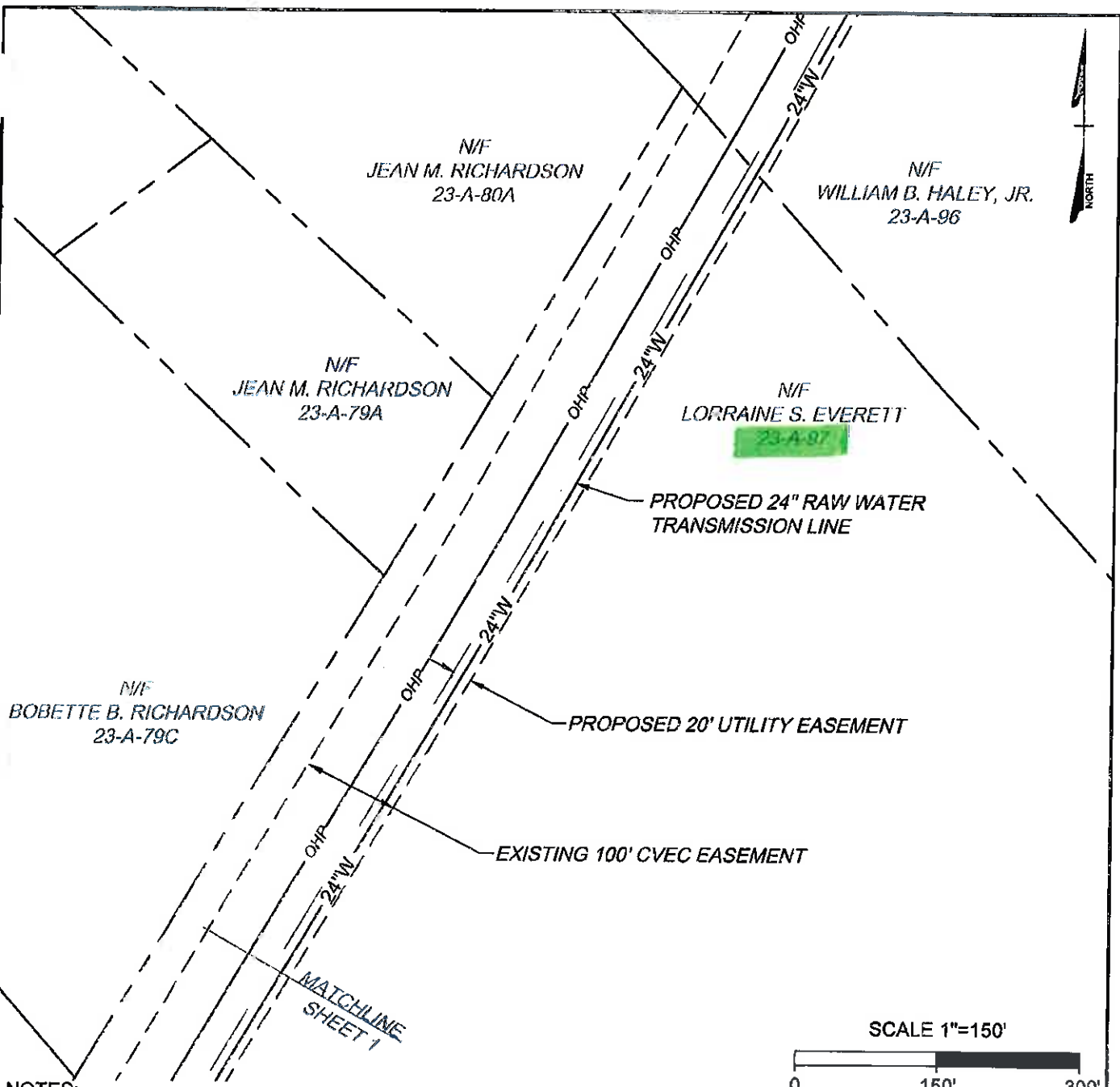


- NOTES:**
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-96**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

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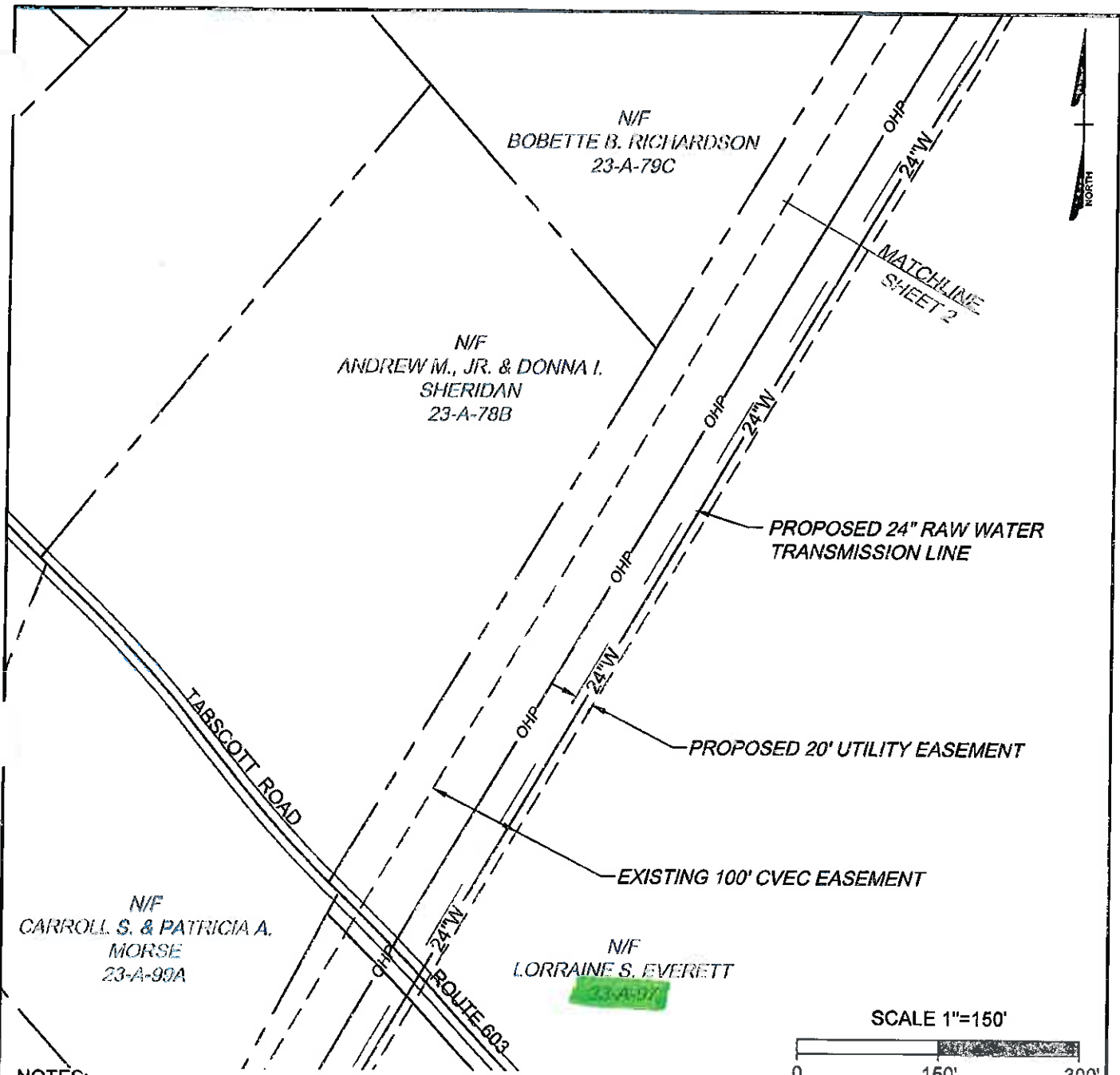
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-97**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 2 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





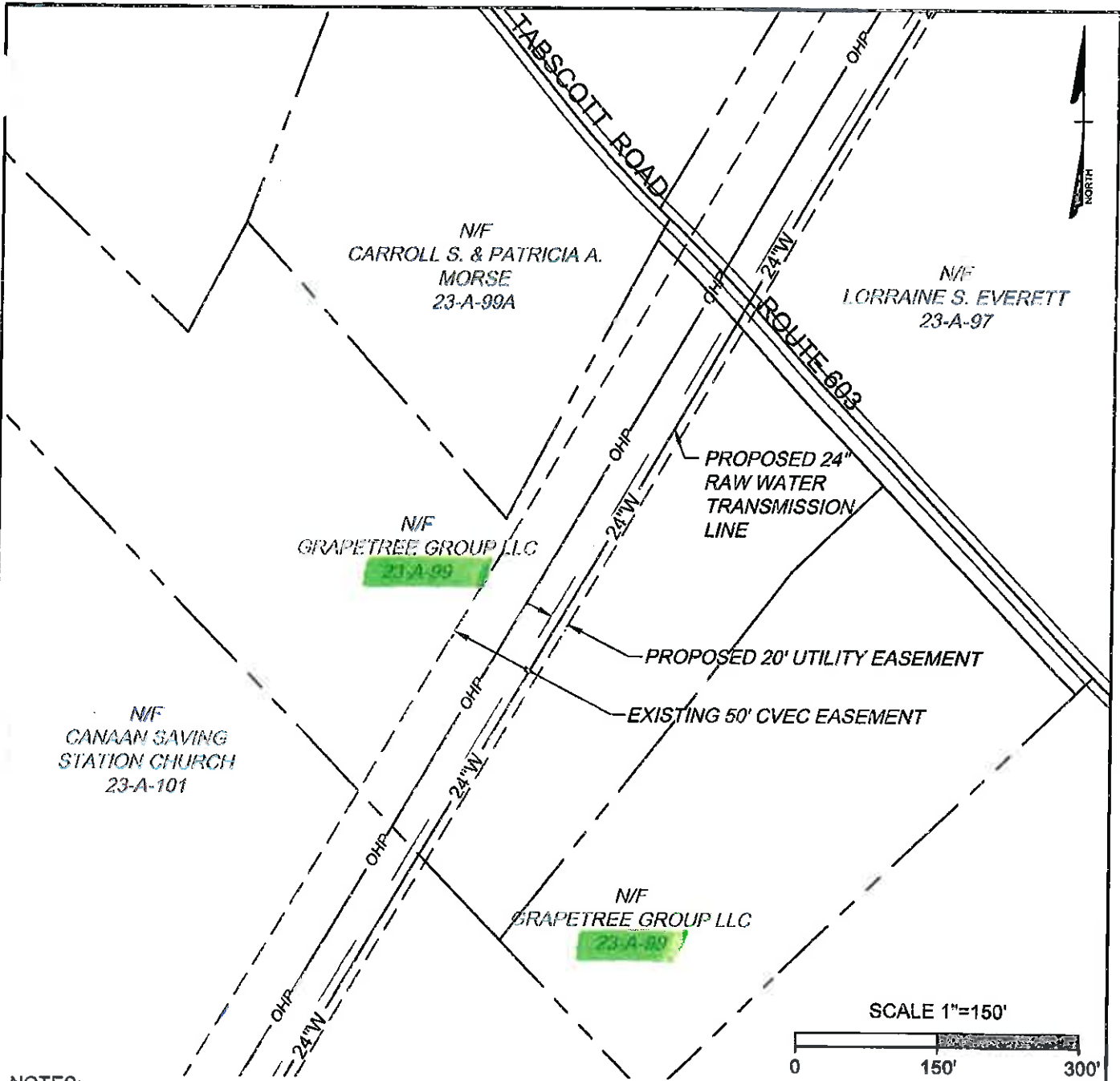
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-97**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





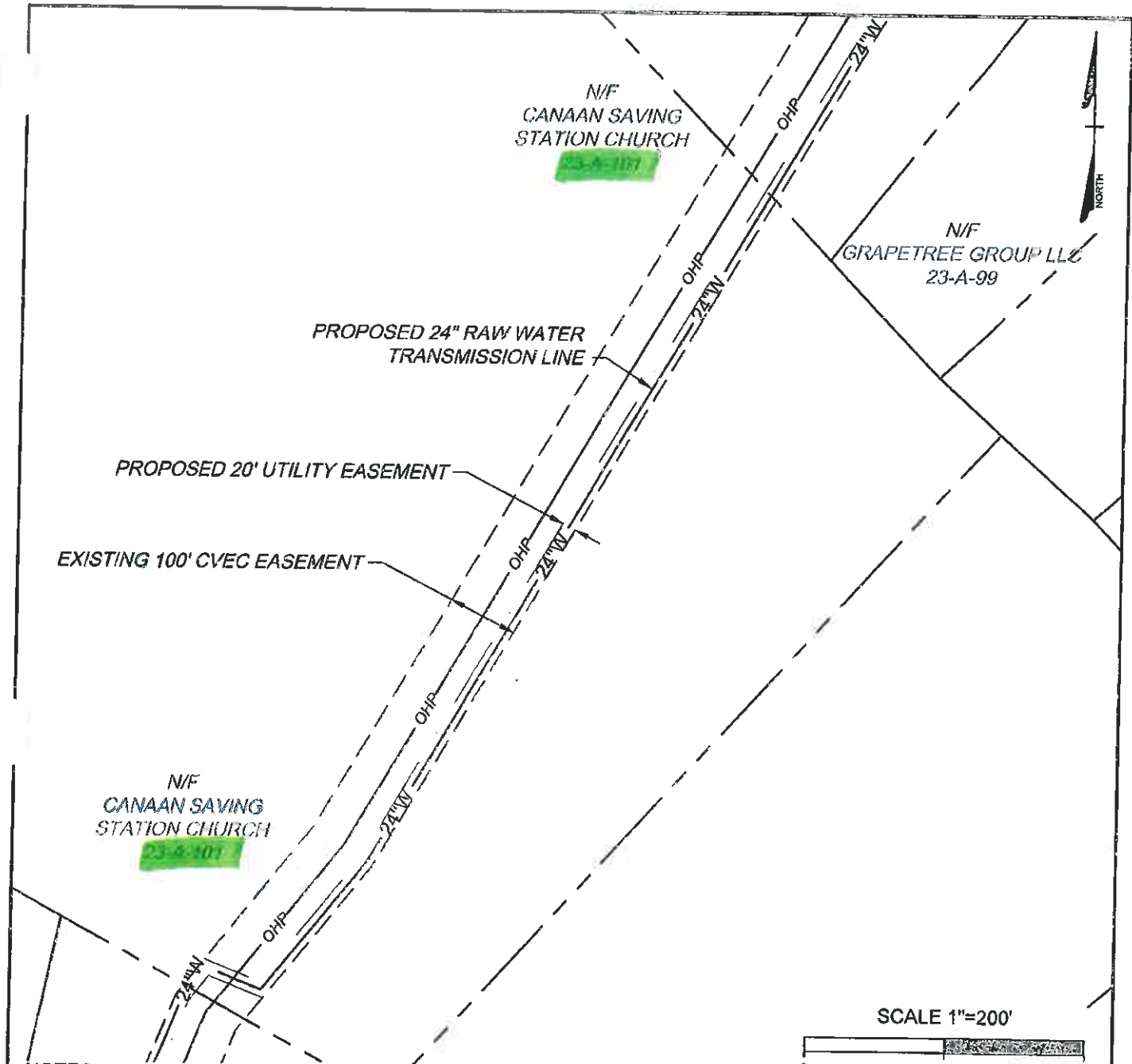
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-99**

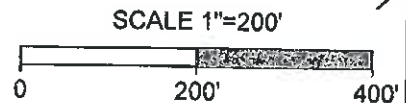
THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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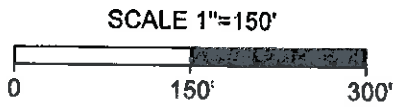
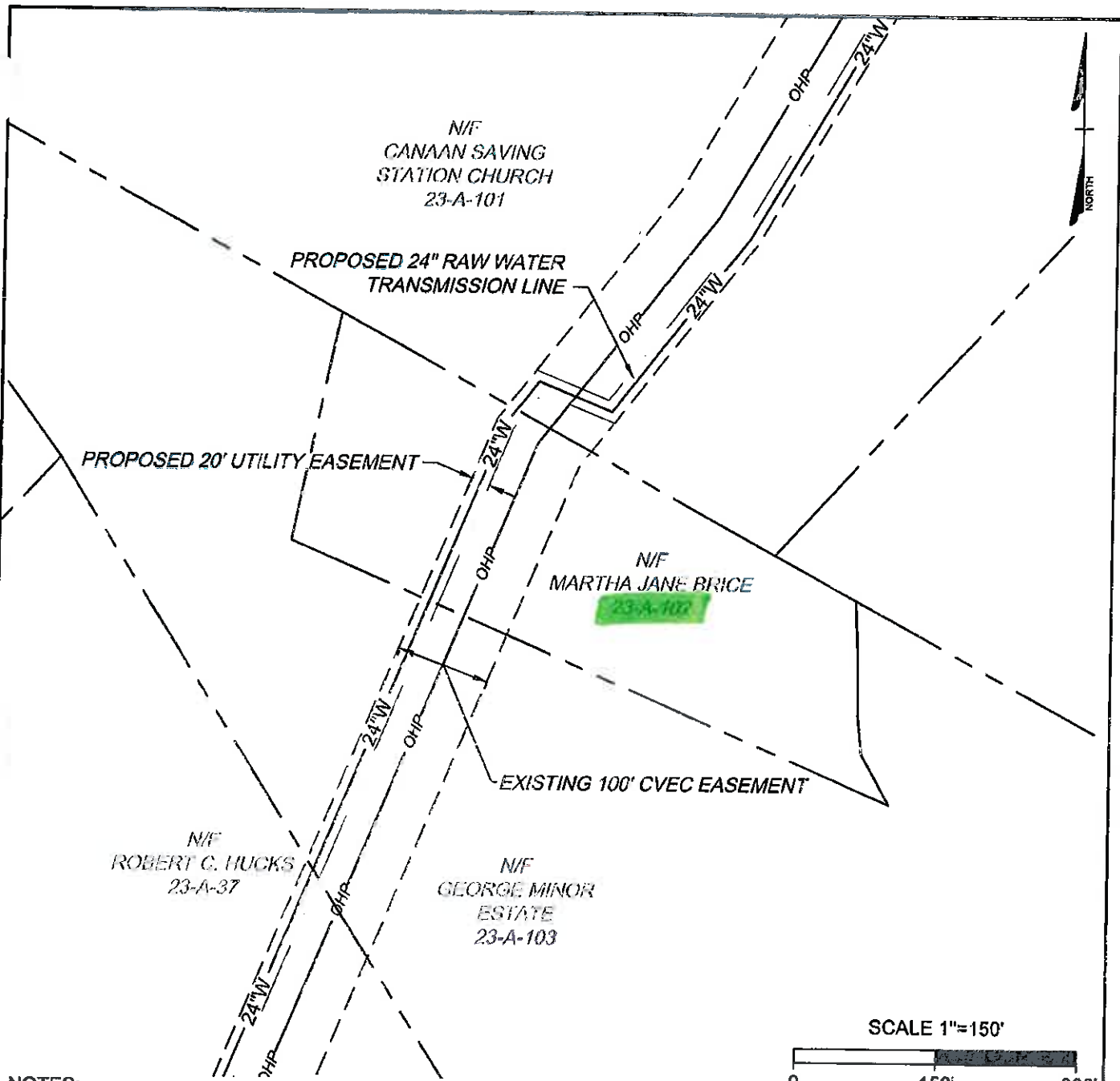
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-101**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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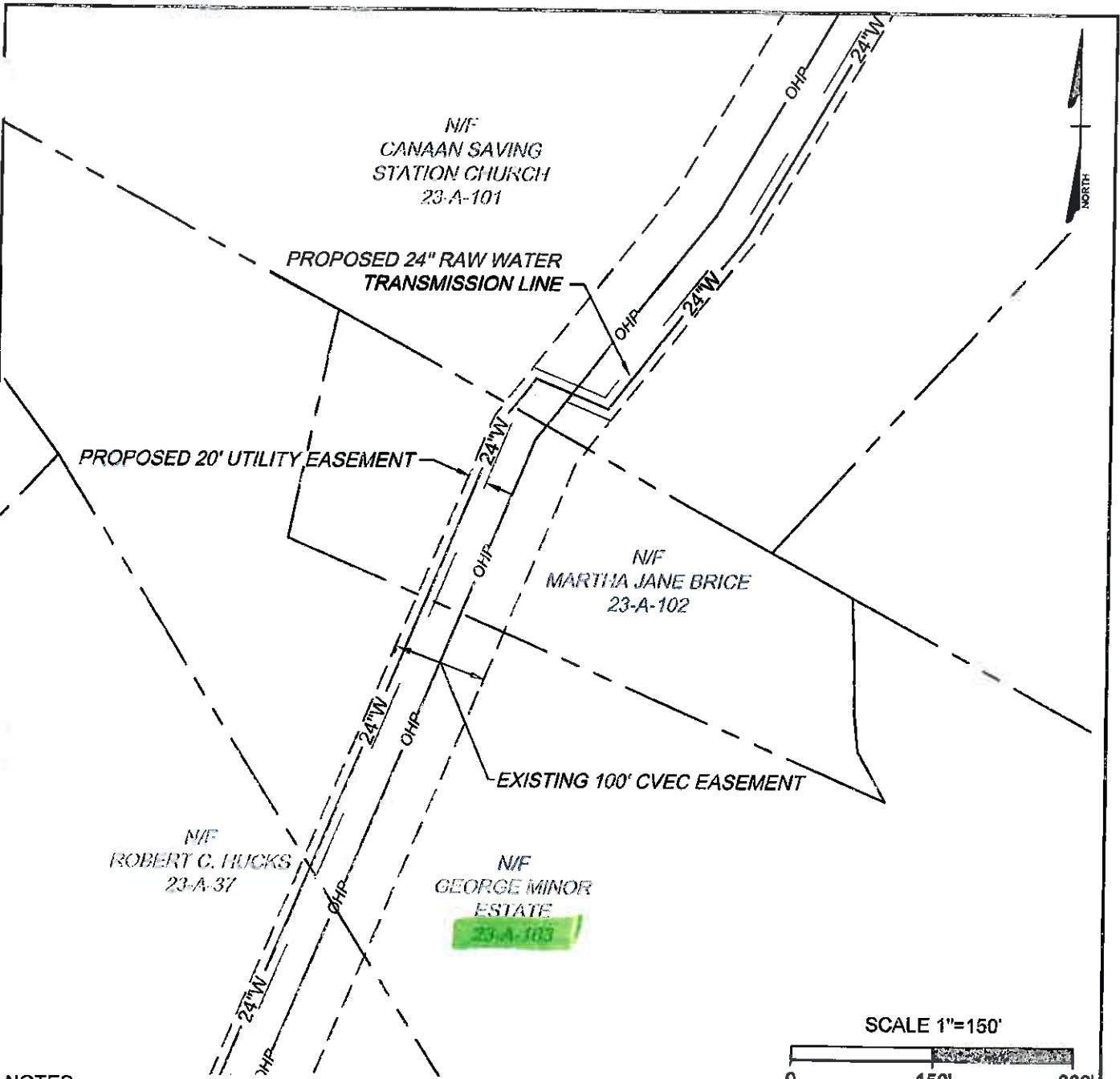
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-102**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





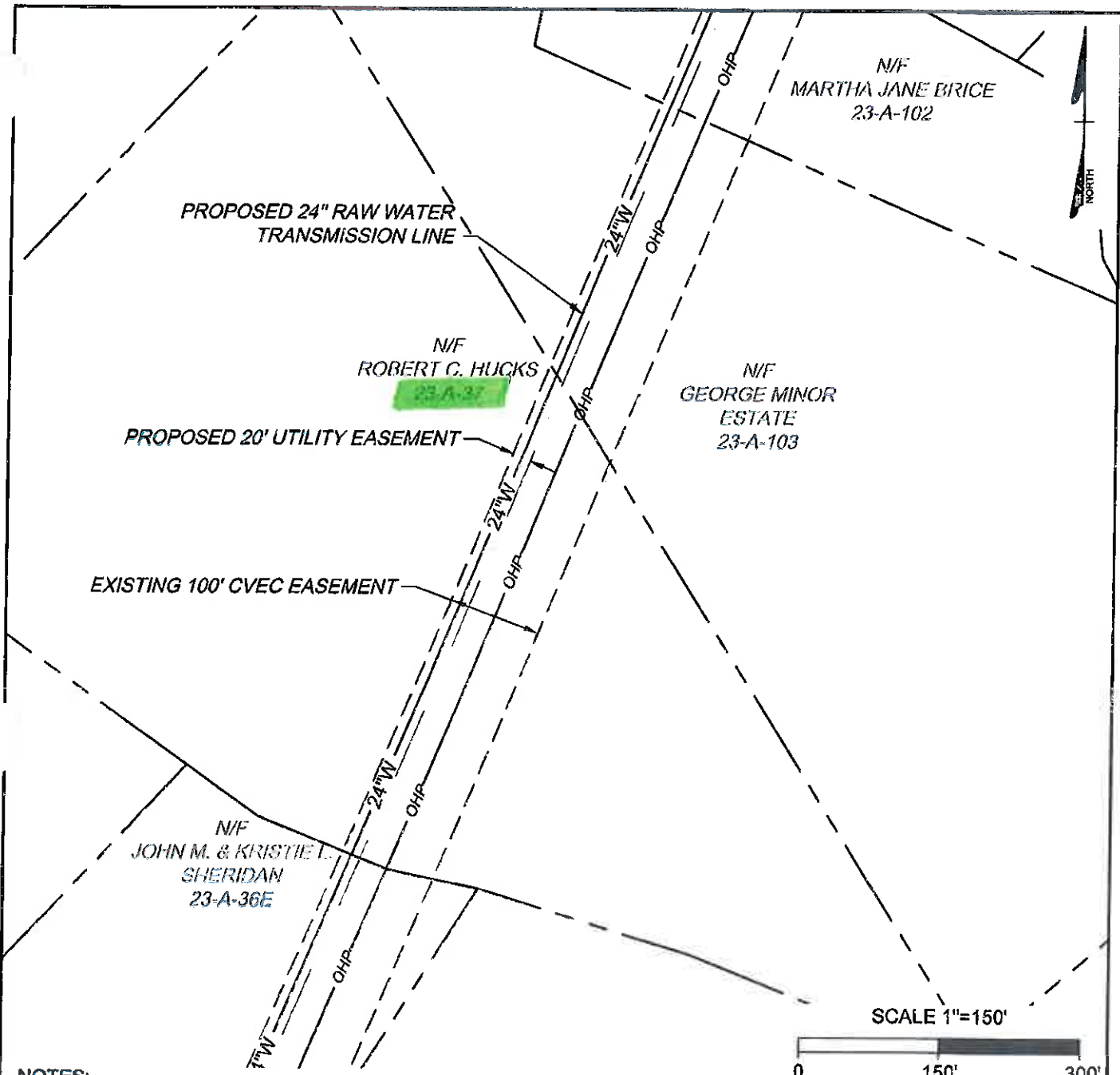
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-103**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





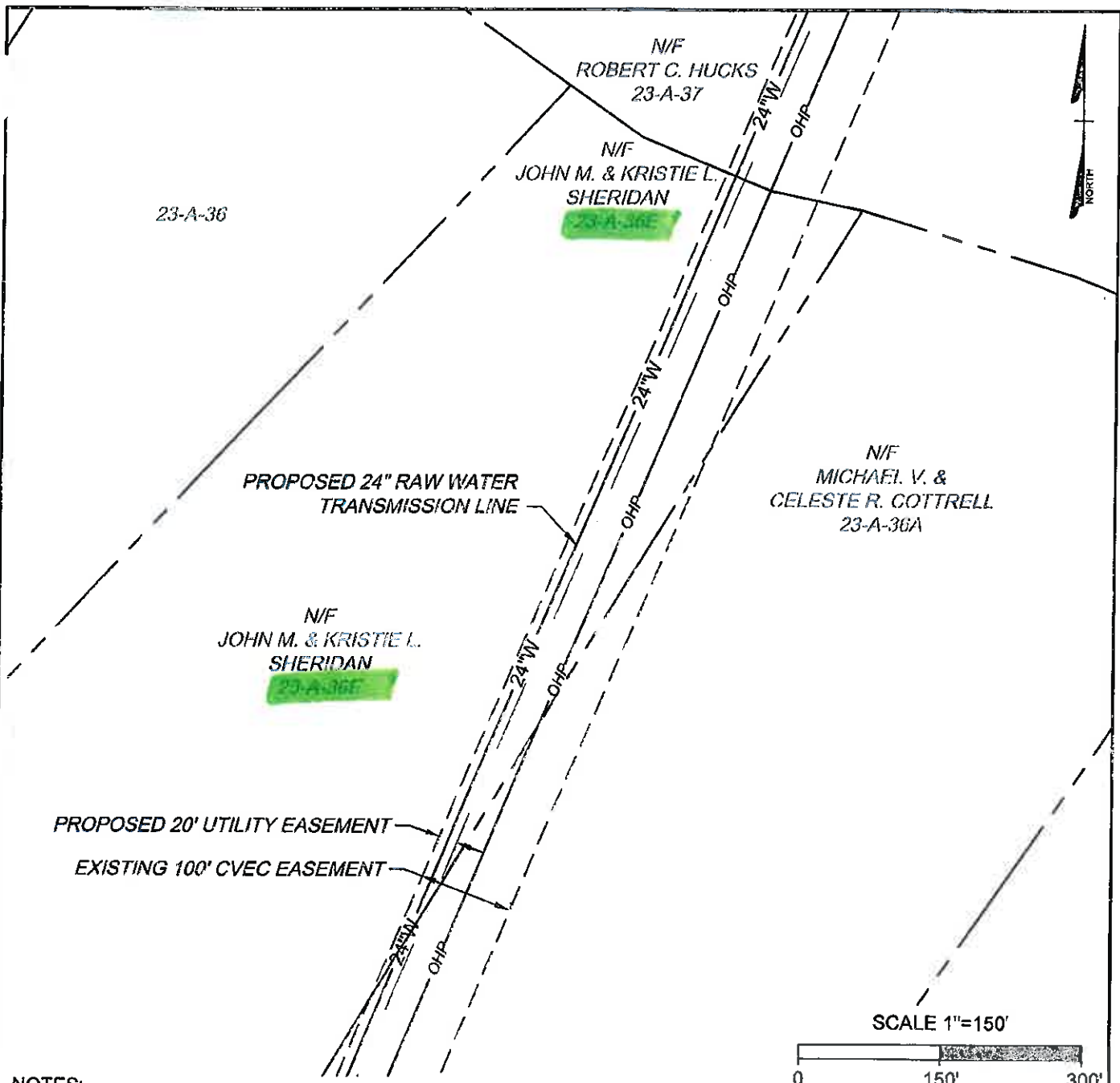
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-37**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





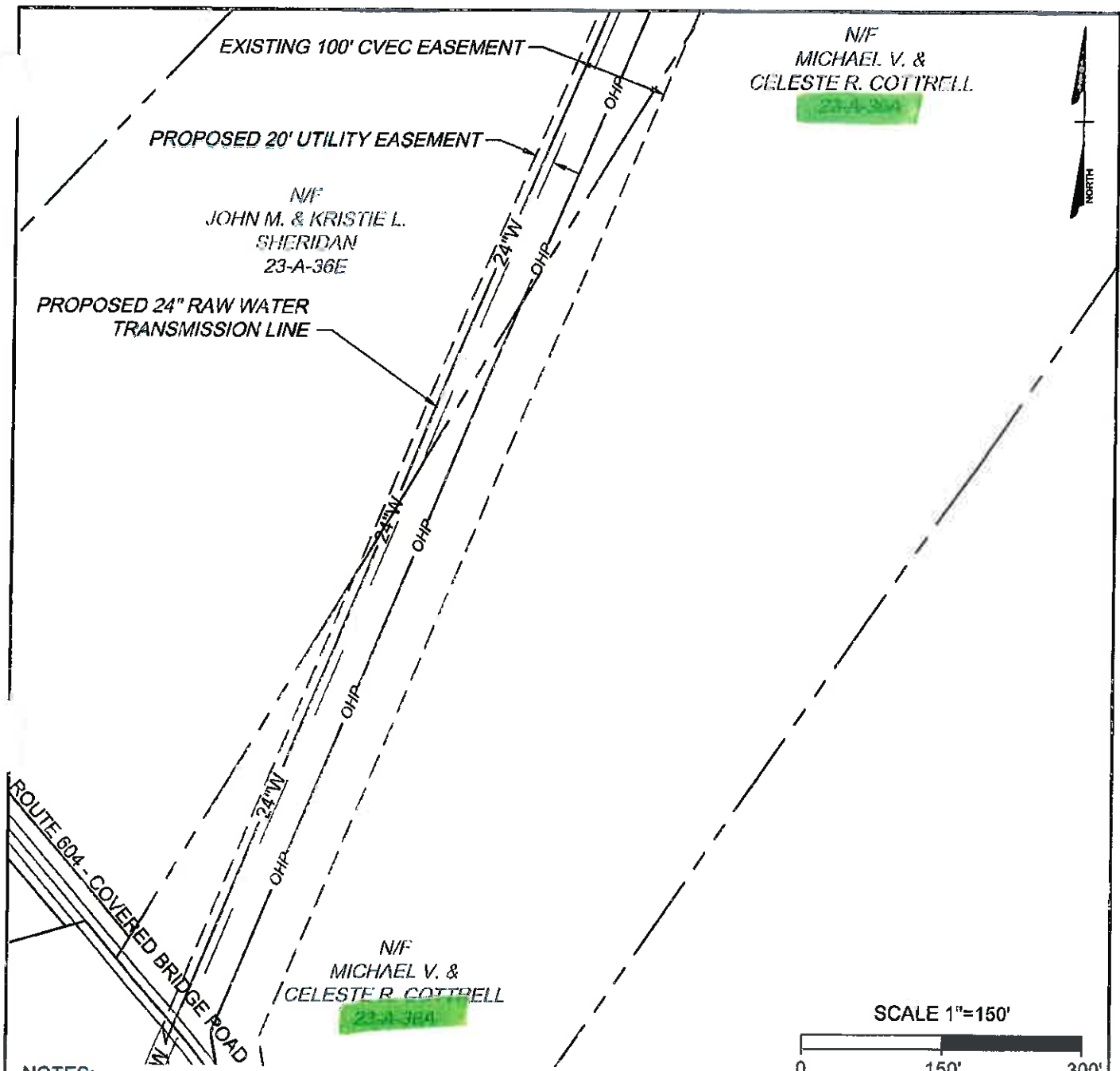
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-36E**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

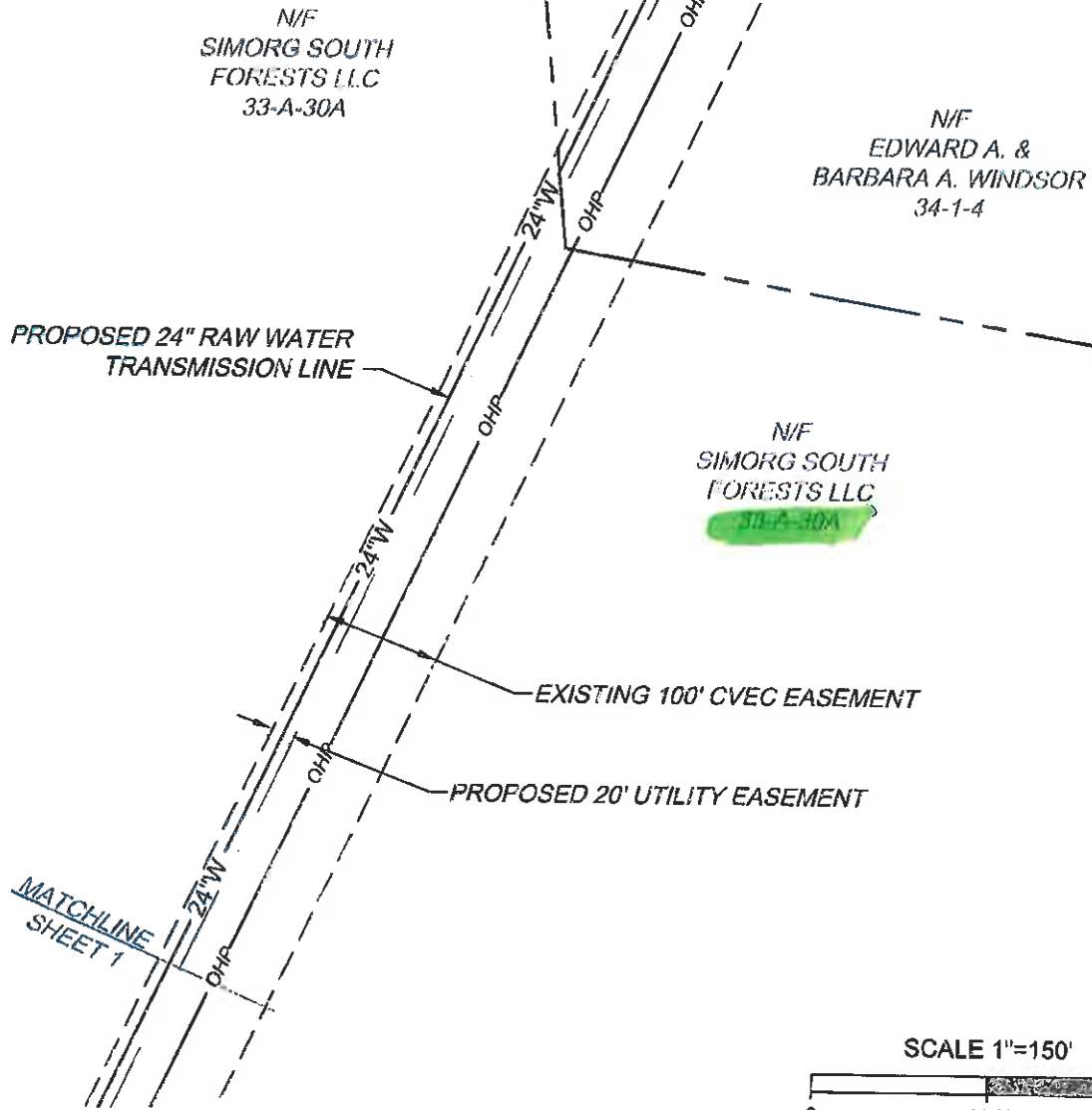
1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-36A**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS



Planning Dept.



NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 33-A-30A**

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COUNTY OF LOUISA, VIRGINIA

Date: 06/11/2015

1" = 150'

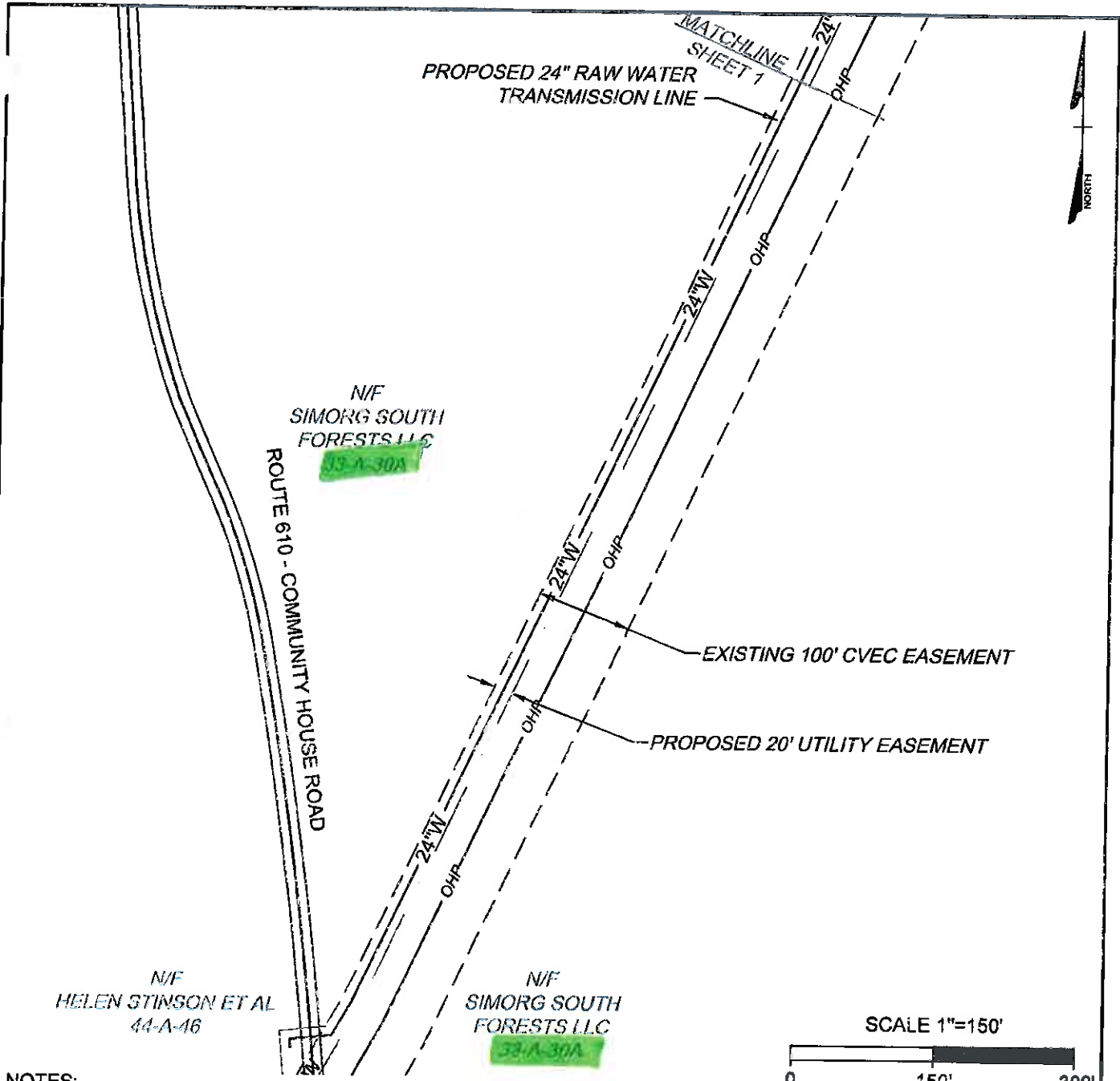
Sheet 2 of 2

J.N.: 33973

Drawn by: J. ECK

Checked by: D. SAUNDERS

TIMMONS GROUP



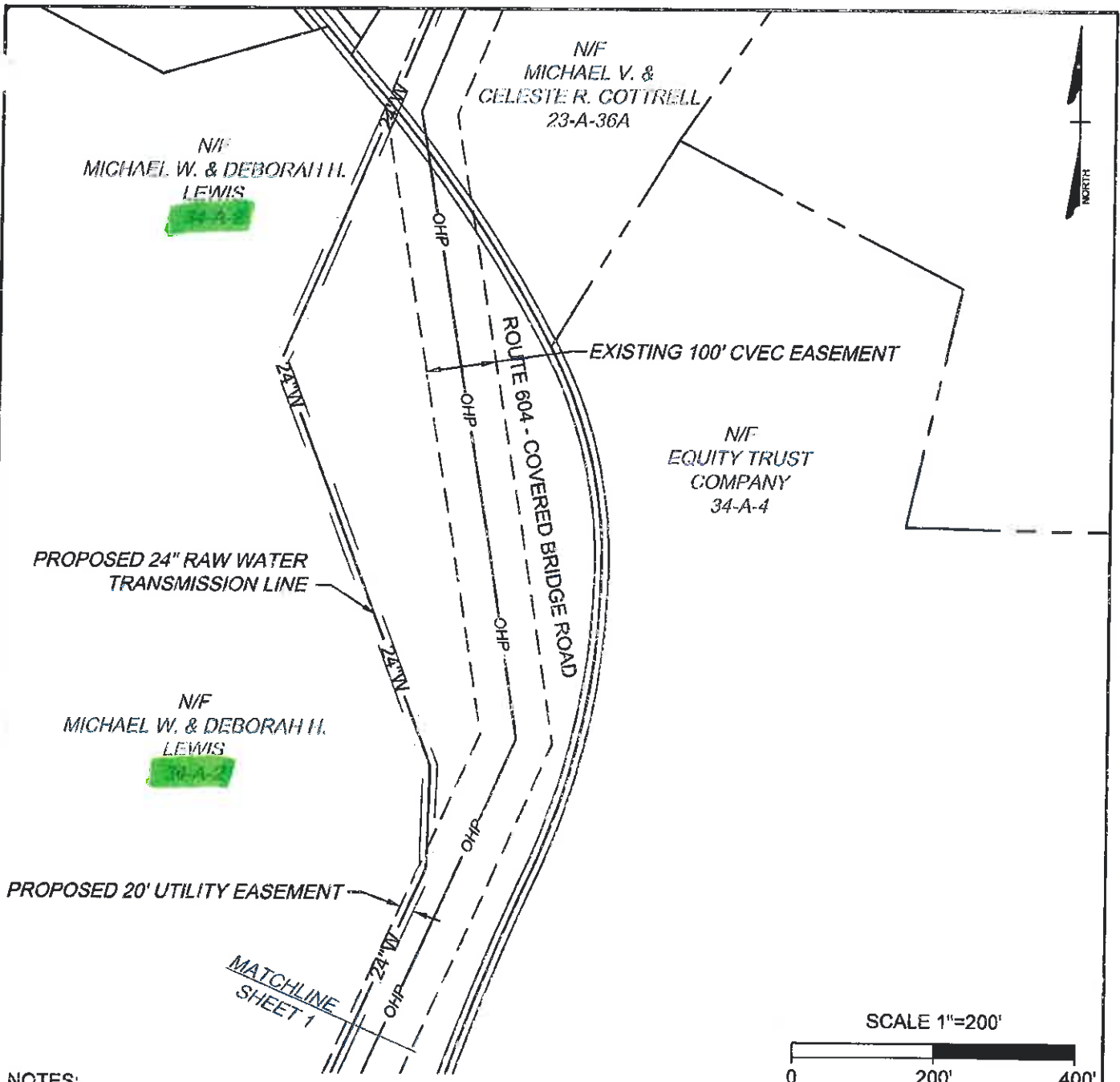
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 33-A-30A**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

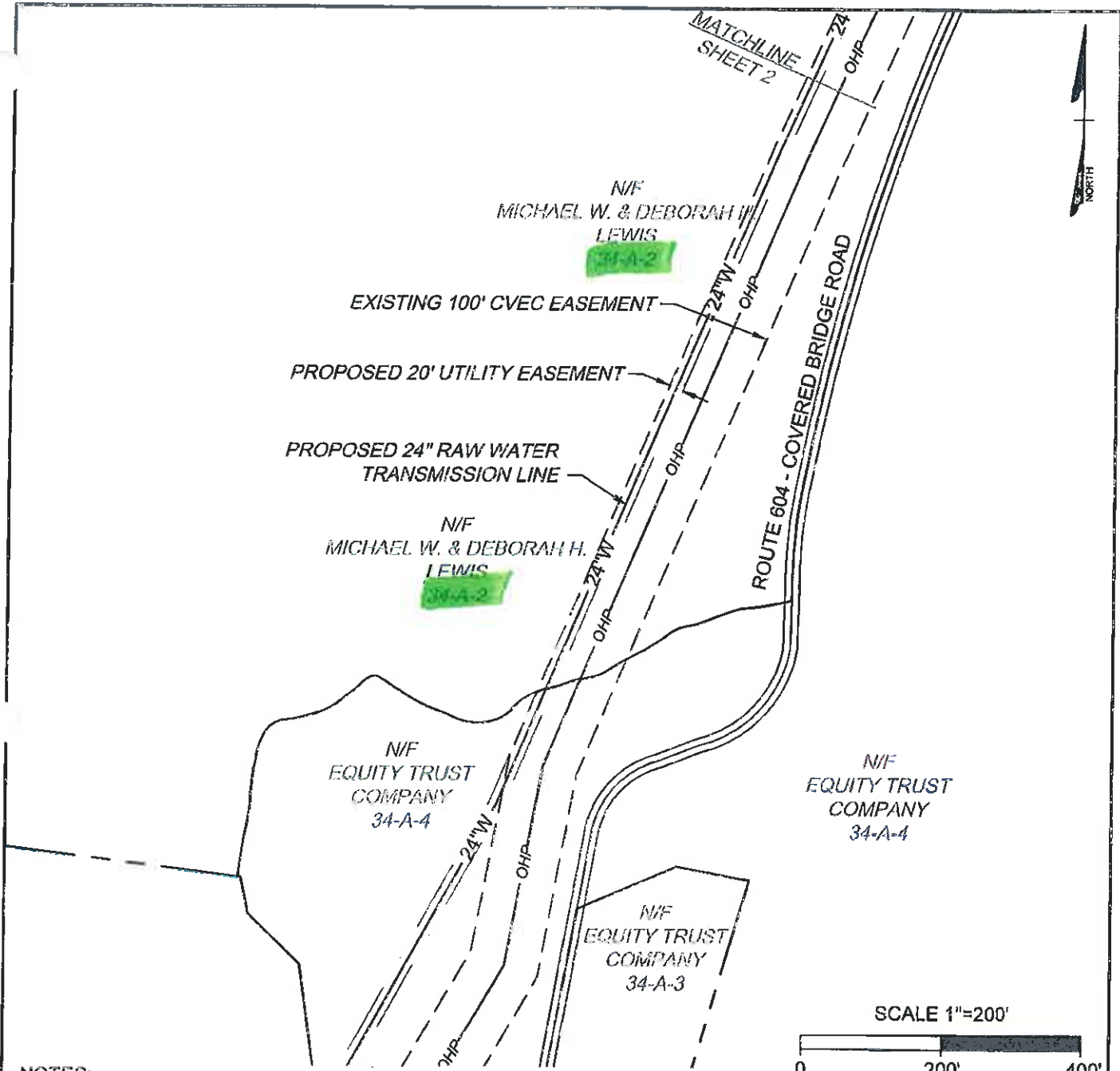
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-A-2**

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		Date: 06/11/2015	1" = 200'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

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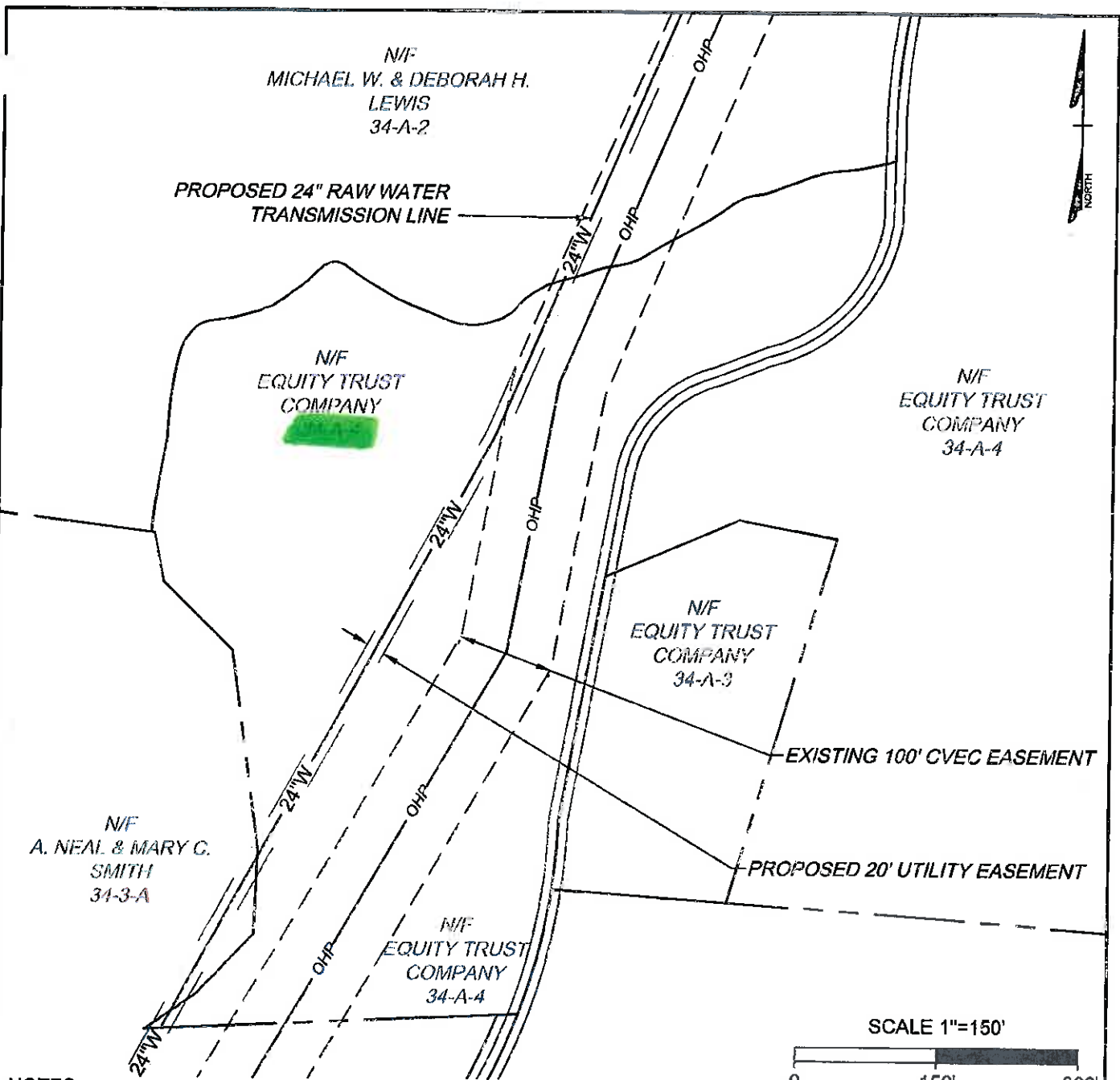
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-A-2**

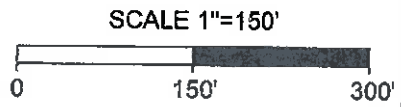
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		Date: 06/11/2015	1" = 200'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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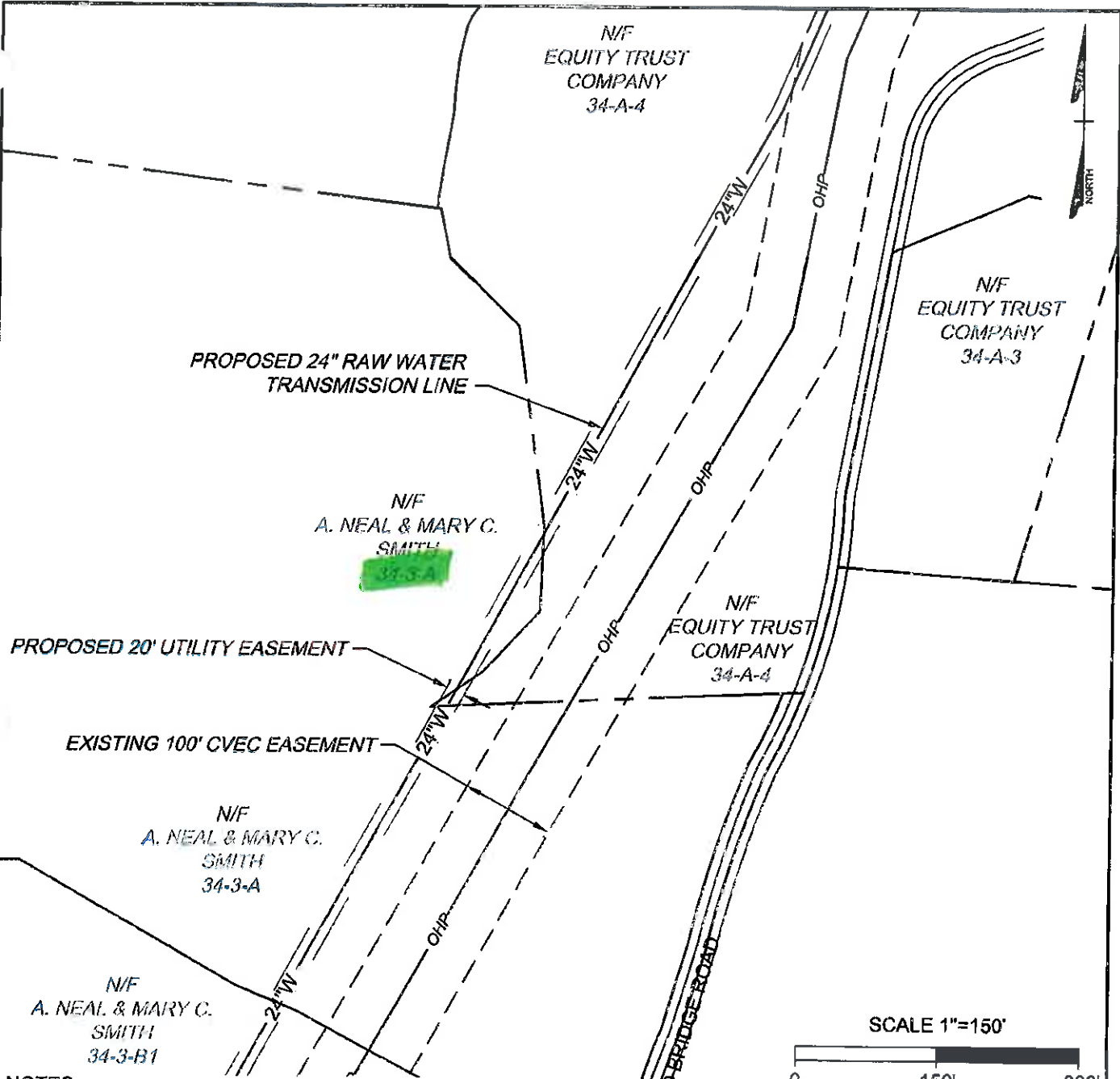
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34 A 4**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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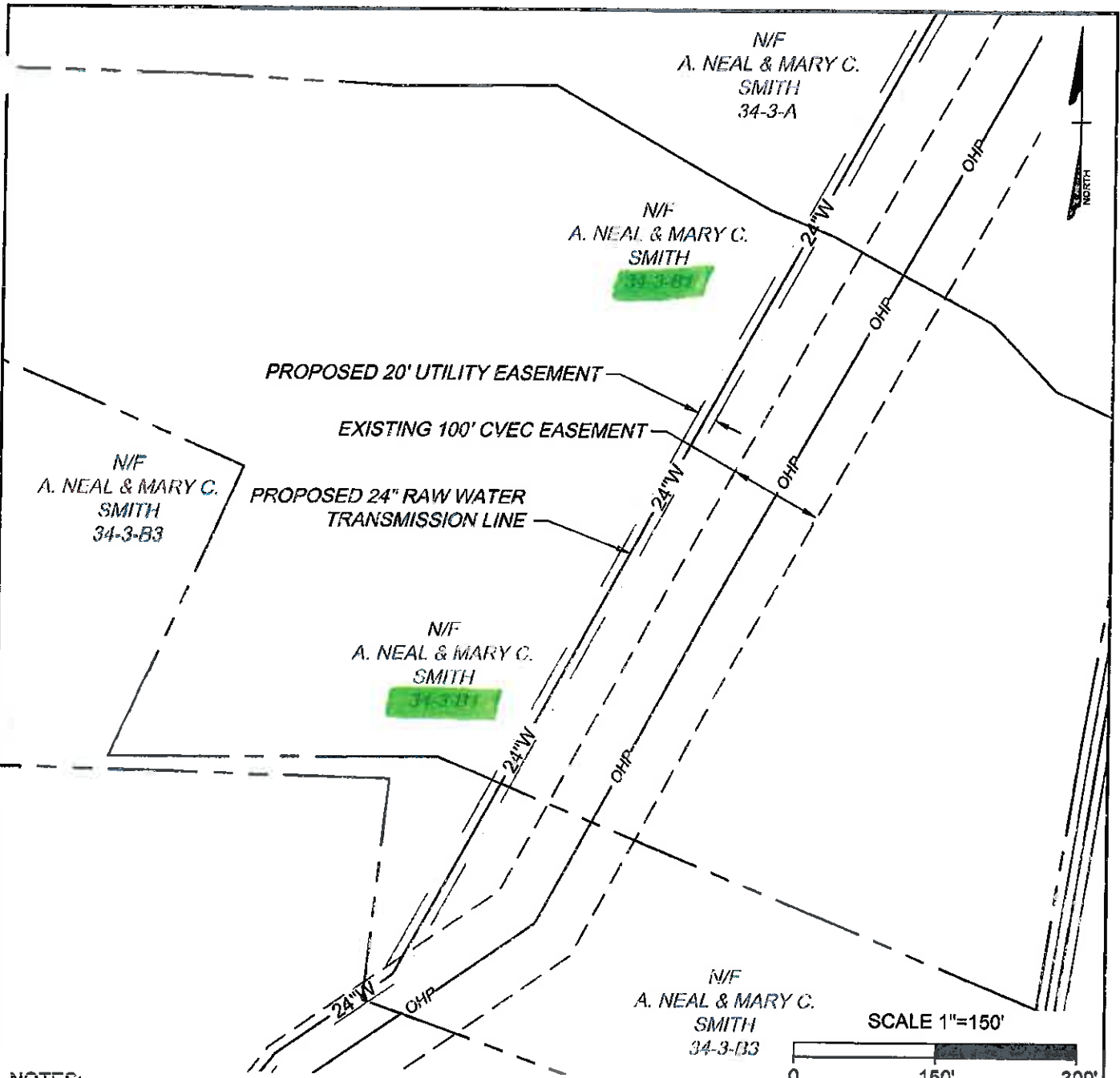
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-3-A**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
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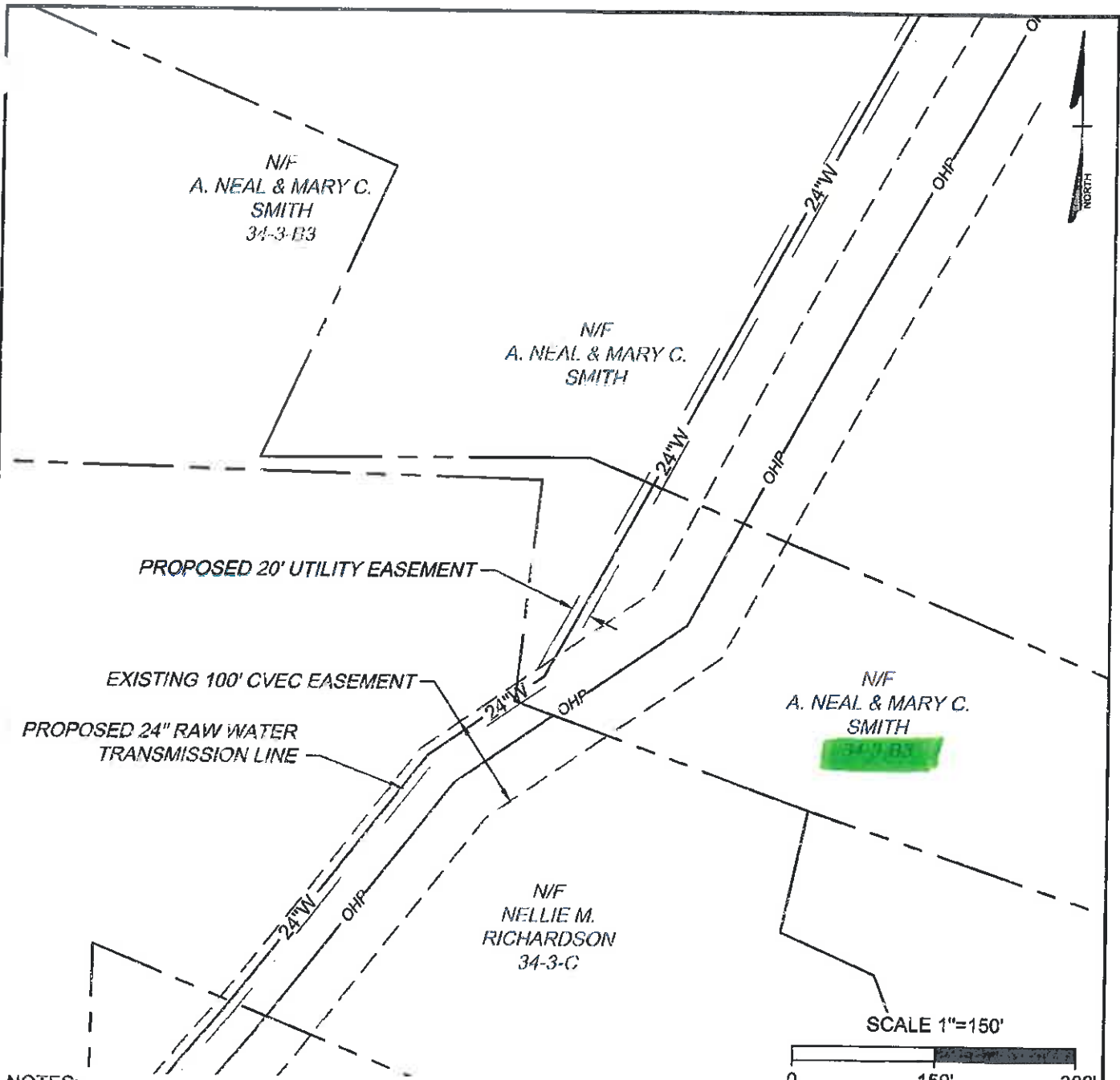
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-3-B1**

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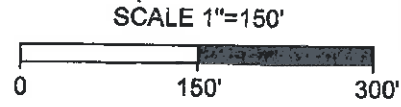
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

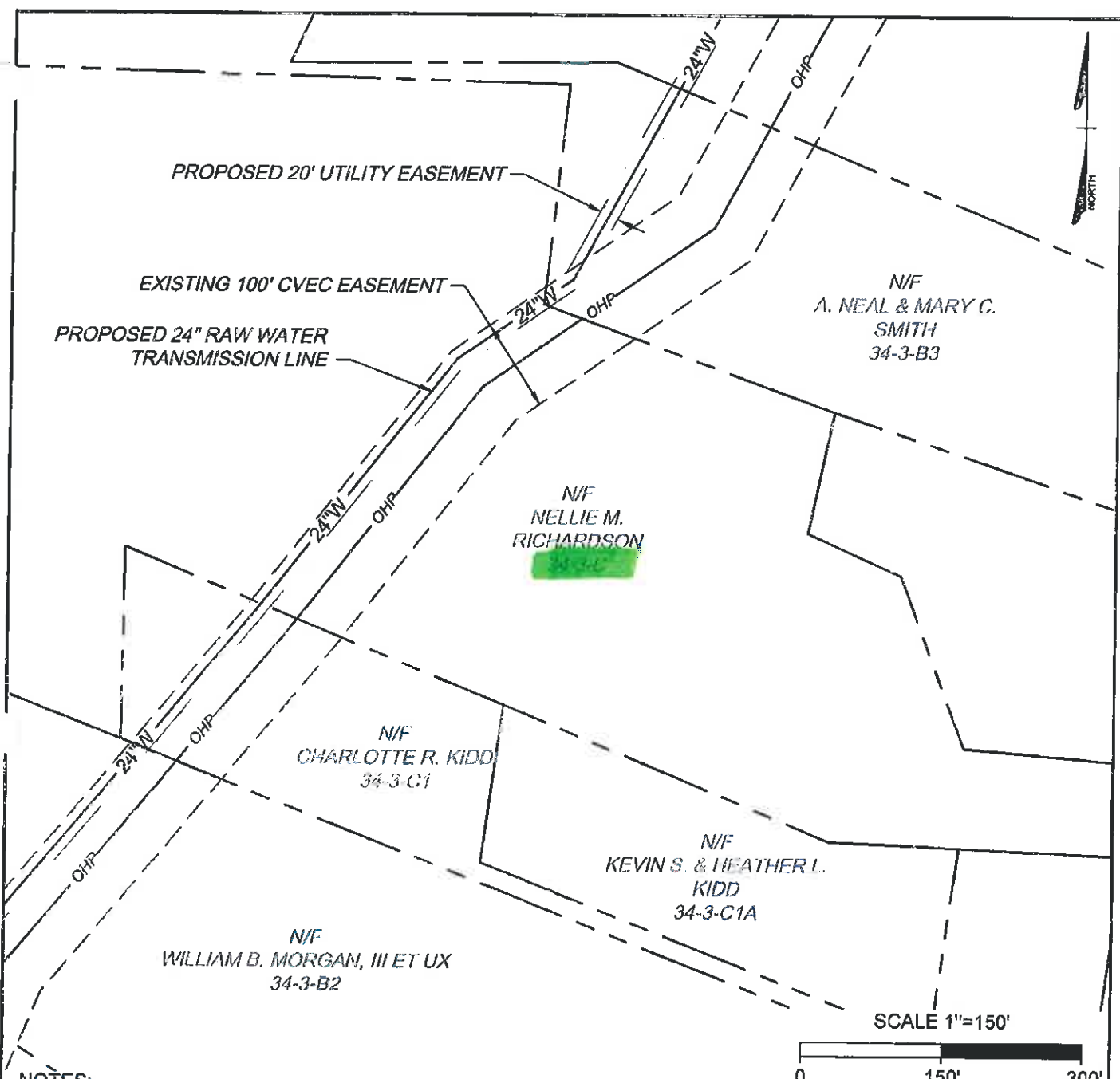
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-3-B3**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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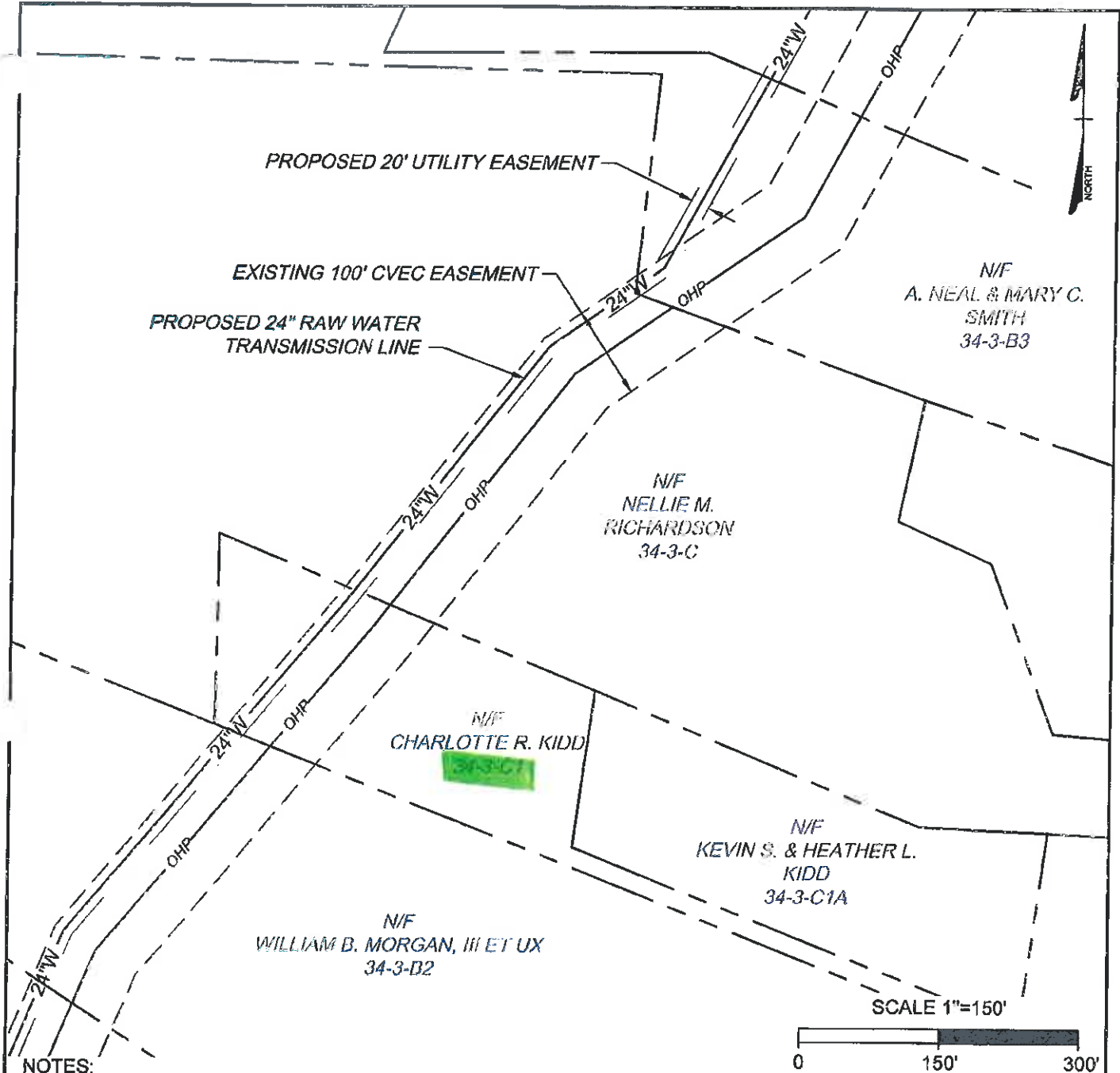
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-3-C**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





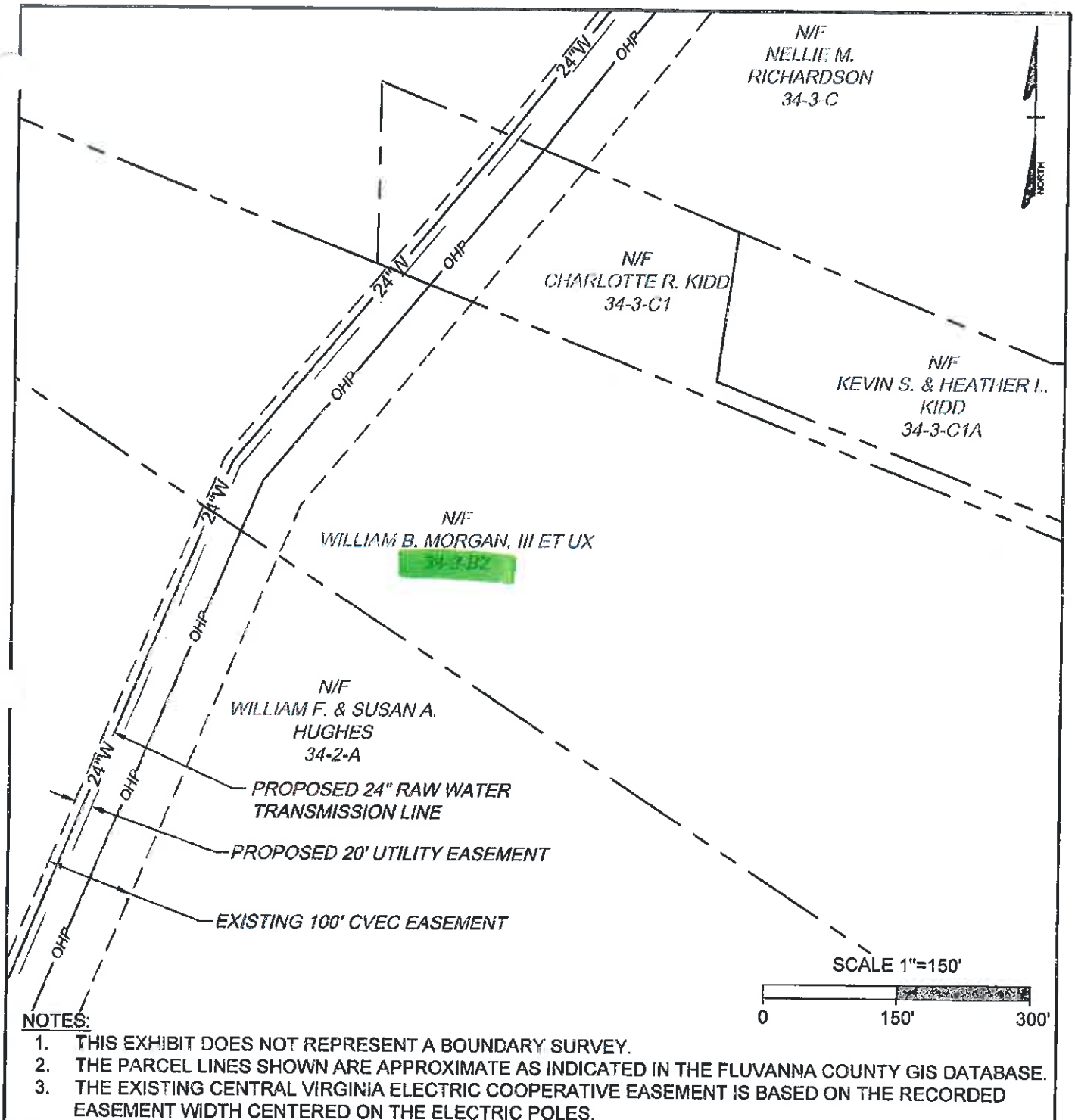
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-3-C1**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.



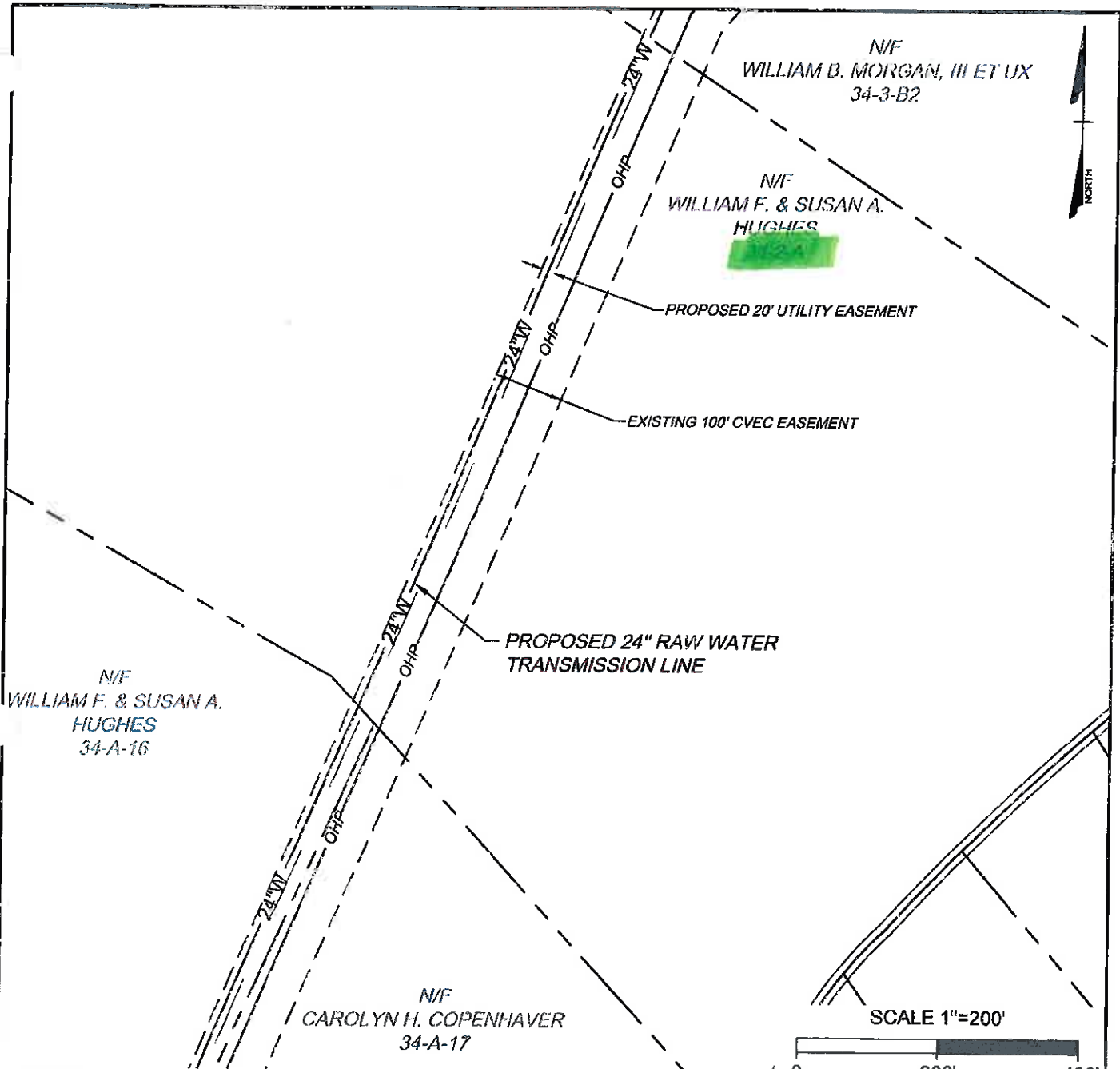
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-3-B2**

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YOUR VISION ACHIEVED
THROUGH OURS

COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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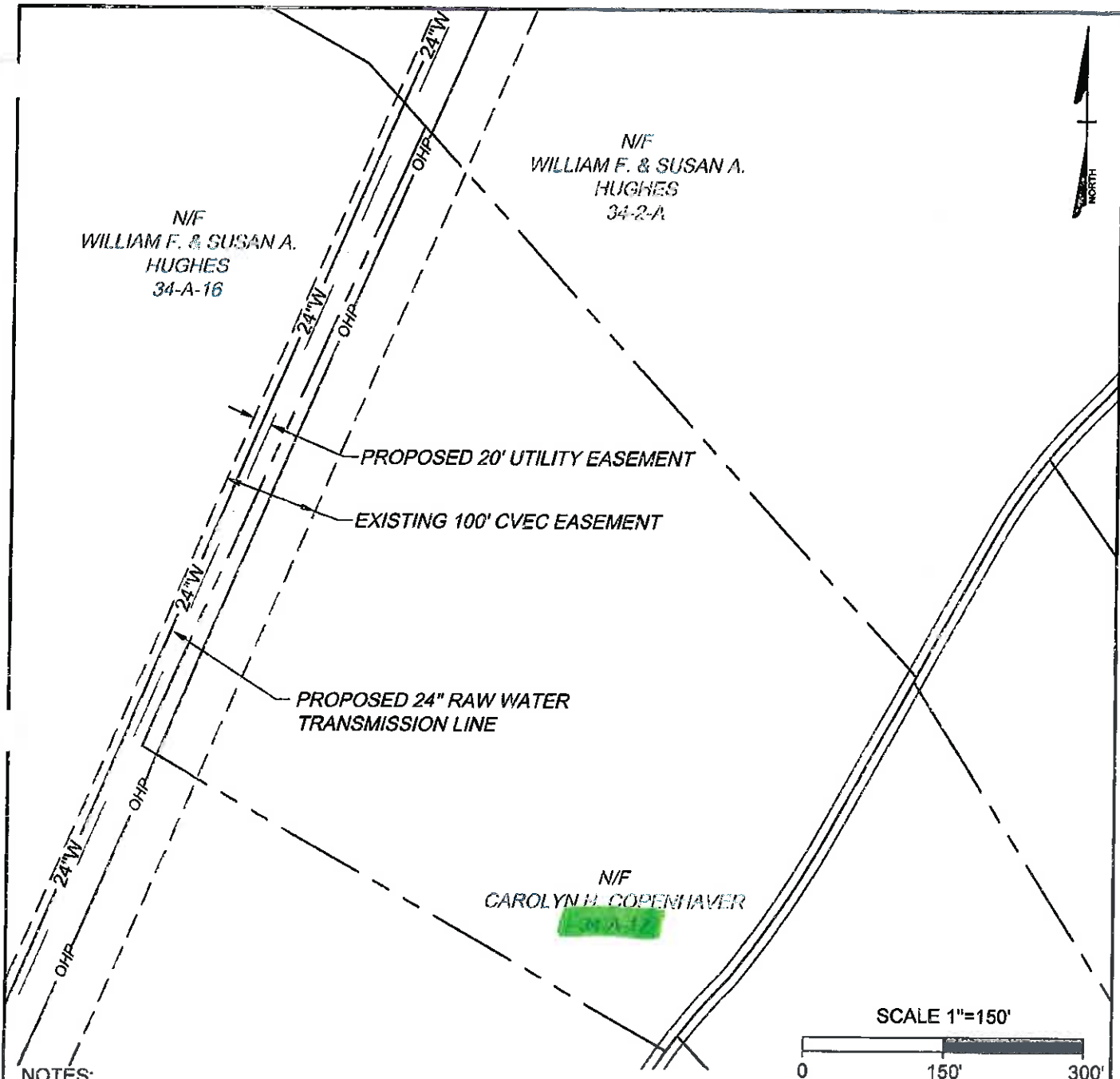
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-2-A**

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YOUR VISION ACHIEVED
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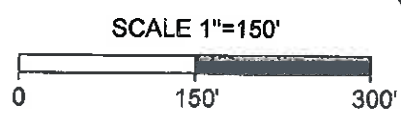
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

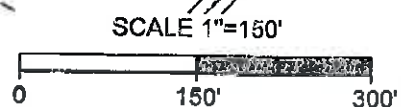
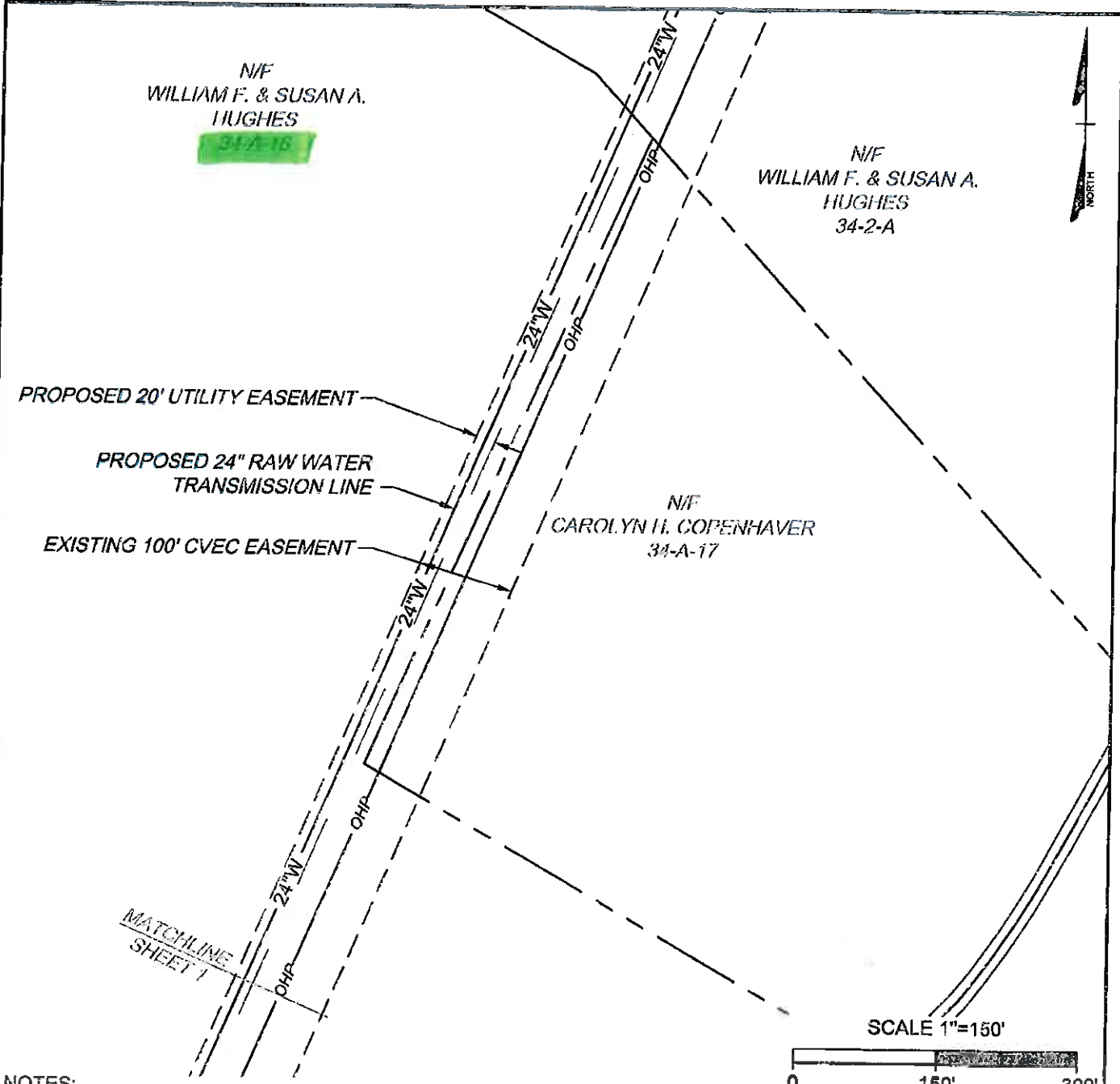
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-A-17**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-A-16**

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YOUR VISION ACHIEVED
THROUGH OURS

COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 2 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS



MATCHLINE
SHEET 2

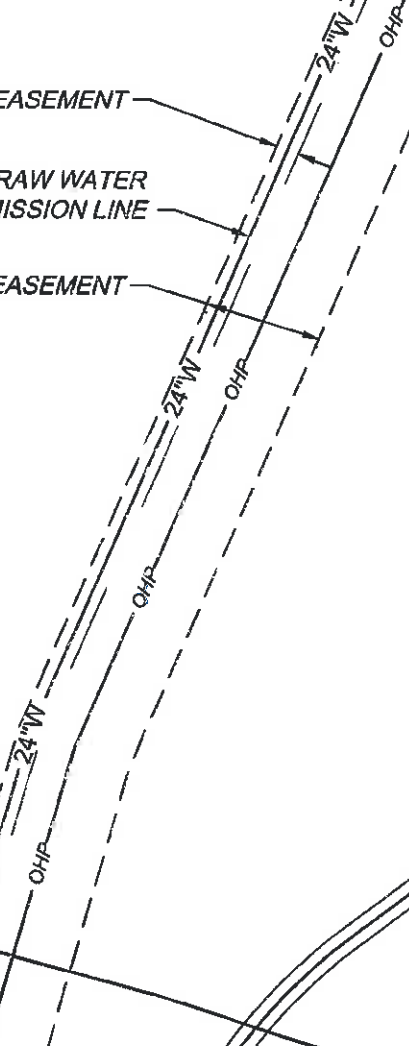


N/F
WILLIAM F. & SUSAN A.
HUGHES
34-A-16

PROPOSED 20' UTILITY EASEMENT

PROPOSED 24" RAW WATER
TRANSMISSION LINE

EXISTING 100' CVEC EASEMENT



N/F
WILLIAM F. & SUSAN A.
HUGHES
34-A-16

ROUTE 604 - COVERED BRIDGE ROAD

SCALE 1"=150'



NOTES:

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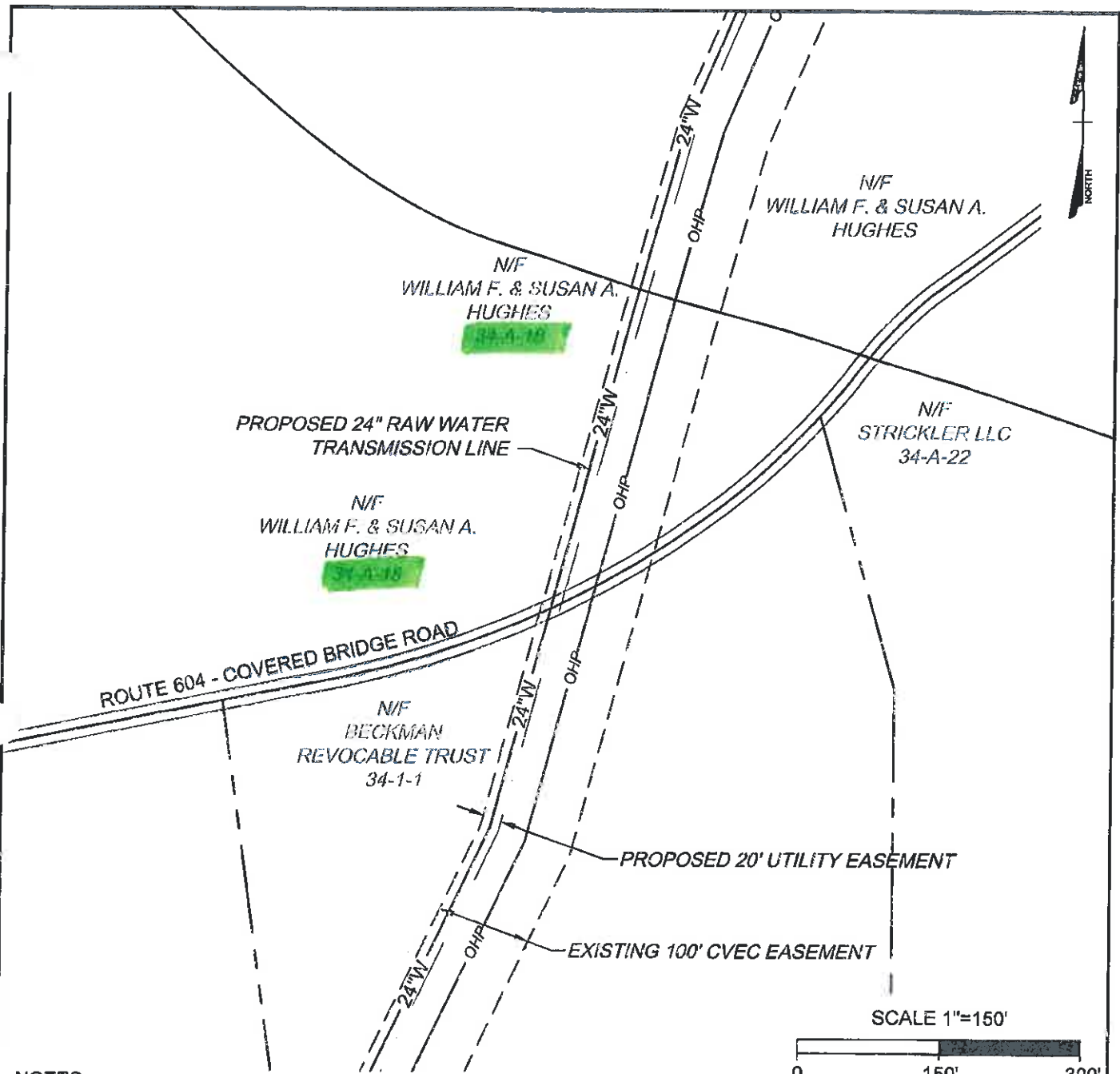
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-A-16**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 2	J.N.: 33973
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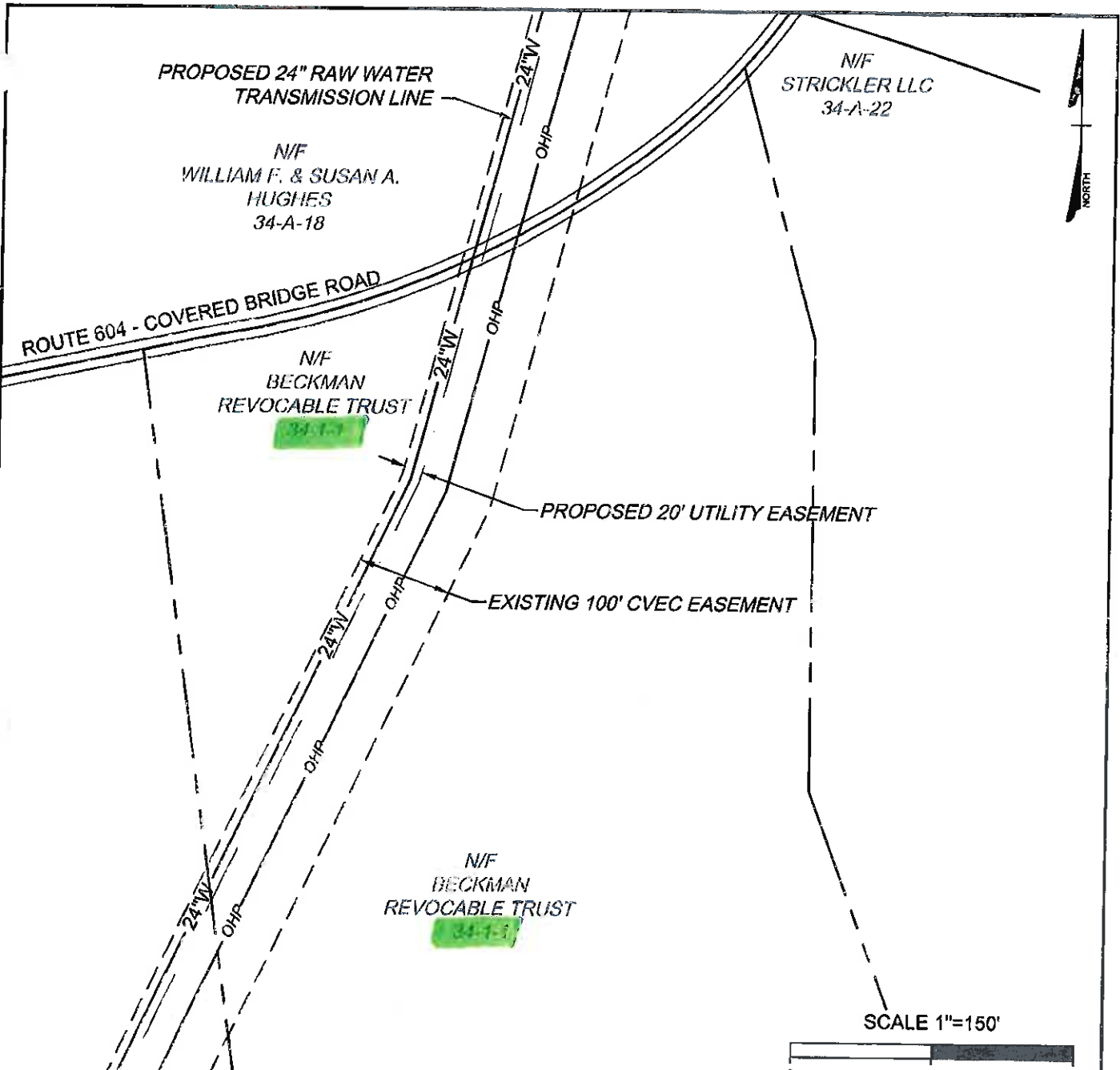
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-A-18**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





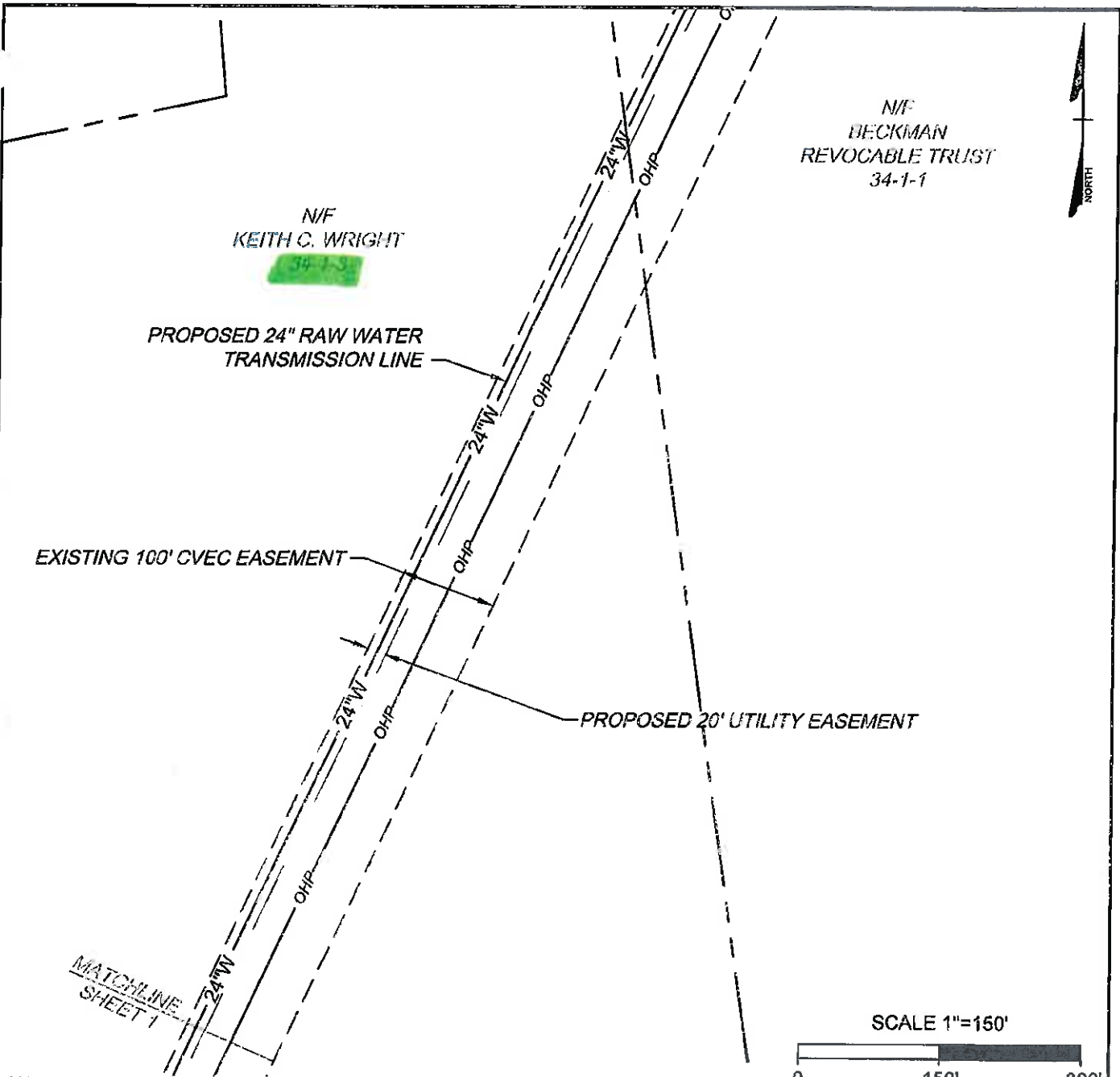
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-1-1**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





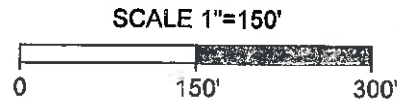
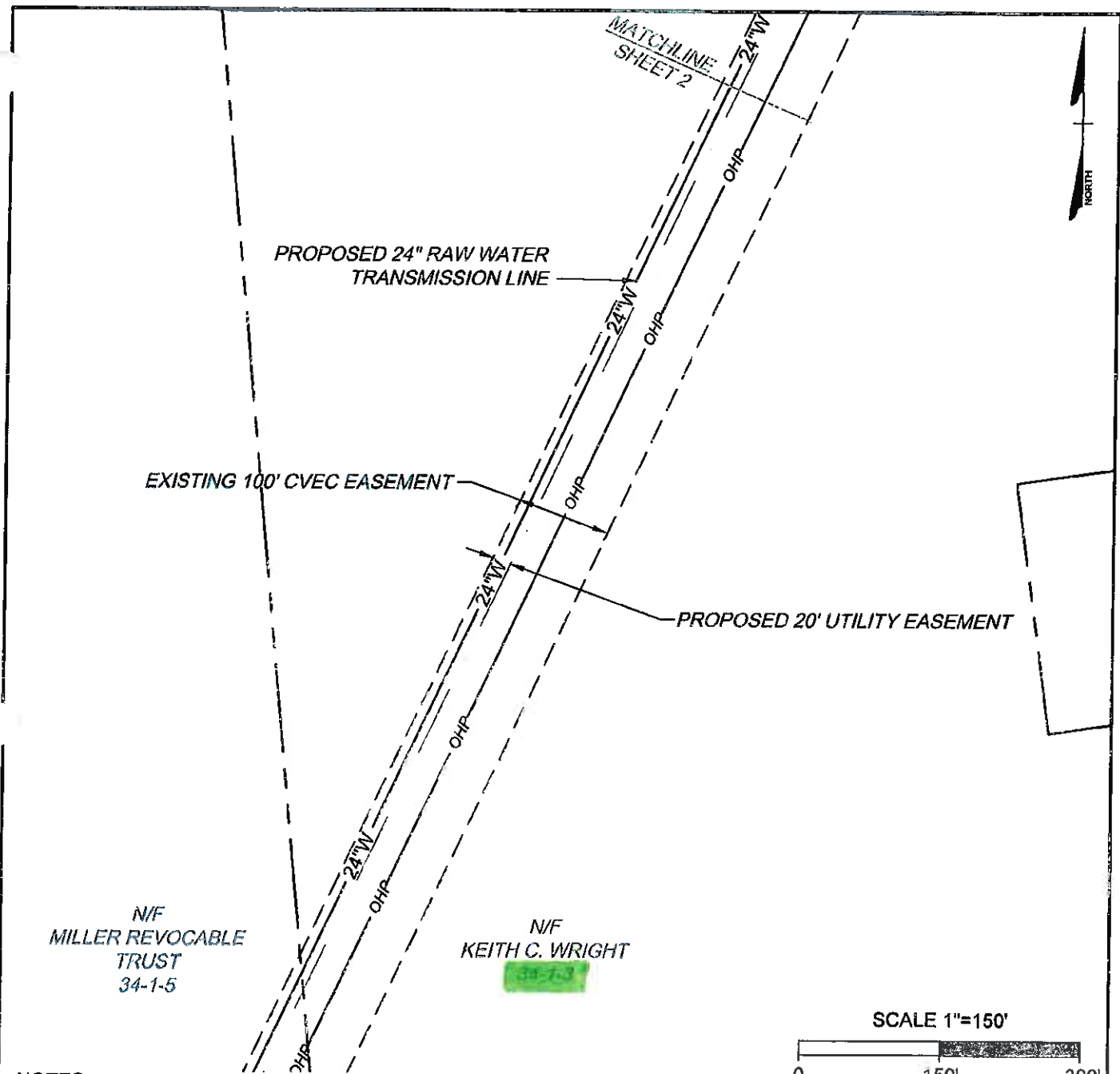
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-1-3**

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		Date: 06/11/2015	1" = 150'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





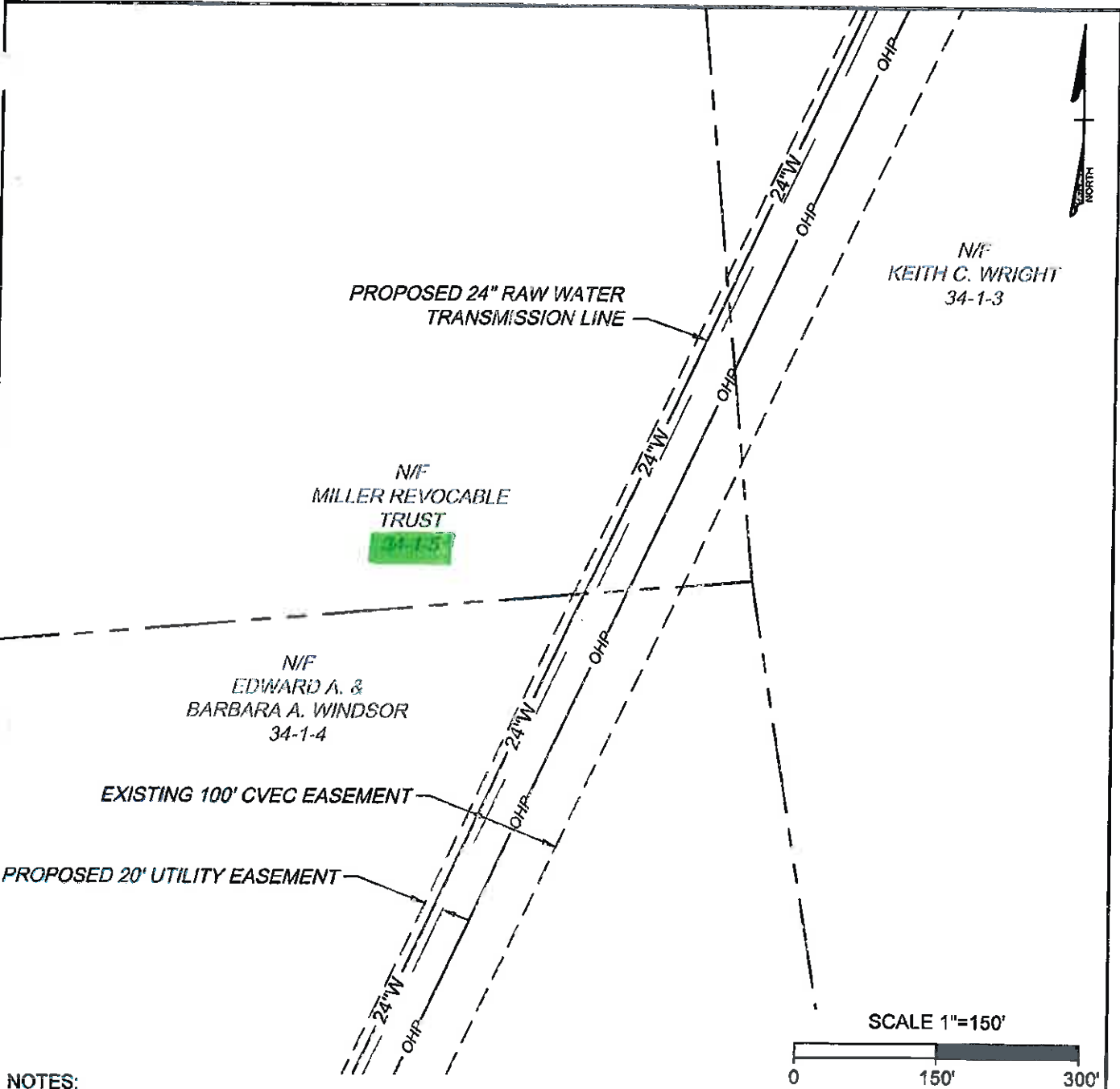
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-1-3**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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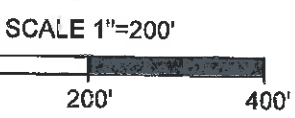
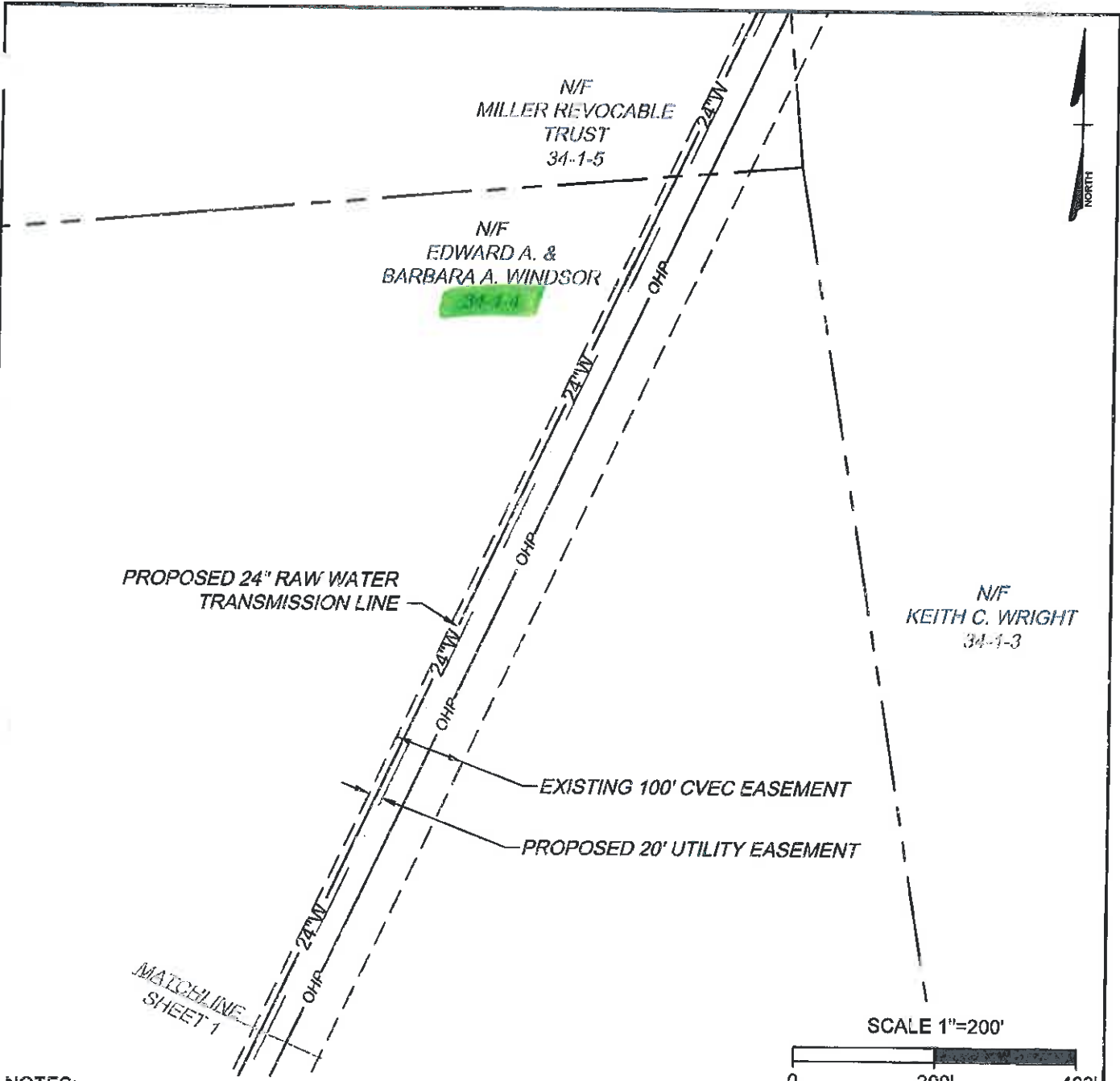
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-1-5**

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YOUR VISION ACHIEVED
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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





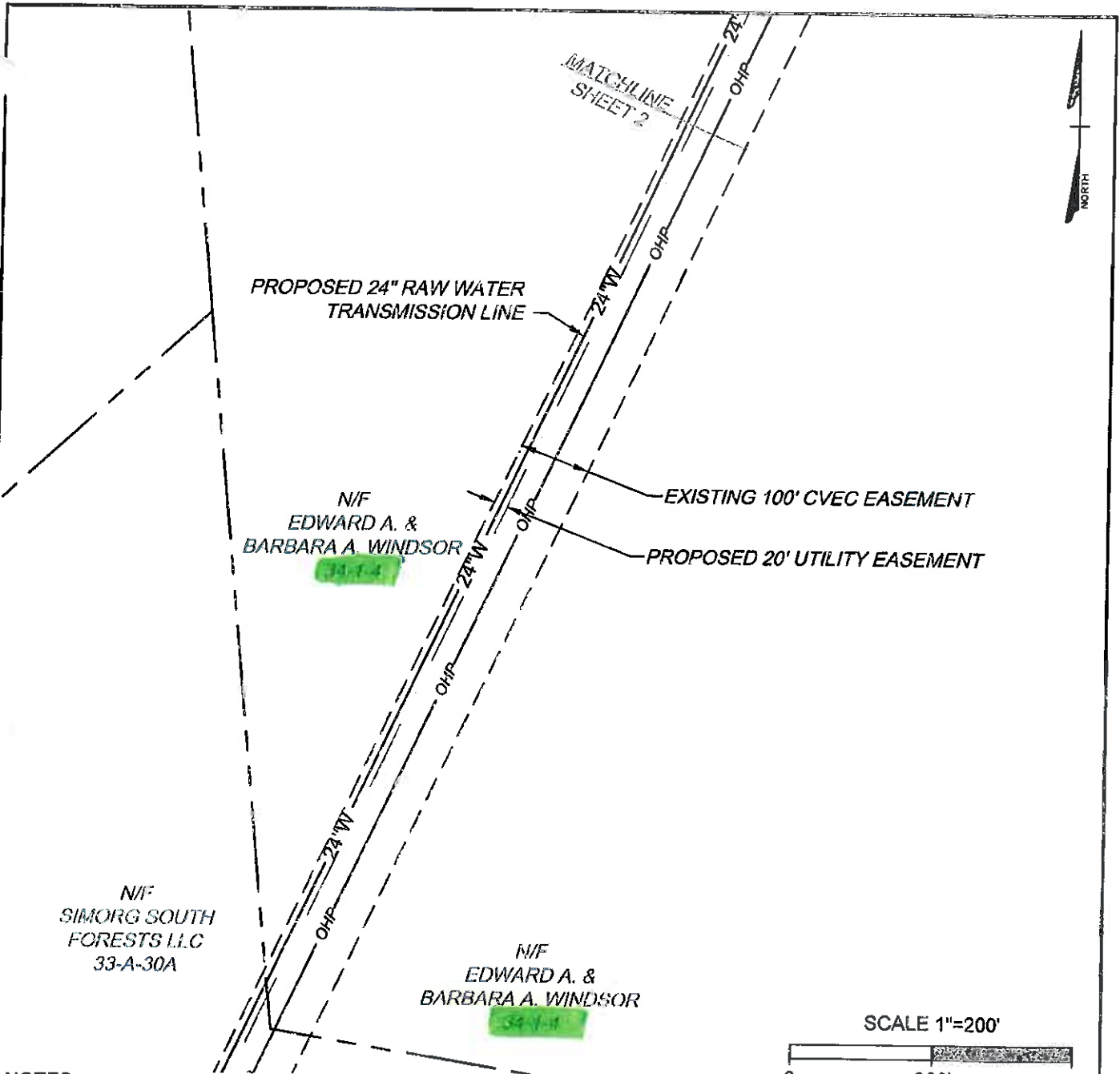
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-1-4**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 200'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





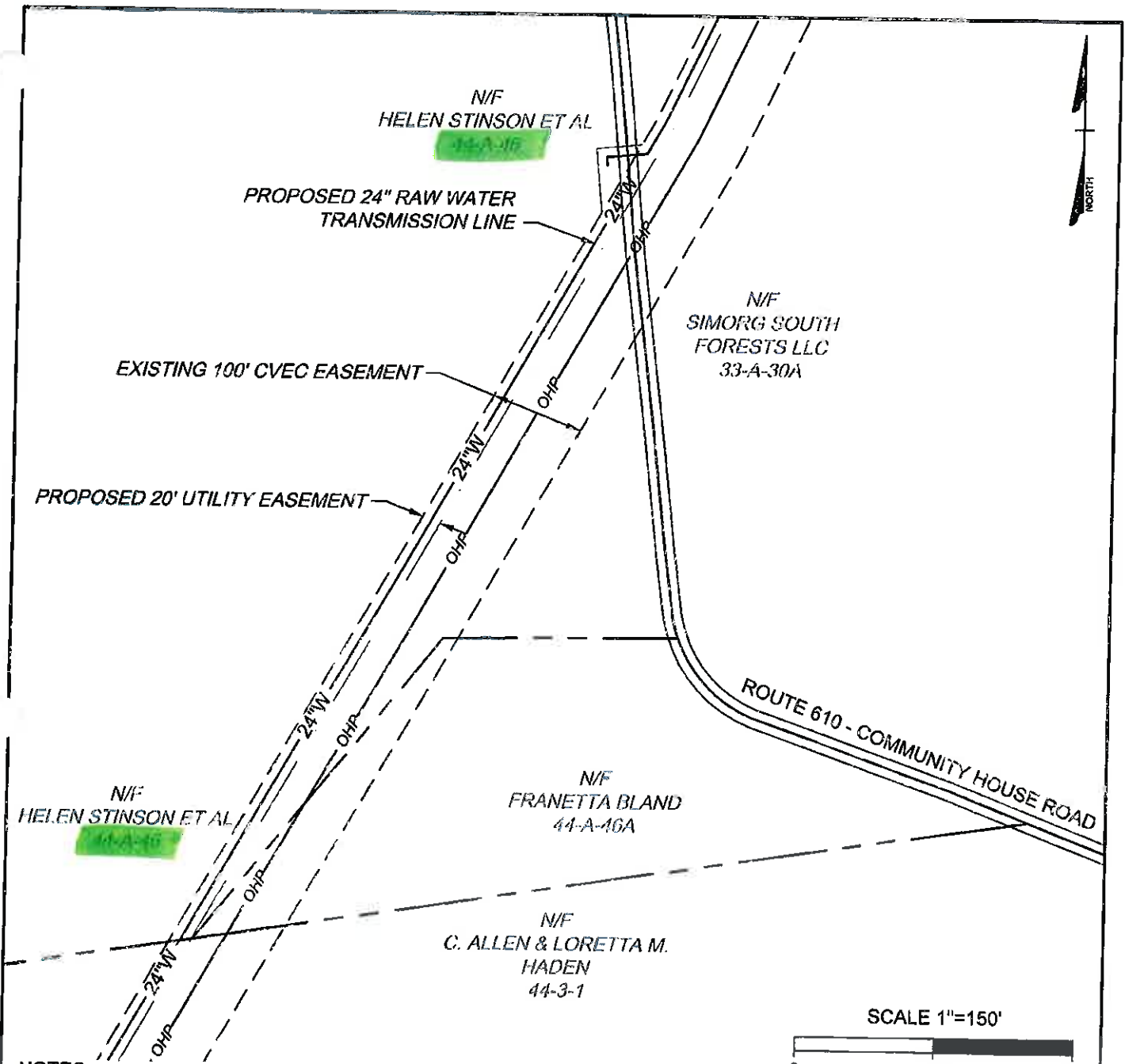
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 34-1-4**

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		Date: 06/11/2015	1" = 200'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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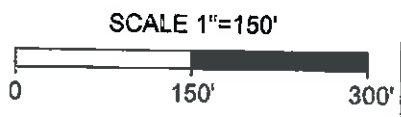
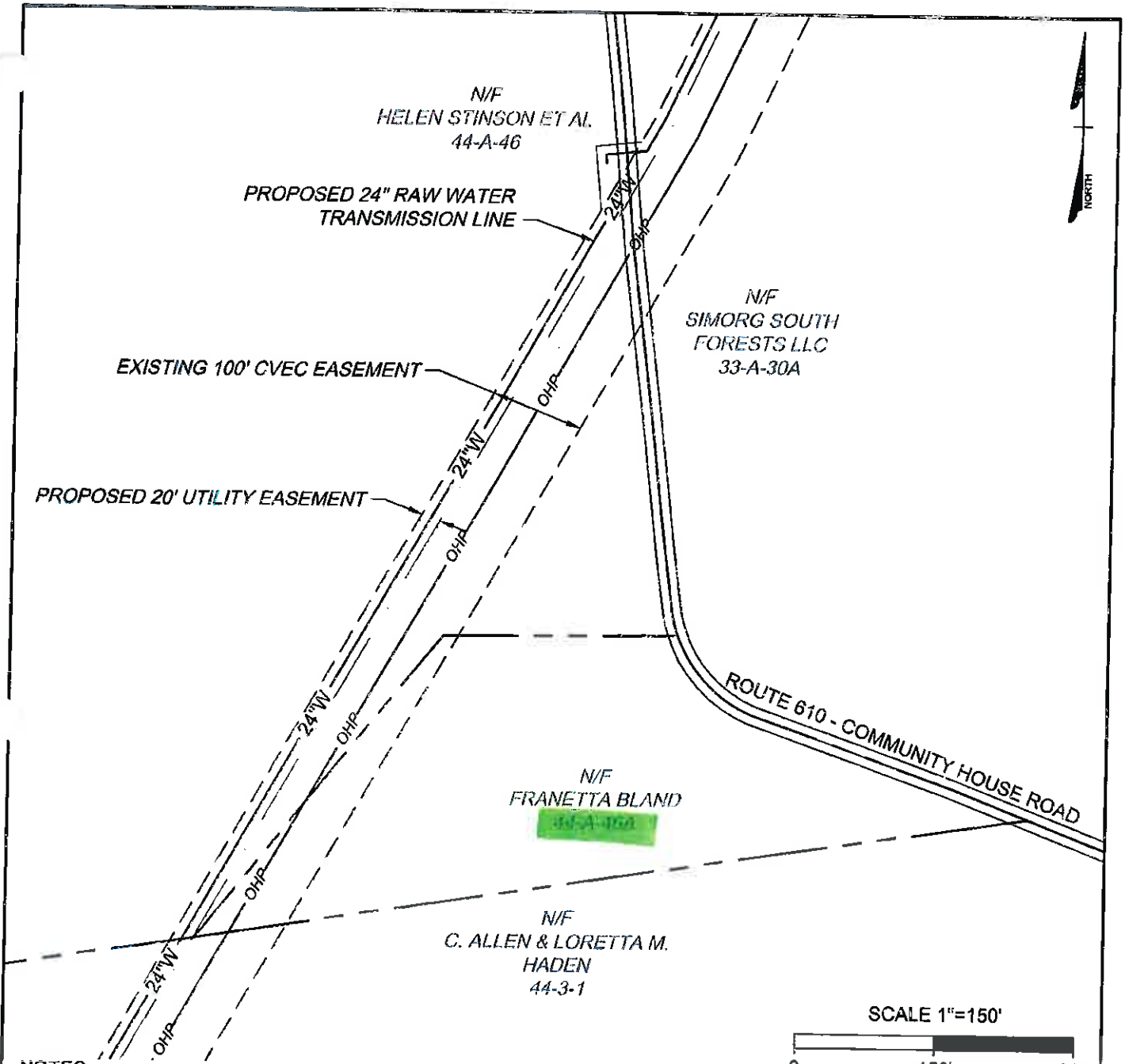
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-46**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

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Received

 AUG 05 2015



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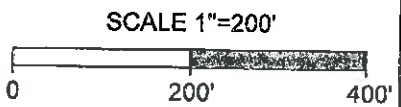
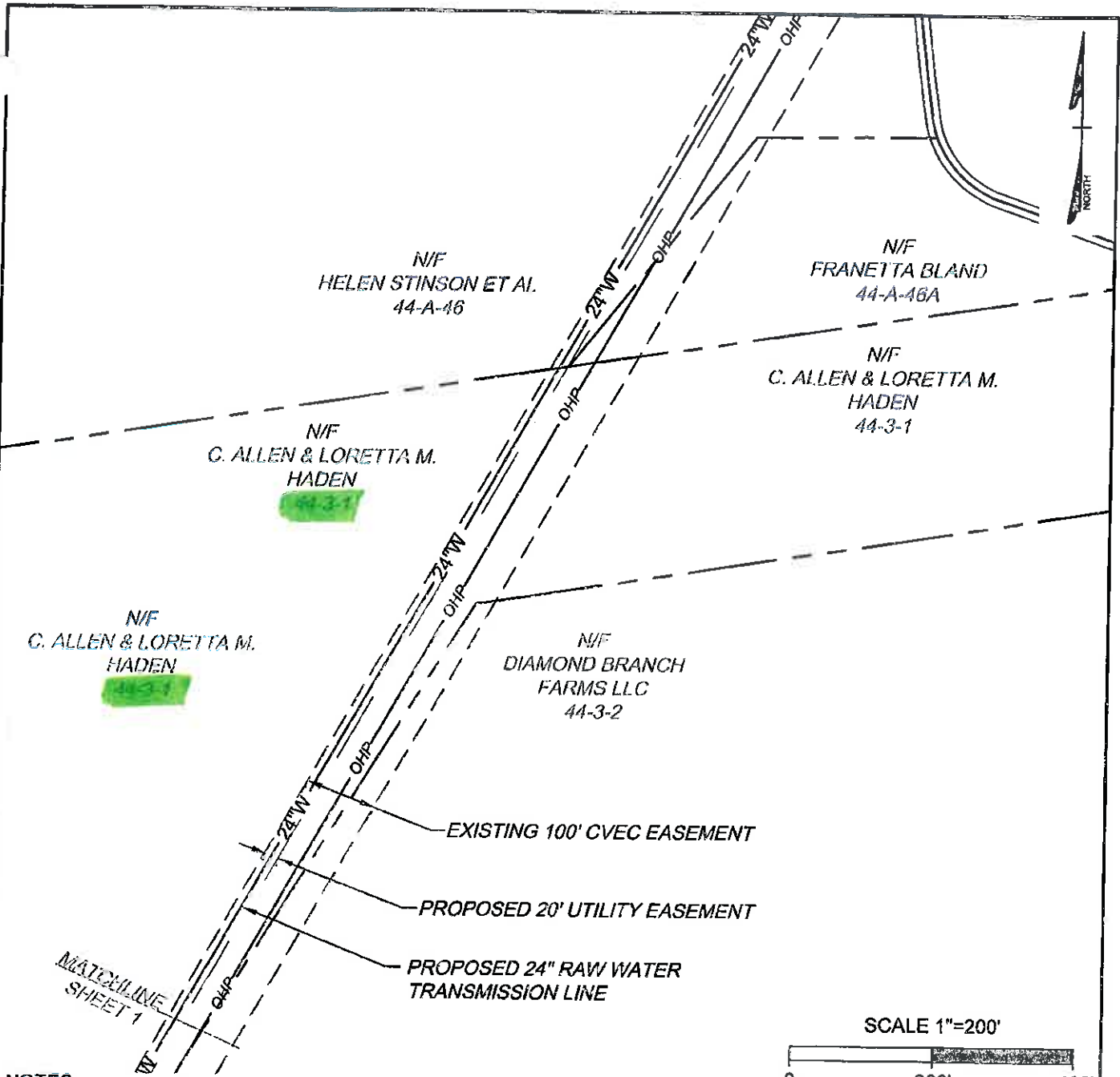
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-46A**

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YOUR VISION ACHIEVED
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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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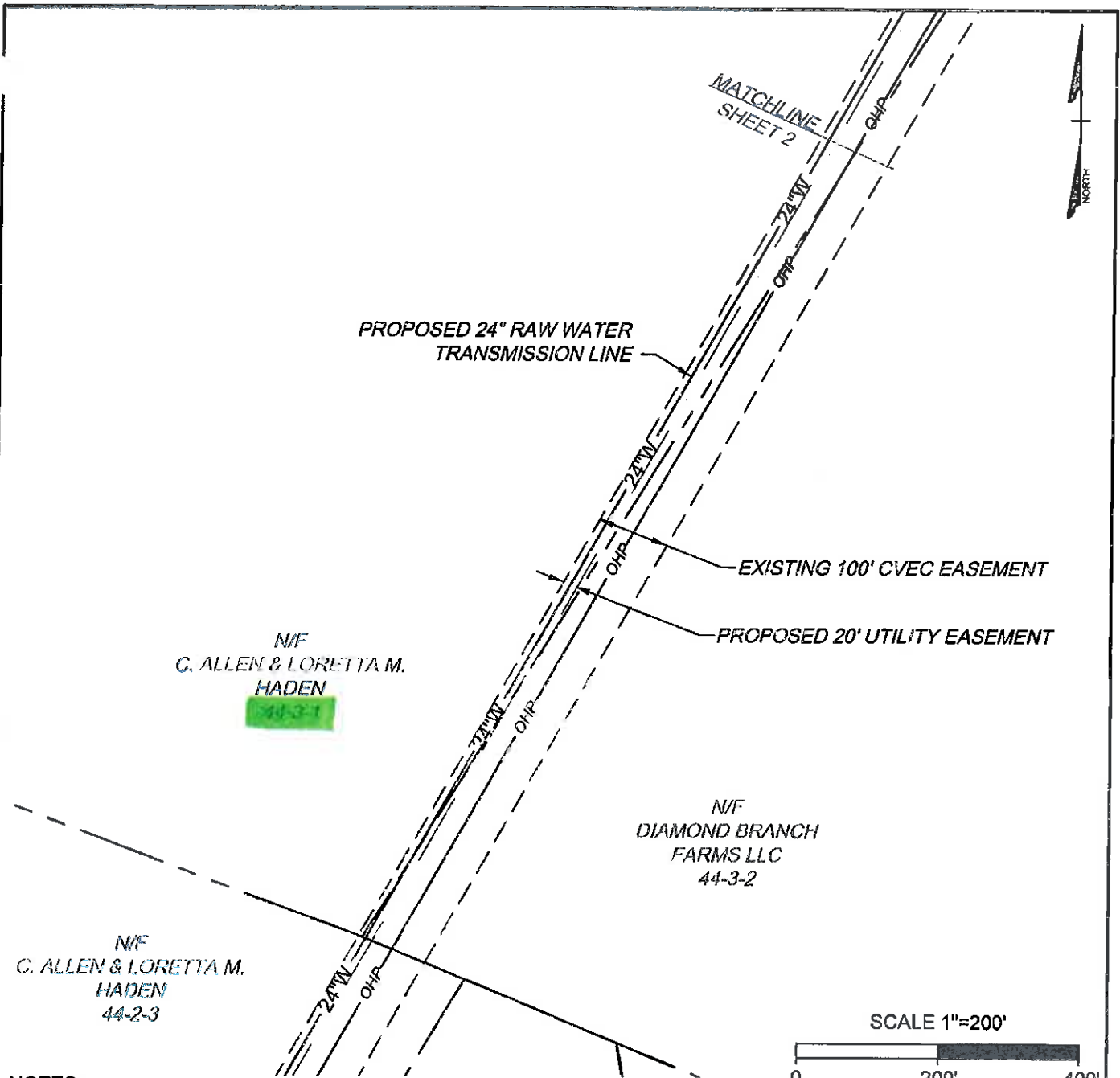
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-3-1**

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TEL 804.200.6500 FAX 804.560.1015 www.timmons.com

YOUR VISION ACHIEVED
THROUGH OURS

COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 2 of 2	J.N.: 33973
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-3-1**

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		Date: 06/11/2015	1" = 200'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS



PROPOSED 24" RAW WATER TRANSMISSION LINE

EXISTING 100' CVEC EASEMENT

PROPOSED 20' UTILITY EASEMENT

N/F
C. ALLEN & LORETTA M.
HADEN
44-3-1

N/F
C. ALLEN & LORETTA M.
HADEN
44-2-3

N/F
DIAMOND BRANCH
FARMS LLC
44-3-2

SCALE 1"=150'



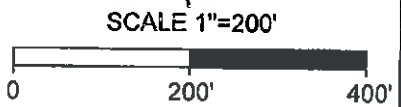
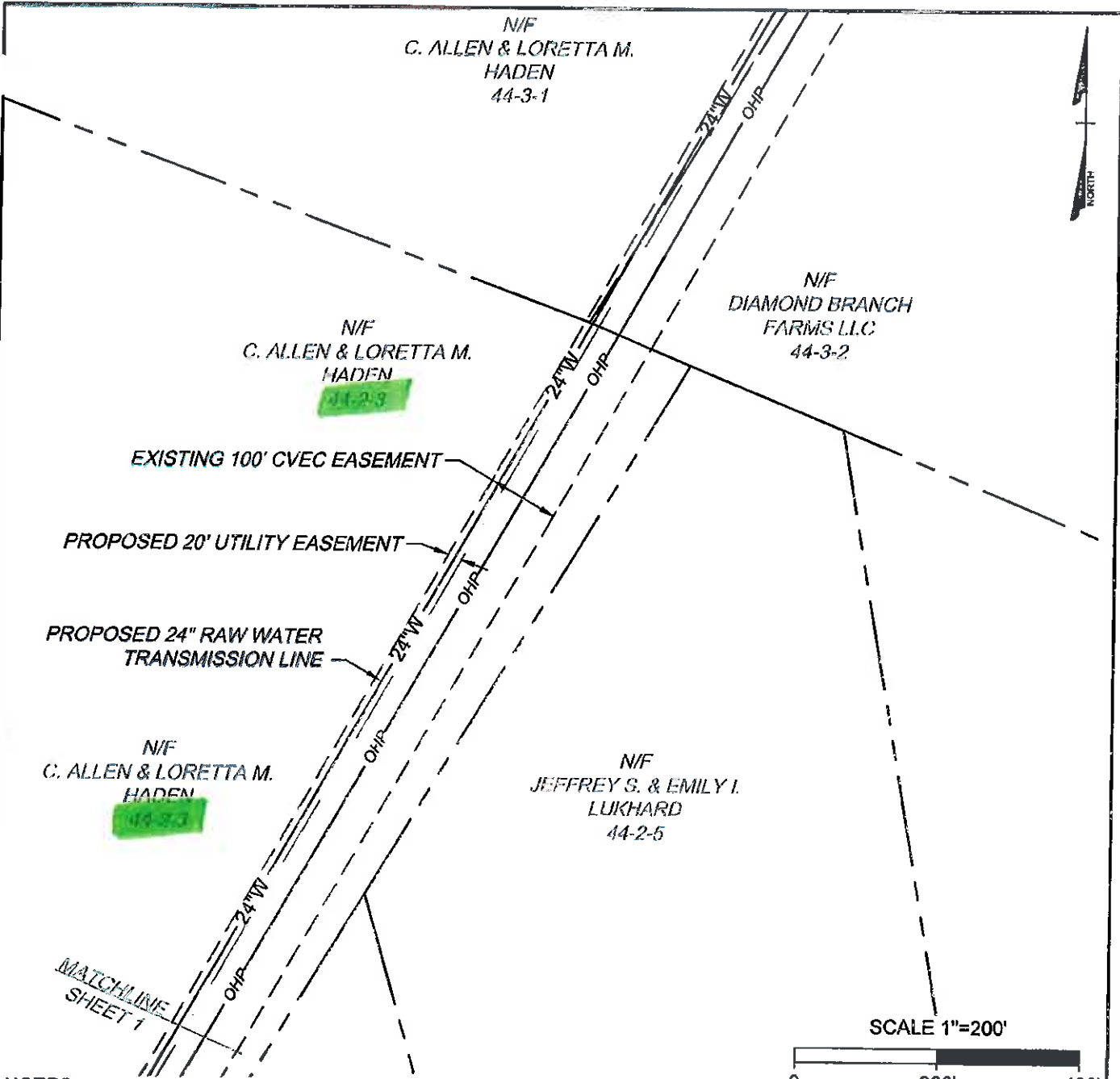
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-3-2**

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		Date: 06/11/2015	1" = 150'
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		Drawn by: J. ECK	Checked by: D. SAUNDERS

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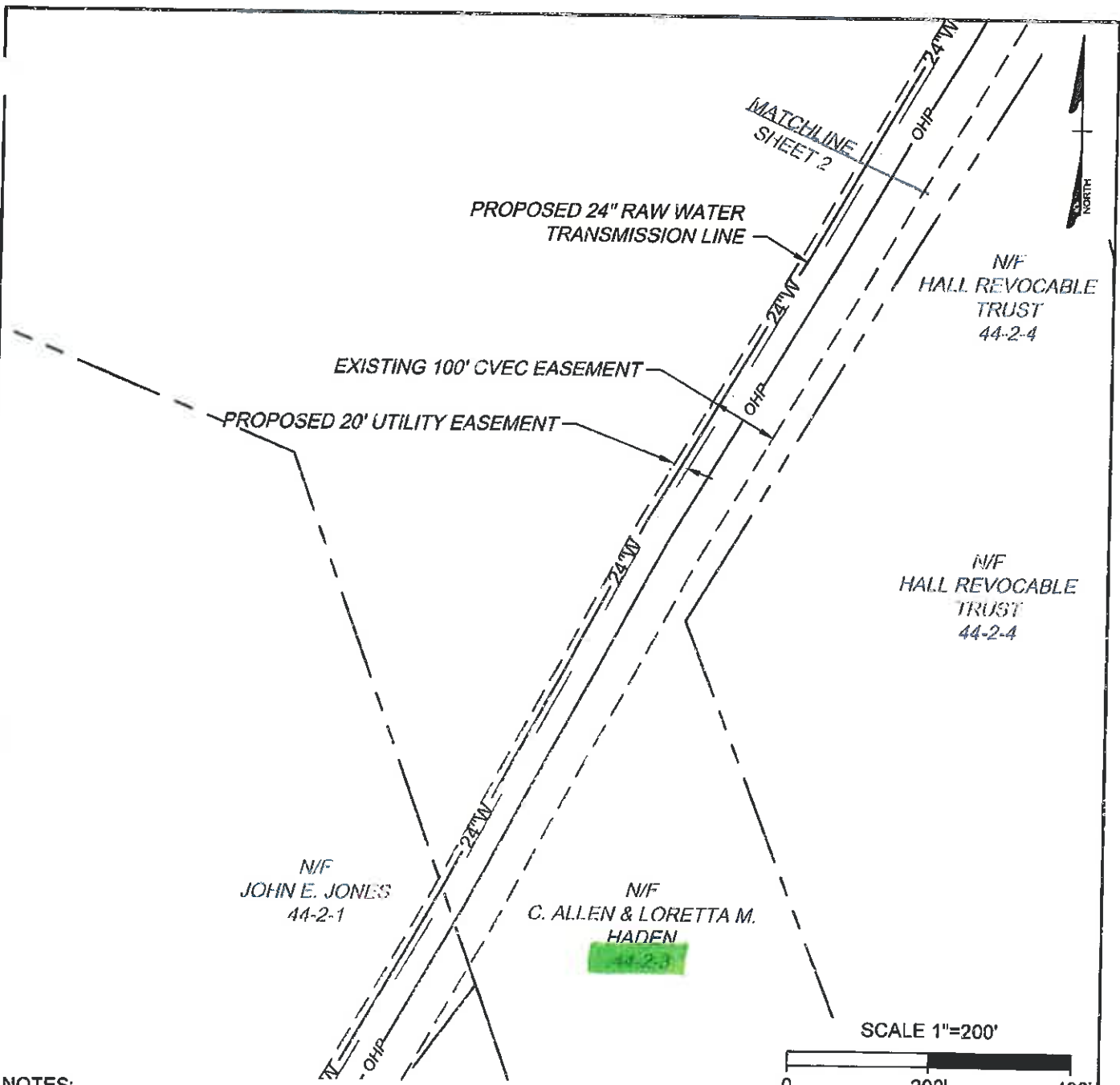
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-3**

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YOUR VISION ACHIEVED
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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 2 of 2	J.N.: 33973
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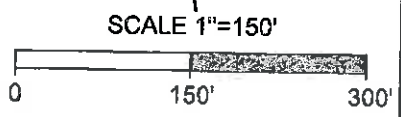
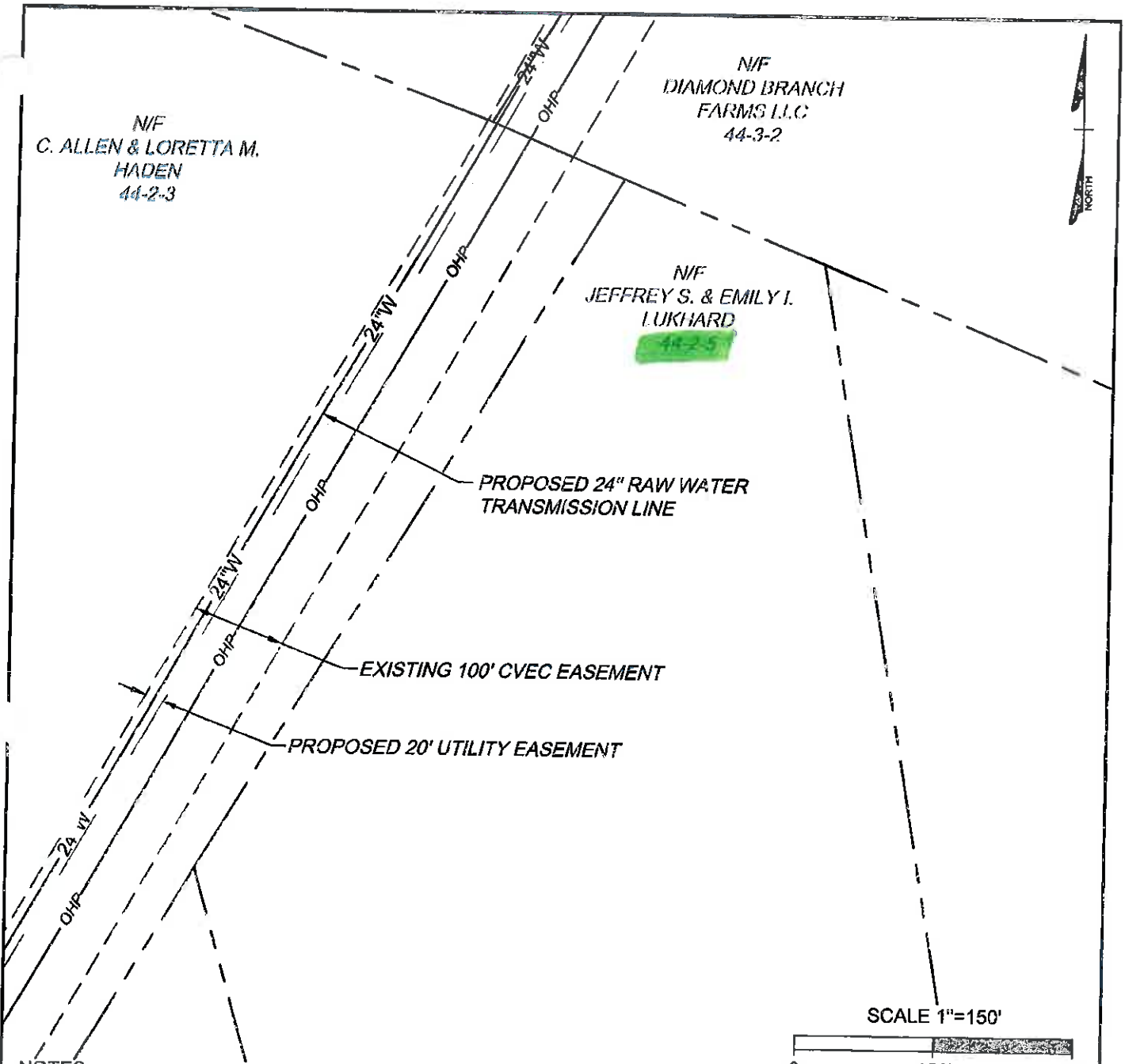
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-3**

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NOTES:

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3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

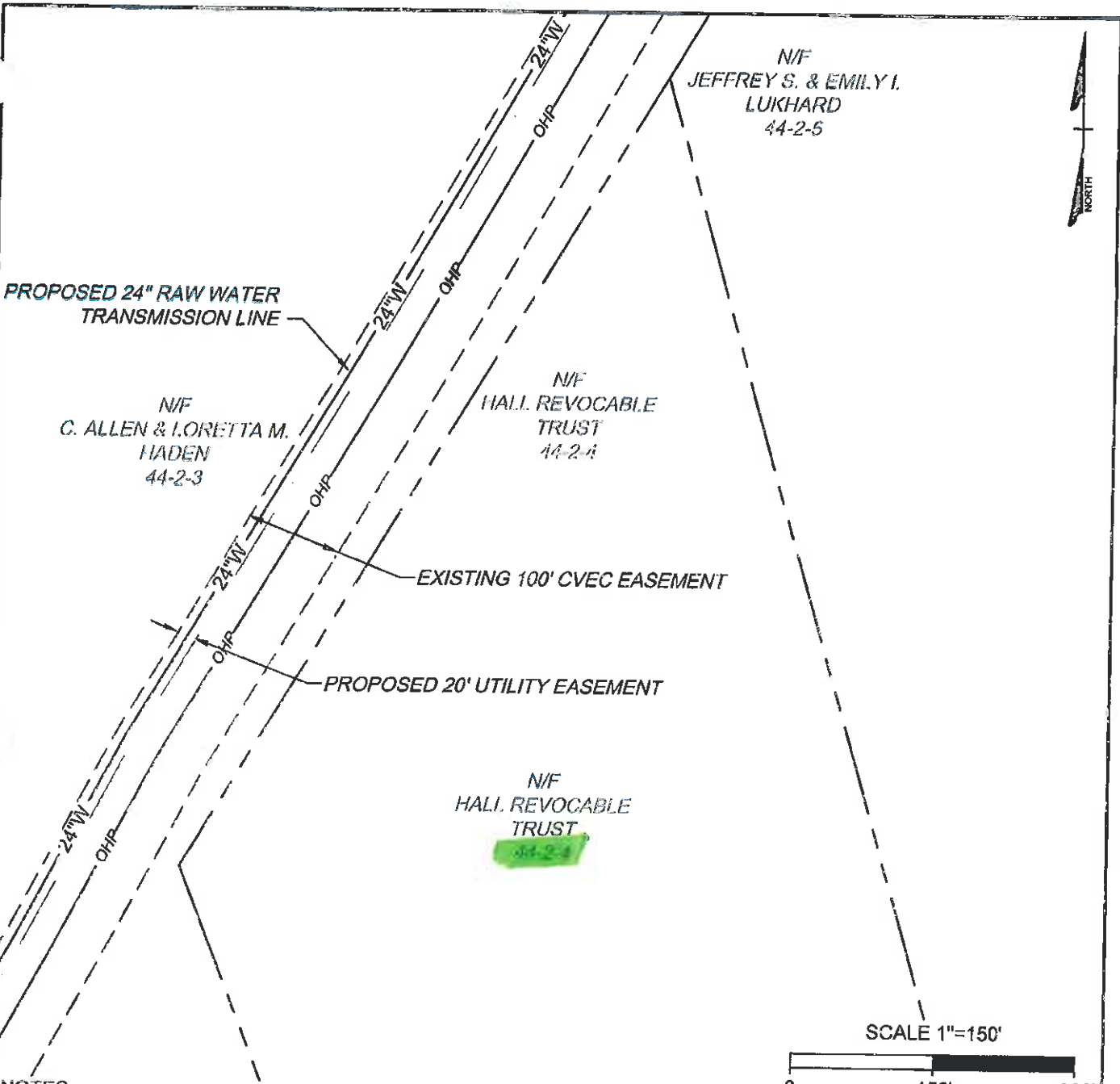
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-5**

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YOUR VISION ACHIEVED
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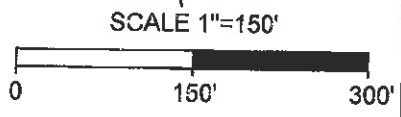
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

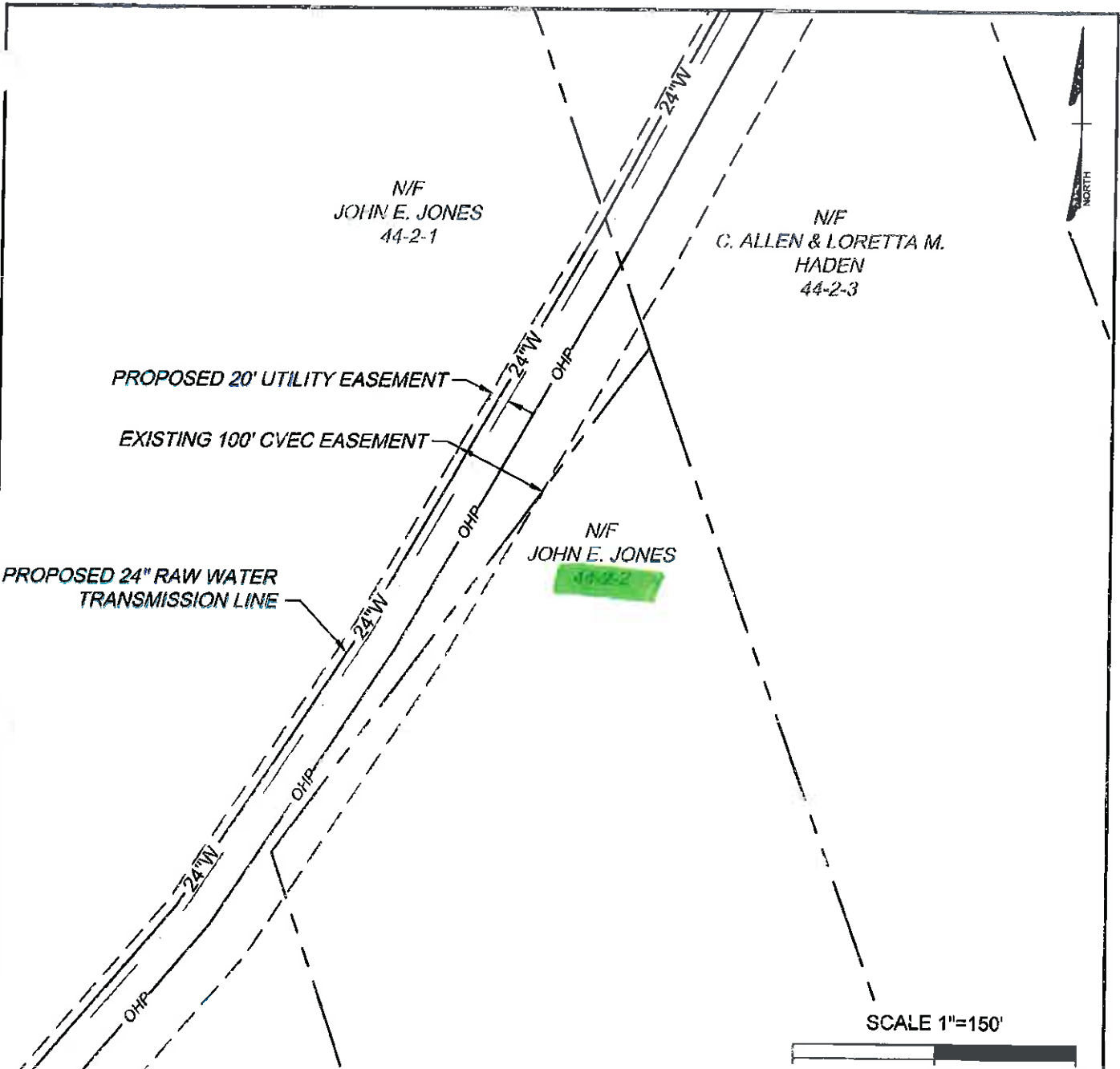
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-4**

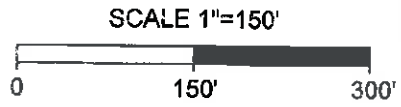
THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

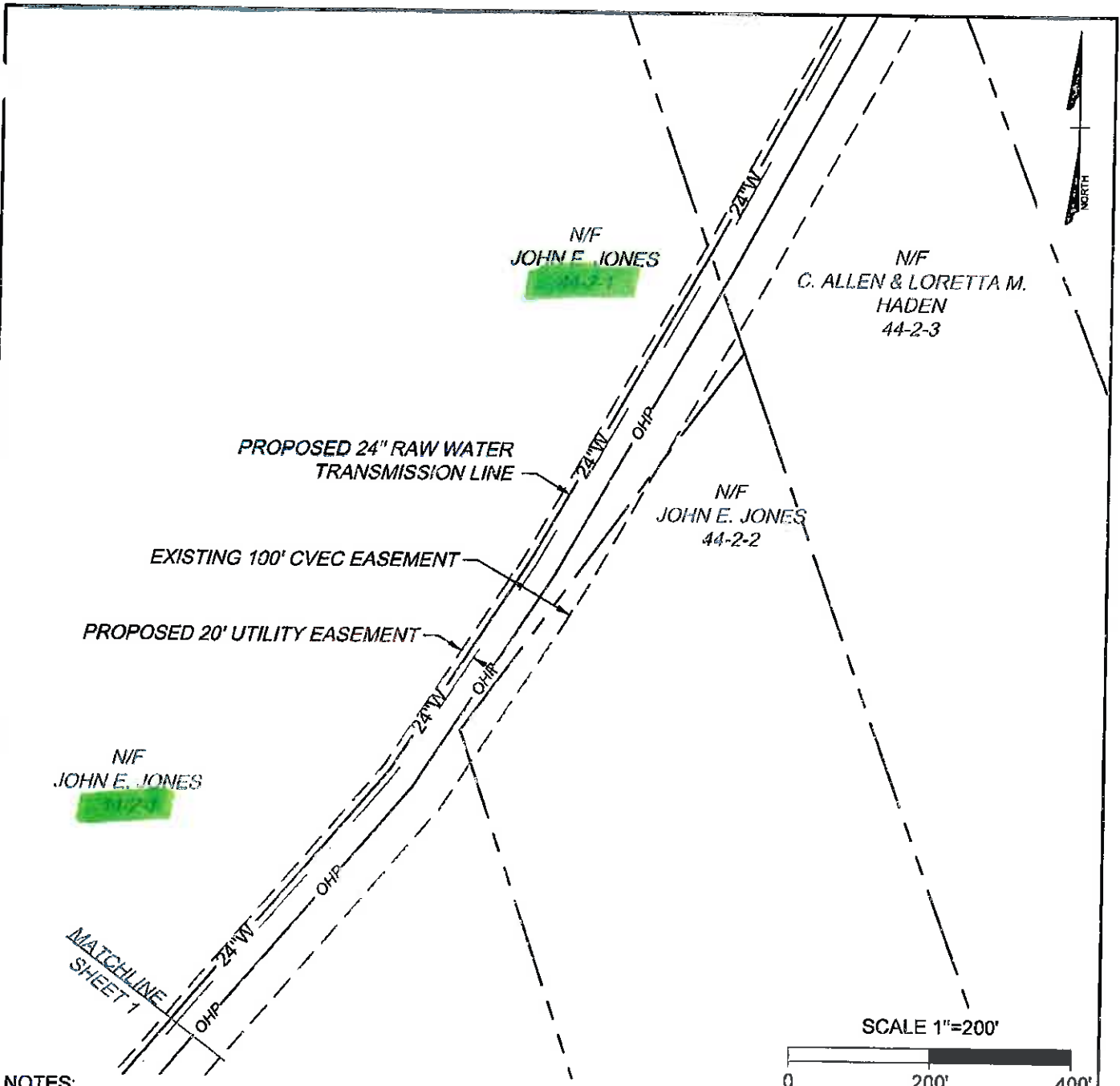
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-2**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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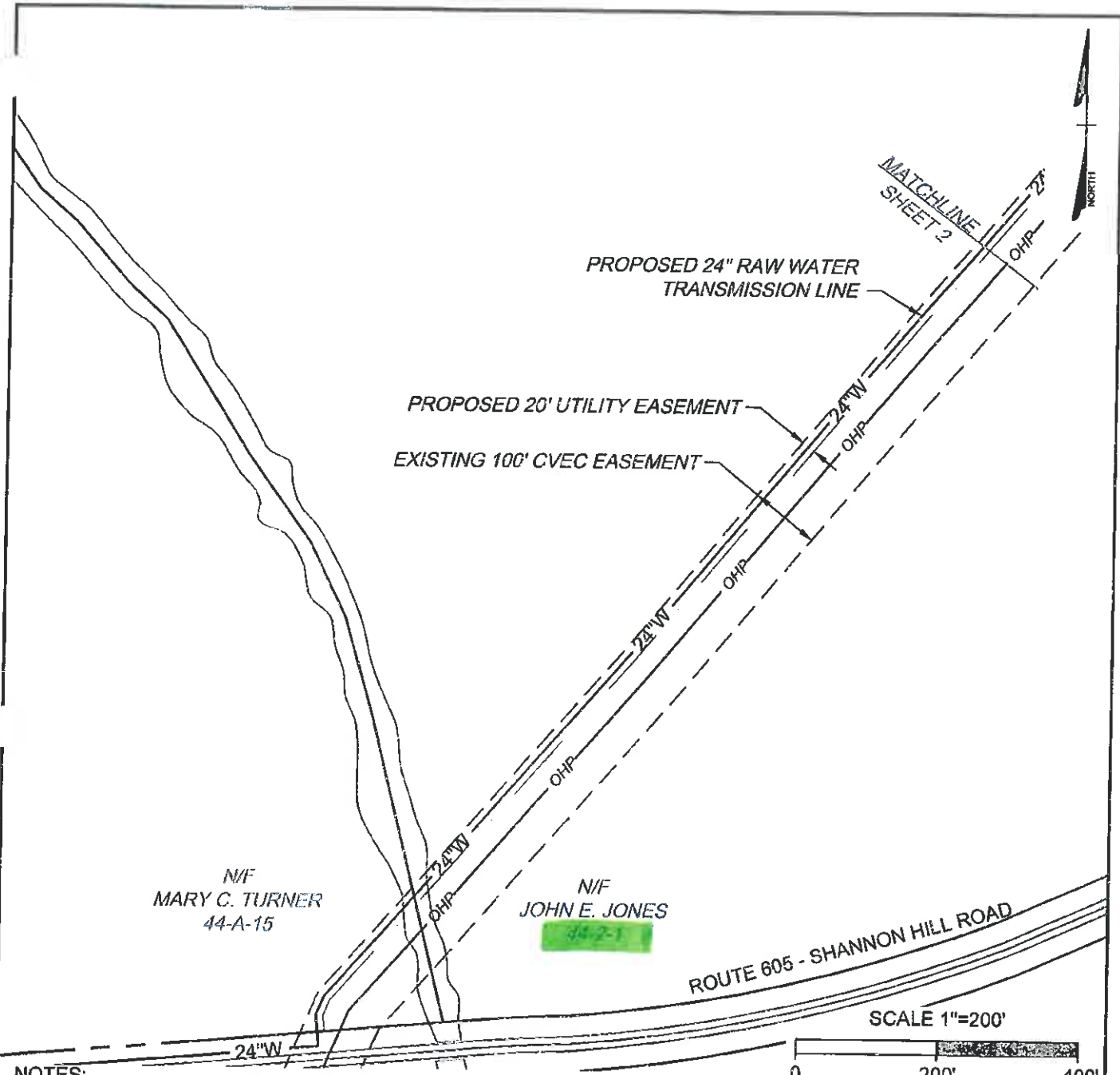
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-1**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 2 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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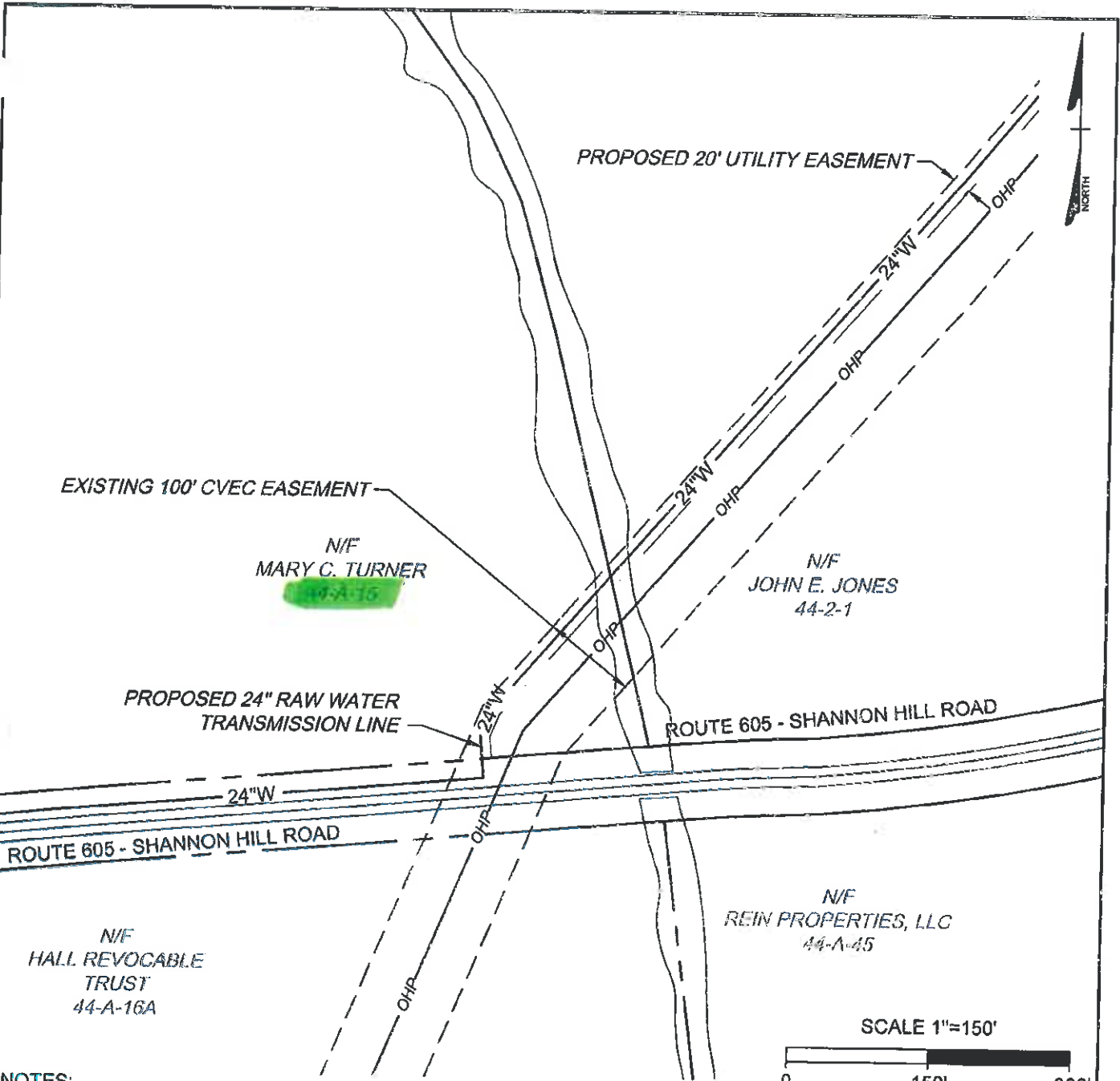
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-1**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 1 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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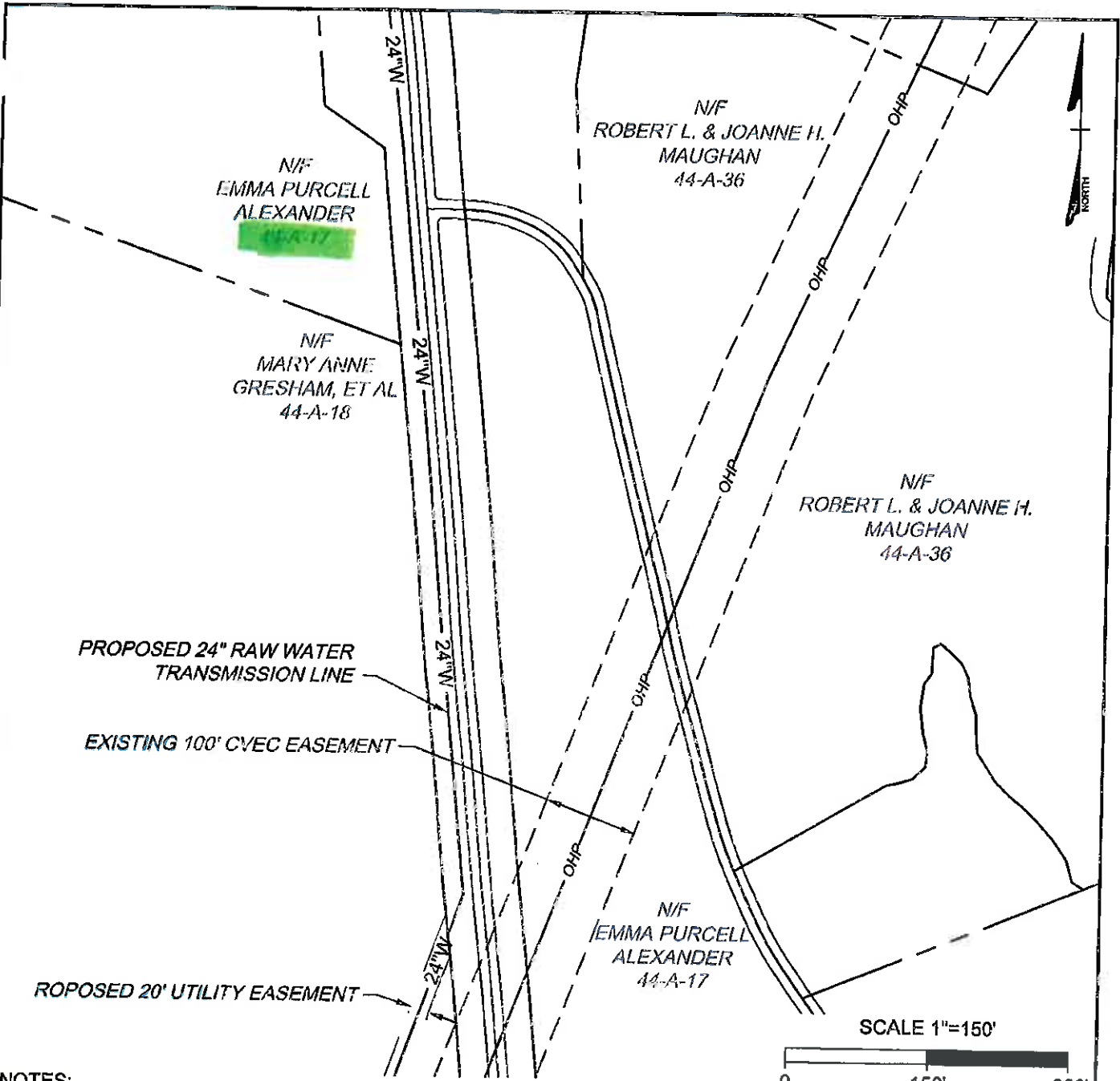
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-15**

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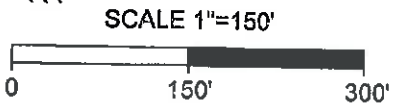
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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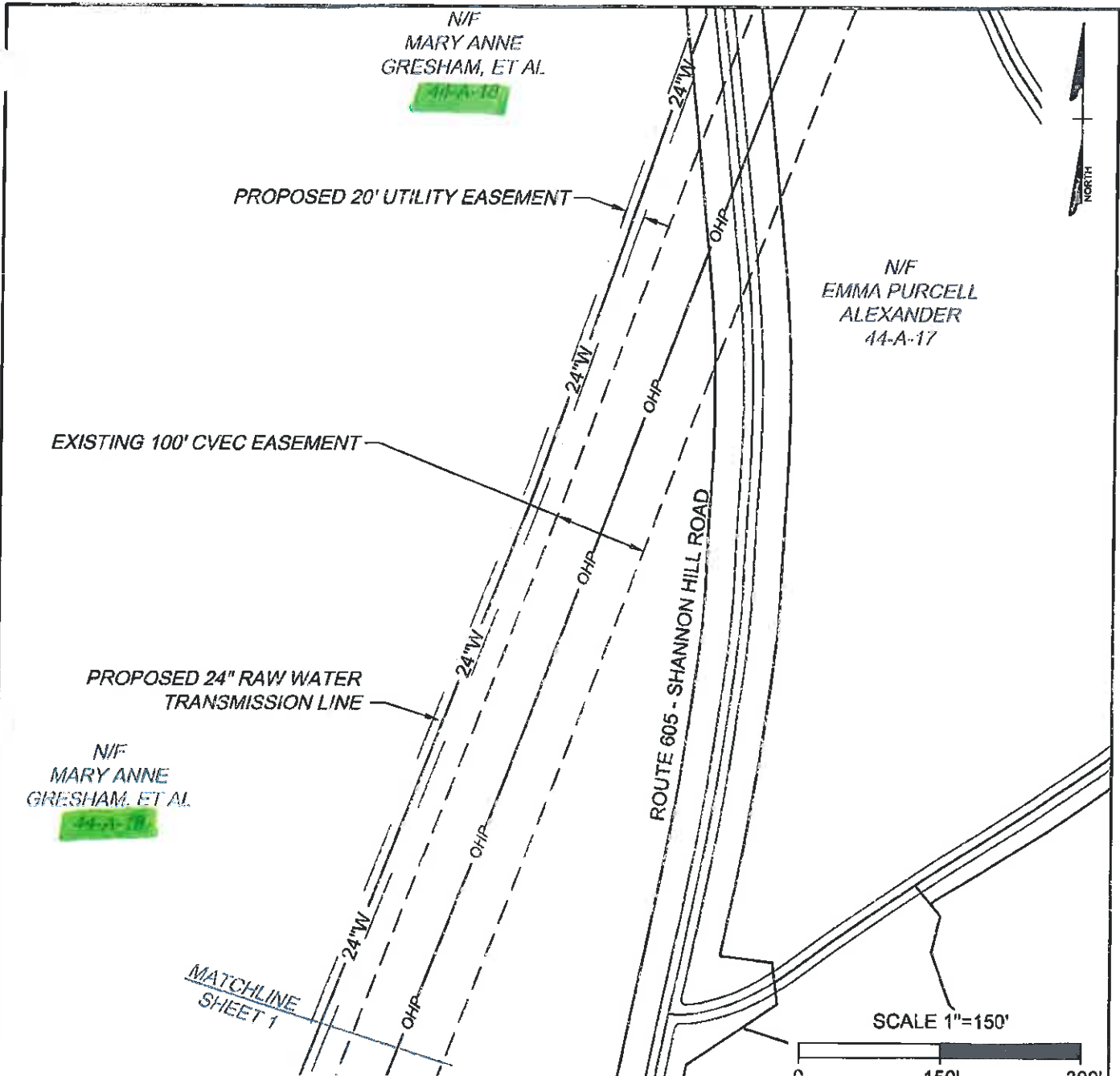
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-17**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





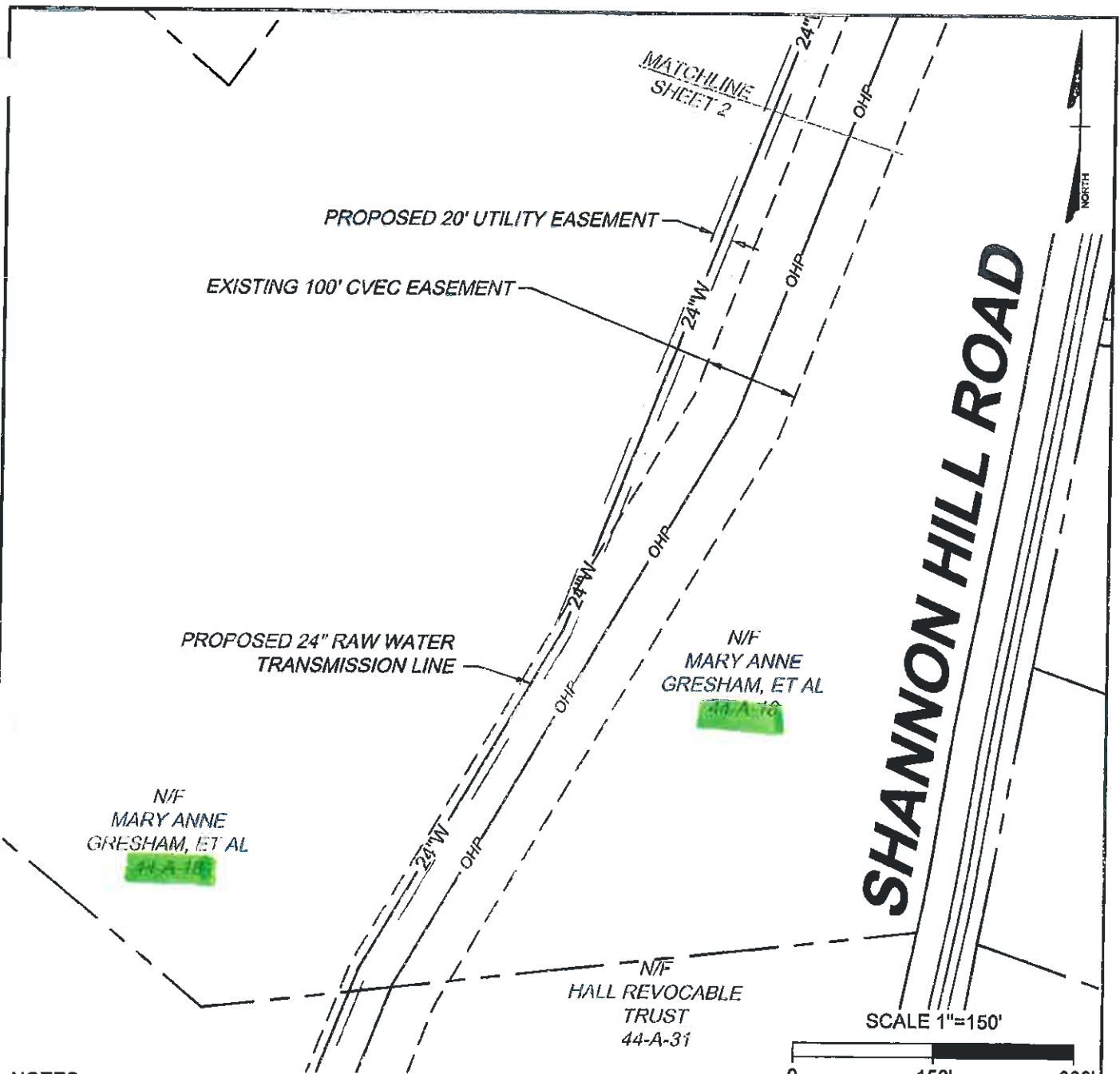
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-18**

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		Date: 06/11/2015	1" = 150'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





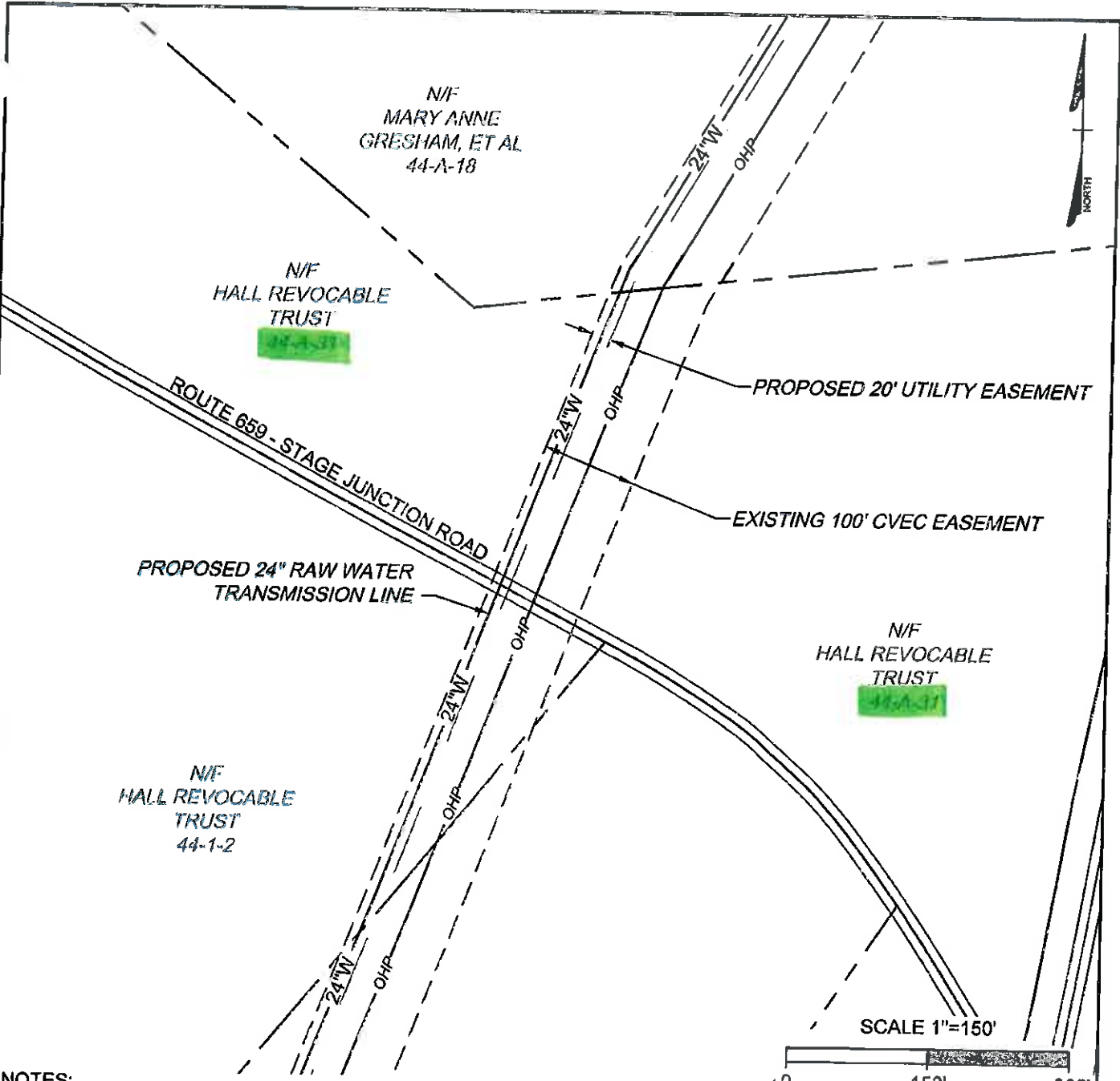
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-18**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

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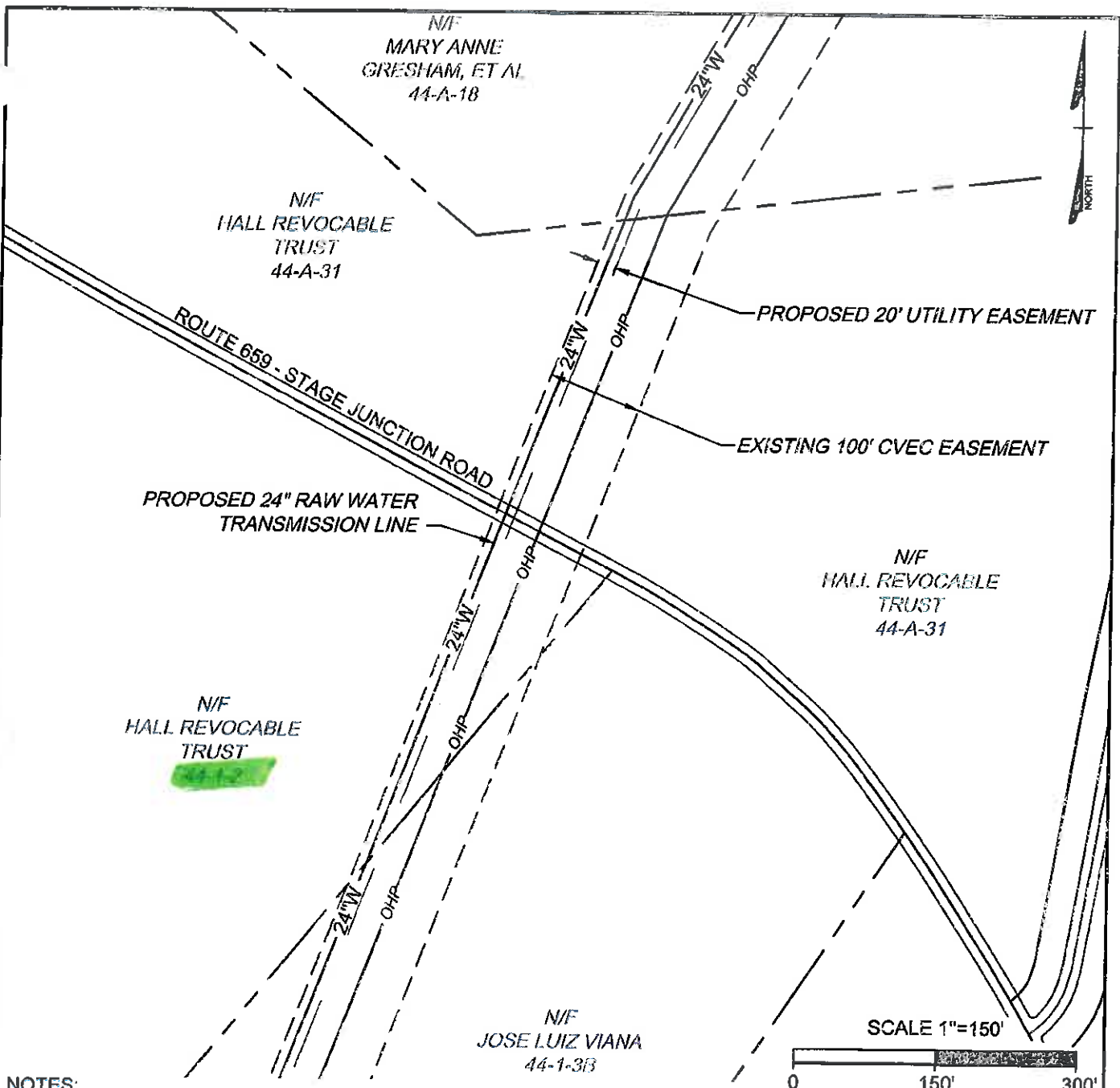
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-31**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





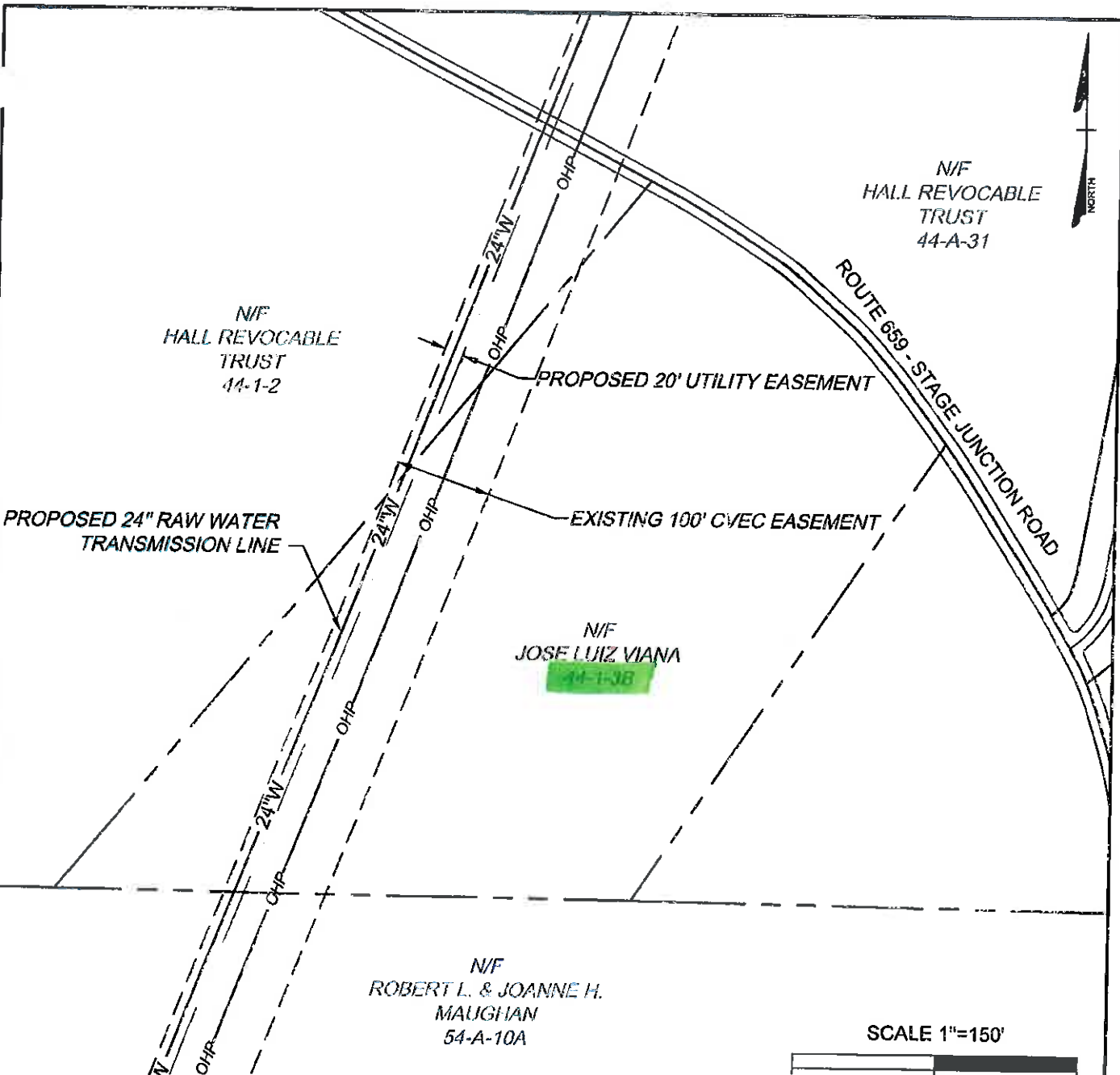
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-1-2**

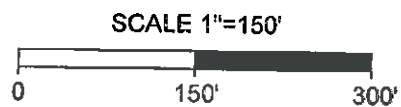
THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N. : 33973
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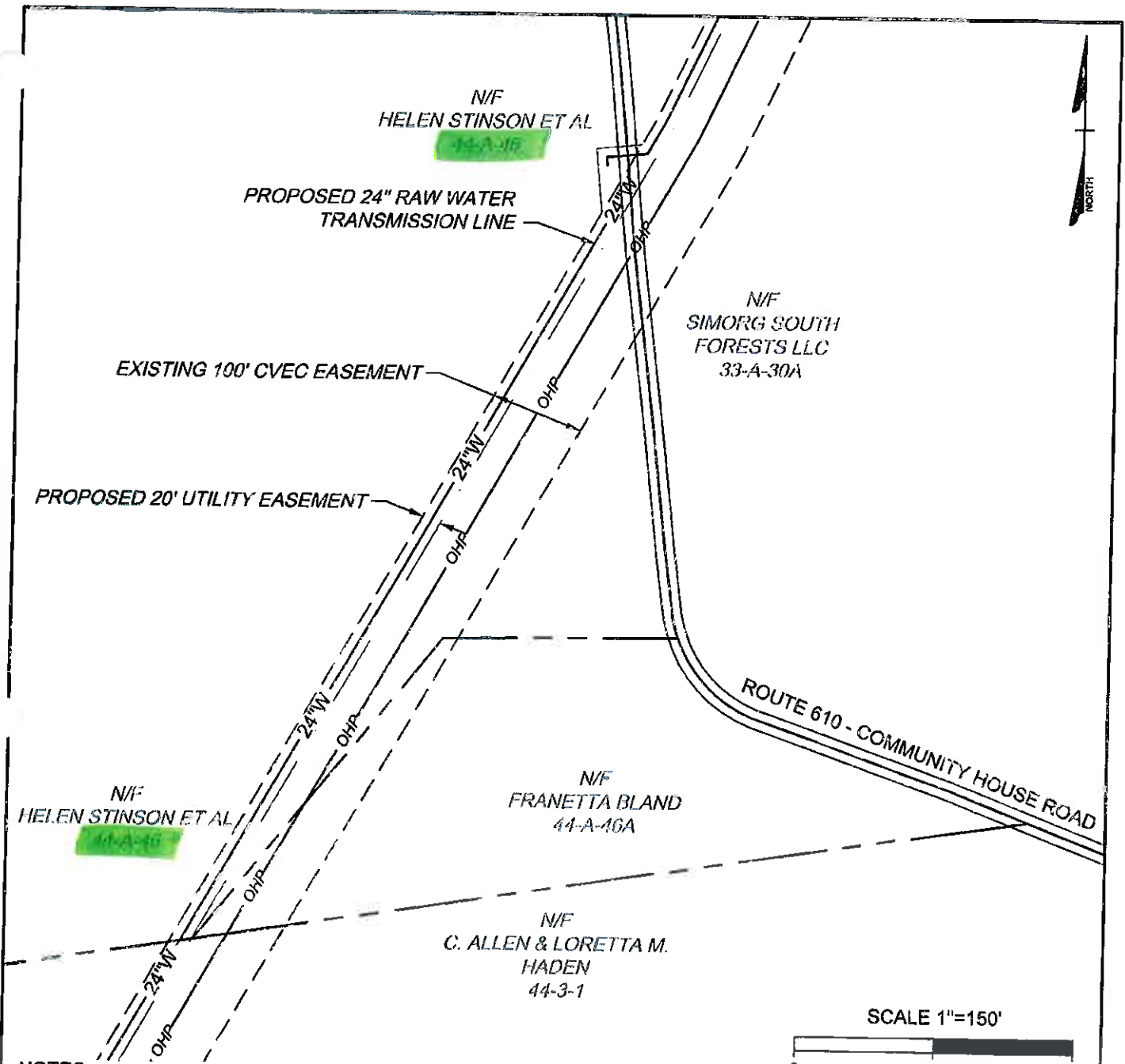
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-1-3B**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
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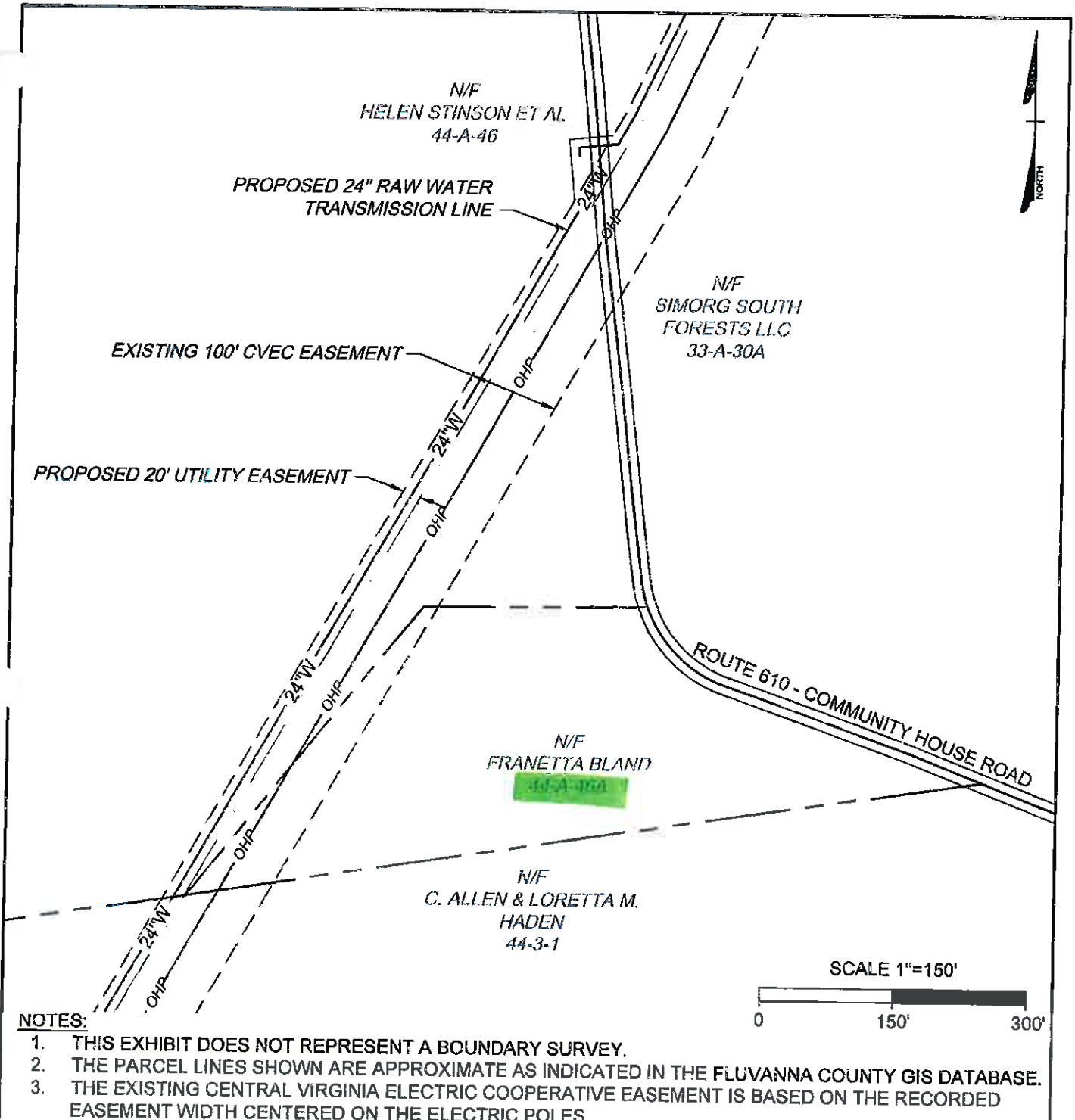
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-46**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
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Received

 AUG 05 2015



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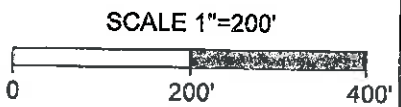
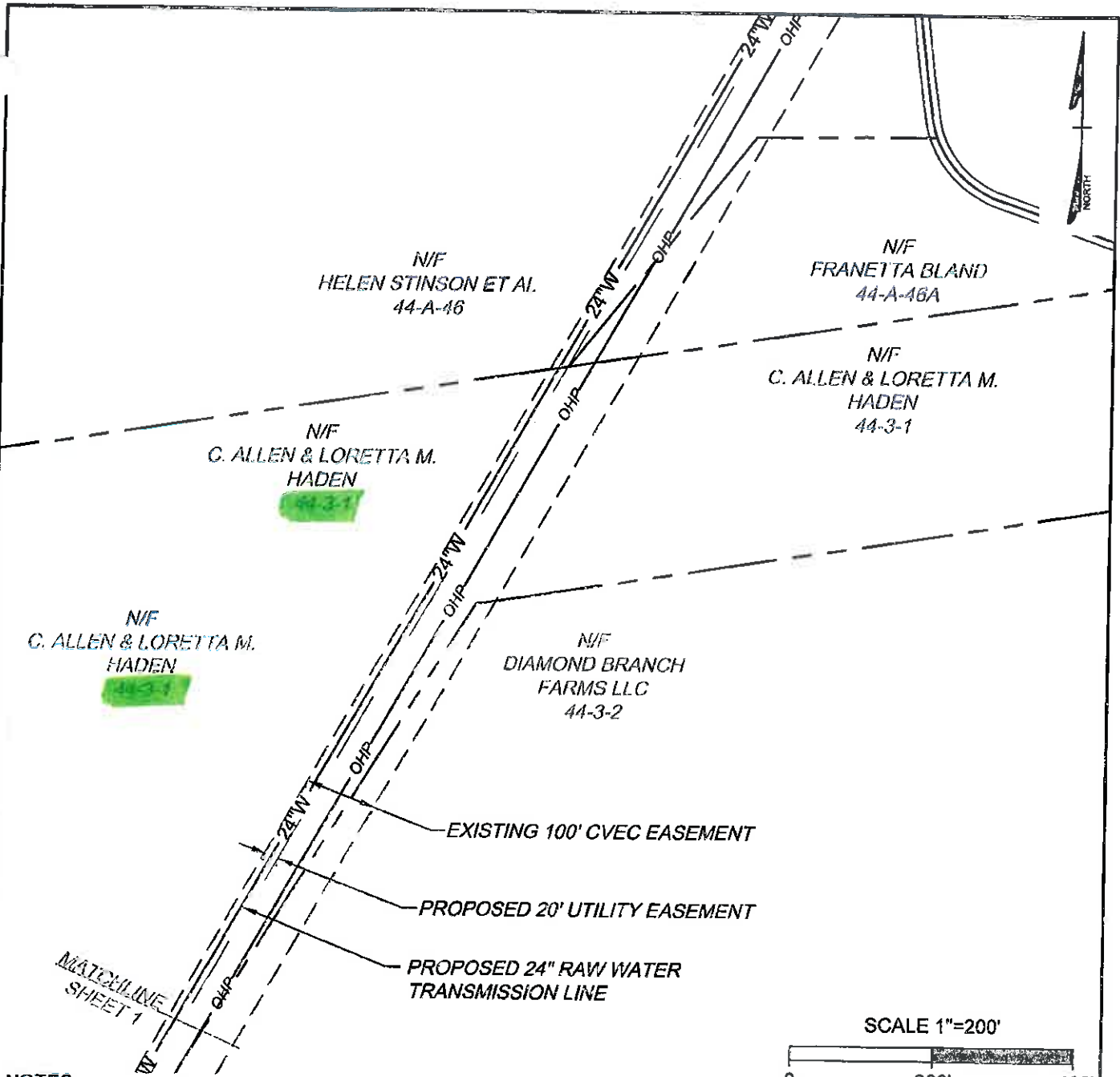
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-46A**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
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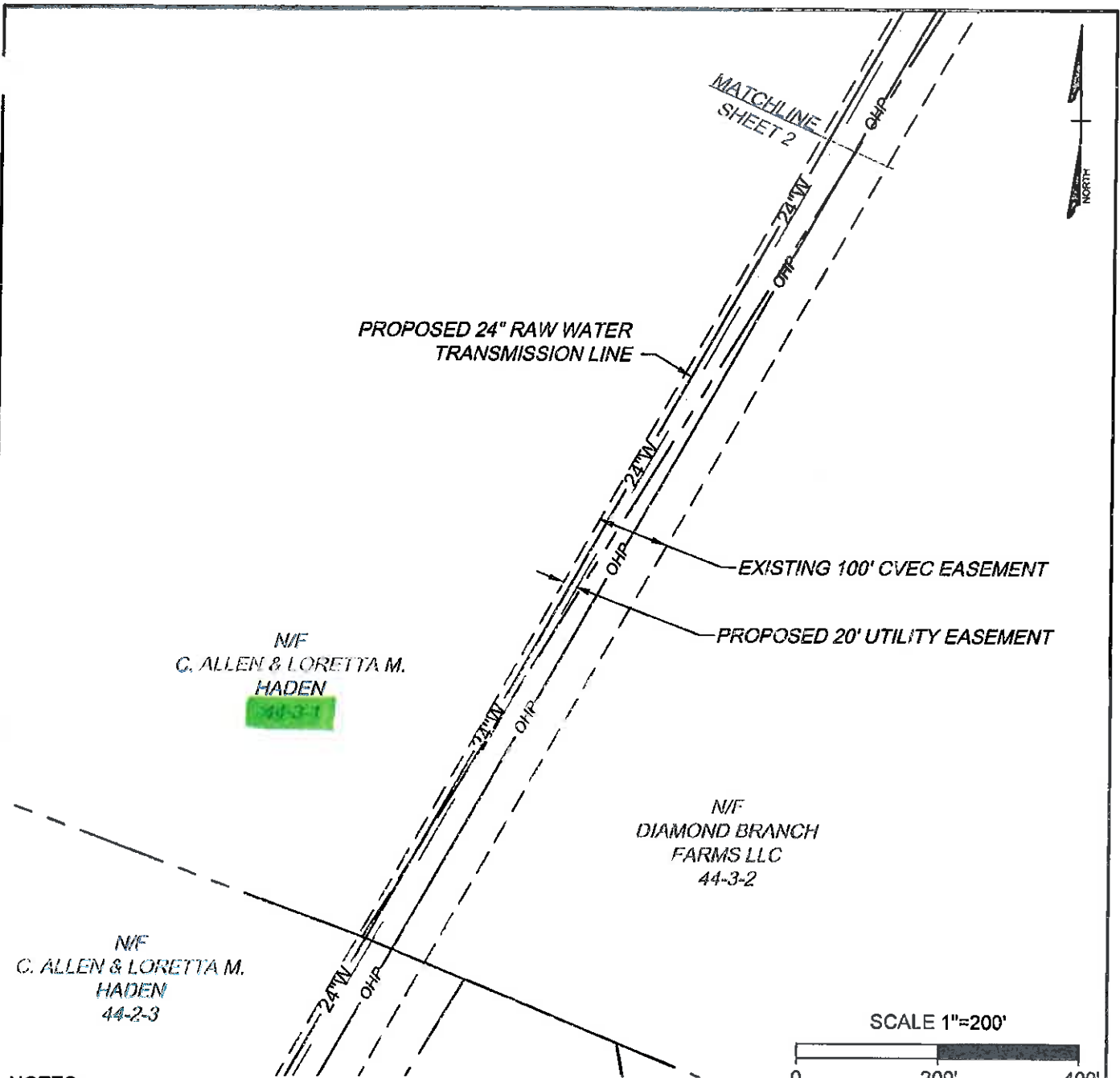
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-3-1**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 2 of 2	J.N.: 33973
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-3-1**

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		Date: 06/11/2015	1" = 200'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

TIMMONS GROUP

PROPOSED 24" RAW WATER TRANSMISSION LINE

EXISTING 100' CVEC EASEMENT

PROPOSED 20' UTILITY EASEMENT

N/F
C. ALLEN & LORETTA M.
HADEN
44-3-1

N/F
C. ALLEN & LORETTA M.
HADEN
44-2-3

N/F
DIAMOND BRANCH
FARMS LLC
44-3-2

SCALE 1"=150'



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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-3-2**

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COUNTY OF LOUISA, VIRGINIA

Date: 06/11/2015

1" = 150'

Sheet 1 of 1

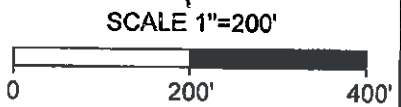
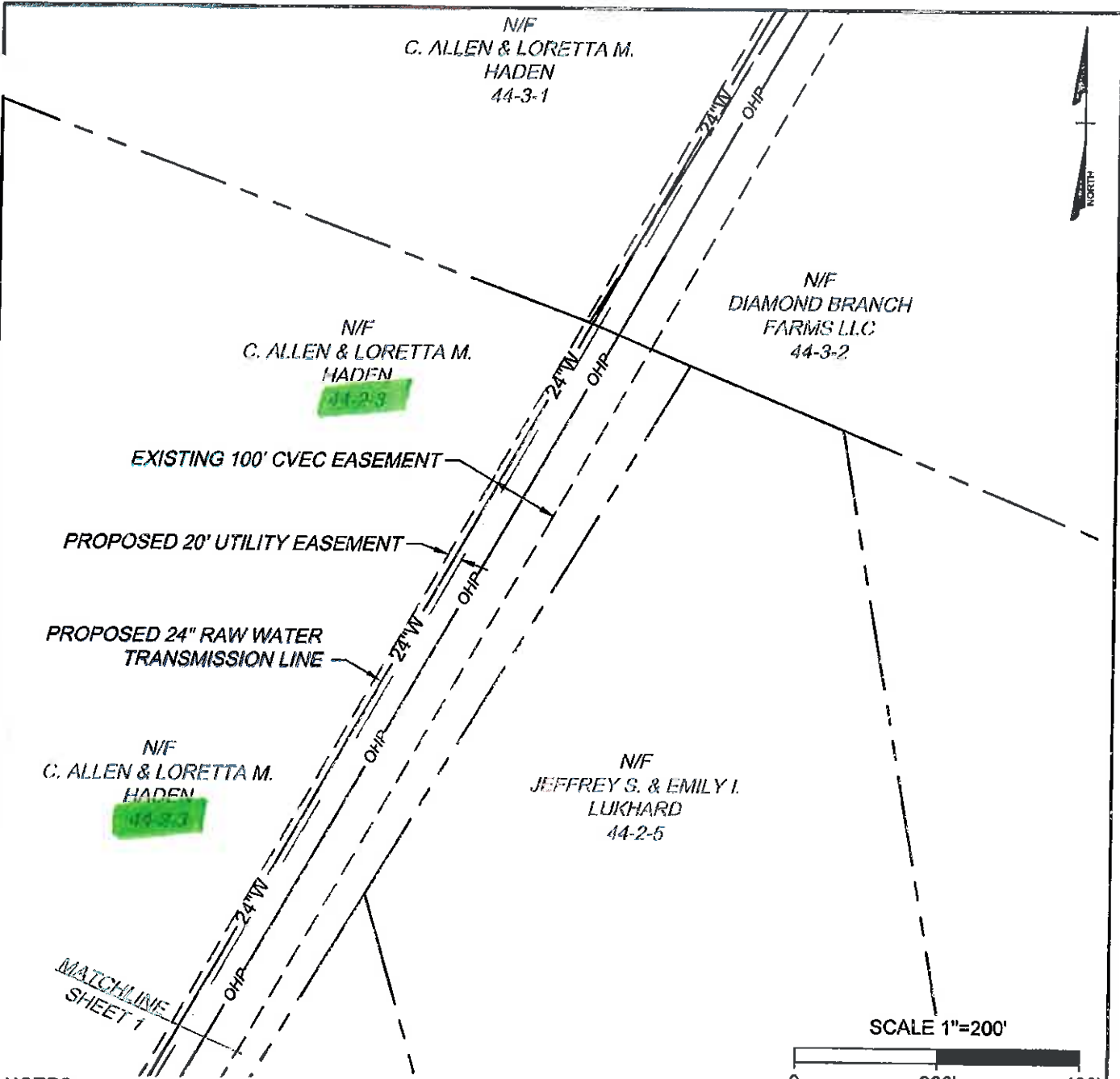
J.N.: 33973

Drawn by: J. ECK

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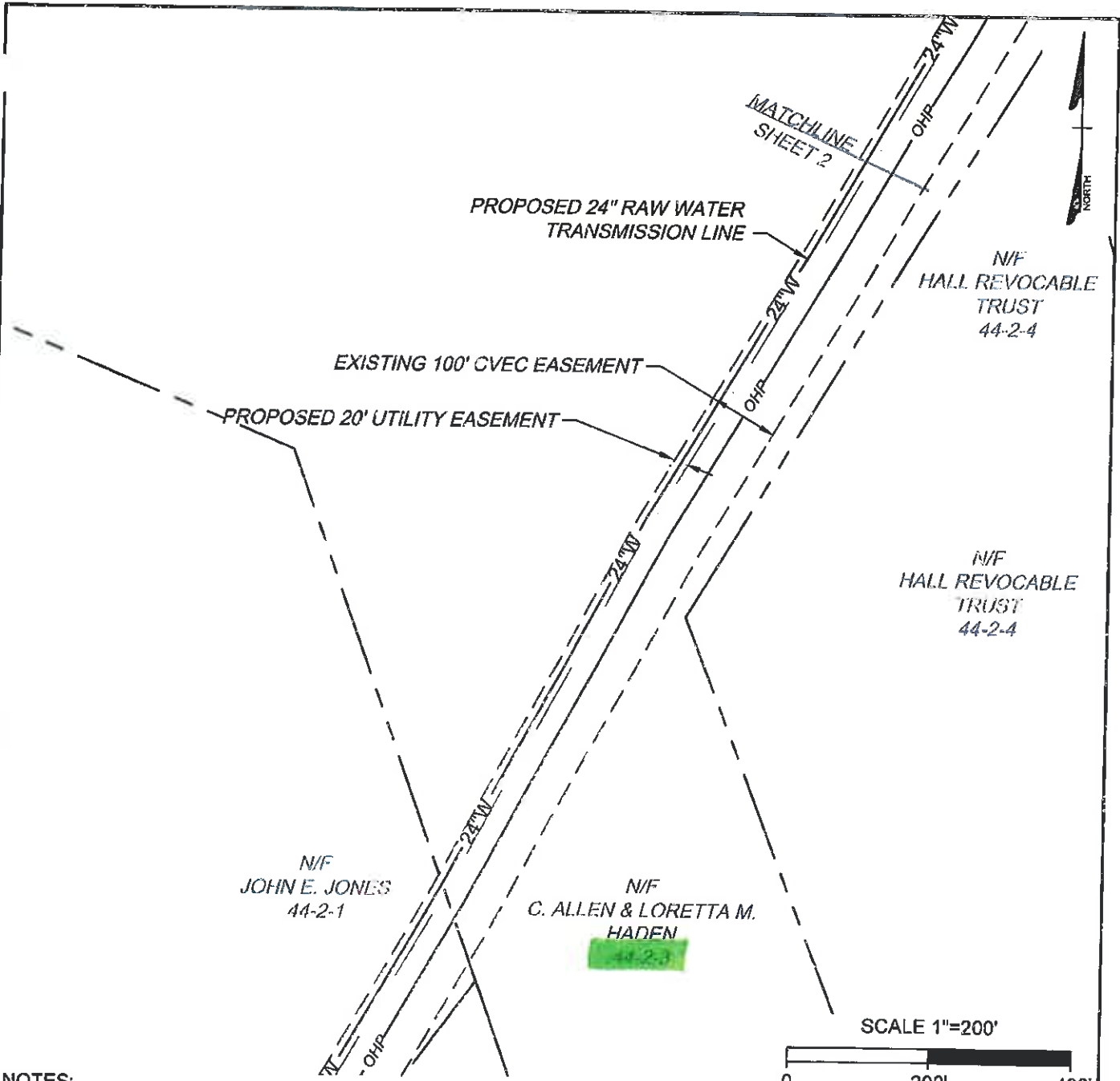
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-3**

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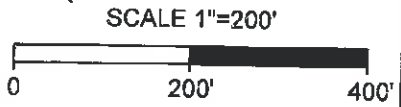
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 2 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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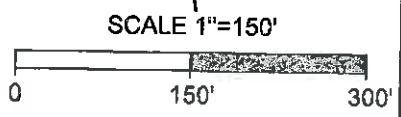
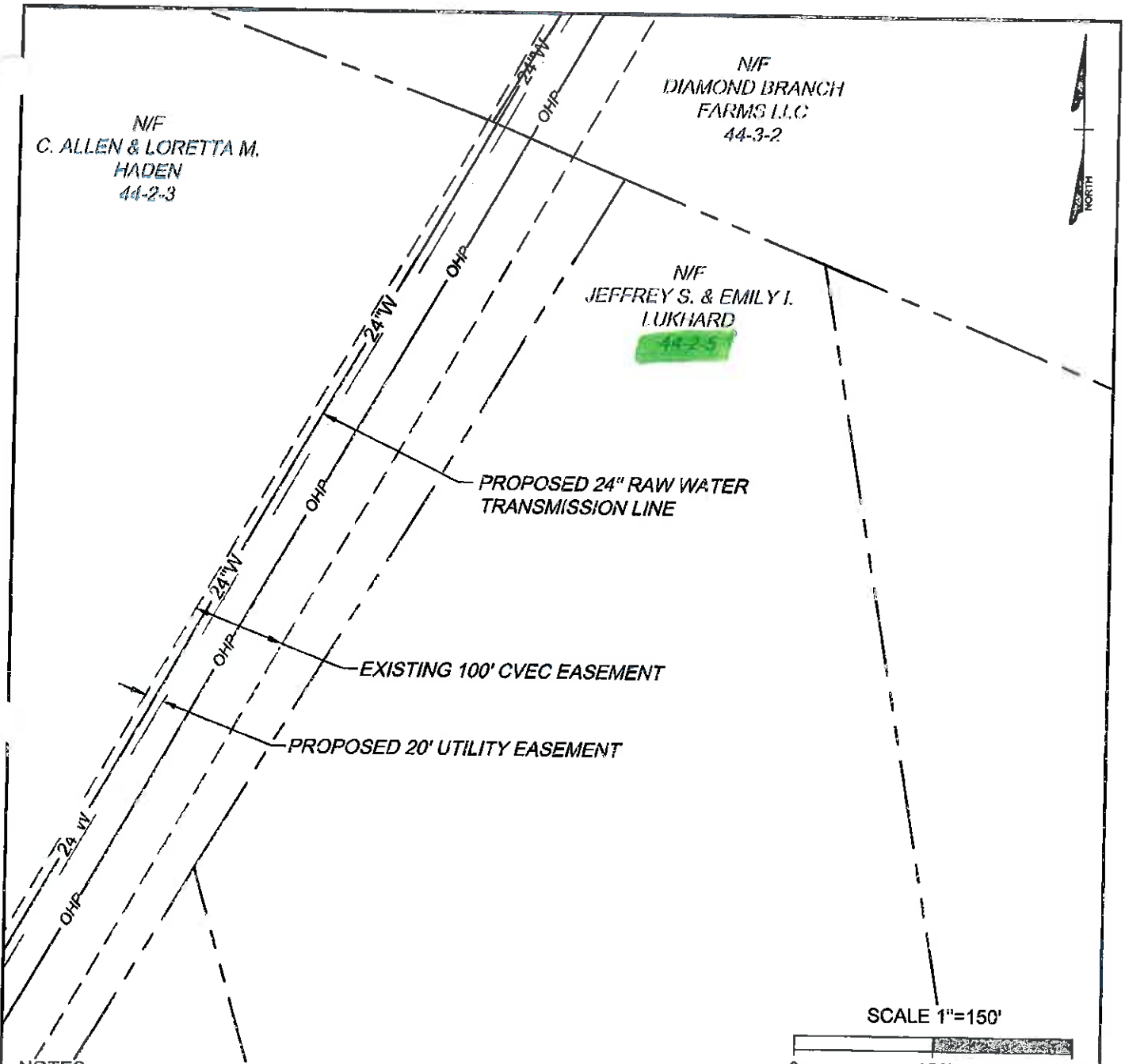
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-3**

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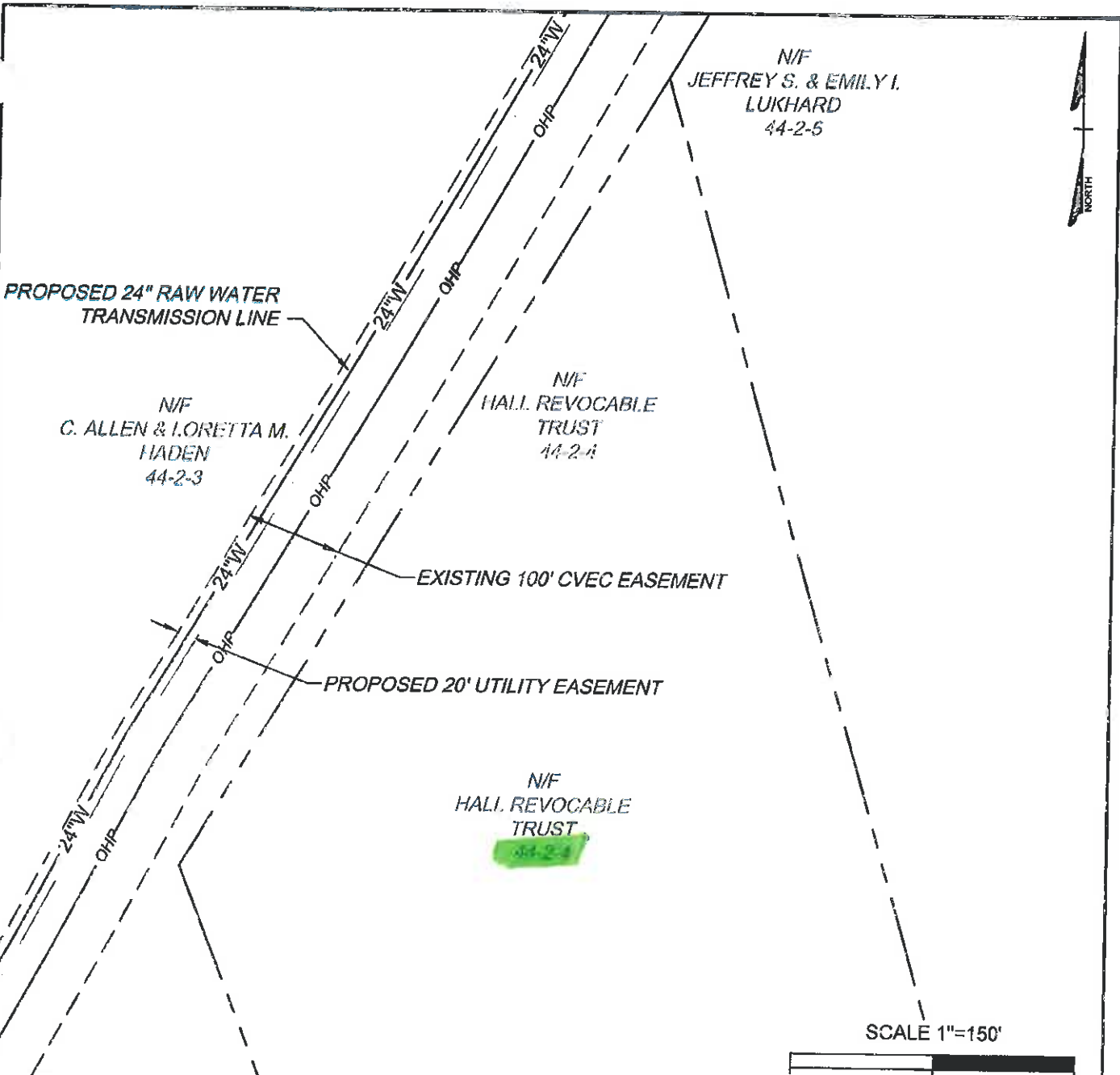
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-5**

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YOUR VISION ACHIEVED
THROUGH OURS

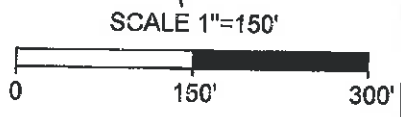
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

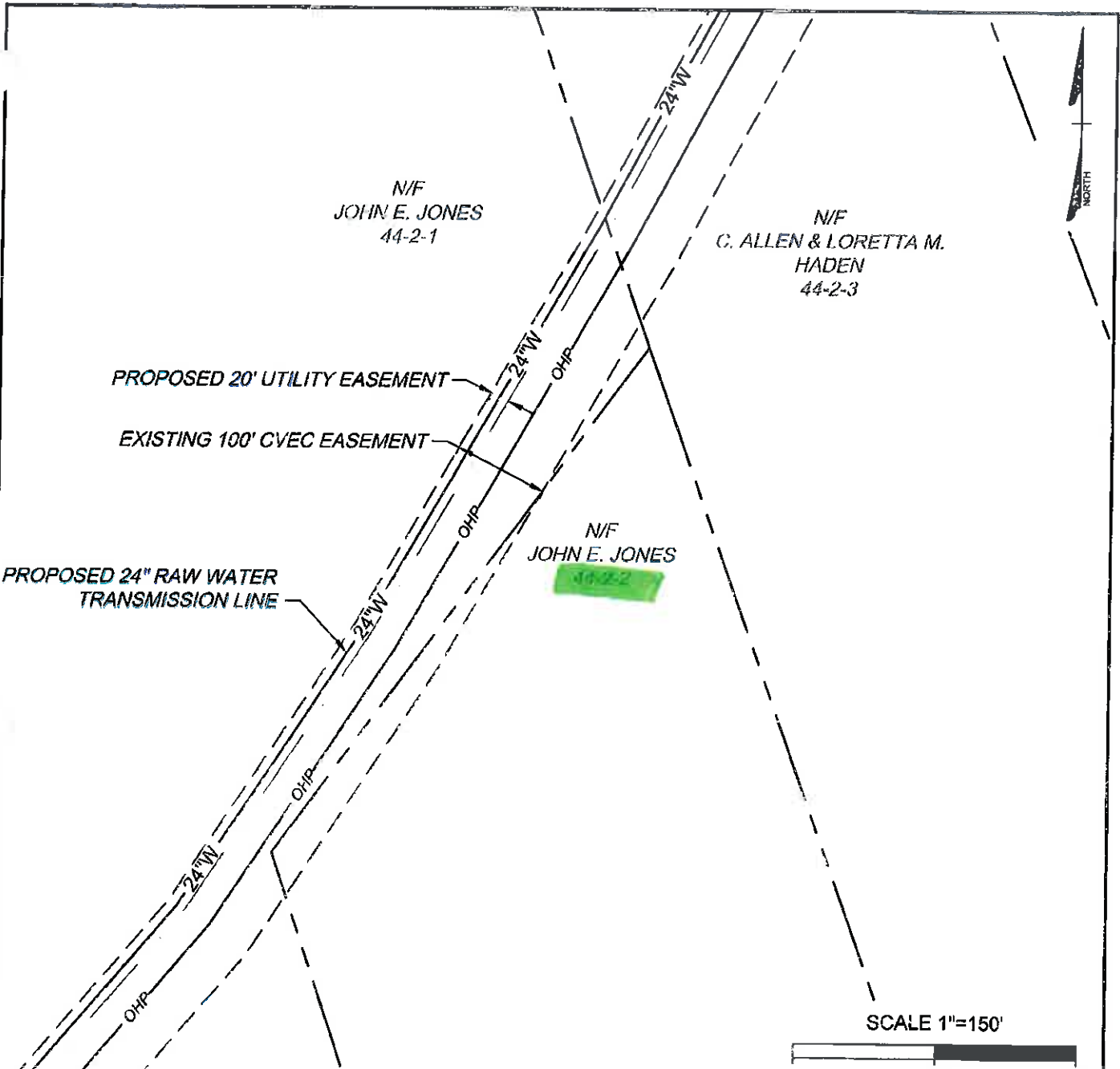
1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.



**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-4**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





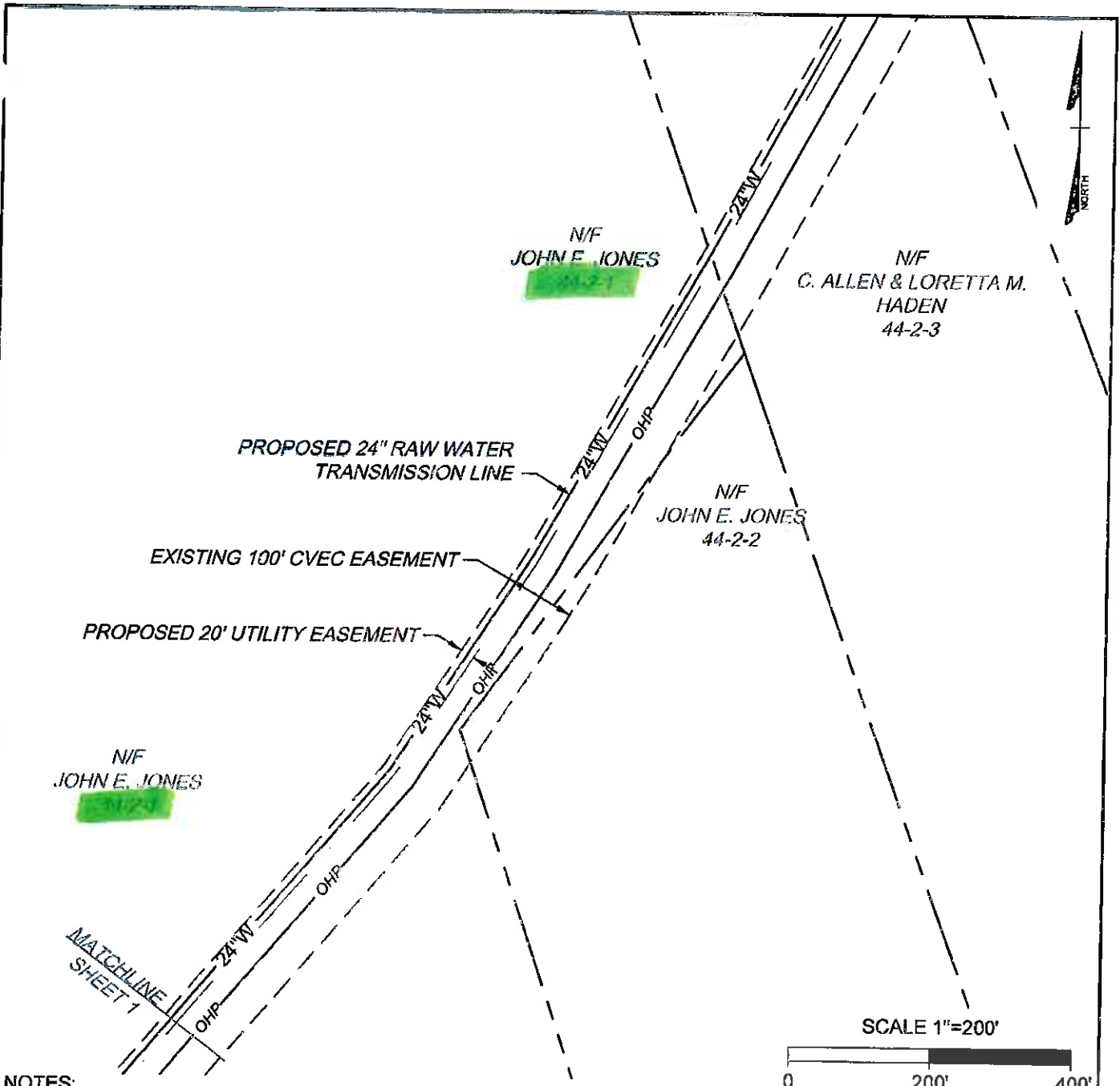
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-2**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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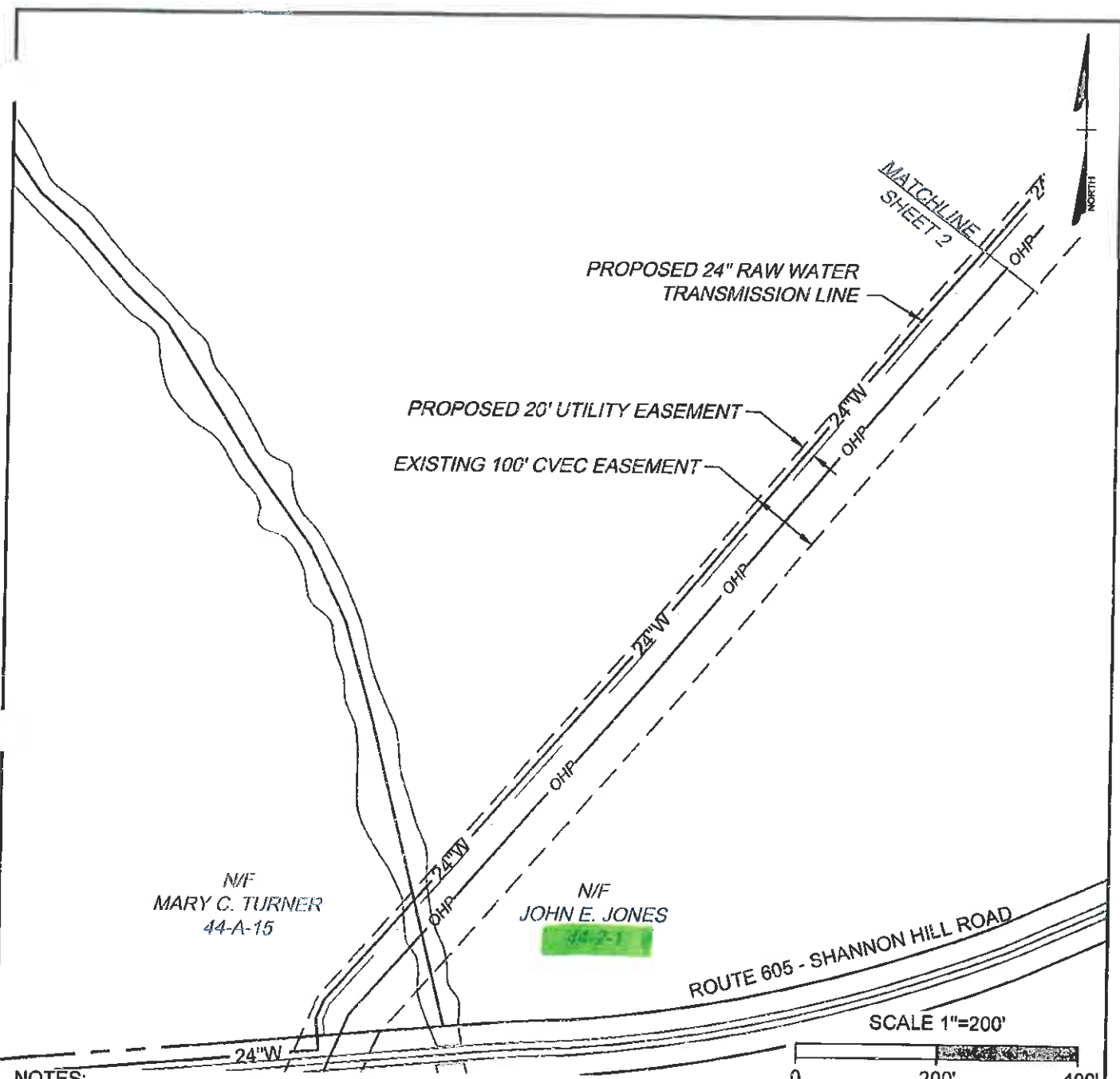
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-1**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 2 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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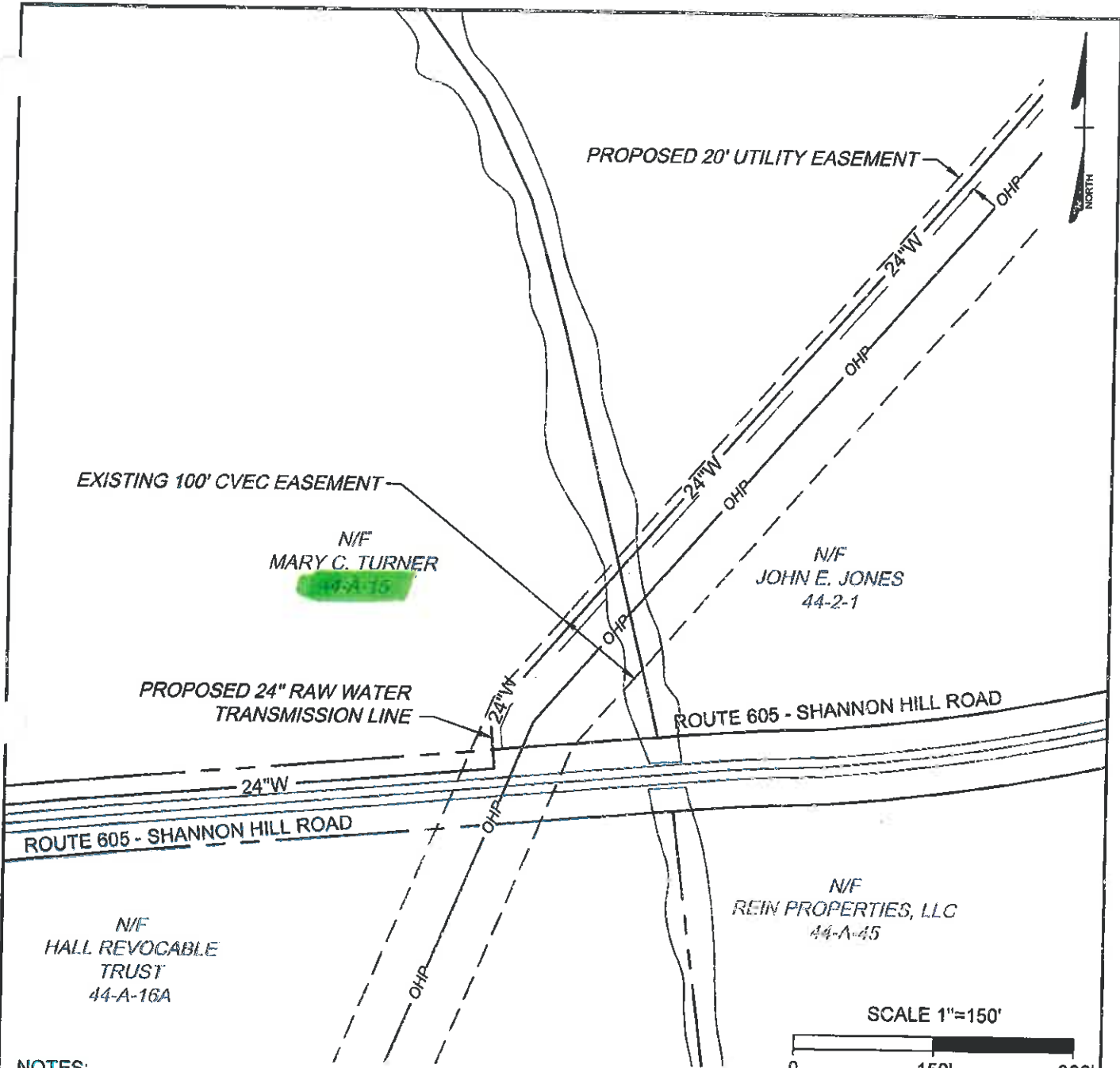
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-2-1**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 1 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





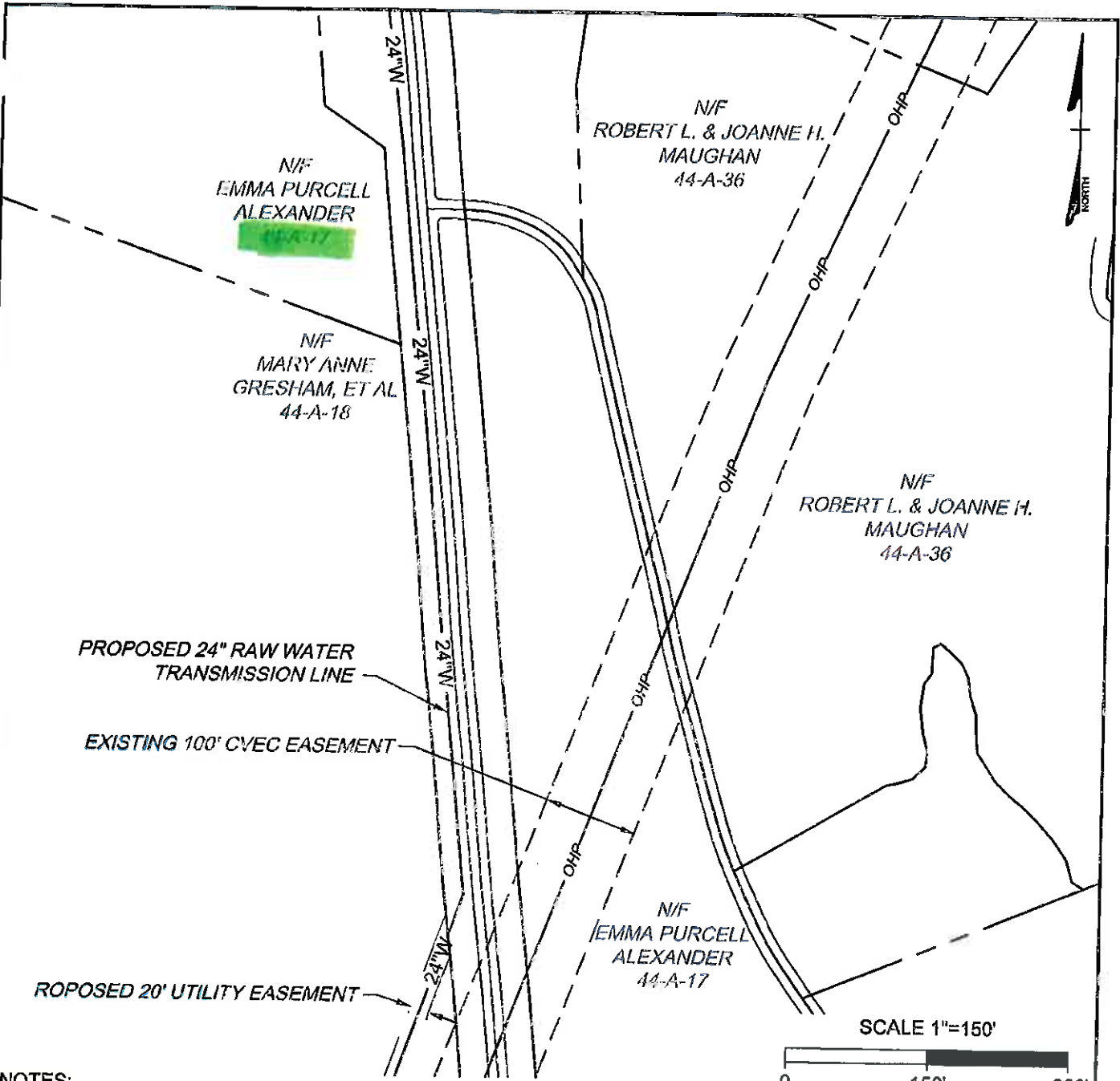
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-15**

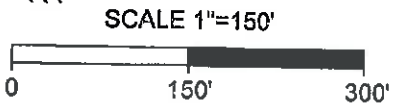
THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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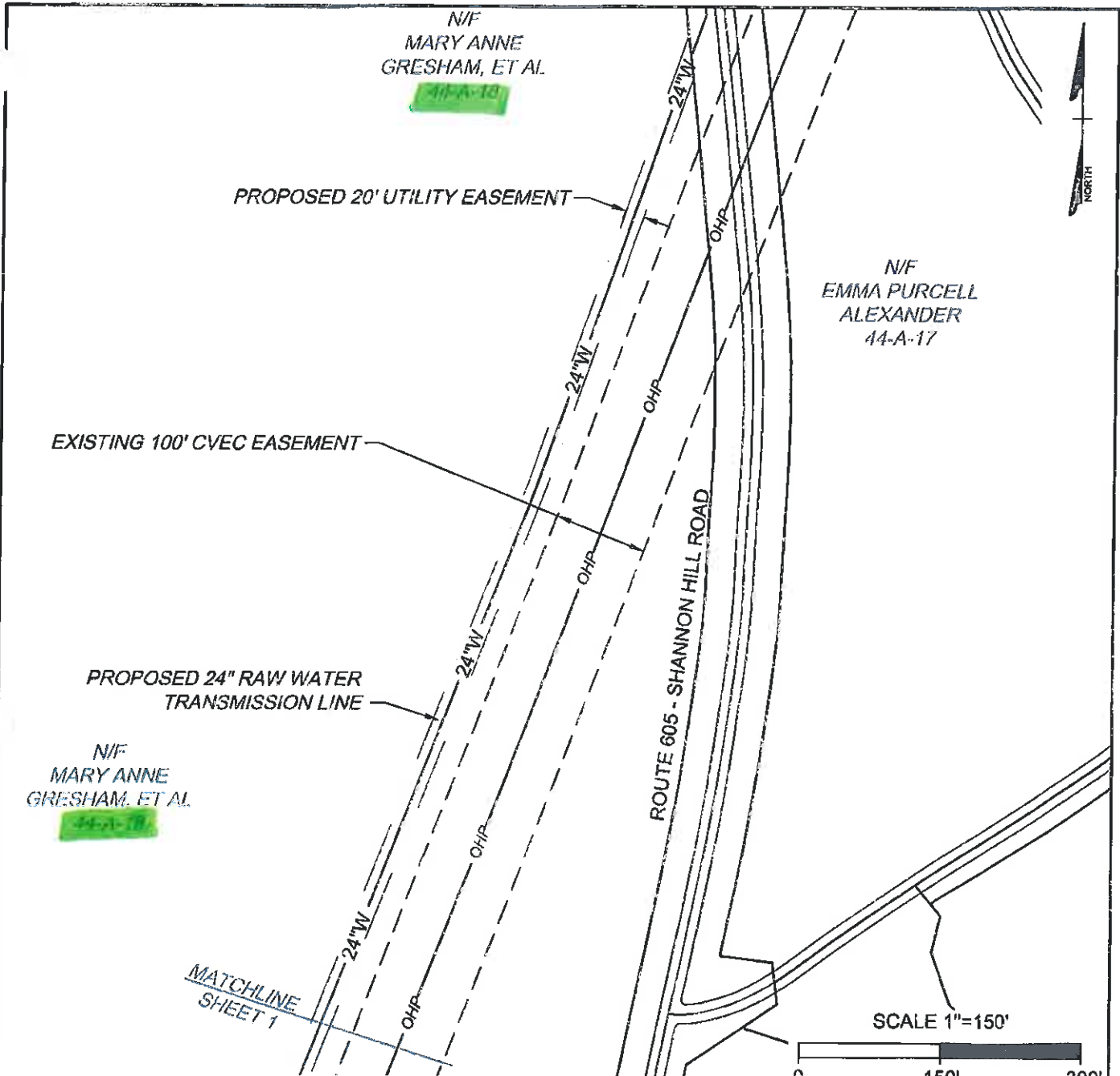
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-17**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





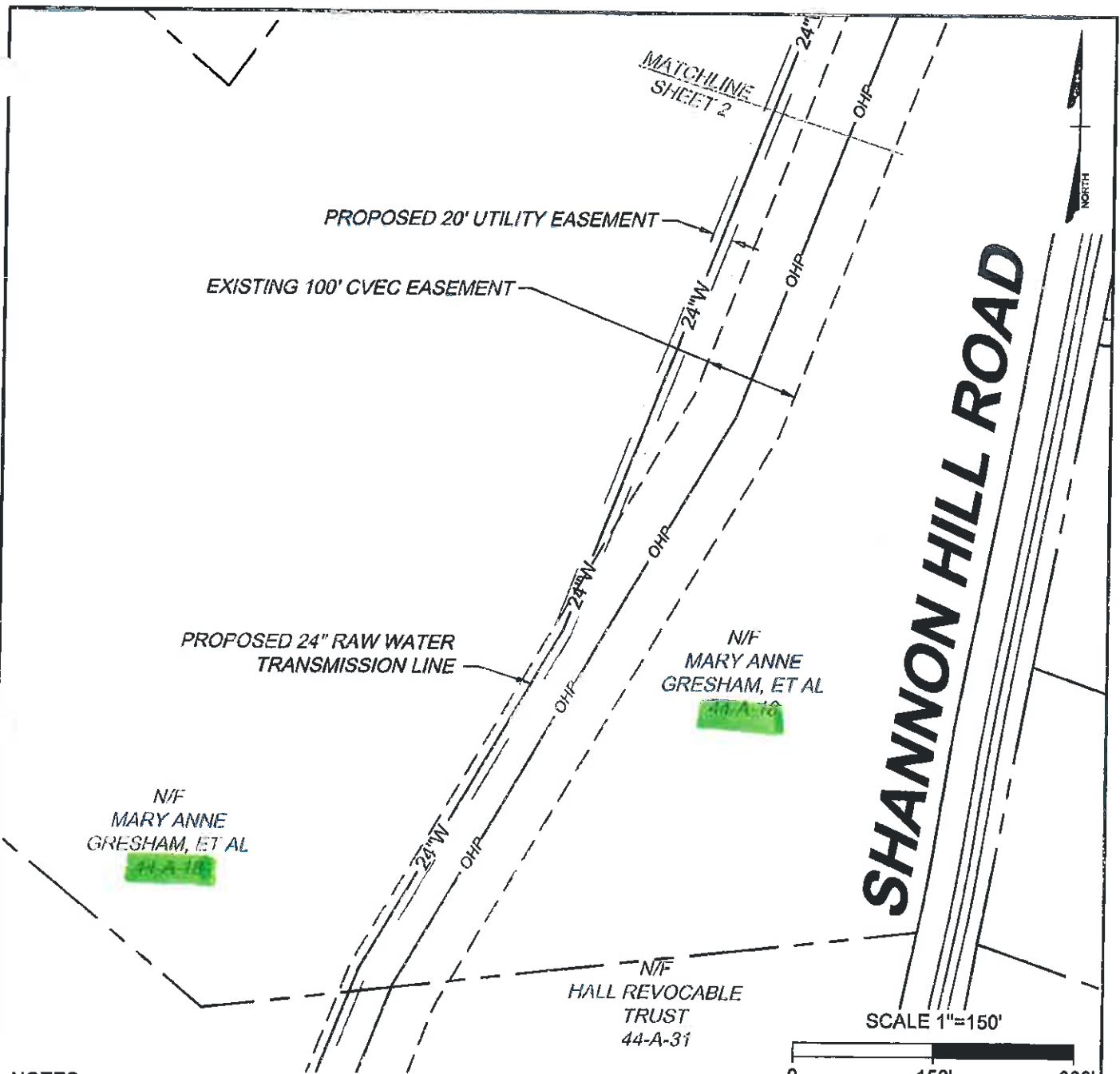
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-18**

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		Date: 06/11/2015	1" = 150'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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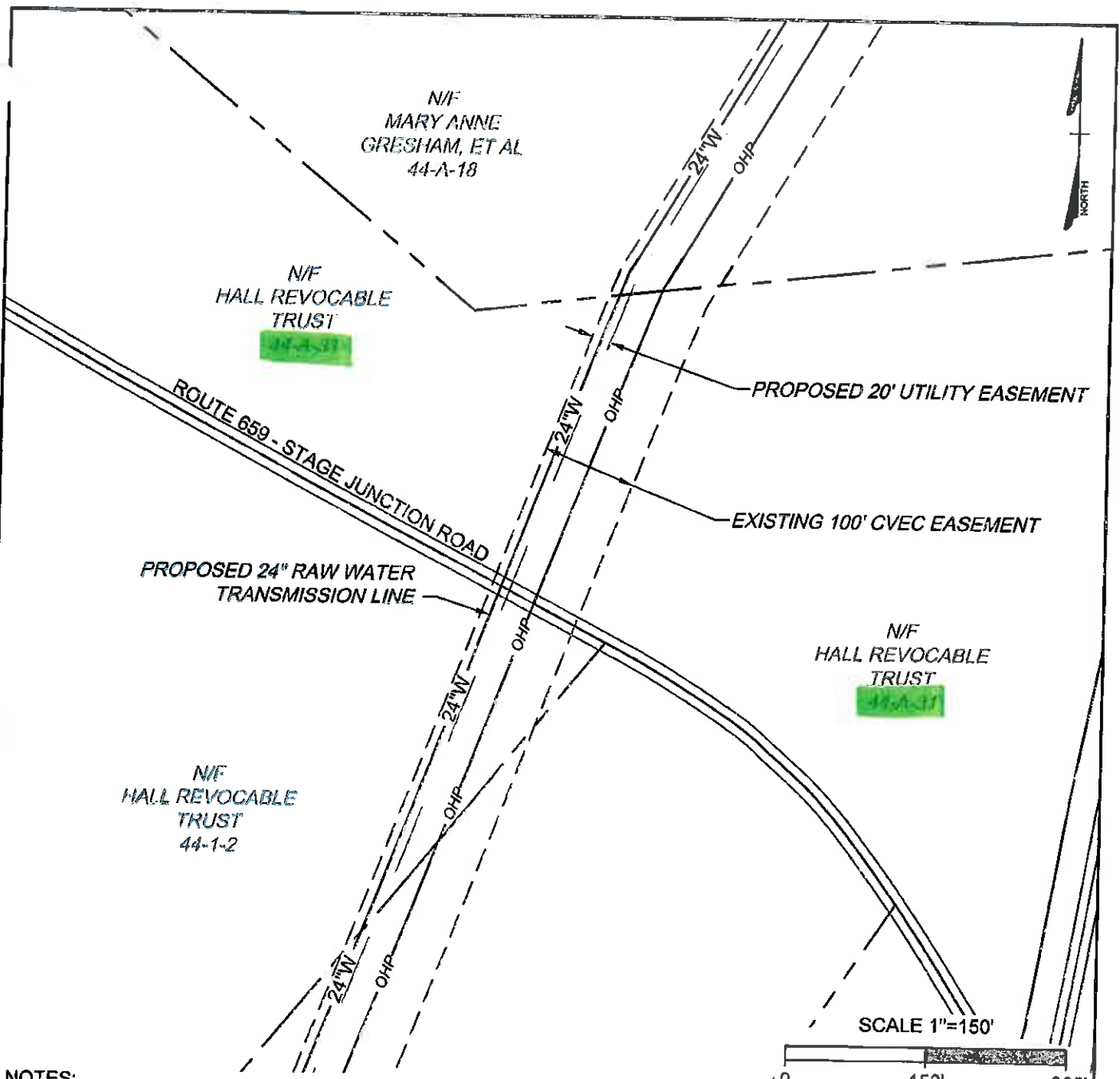
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-18**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





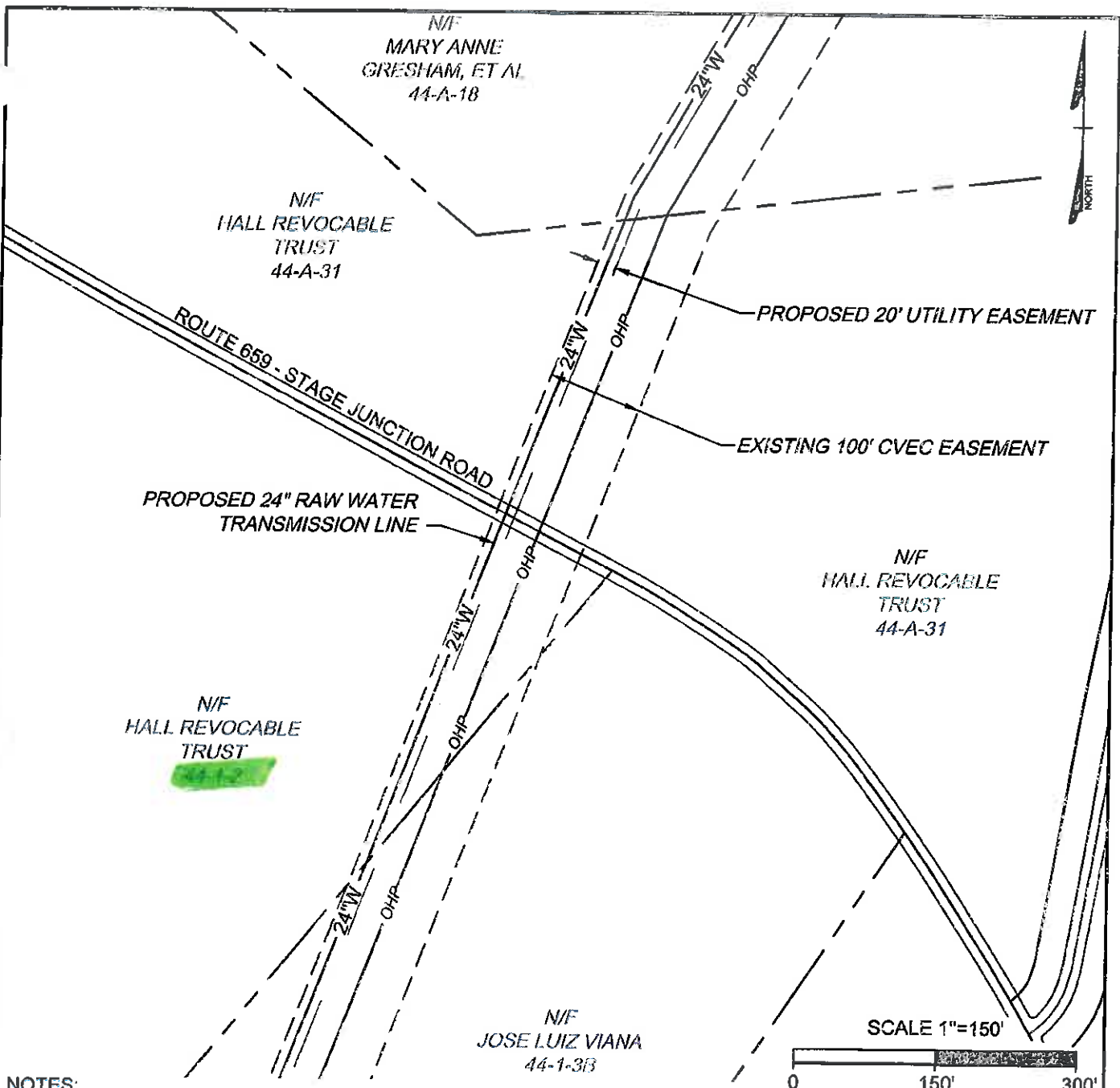
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-A-31**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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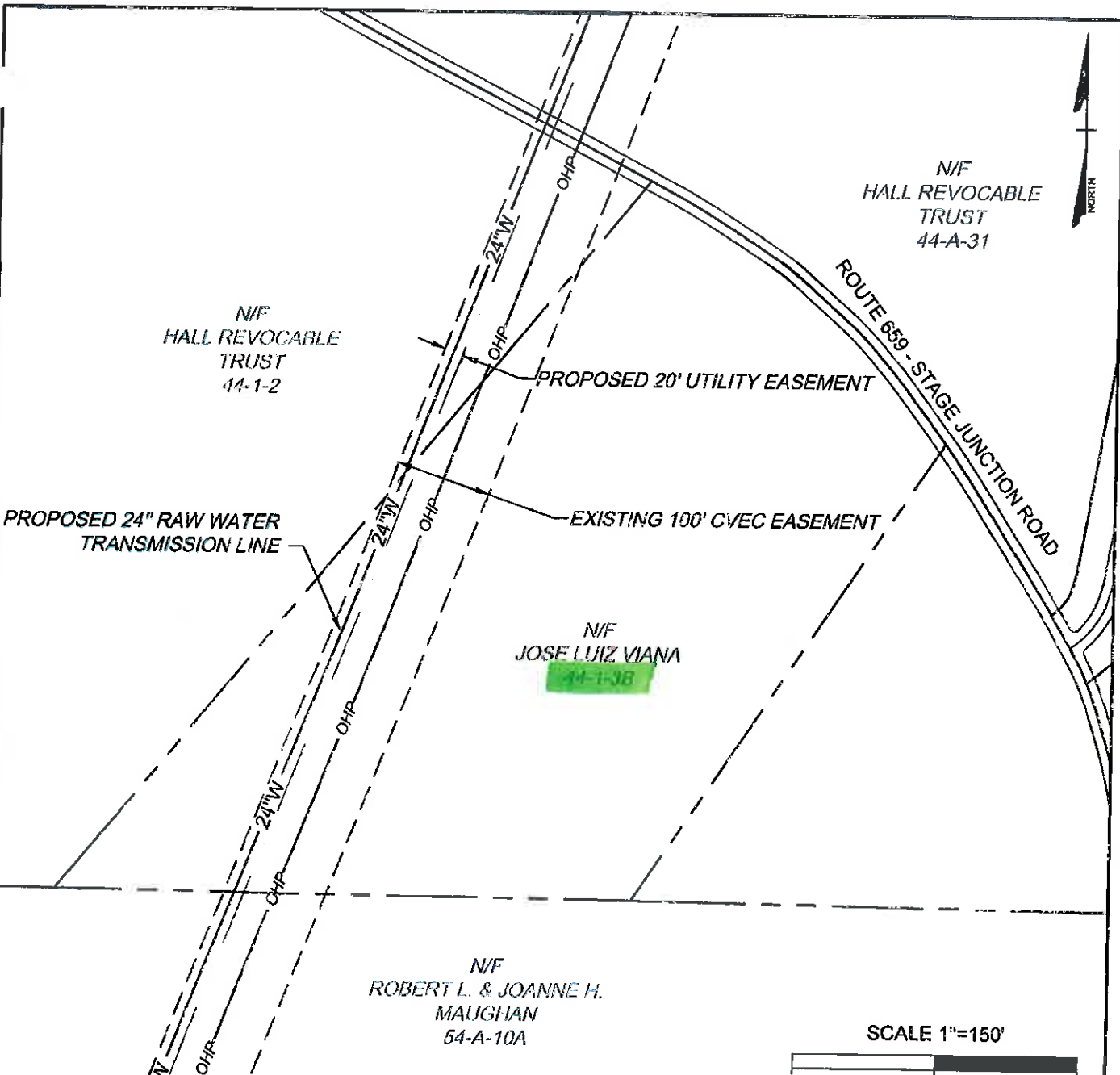
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-1-2**

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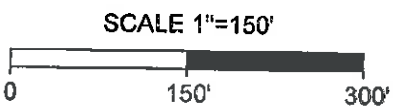
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N. : 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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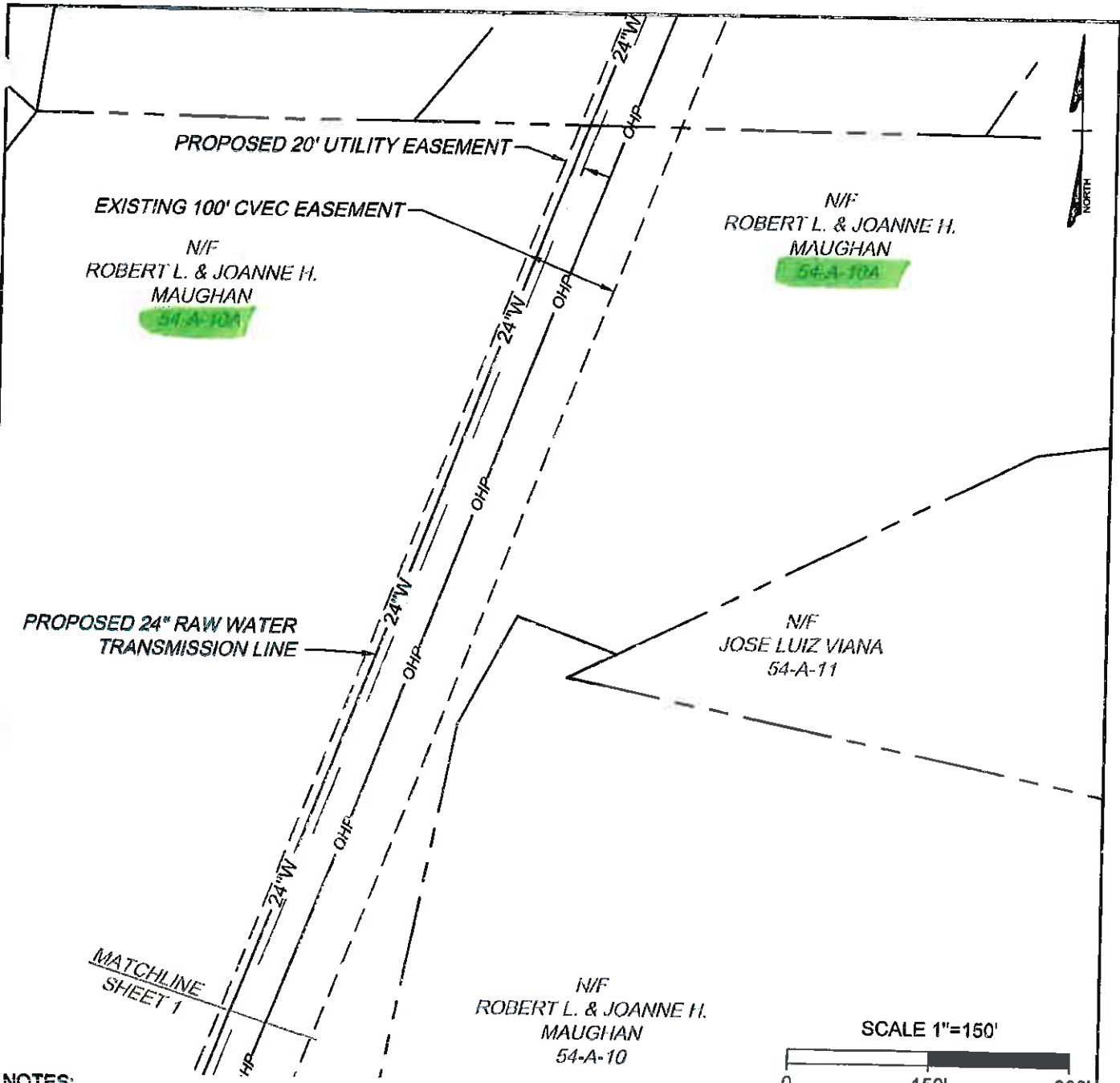
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 44-1-3B**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-10A**

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		Date: 06/11/2015	1" = 150'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

TIMMONS GROUP



Planning Dept.
188/351

MATCHLINE
SHEET 2

N/F
ROBERT L. & JOANNE H.
MAUGHAN
54-A-10A



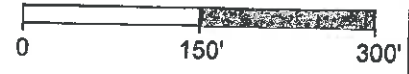
PROPOSED 20' UTILITY EASEMENT

EXISTING 100' CVEC EASEMENT

PROPOSED 24" RAW WATER
TRANSMISSION LINE

N/F
ROBERT L. & JOANNE H.
MAUGHAN
54-A-10

SCALE 1"=150'



NOTES:

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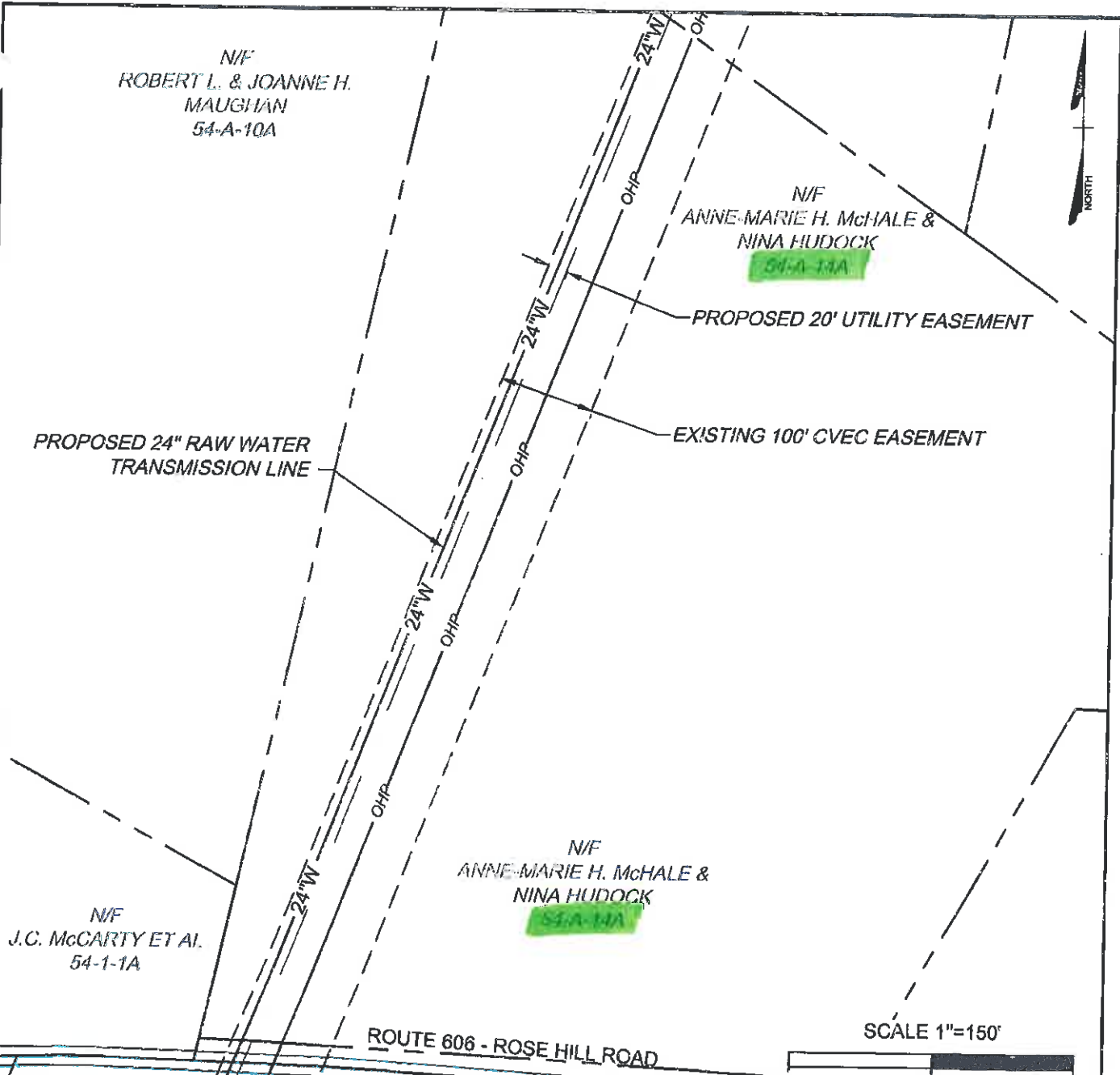
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-10A**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
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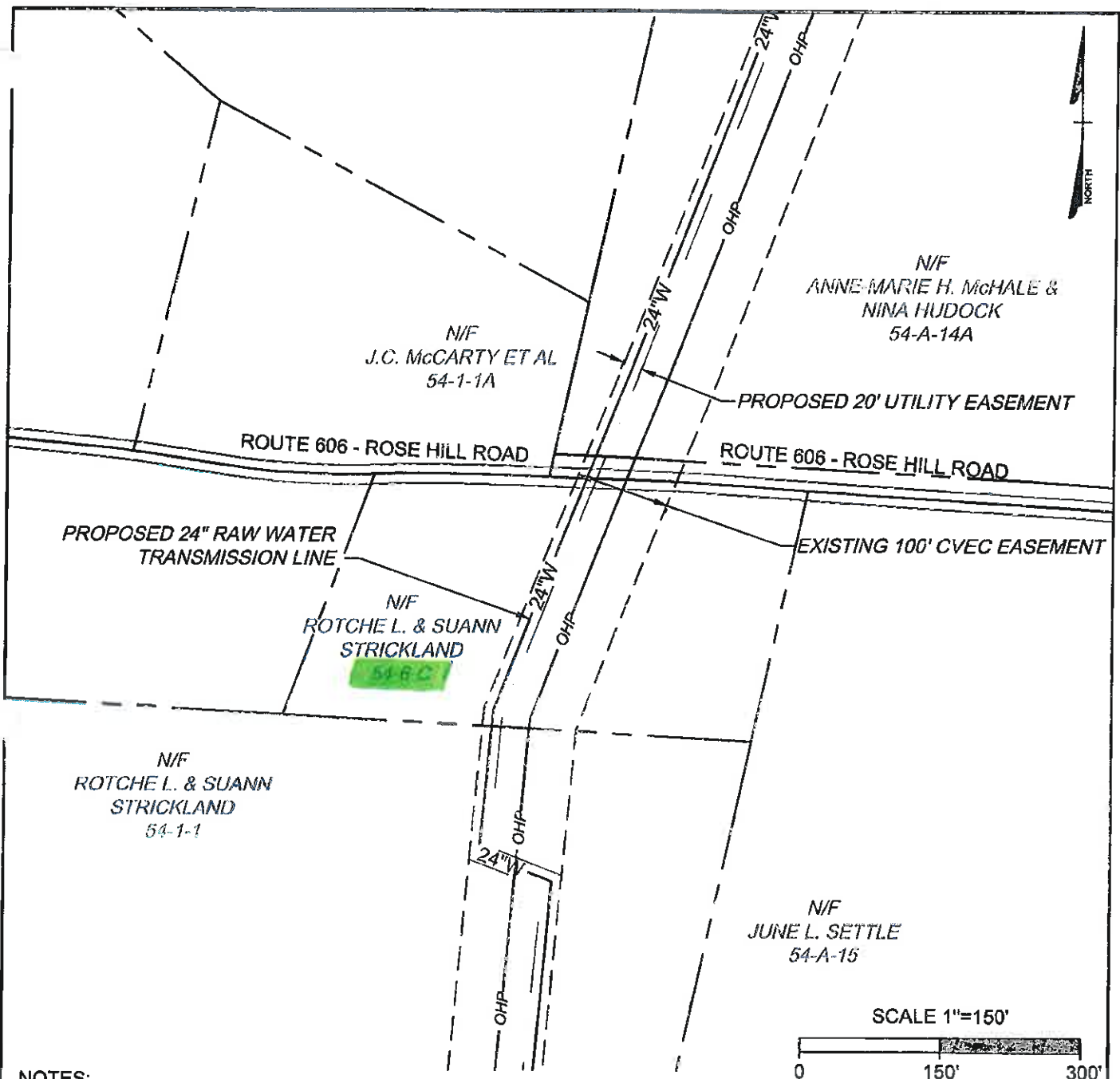
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-14A**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





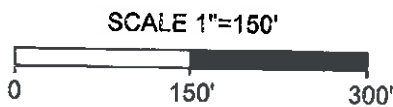
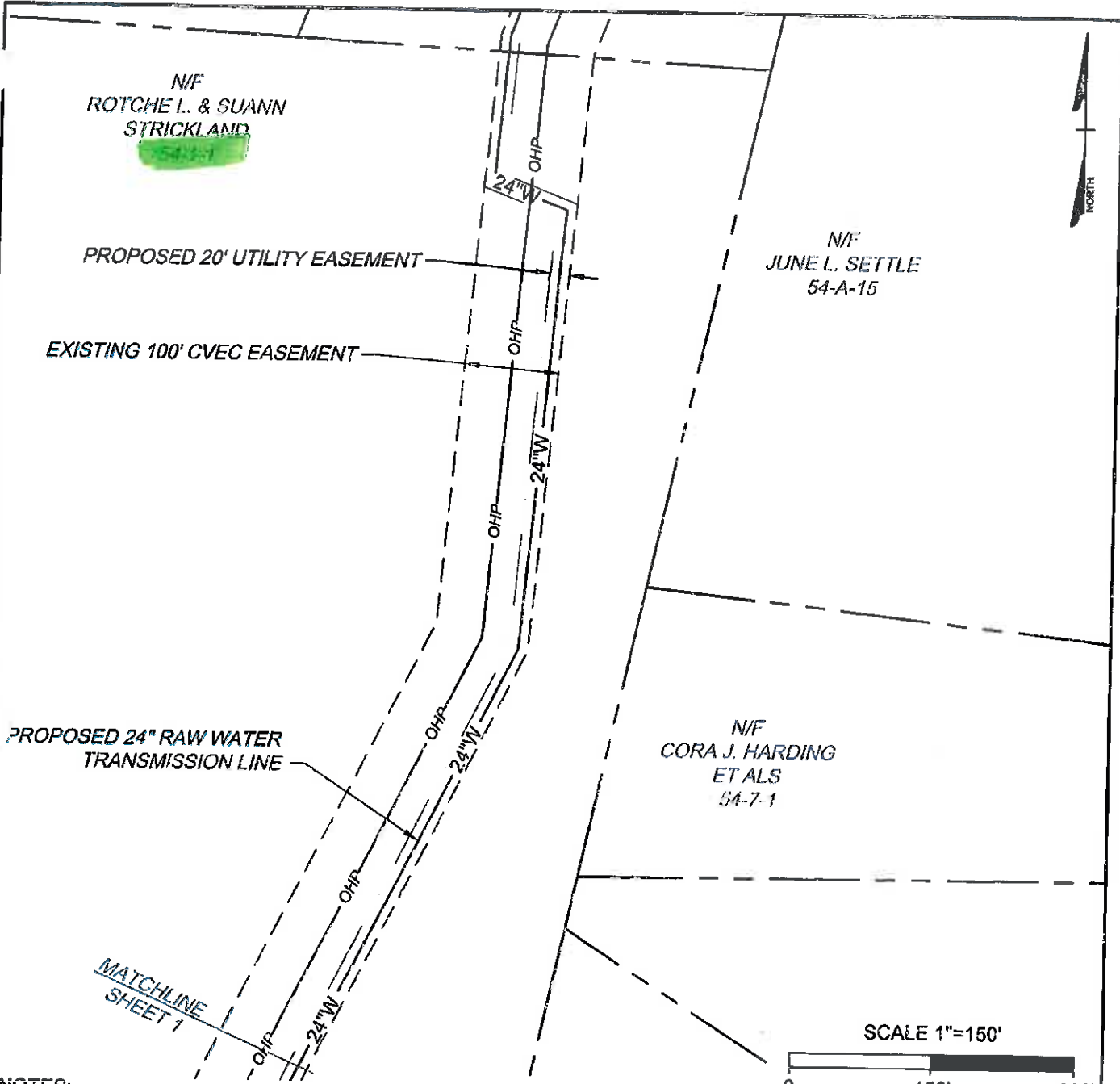
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-6-C**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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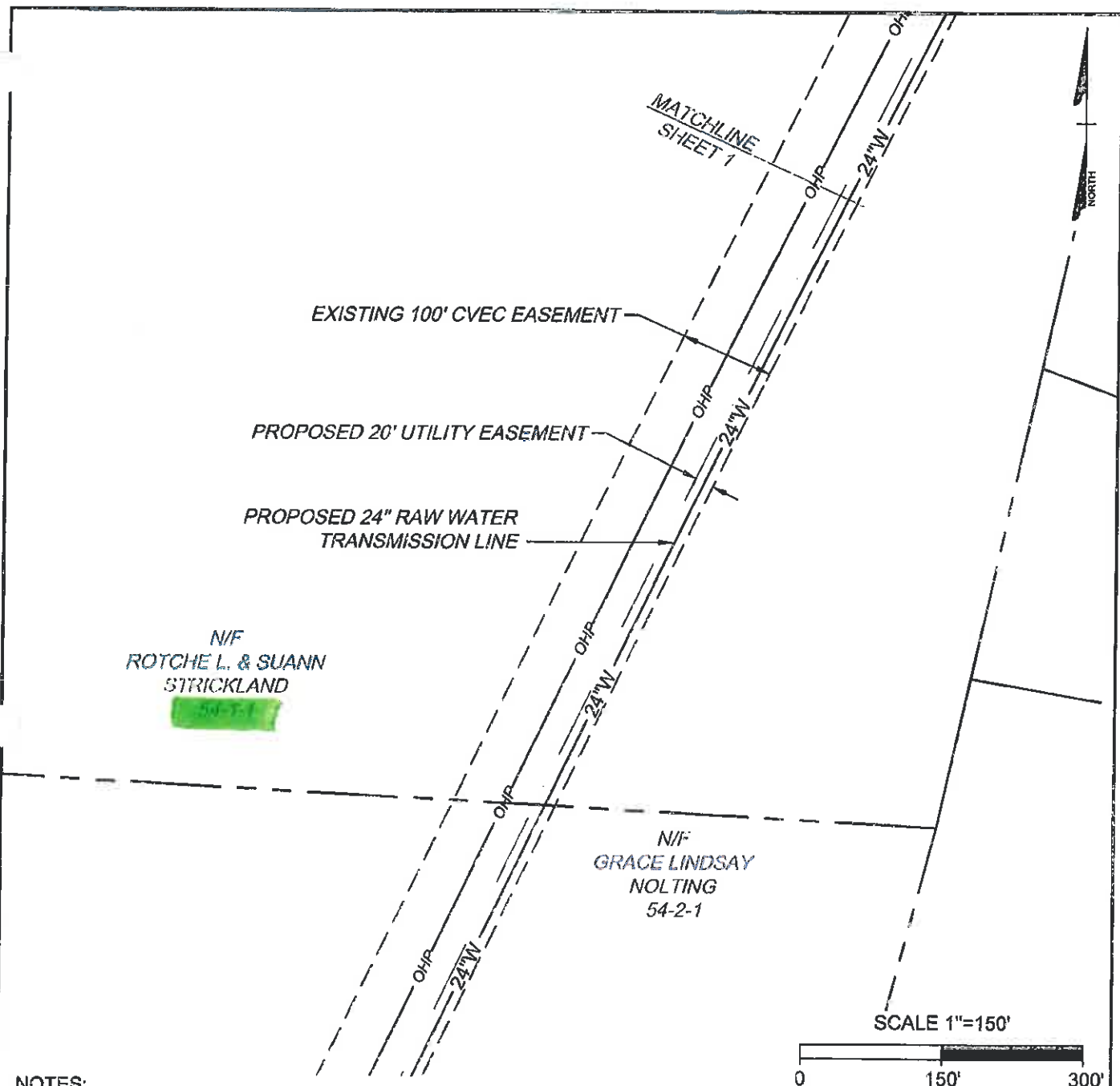
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-1-1**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 2 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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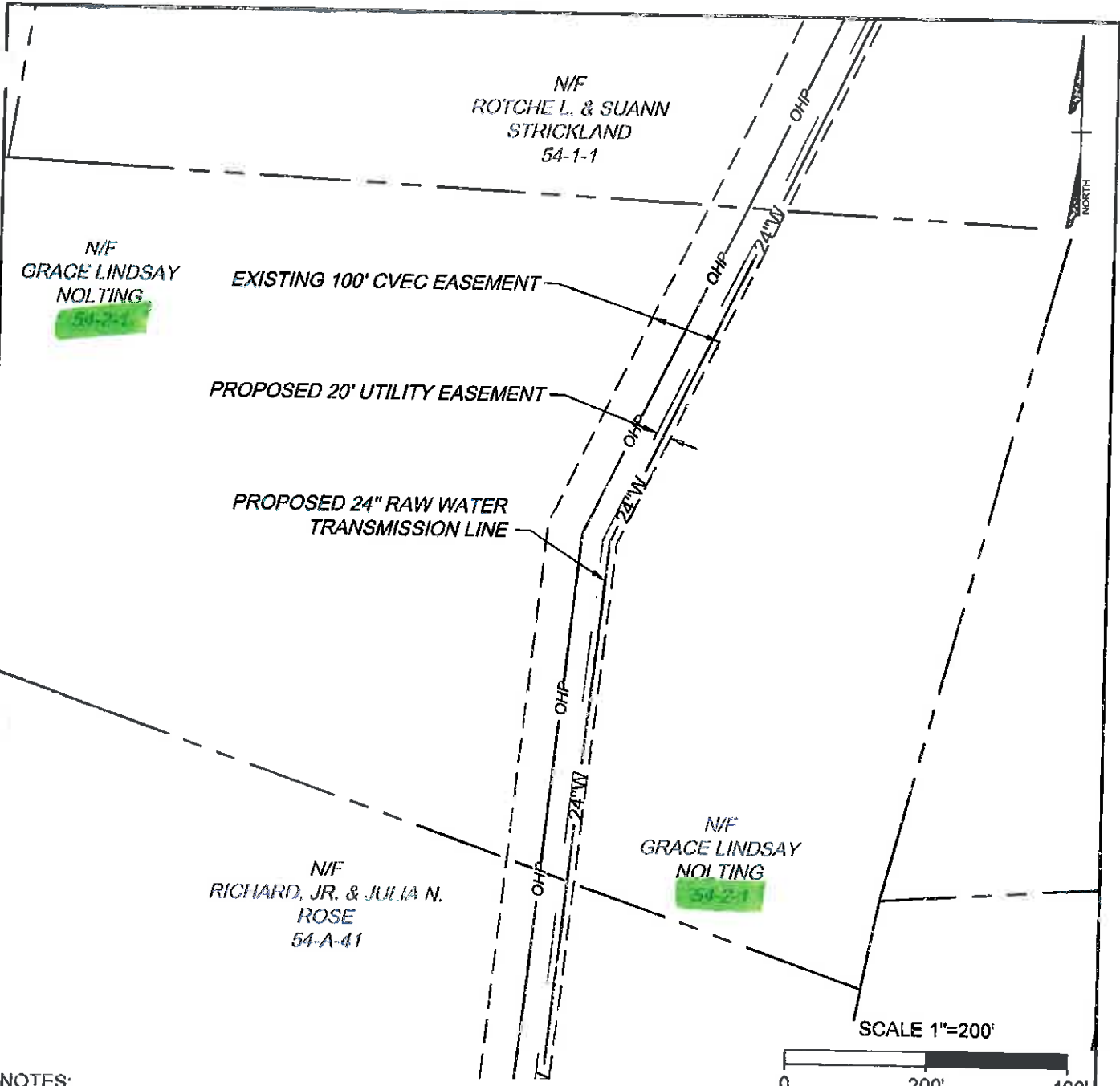
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-1-1**

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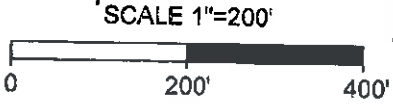
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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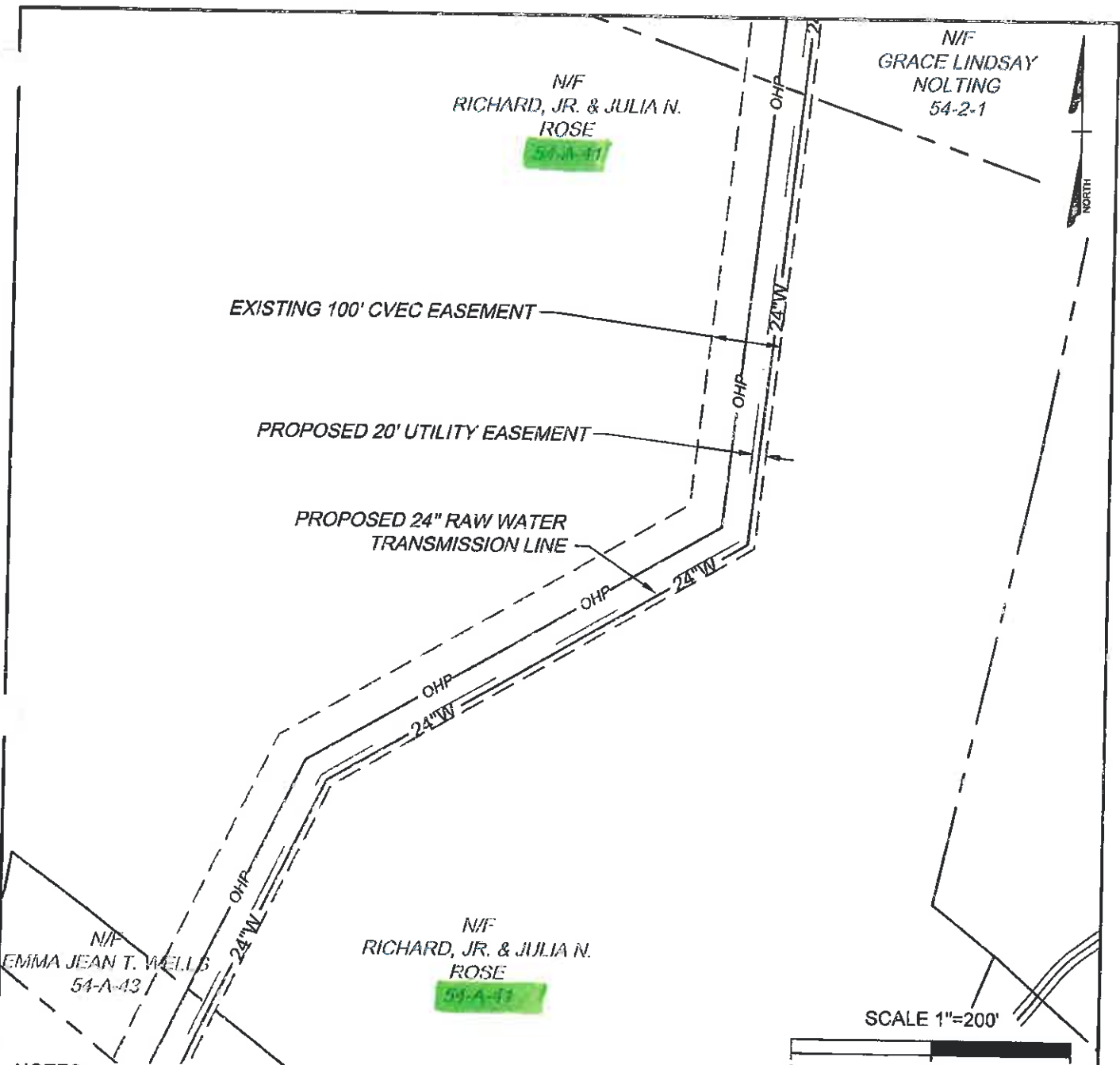
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-2-1**

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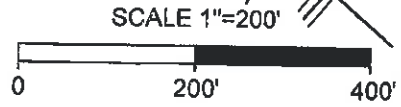
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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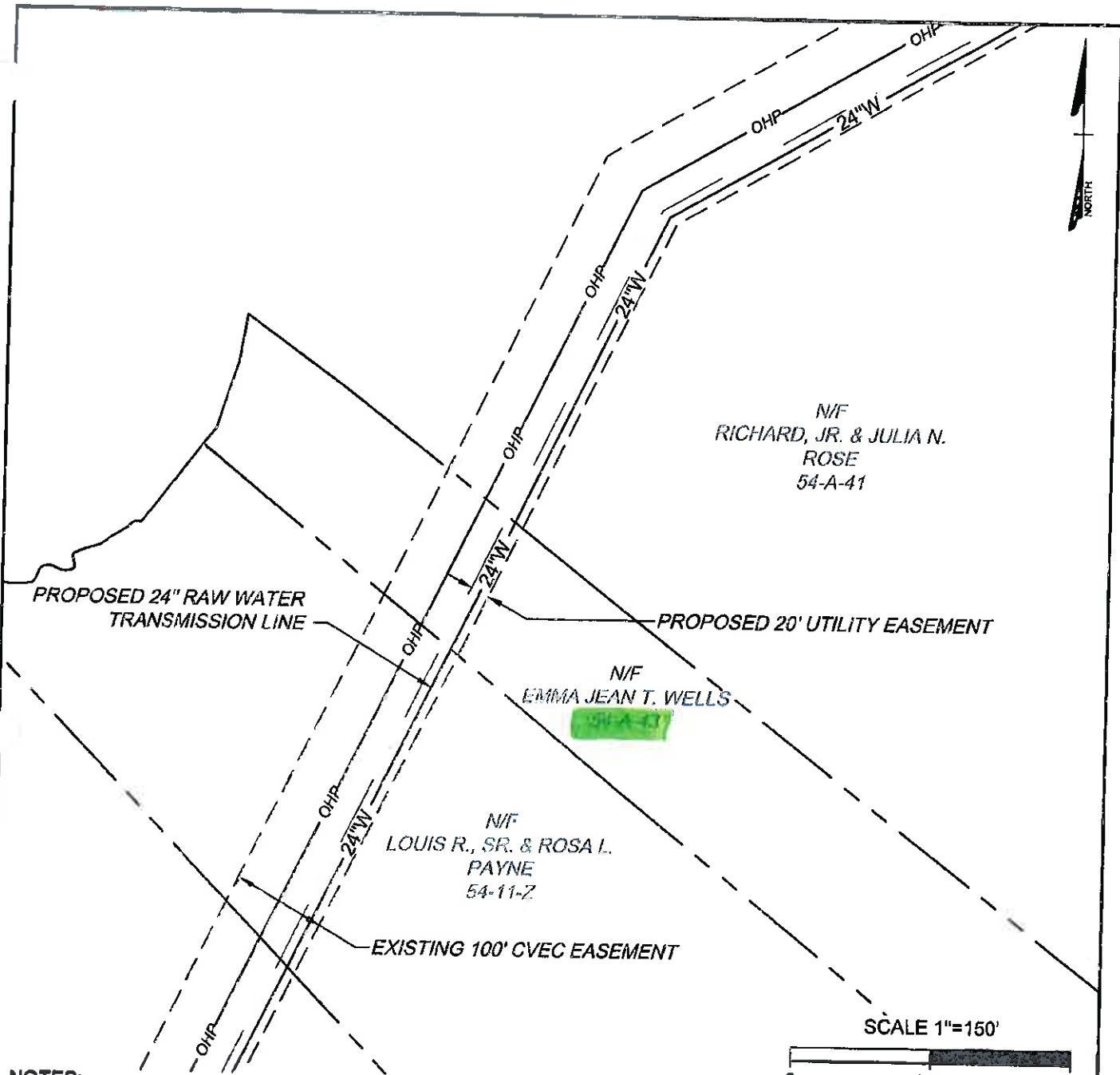
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-41**

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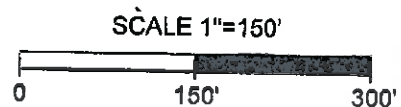
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 1 of 1	J.N.: 33973
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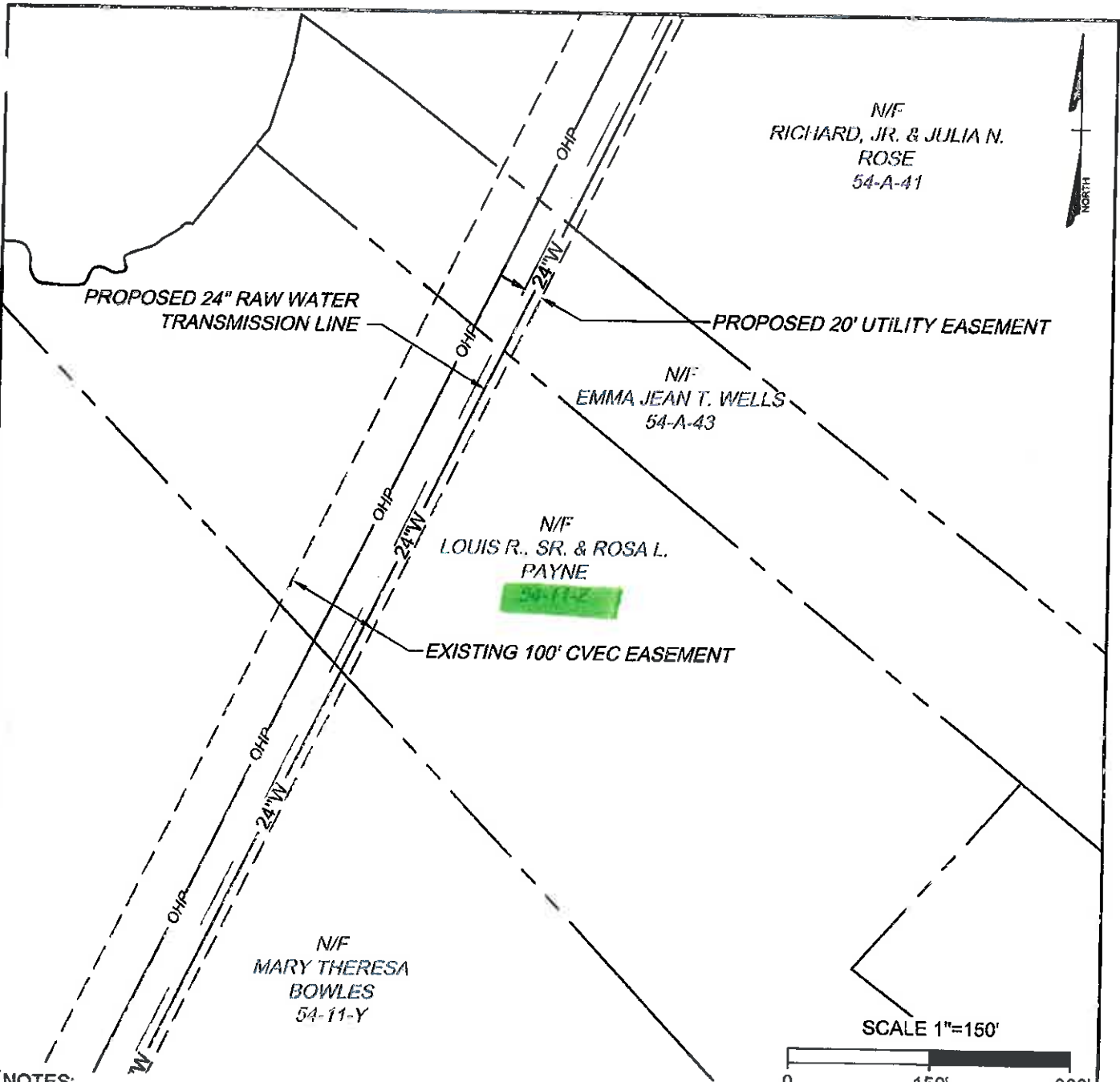
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-43**

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YOUR VISION ACHIEVED
THROUGH OURS

COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

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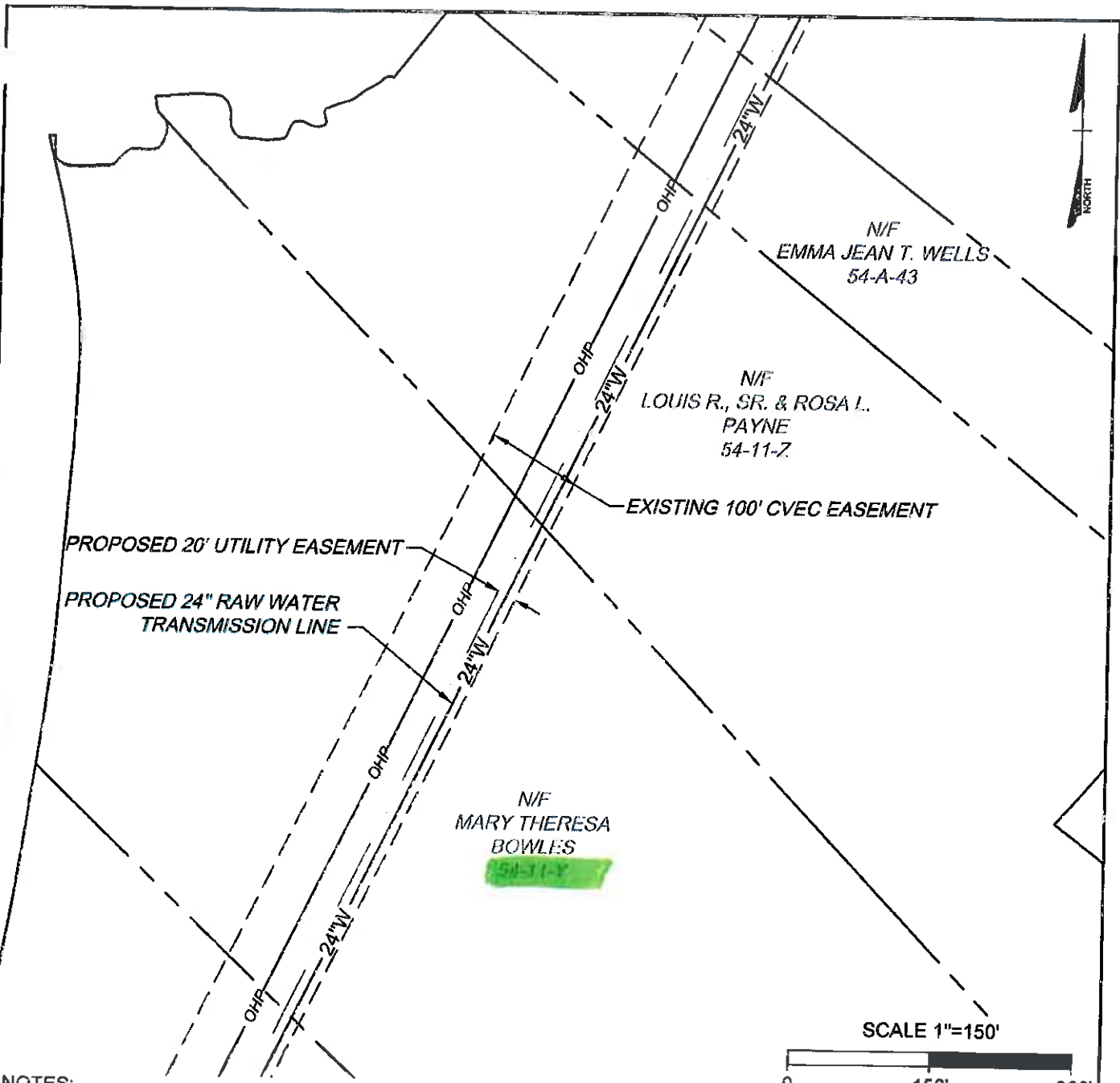
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-Z**

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YOUR VISION ACHIEVED
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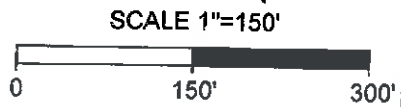
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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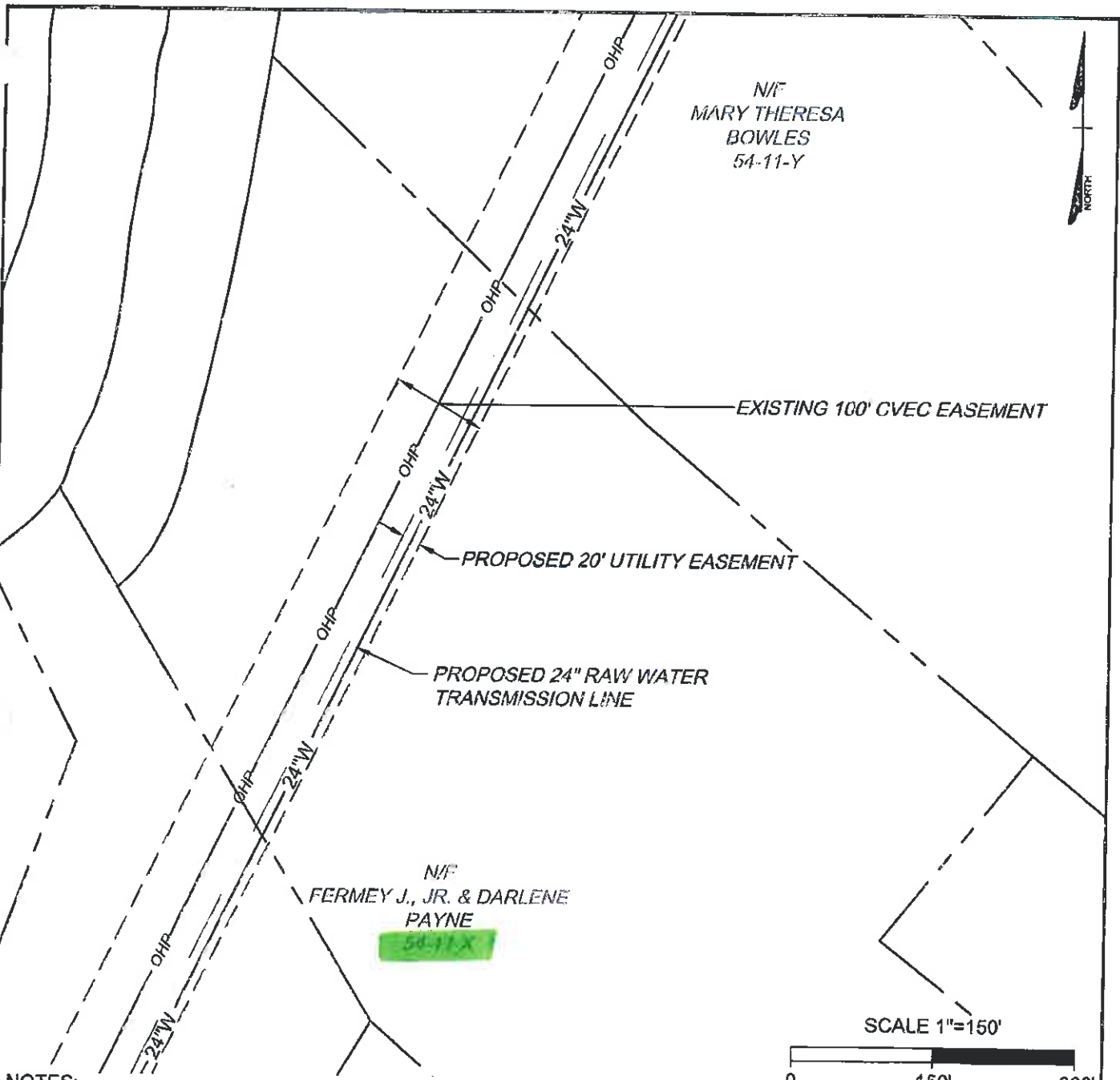
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-Y**

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YOUR VISION ACHIEVED
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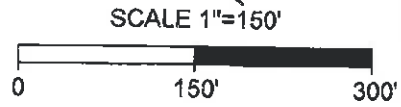
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

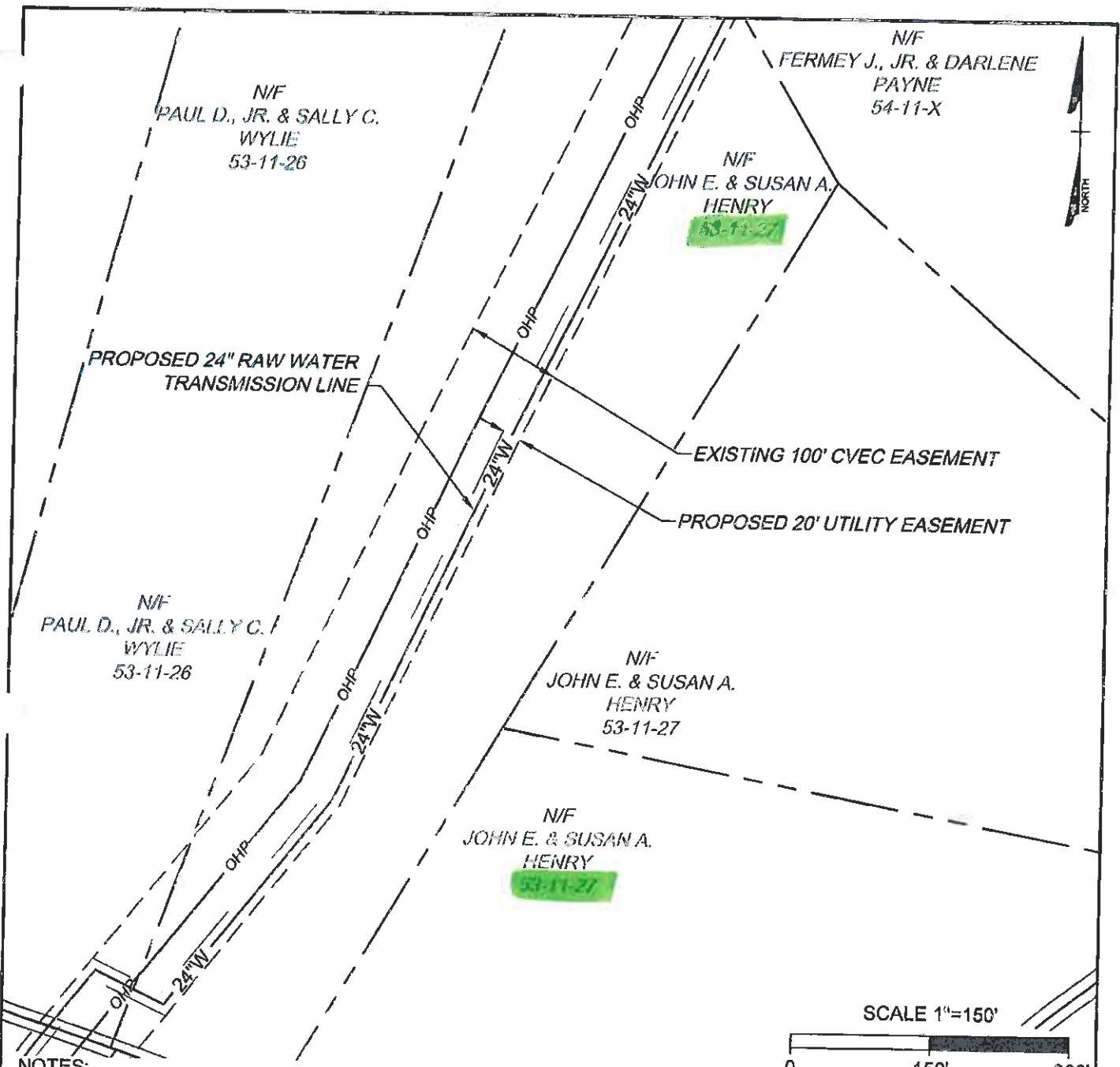
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-X**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





N/F
FERMEY J., JR. & DARLENE
PAYNE
54-11-X

N/F
PAUL D., JR. & SALLY C.
WYLIE
53-11-26

N/F
JOHN E. & SUSAN A.
HENRY
53-11-27

N/F
PAUL D., JR. & SALLY C.
WYLIE
53-11-26

N/F
JOHN E. & SUSAN A.
HENRY
53-11-27

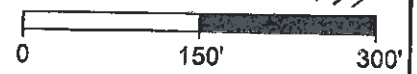
N/F
JOHN E. & SUSAN A.
HENRY
53-11-27

PROPOSED 24" RAW WATER
TRANSMISSION LINE

EXISTING 100' CVEC EASEMENT

PROPOSED 20' UTILITY EASEMENT

SCALE 1"=150'



NOTES:

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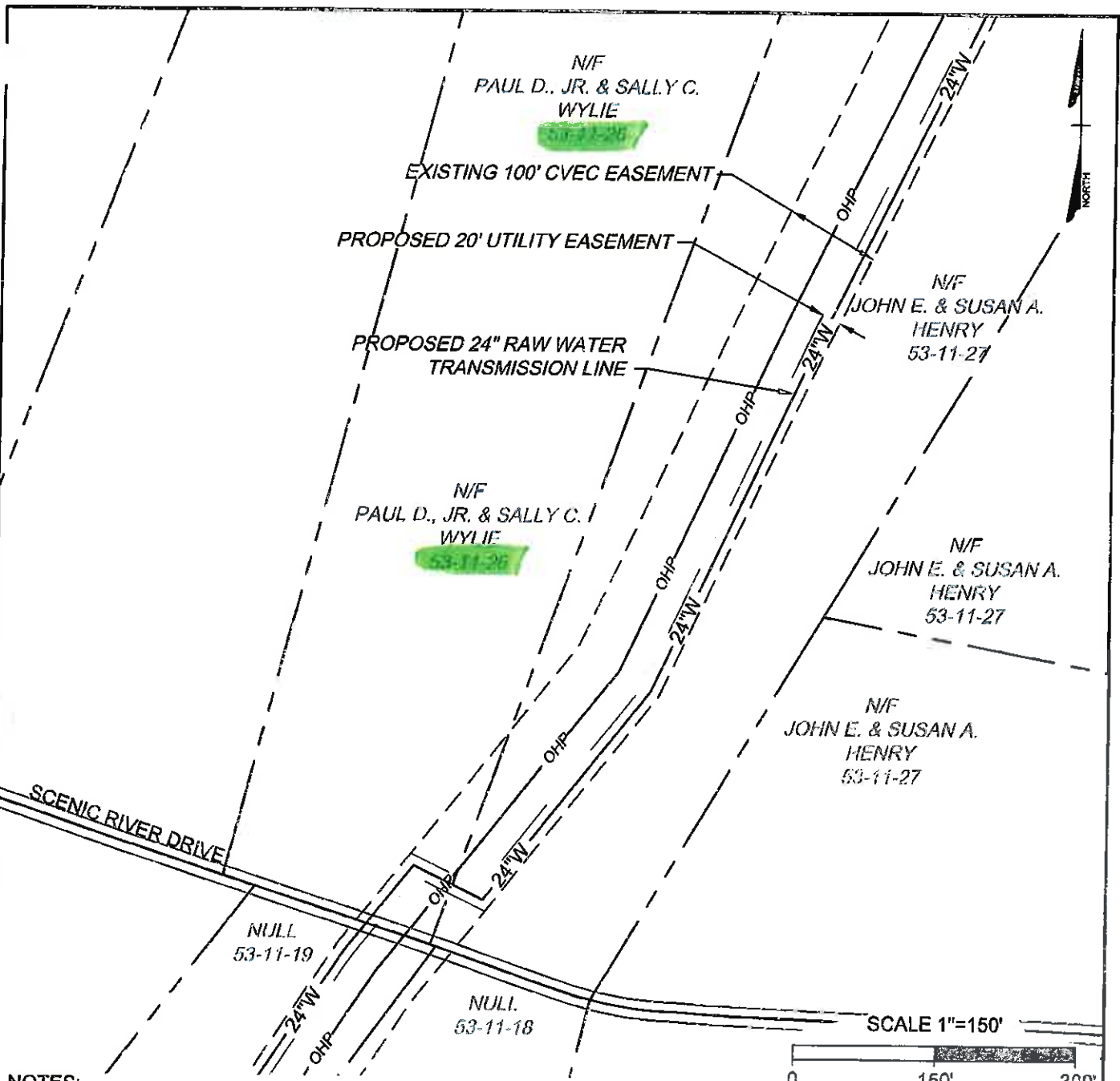
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-27**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





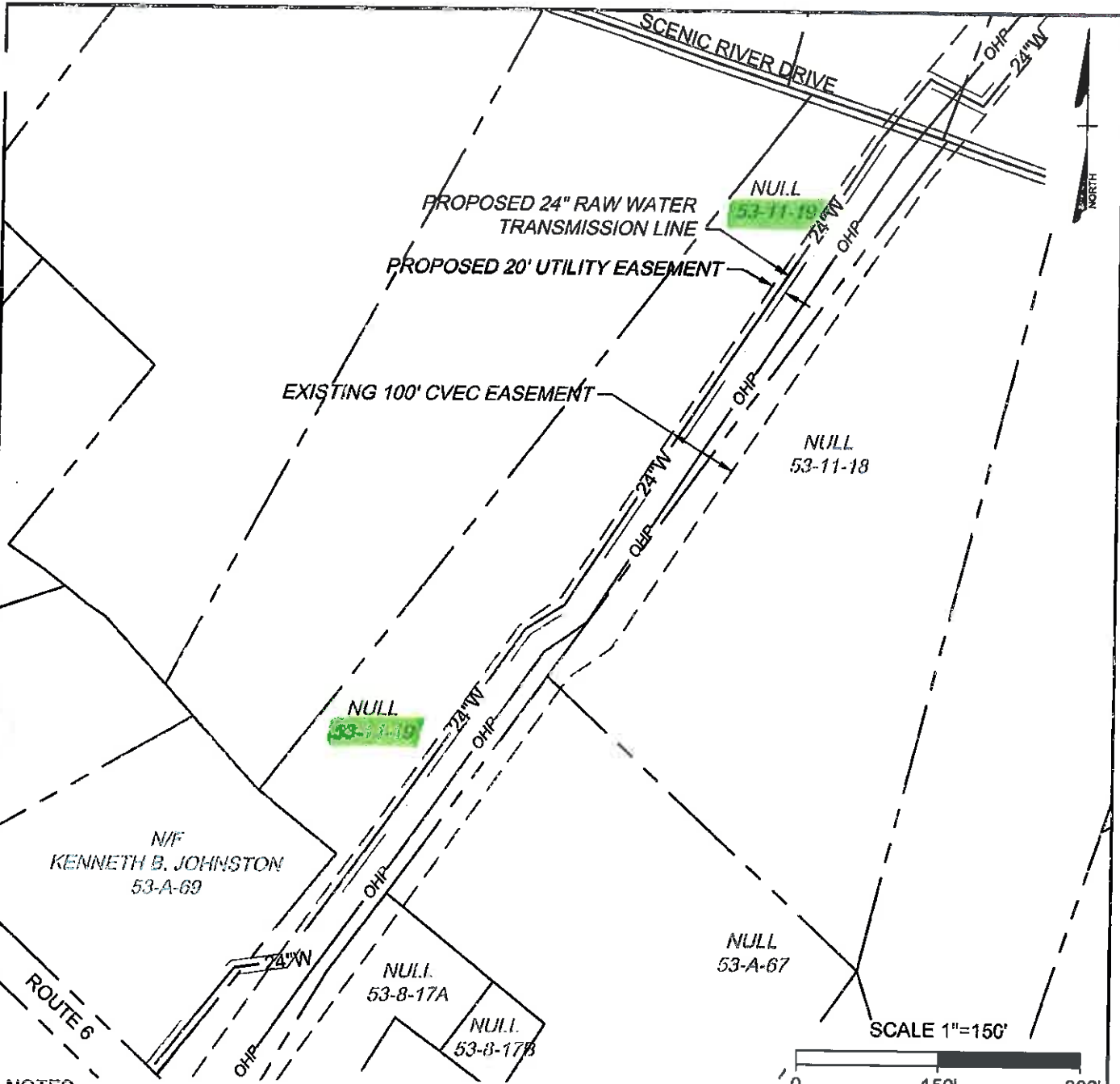
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-26**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





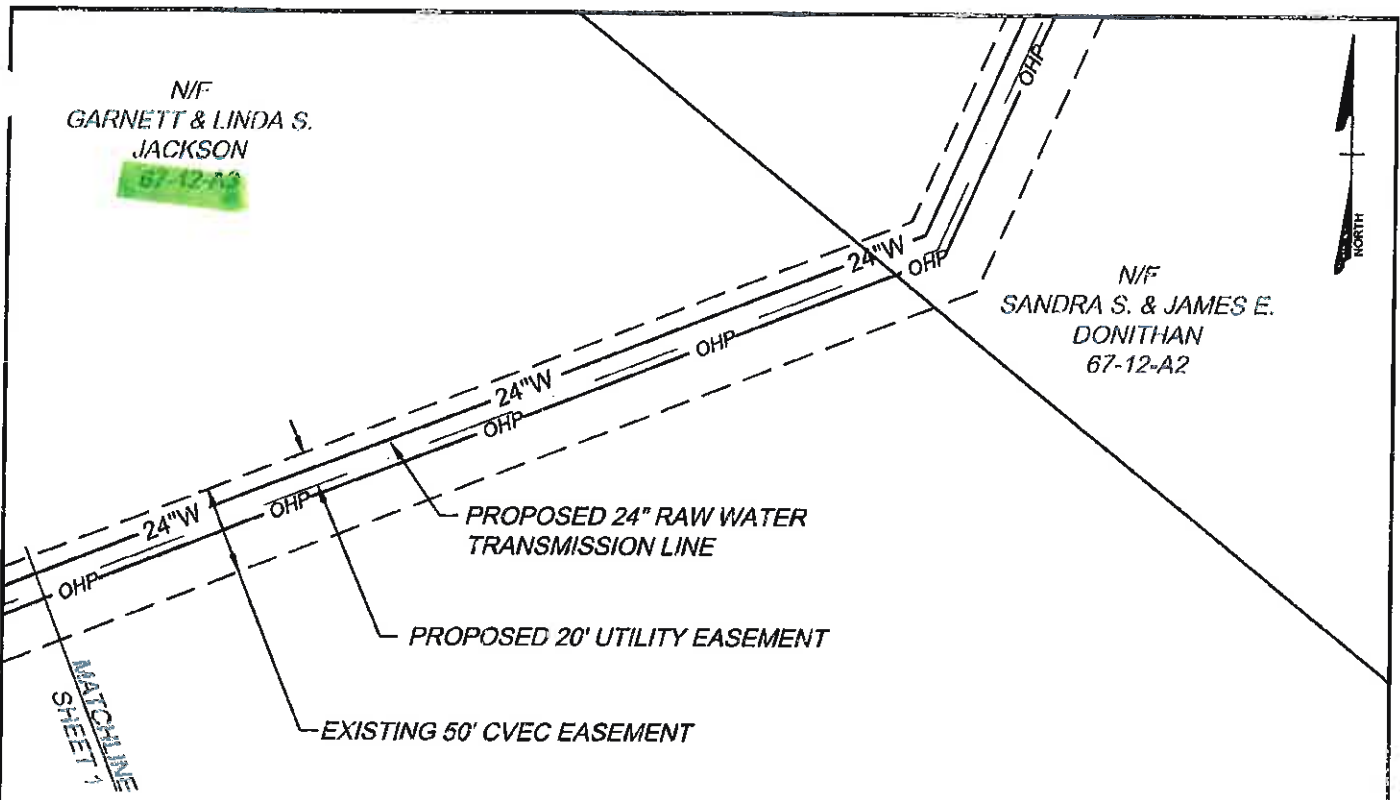
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-19**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





N/F
GARNETT & LINDA S.
JACKSON
67-12-A3

N/F
SANDRA S. & JAMES E.
DONITHAN
67-12-A2

N/F
GARNETT & LINDA S.
JACKSON
67-12-A3

MATCHLINE
SHEET 1

SCALE 1"=100'



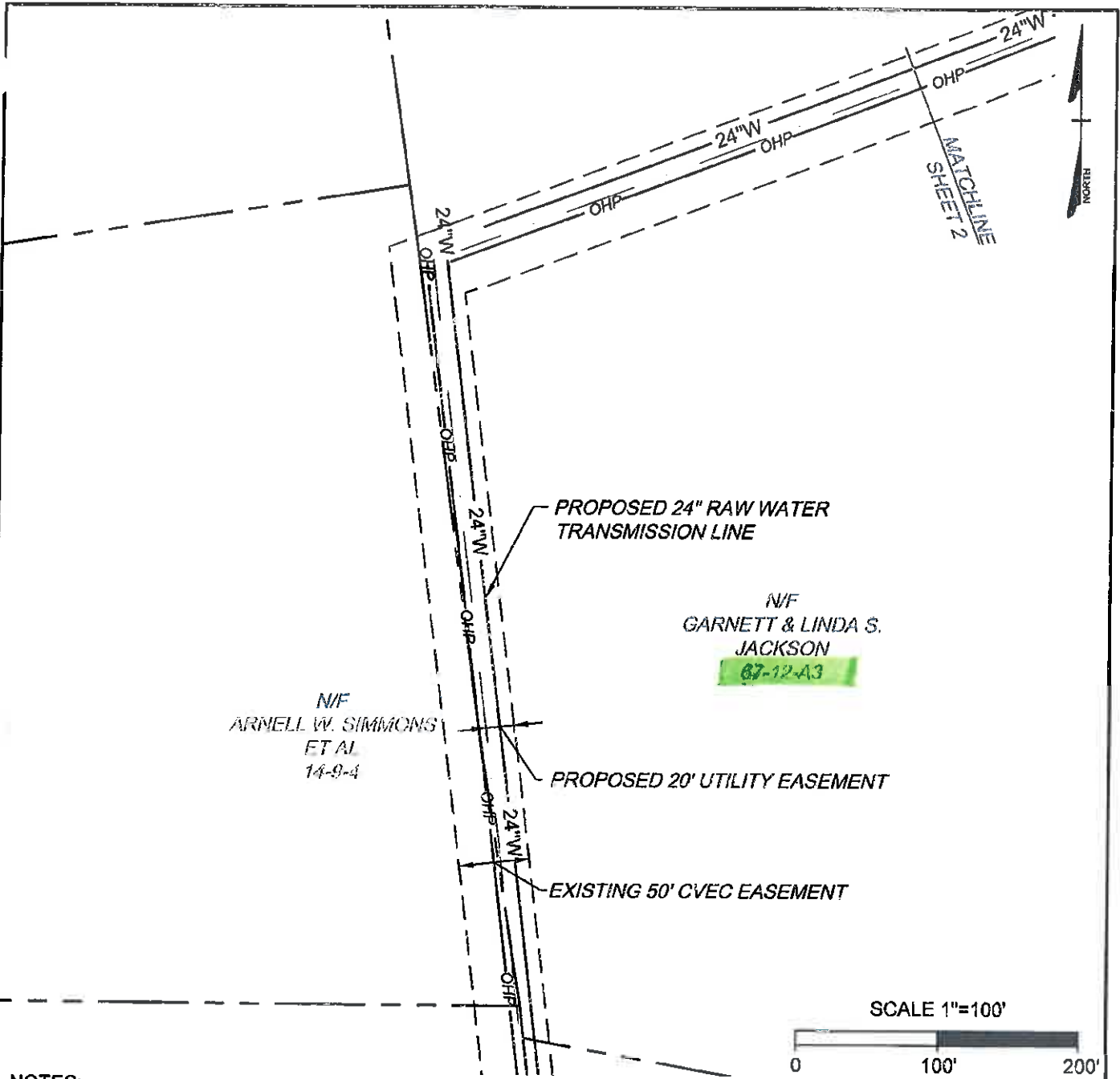
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 67-12-A3**

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		Date: 06/11/2015	1" = 100'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





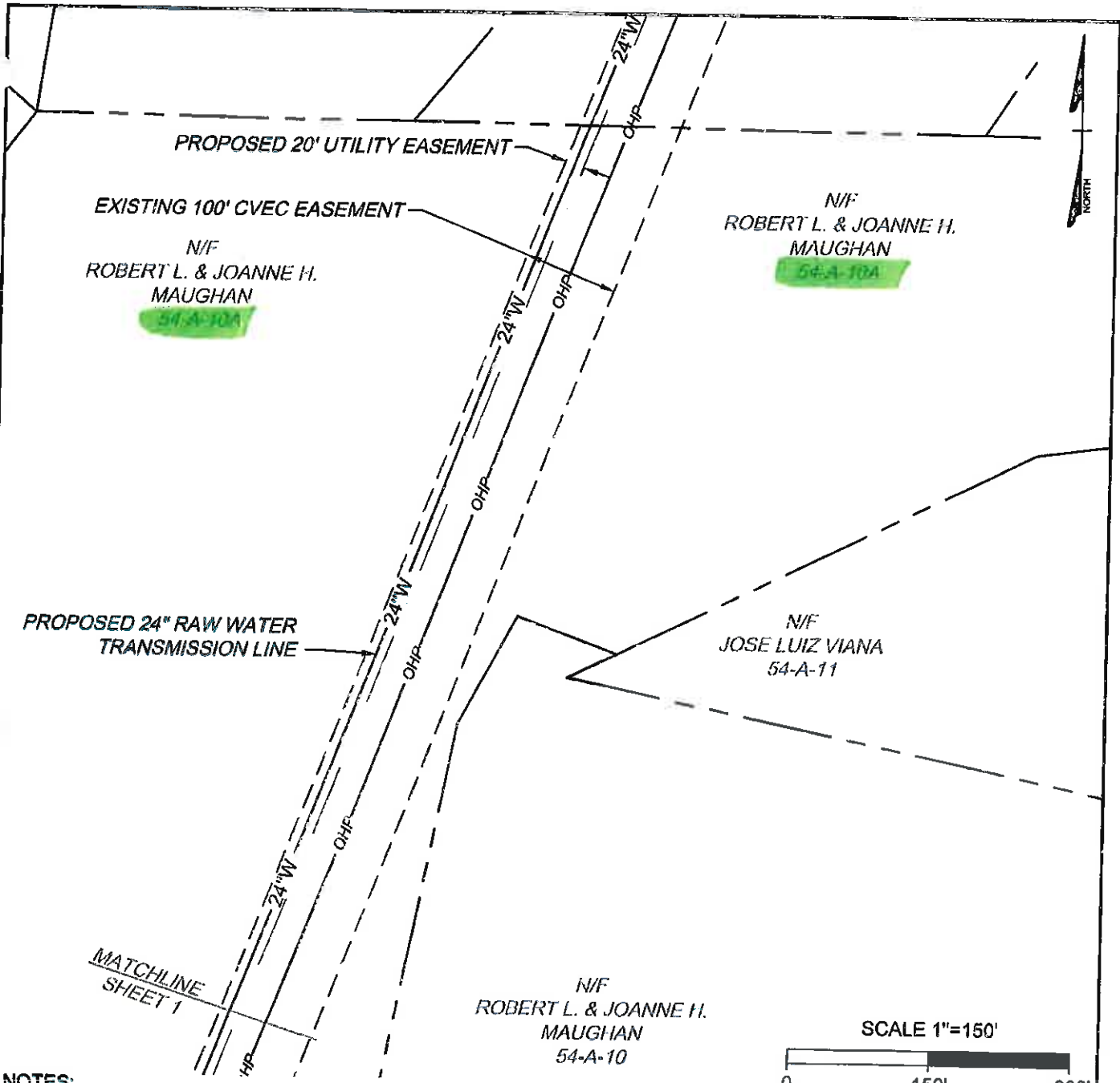
NOTES:

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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 67-12-A3**

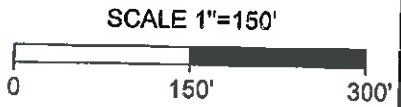
THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 100'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-10A**

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		Date: 06/11/2015	1" = 150'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

TIMMONS GROUP AL 05 2015

N/F
ROBERT L. & JOANNE H.
MAUGHAN
54-A-10A

MATCHLINE
SHEET 2



PROPOSED 20' UTILITY EASEMENT

EXISTING 100' CVEC EASEMENT

PROPOSED 24" RAW WATER
TRANSMISSION LINE

N/F
ROBERT L. & JOANNE H.
MAUGHAN
54-A-10

SCALE 1"=150'



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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-10A**

COUNTY OF LOUISA, VIRGINIA

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YOUR VISION ACHIEVED
THROUGH OURS

Date: 06/11/2015

1" = 150'

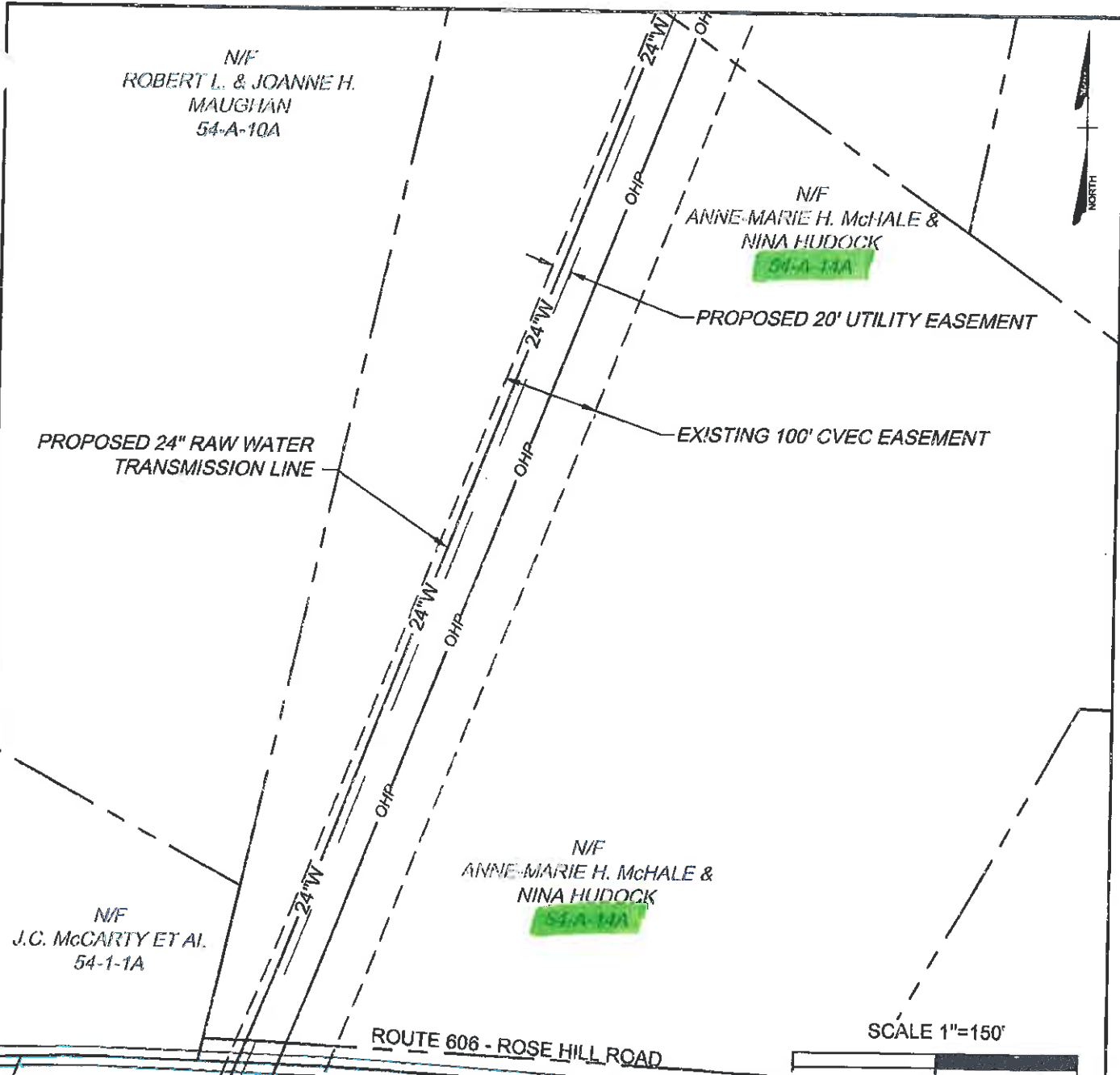
Sheet 1 of 2

J.N.: 33973

Drawn by: J. ECK

Checked by: D. SAUNDERS

TIMMONS GROUP



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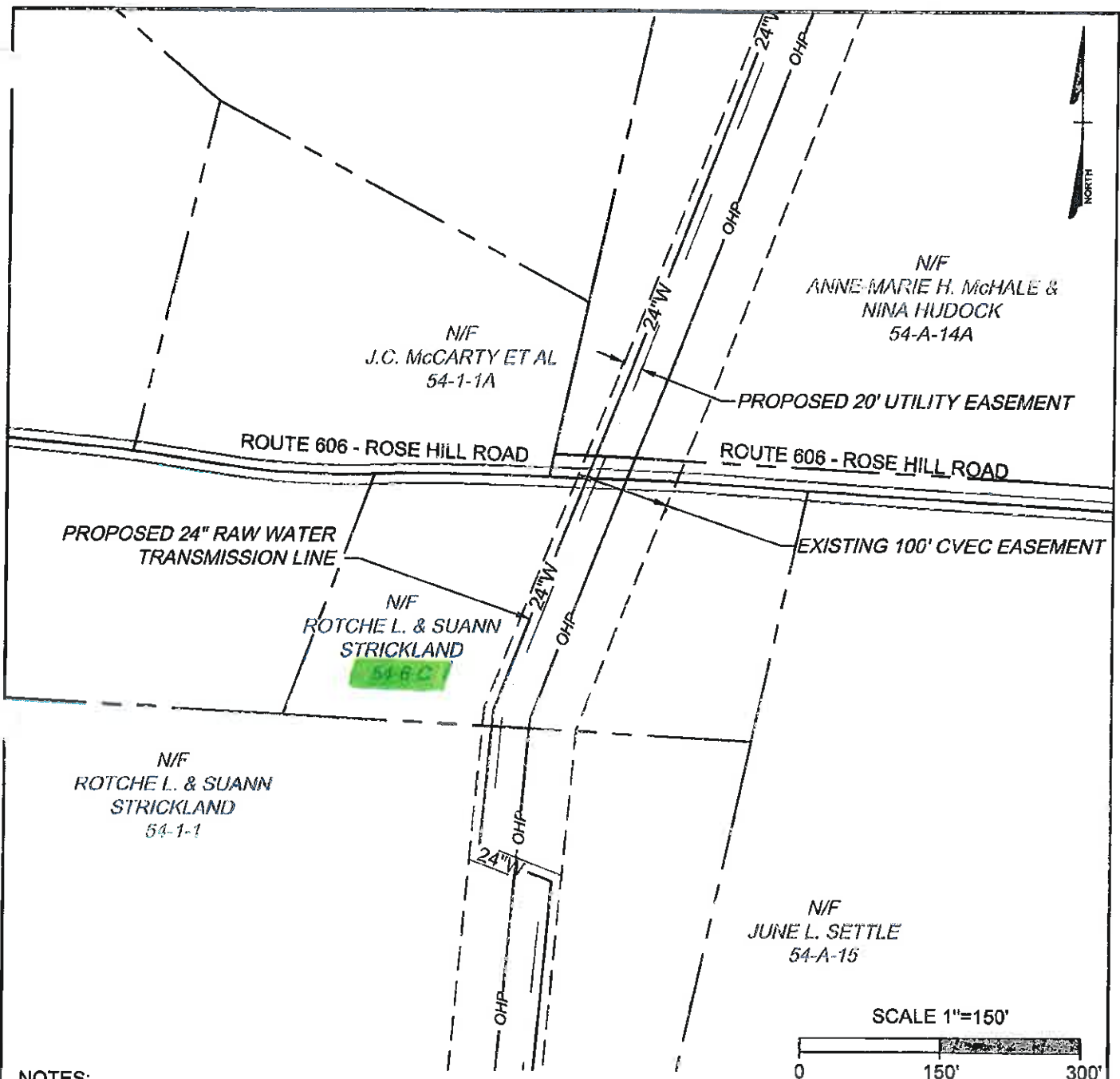
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-14A**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





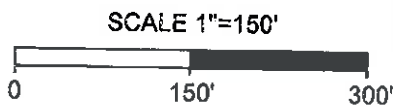
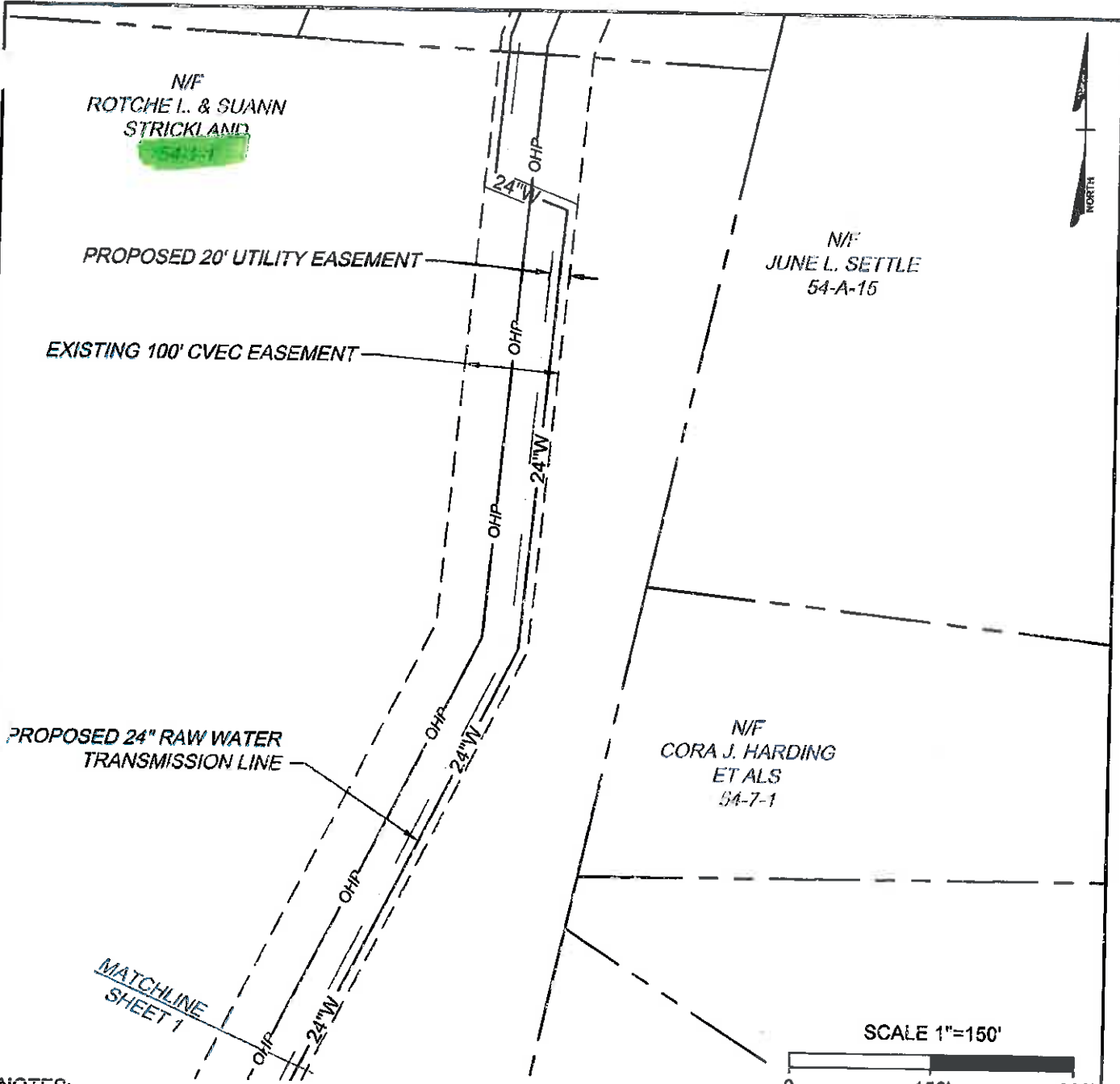
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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-6-C**

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		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS





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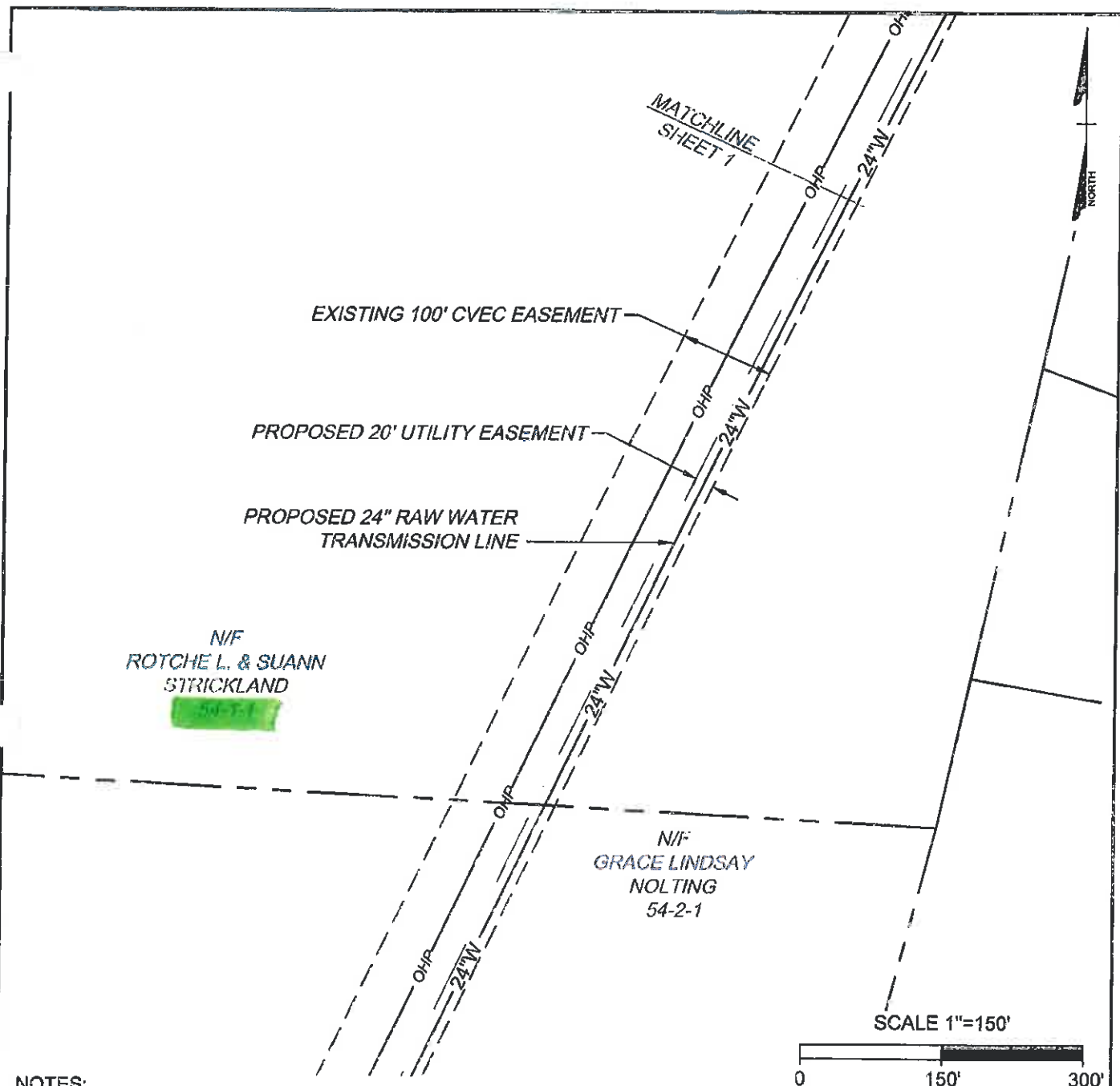
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-1-1**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 2 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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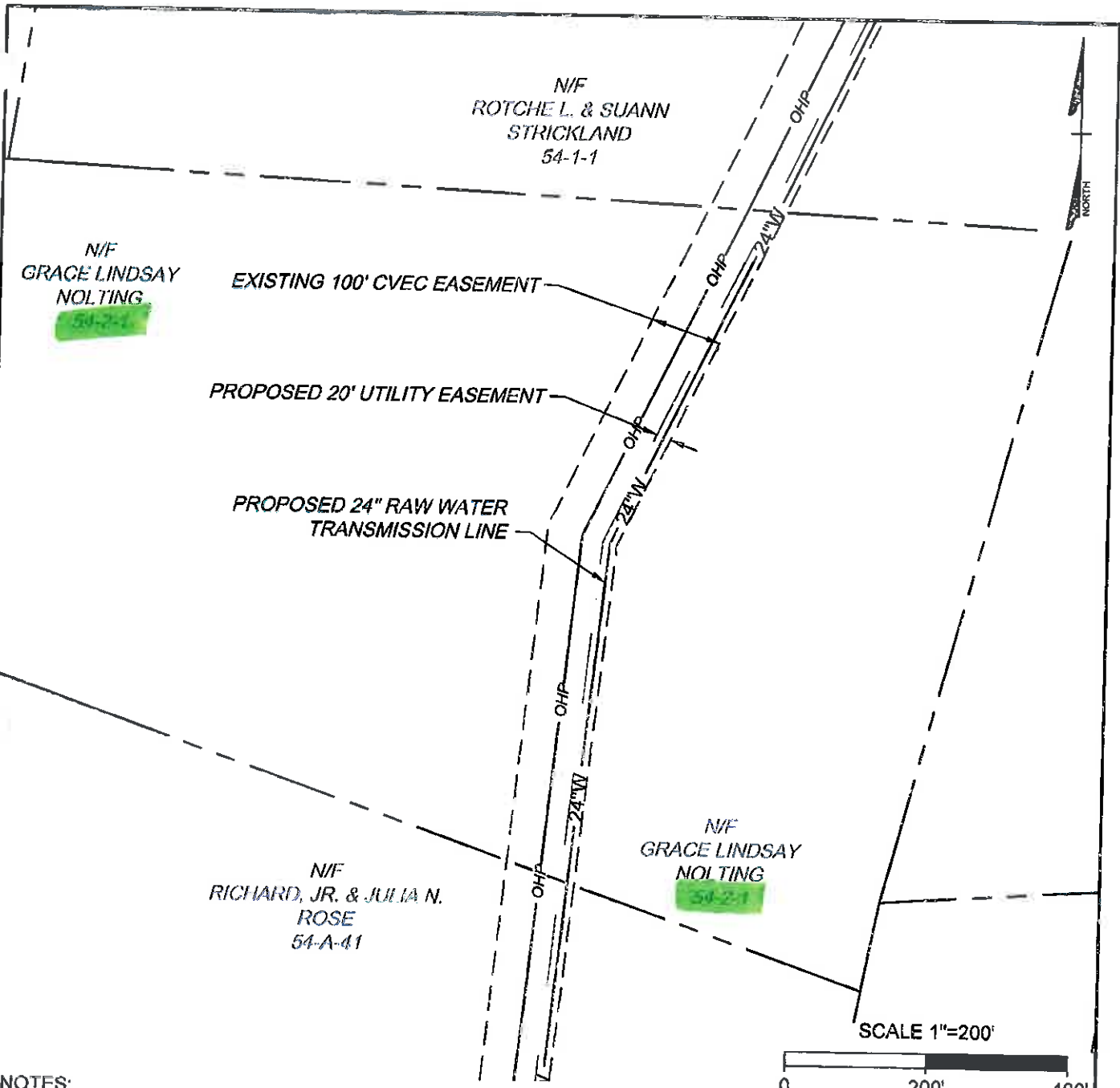
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-1-1**

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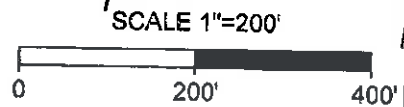
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 2	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-2-1**

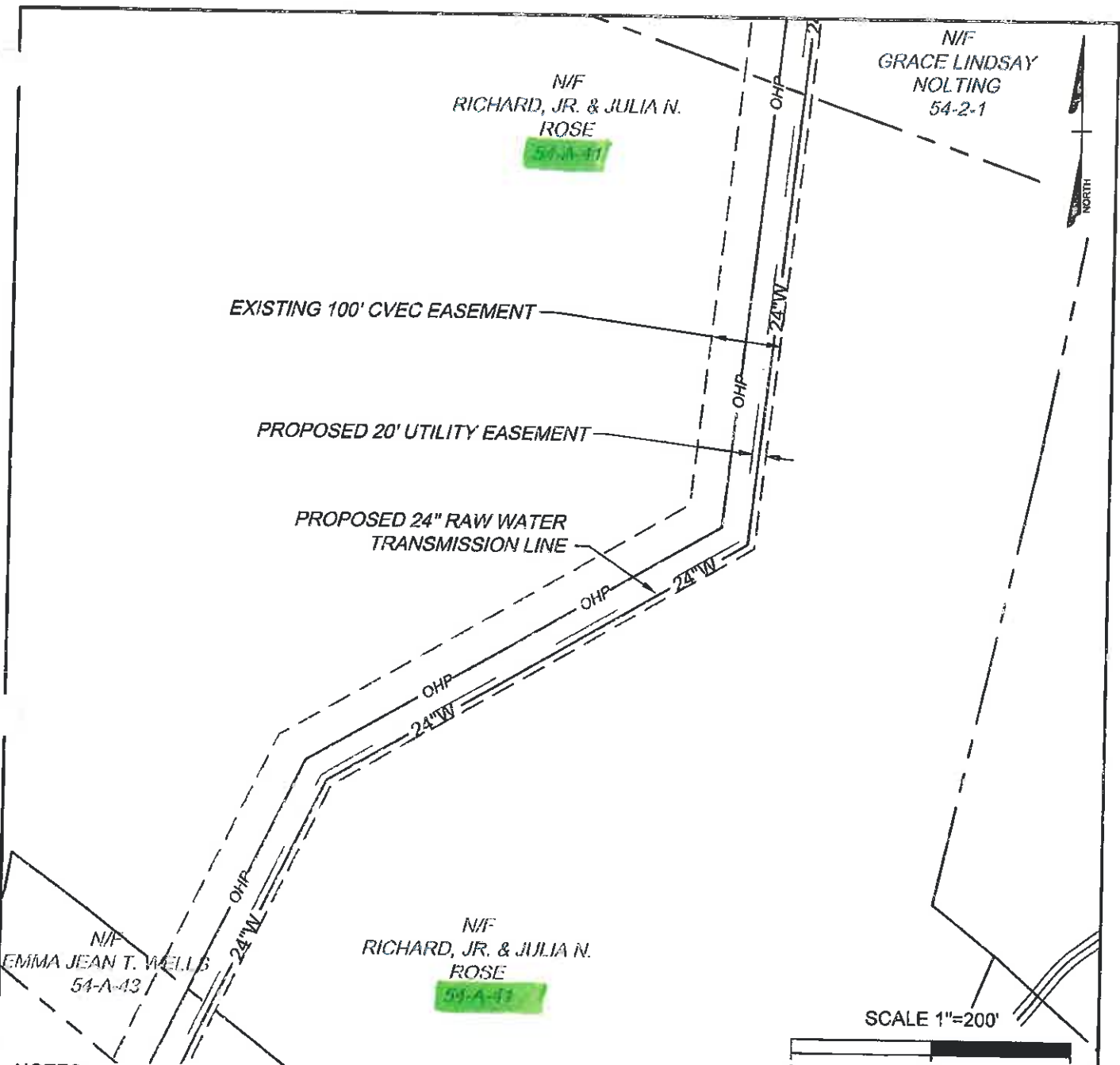
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COUNTY OF LOUISA, VIRGINIA

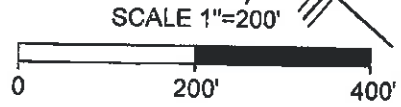
Date: 06/11/2015	1" = 200'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS

TIMMONS GROUP



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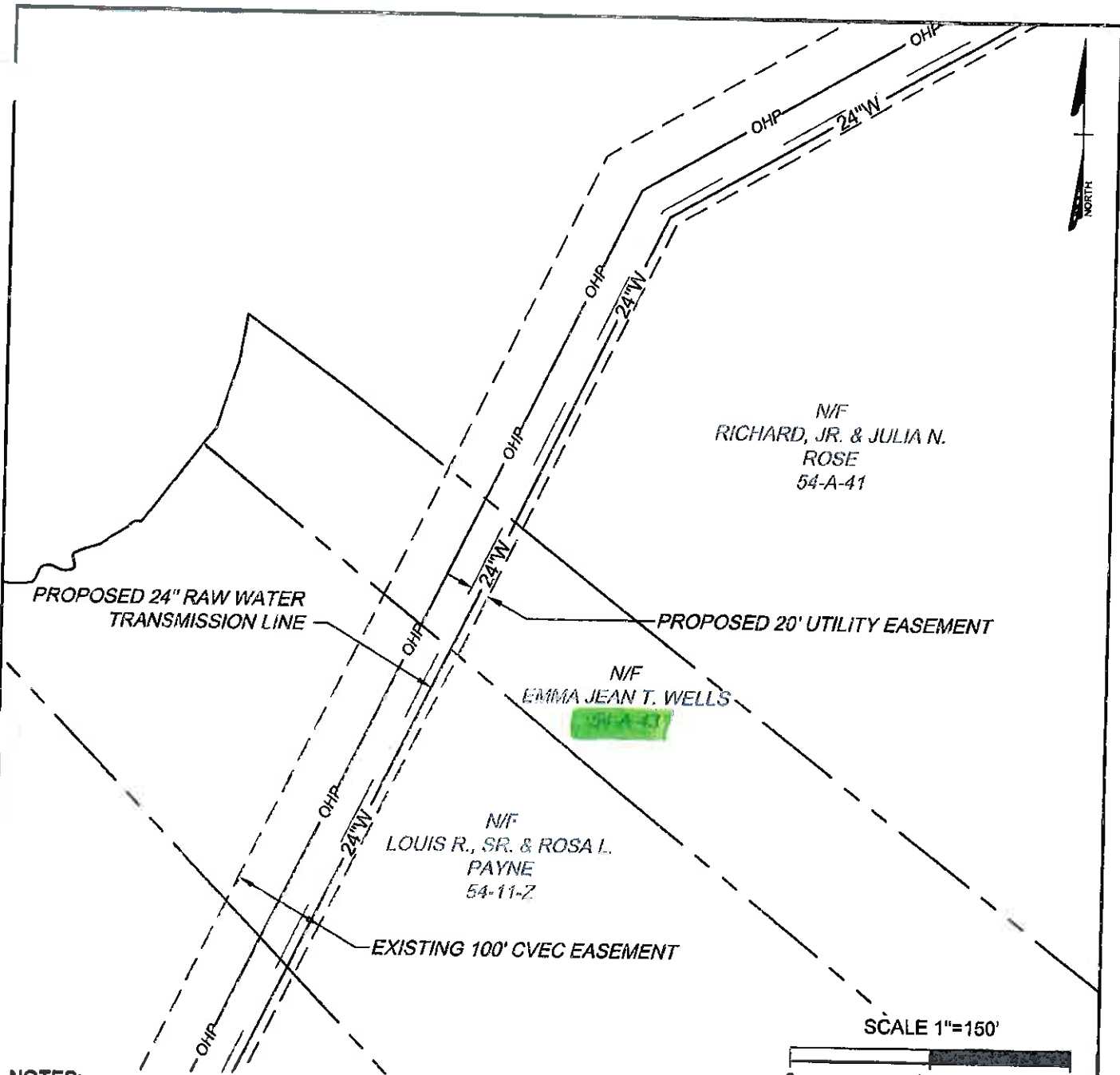
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-41**

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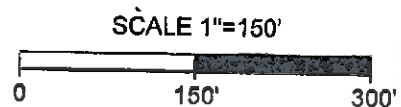
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 200'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





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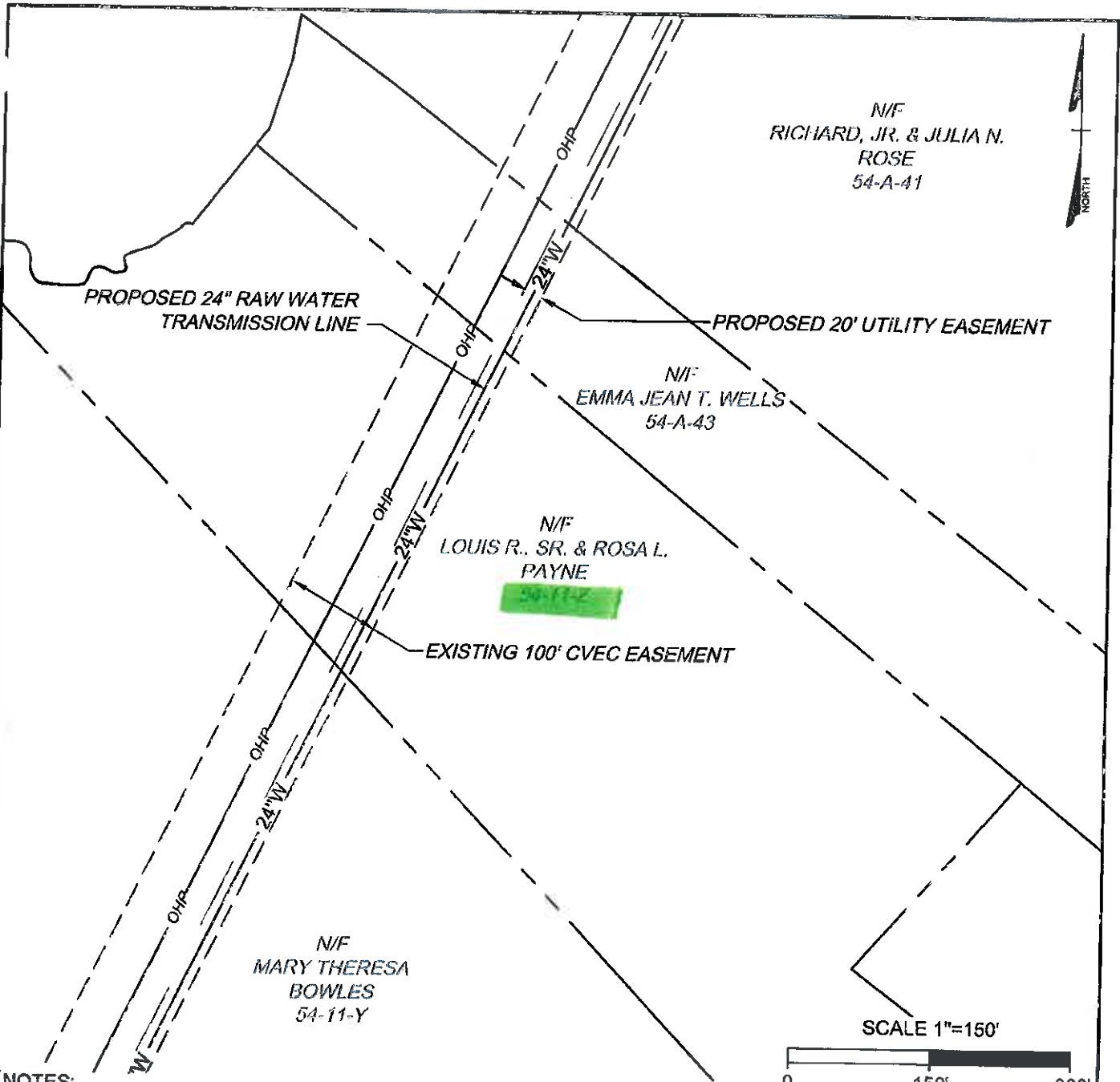
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-A-43**

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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
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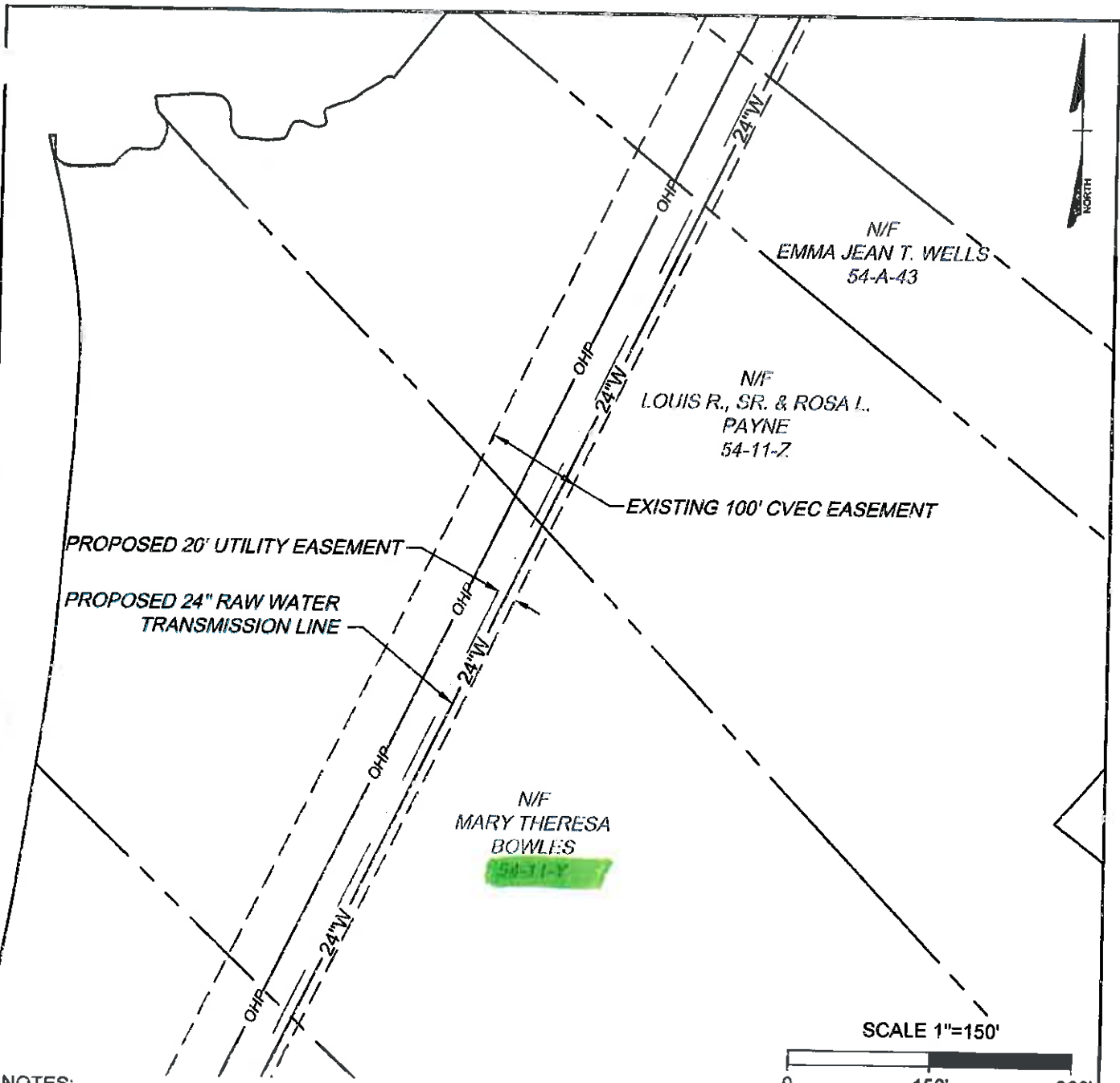
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-Z**

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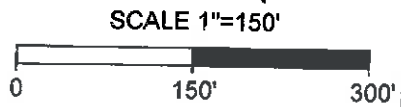
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.



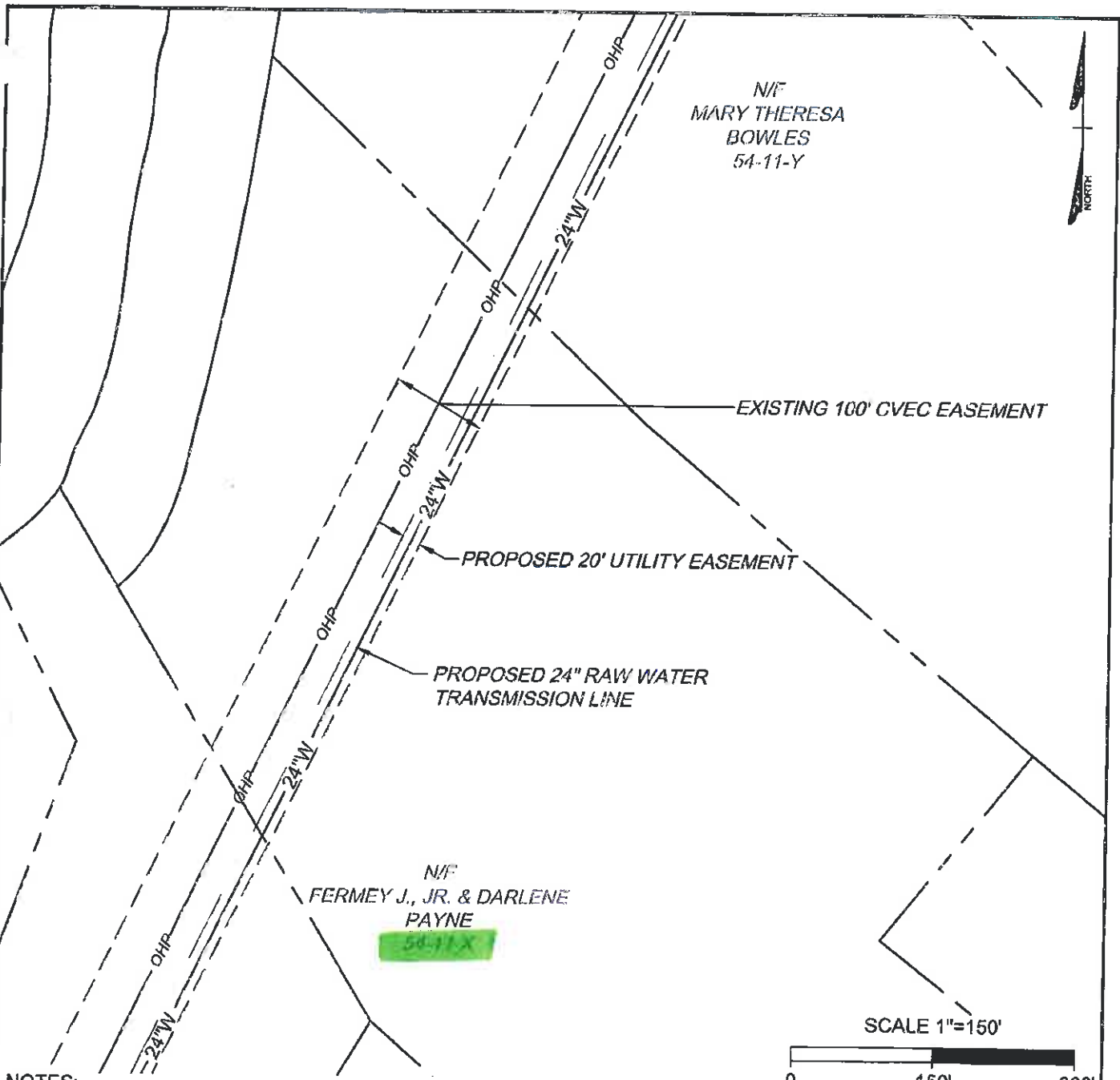
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-Y**

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YOUR VISION ACHIEVED
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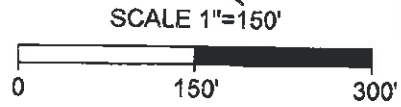
COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

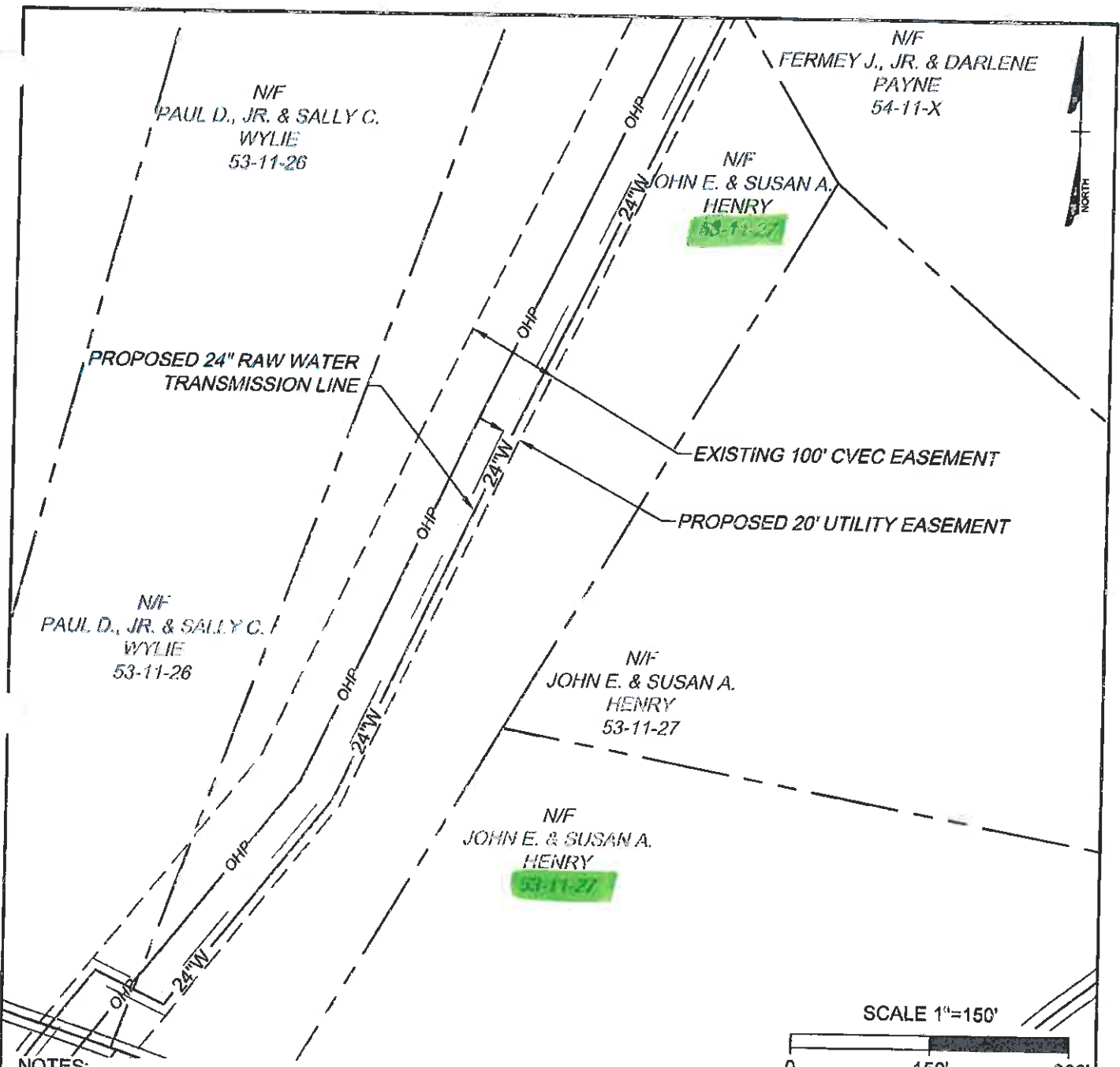
1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.



**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-X**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.566.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

TIMMONS GROUP



NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

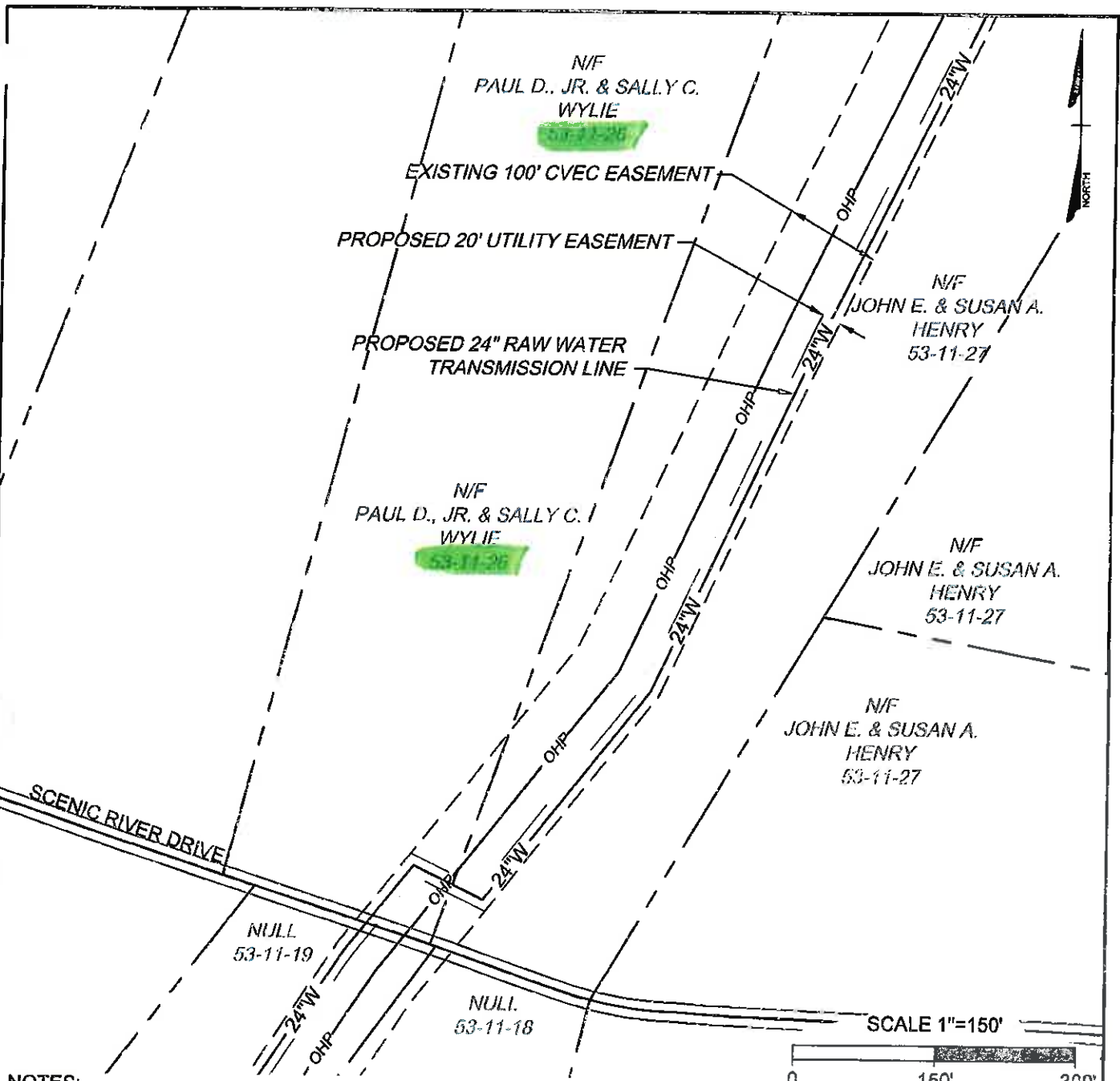
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-27**

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YOUR VISION ACHIEVED
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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

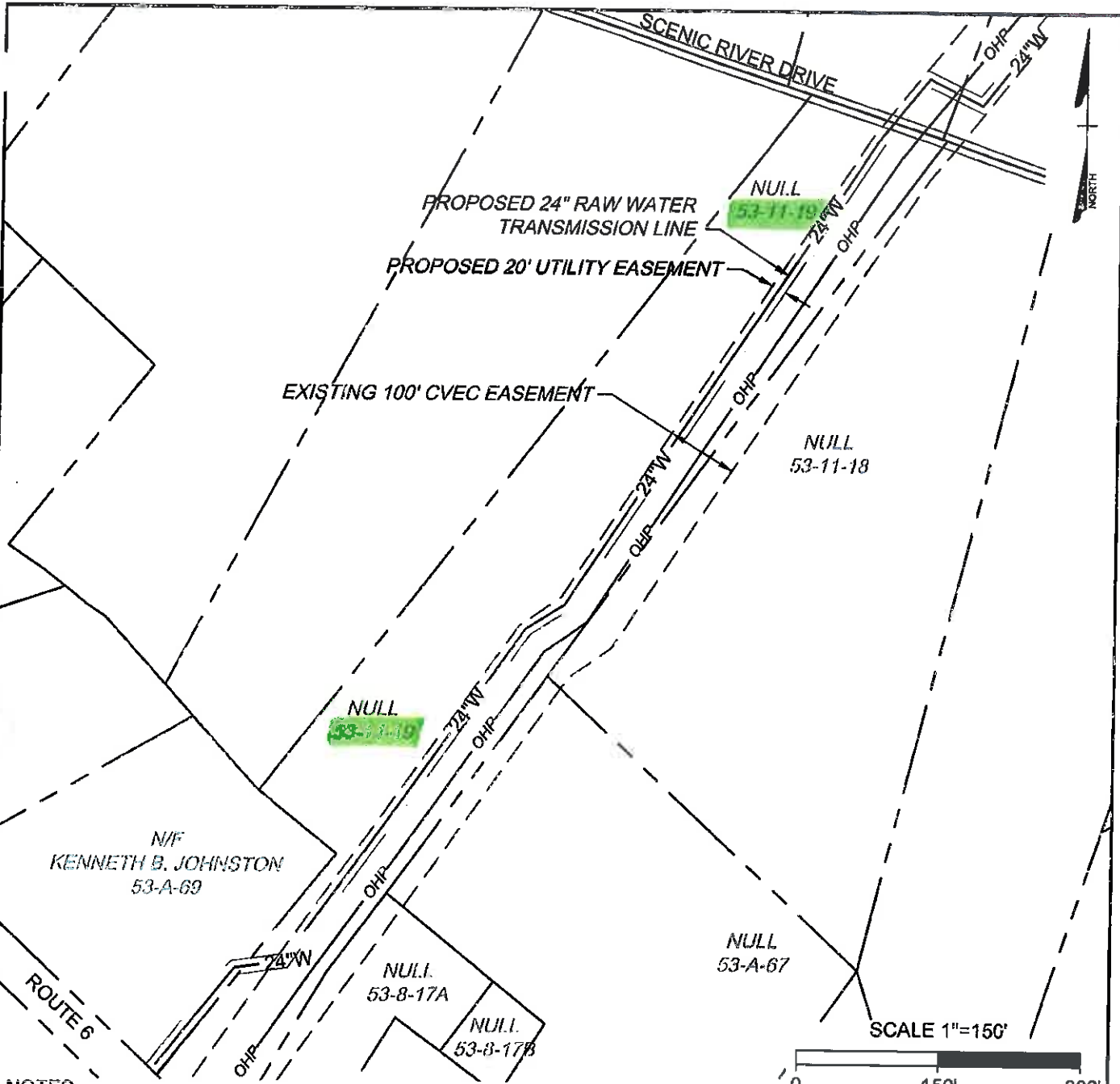
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-26**

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YOUR VISION ACHIEVED
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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

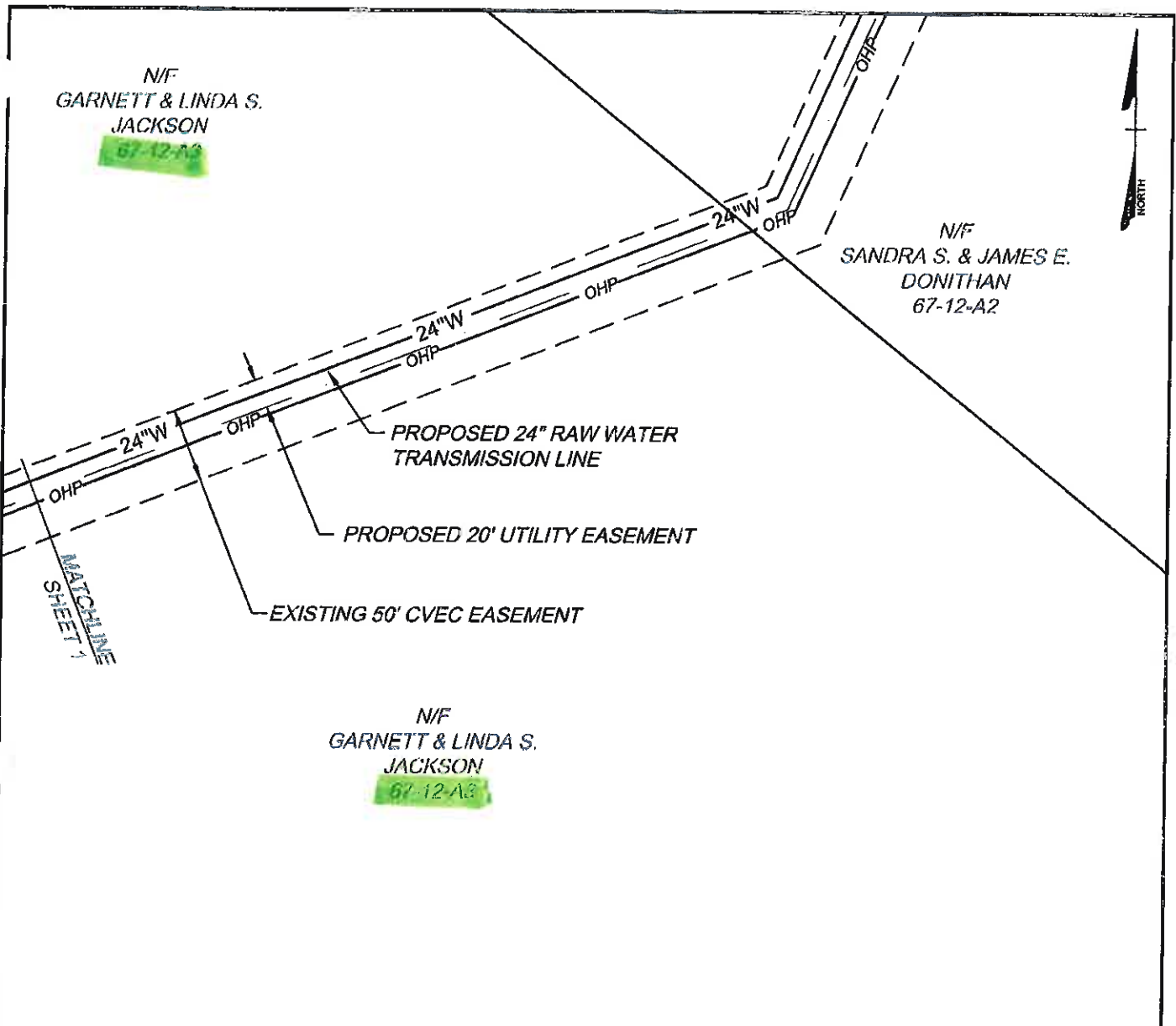
**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 54-11-19**

THIS DRAWING PREPARED AT THE
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YOUR VISION ACHIEVED
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COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 1	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS





SCALE 1"=100'



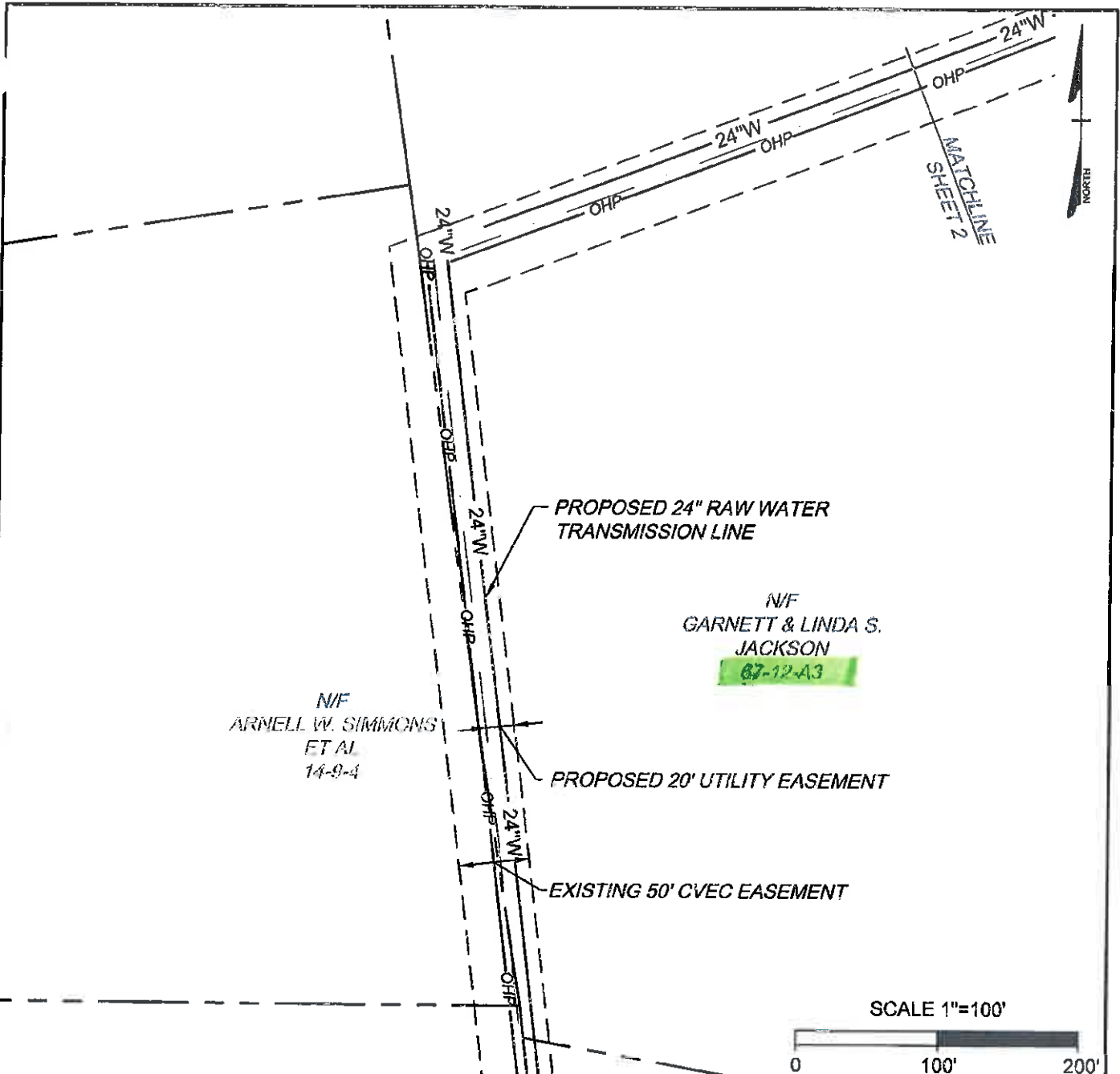
NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 67-12-A3**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 100'
		Sheet 2 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS

TIMMONS GROUP



NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 67-12-A3**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 100'
		Sheet 1 of 2	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS



Executed Agency Agreements

Authorization to apply for the SUP's on behalf of the property owner(s)

Planning Dept.

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Arnell W. Simmons ET AL ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Arnell W. Simmons Dated: 7-28-2015

Print: Arnell W. Simmons

Agent: Pamela Baylmore Dated: 07/14/2015


Received

AUG 05 2015

Planning Dept.

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Christopher E. Pucsek ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

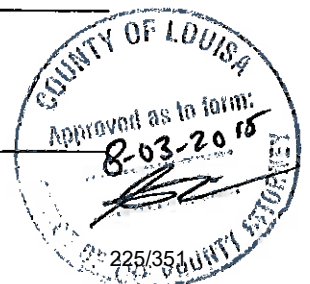
WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Chris Pucsek Dated: 7/21/15
 Print: Chris Pucsek
 Agent: Pamela Beughmon Dated: 07/14/2015



AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Gwendolyn D. Jones ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Gwendolyn Jones

Dated: 7/22/2015


Print: Gwendolyn Jones

Agent: Pamela Beuchman

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 15 day of July, 2015, by and between Shelia Waddy ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline;

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

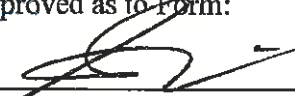
1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Shelia Waddy Dated: 7/28/15
 Print: Shelia Waddy
 Agent: Pamela Beunhman Dated: 07/22/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

TM # 14 A 20A

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Janet M. Grubbs ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

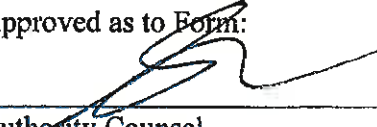
1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Janet M. Grubbs Dated: 7/21/15
 Print: AKA Janet M. Grubbs / Janet G. Grubbs
 Agent: Patricia Beauchamp Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-24-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between John M. & Kristie L. Sheridan ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:


1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: John M. Sheridan Kristie L. Sheridan Dated: 07/24/15
 Print: John M. Sheridan Kristie L. Sheridan
 Agent: Pamela Bughman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

TM #23 A51

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between William D. Weisenberger ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: William D. Weisenberger

Dated: 7/20/2015

Print: William Weisenberger TM

Agent: Pamela Beuchman

Dated: 07/14/2015

THIS IS THE PROPERTY WITH HOUSES

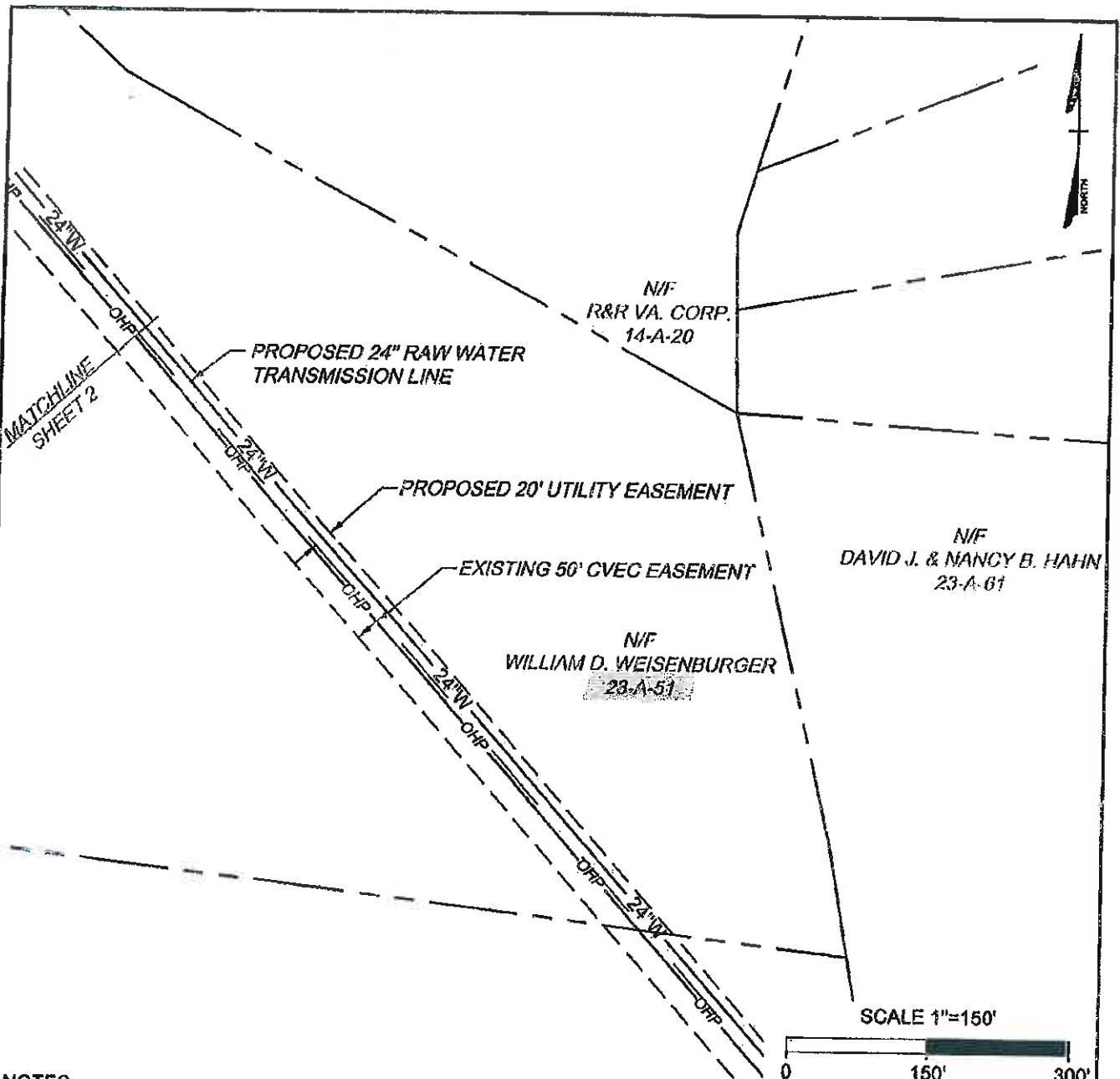
Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-22-2015



NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-51**

THIS DRAWING PREPARED AT THE
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TEL 804.200.6500 FAX 804.560.1016 www.timmons.com

YOUR VISION ACHIEVED
THROUGH OURS

COUNTY OF LOUISA, VIRGINIA	
Date: 06/11/2015	1" = 150'
Sheet 1 of 3	J.N.: 33973
Drawn by: J. ECK	Checked by: D. SAUNDERS



AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Parrish Revocable Living Trust ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:


1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Stephen Parrish Dated: 7/27/2015
 Print: STEPHEN PARRISH
 Agent: Pamela Beuchman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between William R. Hodge Jr, ET AL ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:


Owner: *Tammy Sayers* Dated: 7/23/15

Print: Tammy Sayers

Agent: *Penelope Beightman* Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

TM 2312D

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Smart Living Trust ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Nancy P. Smart Dated: 7/20/2015

Print: Nancy P. Smart

Agent: Pamela Bruchman Dated: 07/19/2015

Approved as to form: [Signature]
AUTHORITY/COUNTY ATTORNEY

7-22-2015
Date

TM 23 12 A

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between William D. Weisenburger, Jr. ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: *William D. Weisenburger, Jr.*

Dated: 7/20/2015

Print: William D. Weisenburger, Jr.

Agent: *Pamela Bayliss*

Dated: 07/14/2015

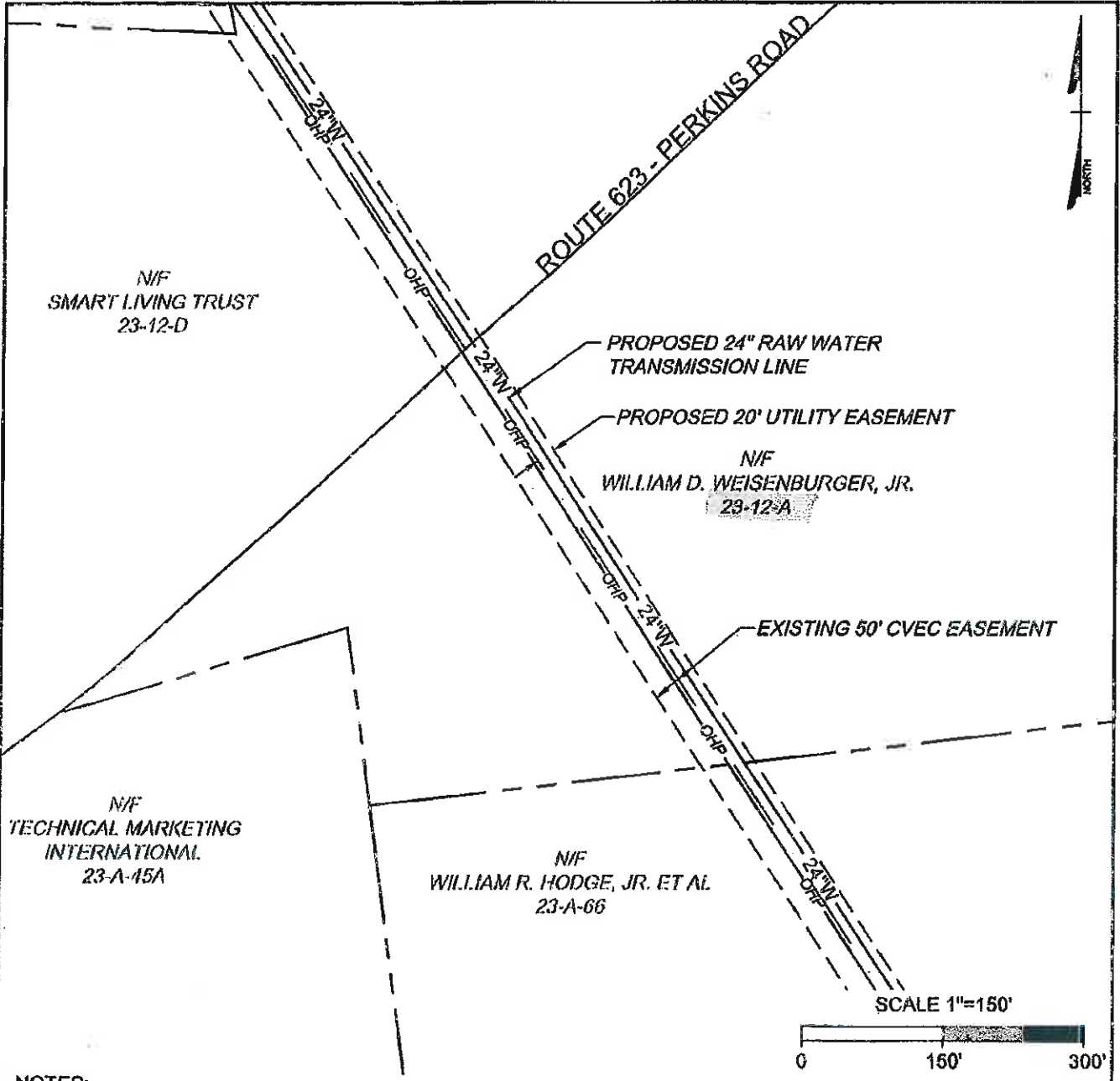
Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-22-2015



NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-12-A**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 300 Richmond, VA 23225 TEL 804.280.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 150'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS



AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Estate of John M. Cox ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Dorothy Beale, Executor for John M. Scott Est. Dated: July 21, 2015
 Print: DOROTHY BEALE, EXECUTOR for JOHN SCOTT EST.
 Agent: Pamela Bunchman Dated: 07/14/2015

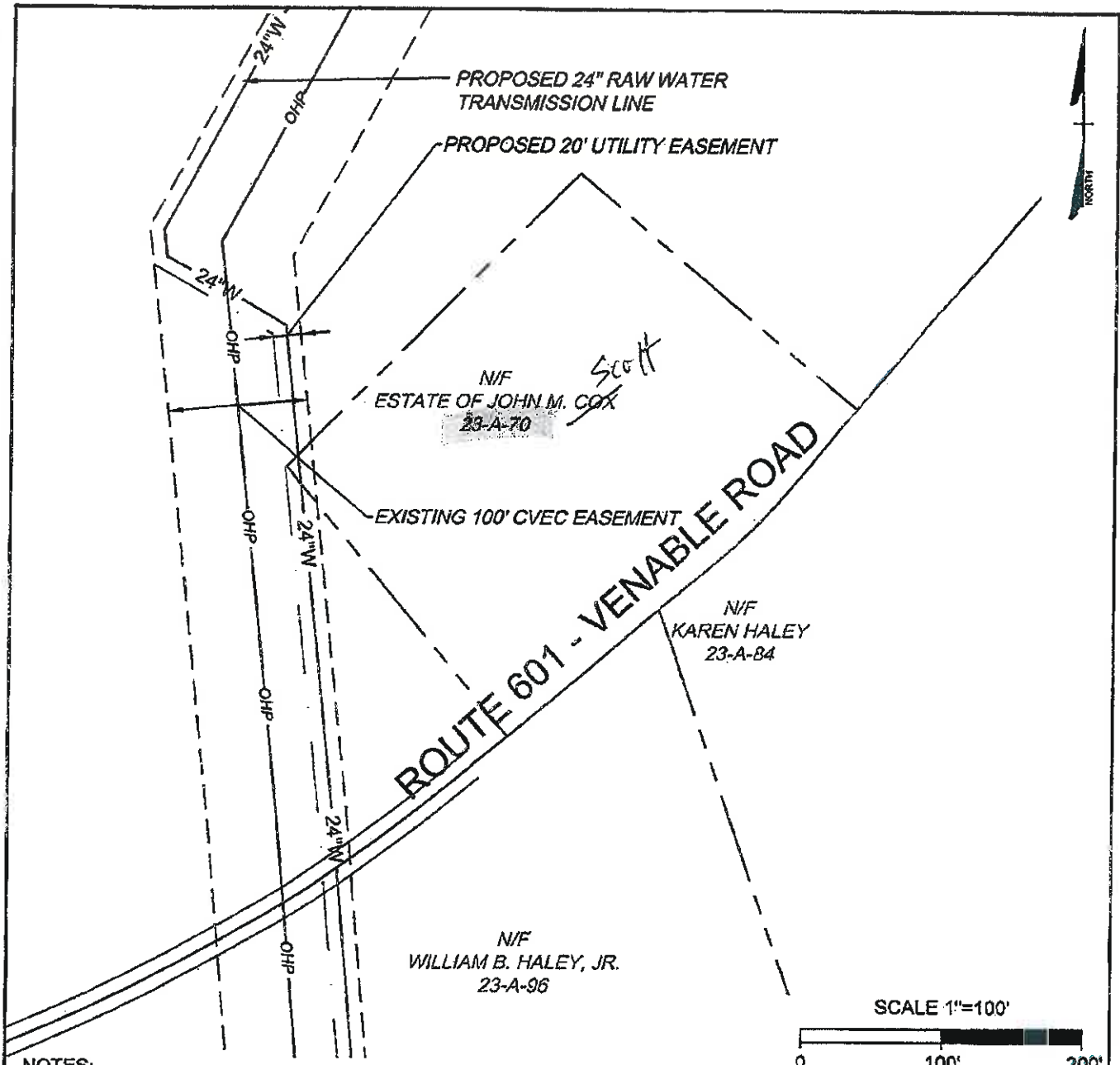
Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-23-2015



NOTES:

1. THIS EXHIBIT DOES NOT REPRESENT A BOUNDARY SURVEY.
2. THE PARCEL LINES SHOWN ARE APPROXIMATE AS INDICATED IN THE FLUVANNA COUNTY GIS DATABASE.
3. THE EXISTING CENTRAL VIRGINIA ELECTRIC COOPERATIVE EASEMENT IS BASED ON THE RECORDED EASEMENT WIDTH CENTERED ON THE ELECTRIC POLES.

**COUNTY OF LOUISA SPECIAL USE PERMIT RAW WATER TRANSMISSION LINE
EXHIBIT MAP PARCEL 23-A-70**

THIS DRAWING PREPARED AT THE CORPORATE OFFICE 1001 Boulders Parkway, Suite 500 Richmond, VA 23225 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com	YOUR VISION ACHIEVED THROUGH OURS	COUNTY OF LOUISA, VIRGINIA	
		Date: 06/11/2015	1" = 100'
		Sheet 1 of 1	J.N.: 33973
		Drawn by: J. ECK	Checked by: D. SAUNDERS



TM 23 A 96

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between William B. Haley, Jr. ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: *William B. Haley Jr.*

Dated: 7/18/2015

Print: WILLIAM B. HALEY JR.

Agent: *Parveta Brughman*

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7/20/2015

TM 23A99

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Grapetree Group LLC ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

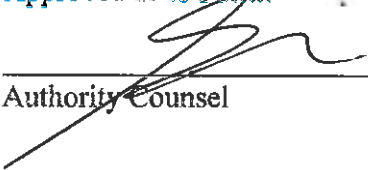
Owner: H. Edward Chapman Managing Partner Dated: 7-14-2015

Print: Grapetree Group LLC - H. EDWARD CHAPMAN

Agent: Pamela Broughman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-21-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Equity Trust Company ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Marla Miller Dated: 7/28/15
 Print: Marla Miller
 Agent: Pamela Baughman Dated: 07/19/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-05-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Carolyn H. Cpoenhaver ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:


Owner: Carolyn H. Copenhaver Dated: 07/27/2015

Print: CAROLYN H. COPENHAVER

Agent: Parola Beaufort Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Charlotte R. Kidd ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Charlotte R. Kidd

Dated: 7-25-2015

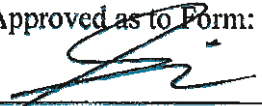
Print: Charlotte R. Kidd

Agent: Pamela Boughman

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Miller Revocable Trust ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Jane M. Miller
Martin Miller
 Print: Jane M. Miller
MARTIN MILLER


Dated: 7/23/2015

Agent: Pamela Boughman

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between William B. Morgan, III ET UX ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

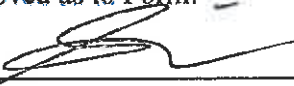
1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: *William B. Morgan III* Dated: 7-24-15
 Print: William B Morgan III
 Agent: *Pamela Beuchler* Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

Tm 343C

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Nellie M. Richardson ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Nellie M. Richardson Dated: July 17, 2015

Print: Nellie M Richardson

Agent: Samela Beuglman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7/20/2015

TM 3411

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Beckman Revocable Trust ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: David P. Beckman
Mary T. Beckman
 Print: DAVID P. BECKMAN
MARY T. BECKMAN


Dated: 07/20/2015

Agent: Pamela Burchman

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-23-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Mary Anne Gresham, ET AL ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and



WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

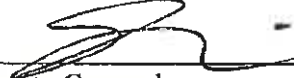
 Owner: Timothy L. Gresham Victor A. Gresham Dated: 7-25-15 7/26/15 7/27/15

 Print: Mary Anne Gresham

 Agent: Patricia Beaujourn Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Mary C. Turner ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:


Owner: Mary C. Turner Dated: 7/21/15

Print: Mary C. Turner

Agent: Pamela Bueghman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Hall Revocable Trust ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

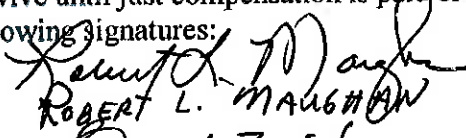
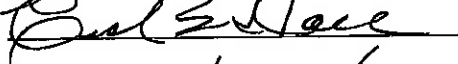
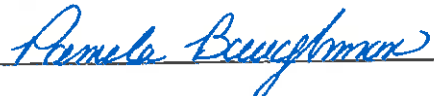
WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:


1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner:  Dated: 7/22/15
 Print: ROBERT L. MAUGHAN
 Owner: 
 Print: ERNEST E. HALL
 Agent:  Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Hall Revocable Trust ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

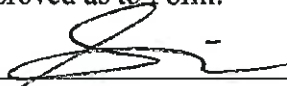
This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Robert L. Mays Dated: 7/22/15
Ernest E. Hall
 Print: _____

Agent: Pamela Beughman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Hall Revocable Trust ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and


WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:


1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:


 Owner: Ernest E. Hall Dated: 7/22/15
 Print: Ernest E. Hall
 Agent: Pamela Baughman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

TM'S 4431
4423

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between C. Allen & Loretta M. Haden ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: 

Dated: 7/16/15

Print: _____

Agent: 

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7/20/2015

TM # 4425

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Jeffery S. & Emily I. Lukhard ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:


1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Jeffery S. Lukhard Dated: 7-17-15
 Print: Jeffery S. Lukhard
 Agent: Pamela Buoytman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-23-2015

TM
4422

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between John E. Jones ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: J.E. Jones

Dated: 7-16-15

Print: J.E. Jones

Agent: Pamela Burchman

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7/20/2015

TM
4421

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between John E. Jones ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: J. E. Jones

Dated: 7-16-15

Print: J. E. Jones

Agent: Pamela Burchfield

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7/20/2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Robert L. & Joanne H. Maughan ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

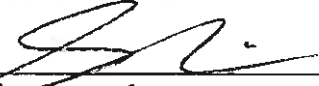
1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Robert L. Maughan
 Print: ROBERT L. MAUGHAN
 Owner: Jo Anne H. Maughan Dated: July 21, 2015
 Print: Jo Anne H. Maughan
 Agent: Pamela Bruchman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-24-2015

TM # 54 A 41

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Richard, Jr. & Julia N. Rose ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Julia N. Rose

Print: Julia N. Rose

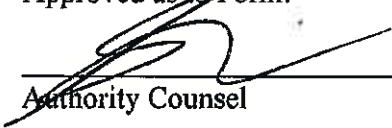
Agent: Lanette Boughman

Dated: 7/21/2015

Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 7-24-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Louis R., Sr. & Rosa L. Payne ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:


Owner: Rosa L. Payne Dated: 7-21-15

Print: Rosa L. Payne

Agent: Samela Burchman Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-03-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Paul D., Jr. & Sally C. Wylie ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: *Paul D. Wylie Jr.*
Sally C. Wylie
 Print: Paul D. Wylie Jr.
Sally C. Wylie
 Agent: *Pamela Buchanan*

Dated: 7-31-2015
 Dated: 07/14/2015



AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Fermey J., Jr. & Darlene Payne ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

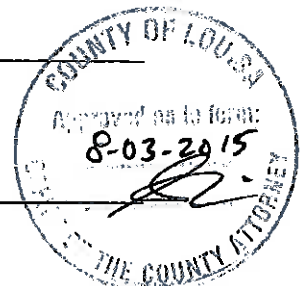
Owner: Fermey J. Payne Jr.

Print: _____

Agent: Pamela Beughman

Dated: 7-28-2015

Dated: 07/14/2015



TU# 53 11 27

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between John E. & Susan A. Henry ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

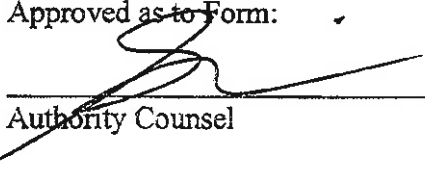
Owner: *Susan A. Henry* Dated: 7/18/2015

Print: SUSAN A. HENRY

Agent: *Pamela Boughtman* Dated: 07/14/2015

Pamela Baughman, LCWA General
Manager

Approved as to Form: ✓



Authority Counsel

Dated: 7-23-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Rotche L. & Suann Strickland ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: *Rotche L. Strickland*
Suann J. Strickland
Rotche L. Strickland

Dated: *08/03/2015*

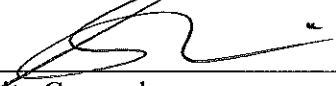
Print: *Suann L. Strickland*

Agent: *Pamela Beuchman*

Dated: *07/14/2015*

Pamela Baughman, LCWA General
Manager

Approved as to Form:



Authority Counsel

Dated: 8-10-2015

AGENCY AGREEMENT

This agency agreement ("Agreement") is made this 14 day of July, 2015, by and between Canaan Saving Station Church ("Owner") and the Louisa County Water Authority ("Agent") to grant the Agent the right to apply for a special use permit (SUP) for a raw water pipeline in an easement across the land of the Owner.

WHEREAS, the Agent contemplates the construction of a raw water pipeline in an easement across the land of the Owner, as shown on the [exhibit map] attached to this Agreement; and

WHEREAS, under the Fluvanna County Zoning Ordinance, the pipeline requires a special use permit (SUP); and

WHEREAS, the Agent wishes to have the authority to seek an SUP to construct the pipeline:

NOW THEREFORE, in consideration of the mutual promises set forth herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Owner and the Agent hereby covenant and agree:

1. The Owner is the owner of the property with full rights to enter this agreement.
2. The Agent will apply for an SUP for a raw water pipeline to be constructed in the easement as shown on the [exhibit map] attached.
3. The Agent will pay any and all fees necessary for filing the SUP application, as well as preparing the application. The Owner will be given written notice of intent to file the application at least seven days before its filing and will have the opportunity to review the application if the Owner promptly requests to do so.
4. If the Board of Supervisors of Fluvanna County requests a route that differs more than minimally from that shown on the attached [exhibit map], the Agent will seek the Owner's consent to the changed route prior to final approval by the Board of Supervisors.
5. The Agent will make an offer of just compensation for the easement as determined and provided by law prior to starting construction. The Owner will retain the right to negotiate just compensation or resort to judicial process to determine just compensation.

This Agreement will terminate on December 31, 2015, except covenant 5, which shall survive until just compensation is paid or the pipeline project is abandoned. Witness the following signatures:

Owner: Canaan Soul Saving Station Church Dated: 8/11/15

Print: Canaan Soul Saving Station Church

Agent: Pamela Beoughman Dated: 07/14/2015





LAND USE PERMIT
LUP-OC

Open-Cut Pavement Restoration Requirements
August 27, 2014

Permittee Agreement for Land Use Permit Issuance

I the undersigned hereby acknowledge that I am fully cognizant of all of the following requirements associated the restoration of pavement impacted by open cut pavement trenching operations on state maintained highways:

Applicant Name: _____

Applicant Signature: _____

Project Name: _____

District: _____ County: _____ Route Number: _____

Any of the following provisions that may apply, shall apply:

- 1) The permittee shall be responsible for the restoration of pavement on state maintained highways in accordance with all applicable sections of the VDOT Road and Bridge Specifications, VDOT Road and Bridge Standards and this document.
- 2) Whenever existing pavement is permitted to be cut, not over one-half of the roadway width shall be disturbed at one time and the first open cut trench section shall be satisfactorily restored to allow for the passage of traffic prior to the second half of the roadway surface can be disturbed.
- 3) All trench backfill material shall be Select Material Type I having a minimum CBR of 30 and free from any wood, decaying material, asphalt, concrete, ice, frost, large clods, stone or debris.
- 4) Trench backfill material shall be compacted to a minimum of 95% of the theoretical maximum density at optimum moisture content, as determine by VDOT testing procedures (VTM1), using mechanical tamping throughout the depth of the trench in 6-inch lifts to ensure that the adequate support is provided for the aggregate sub-base layer is adequately supported.
- 5) For roadways with a bituminous concrete asphalt pavement section the compacted trench backfill shall be capped with 10 inches (10") of Type I, Size 21-A or 21-B aggregate compacted to 100% of the theoretical maximum density at optimum moisture content covering the entire trench width and a minimum six inch (6") bench on each side of the excavated trench or as determined by the district administrator's designee.
- 6) A bituminous concrete asphalt base course (BM-25) having a minimum thickness of six inches (6"), or matching the existing base course thickness, shall be placed over the benched aggregate sub-base to the bottom elevation of the existing asphalt concrete surface course.
- 7) All sides of the excavated trench shall be saw-cut trimmed to neat straight lines and a tack coat of RC-250 liquid asphalt applied at a rate of 0.1 gallon per square yard (or as determined by the district administrator's designee) prior to placing the bituminous concrete asphalt base course (BM-25.0) and/or replacement of the bituminous concrete asphalt surface course (SM-9.5A or SM-9.5D).

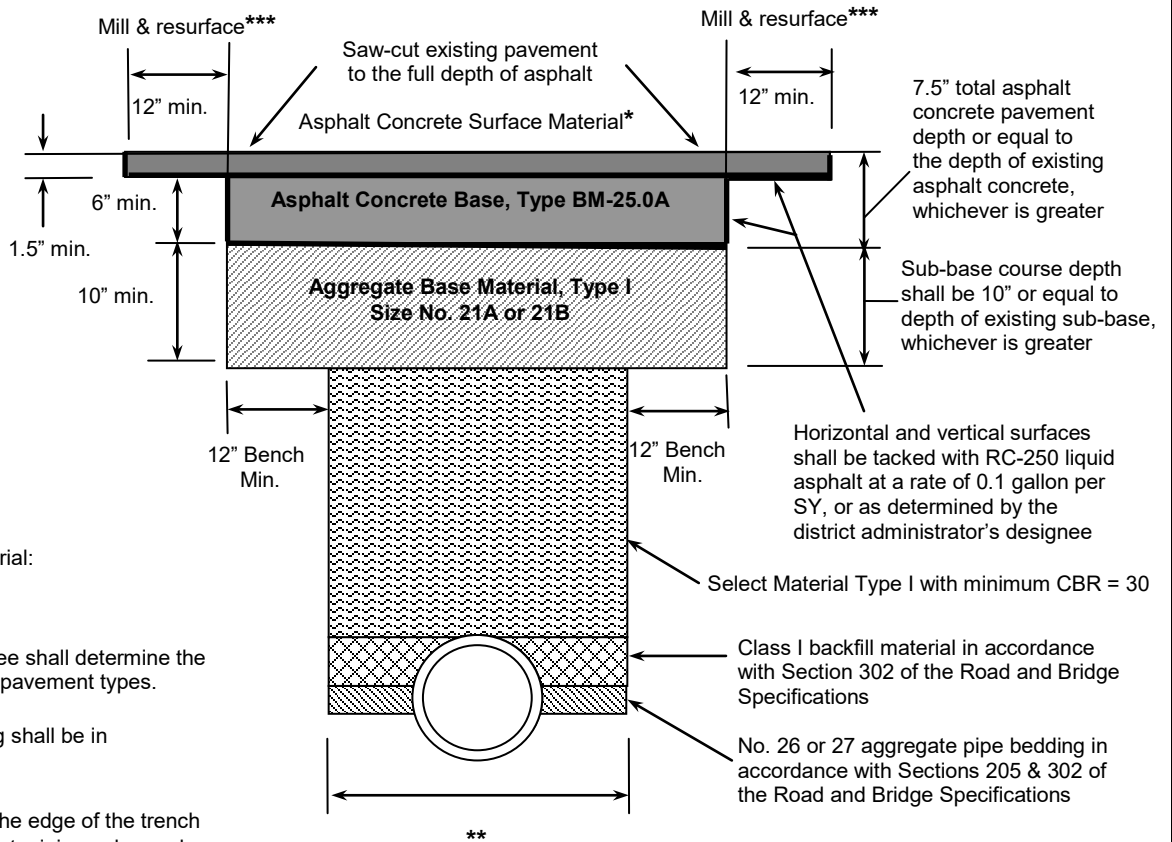
- 8) The existing pavement surface course adjacent to the excavated trench shall be milled and repaved with bituminous concrete asphalt (SM-9.5A or SM-9.5D) having of a minimum thickness of 1-1/2 inches (1.5"). This operation shall cover the entire trench width and extend 12 inches (12") beyond the edge of the trench on longitudinal open cuts and 25 feet (25') beyond the trench centerline on perpendicular open cuts, or as determined by the district administrator's designee.
- 9) Open cuts in surface treated roadway sections with an aggregate base course shall be replaced with the same layer(s) as roadway sections with a bituminous concrete asphalt pavement structure except the sub-base layer (Type I, Size 21-A or 21-B) may be reduced to six inches (6") and the bituminous concrete asphalt base layer (BM-25.0) may be reduced to four inches (4") while maintaining the required six inch (6") bench on both sides of the excavated trench. The surface course restoration material and thickness shall match the existing surface.
- 10) Replacement of all bituminous concrete asphalt and surface treated courses shall be rolled with equipment having a manufacturer's rating of ten (10) tons until the aggregate is keyed into the bitumen. Where rolling is not possible, a mechanical tamper shall be utilized.
- 11) Full depth aggregate stone may be placed in the trench daily up to maximum length of 500 feet, at which time either temporary or permanent pavement restoration procedures must be implemented.
- 12) Should the application of the bituminous concrete asphalt surface course be delayed due to adverse weather conditions, the contractor shall provide and maintain a temporary pavement section that is acceptable to the district administrator's designee until such time as the appropriate permanent pavement restoration can be achieved.
- 13) The permittee shall be responsible for any settlement in the backfill or pavement for a period of two (2) years after the completion date of permit and for the continuing maintenance of the facilities placed within the highway right-of-way.
- 14) A one-year restoration warranty period may be considered, provided the permittee adheres to the following criteria:
 - The permittee retains the services of a professional engineer (or certified technician under the direction of the professional engineer) to observe the placement of all fill embankments, pavement, and storm sewer and utility trench backfill.
 - The professional engineer (or certified technician under the direction of the professional engineer) performs any required inspection and testing in accordance with all applicable sections of VDOT's Road and Bridge Specifications.
 - The professional engineer submits all testing reports for review and approval, and provides written certification that all restoration procedures have been completed in accordance with all applicable sections of VDOT's Road and Bridge Specifications prior to completion of the work authorized by the permit.
- 15) The district administrator's designee may request and review the backfill compaction test results and/or authorize an inspector to monitor the trench backfill and compaction operations.
- 16) The use of steel plates to provide a temporary riding surface will not be allowed between November 1 and April 1. The use of steel plates between April 2 and October 31 shall be in accordance with VDOT standards and specifications.
- 17) Traffic shall be maintained at all times in accordance with the Virginia Work Area Protection Manual and a VDOT approved Maintenance of Traffic (MOT) plan.

- 18) The permittee shall notify the district administrator's designee a minimum of 72 hours prior to initiating any pavement open cutting operations.
- 19) The trench to be backfilled shall be made as dry as practicable at the time of backfilling by pumping, bailing, draining, or other approved dewatering method.
- 20) All asphalt pavement restoration activities shall be in accordance with the Asphalt Pavement Restoration Detail for Open Cut Utility Installations contained herein.

Permittee Notice

The preceding provisions are intentionally condensed in format and should not be loosely interpreted by the permittee without consultation with the central office permit manager and affirmation from the [Land Use Permit Regulations](#).

Asphalt Pavement Restoration Detail for Open Cut Utility Installations



NOTES:

* Asphalt Concrete Surface Material:
 SM-9.5A for ADT < 10,000
 SM-9.5D for ADT > 10,000

The district administrator's designee shall determine the restoration requirements for other pavement types.

** Trench width and pipe bedding shall be in accordance with VDOT Std. PB-1

*** 12 inches minimum beyond the edge of the trench on longitudinal open cuts, or 25 feet minimum beyond the trench centerline on perpendicular open cuts, or as determined by the district administrator's designee.

Date: August 27, 2014

Not to Scale



COUNTY OF FLUVANNA

"Responsive & Responsible Government"

P.O. Box 540 Palmyra, VA 22963 (434) 591-1910 FAX (434) 591-1911 www.co.fluvanna.va.us

January 7, 2016

Louisa County Water Authority
23 Loudin Lane
Louisa, VA 23093

Re: SUP 15:12 LCWA special use permit request for a major utility to construct a raw water line

Dear Applicant:

The following comments are the result of the Technical Review Committee meeting that was held on Thursday, January 7, 2016.

1. Mark Wood with VDOT stated they are good with both applications (SUP 15:11 & 15:12), and that they are actively working with both the Louisa County Water Authority and the James River Water Authority to provide what VDOT requirements will be in regards to any road improvements and open-cut sections along impacted roadways;
2. Mr. Bibb, Planning Commission Chairman inquired if one of the two potential siting locations for the intake facility/pumping station was preferred over the other, and whether or not the same number of fire hydrants will be involved with the new route. Mr. Bibb also asked if 90% of the properties are within the existing right-of-way, and how many properties will need to be negotiated for the acquisition of easements;
 - Mr. Nichols, Fluvanna County Administrator and JRWA Board Member stated that the preferred site is the "blue site and route", which is delineated as the "Hammond" property on the applicant's renderings.
 - Andy Wade with the Louisa County Water Authority stated that 48 of the 72 property owners have replied with consent agreements, and he confirmed that 90% of the properties are still within CVEC easements, and that the water line will need to cross under the gas line four (4) times to stay within the CVEC easement; Mr. Wade also clarified that he is working with VDOT and the remaining property owners to acquire their consent to be able to go through their easements;

3. Roger Black with Erosion & Sediment Control asked if they intend on applying through the state or locally. Mr. Saunders with Timmons replied they intend on initially applying through the County.
4. Wayne Stephens, County Engineer, commented they he has been looking at the closest, easiest, and most feasible pipe routing in order to be able to serve the Fork Union Sanitary District;
5. The Health Dept. stated that they have no comments on either application;

The Planning Commission & Board of Supervisors will have a joint meeting to discuss this item at their Wednesday, January 20, 2016 meeting. Your attendance is required at this meeting.

If you have any questions or need additional information, please contact me at 434-591-1910.

Sincerely,

Steve Tugwell
Senior Planner
Dept. of Planning & Community Development

cc: File

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

Meeting Date:

AGENDA TITLE:	Appointment to TJPDC Rural Transportation Advisory Council				
MOTION(s):	I move to appoint Bobby Popowicz, Director of Community Development, to the TJPDC Rural Transportation Advisory Council				
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
		XX			
STAFF CONTACT(S):	Mr. Steve Nichols				
PRESENTER(S):	Mr. Steve Nichols				
RECOMMENDATION:	Approval				
TIMING:	Normal				
DISCUSSION:	<p>Mr. Popowicz is currently the liaison to the Virginia Department of Transportation for various projects in Fluvanna County.</p> <p>Prior to coming to Fluvanna County Mr. Popowicz was involved with transportation issues at the local level for the Town of Bridgewater and at the George Washington Regional Commission as Chairman.</p>				
FISCAL IMPACT:	None				
POLICY IMPACT:	None				
LEGISLATIVE HISTORY:	None				
ENCLOSURES:	None				
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

Meeting Date: January 20, 2016

AGENDA TITLE:	Appointment to the Board of Zoning Appeals, At-Large Position, replacing Patricia Eager, who resigned upon winning election to BOS				
MOTION(s):	I move to recommend _____ to the Circuit Court, for appointment to the Board of Zoning Appeals, At-Large position, with a term to begin immediately and to terminate on December 31, 2019.				
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
		XX			
STAFF CONTACT(S):	Kelly Belanger Harris, Clerk to the Board				
PRESENTER(S):	Steven M. Nichols, County Administrator				
RECOMMENDATION:	Approve				
TIMING:	Normal				
DISCUSSION:	Applicants who have shown interest in this position: Bert Flood Robert Dorsey Ed Zimmer, Planning Commissioner, Columbia District				
FISCAL IMPACT:	None				
POLICY IMPACT:	None				
LEGISLATIVE HISTORY:	None				
ENCLOSURES:	Boards and Commissions Applicant				
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other

Interest in Board of Zoning Appeals (BZA)

Rivanna

Last Name Dorsey **First Name** Robert E. **Date Recieved** 12/28/2015

Mailing Address 6 Dover Court **City** Palmyra **State** VA **Postal Code** 22963-

Home Phone **Work Phone** **Cell Phone/Other** (434) 466-3870

Fax **Email Address** bbodorse58@gmail.com

Physical Address **City** **State** **Postal Code**

Education and Experience:

I am a retired USAF Officer and Member of the Intelligence community having served since 1976 to 2016. While a USAF officer, I designed, developed, contracted for, taught and operated military command and control systems in national level command centers. While an IC member, I was a trusted science, technology, systems engineering and intelligence analytical advisor tot the senior leadership of the 16 USG departments comprising the IC. I worked in remote sensing and the use of sensor information in combination with other types/sources of information to determine what was really going on in the world. For a short time, I worked for WEIFT, a Belgium based internet service and banking standards provider to the World Banks. Here I was in charge of the core elements of the world banking transactions system, specifically for the cryptographic security of worldwide operation locations. When I was in school in Fauquier County, I delivered newspapers, made pizza, worked in commercial kitchens, was a day laborer for a stone mason, cattle farmer, construction company and commercial haying operator. BS Engineering (Computer Science UVA 1980). MS Management Information Systems, Eller School of Business UAZ 1987. MS Systems Engineering, Verturbi School of Engineering USC 1988. Certificate Software Engineering, Colorado Tech 1990. Certificate-UVA Law School, Government contracting and Contract Case Law 2006. Instructor NATO AWACS Geilenkirchen Germany. Programming Languages taught to NATO soldiers and airmen 1983-1986. Instructor Webster Univ. Decision Support Systems Space Systems Management Graduate Program 1990-1992. Squadron Officers School, USAF 1985. USAF Instructors School 1983. Air command and Staff College 1992. Advanced CommComputer School 1992. Departmental Industrial Advisor UVA School of Engineering Computer Science. Systems Engineering VaTech. School of Engineering. Electrical Engineering UAZ Electrical Engineering 2005-Present.

Civic Activities and Committee Memberships:

Wellington HOA, Manassas VA, Covenants Committee 6 yrs., Chair 2 Yrs. BOD member-1 year. Manassas City School Board. Chair, Citizens Committee on Inclusion of Home Schooled Students in School Board govered educational, sports, clubs and social activities. Fluvanna Leadership development Program, Class 12, Executive Committee fluvanna Volunteer Fair, 2015. Lake Monticello HOA, Safety and Security committee, 2015-present. Member Manassas St. thomas UMC 1990-2003. Church council 3 yr.s Children's Ministry Worship Leader 3 yrs. Sunday School teacher 3 yrs. Member Effort Baptist Church 2003-present. Member Mid-Atlantic Aviation Partnership 2015-present. Member International Council on Systems Engineering 2002-present. Member Association for Computing Machinery 1976-present. Member Shenandoah Valley Emmaus 2001-present. Wellington HOA, Board of Dirctors, Covenants Committee. Manassas City School Board, Chair, Citizens Committee on Inclusion of Home Schooled Students in School

Interest in Committee:

After 40 years of national and local service, I want to work with others to help make Fluvanna a great place to live, work, and play. I am particularly interested in economic development, workforce/STEM education development, and stewardship of human/natural resources (education, zoning, planning, conservation).

Comments:

Interest in Board of Zoning Appeals (BZA)

Rivanna

Last Name **First Name** **Date Recieved**

Mailing Address **City** **State** **Postal Code**

Home Phone **Work Phone** **Cell Phone/Other**

Fax **Email Address**

Physical Address **City** **State** **Postal Code**

Education and Experience:

some college; U. S. Naval Schools; owner and operator residential and commercial general contractor

Civic Activities and Committee Memberships:

Vice-Chair Fluvanna County Economic Development Authority; membershin in the Rotary of Fluvanna

Interest in Committee:

I want to be actively involved with sustainable, green economic development in Fluvanna County.

Comments: Information updated as of 5/2013.

Interest in Board of Zoning Appeals (BZA)

Columbia

Last Name **First Name** **Date Recieved**

Mailing Address **City** **State** **Postal Code**

Home Phone **Work Phone** **Cell Phone/Other**

Fax **Email Address**

Physical Address **City** **State** **Postal Code**

Education and Experience:

BS in Forestry from West Virginia University, MBA from Averrett University; 5 years military experience; 25 years in Natural Resources

Civic Activities and Committee Memberships:

Scout Leader, Virginia Forestry Association

Interest in Committee:

To use skills and abilities to give back service to the County

Comments: Replaced Carolyn Tinsley who resigned mid-term-PC - AG/Forestal, replaced Kent Loving

**FLUVANNA COUNTY BOARD OF SUPERVISORS
AGENDA ITEM STAFF REPORT**

Meeting Date: January 20, 2016

AGENDA TITLE:	Appointment Thomas Jefferson Area Community Criminal Justice Board (CCJB)				
MOTION(s):	I move to appoint Jeff Haislip, Commonwealth's Attorney, to the Thomas Jefferson Area Community Criminal Justice Board (CCJB), replacing Bob Ullenbruch, for a three year term beginning Jan 1, 2016 and ending Dec 31, 2018.				
AGENDA CATEGORY:	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
		XX			
STAFF CONTACT(S):	Steven M. Nichols, County Administrator				
PRESENTER(S):	Steven M. Nichols, County Administrator				
RECOMMENDATION:	Approve				
TIMING:	Normal				
DISCUSSION:	<p>Purpose - To oversee the operation of the Community Diversion Incentive Program which is funded by the State to divert non-violent felons to community service/treatment and away from prison. The Board's mission is to enable participating localities to work together to develop community-based pretrial court services and post-conviction alternatives to incarceration for misdemeanants and certain nonviolent felons.</p> <p>Appointment has historically been to a BOS member, but that is not required for the position.</p>				
FISCAL IMPACT:	None				
POLICY IMPACT:	None				
LEGISLATIVE HISTORY:					
ENCLOSURES:	None.				
REVIEWS COMPLETED:	Legal	Finance	Purchasing	HR	Other

FLUVANNA COUNTY BOARD OF SUPERVISORS AGENDA ITEM

Meeting Date: January 20, 2016

AGENDA TITLE:	Adoption of the Fluvanna County Board of Supervisors Regular Meeting Minutes.				
MOTION(s):	I move the meeting minutes of the Fluvanna County Board of Supervisors for Wednesday, January 6, 2016 Regular Meeting, be adopted.				
CATEGORY	Public Hearing	Action Matter	Presentation	Consent Agenda	Other
				XX	
STAFF CONTACT(S):	Kelly Belanger Harris, Clerk to the Board				
PRESENTER(S):	Steven M. Nichols, County Administrator				
RECOMMENDATION:	Approve				
TIMING:	Routine				
DISCUSSION:	None				
FISCAL IMPACT:	N/A				
POLICY IMPACT:	N/A				
LEGISLATIVE HISTORY:	None				
ENCLOSURES:	Draft minutes for January 6, 2016				
REVIEWS	Legal	Finance	Purchasing	HR	Other

FLUVANNA COUNTY BOARD OF SUPERVISORS
ORGANIZATIONAL MEETING AND REGULAR MEETING MINUTES
Circuit Court Room
January 06, 2016
Regular Meeting 4:00 pm

MEMBERS PRESENT:

Mike Sheridan, Columbia District, Chair
Mozell Booker, Fork Union District, Vice Chair
Patricia Eager, Palmyra District,
Tony O'Brien, Rivanna District
Donald W. Weaver, Cunningham District

ALSO PRESENT:

Steven M. Nichols, County Administrator
Fred Payne, County Attorney
Kelly Belanger Harris, Clerk to the Board of Supervisors
Eric Hess, Sheriff
Andrew M. Sheridan, Commissioner of the Revenue
Eric Dahl, Finance Director
Cheryl Elliott, Emergency Services Coordinator
Jason Smith, Director of Parks and Recreation
Wayne Stephens, Public Works Director & County Engineer

CALL TO ORDER/PLEDGE OF ALLEGIANCE/MOMENT OF SILENCE

Mr. Steven M. Nichols, County Administrator, called the annual Organizational Meeting of Wednesday, January 6, 2016, to order at 4:00 pm, in the Circuit Courtroom in Palmyra, Virginia. After the Pledge of Allegiance was recited, Mr. Nichols called for a moment of silence.

2016 Organizational Meeting of the Fluvanna County Board of Supervisors

Election of Chair - This action will elect a Chair to the Board of Supervisors for 2016. Mr. Steven M. Nichols, County Administrator, called for nominations.

Mr. Weaver nominated Supervisor Sheridan.

Mr. O'Brien nominated Supervisor Booker.

Mr. Nichols called for a vote for the first nominee for Chair, Mr. Sheridan.

VOTE COUNT: 4-1. AYE: Sheridan, Booker, Eager, Weaver. NAY: O'Brien. ABSENT: None.

With a vote of 4-1, Supervisor Sheridan was elected Chair, and the nomination/voting process was complete.

Following the election of a Chair, Mr. Nichols turned the gavel and the meeting over to Chair Sheridan.

Election of Vice-Chair - This action will elect a new Vice-Chairperson to the Board of Supervisors for 2016. Chair Sheridan opened the floor for nominations for Vice-Chair.

Mr. Weaver nominated Supervisor Eager.

Mr. O'Brien nominated Supervisor Booker.

Chair Sheridan called for votes.

Supervisor Eager received 2 votes, Eager & Weaver.

Supervisor Booker received 3 votes, Sheridan, Booker, & O'Brien.

With a majority of the votes, Supervisor Booker was elected Vice Chair.

Resolution Entitled "Organizational Meeting of the Fluvanna County Board of Supervisors 2016" - The Code of Virginia requires an annual organizational meeting of the Board of Supervisors for the election of officers and the conduct of such other business as to meeting times and dates.

MOTION:

Mrs. Booker moved to adopt the resolution entitled "Organizational Meeting of the Fluvanna County Board of Supervisors 2016" which designates the location, day, and time of meetings.

Meeting Place:

Circuit Courtroom of the Fluvanna County Courts Building

Meeting Times:

Day Meetings begin at 4:00 p.m. and end at 8:00 p.m., unless extended;

Night Meetings begin at 7:00 p.m. and end at 11:00 p.m., unless extended;

When scheduled, Work Sessions begin at 4:00 p.m. prior to the evening meeting.

Mr. Weaver seconded. The motion carried with a vote of 5-0. AYE: Sheridan, Booker, Eager, O'Brien, & Weaver.

NAY: None. ABSENT: None.

Selection of Dates for the Board Meetings - This action will adopt the Board of Supervisors 2016 Regular Meeting Calendar. Mr. Nichols explained the month of July vice August will be designated for a single meeting on the first Wednesday of the month. This change will help accommodate summer vacation schedules prior to the start of the school year in August.

MOTION:

Mr. Weaver moved to adopt the Board of Supervisors 2016 Regular Meeting Calendar as presented. Mrs. Eager seconded and the motion carried with a vote of 5-0. AYE: Sheridan, Booker, Eager, O'Brien, and Weaver. NAY: None. ABSENT: None.

Adoption of Board By-Laws and Rules of Practice and Procedures - This action will adopt the Fluvanna County Board of Supervisors By-Laws and Rules of Practice and Procedures. Mr. Nichols presented a revised and updated version of the bylaws for consideration.

After discussion,

MOTION:

Mr. Weaver moved to readopt the 2015 Fluvanna County Board of Supervisors By-Laws and Rules of Practice and Procedures. Mrs. Eager seconded and the motion carried with a vote of 5-0. AYE: Sheridan, Booker, Eager, O'Brien, and Weaver. NAY: None. ABSENT: None.

Appointment of Board of Supervisor Members to Boards, Commissions, and Committees

After discussion,

MOTION

Mr. Weaver moved to make the following Supervisor appointments to various boards and commissions for terms effective January 1, 2016, through December 31, 2017. Mrs. Booker seconded and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O'Brien, and Weaver. NAY: None. ABSENT: None.

The following appointments were made:

- Weaver - Agricultural/Forestral Advisory Committee
- Weaver - Audit Committee
- Sheridan - Columbia Task Force
- Booker - Community Policy Management Team (CPMT)
- Sheridan - Finance Board (Chair)
- Booker - Fork Union Sanitary District Advisory Committee
- Sheridan/ Booker (alternate) - Parks & Recreation Advisory Board
- O'Brien - Piedmont Workforce Investment Council
- O'Brien - Planning Commission
- Booker - Rivanna River Basin Commission (RRBC) - Mbr #1
- Eager - Rivanna River Basin Commission (RRBC) - Mbr #2
- Eager - Social Services Board
- O'Brien - Thomas Jefferson Planning District Commission (TJPDC)
- Sheridan - Virginia Association of Counties (VACo) Legislative Contact (Chair)
- Booker - Youth Advisory Council (YAC)
- Booker - Fluvanna Partnership for Aging Committee

also appointed the County Administrator to serve as Fluvanna County Emergency Services Director (versus using a BOS Member), effective January 1, 2016.

ADOPTION OF AGENDA

MOTION

Mrs. Booker moved to accept the Agenda for the January 06, 2016, Regular Meeting of the Board of Supervisors. Mr. Weaver seconded and the Agenda was adopted with a vote of 5-0. AYE: Sheridan, Booker, Eager, O'Brien, and Weaver. NAY: None. ABSENT: None.

COUNTY ADMINISTRATOR'S REPORT

Mr. Nichols reported on the following topics:

- Appointment for TJPDCs newly created Rural Transportation Advisory Council
 - Can be one of our two TJPDC representatives, another elected official, a Planning Commission member
- BOS Leadership Planning Retreat
 - Saturday, January 23
 - 8:30 am – 5:00 pm
 - Fluvanna Community Center, Fork Union, Draft agenda to Board for review this week, Information package in advance of the retreat
- Next Meetings
 - Wednesday, January 20, 7:00 pm – Regular Meeting and Joint Public Hearings with the Planning Commission

BOARD OF SUPERVISORS UPDATE

Booker—YAC.

Eager—None.

O'Brien—LMOA Board Meeting.

Sheridan—Thanked Mr. Fred Payne for organizing the hunt at Pleasant Grove for Wheelin' Sportsman., and Sheriff Hess for managing traffic for the hunt.

Weaver—None.

PUBLIC COMMENTS #1

At 5:05pm, Chair Sheridan opened the first round of Public Comments.

Mel Sheridan, Commissioner of the Revenue, commented on the appointment of a citizen to the Thomas Jefferson Area Community Criminal Justice Board.

With no one else wishing to speak, Chair Sheridan closed the first round of Public Comments at 5:06pm.

PUBLIC HEARINGS

None.

ACTION MATTERS

Appointment to Planning Commission—Steven M. Nichols, County Administrator, noted that three candidates are listed in the Board's package.

MOTION

Mrs. Eager moved to appoint Howard Lagomarsino to the Planning Commission, Palmyra District, to complete the term vacated by Patricia Eager, with a term to begin January 1, 2016 and to terminate June 30, 2016. Mr. Weaver seconded and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O'Brien, & Weaver. NAY: None. ABSENT: None.

Appointment to the Thomas Jefferson Water Resources Protection Foundation—Steven M. Nichols, County Administrator,

MOTION

Mrs. Booker moved to reappoint Mr. John Easter to the Thomas Jefferson Water Resources Protection Foundation, with a term to begin February 1, 2016 and to terminate January 31, 2020. Mr. Weaver seconded and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O'Brien, & Weaver. NAY: None. ABSENT: None.

Approval of Ambulance Restocking Agreement for Cost Recovery—Cheryl J. Elliott, Emergency Services Coordinator, brought forth a request to enter an agreement for ambulance restocking.

MOTION

Mrs. Booker moved the Board of Supervisors approve the Ambulance Restocking Agreement between the Rector and Visitors of the University of Virginia on behalf of its Medical Center and the County of Fluvanna, documenting the relationship among the Medical Center, the Rescue Squads and the County with regard to restocking of ambulance pharmaceutical and medical supplies, and further authorize the County Administrator to execute the agreement subject to approval as to form by the County Attorney. Mr. O'Brien seconded and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O'Brien, & Weaver. NAY: None. ABSENT: None.

FY16 E911 Radio Project CIP Budget—Eric Dahl, Finance Director, brought before the Board a request to amend the funding source for the contract between Motorola and the County of Fluvanna for the E911 Radio project. The County signed a Capital Lease with Motorola Credit on July 1, 2015, for \$6,594,544.94 for construction of the E911 Radio Project. The Capital Lease does not include tasks for Engineering, Project Management and Contingencies. The original source of funds for the project was General Fund Cash. On July 1, 2015, the General Fund Cash remaining for this project was \$6,979,682. Mr. Dahl recommended leaving the appropriated General Fund Cash difference of \$385,137 to cover required elements of Engineering, Project Management and Contingencies that are NOT covered by the Motorola Credit Lease. Task #2 for Project Management was issued in FY16 for \$99,943. As construction is paid for by the Capital Lease, staff recommends that \$6,594,544.94 be returned to the General Funds Unassigned Fund Balance.

MOTION

Mr. O'Brien moved the Board of Supervisors approve a budget amendment in the FY16 CIP Budget for the E911 Radio Project to change \$6,594,544.94 of the funding source for the project from General Fund Cash to a Capital Lease, to reflect the Motorola Credit Lease the Board of Supervisors approved effective July 1st, 2015 and further to transfer the \$6,594,544.94 back to the General Funds Unassigned Fund Balance. Mrs. Eager seconded and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O'Brien, & Weaver. NAY: None. ABSENT: None.

Pleasant Grove House Museum Security System Funding Request—Jason Smith, Director of Parks and Recreation, brought to the Board a request to install and maintain a security system. Mr. Smith noted that there had been a recent unsuccessful break-in attempt and felt that a security system was necessary to protect the museum items and the house.

MOTION

Mr. Weaver moved the Board of Supervisors approve a budget transfer of \$3,100 for installation of a security system at the Pleasant Grove House from the FY16 Board of Supervisors Contingency to the FY16 Parks and Recreation Contract Services budget. Mr. O'Brien seconded and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O'Brien, & Weaver. NAY: None. ABSENT: None.

At 5:30pm, Chair Sheridan called for a recess for Dinner and Closed Session.

MOTION

Mr. Weaver moved to recess. Mr. O'Brien seconded and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O'Brien, & Weaver. NAY: None. ABSENT: None.

Mr. Payne noted that in order to go into Closed Session, it was necessary to reconvene into Closed Session.

MOTION TO ENTER INTO A CLOSED MEETING

At 5:30pm, Mr. Weaver moved the Fluvanna County Board of Supervisors enter into a closed meeting, pursuant to the provisions of Section 2.2-3711 A.6 and A.7, of the Code of Virginia, 1950, as amended, for the purpose of discussing Investment of Funds and Legal Matters. Mrs. Booker seconded. The motion carried, with a vote of 5-0. AYE: Sheridan, Booker, Eager, O'Brien, and Weaver. NAY: None.

7:08:38 PM MOTION TO EXIT A CLOSED MEETING & RECONVENE IN OPEN SESSION

At 7:08pm, Mr. Weaver moved that the Closed Meeting be adjourned and the Fluvanna County Board of Supervisors convene again in open session and “BE IT RESOLVED to the best of my knowledge (i) only public business matters lawfully exempted from open meeting requirements under Section 2.2-3711-A of the Code of Virginia, 1950, as amended, and (ii) only such public business matters as were identified in the motion by which the closed meeting was convened were heard, discussed, or considered in the meeting.” Mrs. Booker seconded. The motion carried, with a roll call vote of 5-0. AYE: Sheridan, Booker, Eager, O’Brien, and Weaver. NAY: None. ABSENT: None.

PUBLIC HEARINGS

Relocation of the Rivanna District 501 Polling Precinct from the LMOA Clubhouse Building to the Lake Monticello Firehouse, Maple Room—Steven M. Nichols, County Administrator, brought forward a request to approve an Ordinance to amend the County Code to temporarily move the Rivanna District/501 Polling Precinct while the current precinct is undergoing renovation.

With no discussion,

MOTION

Mrs. Booker moved that the Board of Supervisors approve the resolution, “AN ORDINANCE TO AMEND CHAPTER 2, ARTICLE 2, SEC. 2-2-3(a) OF THE FLUVANNA COUNTY CODE TO MOVE THE RIVANNA ELECTION DISTRICT POLLING PLACE FROM THE LAKE MONTICELLO CLUBHOUSE TO THE MAPLE ROOM, LAKE MONTICELLO FIREHOUSE.” Mrs. Eager gave second and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O’Brien, and Weaver. NAY: None. ABSENT: None.

ACTION MATTERS

Reclassification of Deputy Sheriff Positions - Eric Hess, Sheriff, presented a proposal to simplify the procedure by which changes in staffing are made, terms are consistent, and pay bands are consolidated.

MOTION

Mr. Weaver moved to consolidate within the Pay Band Schematic the following Job Position Titles and Classifications from:

- 6411 – Deputy-Bailiff/Courts Services (Pay Band 12)
- 6411 – Bailiff/Courts Services (Part-Time) (Pay Band 9)
- 6511 – Deputy-Bailiff/Courts Services (Pay Band 13)
- 6311 – Deputy-Animal Control Officer (Pay Band 11)
- 6312 – Deputy-Animal Control Officer (Pay Band 13)
- 6521 – Deputy-School Resource Officer (Pay Band 14)

to:

- 6511 – Deputy Sheriff (Patrol, Courts, ACO, SRO) (Pay Band 13).

In addition, I move to eliminate:

- Two 6411 – Deputy-Bailiff/Courts Services (Part-Time) (Pay Band 9), currently funded at \$27,040,

And replace with:

- One 6511 – Deputy Sheriff (Patrol / Courts / ACO / SRO) (Part-Time) (Pay Band 13) at a cost of \$21,528.

Mrs. Eager seconded and the motion carried 5-0. AYE: Sheridan, Booker, Eager, O’Brien, and Weaver. NAY: None. ABSENT: None.

Deputy Clerk Position Upgrade, Office of the Commissioner of the Revenue – Mel Sheridan, Commissioner of the Revenue (COR), brought forth a request to upgrade the vacant Deputy COR I position to Deputy COR II. Noting that there was a vacancy in his office, Mr. Sheridan reviewed the staffing requirements of the office and job descriptions of the positions in the Commissioner of Revenue’s Office and determined there were necessary changes. Human Resources also recommended the change.

MOTION

Mrs. Eager moved to approve the position upgrade of the current Deputy COR I (Pay Band 9) to Deputy COR II, Business Personal Property Manager (Pay Band 10). Mr. Weaver seconded and the motion passed 5-0. AYE: Sheridan, Booker, Eager, O’Brien, and Weaver. NAY: None. ABSENT: None.

Chair Sheridan, referencing ongoing medical directives, turned the meeting over to Vice Chair Booker and departed the meeting.

PRESENTATIONS

Water Tank in James River—Wayne Stephens, Public Works Director & County Engineer, briefed the Board on the County-owned wastewater storage tank that has rested in the James River near Bremono Bluff, since 1972. Mr. Stephens noted the complexity of removing the tank and options thereof. Mr. Stephens asked the Board for direction on next steps with the tank. Vice Chair Booker asked for discussion. The general consensus of the Board was to continue the status quo.

E911 Radio Project Update (Tower Requirements) – Cheryl Elliott, Emergency Services Coordinator, came before the Board with an overview of tower requirements in the ongoing E911 Radio Project. The next step in the radio project is to secure space on the selected towers. Options include leasing as equipment is designed, using shorter antennas to potentially use less space on the towers, placing antennas at the top of lighted towers, or building additional county-owned towers. The Radio Team needs directional guidance to proceed with negotiations. The Board concurred with reviewing all options, including construction of additional County-owned towers and taller towers, in order to most efficiently complete the project.

MOTION TO EXTEND

Mr. Weaver moved to extend the meeting until midnight. Mr. O’Brien seconded and the motion passed 4-0. AYE: Booker, Eager, O’Brien, & Weaver. NAY: None. ABSENT: Sheridan.

CONSENT AGENDA

The following items were approved under the Consent Agenda:

- *Minutes of December 16, 2015*—Kelly Belanger Harris, Clerk of the Board
- *Policies for BOS Proclamations and Resolutions*—Steven M. Nichols, County Administrator
- *Grant for New Triad in the Commonwealth of Virginia (The Fluvanna County Triad)*—Andrea Gaines, Director of Communications
- *CRM Fund Request—Fluvanna Middle School Kitchen Cooler Doors*—Ed Breslauer, FCPS Finance Director
- *FY16 Schools Supplemental Appropriation Request for Families Learning Together Grant Funds*—Ed Breslauer, FCPS Finance Director
- *Open Space Contract Application (Hemmings)* – Mel Sheridan, Commissioner of the Revenue
- *Open Space Contract Application (Johnston)* – Mel Sheridan, Commissioner of the Revenue
- *Rural Rustic Roads/Rte 1102-Fayette Street*—Robert Popowicz, Community Development Director

MOTION

Mr. Weaver moved to approve the items on the Consent Agenda for January 6, 2016. Mr. O’Brien seconded and the motion passed 4-0. AYE: Booker, Eager, O’Brien, and Weaver. NAY: None. ABSENT: Sheridan.

UNFINISHED BUSINESS

None.

NEW BUSINESS

None.

PUBLIC COMMENTS #2

At 8:20pm, Vice Chair Booker opened the floor for the second round of public comments.

Bob Dorsey, 6 Dover Ct, wished to tell Chair Sheridan that he was happy to see his health returning. Mr. Dorsey also spoke on the collegiality of the Board in the meeting. Mr. Dorsey then spoke on the actions of the James River Water Authority (JRWA), and called for the resignation or removal of a Fluvanna citizen member of the JRWA.

With no one wishing to speak, Chair Sheridan closed the second round of public comments at 8:24pm.

CLOSED MEETING

MOTION TO ENTER INTO A CLOSED MEETING

At 8:24pm, Mr. Weaver moved the Fluvanna County Board of Supervisors enter into a closed meeting, pursuant to the provisions of Section 2.2-3711 A.6 and A.7, of the Code of Virginia, 1950, as amended, for the purpose of discussing Investment of Funds and Legal Matters. Mr. O’Brien seconded. The motion carried, with a vote of 4-0. AYE: Booker, Eager, O’Brien, and Weaver. NAY: None. ABSENT: Sheridan.

MOTION TO EXIT A CLOSED MEETING & RECONVENE IN OPEN SESSION

At 9:45pm, Mr. Weaver moved that the Closed Meeting be adjourned and the Fluvanna County Board of Supervisors convene again in open session and “BE IT RESOLVED to the best of my knowledge (i) only public business matters lawfully exempted from open meeting requirements under Section 2.2-3711-A of the Code of Virginia, 1950, as amended, and (ii) only such public business matters as were identified in the motion by which the closed meeting was convened were heard, discussed, or considered in the meeting.” Mr. O’Brien seconded. The motion carried, with a roll call vote of 4-0. AYE: Booker, Eager, O’Brien, and Weaver. NAY: None. ABSENT: Sheridan.

Once reconvened in Open Session, Mr. Payne summarized the issue of complying with a judgment rendered on December 16, 2015. Mr. Payne presented the remainder of expenses to be paid to Mr. Robert Doty for services rendered in support of the case against Davenport, together with reimbursement of AR Park, LLC, for attorney's fees in defending the claim.

MOTION

Mr. Weaver moved to approve the recommendation of the County Attorney to pay the amount of the judgment for the plaintiff, Mr. Doty, together with AR Park's claim for attorney's fees. Mr. O’Brien offered second and the motion passed 4-0. AYE: Booker, Eager, O’Brien, & Weaver. NAY: None. ABSENT: Sheridan.

ADJOURN

MOTION:

At 9:51pm, Mr. O’Brien moved to adjourn the meeting of Wednesday, January 6, 2016. Mrs. Eager seconded and the motion carried with a vote of 4-0. AYE: Booker, Eager, O’Brien, and Weaver. NAY: None. ABSENT: Sheridan.

ATTEST:

FLUVANNA COUNTY BOARD OF SUPERVISORS

Kelly Belanger Harris
Clerk of the Board

John M. Sheridan
Chair

COUNTY OF FLUVANNA

"Responsive & Responsible Government"

P.O. Box 540
Palmyra, VA 22963
(434) 591-1910
Fax (434) 591-1911
www.fluvannacounty.org

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MEMORANDUM

Date: January 20, 2016
From: Finance Department
To: Board of Supervisors
Subject: **Accounts Payable Report for December 2015**

1. Staff recommends that the Board of Supervisors ratify the expenditures in the attached report and summarized below.

CATEGORY	AMOUNT
General	\$900,877.00
Capital Improvements	\$407,500.55
Debt Service	\$1,250.00
Sewer	\$3,493.40
Fork Union Sanitary District	\$11,644.88
TOTAL AP EXPENDITURES	\$1,324,765.83
Payroll	\$ 1,006,928.62
TOTAL	\$2,331,694.45


MOTION

I move the Accounts Payable and Payroll be ratified for **December 2015** in the amount of **\$2,331,694.45**.

Encl:
AP Report

	A	B	C	D	F	G	H	I	J	
1	County of Fluvanna		From Date: 12/1/2015							
2	Accounts Payable List		To Date: 12/31/2015							
3										
4										
6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount			
7	Fund # - 100 GENERAL FUND									
8	GENERAL FUND									
9	FIRST FINANCIAL ADMINISTRATORS, INC.	CLEARING ACCOUNT-	Payroll Run 1 - Warrant 120415	000000039350	12/3/2015	12/31/2015	6,129.58			
10	HERBERT L BESKIN, TRUSTEE	CLEARING ACCOUNT-	Payroll Run 1 - Warrant 120415	000000039347	12/3/2015	12/31/2015	3,036.00			
11	MINNESOTA LIFE INS. CO	CLEARING ACCOUNT-	Payroll Run 1 - Warrant 120415	000000039348	12/3/2015	12/31/2015	178.19			
12	NEW YORK LIFE INSURANCE CO	CLEARING ACCOUNT-	Payroll Run 1 - Warrant 120415	000000039345	12/3/2015	12/31/2015	517.34			
13	NY LIFE INSURNAGE & ANNUITY CORP	CLEARING ACCOUNT-	Payroll Run 1 - Warrant 120415	000000039346	12/3/2015	12/31/2015	90.00			
14	VACORP	CLEARING ACCOUNT-	Payroll Run 1 - Warrant 121815	000000039889	12/17/2015	12/31/2015	486.21			
15								Total:	\$10,437.32	
16										
17	REAL ESTATE TAXES									
18	BAGGETT, MARCUS W & SARA E	R E 2015 - 1ST	Lockbox Payment Refund	39685	12/11/2015	12/11/2015	547.04			
19	BRADFORD, JAMES A JR & SHERRY A	R E 2015 - 1ST	Lockbox Payment Refund	39687	12/11/2015	12/11/2015	859.07			
20	BRADSHAW, RUSSELL C. & SHARON	R E 2015 - 1ST	Lockbox Payment Refund	39688	12/11/2015	12/11/2015	75.00			
21	BRONOLD, BONNIE J	R E 2015 - 1ST	Lockbox Payment Refund	39689	12/11/2015	12/11/2015	750.66			
22	BRYAN, TERRY B & RICKY A	R E 2015 - 1ST	Lockbox Payment Refund	39690	12/11/2015	12/11/2015	589.81			
23	CABALLERO, LEYDA L	R E 2015 - 1ST	Lockbox Payment Refund	39684	12/11/2015	12/11/2015	1,090.48			
24	CORELOGIC REAL ESTATE TAX SERV	R E 2015 - 1ST	RE 2015 3-3-16	39691	12/11/2015	12/11/2015	10,471.89			
25	CORELOGIC REAL ESTATE	R E 2015 - 1ST	RE 2015 18A-10-62	39699	12/11/2015	12/11/2015	1,079.25			
26	DAVIS, STEVEN	R E 2015 - 1ST	Lockbox Payment Refund	39692	12/11/2015	12/11/2015	805.92			
27	DOVEL, NICK R	R E 2015 - 1ST	Lockbox Payment Refund	39694	12/11/2015	12/11/2015	313.66			
28	DRIVER, KATHRYN	R E 2015 - 1ST	Lockbox Payment Refund	39695	12/11/2015	12/11/2015	842.37			
29	FISHER, WAYNE F & BETTY MAE	R E 2015 - 1ST	Lockbox Payment Refund	39698	12/11/2015	12/11/2015	702.57			
30	HOMEBRIDGE FINANCIAL SERVICES	R E 2015 - 1ST	RE 2015 18A-12-107	39697	12/11/2015	12/11/2015	484.56			
31	JAMES RIVER ORDINARIES INC	R E 2015 - 1ST	RE 2015 41-A-61	39686	12/11/2015	12/11/2015	298.92			
32	JOHNSON, JOY V	R E 2015 - 1ST	Lockbox Payment Refund	39701	12/11/2015	12/11/2015	616.27			
33	MADDOX, MICHAEL M & JESSICA R	R E 2015 - 1ST	Lockbox Payment Refund	39705	12/11/2015	12/11/2015	508.84			
34	MATHEWS, MATHEW STEWART III	R E 2015 - 1ST	Lockbox Payment Refund	39706	12/11/2015	12/11/2015	1,215.45			
35	POWELL, BRYANT & JENNIFER MCFADDEN	R E 2015 - 1ST	Lockbox Payment Refund	39707	12/11/2015	12/11/2015	789.77			
36	RURAL DEVELOPMENT	R E 2015 - 1ST	Lockbox Payment Refund	39696	12/11/2015	12/11/2015	314.65			
37	TEASLEY, RAY & JENNIE	R E 2015 - 1ST	Lockbox Payment Refund	39709	12/11/2015	12/11/2015	677.16			
38	VOIGT, ERIC C & KATRIN	R E 2015 - 1ST	Lockbox Payment Refund	39710	12/11/2015	12/11/2015	343.58			
39								Total:	\$23,376.92	
40										
41	OTHER LOCAL TAXES									



	A	B	C	D	F	G	H	I	J																		
1	County of Fluvanna Accounts Payable List																										
2										From Date: 12/1/2015 To Date: 12/31/2015																	
3																											
4																											
6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount																				
42	BMW FINANCIAL SERVICES VEHICLE	ADMIN FEE VEHICLE LICENSE	PP 2015 202474	39713	12/11/2015	12/11/2015	200.10																				
43	BU, REINA	ADMIN FEE VEHICLE LICENSE	PP 2015 199808	39718	12/11/2015	12/11/2015	603.96																				
44	HERNANDEZ, RAUL A	ADMIN FEE VEHICLE LICENSE	PP 2015 230587	39714	12/11/2015	12/11/2015	84.62																				
45	LOVING EST, HARRIET LAYNE	ADMIN FEE VEHICLE LICENSE	PP 2015 206516	39715	12/11/2015	12/11/2015	36.10																				
46	VAULT	ADMIN FEE VEHICLE LICENSE	PP 2015 203196	39716	12/11/2015	12/11/2015	800.40																				
47	VW CREDIT LEASING LTD	ADMIN FEE VEHICLE LICENSE	PP 2015 2825	39717	12/11/2015	12/11/2015	1,770.29																				
48								Total:	\$3,495.47																		
49																											
50	CHARGES FOR SERVICES																										
51	KELLY SADLER	RECREATION PROGRAM FEES	REFUND OVERPAYMENT	121415	12/14/2015	12/18/2015	100.00																				
52								Total:	\$100.00																		
53																											
54	MISCELLANEOUS																										
55	TREASURER COMMONWEALTH OF VIRGINIA	EXPENDITURE REFUNDS	VJCCCA FUNDS	120315	12/3/2015	12/4/2015	685.00																				
56								Total:	\$685.00																		
57																											
58	BOARD OF SUPERVISORS																										
59	BANK OF AMERICA	ADVERTISING	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	149.95																				
60	BANK OF AMERICA	CONVENTION AND EDUCATION	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	295.00																				
61	BANK OF AMERICA	OFFICE SUPPLIES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	11.90																				
62	BANK OF AMERICA	OTHER OPERATING SUPPLIES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	786.21																				
63	BANK OF AMERICA	SUBSISTENCE & LODGING	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	1,793.65																				
64	E.W. THOMAS	OTHER OPERATING SUPPLIES	BOS DINNER	120715	12/7/2015	12/11/2015	59.97																				
65	FLUVANNA REVIEW	ADVERTISING	PUBLIC HEARING	2015F47-12	11/19/2015	12/4/2015	505.00																				
66	JOHN M. SHERIDAN	MILEAGE ALLOWANCES	TRAVEL REIMBURSEMENT	111015	11/20/2015	12/4/2015	254.16																				
67	MOZELL H. BOOKER	MILEAGE ALLOWANCES	TRAVEL REIMBURSEMENT	120415	11/23/2015	12/4/2015	648.60																				
68	PAYNE & HODOUS, LLP.	PROFESSIONAL SERVICES	LEGAL FEES	113522	12/1/2015	12/11/2015	93.00																				
69	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015	59.02																				
70	SUPERIOR DOCUMENT SERVICES	PROFESSIONAL SERVICES	HOSTING PHASE	969375	3/31/2015	12/18/2015	61.98																				
71	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	269.46																				
72								Total:	\$4,987.90																		
73																											
74	COUNTY ADMINISTRATOR																										
75	BANK OF AMERICA	OFFICE SUPPLIES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	146.90																				
76	BANK OF AMERICA	PROFESSIONAL SERVICES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	18.19																				

	A	B	C	D	F	G	H	I	J	
1	County of Fluvanna		From Date: 12/1/2015							
2	Accounts Payable List		To Date: 12/31/2015							
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6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount			
77	BANK OF AMERICA	SUBSISTENCE & LODGING	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	287.73			
78	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	26.56			
79	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015	23.23			
80	SHENANDOAH VALLEY WATER	LEASE/RENT	SPRINGWATER AND RENT FEE	L3464300-15	12/1/2015	12/11/2015	64.55			
81	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	293.77			
82	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	25.01			
83	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIES	17881299	11/20/2015	12/4/2015	513.94			
84								Total:	\$1,399.88	
85										
86	COUNTY ATTORNEY									
87	PAYNE & HODOUS, LLP.	PROFESSIONAL SERVICES	LEGAL FEES	113522	12/1/2015	12/11/2015	20,496.38			
88								Total:	\$20,496.38	
89										
90	COMMISSIONER OF THE REVENUE									
91	AUTOMATED OFFICE SYSTEMS	LEASE/RENT	ANNUAL CHARGE	070162	12/1/2015	12/18/2015	2,146.22			
92	BANK OF AMERICA	SUBSISTENCE & LODGING	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	12.00			
93	BUSINESS DATA OF VA, INC.	PROFESSIONAL SERVICES	CONSULTING	1287-2015	11/5/2015	12/31/2015	1,000.00			
94	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	22.13			
95	VALECO C/O JEFF SHAFER TREASURER	CONVENTION AND EDUCATION	ANNUAL MEETING	122215	12/22/2015	12/31/2015	60.00			
96	PITNEY BOWES	LEASE/RENT	LEASING CHARGES	1015396-DC15	12/13/2015	12/31/2015	458.88			
97	SHENANDOAH VALLEY WATER	OFFICE SUPPLIES	SPRING WATER	L4232210-15	12/1/2015	12/18/2015	24.57			
98	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	119.57			
99	STONEWALL TECHNOLOGIES	PROFESSIONAL SERVICES	MEMBERSHIP FEE	8526	11/30/2015	12/18/2015	300.00			
100	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	13.85			
101	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	49.81			
102								Total:	\$4,207.03	
103										
104	REASSESSMENT									
105	E.W. THOMAS	PROFESSIONAL SERVICES	BOS DINNER	120715	12/7/2015	12/11/2015	21.14			
106	EVERETT M HANNAH	PROFESSIONAL SERVICES	BOE	112415	12/3/2015	12/4/2015	80.00			
107	GARY L. ELLIS	PROFESSIONAL SERVICES	BOE	121115	12/11/2015	12/18/2015	160.00			
108	JOANN RAWLS	PROFESSIONAL SERVICES	BOE	112415	12/3/2015	12/4/2015	205.00			
109	KAREN K. BERCAW	PROFESSIONAL SERVICES	BOE	61715	11/17/2015	12/4/2015	240.00			
110								Total:	\$706.14	
111										



	A	B	C	D	F	G	H	I	J
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2	Accounts Payable List		To Date: 12/31/2015						
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112	TREASURER								
113	BUSINESS DATA OF VA, INC.	PROFESSIONAL SERVICES	CONSULTING	1274-2015	12/1/2015	12/11/2015			2,200.00
114	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015			26.56
115	CHARLOTTESVILLE OFFICE MACHINE	OFFICE SUPPLIES	CALCULATOR RIBBONS	670751	12/17/2015	12/31/2015			54.00
116	FLUVANNA REVIEW	ADVERTISING	PROPERTY TAXES	2015F47-13	11/19/2015	12/4/2015			122.00
117	QUILL	OFFICE SUPPLIES	WALL CALENDAR	9614553	11/13/2015	12/4/2015			706.16
118	SHENANDOAH VALLEY WATER	LEASE/RENT	SPRING WATER	L3464500-15	12/1/2015	12/11/2015			34.80
119	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015			(\$60.34)
120	THE DAILY PROGRESS	ADVERTISING	COUNTY TAXPAYERS	3308913	11/29/2015	12/18/2015			85.67
121	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015			11.88
122	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015			49.81
123	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIES	17921619	11/26/2015	12/4/2015			131.38
124	VIRGINIA DEPT. OF MOTOR VEHICLES	DMV-ONLINE	ACCT #546001282025	120815	12/8/2015	12/11/2015			60.00
125								Total:	\$3,421.92
126									
127	INFORMATION TECHNOLOGY								
128	BANK OF AMERICA	ADP SERVICES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015			2,164.67
129	BANK OF AMERICA	ADP SUPPLIES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015			667.95
130	BANK OF AMERICA	BOOKS/PUBLICATIONS	P-CARD PURCHASES	113015	11/30/2015	12/18/2015			42.99
131	CDW GOVERNMENT, INC.	EDP EQUIPMENT	ROOM MONITOR	BKD6779	12/4/2015	12/18/2015			1,190.53
132	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015			4.43
133	DELL MARKETING, L.P.	ADP SUPPLIES	LITHIUM BATTERY	XJTPF4MR9	12/1/2015	12/11/2015			124.49
134	DISYS SOLUTIONS, INC.	ADP SERVICES	CISCO SMARTNET	IN02523	12/14/2015	12/31/2015			3,541.97
135	TYLER TECHNOLOGIES	ADP SERVICES	APPLICATION SERVICES	045-146781	11/15/2015	12/4/2015			31,274.50
136	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015			2,134.60
137	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015			89.82
138								Total:	\$41,235.95
139									
140	FINANCE								
141	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015			17.71
142	FORMAX	CONTRACT SERVICES	CONTRACT RENEWAL	193134	12/1/2015	12/11/2015			710.00
143	GOVERNMENT FINANCE	DUES OR ASSOCIATION	MEMBERSHIP RENEWAL	0141823-	11/19/2015	12/18/2015			225.00
144	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015			152.15
145	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015			104.58
146	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015			20.05



	A	B	C	D	F	G	H	I	J
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2	Accounts Payable List		To Date: 12/31/2015						
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147	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIER	18025474	12/21/2015	12/23/2015	169.45		
148								Total:	\$1,398.94
149									
150	REGISTRAR/ELECTORAL BOARD								
151	ANTIOCH BAPTIST CHURCH	CONTRACT SERVICES	2015 ELECTION	110415	11/4/2015	12/23/2015	100.00		
152	AUTOMATED OFFICE SYSTEMS	LEASE/RENT	MONTHLY BILL	070166	12/1/2015	12/4/2015	155.00		
153	BANK OF AMERICA	POSTAL SERVICES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	1.64		
154	DALY COMPUTERS, INC.	OFFICE SUPPLIES	BATTERY REPLACEMENT	PS1000688	11/17/2015	12/4/2015	116.00		
155	ERIN DAVIS	CONTRACT SERVICES	ELECTION	102415	12/3/2015	12/4/2015	30.00		
156	JUDITH B. KENNEDY	CONTRACT SERVICES	ELECTIONS	120115	12/1/2015	12/1/2015	107.50		
157	KENTS STORE ARC	CONTRACT SERVICES	ELECTION	110915	11/9/2015	12/23/2015	400.00		
158	PATRICIA A. HASTINGS	MILEAGE ALLOWANCES	REIMBURSEMENT	1130151	12/2/2015	12/4/2015	182.64		
159	ROSALEEN JOHNSON	CONTRACT SERVICES	ELECTIONS	101715	12/3/2015	12/4/2015	107.50		
160	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	8036984652	11/28/2015	12/18/2015	61.56		
161	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	10.63		
162	VEBA	DUES OR ASSOCIATION	MEMBERSHIP FEE	121115	12/11/2015	12/18/2015	160.00		
163	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	49.81		
164								Total:	\$1,482.28
165									
166	HUMAN RESOURCES								
167	BANK OF AMERICA	BOOKS/PUBLICATIONS	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	44.70		
168	PROTECT YOUTH SPORTS	RECRUITMENT	BACKGROUND CHECK	399271	12/1/2015	12/4/2015	7.95		
169	SAM'S CLUB	EMPLOYEE RECOGNITION	DINNER /DESSERT PLATES	121115	12/11/2015	12/18/2015	54.03		
170	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	61.37		
171	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	PRINTER SYSTEM	17891688	11/23/2015	12/11/2015	89.60		
172								Total:	\$257.65
173									
174	GENERAL DISTRICT COURT								
175	CENTURYLINK	TELECOMMUNICATIONS	DISTRICT COURT	1116156	11/16/2015	12/4/2015	458.30		
176	PITNEY BOWES	MAINTENANCE CONTRACTS	LEASING CHARGES	3083012-DC15	12/18/2015	12/31/2015	180.00		
177	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	14.31		
178	VIRGINIA BUSINESS SYSTEMS	MAINTENANCE CONTRACTS	COPIES	17906360	11/25/2015	12/4/2015	161.51		
179	VIRGINIA WATERS, INC.	MAINTENANCE CONTRACTS	HOT & COLD COOLER RENTAL	113015	11/30/2015	12/31/2015	12.00		
180								Total:	\$826.12
181									



	A	B	C	D	F	G	H	I	J	
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182	COURT SERVICE UNIT									
183	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	17.71			
184	JAMES L. BROWN	CONVENTION AND EDUCATION	REIMBURSEMENT	121515	12/15/2015	12/18/2015	31.48			
185	QUILL	OFFICE SUPPLIES	OFFICE SUPPLIES	843645	11/27/2015	12/18/2015	239.97			
186	SHENANDOAH VALLEY WATER	LEASE/RENT	WATER	L5790520-15	12/1/2015	12/18/2015	32.25			
187	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	19.23			
188								Total:	\$340.64	
189										
190	CLERK OF THE CIRCUIT COURT									
191	BANK OF AMERICA	EDP EQUIPMENT	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	19.36			
192	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	35.41			
193	CHARLOTTESVILLE OFFICE MACHINE	OFFICE SUPPLIES	TONER CARTRIDGE	670681	11/19/2015	12/4/2015	406.00			
194	FLUVANNA CO CIRCUIT COURT	CONTRACT SERVICES	BANK SERVICE CHARGE	121615	12/16/2015	12/18/2015	66.08			
195	LOGAN SYSTEMS, INC.	PRINTING AND BINDING	3-HOLE PUNCH SCANNING	47499	12/15/2015	12/18/2015	169.50			
196	LOGAN SYSTEMS, INC.	PROFESSIONAL SERVICES	PROFESSIONAL SERVICES	47498	12/15/2015	12/18/2015	2,541.67			
197	DOCUMENT DESTRUCTION OF VIRGINIA	CONTRACT SERVICES	PURGE SERVICE	333311	12/21/2015	12/31/2015	151.02			
198	THE PHOENIX GROUP	EDP EQUIPMENT	PAPER THERMAL- ORDER	FLUVANNAC054886	11/12/2015	12/31/2015	19.36			
199	SHENANDOAH VALLEY WATER	OFFICE SUPPLIES	SPRINGWATER/ RENT FEE	L24843500-15	12/1/2015	12/11/2015	46.75			
200	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	311.15			
201	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	37.80			
202	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIER/ CIRCUIT COURT	17992769	12/14/2015	12/23/2015	210.08			
203								Total:	\$4,014.18	
204										
205	CIRCUIT COURT JUDGE									
206	BANK OF AMERICA	OFFICE SUPPLIES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	45.46			
207	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	13.28			
208	AKEISHA L. CHRISTMAS	COMPENSATION-	GRAND JURY	113015	12/3/2015	12/4/2015	1,380.00			
209	CATHY A. ALLEN	OFFICE SUPPLIES	RETIREMENT PARTY SUPPLIES	120215	12/3/2015	12/4/2015	10.63			
210	ROBERT JAMES	COMPENSATION-	JURY DUTY	SGJ092015-010	12/3/2015	12/4/2015	60.00			
211	TREASURER OF VIRGINIA	EDP EQUIPMENT	VA JURY SYSTEM -	16-065C-VJS	12/21/2015	12/31/2015	650.00			
212	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	4.61			
213								Total:	\$2,163.98	
214										
215	COMMONWEALTH ATTY									
216	BANK OF AMERICA	CONVENTION AND EDUCATION	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	14.77			



	A	B	C	D	F	G	H	I	J
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2	Accounts Payable List		To Date: 12/31/2015						
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217	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	17.71		
218	MATTHEW BENDER & CO INC	BOOKS/PUBLICATIONS	LAW & PROCESSING	120415	12/4/2015	12/11/2015	412.74		
219	NATIONAL CENTER FOR VICTIMS OF CRIME	DUES OR ASSOCIATION	MEMBERSHIP	120215	12/2/2015	12/4/2015	95.00		
220	NDA	DUES OR ASSOCIATION	MEMBERSHIP RENEWAL	34-144264	12/30/2015	12/31/2015	174.00		
221	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015	15.88		
222	SHENANDOAH VALLEY WATER	LEASE/RENT	SPRINGWATER	L3547800-15	12/1/2015	12/11/2015	34.80		
223	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	(\$37.71)		
224	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	21.20		
225	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	49.81		
226	WEST PAYMENT CENTER	BOOKS/PUBLICATIONS	SUBSCRIPTION	833100329	12/4/2015	12/23/2015	830.50		
227								Total:	\$1,628.70
228									
229	SHERIFF								
230	AT&T 286-3642	TELECOMMUNICATIONS	LONG DISTANCE	110615	11/6/2015	12/4/2015	53.57		
231	BANK OF AMERICA	TELECOMMUNICATIONS	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	4.25		
232	BANK OF AMERICA	VEHICLE/POWER EQUIP	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	47.37		
233	CAMPBELL EQUIPMENT, INC.	VEHICLES REP & MAINT	TIRE REPAIR	121115	12/11/2015	12/18/2015	136.00		
234	CENTRAL BATTERY SPECIALIST	POLICE SUPPLIES	BATTERY	28324	11/9/2015	12/18/2015	92.00		
235	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	1,245.89		
236	GALLS, LLC.	POLICE SUPPLIES	SPRAY HOLDER	004435413	11/20/2015	12/4/2015	121.19		
237	GALLS, LLC.	UNIFORM/WEARING APPAREL	STRAW HAT	004490100	11/30/2015	12/11/2015	501.00		
238	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	3,501.91		
239	LYNN CARD COMPANY	OFFICE SUPPLIES	GREETING CARDS	2151203-053	12/7/2015	12/18/2015	153.45		
240	MAC'S SERVICE CENTER	VEHICLES REP & MAINT	DIAGNOSTIC/REPAIR	21820	9/3/2015	12/23/2015	158.46		
241	MANSFIELD OIL COMPANY OF GAINESVILLE,	VEHICLE FUEL	FUEL	SQLCD00130491	12/2/2015	12/4/2015	24.39		
242	MIDLOTHIAN BUSINESS FORMS	POLICE SUPPLIES	VA UNIFORM SUMMONS	1809	12/15/2015	12/23/2015	360.23		
243	NATIONAL SHERIFF'S ASSOCIATION	DUES OR ASSOCIATION	NSA MEMBERSHIP DUES	279586-	12/3/2015	12/18/2015	109.00		
244	PITNEY BOWES PURCHASE PWR	TELECOMMUNICATIONS	COPIES	113015	11/30/2015	12/4/2015	11.91		
245	SHENANDOAH VALLEY WATER	LEASE/RENT	SPRINGWATER AND RENT FEE	L3822710-15	12/1/2015	12/11/2015	153.00		
246	SHULL'S AUTOMOTIVE, INC.	VEHICLES REP & MAINT	TOW	1001604	11/23/2015	12/4/2015	190.00		
247	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	470.24		
248	TOWN GUN SHOP, INC.	POLICE SUPPLIES	REMINGTON 22332	R79617	12/8/2015	12/23/2015	5,020.83		
249	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	474.70		
250	VACORP	WORKER'S COMPENSATION	WORKERS COMP AUDIT	11638	12/14/2015	12/18/2015	1,236.00		
251	VALLEY OFFICE MACHINES, INC.	MAINTENANCE CONTRACTS	METER	151208-0039	12/8/2015	12/18/2015	63.30		



	A	B	C	D	F	G	H	I	J	
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2	Accounts Payable List		To Date: 12/31/2015							
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252	VERIZON BUSINESS/MCI COMM SERVICE	TELECOMMUNICATIONS	PHONE	05946695	11/25/2015	12/11/2015	18.07			
253	VERIZON	TELECOMMUNICATIONS	WIRELESS BILL	9756885789	12/8/2015	12/23/2015	2,000.35			
254	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIER	17945372	12/1/2015	12/11/2015	78.87			
255	VIRGINIA DEPT. OF MOTOR VEHICLES	OTHER OPERATING SUPPLIES	SPECIAL ID	15334646	11/30/2015	12/11/2015	10.00			
256	VIRGINIA WHOLESALE TIRE	VEHICLE/POWER EQUIP	TIRES	358630	12/4/2015	12/11/2015	2,816.40			
257							Total:	\$19,052.38		
258										
259	E911									
260	BANK OF AMERICA	MAINTENANCE CONTRACTS	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	197.42			
261	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	965.23			
262	CLEAR COMMUNICATIONS AND	BLDGS EQUIP REP & MAINT	E911 CONSOLE UPGRADE	105896	8/25/2015	12/11/2015	21,067.78			
263	CLEAR COMMUNICATIONS AND	EDP EQUIPMENT	HIGH CAP BATT	106887	11/24/2015	12/11/2015	47.85			
264	DELL SOFTWARE SOLUTIONS	EDP EQUIPMENT	ANIT SPAM	ATT985268	12/4/2015	12/23/2015	360.00			
265	NATIONAL GRANTS MANAGEMENT	DUES OR ASSOCIATION	1YR MEMBER	5351920	12/11/2015	12/18/2015	149.00			
266	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	142.25			
267	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	3.74			
268	VERIZON	TELECOMMUNICATIONS	WIRELESS BILL	9756885789	12/8/2015	12/23/2015	1,422.20			
269	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIER	17945372	12/1/2015	12/11/2015	78.88			
270							Total:	\$24,434.35		
271										
272	FIRE AND RESCUE SQUAD									
273	BANK OF AMERICA	VEHICLE	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	15.00			
274	CDW GOVERNMENT, INC.	FIRE & RESCUE ASSN	PAN TOUGHBOOK	ZX29625	10/27/2015	12/11/2015	13,545.00			
275	FLUVANNA COUNTY RESCUE SQUAD	FIRE & RESCUE ASSN	MEDICAL SUPPLIES	122815	12/28/2015	12/31/2015	20,000.00			
276	LAKE MONTICELLO FIRE & RESCUE	FIRE & RESCUE ASSN	MEDICAL SUPPLIES	122815	12/28/2015	12/31/2015	20,000.00			
277	LAKE MONTICELLO FIRE & RESCUE	GENERAL LIABILITY	VEHICLE INSURANCE	12072015	12/7/2015	12/11/2015	31,501.14			
278	VFIS	GENERAL LIABILITY	POLICY PREMIUM	100668109	11/27/2015	12/11/2015	575.00			
279							Total:	\$85,636.14		
280										
281	CORRECTION AND DETENTION									
282	CENTRAL VIRGINIA REGIONAL JAIL	CVRJ COST OF PRISONERS	OPERATIONAL COSTS	010116F	12/10/2015	12/18/2015	214,514.50			
283	COUNTY OF ALBEMARLE, VIRGINIA	CONFINEMENT - BRJDC	JUVENILE DETENTION	FY2016-488	12/1/2015	12/4/2015	29,815.54			
284	E.W. THOMAS	FOOD SUPPLIES	INAMTE'S MEAL	EWT1-	12/8/2015	12/11/2015	5.99			
285							Total:	\$244,336.03		
286										



	A	B	C	D	F	G	H	I	J
1	County of Fluvanna		From Date: 12/1/2015						
2	Accounts Payable List		To Date: 12/31/2015						
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6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount		
287	BUILDING INSPECTIONS								
288	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	17.71		
289	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	91.78		
290	MANSFIELD OIL COMPANY OF GAINESVILLE,	VEHICLE FUEL	FUEL	SQLCD00130491	12/2/2015	12/4/2015	96.50		
291	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015	40.46		
292	STAPLES CONTRACT & COMMERCIAL, INC.	FURNITURE & FIXTURES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	1,680.68		
293	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	8036984652	11/28/2015	12/18/2015	146.94		
294	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	6.72		
295	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	59.81		
296	VIRGINIA PLUMBING & MECHANICAL	DUES OR ASSOCIATION	MEMBERSHIP APPLICATION	121015	12/10/2015	12/11/2015	80.00		
297								Total:	\$2,220.60
298									
299	EMERGENCY MANAGEMENT								
300	ADAM KNIGHT	CONVENTION AND EDUCATION	FIREFIGHTER INSTRUCTOR	120715	12/7/2015	12/11/2015	700.00		
301	CHRISTOPHER ACREE	CONVENTION AND EDUCATION	FIREFIGHTER INSTRUCTOR	110715	12/7/2015	12/11/2015	200.00		
302	DANA CAMPBELL	CONVENTION AND EDUCATION	FIREFIGHTER INSTRUCTOR	120715	12/7/2015	12/11/2015	400.00		
303	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	42.27		
304	JASON D'ANTUONO	CONVENTION AND EDUCATION	FIREFIGHTER INSTRUCTOR	120715	12/7/2015	12/11/2015	575.00		
305	MARK NOVAK	CONVENTION AND EDUCATION	FIREFIGHTER INSTRUCTOR	120715	12/7/2015	12/11/2015	475.00		
306	MATTHEW SEARCY	CONVENTION AND EDUCATION	FIREFIGHTER INSTRUCTOR	120715	12/7/2015	12/11/2015	550.00		
307	RECTOR & VISITORS OF THE UNIVERSITY OF	PROFESSIONAL SERVICES	EMS COVERAGE	111015	11/15/2015	12/4/2015	96,690.11		
308	STAPLES CONTRACT & COMMERCIAL, INC.	CONVENTION AND EDUCATION	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	107.48		
309	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	5.86		
310								Total:	\$99,745.72
311									
312	ANIMAL CONTROL								
313	BANK OF AMERICA	SUBSISTENCE & LODGING	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	51.89		
314	FLUVANNA SPCA	CONTRACT SERVICES	PRINTED CIRCUIT BOARD	582027	11/16/2015	12/4/2015	11,456.92		
315	GALLS, LLC.	VEHICLES REP & MAINT	MOUNT LED LIGHTS	004562993	12/11/2015	12/23/2015	170.00		
316	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	166.29		
317	M & W PRINTERS, INC.	CONTRACT SERVICES	DOG TAGS	98519	11/18/2015	12/11/2015	1,115.54		
318	UNIVERSITY TIRE AND AUTO CENTER, INC.	VEHICLE/POWER EQUIP	TIRES	356789	11/15/2015	12/4/2015	517.44		
319								Total:	\$13,478.08
320									
321	LITTER								




	A	B	C	D	F	G	H	I	J
1	County of Fluvanna		From Date: 12/1/2015						
2	Accounts Payable List		To Date: 12/31/2015						
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322	JOEL A. ZELINSKY	OTHER OPERATING SUPPLIES	ADOPT A SPOT SIGN	2453	11/23/2015	12/18/2015	510.00		
323								Total:	\$510.00
324									
325	FACILITIES								
326	ALBEMARLE LOCK & SAFE, INC.	BLDGS EQUIP REP & MAINT	GYM KEYS	55162	12/10/2015	12/18/2015	33.00		
327	BANK OF AMERICA	CONTRACT SERVICES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	408.50		
328	BETTER LIVING, INC.	GENERAL MATERIALS AND	FLUSH SOLID WOOD CORE	BMZ00517597	11/30/2015	12/11/2015	292.53		
329	CAMPBELL EQUIPMENT, INC.	VEHICLES REP & MAINT	TIRE REPAIR	120215	12/2/2015	12/11/2015	790.96		
330	CENTRAL BATTERY SPECIALIST	GENERAL MATERIALS AND	BATTERY	121815	12/18/2015	12/23/2015	9.50		
331	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	17.71		
332	CII SERVICE	BLDGS EQUIP REP & MAINT	DEFROST CONTROL BOARD	8222	11/17/2015	12/4/2015	11,348.19		
333	CINTAS	LAUNDRY AND DRY CLEANING	UNIFORMS	394709322	12/3/2015	12/11/2015	1,135.80		
334	COMMONWEALTH DISTRIBUTION, LLC.	JANITORIAL SUPPLIES	SUPPLIES	51000	11/20/2015	12/4/2015	1,780.42		
335	FLUVANNA ACE HARDWARE	GENERAL MATERIALS AND	SUPPLIES	113015	11/30/2015	12/18/2015	222.03		
336	GARDENKEEPERS OF VIRGINIA, LLC.	AGRICULTURAL SUPPLIES	WHITE PINE	6504	11/22/2015	12/11/2015	620.00		
337	INBODEN ENVIRONMENTAL SERVICES, INC.	CONTRACT SERVICES	WASTEWATER MONITORING	58172	12/8/2015	12/18/2015	574.00		
338	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	690.98		
339	JOHN VAUGHAN	VEHICLE FUEL	FUEL REIMBURSEMENT	113015	11/30/2015	12/4/2015	317.41		
340	JONES AUTOMOTIVE/ALL STAR AUTO PARTS	OTHER OPERATING SUPPLIES	SUPPLIES/CARYSBROOK	120815	12/8/2015	12/11/2015	89.02		
341	JONES AUTOMOTIVE/ALL STAR AUTO PARTS	VEHICLE/POWER EQUIP	PARTS	11302015	11/30/2015	12/11/2015	596.64		
342	JONES AUTOMOTIVE/ALL STAR AUTO PARTS	VEHICLES REP & MAINT	PARTS	11302015	11/30/2015	12/11/2015	90.03		
343	LOWE'S	GENERAL MATERIALS AND	SUPPLIES	120815	11/30/2015	12/11/2015	2,893.32		
344	LOWE'S	OTHER OPERATING SUPPLIES	SUPPLIES	120815	11/30/2015	12/11/2015	352.65		
345	M & N INDUSTRIES, INC.	BLDGS EQUIP REP & MAINT	FURNISH LINE RAIL	6720	12/7/2015	12/11/2015	513.00		
346	MAC'S SERVICE CENTER	VEHICLES REP & MAINT	SAFETY INSPECTION	22401	10/1/2015	12/23/2015	1,094.23		
347	MARYLAND BIOCHEMICAL CO., INC.	CONTRACT SERVICES	WASTEWATER TREATMENT	11HH1100	11/24/2015	12/11/2015	755.26		
348	OLD DOMINION ABATEMENT & DEMOLITION,	BLDGS EQUIP REP & MAINT	INSULATION SERVICES	1512142	12/15/2015	12/23/2015	1,765.00		
349	OLIVER ROOFING & GUTTER	BLDGS EQUIP REP & MAINT	LABOR AND MATERIAL	120215	12/2/2015	12/11/2015	755.00		
350	FLUVANNA MASTER GARDENER'S	CONVENTION AND EDUCATION	VCE MASTER GARDENER	0001-	12/16/2015	12/23/2015	180.00		
351	RAFALY ELECTRICAL CONTRACTORS, INC.	CONTRACT SERVICES	REPAIRS	6600	12/3/2015	12/11/2015	3,435.00		
352	RICH MASONRY, INC.	BLDGS EQUIP REP & MAINT	LABOR AND MATERIALS	389	12/7/2015	12/11/2015	1,200.00		
353	RUHLMAN'S HAULING	BLDGS EQUIP REP & MAINT	OLD BUS SHOP AND HAUL	120715	12/4/2015	12/11/2015	711.37		
354	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	97.07		
355	UNIVAR USA, INC.	OTHER OPERATING SUPPLIES	SUPPLIES	RI690346	12/21/2015	12/31/2015	3,736.42		
356	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	7.99		



	A	B	C	D	F	G	H	I	J
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2	Accounts Payable List		To Date: 12/31/2015						
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357	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	495.46		
358	VIRGINIA COOPERATIVE EXTENSION	CONVENTION AND EDUCATION	RECERTIFICATION CLASS	1216 15	12/16/2015	12/18/2015	45.00		
359								Total:	\$37,053.49
360									
361	GENERAL SERVICES								
362	AQUA VIRGINIA, INC.	WATER SERVICES	197 MAIN ST	120815	12/8/2015	12/23/2015	254.34		
363	ARTHURS SEPTIC SERVICE	MAINTENANCE CONTRACTS	PUMPED TANK CARYSBROOK	0009	12/4/2015	12/11/2015	325.00		
364	BFI - FLUVANNA TRANSFER STATION	MAINTENANCE CONTRACTS	TRASH REMOVAL	0410-000594174	11/30/2015	12/11/2015	1,289.85		
365	CENTRAL VA ELECTRIC COOP	ELECTRICAL SERVICES	479 CUNNINGHAM RD	113015	11/30/2015	12/11/2015	5,745.38		
366	CENTRAL VA ELECTRIC COOP	STREET LIGHTS	THOMAS JEFF PKWY	85473- 001	12/7/2015	12/18/2015	184.30		
367	CENTURYLINK 589-8525	TELECOMMUNICATIONS	PAY PHONE BILL	A343575	11/25/2015	12/11/2015	50.00		
368	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111615	11/16/2015	12/4/2015	1,499.69		
369	CII SERVICE	MAINTENANCE CONTRACTS	SERVICE CONTRACT-	8366	12/15/2015	12/23/2015	2,437.00		
370	CINTAS	MAINTENANCE CONTRACTS	FIRST AID SUPPLIES	5004083110	11/30/2015	12/4/2015	207.62		
371	DOMINION VIRGINIA POWER	ELECTRICAL SERVICES	OLD STORE JAIL MUSEUM	112315	11/23/2015	12/4/2015	9,486.37		
372	DOMINION VIRGINIA POWER	STREET LIGHTS	BESIDE POST OFFICE	1130156	11/30/2015	12/11/2015	626.41		
373	INTRASTATE PEST	MAINTENANCE CONTRACTS	BASEBALL FIELD	10181544	11/20/2015	12/4/2015	1,276.00		
374	SHENANDOAH VALLEY WATER	WATER SERVICES	WATER	L3807110-15	12/1/2015	12/18/2015	61.75		
375	TECHNIRAIN LIGHTING AND IRRIGATION	MAINTENANCE CONTRACTS	LABOR	780	12/7/2015	12/23/2015	265.00		
376	THE BLOSSMAN COMPANIES, INC.	HEATING SERVICES	TANK RENT	20058	12/1/2015	12/11/2015	1,541.48		
377	THYSSENKRUPP ELEVATOR CORPORATION	MAINTENANCE CONTRACTS	CARYSBROOK COMPLEX	3002237428	11/30/2015	12/4/2015	1,028.36		
378	TIGER FUEL COMPANY	HEATING SERVICES	HEATING OIL	267915	12/1/2015	12/11/2015	5,403.94		
379	TREASURER, FLUVANNA CO	SEWER SERVICES	181 MAIN ST	23558	11/24/2015	12/4/2015	183.23		
380	TREASURER, FLUVANNA CO	WATER SERVICES	CAREYSBROOK SOFTBALL	23521	11/24/2015	12/4/2015	646.30		
381								Total:	\$32,512.02
382									
383	PUBLIC WORKS								
384	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	17.71		
385	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	35.99		
386	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	103.06		
387	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIER	17921620	11/26/2015	12/11/2015	235.59		
388								Total:	\$392.35
389									
390	CONVENIENCE CENTER								
391	BFI - FLUVANNA TRANSFER STATION	CONTRACT SERVICES	TRASH	4347-000005736	11/15/2015	12/4/2015	4,258.70		



	A	B	C	D	F	G	H	I	J																		
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6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount																				
392	CAMPBELL EQUIPMENT, INC.	BLDGS EQUIP REP & MAINT	TIRES DISPOSAL	112415	11/24/2015	12/4/2015	261.00																				
393	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	1116154	11/16/2015	12/4/2015	60.10																				
394	FAIRBANKS SCALES, INC.	BLDGS EQUIP REP & MAINT	MAINTENANCE FEES	1250390	11/18/2015	12/4/2015	723.00																				
395	FLUVANNA ACE HARDWARE	BLDGS EQUIP REP & MAINT	SUPPLIES	113015	11/30/2015	12/18/2015	89.90																				
396	MO-JOHNS, INC.	LEASE/RENT	PORTABLE TOILET	87413	11/23/2015	12/4/2015	60.00																				
397	VACORP	WORKER'S COMPENSATION	WORKERS COMP AUDIT	11638	12/14/2015	12/18/2015	468.00																				
398	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	31.64																				
399						Total:	\$5,952.34																				
400																											
401	LANDFILL POST CLOSURE																										
402	DRAPER ADEN ASSOCIATES	PROFESSIONAL SERVICES	LANDFILL INSPECTION	2015100423	10/31/2015	12/4/2015	2,907.00																				
403						Total:	\$2,907.00																				
404																											
405	HEALTH																										
406	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	9.93																				
407						Total:	\$9.93																				
408																											
409	VJCCCA																										
410	REBECCA MAYO PITTS	PROFESSIONAL SERVICES	COUNSELING SERVICES	1284-	12/15/2015	12/18/2015	134.48																				
411						Total:	\$134.48																				
412																											
413	CSA																										
414	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	8.85																				
415	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015	63.31																				
416	STAPLES CONTRACT & COMMERCIAL, INC.	FURNITURE & FIXTURES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	1,469.50																				
417	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIER	18025473	12/21/2015	12/31/2015	45.12																				
418						Total:	\$1,586.78																				
419																											
420	CSA PURCHASE OF SERVICES																										
421	CHILD CONNECTION DEVELOPMENT CENTER,	COMM SVCS		P11919121054	11/30/2015	12/11/2015	1,491.00																				
422	COMPASS YOUTH & FAMILY SERVICES	COMM SVCS		P10919128356	10/31/2015	12/18/2015	1,845.00																				
423	DAYNA LYNN FREUND	COMM SVCS		P10919117762	10/31/2015	12/18/2015	406.25																				
424	DETOUR MENTORING	COMM SVCS		P11000778055	11/30/2015	12/11/2015	7,300.00																				
425		POS MANDATED FFOP		P11919126861	11/30/2015	12/11/2015	1,227.00																				
426	DISCOVERY SCHOOL	RES. CONG. CARE		P10919131563	10/31/2015	12/11/2015	20,950.00																				

	A	B	C	D	F	G	H	I	J	
1	County of Fluvanna		From Date: 12/1/2015							
2	Accounts Payable List		To Date: 12/31/2015							
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6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount			
427	ELK HILL	POS MANDATED SPED-		P08000789148	8/31/2015	12/11/2015	12,735.00			
428	FAMILY PRESERVATION SERV.	COMM SVCS		P10000781658	10/31/2015	12/11/2015	11,555.00			
429	GRAFTON INTERGRATED HEALTH	EDUC SVCS CONG CARE		P10000789459	10/31/2015	12/11/2015	5,450.25			
430	GRAFTON INTERGRATED HEALTH	RES. CONG. CARE		P10000789264	10/31/2015	12/11/2015	12,958.00			
431		COMM SVCS		P11000787756	11/30/2015	12/11/2015	225.00			
432	LAFAYETTE SCHOOL, INC.	POS MANDATED SPED-		P11000778849	11/30/2015	12/11/2015	38,740.00			
433	PEOPLE PLACES, INC.	COMM SVCS		P11919126551	11/30/2015	12/18/2015	567.50			
434	PEOPLE PLACES, INC.	TFC LIC. RES CONG CARE		P11919121366	11/30/2015	12/18/2015	4,065.80			
435		COMM SVCS		P11919131753	11/30/2015	12/18/2015	2,760.00			
436	THE FAISON SCHOOL FOR AUTISM, INC.	POS MANDATED SPED-		P11000785348	11/30/2015	12/18/2015	10,445.00			
437	UNITED METHODIST FAMILY SERVICES, INC.	TFC LIC. RES CONG CARE		P08919122266	8/31/2015	12/11/2015	3,430.00			
438	VA HOME FOR BOYS & GIRLS	EDUC SVCS CONG CARE		P10000788060	10/31/2015	12/11/2015	3,990.00			
439	VA HOME FOR BOYS & GIRLS	RES. CONG. CARE		P10000788165	10/31/2015	12/11/2015	7,085.36			
440	VIRGINIA INSTITUTE OF AUTISM	POS MANDATED SPED-		P11000787350	11/30/2015	12/11/2015	28,665.75			
441							Total:	\$175,891.91		
442										
443	PARKS & RECREATION									
444	BANK OF AMERICA	CONVENTION AND EDUCATION	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	20.00			
445	BANK OF AMERICA	DUES OR ASSOCIATION	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	25.00			
446	BANK OF AMERICA	RECREATIONAL SUPPLIES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	2,496.58			
447	BANK OF AMERICA	SUBSISTENCE & LODGING	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	846.29			
448	BONNIE SNODDY	PROFESSIONAL SERVICES	MARTIAL ARTS	19-1	11/30/2015	12/11/2015	19.25			
449	CENTURYLINK	TELECOMMUNICATIONS	PARKS AND REC PHONE BILL	1116158	11/16/2015	12/4/2015	597.59			
450	CINTAS	CONTRACT SERVICES	FIRST AID SUPPLIES	5004083114	11/30/2015	12/4/2015	39.74			
451	E.W. THOMAS	RECREATIONAL SUPPLIES	MERCHANDISE PURCHASE	121415	12/14/2015	12/18/2015	12.87			
452	FLUVANNA CO PUBLIC SCHOOLS	PROFESSIONAL SERVICES	BASKETBALL CLASS	FCPR-CES 2015 109	10/20/2015	12/11/2015	48.00			
453	FLUVANNA ELITE WRESTLING CLUB	PROFESSIONAL SERVICES	WRESTLING CARD	120815	12/8/2015	12/11/2015	15.00			
454	HAROLD BOYD	PROFESSIONAL SERVICES	LITTLE TYKES MIGHTY MITES	20-	12/8/2015	12/11/2015	945.00			
455	HEALTH NUTZ	PROFESSIONAL SERVICES	SWIM CLASSES	213	11/18/2015	12/4/2015	259.00			
456	IMAGE DESIGNERS, INC.	RECREATIONAL SUPPLIES	WRESTLING GEAR	061401	12/7/2015	12/11/2015	135.17			
457	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	97.23			
458	LOCAL FOOD HUB	RECREATIONAL SUPPLIES	ALBEMARLE PIPPINS	20683	12/9/2015	12/18/2015	45.00			
459	MO-JOHNS, INC.	CONTRACT SERVICES	PORTABLE TOILET	120415	12/4/2015	12/11/2015	120.00			
460	ORIENTAL TRADING CO., INC.	RECREATIONAL SUPPLIES	HOLIDAY SUPPLIES	674487430-01	12/2/2015	12/4/2015	65.64			
461	PROTECT YOUTH SPORTS	PROFESSIONAL SERVICES	BACKGROUND CHECK	399271	12/1/2015	12/4/2015	159.00			



	A	B	C	D	F	G	H	I	J	
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2	Accounts Payable List		To Date: 12/31/2015							
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462	RANGELAND GLO-WRAP	RECREATIONAL SUPPLIES	MEDALS WITH RIBBONS	3130	12/10/2015	12/18/2015	53.73			
463	RIDDEL/ALL AMERICAN SPORTS CORP.	RECREATIONAL SUPPLIES	COACHES SHIRTS	60291335	12/17/2015	12/31/2015	290.00			
464	SAM'S CLUB	RECREATIONAL SUPPLIES	HOLIDAY CELEBRATION	113015	11/30/2015	12/4/2015	97.25			
465	SHENANDOAH PUBLICATIONS, INC.	PRINTING AND BINDING	WINTER/SPRING PROGRAM	39406	12/17/2015	12/31/2015	1,570.53			
466	SHENANDOAH VALLEY WATER	CONTRACT SERVICES	EQUIPMENT RENT	L3442800-15	12/1/2015	12/18/2015	73.70			
467	SHENANDOAH VALLEY WATER	LEASE/RENT	WATER	L4031010-15	12/1/2015	12/18/2015	30.88			
468	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	270.62			
469	STORE SUPPLY WAREHOUSE	RECREATIONAL SUPPLIES	HOLIDAY PAPER	5237232-00	11/25/2015	12/4/2015	88.85			
470	UPS	POSTAL SERVICES	POSTAGE	0000Y7646Y495	12/5/2015	12/18/2015	10.04			
471	VACORP	WORKER'S COMPENSATION	WORKERS COMP AUDIT	11638	12/14/2015	12/18/2015	603.00			
472	VERIZON BUSINESS/MCI COMM SERVICE	TELECOMMUNICATIONS	LONG DISTANCE	112415	11/24/2015	12/4/2015	38.71			
473	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	49.81			
474	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIER	17891689	11/23/2015	12/18/2015	543.19			
475	WATER-LAND MANUFACTURING INC	SITE IMPROVEMENTS	TRAILER FOR NEW KAYAKS	124534	12/9/2015	12/18/2015	752.85			
476							Total:	\$10,419.52		
477										
478	LIBRARY									
479	AMAZON.COM	BOOKS/PUBLICATIONS	BOOKS/DVD	121015	12/10/2015	12/31/2015	4,036.65			
480	BANK OF AMERICA	BOOKS/PUBLICATIONS	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	131.94			
481	CENTURYLINK	TELECOMMUNICATIONS	LIBRARY PHONE BILL	1116159	11/16/2015	12/4/2015	4,143.00			
482	DEMCO	OFFICE SUPPLIES	SUPPLIES	5758051	12/11/2015	12/31/2015	142.61			
483	GALE	BOOKS/PUBLICATIONS	BOOK	56732826	11/19/2015	12/4/2015	384.95			
484	MICROMARKETING LLC	BOOKS/PUBLICATIONS	CD	597175	11/12/2015	12/4/2015	283.98			
485	OVERDRIVE	BOOKS/PUBLICATIONS	EBOOK	3100-00127160-	12/2/2015	12/4/2015	87.99			
486	PROQUEST LLC	BOOKS/PUBLICATIONS	HERITAGE QUEST ONLINE	US1719013-	12/15/2015	12/23/2015	791.00			
487	SHENANDOAH VALLEY WATER	LEASE/RENT	SPRINGWATER AND RENT FEE	L5329010-15	12/1/2015	12/11/2015	10.00			
488	SHENANDOAH VALLEY WATER	MAINTENANCE CONTRACTS	SPRINGWATER AND RENT FEE	L5329010-15	12/1/2015	12/11/2015	48.60			
489	SHOWCASES	OFFICE SUPPLIES	CD ALBUM	289117	10/26/2015	12/18/2015	207.17			
490	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	SUPPLIES	1456373991	12/15/2015	12/31/2015	52.23			
491	THE LIBRARY OF VIRGINIA	MAINTENANCE CONTRACTS	E-RATE SERVICES	1018026	12/2/2015	12/11/2015	603.83			
492							Total:	\$10,923.95		
493										
494	COUNTY PLANNER									
495	BANK OF AMERICA	SUBSISTENCE & LODGING	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	(\$174.45)			
496	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	22.13			



	A	B	C	D	F	G	H	I	J	
1	County of Fluvanna				From Date: 12/1/2015					
2	Accounts Payable List				To Date: 12/31/2015					
3										
4										
6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount			
497	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	79.21			
498	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015	16.57			
499	STAPLES CONTRACT & COMMERCIAL, INC.	FURNITURE & FIXTURES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	1,419.47			
500	STAPLES CONTRACT & COMMERCIAL, INC.	OFFICE SUPPLIES	OFFICE SUPPLIES/FURNITURE	103115	11/23/2015	12/4/2015	473.42			
501	TIMMONS GROUP	CONTRACT SERVICES	PROFESSIONAL SERVICES	175426	12/8/2015	12/18/2015	600.00			
502	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	19.45			
503	VACORP	WORKER'S COMPENSATION	WORKERS COMP AUDIT	11638	12/14/2015	12/18/2015	157.00			
504	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	99.62			
505	VIRGINIA BUSINESS SYSTEMS	LEASE/RENT	COPIER	17891687	11/23/2015	12/11/2015	751.37			
506							Total:	\$3,463.79		
507										
508	PLANNING COMMISSION									
509	FLUVANNA REVIEW	ADVERTISING	PUBLIC HEARING	2015F49-18	12/3/2015	12/11/2015	202.00			
510	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015	1,400.48			
511							Total:	\$1,602.48		
512										
513	ECONOMIC DEVELOPMENT									
514	BANK OF AMERICA	CONVENTION AND EDUCATION	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	170.00			
515	BANK OF AMERICA	MILEAGE ALLOWANCES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	19.00			
516	BANK OF AMERICA	SUBSISTENCE & LODGING	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	222.64			
517	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	4.43			
518	ECONOMIC DEVELOPMENT OF	FLU ECO DEV AUTHORITY	ANNUAL ALLOCATION	121415	12/14/2015	12/18/2015	1,000.00			
519	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	49.81			
520							Total:	\$1,465.88		
521										
522	VA COOPERATIVE EXTENSION									
523	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	111520151	11/16/2015	12/4/2015	22.13			
524	FAYE ANDERSON	CONTRACT SERVICES	OFFICE SUPPLIES	113015	11/30/2015	12/4/2015	179.98			
525	POSTMASTER	LEASE/RENT	P.O. BOX FEE	120115	11/18/2015	12/11/2015	114.00			
526	QUILL	CONTRACT SERVICES	LETTER SIZE FILE	9961661	11/25/2015	12/11/2015	148.38			
527	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	20.89			
528							Total:	\$485.38		
529										
530							100 GENERAL FUND	Fund Total:	\$900,877.00	
531	Fund # - 302 CAPITAL IMPROVEMENT									




	A	B	C	D	F	G	H	I	J
1	County of Fluvanna		From Date: 12/1/2015						
2	Accounts Payable List		To Date: 12/31/2015						
3									
4									
6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount		
532	PUBLIC SAFETY CAPITAL PROJ								
533	CDW GOVERNMENT, INC.	CONTRACT SERVICES	DOCKING CRADLE	ZJ20653	9/28/2015	12/23/2015	388.14		
534	CLEAR COMMUNICATIONS AND	VEHICLE	OUTFITTING VEHICLE	106878	11/23/2015	12/4/2015	3,567.57		
535	DELL MARKETING, L.P.	CONTRACT SERVICES	HARDWARE	XJRW3JR4	9/22/2015	12/23/2015	5,246.79		
536								Total:	\$9,202.50
537									
538	E911 CAPITAL PROJECT								
539	BANK OF AMERICA	CONTRACT SERVICES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	2,301.00		
540								Total:	\$2,301.00
541									
542	FIRE & RESCUE CAP PROJ								
543	COMMONWEALTH RESCUE SYSTEMS INC	VEHICLE	MISC SUPPLIES	13372	11/19/2015	12/4/2015	2,141.98		
544	PERFORMANCE SIGNS	VEHICLE	LONG BED TRUCK #10	11911	12/2/2015	12/4/2015	1,620.00		
545								Total:	\$3,761.98
546									
547	FACILITIES CAP PROJ								
548	BANK OF AMERICA	CONTRACT SERVICES	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	21.63		
549	CHARLOTTESVILLE GLASS AND MIRROR	CONTRACT SERVICES	INSTALLATION	F128389	11/20/2015	12/4/2015	392.45		
550	ENVIRO-KLEAN CO.	CONTRACT SERVICES	INSTALLATION OF SEWAGE	2991	12/17/2015	12/23/2015	32,600.00		
551	NEW HOPE WELLDRILLING, LLC	CONTRACT SERVICES	WELL ABANDONMENT	538727	12/15/2015	12/18/2015	2,200.00		
552	RAFALY ELECTRICAL CONTRACTORS, INC.	CONTRACT SERVICES	MATERIALS AND LABOR	6598	12/3/2015	12/11/2015	630.00		
553	TRUE NORTH ENVIRONMENTAL, LLC	CONTRACT SERVICES	PRELIMINARY	15-396	12/11/2015	12/31/2015	2,500.00		
554								Total:	\$38,344.08
555									
556	SCHOOL CONSTRUCTION PROJECT								
557	CRUTCHFIELD	CONTRACT SERVICES	AUDIO UPGRADE	120115	11/23/2015	12/4/2015	6,345.99		
558								Total:	\$6,345.99
559									
560	SCHOOL TRANSPORT CAP PROJ								
561	SONNY MERRMAN INC	VEHICLE	NEW BUSES	18547-18394-18468	12/10/2015	12/18/2015	339,088.00		
562								Total:	\$339,088.00
563									
564	SCHOOL TECH CAP PROJ								
565	SYCOM	CONTRACT SERVICES	WIRELESS UPGRADE FY 2015	10035805	11/17/2015	12/11/2015	4,932.00		
566	TYLER TECHNOLOGIES	CONTRACT SERVICES	MUNIS IMPLEMENTATION	147460-148140	11/23/2015	12/18/2015	3,525.00		



	A	B	C	D	F	G	H	I	J	
1	County of Fluvanna		From Date: 12/1/2015							
2	Accounts Payable List		To Date: 12/31/2015							
3										
4										
6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount			
567							Total:	\$8,457.00		
568										
569							302 CAPITAL IMPROVEMENT	Fund Total:	\$407,500.55	
570	Fund # - 401 DEBT SERVICE									
571	DEBT SERVICE - COUNTY									
572	U.S. BANK	ADMINISTRATIVE FEES	SCHOOL BOND	4144683	11/25/2015	12/11/2015	1,250.00			
573							Total:	\$1,250.00		
574										
575							401 DEBT SERVICE	Fund Total:	\$1,250.00	
576	Fund # - 502 SEWER									
577	UTILITY OPERATIONAL EXPENSES									
578	CENTURYLINK	TELECOMMUNICATIONS	WASTEWATER TREATMENT	111915	11/19/2015	12/4/2015	86.83			
579	CINTAS	LAUNDRY AND DRY CLEANING	UNIFORM	394709323	12/3/2015	12/11/2015	74.21			
580	DOMINION VIRGINIA POWER	ELECTRICAL SERVICES	SEWER PLANT	1123157	11/23/2015	12/4/2015	793.86			
581	INBODEN ENVIRONMENTAL SERVICES, INC.	CONTRACT SERVICES	WASTEWATER MONITORING	58170	12/8/2015	12/18/2015	247.00			
582	MARYLAND BIOCHEMICAL CO., INC.	CHEMICAL SUPPLIES	WASTEWATER TREATMENT	11HH1099	11/24/2015	12/11/2015	755.26			
583	UNIVAR USA, INC.	CHEMICAL SUPPLIES	SUPPLIES	RI690341	12/21/2015	12/31/2015	1,536.24			
584							Total:	\$3,493.40		
585										
586							502 SEWER	Fund Total:	\$3,493.40	
587	Fund # - 505 FORK UNION SANITARY DISTRICT									
588	FORK UNION SANITARY DISTRICT									
589	USDA RURAL DEVELOPMENT	RDA BOND PAYABLE	MONTHLY DEBT PAYMENT	DEC-15	12/28/2015	12/28/2015	3,028.66			
590							Total:	\$3,028.66		
591										
592	FUSD OPERATIONAL EXPENSES									
593	BANK OF AMERICA	VEHICLE/POWER EQUIP	P-CARD PURCHASES	113015	11/30/2015	12/18/2015	347.29			
594	CENTURYLINK	TELECOMMUNICATIONS	PHONE BILL	1116155	11/16/2015	12/4/2015	187.85			
595	CINTAS	LAUNDRY AND DRY CLEANING	UNIFORM	394709323	12/3/2015	12/11/2015	221.94			
596	DOMINION VIRGINIA POWER	ELECTRICAL SERVICES	RT 15 MELTON WELL	112415	11/24/2015	12/4/2015	2,505.42			
597	E.W. OWEN	LEASE/RENT	WELL RENT	12012015	12/1/2015	12/4/2015	150.00			
598	FERGUSON ENTERPRISES, INC	GENERAL MATERIALS AND	PLUMBING	2155317-1	11/30/2015	12/4/2015	1,124.01			
599	JAMES RIVER SOLUTIONS	VEHICLE FUEL	FUEL	113015	11/30/2015	12/11/2015	384.04			
600	MANSFIELD OIL COMPANY OF GAINESVILLE,	VEHICLE FUEL	FUEL	SQLCD00130491	12/2/2015	12/4/2015	135.55			
601	MO-JOHNS, INC.	PURCHASE OF SERVICES	PORTABLE TOILET	87414	11/23/2015	12/4/2015	60.00			



	A	B	C	D	F	G	H	I	J																		
1	County of Fluvanna Accounts Payable List																										
2										From Date: 12/1/2015 To Date: 12/31/2015																	
3																											
4																											
6	Vendor Name	Charge To	Description	Invoice Number	Invoice Date	Check Date	Check Amount																				
602	PITNEY BOWES PURCHASE PWR	POSTAL SERVICES	POSTAGE	120415	11/18/2015	12/11/2015	225.53																				
603	SCHNEIDER LABRATORIES INC	PURCHASE OF SERVICES	SUSPENDED SOLIDS	151014	11/18/2015	12/11/2015	30.00																				
604	USABLUEBOOK	GENERAL MATERIALS AND	SUPPLIES	808890	11/23/2015	12/4/2015	430.11																				
605	USDA RURAL DEVELOPMENT	REDEMPTION OF INTEREST	MONTHLY DEBT PAYMENT	DEC-15	12/28/2015	12/28/2015	1,931.34																				
606	VA INFORMATION	TELECOMMUNICATIONS	TELEPHONE SERVICES	T293364	11/27/2015	12/11/2015	84.59																				
607	VACORP	WORKER'S COMPENSATION	WORKERS COMP AUDIT	11638	12/14/2015	12/18/2015	640.00																				
608	VERIZON BUSINESS/MCI COMM SERVICE	TELECOMMUNICATIONS	PHONE	05946695	11/25/2015	12/11/2015	18.07																				
609	VERIZON WIRELESS	TELECOMMUNICATIONS	PHONE BILL	9755850866	11/19/2015	12/4/2015	140.48																				
610							Total:	\$8,616.22																			
611																											
612																											
613																											
						505 FORK UNION SANITARY	Fund Total:	\$11,644.88																			
							Total Expenditures by Fund:	\$1,324,765.83																			

COUNTY OF FLUVANNA

"Responsive & Responsible Government"

P.O. Box 540
Palmyra, VA 22963
(434) 591-1910
Fax (434) 591-1911
www.fluvannacounty.org

MEMORANDUM

Date: January 20, 2016
From: Mary Anna Twisdale/ Management Analyst
To: Board of Supervisors
Subject: FY16 Capital Reserve Balances

The FY16 Capital Reserve account balances are as follows:

County Capital Reserve:

FY15 Carryover	\$15,970.00
FY16 Beginning Budget:	\$100,000.00
Less: HVAC Repairs at Various County Buildings 9.2.15	-\$42,900.00
Less: FSPCA Repairs 9.2.15	-73,700.00
Plus: Transfer from Unassigned Fund Balance 9.2.15	\$50,000.00
Less: Equipment Replacement at Carysbrook Sewage Pump Station 12.16.15	-\$35,000.00
Available:	\$14,370.00

Schools Capital Reserve:

FY15 Carryover	\$203,733.00
FY16 Beginning Budget:	\$125,000.00
Less: Evacuation Chairs and Installation 10.21.15	-\$7,600.00
Less: School Board Office Roof Repair 12.16.15	-\$90,000.00
Less: New Clocks Fluvanna Middle School 12.16.15	-\$17,300.00

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Less: Replace Doors on Walk-in Cooler/Freezer Fluvanna Middle School 1.6.16	-\$8,090.00
Available:	\$205,743.00

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MEMORANDUM

Date: January 20, 2016
From: Mary Anna Twisdale/ Management Analyst
To: Board of Supervisors
Subject: FY16 BOS Contingency Balance

The FY16 BOS Contingency line balance is as follows:

Beginning Budget:	\$150,000.00
Less: Rivanna River Renaissance Conference Funding Support 9.2.15	-\$500.00
Less: State Vet Fee for FSPCA 9.16.15	-\$250.00
*Less: Fire Ladder Truck Replacement 9.16.15	-\$50,000.00
Less: Advertising Columbia/Cunningham Schools 12.2.15	-\$2,500.00
Less: Pleasant Grove House Security System Installation 1.6.16	-\$3,100.00
Available:	\$93,650.00

*Actual amount to be determined, not to exceed \$50,000.

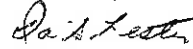


**FLUVANNA COUNTY BUILDING INSPECTIONS
MONTHLY BUILDING INSPECTION REPORT
DECEMBER 2015**

USE	Dec-14	VALUE	YTD 14	VALUE	Dec-15	VALUE	YTD 15	VALUE	Dec/Diff	VALUE	YTD	
											PERMITS	VALUE
New Homes	9	1,425,927	87	16,229,225	3	814,526	95	19,006,475	-6	(611,401)	8	2,777,250
Duplex	0	0	0	0	0	-	0	-	0	-	0	-
Single Family (Attached)	0	0	8	1,200,000	0	-	4	837,000	0	-	-4	(363,000)
Adds&Alterations	25	534,482	302	3,552,582	18	2,001,377	318	10,972,391	-7	1,466,895	16	7,419,809
Garages & Carports	1	20,000	9	458,500	2	16,500	15	284,000	1	(3,500)	6	(174,500)
Accessory Buildings	0	0	10	137,800	1	6,000	9	406,839	1	6,000	-1	269,039
Single Wide MH	0	0	4	113,312	0	-	4	67,488	0	-	0	(45,824)
Swimming Pools	1	38,000	4	101,674	0	-	5	106,200	-1	(38,000)	1	4,526
Recreational Bldgs	0	0	0	-	1	2,953,000	1	2,953,000	1	2,953,000	1	2,953,000
Business Bldgs	0	0	0	-	0	-	1	1,300,000	0	-	1	1,300,000
Industrial Bldgs	0	0	0	-	0	-	0	-	0	-	0	-
Other Buildings	1	545,000	5	2,188,385	1	461,000	8	2,169,000	0	(84,000)	3	(19,385)
TOTALS	37	2,563,409	429	23,981,478	26	6,252,403	460	38,102,393	-11	3,688,994	31	14,120,915

FEES	Dec-14	PREV TOT	YTD 14	Dec-15	PREV TOT	YTD 15	DIFFERENCE	DIFFERENCE YTD
Building Permits	\$ 11,567.82	113,397.47	124,965.29	\$ 9,574.99	\$ 138,232.55	\$ 147,807.54	(1,992.83)	22,842.25
Land Disturb Permits	\$ 2,850.00	29,362.50	32,212.50	\$ 2,297.50	\$ 31,116.25	\$ 33,413.75	(552.50)	1,201.25
Zoning Permits/Proffers	\$ 1,700.00	45,400.00	47,100.00	\$ 850.00	\$ 17,650.00	\$ 18,500.00	(850.00)	(28,600.00)
TOTALS	\$ 16,117.82	188,159.97	204,277.79	\$ 12,722.49	\$ 186,998.80	\$ 199,721.29	\$ (3,395.33)	(4,556.50)

INSPECTIONS	Dec-14	PREVIOUS	YTD 14	Dec-15	PREVIOUS	YTD 15		
	162	1,603	1,765	149	1,935	2,084	-13	319


 Darius S. Lester
 Building Official

(-) represents a negative



**Culpeper District
Fluvanna County Monthly Report
January 2016**

Preliminary Engineering

PROJECT	LAST MILESTONE	NEXT MILESTONE	AD DATE
Route 53 Safety Improvements HSIP Project Rumble Strips	Right of Way	Advertisement	TBD
Route 53 Safety improvements at Route 618	Right of Way	Application for funding thru HB-2	TBD*
Roundabout at US 15 and Route 53	Right of Way NTP	Application for funding thru HB-2	TBD*
Route 600 North Boston Road	Authorize PE	Survey	TBD
Route 633 North Boston Road – Reconstruction	--	Project Scoping – 2015	2023
Route 629 Deep Creek Road– Bridge Replacement	--	Project Scoping	January 2018

* Pending funding from HB-2

Construction Activities

Bridge Projects

- **Route 6 Rivanna River Bridge**—Bridge is currently closed. Complete demolition of old bridge. Begin work on Phase 2 Structure. Completion July, 2016.

Resurfacing Projects

- **Plant Mix**—Project has been delayed, NTP March 14, 2016.

Traffic Engineering Studies

Completed

None at this time

Under Review

None at this time.

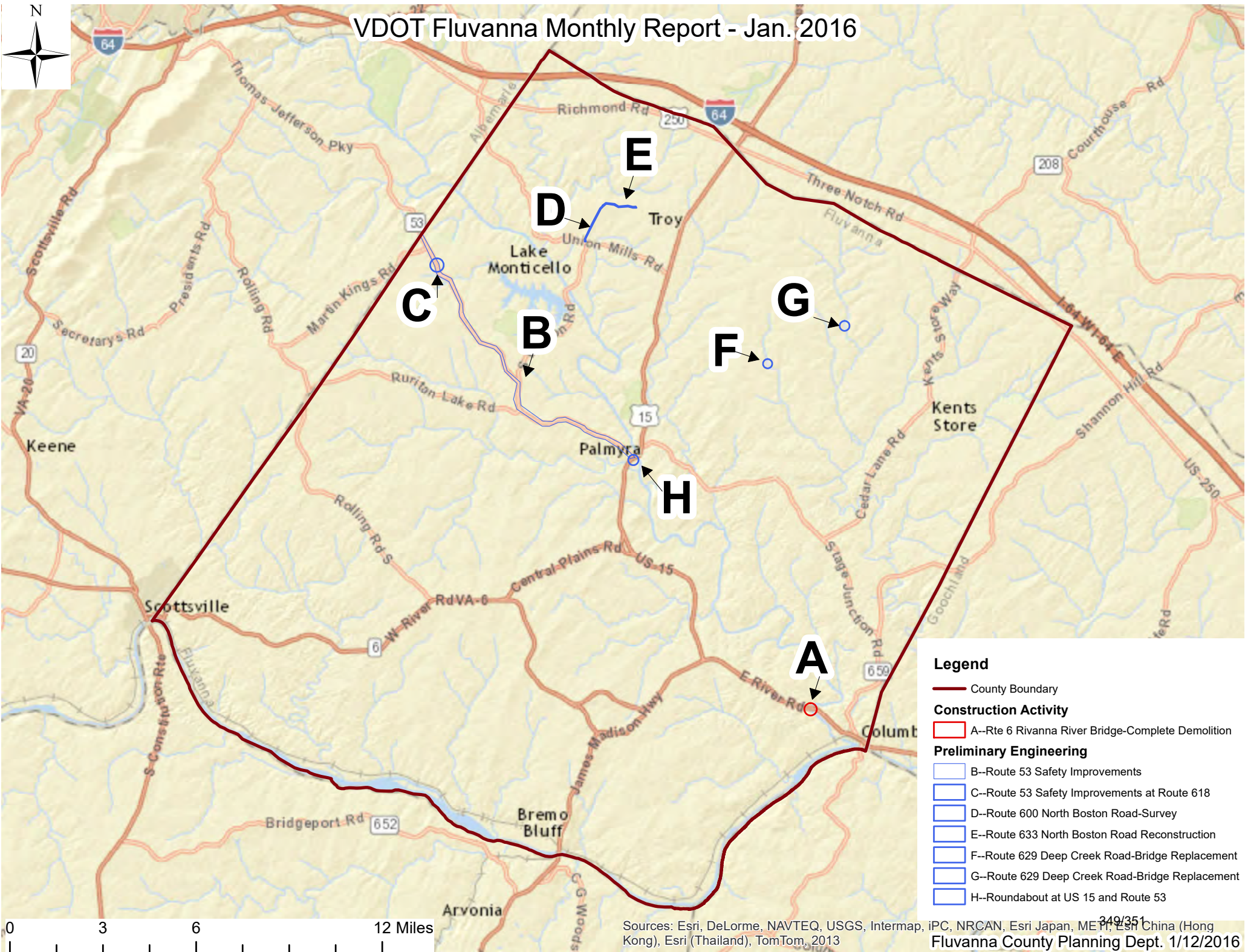
Maintenance Activities

VDOT Area Headquarter crews completed the following activities during the past month. For specific route activities, please contact the Charlottesville Residency Office.

- Drainage repairs made on 2 primary routes and 9 secondary routes
- Machining on 3 NHS secondary routes
- Mowing on 1 primary route and 8 secondary routes
- Patching was performed on 2 primary routes and 4 secondary route
- Shoulders repaired on 1 secondary route
- Tree removal on 2 primary routes and 5 secondary routes
- Trimming on 2 primary routes and 1 secondary routes
- All areas are preparing equipment for emergency winter weather operations

Joel DeNunzio, P.E.
Resident Engineer
VDOT Charlottesville Residency
434-293-0011

VDOT Fluvanna Monthly Report - Jan. 2016



- Legend**
- County Boundary
 - Construction Activity**
 - A—Rte 6 Rivanna River Bridge-Complete Demolition - Preliminary Engineering**
 - B—Route 53 Safety Improvements
 - C—Route 53 Safety Improvements at Route 618
 - D—Route 600 North Boston Road-Survey
 - E—Route 633 North Boston Road Reconstruction
 - F—Route 629 Deep Creek Road-Bridge Replacement
 - G—Route 629 Deep Creek Road-Bridge Replacement
 - H—Roundabout at US 15 and Route 53



CODE COMPLIANCE VIOLATION STATISTICS

December-2015

Scott B. Miller, Code Compliance Officer

Complaint Number	Tax Map Number	Property Owner	Address	Date of Complaint	Violation Type	Status	Deadline	District
1503-04	51A-(A)-22	JWS Enterprises, LLC.	4985 James Madison Hwy.	9/16/2014	Improper Use	Court Conviction	Pending Abatement	Fork Union
1503-14	4-(A)-109A	Bahr, Kenneth	Richmond Rd. (Vacant)	3/23/2015	Improper Use	Pending (2nd)	01/20/2016	Columbia
1504-05	37-(5)-8	David M. & Christine C. Belew	523 Aldridge Rd.	4/21/2015	Inoperable Vehicles	Cleared	12/29/2015	Cunningham
1505-01	36-(A)-33	Altisource (foreclosure)	120 Antioch Rd.	5/5/2015	Junk/Trash/Debris	Cleared	12/04/2015	Cunningham
1505-04	40-(14)-2	Christine M. Wine (foreclosure)	1241 Shiloh Church Rd.	5/26/2015	Trash	Cleared	12/11/2015	Fork Union
1511-01	4-(23)-16	Crawford, Roger	1470 Oliver Creek Rd.	11/02/2015	Trash-Debris	Cleared	12/02/2015	Palmyra
1511-02	7-(1)-7	Morris, T. Keith	3950 Boston Creek Dr.	11/6/2015	Home Ind. SUP, Shoot	Cleared	12/06/2015	Palmyra
1511-03	18-(A)-25B	Stevens, Roger	Thomas Farm La. (Vacant)	11/9/2015	Junk/Inoperable Vehicle	Pending	01/20/2016	Palmyra
1512-01	52-(14)-11	Rural Development	East River Rd.	12/8/2015	Trash/Debris	Cleared	01/08/2016	Fork Union
1512-02	19-(A)-50	Faris, Edward L.	Ridge Rd.	12/10/2015	Trash/Debris	Cleared	01/10/2016	Columbia
1512-03	20-(15)-2	Santos, Fuentes	1602 Bybees Church Rd.	12/15/2015	Trash/Debris	Cleared	01/15/2016	Columbia
MISCELLANEOUS					STATUS	DEFINITIONS		
Biosolids Applied and Signs Displayed (39 properties)					Court Pending:	Summons to be issued		
Compliance with Tenaska Virginia Sound Levels 12/15/2015					Court:	Case is before Judge		
Placed Two (2) Public Hearing Signs					Pending:	Violation Notice Sent		
Removed Twenty (20) Public Hearing Signs					Permit Pending:	Applied for Permit to Abate Violation		
Twenty Four (68) Signs Removed From Public Rights-Of-Way					Extended:	Extension Given/Making Progress to Abate Violations		
Deliver packets to BOS, PC Members and Library					Board:	Case is pending Board Approval		
Field Survey and Courthouse Research - Palmyra Rescue Squad					Cleared:	Violation Abated		
Field Survey and Courthouse Research to establish rear property boundary and non-verification of markers					Rezoning:	Property is in Rezoning Process		
Preconstruction Meeting with Building Insp. Dept. and (1) Monticello Firehouse and (2) Dominion Va. Power-Bremo					SUP Pending:	Special Use Permit Application made to Abate Violation		

APPENDIX D-6-4

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS ACTION REPORT 01/06/2016

**FLUVANNA COUNTY BOARD OF SUPERVISORS - FLUVANNA COUNTY PLANNING COMMISSION
JOINT PUBLIC HEARING**

Mr. Sheridan was absent.

Mr. Gaines, Planning Commission member, arrived at 7:33pm.

1	Adoption of Agenda: as presented;	<u>BOARD APPROVED</u> 4-0 (Sheridan absent)
2	<p>SUP 15:11 James River Water Authority:</p> <p>recommended approval of SUP 15:11, a special use permit request to allow construction of raw water supply system major utility, including a raw water river intake, a SITE A pump station on an approximately 2 acres, and a ROUTE 1 raw water pipeline, within a portion of 330 acres of Tax Map Parcels 53-A-62, 53-A62C, 53-A-61, 53-11-5, and 53-11-19, and 61-A-4, subject to the ten (10) conditions listed in the staff report.</p> <p>Recommended Conditions:</p> <ol style="list-style-type: none"> 1. Construction, operation, and maintenance of the raw waterline major utility shall comply with all local, State, and Federal requirements. 2. The project shall comply with all Virginia erosion and sediment control regulations as specified in the 1992 Virginia Erosion and Sediment Control Handbook as amended. 3. For construction of the raw waterline major utility occurring adjacent to existing development, adequate dust and siltation control measures shall be taken to prevent adverse effects on the adjacent property. It is intended that the present and future results of the proposed raw waterline major utility not create adverse effects on the public health, safety, comfort, or convenience, or value of the surrounding property and uses thereon. 4. Vehicular access to all residences along the affected right-of-ways shall be maintained at all times. 5. Except in cases of emergencies including prevention of danger to public health, safety, and welfare and a mediation of soil erosion and as requested by VDOT in the case of work done on public highways, all construction activity for the raw waterline major utility shall occur between 7:00 a.m. and 5:00 p.m. Monday through Saturday. Applicant shall comply with VDOT standards for performing open-cut sections on affected roadways. 6. The applicant shall avoid removing trees and bushes along the raw waterline major utility corridor, except as necessary in order to facilitate the utility. Trees and bushes damaged during construction shall be replaced with a tree or bush of equal type as approved by the Planning Director. 7. Any areas or land associated with this project that may become disturbed as a result of construction of the raw waterline major utility shall be restored to its original condition or better prior to the pipe crew's departure of the respective areas and/or land. This includes restoration of any/all areas of erosion. 8. Withdrawal and pumping facilities shall be so designed and built as to minimize sound propagation beyond the limits of buildings and other structures, to the maximum extent reasonably feasible. 9. The use that is permitted with this special use permit is limited to the raw water intake structure, raw water pumping facility and ancillary raw 	<u>PLANNING COMMISSION</u> <u>RECOMMENDED</u> 5-0

	<p>water pipelines, fittings and appurtenances, including reasonable temporary access routes for construction and permanent access roads for ongoing operations and maintenance.</p> <p>10. In no event shall any of the foregoing conditions be construed to be duplicative of, contradictory to or inconsistent with any statute, rule, regulation or condition imposed under the authority of State or federal law; but all such conditions shall, on the contrary, be construed as arising out of the police power of the County pursuant to Title 15.2 of the Virginia Code (1950), as amended.</p>	
<p>3</p>	<p>SUP 15:11 James River Water Authority:</p> <p>Approved SUP 15:11, a special use permit request to allow construction of raw water supply system major utility, including a raw water river intake, a SITE A pump station on an approximately 2 acres, and a ROUTE 1 raw water pipeline, within a portion of 330 acres of Tax Map Parcels 53-A-62, 53-A62C, 53-A-61, 53-11-5, and 53-11-19, and 61-A-4, subject to the ten (10) conditions listed in the staff report.</p> <p><i>Recommended conditions as above.</i></p>	<p><u>BOARD APPROVED</u></p> <p>4-0</p> <p>(Sheridan absent)</p>
<p>4</p>	<p>SUP 15:12 Louisa County Water Authority:</p> <p>recommended approval of SUP 15:12, a request for a special use permit to allow for major utilities with respect to the construction of a raw water pipeline from near Route 6 along the James River north to the Louisa County and Fluvanna County border with respect to the attached list of Tax Map & Parcel Numbers, subject to the nine (9) conditions listed in the staff report.</p> <p>The affected Tax Map Parcels are as follows: 67-12-A3, 14-9-4, 14-A-14, 14-A-20A, 14-A-14A, 14-A-13,14-A-20, 23-A-51, 23-A-61,23-A-50, 23-A-62, 23-12-D, 23-12-A, 23-A-66, 23-A-67,23-A-72B, 23-A-70,23-A-96, 23-A-97, 23-A-99, 23-A-101, 23-A-102, 23-A-103, 23-A-37, 23-A-36E, 23-A-36A, 34-A-2, 34-A-4, 34-3-A, 34-3-B1, 34-3-B3, 34-3-C, 34-3-C1, 34-3-B2, 34-2-A, 34-A-17, 34-A-16, 34-A-18, 34-1-1,34-1-3, 34-1-5, 34-1-4, 33-A-30A, 44-A-46, 44-A-46A, 44-3-1, 44-3-2, 44-2-3, 44-2-5, 44-2-4, 44-2-2, 44-2-1, 44-A-15, 44-A-17, 44-A-18, 44-A-31, 44-1-2, 44-1-3B, 54-A-10A, 54-A-14A, 54-1-1A, 54-6-C, 54-1-1, 54-2-1, 54-A-41, 54-A-43, 54-11-Z, 54-11-Y, 54-11-X, 53-11-27, 53-11-26, 53-11-19.</p> <p>Recommended Conditions:</p> <ol style="list-style-type: none"> 1. Construction, operation, and maintenance of the raw waterline major utility shall comply with all local, State, and Federal requirements. 2. The project shall comply with all Virginia erosion and sediment control regulations as specified in the 1992 Virginia Erosion and Sediment Control Handbook as amended. 3. For construction of the raw waterline major utility occurring adjacent to existing development, adequate dust and siltation control measures shall be taken to prevent adverse effects on the adjacent property. It is intended that the present and future results of the proposed raw waterline major utility not create adverse effects on the public health, safety, comfort, or convenience, or value of the surrounding property and uses thereon. 4. Vehicular access to all residences along the affected right-of-ways shall be maintained at all times. 5. Except in cases of emergencies including prevention of danger to public health, safety, and welfare and remediation of soil erosion and as requested by VDOT in the case of work done on public highways, all construction activity for the raw waterline major utility shall occur between 7:00 a.m. and 5:00 p.m. Monday through Saturday. Applicant shall comply with VDOT standards for performing open-cut sections on affected roadways. (Attachment E) 6. The applicant shall avoid removing trees and bushes along the raw waterline 	<p><u>PLANNING COMMISSION</u></p> <p><u>RECOMMENDED</u></p> <p>5-0</p>

	<p>major utility corridor, except as necessary in order to facilitate the utility. Trees and bushes damaged during construction shall be replaced with a tree or bush of equal type as approved by the Planning Director.</p> <p>7. Any area or land associated with this project that may become disturbed as a result of construction of the raw waterline major utility shall be restored to original condition or better prior to the pipe crew's departure from the affected area and/or land or as soon thereafter as conditions permit. This includes restoration of any/all areas of erosion.</p> <p>8. The use that is permitted with this special use permit is limited to the raw water pipelines, fittings and appurtenances as currently proposed by the applicant, including reasonable roads and other access for construction and ongoing maintenance.</p> <p>9. In no event shall any of the foregoing conditions be construed to be duplicative of, contradictory to or inconsistent with any statute, rule, regulation or condition imposed under the authority of State or federal law; but all such conditions shall, on the contrary, be construed as arising out of the police power of the County pursuant to Title 15.2 of the Virginia Code (1950), as amended.</p>	
5	<p>SUP 15:12 Louisa County Water Authority:</p> <p>approved SUP 15:12, a request for a special use permit to allow for major utilities with respect to the construction of a raw water pipeline from near Route 6 along the James River north to the Louisa County and Fluvanna County border with respect to the attached list of Tax Map & Parcel Numbers, subject to the nine (9) conditions listed in the staff report.</p> <p><i>The affected Tax Map Parcels as above.</i></p> <p><i>Recommended conditions as above.</i></p>	<p><u>BOARD APPROVED</u></p> <p>4-0</p> <p>(Sheridan absent)</p>
6	<p>Appointment to TJPDC Rural Transportation Advisory Council:</p> <p>appointed Bobby Popowicz, Director of Community Development, to the TJPDC Rural Transportation Advisory Council, effective immediately;</p>	<p><u>BOARD APPROVED</u></p> <p>4-0</p> <p>(Sheridan absent)</p>
7	<p>Appointment to the Board of Zoning Appeals, At-Large Position:</p> <p>recommended Ed Zimmer to the Circuit Court, for appointment to the Board of Zoning Appeals, At-Large position, with a term to begin immediately and to terminate on December 31, 2019;</p>	<p><u>BOARD APPROVED</u></p> <p>4-0</p> <p>(Sheridan absent)</p>
8	<p>Appointment Thomas Jefferson Area Community Criminal Justice Board (CCJB):</p> <p>appointed Jeff Haislip, Commonwealth's Attorney, to the Thomas Jefferson Area Community Criminal Justice Board (CCJB), replacing Robert Ullenbruch, for a three year term beginning January 1, 2016 and ending December 31, 2018;</p>	<p><u>BOARD APPROVED</u></p> <p>4-0</p> <p>(Sheridan absent)</p>
9	<p>Minutes of January 6, 2016:</p> <p>With corrections;</p>	<p><u>BOARD APPROVED</u></p> <p>4-0</p> <p>(Sheridan absent)</p>
10	<p>Accounts Payable Report December 2016:</p> <p>Ratified Accounts Payable and Payroll for December 2015 in the amount of \$2,331,694.45.</p>	<p><u>BOARD RATIFIED</u></p> <p>4-0</p> <p>(Sheridan absent)</p>

BOARD DIRECTIVES/TASKS

None.

APPENDIX D-6-5

SPECIAL USE PERMIT FLUVANNA COUNTY BOARD OF SUPERVISORS APPROVED MINUTES 01/06/2016

**FLUVANNA COUNTY BOARD OF SUPERVISORS
REGULAR MEETING MINUTES
Circuit Court Room
January 20, 2016
Regular Meeting 7:00pm**

BOARD OF SUPERVISORS**MEMBERS PRESENT:**

Mozell Booker, Fork Union District, Vice Chair
Patricia Eager, Palmyra District
Tony O'Brien, Rivanna District
Donald W. Weaver, Cunningham District

BOARD OF SUPERVISORS**MEMBERS ABSENT:**

Mike Sheridan, Columbia District, Chair

PLANNING COMMISSION**MEMBERS PRESENT:**

Barry Bibb, Cunningham District, Chair
Ed Zimmer, Columbia District, Vice Chair
Donald Gaines, Rivanna District (*Arrived at 7:32pm*)
Lewis Johnson, Fork Union District
Howard Lagomarsino, Palmyra District

ALSO PRESENT:

Steven M. Nichols, County Administrator
Fred W. Payne, County Attorney
Kelly Belanger Harris, Clerk to the Board of Supervisors
Jason Stewart, Planning and Zoning Director
Steve Tugwell, Senior Planner
Joann Rawls, Senior Program Assistant, Planning

CALL TO ORDER

At 7:00 pm, Board of Supervisors (*BOS*) Vice Chair Booker called the Regular Meeting of January 20, 2016 to order. After the recitation of the Pledge of Allegiance, a moment of silence was observed.

ADOPTION OF AGENDA**MOTION**

Supervisor Weaver moved to accept the Agenda for the January 20, 2016 Regular Meeting of the Board of Supervisors, as presented. Supervisor O'Brien seconded and the Agenda was adopted by a vote of 4-0.

AYES: Booker, Eager, O'Brien, and Weaver. NAYS: None. ABSENT: Sheridan.

COUNTY ADMINISTRATOR'S REPORT

Mr. Nichols reported on the following:

- Better Living
 - Now doing all area deliveries from its Troy location
- Fluvanna Radio Project Team traveled to Schaumburg, Ill.
 - Ran tests for our new public safety radio system
 - As the tower sites are available, this equipment will be installed in the County
 - The anticipated completion date is late 2016/early 2017. Along with the Fluvanna team in the picture are the Motorola project management team and the Motorola engineers who built our system.
- DEQ is developing a TMDL Project for Cunningham Creek and its tributaries in Fluvanna County.
 - Preliminary meeting: Fluvanna County Library on Jan 25 at 3:00pm, Roger Black will attend as the Fluvanna County Representative
 - Topics: Introduction of the TMDL process and timeline, details of the impairments in the stream DEQ wishes to gather feedback from representatives of Local and Regional government that have a stake in the process, and to also gather input as to the best way to introduce the project to the general public in the area
- Ms. Candace Stanford, New IT Systems Engineer started Monday, Jan 11th
- BOS Leadership Planning Retreat: Saturday, January 23, 8:30 am – 5:00 pm, Fluvanna Community Center, Fork Union; Weather date, January 30, 2016.
- Upcoming Meetings
 - Wednesday, February 3, 4:00 pm – Regular Meeting, 7:00 pm - Budget Work Session - Revenue/Exp. & Agency Briefs
 - Wednesday, February 10, 7:00 pm - Budget Work Session - Non-Profit Presentations
 - Wednesday, February 17, 4:00 pm – Budget Work Session - Constitutional Officers, 7:00 pm – Regular Meeting
 - Wednesday, February 24, 7:00 pm - Budget Work Session - Adopted School Budget Brief

BOARD OF SUPERVISORS' UPDATES

Booker—Interagency Council, New Supervisors Forum, Louisa Reentry Council, JABA, Kents Store FVD Annual Awards, Fluvanna-Louisa Housing Foundation.

Weaver—January School Board Meeting.

Sheridan— Absent.

O'Brien—None.

Eager—Region Ten, CAARS Banquet, Kent Store VFD Annual Award, New Supervisors Forum.

PUBLIC COMMENTS #1

At 7:11 pm BOS Vice Chair Booker opened the first round of Public Comments.

- Brenda Beasley, Dogwood Drive, spoke regarding the amount of trash on County roadways.

With no one else wishing to speak, BOS Vice Chair Booker closed the first round of Public Comments.

PUBLIC HEARINGS

At 7:17pm Planning Commission (PC) Chair Bibb called the Planning Commission Special Meeting of January 20, 2016 to order.

BOS Vice Chair Booker announced the topics to be heard.

SUP 15:11 James River Water Authority—Jason Stewart, Planning and Zoning Administrator

SUP 15:12 Louisa County Water Authority—Jason Stewart, Planning and Zoning Administrator

SUP 15:11 James River Water Authority—Jason Stewart, Planning and Zoning Administrator, apprised the Board and Planning Commission of a request for a Special Use Permit to allow for Major Utilities, to construct a raw water supply system which includes a raw water intake and pump station. Mr. Stewart noted the history of these requests, having been previously deferred (BOS 2015-11-17), and denied (BOS 2015-12-02.)

Mr. Payne, County Attorney noted a typo in the Staff Report, in Condition 5, it erroneously reads "...and a mediation.." and should read, "...and remediation.."

Staff recommends the following ten (10) conditions:

1. Construction, operation, and maintenance of the raw waterline major utility shall comply with all local, State, and Federal requirements.
2. The project shall comply with all Virginia erosion and sediment control regulations as specified in the 1992 Virginia Erosion and Sediment Control Handbook as amended.
3. For construction of the raw waterline major utility occurring adjacent to existing development, adequate dust and siltation control measures shall be taken to prevent adverse effects on the adjacent property. It is intended that the present and future results of the proposed raw waterline major utility not create adverse effects on the public health, safety, comfort, or convenience, or value of the surrounding property and uses thereon.
4. Vehicular access to all residences along the affected right-of-ways shall be maintained at all times.
5. Except in cases of emergencies including prevention of danger to public health, safety, and welfare and remediation of soil erosion and as requested by VDOT in the case of work done on public highways, all construction activity for the raw waterline major utility shall occur between 7:00 a.m. and 5:00 p.m. Monday through Saturday. Applicant shall comply with VDOT standards for performing open-cut sections on affected roadways.
6. The applicant shall avoid removing trees and bushes along the raw waterline major utility corridor, except as necessary in order to facilitate the utility. Trees and bushes damaged during construction shall be replaced with a tree or bush of equal type as approved by the Planning Director.
7. Any areas or land associated with this project that may become disturbed as a result of construction of the raw waterline major utility shall be restored to its original condition or better prior to the pipe crew's departure of the respective areas and/or land. This includes restoration of any/all areas of erosion.
8. Withdrawal and pumping facilities shall be so designed and built as to minimize sound propagation beyond the limits of buildings and other structures, to the maximum extent reasonably feasible.
9. The use that is permitted with this special use permit is limited to the raw water intake structure, raw water pumping facility and ancillary raw water pipelines, fittings and appurtenances, including reasonable temporary access routes for construction and permanent access roads for ongoing operations and maintenance.
10. In no event shall any of the foregoing conditions be construed to be duplicative of, contradictory to or inconsistent with any statute, rule, regulation or condition imposed under the authority of State or federal law; but all such conditions shall, on the contrary, be construed as arising out of the police power of the County pursuant to Title 15.2 of the Virginia Code (1950), as amended.

SUP 15:12 Louisa County Water Authority—Jason Stewart, Planning and Zoning Administrator, brought forward a request for a special use permits to allow for major utilities to construct a raw water pipeline to support a raw water supply system. Mr. Stewart reviewed the history of the request, noting that a similar SUP was deferred on Nov 17, 2016 by the Board, and during a Special Meeting on Dec 2, 2016, was denied. Mr. Stewart also reviewed amendments to the Comprehensive Plan, adopted in 2012 by the Board of Supervisors, that specifically address these types of structures.

Mr. Nichols noted one typo in the presentation; the LCWA pipeline is located in the Columbia District only.

Staff recommends the following nine (9) conditions:

1. Construction, operation, and maintenance of the raw waterline major utility shall comply with all local, State, and Federal requirements.

2. The project shall comply with all Virginia erosion and sediment control regulations as specified in the 1992 Virginia Erosion and Sediment Control Handbook as amended.
3. For construction of the raw waterline major utility occurring adjacent to existing development, adequate dust and siltation control measures shall be taken to prevent adverse effects on the adjacent property. It is intended that the present and future results of the proposed raw waterline major utility not create adverse effects on the public health, safety, comfort, or convenience, or value of the surrounding property and uses thereon.
4. Vehicular access to all residences along the affected right-of-ways shall be maintained at all times.
5. Except in cases of emergencies including prevention of danger to public health, safety, and welfare and remediation of soil erosion and as requested by VDOT in the case of work done on public highways, all construction activity for the raw waterline major utility shall occur between 7:00 a.m. and 5:00 p.m. Monday through Saturday. Applicant shall comply with VDOT standards for performing open-cut sections on affected roadways.
6. The applicant shall avoid removing trees and bushes along the raw waterline major utility corridor, except as necessary in order to facilitate the utility. Trees and bushes damaged during construction shall be replaced with a tree or bush of equal type as approved by the Planning Director.
7. Any area or land associated with this project that may become disturbed as a result of construction of the raw waterline major utility shall be restored to original condition or better prior to the pipe crew's departure from the affected area and/or land or as soon thereafter as conditions permit. This includes restoration of any/all areas of erosion.
8. The use that is permitted with this special use permit is limited to the raw water pipelines, fittings and appurtenances as currently proposed by the applicant, including reasonable roads and other access for construction and ongoing maintenance.
9. In no event shall any of the foregoing conditions be construed to be duplicative of, contradictory to or inconsistent with any statute, rule, regulation or condition imposed under the authority of State or federal law; but all such conditions shall, on the contrary, be construed as arising out of the police power of the County pursuant to Title 15.2 of the Virginia Code (1950), as amended.

BOS Vice Chair Booker called for questions from the Planning Commission and the Board of Supervisors.

Mr. Nichols provided a detailed history of the project, and outlined the historical time-line of discussion and planning for the water project, noting that in the last 18 months there have been fourteen (14) community information meetings of the James River Water Project. Mr. Nichols highlighted the proposed and researched locations for the intake structure, engineering considerations, and noted that the pipeline is routed in existing easements for the majority of the project route.

Bringing attention to long-term water concerns for the County, Mr. Nichols provided an overview of differences and overlap between the James River Water Project and the Zion Crossroads Water and Sewer Project, and spoke briefly about limitations and prospects for the Fork Union Sanitation District.

PC Chair Bibb inquired about a Board action on September 18, 2013 that directed the Planning Commission to amend the Comprehensive Plan to allow for the construction of major utilities related to this project. Mr. Nichols affirmed that this action was a requirement of the Interjurisdictional Agreement.

Further discussion touched on known and potential costs, expected outcomes, and existing and potential revenue streams.

BOS Vice Chair Booker Opened joint public hearing, first reading the *Public Hearing Rules of Procedure*.

- Barbara Seay, Point of Fork Farm, spoke against the JRWP.
- Elizabeth Franklin, Columbia District, Spoke against the proposed lawsuit by Louisa County and against the JRWP.
- George Bialkowski, 1215 Point of Fork Rd, noting that he hopes the SUP is denied, would like to note that the residents of Point of Fork recommend Site B, R3 joining R1 (as displayed in the presentation for the SUP.) Mr. Bialkowski further asked that the Board consider a different location for the intake.
- Dennis Holder, Kents Store, spoke against the JRWP.
- Dave Thomas, 610 Bell Farms Lane, spoke against the JRWP.
- Wayne Griffin, 3474 Coverdell Rd, spoke against the JRWP.
- Louis Cable, 651 West River Rd, spoke against the JRWP and expressed that the decision should have been put to a referendum.
- Perrie Johnson, 5039 James Madison Highway, speaking on her own behalf, and not as a School Board member, spoke in support of the JRWP.
- Roger Bowles, 5520 James Madison Highway, spoke against the JRWP.
- Helen Cauthen, CVPED, spoke in support of the JRWP.
- Frank Hardy, Columbia Rd, spoke against the JRWP and advocated a public referendum.
- Jim Summers, 1841 Columbia Rd, spoke against the JRWP.
- Fred Hardy, 7091 Columbia Rd, indicated that he is not a Fluvanna County resident, and spoke against the JRWP.
- Kathleen Swenson-Miller, 94 Fairview Lane, spoke in support of the JRWP.

- Snead Gillam, Rassawek, asked for clarification on several points, and spoke against the JRWP.
- Rhett Townsend, Goldsborough Lane, spoke against the JRWP.
- Sandra Patterson, Palmyra, VA, asked for clarification on the duration of the project and the positive impact on citizens.
- Elizabeth Tanner, 11732 James Madison Highway, is a Fluvanna native, and spoke in support of improving the County and the JRWP.
- Bob Dorsey, 6 Dover Ct, spoke against the JRWP.
- Minor Eager, 1107 Mechunk Creek Drive, spoke against the JRWP.
- Patricia Burkett, Palmyra, spoke in support of the JRWP.
- John Carrier, Overlook Circle, spoke in support of the JRWP.
- Lindsay Nolting, 1317 Stage Junction Rd, spoke against the JRWP.

At 9:53pm, BOS Vice Chair Booker closed the Public Hearing.

At 9:53pm, PC Chair Bibb opened discussion among the Planning Commission members. After opening discussion, PC Chair Bibb voiced concerns regarding the James River Water Project and the involvement and processes of the Planning Commission with regards to this SUP.

Planning Commissioners discussed the number and location of the sites, as well as the appropriateness of the proposed sites. Commissioner Zimmer asked if this SUP places the Interjurisdictional Agreement (IA) in conflict with the Comprehensive Plan. Mr. Payne noted that the Interjurisdictional Agreement does not improperly address the Comprehensive Plan, and finds no conflict. PC Chair Bibb asked if the IA has been terminated; Mr. Payne affirmed that the IA is still in effect.

MOTION

Commissioner Johnson moved that the Planning Commission recommend approval of SUP 15:11, a special use permit request to allow construction of raw water supply system major utility, including a raw water river intake, a SITE A pump station on an approximately 2 acres, and a ROUTE 1 raw water pipeline, within a portion of 330 acres of Tax Map Parcels 53-A-62, 53-A-62C, 53-A-61, 53-11-5, and 53-11-19, and 61-A-4, subject to the ten (10) conditions (*as above*) listed in the staff report. Commissioner Gaines offered a second and the motion passed 5-0. AYE: Bibb, Gaines, Johnson, Lagomarsino, Zimmer. NAY: None. ABSENT: None.

BOS Vice Chair Booker opened discussion among the Board.

Supervisor Eager brought to the attention of the public that the Board received additional advice from outside counsel. Supervisor Weaver indicated that the contract and agreement was made two years ago. Noting that he voted against it, Supervisor Weaver reiterated that the contract is nevertheless binding. Citing his concerns with the amount of debt that will be incurred if the County moves forward, Supervisor Weaver enumerated further concerns with the project.

Supervisor Weaver, reading from a prepared statement and speaking extemporaneously shared these thoughts.

“As many of you are aware, the James River Water Project has been years in development. And it has. We have had many, many public meetings. But we are tied into three people. It seems like, that you the people, never really get listened to. And that’s what’s bothers me over the year. We have done some things that have put this county in the hole, and that’s where we are today. We have started and stopped the process numerous times in the past two decades, and it has taken those years and hundreds of meetings to get to this point. A public works project such as this one is a complex undertaking. Project development and review has required a good many players to be successful, and many Board members, staff members, contractors, and citizens from Fluvanna County and Louisa have contributed. As part of our due diligence process and as we have occasionally done in the past, the Fluvanna County Board of Supervisors recently sought additional legal advice regarding this project to add to that already rendered by our County Attorney. In other words, again, we’re saying, “Trust and verify.” That’s what this Board has been doing. They have been doing their homework since the last vote in December. We engaged a specialized firm to look at the broad range of contractual and constitutional aspects of the project agreements. I can tell you that the information and opinions presented to myself and the other Board members, was strongly worded and compelling.

We do want to collaborate and to work closely with regional partners in this world that is becoming increasingly more complex and more expensive. Did you ever want to do something, or did you ever not want to do something, but you had to do it? Did you ever find yourself in a situation like that? That’s where I am, tonight. This county will be put to its knees under the circumstances we’re now presented with. My dedication isn’t to me, it’s dedicated to the people of this county. I cannot stick my head in the sand, or cut off my nose to spite to my face; I have to go beyond what I want, and what I feel. I have to do what I think is best for this county, and the vote I make tonight, that vote will be what I consider to keep this county afloat. Because we are, we have been out of control in the past, as far as I’m concerned. We’ve spent money here and there, and it never seems to cease. And we’re ready for another budget period. But that we’re standing, we’re here where we are here tonight, and we have to make a decision on that. So, when the votes are ready and people have spoken, I will make a decision, that will, in my opinion, do less damage to the county, than what it would do otherwise.”

Mr. O’Brien reiterated that the Board is charged with being accountable to all Fluvanna tax payers, and that moving forward with this project is indeed in the best interest of the County.

Supervisor Eager indicated that her personal feelings about the project run contrary to what she feels the Board must do for the betterment of the County.

Supervisor Weaver stated that offering the public a chance to be heard, through the use of referenda, is a good idea.

MOTION

Mr. O'Brien moved that the Board of Supervisors approve SUP 15:11, a special use permit request to allow construction of raw water supply system major utility, including a raw water river intake, a SITE A pump station on an approximately 2 acres, and a ROUTE 1 raw water pipeline, within a portion of 330 acres of Tax Map Parcels 53-A-62, 53-A-62C, 53-A-61, 53-11-5, and 53-11-19, and 61-A-4, subject to the ten (10) conditions listed in the staff report (*as above*.) Mr. Weaver seconded and the motion passed 4-0. AYE: Booker, Eager, O'Brien, & Weaver. NAY: None. ABSENT: Sheridan.

BOS Vice Chair Booker called for a short recess.

At 10:48pm, BOS Vice Chair called the meeting back to order.

BOS Vice Chair Booker opened the joint public hearing for SUP 15:12 Louisa County Water Authority. Noting that many citizens who had signed up to speak, were no longer in attendance, BOS Vice Chair Booker invited those still in attendance to speak.

- Louis Cable, West River Rd, appealed to the Board to be careful stewards of the newly approved JRWA project. Mr. Cable also noted that any businesses that might be attracted to the County, can be encouraged to be active partners in the stewardship of the County.
- Bob Dorsey, 6 Dover Ct, spoke regarding the actions of the Board tonight.

At 10:54, Vice Chair Booker closed the public hearing.

At 10:54pm Supervisors O'Brien moved to extend the meeting until 1:00am. Supervisor Weaver seconded and the motion passed 4-0. AYE: Booker, Eager, O'Brien, & Weaver. NAY: None. ABSENT: Sheridan.

PC Chair Bibb opened the discussion among Planning Commission members.

After brief discussion,

MOTION

Planning Commissioner Gaines moved that the Planning Commission recommend approval of SUP 15:12, a request for a special use permit to allow for major utilities with respect to the construction of a raw water pipeline from near Route 6 along the James River north to the Louisa County and Fluvanna County border with respect to the attached list of Tax Map & Parcel Numbers, subject to the nine (9) conditions (*as above*) listed in the staff report. Commissioner Zimmer offered second and the motion passed 5-0. AYE: Bibb, Zimmer, Gaines, Johnson, Lagomarsino. NAY: None. ABSENT: None.

BOS Vice Chair Booker opened the discussion among the Board.

After brief discussion, and with Supervisor O'Brien acknowledging the dedicated work by staff and collaboration with Louisa County,

MOTION:

Supervisor O'Brien moved that the Board of Supervisors approve SUP 15:12, a special use permit request to allow construction of raw water supply system major utility, including a raw water pipeline, from near Route 6 in southeastern Fluvanna County and north to the Fluvanna County and Louisa County border near Ferncliff, within a portion of the attached list of Tax Map Parcel numbers, subject to the nine (9) conditions listed in the staff report (*as above*.) Supervisor Weaver seconded and the motion passed 4-0. AYE: Booker, Eager, O'Brien, and Weaver. NAY: None. ABSENT: Sheridan.

At 11:05pm, PC Chair Bibb adjourned the Planning Commission.

ACTION MATTERS

Appointment to TJPDC Rural Transportation Advisory Council—Steven M. Nichols, County Administrator, brought forward a request to appoint Bobby Popowicz, Director of Community Development, to the Thomas Jefferson Planning District Commission (TJPDC) Rural Transportation Advisory Council.

MOTION

Supervisor O'Brien moved to appoint Bobby Popowicz, Director of Community Development, to the TJPDC Rural Transportation Advisory Council, effective immediately. Supervisor Weaver offered second and the motion passed 4-0. AYES: Booker, Eager, O'Brien, and Weaver. NAYS: None. ABSENT: Sheridan.

Appointment to the Board of Zoning Appeals, At-Large Position—Steven M. Nichols, County Administrator, presented a slate of candidates to be appointed to the position on the Board of Zoning Appeals, recently vacated by Supervisor Eager. Supervisor Eager noted that having a Planning Commissioner on the BZA is very helpful.

MOTION

Supervisor Eager moved to recommend Ed Zimmer to the Circuit Court, for appointment to the Board of Zoning Appeals, At-Large position, with a term to begin immediately and to terminate on December 31, 2019. Supervisor O'Brien offered second and the motion passed 4-0. AYES: Booker, Eager, O'Brien, and Weaver. NAYS: None. ABSENT: Sheridan.

Appointment Thomas Jefferson Area Community Criminal Justice Board (CCJB)—Steven M. Nichols, County Administrator, brought forward a request to appoint Commonwealth’s Attorney Jeff Haislip the Thomas Jefferson Area Community Criminal Justice Board (CCJB.)

MOTION

Supervisor O’Brien moved to appoint Jeff Haislip, Commonwealth’s Attorney, to the Thomas Jefferson Area Community Criminal Justice Board (CCJB), replacing Robert Ullenbruch, for a three year term beginning January 1, 2016 and ending December 31, 2018. Supervisor Weaver seconded and the motion passed 4-0. AYES: Booker, Eager, O’Brien, and Weaver. NAYS: None. ABSENT: Sheridan.

PRESENTATIONS

None.

CONSENT AGENDA

The following items were discussed before approval:

AP Report December 2016—Eric Dahl, Finance Director

The following were approved under the Consent Agenda:

Minutes of January 6, 2016 Meeting—Kelly Belanger Harris, Clerk to the Board

AP Report December 2015—Eric Dahl, Finance Director

MOTION

Supervisor O’Brien moved to approve the items on the Consent Agenda, with corrections in January 6, 2016 Minutes, for January 20, 2016, and that Accounts Payable and Payroll be ratified for December 2015 in the amount of \$2,331,694.45. Supervisor Weaver seconded and the motion passed 4-0. AYES: Booker, Eager, O’Brien, and Weaver. NAYS: None. ABSENT: Sheridan.

UNFINISHED BUSINESS

None.

NEW BUSINESS

None.

PUBLIC COMMENTS #2

At 11:15 pm, BOS Vice Chair Booker opened the second section of Public Comments.

- Bob Dorsey, 6 Dover Ct, remarked on the Agenda Packet posted on the website.

With no one else wishing to speak, Chair Booker closed the second round of public comments at 11:17pm.

ADJOURN

MOTION:

At 11:17pm, January 20, 2016, on a motion by Supervisor O’Brien the meeting of Wednesday, January 20, 2016, was adjourned.

ATTEST:

FLUVANNA COUNTY BOARD OF SUPERVISORS

Kelly Belanger Harris
Clerk to the Board

John M. Sheridan
Chair

APPENDIX D-7
VPDES CONSTRUCTION GENERAL PERMIT AUTHORIZATION VRO-17-181



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

VALLEY REGIONAL OFFICE

P.O. Box 3000, Harrisonburg, Virginia 22801
(540) 574-7800, Fax (540) 574-7878
Located at 4411 Early Road, Harrisonburg, VA

www.deq.virginia

Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

Amy Thatcher Owens
Regional Director

September 17, 2018

Mr. David Saunders
1001 Boulders Parkway, Suite 300
Richmond, VA 23225

Re: James River Water Project – Project 1 Plan Set B
Fluvanna County, Virginia
DEQ SWM #: VRO-17-181

Transmitted electronically: david.saunders@timmons.com

Dear Mr. Saunders:

The Department of Environmental Quality (DEQ) has reviewed the above referenced stormwater management plan dated July 31, 2018 for conformance with the *Virginia Stormwater Management Program (VSMP) Law and Regulations*. We offer the following comments:

Stormwater Management Plan Comments

1. The stormwater management plan is approvable pending the issuance of the Nationwide Permit from the Army Corp of Engineers. The approval letter and subsequent Construction General Permit will not be issued until we have confirmation that the Nationwide Permit has been issued.

Please contact Dustin Staton at (540) 290-3736 or dustin.staton@deq.virginia.gov if you have any questions about this letter.

Sincerely,

A handwritten signature in cursive script that reads 'Dustin Staton'.

Dustin Staton, CFM
Stormwater Compliance Specialist

cc: Larry Gavan, DEQ-CO
Gary Flory, DEQ-VRO
Roger Black, Fluvanna Co.
James River Water Authority
Gregory Krystyniak, Faulconer Construction

APPENDIX D-8
SITE DEVELOPMENT PLAN APPROVAL SDP 17:08



COUNTY OF FLUVANNA

"Responsive & Responsible Government"

132 Main Street
P.O. Box 540
Palmyra, VA 22963
(434) 591-1910
Fax (434) 591-1911
www.fluvannacounty.org

November 20, 2018

Wes Hunnius
Timmons Group
1001 Boulders Parkway, Suite 300
Richmond, VA 23225

Delivered via email

Re: SDP 17:08 – James River Water Authority Project 1

Dear Mr. Hunnius:

I have reviewed the revised site development plan that was received by our office on November 2, 2018 and have approved it. Two copies of the approved plan are ready for pickup at the front counter of the Planning Department. Pursuant to Sec. 22-23-9(A) of the Zoning Ordinance, an approved final site plan shall be valid for five (5) years from the date of approval.

As you apply for permits, please be mindful of the following:

Sec. 22-23-11 - Compliance with the Approved Site Plan.

- A. Inspections shall be made during the installation of off-site improvements by the Director of Planning, or other County or State Staff, to insure compliance with the approved site plan.
- B. The owner or developer shall provide adequate supervision at the site during installation of improvements required by the site plan, and shall make one (1) set of approved plans available at the site at all times that work is being done.
- C. No final certificate of occupancy shall be issued until all work is completed in compliance with the approved site plan.
- D. Prior to any final approval, or issuance of any temporary certificate of occupancy, a bond with surety, or other guaranty, approved by the Planning Director and County Attorney in accordance with Sec. 15.2 15.2-2241 through 15.2-2246 of the Code of Virginia, in an amount sufficient to cover the estimated costs of such improvements to be bonded, the owner or developer shall submit an estimate of such costs which shall be reviewed by the agent. The completion of all other improvements required by or pursuant to this section shall be certified and/or bonded as provided hereinabove.
- E. Prior to occupying the site, the applicant shall provide to the agent plans of the site, in the same detail as the plans approved subject to this chapter showing the site as fully developed. The agent may require such supplementation, revision or amendment to such plans as may be necessary to reflect the true conditions of the site. In the event that the site as fully developed

shall not be substantially as shown on the approved site plan, the applicant shall submit a revised plan for review by the Planning Director. No certificate of occupancy shall be issued for any use, building or structure subject to the provisions of this article unless and until all improvements required by the approved plan shall have been satisfactorily completed; provided, however, that the Planning Director may issue a temporary certificate of occupancy for any such use as to which there remain incomplete one or more items from the said plan, conditioned upon the timely and satisfactory completion of such items, so long as such incomplete items do not adversely affect the public health or safety and have been bonded for completion in accordance with Section 22-23-11(D).

If you have any questions or comments, feel free to contact me at (434) 591-1910 or at brobinson@fluvannacounty.org.

Sincerely,



Brad Robison
Senior Planner
Dept. of Planning & Community Development

Copy via email to:

Steve Nichols, James River Water Authority
Wayne Stephens, Project Manager
Jason Stewart, Director of Community Development
Roger Black, E&S Plan Reviewer/Inspector

APPENDIX D-9
VDH WATERWORKS CONSTRUCTION PERMIT APPROVAL LETTER



COMMONWEALTH of VIRGINIA

DEPARTMENT OF HEALTH

OFFICE OF DRINKING WATER

Lexington Field Office

131 Walker Street
Lexington, VA 24450
Phone: 540-463-7136
Fax: 540-463-3892

WATERWORKS CONSTRUCTION PERMIT

Permit No.:	203918	Subject:	Louisa County
Effective Date:	December 12, 2018	Water:	Louisa County Zion Crossroads
Expiration Date:	December 12, 2018	PWSID:	2109990

Issued to:

Louisa County Water Authority
P.O. Box 9
Louisa, VA 23093

ATTN: Ms. Pam Baughman, General Manager

Plans and specifications for the construction of additions to the Louisa County Zion Crossroads community waterworks located in Louisa County, prepared by Timmons Group, have been reviewed by this Office. The plans titled "James River Water Project, Project 1; Plan Set C, 24 Inch Raw Water Main, Raw Water Pump Station to U.S. Route 6, James River Water Authority" are dated July 12, 2017 and revised November 27, 2018 and include sheets C-1 – C-7, D1.1 – D1.6. The specifications titled "James River Water Project 1C, Technical Specifications, James River Water Authority Facilities" are dated November 27, 2018.

This project consists of the construction of approximately 5,000 linear feet of 24-inch diameter ductile iron raw water transmission main between the raw water pump station and additional raw water main, approved under Project 2A which is currently under construction.

The plans and specifications are technically adequate and are approved by this Office, in accordance with 12VAC5-590 of the Commonwealth of Virginia *Waterworks Regulations*. A copy of these documents is on file in the Lexington Field Office.

This approval does not suspend, minimize, or otherwise alter the waterworks obligation to comply with federal, state, or local laws and regulations or permits.

This Waterworks Construction Permit is issued in accordance with Title 32.1 of the *Code of Virginia*, and 12VAC5-590 *et seq.* of the *Waterworks Regulations*. This is your authorization from the State Health Commissioner to construct additions to the subject waterworks in accordance with the approved documents. Any deviations from the approved documents affecting capacity, hydraulic conditions, operating units, the functioning of the treatment processes, or the water quality delivered, must be approved by this Office before any such changes are made. Revised plans and specifications shall be submitted to the Lexington Field Office in time to permit review and approval before construction.

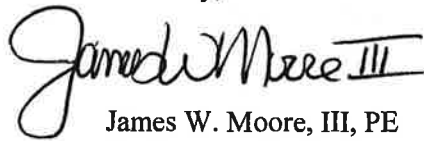
Louisa County Water Authority
Waterworks Construction Permit No. 203918
December 12, 2018
Page 2

Upon completion of construction, the owner shall submit a statement signed by a professional engineer licensed in Virginia certifying that the work was completed in accordance with the approved documents.

Upon receipt of this statement, the project may be put into service.

If we can be of additional assistance, please contact Steven J. Kvech, PE, District Engineer in our Lexington Field Office, at 540-463-0424.

Sincerely,

A handwritten signature in black ink that reads "James W. Moore III". The signature is written in a cursive style with a large initial "J" and a horizontal line underlining the name.

James W. Moore, III, PE
Engineering Field Director

SJK:kl

cc: Timmons Group – Attn: Mr. David J. Saunders, PE ✓
Louisa County Health Department – Attn: Dr. Denise Bonds, MD, MPH
Louisa County Administrator – Attn: Mr. Christian Goodwin
Louisa County Building Official – Attn: Ms. Allyson Finchum
ODW – Central Office

APPENDIX D-10
USACE ISSUED LETTER NAO-2014-00708



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

September 10, 2019

Western Virginia Regulatory Section
Action ID Number: NAO-2014-00708

Mr. Christian Goodwin, Louisa County Administrator
Mr. Eric Dahl, Fluvanna County Administrator
James River Water Authority
132 Main Street
Post Office Box 540
Palmyra, Virginia 22963

Dear Messrs. Goodwin and Dahl:

Please reference your Nationwide Permit 12 Pre-Construction Notification (PCN) package, submitted on your behalf by the Timmons Group, to us for proposed impacts to waters of the U.S. for the purpose of constructing a new raw water intake and pump station along the James River as well as installing new raw water lines and upgrading an existing access road. Specifically, your proposal includes 195 square feet (0.01 acre) of temporary disturbance to palustrine emergent wetlands, 446 square feet (0.01 acre) of temporary disturbance to palustrine forested wetlands, 255 square feet (0.01 acre) of permanent conversion from palustrine forested wetlands to palustrine emergent wetlands, 245 square feet (0.01 acre) of permanent fill to palustrine forested wetlands, 1,212 linear feet (1.59 acres) of temporary stream impact, and 104 linear feet (0.08 acre) of permanent stream impact.

As you know, the Corps, in cooperation with the James River Water Authority, the Virginia Department of Cultural Resources (VDHR), and the Advisory Council on Historic Preservation (ACHP), have been working through the Section 106 of the National Historic Preservation Act (NHPA) process and, to date, we have been unable to reach an agreed-upon Memorandum of Agreement. In addition, we continue to receive information from consulting parties regarding the degree of adverse impact to historic properties.

Most recently, we received the September 6, 2019 correspondence from VDHR, attached, regarding their determination that Ms. Carol Tyrer, owner and principal archaeologist for Circa ~ Cultural Resource Management, LLC does not meet The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation – Professional Qualifications Standards for Archeology (48 FR 44739). This potentially calls into question the information underpinning the consultation to-date.

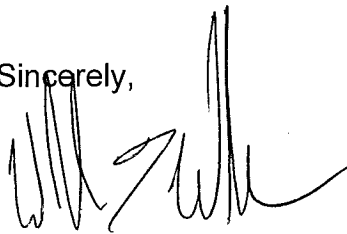
The Corps has a responsibility to ensure that all NHPA actions and documentation related to the Federal Action meet applicable standards and qualifications. We will continue to work with the VDHR and you to understand more fully the implications of this latest development and determine the appropriate course of action.

Based on concerns and uncertainty regarding the proposed project's impacts to historic properties, the Corps has determined that further analysis supporting the public interest evaluation is required. To facilitate this evaluation, we have determined that the appropriate permitting process for this proposed activity is the standard individual permit process. Therefore, pursuant to the Corps' discretionary authority granted at 33 CFR 330.4(e), we determine that the proposed activity is not authorized under any of the Corps' Nationwide or Regional General Permits at this time. Please note that 33 CFR 330.4(e)(3) allows us to restore authorization under a Nationwide Permit at any time we determine that our reasons for exerting discretionary authority no longer have merit.

Should you decide to pursue this project as proposed, please contact our office for instructions on applying for a Department of the Army Standard Individual Permit.

The Corps is furnishing a copy of this letter to the Virginia Department of Environmental Quality, the Virginia Marine Resources Commission, the VDHR, and the ACHP. If you have any questions, please contact Mr. Steven VanderPloeg, Corps Project Manager at (804) 323-7071 or steven.a.vanderploeg@usace.army.mil or Ms. Jennifer Frye, Western Virginia Regulatory Section Chief at (540) 344-1498 or jennifer.s.frye@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read 'William T. Walker', with a stylized flourish at the end.

William T. Walker
Chief, Regulatory Branch



COMMONWEALTH of VIRGINIA

Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Matt Strickler
Secretary of Natural Resources

Julie V. Langan
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
www.dhr.virginia.gov

September 6, 2019

Mr. William T. Walker, Chief, Regulatory Branch
USACE, Norfolk District
803 Front Street
Norfolk, VA 23510

RE: Permit Application for the Archaeological Excavation of Human remains in Support of the James River Water Authority Project (NAO-2014-00708)

Dear Tom:

It has come to our attention that Carol Tyrer, owner of and principal archaeologist for Circa~ Cultural Resource Management LLC, does not meet The Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation - Professional Qualifications Standards for Archeology* (48 FR 44739). Considering this development, the Department will not be approving any permit application that identifies Ms. Tyrer as the principal archaeologist. I have enclosed the relevant correspondence from the Department to the James River Water Authority and Ms. Tyrer.

The Army Corps of Engineers is responsible under the National Historic Preservation Act (54 U.S.C. § 306131(a)(1)(a)) and its implementing regulations (36 C.F.R. § 800.2(a)(1) and (3)) to ensure that all actions and resulting documentation completed by or on behalf of a Federal agency or its applicant in support of that agency's responsibilities under 54 U.S.C. § 306108 must meet applicable standards and guidelines. We encourage the Corps to take into consideration the lack of appropriate qualifications in its review of all documents submitted by Circa~. We look forward to discussing with the Corps how it intends to address this matter.

Sincerely,

A handwritten signature in cursive script that reads "Julie V. Langan".

Julie V. Langan
Director

Encl.

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5443
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

Eastern Region Office
2801 Kensington Avenue
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

APPENDIX E

SITE CONDITIONS AND DETAILS

APPENDIX E-1

HISTORIC AERIALS

APPENDIX E-2

JRWA OWNED EASEMENT PLATS AND PUMP STATION PARCEL

APPENDIX E-3

GEOTECHNICAL AND BATHYMETRIC REPORTS

APPENDIX E-3-1

SUBSURFACE EXPLORATION AND GEOTECHNICAL EVALUATION JAMES RIVER WATER AUTHORITY PUMP STATION AND INTAKE

APPENDIX E-3-2

RIVANNA RIVER CROSSING - DRAPER ADEN ASSOCIATES BORING LOGS

APPENDIX E-3-3

GEOTECHNICAL ENGINEERING REPORTS JAMES RIVER WATER AUTHORITY WATER SUPPLY PROPOSED PUMP STATION

APPENDIX E-3-4

JAMES RIVER TOPOGRAPHIC AND BATHYMETRIC SURVEY

**APPENDIX E-1
HISTORIC AERIALS**

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



HISTORICAL **AERIALS**

Project Property: JRWA Project
n/a
Columbia VA

Requested By: Timmons Group, Inc.

Order No: 20200106141

Data Completed: January 07,2020

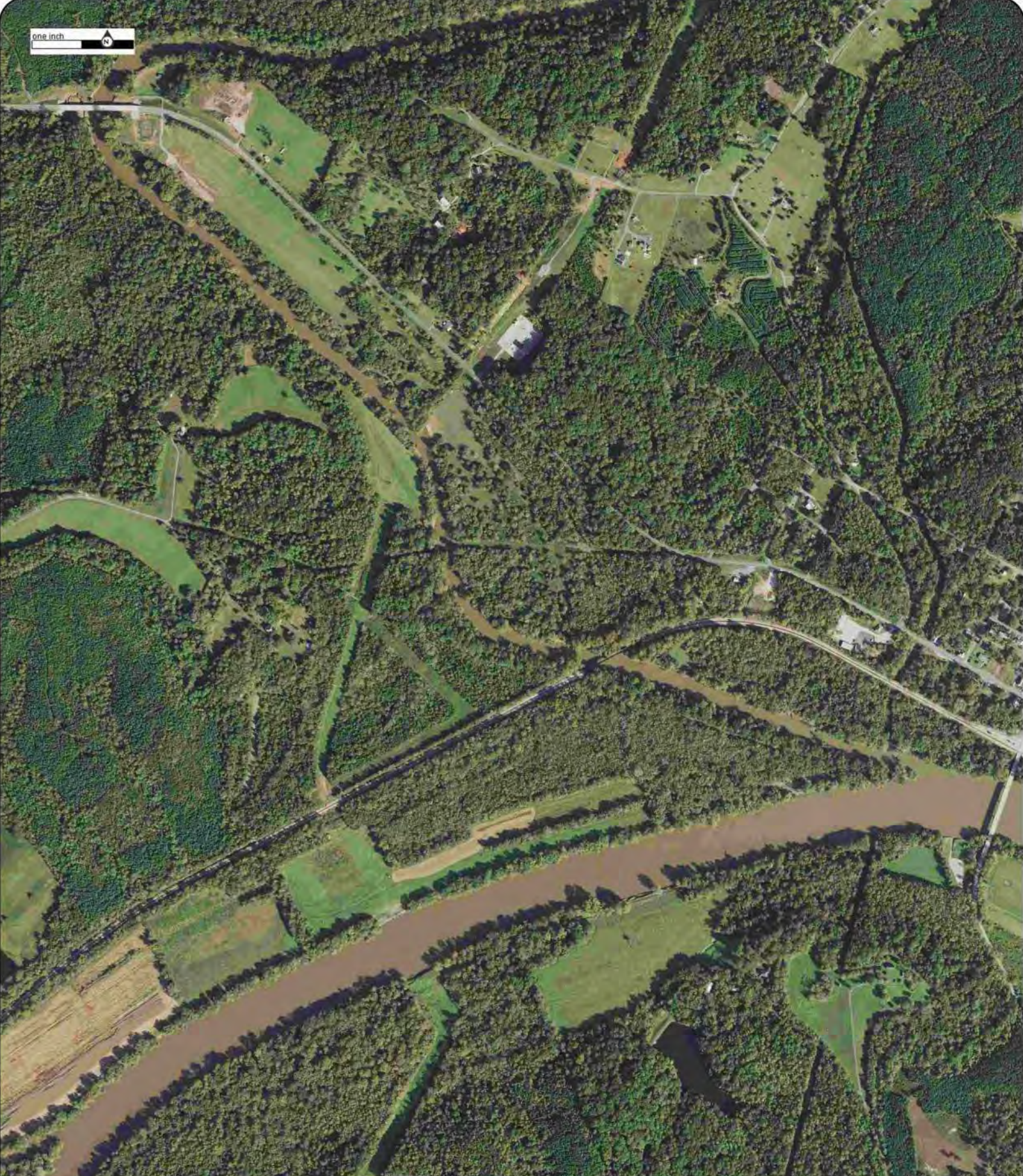
Date	Source	Source Scale	Comments
2018	National Agriculture Information Program	1" to 900'	
2016	National Agriculture Information Program	1" to 900'	
2014	National Agriculture Information Program	1" to 900'	
2012	National Agriculture Information Program	1" to 900'	
2011	National Agriculture Information Program	1" to 900'	
2009	National Agriculture Information Program	1" to 900'	
2008	National Agriculture Information Program	1" to 900'	
2006	National Agriculture Information Program	1" to 900'	
2003	National Agriculture Information Program	1" to 900'	
1994	US Geological Survey	1" to 900'	
1984	National High Altitude Photography	1" to 900'	
1977	US Geological Survey	1" to 900'	
1969	US Geological Survey	1" to 900'	
1958	US Geological Survey	1" to 900'	

Environmental Risk Information Services

A division of Glacier Media Inc.

1.866.517.5204 | info@erisinfo.com | erisinfo.com

one inch



Year:2018

Address:n/a,Columbia,VA

Order No:20200106141

Source:NAIP

Approx Center:37.75296866/-78.17418181

Scale:1" to 900'

Comment:

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



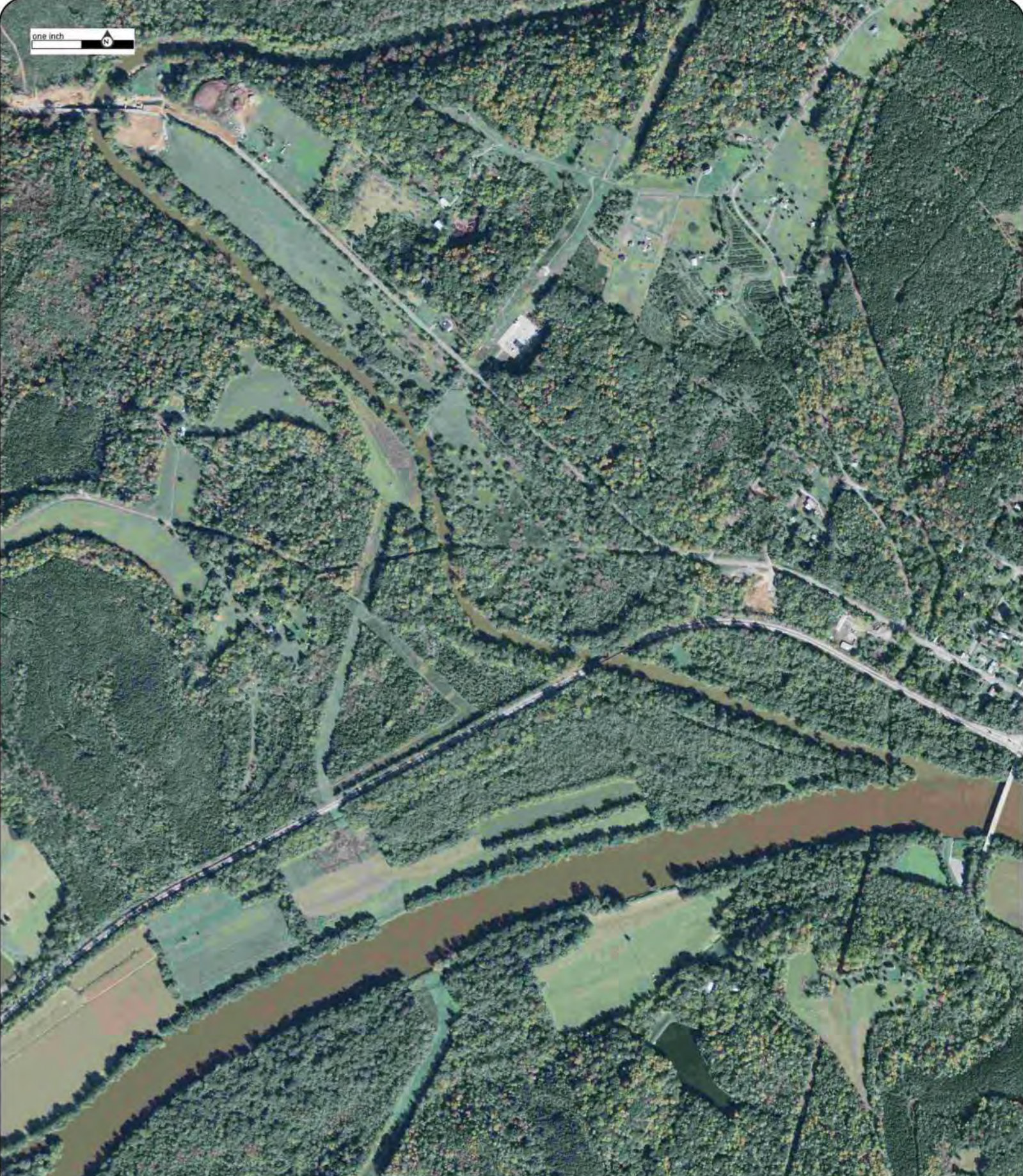
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Comment:

Address:n/a,Columbia,VA
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Order No:20200106141



one inch



Year:2014

Address:n/a,Columbia,VA

Order No:20200106141

Source:NAIP

Approx Center:37.75296866/-78.17418181

Scale:1" to 900'

Comment:



one inch



Year:2012
Source:NAIP
Scale:1" to 900'
Comment:

Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



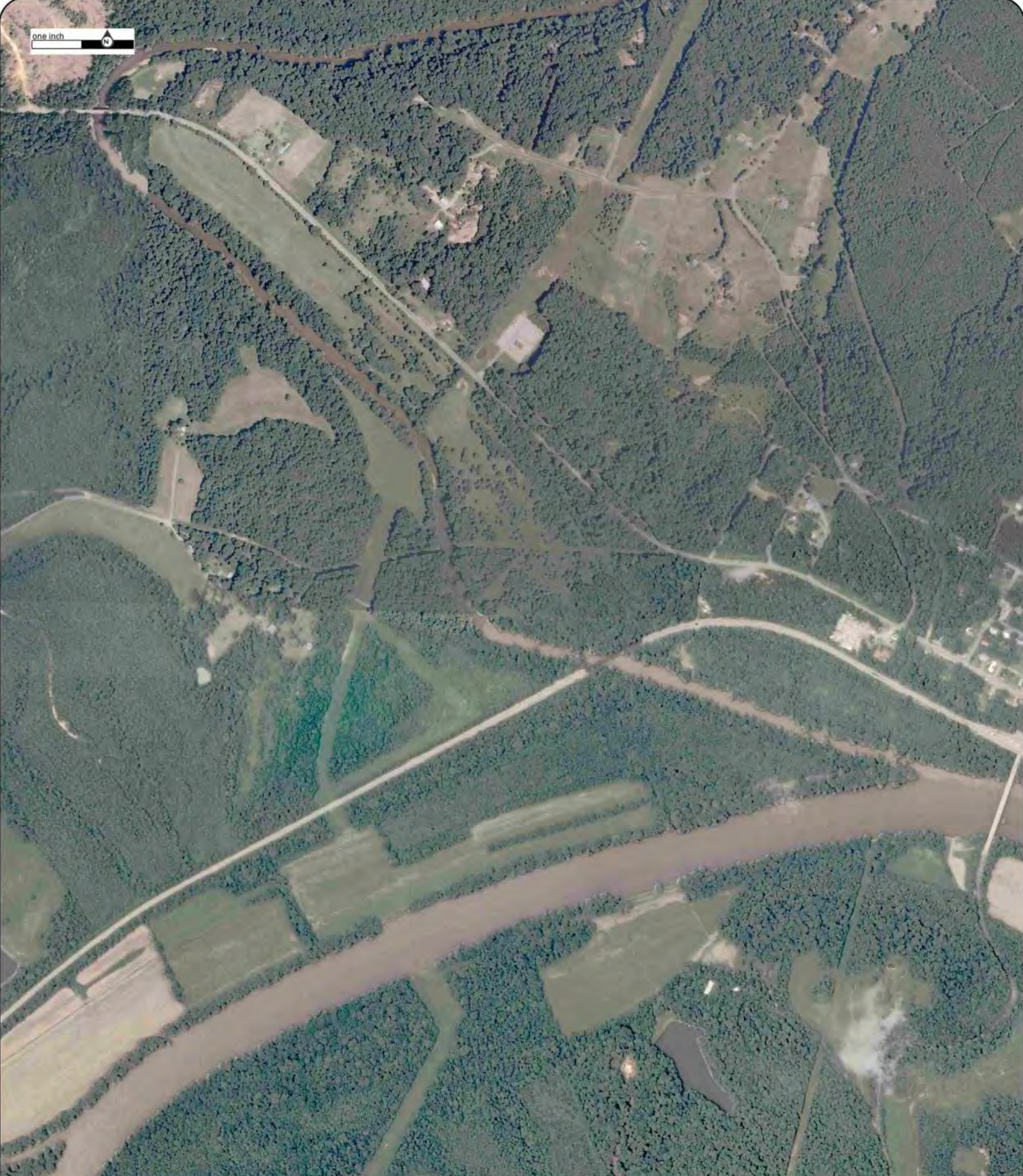
Year:2011
Source:NAIP
Scale:1" to 900'
Comment:

Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141



one inch



Year:2009
Source:NAIP
Scale:1" to 900'
Comment:

Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141



one inch



Year:2008
Source:NAIP
Scale:1" to 900'
Comment:

Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141



one inch



Year:2006

Address:n/a,Columbia,VA

Order No:20200106141

Source:NAIP

Approx Center:37.75296866/-78.17418181

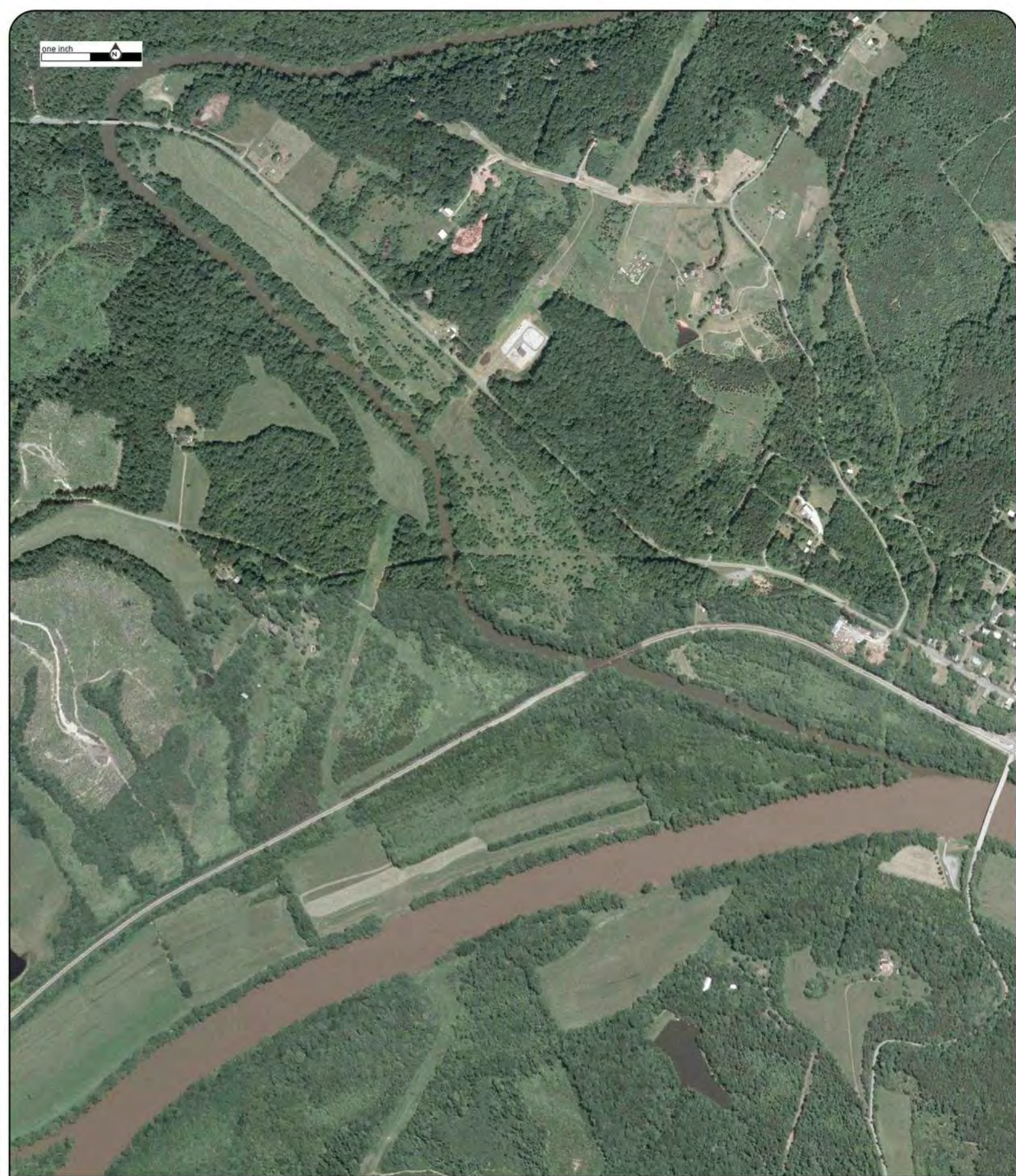
Scale:1" to 900'

Comment:

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:2003
Source:NAIP
Scale:1" to 900'
Comment:

Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



one inch



Year:1994
Source:USGS
Scale:1" to 900'
Comment:

Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141



one inch



Year:1984

Address:n/a,Columbia,VA

Order No:20200106141

Source:NHAP

Approx Center:37.75296866/-78.17418181

Scale:1" to 900'

Comment:



one inch 



Year:1977
Source:USGS
Scale:1" to 900'
Comment:

Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141



one inch 



Year:1969
Source:USGS
Scale:1" to 900'
Comment:

Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141



one inch



58

2-126



Year:1958
Source:USGS
Scale:1" to 900'
Comment:

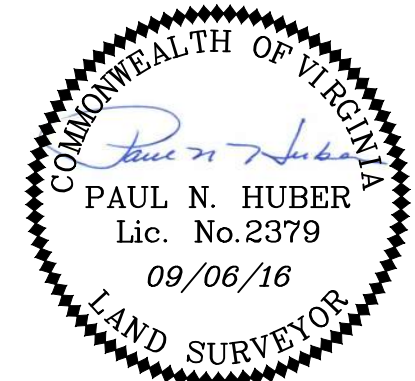
Address:n/a,Columbia,VA
Approx Center:37.75296866/-78.17418181

Order No:20200106141

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



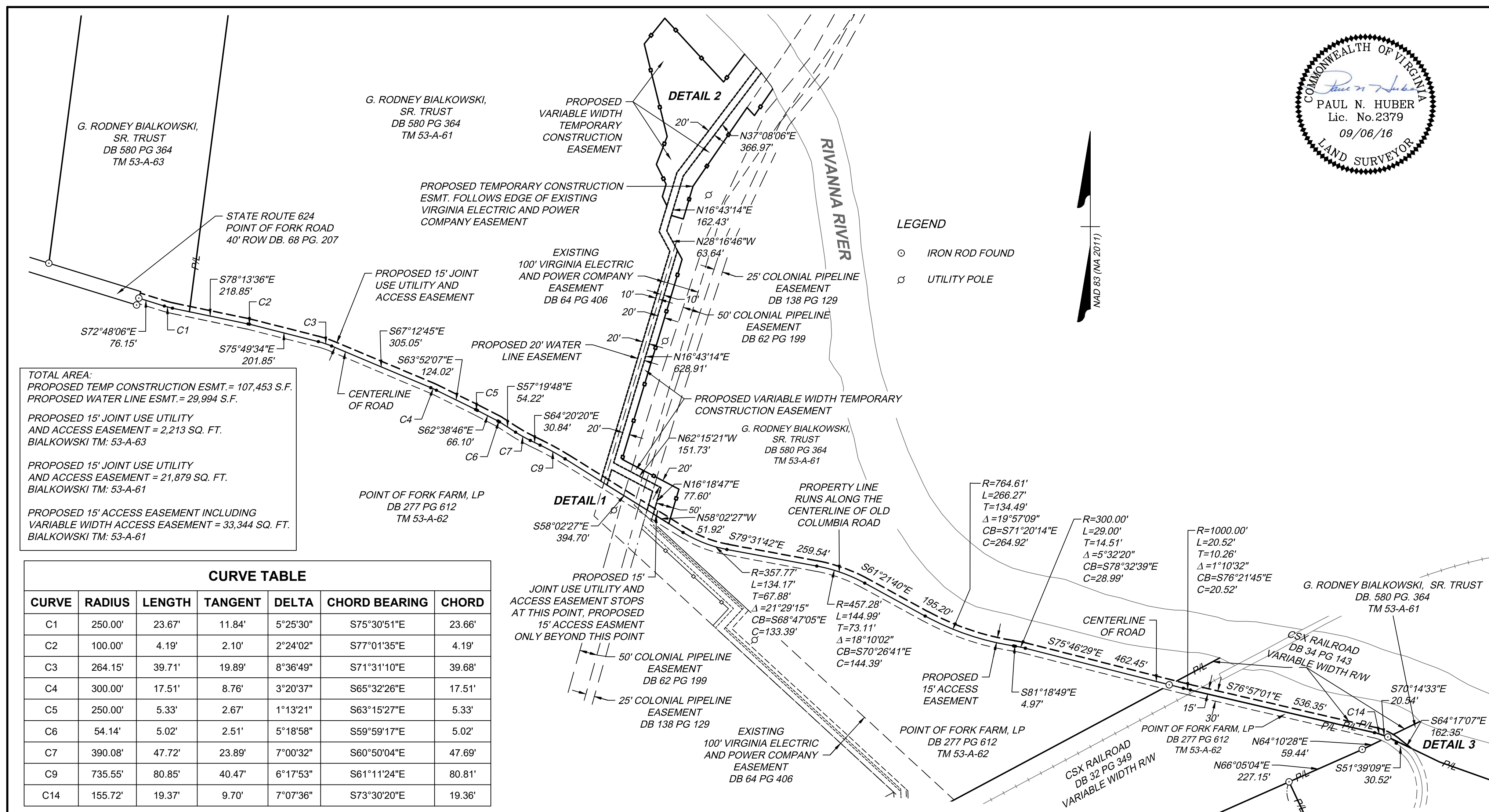
APPENDIX E-2
JRWA OWNED EASEMENT PLATS AND PUMP STATION PARCEL



THIS DRAWING PREPARED AT THE OFFICE OF PAUL N. HUBER, LAND SURVEYOR, 28 IMPERIAL DRIVE, SUITE 100, CHARLOTTE, VA 24401. TEL 540.865.0920 FAX 540.865.0786 WWW.TIMMONS.COM

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP

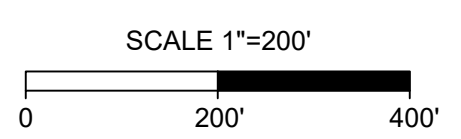


TOTAL AREA:
 PROPOSED TEMP CONSTRUCTION ESMT. = 107,453 S.F.
 PROPOSED WATER LINE ESMT. = 29,994 S.F.
 PROPOSED 15' JOINT USE UTILITY AND ACCESS EASEMENT = 2,213 SQ. FT. BIALKOWSKI TM: 53-A-63
 PROPOSED 15' JOINT USE UTILITY AND ACCESS EASEMENT = 21,879 SQ. FT. BIALKOWSKI TM: 53-A-61
 PROPOSED 15' ACCESS EASEMENT INCLUDING VARIABLE WIDTH ACCESS EASEMENT = 33,344 SQ. FT. BIALKOWSKI TM: 53-A-61

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	DELTA	CHORD BEARING	CHORD
C1	250.00'	23.67'	11.84'	5°25'30"	S75°30'51"E	23.66'
C2	100.00'	4.19'	2.10'	2°24'02"	S77°01'35"E	4.19'
C3	264.15'	39.71'	19.89'	8°36'49"	S71°31'10"E	39.68'
C4	300.00'	17.51'	8.76'	3°20'37"	S65°32'26"E	17.51'
C5	250.00'	5.33'	2.67'	1°13'21"	S63°15'27"E	5.33'
C6	54.14'	5.02'	2.51'	5°18'58"	S59°59'17"E	5.02'
C7	390.08'	47.72'	23.89'	7°00'32"	S60°50'04"E	47.69'
C9	735.55'	80.85'	40.47'	6°17'53"	S61°11'24"E	80.81'
C14	155.72'	19.37'	9.70'	7°07'36"	S73°30'20"E	19.36'

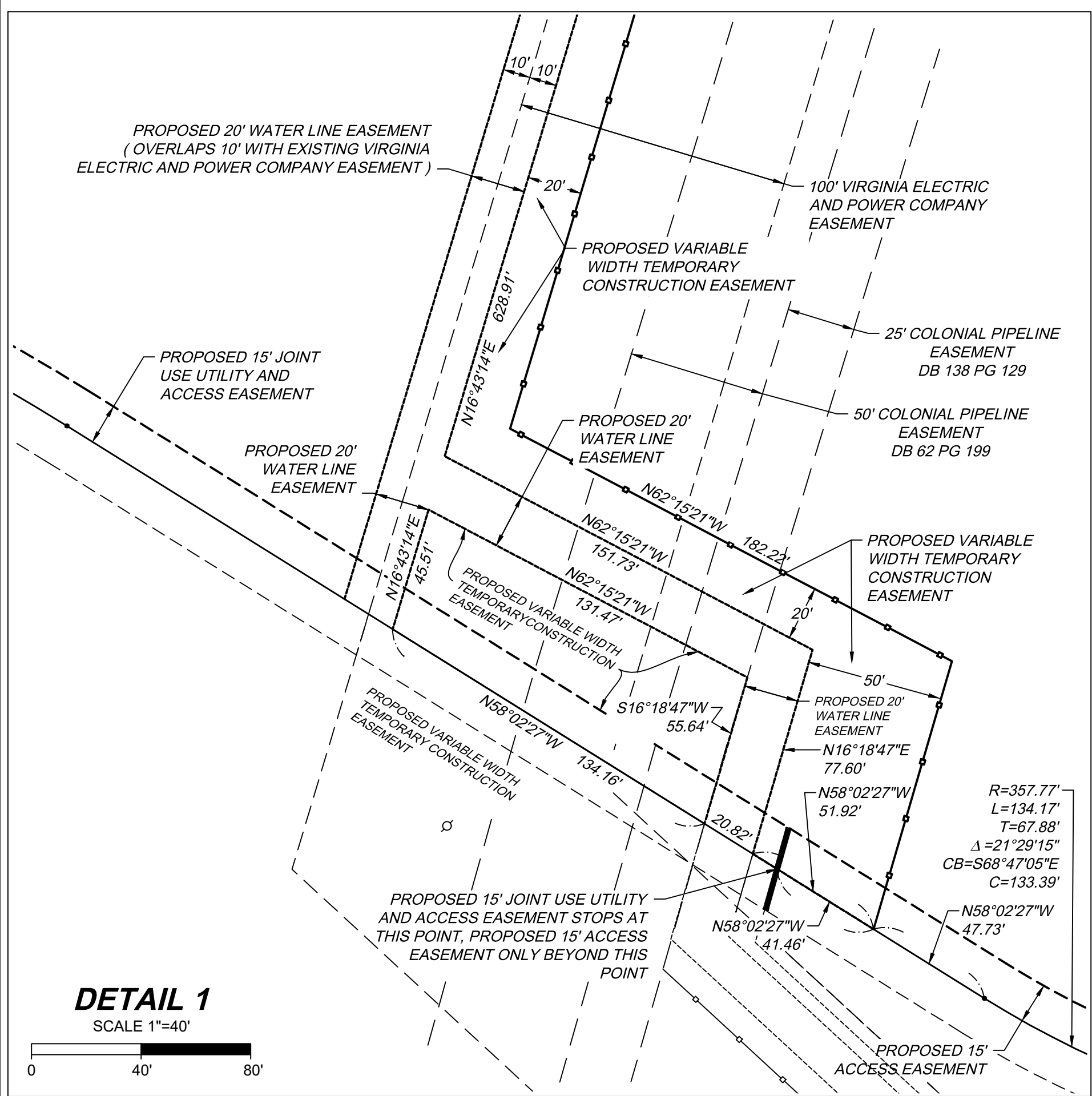
NOTES:
 1. HORIZONTAL DATUM IS BASED ON NAD 83 (NA2011), VIRGINIA STATE GRID, SOUTH ZONE. DATUM ESTABLISHED THOUGH LEICA SmartNet.
 2. THIS IS NOT A BOUNDARY SURVEY. BOUNDARY DELINEATION SHOWN IS BASED ON RECOVERED MONUMENTS IN THE FIELD AND DEEDS OF RECORD. NO TITLE REPORT FURNISHED. EASEMENTS MAY EXIST WHICH ARE NOT SHOWN HEREON.

PLAT SHOWING PROPOSED 15' JOINT USE UTILITY AND ACCESS EASEMENT, PROPOSED 15' ACCESS EASEMENT, PROPOSED VARIABLE WIDTH ACCESS EASEMENT, PROPOSED 20' WATER LINE EASEMENT AND PROPOSED VARIABLE WIDTH CONSTRUCTION EASEMENTS ACROSS THE PROPERTIES OF G. RODNEY BIALKOWSKI, SR. TRUST

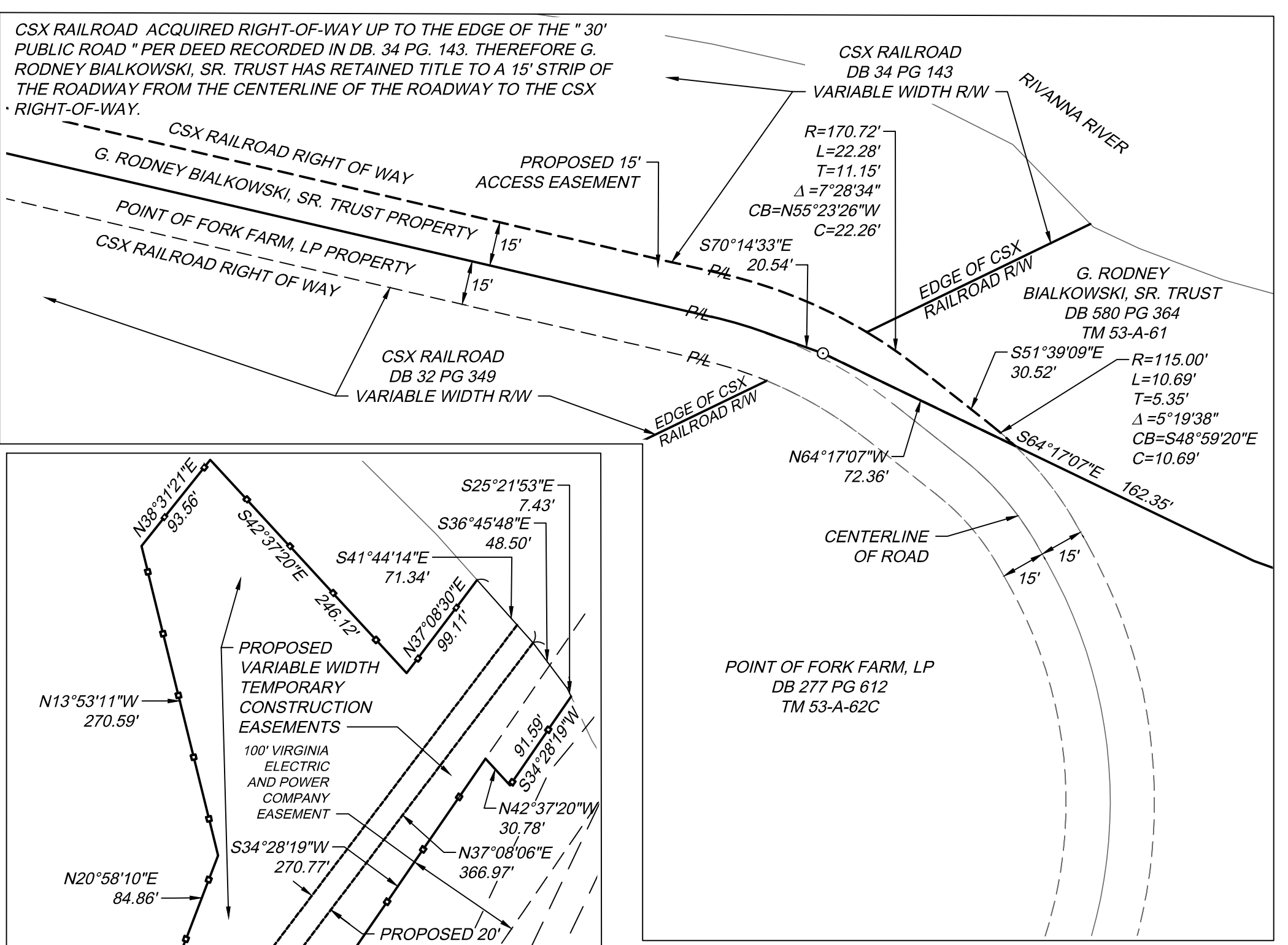


Columbia District	Fluvanna County
Date: 09/06/2016	Scale: 1"=200'
Sheet 1 of 2	J.N.: 33927
Drawn by: MLH	Checked by: PNH

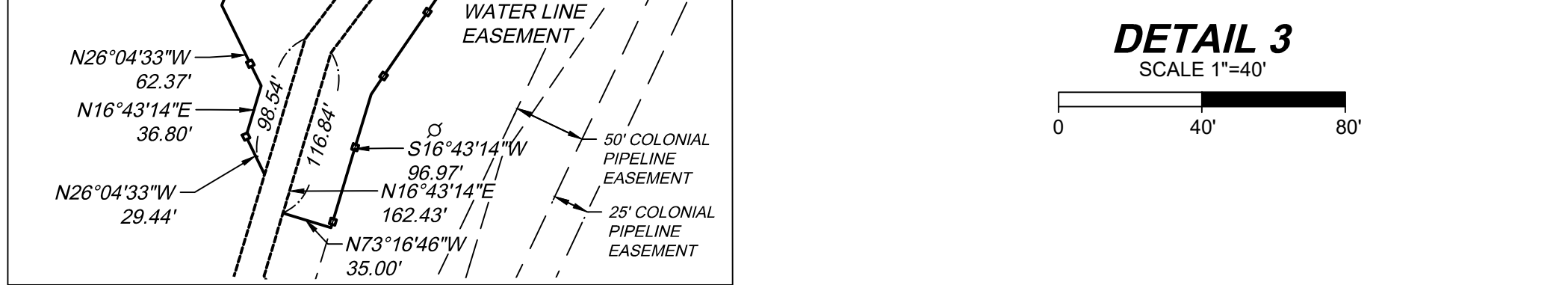
Y:\90433927-James_River_Water\DWG\2016-0819_EDIT_Bialkowski\POF\33927V-ESMT_53-A-61_REVISED 08-19-16.dwg | Plotted on 9/7/2016 10:55 AM | by Michael Harris



DETAIL 1
SCALE 1"=40'



DETAIL 2
SCALE 1"=100'



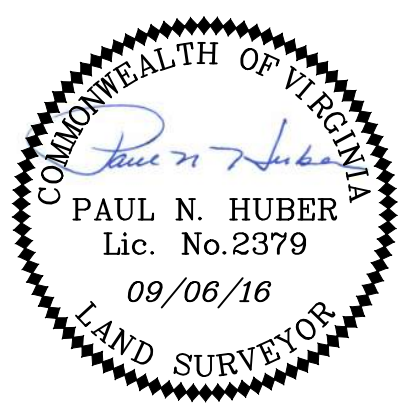
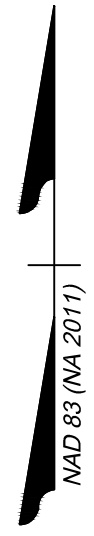
DETAIL 3
SCALE 1"=40'

LEGEND

- IRON ROD FOUND
- UTILITY POLE

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Columbia District	Fluvanna County
Date: 09/06/16	Scale: AS SHOWN
Sheet 2 of 2	J.N.: 33927
Drawn by: MLH	Checked by: PNH

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