



FLUVANNA COUNTY PLANNING COMMISSION

REGULAR MEETING AGENDA

Fluvanna County Library
214 Commons Boulevard
Palmyra, VA 22963

Tuesday, June 7, 2022

Regular Meeting at 7:00 pm

TAB	AGENDA ITEMS
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No Work Session at 6:00 pm

REGULAR MEETING

1 – CALL TO ORDER, Pledge of Allegiance and Followed by a Moment of Silence – Chair Bibb

2 – DIRECTOR'S REPORT – Douglas Miles, AICP, CZA, Community Development Director

3 – PUBLIC COMMENTS #1 (5 minutes per speaker)

4 – MINUTES: Review and Approval of Draft Minutes from May 10, 2022

5 – PUBLIC HEARINGS: None

**6 – PRESENTATIONS: Zoning Text Amendment Requests – Douglas Miles, Community Development Director
Assembly Halls, Brewery Tap Room, Data Centers, Machinery Sales and Service and Vehicle Impound Facility**

7 – SITE DEVELOPMENT PLANS:

SDP 22:04 Dominion Energy Bremono Power Station Sketch Plan – A Site Development Plan (SDP) request for the demolition of the Bremono Power Station on Tax Maps 59 Section 6 Parcels 1, 1A, 2 & 2A. The subject properties are zoned I-1, Limited Industrial and are located at 1038 Bremono Road and in the Rural Residential Planning Area and the Fork Union Election District.

SDP 22:05 Perkins and Orrison Warehouse Sketch Plan – A Site Development Plan (SDP) request for a 52,500 square foot warehouse building on 16.2 +/- acres of Tax Maps 5 Section 17 Parcels 1 and 1A. The subject properties are located in the northeast quadrant of Richmond Road (Rte 250) and Edgecomb Road (SR 689) and are in the Zion Crossroads Community Planning Area and the Columbia Election District.

8 – SUBDIVISIONS: None

9 – UNFINISHED BUSINESS: None

10 – NEW BUSINESS: None

11 – PUBLIC COMMENTS #2 (5 minutes per speaker)

12 – ADJOURNMENT

Douglas Miles

Community Development Director Review

Fluvanna County...The heart of Virginia and your gateway to the future!

*For the Hearing-Impaired – Listening devices are available 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 434.591.1910.*

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 Chair to maintain order and decorum at meetings. The Chair shall speak to points of order in preference to all other members.
2. In maintaining decorum and propriety of conduct, the Chair shall not be challenged and no debate shall be allowed until after the Chair declares that order has been restored. In the event the Commission wishes to debate the matter of the disorder or the bringing of order; the regular business may be suspended by vote of the Commission 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 Chair shall be the judge of such breaches, however, the Commission may vote to overrule both.
4. When a person engages in such breaches, the Chair 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 Commission.
 - Each speaker should clearly state his/her name and address.
 - All comments should be directed to the Commission.
 - All questions should be directed to the Chair. Members of the Commission are not expected to respond to questions, and response to questions shall be made at the Chair'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 Chair will close the public hearing.
 - The Commission 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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County of Fluvanna

Building Official:

Andrew Wills

Period:

May, 2022

BUILDING PERMITS ISSUED

**NEW - Single
Family
Detached
(incl. Trade
permits)**

**NEW - Single
Family
Attached**

NEW - Mob Homes

Additions and Alterations

Accessory Buildings

Swimming Pools

Commercial
Industrial
Build/Cell
Towers

**TOTAL
BUILDING
PERMITS**

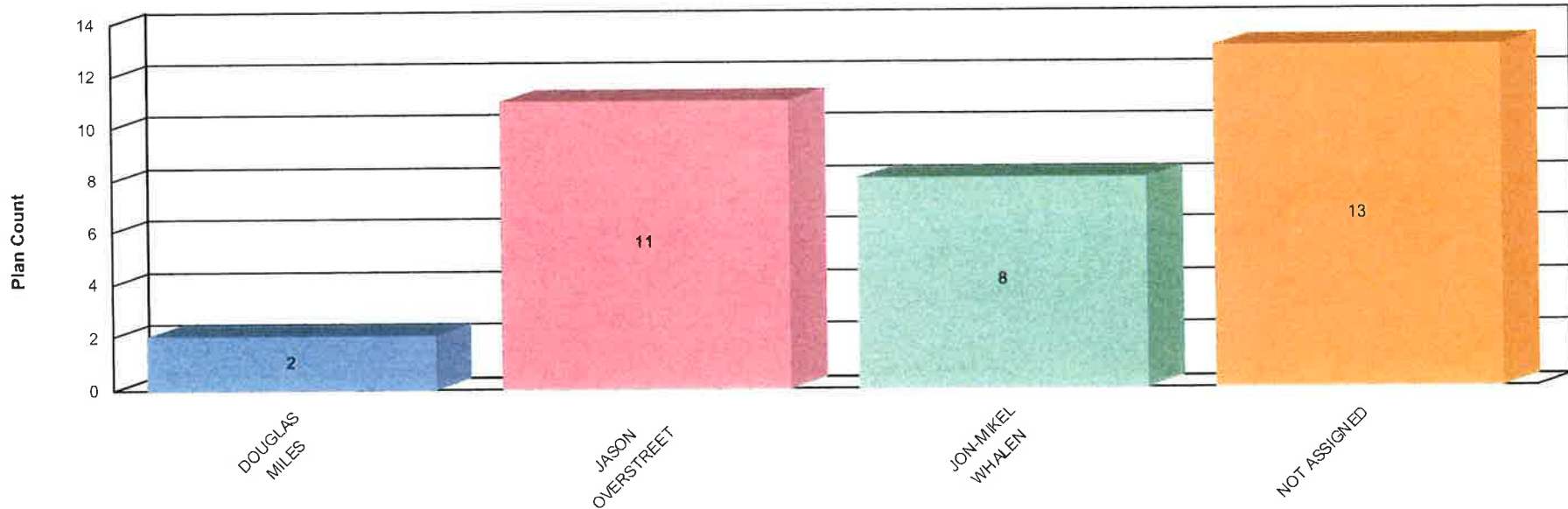
* Trade permits count not in .

BUILDING VALUES FOR PERMITS ISSUED

**TOTAL
BUILDING
VALUES**



PLANS APPLIED BY USER (05/01/2022 TO 05/31/2022) FOR FLUVANNA COUNTY BUILDING AND PLANNING DEPARTMENT



Plan Case #	Type	Workclass	Status	Plan User		Project	District	Parcel
	Application Date	Expiration Date	Complete Date	Approval	Expire Date			
	Zone	Sq Ft	Valuation	Fee Total	Applicant			
DOUGLAS MILES								
SUB22:0016	Subdivision	Subdivision - Minor	In Review	3439 Ruritan Lake Rd, Palmyra, VA 22963		Not Assigned	Fork Union	17 A 71
	05/02/2022	06/16/2022						
	0	\$0.00	\$650.00	Charles Weil	Douglas Miles			
	Description: Grape Vine Substation							
SDP22:0005	Site Development	Site Development	In Review			Not Assigned	Columbia	5 17 1A
	Plan	Plan - Major						
	05/16/2022	06/30/2022			Covenant			
		0	\$0.00	\$1,100.00				
	Description: Warehouse							

PLANS APPLIED FOR DOUGLAS MILES: 2

JASON OVERSTREET

PLANS APPLIED BY USER (05/01/2022 TO 05/31/2022)

Plan Case #	Type	Workclass	Status	Main Address	Project	District	Parcel
	<i>Application Date</i>	<i>Expiration Date</i>	<i>Complete Date</i>	<i>Approval Expire Date</i>	<i>Applicant</i>		
	<i>Zone</i>	<i>Sq Ft</i>	<i>Valuation</i>	<i>Fee Total</i>	<i>Assigned To</i>		
MSC22:0117	Miscellaneous	Miscellaneous - Other	Approved		Not Assigned	Fork Union	41 A 44B3
	05/02/2022	0	\$0.00	\$0.00	Jason Overstreet		
	<i>Description: Proposed new House</i>						
MSC22:0120	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Palmyra	3 33 23
	05/05/2022	0	\$0.00	\$0.00	Jason Overstreet		
	<i>Description: Proposed new house</i>						
MSC22:0121	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Columbia	32 A 9B
	05/09/2022	0	\$0.00	\$0.00	Jason Overstreet		
	<i>Description: Proposed new house</i>						
SUB22:0017	Subdivision	Subdivision - Family	In Review		Not Assigned	Fork Union	50 20 3
	05/09/2022	06/23/2022	0	\$0.00	\$300.00	Jason Overstreet	
	<i>Description: Proposed New home for mother</i>						
MSC22:0122	Miscellaneous	Miscellaneous - Other	In Review	4011 Cedar Lane Rd, Kents Store, VA 23084	Not Assigned	Columbia	33 A 70
	05/09/2022	0	\$0.00	\$0.00	Jason Overstreet		
	<i>Description: Storage Barn</i>						
MSC22:0128	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Fork Union	38 16 5
	05/10/2022	0	\$0.00	\$0.00	Jason Overstreet		
	<i>Description: Proposed New House</i>						
MSC22:0127	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Fork Union	29 24 4
	05/10/2022	0	\$0.00	\$0.00	Jason Overstreet		
	<i>Description: Proposed new house</i>						
BSP22:0004	Boundary Survey	Boundary Survey	In Review	616 Lower Brema Ln, Brema Bluff, VA 23022	Not Assigned	Fork Union	58 A 7
	05/11/2022	06/25/2022	0	\$0.00	\$50.00	Larry Almond Jason Overstreet	

PLANS APPLIED BY USER (05/01/2022 TO 05/31/2022)

Plan Case #	Type	Workclass	Status	Main Address	Project	District	Parcel
	<i>Application Date</i>	<i>Expiration Date</i>	<i>Complete Date</i>	<i>Approval Expire Date</i>	<i>Applicant</i>		
	<i>Zone</i>	<i>Sq Ft</i>	<i>Valuation</i>	<i>Fee Total</i>	<i>Assigned To</i>		
	<i>Description: Grassed & wooded residential & ag./forestal land in Lower Brema A & FD</i>						
SUB22:0019	Subdivision	Subdivision - Minor	In Review	3485 Bybees Church Rd, Palmyra, VA 22963	Not Assigned	Columbia	12 A 44
	05/16/2022	06/29/2022			David Jordan		
		0	\$0.00	\$700.00	Jason Overstreet		
	<i>Description: Minor Subdivision</i>						
MSC22:0136	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Fork Union	40 19 E
	05/24/2022						
		0	\$0.00	\$0.00	Jason Overstreet		
	<i>Description: 42 X 41 Metal Building on a concrete slab</i>						
MSC22:0138	Miscellaneous	Miscellaneous - Other	In Review	2 Sandy Beach Ct, Palmyra, VA 22963	Eddie Smith Bell Farms Lane (storage building)	Palmyra	18A 7 124
	05/26/2022						
		0	\$0.00	\$0.00	Jason Overstreet		
	<i>Description: Addition- 1 Bdrm, 1 bth</i>						
PLANS APPLIED FOR JASON OVERSTREET:							11
JON-MIKEL WHALEN							
MSC22:0119	Miscellaneous	Miscellaneous - Other	Approved	2654 Ruritan Lake Rd, Scottsville, VA 24590	Not Assigned	Cunningham	17 A 44
	05/05/2022						
		0	\$0.00	\$0.00	Jon-Mikel Whalen		
	<i>Description: Attached Garage 36X 48</i>						
MSC22:0123	Miscellaneous	Miscellaneous - Other	In Review	422 Evergreen Church Rd, Palmyra, VA 22963	Not Assigned	Columbia	31 A 75
	05/09/2022						
		0	\$0.00	\$0.00	Jon-Mikel Whalen		
	<i>Description: Metal Shop 30 X 30</i>						
MSC22:0124	Miscellaneous	Miscellaneous - Other	Approved		Not Assigned	Fork Union	38 16 5
	05/09/2022						
		0	\$0.00	\$0.00	Jon-Mikel Whalen		
	<i>Description: Garage/work shop</i>						
MSC22:0126	Miscellaneous	Miscellaneous - Other	In Review	587 Hawkwood Ln, Palmyra, VA 22963	Not Assigned	Columbia	33 A 18A
	05/09/2022						

PLANS APPLIED BY USER (05/01/2022 TO 05/31/2022)

Plan Case #	Type	Workclass	Status	Main Address	Project	District	Parcel
	<i>Application Date</i>	<i>Expiration Date</i>	<i>Complete Date</i>	<i>Approval Expire Date</i>	<i>Applicant</i>		
	<i>Zone</i>	<i>Sq Ft</i>	<i>Valuation</i>	<i>Fee Total</i>	<i>Assigned To</i>		
		0	\$0.00	\$0.00	Jon-Mikel Whalen		
	<i>Description: Garage with Loft</i>						
MSC22:0129	Miscellaneous	Miscellaneous - Other	Approved	45 Ponderosa Ln, Palmyra, VA 22963	Not Assigned	Rivanna	18A 9 30
	05/10/2022	0	\$0.00	\$0.00	Jon-Mikel Whalen		
	<i>Description: Covered Deck</i>						
SUB22:0018	Subdivision	Boundary Adjustment	In Review	338 Kidds Mill Ln, Scottsville, VA 24590	Not Assigned	Cunningham	47 A 70B
	05/16/2022	06/30/2022			Mario Kuhar		
		0	\$0.00	\$100.00	Jon-Mikel Whalen		
	<i>Description: Boundary Adjustment</i>						
MSC22:0134	Miscellaneous	Miscellaneous - Other	Approved	124 Island Hill Rd, Palmyra, VA 22963	Not Assigned	Fork Union	18 16 12
	05/23/2022	0	\$0.00	\$0.00	Jon-Mikel Whalen		
	<i>Description: Add 12' X 20" deck with stairs to rear of existing house</i>						
MSC22:0140	Miscellaneous	Miscellaneous - Other	Approved	1798 Deerfield Rd, Louisa, VA 23093	Not Assigned	Columbia	13 A 6B
	05/27/2022	0	\$0.00	\$0.00	Jon-Mikel Whalen		
	<i>Description: 12 X 24 Shed</i>						

PLANS APPLIED FOR JON-MIKEL WHALEN: 8

NOT ASSIGNED

MSC22:0118	Miscellaneous	Miscellaneous - Other	In Review	626 Haden Martin Rd, Palmyra, VA 22963	Not Assigned	Fork Union	40 A 53
	05/05/2022	0	\$0.00	\$0.00	Not Assigned		
	<i>Description: Proposed new house</i>						
MSC22:0125	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Fork Union	53 A 76
	05/09/2022	0	\$0.00	\$0.00	Not Assigned		
	<i>Description: Proposed New House</i>						
MSC22:0130	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Cunningham	18A 4 241
	05/12/2022	0	\$0.00	\$0.00	Not Assigned		

PLANS APPLIED BY USER (05/01/2022 TO 05/31/2022)

Plan Case #	Type	Workclass	Status	Main Address	Project	District	Parcel
	Application Date	Expiration Date	Complete Date	Approval Expire Date	Applicant		
	Zone	Sq Ft	Valuation	Fee Total	Assigned To		
	Description: Proposed New House						
MSC22:0131	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Fork Union	18 16 23
	05/13/2022	0	\$0.00	\$0.00	Not Assigned		
	Description: Proposed New House						
MSC22:0132	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Fork Union	18 16 29
	05/13/2022	0	\$0.00	\$0.00	Not Assigned		
	Description: Proposed New House						
MSC22:0133	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Rivanna	18A 3 394
	05/17/2022	0	\$0.00	\$0.00	Not Assigned		
	Description: Proposed New House						
MSC22:0135	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Cunningham	17 27 54
	05/23/2022	0	\$0.00	\$0.00	Not Assigned		
	Description: Proposed New House						
MSC22:0137	Miscellaneous	Miscellaneous - Other	In Review	4800 Hells Bend Rd, Palmyra, VA 22963	Not Assigned	Columbia	43 A 21B
	05/24/2022	0	\$0.00	\$0.00	Not Assigned		
	Description: New Single Family Detached Dwelling						
BSP22:0005	Boundary Survey	Physical Survey	In Review	2871 Bremo Rd, Bremo Bluff, VA 23022	Not Assigned	Fork Union	59 A 82
	05/25/2022	07/09/2022	\$0.00	\$50.00	Not Assigned		
MSC22:0142	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Fork Union	18 16 24
	05/27/2022	0	\$0.00	\$0.00	Not Assigned		
	Description: Proposed New House						
MSC22:0139	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Columbia	12 20 16
	05/27/2022	0	\$0.00	\$0.00	Not Assigned		

PLANS APPLIED BY USER (05/01/2022 TO 05/31/2022)

Plan Case #	Type	Workclass	Status	Main Address	Project	District	Parcel
	<i>Application Date</i>	<i>Expiration Date</i>	<i>Complete Date</i>	<i>Approval Expire Date</i>	<i>Applicant</i>		
	<i>Zone</i>	<i>Sq Ft</i>	<i>Valuation</i>	<i>Fee Total</i>	<i>Assigned To</i>		
	<i>Description: Proposed new house with attached 2-car garage</i>						
MSC22:0141	Miscellaneous	Miscellaneous - Other	In Review	65 Broken Island Rd, Palmyra, VA 22963	Not Assigned	Fork Union	18 16 1
	05/27/2022	0	\$0.00	\$0.00	Not Assigned		
	<i>Description: Proposed New House</i>						
MSC22:0143	Miscellaneous	Miscellaneous - Other	In Review		Not Assigned	Cunningham	27 19 4
	05/31/2022	0	\$0.00	\$0.00	Not Assigned		
	<i>Description: Storage of Farm vehicles & Farm equipment, farm products, and office</i>						
PLANS APPLIED FOR NOT ASSIGNED:							13
GRAND TOTAL OF PLANS:							34

**FLUVANNA COUNTY PLANNING COMMISSION
REGULAR MEETING MINUTES**

**Carysbrook Performing Arts Center
8880 James Madison Highway
Fork Union, VA 23055**

**May 10, 2022
Regular Meeting 7:00 pm**

MEMBERS PRESENT:

Barry Bibb, Chair
Gequetta “G” Murray-Key, Vice Chair
Ed Zimmer, Commissioner
Howard Lagomarsino, Commissioner
Patricia Eager, Board of Supervisors Representative

ABSENT:

None

STAFF PRESENT:

Eric Dahl, County Administrator
Fred Payne, County Attorney
Douglas Miles, Community Development Director
Jason Overstreet, Senior Planner
Valencia Porter, Administrative Programs Specialist

1. CALL TO ORDER, THE PLEDGE OF ALLEGIANCE AND A MOMENT OF SILENCE:

At 7:03 pm, Chair Bibb, called the May 10, 2022 Regular Meeting to Order, led in the Pledge of Allegiance and then he conducted a Moment of Silence.

2. DIRECTOR’S REPORT – Douglas Miles, AICP, CZA, Community Development Director

April 14, 2021 Technical Review Committee (TRC) meeting:

- **Shannon Hill Regional Business Park: Louisa County Utilities**
Louisa County and Timmons Group, their water and wastewater consultant, propose to construct County water and sewer lines from Ferncliff down to Shannon Hill paralleling straight down US 250.
- **Zion Crossroads Industrial Park Lot 5—Roudabush Engineering**
Roudabush Engineering is completing the Site Development Plan for a proposed 15,000 square foot industrial warehouse building that originally began back in 2005 and 2006.

Next Step in the 2040 Comprehensive Plan Review Process:

- **May 12th 2040 Comp Plan Open House Event:**
Location: Fluvanna County Library Meeting Room
Time: 5:00 pm to 7:00 pm Advisory Group: 5:00 pm to 6:30 pm

GIS MAPS: 2040 Comprehensive Plan – Land Use, Preservation and Transportation GIS Maps are reviewed along with proposed Fluvanna County Gateways, Rural Crossroads and the Route 15 Corridor maps that will provide for our future commercial growth.

3. PUBLIC COMMENTS #1

Chair Bibb opened up the Public Comments at 7:10 pm by giving each public speaker a limit of five (5) minutes to speak and asked that they state their name and their address for the record.

With no one wishing to speak in person or online, Chair Bibb closed the first round of Public Comments at 7:11 pm.

4. MINUTES:

Chair Bibb: mentioned he talked about the average household income in Fluvanna is 91, 395 in relation to the Albemarle County and City of Charlottesville same average household incomes.

MOTION:	To Approve the minutes of the Planning Commission of March 8, 2022, that had been deferred on April 12, 2022 to add Mr. Bibb's regional housing comments after the second public comments period section.				
MEMBER:	Bibb	Vacant	Murray-Key	Lagomarsino	Zimmer
ACTION:			Second		Motion
VOTE:	Yes		Yes	Yes	Yes
RESULT:	4-0 Approved				

MOTION:	To Approve the minutes of the Planning Commission of April 12, 2022.				
MEMBER:	Bibb	Vacant	Murray-Key	Lagomarsino	Zimmer
ACTION:			Second		Motion
VOTE:	Yes		Yes	Abstain	Yes
RESULT:	3-0-1 Approved				

5. **PUBLIC HEARINGS:**

ZMP 22:02 Johnston & Co LLC - Douglas Miles, Community Development Director

A Conditional Rezoning from A-1, General Agricultural to the B-1, General Business Zoning District on 6.4 +/- acres of Tax Map 17 Section 2 Parcel 2. The subject property is located 900 feet north of the Route 53 and Turkeysag Trail intersection and is adjacent to the UVA Community Credit Union in the Rivanna Community Planning Area and the Cunningham Election District.

SUP 22:01 Johnston & Co LLC - Douglas Miles, Community Development Director

A Special Use Permit request in the B-1, General Business Zoning District to permit a contractor's storage yard with respect to 6.4 +/- acres of Tax Map 17 Section 2 Parcel 2. The subject property is located 900 feet north of the Route 53 and Turkeysag Trail intersection and is adjacent to the UVA Community Credit Union in the Rivanna Community Planning Area and the Cunningham Election District.

The Rivanna Community Planning Area is the main growth area of the county and it contains a mixture of both residential and commercial uses. Medium and small commercial uses and along with office and residential uses all combine to form a series of commercial shopping centers that are interconnected with the Lake Monticello mixed-use development. The proposed request is located in the Neighborhood Mixed Use Area which includes a mix of retail and office uses. The applicant, he proposes to run his electrical contracting office along with potential office uses that are located within the B-1 District and which complies with the 2015 Comprehensive Plan.

Recommended Conditions:

1. The administrative site development plans shall be in substantial conformance with the Route 53 Self-Storage Sketch Plan that was submitted with the Special Use Permit application dated March 16, 2022.
2. Prior to development of the site, a site development plan that meets the requirements of the Fluvanna County Zoning Ordinance, it shall be submitted for administrative approval.
3. Any lighting shall not be directed toward the adjacent properties and it shall comply with Article 25 Outdoor Lighting Control of the Fluvanna County Zoning Ordinance.
4. Any noise shall comply with Chapter 15.1 of the Fluvanna County, Virginia Code.
5. The site shall be maintained in a neat and orderly manner so that the visual appearance from the public right-of-way and adjacent properties is acceptable to County officials.
6. The Board of Supervisors, or its representative, reserves the right to inspect the property for compliance with these conditions at any time.

7. Under Section 22-17-4 F (2) of the Fluvanna County Code, the Board of Supervisors has the authority to revoke a Special Use Permit if the property owner has substantially breached the conditions of the Special Use Permit.

Cory Johnston, Applicant: stated that he owns a local electrical contracting company and he is seeking to operate his business on-site with a proposed 1,000 square feet of office space for his small business. He stated he plans to construct 60,000 square feet of self-storage space on the premises and his electrical contracting company would utilize a portion of it for company storage.

Kelsey Schlein, Shimp Engineering: stated the Sketch Plan they provided proposed landscaped screening along the Route 53 frontage where the office space and security gate would be located and along the adjacent properties that are zoned R-4 in Lake Monticello and the A-1 land to the north would be screened with fifty (50) foot landscaped areas but not along the commercial site.

She stated the applicant proposes a full access entrance onto Route 53 that has been reviewed by VDOT for the proposed B-1 land uses of mini-storage warehouses, a small office building and specialty trade contractor under the ITE Trip Generation, 10th edition manual. The new vehicle trips generated by the applicant's proposed uses would not be a significant impact on a major corridor like Route 53 that experiences an average daily volume of 4,900 trips. The proposed site is located adjacent to one of the main commercial shopping center areas at the Falcon Hills gate into the Lake Monticello development along Turkeysag Trail with its intersection onto Route 53.

Mr. Lagomarsino: asked about the fire apparatus turnaround radius in the rear of the complex.

Ms. Schlein: replied that the proposed fire apparatus turn around radius is 96 feet in diameter.

Chair Bibb: asked the County Attorney if they could conduct a Joint Public Hearing on these cases?

Mr. Payne: indicated that would be appropriate and you would take any action separately on the two (2) cases following the Joint Public Hearing.

Chair Bibb: opened up the Public Hearing at 7:34 pm by giving each public speaker a limit of five (5) minutes to speak and asked that they state their name and their address for the record.

Corven Flynn at Gate Plaza, 202 Turkeysag Trail: Spoke in opposition to this proposal relative to screening and site design concerns as his commercial property backs up to the subject property.

Nancy Quantock at 19 Fleetwood Drive: Spoke in opposition to this proposal relative to additional traffic on Route 53, stormwater management concerns and any potential site screening concerns.

Valerie Palamountain at 17 Fleetwood Drive: Spoke in opposition to this proposal relative to the potential for site noise, stormwater management concerns and potential site screening concerns.

Dorothea Mayhew at 29 Fleetwood Drive: Spoke in opposition to this proposal relative to the fact that she lives directly behind the proposed storage facility and had access and noise concerns.

Chair Bibb: asked the applicant, Mr. Johnson, what would be the storage hours of operation?

Mr. Johnston: stated we would like it to be 24 hours at our self-storage facility and we will have a security gate, so the only employee vehicle will be mine coming into the office. There are no trucks coming or going into the storage space area as all of his electrical contracting employees take their employee vehicles home with them and would come to this location to load contracting supplies from the storage facility and be provided with the electrical contracting job assignments.

Vice Chair Murray-Key: asked the letter that went out to the adjacent property owners was that like an eight-day notice and is that customary. When I looked at the packet it was dated May 2nd for the scheduled Planning Commission Public Hearing on Tuesday, May 10th?

Mr. Miles: Yes, that is the proper timeframe for notification by First class mail and there are two consecutive Legal ads prior to the Public Hearing. The applicant also held a community meeting virtually back on March 24th and a Zoning sign was posted on Route 53 for advanced notification.

Mr. Miles: responded to Chair Bibb that in B-1 zoning there is not an hours of operation restriction it is usually a restriction for hours of operation based upon the applicant. Mr. Johnston does know that he has the opportunity between now and the Board of Supervisors to amend his proffers.

Chair Bibb: asked if there was anyone online, if they would like to speak and there was no one online to speak during the Public Hearing. At 7:55 pm Chair Bibb he closed the Public Hearing.

Mr. Zimmer: stated that while he is sympathetic to some of the folks who are against the change related to this request. As it is hard to require somebody to go out and buy other B-1 property just because there is other B-1 zoned land available. As it is also difficult for me to not look at rezoning this property to B-1 when it is adjacent to other B-1 zoned property. It seems like while not everybody may agree that this is a legitimate use and it is a legitimate way to continue to develop this shopping center and office park space area and is business zoning and not industrial.

After a brief discussion by the Planning Commissioners Chair Bibb asked if we have a separate motion on ZMP 22:02 Johnson & Co LLC and then a motion on case SUP 22:01 Johnson & Co LLC.

MOTION:	I move that the Planning Commission Recommend Approval of ZMP 22:02, a request to amend the Fluvanna County Zoning Map on 6.4 +/- acres of Tax Map 17, Parcel 2 to conditionally rezone the same from A-1, General Agricultural, to B-1, General Business and subject to the proffers received on March 16, 2022.				
MEMBER:	Bibb	Vacant	Murray-Key	Lagomarsino	Zimmer
ACTION:			Second		Motion
VOTE:	Yes		Yes	Yes	Yes
RESULT:	4-0 Recommended Approval with proffers dated March 16, 2022				

MOTION:	I move that the Planning Commission recommend Approval of SUP 22:01 request in the B-1, General Business Zoning District to permit a contractor's storage yard with respect to 6.4 +/- acres of Tax Map 17 Section 2 Parcel 2 and subject to the seven (7) case conditions in the staff report.				
MEMBER:	Bibb	Vacant	Murray-Key	Lagomarsino	Zimmer
ACTION:			Second		Motion
VOTE:	Yes		Yes	Yes	Yes
RESULT:	4-0 Recommended Approval with seven conditions in the staff report				

SUP 22:02 Louisa County - Douglas Miles, Community Development Director

A Special Use Permit to allow for major utilities, with respect to Louisa County constructing new public water and sewer lines from Ferncliff to Shannon Hill and will be constructed within the limits of the US Route 250 right-of-way. The subject properties of the request are known as Tax Maps 24-3-2, 24-2-1A4, 24-A-11A, 24-A-11, 24-A-15B, 24-A-GL15 and 24-A-16. They are zoned A-1, General Agricultural and are generally located along US Route 250 and at its intersection with Three Chopt Road in the Rural Preservation Area and in the Columbia Election District.

Mr. Miles: stated that Louisa County has requested a Special Use Permit for a public water and sewer infrastructure project which consists of linear, underground water and sewer lines that are to be constructed from Ferncliff to Shannon Hill and paralleling Route 250. The water and sewer line project will be underground and not visible to the adjoining property owners and all infrastructure will be constructed within the Route 250 right-of-way limits. In the event that driveways are open cut or mailboxes are temporarily removed for construction purposes, the applicant will return all of the disturbed areas to equal or better conditions upon completion of the water and sewer line project. All existing driveways to individual properties will remain open during construction of the lines.

Recommended Conditions:

1. The construction, operation and maintenance of the Louisa County water and sewer lines located in Fluvanna County shall comply with all local, state and federal requirements.

2. Vehicular access to all of the residences and parcels along the Route 250 right-of-way shall be maintained at all times and Louisa County shall be responsible for returning all affected access points or mailboxes to equal or better conditions upon project completion.

Andy Wade, Louisa County Economic Development Director, he provided his presentation slides that illustrated the water and sewer lines that would be installed along Route 250 in Fluvanna County through Goochland County and then ending up in Louisa County in the Shannon Hill area.

Bruce Strickland, PE, Timmons Group (Online) indicated that this water and wastewater lines project has been in modelling design for several months and has been discussed with the public.

Chair Bibb: opened up the Public Hearing at 8:17 pm by giving each speaker a limit of five (5) minutes to speak and asked that they state their full name and property address for the record.

With no one coming forward wishing to speak in person or online, Chair Bibb closed the Public Hearing at 8:18 pm.

Mr. Wade: asked if the Fluvanna County Planning Commission was finding this SUP case request in substantial accordance with the Comprehensive Plan under the 2232 state code designation?

Mr. Payne: stated in case you did not understand the question from the applicant, Virginia State Code Section 15.2-2232 requires that a lot of public buildings and structures and, public utilities in particular, are required to be reviewed by the Commission for substantial accordance with the Comprehensive Plan. The staff report did elaborate on this legal finding, so in my judgement a Recommendation for Approval of this special use permit would satisfy the statutory requirement.

Chair Bibb: asked are there any more questions or do we have a motion on this request.

MOTION:	I move that the Planning Commission Recommends Approval of SUP 22:02 Louisa County - A Special Use Permit to allow for major utilities, with respect to Louisa County constructing new public water and sewer lines from Ferncliff to Shannon Hill and will be constructed within the limits of the US Route 250 right-of-way. The subject properties of the request are known as Tax Maps 24-3-2, 24-2-1A4, 24-A-11A, 24-A-11, 24-A-15B, 24-A-GL15 and 24-A-16 and along with the two (2) conditions found in the staff report.				
MEMBER:	Bibb	Vacant	Murray-Key	Lagomarsino	Zimmer
ACTION:			Motion	Second	
VOTE:	Yes		Yes	Yes	Yes
RESULT:	4-0 Recommended Approval with two conditions in the staff report and this request was found in Substantial Accordance with the 2015 Plan.				

6. **PRESENTATIONS:**
None

7. **SITE DEVELOPMENT PLANS:**
None

8. **SUBDIVISIONS:**
None

9. **UNFINISHED BUSINESS:**
None

10. **NEW BUSINESS:**
None

11. **PUBLIC COMMENTS #2:**
Chair Bibb opened up the Public Comments at 8:21 pm by giving each speaker a limit of five (5) minutes to speak and asked that they state their full name and property address for the record.

With no one coming forward wishing to speak in person or online, Chair Bibb closed the Public

Comments period at 8:21 pm.

12. ADJOURNMENT:

Chair Bibb adjourned the Planning Commission meeting on May 10, 2022 at 8:21 pm.

Minutes were recorded by Valencia Porter, Administrative Programs Specialist.

Barry A. Bibb, Chair
Fluvanna County Planning Commission

DRAFT



COUNTY OF FLUVANNA

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Palmyra, VA 22963
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Fax (434) 591-1911
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PLANNING COMMISSION STAFF REPORT

To: Fluvanna County Planning Commission
Case: SDP 22:04 Dominion Energy Power Station
Tax Maps: 59 Section 6 Parcels 1, 1A, 2 & 2A

From: Douglas Miles, AICP, CZA
District: Fork Union District
Meeting Date: June 7, 2022

General Information:

This Sketch Plan request is scheduled to be heard by the Planning Commission on June 7, 2022 at 7:00 pm in the Fluvanna County Library Meeting Room.

Applicant:

Dominion Energy Virginia

Representatives:

Sarah Marshall and Laura Zuranski, Dominion Energy

Requested Actions:

Dominion Energy is requesting Sketch Site Plan Approval for the demolition of Bremo Power Station, in response to a change in use of the existing structures associated with the power station facility.

Dominion Energy is also requesting Sidewalk Waiver Approval until such time that a new, productive land use is built on these subject properties, as they are demolishing the existing walkways.

Existing Zoning:

I-1, Limited Industrial Zoning District

Existing Land Use:

Power Station

Site History:

The Brema Power Station began power production back in 1931 and then Units 3 and 4 were added in the 1950s due to increased power demand in the region. Units 1 and 2 were shuttered back in 1972 and then later Units 3 and 4 were converted from coal to natural gas production back in 2014. Units 3 and 4 they were retired in 2019 and the overall power station decommissioning and station demolition began in 2021 and the power station demolition is expected to be completed in 2022.

Demolition Timeline:

Dominion Energy has been proceeding with the removal of the Brema Power Station with the Asbestos removal, removal of interior materials and the demolition of the Administration Building during the end of 2021 and into early 2022. They plan to demolish the Turbine Units building and the demolition of the power station stacks during the Summer of 2022. Then they plan to perform final site grading and reclamation work on the property during the Fall and the end of 2022. All of this site work is being performed under both E&SC Plan and DEQ Stormwater Plan approvals.

Technical Review Committee:

A Technical Review Committee meeting was conducted on-site on Thursday, May 26, 2022 with the County Administrator, Community Development Director, Economic Development Director, Public Works Director, along with both Dominion Energy and Golder Associates representatives.

The Erosion and Sediment Control (E&SC) Plans Reviewer and DEQ Stormwater Plans Reviewer both conduct regular on-site inspections at the Brema Power Station along with other State DEQ permitting staff working with Dominion Energy and Golder Associates permitting staff members.

Conclusion:

With the exception of providing for the installation of sidewalks as required by Zoning Ordinance Section 22-23-6, the submitted Sketch Plan meets the Sketch Plan requirements of Section 22-23-8.A of the Fluvanna County Zoning Ordinance. Planning Staff recommends Approval of this Sketch Plan and there are No recommended conditions since the land use is being removed there.

Suggested Motions:

I move to (Approve/defer) SDP 22:04, a Sketch Plan request in order to demolish the Brema Power Station that is located at 1038 Brema Road and known as Tax Maps 59 Section 6 Parcels 1, 1A, 2 and 2A.

I move to (Approve/defer) a Sidewalk Waiver request to allow for the demolition of the Brema Power Station that is located at 1038 Brema Road and known as Tax Maps 59 Section 6 Parcels 1, 1A, 2 and 2A.

Attachments:

Application and Sketch Plan



HAND DELIVERED

April 22, 2022

Mr. Douglas Miles
Fluvanna County
Department of Planning and Community Development
P.O. Box 540
Palmyra, VA 22963

RECEIVED

APR 22 2022

Fluvanna County
Planning Dept

RE: Dominion Energy Virginia – Bremo Power Station
Station Demolition Sketch Plan Submittal

Dear Mr. Miles,

The attached material is submitted in support of the above referenced project and in accordance with the County of Fluvanna Site Development Plan Process. Note that this application is in response to a change in use of the existing structures associated with the facility.

This Major Site Development Sketch Plan Submittal includes the following:

- Site Development Plan Application
- Site Development Plan Application Fee
- Sketch Plan (20 – 11” x 17” and 3 – Full-size copies)
- Major Sketch Plan Checklist

In addition to the documents required by the application, Dominion has included a Corporate Secretary Certificate for Mr. Cedric Green, Vice President, Technical Services for the County’s records.

In accordance with Chapter 23, Article 23, Section 22-23(6)(A) of the Fluvanna County Municipal Code, Dominion Energy requests a variation from the sidewalk regulation as part of this submittal. All building structures identified in the application package will be demolished and the installation of sidewalks will not serve the greater public’s health, safety, and/or welfare.

Should you require additional information, please contact Laura Zuranski at (804) 201-1834 or laura.m.zuranski@dominionenergy.com.

Sincerely,

A handwritten signature in black ink, appearing to read "T. A. Effinger".

Thomas Effinger
Director, Environmental Services

Enclosures



COMMONWEALTH OF VIRGINIA
COUNTY OF FLUVANNA
Site Development Application

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APR 22 2022

Fluvanna County
Planning Dept

Owner of Record: **Virginia Electric & Power Company**

E911 Address: **120 Tredegar Street, Richmond, VA 23219**

Phone: **804-819-2420** Fax: **N/A**

Email: **cedric.green@dominionenergy.com**

Representative: **Laura Zuranski**

E911 Address: **120 Tredegar Street, Richmond, VA 23219**

Phone: **(804) 201-1834** Fax: **N/A**

Email: **laura.m.zuranski@dominionenergy.com**

Tax Map and Parcel(s): **See Attached List**

Acreage: **284.045** Zoning: **I-1 / A-1**

Location: **1038 Bremo Road, Bremo Bluff, VA 23022**

Description of Property: **Former power generation facility**

Proposed Structure: **N/A**

Dimensions of Building: **N/A**

of Employees: **N/A**

Noise Limitations: **N/A**

Applicant of Record: **Dominion Energy Virginia**

E911 Address: **600 E Canal St, Richmond, VA 23219**

Phone: **804-819-2420** Fax: **N/A**

Email: **cedric.green@dominionenergy.com**

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: **N/A**

Deed Book Reference: **See Attached List**

Deed Restrictions? ☒ No ☐ Yes (Attach copy)

I declare that the statements made and information given on this application are true, full and correct to the best of my knowledge and belief. I agree to conform fully to all terms of any certificate or permit which may be issued on account of this application.

Cedric Green

Cedric F. Green

Applicant Name (Please Print)

Applicant Signature and Date

OFFICE USE ONLY		
Date Received: 04/22/2022	Fee Paid: Check 1680508 \$150.00	Application #: SDP 22 : 04
Election District: Fork Union	Planning Area: Rural Residential	Number of Lots:
Total Fees Due at Time of Submittal		
Sketch Plan: \$150.00	Minor Plan: \$550.00	Major Plan: \$1,100.00
Additional Fees Due at Time of Review		
Health Department Subdivision Review:	\$250.00 + \$25.00 per lot	Existing System Review \$50.00
Street Sign Installation:	\$200.00 Per Intersection	
Amendment of Plan	\$150.00	
Outdoor Lighting Plan Review*	\$ 50.00	
Landscape Plan Review*	\$ 50.00	
Tree Protection Plan Review*	\$ 50.00	
* If not part of a Site Plan Review		

VIRGINIA ELECTRIC AND POWER COMPANY

Secretary's Certificate

I, the undersigned, hereby certify that I am Assistant Corporate Secretary of Virginia Electric and Power Company, a Virginia public service corporation (the "Company").

I further certify that the attached Exhibit A is a true and correct excerpt from the Bylaws of said Company and that said Bylaws have not been amended or revoked and that the same are now in full force and effect.

I further certify that the individual named below is an officer of said Company holding the position set forth below opposite their name:

Cedric F. Green

Vice President – Technical Services

I further certify that submission of documents associated with permit applications is a duty commonly incident to the above stated office.

IN WITNESS WHEREOF, I have hereunto set my hand and have affixed the corporate seal of said Company this 5th day of April 2022.



Karen W. Doggett

CORPORATE
SEAL



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APR 22 2022

Fluvanna County
Planning Dept

**EXCERPT FROM BYLAWS OF
VIRGINIA ELECTRIC AND POWER COMPANY**

ARTICLE XIV.

Officers.

The Board of Directors, in its discretion, may appoint one or more Vice Presidents and one or more assistant officers to any of the officers it appoints with the exception of any Chief Executive Officers, Presidents, Chief Operating Officers or Chief Financial Officers, and may appoint such other officers or agents as it may deem advisable and prescribe their powers and duties. Unless otherwise provided by the Board, any such officer or agent shall have the powers and duties commonly incident to his office.

Except as otherwise provided by the Board of Directors, each Chief Executive Officer, President and Vice President shall have authority to sign certificates of stock, bonds, deeds and contracts and to delegate such authority in such manner as may be approved by a Chief Executive Officer or President.

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**Fluvanna County
Planning Dept**

**Virginia Electric and Power
Bremo Power Station
Fluvanna County Site Development Application
Supporting Attachment**

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Fluvanna County
Planning Dept

Project Property Information (tax map, parcel ID, DB ref.)

1. Virginia Public Service Company
Tax Parcel: 59-6-4 (in part)
Deed: D.B. 19, PG. 173
Plat: D.B. 19, PG. 174 (Lot 4 - in part)
2. Virginia Public Service Company
Tax Parcel: 59-6-4 (in part)
Deed: D.B. 19, PG. 173
Plat: D.B. 19, PG. 174 (Lot 4 - in part)
3. Virginia Public Service Company
Tax Parcel: 59-6-3
Deed: D.B. 19, PG. 176
Plat: D.B. 19, PG. 174 (Lot 3)
4. Virginia Public Service Company
Tax Parcel: 59-6-2
Deed: D.B. 19, PG. 177
Plat: D.B. 19, PG. 174 (Lot 2)
5. Virginia Public Service Company
Tax Parcel: 59-6-2A
Deed: D.B. 19, PG. 177
6. Virginia Public Service Company
Tax Parcel: 59-6-1
Deed: D.B. 19, PG. 248
Plat: D.B. 19, PG. 174 (Lot 1)
7. Virginia Public Service Company
Tax Parcel: 59-6-1A
Deed: D.B. 19, PG. 248
8. Virginia Electric and Power Company
Tax Parcel: 59-A-24
Deed: D.B. 116, PG. 131
Plat: D.B. 44, PG. 455
9. Virginia Electric and Power Company
Tax Parcel: 62-A-1
Deed: D.B. 39, PG. 216
Plat: D.B. 57, PG. 218
10. Virginia Electric and Power Company
Tax Parcel: 59-7-1A (in part)
Deed: D.B. 50, PG. 478
Plat: D.B. 50, PG. 481 (parcel 1X-C)

11. Virginia Electric and Power Company
Tax Parcel: 59-7-1A (in part)
Deed: D.B. 50, PG. 478
Plat: D.B. 50, PG. 481 (parcel 1X-A)
12. Virginia Electric and Power Company
Tax Parcel: 59-7-1A (in part)
Deed: D.B. 50, PG. 478
Plat: D.B. 50, PG. 481 (parcel 1X-B)
13. Virginia Electric and Power Company
Tax Parcel: 59-7-1B (two parts)
Deed: D.B. 97, PG. 291
Plat: D.B. 97, PG. 293
14. Virginia Electric and Power Company
Tax Parcel: 59-7-1
Deed: D.B. 116, PG. 131
Plat: D.B. 3, PG. 318 (Lot 1 - in part)
15. Virginia Electric and Power Company
Tax Parcel: 59-7-26
Deed: D.B. 101, PG. 432
Plat: D.B. 101, PG. 434
16. Virginia Electric and Power Company
Tax Parcel: 62-A-4 (in part, not mapped)
Chancery Book 13, PG. 360
17. Virginia Electric and Power Company
Tax Parcel: 62-A-3
Deed: D.B. 50, PG. 241
Deed: D.B. 50, PG. 246
Plat: D.B. 50, PG. 245 & 248
18. Virginia Electric and Power Company
Tax Parcel: 62-A-2
Deed: D.B. 57, PG. 274
Plat: D.B. 57, PG. 276
Deed: D.B. 50, PG. 283
Plat: D.B. 50, PG. 286
19. Virginia Electric and Power Company
Tax Parcel: 62-A-4 (in part)
Deed: D.B. 154, PG. 56
Deed: D.B. 154, PG. 47
Plat: D.B. 154, PG. 55 (Parcel "X-3")
20. Virginia Electric and Power Company
Tax Parcel: 58-A-10 (in part)
Deed: D.B. 975, PG. 919
Plat: P.B. 3, PG. 227



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Major Site Development Plan - Sketch Plan Checklist

Fluvanna County
Planning Dept

Developed from the Zoning Ordinance April 1, 2006

Project Name: Dominion Energy - Breomo Power Station - Plant Demolition

Tax Map(s) and Parcel Number(s): See attached list

Individual and Firm Completing Checklist: Andrew North, P.E. Golder Associates, Inc.

Signature of Person Completing Checklist: Andrew / Month

Date: 04/22/22

Administration:

- ☒ 20 11" x17" and 3 full-size folded clearly legible blue or black line copies [22-23-8.1]
- ☒ After review by technical Review Committee, revisions may be required. If such revisions are required, 20 11"x17" and 3 full-size clearly legible blue or black line copies of the site plan will be required by the revision deadline indicated by staff (see attached permitting schedule) [22-23-8.A.2]
- ☒ Site Development Plan Application Fee (See attached fee schedule) [22-23-8.3]

The sketch plan will convey the general concept of the proposed site development and shall ***only*** include the following:

- ☒ **A general analysis of the site, showing existing slopes, drainageways, tree stands, site features and amenities to be preserved, conservation areas, historic features, & the like [22-23-8.A.5.a]**
- ☒ **Approximate location and size of the buildings [22-23-8.A.5.b]**
- ☒ **General points of access [22-23-8.A.5.c]**
- ☒ **General street, roadway, and parking layouts [22-23-8.A.5.d]**
- ☒ **Any exterior lighting [22-23-8.A.5.e]**

COUNTY STAFF ONLY

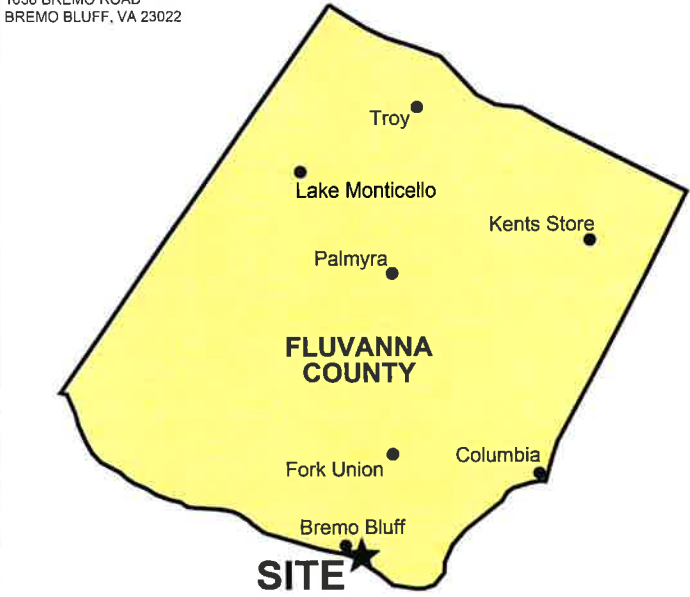
Staff:

Date Received:

Date Reviewed:

Additional Notes:

SITE ADDRESS:
1038 BREMO ROAD
BREMO BLUFF, VA 23022

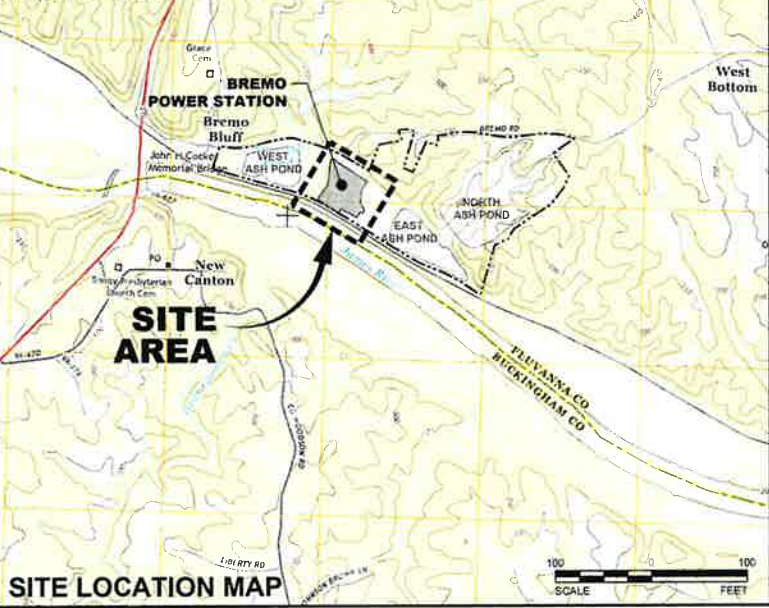


VICINITY MAP

NOT TO SCALE

REFERENCE

BASE MAP CONSISTS OF 7.5 MINUTE USGS
TOPOGRAPHIC QUADRANGLE NAMED ARVONIA,
VIRGINIA, DATED 2013.



SITE LOCATION MAP

LEGEND

---	DOMINION PROPERTY BOUNDARY	WETLANDS
---	ADJACENT PROPERTY BOUNDARY	LIMITS OF RIPARIAN PROTECTION AREA (PER FLUVANNA COUNTY ORDINANCE)
---	EX. TOPOGRAPHIC CONTOURS (2' INTERVALS)	LIMITS OF 100-YR FLOOD PLAIN
---	EX. PAVED ROAD	BASE FLOOD ELEVATION
---	EX. UNPAVED ROAD	EX. GROUNDWATER MONITORING WELL LOCATION AND IDENTIFICATION
---	EX. RAILROAD	LIMITS OF DISTURBANCE (SEE GENERAL NOTE 5)
---	EX. TREE LINE	
---	EX. FENCE	
---	EX. OVERHEAD UTILITY LINE	
---	EX. MANHOLE	
---	CREEK/STREAM CENTERLINE	
---	APPROX. EDGE OF SURFACE WATER	

GENERAL NOTES:

- EXISTING CONDITIONS COMPILED FROM:
 - AERIAL TOPOGRAPHIC SURVEY PREPARED BY DRAPER ADEN ASSOCIATES, DATE OF AERIAL PHOTO: 4/7/2021 [CONTROL PREPARED BY H&B SURVEYING & MAPPING (H&B)]
 - BOUNDARY SURVEY PREPARED BY H&B SURVEYING AND MAPPING, LLC DATED 04/27/15
- SITE DATUM: NAD83 / NAVD88, VIRGINIA STATE PLANE SOUTH.
- WETLAND DELINEATION BY DOMINION ENVIRONMENTAL SERVICES ON 01/30/15 & 02/05/15 AND BY GOLDER ASSOCIATES ON 03/16/15 & 03/25/15. WATERS OF THE U.S. CONFIRMED BY THE USACE DURING JUNE 4, 2015, JUNE 16, 2016, AND JULY 21, 2016 SITE VISITS.
- 100 YEAR FLOOD PLAIN DELINEATION BASED ON FLOOD ELEVATION DATA REPRESENTED ON FEMA FLOOD INSURANCE RATE MAP (FIRM), MAP NUMBER 51065C0260C, EFFECTIVE DATE: 05/16/2008.
- EXISTING LIMITS OF DISTURBANCE (LOD) FROM EROSION & SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLAN, PREPARED BY GOLDER ASSOCIATES, DATED 04/01/19, APPROVED BY DEQ (VSMP) AND FLUVANNA COUNTY ON 04/08/19 AND 04/09/19, RESPECTIVELY.

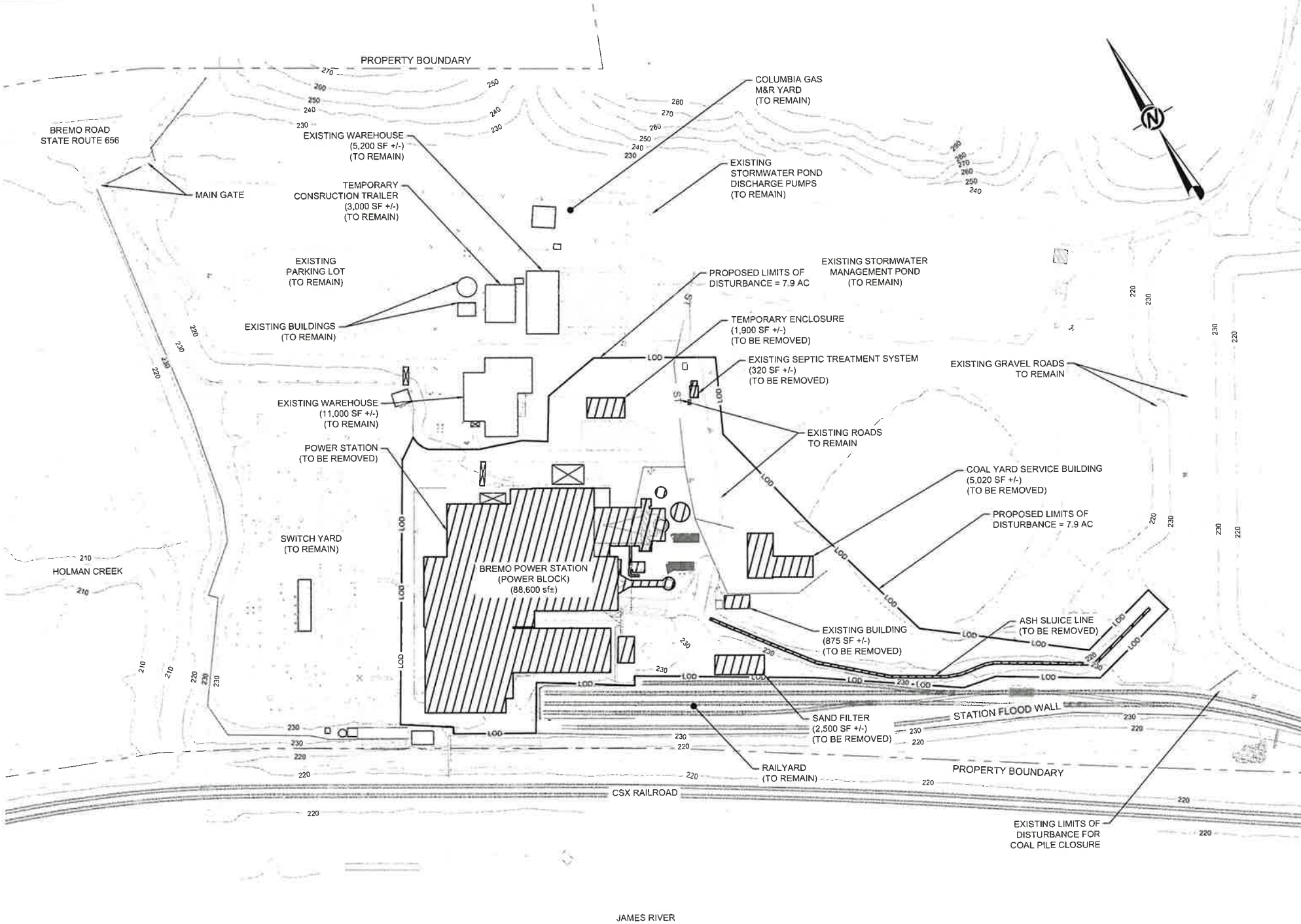
SITE PLAN NOTES:

- THE PURPOSE OF THE PROJECT IS TO DEMO THE POWER STATION AND ASSOCIATED BUILDING/SLUICE LINES AND GRADE THE AREA TO DRAIN TO THE EXISTING STORM WATER POND.
- THE POWER STATION WILL BE DEMOED BELOW GRADE, BACKFILLED, AND GRADED TO DRAIN. THE OTHER BUILDING WILL BE DEMOED WITH THE SLABS REMAINING
- THE PROPOSED SITE CHANGES WILL NOT IMPACT PUBLIC UTILITIES (WATER OR SEWER).
- THE PROPOSED SITE CHANGES WILL NOT CREATE A NET INCREASE TO VEHICLE TRAFFIC ON BREMO ROAD, POST CONSTRUCTION, AS COMPARED TO PREVIOUS STATION OPERATIONS.
- NO PERMANENT EXTERIOR LIGHTING IS PROPOSED.

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APR 2 2 2022

Fluvanna County
Planning Dept



CLIENT

DOMINION ENERGY

BREMO POWER STATION

FLUVANNA COUNTY, VIRGINIA

CONSULTANT

GOLDER ASSOCIATES

2108 WEST LABURNUM AVENUE

SUITE 200

RICHMOND, VA 23227

(804) 358-7900

www.golder.com

0

4/22/2022

ORIGINAL ISSUE

JDR

JDR

ATN

REV

MMDDYY

DESCRIPTION

DESIGN

CADD

CHECK

REVIEW

PROJECT
BREMO DEMO SITE PLAN

TITLE
SKETCH PLAN

PROJECT NO
21-494270

REV
0

DRAWING
1



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PLANNING COMMISSION STAFF REPORT

To: Fluvanna County Planning Commission
Case Number: SDP 22:05 Perkins and Orrison
Tax Map: Tax Maps 5 Section 17 Parcels 1 & 1A

From: Douglas Miles, AICP, CZA
District: Columbia Election District
Meeting Date: June 7, 2022

General Information:

This item is scheduled to be heard by the Planning Commission on Tuesday, June 7, 2022 at 7:00 pm in the Fluvanna County Library Meeting Room.

Applicant:

Glass and Associates

Representative:

Perkins and Orrison Engineers, Planners and Surveyors – Lexington

Requested Actions:

Approval of a Sketch Plan request, to construct a 52,500 square foot warehouse building on 16.2 +/- acres and the subject properties are located within the northeast quadrant of Richmond Road (Rte 250) and Edgecomb Road (SR 689) and they are in the Zion Crossroads Community Planning Area and the Columbia Election District.

Approval of a Sidewalk Waiver request, it has been determined that neither Fluvanna County nor VDOT wants sidewalks to be installed along Route 250 and Edgecomb Road due to the physical conditions that includes roadside ditches and not curb and gutter style drainage.

Existing Zoning:

I-1, Limited Industrial Zoning District with proffered conditions

Existing Land Use:

Vacant

Comprehensive Plan:

Zion Crossroads Community Planning Area / Industrial land uses

Zoning History:

ZMP 21:03 Perkins and Orrison received Approval from the Fluvanna County Board of Supervisors back on July 7, 2021 for a conditional rezoning from B-1, General Business to I-1, Limited Industrial with proffered conditions to permit office/warehouse uses

ZMP 99:09 Living Waters Church of God received Approval from the Fluvanna County Board of Supervisors on November 17, 1999 for a rezoning from A-1, General Agricultural to B-1, General Business to permit religious assembly on these subject properties.

Sketch Plan Analysis:

The applicant's consultant has prepared a well-designed Sketch Plan to illustrate the required site design requirements contained within the Fluvanna County Zoning Ordinance such as buffers like a ten (10) foot parking screening strip along with a twenty-five (25) foot planted evergreen strip along Route 250 and along the rear property line adjoining the existing single-family homes in Louisa County. At the Technical Review Committee meeting there was also a discussion about the screening necessary for outside storage and the applicant's consultant has been working on the screening options and methods to meet the Zoning Ordinance screening requirements from the public right-of-ways along US Route 250 and Edgecomb Road forming the public road boundaries.

Transportation Analysis:

A VDOT commercial site entrance analysis will be required to determine the type of site entrance improvements that will be necessary to support the proposed development. The entrance shown into the proposed industrial property exceeds VDOT standards for entrances for full size tractor-trailer trucks (AASHTO WB-67) and appropriate turning maneuver software has been employed to determine that all the proposed geometry allows for all of the appropriate truck maneuvering.

There will be no truck traffic from the site turning right onto Edgecomb Road (Rt 689) and a right turn taper it is warranted per the VDOT methodology and is shown. A right turn taper is also warranted out along Route 250 onto Route 689 but it already includes a right turn taper and turn lane. The construction of which was likely associated with the industrial facility across Route 689 from the proposed property. VDOT reserves the approval of designs and plans until construction drawings are submitted for review. The VDOT Land Use Engineer has reviewed this Sketch Plan and they are in agreement with the Sketch Plan design for truck traffic on and into this property.

Conclusion:

With the exception of providing for the installation of sidewalks as required by Section 22-23-6, the submitted Sketch Plan request meets the sketch plan requirements of Section 22-23-8.A of the Fluvanna County Zoning Ordinance. Prior to final approval, a site development plan that meets the requirements of Articles 23 through 26 of the Fluvanna County Zoning Ordinance must be submitted for administrative site development plan approval by the applicant's design consultant.

Recommended Conditions:

1. Meet all final site plan requirements which include, but are not limited to, providing parking, landscaping, and outdoor lighting;
2. Meet all required Erosion and Sedimentation Control regulations;
3. Meet all VDOT and/or VDH requirements.

Suggested Motions:

I move to (Approve/defer) SDP 22:05, a Sketch Plan request to construct a 52,500 square foot warehouse building on 16.2 +/- acres of Tax Maps 5, Section 17, Parcel 1 and 1A, subject to the conditions listed in the staff report.

I move to (Approve/defer) a Sidewalk Waiver to SDP 22:05, a sketch plan to construct a 52,500 square foot warehouse building on 16.2 +/- acres of Tax Maps 5, Section 17, Parcels 1 and 1A.

Attachments:

Application and Sketch plan

Lexington

Russ Orrison, PE, LS
Pierson Hotchkiss, LS
Gavin Worley, PE



Lynchburg

Norm Walton, PE
Aaron Dooley, LS

May 12, 2022

Mr. Douglas Miles
Director of Community Development
Fluvanna County
132 Main Street
P.O. Box 540
Palmyra, VA 22963

RE: "Zion Crossroads Warehouse Phase 1"
Rezoning Case Number: ZMP 21:03

Dear Mr. Miles,

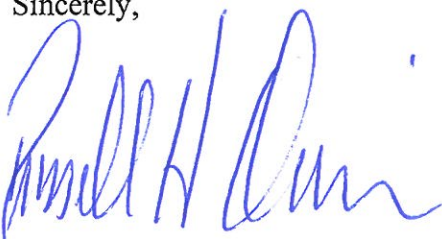
Our plan for the proposed 52,500 SF warehouse at the intersection of Edgecomb Road and Rte 250 Richmond Road is transmitted herewith, and you will note that the plan as currently configured does not propose sidewalks along either of the public streets. During the rezoning process, it was determined that neither the County nor VDOT desired for a walk to be installed along Rte 250, and now in consultation with VDOT, we believe that a sidewalk is not desirable along Edgecomb Road.

The physical condition of the lot and adjoining lots, along with the zoning of the area and the foreseeable development patterns, indicate to VDOT and to me that there will be no pedestrian traffic to be served by a walk at this location. It would not lead from any pedestrian trip generation and would not lead to any pedestrian trip ends. The topographic constraints led me to consult with VDOT about how best to comply with the sidewalk requirement, and they advised that they would much prefer to have no walk in this location whatsoever.

We therefore respectfully request a waiver from the walk requirement along Edgecomb based on the physical condition of the lot and adjoining lots.

Thank you for your consideration, and please let me know if you need anything further on this matter.

Sincerely,



Russell H. Orrison, PE, LS
Perkins and Orrison Inc.

O:\2022\22024 Douglas Miles ltr 2022-05-12.doc

17 W. Nelson Street
Lexington, Virginia 24450

540-464-9001 Fax: 540-464-5009

317 Brook Park Place
Forest, Virginia 24551

434-525-5985 Fax: 434-525-5986

Email: pno@perkins-orrison.com



COMMONWEALTH OF VIRGINIA
COUNTY OF FLUVANNA
Site Development Application

Owner of Record: Covenant Church of God of Albemarle
Attn: Emanuel Brown

Applicant of Record: Glass & Associates
Attn: Darryl Glass

E911 Address: 1025 Rio Road, Charlottesville, VA 22901

E911 Address: P.O. Box 2096, Forest, VA 24551

Phone: 434-973-5536 Fax:

Phone: 434-385-8958 Fax:

Email: connect@covenantchurch.net

Email: Darryl@g-aconstruction.com

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): 5-17-1 & 5-17-1A

Deed Book Reference: DB846/PG210

Acreage: 12.16 & 4.03 **Zoning:** I-1

Deed Restrictions? ☒ No ☐ Yes (Attach copy)

Location: Near the intersection of Edgecomb Road & Richmond Road in Fluvanna Co., VA

Description of Property: The existing site is mostly grassed/wooded areas with evidence of previous land disturbance

Proposed Structure: Warehouse

Dimensions of Building: 350' x 150'

Lighting Standards on Site: ☐ No ☐ Yes

of Employees:

of Parking Spaces: 13

Noise Limitations:

I declare that the statements made and information given on this application are true, full and correct to the best of my knowledge and belief. I agree to conform fully to all terms of any certificate or permit which may be issued on account of this application.

Darryl Glass
Applicant Name (Please Print)

Darryl Glass 5/13/22
Applicant Signature and Date

OFFICE USE ONLY

Date Received: 05/16/2022

Fee Paid: check 2629 \$1,100

Application #: SDP 22 : 05

Election District: Columbia

Planning Area: Zions Crossroads

Number of Lots:

Total Fees Due at Time of Submittal

Sketch Plan: \$150.00

Minor Plan: \$550.00

Major Plan: \$1,100.00

Additional Fees Due at Time of Review

Street Sign Installation: \$200.00 Per Intersection

Amendment of Plan: \$150.00

Outdoor Lighting Plan Review*: \$ 50.00

Landscape Plan Review*: \$ 50.00

Tree Protection Plan Review*: \$ 50.00

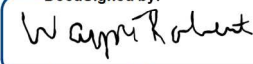
* If not part of a Site Plan Review

Covenant Church of God of Albemarle

1025 Rio Road East
Charlottesville, VA 22901

To whom it may concern,

Clovelly, LLC is the contract purchaser for the parcels 5-17-1A and 5-17-1 and is an authorized agent for all matters concerning the rezoning request.

DocuSigned by:

134E3D2C3387426...

4/29/2021

Property Owner Signature

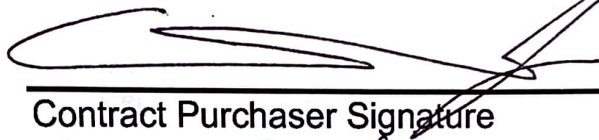
Date

by: **Wayne Roberts, Trustee**

Type or Print Property Owner Name

To whom it may concern,

Clovelly, LLC is the contract purchaser for the parcels 5-17-1A and 5-17-1 and Russ Orrison an authorized agent for all matters concerning the rezoning request.



Contract Purchaser Signature

4-29-21

Date

Charles Beard

Type or Print Contract Purchaser Name

LETTER OF TRANSMITTAL



17 W. Nelson Street
Lexington, Virginia 24450

Tel: (540) 464-9001
Fax: (540) 464-5009

To: Virginia Department of Environmental Quality
Valley Regional Office ATTN: Dustin Staton
P.O. Box 3000
Harrisonburg, VA 22801

From: Russell H. Orrison, PE, LS

Date: May 12, 2022

Subject: Job # 22024 – Zion Crossroads Warehouse Phase 1 (1st Submittal)

Enclosed:

- 1 – DEQ Application Package Check Sheet
- 1 – DEQ SWM Plan Review Checklist
- 1 – VSMP Registration Statement
- 2 – 8.5x11 Engineering Calculations Packet
- 2 – 24x36 Site Plan Set
- 1 – Draft BMP Maintenance Agreement
- 1 – Copy of Letter of Transmittal to Fluvanna Co. Community Development
- 1 – Flash Drive Containing Digital Copies of Documents Above

Thank you,
Perkins & Orrison, Inc.



COMMONWEALTH OF VIRGINIA
COUNTY OF FLUVANNA

Major Site Development Plan Final Plan Checklist

Developed from Zoning Ordinance

This checklist (among others) must be completed and submitted at the time the final site development plan is submitted. **Any site development plan submitted for final review not accompanied by the completed checklists will be *promptly* returned to the submitter.**

Project Name: Zion Crossroads Warehouse Phase 1

Tax Map(s) and Parcel Number(s): 540-464-9001

Planning Commission Sketch Plan Approval Date: 07/08/2021

Individual & Firm Completing Checklist: Perkins & Orrison, Inc / Brityn Stump

Signature of Person Completing Checklist: [Signature]

Date: 05/12/2022

The site plan shall be prepared by a qualified person. Final site plans shall be certified by an architect, landscape architect, engineer, or land surveyor licensed to practice in Virginia.

Checklist for Final Major Site Development Plans

Administration:

☒ 3 folded full-size clearly legible blue or black line copies [22-23-8.1]

General:

☐ Scale not less than 1"=20' [22-23-5.B]

☒ Dimensions in feet & decimals of feet to the closest one hundredth of a foot [22-23-5.E]

N/A ☐ If more than 1 sheet, match lines are required indicating where several

COUNTY STAFF ONLY

Staff:

Date Received: _____

Date Reviewed:

Additional Notes:

sheets join **[22-23-5.D]**

- ☒ Proposed title of project and name of engineer, architect, landscape architect, surveyor, and developer **[22-23-6.A]**
- ☒ Signature panel for Director of Planning to indicate approval **[22-23-6.B]**
- ☒ North arrow, scale graphic (1"=20'), and date **[22-23-6.C]**
- ☒ Vicinity Map **[22-23-6.D]**
- ☐ Limit of one-hundred-year floodplain, as defined in Sec. 22-22-1 **[22-23-6.T]**
- ☐ Location of any wetlands **[22-23-6.U]**
- ☒ Location & dimensions of proposed recreation or open space, and required amenities and improvements **[22-23-6.V]**

Bulk Requirements:

- ✗ Existing zoning & zoning district boundaries on property in development & on surrounding properties **[22-23-6.E]**
- ✗ Property boundaries in the development, including bearings & distances **[22-23-6.F]**
- ✗ Existing property lines, existing streets or rights-of-way opened or unopened; buildings, watercourses, and lakes; & other existing physical features in or adjoining the project **[22-23-6.G]**
- ✗ Building setback lines **[22-23-6.I]**
- ✗ Location of all proposed buildings & structures, accessory and main; number of stories and height **[22-23-6.I]**
- ✗ Proposed general uses for each building; & number, size, and type of dwelling units if applicable **[22-23-6.I]**
- ✗ Preliminary plans and elevations for main and accessory buildings **[22-23-6.I]**
- ✗ Type, location, height, and materials of all existing and proposed fences and walls **[22-23-6.J]**
- ✗ Site coverage - showing percentage of site in buildings, parking, & open space **[22-23-6.K]**
- ✗ Existing & proposed topography and contour lines of the development site with a contour interval of 2 feet or less for major site plans, 5 feet or less for minor site plans, supplemented where necessary by spot elevations **[22-23-6.L]**

Utilities:

- ☒ Location & size of sanitary and storm sewers, gas lines, water mains, culverts, and other underground structures **[22-23-6.M]**
- N/A** ☐ All overhead utilities and supporting poles in or affecting the development area, including existing and proposed facilities & easements for these facilities **[22-23-6.M]**
- ☒ All new electrical, telephone, cable television, fiber optic and other utility lines

STAFF REVIEW ONLY
Final Major SDP con't

- ☒ To the greatest extent possible, parking areas shall not be located between the adjacent public right-of-way and the principal structure on the site unless topographic features or vegetation provide effective screening **[22-23-6.Z]**
- ☒ All parking and other vehicular areas shall be so designed as to provide safe and convenient access by all vehicles which can reasonably be anticipated to use the site, including delivery and service vehicles as well as customer and employee vehicles **[22-23-7.C]**

Landscaping and Screening (Also Required – Landscaping/Screening Checklist & Tree Protection Checklist):

- X Location on the site of all living trees with a diameter of 12 inches or greater at DBH (diameter at breast height) proposed to be removed.
- X The site plan shall show heavily wooded areas to be preserved, trees to be retained, removed, and planted, and designated by symbols coincident with the areas of the trees. See Article 22-24 Landscaping and Tree Protection of this Ordinance **[22-23-6.P]**

Outdoor Lighting and Signage (Also required – Outdoor Light Control Checklist):

- N/A ☐ The location, height, and character of all outdoor lighting systems. See Article 22-25 Outdoor Light Control **[22-23-6.Q]**
- N/A ☐ The location, character, height, means of lighting, and orientation of proposed signs. See Article 22-15, Signs **[22-23-6.R]**

Stormwater / Erosion and Sediment Control:

- ☒ All drainage structures and facilities shall be adequate to provide efficient and complete drainage of surface waters from the site into adequate channels. They shall comply with the standards and applicable provisions of the Virginia Erosion and Sedimentation Control Handbook, Drainage Manual of the VDOT, and the regulations of the Virginia DEQ **[22-23-7.G]**
- ☒ Provisions for the adequate disposition of surface water in accordance with design criteria and construction standards of the Fluvanna County, indicating location, sizes, types and grades of ditches, catch basins, and pipes; and connection to existing drainage systems **[22-23-7.I]**
- ☒ Provisions and schedule for approval of adequate control of erosion and sedimentation, in accordance with the Fluvanna County Erosion and Sedimentation Control program **[22-23-7.J]**

Planning Considerations:

- N/A ☐ All special zoning requirements attached directly to the site as a result of the issuance of any Special Use Permit, variance, or rezoning. Proposed changes in zoning,

STAFF REVIEW ONLY
Final Major SDP con't

[illegible]

if any **[22-23-6.E]**

N/A ☐ Features of historic, cultural, scientific, or scenic significance as identified in the Comprehensive Plan, by the Director of Planning, or by any County department or state agency having site plan review responsibilities, or by the Virginia Department of Historic Resources the Virginia Department of Conservation and Recreation, or the Virginia Outdoors Foundation including, but not limited to, historic features, archaeological features, and graveyards **[22-23-6.H]**

☒ Any necessary notes required by the Director of Planning to explain the purpose of specific items on the plan **[22-23-6.W]**

0 This includes any site specific approval conditions

☒ Site planning shall consider the future development of adjacent parcels as recommended by the Fluvanna County Comprehensive Plan or other approved local plan and as may be indicated by any filed site plan, whether approved or under review **[22-23-6.AA]**

☒ The site plan shall provide for safe and convenient vehicular and pedestrian circulation between sites to be occupied by complementary uses **[22-23-6.AA]**

☒ Safe and convenient pedestrian and bicycle access to, from, and within the site shall be provided **[22-23-7.D]**

STAFF REVIEW ONLY

Final Major SDP con't

[illegible]



FLUVANNA COUNTY, VIRGINIA
LANDSCAPE/SCREENING PLAN CHECKLIST
Developed from Fluvanna County Zoning Ordinance
August 2012

If required as part of the site development plan, this checklist must be completed and submitted at the time the final site development plan is submitted. **Any site development plan submitted for final review not accompanied by the completed checklists will be promptly returned to the submitter.**

Project Name: Zion Crossroads Warehouse Phase 1

Tax Map(s) and Parcel Number(s): 5-17-1 & 5-17-1A

Individual and Firm Completing Checklist: Patrick Snyder, Perkins - Orrison Inc.

Signature of Person Completing Checklist: Patrick Snyder

Date: 5-12-2022

Landscape Plan Specifications [Sec. 22-24-2]

- ☒ A certified landscape architect, arborist, horticulturist, land surveyor, or other person deemed qualified by the Zoning Administrator shall prepare the plan.
- ☒ The plan shall be prepared at a scale of not less than 1" = 40' for areas along streets and roads, and not less than 1" = 20' for areas around buildings, parking lots, and landscape areas.
- ☒ All landscape plans shall be on sheets not exceeding 24" x 36".
- ☒ If the plan is prepared on more than one sheet, match lines shall clearly indicate where the several sheets join.

Landscape Plan Contents [Sec. 22-24-3]

- ☒ Existing and proposed contours at intervals of five feet (5') or less.
- ☒ Property boundary lines.
- ☒ Limits of grading and clearing.

County Staff Only

Staff: _____

Date Received: _____

Date Reviewed: _____

Additional Notes: _____

- X Tree protection zone(s) as applicable.
- X All proposed improvements.
- X Existing and proposed underground and overhead utilities, including heights and/or depths.
- X Rights-of-way and easements.
- X Botanical and common name, size, spacing, and location of all trees, shrubs, and ground cover, and the location and extent of planting beds in which they are to be planted, if any.
- X Plants shall be labeled on the plan by direct call-out method or by symbols keyed to a plant list.
- X A planting symbol to illustrate the natural canopy/cover of trees and the extent of growth of shrubs at maturity.
- X A plant list or matrix showing the botanical name, common name, quantity, size, spacing, handling method, and general instruction, if any, specific to each plant.
- X General details illustrating method installation of plants, seeding, and sodding, including but not necessarily limited to the size of plant pit, method of placement, backfill material, method of support, preparation of beds, mulch, etc.
- X Special details illustrating special conditions, such as supplemental plant pit drainage, pruning for special effects, or other conditions requiring illustrated instructions.
- X General notes specifying the care and maintenance of plants for a period of three (3) years following planting and the replacement of any dead, dying, or diseased vegetation required to be installed by this chapter for the life of the project.
- X Any and all information required for tree protection as indicated in Section B of this article.
- X Provide and identify an adequate exterior water source.

Minimum Standards [Sec. 22-24-4]

- ☒ The minimum size of plant materials at installation are as follows:

Large Shade Trees:	1.5" Caliper	Evergreen Trees:	5' Tall
Medium Shade Trees:	1.25" Caliper	Shrubs:	18" Tall
Ornamental Trees:	1.25" Caliper	Ground Cover:	1 Year Plants

Staff Review Only
Landscaping Plan (Continued)

[illegible]

- X All trees to be planted shall meet the specifications of the American Landscape Association.
- X The planting of trees shall be done in accordance with either the standardized landscape specifications jointly adopted by the Virginia Nurserymen's Association, the Virginia Chapter of Landscape Designers, and the Virginia Chapter of the American Society of Landscape Architects, or the Road and Bridge Specifications of the Virginia Department of Transportation.
- X All required landscaping shall be planted between September 15 and June 30, provided that the ground is not frozen.
- X Wheel stops, curbing, or other barriers shall be provided to prevent damage to landscaping by vehicles.
- X Where necessary, trees shall be welled or otherwise protected against change in grade. Such protection measures shall be sited to minimize disturbance within the drip line of trees designated for protection on the landscape plan.
- X All pervious areas of the site shall be permanently protected from soil erosion with grass, ground cover, or mulch material.

Requirements [Sec. 22-24-5]

It is the specific intent of these requirements to promote landscape design and installation to mitigate the effects of new development on surrounding areas and specifically not to use plantings as a means of drawing attention to new development. The landscape plan should help protect and preserve Fluvanna County's rural character.

Plant List

- ☒ The Landscape Plan shall utilize native and assimilated non-native species listed within the Fluvanna County Plant List. Applicants may add plants to this list with the prior approval of the Zoning Administrator, provided that the proposed species have a rated hardiness and growth habit appropriate for the intended location. A mixture of plant species should be used on each site.

Street Trees

- ✗ Street trees are required along existing and proposed public streets within or adjacent to any site that is subject to site plan approval and all major subdivisions with an average lot size of one (1) acre or less .
- ✗ The placement of street trees shall be in accordance with Virginia Department of Transportation (VDOT) standards and shall not be located within any sight triangle.

Staff Review Only
Landscaping Plan (Continued)

[illegible]

- ☒ The required plantings shall be located either within the right-of-way itself or within a ten-foot (10') strip continuous to such right-of-way.
- ☒ Existing healthy trees within a caliper of eight inches (8") or greater located within ten feet (10') of the right-of-way may be used to satisfy the planting requirements, provided that the trees are protected in accordance with the standards contained in the zoning ordinance.
- ☒ Appropriate provisions shall be made for the permanent maintenance and preservation of the required street trees, to the reasonable satisfaction of the county attorney. Such provisions may include a landscape preservation easement dedicated to the property owner's association or other entity approved by the county attorney.
- ☒ Street trees shall be planted at the following rate:
 - ☒ One (1) large shade tree for every fifty feet (50') of road frontage; or
 - ☐ One (1) medium shade tree for every forty feet (40') of road frontage.

Tree Canopy

- ✕ Minimum tree canopy coverage shall be provided for all new commercial, industrial and multi-family residential development .
- ✕ Tree canopy coverage shall include all areas of coverage by plant material exceeding ten feet (10') in height, and shall be measured at ten (10) years maturity.
- ✕ Tree canopy coverage shall be calculated for new plantings using ten-year tree canopy coverage standards published by the Virginia Nursery and Landscape Association or other set of standards approved by the Zoning Administrator. When a coverage interval is cited in such standards, the smallest coverage figure for each interval shall be used.
- ✕ All landscape plans shall include the preservation of existing trees, the planting and replacement of trees, or any combination thereof, to the extent that, at maturity of ten (10) years, a minimum tree canopy is provided as follows:
 - ✕ Commercial, Office, Institutional, or Industrial Uses: 10% tree canopy
 - ☐ Multi-Family Residential (>10 dwelling units per acre): 15% tree canopy
 - ☐ Multi-Family Residential (≤ 10 dwelling units per acre): 20% tree canopy
- ✕ A *bonus credit* toward tree canopy requirements may be given for the preservation of existing wooded areas, clusters of trees, or mature trees (healthy trees with 12 inches or greater diameter at breast height) as follows:

Staff Review Only
Landscaping Plan (Continued)

[illegible]

- ☒ The credit provided for the preservation of existing trees, wooded areas, or clusters of trees shall be 1.50 multiplied by the area defined by the existing drip line of the tree, wooded area, or cluster of trees.
- ☐ The credit provided per mature tree shall be 2.0 multiplied by the area defined by the boundaries of the existing drip line of the tree.
- ☐ A certified landscape architect or arborist shall provide written verification that the trees for which credit will be awarded are in healthy condition; will likely survive for at least twenty (20) years following landscape plan approval; will not be severely impacted by construction activities on site; will not interfere with the growth of other viable landscaping; and will not compromise safety. Credit towards tree canopy requirements shall not be given for any tree deemed to be in poor to fair condition by the Zoning Administrator, nor for any plant designated as invasive on the list maintained by the Zoning Administrator.
- ☐ In the event that one or more trees to be awarded bonus credit under this section is destroyed, significantly damaged during clearing or construction activities, or is willfully destroyed or removed, the person responsible for such destruction, injury, or removal shall replace each tree destroyed with two (2) large shade trees planted on-site.
- ☒ When calculating the total area of a site to determine the tree canopy coverage requirements, the following areas shall be excluded:
 - ☒ Properties reserved or dedicated for future street construction or other public improvements.
 - ☒ Ponds and un-wooded wetlands.
 - ☐ Properties reserved or dedicated for school sites, playing fields, and non-wooded recreation areas, and other facilities and areas of a similar nature.
 - ☐ Portions of a site containing existing structures that are not the subject of a pending application.

Riparian Protection Areas (RPAs)

- ☐ All sites subject to site plan approval and all major subdivisions shall reserve a riparian protection areas.
- ☐ *RPA Width:* The riparian protection area shall be 50' wide along both side of intermittent streams, 75' along both sides of perennial streams, and 100' wide along both sides of the Hardware River, Rivanna River, and James River.

Staff Review Only
Landscaping Plan (Continued)

[illegible]

- ☐ Indigenous vegetation, including existing ground cover, shall be preserved to the maximum extent practicable, consistent with the use or development proposed. Dead, diseased, or dying vegetation may be pruned or removed as necessary, pursuant to sound horticultural practices.
- ☐ *Prohibited Uses with RPAs:* Certain uses and activities are prohibited within RPAs.
 - ☐ No logging or silvicultural activities may take place within the riparian protection area.
 - ☐ No portion of any on-site sewerage system, drain field, reserve drain field, or building shall be placed within the riparian protection area. This statement shall be on all plats and site plans of affected lots.
- ☐ *Uses Permitted within RPAs:* If otherwise authorized by the applicable regulations of this chapter, the following types of development shall be permitted within the riparian protection area, provided that the requirements listed below are met.
 - ☐ A building or structure which existed on the date of adoption of this article may continue at such location. However, nothing in this section authorizes the replacement, expansion, or enlargement of such building or structure.
 - ☐ On-site or regional stormwater management facilities and temporary erosion and sediment control measures, provided that:
 - ☐ To the extent practical, as determined by the Zoning Administrator, the location of such facilities shall be outside of the riparian protection area.
 - ☐ No more land shall be disturbed as necessary to provide for the construction and maintenance of the facility, as determined by the Zoning Administrator.
 - ☐ The facilities are designed to minimize impacts to the functional value of the riparian protection area and to protect water quality; and
 - ☐ Facilities located within a floodplain adhere to the floodplain regulations of the County Code.
 - ☐ Water-dependent facilities; water wells; passive recreation areas, such as pedestrian trails and bicycle paths; historic preservation; archaeological activities, provided that all applicable federal, state and local permits are obtained. All pedestrian trails and bicycle paths shall be constructed using permeable paving materials.
 - ☐ Stream crossings of perennial and intermittent streams for roads, streets, or driveways, provided that the stream buffer disturbance shall be the minimum necessary for the lot to be used and developed as permitted within the underlying zoning district. Stream

Staff Review Only
Landscaping Plan (Continued)

[illegible]

Invasive Species

- ## Plant Spacing & Landscape Design

- ## Bonding

- Staff Review Only**
Landscaping Plan (Continued)

[illegible]

- ☐ A site map that includes locations of all streams, wetlands, floodplain boundaries and other natural features, as determined by field survey;

Staff Review Only
Landscaping Plan (Continued)

[illegible]

- ☐ A description of the shape, size, topography, slope, soils, vegetation, and other physical characteristics of the property;
- ☐ A detailed site plan that shows the locations of all existing and proposed structures and impervious cover and the limits of all existing and proposed land disturbance. If applicable, the exact area of the riparian protection area to be affected shall be accurately and clearly indicated;
- ☐ Documentation of unusual hardship should the requirements be maintained;
- ☐ At least one alternative plan, which meets the requirements of this section, or an explanation of why such a site plan is not feasible;
- ☐ A stormwater management plan, if applicable;
- ☐ A calculation of the total area of intrusion into the riparian protection area, if applicable; and
- ☐ Proposed alternative measures for an intrusion into the riparian protection area, if applicable, together with calculations, graphic depictions and textual materials sufficient to support the conclusion that such alternative measures are sufficient to support the determinations set forth hereinabove.

Parking Lot Landscaping [Sec. 22-24-6]

- X All development subject to site plan approval shall include the required parking lot landscaping for parking lots consisting of five (5) or more spaces.

Minimum Planting Areas

- ☒ One planting island containing 200 square feet or more is required for every 20 parking spaces in a row AND at both ends of a parking way. The minimum width of the planting island is ten feet (10').
- ☐ A planting strip at least nine feet (9') in width is required between access roadways and adjacent properties' parking areas and adjacent property of the same use.
- ☐ A planting area at least twenty-five feet (25') in width is required between parking and adjacent properties of a different use and public streets and rights-of-way. The area shall be measured from the closest parking space to the adjacent property or right-of-way line.

Planting Requirements

- ☒ Planting islands shall be planted with one (1) large shade tree and four (4) shrubs for every 200 square feet.

Staff Review Only
Landscaping Plan (Continued)

[illegible]

- ☐ Internal planting strips shall be planted with one (1) large shade tree and six (6) shrubs for every forty (40) linear feet.
- ☐ Large shade trees shall be arranged so that the canopy at maturity will cover 35% of the parking area, placed mainly around the perimeter of the parking area and at the end of parking bays.
- ☐ Medium shade trees may be substituted for large shade trees at a ratio of 2:1, if appropriately spaced and meeting all other canopy criteria. Medium shade trees shall not exceed 40% of the total number of shade trees.

Parking Lot Screening

- Parking lots consisting of five (5) or more spaces must be screened from view of public roads, rights-of-way, and adjacent properties. One of the following landscaping treatment options shall be utilized to meet the minimum screening requirements for parking lots:
 - *Landscape Strip Option:* One (1) tree and ten (10) shrubs shall be planted for each forty (40) linear feet, excluding driveway openings, within a planting strip that is ten feet (10') in width.
 - *Berm Option:* One (1) tree and five (5) shrubs shall be planted for each forty (40) linear feet, excluding driveway openings. The berm shall be at least thirty (30) inches higher than the finished grade of the parking lot and shall not have a slope steeper than 2:1. The berm shall be stabilized with groundcover or other vegetation.
 - *Woodlands Preservation Option:* Existing woody vegetation shall be preserved as a buffer strip with a minimum width of thirty-five (35) feet. Additional tree or shrub plantings may be required by the Zoning Administrator. The woodlands preservation area shall be placed in a landscape easement, and the landscape plan shall demonstrate techniques to be used for removing underbrush, pruning, and protecting existing trees from any damage during site development;.
 - *Structural Option:* A wall constructed of brick, stone, or architectural block, no shorter than three (3) feet and no taller than four (4) feet, shall be constructed along the entire width of the parking lot. One (1) tree and three (3) shrubs shall be planted for each forty (40) linear feet, excluding driveway openings.

Other Design Criteria

- ☐ The placement of bioretention areas within required planting areas is encouraged, provided that the bioretention techniques utilized are approved as part of an erosion and sediment con-

Staff Review Only
Landscaping Plan (Continued)

[illegible]

trol plan, stormwater management plan, or similar document. Examples of bioretention techniques include, but are not limited to, rain gardens, swales, infiltration trenches, and tree box filters.

- ☐ When retaining existing trees in parking areas, enough ground around the tree should be left to allow for its survival or grass pavers should be used to allow air and moisture to reach the tree roots.

Screening [Sec. 22-24-7]

Instances Required

- ☒ Commercial and industrial uses shall be screened from view of adjacent properties in residential and agricultural zoning districts, except for commercial and industrial uses allowed by right in said districts.
- ☒ Parking lots consisting of five (5) spaces or more shall be screened from view of public roads, rights-of-way, and adjacent properties.
- ☒ Objectionable features, including but not limited to the following, shall be screened from the view of public roads, rights-of-way, and adjacent properties:
 - ☐ Loading areas
 - ☐ Refuse areas
 - ☒ Storage yards
 - ☒ Dry Detention ponds
 - ☐ Maintenance areas
- ☐ If the required screening is consistent with an approved Master Plan subject to the requirements of the R-3 Residential zoning district.
- ☐ The Zoning Administrator may require the screening of any use, or portion thereof, upon determination that the use would otherwise have a direct negative visual impact on a property designated as historic by its inclusion within the Historic Preservation chapter of the Comprehensive Plan.

Staff Review Only
Landscaping Plan (Continued)

[illegible]

Unless otherwise specified within this Chapter, one of the following landscaping treatment options shall be utilized to meet the minimum screening requirements:

- ### Other Screening Requirements

- ☐ Within commercial, industrial, and multi-family residential developments, dumpsters and other refuse areas visible from public roads, rights-of-way, adjacent properties, and parking areas shall be completely screened from view by a wall or fence constructed using architectural block, brick, stone, vinyl, wood or a similar material that is compatible with the architecture of the principal structure. The use of durable, low-maintenance materials is encouraged.
- ☐ Parking lots of five (5) spaces or more shall be screened in accordance with Sec. 22-24-6.

Staff Review Only
Landscaping Plan (Continued)

[illegible]

SITE INFORMATION:

TAX MAP#: 5-17-1 & 5-17-1A
DEED BOOK 846 PAGE 210
OWNER: COVENANT CHURCH OF GOD OF ALBEMARLE
% BROWN, EMANUEL ET AL TRUSTEES
1025 RIO RD
CHARLOTTEVILLE, VA 22901

DEVELOPER: GLASS & ASSOCIATES, INC.
P.O. BOX 2096
FOREST, VA 24551

ZONING: I-1
AREA: 12.16 ACRES & 4.03 ACRES
SETBACKS:
FRONT: 100' BUILDINGS
REAR: 50'
SIDE: 50'
HEIGHT: 45'
COVERAGE REGULATIONS 80% OF LOT AREA

GENERAL NOTES:

G1.) THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES THAT OCCUR BY HIS/HER FAILURE TO LOCATE OR PRESERVE THESE UTILITIES. IF, DURING CONSTRUCTION, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS HE/SHE SHOULD NOTIFY THE ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.

G2.) ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS OR ANY DISCREPANCIES OR AMBIGUITIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER. WORK DONE BY THE CONTRACTOR WITHOUT DIRECTION AFTER THE DISCOVERY OF SUCH INCONSISTENCIES SHALL BE DONE AT THE CONTRACTOR'S RISK.

G3.) ALL CONSTRUCTION SHALL CONFORM TO FLUVANNA COUNTY AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS. CONSTRUCTION OF SANITARY SEWER AND WATER SERVICES SHALL CONFORM TO FLUVANNA COUNTY PUBLIC WORKS STANDARDS AND SPECIFICATIONS AND THE VIRGINIA DEPARTMENT OF HEALTH STANDARDS AND SPECIFICATIONS. ALL CONSTRUCTION SHALL CONFORM TO DEQ'S CONSTRUCTION GENERAL PERMIT CONDITIONS (WHERE APPLICABLE), VIRGINIA DEQ STORMWATER DESIGN SPECIFICATIONS (WHERE APPLICABLE), AND THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK.

G4.) ALL CONSTRUCTION SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS & WITH THE 2018 UNIFORM STATEWIDE BUILDING CODE (USBC) AND ICC/ANSI A117.1 2017.

G5.) CONSTRUCTION LIMITS SHALL BE PROPERTY LINES OR AS INDICATED ON THE PLAN.

G6.) ALL FINAL GRADING, SEEDING, SODDING AND/OR PAVING SHALL BE DONE IN SUCH A MANNER TO PRECLUDE PONDING OF WATER ON THE SITE.

G7.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS BEFORE THE START OF CONSTRUCTION.

G8.) THE CONTRACTOR SHALL NOTIFY M&B UTILITY (1-800-552-7001) 48 HOURS PRIOR TO EXCAVATION.

G9.) THE CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL, TELEPHONE AND CATV SERVICES.

G10.) DISPOSE OF TREES, STUMPS AND OTHER DEBRIS OFF SITE.

G11.) ALL MATERIALS USED FOR FILL SHALL BE FREE OF UNSUITABLE MATERIALS SUCH AS WOOD, ROOTS, FROZEN MATERIAL, ROCKS OR BOULDERS OF UNACCEPTABLE SIZE OR ANY OTHER NON-COMPACTING SOIL MATERIALS.

G12.) A PERMIT MUST BE SECURED FROM THE VIRGINIA DEPARTMENT OF TRANSPORTATION BEFORE ANY WORK IS PERFORMED IN A STATE RIGHT-OF-WAY.

G13.) THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO TRAVELING ON A PUBLIC RIGHT-OF-WAY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS AND TO ALLAY DUST AND TAKE ALL MEASURES NECESSARY TO ENSURE THAT THE ROAD IS MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES DURING CONSTRUCTION.

G14.) DIMENSIONS ARE FROM THE FACE OF CURB UNLESS OTHERWISE NOTED.

G15.) PAINT HANDICAPPED SYMBOL ON PARKING SPACES WHERE SHOWN ON DRAWINGS. TRAFFIC MARKINGS FOR HANDICAP PARKING SPACES AND ACCESS AISLES SHALL BE BLUE. TRAFFIC MARKINGS SHALL BE IN CONFORMANCE WITH THE LATEST VIRGINIA DEPARTMENT OF TRANSPORTATION AND THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES STANDARDS AND SPECIFICATIONS.

G16.) TRAFFIC CONTROL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE VIRGINIA WORK AREA PROTECTION MANUAL AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

G17.) ALL FILLS TO BE COMPACTED IN 8" LOOSE LIFTS TO 98% STD. PROCTOR.

G18.) EXISTING SLOPES GREATER THAN 4:1 SHALL BE BENCHED PRIOR TO PLACEMENT OF FILL.

G19.) CONTRACTOR WILL COMPLETE ALL SITE WORK: FINAL GRADING, LANDSCAPING, SEEDING, PAVING, AND REMOVAL OF DEBRIS.

G20.) THIS PLAN HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT NECESSARILY INDICATE ALL ENCUMBRANCES ON THE PROPERTY.

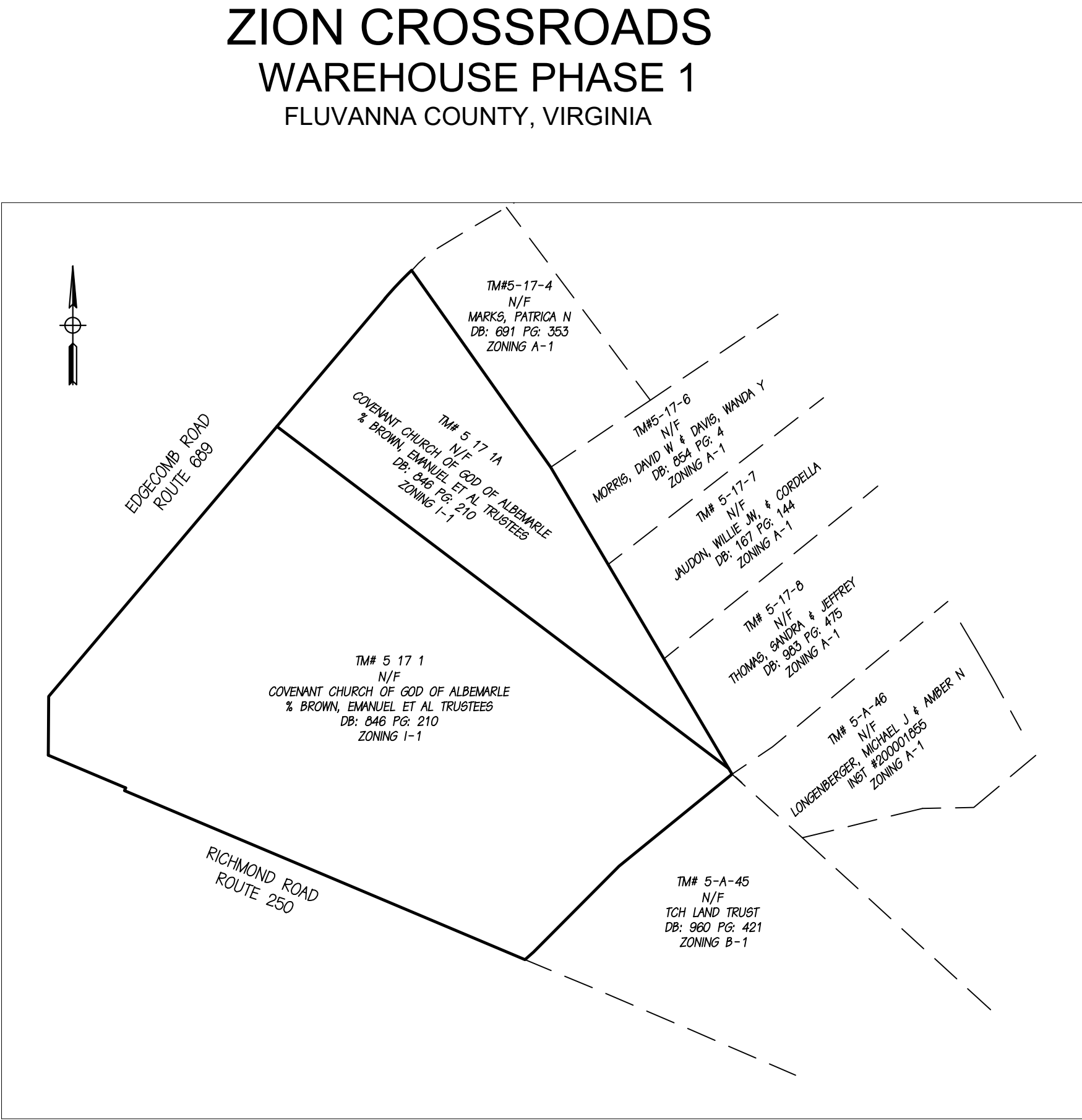
G21.) ARCHITECTURAL PLANS, SIGNAGE PLANS, AND LIGHTING PLANS SHALL BE SUBMITTED BY OTHERS UNDER SEPARATE COVER. ALL ARCHITECTURAL, SIGNAGE, AND LIGHTING INFORMATION SHOWN ON THIS PLAN IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

G22.) BOUNDARY INFORMATION FROM A FIELD SURVEY BY PERKINS & ORRISON.

G23.) TOPOGRAPHIC INFORMATION FROM A FIELD SURVEY BY PERKINS & ORRISON.

G24.) PIPE BEDDING SHALL BE PER VDOT STANDARDS UNLESS OTHERWISE NOTED.

G25.) HDPE PIPE SHALL BE DOUBLE WALL TYPE "S" WITH SMOOTH INTERIOR AND MEET AASHTO REQUIREMENTS M294. HDPE PIPE BEDDING SHALL BE PER MANUFACTURER'S SPECIFICATION. ALL JOINTS SHALL BE WATER TIGHT.

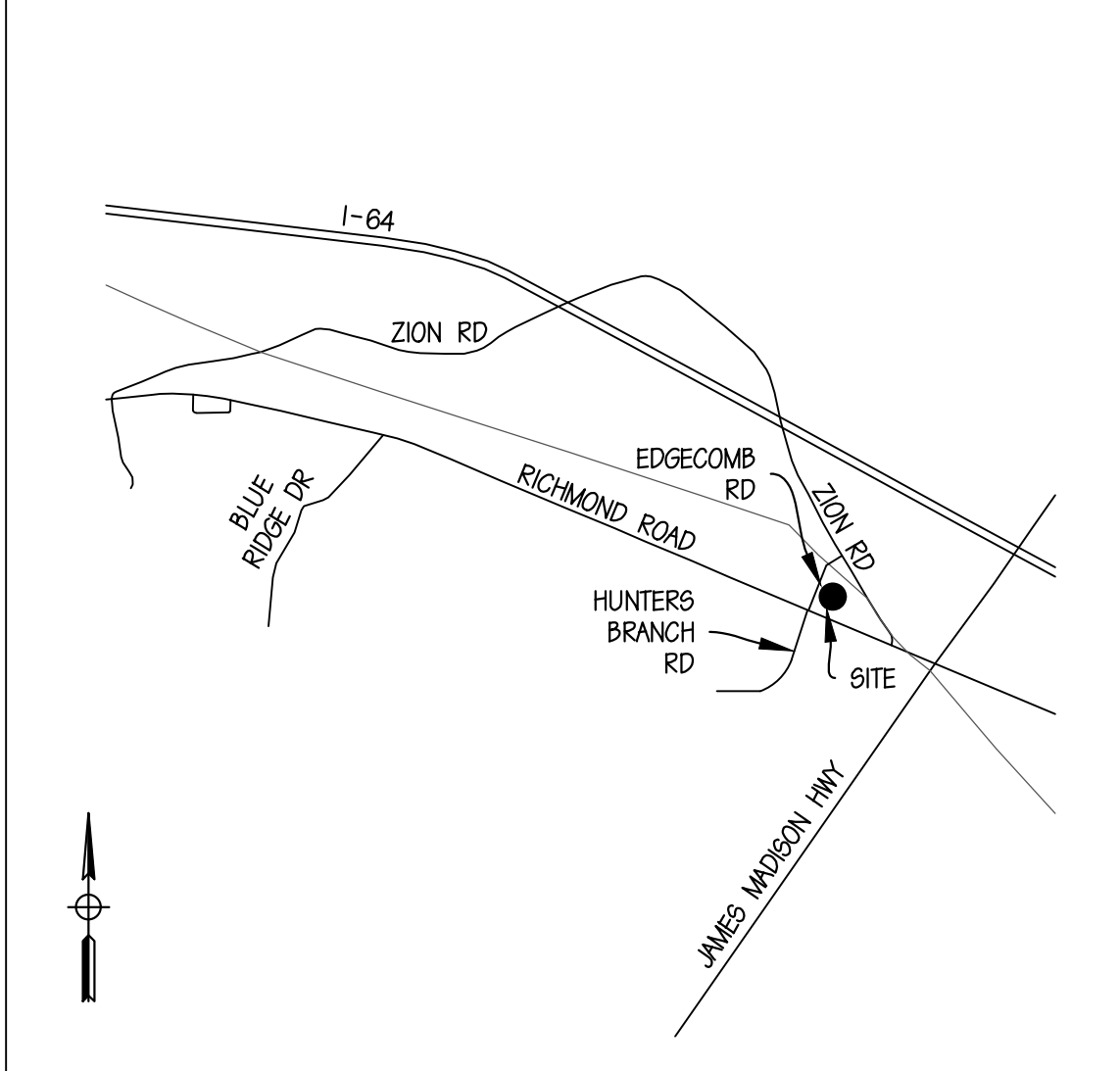


SHEET INDEX

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C201	5 OF 24	GRADING PLAN
C202	6 OF 24	DETAILS
C203	7 OF 24	UTILITY PLAN
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C205	9 OF 24	VDOT ENTRANCE PLAN, NOTES & DETAILS
C206	10 OF 24	VDOT SIGHT DISTANCE
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SIGNATURE PANEL

DIRECTOR OF PLANNING	DATE
VIRGINIA DEPARTMENT OF TRANSPORTATION	DATE
ENVIRONMENTAL HEALTH DEPARTMENT	DATE
PUBLIC WORKS	DATE



EXISTING	DESCRIPTION	NEW	FUTURE
	BUILDING WALL		
	CONC. WALKS		
	CONTOURS		
	SPOT ELEVATION		
	STORM SEWER		
	SANITARY SEWER & MANHOLES		
	WATER LINE, VALVE & FIRE HYDRANT		
	WATER METER		
	DUAL WATER METER		
	FENCE		
	UNDERGROUND ELECTRIC LINE		
	OVERHEAD ELECTRIC LINE		
	GAS LINE		
	GAS METER		
	UNDERGROUND COMMUNICATION LINE		
	EDGE OF PAVEMENT		
	CURB (CG-2)		
	CURB AND GUTTER (CG-6)		
	REVERSE CURB AND GUTTER (CG-6R)		
	TRANSITION CURB		
	PROPERTY LINE		
	TREELINE		
	EXISTING TREES TO BE PROTECTED & PRESERVED		
	KEYNOTE		
	STORM SEWER ID		
	SANITARY SEWER ID		
	AREA DRAIN ID		

ABBREVIATIONS

AB	ANCHOR BLOCK	MIN	MINIMUM
BLDG	BUILDING	MON	MONUMENT
BC	BOTTOM FACE OF CURB	N.I.C.	NOT IN CONTRACT
BM	BENCHMARK	ON CENTER	ON CENTER
CL	CENTERLINE	PVC	BEGIN VERTICAL CURVE
CLASS	CLASS	PVC	POLYVINYL CHLORIDE
CMP	CORRUGATED METAL PIPE	PVT	END VERTICAL CURVE
CO	CLEANOUT	RCP	REINFORCED CONCRETE PIPE
CONC	CONCRETE	SD	STORM DRAINAGE
DI	DROP INLET	SF	SQUARE FOOTAGE
DIA	DIAMETER	SHT	SHEET
DIP	DUCTILE IRON PIPE	SGWR	SANITARY SEWER
EA	EACH	STR	STRUCTURE
EC	EROSION CONTROL	STRM	STORM SEWER
ELEV	ELEVATION	SW	SIDEWALK
EP	EDGE OF PAVEMENT	TAN	TANGENT
ES	END SECTION	TB	CONCRETE THRUST BLOCK
EX	EXISTING	TBA	TO BE ABANDONED
FB	FACE OF BUILDING	TBM	TEMPORARY BENCH MARK
FF	FINISHED FLOOR ELEVATION	TBR	TO BE REMOVED
FH	FIRE HYDRANT	TBR*	TO BE REMOVED OR RELOCATED
G6F	GROSS SQUARE FOOTAGE	TO	TOP
GV	GATE VALVE	TOC	TOP OF CURB
HB	HORIZONTAL BEND	TOW	TOP OF WALL
HD	HEAVY DUTY	TP	TELEPHONE POLE
HDPE	HIGH DENSITY POLYETHYLENE	TR	TOP OF RIM
	PIPE	TYP	TYPICAL
HPT	HIGH POINT	VB	VERTICAL BEND
HOR	HORIZONTAL	VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
INV	INVERT		
IN	INVERT IN	WL	WATER LINE
IO	INVERT OUT	WM	WATER METER
LFT	LOW POINT	WWF	WELDED WIRE FABRIC
LPT	LOW POINT	WWM	WELDED WIRE MESH
MAX	MAXIMUM	W/	WITH
MECH	MECHANICAL	WV	WATER VALVE
MH	MANHOLE		

PERKINS & ORRISON
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317 BROOK PARK PL., FOREST, VIRGINIA 24551
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EMAIL: prn@perkins-orrison.com

17 W. NELSON STREET LEXINGTON, VIRGINIA 24450
PHONE: 540-464-9001 FAX: 540-464-5009
EMAIL: prn@perkins-orrison.com

CONSULTANTS



JOB:

**ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA**

CLIENT:

GLASS & ASSOCIATES, INC.

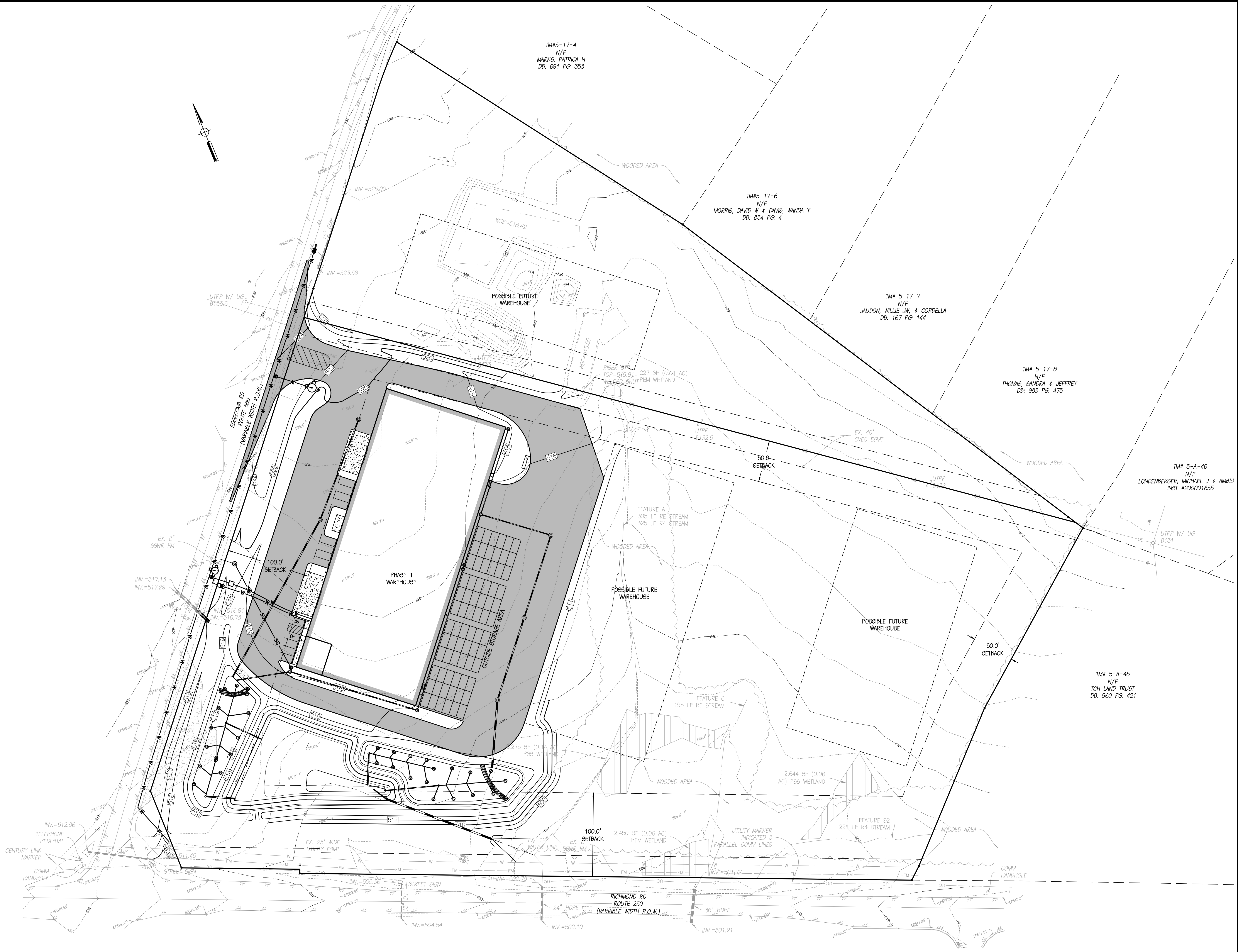
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ISSUE:	05/04/2022	
CONTOUR INTERVAL:	2'	
DESIGNED BY:	RHO	
DRAWN BY:	PWS/BDG/DAW	
CHECKED BY:	RHO	

SHEET TITLE

COVER SHEET

SHEET	C100	JURISDICTION PROJECT #
JOB NO.:	22024	SHEET NO
		1 of 24

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&
ORRISON

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CONSULTANTS

SEAL:



JOB:

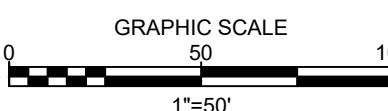
ZION CROSSROADS
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FLUVANNA COUNTY, VIRGINIA

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ISSUE: 05/04/2022		
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DESIGNED BY: RHO		
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CHECKED BY: RHO		

SHEET TITLE

OVERALL SITE LAYOUT



SHEET	C101	AJURSECTION PROJECT #
JOB NO.	22024	SHEET NO. 2 OF 24

NOTES:

- THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY NOT INDICATE ALL ENCUMBRANCES UPON THE PROPERTY.
- THIS IS NOT INTENDED TO REPRESENT A BOUNDARY SURVEY. REF: DB346/PG210 FOR BOUNDARY INFORMATION.
- THIS PROPERTY IS LOCATED IN ZONE "X" UNSHADED (AREA OUTSIDE OF THE 100 YEAR FLOOD HAZARD ZONE) AS DETERMINED BY FEMA AND SHOWN ON PANEL #51065C0100C DATED MAY 16, 2008.
- THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES BEFORE COMMENCING WITH CONSTRUCTION.
- THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE AS PER FIELD LOCATIONS WHERE VISIBLE OR AS APPROXIMATELY MARKED BY MISS UTILITY. TICKET# A110400305 REV: 00A.
- VERTICAL DATUM BASED UPON NAVD83 (GEOID12B).

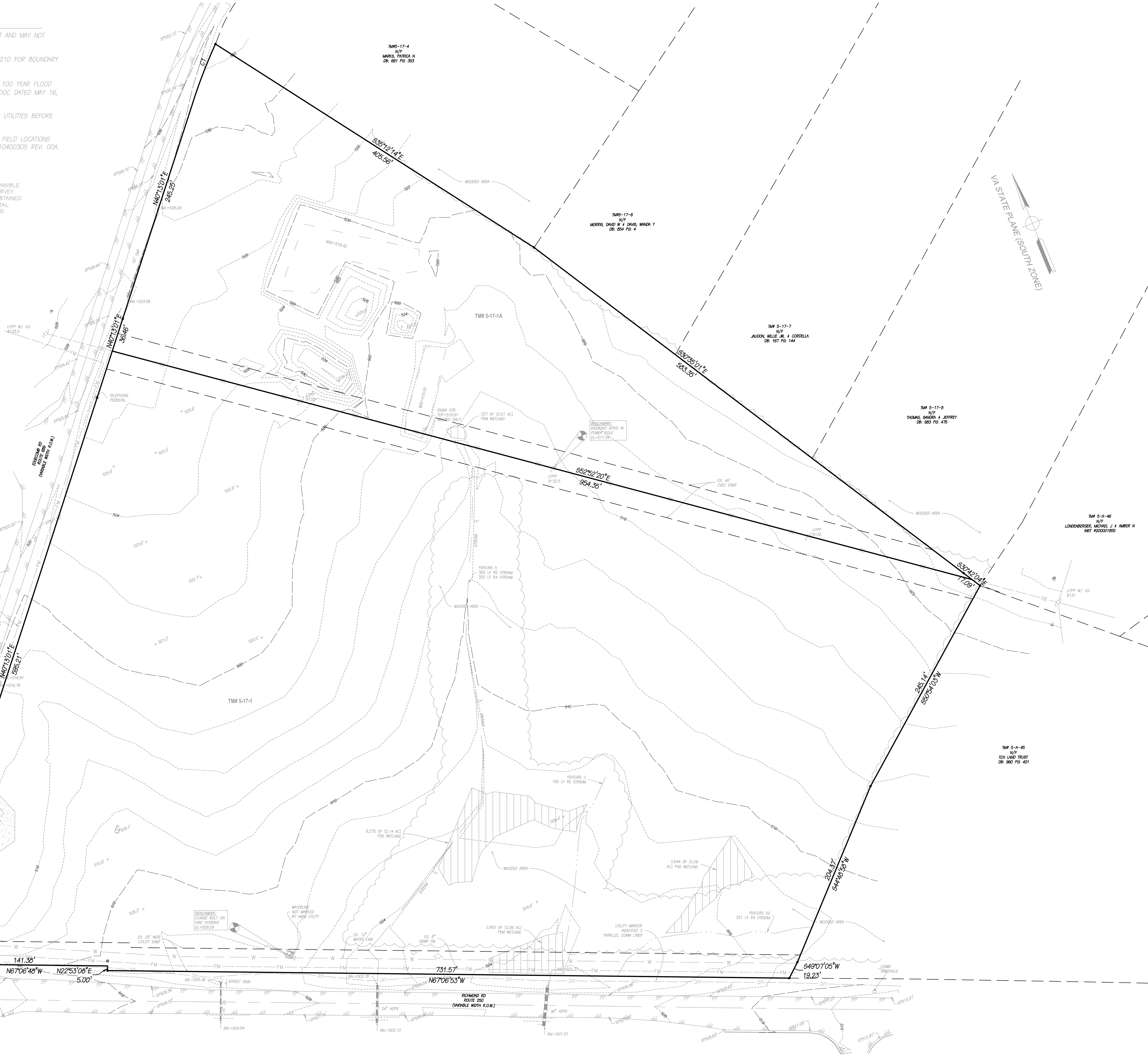
THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF FARRIS PIERSON MCHICKISS, L.S., FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON 04/23/2021, 04/29/2021 AND 05/11/2021; THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

SOURCE OF TITLE:

COVENANT CHURCH OF GOD OF ALBEMARLE
BROWN EMANUEL ET AL TRUSTEES
DB 846 PG 210
TM# 5-17-1
TM# 5-17-1A

LEGEND:

SS	SANITARY SEWER
W	WATERLINE
UC	UNDERGROUND COMMUNICATIONS
OE	OVERHEAD ELECTRIC
UE	UNDERGROUND ELECTRIC
UG	UNDERGROUND GAS
STORM	STORM
EDGE OF PAVEMENT	EDGE OF PAVEMENT
FIRE HYDRANT	FIRE HYDRANT
WATER VALVE	WATER VALVE
WATER METER	WATER METER
GAS VALVE	GAS VALVE
LIGHT POLE	LIGHT POLE
UTILITY POLE	UTILITY POLE
GUY ANCHOR	GUY ANCHOR
MANHOLE	MANHOLE
SANITARY CLEANOUT	SANITARY CLEANOUT



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CONSULTANTS

SEAL:



JOB:

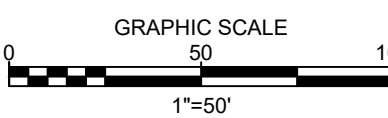
ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

CLIENT:
GLASS & ASSOCIATES, INC.

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MARK	DATE	DESCRIPTION
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CONTOUR INTERVAL: 2'		
DESIGNED BY: RHO		
DRAWN BY: PWS/BDG/DAW		
CHECKED BY: RHO		

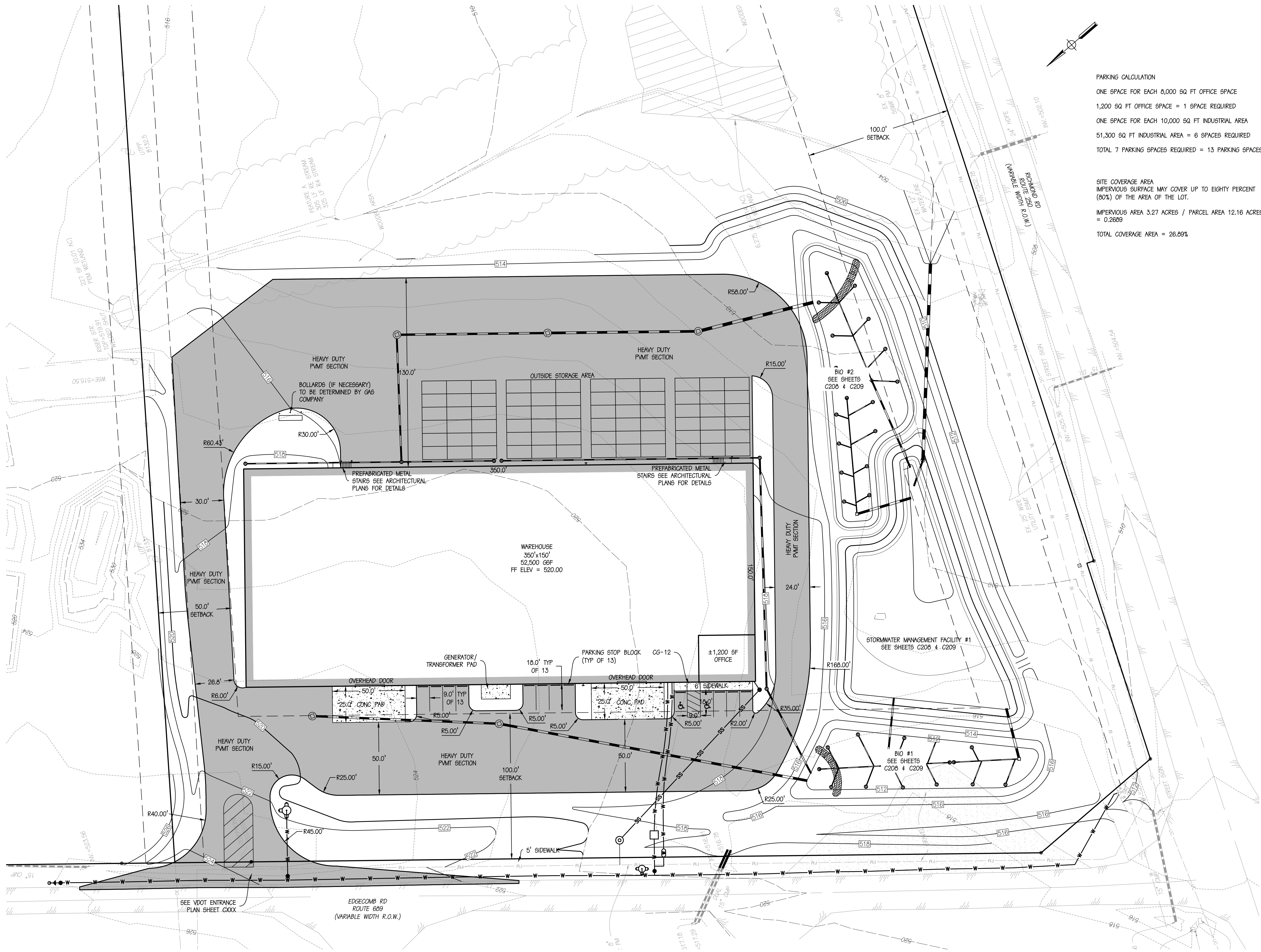
SHEET TITLE

EXISTING CONDITIONS



SHEET	C102	AJURSECTION PROJECT #
JOB NO.:	22024	SHEET NO. 3 OF 24

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PARKING CALCULATION
ONE SPACE FOR EACH 8,000 SQ FT OFFICE SPACE
1,200 SQ FT OFFICE SPACE = 1 SPACE REQUIRED
ONE SPACE FOR EACH 10,000 SQ FT INDUSTRIAL AREA
51,300 SQ FT INDUSTRIAL AREA = 6 SPACES REQUIRED
TOTAL 7 PARKING SPACES REQUIRED = 13 PARKING SPACES PROVIDED

SITE COVERAGE AREA
IMPERVIOUS SURFACE MAY COVER UP TO EIGHTY PERCENT (80%) OF THE AREA OF THE LOT.
IMPERVIOUS AREA 3.27 ACRES / PARCEL AREA 12.16 ACRES = 0.2689
TOTAL COVERAGE AREA = 26.89%

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CONSULTANTS

SEAL:

Russell H. Orrison
RUSSELL H. ORRISON
Lic. No. 031849
05/12/2022
PROFESSIONAL ENGINEER

JOB:

ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

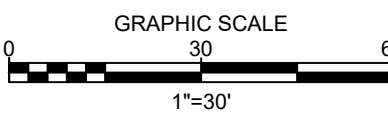
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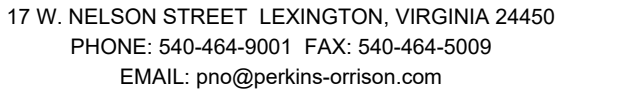
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CONTOUR INTERVAL: 2'		
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CHECKED BY: RHO		

SHEET TITLE

SITE PLAN



SHEET	C200	AJURSECTION PROJECT #
JOB NO.	22024	SHEET NO. 4 OF 24



SEAL:

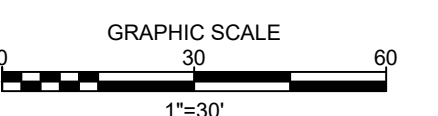


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PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

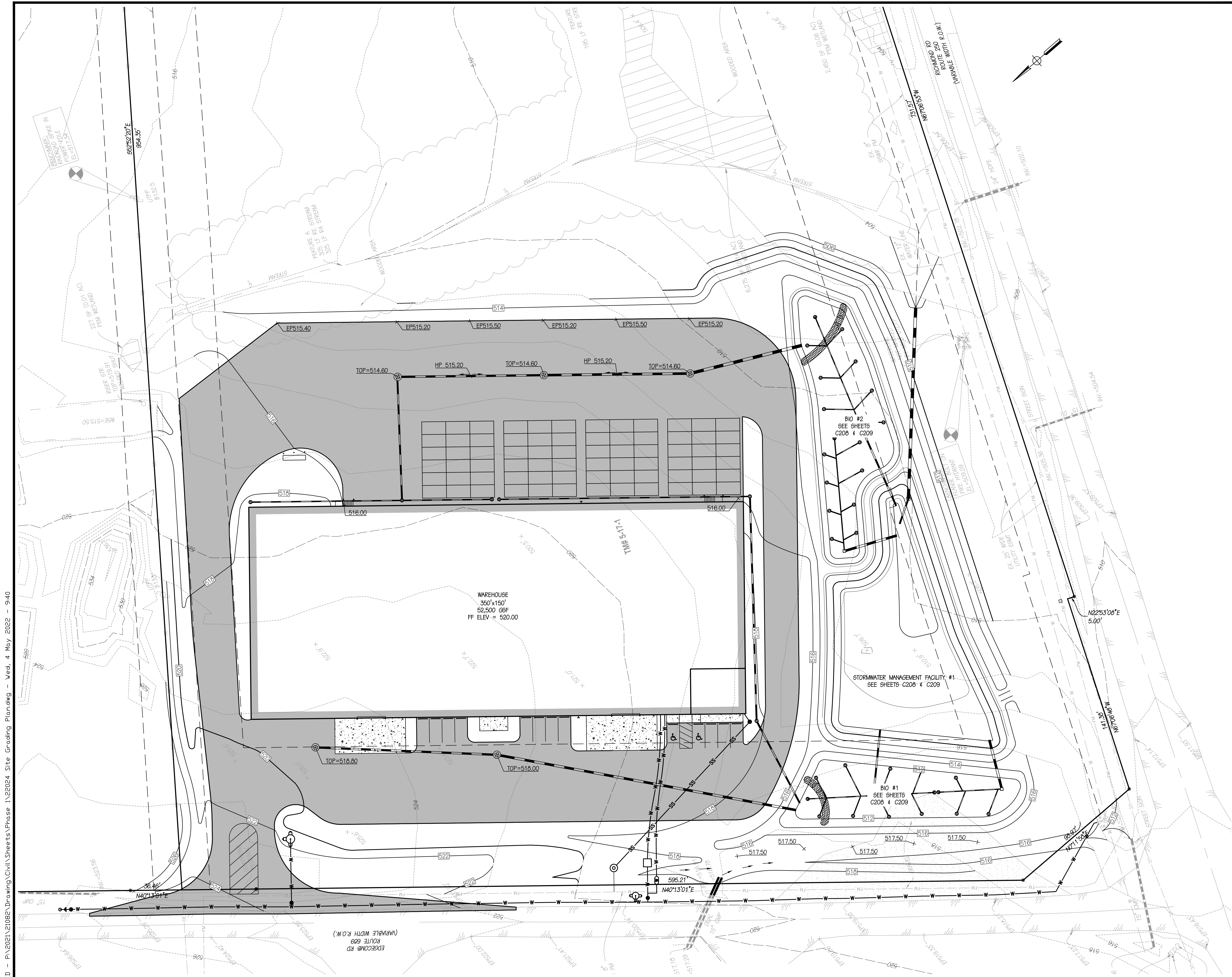
CLIENT:
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DESIGNED BY:	RHO	
DRAWN BY:	PWS/BDG/DAW	
CHECKED BY:	RHO	

GRADING PLAN

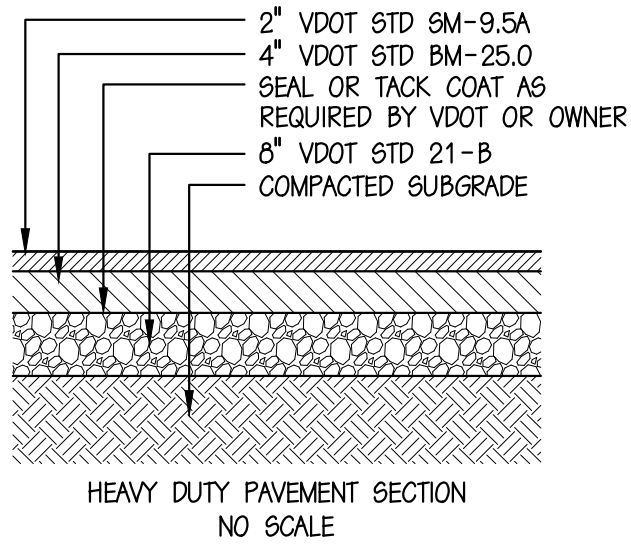


SHEET	JURISDICTION PROJECT #
C201	
JOB NO:	SHEET NO
22024	5 OF 24



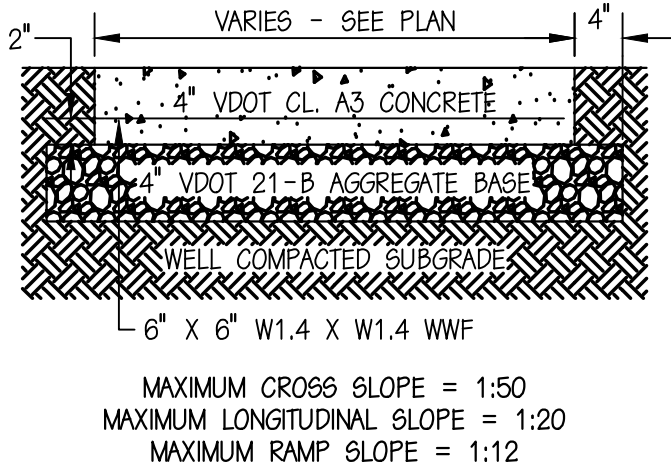
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TYPICAL PAVEMENT SECTIONS

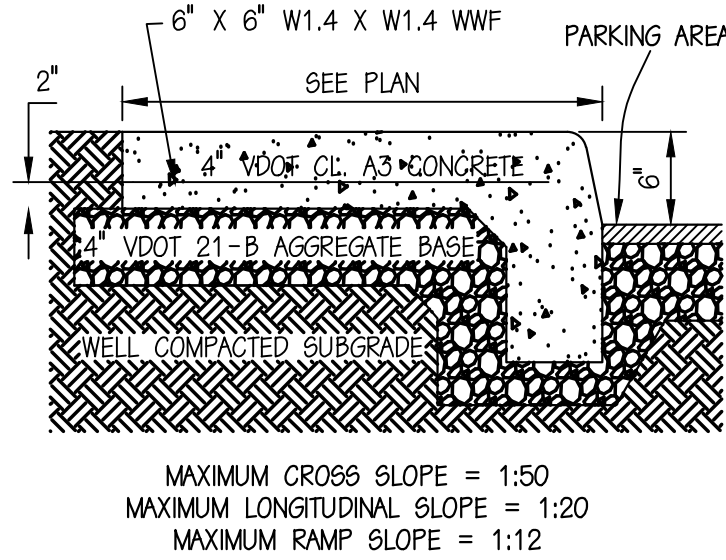


*THE PRELIMINARY PAVEMENT DESIGN(S) IS SHOWN FOR ESTIMATING PURPOSES ONLY. FINAL PAVEMENT DESIGN(S) WILL BE DETERMINED BY ACTUAL CBR TEST RESULTS, WHICH MUST BE SUBMITTED TO AND APPROVED BY VIRGINIA DEPARTMENT OF TRANSPORTATION BEFORE PLACEMENT OF ANY BASE AND SURFACE COURSES. THE CONTRACTOR SHALL COORDINATE CBR TEST(S) WITH THE OWNER/DEVELOPER. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ANY NECESSARY CORRECTIONS DUE TO PLACEMENT PRIOR TO APPROVAL.

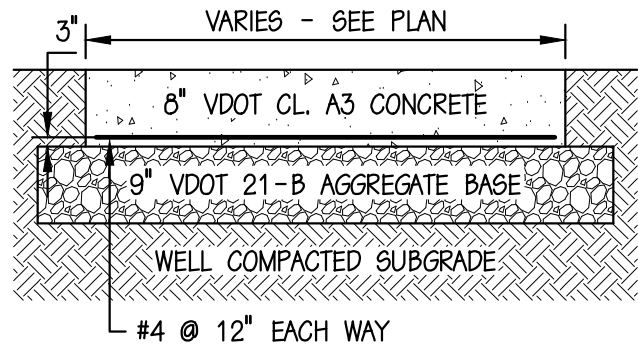
TYPICAL SECTION
CONCRETE SIDEWALK
(NO SCALE)



TYPICAL SECTION
TURNDOWN CONCRETE SIDEWALK
(NO SCALE)



TYPICAL SECTION
CONCRETE PAD
(NO SCALE)



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&
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CONSULTANTS

SEAL:

SEAL

RUSSELL H. ORRISON

Lic. No. 031849

05/12/2022

PROFESSIONAL ENGINEER

JOB:

ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

CLIENT:

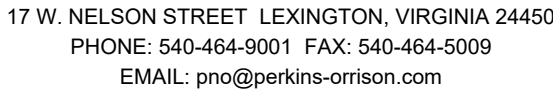
GLASS & ASSOCIATES, INC.

1	05/12/2022	SUBMITTAL TO COUNTY
MARK	DATE	DESCRIPTION
ISSUE:		05/04/2022
CONTOUR INTERVAL:		2'
DESIGNED BY:		RHO
DRAWN BY:		PWS/BDG/DAW
CHECKED BY:		RHO

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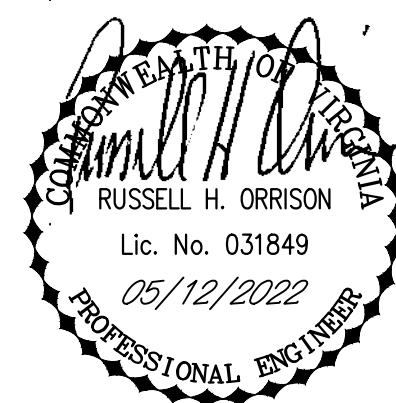
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SHEET	C202	JURISDICTION PROJECT #
JOB NO.:	22024	SHEET NO. 6 OF 24



CONSULTANTS

SEAL:



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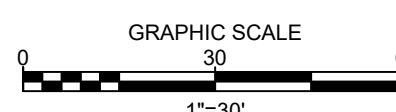
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WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

CLIENT:
GLASS & ASSOCIATES, INC.

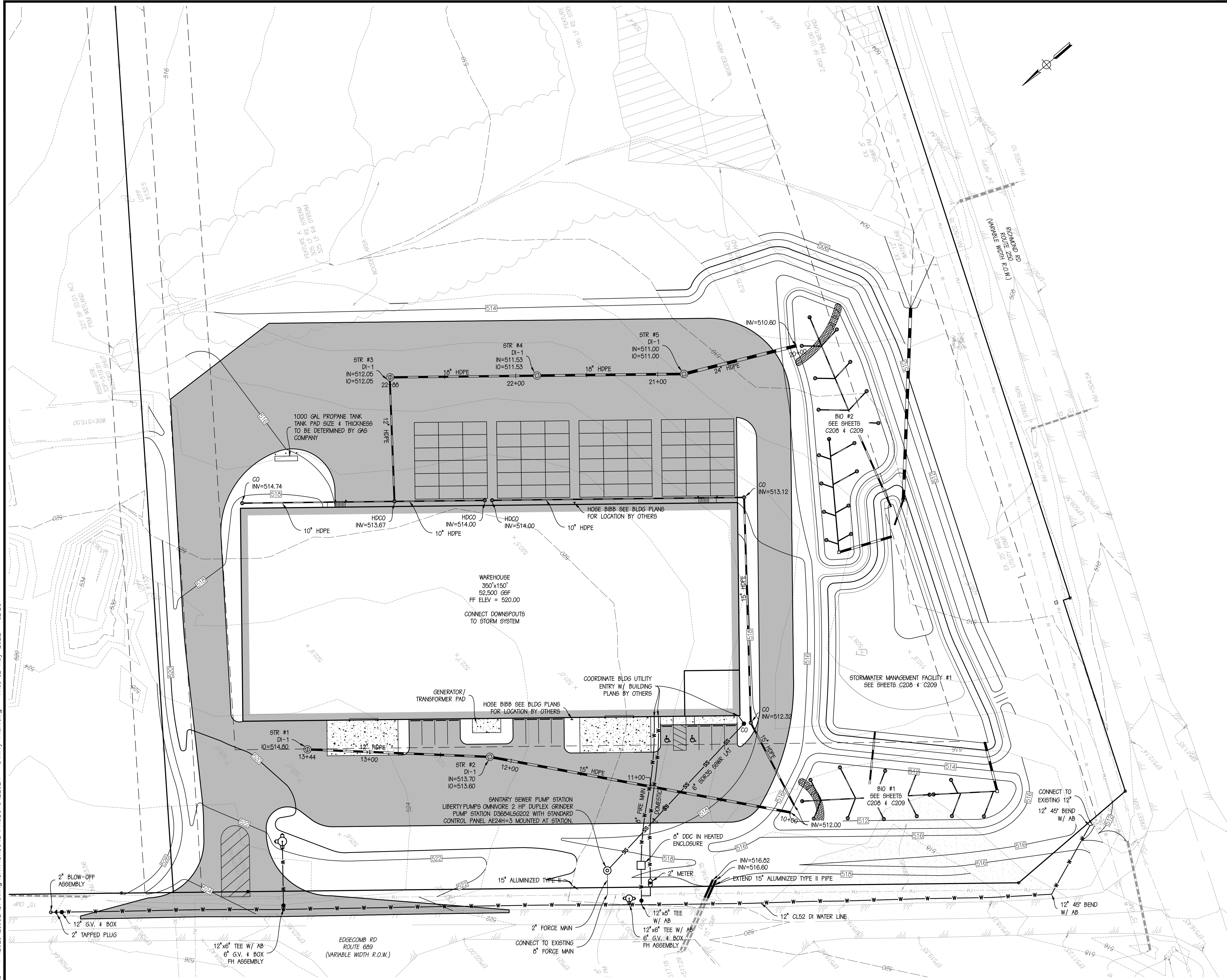
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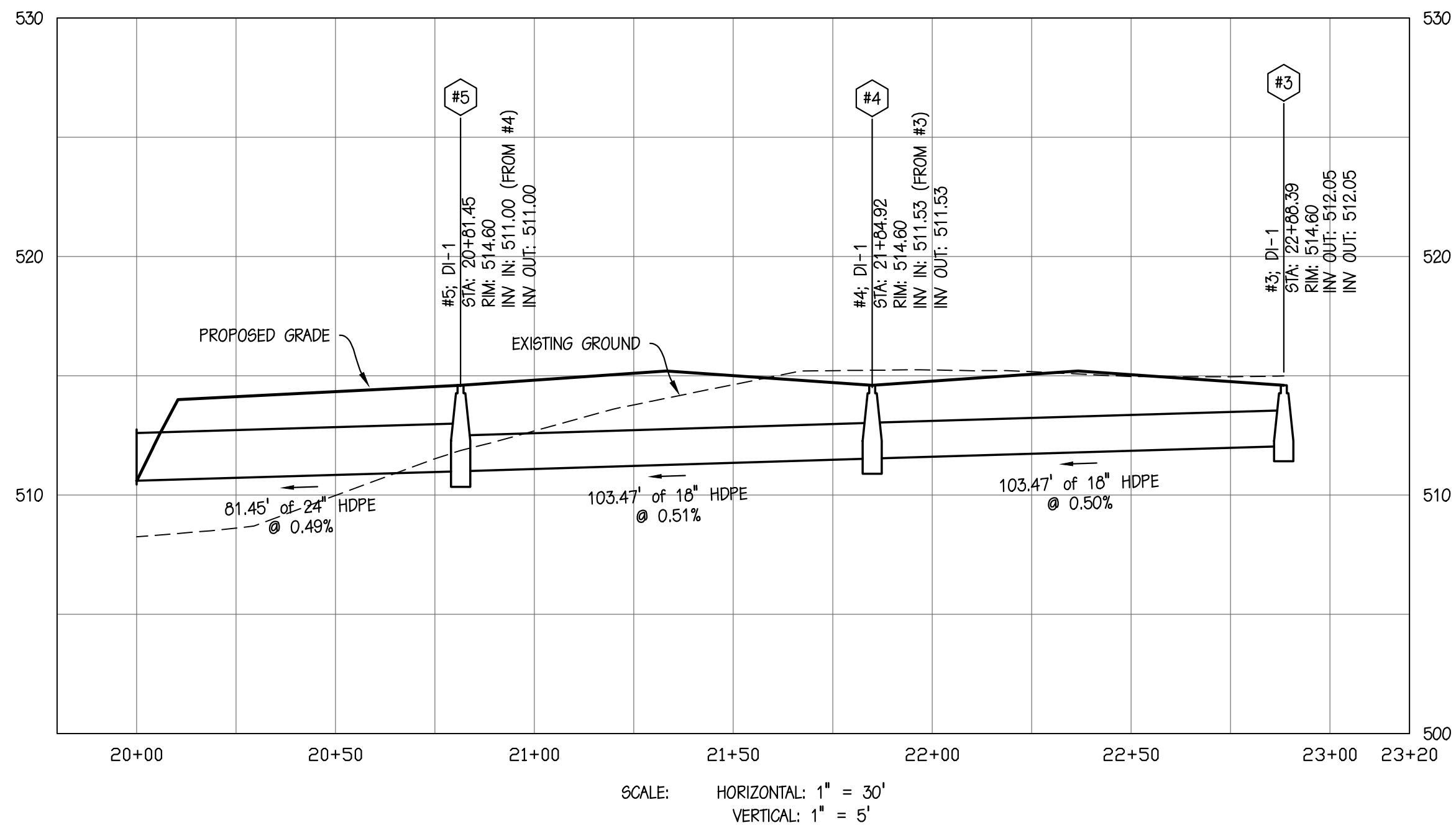
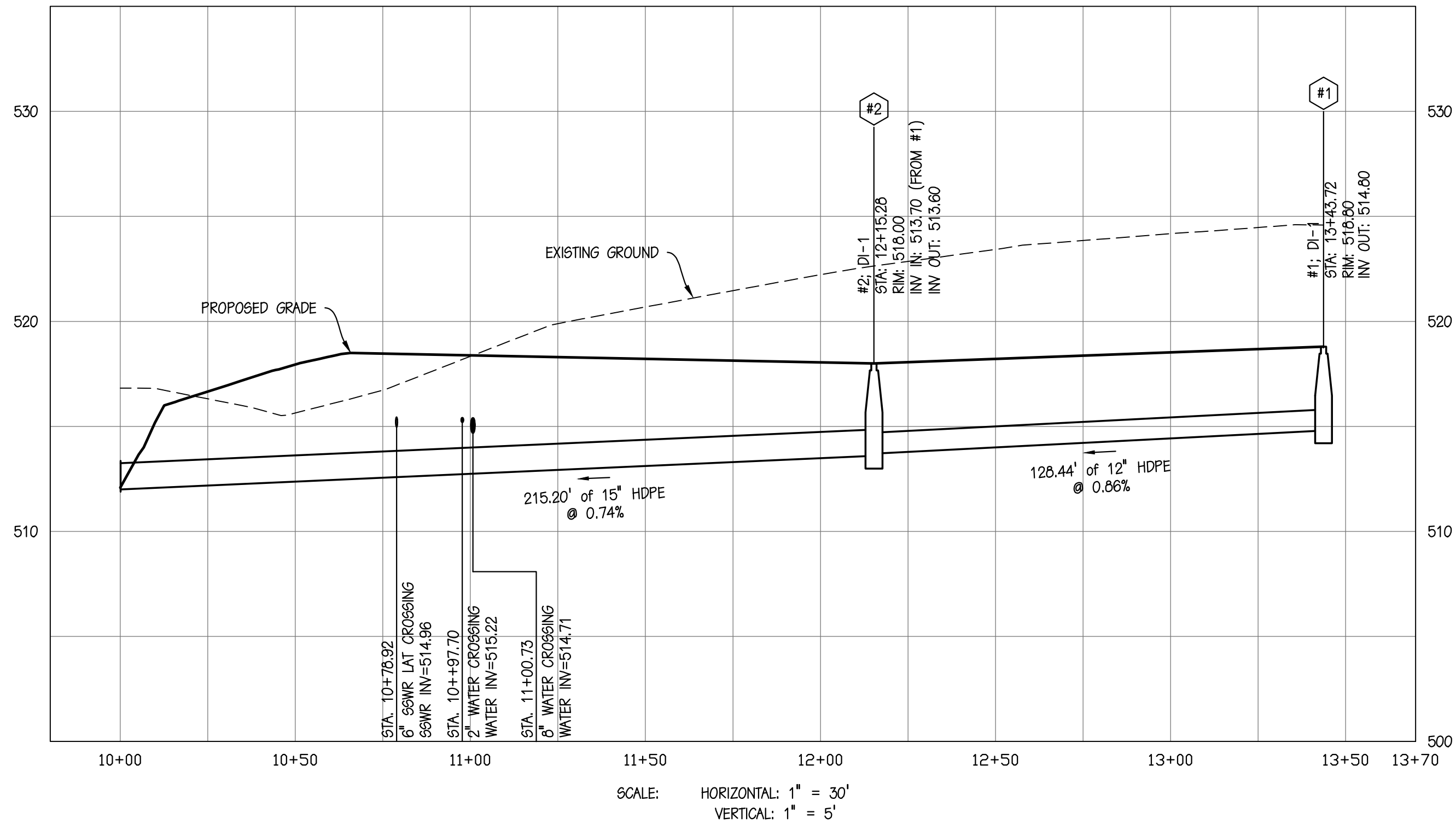
UTILITY PLAN



SHEET	C203	JURISDICTION PROJECT #
JOB NO.:	22024	SHEET NO 7 OF 2



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CONSULTANTS

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JOB:

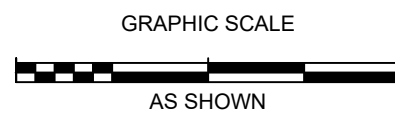
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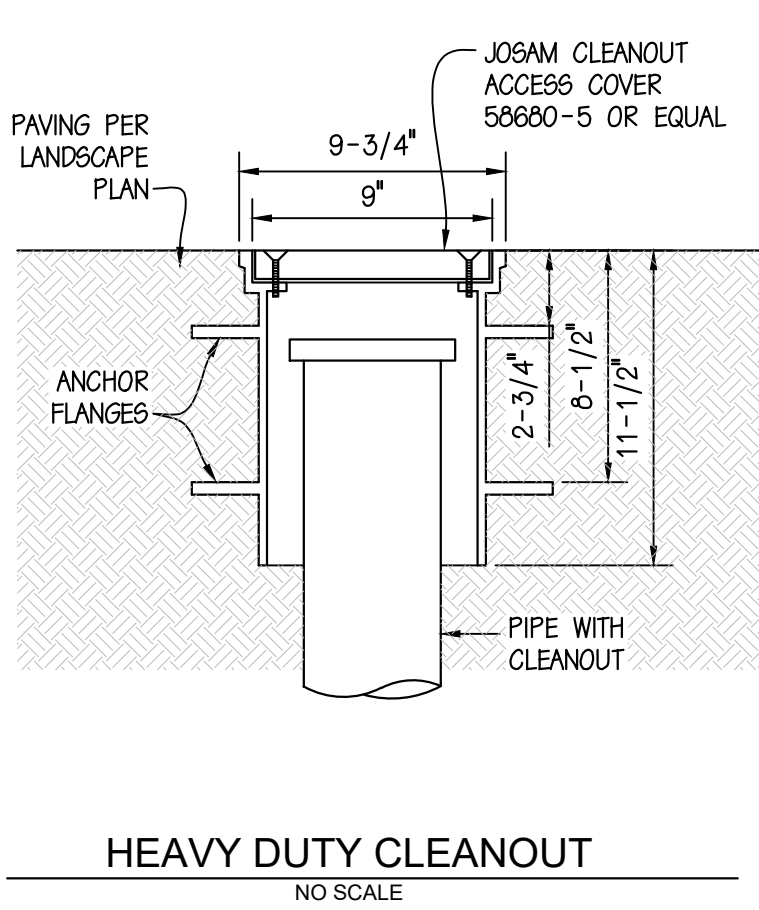
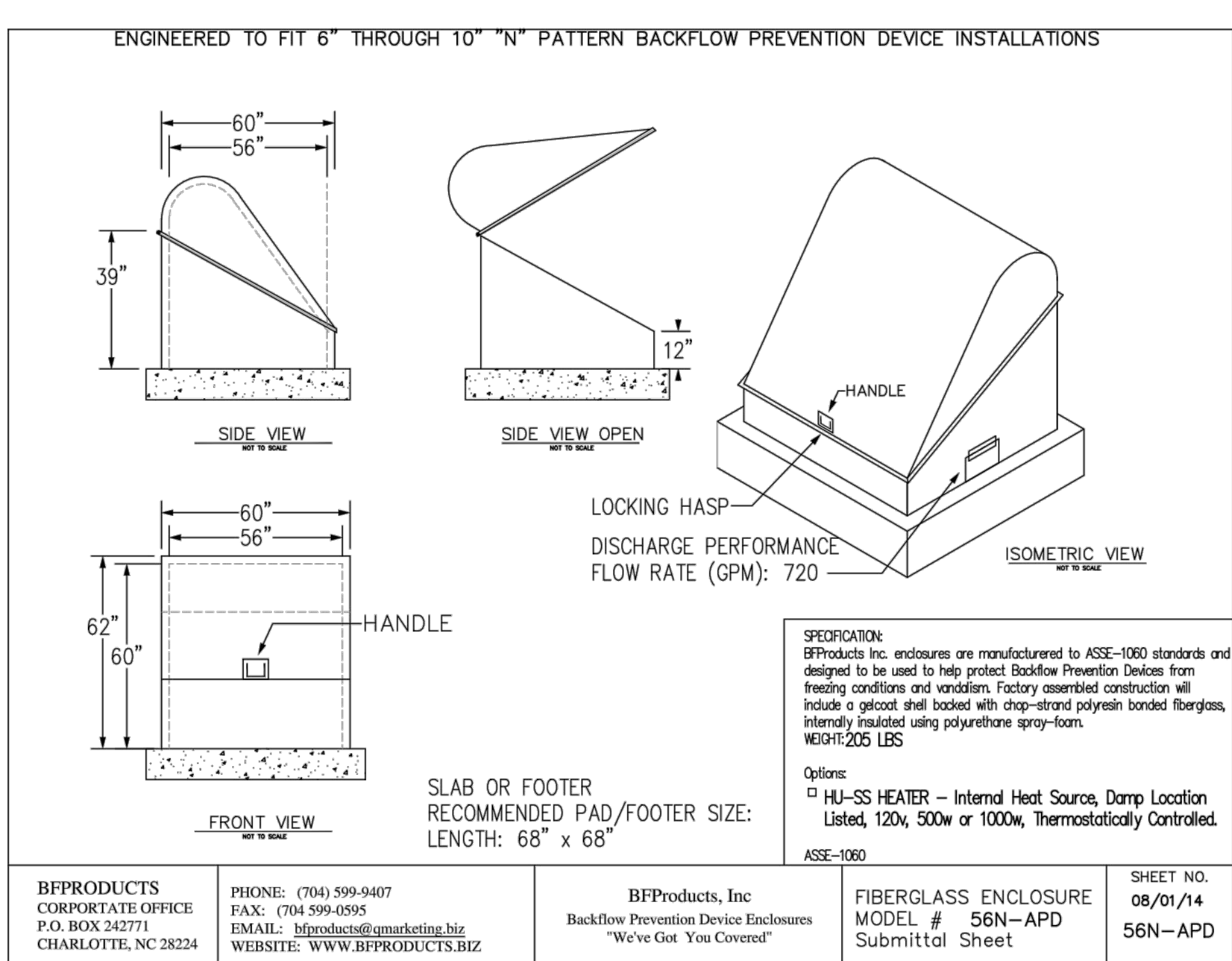
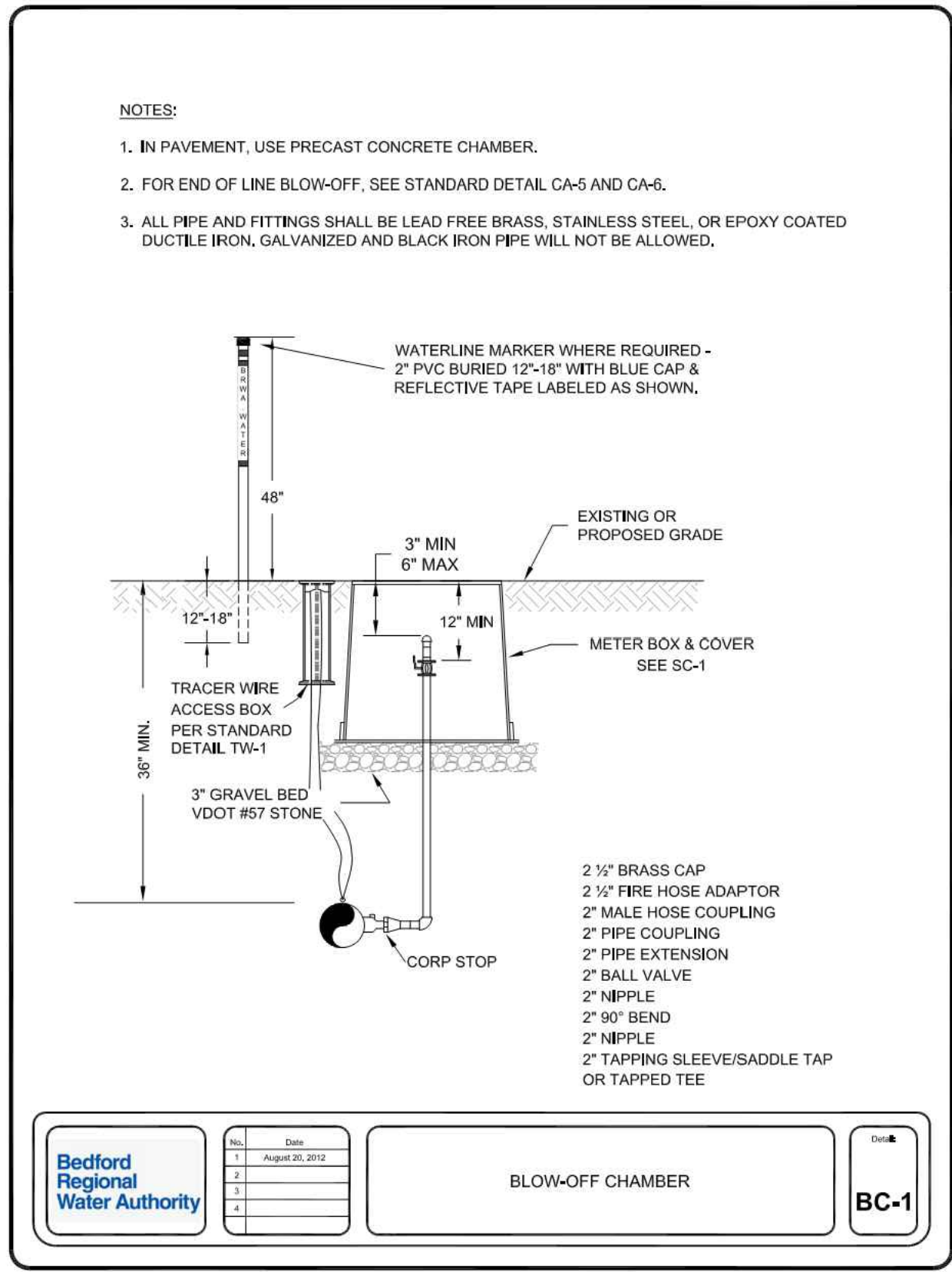
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MARK	DATE	DESCRIPTION
ISSUE: 05/04/2022		
CONTOUR INTERVAL: 2'		
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SHEET TITLE

STORM SEWER PROFILES



SHEET	C203A		JURISDICTION PROJECT #
JOB NO.:	22024	SHEET NO.	7A of 24



HDPE BEDDING DETAIL

NO SCALE

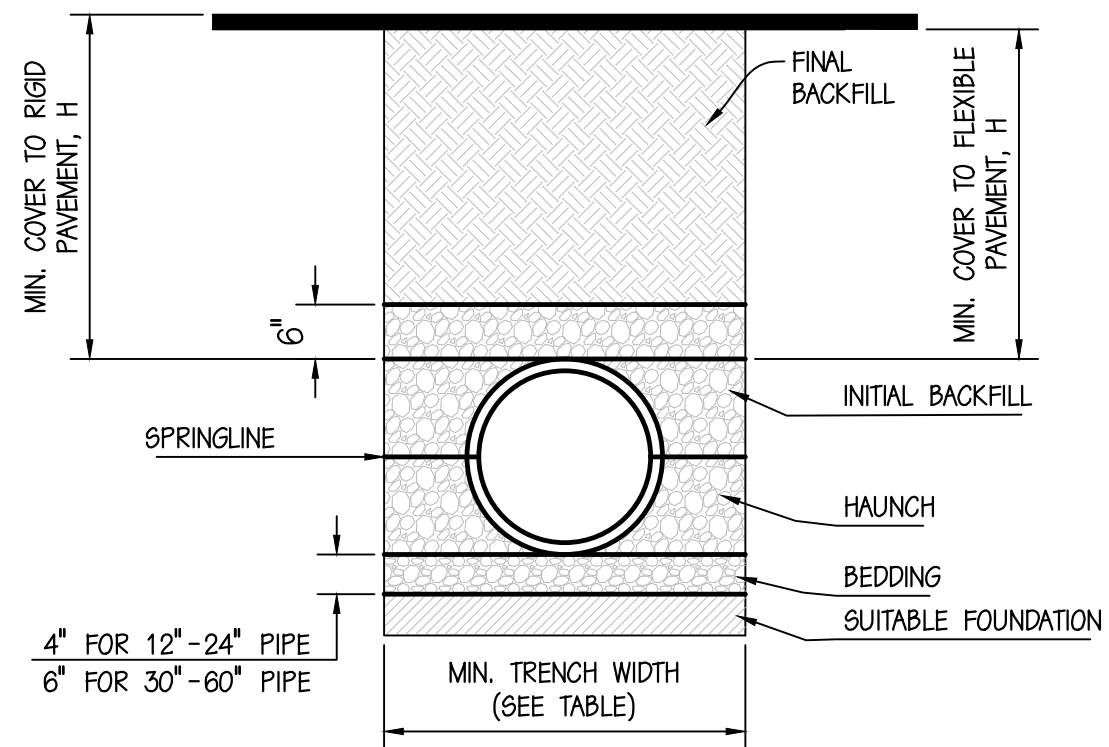
RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	39"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

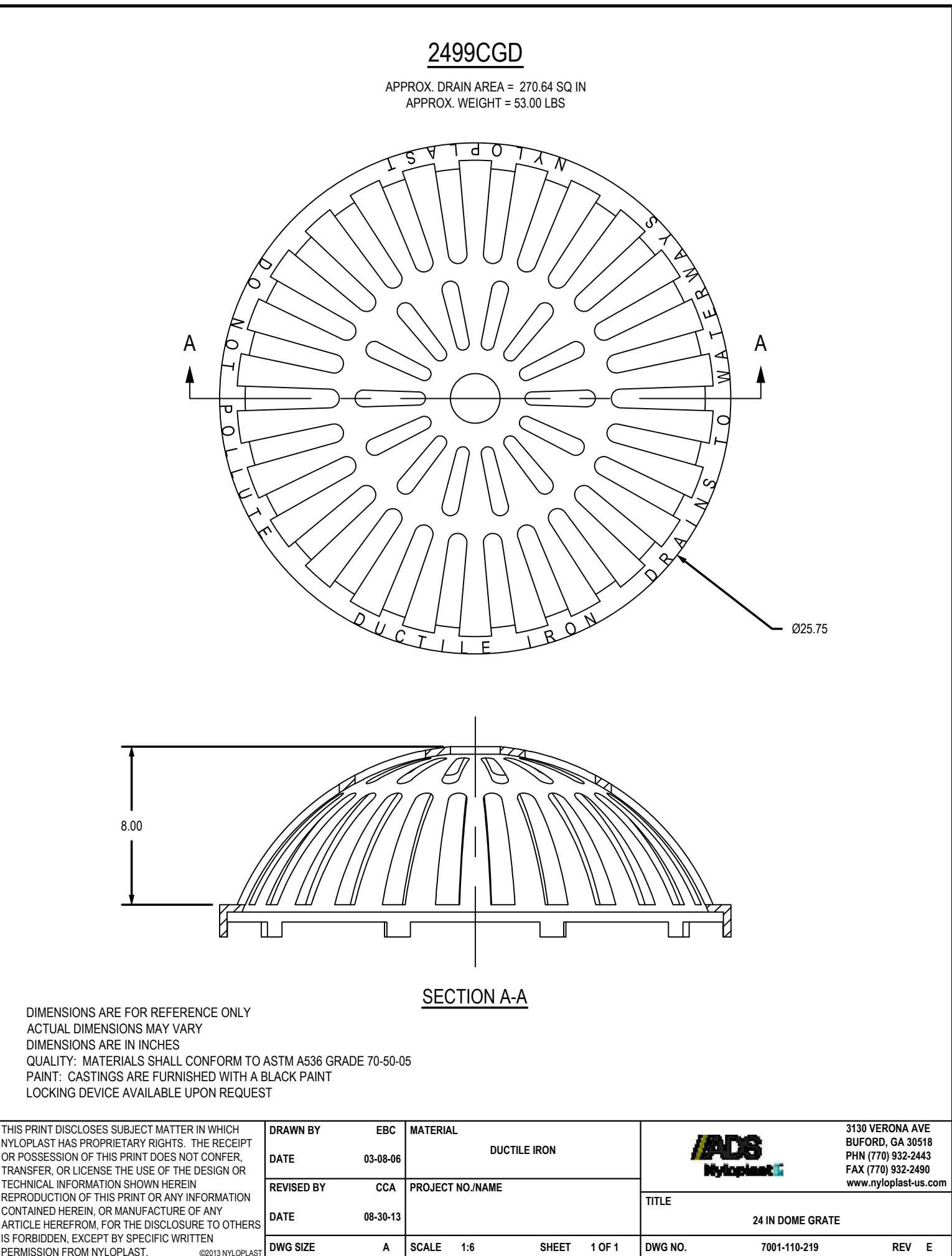
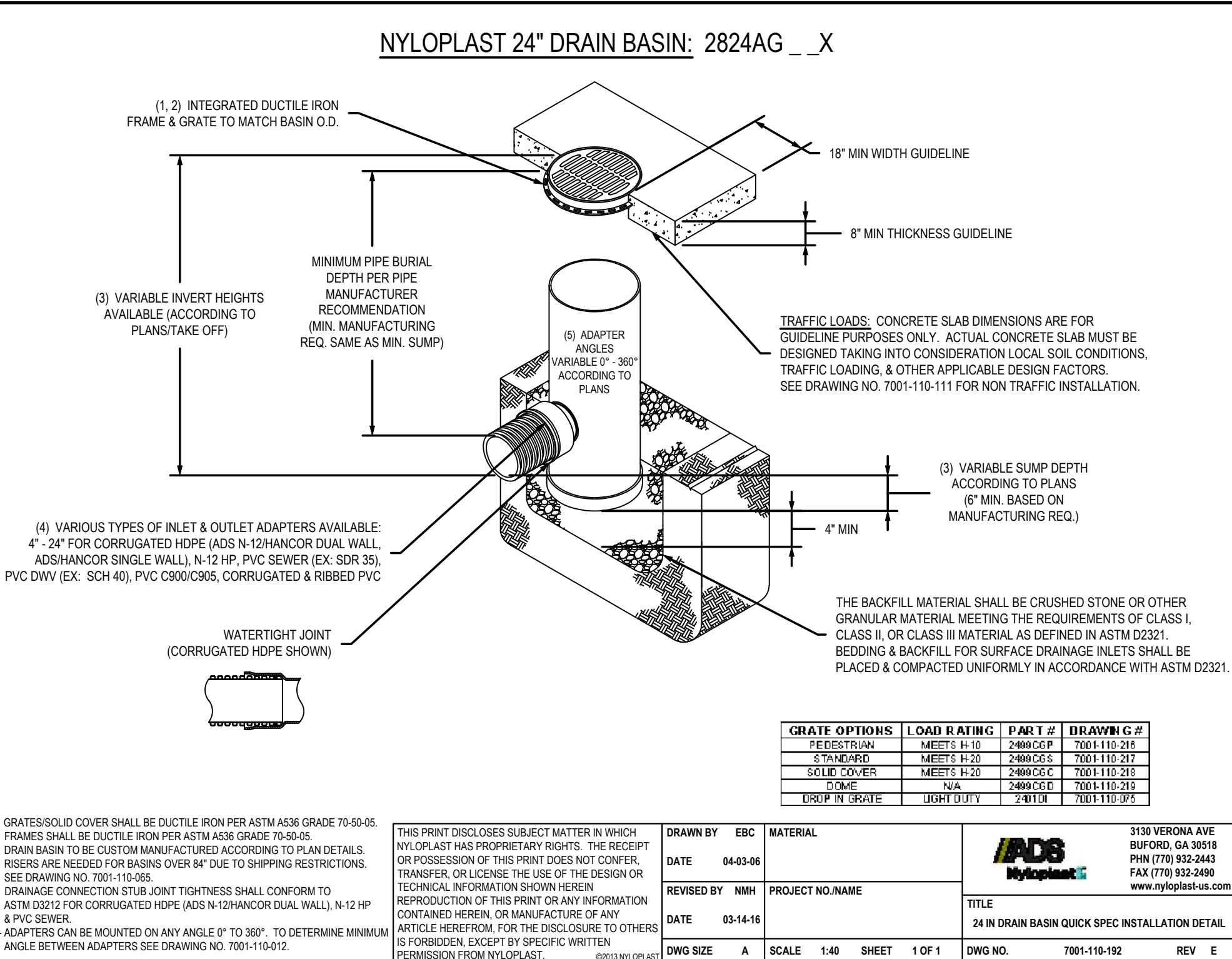
PIPE DIA.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE VDOT STD. 21A/ 21B. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
5. HAUNCH: SUITABLE MATERIAL SHALL BE VDOT STD. 21A/ 21B. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATION.
6. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE VDOT STD. 21A/ 21B IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATION.
7. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOODING. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



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CONSULTANTS

SEAL:



JOB:

ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

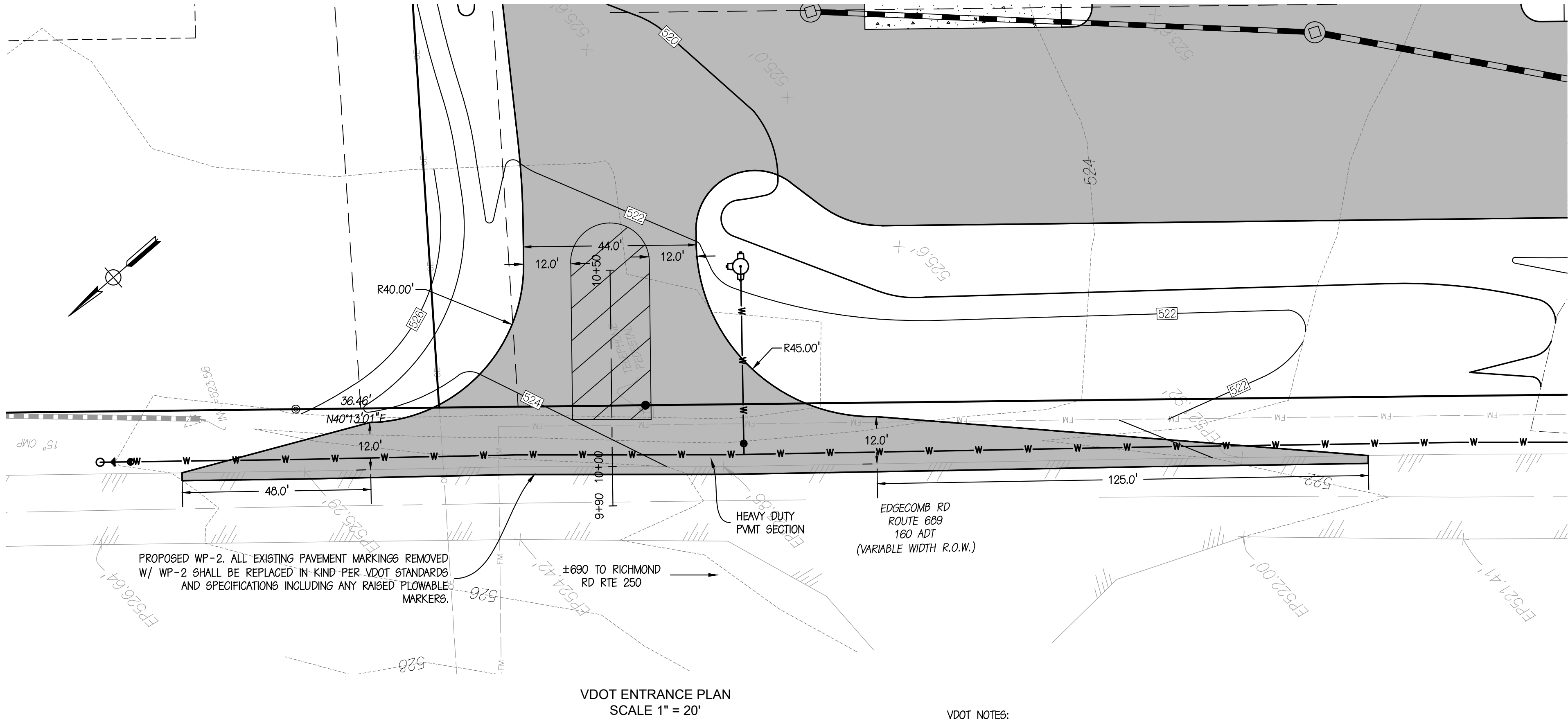
CLIENT:
GLASS & ASSOCIATES, INC.

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SHEET TITLE		

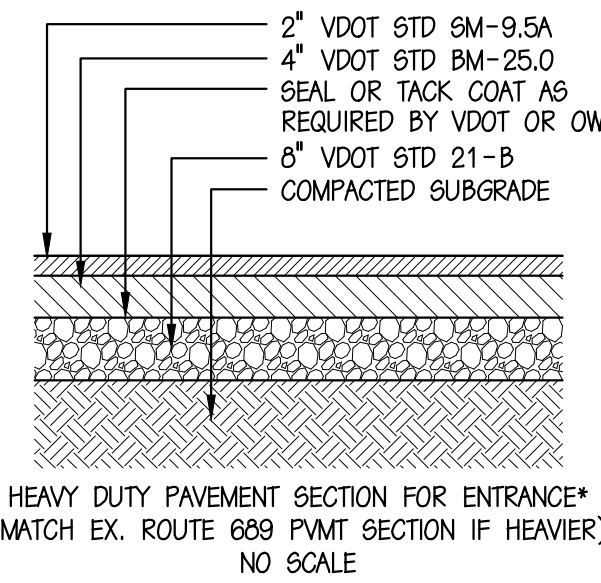
UTILITY DETAILS

SHEET	PROJECT #
C204	
JOB NO.: 22024	SHEET NO. 8 OF 24

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TYPICAL PAVEMENT SECTION



*THE PRELIMINARY PAVEMENT DESIGN(S) IS SHOWN FOR ESTIMATING PURPOSES ONLY. FINAL PAVEMENT DESIGN(S) WILL BE DETERMINED BY ACTUAL CBR TEST RESULTS, WHICH MUST BE SUBMITTED TO AND APPROVED BY VIRGINIA DEPARTMENT OF TRANSPORTATION BEFORE PLACEMENT OF ANY BASE AND SURFACE COURSES. THE CONTRACTOR SHALL COORDINATE CBR TEST(S) WITH THE OWNER/DEVELOPER. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ANY NECESSARY CORRECTIONS DUE TO PLACEMENT PRIOR TO APPROVAL.

NOTE:

OWNERSHIP AND MAINTENANCE OF THE STORMWATER MANAGEMENT BASINS, BIOFILTERS, ETC. RELATED TO THIS PROJECT, INCLUDING THE RTE. 689 IMPROVEMENTS SHOWN ON THIS PLAN, ARE THE FINANCIAL RESPONSIBILITY OF THE DEVELOPER, NOT VDOT.

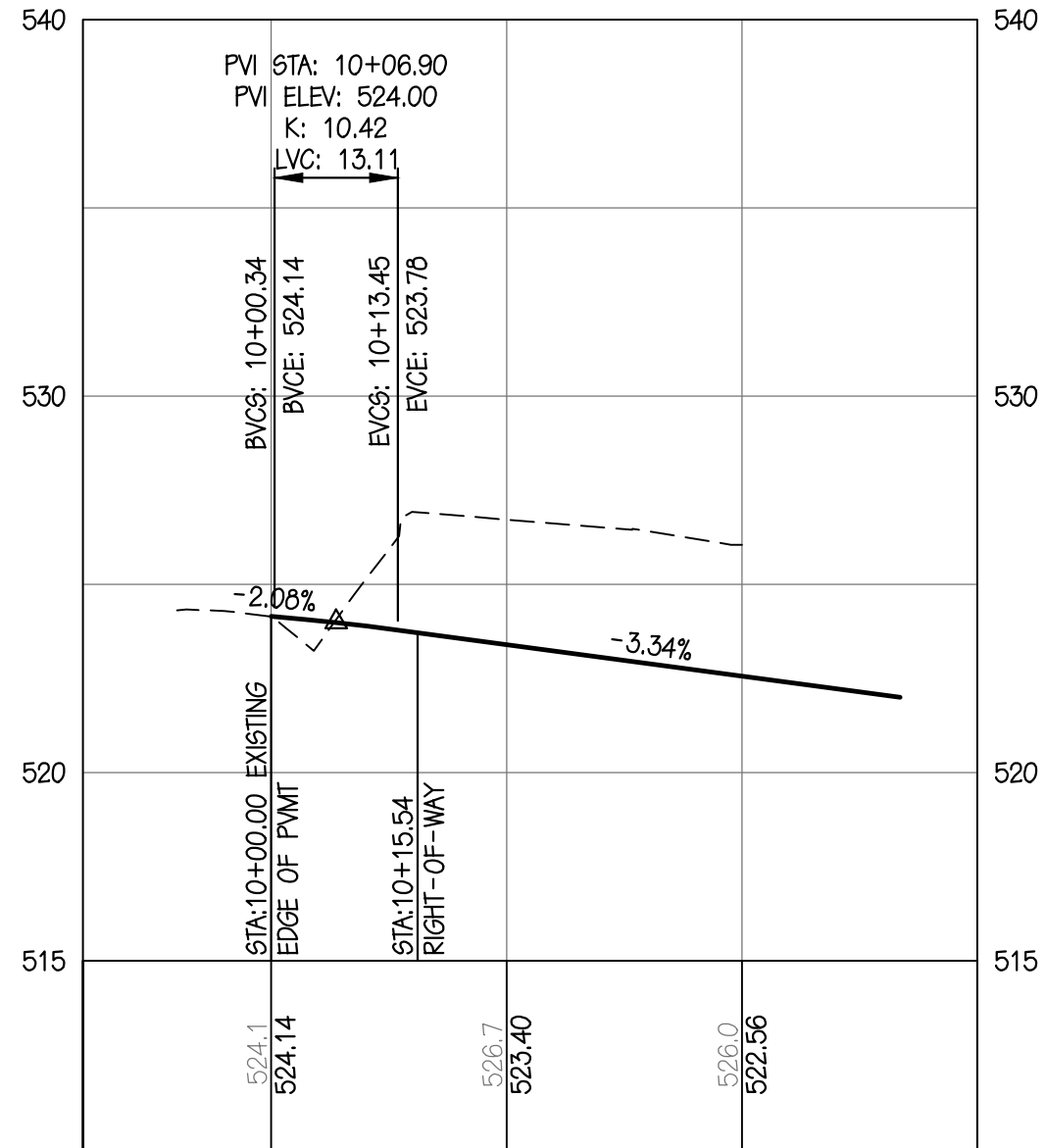
CONTRACTOR SHALL PROVIDE A MAINTENANCE OF TRAFFIC PLAN FOR THE GRADING AND PAVING OPERATIONS INSIDE OF VDOT RIGHT OF WAY WHEN THE LAND USE PERMIT APPLICATION (LUP-A) IS SUBMITTED TO VDOT FOR APPROVAL.

VDOT NOTES:

- VDOT'S LAND DEVELOPMENT SOUTH STAFF (540-967-3715 OR 540-967-3716) SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY ANTICIPATED ROAD/SHOULDER CLOSURES.
- THE PERMITTEE OR HIS OR HER DESIGNEE SHALL REPORT ALL WORK ZONES IN THE VDOT RIGHT OF WAY ON A DAILY BASIS AT SET UP AND TAKE DOWN TO VDOT'S SMART TRAFFIC CENTER (540-332-9500).
- COPIES OF ALL INDEPENDENT TESTING REPORTS TO BE SUBMITTED TO VDOT FOR VERIFICATION.
- A MINIMUM 48 HOURS ADVANCE NOTIFICATION OF A PROOF ROLL OF BOTH THE SUBGRADE AND STONE BASE IS REQUIRED BY VDOT.
- ALL AREAS EXCAVATED BELOW EXISTING PAVEMENT SURFACE AND WITHIN CLEAR ZONE, AT THE CONCLUSION OF EACH WORKDAY, SHALL BE BACKFILLED TO FORM AN APPROXIMATE 6:1 WEDGE, AGAINST THE EXISTING PAVEMENT SURFACE FOR THE SAFETY AND PROTECTION OF VEHICULAR TRAFFIC.
- ALL WORK (MATERIALS AND CONSTRUCTION) PERFORMED IN THE EXISTING OR PROPOSED RIGHT OF WAY SHALL COMPLY WITH VDOT'S 2016 ROAD AND BRIDGE SPECIFICATIONS, VDOT 2008 ROAD AND BRIDGE STANDARDS, 2015 VIRGINIA WORK AREA PROTECTION MANUAL, VIRGINIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

VDOT GENERAL NOTES

- ALL WORK ON THIS PROJECT SHALL CONFORM TO THE CURRENT EDITIONS OF AND LATEST REVISIONS TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS AND STANDARDS, THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS, AND ANY OTHER APPLICABLE STATE, FEDERAL OR LOCAL REGULATIONS. IN CASE OF A DISCREPANCY OR CONFLICT BETWEEN THE STANDARDS OR SPECIFICATIONS AND REGULATIONS, THE MOST STRINGENT SHALL GOVERN.
- ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND VIRGINIA OCCUPATIONAL SAFETY & HEALTH (VOSH) RULES AND REGULATIONS.
- WHEN WORKING WITHIN VDOT RIGHT-OF-WAY, ALL TRAFFIC CONTROL, WHETHER PERMANENT OR TEMPORARY, SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF VDOT'S WORK AREA PROTECTION MANUAL. FURTHERMORE, ALL TRAFFIC CONTROL FLAGGERS MUST BE CERTIFIED IN ACCORDANCE WITH SECTION 105.14(C) OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR RELOCATING, AT HIS EXPENSE, ANY AND ALL UTILITIES, INCLUDING TRAFFIC SIGNAL POLES, JUNCTION BOXES, CONTROLLERS, ETC., OWNED BY VDOT OR PRIVATE / PUBLIC UTILITY COMPANIES. IT IS THE SOLE RESPONSIBILITY OF THE DEVELOPER TO LOCATE AND IDENTIFY UTILITY FACILITIES OR ITEMS THAT MAY BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION ACTIVITY. VDOT APPROVAL OF THESE PLANS DOES NOT INDEMNIFY THE DEVELOPER FROM THIS RESPONSIBILITY.
- DESIGN FEATURES RELATING TO FIELD CONSTRUCTION, REGULATIONS, AND CONTROL OR SAFETY OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY VDOT. ANY ADDITIONAL EXPENSE INCURRED AS A RESULT OF ANY FIELD REVISION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
- PRIOR TO INITIATION OF WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY VDOT LAND USE PERMITS FOR ANY WORK WITHIN VDOT RIGHT-OF-WAY.
- IF REQUIRED BY THE LOCAL VDOT RESIDENCY OFFICE, A PRE-CONSTRUCTION CONFERENCE SHALL BE ARRANGED AND HELD BY THE ENGINEER AND/OR DEVELOPER WITH THE ATTENDANCE OF THE CONTRACTOR, VARIOUS COUNTY AGENCIES, UTILITY COMPANIES AND VDOT PRIOR TO INITIATION OF WORK.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL VDOT RESIDENCY OFFICE WHEN WORK IS TO BEGIN OR CEASE FOR ANY UNDETERMINED LENGTH OF TIME. VDOT REQUIRES AND SHALL RECEIVE 48 HOURS ADVANCE NOTICE PRIOR TO ANY REQUIRED OR REQUESTED INSPECTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE ACCESS TO THE PROJECT FROM THE ADJACENT PUBLIC ROADWAY VIA A CONSTRUCTION ENTRANCE THAT IS CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH SECTION 3.02 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. FURTHERMORE, ACCESS TO OTHER PROPERTIES AFFECTED BY THIS PROJECT SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. THE DEVELOPER SHALL HAVE, WITHIN THE LIMITS OF THE PROJECT, AN EMPLOYEE CERTIFIED BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ) IN EROSION AND SEDIMENT CONTROL WHO SHALL INSPECT EROSION AND SILTATION CONTROL DEVICES AND MEASURES ON A CONTINUOUS BASIS FOR PROPER INSTALLATION AND OPERATION. DEFICIENCIES SHALL BE PROMPTLY RECTIFIED.
- CONTRACTOR SHALL ENSURE ADEQUATE DRAINAGE IS ACHIEVED AND MAINTAINED ON THE SITE DURING AND AT THE END OF CONSTRUCTION.
- IF WATER AND SEWER LINES WITHIN EXISTING OR PROPOSED VDOT RIGHT-OF-WAY SHALL HAVE A MINIMUM THIRTY-SIX (36) INCHES COVER AND WHEN POSSIBLE SHALL BE INSTALLED UNDER ROADWAY DRAINAGE FACILITIES AT CONFLICT POINTS.
- ANY UNUSUAL SUBSURFACE CONDITIONS (E.G., UNSUITABLE SOILS, SPRINGS, SINKHOLES, VOIDS, CAVES, ETC.) ENCOUNTERED DURING THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER AND VDOT. WORK SHALL CEASE IN THAT VICINITY UNTIL AN ADEQUATE DESIGN CAN BE DETERMINED BY THE ENGINEER AND APPROVED BY VDOT.
- ALL FILL AREAS, BORROW MATERIAL AND UNDERCUT AREAS SHALL BE INSPECTED AND APPROVED BY A VDOT REPRESENTATIVE PRIOR TO PLACEMENT AND FILL. WHERE CBR TESTING IS REQUIRED, A VDOT REPRESENTATIVE SHALL BE PRESENT TO INSURE THE SAMPLE OBTAINED IS REPRESENTATIVE OF THE LOCATION. WHEN SOIL SAMPLES ARE SUBMITTED TO PRIVATE LABORATORIES FOR TESTING, THE SAMPLES SHALL BE CLEARLY IDENTIFIED AND LABELED AS BELONGING TO A PROJECT TO BE ACCEPTED BY VDOT AND THAT TESTING SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE VDOT STANDARDS AND PROCEDURES.



ENTRANCE PROFILE SCALE HORIZONTAL 1" = 20' VERTICAL 1" = 5'

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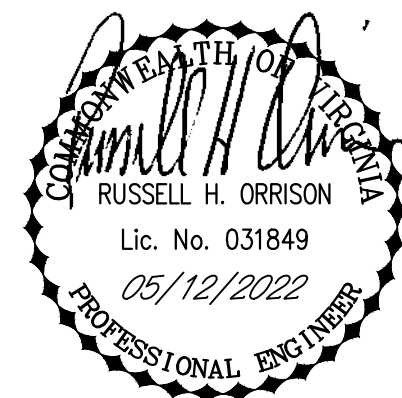
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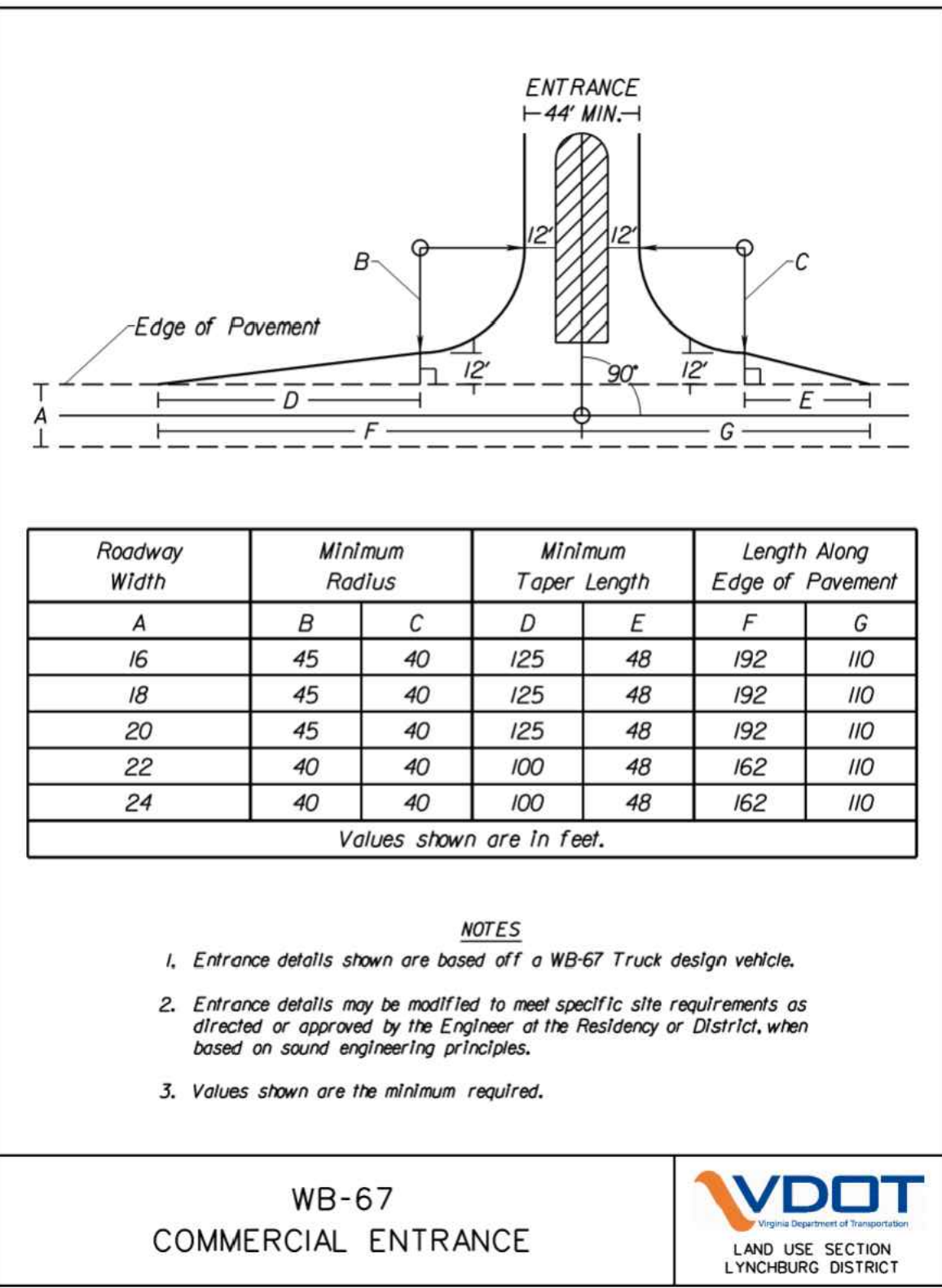
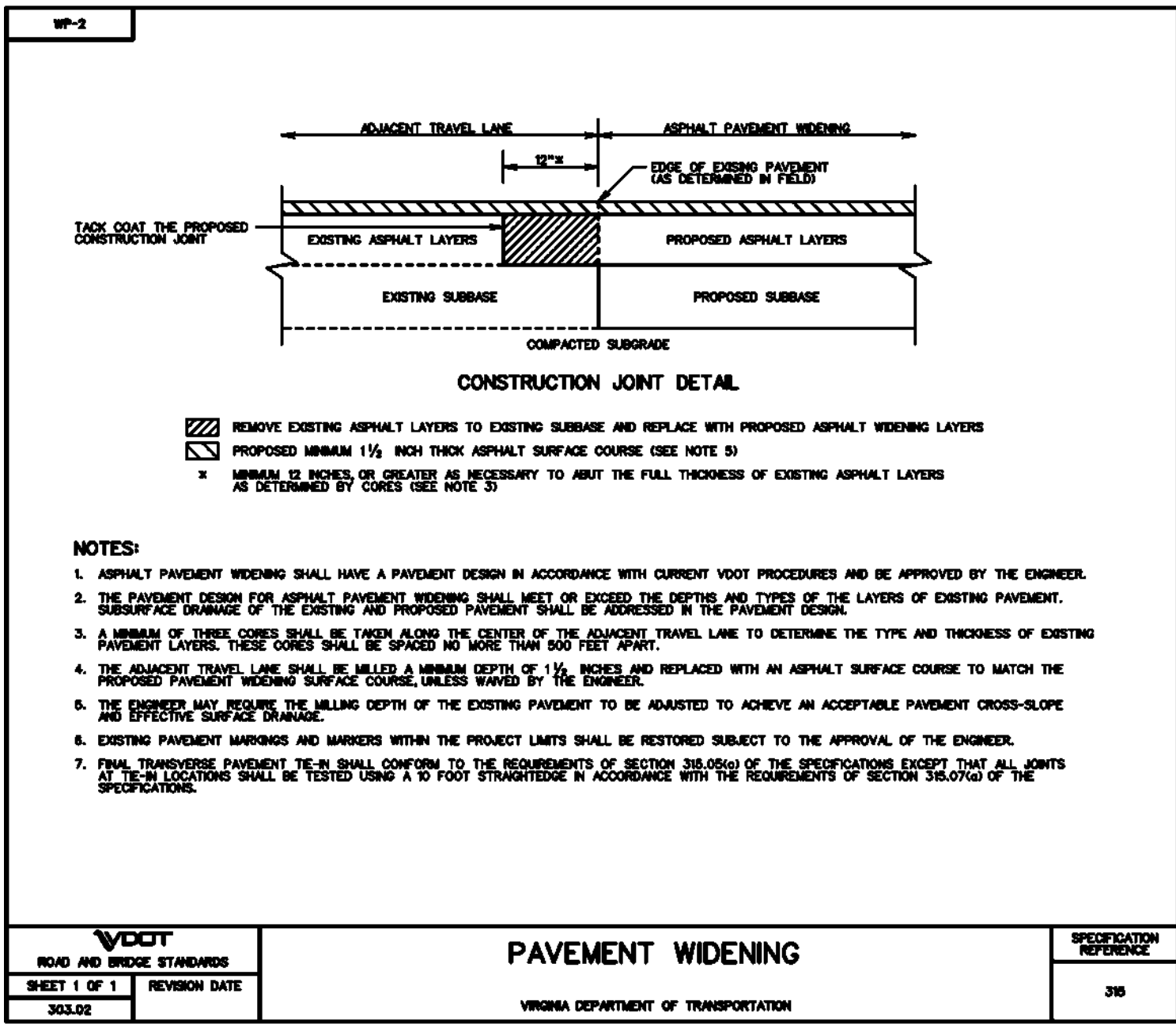
SEAL:



JOB:

ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

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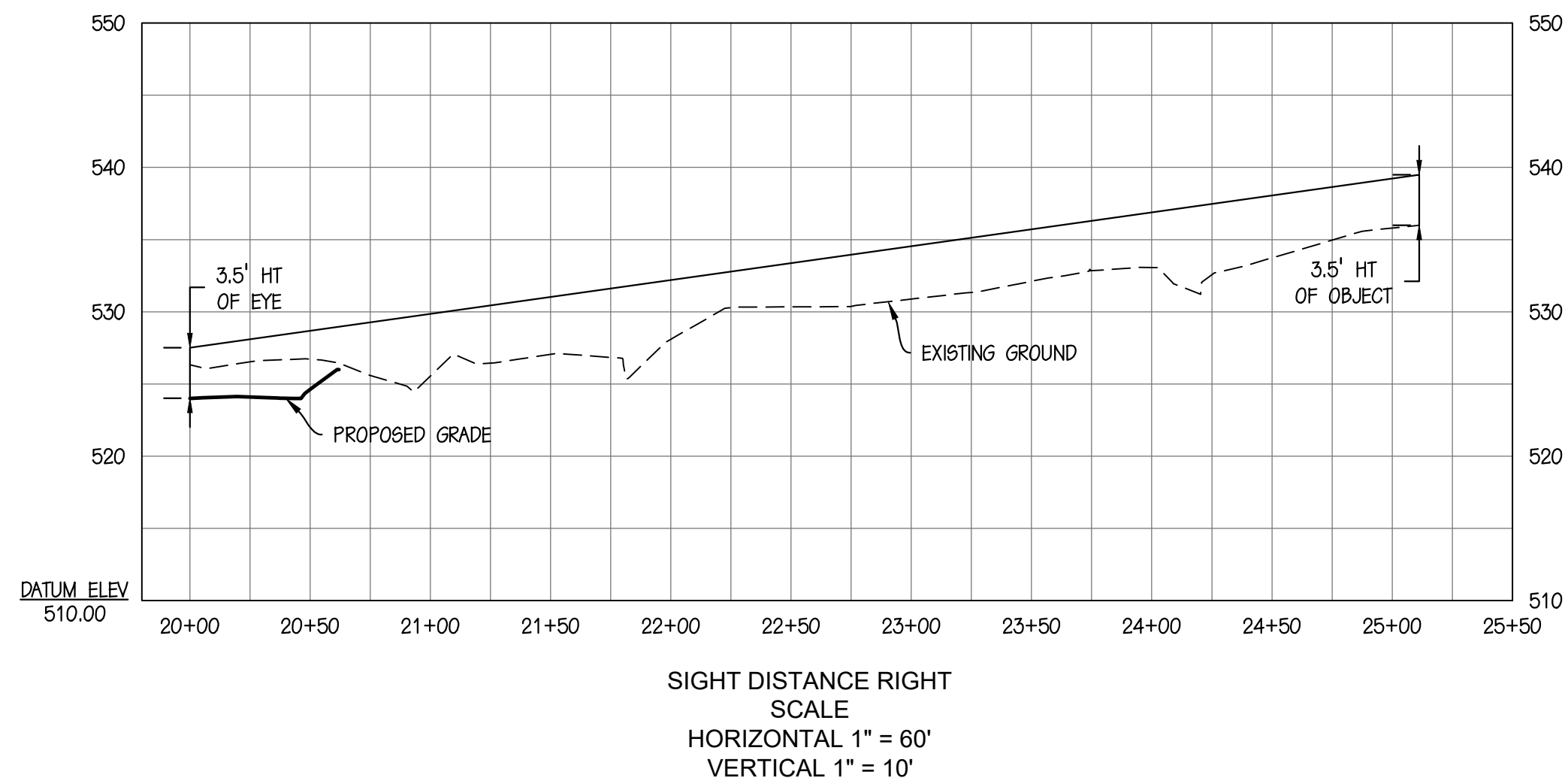
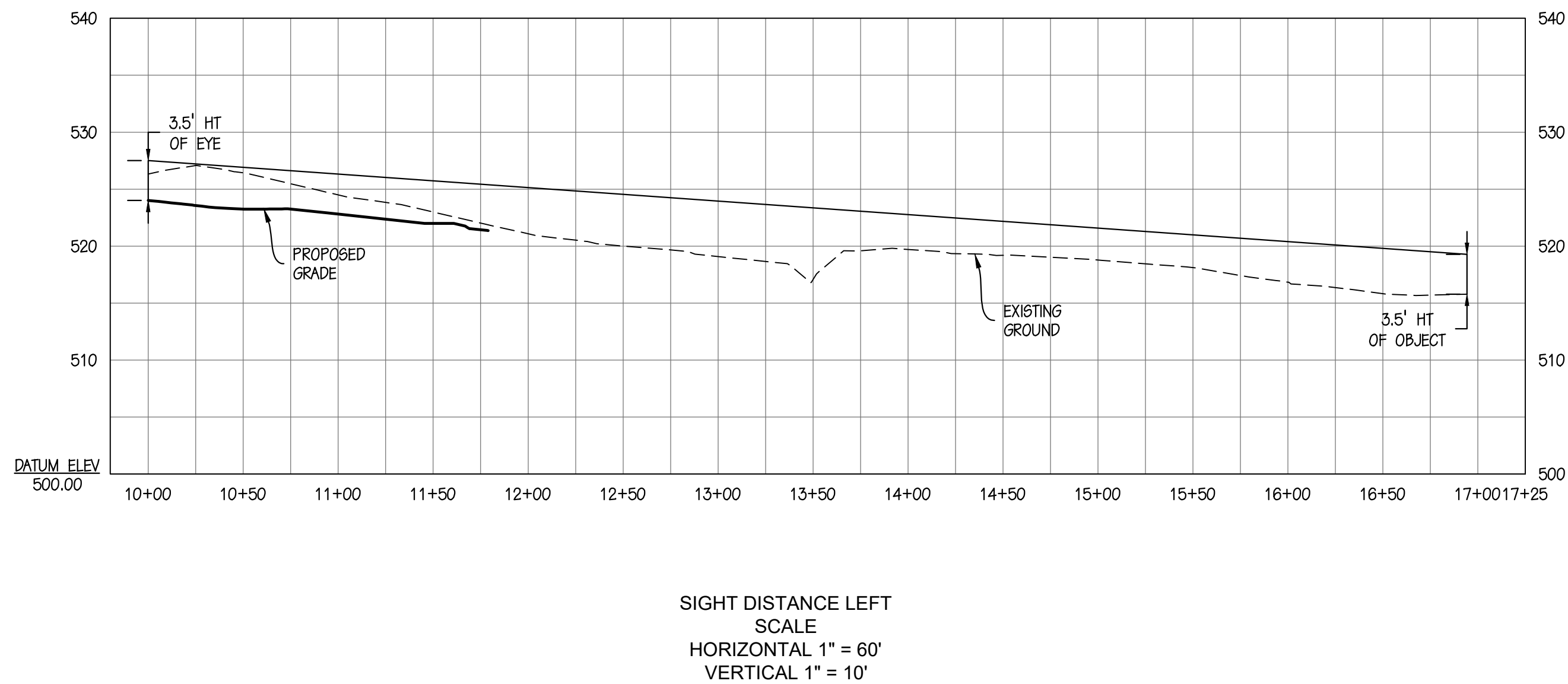
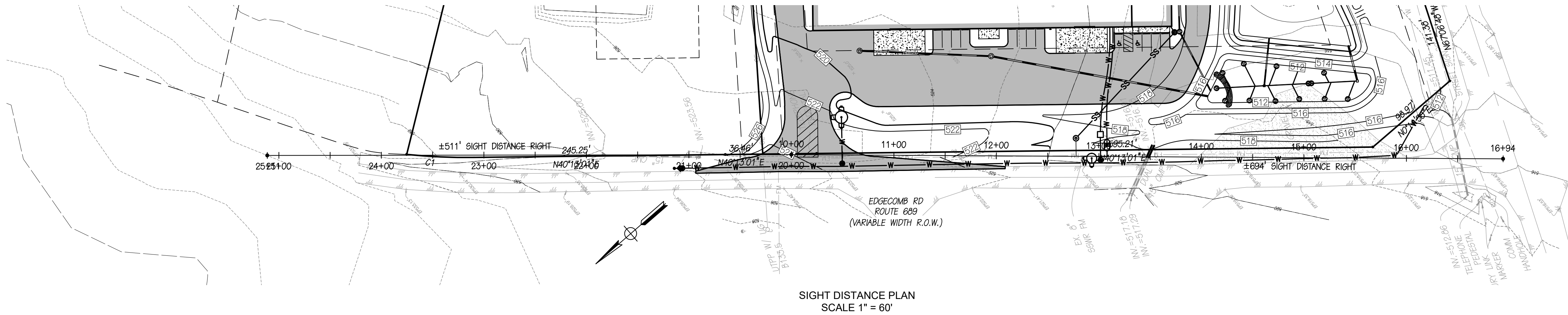
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VDOT ENTRANCE PLAN, NOTES
& DETAILS

GRAPHIC SCALE
AS SHOWN

SHEET	REVISION DATE	REVISION DESCRIPTION
C205		
JOB NO.	22024	SHEET NO. 9 OF 24

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SEAL:

SEAL

RUSSELL H. ORRISON

Lic. No. 031849

05/12/2022

PROFESSIONAL ENGINEER

JOB:

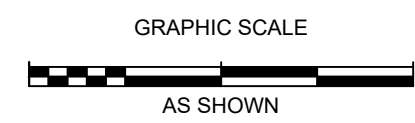
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FLUVANNA COUNTY, VIRGINIA

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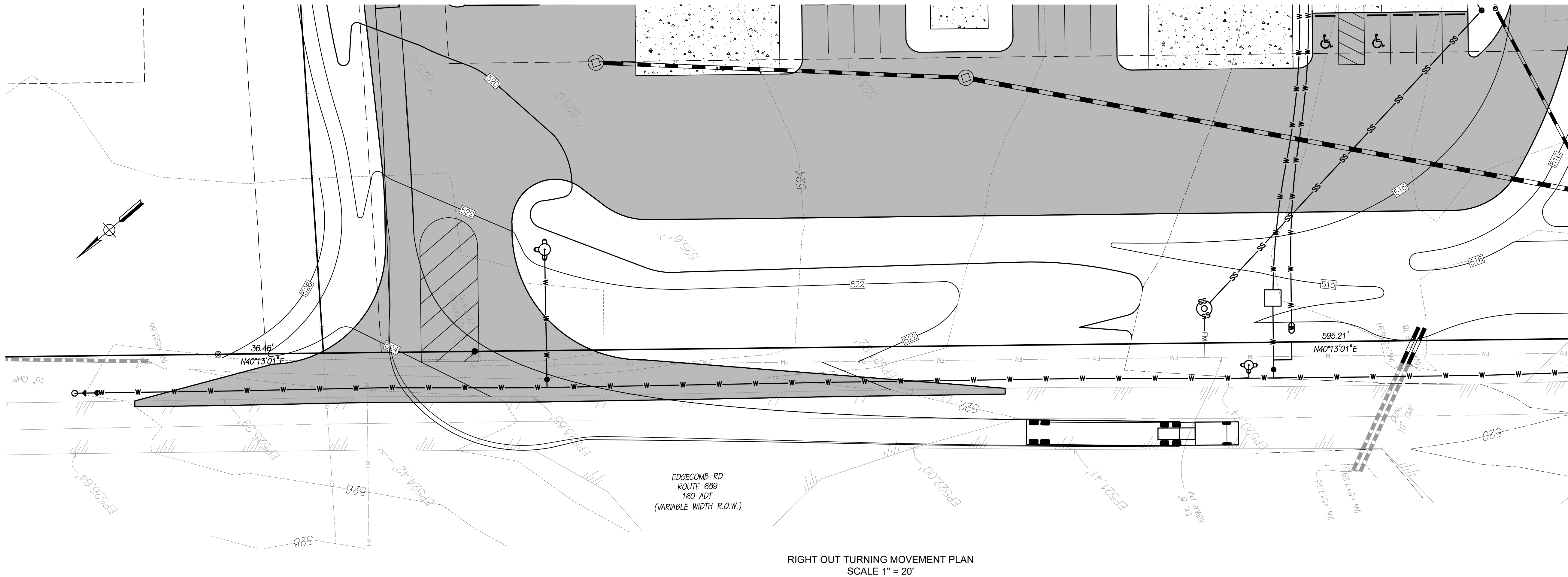
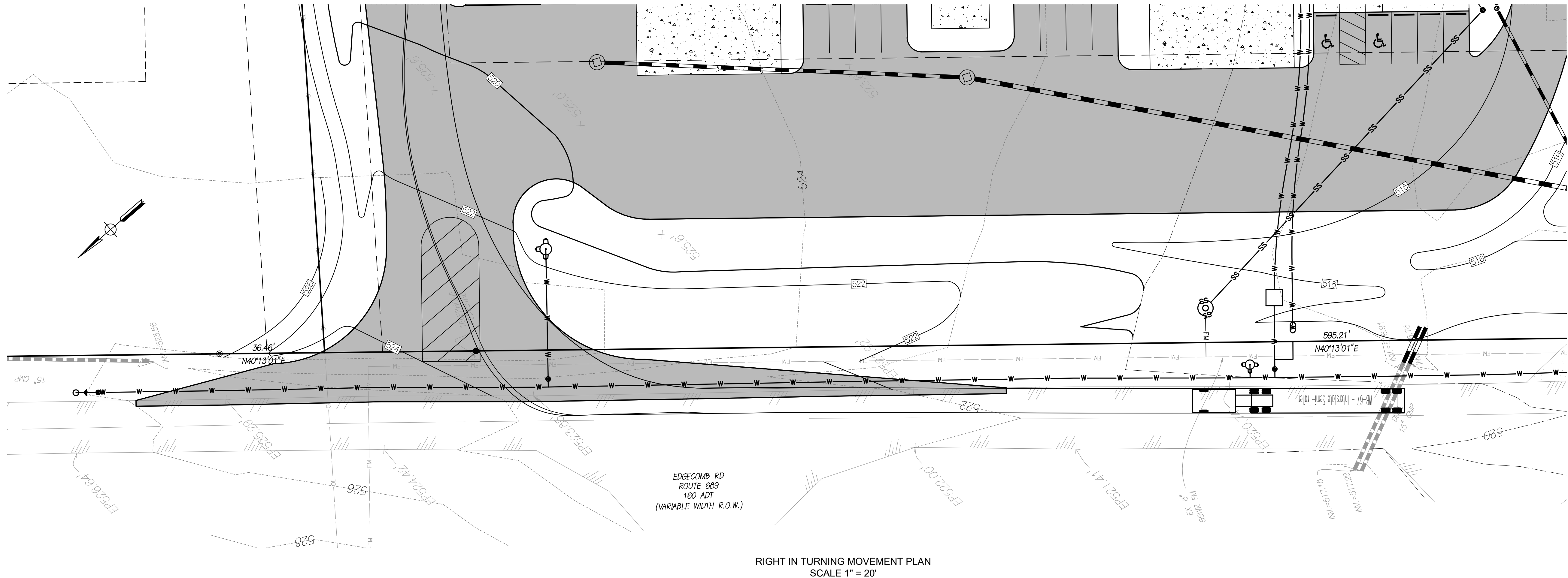
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VDOT SIGHT DISTANCE



SHEET	C206	SECTION PROJECT #
JOB NO.:	22024	SHEET NO. 10 OF 24

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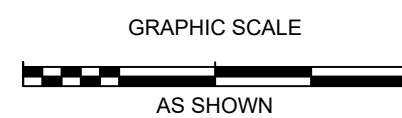
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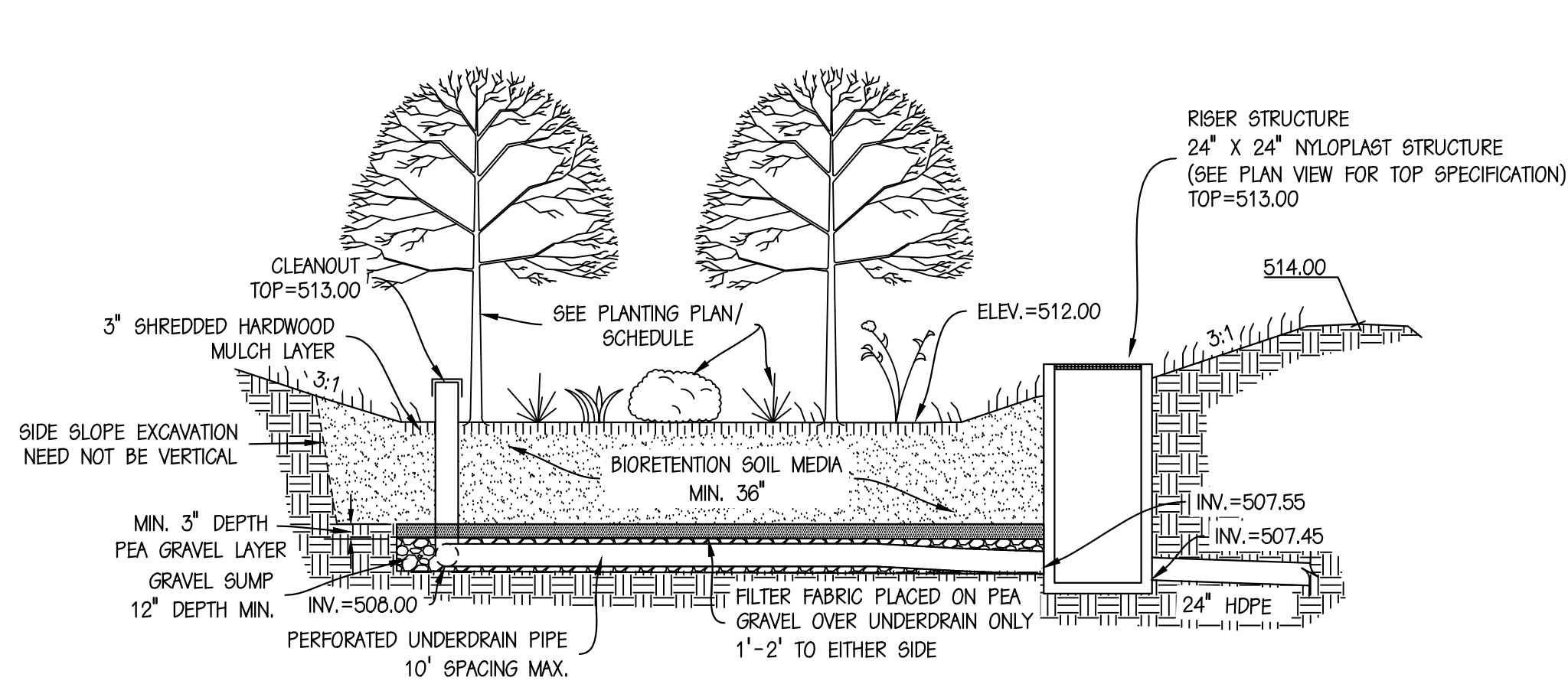
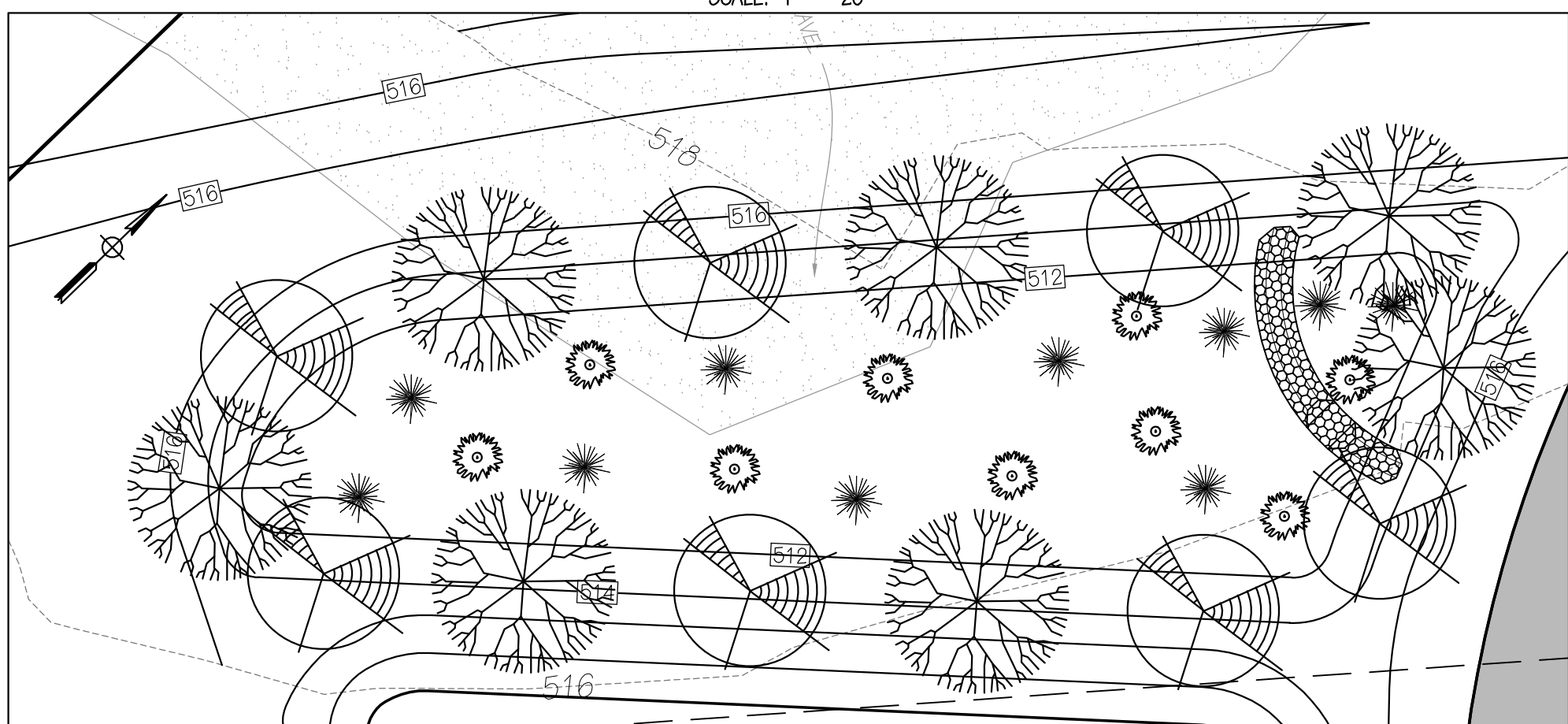
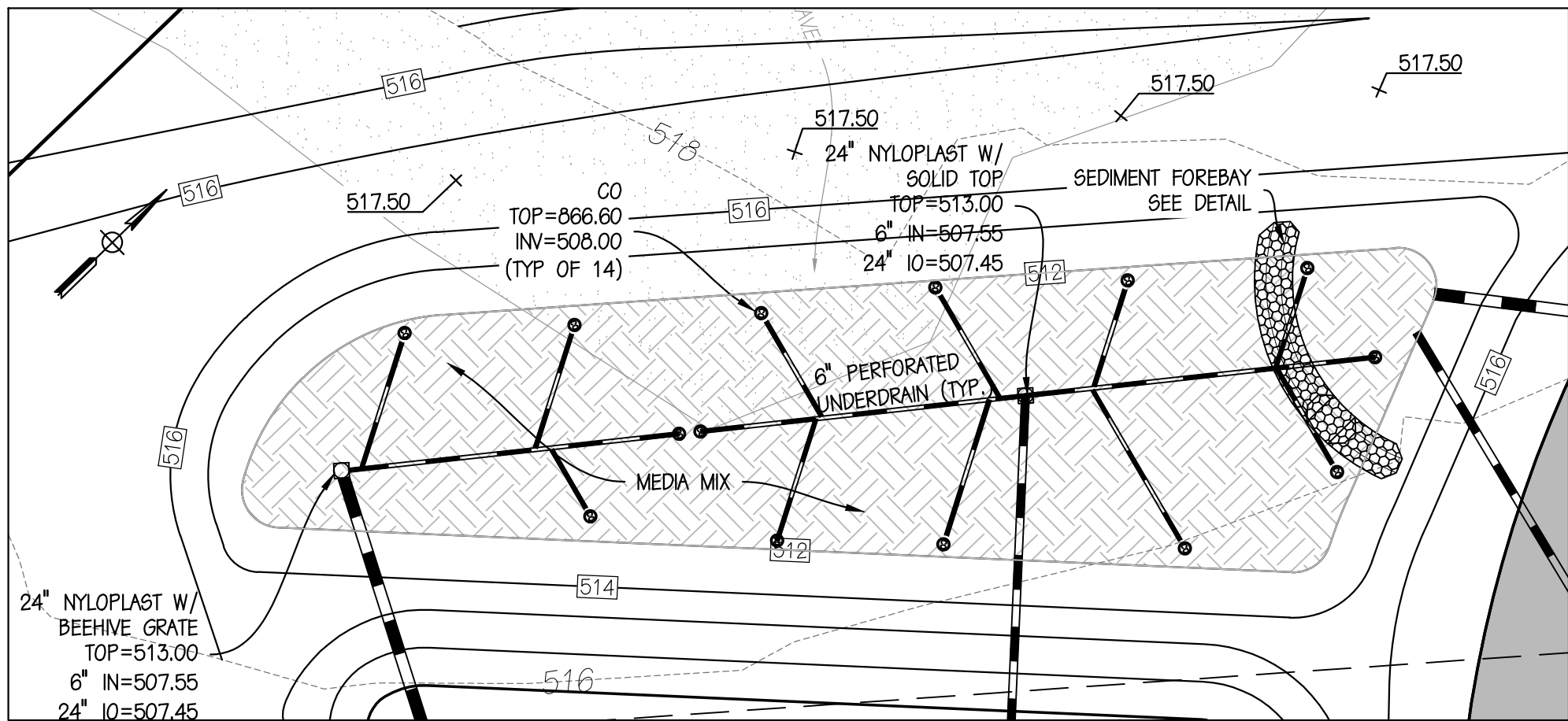
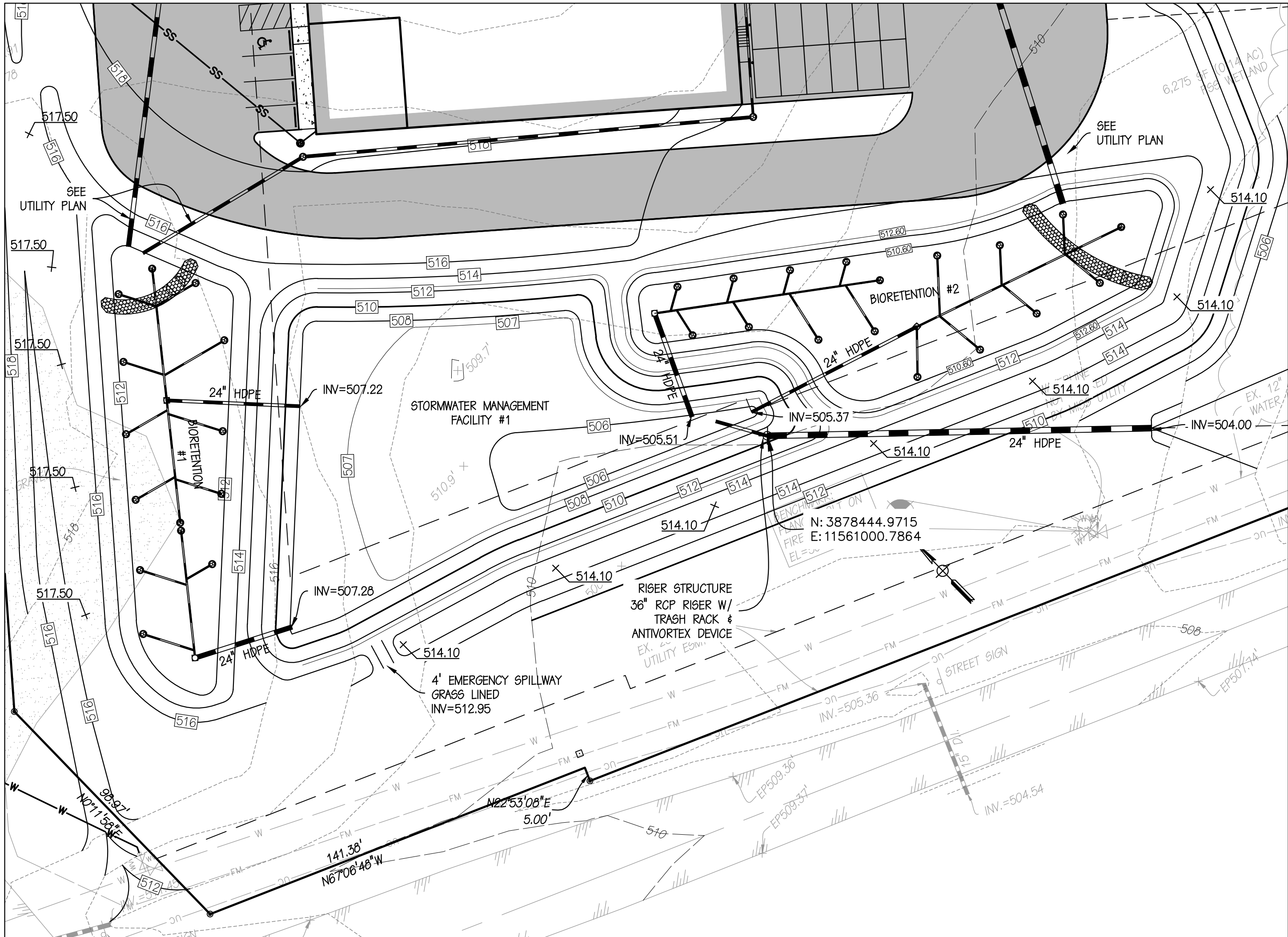
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SHEET TITLE

ENTRANCE TURNING
MOVEMENTS

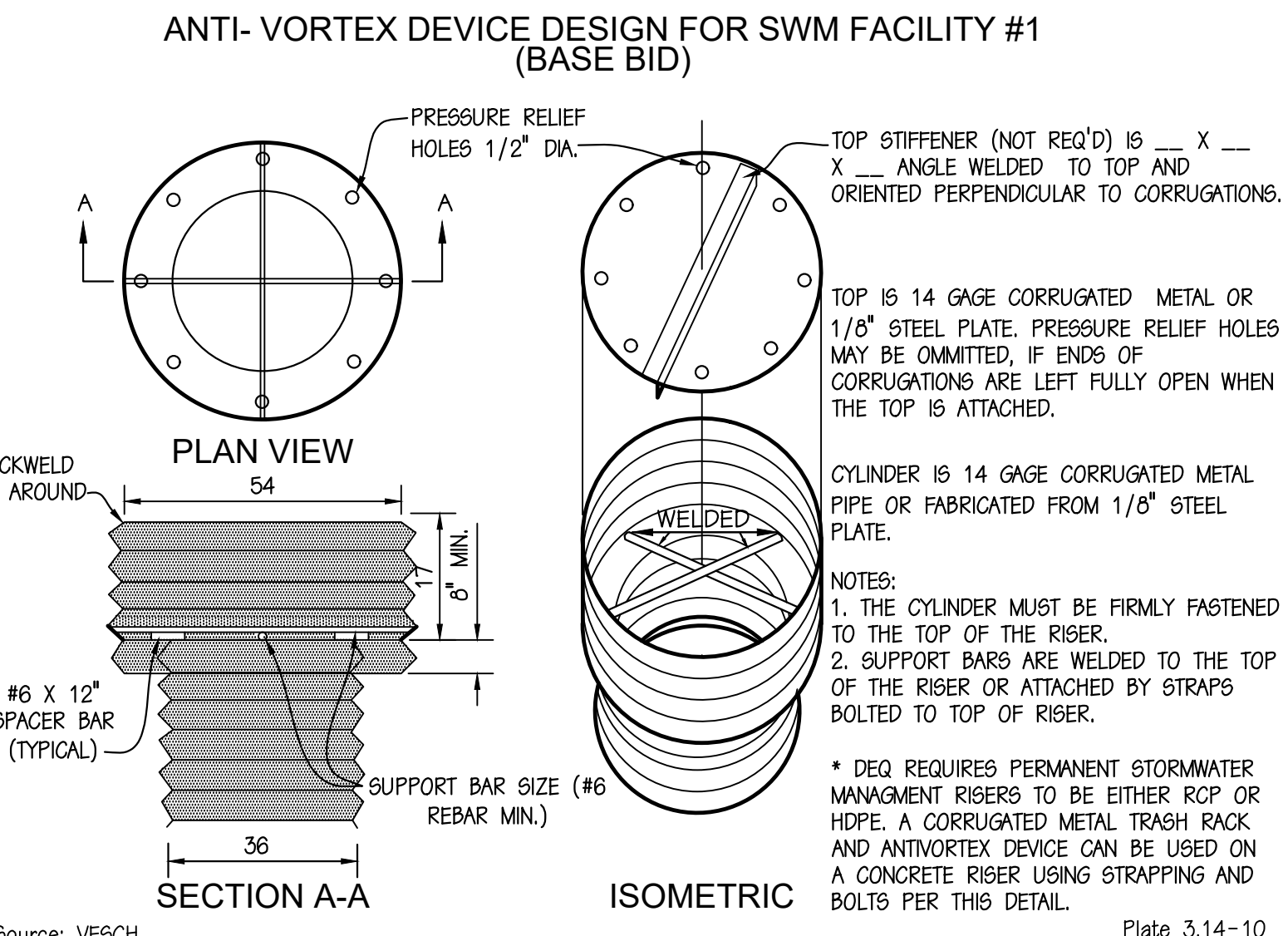
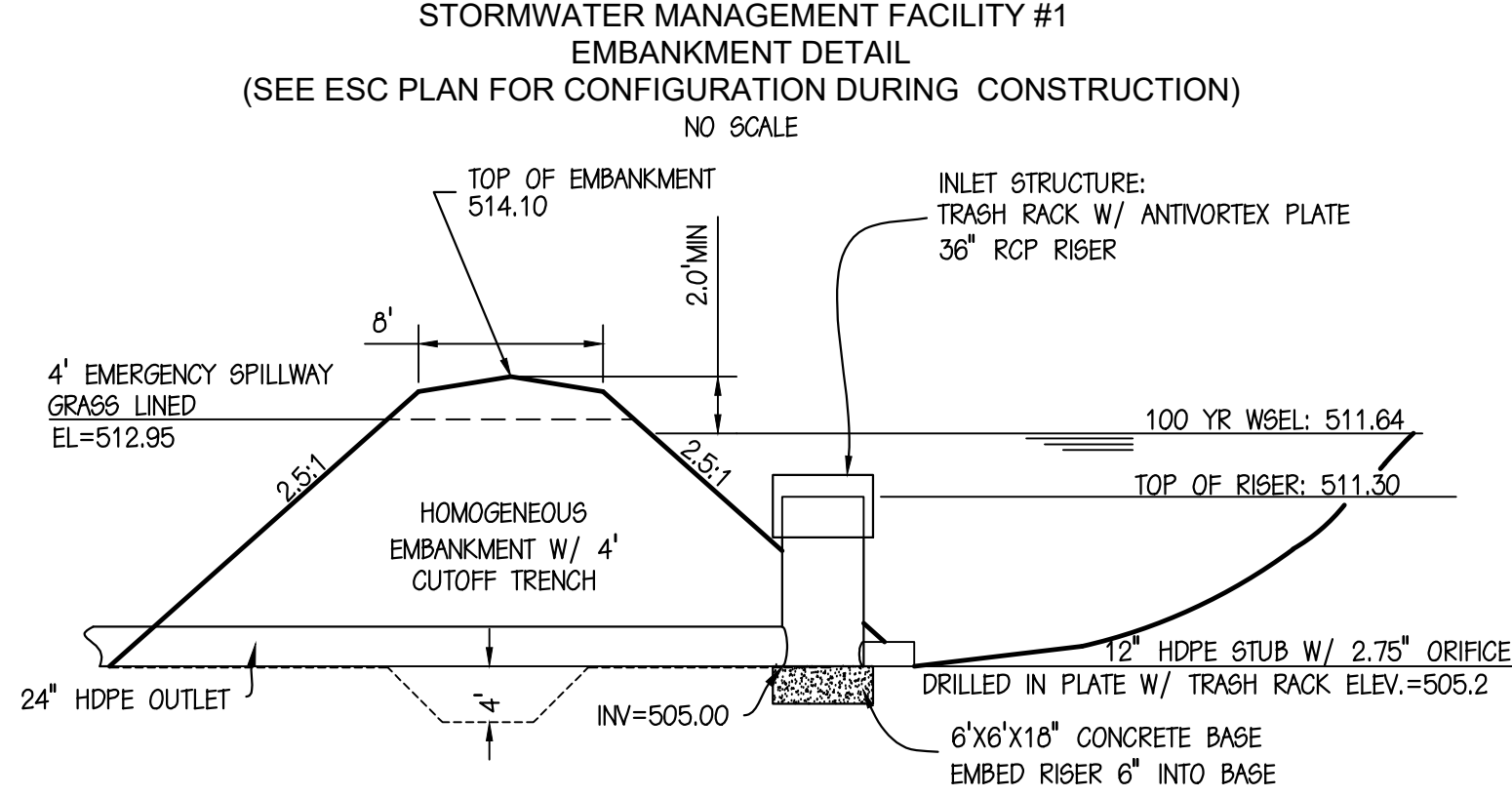
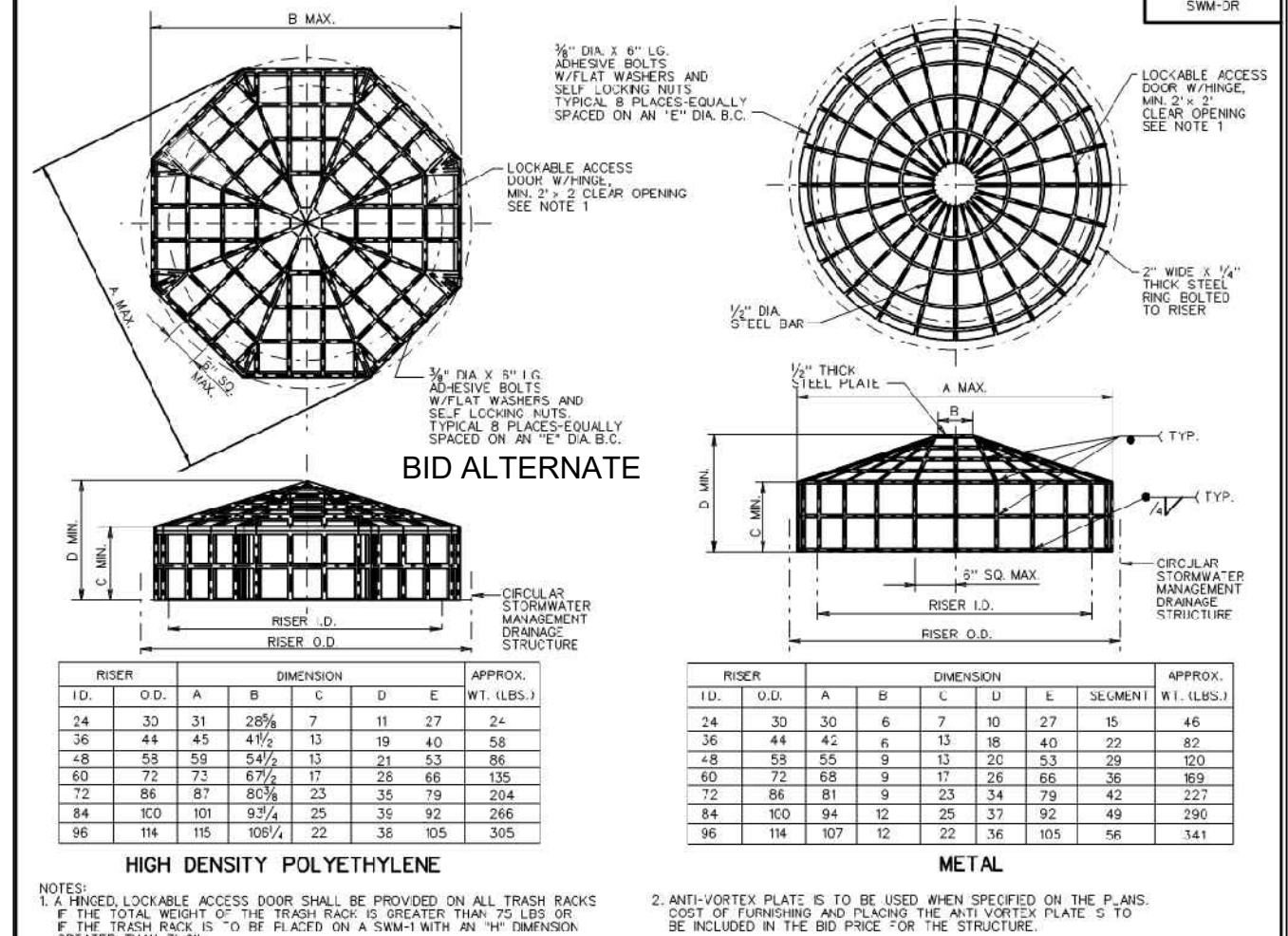
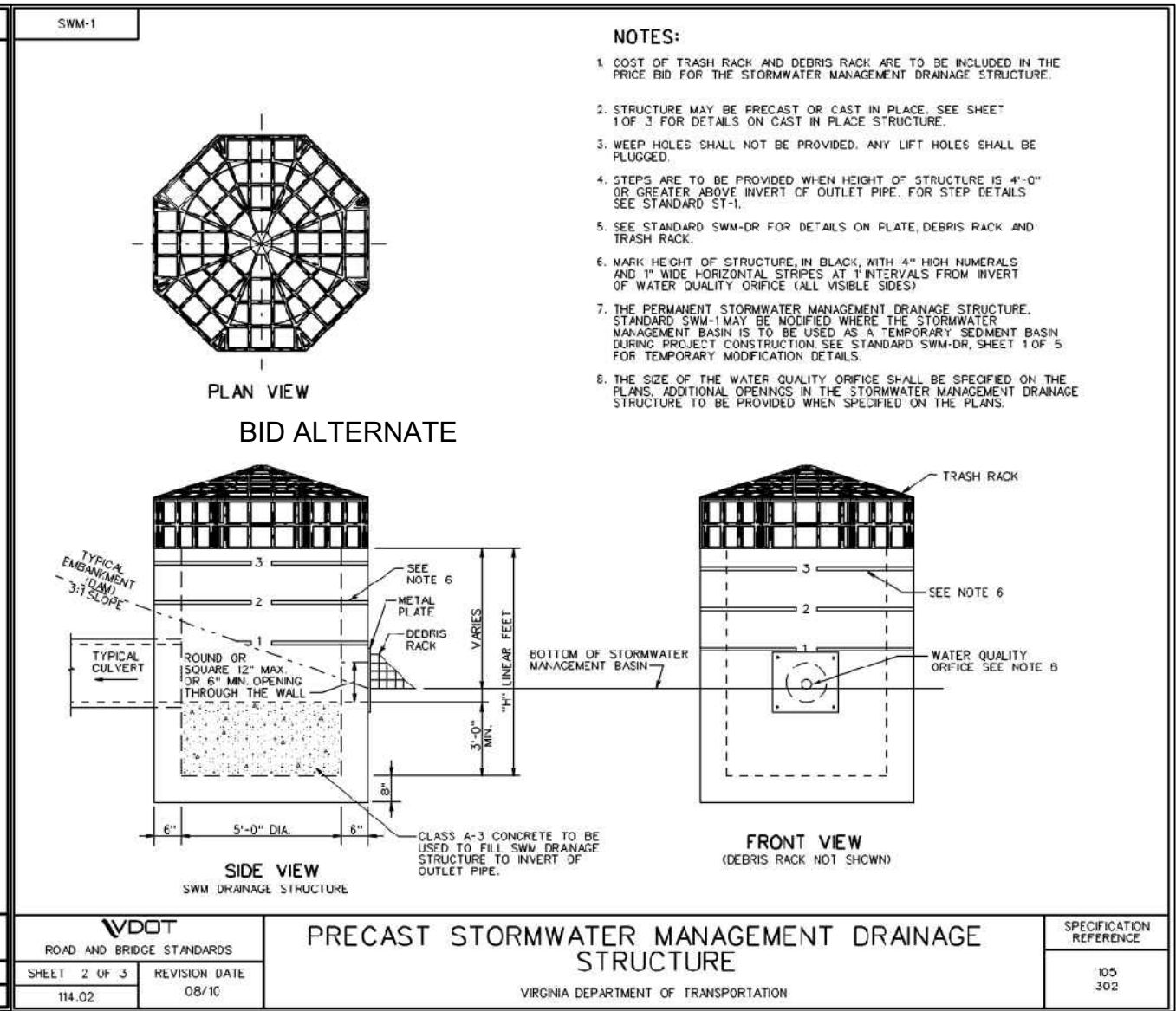
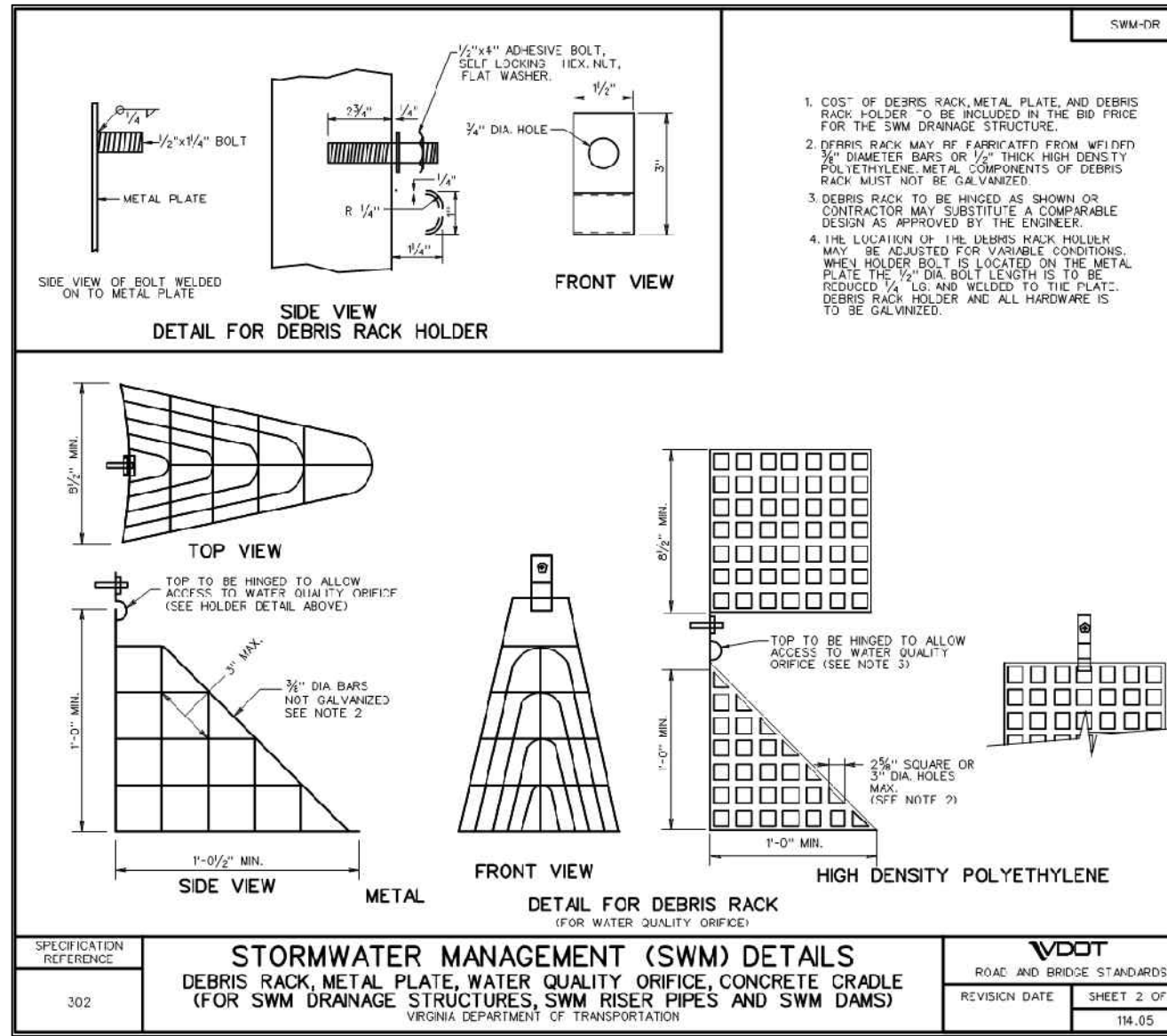
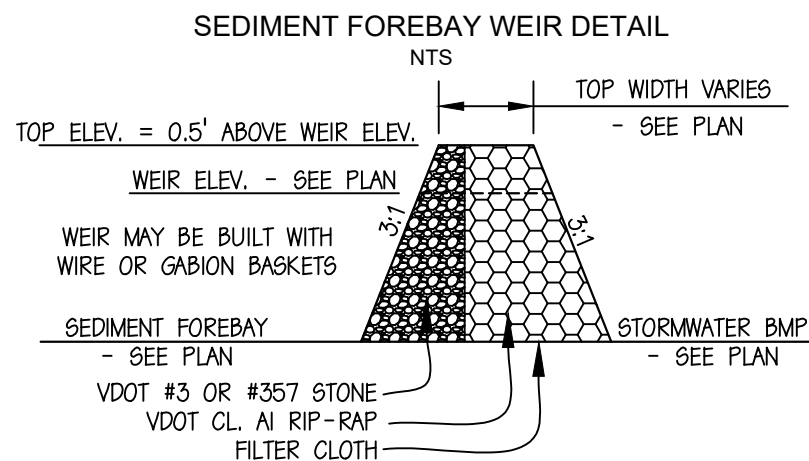


SHEET	C207	PROJECT PROJECT #
JOB NO.	22024	SHEET NO. 11 of 24



BIORETENTION #1 PLANTING SCHEDULE				
SYM	QUANTITY	BOTANIC NAME	COMMON NAME	SIZE @ INSTALL
	7	BETULA NIGRA	RIVER BIRCH	1.5" CAL. MIN
	7	ACER RUBRUM	RED MAPLE	1.5" CAL. MIN
	10	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	2' (MEDIUM SHRUB)
	9	MYRICA CERIFERA	WAX MYRTLE	3' (LARGE SHRUB)

NOTE: CONTRACTOR MAY SUBSTITUTE SIMILAR TREE/SHRUB SPECIES AS A RESULT OF NURSERY AVAILABILITY AND THE LIKELIHOOD OF THE PLANT SURVIVING WHEN PLANTING OCCURS. IF A TREE/SHRUB SPECIES IS CHANGED, IT MUST BE AN APPROVED SPECIES LISTED ON TABLE 9.4 OF VIRGINIA DEQ DESIGN SPECIFICATION NO. 9 - BIORETENTION. (TYP.)

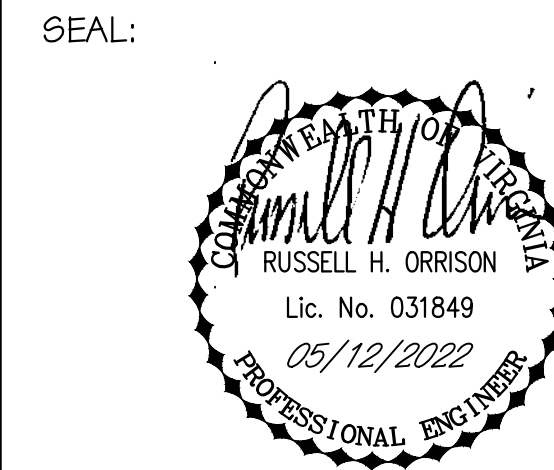


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CONSULTANTS



JOB:

CLIENT:
GLASS & ASSOCIATES, INC.

ZION CROSSROADS
WAREHOUSE PHASE 1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

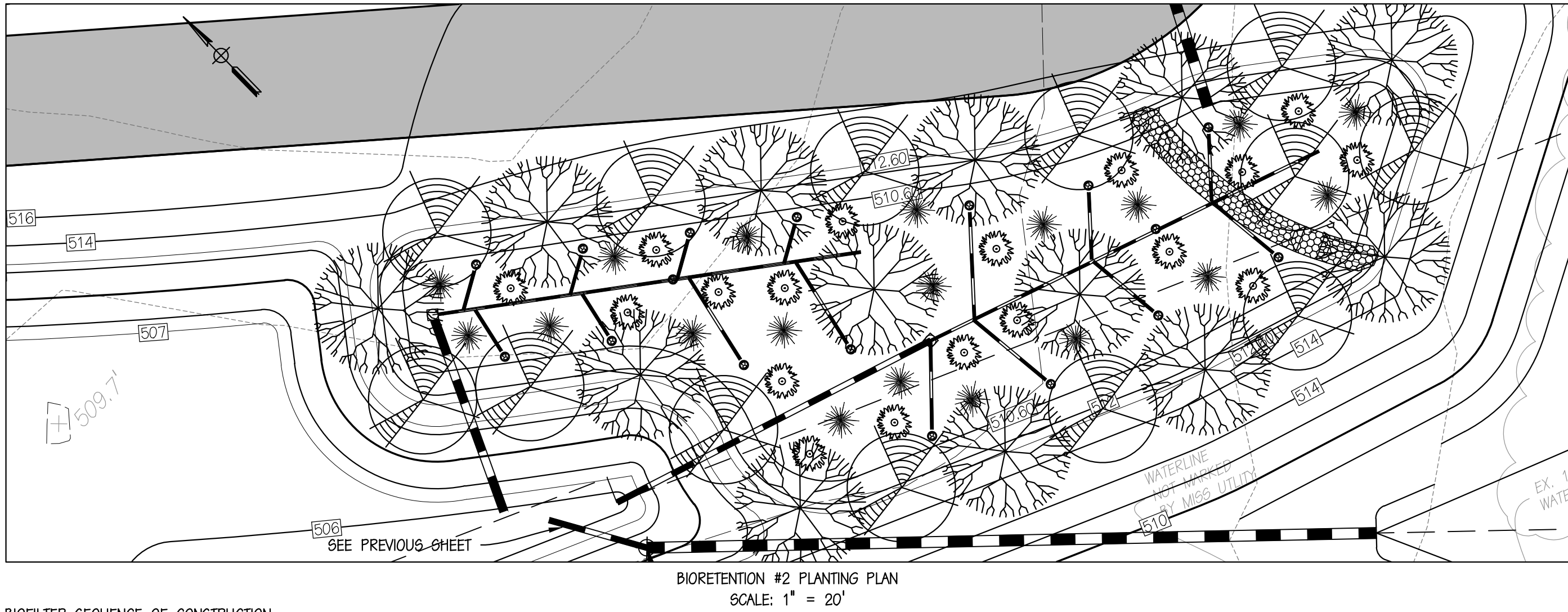
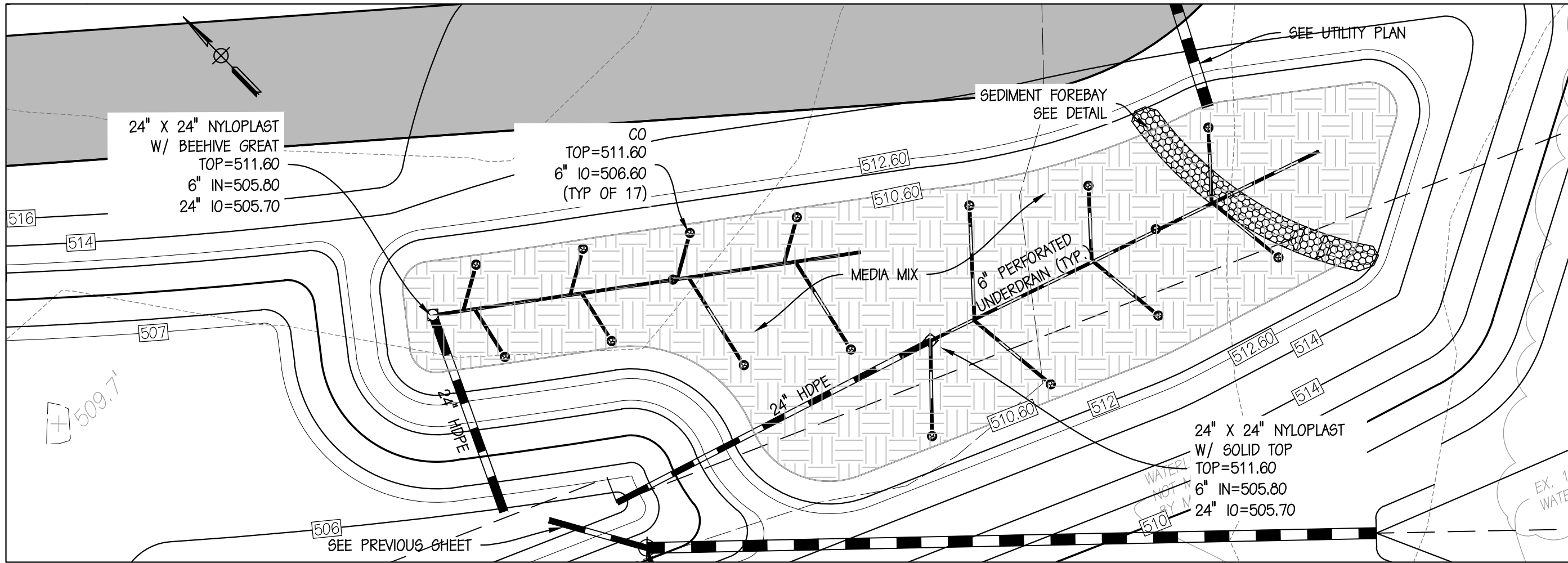
1	05/12/2022	SUBMITTAL TO COUNTY
MARK	DATE	DESCRIPTION
ISSUE: 05/04/2022		
CONTOUR INTERVAL: 2'		
DESIGNED BY: RHO		
DRAWN BY: PWS/BDG/DAW		
CHECKED BY: RHO		

SHEET TITLE

STORMWATER MANAGEMENT
PLAN, NOTES & DETAILS



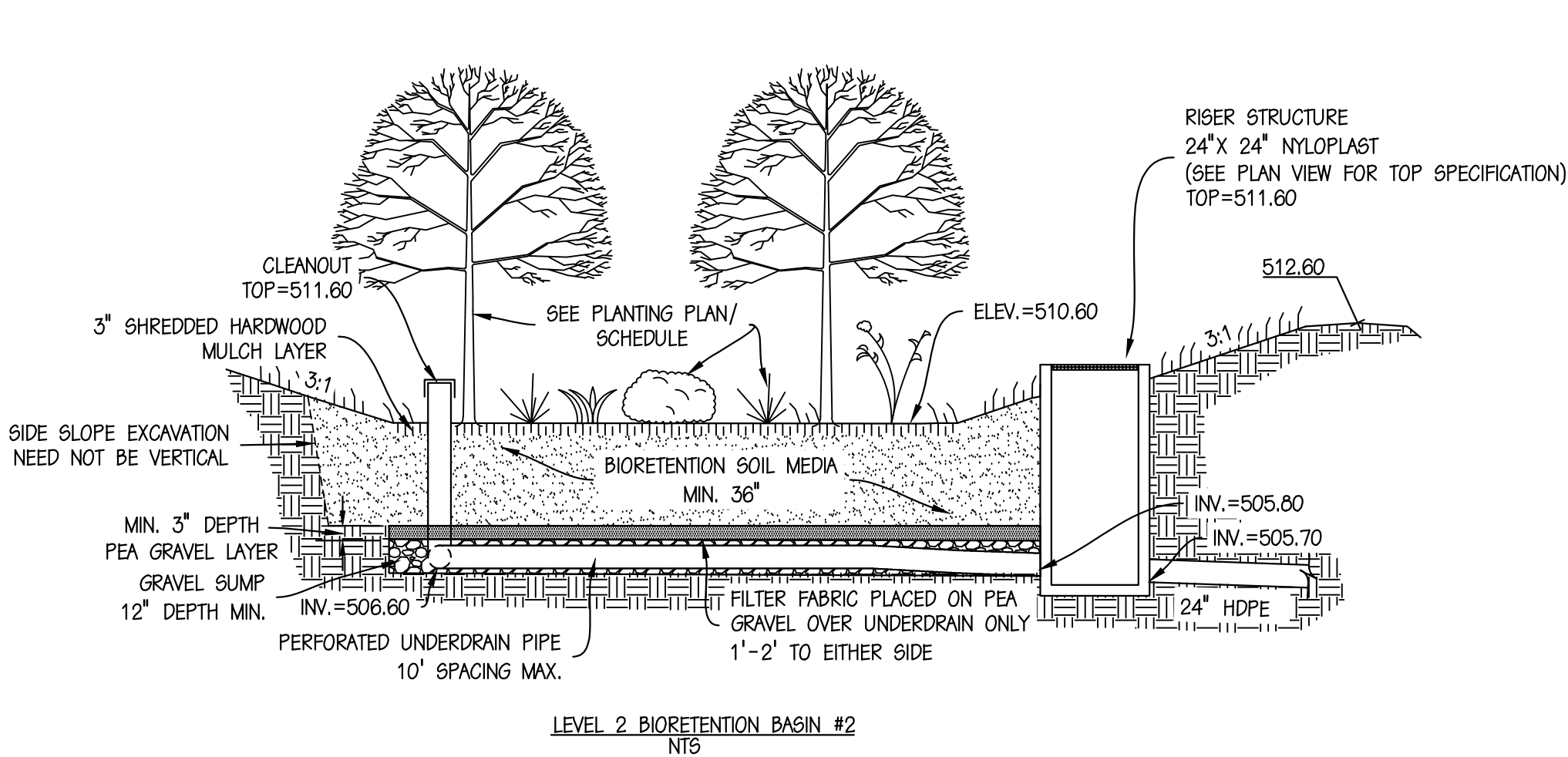
SHEET	C208	PROJECT	12 OF 24
JOB NO.	22024	SHEET NO.	12 OF 24



- BIOFILTER SEQUENCE OF CONSTRUCTION**
SOURCE: VIRGINIA STORMWATER MANAGEMENT HANDBOOK
1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES FOR THE SITE AS INDICATED IN THE EROSION AND SEDIMENT CONTROL PLAN.
 2. GRADE SITE TO ELEVATIONS SHOWN ON PLAN. INITIALLY, THE BASIN FLOOR MAY BE EXCAVATED TO WITHIN ONE FOOT OF ITS FINAL ELEVATION. EXCAVATION TO FINISHED GRADE AND CONSTRUCTION OF BIOFILTER UNDERDRAINS SHALL BE DEFERRED UNTIL ALL DISTURBED AREAS WITHIN THE WATERSHED HAVE BEEN STABILIZED AND PROTECTED.
 3. COMPLETE CONSTRUCTION WITHIN THE BIOFILTER WATERSHED AND STABILIZE ALL AREAS DRAINING TO THE BIOFILTER.
 4. ONLY REMOVE SEDIMENT CONTROL DEVICES AT THE DIRECTION OF DESIGNATED CITY OF LYNCHBURG INSPECTOR.
 5. REMOVE ALL ACCUMULATED SEDIMENT AND EXCAVATE BIOFILTER AREA TO PROPOSED DEPTH. USE RELATIVELY LIGHT, TRACKED EQUIPMENT TO AVOID COMPACTION OF THE BASIN FLOOR. AFTER FINAL GRADING IS COMPLETED, DEEPLY TILL THE BASIN FLOOR WITH ROTARY TILLERS OR DISC HARROWS TO PROVIDE A WELL-AERATED, HIGHLY POROUS SURFACE TEXTURE.
 6. INSTALL FILTER FABRIC AT THE BIOFILTER FLOOR OVERLAPPING A MINIMUM OF 12 INCHES. INSTALL A 6 INCH LIFT OF UNDERDRAIN GRAVEL (AASHTO M43) AND LIGHTLY COMPACT WITH LANDSCAPING ROLLER. INSTALL UNDERDRAIN PIPING, CLEANOUTS AND APPURTENANCES IN ACCORDANCE WITH THE PIPE MANUFACTURER SPECIFICATIONS. INSTALL A 2 FOOT LIFT ON TOP OF UNDERDRAIN SYSTEM AND LIGHTLY COMPACT WITH LANDSCAPING ROLLER. WRAP FILTER FABRIC AROUND ALL UNDERDRAIN GRAVEL.
 7. FILL BIOFILTER AREA WITH STATE APPROVED BIOFILTER MIX AS SHOWN IN THE PLANS AND DETAILED IN SPECIFICATIONS.
 8. INSTALL VEGETATION AND GROUND COVER SPECIFIED IN THE PLANTING PLAN FOR BIORETENTION AREA. INSTALL MULCH LAYER TO 3" REQUIRED DEPTH.
 9. UPON AUTHORIZATION FROM THE DESIGNATED INSPECTOR, REMOVE REMAINING SEDIMENT CONTROLS AND STABILIZE ALL DISTURBED AREAS.

- BIOFILTER UNDERDRAIN SPECIFICATIONS**
UNDERDRAIN MATERIAL TYPES
UNDERDRAIN SYSTEMS SHALL BE COMPOSED OF 6-INCH PVC PIPE (SCHEDULE 40) OR APPROVED EQUAL.
UNDERDRAIN CONNECTIONS
PIPE SECTIONS SHALL BE COUPLED USING SUITABLE CONNECTION SOCKET-WELDED JOINTS. FIELD CONNECTIONS TO STORMDRAIN STRUCTURES AND PIPES SHALL BE SEALED WITH POLYMER GROUT MATERIAL THAT IS CAPABLE OF ADHERING TO SURFACES. UNDERDRAIN PIPE SHALL BE CAPPED (AT STRUCTURE) UNTIL COMPLETION OF SITE. UNDERDRAINS CONNECTED DIRECTLY TO A STORM DRAINAGE STRUCTURE SHALL BE NON-PERFORATED FOR A DISTANCE OF AT LEAST 5 FEET FROM THE STRUCTURE INTERFACE TO AVOID POSSIBLE PIPING PROBLEMS.
UNDERDRAIN PERFORATIONS
UNDERDRAIN PERFORATIONS SHALL BE 1/4" PERFORATIONS, 6" CENTER TO CENTER, ALONG TWO OR THREE EQUALLY SPACED LONGITUDINAL ROWS. PERFORATIONS SHALL BE PLACED CLOSEST TO THE INVERT OF THE PIPE TO ACHIEVE MAXIMUM POTENTIAL FOR DRAINING THE FACILITY. NO PERFORATIONS ARE TO BE WITHIN 5 FEET OF WHERE THE UNDERDRAIN SYSTEM CONNECTS TO A STORMDRAIN STRUCTURE.
UNDERDRAIN INSPECTION
THE CONTRACTOR SHALL CONTACT THE FLUVANNA COUNTY WATER RESOURCES INSPECTOR 24-HOURS PRIOR TO BACKFILLING THE BIOFILTER AND REQUEST AN INSPECTION AND APPROVAL OF THE UNDERDRAIN INSTALLATION AND SOIL MIX.
BIOFILTER CONSTRUCTION SPECIFICATIONS
BIOFILTERS SHOULD BE CONSTRUCTED AFTER ALL SITEWORK IS COMPLETE AND STABILIZATION MEASURES HAVE BEEN IMPLEMENTED. BIOFILTERS MUST BE PROTECTED FROM ALL SEDIMENT LOADS TO PREVENT MALFUNCTION. ALL BIOFILTRATION AREAS WILL REMAIN "OFF-LINE" FROM STORMWATER INFLOW UNTIL THEIR RESPECTIVE DRAINAGE AREAS ARE FREE FROM LOOSE SEDIMENTS WHICH COULD WASH INTO THE FACILITY. IN ADDITION, ALL CONSTRUCTION ACTIVITIES IN THESE AREAS MUST BE MINIMIZED TO REDUCE COMPACTION OF IN-SITU SOILS, WHICH SHALL BE CORDONED OFF TO PREVENT ACCIDENTAL COMPACTION BY EQUIPMENT DURING THE REMAINDER OF THE CONSTRUCTION PHASE IN THAT AREA.

RECOMMENDED MAINTENANCE SCHEDULE FOR BIOFILTER			
DESCRIPTION	METHOD	FREQUENCY	TIME OF THE YEAR
SOIL			
INSPECT & REPAIR EROSION	VISUAL	MONTHLY	MONTHLY
ORGANIC LAYER			
RE MULCH ANY VOID AREAS	BY HAND	WHENEVER NEEDED	WHENEVER NEEDED
REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER (OPTIONAL)	BY HAND	ONCE EVERY TWO TO THREE YEARS	SPRING
ANY ADDITIONAL MULCH ADDED (OPTIONAL)	BY HAND	ONCE A YEAR	SPRING
PLANTS			
REMOVAL & REPLACEMENT OF ALL DEAD & DISEASED VEGETATION CONSIDERED BEYOND TREATMENT	SEE PLANTING SPECIFICATIONS	TWICE A YEAR	3/15 TO 4/30 & 10/1 TO 11/30
TREAT ALL DISEASED TREES & SHRUBS	MECHANICAL OR BY HAND	N/A	VARIES, DEPENDS ON INSECT OR DISEASE INFESTATION
WATERING OF PLANT MATERIAL SHALL TAKE PLACE AT THE END OF EACH DAY FOR FOURTEEN CONSECUTIVE DAYS AFTER PLANTING HAS BEEN COMPLETED	BY HAND	IMMEDIATELY AFTER COMPLETION OF PROJECT	N/A
REPLACE STAKES AFTER ONE YEAR	BY HAND	ONCE A YEAR	ONLY REMOVE STAKES IN THE SPRING
REPLACE ANY DEFICIENT STAKES OR WIRES	BY HAND	N/A	WHENEVER NEEDED
CHECK FOR ACCUMULATED SEDIMENTS	VISUAL	MONTHLY	MONTHLY



BIORETENTION #2 PLANTING SCHEDULE				
SYM	QUANTITY	BOTANIC NAME	COMMON NAME	SIZE @ INSTALL
	13	BETULA NIGRA	RIVER BIRCH	1.5" CAL. MIN
	13	ACER RUBRUM	RED MAPLE	1.5" CAL. MIN
	19	ITEA VIRGINICA	VIRGINIA SWEETSPICE	2' (MEDIUM SHRUB)
	18	MYRICA CERIFERA	WAX MYRTLE	3' (LARGE SHRUB)

NOTE:
CONTRACTOR MAY SUBSTITUTE SIMILAR TREE/SHRUB SPECIES AS A RESULT OF NURSERY AVAILABILITY AND THE LIKELIHOOD OF THE PLANT SURVIVING WHEN PLANTING OCCURS. IF A TREE/SHRUB SPECIES IS CHANGED, IT MUST BE AN APPROVED SPECIES LISTED ON TABLE 9.4 OF VIRGINIA DEG DESIGN SPECIFICATION NO. 9 - BIORETENTION. (TYP.)

STORMWATER MANAGEMENT NARRATIVE:

PROJECT DESCRIPTION:
THIS PROJECT PROPOSES THE CONSTRUCTION OF A 52,500 SF WAREHOUSE WITH ASSOCIATED VDOT ENTRANCE, PARKING, GRADING, UNDERGROUND UTILITIES, AND STORMWATER MANAGEMENT. APPROXIMATELY 6.99 ACRES OF LAND WILL BE DISTURBED BY CONSTRUCTION WITH 3.22 ACRES OF IMPERVIOUS AREA BEING ADDED. PLEASE SEE PRE-DEVELOPED AND POST-DEVELOPED LAND USE MAPS IN SECTION E.1 OF THE ENGINEERING CALCULATIONS PACKET. THE DEVELOPER ANTICIPATES FUTURE DEVELOPMENT ON THIS PROPERTY. THEREFORE, STORMWATER WAS SCHEMATICALLY ANALYZED FOR THE FUTURE BUILDOUT. HOWEVER, THE STORMWATER BMPs PROPOSED WITH THIS PROJECT ARE DESIGNED ONLY FOR THE IMMEDIATE CONSTRUCTION PHASE AND ANTICIPATED FUTURE AREAS. FUTURE BMPs WILL NEED TO BE FINALIZED WHEN THE FUTURE PLANS ARE PREPARED. PLEASE SEE THE STORMWATER MANAGEMENT PORTION OF THIS NARRATIVE BELOW FOR A MORE DETAILED DESCRIPTION OF HOW STORMWATER QUALITY AND QUANTITY WILL BE ADDRESSED WITH THIS PROJECT.

EXISTING CONDITIONS:
THE SITE IS LOCATED NEAR THE INTERSECTION OF RICHMOND ROAD AND EDGECOMB ROAD IN FLUVANNA COUNTY, VA. THE SITE IS MOSTLY COMPOSED OF GRASSY AND FORESTED AREAS WITH AN EXISTING DIRT ACCESS ROAD. THERE ARE 0.17 ACRES OF IMPERVIOUS AREA, 6.52 ACRES OF MANAGED TURF, AND 0.30 ACRES OF WOODED/OPEN SPACE. PLEASE SEE PRE-DEVELOPED LAND USE MAP IN SECTION E.1 OF THE ENGINEERING CALCULATIONS.

SOILS:
ACCORDING TO THE NRCS WEB SOIL SURVEY, THERE ARE FOUR SOIL TYPES ONSITE. THE FIRST IS LIGNUM SILT LOAM, ABBREVIATED AS LB, AND BELONGS TO THE HYDROLOGIC SOIL GROUP D. THE SECOND IS MASON SILT LOAM, ABBREVIATED AS NG, AND BELONGS TO THE HYDROLOGIC SOIL GROUP B. THE THIRD IS WORTHAM SILT LOAM, ABBREVIATED AS WF, AND BELONGS TO THE HYDROLOGIC SOIL GROUP D. THE FOURTH IS PREVIOUSLY DEVELOPED LAND AND WAS ASSUMED TO BELONG TO THE HYDROLOGIC SOIL GROUP D.

STORMWATER MANAGEMENT:
THE POST-DEVELOPED SITE IS 6.99 ACRES WITH 3.39 ACRES OF IMPERVIOUS AREA AND 3.60 ACRES OF MANAGED TURF. USING THE VRRM NEW DEVELOPMENT SPREADSHEET, THE TOTAL TP LOAD REDUCTION REQUIREMENT IS 6.35 LBS/YR PRIOR TO THE IMPLEMENTATION OF ANY STORMWATER MANAGEMENT BMPs. TWO BIORETENTION FACILITIES ARE PROPOSED TO ADDRESS STORMWATER QUALITY REQUIREMENTS FOR THIS PROJECT. BIORETENTION #1 IS A LEVEL 2 FACILITY WITH A DRAINAGE AREA OF 2.22 ACRES OF WHICH 1.40 ACRES IF IMPERVIOUS. BIORETENTION #2 IS A LEVEL 2 FACILITY WITH A DRAINAGE AREA OF 2.25 ACRES OF WHICH 1.62 ACRES IS IMPERVIOUS. AFTER RUNNING THE DRAINAGE AREAS THROUGH EACH OF THE BIORETENTION BMPs ON THE D.A. A TAB OF THE VRRM SPREADSHEET, THE TOTAL TP LOAD REDUCTION REQUIREMENT IS EXCEEDED BY 0.52 LBS/YR. THIS REDUCTION IN PHOSPHOROUS LOAD WILL BE RESERVED AND MAY BE USED TO OFFSET FUTURE DEVELOPMENT. BIORETENTION #2 IS DESIGNED FOR A TOTAL BUILDOUT ACREAGE OF 3.51 ACRES WITH 3.05 ACRES OF IMPERVIOUS AREA. AS PREVIOUSLY MENTIONED, THE DEVELOPER OF THIS PROJECT ANTICIPATES FUTURE DEVELOPMENT ON THIS PROPERTY. THEREFORE, PERKINS & ORRISON HAS SCHEMATICALLY ANALYZED THE FUTURE DEVELOPMENT FOR STORMWATER QUALITY CRITERIA. THE ENGINEER ANTICIPATES THE DESIGN AND INSTALLATION OF TWO ADDITIONAL BIORETENTION BMPs TOWARD THE NORTH END OF SITE ALONG WITH THE PURCHASE OF NUTRIENT CREDITS TO SATISFY STORMWATER QUALITY REQUIREMENTS FOR THE FUTURE PHASES. FOR REFERENCE, PLEASE SEE THE CONCEPTUAL FUTURE DRAINAGE DIVIDE MAP (SHEET C502) IN THE PLAN SET AND THE CONCEPTUAL VRRM SPREADSHEET INCLUDED IN SECTION E.3 OF THE ENGINEERING CALCULATIONS. THE LAND USE AREAS SHOWN ON THESE DOCUMENTS ARE NOT FINAL BUT ARE ANTICIPATED TO HAVE CONSERVATIVE IMPERVIOUS AREA QUANTITIES. PLEASE NOTE THAT THESE DOCUMENTS ARE INTENDED TO SHOW HOW FUTURE PHASES COMPLY WITH CURRENT REGULATIONS AND SERVE AS POTENTIAL GRANDFATHERING DOCUMENTATION DEPENDING ON HOW FUTURE REGULATIONS CHANGE. THESE BMPs ARE NOT PROPOSED BY THE PHASE 1 PLAN.

TO ADDRESS STORMWATER QUANTITY REQUIREMENTS, THIS SITE WAS ANALYZED AT TWO POINTS OF ANALYSIS (POA). PLEASE SEE BELOW FOR A DETAILED DESCRIPTION OF EACH POA.
POA #1 IS AN EXISTING 15' DUCTILE IRON CULVERT UNDERNEATH RICHMOND ROAD NEAR THE SOUTHWESTERN CORNER OF THE SITE. TO ADDRESS CHANNEL PROTECTION, THIS POA WAS ANALYZED IN ACCORDANCE WITH ENERGY BALANCE CRITERIA. POA #1 HAS A PRE-DEVELOPED ONSITE DRAINAGE AREA OF 2.98 ACRES WITH A COMPOSITE CN OF 78 RESULTING IN A ONE-YEAR DISCHARGE OF 4.2 CFS AND A VOLUME OF 8496 CF (HYD. 1). POA #1 HAS A POST-DEVELOPED ONSITE DRAINAGE AREA OF 0.23 ACRES WITH A COMPOSITE CN OF 74 RESULTING IN A ONE-YEAR DISCHARGE OF 0.4 CFS AND A VOLUME OF 833 CF (HYD. 6). RUNNING THE PRE-DEVELOPED AND POST-DEVELOPED DISCHARGES AND VOLUMES THROUGH THE ENERGY BALANCE EQUATION YIELDS A ONE-YEAR ALLOWABLE DISCHARGE OF 4.2 CFS. POA #1 ALSO HAS A POST-DEVELOPED OFFSITE DRAINAGE AREA OF 9.76 ACRES WITH A COMPOSITE CN OF 73 RESULTING IN A ONE-YEAR DISCHARGE OF 7.4 CFS (HYD. 11). COMBINING THE ALLOWABLE DISCHARGE PER ENERGY BALANCE (4.2 CFS) WITH THE OFFSITE PASS-THROUGH (7.4 CFS), POA #1 HAS A COMPOSITE ALLOWABLE ONE-YEAR DISCHARGE OF 11.6 CFS. COMBINING THE POST-DEVELOPED ONSITE POA #1 DRAINAGE AREA WITH THE OFFSITE DRAINAGE AREA RESULTS IN A POST-DEVELOPED COMPOSITE ONE-YEAR DISCHARGE AT POA #1 OF 7.5 CFS (HYD. 12). 7.5 CFS IS LESS THAN 11.6 CFS, AND ENERGY BALANCE CRITERIA IS SATISFIED WITHOUT THE IMPLEMENTATION OF ANY STORMWATER MANAGEMENT BMPs IN THIS WATERSHED. THEREFORE, SWAC25-670-66-B.1.B AND SWAC25-670-66-4 ARE SATISFIED, AND NO FURTHER ANALYSIS RELATED TO CHANNEL PROTECTION IS REQUIRED.

TO ADDRESS FLOOD PROTECTION, POA #1 WAS ANALYZED IN ACCORDANCE WITH SWAC25-670-66-C.2.B. THE COMPOSITE PRE-DEVELOPED TEN-YEAR DISCHARGE AT POA #1 IS 29.7 CFS (HYD. 3). THE PRE-DEVELOPED DISCHARGE OF 29.7 CFS RESULTS IN AN HW/D THAT IS OFF OF THE INLET CONTROL MONOGRAPH, THEREFORE, IT WAS ASSUMED TO BE THE LARGEST VALUE OF 6. THE HW/D OF 6 RESULTS IN A HEADWATER DEPTH OF 7.5'. ACCORDING TO THE FIELD SURVEY, THERE IS APPROXIMATELY 3.1' OF HEAD AVAILABLE AT THIS POA. SINCE 7.5' IS GREATER THAN 3.1', THE TEN-YEAR STORM IS NOT CONTAINED IN THE CHANNEL AND LOCALIZED FLOODING EXISTS IN THE PRE-DEVELOPED CONDITION. PLEASE SEE ADEQUATE OUTFALL CALCULATION IN SECTION E.5 OF THE ENGINEERING CALCULATIONS. THE POST-DEVELOPED TEN-YEAR DISCHARGE AT POA #1 IS 28.0 CFS (HYD.12). SINCE THE POST-DEVELOPED TEN-YEAR DISCHARGE (28.0 CFS) IS LESS THAN THE PRE-DEVELOPED TEN-YEAR DISCHARGE (29.7 CFS), SWAC25-670-66-C.2.B IS SATISFIED, AND NO FURTHER ANALYSIS RELATED TO FLOOD PROTECTION IS REQUIRED FOR THIS POA.

POA #2 IS AN EXISTING 24" HDPE CULVERT UNDERNEATH RICHMOND ROAD NEAR THE SOUTHERN END OF THE SITE. TO ADDRESS CHANNEL PROTECTION, THIS POA WAS ANALYZED IN ACCORDANCE WITH ENERGY BALANCE CRITERIA. POA #2 HAS A PRE-DEVELOPED ONSITE DRAINAGE AREA OF 3.78 ACRES WITH A COMPOSITE CN OF 71 RESULTING IN A ONE-YEAR DISCHARGE OF 3.8 CFS AND A VOLUME OF 7850 CF (HYD. 4). POA #2 HAS A POST-DEVELOPED ONSITE DRAINAGE AREA OF 6.67 ACRES WITH A COMPOSITE CN OF 66 RESULTING IN A ONE-YEAR DISCHARGE OF 18.4 CFS AND A VOLUME OF 34506 CF (HYD. 23). RUNNING THE PRE-DEVELOPED AND POST-DEVELOPED DISCHARGES THROUGH THE ENERGY BALANCE EQUATION YIELDS A ONE-YEAR ALLOWABLE DISCHARGE OF 0.7 CFS. POA #2 ALSO HAS AN OFFSITE DRAINAGE AREA OF 16.65 ACRES WITH A COMPOSITE CN OF 66 RESULTING IN A ONE-YEAR DISCHARGE OF 5.2 CFS (HYD. 21). COMBINING THE ALLOWABLE DISCHARGE PER ENERGY BALANCE (0.7 CFS) WITH THE OFFSITE PASS-THROUGH (5.2 CFS), POA #2 HAS A COMPOSITE ALLOWABLE ONE-YEAR DISCHARGE OF 5.9 CFS. THERE ARE TWO BIORETENTION FACILITIES (BIORETENTION #1 AND BIORETENTION #2) AND ONE DRY DETENTION FACILITY (SWM FACILITY #1) PROPOSED TO ADDRESS STORMWATER QUANTITY FOR POA #2. BIORETENTION #1 AND BIORETENTION #2 BOTH OUTFALL TO SWM FACILITY #1. THEREFORE, THE ROUTES OF BOTH BIORETENTION BMPs ARE INCLUDED IN THE INFLOW FOR SWM #1 (SEE HYD. 10). COMBINING THE ROUTE OF SWM #1 WITH THE ONSITE/OFFSITE BYPASS RESULTS IN A COMPOSITE POST-DEVELOPED ONE-YEAR DISCHARGE AT POA #2 OF 5.7 CFS (HYD. 22). 5.7 CFS IS LESS THAN THE ALLOWABLE DISCHARGE OF 5.9 CFS. THEREFORE, ENERGY BALANCE CRITERIA IS MET AND SWAC25-670-66-B.1.B AND SWAC25-670-66-4 ARE SATISFIED. NO FURTHER ANALYSIS RELATED TO CHANNEL PROTECTION IS REQUIRED.

TO ADDRESS FLOOD PROTECTION, POA #2 WAS ANALYZED IN ACCORDANCE WITH SWAC25-670-66-C.2.B. THE COMPOSITE PRE-DEVELOPED TEN-YEAR DISCHARGE AT POA #2 IS 30.9 CFS (HYD. 6). THE PRE-DEVELOPED DISCHARGE OF 30.9 CFS RESULTS IN AN HW/D OF 3.0. THE HW/D OF 3.0 RESULTS IN A HEADWATER DEPTH OF 6.0'. ACCORDING TO THE FIELD SURVEY, THERE IS APPROXIMATELY 3.7' OF HEAD AVAILABLE AT THIS POA. SINCE 6.0' IS GREATER THAN 3.7', THE TEN-YEAR STORM IS NOT CONTAINED IN THE CHANNEL AND LOCALIZED FLOODING EXISTS IN THE PRE-DEVELOPED CONDITION. PLEASE SEE ADEQUATE OUTFALL CALCULATION IN SECTION E.5 OF THE ENGINEERING CALCULATIONS. THE POST-DEVELOPED TEN-YEAR DISCHARGE AT POA #2 IS 30.8 CFS (HYD. 22). SINCE THE POST-DEVELOPED TEN-YEAR DISCHARGE (30.8 CFS) IS LESS THAN THE PRE-DEVELOPED TEN-YEAR DISCHARGE (30.9 CFS), SWAC25-670-66-C.2.B IS SATISFIED, AND NO FURTHER ANALYSIS RELATED TO FLOOD PROTECTION IS REQUIRED FOR THIS POA.

MAINTENANCE:
ALL STORMWATER MANAGEMENT FACILITIES SHALL HAVE A THICK, HEALTHY STAND OF GRASS COVER, FREE OF TREES AND BUSH. THE FACILITY SHOULD BE MOWED PERIODICALLY DURING THE GROWING SEASON. THE GRASS SHOULD NOT BE CUT LESS THAN 6" TALL. LIME AND FERTILIZE THE FACILITY AS NECESSARY TO MAINTAIN A THICK, HEALTHY STAND OF GRASS COVER FOLLOWING RECOMMENDATIONS FROM SOIL TESTING. REPAIR ALL EROSION ISSUES IN A TIMELY FASHION ONCE DISCOVERED. BARE AREAS SHALL BE SEEDED AND MULCHED IN A TIMELY FASHION. ALL ANIMAL BURROWS SHALL BE BACKFILLED AND COMPACTED ONCE THE ANIMAL HAS BEEN REMOVED FROM THE FACILITY. REMOVE ALL TREES, WOODY VEGETATION, AND OTHER DEEP-ROOTED GROWTH IN A TIMELY FASHION ONCE DISCOVERED. ANY MAINTENANCE ISSUES RELATING TO THE PRINCIPAL SPILLWAY SHOULD BE REVIEWED AND APPROVED BY A PROFESSIONAL ENGINEER.

THE BIORETENTION BMPs SHALL BE MAINTAINED PER THE TABLE FOUND ON THE PLANS.
THE BUFFER TREES PROPOSED ON RICHMOND ROAD AND EDGECOMB DRIVE ARE EASTERN RED CEDARS WHICH HAVE A MATURE ROOT SPREAD OF BLANK FEET (AND CORRESPONDING DRIP EDGE). THE RECOMMENDATION, FROM APPENDIX A, EARTHEN EMBANKMENTS, FOR SPACING OF TREES 25' FROM THE TOE OF AN EMBANKMENT HAS BEEN TAKEN INTO CONSIDERATION IN THE SPACING OF THESE BUFFER TREES AND THE TOE OF THE STORMWATER EMBANKMENT. GIVEN THAT THIS IS A DRY DETENTION FACILITY, THE ENGINEER OF RECORD BELIEVES THE PROVIDED SPACING OF BLANK FEET FROM THE BUFFER TREES TO THE TOE OF THE EMBANKMENT TO BE ADEQUATE.



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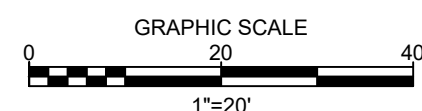
CLIENT:
GLASS & ASSOCIATES, INC.

1	05/12/2022	SUBMITTAL TO COUNTY
MARK	DATE	DESCRIPTION

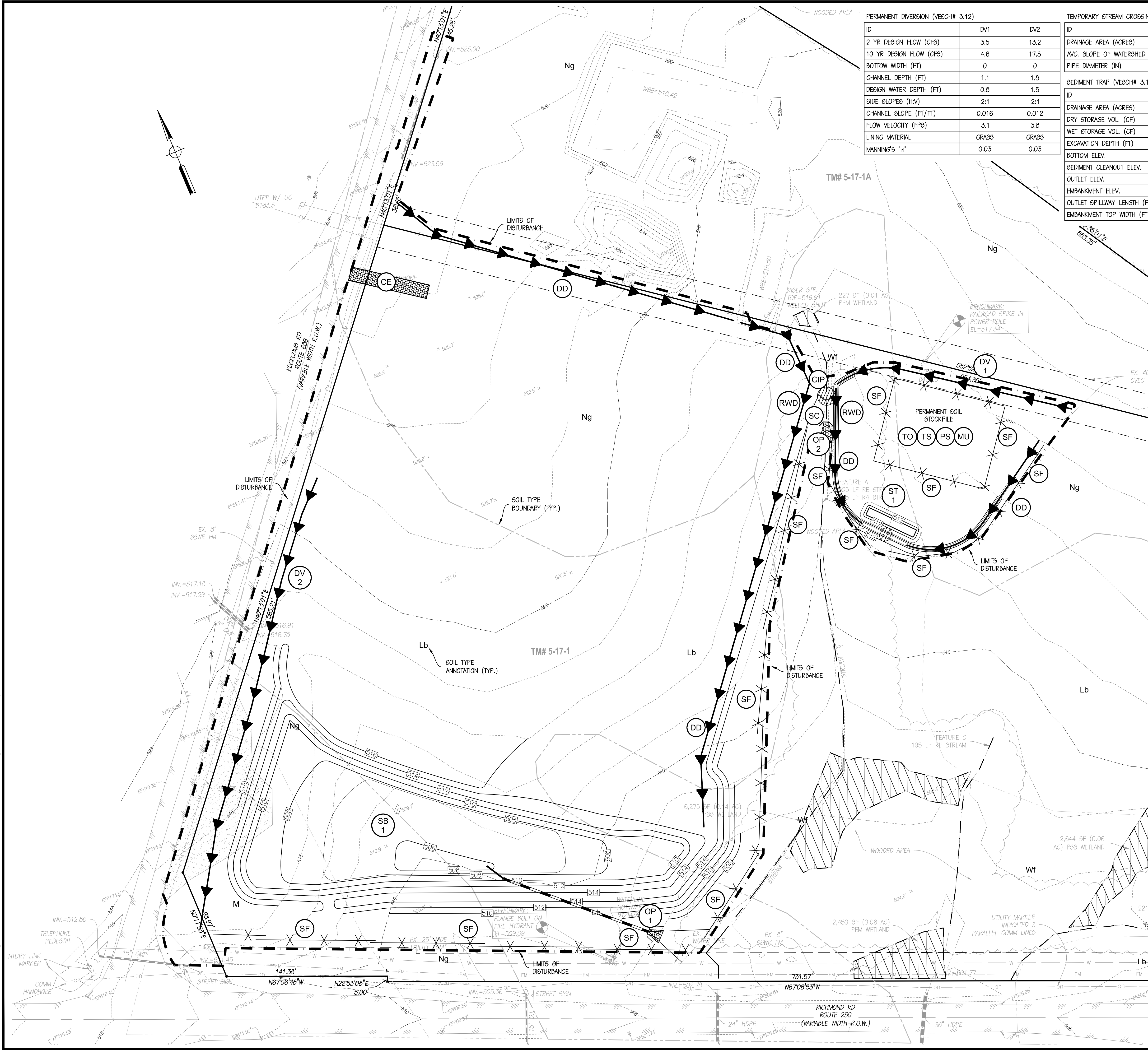
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SHEET TITLE

STORMWATER MANAGEMENT
PLAN, NOTES & DETAILS



SHEET	AJRODIN PROJECT #
C209	
JOB NO.: 22024	SHEET NO: 13 of 24



PERMANENT DIVERSION (VESCH# 3.12)		
ID	DV1	DV2
2 YR DESIGN FLOW (CFS)	3.5	13.2
10 YR DESIGN FLOW (CFS)	4.6	17.5
BOTTOM WIDTH (FT)	0	0
CHANNEL DEPTH (FT)	1.1	1.8
DESIGN WATER DEPTH (FT)	0.8	1.5
SIDE SLOPES (H:V)	2:1	2:1
CHANNEL SLOPE (FT/FT)	0.016	0.012
FLOW VELOCITY (FPS)	3.1	3.8
LINING MATERIAL	GRASS	GRASS
MANNING'S "n"	0.03	0.03

TEMPORARY STREAM CROSSING (VESCH# 3.24)	
ID	SC1
DRAINAGE AREA (ACRES)	16.65
AVG. SLOPE OF WATERSHED	3%
PIPE DIAMETER (IN)	24
SEDIMENT TRAP (VESCH# 3.13)	
ID	ST1
DRAINAGE AREA (ACRES)	0.50
DRY STORAGE VOL. (CF)	1103
WET STORAGE VOL. (CF)	927
EXCAVATION DEPTH (FT)	3
BOTTOM ELEV.	510
SEDIMENT CLEANOUT ELEV.	511
OUTLET ELEV.	512
EMBANKMENT ELEV.	514.5
OUTLET SPILLWAY LENGTH (FT)	3
EMBANKMENT TOP WIDTH (FT)	2.5

SEDIMENT BASIN (VESCH# 3.14)	
ID	SB1
DRAINAGE AREA (ACRES)	5.15
DRY STORAGE VOL. (CF)	93785
WET STORAGE VOL. (CF)	9315
LENGTH-TO-WIDTH RATIO	3.2
EXCAVATION DEPTH (FT)	-
BOTTOM ELEV.	505.20
SEDIMENT CLEANOUT ELEV.	506.70
PRINCIPAL SPILLWAY ELEV.	511.30
EMERGENCY SPILLWAY ELEV.	512.95
DESIGN HIGH WATER ELEV.	509.60
EMBANKMENT ELEV.	514.10
RISER PIPE DIA. (IN)	36
ANTI-VORTEX DEVICE DIA. (IN)	54
DEWATERING TUBE DIA. (IN)	9.4
EMBANKMENT TOP WIDTH (FT)	8
EMBANKMENT SIDE SLOPES (H:V)	2.5
RISER BASE THICKNESS (IN)	18
RISER BASE DIMENSIONS (LXW)	6X6
# OF ANTI-SEEP COLLARS	0

OUTLET PROTECTION (VESCH# 3.16)		
ID	OP1	OP2
DESIGN EVENT FREQUENCY	10 YR	10 YR
DESIGN FLOW (CFS)	1.8	25.9
TAILWATER DEPTH	<0.50	<0.50
DISCHARGE VELOCITY (FPS)	-	-
RIP RAP GRADATION	A1	A1
APRON LENGTH (FT)	12	14
APRON WIDTHS (FT)	6, 14	6, 16
SIDE SLOPES (H:V)	2:1	2:1
APRON DEPTH (FT)	2.0	2.0

EROSION AND SEDIMENT CONTROL LEGEND			
3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
3.03	CONSTRUCTION ROAD STABILIZATION	CRS	
3.05	SILT FENCE	SF	
3.07	STORM DRAIN INLET PROTECTION	IP	
3.08	CULVERT INLET PROTECTION	CIP	
3.09	TEMPORARY DIVERSION DIKE	DD	
3.10	TEMPORARY FILL DIVERSION	FD	
3.12	DIVERSION	DV	
3.13	TEMPORARY SEDIMENT TRAP	ST	
3.14	TEMPORARY SEDIMENT BASIN	SB	
3.15	TEMPORARY SLOPE DRAIN	TSD	
3.17	STORMWATER CONVEYANCE CHANNEL	SCC	
3.18	OUTLET PROTECTION	OP	
3.19	RIP RAP	RR	
3.20	ROCK CHECK DAMS	CD	
3.29	SURFACE ROUGHENING	SR	
3.30	TOPSOILING	TO	
3.31	TEMPORARY SEEDING	TS	
3.32	PERMANENT SEEDING	PS	
3.35	MULCHING	MU	
3.36	SOIL STABILIZATION BLANKETS AND MATTING	B/M	



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CONSULTANTS

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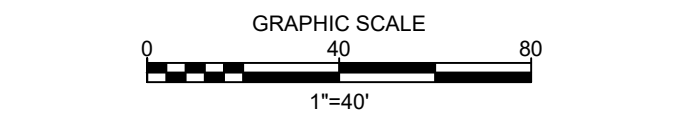
JOB:
**ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA**

CLIENT:
GLASS & ASSOCIATES, INC.

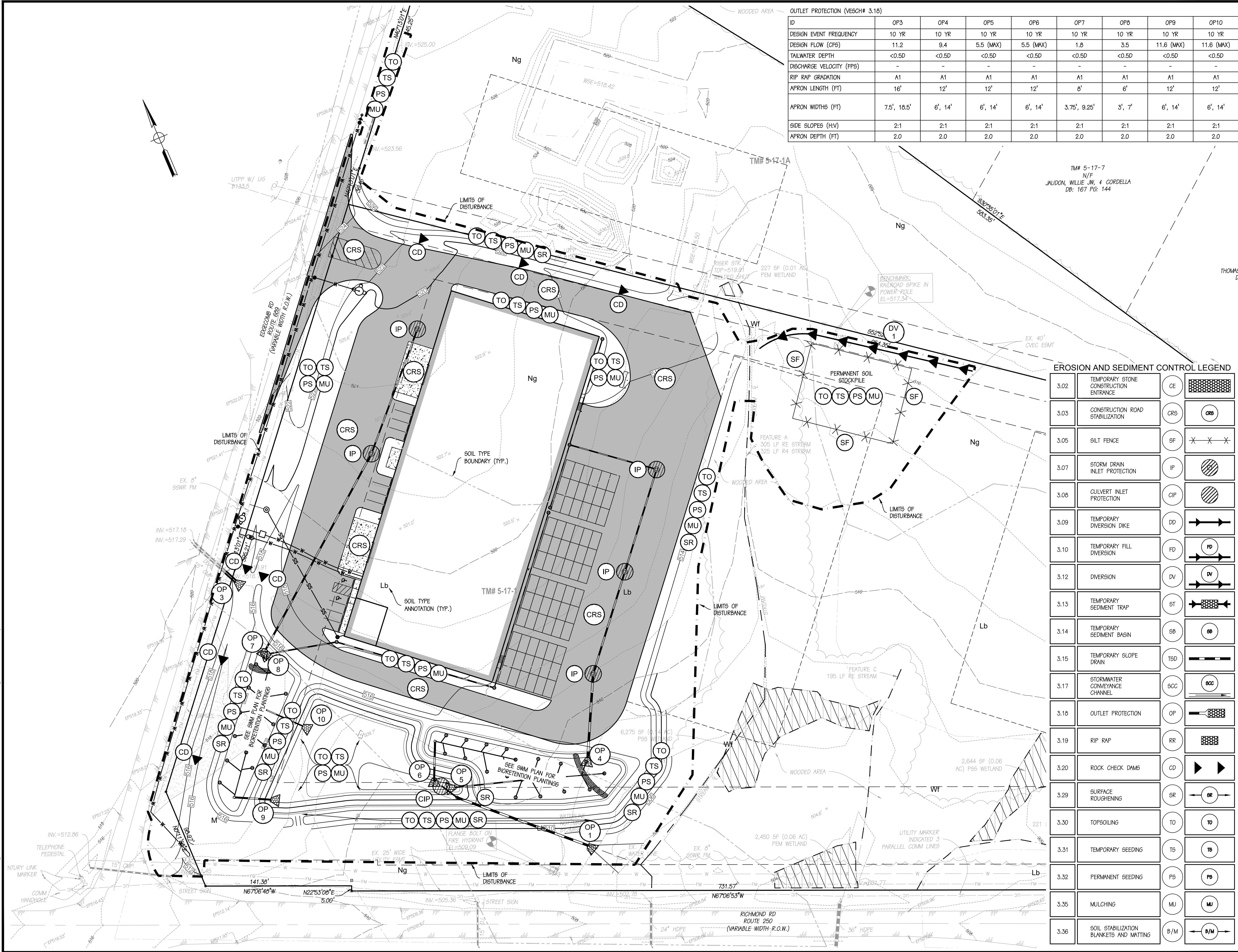
1	05/12/2022	SUBMITTAL TO COUNTY
MARK	DATE	DESCRIPTION
ISSUE: 05/04/2022		
CONTOUR INTERVAL: 2'		
DESIGNED BY: RHO		
DRAWN BY: PWS/BDG/DAW		
CHECKED BY: RHO		

SHEET TITLE

**PHASE 1 EROSION & SEDIMENT
CONTROL PLAN**



SHEET	C300	AJURSION PROJECT #
SHEET NO.	22024	SHEET NO. 14 of 24



OUTLET PROTECTION (VESCH# 3.16)									
ID	OP3	OP4	OP5	OP6	OP7	OP8	OP9	OP10	
DESIGN EVENT FREQUENCY	10 YR	10 YR	10 YR	10 YR	10 YR	10 YR	10 YR	10 YR	
DESIGN FLOW (CFS)	11.2	9.4	5.5 (MAX)	5.5 (MAX)	1.8	3.5	11.6 (MAX)	11.6 (MAX)	
TAILWATER DEPTH	<0.5D	<0.5D	<0.5D	<0.5D	<0.5D	<0.5D	<0.5D	<0.5D	
DISCHARGE VELOCITY (FPS)	-	-	-	-	-	-	-	-	
RIP RAP GRADATION	A1	A1	A1	A1	A1	A1	A1	A1	
APRON LENGTH (FT)	16'	12'	12'	12'	6'	6'	12'	12'	
APRON WIDTHS (FT)	7.5', 18.5'	6', 14'	6', 14'	6', 14'	3.75', 9.25'	3', 7'	6', 14'	6', 14'	
SIDE SLOPES (H:V)	2:1	2:1	2:1	2:1	2:1	2:1	2:1	2:1	
APRON DEPTH (FT)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	

EROSION AND SEDIMENT CONTROL LEGEND

3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
3.03	CONSTRUCTION ROAD STABILIZATION	CRS	
3.05	SILT FENCE	SF	
3.07	STORM DRAIN INLET PROTECTION	IP	
3.08	CULVERT INLET PROTECTION	CIP	
3.09	TEMPORARY DIVERSION DIKE	DD	
3.10	TEMPORARY FILL DIVERSION	FD	
3.12	DIVERSION	DV	
3.13	TEMPORARY SEDIMENT TRAP	ST	
3.14	TEMPORARY SEDIMENT BASIN	SB	
3.15	TEMPORARY SLOPE DRAIN	TSD	
3.17	STORMWATER CONVEYANCE CHANNEL	SCC	
3.18	OUTLET PROTECTION	OP	
3.19	RIP RAP	RR	
3.20	ROCK CHECK DAMS	CD	
3.29	SURFACE ROUGHENING	SR	
3.30	TOPSOILING	TO	
3.31	TEMPORARY SEEDING	TS	
3.32	PERMANENT SEEDING	PS	
3.35	MULCHING	MU	
3.36	SOIL STABILIZATION BLANKETS AND MATTING	B/M	

PERKINS & ORRISON
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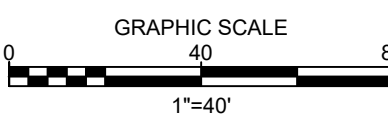
ZION CROSSROADS
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PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

CLIENT:
GLASS & ASSOCIATES, INC.

1	05/12/2022	SUBMITTAL TO COUNTY
MARK	DATE	DESCRIPTION
ISSUE:	05/04/2022	
CONTOUR INTERVAL:	2'	
DESIGNED BY:	RHO	
DRAWN BY:	PWS/BDG/DAW	
CHECKED BY:	RHO	

SHEET TITLE

PHASE 2 EROSION & SEDIMENT
CONTROL PLAN



SHEET	PROJECT #
C301	
JOB NO.: 22024	SHEET NO: 15 of 24

EROSION AND SEDIMENT CONTROL GENERAL NOTES

ES-1) UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 9VAC25-840 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2) THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3) A LAND DISTURBANCE PERMIT IS REQUIRED PRIOR TO INITIATING ANY SITE WORK.

ES-4) A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5) THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-6) PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION AND SEDIMENT CONTROL PLAN TO THE LOCAL PLAN APPROVING AUTHORITY.

ES-7) EROSION AND SEDIMENT CONTROLS SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY. EARTHEN STRUCTURES SHALL BE SEEDED IMMEDIATELY UPON INSTALLATION.

ES-8) PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS IMMEDIATELY AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED IMMEDIATELY TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN 6 MONTHS.

ES-9) ALL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES, INCLUDING SILT FENCE AROUND THE LOW SIDE OF STOCKPILE AND TEMPORARY/PERMANENT SEEDING WITH MULCHING. IF A STOCKPILE IS NOT SHOWN ON THE PLANS AND DEEMED TO BE NEEDED, CONTACT THE ENGINEER & LOCAL AUTHORITY PRIOR TO STARTING SAID STOCKPILE. A PLAN ADDENDUM MAY BE REQUIRED.

ES-10) A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

ES-11) THE ROADWAY SHALL BE STABILIZED BY THE APPLICATION OF STONE BASE UPON REACHING FINAL GRADE. CHECK DAMS SHALL BE INSTALLED IN ALL DITCHES IMMEDIATELY UPON THE GRADING IN OF SAME.

ES-12) CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

ES-13) CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.

ES-14) ALL STORM INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT LADEN WATER CANNOT ENTER THE STORM WATER CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

ES-15) WHEN INSTALLING UTILITY LINES, NO MORE THAN 500 FEET OF TRENCH MAY BE OPEN AT ONE TIME, AND EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

ES-16) ALL RIP-RAP SHALL BE INSTALLED OVER FILTER FABRIC.

ES-17) DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-18) ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-19) SILT FENCE, SILT TRAP AND CHECK DAMS SHALL BE CLEANED OUT WHEN SEDIMENT REACHES ONE HALF THE HEIGHT OF THE BARRIER AND WHENEVER DIRECTED BY THE COUNTY EROSION AND SEDIMENT CONTROL OFFICIAL. SEDIMENT SHALL BE IMMEDIATELY STABILIZED UP GRADIENT OF EROSION AND SEDIMENT CONTROL MEASURES.

ES-20) ALL MEASURES SHALL BE UTILIZED AND CONTINUOUSLY MAINTAINED DURING THE CONSTRUCTION PERIOD UNTIL ALL DISTURBED AND DENUDED AREAS ARE STABILIZED. NO AREA SHALL REMAIN DENUDED FOR MORE THEN THREE CALENDAR DAYS WHEN CONSTRUCTION IS NOT IN PROGRESS.

ES-21) THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES EVERY 5 BUSINESS DAYS AND 24 HOURS AND AFTER EACH MEASURABLE STORM EVENT. A MEASURABLE STORM EVENT IS 0.25" OF RAINFALL IN 24 HOURS. ALL NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

ES-22) ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION, OR AFTER THE MEASURES ARE NO LONGER NEEDED.

ES-23) THE MAXIMUM SPACING BETWEEN THE CHECK DAMS SHOULD BE SUCH THAT THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATIONS THE TOP OF THE DOWNSTREAM DAM. REFERENCE PLATE 3.20-2.

SEEDING

SEEDS SHALL BE SCARIFIED INTO THE TOP 2" OF THE TOP SOIL, IF APPLIED BY HAND. SEEDING BY HYDRO SEEDING SHALL BE IN ACCORDANCE WITH VDOT SPECIFICATIONS. TEMPORARY SEEDING RATES AND SPECIFICATIONS SEE VESCH STD. 3.31 PERMANENT SEEDING RATES AND SPECIFICATION SEE VESCH STD. 3.32 FERTILIZER TYPE AND RATES SHALL BE PER SOIL TEST. MULCH SHALL BE PER VESCH STD. 3.35

EC-2 EROSION BLANKET (VESCH TREATMENT ONE) SHALL BE PER VDOT OR VESCH STD. 3.36.

EC-3 EROSION BLANKETS (VESCH TREATMENT TWO) SHALL BE PER VDOT OR VESCH STD. 3.36.

EROSION AND SEDIMENT MINIMUM STANDARDS 9VAC25-840-40.

A VESCP MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:

1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

6. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN.

A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.

B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION. RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS

UTILIZED.

7. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

8. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

10. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

11. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

12. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND CORFEDGAYS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.

13. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED.

14. ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.

B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.

D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THIS CHAPTER.

F. APPLICABLE SAFETY REQUIREMENTS SHALL BE COMPLIED WITH.

17. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.

18. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS:

A. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.

B. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:

(1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR

(2) (A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS;

(B) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND

(C) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.

C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL:

(1) IMPROVE THE CHANNELS TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL, THE BED, OR THE BANKS; OR

(2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES;

(3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR

(4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION.

D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.

E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT.

F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE.

G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.

H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.

I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.

J. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.

K. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

L. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED

CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO § 62.1-44.15:54 OR 62.1-44.15:65 OF THE ACT.

M. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (S 62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS. UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS, NO COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-68 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF SUBDIVISION 19 OF THIS SUBSECTION.

PROJECT DESCRIPTION:

THIS PROJECT PROPOSES THE CONSTRUCTION OF A 52,500 SF WAREHOUSE WITH ASSOCIATED VDOT ENTRANCE, PARKING, GRADING, UNDERGROUND UTILITIES, AND STORMWATER MANAGEMENT. APPROXIMATELY 6.99 ACRES OF LAND WILL BE DISTURBED BY CONSTRUCTION WITH 3.22 ACRES OF IMPERVIOUS AREA BEING ADDED OF LEASE SEE PRE-DEVELOPED AND POST-DEVELOPED LAND USE MAPS IN SECTION E.1 OF THE ENGINEERING CALCULATIONS PACKET. THE DEVELOPER ANTICIPATES FUTURE DEVELOPMENT ON THIS PROPERTY. THEREFORE, STORMWATER WAS SCHEMATICALLY ANALYZED FOR THE FUTURE BUILDOUT. HOWEVER, THE STORMWATER BMPs PROPOSED WITH THIS PROJECT ARE DESIGNED ONLY FOR THE IMMEDIATE CONSTRUCTION PHASE AND ANTICIPATED FUTURE AREAS. FUTURE BMPs WILL NEED TO BE FINALIZED WHEN THE FUTURE PLANS ARE PREPARED. PLEASE SEE THE STORMWATER MANAGEMENT NARRATIVE IN SECTION O OF THE ENGINEERING CALCULATIONS FOR A MORE DETAILED DESCRIPTION OF HOW STORMWATER QUALITY AND QUANTITY WILL BE ADDRESSED WITH THIS PROJECT.

EXISTING CONDITIONS:

THE SITE IS LOCATED NEAR THE INTERSECTION OF RICHMOND ROAD AND EDGECOMB ROAD IN FLUVANNA COUNTY, VA. THE SITE IS MOSTLY COMPOSED OF GRASSY AND FORESTED AREAS WITH AN EXISTING DIRT ACCESS ROAD. THERE ARE 0.17 ACRES OF IMPERVIOUS AREA, 6.52 ACRES OF MANAGED TURF, AND 0.30 ACRES OF WOODED/OPEN SPACE. PLEASE SEE PRE-DEVELOPED LAND USE MAP IN SECTION E.1 OF THE ENGINEERING CALCULATIONS.

RECEIVING WATERS:

THIS SITE DRAINS TO HUC #020802040503 - BALLINGER CREEK.

POTENTIAL POLLUTION SOURCES:

THERE ARE NO SIGNIFICANT POLLUTION SOURCES. STOCKPILES OF DIRT AND MATERIALS USED IN CONSTRUCTION WILL BE USED AND REMAIN COVERED WHEN NOT IN USE. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE BY SCREENING OUTFALLS AND PICKING UP DEBRIS DAILY. EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED AS REQUIRED BY THE VIRGINIA EROSION AND SEDIMENT CONTROL LAWS AND REGULATIONS UNDER THE GUIDANCE OF THE DEPARTMENT OF ENVIRONMENTAL QUALITY.

SEQUENCE OF MAJOR SOIL DISTURBANCE ACTIVITIES:

THE CONTRACTOR SHALL PROVIDE A SEQUENCE OF MAJOR SOIL DISTURBANCE ACTIVITIES. GENERALLY, THE SEQUENCE SHOULD FOLLOW:

- INSTALLATION OF PERIMETER CONTROLS
- SITE CLEARING (AS NEEDED)
- SITE GRADING
- BUILDING CONSTRUCTION
- INSTALLATION OF UNDERGROUND UTILITIES
- PAVING AND STABILIZATION
- REMOVAL OF TEMPORARY E&S MEASURES
- CLOSE-OUT SITE

ADJACENT PROPERTY:

THIS SITE IS BORDERED ON THE NORTH BY A PARCEL OF LAND OWNED BY THE GOVERNMENT CHURCH OF GOD OF ALBANY (TM #5-17-1A). THE EASTERN BORDER IS A PARCEL OF LAND OWNED BY TOI LAND TRUST (TM #5-A-450). THE SOUTHERN BORDER IS THE RIGHT-OF-WAY FOR RICHMOND ROAD (ROUTE 250). THE WESTERN BORDER IS THE RIGHT-OF-WAY FOR EDGECOMB ROAD (ROUTE 699).

OFF-SITE AREAS:

THE ENGINEER OF RECORD ANTICIPATES APPROXIMATELY 9400 CY OF EXPORT FOR THIS SITE. THIS MATERIAL IS ANTICIPATED TO BE USED FOR FUTURE DEVELOPMENT ON THIS SITE. THEREFORE, A PERMANENT SOIL STOCKPILE IS PROPOSED WITH THIS PLAN FOR STORAGE OF THE EXPORT MATERIAL. ANY EXPORT SITE(S) SHALL BE IDENTIFIED BY THE OWNER OR DEVELOPER AT THE PRE-CONSTRUCTION MEETING, AND SAID SITE(S) SHALL BE FULLY PERMITTED OR PLAN ADDENDUM IS REQUIRED.

SOILS:

ACCORDING TO THE NRCS WEB SOIL SURVEY, THERE ARE FOUR SOIL TYPES ONSITE. THE FIRST IS LIGANUM SILT LOAM, ABBREVIATED AS LB, AND BELONGS TO THE HYDROLOGIC SOIL GROUP D. THE SECOND IS NASON SILT LOAM, ABBREVIATED AS NG, AND BELONGS TO THE HYDROLOGIC SOIL GROUP B. THE THIRD IS WORSHAM SILT LOAM, ABBREVIATED AS WF, AND BELONGS TO THE HYDROLOGIC SOIL GROUP D. THE FOURTH IS PREVIOUSLY DEVELOPED LAND AND WAS ASSUMED TO BELONG TO THE HYDROLOGIC SOIL GROUP D.

CRITICAL EROSION AREAS:

CRITICAL EROSION AREAS ARE ALL SLOPES STEEPER THAN 3:1. SLOPES SHALL BE SURFACE ROUGHENED AND SEEDED IMMEDIATELY AFTER THE COMPLETION OF GRADING WITH SEEDING AND MULCHING AS INDICATED ON THE PLANS. FAILURE TO STABILIZE THE SITE WILL RESULT IN BLANKET MATTING BEING REQUIRED FOR ALL SLOPES STEEPER THAN 3:1.

EROSION AND SEDIMENT CONTROL MEASURES:

ALL MEASURES SHALL BE INSTALLED AND MAINTAINED PER THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE CONTRACTOR SHALL NAME A RESPONSIBLE LAND DISTURBER (RLD), WHO WILL BE RESPONSIBLE FOR INSTALLING EROSION AND SEDIMENT CONTROLS AS THE FIRST STEP IN CONSTRUCTION, AND THEN SHALL BE RESPONSIBLE FOR ADDITIONAL CONTROL AS NEEDED AND AS SHOWN ON THE PLAN, AS WELL AS FOR MAINTENANCE OF ALL CONTROLS THROUGH CONSTRUCTION ACTIVITIES. THE RLD SHALL INSTALL ADDITIONAL CONTROLS AS DIRECTED BY THE ENGINEER AND THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, AND AS SITE CONDITIONS WARRANT.

STRUCTURAL PRACTICES:

- CONSTRUCTION ENTRANCE (VESCH# 3.02): ONE CONSTRUCTION ENTRANCE IS PROPOSED TO PREVENT SEDIMENT FROM BEING DEPOSITED ON ANY PUBLIC ROAD BY CONSTRUCTION TRAFFIC. SHOULD THE CONSTRUCTION ENTRANCE BECOME CLOGGED WITH SEDIMENT OR ARE NOT EFFECTIVELY PREVENTING SEDIMENT DEPOSITION ON THE PUBLIC STREET, THEY SHALL BE CLEANED AND REMORKED OR HAVE A NEW TOP DRESSING OF STONE APPLIED.
- CONSTRUCTION ROAD STABILIZATION (VESCH# 3.03): CONSTRUCTION ROAD STABILIZATION IS PROPOSED ON ALL PARKING AND TRAVEL WAYS ON THE SITE. THE BASE STONE SHALL SERVE AS THE CONSTRUCTION ROAD STABILIZATION. ALL BASE STONE SHALL BE VDOT #1-B SHOULD CONSTRUCTION ROAD STABILIZATION BECOME CLOGGED WITH SEDIMENT, IT SHALL HAVE A NEW TOP DRESSING OF STONE APPLIED.
- SILT FENCE (VESCH# 3.05): SILT FENCE IS PROPOSED AT THE TOE OF ALL SLOPES AND ON THE PROPERTY LINE WHERE SHEET FLOW IS EXPECTED. SEDIMENT SHALL BE CLEANED OUT WHEN IT REACHES HALFWAY UP THE FENCE. ANY BREACHES OR UNDERCUTTING SHALL BE REPAIRED IMMEDIATELY ONCE DISCOVERED. COMPROMISED OR DETERIORATED SILT FENCE SHALL BE REPLACED.
- INLET PROTECTION (VESCH# 3.07): INLET PROTECTION IS PROPOSED AT EVERY INLET LOCATED ON THE SITE TO PREVENT SEDIMENT FROM ENTERING STORM INLETS AND PIPES. SHOULD THE INLET PROTECTION STONE BECOME CLOGGED WITH SEDIMENT, IT SHALL BE REPLACED. SEDIMENT ACCUMULATIONS SHALL BE REMOVED WHEN THEY REACH ONE QUARTER OF THE HEIGHT OF THE STONE.
- CULVERT INLET PROTECTION (VESCH# 3.09): CULVERT INLET PROTECTION IS PROPOSED AT THE ENTRANCE TO ALL CULVERTS ON SITE OR NEAR THE SITE THAT COULD POTENTIALLY RECEIVE SEDIMENT LADEN RUNOFF. SEDIMENT SHALL BE CLEANED OUT WHEN IT REACHES HALFWAY UP THE FENCE. ANY BREACHES OR UNDERCUTTING SHALL BE REPAIRED IMMEDIATELY ONCE DISCOVERED. COMPROMISED OR DETERIORATED SILT FENCE SHALL BE REPLACED.
- TEMPORARY DIVERSION DIKES ARE PROPOSED TO PREVENT RUNOFF FROM REACHING ADJONERS AND TO ASSIST IN DIRECTING STORMWATER TO THE SEDIMENT BASIN AND TRAP. DAMAGE FROM CONSTRUCTION TRAFFIC SHALL BE REPAIRED IMMEDIATELY AND AN 18" MINIMUM DEPTH SHALL BE MAINTAINED AT ALL TIMES.
- TEMPORARY RIGHT-OF-WAY DIVERSION (VESCH# 3.11): A TEMPORARY RIGHT-OF-WAY DIVERSION IS PROPOSED AT THE CONSTRUCTION ENTRANCE AND AT THE TEMPORARY STREAM CROSSINGS TO DIRECT RUNOFF TO THE SEDIMENT BASIN AND TRAP. TEMPORARY RIGHT-OF-WAY DIVERSIONS SHALL BE CONSTRUCTED WITH STONE AND NOT SOIL. A MINIMUM 18" HEIGHT SHALL BE MAINTAINED, AND INSPECTIONS SHALL BE DONE ONCE EVERY TWO WEEKS.
- PERMANENT DIVERSION (VESCH# 3.12): TWO PERMANENT DIVERSIONS ARE PROPOSED TO DIRECT OFFSITE RUNOFF AWAY FROM THE PROPOSED SEDIMENT BASIN AND TRAP. THE CONTRACTOR SHALL ENSURE IT MEETS THE DETAIL SHOWN ON THE PLAN AT THE END OF CONSTRUCTION.
- TEMPORARY SEDIMENT TRAP (VESCH# 3.13): A SEDIMENT TRAP IS PROPOSED AT THE NORTHWEST SIDE OF THE SITE. DIVERSIONS WILL DIRECT RUNOFF TO THIS TRAP BEFORE RELEASING IT TO THE EXISTING CHANNEL. SEDIMENT SHALL BE CLEANED OUT WHEN IT REACHES 1.5 FT FROM THE BOTTOM OF THE STONE WEIR. CLOGGED STONE SHALL BE REMOVED AND CLEANED OR REPLACED.
- TEMPORARY SEDIMENT BASIN (VESCH# 3.14): A TEMPORARY SEDIMENT BASIN IS PROPOSED TO COLLECT SEDIMENT LADEN RUNOFF AND ALLOW SETTLING TIME BEFORE RELEASING THE RUNOFF FROM THE SITE. SEDIMENT SHALL BE REMOVED ONCE IT ACCUMULATES HALFWAY TO THE DEWATERING DEVICE.
- OUTLET PROTECTION (VESCH# 3.16): OUTLET PROTECTION IS PROPOSED AT THE OUTLET OF ALL PIPES ON THE SITE TO SLOW VELOCITIES AND PREVENT SCOUR. IF STONE BECOMES CLOGGED WITH SEDIMENT, IT SHALL BE REMOVED AND REPLACED.
- ROCK CHECK DAMS (VESCH# 3.20): ROCK CHECK DAMS ARE PROPOSED IN THE DITCHES TO SLOW VELOCITIES AND TRAP SEDIMENT UNTIL THE SITE IS STABILIZED. SEDIMENT SHOULD BE REMOVED WHEN IT REACHES ONE HALF OF THE ORIGINAL HEIGHT OF THE CHECK DAM.

• TEMPORARY VEHICULAR STREAM CROSSING (VESCH# 3.24): A TEMPORARY VEHICULAR STREAM CROSSING IS PROPOSED NEAR THE NORTHWEST SIDE OF THE SITE FOR ACCESS TO THE PERMANENT SOIL STOCKPILE AND TO KEEP SEDIMENT GENERATED BY CONSTRUCTION OUT OF THE EXISTING STREAM. THE CONTRACTOR SHALL CONSTRUCT THE TEMPORARY VEHICULAR STREAM CROSSING IN ACCORDANCE WITH THE DETAIL AND CHART SHOWN ON THE PLANS.

VEGETATIVE PRACTICES:

- TOPSOILING (VESCH# 3.30): PRIOR TO PERMANENT SEEDING, 4" OF TOPSOIL SHALL BE PLACED OVER ALL DISTURBED AREAS TO BE SEEDED OR LANDSCAPED, AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENEED BY DISCING OR SCARIFYING TO A DEPTH OF AT LEAST 2" TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.
- TEMPORARY SEEDING (VESCH# 3.31): TEMPORARY SEEDING IS PROPOSED TO BE IMMEDIATELY APPLIED IN AREAS THAT ARE NOT READY FOR PERMANENT STABILIZATION BUT WILL NOT BE DISTURBED FOR A PERIOD OF 14 DAYS OR LONGER. ALL TEMPORARILY SEEDED AREAS SHALL BE INSPECTED PERIODICALLY TO ENSURE A GOOD STAND OF VEGETATION. ANY BARREN AREAS SHALL BE RESEEDED IMMEDIATELY. WATER SEEDED AREAS AS NEEDED. THE TEMPORARY SEEDING MIX AND APPLICATION RATES ARE SHOWN ON THE PLANS. (FOR COMPLIANCE WITH PART I.B.2.C.(6) OF THE CONSTRUCTION GENERAL PERMIT)
- PERMANENT SEEDING (VESCH# 3.32): PERMANENT SEEDING IS PROPOSED TO BE IMMEDIATELY APPLIED FOR THE ENTIRE SITE ONCE FINAL GRADE IS REACHED OR FOR AREAS THAT WILL NOT BE DISTURBED FOR A PERIOD LONGER THAN 6 MONTHS. ALL PERMANENTLY SEEDED AREAS SHALL BE INSPECTED PERIODICALLY TO ENSURE A GOOD STAND OF VEGETATION. ANY BARREN AREAS SHALL BE RESEEDED IMMEDIATELY. WATER SEEDED AREAS AS NEEDED. THE PERMANENT SEEDING MIX AND APPLICATION RATES ARE SHOWN ON THE PLANS. (FOR COMPLIANCE WITH PART I.B.2.C.(6) OF THE CONSTRUCTION GENERAL PERMIT)
- MULCHING (VESCH# 3.35) MULCHING IS TO BE PLACED OVER ALL DISTURBED AREAS THAT HAVE BEEN SEEDED (TEMPORARY OR PERMANENT) TO PROVIDE PROTECTION FOR THE SEED. STRAW MULCHING MUST BE ANCHORED. MULCHING APPLICATION RATES ARE SHOWN ON THE PLAN.

PERMANENT STABILIZATION:

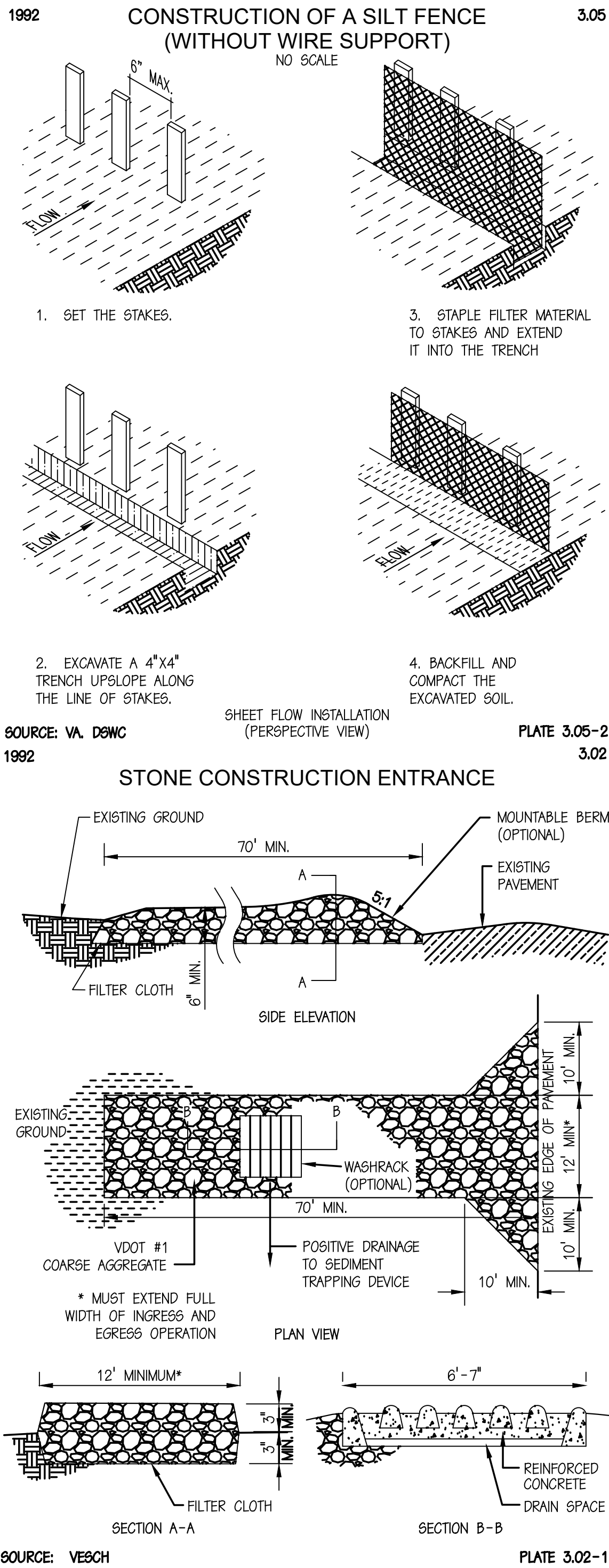
ONCE THE SITE HAS BEEN BROUGHT TO FINAL GRADE AND GRAVEL HAS BEEN PLACED, TOPSOIL SHALL BE SPREAD ON ALL DISTURBED AREAS EVENLY. FERTILIZER, SEED, AND A COVERING SHALL THEN BE INSTALLED IN ACCORDANCE WITH PERMANENT SEEDING (VESCH# 3.32) FOLLOWING APPLICATION RATES SHOWN ON THE PLAN.

STORMWATER MANAGEMENT:

SEE STORMWATER MANAGEMENT NARRATIVE FOR DISCUSSION OF STORMWATER MANAGEMENT FOR THIS PROJECT.

MAINTENANCE:

THE RESPONSIBLE LAND DISTURBER SHALL CHECK ALL EROSION AND SEDIMENT CONTROLS DAILY, AND AFTER EACH MEASURABLE RAINFALL EVENT. DEFICIENCIES SHALL BE REPAIRED IMMEDIATELY. SEE STRUCTURAL PRACTICES FOR SPECIFIC MAINTENANCE ITEMS. ALL SEEDED AREAS WILL BE CHECKED REGULARLY AND SHALL BE RE-SEEDED AND MULCHED AS NECESSARY.



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CONSULTANTS

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JOB:

ZION CROSSROADS

WAREHOUSE PHASE1

PALMYRA MAGISTERIAL DISTRICT

FLUVANNA COUNTY, VIRGINIA

CLIENT:

GLASS & ASSOCIATES, INC.

1	05/12/2022	SUBMITAL TO COUNTY			
MARK	DATE	DESCRIPTION			
ISSUE:		05/04/2022			
CONTOUR INTERVAL:		2'			
DESIGNED BY:		RHO			
DRAWN BY:		PWS/BDG/DAW			
CHECKED BY:		RHO			
SHEET TITLE					
EROSION & SEDIMENT CONTROL NOTES & DETAILS					
SHEET	C302		ASSOCIATION PROJECT #		
JOB NO.:	22024		SHEET NO		16 of 24

ANTI-VORTEX DEVICE DESIGN

PLAN VIEW

Diagram showing the top view of the device. It is a circular structure with a central circular opening. The outer diameter is 54. There are eight pressure relief holes, each 1/2" in diameter, arranged in two concentric circles of four. Section lines A-A are indicated.

SECTION A-A

Diagram showing a cross-section of the device. The outer shell is tackwelded all around. The inner structure consists of a #6 X 12" spacer bar (typical) and support bars. The support bar size is #6 rebar, minimum. The total height is 8" minimum. The bottom diameter is 36.

ISOMETRIC

Diagram showing the three-dimensional view of the device. It is a cylindrical structure with a central opening. The top surface has eight pressure relief holes. The bottom surface is welded.

* DEQ REQUIRES PERMANENT
STORMWATER MANAGEMENT RISERS TO BE
EITHER RCP OR HDPE. A CORRUGATED
METAL TRASH RACK AND ANTIVORTEX DEVICE
CAN BE USED ON A CONCRETE RISER USING
STRAPPING IN BOLTS PER THIS DETAIL.

Diagram illustrating the components of a wet storage tank assembly:

- PROVIDE ADEQUATE STRAPPING
- POLYETHYLENE CAP
- TACK WELD
- PERFORATED POLYETHYLENE
 - * DRAINAGE TUBING, DIAMETER VARIES (SEE CALCULATIONS IN APPENDIX 3.14-A)
- DEPTH VARIES AS REQUIRED FOR "DRY" STORAGE
- * FERRO-STYLE * COUPLING
- DEWATERING ORIFICE, SCHEDULE 40 STEEL STUB 1-FOOT MINIMUM, DIAMETER VARIES (SEE CALCULATIONS IN APPENDIX 3.14-A)
- RISER
- WET STORAGE

SOURCE: VA. DSWC

PLATE. 3.14-15

Diagram illustrating the cross-section of an outlet structure, showing various layers and dimensions:

- ORIGINAL GROUND ELEV.**: Indicated at the top left and bottom right.
- SPILLWAY ELEV.**: Indicated by a horizontal line across the top of the structure.
- HEIGHT**: Indicated by a vertical dimension line on the left side.
- TOP ELEV.**: Indicated by a horizontal line at the top of the structure.
- WIDTH = W**: Indicated at the top right.
- 1' W - 1'**: Indicated by a horizontal dimension line at the top right.
- 1'**: Indicated by a vertical dimension line on the right side.
- 67 CU.YD./ACRE**: Indicated twice, once for the upper layer and once for the lower layer.
- 4' MAX.**: Indicated by a vertical dimension line on the left side.
- 1:1 MAX.**: Indicated by a slope dimension line on the left side.
- 2:1**: Indicated by a slope dimension line on the left side.
- 1:1**: Indicated by a slope dimension line on the right side.
- VARIABLE**: Indicated by a vertical dimension line on the right side.
- ORIGINAL GROUND ELEV.**: Indicated at the bottom right.
- **COARSE AGGREGATE**: Indicated by an arrow pointing to the top layer.
- VDOT CL. 1 RIP-RAP**: Indicated by an arrow pointing to the middle layer.
- FILTER CLOTH**: Indicated by an arrow pointing to the bottom layer.

CROSS SECTION OF OUTLET

Diagram illustrating the cross-section of a diversion dike structure. The structure is shown in a 3D perspective view, highlighting the layers and materials used in its construction.

Key components and labels in the diagram:

- DIVERSION DIKE**: The overall structure shown.
- VDOT CL. 1 RIP-RAP**: The top layer of the dike.
- COARSE AGGREGATE**: The material filling the interior of the dike.
- FILTER CLOTH**: The layer separating the coarse aggregate from the excavated area.
- EXCAVATED AREA**: The area behind the dike.
- LENGTH = L**: The dimension of the dike along its axis.

**** COARSE AGGREGATE SHALL BE VDOT #3, #357 OR #5**

PLATE 3.13-2

PLATE 3.07-2

2 ACRES OR LESS OF DRAINAGE AREA

τ_0

FILTER CLOTH (OPTIONAL)

VDOT # 1 COARSE AGGREGATE

FLOW

(DOWNSTREAM VIEW)

2-10 ACRES OF DRAINAGE AREA

τ_0

FILTER CLOTH (OPTIONAL)

VDOT # 1 COARSE AGGREGATE

VDOT CL RIP RAP

FLOW

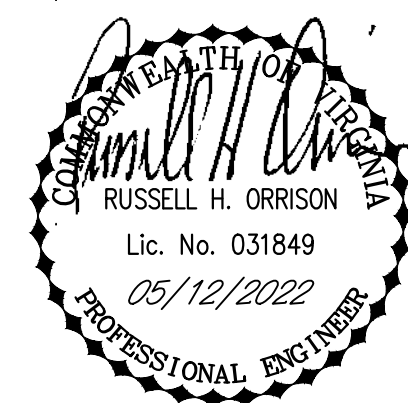
(DOWNSTREAM VIEW)

SOURCE: VESCH PLATE 3.20-1

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CLIENT:
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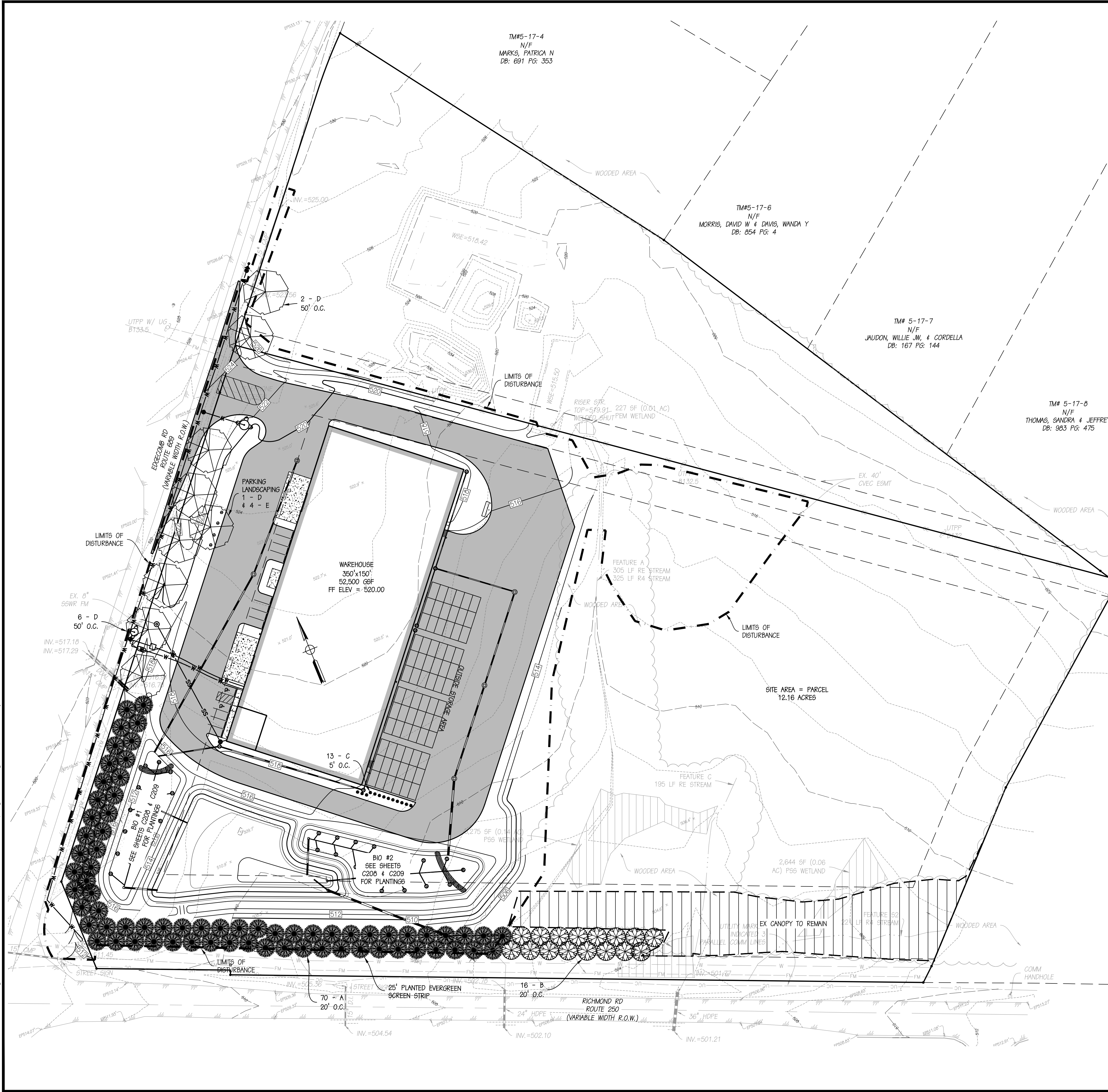
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CHECKED BY: _____ RHC

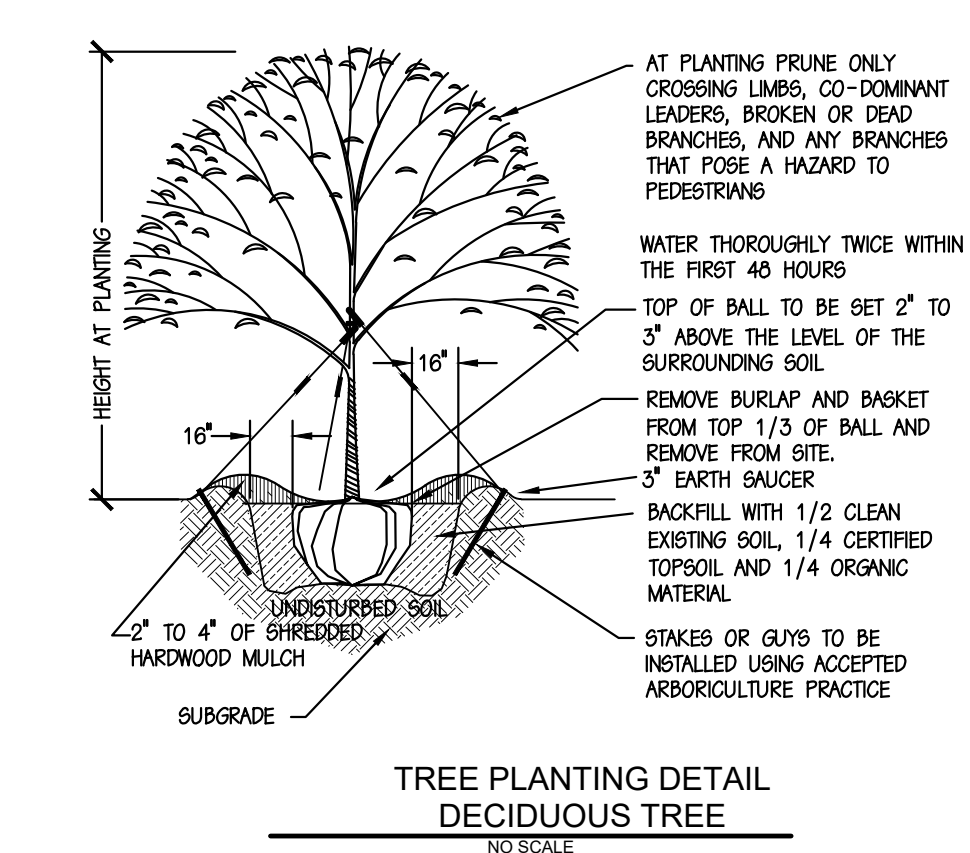
SHEET TITLE

EROSION & SEDIMENT CONTROL DETAILS

SHEET	JURISDICTION PROJECT #
C304	
JOB NO.:	SHEET NO
22024	18 OF 24



LANDSCAPE LEGEND					
SYM		QUANTITY	BOTANIC NAME	COMMON NAME	COMMENTS
A		70	Juniperus virginiana	Eastern Redcedar	5' MIN HEIGHT AT PLANTING
*B		16	Tsuga Canadensis	Eastern Hemlock	5' MIN HEIGHT AT PLANTING
C		13	Juniperus scopulorum	Blue Arrow Juniper	5' MIN HEIGHT AT PLANTING
D		9	Celtis Occidentalis	Common Hackberry	1.5" CALIPER
E		4	Ilex glabra	Inkberry	16" MIN HEIGHT AT PLANTING



LANDSCAPING REQUIREMENTS

STREET TREES

1. LARGE SHADE TREE FOR EVERY 50' OF ROAD FRONTAGE
390 LF OF ROAD FRONTAGE; 390/50 = 8 SHADE TREES REQ'D
8 SHADE TREES PROVIDED

TREE CANOPY COVERAGE

PARCEL / SITE AREA = 12.16 ACRES - 2.12 ACRES FOR PONDS & UTILITY ESMTS
= 10.04 ACRES/437,342 SQ FT
* 10% = 43,734 SQ FT

EX TREE CANOPY TO REMAIN = 26,810 SQ FT
* 1.5 EXISTING TREE DRIP LINE = 40,215 SQ FT

Redcedar 19 SQ FT * 70 = 1,330 SQ FT
Hemlock 79 SQ FT * 16 = 1,264 SQ FT
Juniper 19 SQ FT * 13 = 247 SQ FT
Hackberry 201 SQ FT * 9 = 1,809 SQ FT

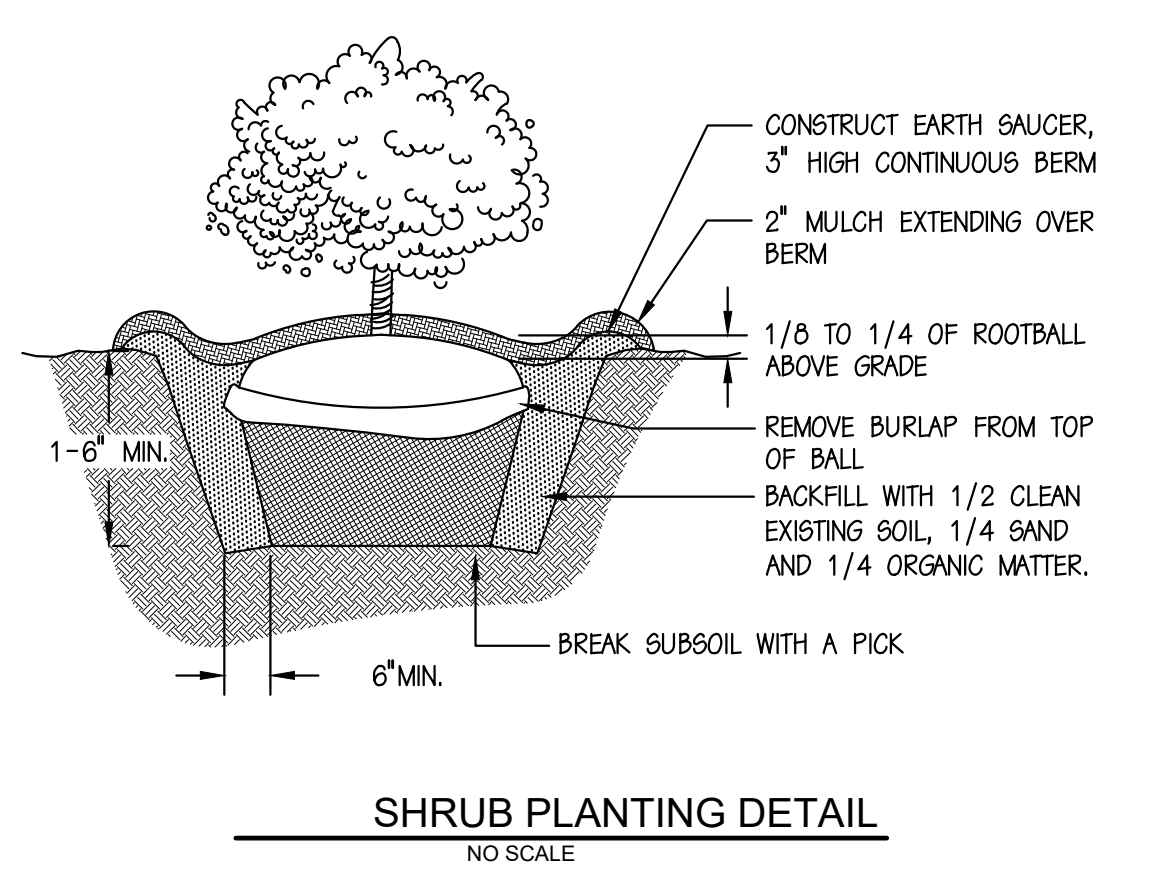
TOTAL 4,650 SQ FT + 40,215 SQ FT = 44,865 SQ FT

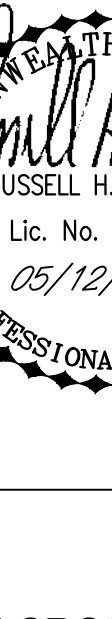
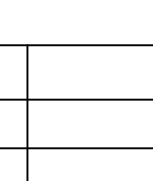
TREE CANOPY REQUIRED 43,734 SQ FT
TREE CANOPY PROVIDED 44,865 SQ FT

THE CANOPY REQUIREMENT IS BEING MET PRIMARILY WITH THE PRESERVATION OF EXISTING WOODED AREAS. FUTURE DEVELOPMENT OF THE PARCEL WILL LIKELY RESULT IN SOME OF THIS WOODED AREA BEING DISTURBED, AND SO NEW CANOPY CALCULATIONS AT THE END OF THE PROJECT WILL NECESSARILY REQUIRE A SIGNIFICANT AMOUNT OF CANOPY TO MAKE UP FOR LOST WOODED AREAS THAT WERE USED WITH THIS PHASE OF WORK. IT IS NOT OUR INTENTION TO INFER THAT THE WOODED AREAS PRESERVED WITH THIS PLAN WILL NECESSARILY REMAIN PRESERVED IN THE FUTURE, AND OBVIOUSLY, ANY REMOVAL OF WOODED AREAS PRESERVED WITH THIS PLAN MUST BE ACCOUNTED FOR BY ANY FUTURE PLAN THAT WOULD DISTURB THEM.

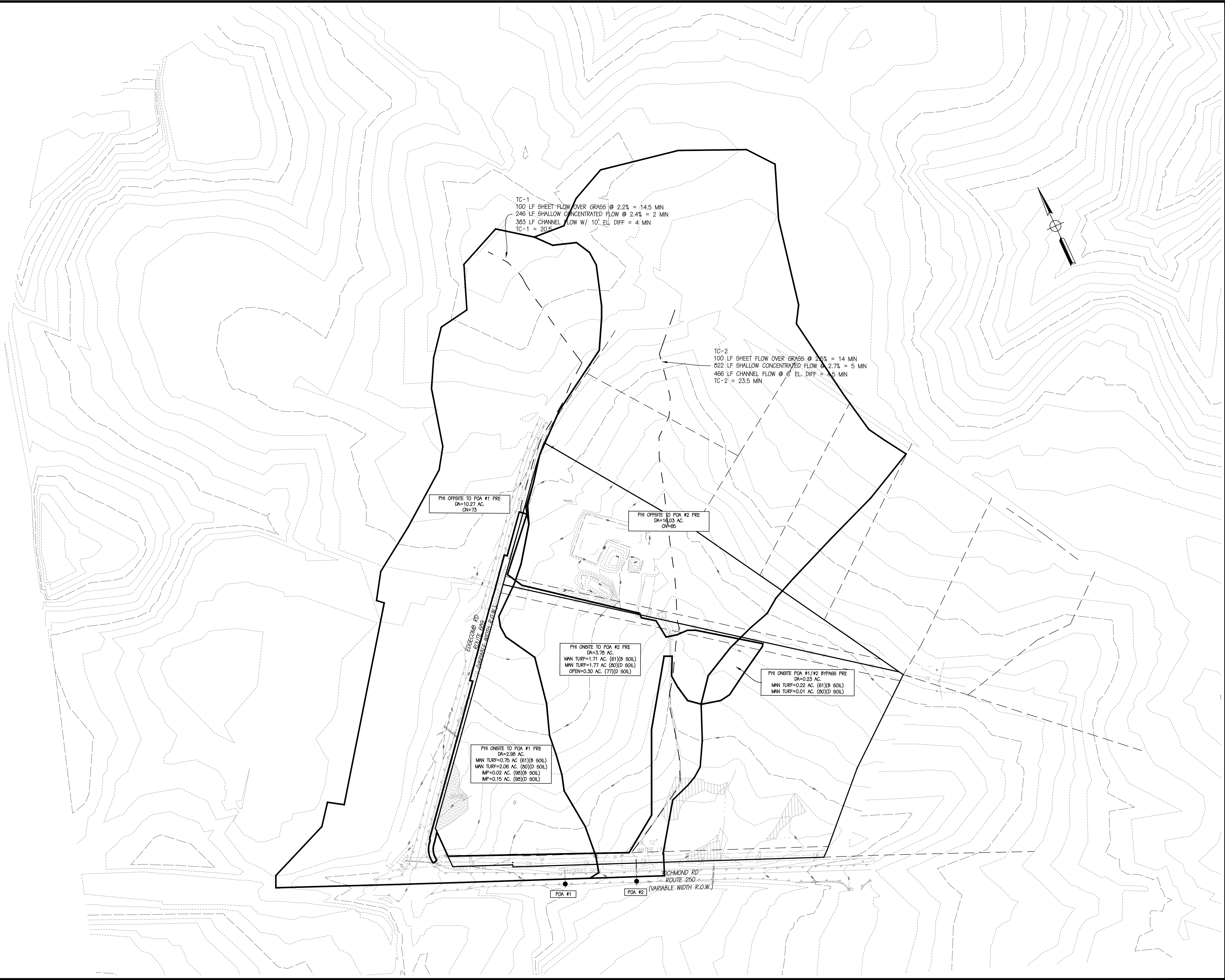
PARKING LANDSCAPING NARRATIVE:

THERE IS NO PARKING LOT PROPOSED, AND THE PARKING AS SHOWN IS NOT CONDUCTIVE FOR SHADE TREES TO BE PLANTED AGAINST THE BUILDING. WE HAVE THEREFORE PROPOSED THAT THE REQUIRED CONTENTS OF AN ISLAND (1 SHADE TREE AND 4 SHRUBS) REQUIRED FOR THE 13 EMPLOYEE PARKING SPACES BE PROVIDED OUTSIDE THE PAVEMENT ALONG EDGECOMB RD. ONE HACKBERRY AND 4 INKBERRY SHRUBS ARE PROPOSED.



 PERKINS & ORRISON ENGINEERS ▲ PLANNERS ▲ SURVEYORS		
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17 W. NELSON STREET LEXINGTON, VIRGINIA 24450 PHONE: 540-464-9001 FAX: 540-464-5009 EMAIL: pro@perkins-orrison.com		
CONSULTANTS		
SEAL:		
		
JOB:		
ZION CROSSROADS WAREHOUSE PHASE I PALMYRA MAGISTERIAL DISTRICT FLUVANNA COUNTY, VIRGINIA		
CLIENT:		
GLASS & ASSOCIATES, INC.		
1	05/12/2022	SUBMITTAL TO COUNTY
MARK	DATE	DESCRIPTION
		ISSUE: 05/04/2022
		CONTOUR INTERVAL: 2'
		DESIGNED BY: RHO
		DRAWN BY: PWS/BDG/DWW
		CHECKED BY: RHO
SHEET TITLE		
LANDSCAPING PLAN		
GRAPHIC SCALE  1"=50'		
SHEET	JURISDICTION PROJECT #	
C400		
JOB NO.: 22024	SHEET NO. 19 OF 24	

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CONSULTANTS

SEAL:



JOB:

**ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA**

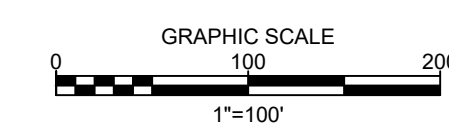
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CHECKED BY: RHO		

SHEET TITLE

**PHASE 1 PRE-DEVELOPED
DRAINAGE DIVIDE MAP**



SHEET	C500	SECTION PROJECT #
JOB NO.	22024	SHEET NO. 20 of 24

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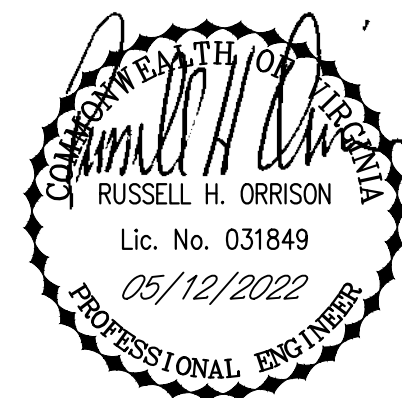
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CONSULTANTS

SEAL:



JOB:

ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

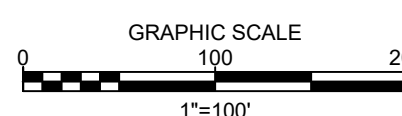
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ISSUE: 05/04/2022		
CONTOUR INTERVAL: 2'		
DESIGNED BY: RHO		
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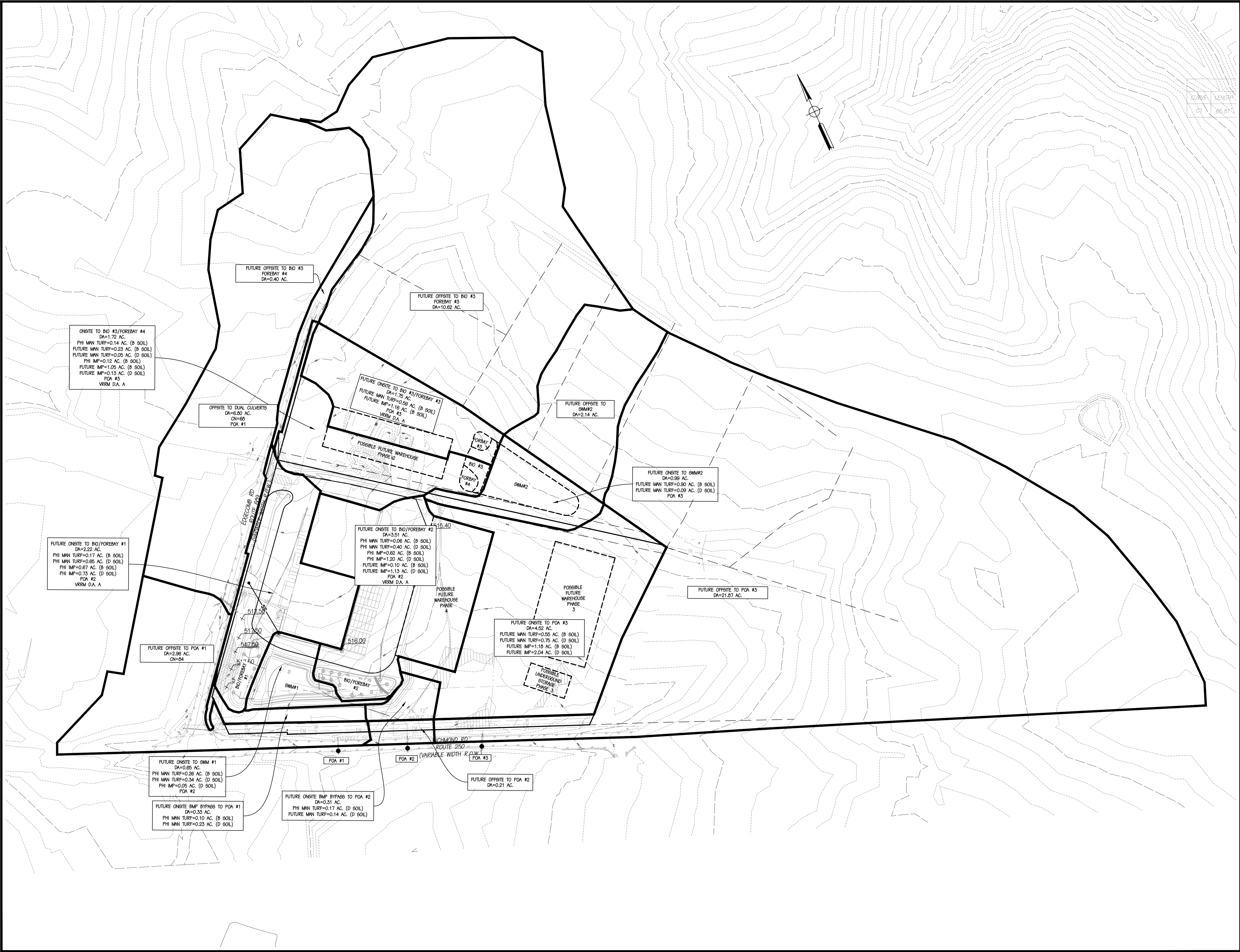
SHEET TITLE

PHASE 1 POST-DEVELOPED
DRAINAGE DIVIDE MAP



SHEET	C501	AJURSECTION PROJECT #
JOB NO.	22024	SHEET NO. 21 OF 24

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CURVE	LENGTH
C1	66.813

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Russell H. Orrison
RUSSELL H. ORRISON
Lic. No. 031849
05/12/2022
PROFESSIONAL ENGINEER

JOB:

ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

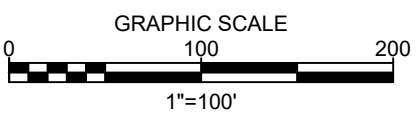
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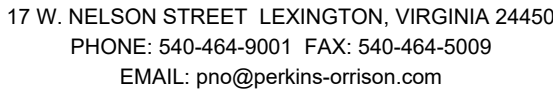
1	05/12/2022	SUBMITTAL TO COUNTY
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ISSUE: 05/04/2022		
CONTOUR INTERVAL:		2'
DESIGNED BY:		RHO
DRAWN BY:		PWS/BDG/DAW
CHECKED BY:		RHO

SHEET TITLE

CONCEPTUAL FUTURE
BUILDOUT DRAINAGE DIVIDE
MAP

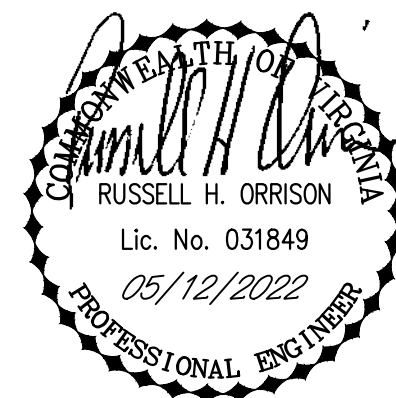


SHEET	ARRISSECTION PROJECT #
C502	
JOB NO.: 22024	SHEET NO. 22 of 24



CONSULTANTS

SEAL:



JOB:

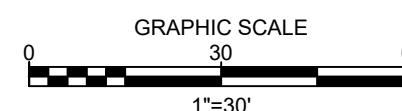
ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

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MARK	DATE	DESCRIPTION
ISSUE:		05/04/2022
CONTOUR INTERVAL:		2'
DESIGNED BY:		RHO
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CHECKED BY:		RHO

SHEET TITLE

STORMWATER CONVEYANCE CHANNEL DRAINAGE DIVIDE MAP



SHEET	JURISDICTION PROJECT #
C503	
JOB NO.: 22024	SHEET NO 23 OF 24



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CONSULTANTS

SEAL:



JOB:

ZION CROSSROADS
WAREHOUSE PHASE1
PALMYRA MAGISTERIAL DISTRICT
FLUVANNA COUNTY, VIRGINIA

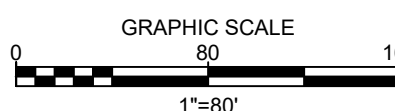
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CHECKED BY:		RHO

SHEET TITLE

EROSION & SEDIMENT
CONTROL DRAINAGE DIVIDE
MAP



SHEET	ARRISSECTION PROJECT #
C504	
JOB NO:	SHEET NO
22024	24 of 24