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October 5, 2015 - REVISED

Mr. Eric M. Dahl
Director of Finance
County of Fluvanna
132 Main Street
Palmyra, Virginia 22963

VIA E-MAIL

RE: Zion Crossroads Water & Sewer System Design Services
RFP # 2015-03
REVISED Engineering Scope of Work and Fee Proposal

Dear Mr. Dahl:

Dewberry Engineers Inc. (Dewberry) is pleased to submit our REVISED proposal, per your request, to provide professional engineering services for engineering, design, and construction services required for the Zion Crossroads Water and Sewer System project. Dewberry's Project Understanding, Scope of Services, and Fee have been developed based on our scoping meeting with you, Wayne Stephens, and Bobby Popowicz on August 31, 2015. Our proposal has been revised based on our meetings on September 24, 2015 and October 2, 2015. The Work will be performed in accordance with RFP # 2015-03 for Zion Crossroads Water and Sewer System Design Services, including the attached General Terms, Conditions, and Instructions to Bidders and Contractors, and Dewberry's proposal response dated July 9, 2015.

PROJECT UNDERSTANDING

Dewberry understands that Fluvanna County (OWNER) is seeking to design and construct a water and sewer system in the Zion Crossroads area of the County, generally south and west of the intersection between Route 250 and Route 15. In March 2015, Rummel, Klepper & Kahl, LLP (RK&K) completed a Preliminary Engineering Report (PER) for Water and Wastewater Services to the Zion Crossroads Planning Area, which outlined recommendations to proceed with Phase 1 of the Water and Sewer systems in the area.

Based on discussions at our August 31 scoping meeting, Fluvanna County has asked Dewberry to develop this proposal for engineering, design, and construction services associated with Phase 1. This will include the water and sewer system components that are listed below and highlighted on Attachment B (Water) and Attachment C (Sewer).

<u>Water System Components in Phase 1</u>

1. Approximately 21,000 linear feet (LF) of 12" water main along Route 250 and Route 15, to connect to the existing water system at the Fluvanna Correctional Center for Women, which is operated by the Virginia Department of Corrections (DOC), and dead ends at the end of Service Area 1-D. A connection to the Louisa County water system at Zion Crossroads will also be provided along this route. It is anticipated that the connection to Louisa County will consist of a vault housing a meter and control valve and be integrated into the SCADA system.
2. One (1) 500,000 gallon elevated water storage tank at a location to be determined near the intersection of Route 250 and Route 15.

3. One (1) water booster station at a location to be determined to deliver water from the DOC water system to the new Zion Crossroads water system and elevated tank.

Sewer System Components in Phase 1

1. Approximately 23,000 linear feet (LF) of 10" sewer force main along Route 250 and Route 15, from the end of Service Area 1-D to the Wastewater Treatment Plant (WWTP) at the DOC Fluvanna Correctional Center for Women.
2. One (1) duplex submersible sewage pump station at a location to be determined near the intersection of Route 250 and Route 15 to pump sewage back to the DOC WWTP.

It should be noted that the components of the Phase 1 sewer system were only vaguely outlined in the PER, but based on our scoping meeting discussions with the County, for the purposes of this proposal we have assumed that the scope for design services will include only one (1) pump station, force main from the pump station to the DOC WWTP, and no gravity sewer.

Based on discussions at our August 31 scoping meeting, Dewberry is preparing this proposal in a "menu-style" format in order to keep costs within the limits for individual project tasks outlined in RFP #2015-03.

Separate "menu item" projects that are part of this proposal are as follows:

1. PER Validation
2. Geotechnical Engineering for Water and Sewer Lines
3. Environmental Investigation and Permitting Services – Entire Project
4. Utility Designation along Route 250 and at the Women's Prison
5. Water and Sewer Lines – Preliminary Design (through 65%)
6. Water and Sewer Lines – Final Design
7. Water and Sewer Lines – Bidding Services
8. Elevated Water Storage Tank – Design
9. Elevated Water Storage Tank – Bidding Services
10. Water Booster Station – Design
11. Water Booster Station – Bidding Services
12. Sewage Pump Station – Design
13. Sewage Pump Station – Bidding Services

14. Water and Sewer Lines – Construction Administration
15. Elevated Water Storage Tank – Construction Administration
16. Water Booster Station – Construction Administration
17. Sewage Pump Station – Construction Administration

18. Water and Sewer Lines – Construction Inspection
19. Elevated Water Storage Tank – Construction Inspection
20. Water Booster Station – Construction Inspection
21. Sewage Pump Station – Construction Inspection

For each of the design system components, deliverables will be as follows:

- 10% Schematic Design

- 35% Preliminary Design
- 65% Working Drawings
- 95% Draft Final Documents
- Final Submission – Ready for Bid

At each stage beyond 10% schematics, Dewberry will update budgetary cost estimates and meet with County staff to review the submission and address comments.

One (1) presentation will provided to update the Board of Supervisors on the entire project at the 65% design stage and one (1) presentation will be provided to update the BOS on the entire project at the final design stage. Separate presentations for each project component will not be provided.

Based on discussions at our September 24 meeting, Dewberry understands that there will be three (3) bid and construction packages for the project, broken out as follows:

1. Water and Sewer Lines
2. Elevated Water Storage Tank
3. Pump Stations – Water Booster Station and Sewage Pump Station

In this revised fee proposal, Dewberry has accounted for cost savings in the design, bidding, construction administration, and construction inspection phases of the project where services overlap based on this packaging. Should the County decide to modify the construction packages during design, Dewberry and the County will need to renegotiate fees based on the modified construction packaging.

Also based on discussions at our September 24 meeting, Dewberry understands that surveying services, including preparation of easement plats, will be performed by others outside of the scope of this contract. Dewberry will be relying on the survey information provided by others for the design, and will not be responsible for the accuracy of the survey information provided by others.

SCOPE OF SERVICES

ENGINEERING, DESIGN, AND BIDDING

1. Preliminary Engineering Report (PER) Validation

1.1 Hold a kickoff meeting with Fluvanna County (OWNER) to review project requirements. Key issues to resolve during the PER validation phase are locations and sizing for site-specific facilities (water storage tank, water booster station, and sewage pump station), and routing alignment and sizing (diameter) for water and sewer pipelines.

1.2 Review the project PER (RK&K, March 2015) to review routing alignment and sizing alternatives.

1.3 Collect and review available existing information relative to existing utilities and environmental issues within the project corridors.

1.4 Conduct preliminary property research to assess requirements for any easements and meet

with the OWNER to review preliminary easement requirements.

1.5 Identify potential issues associated with each routing and siting alternative, including easement acquisition requirements, utility impacts, power line corridor impacts, wetland impacts, creek/stream crossings, and road impacts, including traffic control.

1.6 Conduct a field walkthrough with the OWNER to review potential issues associated with each pipeline routing and station siting alternative.

1.7 Work with OWNER to review pipeline routing and station siting alternatives and select recommended alternatives for use in discussions with review agencies.

1.8 Coordinate with Dominion Virginia Power and review requirements related to the crossing of any distribution line easements along the proposed pipeline routing.

1.9 Meet with Virginia Department of Transportation (VDOT) to discuss routing alternatives and discuss issues associated with construction impacts, road restoration, traffic control, and lane closures along Route 250 and Route 15.

1.10 Coordinate with appropriate agencies for any natural gas, fiber optic, and telephone line crossings or impacts along the proposed routing.

1.11 Develop water and sewer models of proposed systems for use in preliminary sizing of the water main, booster station, water storage tank, sewage pump station, and force main.

1.12 Develop updated budgetary construction cost estimates for each item.

1.13 Prepare and submit a PER Validation Memorandum that confirms the preliminary design features associated with the proposed sizing, siting, and routing. The memorandum will summarize options, provide evaluation findings, and make recommendations to carry forth through field investigations and design services.

1.14 Meet with the OWNER to review the draft PER Validation Memorandum.

1.15 Revise the PER Validation Memorandum as necessary to address OWNER comments and submit the final memorandum.

Note that the remaining phases in the scope of basic services (listed below) will be completed only for the routing and siting alternatives that are selected as a result of the PER Validation.

2. Geotechnical Engineering for Water and Sewer Lines

2.1 Geotechnical Engineering Services will be provided by our sub-consultant Schnabel Engineering Associates in accordance with their proposal dated September 28, 2015, which is included as Attachment D to this proposal.

2.2 For the water and sewer lines, Schnabel anticipates a total of 52 test borings along the alignment to depths of approximately 10 to 20 feet, drilled on a roughly 500 foot spacing. Total drilling depth is approximately 730 linear feet (LF). It is assumed boring locations will be accessible with truck and ATV-mounted equipment. Traffic control will be provided for maintenance of traffic during boring operations.

2.3 Prepare a comprehensive geotechnical engineering report based on the results of field investigations. The geotechnical report will provide recommendations for pipe bedding support, earthwork, rock excavation, and dewatering.

2.4 The findings and recommendations detailed in the geotechnical report will be addressed during the design phase.

2.5 Additional details on Schnabel's scope of services for the water and sewer lines are provided in Attachment D.

3. Environmental Investigation and Permitting Services – Entire Project

Note that the permitting agencies take into consideration the cumulative impacts to wetlands and streams for all aspects of the proposed project, and the US Army Corps of Engineers (USACE) requires the permit application to comprise all aspects of the project necessary to make it a single complete project. Therefore, to help expedite the permitting process, Dewberry recommends that the individual components of the Zion Crossroads water and sewer project be permitted together in one (1) permit application, regardless of the number of components that are approved for design initially. The scope of services and fee for this task, therefore, incorporates the environmental investigation and permitting services for all project components.

3.1 Dewberry will perform a wetland and stream delineation in accordance with the methods listed in the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and the appropriate Regional Supplement to the Corps of Engineers Wetland Delineation Manual. Dewberry will conduct wetland and stream delineations/determinations for a 100' wide corridor along the water and sewer alignment routing generally paralleling Route 250 and Route 15 in Fluvanna County, and the selected sites for the elevated water storage tank, water booster station, and sewage pump station.

3.2 Field indicators of hydrophytic vegetation, hydric soils, and wetland hydrology will be observed and recorded to generally determine the approximate wetland boundaries. Boundaries of jurisdictional wetlands and streams will be flagged with survey tape and pin flags. Data points will be taken at appropriate wetland areas using approved USACE data forms to characterize the type of wetland community found. Dewberry will also record the general composition of vegetation identified onsite.

3.3 Field survey of flagging for the wetland and stream locations identified during delineation will be provided by others and is not part of this proposal.

3.4 The data gathered during the wetland and stream delineation will be used to prepare a Waters of the US (WOUS) Delineation Report. The report will include information

summarized from the wetland/stream investigation (including wetland data sheets, required jurisdictional determination forms, and site photographs). It will also include map exhibits displaying jurisdictional boundaries.

3.5 After the WOUS Delineation Report has been reviewed and approved by the OWNER, it will be forwarded to the US Army Corps of Engineers (USACE) – Western Richmond Field Office with a request for jurisdictional determination (JD) verification. This task assumes one on-site meeting for the JD with the Corps of Engineers.

3.6 A preliminary review of threatened and endangered species databases identifies only the federally endangered Northern Long Eared Bat (NLEB) as potentially affected by the Zion Crossroads Water and Sewer project. Dewberry will complete a database review and submit an online request for a US Fish & Wildlife (USFWS) IPaC (Information, Planning, and Conservation) review of the project area, including the completion of a desktop species conclusion table based on site information gathered during field work. Based on USFWS guidance, a NLEB habitat assessment will be completed on the project including pre- and post-construction vegetation cover types and acreage, water sources, description of adjacent properties, and proximity to public lands. This will assist with the identification of any further surveys necessary and will assist with permitting time frames. Due to the overall scale of the project, tree clearing will likely require a time-of-year restriction for clearing from April 15th to September 1st, unless a negative bat survey is conducted or the database information is updated to remove the bat from the project vicinity list.

3.7 Dewberry will complete and submit a Project Review request to the DCR Division of Natural Heritage to determine the potential or likely presence of rare, threatened or endangered species within the project area. Dewberry will also complete a search of the VA Department of Game and Inland Fisheries (DGIF) database to determine any documented occurrences of State Listed species within the project area. This will provide information about federally protected sensitive resources within the vicinity of the project.

3.8 Depending on the total project impacts, Dewberry will compile and submit a Pre-Construction Notification (PCN) or Joint Permit Application (JPA) permit package for the U.S. Army Corps of Engineers. The application will include general information about the applicant, the amounts and types of waters and wetlands proposed to be impacted, and any alternatives analysis detailing the avoidance and minimization efforts made. The application will include graphics detailing the proposed project and unavoidable impacts. Dewberry will analyze the wetland areas to be affected by the proposed plan, summarize the results in both narrative and tabular formats and submit the application package to the Corps. A JPA permit package is assumed.

3.9 It should be noted that although this project most likely qualifies for a Nationwide Permit or State Programmatic General Permit (SPGP), compensatory mitigation will be required for permanent stream impacts that exceed 300 linear feet (LF) and/or permanent wetland impacts or forested wetland conversion impacts, which cumulatively exceed 1/10th of an acre. Banking coordination activities and preparation of a package for compensatory mitigation are included. Dewberry will contact banks, evaluate pricing, and provide recommendations. OWNER will purchase mitigation credits directly with selected bank.

4. Utility Designation along Route 250 and at the Women's Prison

Dewberry understands that during our scoping meeting with the County on August 31, 2015, it was noted that utility designation should be performed by utilizing Miss Utility design tickets along the corridor. Along Route 15, there appear to be minimal utilities, and this solution should work well through this section of the proposed pipelines. However, during our review of project area along Route 250, we noted multiple fiber optic and telephone lines throughout the corridor. Based on preliminary investigations performed by our subconsultant, Accumark, we estimate 5 to 7 active communication lines (fiber optic and telephone) and a high probability of abandoned telephone lines throughout this corridor. Miss Utility will not mark abandoned lines, will not mark utilities at the women's prison facility, and will not be liable for the accuracy of information provided through design tickets. In addition, accurate utility information will minimize the potential for construction change orders and time delays. For these reasons, and due to the concentration of communication utilities along the corridor, the County may want to consider having our subconsultant, Accumark, perform utility designation services along the Route 250 corridor and at the women's prison under this contract. The scope of services for these utility designation services is provided below.

4.1 Underground utility designations along Route 250, at the Route 250/Route 15 intersection, and at the Women's Prison facility will be provided by our subconsultant, Accumark, in accordance with their proposal dated September 28, 2015, which is included as Attachment E to this proposal.

4.2 Accumark will perform utility designation in compliance with Quality Level B. Known non-locatable utilities shall be added to the designation mapping at Quality Level C or D, as appropriate.

4.3 Accumark will field survey all utility markings along the utility designation corridor and develop a CAD file with all utility markings for incorporation into the design documents.

5. Water and Sewer Lines – Preliminary Design (through 65%)

5.1 Prepare a 10% schematic alignment for OWNER review. The 10% submission will include:

- Overall plan view showing general horizontal alignment and impacted properties. This will be a "roll drawing" as opposed to individual plan sheets.
- Preliminary layout of the Louisa connection vault
- Sheet index showing conceptual layout of plan set
- Preliminary construction cost estimate

5.2 Meet with the OWNER to review the 10% submission. Comments will be addressed in the 35% design stage.

5.3 Surveying will be performed by others outside of the scope of this contract. Coordinate with the surveyor regarding the survey information collected for the project. This task will include initial coordination to provide direction on the survey area and components to be surveyed, and will be an on-going task during the design phase as issues are identified and need to be resolved.

5.4 Prepare 35% design plans for OWNER review. The 35% plan submission will include:

- Plan sheets
  - Aerial and field topographic survey with control points
  - Horizontal pipeline alignment showing stationing
  - Utility designations and locations along proposed alignment
  - Floodplain and wetland areas delineated
  - Affected property owner information
  - Plan for the Louisa connection vault
- Updated construction cost estimate

5.5 Meet with the OWNER to review the 35% submission.

5.6 Address comments on the 35% submission and document responses back to the OWNER.

5.7 Identify the boring locations for geotechnical investigation along the proposed routing. Perform geotechnical investigations and complete geotechnical engineering report per the Geotechnical Engineering section of this proposal.

5.8 Prepare 65% design plans and specifications for OWNER review. The horizontal alignment shall be finalized prior to 65% submission. The 65% submission will include:

- Cover sheet with location map, sheet index, project title, and material quantity list
- General notes and legend sheet
- Standard construction notes and details sheet
- E&S control narrative, notes and details
- Easement summary
- Listing of anticipated details
- Plan for the Louisa connection vault
- Plan sheets showing 35% submission info and the following:
  - Horizontal pipeline alignment showing stationing, limits of disturbance, and proposed easements
  - Geotechnical boring locations
  - Vertical pipeline alignment (profile) based on horizontal alignment
- Technical specifications
- Updated construction cost estimate

5.9 Meet with the OWNER to review the 65% submission.

5.10 Address comments on the 65% submission and document responses back to the OWNER.

5.11 Provide a presentation to the Fluvanna County Board of Supervisors (BOS) on the 65% design. Note that this task will be a presentation to brief the BOS on the entire project, not just the water and sewer line portion. However, the entire fee for this task is included in the water

and sewer line fee. Separate briefings to the BOS for each separate project component will not be provided.

6. Water and Sewer Lines – Final Design

6.1 Prepare 95% design plans and specifications based on the preliminary design and applicable Federal, State, and Local regulations and requirements.

6.2 95% plans and specifications will address the following components.

6.2.1 95% plans will be prepared on 24" x 36" sheets with a title block for recording the sheet title, approval and date, revisions and dates, and stamp and signature of the ENGINEER.

6.2.2 Prepare a cover sheet indicating the project name, general location, stamp and signature of the ENGINEER, approval and signature of the OWNER, and general notes.

6.2.3 Use a minimum vertical scale of 1" = 10' and a minimum horizontal scale of 1" = 50'.

6.2.4 Indicate on the plan sheets all owners and parcel numbers of properties that are impacted and those of adjacent properties.

6.2.5 Show water and sewer line improvements in plan and profile view, including the following:

6.2.5.1 Pipe type, class, and diameter
6.2.5.2 Utility crossings
6.2.5.3 All appurtenances, including access structures, valves, tees, hydrants, blow-offs, air release valves, meter setting locations, and monitoring and control devices
6.2.5.4 Construction and permanent easements
6.2.5.5 Existing utilities and easements
6.2.5.6 Match lines and station numbers for preceding and subsequent sheets
6.2.5.7 Elevation of the 100-year flood plain and boundaries of the 100-year flood plain as shown on the FIRM or other available mapping, wetlands and other protected features, areas, and water courses as appropriate
6.2.5.8 Original and finished ground elevations
6.2.5.9 Benchmarks
6.2.5.10 Erosion and sedimentation control measures

6.2.6 Show, by notes, construction parameters and sequencing, erosion and sedimentation controls, and operational details and sequences.

6.2.7 Develop a Project Manual using the OWNER's bid format to contain contract and bidding documents as well as technical specifications for completing the construction.

6.3 Prepare permit applications to obtain review agency approvals from Fluvanna County, DCR, DEQ, VDH, and VDOT as necessary.

6.4 Since the project will disturb over 1 acre of land, a Virginia Stormwater Management Program (VSMP) general permit for construction sites will be required. This involves the filing of a VSMP registration statement, a pollution prevention plan, and a permit application fee. Dewberry proposes to complete and file the registration statement and create a Stormwater Pollution Prevention Plan (SWPPP) specifically for the project. The permit fee depends on the total amount of land disturbance and will be paid by the OWNER.

6.5 Coordinate with review agencies to address comments and obtain approvals.

6.6 Prepare final construction cost estimate.

6.7 Meet with the OWNER to review the 95% design plans and specifications.

6.8 Address comments on the 95% submission and document responses back to the OWNER.

6.9 Submit FINAL plans and specifications ready for bidding.

6.10 Provide a presentation to the Fluvanna County Board of Supervisors (BOS) on the FINAL design. Note that this task will be a presentation to brief the BOS on the entire project, not just the water and sewer line portion. However, the entire fee for this task is included in the water and sewer line fee. Separate briefings to the BOS for each separate project component will not be provided.

7. Water and Sewer Lines – Bidding Services

7.1 Prepare the complete bid package including all bid documents, plans, and specifications, have them approved by the OWNER, distribute them to the potential bidders, and maintain a list of the potential bidders. Dewberry may charge a reasonable, non-refundable fee to potential bidders for bid documents.

7.2 The OWNER shall prepare the advertisement for construction bids, advertise the bid, and pay the advertising cost.

7.3 Provide five (5) sets of bid documents for the OWNER's use.

7.4 Attend and run a pre-bid conference and coordinate responses to questions from bidders.

7.5 Dewberry shall prepare, the OWNER shall approve, and Dewberry shall be responsible for distribution of any addenda.

7.6 Attend the bid opening, review the bids, and recommend to the OWNER award to the lowest responsive, responsible bidder who complies with all Federal, State and Local regulations.

8. Elevated Water Storage Tank - Design

For the purposes of this proposal, Dewberry anticipates that the elevated water storage tank will include the following components:

- Volume of 500,000 gallons
- Multi-leg or fluted column construction
- Approximate overflow elevation of 663 feet
- Separate control building (pre-fabricated, Smith Midland type building)
- Connection to SCADA system for remote monitoring

Should the anticipated components change significantly during design, additional design services may be required.

8.1 Prepare a 10% schematic for OWNER review. The 10% submission will include:

- Conceptual site plan layout
- Evaluation of tank types
- Sheet index showing conceptual layout of plan set
- Preliminary construction cost estimate

8.2 Meet with the OWNER to review the 10% submission. Comments will be addressed in the 35% design stage.

8.3 Surveying will be performed by others outside of the scope of this contract. Coordinate with the surveyor regarding the survey information collected for the project. This task will include initial coordination to provide direction on the survey area and components to be surveyed, and will be an on-going task during the design phase as issues are identified and need to be resolved.

8.4 Prepare 35% design plans for OWNER review. The 35% plan submission will include:

- Site plan layout, showing access, parking, and building and tank locations
- Conceptual layout of control building
- Preliminary system control narrative
- Updated construction cost estimate

8.5 Meet with the OWNER to review the 35% submission.

8.6 Address comments on the 35% submission and document responses back to the OWNER.

8.7 Identify the boring locations for geotechnical investigation at the site. Perform geotechnical investigations and complete geotechnical engineering report per Schnabel's proposal dated September 28, 2015 (Attachment D). For the water storage tank, 4 test to depths of about 5 to 50 feet will be completed. Total drilling depth will be approximately 220 LF.

8.8 Prepare 65% design plans and specifications for OWNER review. The 65% submission will include:

- Cover sheet with location map, sheet index, project title, and material quantity list
- General notes and legend sheet
- Standard construction notes and details sheet
- E&S control narrative, notes and details
- Listing of anticipated details
- Plan sheets showing horizontal and vertical pipeline alignment
- Tank elevation view
- Preliminary tank details
- Electrical preliminary design and control sequence
- Preliminary SCADA specification
- Geotechnical boring locations
- Technical specifications
- Updated construction cost estimate

8.9 Meet with the OWNER to review the 65% submission.

8.10 Address comments on the 65% submission and document responses back to the OWNER.

8.11 Prepare 95% design plans and specifications based on the preliminary design and applicable Federal, State, and Local regulations and requirements. The 95% submission will expand on the 65% submission items above to incorporate all elements required to bring the project to bid, including final details, contract documents, and updated construction cost estimate.

8.12 Prepare permit applications to obtain review agency approvals from Fluvanna County, DCR, and VDH as necessary.

8.13 A Virginia Stormwater Management Program (VSMP) general permit for construction sites is anticipated to be required, dependent upon the disturbed area. This involves the filing of a VSMP registration statement, a pollution prevention plan, and a permit application fee. Dewberry proposes to complete and file the registration statement and create a Stormwater Pollution Prevention Plan (SWPPP) specifically for the project. The permit fee depends on the total amount of land disturbance and will be paid by the OWNER.

8.14 Coordinate with review agencies to address comments and obtain approvals.

8.15 Meet with the OWNER to review the 95% design plans and specifications.

8.16 Address comments on the 95% submission and document responses back to the OWNER.

8.17 Submit FINAL plans and specifications ready for bidding.

9. Elevated Water Storage Tank – Bidding Services

9.1 Complete all bidding services outlined in Section 7 of this proposal, specific to the elevated water storage tank.

10. Water Booster Station - Design

For the purposes of this proposal, Dewberry anticipates that the water booster station will include the following components:

- Two (2) centrifugal pumps rated to deliver between 500 to 600 gallons per minute (GPM)
- Pre-cast pump building (pre-fabricated, Smith Midland type building)
- Packaged control panel
- Connection to SCADA system for remote monitoring
- It is assumed that all control with Variable Frequency Drives (VFDs) will be accomplished locally with SCADA system monitoring, trending, and changing setpoints

Should the anticipated components change significantly during design, additional design services may be required.

The water booster station design will be prepared in coordination with the sewage pump station design. Both projects will be part of one set of construction documents, with common title sheet, notes, details, and project manual/specifications.

10.1 Prepare a 10% schematic alignment for OWNER review. The 10% submission will include:

- Conceptual site plan layout
- Conceptual booster station building layout
- Preliminary pump sizing
- Sheet index showing conceptual layout of plan set
- Preliminary construction cost estimate

10.2 Meet with the OWNER to review the 10% submission. Comments will be addressed in the 35% design stage.

10.3 Surveying will be performed by others outside of the scope of this contract. Coordinate with the surveyor regarding the survey information collected for this project. This task will include initial coordination to provide direction on the survey area and components to be surveyed, and will be an on-going task during the design phase as issues are identified and need to be resolved.

10.4 Prepare 35% design plans for OWNER review. The 35% plan submission will include:

- Site plan layout, showing access, parking, and building location
- Conceptual layout of the interior of the booster station
- Preliminary system control narrative
- Updated construction cost estimate

10.5 Meet with the OWNER to review the 35% submission.

10.6 Address comments on the 35% submission and document responses back to the OWNER.

10.7 Identify the boring locations for geotechnical investigation at the site. Perform geotechnical investigations and complete geotechnical engineering report per Schnabel's proposal dated September 28, 2015 (Attachment D). For the water booster station, 4 test borings to depths of about 5 to 30 feet will be completed. Total drilling depth will be approximately 40 LF.

10.8 Prepare 65% design plans and specifications for OWNER review. The 65% submission will include:

- Cover sheet with location map, sheet index, project title, and material quantity list
- General notes and legend sheet
- Standard construction notes and details sheet
- E&S control narrative, notes and details
- Listing of anticipated details
- Plan sheets showing horizontal and vertical pipeline alignment
- Booster station building layout
- Electrical and system controls preliminary design and control sequence
- Preliminary SCADA system specification
- Geotechnical boring locations
- Technical specifications
- Updated construction cost estimate

10.9 Meet with the OWNER to review the 65% submission.

10.10 Address comments on the 65% submission and document responses back to the OWNER.

10.11 Prepare 95% design plans and specifications based on the preliminary design and applicable Federal, State, and Local regulations and requirements. The 95% submission will expand on the 65% submission items above to incorporate all elements required to bring the project to bid, including final details, contract documents, and updated construction cost estimate.

10.12 Prepare permit applications to obtain review agency approvals from Fluvanna County, DCR, and VDH as necessary.

10.13 A Virginia Stormwater Management Program (VSMP) general permit for construction sites is anticipated to be required, dependent upon the disturbed area. This involves the filing of a VSMP registration statement, a pollution prevention plan, and a permit application fee. Dewberry proposes to complete and file the registration statement and create a Stormwater Pollution Prevention Plan (SWPPP) specifically for the project. The permit fee depends on the total amount of land disturbance and will be paid by the OWNER.

10.14 Coordinate with review agencies to address comments and obtain approvals.

10.15 Meet with the OWNER to review the 95% design plans and specifications.

10.16 Address comments on the 95% submission and document responses back to the OWNER.

10.17 Submit FINAL plans and specifications ready for bidding.

11. Water Booster Station – Bidding Services

11.1 Complete all bidding services outlined in Section 7 of this proposal, specific to the water booster station.

11.2 The water booster station will be combined with the sewage pump station in one construction package. Bidding services for water booster station and sewage pump station construction package will be provided concurrently.

12. Sewage Pump Station - Design

For the purposes of this proposal, Dewberry anticipates that the sewage pump station will include the following components:

- 1.0 MGD capacity
- Two (2) submersible non-clog pumps in precast concrete wet well
- Separate precast concrete valve vault
- Separate control building (pre-fabricated, Smith Midland type building)
- Connection to SCADA system for remote monitoring

Should the anticipated components change significantly during design, additional design services may be required.

The sewage pump station design will be prepared in coordination with the water booster station design. Both projects will be part of one set of construction documents, with common title sheet, notes, details, and project manual/specifications.

12.1 Prepare a 10% schematic for OWNER review. The 10% submission will include:

- Conceptual site plan layout
- Conceptual pump station layout
- Preliminary pump sizing
- Sheet index showing conceptual layout of plan set
- Preliminary construction cost estimate

12.2 Meet with the OWNER to review the 10% submission. Comments will be addressed in the 35% design stage.

12.3 Surveying will be performed by others outside of the scope of this contract. Coordinate with the surveyor regarding the survey information collected for the project. This task will include

initial coordination to provide direction on the survey area and components to be surveyed, and will be an on-going task during the design phase as issues are identified and need to be resolved.

12.4 Prepare 35% design plans for OWNER review. The 35% plan submission will include:

- Site plan layout, showing access, parking, and building and wet well/valve vault locations
- Conceptual pump station layout
- Conceptual layout of control building
- Preliminary system control narrative
- Updated construction cost estimate

12.5 Meet with the OWNER to review the 35% submission.

12.6 Address comments on the 35% submission and document responses back to the OWNER.

12.7 Identify the boring locations for geotechnical investigation at the site. Perform geotechnical investigations and complete geotechnical engineering report per Schnabel's proposal dated September 28, 2015 (Attachment D). For the sewage pump station, 3 test borings to depths of about 5 to 50 feet will be completed. Total drilling depth will be approximately 60 LF.

12.8 Prepare 65% design plans and specifications for OWNER review. The 65% submission will include:

- Cover sheet with location map, sheet index, project title, and material quantity list
- General notes and legend sheet
- Standard construction notes and details sheet
- E&S control narrative, notes and details
- Listing of anticipated pump station details
- Plan sheets showing horizontal and vertical pipeline alignment
- Pump station section view
- Pump curve information
- Control building layout
- Electrical and controls system preliminary design and control sequence
- Preliminary SCADA specification
- Geotechnical boring locations
- Technical specifications
- Updated construction cost estimate

12.9 Meet with the OWNER to review the 65% submission.

12.10 Address comments on the 65% submission and document responses back to the OWNER.

12.11 Prepare 95% design plans and specifications based on the preliminary design and applicable Federal, State, and Local regulations and requirements. The 95% submission will expand on

the 65% submission items above to incorporate all elements required to bring the project to bid, including final details, contract documents, and updated construction cost estimate.

12.12 Prepare permit applications to obtain review agency approvals from Fluvanna County, DCR, and DEQ as necessary.

12.13 A Virginia Stormwater Management Program (VSMP) general permit for construction sites is anticipated to be required, dependent upon the disturbed area. This involves the filing of a VSMP registration statement, a pollution prevention plan, and a permit application fee. Dewberry proposes to complete and file the registration statement and create a Stormwater Pollution Prevention Plan (SWPPP) specifically for the project. The permit fee depends on the total amount of land disturbance and will be paid by the OWNER.

12.14 Coordinate with review agencies to address comments and obtain approvals.

12.15 Meet with the OWNER to review the 95% design plans and specifications.

12.16 Address comments on the 95% submission and document responses back to the OWNER.

12.17 Submit FINAL plans and specifications ready for bidding.

13. Sewage Pump Station – Bidding Services

13.1 Complete all bidding services outlined in Section 7 of this proposal, specific to the sewage pump station.

13.2 The sewage pump station will be combined with the water booster station in one construction package. Bidding services for sewage pump station and water booster station construction package will be provided concurrently.

CONSTRUCTION ADMINISTRATION SERVICES

14. Water and Sewer Lines – Construction Administration

14.1 Conduct a pre-construction meeting with the OWNER, CONTRACTOR, and all affected agencies. Dewberry will take meeting minutes and provide a written copy to all in attendance.

14.2 Review and approve all shop drawings, equipment drawings, and material standards submitted by the CONTRACTOR and provide copies of each to the OWNER.

14.3 Furnish consulting services during construction to answer any construction or contractual problems and determine that the work is proceeding in accordance with contract documents.

14.4 Visit the site during construction, once per month outside of the monthly progress meeting, reviewing the work in detail with the CONTRACTOR and inspector.

14.5 Review and approve monthly and final payments to the CONTRACTOR. Attend monthly progress/pay request meetings to discuss the status of the work.

14.6 Furnish the OWNER with monthly progress reports detailing the percent of completed construction with respect to time and money, describing any problems.

14.7 Prepare and distribute to the CONTRACTOR for approval all change orders prior to submission to the OWNER for final approval.

14.8 Transfer field notes from the inspector and CONTRACTOR to the original drawings and provide one (1) copy of digital record drawings and three (3) printed paper sets of Record Drawings.

14.9 Attend substantial completion inspection and final inspection. Provide written correspondence to the OWNER that materials and equipment and construction were provided in substantial compliance with the plans and specifications.

14.10 For the purposes of this proposal, Dewberry anticipates a construction duration of 18 months for the water and sewer lines. Should the duration of the construction contract change, Dewberry's fee for construction administration services will be modified accordingly.

15. Elevated Water Storage Tank – Construction Administration

15.1 Complete all construction administration services outlined in Section 14 of this proposal, specific to the elevated water storage tank.

15.2 For the purposes of this proposal, Dewberry anticipates a construction duration of 12 months for the elevated water storage tank. Should the duration of the construction contract change, Dewberry's fee for construction administration will be modified accordingly.

16. Water Booster Station – Construction Administration

16.1 Complete all construction administration services outlined in Section 14 of this proposal, specific to the water booster station.

16.2 The water booster station will be combined with the sewage pump station in one construction package. Construction administration services for the water booster station and sewage pump station construction package will be provided concurrently.

16.3 For the purposes of this proposal, Dewberry anticipates a construction duration of 12 months for the water booster station/sewage pump station construction package. Should the duration of the construction contract change, Dewberry's fee for construction administration will be modified accordingly.

17. Sewage Pump Station – Construction Administration

17.1 Complete construction administration services outlined in Section 14 of this proposal, specific to the sewage pump station.

17.2 The sewage pump station will be combined with the water booster station in one construction package. Construction administration services for the sewage pump station and water booster station construction package will be provided concurrently.

17.3 For the purposes of this proposal, Dewberry anticipates a construction duration of 12 months for the sewage pump station/water booster station construction package. Should the duration of the construction contract change, Dewberry's fee for construction administration will be modified accordingly.

CONSTRUCTION INSPECTION SERVICES

18. Water and Sewer Lines – Construction Inspection

18.1 Provide full-time construction inspection services, 40 hours per week for the duration of the construction contract (18 months) to generally observe trench excavation, installation of pipe and appurtenances, backfill, compaction, and testing.

18.2 Inspector shall monitor Contractor's work and verify compliance with contract documents.

18.3 Services specifically exclude special geotechnical inspections, which will be provided by the CONTRACTOR per the terms of the specifications.

18.4 For the purposes of this proposal, Dewberry anticipates a construction duration of 18 months for the water and sewer lines. Should the duration of the construction contract change, Dewberry's fee for construction inspection will be modified accordingly.

19. Elevated Water Storage Tank – Construction Inspection

19.1 For construction inspection services for the elevated water storage tank, provide construction inspection to monitor the Contractor's work and verify compliance with the contract documents. For the anticipated 12 month construction schedule, it is assumed that only 9 months of inspection will be required due to equipment/material lead times. We have based our proposal on the understanding that one (1) inspector will be needed on a full-time basis to split inspection time between the Elevated Water Storage Tank, Water Booster Station, and Sewage Pump Station projects. Therefore, our fee for inspection on the elevated water storage tank includes 1/3 of the time for 1 person, 40 hours per week, for 9 months. Should the duration of the construction contract or inspection requirements change, Dewberry's fee for construction inspection will be modified accordingly.

19.2 Construction inspection for the elevated water storage tank specifically excludes coating inspection and testing.

20. Water Booster Station – Construction Inspection

20.1 For construction inspection services for the water booster station, provide construction inspection to monitor the Contractor's work and verify compliance with the contract

documents. For the anticipated 12 month construction schedule, it is assumed that only 9 months of inspection will be required due to equipment/material lead times. We have based our proposal on the understanding that one (1) inspector will be needed on a full-time basis to split inspection time between the Elevated Water Storage Tank, Water Booster Station, and Sewage Pump Station projects. Therefore, our fee for inspection on the water booster station includes 1/3 of the time for 1 person, 40 hours per week, for 9 months. Should the duration of the construction contract or inspection requirements change, Dewberry's fee for construction inspection will be modified accordingly.

21. Sewage Pump Station – Construction Inspection

21.1 For construction inspection services for the sewage pump station, provide construction inspection to monitor the Contractor's work and verify compliance with the contract documents. For the anticipated 12 month construction schedule, it is assumed that only 9 months of inspection will be required due to equipment/material lead times. We have based our proposal on the understanding that one (1) inspector will be needed on a full-time basis to split inspection time between the Elevated Water Storage Tank, Water Booster Station, and Sewage Pump Station projects. Therefore, our fee for inspection on the sewage pump station includes 1/3 of the time for 1 person, 40 hours per week, for 9 months. Should the duration of the construction contract or inspection requirements change, Dewberry's fee for construction inspection will be modified accordingly.

SCHEDULE

Dewberry can begin work on this project immediately upon receiving a Notice to Proceed. Assuming a Notice to Proceed of November 2, 2015, Dewberry anticipates the following project milestones:

Notice to Proceed	November 2015
Survey (By Others)	December 2015
Design Services Complete (All Projects)	August 2016
Regulatory Approvals (All Projects)	September 2016
Advertise for Bid (All Projects)	September 2016
Bids Received (All Projects)	October 2016
Construction Contract Award (All Projects)	November 2016
Project Construction	December 2016 – July 2018

FEE (LUMP SUM)

Dewberry's lump sum fee for these services is broken out by task (below) and by project year (on the following page) as follows. A copy of our man-hour breakout estimate is included as Attachment A.

1.	PER Validation	$22,550
2.	Geotechnical Engineering for Water and Sewer Lines	$49,800
3.	Environmental Investigation and Permitting Services – Entire Project	$25,210
4.	Utility Designation along Route 250 and at the Women's Prison	$57,530
5.	Water and Sewer Lines – Preliminary Design (through 65%)	$64,380
6.	Water and Sewer Lines – Final Design	$47,870
7.	Water and Sewer Lines – Bidding Services	$6,640
8.	Elevated Water Storage Tank - Design	$86,865
9.	Elevated Water Storage Tank – Bidding Services	$6,640
10.	Water Booster Station - Design	$54,475
11.	Water Booster Station – Bidding Services	$3,020
12.	Sewage Pump Station - Design	$69,885
13.	Sewage Pump Station – Bidding Services	$3,020
SUBTOTAL – ENGINEERING, DESIGN, AND BIDDING (Lump Sum)		**$497,885**
14.	Water and Sewer Lines – Construction Administration	$99,150
15.	Elevated Water Storage Tank – Construction Administration	$78,210
16.	Water Booster Station – Construction Administration	$40,940
17.	Sewage Pump Station – Construction Administration	$43,190
SUBTOTAL – CONSTRUCTION ADMINISTRATION (Lump Sum)		**$261,490**
18.	Water and Sewer Lines – Construction Inspection	$249,600
19.	Elevated Water Storage Tank – Construction Inspection	$41,600
20.	Water Booster Station – Construction Inspection	$41,600
21.	Sewage Pump Station – Construction Inspection	$41,600
SUBTOTAL – CONSTRUCTION INSPECTION (Lump Sum)		**$374,400**
GRAND TOTAL FOR ALL SERVICES (Lump Sum)		**$1,133,775**

Fee Breakout by Project Year:

Year 1 – Engineering, Design, Bidding: November 2015 to October 2016

1. PER Validation $22,550
2. Geotechnical Engineering for Water and Sewer Lines $49,800
3. Environmental Investigation and Permitting Services – Entire Project $25,210
4. Utility Designation along Route 250 and at the Women's Prison $57,530
5. Water and Sewer Lines – Preliminary Design (through 65%) $64,380
6. Water and Sewer Lines – Final Design $47,870
7. Water and Sewer Lines – Bidding Services $6,640
8. Elevated Water Storage Tank - Design $86,865
9. Elevated Water Storage Tank – Bidding Services $6,640
10. Water Booster Station - Design $54,475
11. Water Booster Station – Bidding Services $3,020
12. Sewage Pump Station - Design $69,885
13. Sewage Pump Station – Bidding Services $3,020

SUBTOTAL – Year 1 (Lump Sum) $497,885

Year 2 – Construction Phase Services: November 2016 to October 2017

14. Water and Sewer Lines – Construction Administration $47,000
15. Elevated Water Storage Tank – Construction Administration $78,210
16. Water Booster Station – Construction Administration $40,940
17. Sewage Pump Station – Construction Administration $43,190
18. Water and Sewer Lines – Construction Inspection $165,800
19. Elevated Water Storage Tank – Construction Inspection $41,600
20. Water Booster Station – Construction Inspection $41,600
21. Sewage Pump Station – Construction Inspection $41,600

SUBTOTAL – Year 2 (Lump Sum) $499,940

Year 3 – Construction Phase Services: November 2017 to July 2018

14. Water and Sewer Lines – Construction Administration $52,150
18. Water and Sewer Lines – Construction Inspection $83,800

SUBTOTAL – Year 3 (Lump Sum) $135,950

GRAND TOTAL FOR ALL SERVICES (Lump Sum) $1,133,775

CLARIFICATIONS

1. Dewberry assumes that the PER completed by RK&K in March 2015 is sufficient for regulatory agency approvals. Other than the PER Validation tasks included in the scope of services, we do not propose completing additions or updates to the PER for regulatory agency approvals.

2. It is anticipated that a SCADA system will be required to monitor, display, and provide trending for the tank level, meter vault at the Louisa County interconnection, booster pump station, and sewage pump station. It is anticipated that a local work station will be required at the Water Booster Station for data storage operator interface functions and a remote work station can be incorporated into the design to allow the office to view the current status of the systems, change operational setpoints and

view/print historical data. Programmable Logic Controllers (PLC's) of the same manufacturer will be required at each site for local control/monitoring. It is anticipated that a dedicated radio system and/or internet will provide the means of communications for this project.

3. Dewberry understands that the project will be grouped into three (3) construction packages: 1 for the water and sewer lines, 1 for the elevated water storage tank, and 1 for the pump stations (water booster station and sewage pump station). We have prepared our fee based on this anticipated construction packaging. Should the construction packaging change during the course of the project, Dewberry's fee shall be modified accordingly.

EXCLUSIONS

The following services are specifically excluded from the scope of services, but could be provided by Dewberry as additional services if authorized in writing by the OWNER.

1. Services resulting from significant changes in the general scope, extent or character of the project or its design including, changes in size, complexity, schedule, character of construction or method of financing; and revising previously accepted studies, reports, design documents or Contract Documents when such revisions are required by changes in laws, rules, regulations, ordinances, codes or orders enacted subsequent to their preparation, or are due to any other causes beyond Dewberry's control.

2. Surveying. Surveying of the project sites and corridor will be completed by others. Dewberry will provide direction to the surveyor hired by the County regarding the areas to be surveyed and the information to capture. Dewberry will not be responsible for the accuracy of the survey information provided by others. Dewberry will also not be responsible for overall schedule delays resulting from delays in performance by the surveyor.

3. Preparation of easement plats.

4. Easement acquisition or property appraisal services.

5. Special geotechnical inspections during construction. Dewberry will include a requirement in the project specifications that these special inspections will be provided by the CONTRACTOR as a part of the construction contract.

6. The following environmental investigation/permitting items:
   - Wetland functional analysis for on-site or off-site mitigation (not mitigation through purchase of credits). This will involve an additional site visit for further investigations and to set a mitigation value for impacted wetlands.
   - Stream attribute forms for on-site or off-site mitigation (not mitigation through purchase of credits). This will involve an additional site visit for further investigation and to apply a numerical ranking system on streams impacted for mitigation.
   - Wetland mitigation design plans
   - Field survey of wetland flagging
   - Environmental site assessments (Phase I, II, and III)
   - Endangered species surveys (i.e. mussel surveys)

- Permit fees
- Water Quality Impact Assessment
- Floodplain studies

7. Assistance in connection with bid protests, re-bidding or renegotiating contracts for construction, materials, equipment or services.

8. A radio path survey. It is anticipated that the County will coordinate with the provider of the existing radio communication system within the County to verify radio communication requirements. It is assumed that the County will contract with the existing radio communication provider to conduct a radio path survey and assist in specifying the required radio communication equipment as needed for communication between the tank, meter vault, booster station, sewage pump station, and office workstation.

9. Preparing to serve or serving as a consultant or witness for OWNER in any litigation, arbitration or other legal or administrative proceeding involving the Project.

10. Additional or extended services during construction resulting from significant delays, changes or price increases occurring as a direct or indirect result of the CONTRACTOR's material, equipment, labor or energy shortages, work damaged by fire or other causes during construction, a significant amount of defective or neglected work of any CONTRACTOR, acceleration of the schedule involving services beyond normal working hours, and default by any CONTRACTOR.

TERMS AND CONDITIONS

Services under this agreement will be provided in accordance with the General Terms, Conditions, and Instructions to Bidders and Contractors, which was attached to Fluvanna County's RFP #2015-03 for Zion Crossroads Water & Sewer System Design Services, and is incorporated into this proposal by reference.

We look forward to the opportunity to serve Fluvanna County on this project. If you have any questions regarding our proposal, or if you require any additional information, please feel free to contact us.

Sincerely,

Dewberry Engineers Inc.

David S. Maxwell, PE, LEED AP
Vice President

Danylo A. Villhauer, PE
Project Manager

Attachment A: Manpower and Fee Estimate Breakout
Attachment B: Phase 1 Water System Map
Attachment C: Phase 1 Sewer System Map
Attachment D: Schnabel Proposal (Geotechnical) dated September 28, 2015
Attachment E: Accumark Proposal (Utility Designation) dated September 28, 2015

FLUVANNA COUNTY
ZION CROSSROADS WATER & SEWER SYSTEM DESIGN SERVICES
FEE ESTIMATE FOR ENGINEERING SERVICES
REVISED October 5, 2015

Exhibit 3

PROJECT TASKS	QA/QC/ PRINCIPAL	PROJECT MANAGER	PROJECT ENGINEER	STAFF ENGINEER	DESIGNER	CADD TECHNICIAN	ADMIN PROF	SURVEYOR	SURVEY PARTY	CONST INSPECTOR	REIMBURSABLE	TOTAL COST
	HOURS DEDICATED TO SUBTASK											
	190.00	150.00	125.00	90.00	110.00	75.00	60.00	120.00	145.00	80.00		
1. PER Validation Report - Entire Project												
Kickoff meeting (1.1)	3	3										
Review PER and existing information (1.2, 1.3)		4	12									
Determine preliminary easement requirements (1.4)			2			8		8				
Evaluate issues for each routing alternative (1.5)		1	4									
Field walkthrough (1.6)		4	4									
Review/select recommended route alternative (1.7)		4	4									
Coordinate with review agencies (1.8 - 1.10)			8	8								
Develop water and sewer system models for facility sizing (1.11)		6	12	32								
Budgetary cost estimates (1.12)			4	8								
Prepare and submit draft PER Validation (1.13)	1	4	16	8		8	1					
Review meeting with County (1.14)	3	3										
Address County comments and submit final report (1.15)		2	8				1					
Subtotal (Item 1)	**7**	**31**	**74**	**56**	**0**	**16**	**2**	**8**	**0**	**0**	**$0**	**$22,550**
2. Geotechnical Engineering for Water and Sewer Lines												
Geotechnical borings and report (2.1 - 2.4)		4	16								$47,200	
Subtotal (Item 2)	**0**	**4**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$47,200**	**$49,800**
3. Environmental Investigation and Permitting - Entire Project												
Wetland/Stream Delineation and Report (3.1 - 3.2, 3.4)				40	40	8						
Jurisdictional Determination (3.5)				16	16							
Threatened & Endangered Species Database Review (3.6 - 3.7)				16								
Permit application (JPA assumed) (3.8)			16	72		24	8					
Mitigation Assistance (3.9)			2	8			4					
Subtotal (Item 3)	**0**	**0**	**18**	**152**	**56**	**32**	**12**	**0**	**0**	**0**	**$0**	**$25,210**
4. Utility Designation Along Route 250 and at the Women's Prison												
Utility Designation - research and field investigations (4.2)		4	16								$37,285	
Field survey utility markings (4.3)											$12,930	
Prepare CAD plans of utility markings, provide QA/QC (4.3)			4								$4,215	
Subtotal (Item 4)	**0**	**4**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**$54,430**	**$57,530**
5. Water and Sewer Lines - Preliminary Design (through 65%)												
Prepare 10% schematic (5.1)			20	40		20					$100	
10% review meeting with County (5.2)		2	2									
Coordinate with surveyor for survey information (5.3)		2	24	8								
Prepare 35% plans (5.4)			40	100		60					$250	
35% review meeting with County (5.5)	4	4	4									
Address 35% comments (5.6)		2	4	8								
Prepare 65% design submission (5.8)			40	120		80					$250	
65% review meeting with County (5.9)	4	4	4									
Address 65% comments (5.10)		2	6	16								
BOS presentation on 65% design (all projects together) (5.11)	2	8	16									
Subtotal (Item 5)	**10**	**24**	**160**	**292**	**0**	**160**	**0**	**0**	**0**	**0**	**$600**	**$64,380**
6. Water and Sewer Lines - Final Design												
Prepare 95% design submission (6.1, 6.2)	2	8	40	80		40					$250	
Prepare 95% design submission - Electrical/SCADA for vault (6.1, 6.2)			24			16						
Prepare permit applications (6.3)			16	40								
SWPPP and VSMP registration statement (6.4)		2	16	32			4					
Coordinate review agency approvals (6.5)		4	16									
Construction cost estimate (6.6)		4	10									
95% review meeting with County (6.7)	4	4	4									
Address 95% review comments and finalize (6.8, 6.9)		8	16	16		8	4				$250	
BOS presentation on final design (all projects together) (6.10)	2	8	16									
Subtotal (Item 6)	**8**	**38**	**158**	**168**	**0**	**64**	**8**	**0**	**0**	**0**	**$500**	**$47,870**

Exhibit 3

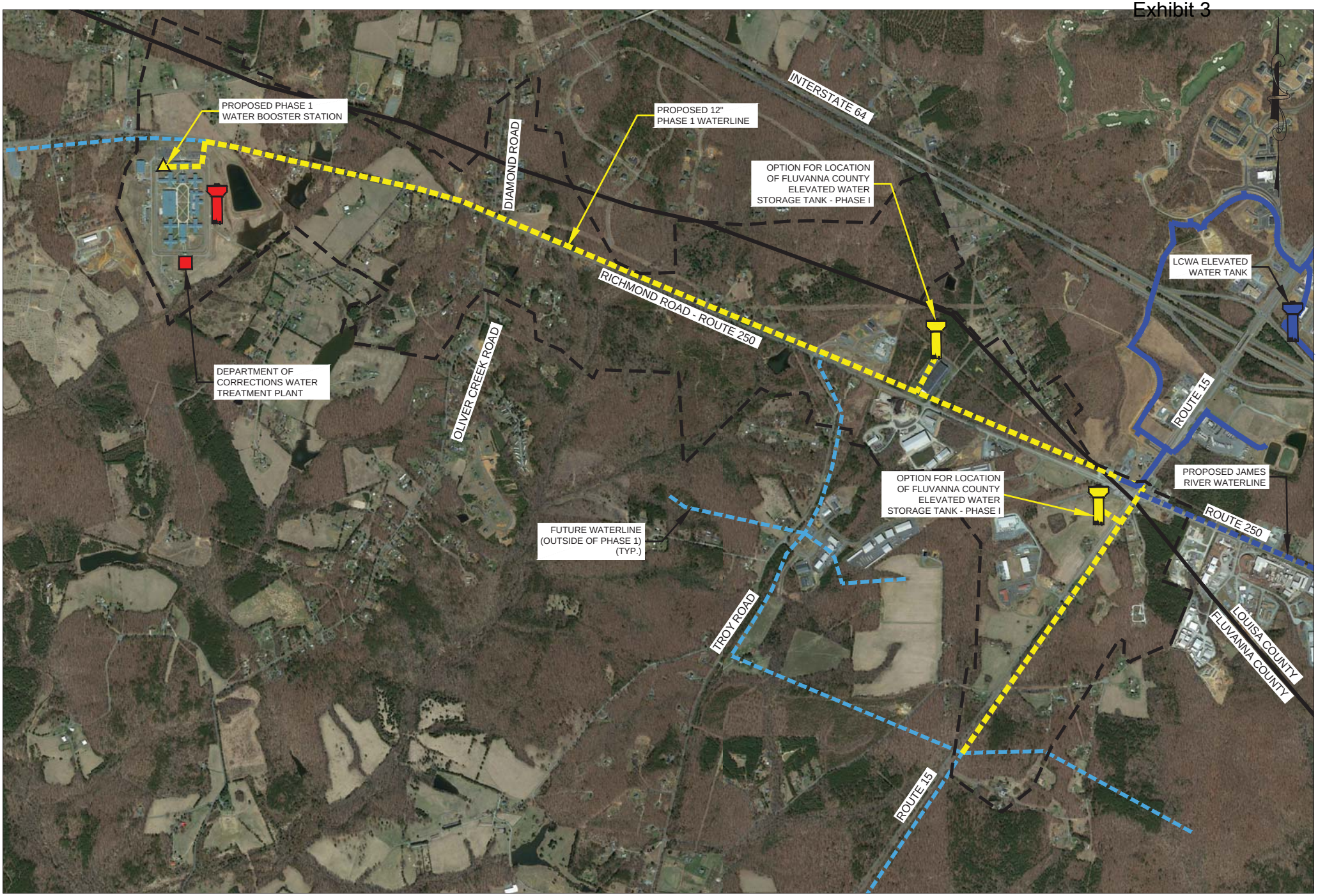
7. Water and Sewer Lines - Bidding Services												
Prepare bid package & Coordinate plan distribution (7.1 - 7.3)		2	4				2					
Pre-bid conference (7.4)		4	8									
Answer bidder questions and develop addenda (7.5)		8	16				2					
Bid opening, review, and recommendation (7.6)		2	4									
Subtotal (Item 7)	**0**	**16**	**32**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**$0**	**$6,640**
8. Elevated Water Storage Tank - Design												
Prepare 10% schematic (8.1)			10	32		16					$75	
10% review meeting with County (8.2)		4	4									
Coordinate with surveyor for survey information (8.3)		2	8									
Prepare 35% plans (8.4)		8	24	56		24					$150	
35% review meeting with County (8.5)	4	4	4									
Address 35% comments (8.6)		2	4	8								
Geotechnical investigation and report (8.7)		2	4								$6,900	
Prepare 65% design submission - Civil (8.8)	4	20	40	80		24					$200	
Prepare 65% design submission - Electrical/SCADA (8.8)			32			12						
65% review meeting with County (8.9)	4	4	4									
Address 65% comments (8.10)			8	16								
Prepare 95% design submission - Civil (8.11)	2	8	24	40		16					$200	
Prepare 95% design submission - Electrical/SCADA (8.11)			32			12						
Prepare permit applications (8.12)			8	24								
SWPPP and VSMP registration statement (8.13)		2	10	20			4					
Coordinate review agency approvals (8.14)		2	8	4								
95% review meeting with County (8.15)	4	4	4									
Address 95% review comments and finalize (8.16, 8.17)		8	12	16		4	4				$200	
Subtotal (Item 8)	**18**	**70**	**240**	**296**	**0**	**108**	**8**	**0**	**0**	**0**	**$7,725**	**$86,865**
9. Elevated Water Storage Tank - Bidding Services												
Prepare bid package & Coordinate plan distribution		2	4				2					
Pre-bid conference		4	8									
Answer bidder questions and develop addenda		8	16				2					
Bid opening, review, and recommendation		2	4									
Subtotal (Item 9)	**0**	**16**	**32**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**$0**	**$6,640**
10. Water Booster Station - Design (Bid Package Combined with Sewage Pump Station)												
Prepare 10% schematic (10.1)			4	10		6					$75	
10% review meeting with County (10.2)		1	1									
Coordinate with surveyor for survey information (10.3)		2	8									
Prepare 35% plans (10.4)		2	12	20		16					$150	
35% review meeting with County (10.5)		2	2									
Address 35% comments (10.6)		2	2	4								
Geotechnical investigation and report (10.7)		2	4								$5,825	
Prepare 65% design submission - Civil (10.8)		4	24	32		8					$150	
Prepare 65% design submission - Electrical/SCADA (10.8)			48			12						
65% review meeting with County (10.9)	2	2	2									
Address 65% comments (10.10)			4	12								
Prepare 95% design submission (10.11)	2	8	16	24		8					$150	
Prepare 95% design submission - Electrical/SCADA (10.11)			48			12						
Prepare permit applications (10.12)			4	10								
SWPPP and VSMP registration statement (10.13)		2	4	10			2					
Coordinate review agency approvals (10.14)		2	4	4								
95% review meeting with County (10.15)	2	2	2									
Address 95% review comments and finalize (10.16, 10.17)		2	6	12		2	2				$200	
Subtotal (Item 10)	**6**	**33**	**195**	**138**	**0**	**64**	**4**	**0**	**0**	**0**	**$6,550**	**$54,475**
11. Water Booster Station - Bidding Services (Bid Package Combined with Sewage Pump Station)												
Prepare bid package & Coordinate plan distribution		1	2				1					
Pre-bid conference		2	4									
Answer bidder questions and develop addenda		2	8				1					
Bid opening, review, and recommendation		1	2									
Subtotal (Item 11)	**0**	**6**	**16**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**$0**	**$3,020**

12. Sewage Pump Station - Design (Bid Package Combined with Water Booster Station)												
Prepare 10% schematic (12.1)			8	24		10					$75	
10% review meeting with County (12.2)		2	2									
Coordinate with surveyor for survey information (12.3)		2	8									
Prepare 35% plans (12.4)		6	24	48		16					$150	
35% review meeting with County (12.5)		2	2									
Address 35% comments (12.6)			4	8								
Geotechnical investigation and report (12.7)		2	4								$6,300	
Prepare 65% design submission - Civil (12.8)	2	16	40	64		16					$200	
Prepare 65% design submission - Electrical/SCADA (12.8)			28			12						
65% review meeting with County (12.9)	2	2	2									
Address 65% comments (12.10)			8	16								
Prepare 95% design submission (12.11)	2	8	20	32		16					$200	
Prepare 95% design submission - Electrical/SCADA (12.11)			32			12						
Prepare permit applications (12.12)			4	10								
SWPPP and VSMP registration statement (12.13)		2	4	10			4					
Coordinate review agency approvals (12.14)		2	4	4								
95% review meeting with County (12.15)	2	2	2									
Address 95% review comments and finalize (12.16, 12.17)		6	10	16		4	2				$200	
Subtotal (Item 12)	**8**	**52**	**206**	**232**	**0**	**86**	**6**	**0**	**0**	**0**	**$7,125**	**$69,885**
13. Sewage Pump Station - Bidding Services (Bid Package Combined with Water Booster Station)												
Prepare bid package & Coordinate plan distribution		1	2				1					
Pre-bid conference		2	4									
Answer bidder questions and develop addenda		2	8				1					
Bid opening, review, and recommendation		1	2									
Subtotal (Item 13)	**0**	**6**	**16**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**$0**	**$3,020**
SUBTOTAL - ENGINEERING, DESIGN, AND BIDDING (LUMP SUM)	57	300	1183	1334	56	530	52	8	0	0	$124,130	**$497,885**
14. Water and Sewer Lines - Construction Administration												
Pre-construction meeting (14.1)	4	4	8									
Shop drawing review (14.2)		16	40									
Consulting during construction - 18 month duration (14.3)	16	160	232									
Monthly site visits (1 per month) - 18 month duration (14.4)		36	36									
Monthly progress meetings (1 per month) - 18 month duration (14.5, 14.6)		36	36									
Change order preparation (14.7)		12	24									
Record drawings (14.8)		2	24			40					$250	
Substantial completion and final inspections (14.9)		8	8									
Subtotal (Item 14)	**20**	**274**	**408**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**$250**	**$99,150**
15. Elevated Water Storage Tank - Construction Administration												
Pre-construction meeting	4	4	8									
Shop drawing review		32	64									
Consulting during construction - 12 month duration	12	96	144									
Monthly site visits (1 per month) - 12 month duration		24	24									
Monthly progress meetings (1 per month) - 12 month duration		24	24									
Change order preparation		8	20									
Record drawings		2	16			24					$250	
O&M Manual		8	24	8								
Substantial completion and final inspections		8	8									
Subtotal (Item 15)	**16**	**206**	**332**	**8**	**0**	**24**	**0**	**0**	**0**	**0**	**$250**	**$78,210**
16. Water Booster Station - Construction Administration (Construction Package Combined with Sewage Pump Station)												
Pre-construction meeting		2	4									
Shop drawing review		8	24									
Consulting during construction - 12 month duration	4	24	48									
Monthly site visits (1 per month) - 12 month duration		12	12									
Monthly progress meetings (1 per month) - 12 month duration		12	12									
Change order preparation		4	12									
Record drawings		2	12			12					$200	
O&M Manual		8	32	72		16						
Substantial completion and final inspections		4	4									
Subtotal (Item 16)	**4**	**76**	**160**	**72**	**0**	**28**	**0**	**0**	**0**	**0**	**$200**	**$40,940**

Exhibit 3

17. Sewage Pump Station - Construction Administration (Construction Package Combined with Water Booster Station)												
Pre-construction meeting		2	4									
Shop drawing review		16	32									
Consulting during construction - 12 month duration	4	24	48									
Monthly site visits (1 per month) - 12 month duration		12	12									
Monthly progress meetings (1 per month) - 12 month duration		12	12									
Change order preparation		4	12									
Record drawings		2	12			12					$250	
O&M Manual		8	32	72		16						
Substantial completion and final inspections		4	4									
Subtotal (Item 17)	**4**	**84**	**168**	**72**	**0**	**28**	**0**	**0**	**0**	**0**	**$250**	**$43,190**
SUBTOTAL CONSTRUCTION ADMINISTRATION (LUMP SUM)	44	640	1068	152	0	120	0	0	0	0	$950	**$261,490**
18. Water and Sewer Lines - Construction Inspection												
Full-time construction inspection (40 hours/week, 18 months)										3120		
Subtotal (Item 18)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3120**	**$0**	**$249,600**
19. Elevated Water Storage Tank - Construction Inspection												
Full-time construction inspection (40 hours/week, 1/3 of 9 months)										520		
Subtotal (Item 19)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**520**	**$0**	**$41,600**
20. Water Booster Station - Construction Inspection												
Full-time construction inspection (40 hours/week, 1/3 of 9 months)										520		
Subtotal (Item 20)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**520**	**$0**	**$41,600**
21. Sewage Pump Station - Construction Inspection												
Full-time construction inspection (40 hours/week, 1/3 of 9 months)										520		
Subtotal (Item 21)	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**520**	**$0**	**$41,600**
SUBTOTAL CONSTRUCTION INSPECTION (LUMP SUM)	0	0	0	0	0	0	0	0	0	4680	$0	**$374,400**
GRAND TOTAL FOR ALL SERVICES (LUMP SUM)	101	940	2251	1486	56	650	52	8	0	4680	$125,080	**$1,133,775**

Exhibit 3



LEGEND

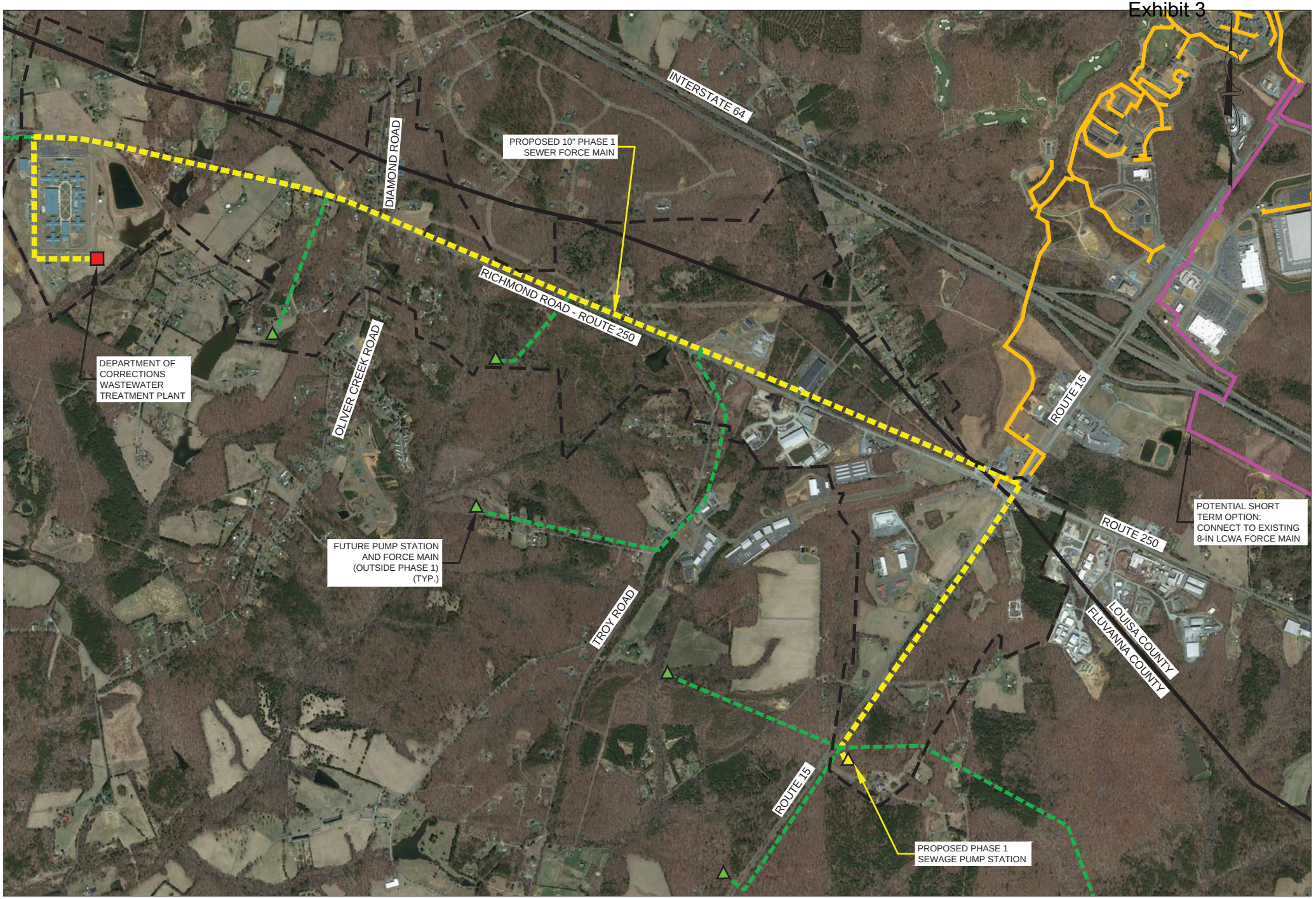
- PROPOSED BOOSTER PUMP STATION PHASE 1
- EXISTING WATER TREATMENT PLANT
- PROPOSED WATER STORAGE TANK PHASE 1
- EXISTING WATER STORAGE TANK
- PHASE 1 BOUNDARY
- PHASE 1 WATERLINE
- FUTURE WATERLINE (OUTSIDE OF PHASE 1)
- PROPOSED JAMES RIVER WATERLINE
- EXISTING LCWA WATER SYSTEM

Dewberry®

PHASE 1 - WATER SYSTEM
ZION CROSSROADS WATER & SEWER SYSTEM DESIGN SERVICES

FLUVANNA COUNTY, VIRGINIA SEPTEMBER 2015

Exhibit 3



LEGEND

- PROPOSED SANITARY PUMP STATION PHASE 1
- FUTURE SANITARY PUMP STATION (OUTSIDE PHASE 1)
- EXISTING WASTEWATER TREATMENT PLANT
- PHASE 1 BOUNDARY
- PHASE 1 SEWER FORCE MAIN
- FUTURE FORCE MAIN (OUTSIDE OF PHASE 1)
- EXISTING LCWA GRAVITY SEWER SYSTEM
- EXISTING LCWA FORCE MAIN

Dewberry®

PHASE 1 - SEWER SYSTEM
ZION CROSSROADS WATER & SEWER SYSTEM DESIGN SERVICES

FLUVANNA COUNTY, VIRGINIA — SEPTEMBER 2015

Schnabel ENGINEERING

September 28, 2015

Mr. David Maxwell, P.E.
Dewberry Engineers, Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, VA 23060

Subject: **Revision No.1, Proposal for Geotechnical Engineering Services, Zion Crossroads Water and Sewer System Design Services, Fluvanna County, Virginia (Schnabel No. P5613160)**

Dear Mr. Maxwell:

SCHNABEL ENGINEERING CONSULTANTS, INC. (Schnabel) is pleased to submit this revised proposal to provide geotechnical engineering services for this project. Our services will be provided according to our Master Services Agreement For Professional Services dated June 4, 2013. We prepared our original proposal in response to your request on September 14, 2015.

SITE DESCRIPTION

Fluvanna County is located in the Piedmont region of Virginia and is bordered by Louisa County to the north, Goochland County to the east, Cumberland and Buckingham Counties to the south, and Albemarle County to the west. Fluvanna County comprises roughly 290 square miles, of which the Zion Crossroads Community Planning Area (CPA) in the northeastern portion of the county comprises nearly 4,700 acres. The CPA begins at the northwest corner of Fluvanna County at the shared border with Albemarle County and Louisa County and extends toward the east. The CPA is generally south of Interstate 64 and generally follows Richmond Road (Route 250) extending roughly ½ mile to 1 mile beyond the road to the north and south and extends east roughly 1 mile beyond the intersection of Route 250 and James Madison Highway (Route 15). The site for the proposed project is within the CPA, beginning at about the Fluvanna Correctional Center for Women, extending east along Richmond Road to the intersection of Route 15, and then extending south down Route 15 to Mockingbird Lane.

In the vicinity of the Correctional Center, the site is relatively flat and grass covered. A few small ponds are located to the east of the facility. The portion of the site that extends east down Route 250 is a combination of open farm fields and moderately wooded areas and includes a crossing of Oliver Creek. The area of the site that extends south down Route 15 is moderately wooded, with some open grass covered areas located closer to the intersection of Route 250. Site grades are at about El 450 in the vicinity of the Correctional Facility and gradually increase towards the east to about El 550 at the intersection of Route 250 and Route 15 and then grade down to about EL 500 at Mockingbird Lane.

Based on our review of geology maps, we expect subsurface soils to consist of residual soils transitioning to disintegrated rock and ultimately bed rock. The residual soils consist of a mixture of clay, silt and sand and the underlying parent rock in this area consists of metagraywacke, quartzose schist, and mélange. Based on borings drilled in the vicinity of the site by our firm, we expect disintegrated rock about 10 to 25 ft below the existing ground surface.

We obtained the site information from the Phase 1 Sewer System site plans and Phase 1 Water System site plans by Dewberry dated September 2015, a review of the Request For Proposal (RFP) documents, and through a review of information in our files.

PROJECT DESCRIPTION

Proposed for construction in the Zion Crossroads CPA are a series of water and sewer infrastructure additions and upgrades to be constructed in multiple phases. The proposed Phase One upgrades include the construction of approximately 23,000 lf of 10" diameter sewer force main, proposed to begin at the Department of Corrections Wastewater Treatment Plant – located at the southeast corner of the Correctional Center, and extending west and north around the facility, east down Route 250 and extending south down Route 15, and ending at about Mockingbird Lane. Also proposed for construction is approximately 21,000 lf of 12" diameter waterline, set to begin at the northwest corner of the Correctional Center and extend east down Route 250 and south down Route 15 to about Mockingbird Lane. The water and sewer lines will have roughly the same alignment.

A new water booster station has been proposed at the northeastern corner of the Correctional Facility which is expected to tie-in with the new water line. A new sewage pump station is proposed for construction northeast of the intersection of Route 15 and Mockingbird Lane, at roughly the southeast limits of the newly proposed water and sewer lines. Water storage capacity will be improved through the proposed construction of an elevated water storage tank, with the tank located just north of the intersection of Route 250 and Edgecomb Road or at the southwest corner of the intersection of Route 250 and Route 15.

We understand that the different construction elements of the project may be bid as separate projects. The first project would include construction of the new sewer force main and waterline. The second project would include construction of the water booster station. The third project would include the construction of the new sewage pump station and the forth project would include construction of the elevated water storage tank.

We obtained the project information from the Phase 1 Sewer System site plans and Phase 1 Water System site plans by Dewberry dated September 2015, and review of the Request For Proposal (RFP) documents.

OBJECTIVE AND SCOPE OF SERVICES

The objective of this study is to evaluate the subsurface conditions at the site, and provide geotechnical engineering recommendations regarding the design of foundations, earthwork, utilities and pavements for

the project. This study will be conducted under the supervision of a Professional Engineer registered in the Commonwealth of Virginia. Our proposed scope of services includes:

- Subsurface exploration including:
  - Total drilling depth of 1,940 lf is proposed. The drilling breakdown is as follows:
    - 52 test borings for the new sewer force main, waterline, and pipeline junction boxes to depths of about 10 to 20 ft, drilled on a roughly 500 ft spacing. Total drilling depth of 730 lf.
    - 4 test borings for the water booster station and associated station parking area pavements to depths of about 5 to 30 ft. Total drilling depth of 40 lf.
    - 3 test borings for the sewage pump station and associated station parking area pavements to depths of about 5 to 50 ft. Total drilling depth of 60 lf.
    - 4 test borings for the elevated water storage tank and associated parking area pavements to depths of about 5 to 50 ft. Total drilling depth of 110 lf.
  - 2 temporary water observation wells in selected borings to provide long-term groundwater level data
- Field engineering services, including:
  - Site reconnaissance
  - Boring layout
  - Traffic control
  - Private utility locating
  - Log the subsurface exploration
- Laboratory testing of materials encountered in the subsurface exploration including:
  - 78 Moisture Content, ASTM D2216
  - 26 Grain Size Distribution, ASTM D422 (and/or D1140),
  - 26 Liquid Limit, Plastic Limit, and Plasticity Index of Soils, ASTM D4318
  - 3 Moisture-Density (Proctor) Relationships, ASTM D698 (VTM 1)
  - 3 California Bearing Ratio Test, ASTM D1883 (VTM 8)
  - 8 Corrosion Potential Test Series (pH, Reduction-Oxidation Potential, Resistivity, Qualitative test for Sulfides)
- Geotechnical engineering analysis and report, including:
  - Estimated subsurface conditions and groundwater levels within the area explored based on data collected in the subsurface exploration
  - Foundation requirements including a net allowable soil bearing pressure, bearing grades and estimated settlements for shallow foundations
  - Recommendations for support of junction box structures.
  - Recommended Seismic Site Class in accordance with IBC 2012 for use in foundation design based on an extrapolation of data collected in the subsurface exploration
  - Evaluation of the shrink/swell potential of the soils encountered in the exploration.
  - Recommendations for floor slab support, including a recommended modulus of subgrade reaction for use in slab design for booster and pump station buildings
  - Earthwork recommendations for construction of load-bearing fill including an assessment of site soils for use as fill, subgrade preparation, and compaction criteria
  - Recommended soil parameters for use in the design of excavation sheeting and shoring for the booster station wet well, if needed.
  - Recommended flexible pavement sections

- Recommended earth pressures, subdrainage and backfill requirements for walls below grade
- Comments on construction dewatering considerations
- Evaluation of rock excavation considerations including a sample definition for rock, if needed
- Construction considerations related to the implementation of our recommendations

ASSUMPTIONS

We will drill the borings to the depths indicated or to prior auger or sampler refusal. Sampler refusal is defined as a Standard Penetration Test N value of 50 blows for 1 inch or less penetration. In the event shallow obstructions are encountered below grade which cannot be penetrated with ordinary soil drilling equipment, the obstructed borings will be offset and redrilled. Boring depths included in this proposal are estimated, and may be increased or decreased depending upon subsurface conditions encountered. Soil samples obtained in the subsurface exploration will be retained for a period of 45 days beyond the submission of our report unless other disposition is requested.

We have considered that Dewberry and/or the County will provide rights of entry and access to the site. Any permits or permission required to drill the borings will be provided by others at no cost to us. We assume no limitations on work hours. We have included a VDOT Land Use Permit for drilling in existing VDOT Right of Way areas.

Some borings near the Correctional Facility may be drilled in active parking areas. We assume you (your facility manager) will block areas around boring locations. If timely access to locations is not provided, drill crew stand-by charges will be incurred. These charges are not included in this proposal.

We have considered concrete coring will not be required at the boring locations.

This proposal considers boring locations will be accessible with ATV-mounted equipment assisted by a bulldozer to clear trails or build access roads. Our proposal includes 3 days of bulldozer rental to provide access for drilling equipment for the water and sewer line project. We have considered that the remaining projects will not require a bulldozer for site access. We have also considered that traffic control will be needed and have included 3 days of traffic control in our cost estimate for the water and sewer line project.

Progress of site work may be dependent upon weather and ground conditions, or other factors beyond our control. Some damage to the ground surface, trees, and bushes may result from drilling operations. We will attempt to reduce any such damage, but no restoration is included. Borings will be backfilled with drilling spoils. Excess spoils will be left on-site.

We have assumed the subsurface materials are free of environmental contaminants and that the materials we will encounter will not require personal protective equipment beyond OSHA Level D. We have also considered no special handling of samples will be required. If environmentally contaminated materials are encountered, Schnabel will not take responsibility for managing them. We can advise the Owner (responsible party) of alternatives under a separate assignment.

We will locate borings in the field using a submeter accuracy GPS unit. Ground surface elevations at the boring locations will be estimated from topographic data provided by your office.

We will contact *Miss Utility* prior to mobilizing any drilling or excavating equipment to the project site. Miss Utility will contact the appropriate public utility companies (or their contract locators) to mark their utilities on the project site. Between 48 and 72 hours are typically required to clear utilities on a site. We will not be responsible for damage or disruption of utilities or other subsurface features not indicated to us in advance.

CLIENT PROVIDED DATA

The client will provide electronic versions of topographic site plans indicating existing conditions and the proposed construction. The client will also provide details of the proposed construction, including structural loads.

The public utility companies will not mark private utilities on a site. Private utilities include all utilities between the public utilities' metering devices and any existing facility on site; all storm and sanitary sewers on site; buried electric lines to light poles, signs or other electrical devices; irrigation lines; etc. Location of private utilities is the responsibility of the Property Owner according to the *Miss Utility Virginia Professional Excavators' Manual*. The Property Owner should provide plans showing the locations of all private utilities, mark the private utilities, or arrange for a private utility locator service. We have included the services of a private utility locator for the water and sewer line project.

EXCLUSIONS

Services not specifically identified above are not included in the scope of services under this agreement. The following services are not included in our proposed scope, but can be provided upon request:

- Environmental studies
- Liquefaction analyses
- Site-specific earthquake analyses
- Attendance at client review meetings and progress meetings
- Review of geotechnical aspects of the project plans and specifications
- Geotechnical and materials observation and testing during construction

We consider review of geotechnical aspects of project plans and specifications and geotechnical observation and testing during construction to be critical extensions of our engineering services. These services promote continuity from design through construction and limit construction delays and costs.

We will submit proposals for these services at your request.

LUMP SUM FEE

Per your request, we have broken down the total fee for the project into four smaller projects based on the phases in which they may be constructed. Our lump sum fees for the proposed services are provided below.

Project	**Lump Sum Fee**
10-Inch Sewer Force Main and 12-Inch Waterline Improvements and associated soil laboratory testing and Geotechnical Engineering Report	$47,200
Water Booster Station and associated soil laboratory testing and Geotechnical Engineering Report	$5,825
Sewage Pump Station and associated soil laboratory testing and Geotechnical Engineering Report	$6,300
Elevated Water Storage Tank and associated soil laboratory testing and Geotechnical Engineering Report	$6,900
TOTAL LUMP SUM FEE	**$66,225**

We will issue separate Geotechnical Engineering Reports for each of the four projects.

PAYMENTS

We agree to prepare invoices for our services and expenses in the form and with the supporting documentation Dewberry reasonably requires. We agree to submit invoices once a month by the 25th day of the month for consideration for payment the following month.

We agree that Dewberry will endeavor to pay Schnabel's invoices within 15 days after Owner pays Dewberry for Schnabel's services and expenses, but in no event later than 30 days after Owner pays Dewberry for Schnabel's services and expenses. However, Dewberry's withholding of payments to Schnabel for Schnabel's work shall not relieve Dewberry of their duty to pay Schnabel for services and expenses unless such services and expenses are disputed by the Owner.

GENERAL

The Terms and Conditions of our Master Services Agreement for Professional Services dated June 4, 2013 will apply to our services. Consultation after submission of our report will be provided at your request at our standard hourly rates in effect at the time.

We understand you will issue a Task Order for these services in accordance with the Master Services Agreement. This proposal is valid for 90 days from the date shown.

We appreciate the opportunity to submit our proposal for these services and are looking forward to working with you on this project. Please contact us if you have any questions regarding this proposal.

Sincerely,
SCHNABEL ENGINEERING CONSULTANTS, INC.

Jeremy L. Mydlinski, PE
Senior Associate

FJR:JLM

ACCEPTED BY: **DEWBERRY ENGINEERS, INC.**

SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____ DATE: _____

Exhibit 3

September 28, 2015

Mr. Dave Maxwell, PE, LEED AP
Dewberry
4805 Lake Brook Drive, Suite 200
Glen Allen, VA 23060
Phone: (804) 205.3343
Email: dmaxwell@dewberry.com

Project Reference: Phase 1 Sewer System, Zion Crossroads Water & Sewer System Design Services, Fluvanna County, Virginia

Scope

Accumark will perform designating in compliance with CI/ASCE 38-02, *Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data,* hereinafter referred to as Standard 38-02.

Quality Level B (QL-B) Designation Standard Procedures

Accumark personnel will contact the client, facility and utility owning agencies, as deemed appropriate, in order to request and acquire records of the existing underground facilities. Utility record information will be used as an aid in the identification of the number, identity, size and material of utilities located in the field. Records will not be used as a substitute for actual geophysical location unless the system cannot be verified electronically using industry standard techniques for this level of investigation.

Upon receiving notice to proceed, contact will be made with the client and/or their consultant, to acquire a digital copy of the base mapping for the project. Those drawings will be used in preparing designating field draft sheets and later for a base mapping background reference used in the QA/QC process.

Designators will draft field sheets that show the location, trend and configuration of utilities detected. Field sheets will show all scoped underground utility surface features and lines, and will be prepared with color to differentiate the utility systems. Utilities will be annotated with size and material where available. Project specific field notes will be shown as deemed appropriate.

The collection of designated utility markings (paint) will be collected by using conventional survey methods and equipment. If project requirements and site conditions allow, GPS equipment may be used at Accumark's discretion. Prior to Accumark survey personnel arriving onsite to locate the designated utility paint, the Client must provide survey control to the Accumark Project Manager for review and processing.

The density of the individual survey control points provided for Accumark's use should be dense enough that conventional surveying methods can be used without extra time and effort being spent to traverse between the existing control points. Should the distances between the existing survey control points provided by the Client or Client's survey consultant be too great, Accumark reserves the right to review and revise the fee for the utility paint locations.

Using the project's survey control, the utility paint will be surveyed, processed and plotted for internal review. If available, the Client should provide Accumark with a digital copy of the project's base mapping for use in the review process. A final field review will also be performed for this project. This quality assurance – quality control function (QA/ QC) involves a Senior Field Project Manager taking the cadded utility locations (review plots) to the project site. If project mapping has been made available, the review plots are prepared by plotting the designated utilities over the existing base mapping which has been faded for clarity. At the site (the final review) the Senior Field Project Manager will check the work of the designators, surveyors and cad personnel by comparing the plotted utilities against the record information, the field draft sheets and the utility paint as marked in the field.

CADD

Accumark will provide the client a digital copy of the utility mapping in AutoCAD, Version 2013. Accumark will use its own company utility cad standards, unless the cad standards of the client or their consultant are provided and accepted at the time of this proposal preparation. The utility mapping can also be provided in a Microstation V8i digital file should the project requirements dictate.

Limitations

This service will be provided with due diligence and in a manner consistent with standards of the subsurface utility mapping industry. Every reasonable effort will be made to locate all systems of interest whether indicated on records available to us or not. However, we do not guarantee that all existing utility systems can or will be detected. It may not be possible to detect utilities without prior knowledge, such as systems that are not depicted on records made available to us. Further, this service is not intended to detect non-utility structures such as, but not limited to: foundations, sanitary & storm systems, irrigation systems, septic systems, wells, tunnels, concrete or metal structures, or the true size and limits of subsurface utility vaults and manholes. Use of this service does not relieve interested parties from their responsibility to make required notifications prior to excavation.

The mapping services will reflect interpretation of electronic data collaborated with record and visual indications. Professional judgment will be used to reflect the underground utilities with the intended utmost accuracy and comprehensiveness. The results may be affected by numerous site conditions, including but not limited to utility materials, joint types, fittings, density of underground utilities, interference with above ground conductors and soil characteristics. There is no guarantee that all facilities can be found and shown.

Every reasonable attempt will be made to find, locate and map all active and abandoned underground utilities at Quality Level "B" of the Standard 38-02. All non-locatable utilities that are shown on record or learned about from verbal recollections or otherwise will be shown at Quality Levels "C" or "D" of the Standard 38-02. In addition, an effort will be made to learn the existence of non-locatable and non-recorded utilities that we may become aware of due to the presence of site features or otherwise. Those findings will be noted and provided to the client. The intent of the service is to map all underground utilities, included in the scope, active or abandoned, and Accumark carries professional liability insurance for possible claims related to engineering redesign, construction delays and contractor's work orders in the event we are responsible for a negligent error or omission. Our work does not relieve the users of our

drawings from contacting the one call protection office and we are typically not responsible for the damage of utilities caused by others due to the responsibilities borne on utility owning agencies and the one call system.

Project Limits

Drawings were provided to Accumark on 9/15/15. Accumark limits will include a full quality level B designation and survey of the intersection of RT 15 & RT 250. Accumark will also designate and map the entire RT 250 project corridor from ROW to ROW. Accumark will designate and map utilities in and around the Women's Correctional Facility. Exact project limits will be decided on prior to Accumark beginning any work.

Project Schedule

Office work will begin following receipt of written authorization to proceed. All field work will begin within 12 to 15 business days from authorization to proceed – weather permitting. Accumark anticipates 6-8 weeks of field work for this scope as well as 1-2 weeks of office work.

Fee Schedule

Utility Designation and Field Project Management:	**$37,285.00**
Field Location (Survey):	**$12,930.00**
CAD – Q/A – Q/C Review:	**$4,215.00**
Total Cost QL- B Service:	**$54,430.00**

Agreement

It is expected that this proposal in all or part will be incorporated into an agreement between Accumark and the client. Contractual terms and payment will be in compliance with the executed agreement.

Standard Terms of Payment

Terms of payment are subject to modification by the Seller (Accumark). Buyer agrees to make prompt payment of invoices due in accordance with Seller's approved terms, whether for complete or partial services. Terms: Net 30 days from completion of work and receipt of invoice. If payment is contingent upon Buyer being paid by a "Third Party" for services, Accumark must be notified of the name and address of the "Third Party" prior to commencement of services. Buyer will submit invoices to the "Third Party" in a timely manner and Accumark will receive payments from Buyer within 15 days of Buyer being paid. If this is not the case then Accumark reserves the right to modify this clause to reflect a revised payment schedule.

Please let me know if you have any questions or concerns about the scope or effort contained within this proposal. If you are satisfied and accept the terms of the proposal, please indicate your acceptance in the space provided below and return a copy with your signature to me.

Thank you for requesting this proposal, please let us know if you have other needs for services that we may be able to provide.

Sincerely,

_____

Accumark, Inc.
S. Craig Martin.
President

Proposal submitted to client by email.

_____		_____	_____
Accepted by:	**Print**	**Sign**	**Date**

Return an authorized copy by fax or email in order to facilitate immediate scheduling of the work.