



March 1, 2018

Mr. Michael Gallagher, P.E.
Director of Public Works
Town of Vienna
127 Center Street South
Vienna, VA 22180

Re: Task #4 – Park Street NE Improvements – UPC 111403
Contract: RFP 17-02, On Call Engineering Services for State/Federal Projects

Mr. Gallagher:

Whitman, Requardt and Associates, LLP is pleased to provide you with our proposal to perform engineering services for the referenced project. The purpose of this task is to complete the curb, gutter and sidewalk section along the north side of Park Street NE between Albea Court NE and Ayr Hill Avenue NE. The length of the project is approximately 850 linear feet. WRA understands that the Town of Vienna will be coordinating this project through the VDOT Locally Administered Projects and that PE was authorized by VDOT on 01/25/2018.

I. SCOPE OF WORK

Task 1: Survey and Site Visit

WRA's sub-consultant Rice Associates will complete the property, topographic, drainage surveys with subsurface utility mapping for the project. Rice's scope of service and fee is attached.

Task 2: Plan Development

Plans will be developed in accordance with the Town's Public Infrastructure Manual (PIM). WRA will provide 6 hard copy full size plan sets and PDFs at each submission. AutoCAD and/or Microstation files will be provided at the final submission.

Conceptual and Preliminary Design

- WRA will visit the site to gain an overall understanding of the existing site conditions and identify design and/or construction constraints.
- WRA will develop a preliminary layout of the curb, gutter and sidewalk to minimize impacts to utilities and private properties. It is anticipated that the proposed improvements will be within the existing Right of Way. Temporary easements may be required for final grading. The proposed sidewalk will be 5-foot wide and will have a 4-foot wide buffer strip to the curb and gutter. The curb ramp will be upgraded at Ayr Hill Avenue. The improvements will hold a consistent 29-foot roadway width along Park Street. The new curb and gutter will be designed to provide positive drainage to existing inlets. The intersection at Ayr Hill Avenue will be choked up to avoid impacts to the existing brick retaining wall.
- WRA will prepare a conceptual (10%) line and grade layout for review prior to commencing preliminary plan development.
- WRA will prepare preliminary plans (30%) for submission. The preliminary plans will include typical sections, plans and profiles.

- Plans will be updated to address the Town's review comments. Preliminary Design will be used for one Public Meeting.
- A preliminary cost estimate will be developed for the preliminary plan submission.
- It is assumed that the Town will acquire Rights of Entry requests for any required temporary construction easements.

Intermediate Design

Following the Public Meeting, WRA will advance the plans to the Intermediate Design (60%) stage. The plans are anticipated to include:

- Title Sheet
- Survey Alignment Sheet
- Alignment Data Sheet (proposed baseline geometrics)
- General Notes
- Typical Sections (including pavement design)
- Plan Sheets
- Profile Sheets
- Erosion and Sediment Control Plans
- Stormwater Management Design
- Transportation Management Plan/Sequence of Construction Sheets
- Staking details of curb ramps
- Detail Sheets

The Intermediate Submission will include a Stormwater Management (SWM) report, quantities and cost estimate, and special provisions. Plan sets will be submitted to the Town for review and approval.

Final Design

WRA will coordinate with the Town Project Manager and will incorporate review comments. Pre-Final plans (90%) will be provided for review. Upon receipt of comments the Final (100%) plans, special provisions, and bid items/quantities will be prepared for project advertisement and construction.

Upon acceptance of the Final Plans, WRA will sign and seal the Construction Plan Set.

Task 3: Drainage and Stormwater Management Design

WRA will collect, review and study all available and applicable drainage related data including:

- Town or County GIS layers (land use, zoning, drainage, soils, contours, watersheds, etc.);
- Project Survey;
- Existing roadway drainage plans and computations, as-built plans, and any plans for existing and proposed development nearby;

The existing drainage systems and outfalls will be analyzed to document their hydraulic performance under existing conditions.



WRA will conduct field visits to the project area and surrounding areas to review existing drainage and stormwater management systems and facilities and to verify other existing conditions. WRA will coordinate with the Town to discuss stormwater management options for the project.

WRA will conduct detailed drainage and hydraulic analysis for the area within the limits of the project. For the preliminary design, existing storm drainage features and patterns will be reviewed and the systems analyzed for hydraulic capacity to confirm existing performance and to establish baseline conditions. Outfall locations will be identified and analyzed for capacity per adequate outfall criteria and performance under existing conditions.

WRA will develop drainage design information for the project in accordance with Town (PIM) criteria. This task includes conceptual design of Erosion and Sediment Control (E&SC) measures, and outfall improvements that may require additional R/W or easements.

The analysis and design will be documented in a Stormwater Management Strategy Report. The report will document the need to meet the DEQ Part IIB VSMP regulations since it is anticipated the project does not qualify for grandfathering considerations.

WRA will evaluate the feasibility of various best management practices (BMPs) including purchasing of nutrient credits to provide the required level of pollutant removal for water quality.

Erosion and Sediment Control Design

For the preliminary submittal, WRA will delineate preliminary limits of disturbance and identify locations of erosion and sediment control devices to determine the need for additional right-of-way or easements. This will be based on topography, drainage areas and the preliminary horizontal and vertical roadway alignment. An Erosion and Sediment Control Plan will be prepared for the project and incorporated into the plan set. The Erosion and Sediment Control plans will meet the requirements of the Virginia Erosion and Sediment Control Regulations and VDOT's Erosion and Sediment Control Standards and Specifications as approved by the Department of Conservation and Recreation (DCR).

Task 4: – Public Involvement

It is assumed that the project will include one (1) Public Meeting for the community. WRA will assist the Town in holding the meeting including preparations of handouts and presentation materials and preparing responses to citizen comments. 2 WRA staff will attend the public meeting.

Task 5: – Project Management

WRA will provide status updates on schedule, budget and deliverables to the Town. WRA assumes 5 meetings with the Town in addition to the Public Meetings.

II. ESTIMATED FEE

The fee for this task order is based on the payroll factor and direct expense rates contained in our Contract Agreement. The staff hours to perform this work are detailed in the proposal worksheet, [Attachment A](#). The total Task Order budget is \$72,548.48. This budget will not be exceeded without the Town of Vienna's prior approval.

III. SUMMARY OF DELIVERABLES:

The following is a summary of deliverables anticipated for this project:

- Conceptual (10%) Line and Grade Layout
- Preliminary (30%) Plan Set



- Intermediate (60%) Plan Set
- Pre-Final (90%) Plan Set
- Final (100%) Plan Set
- Construction Plan Set
- Public Meeting materials (display board, handouts)
- Construction Cost Estimates

IV. EXCLUSIONS

1. Environmental documentation
2. Traffic Counts
3. Lighting / Utility design and/or relocation
4. Landscape design
5. Structural and retaining wall design
6. Geotechnical investigation and design
7. Value Engineering
8. Nutrient Credit Purchase Fees
9. Construction inspection, administration, or special inspections
10. Right of Way Plans or Plats
11. Services not included in this scope as excluded

V. SCHEDULE

The project will be initiated immediately upon authorization. WRA anticipates the following submission schedule:

- Completed Surveys – 30 days from Notice to Proceed
- Preliminary Submission – 30 days from receipt of survey
- Intermediate Submission – 45 days from receipt of all preliminary comments
- Final Submission – 45 days from receipt of all intermediate comments
- Construction Submission – 30 days from receipt of all final comments

WRA will work with the Town to accelerate the schedule as much as possible to ensure on-time project completion.

We are prepared to begin immediately upon your notice to proceed. If this proposal is acceptable, please sign at the appropriate location below and return one copy for our files. It is a great pleasure to work for the Town of Vienna and we look forward to the successful completion of this project.

Whitman, Requardt and Associates, LLP



Tyler L Long
Senior Project Engineer

Enclosures



Signature

Printed Name & Title

Date



ATTACHMENT A
FEE PROPOSAL WORKSHEET



Attachment A
Town of Vienna On-Call Task Order Contract
Task #4 - Park Street NE Improvements

COST PLUS BILLABLE HOURLY RATES CONTRACT

| | | | |
|----|---|----|------------------|
| A. | DIRECT LABOR, ESCALATION, PAYROLL BURDEN, FEE Est. Man-hours X Fixed Billable Hourly Rates | \$ | 51,752.25 |
| B. | NONSALARY DIRECT COSTS, ESTIMATE | \$ | 508.00 |
| C. | SUB-CONSULTANT FEES | | |
| | Rice Associates | \$ | 20,288.23 |
| D. | TOTAL ESTIMATED COST PLUS FIXED FEE (A+B+C) | \$ | 72,548.48 |
| E. | CONTINGENCY 0% (D) | \$ | - |
| F. | LIMITING FEE (MAXIMUM TOTAL COMPENSATION) (D+E) | \$ | 72,548.48 |

COMPUTATION OF SALARY, PAYROLL BURDEN AND FEE

| | <u>HOURS</u> | <u>RATE</u> | <u>AMOUNT</u> |
|---|--------------|-------------|-----------------|
| PROJECT MANAGER/SENIOR PROJECT ENGINEER | 26 | \$155.96 | \$4,055 |
| PROJECT ENGINEER | 152 | \$127.94 | \$19,447 |
| ENGINEER | 219 | \$98.15 | \$21,495 |
| DESIGNER | 92 | \$73.43 | \$6,756 |
| TOTAL | 489 | NA | \$51,752 |

Town of Vienna On-Call Task Order Contract
Task #4 - Park Street NE Improvements

Distribution of Manhours

| TASK | PROJECT MANAGER/SENIOR PROJECT ENGINEER | | PROJECT ENGINEER | | ENGINEER | | DESIGNER | | TOTAL | |
|---------------------|--|-------------------|------------------|--------------------|---------------|--------------------|---------------|-------------------|------------|--------------------|
| | \$155.96 | | \$127.94 | | \$98.15 | | \$73.43 | | | |
| | HOURS | DOLLARS | HOURS | DOLLARS | HOURS | DOLLARS | HOURS | DOLLARS | HOURS | DOLLARS |
| CONCEPTUAL | 2 | \$312 | 12 | \$1,535 | 24 | \$2,356 | 6 | \$441 | 44 | \$4,643.38 |
| PRELIMINARY | 12 | \$1,872 | 73 | \$9,340 | 96 | \$9,422 | 36 | \$2,643 | 217 | \$23,277.02 |
| INTERMEDIATE | 10 | \$1,560 | 50 | \$6,397 | 68 | \$6,674 | 32 | \$2,350 | 160 | \$16,980.56 |
| FINAL | 2 | \$312 | 17 | \$2,175 | 31 | \$3,043 | 18 | \$1,322 | 68 | \$6,851.29 |
| PERCENT | 5.32% | 7.84% | 31.08% | 37.58% | 44.79% | 41.53% | 18.81% | 13.05% | 100% | 100% |
| TOTALS | 26 | \$4,054.96 | 152 | \$19,446.88 | 219 | \$21,494.85 | 92 | \$6,755.56 | 489 | \$51,752.25 |

Town of Vienna On-Call Task Order Contract
Task #4 - Park Street NE Improvements

LABOR ESTIMATE

| Staff-Hours by Classification | | | | | |
|--|---|---------------------|-----------|----------|-----------|
| Task | PROJECT MANAGER/SENIOR PROJECT ENGINEER | PROJECT ENGINEER | ENGINEER | DESIGNER | Total |
| CONCEPTUAL LAYOUT | | | | | |
| Data (Base Mapping, DTM, etc.) Review | 2 | 2 | 6 | | 10 |
| Field Visit | | 4 | 4 | | 8 |
| Develop curb, gutter and sidewalk layout | | 2 | 4 | 6 | 12 |
| Develop curb profile | | 2 | 6 | | 8 |
| Develop typical section | | | 2 | | 2 |
| Determine Right of Way/Easements Needs | | 2 | 2 | | 4 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Task Subtotal | 2 | 12 | 24 | 6 | 44 |

Town of Vienna On-Call Task Order Contract
Task #4 - Park Street NE Improvements

LABOR ESTIMATE

| Staff-Hours by Classification | | | | | |
|---|---|---------------------|-----------|-----------|------------|
| Task | PROJECT MANAGER/SENIOR PROJECT ENGINEER | PROJECT ENGINEER | ENGINEER | DESIGNER | Total |
| PRELIMINARY DESIGN | | | | | |
| Refine Conceptual Layout | | 4 | 6 | 8 | 18 |
| Develop Title Sheet | 1 | 2 | 4 | | 7 |
| Develop Preliminary Typical Sections | 1 | | 8 | | 9 |
| Develop Preliminary Plan Sheets | 1 | 4 | 8 | 4 | 17 |
| Develop Preliminary Profile Sheets | 1 | 6 | 8 | 4 | 19 |
| Develop Transportation Management Plan (submitted) | 1 | 6 | 6 | 4 | 17 |
| Determine Right of Way/Easements Needs | | 4 | 8 | | 12 |
| | | 2 | 2 | | 4 |
| PRELIMINARY DRAINAGE DESIGN | | | | | |
| Site Visits | | 2 | 2 | | 4 |
| Obtain GIS Mapping for CADD Use | | | 2 | 2 | 4 |
| Areas | | 1 | 4 | | 5 |
| Delineate Watershed Areas | | 1 | 2 | 2 | 5 |
| Determine Appropriate Peak Discharges | | 1 | 2 | | 3 |
| Field Verify and Analyze Existing Drainage Structures | | 2 | 4 | | 6 |
| Preliminary ESC Design | | 2 | 4 | 2 | 8 |
| Preliminary Outfall Adequacy Analysis | | 2 | 4 | 2 | 8 |
| SWM Conceptual Analysis and Layout | | 2 | 2 | | 4 |
| Determine Pre- and Post-Development Impervious Areas, Disturbed Area and Right-of-Way Area per Outfall | | 2 | 4 | 2 | 8 |
| Determine Pre- and Post-Development Discharges | | 1 | 2 | | 3 |
| Determine Requirement for Water Quality, Water Quantity, and Sediment Control | | 1 | 2 | | 3 |
| Determine Storage Volume Requirements & Preliminary Layout of SWM/ESC Facilities for Right-of-Way Needs | | 2 | 4 | | 6 |
| PUBLIC MEETING (1 assumed) | | | | | |
| Prepare Displays for Public Meeting | 1 | 4 | 4 | 6 | 15 |
| Meeting | 2 | 2 | 2 | | 6 |
| Public Coordination / As-needed meetings | | 4 | 2 | | 6 |
| Quantity Take-off and Cost Estimate | 2 | 8 | | | 10 |
| Design | 2 | 8 | | | 10 |
| Task Subtotal | 12 | 73 | 96 | 36 | 217 |

Town of Vienna On-Call Task Order Contract
Task #4 - Park Street NE Improvements

LABOR ESTIMATE

| Staff-Hours by Classification | | | | | |
|---|---|---------------------|-----------|-----------|------------|
| Task | PROJECT MANAGER/SENIOR PROJECT ENGINEER | PROJECT ENGINEER | ENGINEER | DESIGNER | Total |
| INTERMEDIATE DESIGN | | | | | |
| Address Preliminary Review Comments | 1 | 6 | 10 | | 17 |
| Refine Title Sheet | | | 2 | 4 | 6 |
| General Notes Sheet | | 2 | 2 | 2 | 6 |
| Update Typical Sections | | 2 | 2 | | 4 |
| Update Plan Sheets | 2 | 4 | 8 | 6 | 20 |
| Update Profile Sheets | | 4 | 4 | 6 | 14 |
| Prepare Cross Sections | 2 | 6 | 8 | 8 | 24 |
| Develop Staking Details for Curb Ramps | 1 | 4 | 8 | 6 | 19 |
| Refine Transportation Management Plan | | 2 | 4 | | 6 |
| Update Proposed Right of Way / Easements | | 2 | 2 | | 4 |
| Check Earthwork Report | | 4 | 4 | | 8 |
| INTERMEDIATE DRAINAGE DESIGN | | | | | |
| Design Erosion and Siltation Control Measures | | 2 | 4 | | 6 |
| Evaluation | 2 | 2 | | | 4 |
| Prepare Drainage Quantity Summaries | 2 | 6 | 4 | | 12 |
| Quantity Takeoff / Estimate | | | 4 | | 4 |
| QA/QC and submission of Intermediate Plans | | 4 | 2 | | 6 |
| Task Subtotal | 10 | 50 | 68 | 32 | 160 |

Town of Vienna On-Call Task Order Contract
Task #4 - Park Street NE Improvements

LABOR ESTIMATE

| Staff-Hours by Classification | | | | | |
|---|---|---------------------|-----------|-----------|-----------|
| Task | PROJECT MANAGER/SENIOR PROJECT ENGINEER | PROJECT ENGINEER | ENGINEER | DESIGNER | Total |
| FINAL DESIGN | | | | | |
| Review | | 1 | | | 1 |
| Finalize Title Sheet | | | 2 | | 2 |
| Finalize Typical Sections | | | 2 | 4 | 6 |
| Finalize Plan and Profile Sheets | | | 2 | 4 | 6 |
| Finalize Cross Sections | | | 2 | 4 | 6 |
| Finalize Transportation Management Plan | | | 2 | 2 | 4 |
| Check Earthwork Report | | | 1 | 2 | 3 |
| Standards | | | 2 | 2 | 4 |
| | | | | | 0 |
| FINAL DRAINAGE DESIGN | | | | | |
| Review | | 2 | 4 | | 6 |
| Finalize Drainage and SWM Report | | 2 | 4 | | 6 |
| Plans | | 2 | 2 | | 4 |
| | | | | | |
| Quantity Takeoff / Estimate | | 2 | 4 | | 6 |
| QA/QC and submission of Final Plans | | 4 | 4 | | 8 |
| | | | | | |
| QA/QC Construction Plan submission | | | 4 | | 4 |
| Sign and Seal Plans | 2 | | | | 2 |
| | | | | | |
| Task Subtotal | 2 | 17 | 31 | 18 | 68 |

ATTACHMENT B

**COST PLUS FIXED BILLABLE HOURLY RATES CONTRACT
COMPUTATION OF FEE**

**COMPUTATION OF REIMBURSABLE COSTS
NON-SALARY DIRECT COSTS - DERIVATION**

| | | | | | |
|--|-----------------|----------|------------|-----------|-----------------|
| ▪ <u>TRAVEL</u> | | | | | |
| Travel for design meetings (preliminary, field, etc.) and site visits | | | | | |
| Anticipate | 8 round trips @ | 11 miles | 88 miles @ | 0.545 /mi | \$48.00 |
| ▪ <u>POSTAGE/OVERNIGHT MAIL</u> | | | | | |
| Allowance for shipment of plans, reports, brochures, etc. | | | | | |
| | | | | | |
| ▪ <u>REPRODUCTION</u> | | | | | |
| Includes printing meeting materials and roll plans | | | | | |
| | | | | | |
| ▪ <u>PUBLIC MEETINGS DISPLAYS</u> | | | | | |
| We will prepare display boards, typical sections, plans for use in information meetings, public hearings and various other presentations. We will have all displays mounted for each public meeting. | | | | | |
| We estimate | 50 SF | @ | \$5.00 | /SF | \$250.00 |
| ▪ <u>MATERIALS & SUPPLY</u> | | | | | |
| Includes film, developing and enlargements of photographs for inventory of existing conditio | | | | | |
| | | | | | |
| ▪ <u>IN-HOUSE PLOTTING</u> | | | | | |
| Plotting charges will only be billed for color plots for stakeholder meetings. | | | | | |
| We estimate | SF | @ | \$5.00 | /SF | \$0.00 |
| | | | | | |
| TOTAL | | | | | \$508.00 |

**COST PLUS FIXED BILLABLE HOURLY RATES CONTRACT
COMPUTATION OF FEE**

REPRODUCTION

Charge will be made for printing various submittals for the Town including three internal distribution and permanent file copies. Cost of review and check prints during design will not be charged to the job.

Printing of submittals is normally done through an outside firm. The current cost of prints = \$.10/sq.ft.

Estimated number of sheets.

| | | |
|------------|---|---|
| "1 Series" | Title Sheet | 1 |
| | Location Map | |
| | Index of Sheets | |
| | Right of Way Data Sheet | |
| | Revision Data Sheet | |
| | Survey Alignment Data Sheets | 1 |
| | Construction Alignment Data Sheets | 1 |
| | Underground Utility Test Hole Information | |
| | Transportation Management Plan | 2 |
| "2 Series" | General Notes | 1 |
| | Typical Sections | 1 |
| | Summary Sheets | 1 |
| | Roadway Detail Sheets | 1 |
| | SWPP and SWM Details | |
| | Structural Details | |
| 3, 4 etc | Design Plan Sheets (scale 1"=25') | 2 |
| | Design Profile Sheets | 2 |
| | Entrance Profile Sheets | 1 |
| | E&S Control Sheets | 4 |
| | Drainage Description Sheets | |
| | Signing Plans | |
| | Pavement Marking Plans | |
| | Lighting Design | |
| | Signal Design | |
| | Utility Design | |
| X-Section | Scale 1" = 5' | 4 |

Subtotal 22

| | | | |
|---|------|---------------|--------------|
| 3 Full-Size (6 SF Each) and 2 Half-Size Plans (1.5 SF Each) | 10% | Cost= | \$8 |
| 3 Full-Size (6 SF Each) and 2 Half-Size Plans (1.5 SF Each) | 30% | Cost= | \$46 |
| 3 Full-Size (6 SF Each) and 2 Half-Size Plans (1.5 SF Each) | 60% | Cost= | \$18 |
| 3 Full-Size (6 SF Each) and 2 Half-Size Plans (1.5 SF Each) | 90% | Cost= | \$97 |
| 3 Full-Size (6 SF Each) and 4 Half-Size Plans (1.5 SF Each) | 100% | Cost= | \$37 |
| | | Total= | \$206 |



February 22, 2018
Revised: February 28, 2018; March 1, 2018

Tyler L. Long, P.E.
Senior Project Engineer
Whitman, Requardt & Associates, LLP
12700 Fair Lakes Circle, Suite 300
Fairfax, VA 22033

Subject: **Park Street, NE Sidewalk and Curb & Gutter Improvements
Topographic and Property Surveys with Subsurface Utility Mapping
Vienna, Virginia**

Dear Mr. Long,

Rice Associates is pleased to provide the following proposal for professional surveying services for the above referenced project. The scope of work in this proposal includes providing a topographic and property survey with subsurface utility mapping along Park Street, NE. The approximate limits of the survey are shown in yellow on the attached Exhibit A and are from the curb gutter on the southwest of Park Street, approximately 70' northeast into the front yards, will include 10' of the curb & gutter and sidewalk on the north end of the project and to the centerline of Ayr Hill Ave, NE at the south end of the project. The horizontal and vertical basis of this survey will be NAD83 and NAVD88 via GPS observation unless otherwise directed at notice to proceed.

Section I - Scope of Work

Task 1 - Mapping

Property Owner Notification

Property Owner Notification Letters will be prepared and mailed to all landowners within the project limits. This will be based on City and County GIS records. A draft copy of the letter will be supplied to the Town for approval before they are mailed.

Topographic Survey

The following items are generally incorporated in the mapping product:

- Permanent planimetric features that are visible to the surveyor include, but are not limited to signs, edge of pavement, roadways, utility pedestals, manholes, curbing, curb cuts, pavement striping, visible surface evidence of non-gravity utilities (power poles and lines, water wells, meters, valves, fire hydrants, etc.) and witness posts.

Surveying • Photogrammetry • 3-D Laser Scanning • Subsurface Utility Designation and Mapping

Corporate Office • 10661 Gaskins Way • Manassas, Virginia 20109 • Telephone 703.968.3200 • Fax 703.968.2705
Richmond Office • 308 Turner Road • Suite G • Richmond, Virginia 23225 • Telephone 804.674.9723 • Fax 804.674.9726
Virginia Beach Office • 3145 Virginia Beach Blvd. • Suite 103 • Virginia Beach, Virginia 23452 • Telephone 757.306.4260

- Trees and tree lines are depicted as follows: where an area is totally wooded, or there are large groups of trees forming a continuous canopy, the tree line will be clearly shown and labeled. Individual trees within a totally wooded area or within a large group of trees are not required to be individually located. Any individual free standing trees four (4) inches or larger will be located and labeled as to size, basic name (oak, pine, maple, etc.), and diameter of dripline. Hedges or bushes will not normally be individually located, however these areas will be outlined as planted or landscape areas.
- Contours will be generated utilizing data from LIDAR, conventional means, or a combination of these technologies. The end deliverable will show two (2) foot contours and the supporting surface data.

Property Surveys

- Property lines for the affected properties will be shown on the mapping.
- Properties and right-of-ways that are within the survey limits shown on Exhibit A will be included on the mapping.
- Property lines will be based on deeds and plats of record, limited monument ties and physical features. These surveys will not represent a boundary survey and property corners not recovered, will not be set.
- Easements will be graphically plotted to the extent that sufficient geometry exists to relate them to the property lines. No title report will be provided to the surveyor and all encumbrances may not be shown.

Freeman Store Bridge Pedestrian Bridge Improvements

In addition to the Park Street project, some minor surveying will be conducted to assist with the design efforts for the Freeman Store Bridge Pedestrian Bridge Improvements. They include:

- Establishing control via GPS RTK
- Determining first floor elevation and existing deck elevation of the Freeman Store.
- Spot shots in locations at the direction of the design engineer.
- Any service not specifically included above for the Freeman Store Bridge Pedestrian Bridge Improvements is excluded.

Task 2 – Base Mapping Subsurface Utility Mapping: Quality Level “B”

Records Research

Rice Associates will identify and contact utility owners that may have facilities on or be affected by the project. We will request documentation on utility facilities from applicable utility owners. Gathered materials will be used as an aid in the identification of the number of utilities, identity, size and material of utilities, but they will not be used as a substitute for actual geophysical location. We will make available to the client copies of all information gathered from utility owners, provided that this conveyance does not violate the agreement set forth by said owner upon the request for records.

Incorporate above ground features

Rice Associates will perform tasks as described for records research. Incorporation of above ground features and records research tasks do not necessarily need to be performed in any prescriptive order. Identify utility surface features and ensure these appurtenances are surveyed. Correlate the applicable utility records to these surveyed features. Determine when records and features do not agree and resolve any discrepancies.

Designating Utilities – Quality Level B Services

Rice Associates will perform tasks as described for Quality Level C. Quality Level B and C tasks do not necessarily need to be performed in any prescriptive order. The following will be included:

- Designating and marking underground utilities within the project limits using an appropriate suite of geophysical methods.
- The underground utilities shall be marked at a maximum of 50 foot intervals and at all changes in direction.
- Water lines, force mains, and other facilities where an inductive tone may not be achieved may be able to be located using ground penetrating radar (GPR) and will be marked as Quality Level B in these areas. When the GPR is not effective, these facilities will be marked as Quality Level D or Quality Level C depending on the available information.
- A two person sweep in a grid pattern will be performed at the end of the designating process to search for undocumented, abandoned and inactive lines.
- Each utility run shall be labeled and this information will be noted on the field sketch and used for assisting the surveyor and for quality control purposes.
- Designating of service lines, irrigation lines, and other such small non detectable utilities will not be included.
- Survey markings that indicate the presence of a subsurface utility. This survey will be to the accuracies and precision dictated by the project's survey control.

The degree of success of a GPR investigation is based entirely on the composition of the soils and the depth and scale of subsurface targets. Electrically resistive soils, such as quartz sands, typically allow for the study of phenomena to depths greater than 15 feet. However, electrically conductive soils, such as clay, moist silt or saline soils, typically preclude the investigation of targets deeper than 3-6 feet. A determination of a maximum attainable depth of investigation requires on-site calibration of the GPR equipment. Subsequently, due to the unknown susceptibility of specific site soils to the passage of radar energy, conclusive results cannot be guaranteed from ground penetrating radar.

It may not be possible to detect utilities without prior knowledge, such as systems that are not depicted on records made available to Rice Associates or systems without above ground feature. Non-metallic and or non-locatable lines will be shown as Quality Level D or Quality Level C depending on the available information.

Section II – Factors

- All fieldwork will be performed continuously, once started.
- Portions of the survey area are in areas that may require access approval. Rice Associates will rely on the client to notify property owners as appropriate.
- Client understands that the fieldwork may involve minimal tree and brush trimming and that Rice Associates will not be restricted from this activity.
- The survey deliverable will be limited to existing conditions. No site plans or other conceptual information will be depicted.

Section III - Exclusions and Expansions

General

- Wetlands locations are excluded.
- Arborist services are excluded.
- Storm and sanitary drainage surveys are excluded.
- Rice Associates will not be responsible for the removal of debris or obstruction from any area or structure for the purpose of gathering survey information.
- Rice Associates personnel may not be able to access private property until 15 days after property owners have been notified in writing by the client or Town of impending survey activity. Time of Performance identified in Section VI may be impacted to allow for the proper notification process.
- Any service not specifically included is excluded.

Subsurface Utility Mapping

- Rice Associates will depict the utility features within the project limits. No attempt will be made to determine size, type, depth, capacity, or existence of subsurface utilities unless specifically included in scope of work.
- This service is not intended to depict structures such as, but not limited to, irrigation distribution systems, wells, roof drains, or the limits of subsurface utility structures such as vaults, manholes, septic systems, tunnels or other underground structures or facilities.
- Our work does not relieve the users of our drawings from calling MISS UTILITY and we are not responsible for damage to utilities caused by others due to the responsibilities of utility owning agencies and the one call system.
- Water and sewer service lines will be designated to the extent possible provided their construction allows for detection by electronic methods.
- The scope of services as outlined above is for one-time only. Utility mapping re-marking due to reasons beyond the control of Rice Associates is excluded.
- Utilities may exist which are not locatable.
- Client will assist Rice Associates to aid in the acquisition of utility plans/records from project owner.

- Rice Associates will not be responsible for the removal of debris or obstruction from any area or structure for the purpose of gathering utility information.
- Any service not specifically included is excluded.

Section IV - Items to be provided by Client

- Written notice to proceed.

Section V - Deliverables

Task 1 & 2 - Mapping

The deliverable will include an AutoCAD compatible project disc with all supporting files, a base sheet depicting the scope items, two (2) foot contours, the associated surface at a scale of one inch equals twenty-five feet.

Section VI – Time of Performance

Task 1 & 2 - Mapping

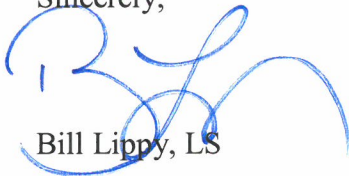
The delivery date will be thirty (30) business days from notice to proceed and receipt of the items delineated in Section IV. This schedule is subject to uncontrollable impacts, such as weather, and access disruptions.

Section VII- Fee Schedule

| | |
|---|--------------------|
| Task 1 - Mapping (Lump Sum Fee) | \$ 17,353.75 |
| <u>Task 2 - Subsurface Utility Mapping (Lump Sum Fee)</u> | <u>\$ 2,934.48</u> |
| Total | \$ 20,288.23 |

Thank you for your confidence in our firm. We look forward to working with you on this and future projects. Please call if you have any questions or require further information.

Sincerely,



Bill Lippy, LS

Attachments:
Fee Schedule
Exhibit A

FEE CALCULATIONS
Rice Associates
Survey Distribution of Man-hours

Client: WRA
 Project #: WR1700.02
 Project Name: Park Street – Sidewalk and Curb & Gutter Improvements
 Location: Vienna, VA
 Type of Survey: Topographic, Drainage, and Property Surveys with Subsurface Utility Mapping
 February 22, 2018
 Revised: February 28, 2018; March 1, 2018
 -

| Classification | Billable Rate | Hours | Total Cost (Rate x Hours) |
|--------------------------|---------------|---------------|------------------------------|
| Project Manager | \$0.00 | 0.00 | \$0.00 |
| LS/Task Manager | \$181.10 | 10.00 | \$1,811.00 |
| Survey Coordinator | \$110.10 | 3.50 | \$385.35 |
| Sr. Computer Technician | \$130.71 | 16.00 | \$2,091.36 |
| CADD Technician | \$108.18 | 26.00 | \$2,812.68 |
| Administration | \$75.15 | 4.00 | \$300.60 |
| Scanner Field Technician | \$0.00 | 0.00 | \$0.00 |
| Crew Chief | \$97.53 | 0.00 | \$0.00 |
| 2 Person Survey Crew | \$157.45 | 57.00 | \$8,974.65 |
| 3 Person Survey Crew | \$217.36 | 0.00 | \$0.00 |
| Researcher | \$101.97 | 8.00 | \$815.76 |
| LABOR TOTAL | | 124.50 | \$17,191.40 |

Direct Costs:

\$0.00
 \$0.00
 \$0.00
 \$0.00
 \$0.00

DIRECT COST SUB-TOTAL \$0.00

| | | | |
|-------------------------------------|-----|----------|----------|
| Field Supplies | | Lump Sum | \$0.00 |
| Property Owner Notification Letters | 11 | \$0.49 | \$5.39 |
| Mileage @ \$0.545 | 288 | miles | \$156.96 |

DIRECT COST TOTAL \$162.35

FEE TOTAL \$17,353.75

**Distribution of Man-hours
Rice Associates
Survey**

Client: WRA
 Project #: WR1700.02
 Project Name: Park Street – Sidewalk and Curb & Gutter Improvements
 Location: Vienna, VA
 Type of Survey: Topographic, Drainage, and Property Surveys with Subsurface Utility Mapping
 February 22, 2018
 Revised: February 28, 2018; March 1, 2018
 -

| Code | 313 Survey | Project Manager | RLS/Task Manager | Survey Coordinator | Sr. Computer Technician | CADD Technician | Administration | Researcher | Crew Chief | 2 Person Survey Crew | 3 Person Survey Crew | Scanner Field Technician | TOTAL |
|--------------|--|-----------------|------------------|--------------------|-------------------------|-----------------|----------------|------------|------------|----------------------|----------------------|--------------------------|--------------|
| 01 | Administration - Coordination | | | | | | | | | | | | 0 |
| 02 | Aerial - Targets | | | | | | | | | | | | 0 |
| 06 | Aerial Annotation | | | | | | | | | | | | 0 |
| 12 | Airport Survey | | | | | | | | | | | | 0 |
| 14 | ALTA/ACSM Survey | | | | | | | | | | | | 0 |
| 16 | As-Built Survey | | | | | | | | | | | | 0 |
| 18 | Bathymetric Survey | | | | | | | | | | | | 0 |
| 20 | Boundary Survey | | | | | | | | | | | | 0 |
| 22 | Bridge Situation Survey | | | | | | | | | | | | 0 |
| 24 | Cemetery | | | | | | | | | | | | 0 |
| 26 | Construction Stakeout | | | | | | | | | | | | 0 |
| 28 | Control Reference Sheet / LD200 | | | | | | | | | | | | 0 |
| 30 | Court Testimony | | | | | | | | | | | | 0 |
| 32 | Cross Sections | | | | | | | | | | | | 0 |
| 34 | Drainage Surveys | | | | | | | | | | | | 0 |
| 36 | DTM - Prepare Final | | | | | | | | | | | | 0 |
| 38 | Flood Certification Survey | | | | | | | | | | | | 0 |
| 40 | Flood Study Survey | | | | | | | | | | | | 0 |
| 42 | G.P.S. Surveys | | 0.5 | 0.5 | 2 | 1 | | | | 4 | | | 8 |
| 43 | Horizontal Control | | | | | | | | | | | | 0 |
| 44 | Horizontal/Vertical Control | | 0.5 | 0.5 | 3 | 2 | | | | 8 | | | 14 |
| 45 | Vertical Control | | | | | | | | | | | | 0 |
| 46 | House Location/Recertification | | | | | | | | | | | | 0 |
| 48 | Legal/Metes & Bounds Description | | | | | | | | | | | | 0 |
| 50 | Location of Designated Utilities | | | | 1 | 2 | | | | 6 | | | 9 |
| 52 | Meetings | | 2 | | | | | | | | | | 2 |
| 53 | Mobilization / Demobilization | | | | | | | | | | | | 0 |
| 54 | Metes and Bounds Survey | | | | | | | | | | | | 0 |
| 56 | Notification Letters | | 0.5 | | | | 4 | | | | | | 4.5 |
| 57 | Overhead Wires and Signs | | | | | | | | | | | | 0 |
| 58 | Permitting | | | | | | | | | | | | 0 |
| 60 | Photo Control | | | | | | | | | | | | 0 |
| 62 | Plats - Record/Easmt./Dedication | | | | | | | | | | | | 0 |
| 64 | Profiles and Elevations | | | | | | | | | | | | 0 |
| 66 | Property Corners/ROW - S.O./Set | | | | | | | | | | | | 0 |
| 68 | Property Surveys | | 4 | 1 | 4 | 8 | | 8 | | 15 | | | 40 |
| 70 | Property Ties | | | | | | | | | | | | 0 |
| 72 | Quality Assurance/Control | | 1 | | | | | | | | | | 1 |
| 74 | Reconnaissance | | | | | | | | | | | | 0 |
| 76 | Reference Points - Set | | | | | | | | | | | | 0 |
| 78 | Research - Property/Plan | | | | | | | | | | | | 0 |
| 80 | Research Notebook | | | | | | | | | | | | 0 |
| 82 | Route Location Survey | | | | | | | | | | | | 0 |
| 84 | Soil Boring Location | | | | | | | | | | | | 0 |
| 86 | Stream Surveys | | | | | | | | | | | | 0 |
| 88 | Test Hole stakeout and location | | | | | | | | | | | | 0 |
| 90 | Topographic Survey | | 1 | 1 | 4 | 8 | | | | 16 | | | 30 |
| 92 | Tree Location Survey | | | | | | | | | | | | 0 |
| 94 | Freeman Store Bridge Pedestrian Bridge | | 0.5 | 0.5 | 2 | 5 | | | | 8 | | | 16 |
| 96 | VDOT Control Monuments | | | | | | | | | | | | 0 |
| 97 | VDOT LD 436 Checklist | | | | | | | | | | | | 0 |
| 98 | Wells & Septic Fields Location | | | | | | | | | | | | 0 |
| 99 | Wetlands Location | | | | | | | | | | | | 0 |
| TOTAL | | 0 | 10 | 3.5 | 16 | 26 | 4 | 8 | 0 | 57 | 0 | 0 | 124.5 |
| % | | 0% | 8% | 3% | 13% | 21% | 3% | 6% | 0% | 46% | 0% | 0% | 100% |

FEE CALCULATIONS

Rice Associates

Subsurface Utility Designation and Mapping Distribution of Man-hours

Client: WRA
Project #: WR1700.02
Project Name: Park Street – Sidewalk and Curb & Gutter Improvements
Location: Vienna, VA
Type of Survey: Topographic, Drainage, and Property Surveys with Subsurface Utility Mapping
February 22, 2018
Revised: February 28, 2018; March 1, 2018
-

| Classification | Billable Rate | Hours | Total Cost (Rate x Hours) |
|----------------------------------|---------------|--------------|---------------------------|
| Sr. Computer Technician | \$130.71 | 0.00 | \$0.00 |
| CADD Technician | \$108.18 | 1.00 | \$108.18 |
| Subsurface Utility Manager | \$180.34 | 3.00 | \$541.02 |
| Subsurface Utility Technician | \$76.59 | 24.00 | \$1,838.16 |
| 2 Person Subsurface Utility Crew | \$0.00 | 0.00 | \$0.00 |
| Researcher | \$101.97 | 4.00 | \$407.88 |
| LABOR TOTAL | | 32.00 | \$2,895.24 |

Direct Costs:

\$0.00
\$0.00
\$0.00
\$0.00

DIRECT COST SUB-TOTAL \$0.00

Field Supplies Lump Sum \$0.00
Property Owner Notification Letters 0 \$0.49 \$0.00
Mileage @ \$0.545 72 miles \$39.24

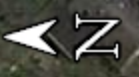
DIRECT COST TOTAL \$39.24

FEE TOTAL \$2,934.48

Distribution of Man-hours
Rice Associates
Subsurface Utility Designation and Mapping

Client: WRA
 Project #: WR1700.02
 Project Name: Park Street – Sidewalk and Curb & Gutter Improvements
 Location: Vienna, VA
 Type of Survey: Topographic, Drainage, and Property Surveys with Subsurface Utility Mapping
 February 22, 2018
 Revised: February 28, 2018; March 1, 2018
 -

| Code | Subsurface Utility Mapping | Subsurface Utility Manager | Sr. Computer Technician | CADD Technician | Researcher | Subsurface Utility Technician | 2 Person Subsurface Utility Crew | TOTAL |
|-------------|-------------------------------------|-----------------------------------|--------------------------------|------------------------|-------------------|--------------------------------------|---|--------------|
| 53 | Mobilization/Demobilization | | | | | 4 | | 4 |
| 72 | Quality Assurance/Control | 1 | | | | | | 1 |
| 92 | Utility Quality Level B | 1 | | | | 20 | | 21 |
| 93 | Utility Quality Level C | | | | | | | 0 |
| 50 | Utility Mapping | 1 | | 1 | | | | 2 |
| 78 | Utility Research | | | | 4 | | | 4 |
| 95 | Utility Quality Level A (Test Hole) | | | | | | | 0 |
| | TOTAL | 3 | 0 | 1 | 4 | 24 | 0 | 32 |
| | % | 9% | 0% | 3% | 13% | 75% | 0% | 100% |



300 ft

Exhibit A

