

Issue Analysis Form



Date: July 6, 2020
Item: Engineering Agreement
Lead Department(s): Comm. Dev. & Code Compl.
Contact Person(s): Julie Walton

Description and Current Status

This project proposal includes engineering design services, bid documents, and construction management services for drainage improvements from Quebec Ave. to Perrin Drive in Birchett Estates. The stormwater drainway runs behind the properties along these roads, intercepting with an existing stream channel. The property owners are experiencing erosion to their properties, driveways, and the road segment at the end of Perrin Drive.

The attached agreement with Timmons Group is for all engineering services for the proposed project from design to construction management. The agreement has been drafted under the County's annual contract with Timmons. Staff has reviewed the agreement and recommends approval.

Sample Motion: I move that the Board authorize the County Administrator to enter into an agreement for \$69,970.00 with Timmons Group for engineering services associated with the drainage improvements from Quebec Ave. to Perrin Drive in Birchett Estates.

Government Path

- | | | |
|---|---|--|
| Does this require IDA action? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does this require BZA action? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does This require Planning Commission Action? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does this require Board of Supervisors action? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Does this require a public hearing? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| If so, before what date? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

Fiscal Impact Statement

The proposed agreement is funded through the Stormwater Utility Fund. No general fund tax dollars are proposed to be utilized for this project.

County Impact

These drainage improvements and stream restoration projects continue the work of restoring channels and protecting properties from severe erosion. The project improves the County's stormwater runoff system and TMDL.

Notes

Board of Supervisors
County of Prince George, Virginia

Resolution

At a regular meeting of the Board of Supervisors of the County of Prince George held in the Boardroom, Third Floor, County Administration Building, 6602 Courts Drive, Prince George, Virginia this 14th day of July, 2020:

<u>Present:</u> Donald R. Hunter, Chairman Alan R. Carmichael, Vice Chairman Floyd M. Brown, Jr. Marlene J. Waymack T. J. Webb	<u>Vote:</u>
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A-9

On motion of _____, seconded by _____, which carried _____, the following Resolution was adopted:

RESOLUTION; AUTHORIZATION FOR THE COUNTY ADMINISTRATOR TO ENTER INTO ENGINEERING AGREEMENT WITH TIMMONS GROUP FOR DESIGN SERVICES FOR THE BIRCHETT ESTATES QUEBEC AVE. TO PERRIN DRIVE DRAINAGE IMPROVEMENT AND STREAM RESTORATION PROJECT

WHEREAS, The Prince George County Board of Supervisors has determined that it is in the best interest of the County of Prince George and its citizens to improve the drainage and restore a segment of stream behind Quebec Ave. and Perrin Drive in the Birchett Estates subdivision; and,

WHEREAS, The County’s Stormwater Utility Fund is designed and utilized for such improvement projects; and,

WHEREAS, The associated cost for the Scope of Work as detailed by Timmons Group is \$69,970.00;

NOW THEREFORE, BE IT RESOLVED That the Board of Supervisors of the County of Prince George this 14th day of July, 2020, hereby authorizes the County Administrator to enter into agreement with Timmons Group under the annual contract for the amount of \$69,970.00 to perform all engineering and design services for the Quebec Ave. and Perrin Drive drainage improvement project, and authorizes the funding for such services to be provided under the Stormwater Utility Fund project budget.

A Copy Teste:

Percy C. Ashcraft
County Administrator



ATTACHMENT "A"
FOR
BIRCHETT ESTATES
QUEBEC AVENUE & PERRIN ROAD STORMWATER IMPROVEMENTS
March 11, 2020

Overall Project Summary: This project will include services to prepare complete design plans and specifications for drainage improvements along Quebec Ave & Perrin Rd along with stream channel restoration of approximately 265 LF. The project is located in Birchett Estates within Prince George County, Virginia.

Project Fees:

1. Survey & Underground Utility Location	\$14,560.00
2. Wetland Delineation & Confirmation	\$4,155.00
3. Environmental Permitting	\$4,500.00
4. Engineering	\$34,020.00
5. Bidding Assistance	\$4,020.00
6. Construction Administration	<u>\$8,715.00</u>
	Total: \$69,970.00

SURVEY & UNDERGROUND UTILITY LOCATION

Task includes preparation of a field run topographical survey for the site to include location of visible improvements; storm and sanitary sewer alignments with invert data; and surface indications of subsurface utilities. Contouring to be plotted at a 0.5' interval. Wetland flags will be field located. The field and office work will be performed per DPOR guidelines and will include location of record parcel boundary/easement lines within the project limits. Missing property corner monuments will not be reset as part of this survey.

An underground utility survey will be performed to designate and map underground facilities within the bounds of project area. This utility survey will include horizontal designation through geophysical methods and is defined as Quality Level "B" by the American Society of Civil Engineers (ASCE). The accuracies of the markings are subject to the depth and electrical conductivity of the utility as well as site conditions and manhole access. Plastic and fiber optics lines without tracer wires may be unlocatable. This service does not include the use of ground penetrating radar. Exclusions: sanitary & storm lines including laterals and roof drains; irrigation systems; and abandoned lines.



WETLAND DELINEATION & CONFIRMATION

Timmons Group will review existing, readily obtainable environmental information on the site such as USGS mapping, aerial photography, NWI mapping and soil survey information. A wetland delineation of the subject property will be performed in accordance with the 1987 U.S. Army Corps of Engineers (COE) Wetland Delineation Manual and appropriate Regional Supplement. The flagged wetland limits will be GPS located for mapping purposes (Note that this GPS location is for confirmation and planning purposes and is not a substitute for traditional field survey and that in the event wetlands and streams may be impacted by the project the limits should be located by traditional survey means). A preliminary wetland delineation map showing the approximate size, shape and location of wetlands and or waters of the U.S. present on the subject property will then be prepared.

Timmons Group will facilitate the confirmation of wetland locations through wetland flagging and submittal of a Jurisdictional Determination (JD) package to the U.S. Army Corps of Engineers (COE). This package will consist of a narrative, wetland delineation map and wetland delineation field data sheets. Timmons Group will conduct a site visit with the COE to review the site conditions, flagged wetland limits and confirm findings. A Jurisdictional Determination (JD) letter for the wetland delineation will be obtained from the COE.

ENVIRONMENTAL PERMITTING

A Pre-Construction Notification (PCN) for the appropriate Nationwide Permit (NWP) will be prepared and submitted to the COE. The NWP authorizes activities required for certain work in Waters of the United States. The PCN submittal will contain a narrative describing in detail the purpose of the project and the necessity of the proposed disturbance to demonstrate that this disturbance is warranted. Responses to Requests for Additional Information (RAI) will be prepared to answer any questions posed by the COE as a result of the PCN. Negotiation of NWP authorization will be undertaken to facilitate regulatory approval of the project.

ENGINEERING

Work performed will be the tasks needed to develop a design plans for the proposed stormwater improvements and approximately 265 LF of stream restoration:

Preliminary Stream Assessment

Perform the field data collection necessary to complete a Bank Assessment for Non-Point Source Consequences of Sediment (BANCS) model to estimate sediment and nutrients load reductions. The BANCS model utilizes two commonly used bank erodibility estimation tools to predict stream bank erosion: Bank Erosion Hazard Index (BEHI) and Near Bank Stress (NBS) Methods. A BANCS analysis map will be produced indicating degrees of bank erodibility based on field analysis. This information will be used to aid in identifying appropriate stream restoration limits and design solutions.



30% Design

Perform the following sub-tasks to establish preliminary 30% design plans:

1. Perform hydrologic calculations for the contributing watershed to develop stormwater runoff data.
2. Perform a geomorphology analysis to determine the preliminary channel design parameters for the stream restoration limits
3. Prepare a preliminary design layout to illustrate the proposed stormwater improvements, stream alignment, construction access and staging areas for the purpose of defining the overall Project Area.
4. Prepare a preliminary cost and pollutant removal estimate.
5. Attend a meeting with County staff to discuss the preliminary 30% design.

75% Design Plans

Prepare 75% design plans from the previously prepared 30% design. The preparation of the 75% design plans include the following sub-tasks:

1. Address County and permitting agency comments from the 30% submittal;
2. Finalize construction access locations;
3. Stream restoration design, including grading plan, profiles, and sections;
4. Finalize potential nutrient crediting;
5. Establish construction sequence;
6. Erosion control layout and details.
7. Prepare detailed planting plan;
8. Prepare 75% submittal of "Engineers' Opinion of Probable Construction Cost;"
9. Submit draft bid documents and technical specifications;
10. Prepare for and attend a meeting with County staff to discuss the 75% design plans.

Final Construction Documents

Prepare Final Construction Documents from the previously prepared 75% design plans. This task will include addressing any previous comments, finalizing the engineers' opinion of probable cost and preparing final bid documents/technical specifications.

Bidding Assistance

1. Provide bidding assistance to include coordination with the County purchasing office during advertisement of the project, attendance at the pre-bid meeting, responding to contractor questions, issuing addendums and attendance at the bid opening.
2. Provide services to assist the County in evaluation of contractor bids and submitting a recommendation for award.



TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS

Construction Administration

We have based the construction support on an anticipated 6 month duration.

1. Prepare for and attend a pre-construction conference with the selected contractor and County staff
2. Performing contractor material submittal and shop drawing review.
3. Provide onsite observation of the construction activities including up to 6 visits during construction. Provide copies of field inspection reports to County staff.
4. Review contractor payment applications and issue project change orders at the direction and approval of County staff.
5. Provide assistance with project closeout including review of as-built survey provided by the contractor.

BIRCHETT ESTATES
QUEBEC AVENUE AND PERRIN ROAD STORMWATER IMPROVEMENTS
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WETLAND IMPACT PERMITTING

	Sr. Project Manager (Hours)	Senior Env. Scientist (Hours)	Environ. Scientist (Hours)	Environ. Technician (Hours)	Task Total
I. Draft JPA		1	10	4	\$1,215.00
II. Finalize/Submit JPA	1	2	8	2	\$1,195.00
III. Reply to Comments	1	2	8	4	\$1,325.00
IV. Negotiate Permit	1	4	2		\$765.00
Rate	\$175.00	\$105.00	\$85.00	\$65.00	\$4,500.00

NATIONWIDE PERMITTING SUBTOTAL:

ENGINEERING

	Principal (Hours)	Sr. Project Manager (Hours)	Project Engineer III (Hours)	Project Engineer II (Hours)	Task Total
I. Field Data Collection			12	12	\$2,400.00
II. Hydrologic Calculations		2	6	24	\$3,260.00
III. Geomorphology Analysis		2	6	20	\$2,880.00
IV. 30% Design Plans		2	12	36	\$5,030.00
VI. 75% Design Plans		8	26	62	\$10,020.00
VII. Final Design Plans		4	16	36	\$5,800.00
VIII. Specifications		2	14	6	\$2,390.00
IX. Work Sessions with County Staff		8	8		\$2,240.00
Rate	\$200.00	\$175.00	\$105.00	\$95.00	\$34,020.00

ENGINEERING SUBTOTAL

BIRCHETT ESTATES
QUEBEC AVENUE AND PERRIN ROAD STORMWATER IMPROVEMENTS
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BIDDING ASSISTANCE

	Principal (Hours)	Sr. Project Manager (Hours)	Project Engineer III (Hours)	Project Engineer II (Hours)	Task Total
I. Attend Pre-Bid Meeting		4	4		\$1,120.00
II. Respond to Questions/Issue Addendums		2	10	4	\$1,780.00
III. Attend Bid Opening			3		\$315.00
IV. Bid Evaluation & Recommendation		1	6		\$805.00
	Rate	\$200.00	\$175.00	\$105.00	\$95.00
					BIDDING ASSISTANCE SUBTOTAL
					\$4,020.00

CONSTRUCTION ADMINISTRATION

	Principal (Hours)	Sr. Project Manager (Hours)	Project Engineer III (Hours)	Project Engineer II (Hours)	Task Total
I. Attend preconstruction meeting		4	4		\$1,120.00
II. Product Submittal & Shop Drawing Review		2	10		\$1,400.00
III. Construction Site Inspections		6	24		\$3,570.00
IV. Pay-App Review		2	12		\$1,610.00
V. Project Closeout & As-built review		1	8		\$1,015.00
	Rate	\$200.00	\$175.00	\$105.00	\$95.00
					CONSTRUCTION ADMINISTRATION SUBTOTAL
					\$8,715.00

(We have included a budget for 6 construction field visits for this project. The final cost will be adjusted based on the actual number of visits made)

BIRCHETT ESTATES
QUEBEC AVENUE AND PERRIN ROAD STORMWATER IMPROVEMENTS
March 11, 2020

SUMMARY

Survey	\$14,560.00	Percent of overall total =	21%
Wetland Delineation	\$4,155.00	Percent of overall total =	6%
Environmental Permitting	\$4,500.00	Percent of overall total =	6%
Engineering	\$34,020.00	Percent of overall total =	49%
Bidding Assistance	\$4,020.00	Percent of overall total =	6%
Construction Administration	\$8,715.00	Percent of overall total =	12%

TOTAL PROJECT FEE: \$69,970.00