

CITY OF HIGH POINT

AGENDA ITEM



Title: Waterview Pump Station- Proposed Forcemain Extension
Davis, Martin and Powell (DMP)

From: Terry Houk – Public Services Director
Derrick Boone – Public Services Asst. Director

Meeting Date: May 4, 2020

Public Hearing: N/A

Advertising Date: N/A
Advertised By: On-Call

Attachments: Attachment A- Map
Attachment B- Proposal

PURPOSE:

To contract with Davis, Martin, and Powell (DMP) for the engineering and design work for the extension of forcemain to Penny Road Outfall to allow increased discharge capacity of the Waterview Pump Station.

BACKGROUND:

The current Waterview Pump Station was constructed in 2007 to replace an older, smaller station that was to conflict with the proposed NCDOT widening of Skeet Club Road. The recent completion of the forcemain replacement (upsized from 10-inch to 16-inch) along Skeet Club Road and the 2017 installation of third pump in the station has provided the ability to increase the firm pumping capacity of the station to approximately 2,500 GPM. However, the current receiving gravity sewer limits the ability to achieve the station's full pumping capacity and as such current firm pumping capacity is only 1,550 GPM.

The proposed project will be to relocate the Waterview forcemain discharge to the Penny Road Outfall, near the intersection of Penny Road and Sunnyvale Drive. The proposed extension will require the installation of approximately 4,900 LF of 16-inch forcemain, beginning at the intersection of Highway 68/Skeet Club/Wendover Avenue and terminating at the Penny Road Outfall.

BUDGET IMPACT:

Funds for this project are available in the 2019-2020 Budget.

RECOMMENDATION / ACTION REQUESTED:

The Public Services Department recommends approval and asks for the Council to award the professional engineering services to Davis, Martin and Powell (DMP) in the amount of \$281,900.

April 16, 2020

Re: City of High Point, NC
Waterview Pump Station Upgrades
Proposed Forcemain Extension
Engineering Services Proposal

Mr. Derrick Boone
Assistant Director of Public Services
City of High Point
PO Box 230
High Point, NC 27261

Dear Derrick:

Davis • Martin • Powell & Associates (DMP), serving as an On-call Engineer to provide Municipal Engineering Services for the City of High Point (City), is pleased to offer our proposal for Professional Services related to proposed upgrades to the City's Waterview Pump Station.

Project Description

DMP has been working with the City to evaluate options for increasing the capacity of the Waterview Pump Station. The recent completion of the forcemain replacement (upsized from 10-inch to 16-inch) along Skeet Club Road and the 2017 installation of third pump in the station has provided the ability to increase the firm pumping capacity of the station to approximately 2,500 GPM. However, the current receiving gravity sewer limits the ability to achieve the station's full pumping capacity.

Based on our previous discussions we understand that the City desires to pursue a project to relocate the Waterview forcemain discharge to the Penny Road Outfall, near the intersection of Penny Road and Sunnyvale Drive. The proposed extension will require the installation of approximately 4,900 LF of 16-inch forcemain, beginning at the intersection of Highway 68/Skeet Club/Wendover Avenue and terminating at the Penny Road Outfall.

Scope of Services

Task 1 – Surveying & Mapping

- Conduct property research and compile a database for properties that could be impacted by the project.
- Collect existing aerial photography and planimetric/topographic mapping, pertinent as-built plans, maps from other utilities in the project area
- Utilize available aerial LIDAR planimetric and 1-foot topographic data for base mapping
- Perform planimetric, boundary, and topographic surveying to supplement the aerial LIDAR data for full project area coverage. Survey will be tied to the North Carolina State Plane Grid Coordinate System.
- Prepare base mapping in AutoCAD (.dwg) format)

Task 2 - Final Design

- Evaluate routing for the proposed forcemain extension to minimize property impacts and potential conflicts with the future NCDOT NC 68 Widening project (U-5974)

- Prepare plan-profile drawings for the proposed forcemain extension at a scale of 1"=40' horizontal and 1"=4' vertical. DMP drafting standards will be followed for preparation of the plan-profile drawings.
- Prepare the Erosion control design and required construction details
- Prepare Technical Specifications for the project
- Provide Estimate of Probable Cost for the project
- Permitting Assistance. DMP will prepare applications to obtain necessary permits such as:
 - Fast Track Application (FTA) Permit for Gravity Sewers & Authorization to Construct
 - NC Division of Land Quality Sedimentation & Erosion Control Permit
 - NCDOT Encroachment Agreement
 - Agreements with other utilities including power, natural gas, etc. (if necessary)
- It is anticipated that this project will be divided into two (2) concurrent construction contracts

Task 3 – Geotechnical and SUE Investigations

- After preliminary profiles have been prepared, DMP will perform Subsurface Utility Engineering (SUE) Level A soft-dig test holes by vacuum excavation over existing utility lines at critical areas where there could be conflicts between existing utilities and the proposed water mains or encasement pipes. A total of ten (10) soft-dig test holes to a maximum depth of 10 feet are included in this SOW. We have assumed that up to four (4) days of traffic control will be needed for soft-digs needed within existing roadways. We have also assumed that up to eight (8) of the soft-digs will be in existing asphalt roadway, requiring flowable fill backfill and asphalt cut/patch.
- After preliminary profiles have been prepared, GEO-Hydro will perform soil borings and prepare a geotechnical report describing subsurface soil conditions where proposed encasements will be installed under roads. Soil borings will be performed near the end of each proposed encasement pipe. A total of eight (8) soil borings are anticipated.

Task 4 - Bidding Assistance

- Respond to inquiries, issue addenda if necessary
- Attend one Pre-Bid Meeting, and attend one Bid Opening

Task 5 - Property Acquisition Assistance

- Perform limited boundary surveying and prepare maps and legal descriptions as needed for the City to acquire real property and easements necessary to construct the project. Documents will be prepared to meet the requirements of the City.
- Accompany City staff to meet with individual property owners, as needed, during the property acquisition process
- It is anticipated that up to fifteen (15) easements total may be required for the project.

Task 6 - Construction Administration

- Attend monthly progress meetings, up to 8 meetings included
- Review material/equipment submittals from the Contractor
- Review and respond to Requests for Information (RFI's) from the Contractor
- Review Change Order requests
- Review monthly pay requests
- Contract Closeout, to include attendance at final inspection, review of final contract documents
- Provide Engineer's Certification(s) of project completion to the appropriate agencies
- Prepare Record drawings from the Contractor's and/or RPR's mark-ups. One (1) set of record drawings will be provided to the City. Other digital formats, such as PDF, GIS or DWG can be provided if requested.

Task 7 - Resident Project Representative

- Provide Resident Project Representative (RPR) services for over-sight of Contractor's work during construction of the gravity sewer extension. For budgeting purposes our fee is based on an average intensity of eight (8) hours per day for a 180 calendar day construction contract.

Additional Services or Services Not Included

DMP is available to provide additional services in conjunction with this project, which may be unforeseen at this stage of the project. Any additional services requested, which are not specifically outlined in the Scope of Work, can be provided on an hourly basis, or negotiated as an amendment to this proposal. Additional expenses will not be incurred without prior written authorization.

The following tasks are not included in DMP's scope of work but may be provided as additional services:

- Payment of any advertisement, agency review, and permit application fees
- Assistance with legal proceedings
- Staking/layout services (easement acquisition and/or construction)
- Construction Materials Testing
- As-Built survey
- Environmental Reports, special mitigation plans

Compensation

DMP will provide Services based on our understanding of the project and the Scope of Work presented herein for the following amounts:

Task	Billing as	Estimated Fee
1/2 Surveying & Design	Lump Sum	\$ 101,000
3 SUE Investigations (soft digs)	Hourly, NTE	\$ 24,800
3 Geotechnical Investigation	Hourly, NTE	\$ 17,600
4 Bidding Assistance	Lump Sum	\$ 3,200
5 Property Acquisition Assistance	Hourly, NTE	\$ 18,000
6 Construction Administration	Lump Sum	\$ 26,800
7 RPR Services	Hourly, NTE	\$ 90,500
Total Estimated Fees		\$ 281,900

These services will be performed as a Supplemental Agreement to our Master Professional Agreement.

Davis • Martin • Powell appreciates the opportunity to submit this proposal for professional services related to this project. If acceptable, sign and return a copy of this Proposal and we will proceed with the project accordingly. If you have any questions, please let me know.

Sincerely,

DAVIS • MARTIN • POWELL & ASSOCIATES



Ben Palmer, PE

C: File

DAVIS • MARTIN • POWELL
ENGINEERS & SURVEYORS

6415 OLD PLANK RD, HIGH POINT, NC 27285
(336) 886-4921 | WWW.DMP-INC.COM | LICENSE: F-0245



GRAPHIC SCALE

0 150 300 600

1" = 300 FEET

RELOCATE DISCHARGE TO PENNY ROAD

CITY OF HIGH POINT WATERVIEW PUMP STATION DOWNSTREAM SEWER EVALUATION

LEGEND

- EX. GRAVITY SEWER
EX. WATERVIEW FORCEMAIN
EX. EASTFORK FORCEMAIN
PROPOSED FM EXTENSION
PROPOSED GRAVITY SEWER

