
EXHIBIT A – SCOPE OF SERVICES

Martin County Utilities Western Corridor Sewer Main Improvements from Lift Station No. 540

Martin County Utilities (County) was approached by potential customers located inside County's service area generally located along State Road 714 between Florida's Turnpike and Interstate 95 regarding obtaining water and sewer service. These proposed costumers include:

- Martingale Commons
- Seven J's Industrial Complex
- Martin County Sheriff's Firearms Range
- Martin County Utilities Solid Waste Transfer Facility

County has previously requested the services of Holtz Consulting Engineers, Inc. (Consultant) to perform preliminary and final design, permitting, and contractor bidding services for water distribution and wastewater collection systems to these users for water services and from these customers to an existing lift station for the wastewater services. Consultant also designed improvements to the existing Lift Station No. 540. During the hydraulic modeling and design process, it was determined that increasing the capacity and reliability of Lift Station No. 540 would also be beneficial. The construction of a new discharge force main from Lift Station No. 540 to the Martin Downs In-Line Booster Pump Station would improve capacity and system reliability by providing a second crossing under Florida's Turnpike.

County has requested the services of Holtz Consulting Engineers, Inc. (Consultant) to provide professional engineering services for wastewater transmission improvements located at the discharge of Lift Station No. 540. Consultant shall perform hydraulic modeling and analysis, surveying, underground utility locating, final design services, and permitting services as part of the Work.

The following is a detailed description of the engineering services to be provided.

SECTION 1 – SCOPE OF SERVICES

A. Hydraulic Modeling and Technical memorandum

Consultant will update the WaterGEMS wastewater hydraulic model developed under a separate agreement to include the analysis of potential future flows to the existing Lift Station No. 540

and potential lift station discharge force main upgrades necessary to accommodate the increased flows. The analysis will include potential discharge force main improvements including:

- A new force main located in the SW Cargo Way right-of-way, crossing Florida's Turnpike and connecting to the Martin Downs In-line Booster Pump Station influent force main located in the Sands Trail right-of-way.
- Installing a parallel force main between Lift Station No. 540 and the existing force main crossing beneath Florida's Turnpike.
- Increasing the size of the existing force main crossing beneath Florida's Turnpike.

The analysis will evaluate the flow that can be accommodated for each alternative improvement, velocities in pipelines at existing and future flow conditions, the effects of various improvements on future reliability and redundancy of the wastewater transmission system, and the cost effectiveness of the options.

The Technical Memorandum (TM) developed under a separate agreement will be updated to include the selected wastewater transmission system improvements based on the analysis described above. This TM will be used for permitting of wastewater transmission system improvements.

B. Survey Services

Consultant shall contract with Betsy Lindsay, Inc. to perform a route survey. This task will include:

- Establish horizontal control tied to state plane coordinates NAD 83/99. Establish vertical control referenced to NAVD88 and set two onsite benchmarks.
- Prepare a base map from record data supplied by the client. Search for local control to support the placement of the right of way and parcel lines in state plane corridor.
- Perform a topographic survey of south half of the Cargo Way. The topographic survey shall collect spot elevations on a 200-foot grid generally located from the centerline of Cargo Way (including the gravity sewer system) to the south right-of-way line.
- Perform a topographic survey crossing the Turnpike. Spot elevations on a 50-foot grid located on a 200-foot wide area across the Turnpike and extending 75 feet to the east of the curve in Sands Trail.
- The survey will locate above-grade improvements and any surface evidence of below-grade utilities and structures as well as all flagged utilities. The inverts of the gravity manholes located along Cargo Way. Right-of-ways lines, tract lines, and easements within the survey area will be depicted on the survey.

- Right-of-ways lines, tract lines, and easements within the survey area will be depicted on the survey.
- Submit for a General Use permit through One Stop Permitting for access onto the Turnpike.
- Acquire a cross section of the ditch/canal located west of LS 540 and the north invert in the LS 540 wet well.
- Prepare a sketch and legal description of a utility easement running easterly from the end of the right-of-way of Cargo Way to the westerly right-of-way like of the Turnpike.

C. Underground Utility Locating Services

HCE contract with Blood Hound, LLC, an underground utility location company, to conduct vacuum-excavated test holes and/or perform hand digging to locate existing fiber optic and gas transmission utilities to be crossed over/under by the proposed water and force mains located generally along State Road 714, 84th Avenue, SW Busch Street, Citrus Boulevard, and the Florida's Turnpike. Approximately twenty-eight (28) test holes will be performed. The test hole data will be used to coordinate agreements with Florida Gas. The work shall include the following:

- HCE will coordinate with Blood Hound, LLC staff to ensure they are fully knowledgeable of the locations that the proposed construction will occur and where existing utility locations are important for the design documents.
- Task includes utilizing EM and real-time GPR locating equipment to locate the pertinent underground utilities.
- Task includes exposing the top of the pertinent underground lines using soft dig (pothole, vacuum exaction, etc.) methods. The elevation, location, diameter and type of material will be determined via the utility soft digs.
- It is estimated that this Task will take three (3) full days of on-site EM and GPR work and seven (7) full days of pothole excavation work to physically locate pertinent utilities.
- A drawing will be developed that provides the horizontal location, depth, diameter, piping material and pipe fill of the pertinent utilities for use in the final design documents. Photos of all utility locates will also be taken.

D. Final Design Services

Consultant shall prepare drawings depicting the construction of a new 8-inch diameter force main from Lift Station No. 540, running east along the south side of SW Cargo Way, crossing beneath Florida's Turnpike and connecting to an existing 16-inch force main located in the Sands Trail right-of-way. The force main located in the SW Cargo Way right-of-way will be designed to be constructed via the open-cut method while the portion of the force main crossing beneath Florida's Turnpike will be designed to be installed via the horizontal directional drill method. The force main installed via the open-cut method will be PVC while the directional drill portions will be constructed of HDPE and will include both a carrier and casing pipe.

The drawings will depict the pipe work in plan view on a 1"=30' horizontal scale. A profile will be developed for the horizontal direction drill beneath Florida's Turnpike. The drawings will be incorporated into design drawings being prepared for water and force main improvements under a separate agreement. The specifications being prepared under a separate agreement will be utilized and no additional specifications will be prepared for this design.

Consultant shall prepare and submit 90-percent and final drawings. Consultant will meet with County to review and address County's comments on the 90-percent design submittal and make appropriate changes. Consultant shall prepare cost estimates with the 90-percent and final design phase submittals.

E. Permitting Services

Consultant shall prepare a permit application to construct force main improvements in the Florida's Turnpike right-of-way. Consultant shall attend pre-application meetings with the Florida's Turnpike Enterprise. Consultant shall respond to requests for additional information (RAIs). Permit fees will be paid by County.

SECTION 2 – OBLIGATION OF COUNTY

To assist in meeting the schedule and budget estimates contained in this Agreement, County will provide the following:

1. Record drawings of existing utilities.
2. Prompt review and comment on deliverables.
3. Attendance of key personnel at meetings.
4. All permit application fees.

SECTION 3 - DELIVERABLES

The following deliverables will be provided to County:

1. Technical Memorandum in PDF and paper formats.
2. 90-percent and final plans. Paper copies and digital copies in PDF, Microsoft Word and AutoCAD Version 2017 will be submitted.
3. Copies of Permit Applications and RAI responses.
4. Cost estimates with the 90-percent and final design documents.

SECTION 4 – COMPENSATION

Professional fees for Agreement between County and Consultant to provide professional services shall be paid in accordance with the following schedule and are on a lump sum basis. Monthly progress payments shall be based on the percentage of work completed.

COMPENSATION FOR PROFESSIONAL SERVICES

TASK	TOTAL COST
Task A – Hydraulic Modeling and Technical Memorandum	\$8,120
Task B – Survey Services	\$7,770
Task C – Underground Utility Locating Services	\$21,620
Task D – Final Design Services	\$19,800
Task E – Permitting Services	\$2,510
TOTAL	\$59,820

SECTION 5 – SCHEDULE

Time periods to perform the professional services are estimated as follows:

SCHEDULE FOR PROFESSIONAL SERVICES

TASK	DURATION	Time from NTP
Task A – Hydraulic Modeling and		
Technical Memorandum	4 Weeks	4 Weeks
Task B – Survey Services	4 Weeks	4 Weeks
Task C – Underground Utility Locating Services	4 Weeks	4 Weeks
Task D – Final Design Services		
90-Percent Design Submittal	4 Weeks	8 Weeks
Final Design Submittal	2 Weeks	10 Weeks
Task E – Permitting Services (Submit at the 90-Percent Stage)	4 Weeks	8 Weeks

**This schedule assumes a one-week review time by County of all deliverables*

EXHIBIT B

SCHEDULE OF HOURLY BILLING RATES

The rates and charges outlined below are used for billing of services on time and expenses projects and are used to develop compensation amounts of lump sum projects. These rates are effective for one year from the date of the Agreement and shall be adjusted annually.

1. HCE Rates

Principal / Associate	\$ 180
Senior Engineer / Manager	\$ 160
Project Engineer / Manager (PE)	\$ 120
Construction Manager	\$ 120
Project Engineer (EI)	\$ 105
Designer/AutoCAD	\$ 95
Administrative Assistant	\$ 55

A. Subconsultants will be billed at cost plus 10%.

B. Mileage for authorized travel shall be invoiced at the current IRS rate.

Reimbursable expenses including mileage shall be pre-approved by the County.

Martin County Utilities
MCU Western Corridor Sewer Main Improvements from Lift Station No. 540
Summary of Estimated Hours and Cost by Task

TASKS	HCE Hours and Cost by Task													Subconsultants	Sub Mark up (10%)	Total
	Principal	Rate	Senior Engineer (PE)	Rate	Construction Inspector	Rate	Project Engineer (EI)	Rate	Designer	Rate	Administrative Assistant	Rate	Total Labor			
A. Hydraulic Modeling and Analysis Services																
Additional Wastewater Hydraulic Modeling	2	\$180	16	\$160	0	\$120	32	\$105	0	\$95	0	\$55	\$6,280	\$0	\$0	\$6,280
Revise Technical Memorandum	2	\$180	4	\$160	0	\$120	8	\$105	0	\$95	0	\$55	\$1,840	\$0	\$0	\$1,840
Subtotal Task A	4	\$180	20	\$160	0	\$120	40	\$105	0	\$95	0	\$55	\$8,120	\$0	\$0	\$8,120
B. Survey Services																
Coordiation with Sub and Field Truth Survey	0	\$180	2	\$160	0	\$120	8	\$105	4	\$95	0	\$55	\$1,540	\$0	\$0	\$1,540
Survey Subconsultant (Betsy Lindsay)	0	\$180	0	\$160	0	\$120	0	\$105	0	\$95	0	\$55	\$0	\$6,230	\$0	\$6,230
Subtotal Task B	0	\$180	2	\$160	0	\$120	8	\$105	4	\$95	0	\$55	\$1,540	\$6,230	\$0	\$7,770
C. Underground Utility Locating Services																
Coordiation with Sub and Field Assistance	0	\$180	4	\$160	0	\$120	16	\$105	8	\$95	0	\$55	\$3,080	\$0	\$0	\$3,080
Utility Locating Subconsultant (Blood Hound)	0	\$180	0	\$160	0	\$120	0	\$105	0	\$95	0	\$55	\$0	\$18,540	\$0	\$18,540
Subtotal Task C	0	\$180	4	\$160	0	\$120	16	\$105	8	\$95	0	\$55	\$3,080	\$18,540	\$0	\$21,620
D. Final Design Services																
Develop Base Drawings	0	\$180	0	\$160	0	\$120	2	\$105	8	\$95	0	\$55	\$970	\$0	\$0	\$970
90% Wastewater Civil Drawings	0	\$180	12	\$160	0	\$120	24	\$105	60	\$95	0	\$55	\$10,140	\$0	\$0	\$10,140
90% Cost Estimates	1	\$180	2	\$160	0	\$120	4	\$105	0	\$95	0	\$55	\$920	\$0	\$0	\$920
90% QA/QC	2	\$180	4	\$160	0	\$120	1	\$105	1	\$95	0	\$55	\$1,200	\$0	\$0	\$1,200
100% Wastewater Civil Drawings	2	\$180	6	\$160	0	\$120	12	\$105	24	\$95	0	\$55	\$4,860	\$0	\$0	\$4,860
100% Cost Estimates	1	\$180	2	\$160	0	\$120	2	\$105	0	\$95	0	\$55	\$710	\$0	\$0	\$710
100% QA/QC	2	\$180	4	\$160	0	\$120	0	\$105	0	\$95	0	\$55	\$1,000	\$0	\$0	\$1,000
Subtotal Task D	8	\$180	30	\$160	0	\$120	45	\$105	93	\$95	0	\$55	\$19,800	\$0	\$0	\$19,800
E. Permitting Services																
Pre-Application Meeting with Turnpike Authority	0	\$180	2	\$160	0	\$120	2	\$105	0	\$95	0	\$55	\$530	\$0	\$0	\$530
Prepare and Submit Permit Application to Turnpike Authority	1	\$180	4	\$160	0	\$120	4	\$105	2	\$95	0	\$55	\$1,430	\$0	\$0	\$1,430
Response to RAI	1	\$180	1	\$160	0	\$120	2	\$105	0	\$95	0	\$55	\$550	\$0	\$0	\$550
Subtotal Task E	2	\$180	7	\$160	0	\$120	8	\$105	2	\$95	0	\$55	\$2,510	\$0	\$0	\$2,510
TOTAL	14	\$180	63	\$160	0	\$120	117	\$105	107	\$95	0	\$55	\$35,050	\$24,770	\$0	\$59,820