

Loxahatchee River District

Water Reclamation | Environmental Education | River Restoration

2500 Jupiter Park Drive, Jupiter, Florida 33458

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D. Albrey Arrington, Ph.D., Executive Director



MEMORANDUM

TO: D. ALBREY ARRINGTON, Ph.D.
Executive Director

FROM: CLINTON R. YERKES
Deputy Executive Director

DATE: APRIL 11, 2016

SUBJECT: TURTLE CREEK-NORTH END- SUBSYSTEM 3
Engineering Services for Low Pressure System

Holtz Consulting Engineers recently completed a preliminary engineering report for the remaining areas of Turtle Creek that have not been sewered. The report provided review of feasibility and probable cost estimates for use of low pressure vs. gravity systems, maximizing the use of gravity and minimizing costs.

Accordingly, it is clear from the report that low pressure is the preferred method of service for this area, with an estimated assessment cost in the area of \$10,000.00.

The attached Work Authorization will provide services for survey, detailed design, permitting, bidding, and part time construction services.

Martin County Engineering Dept. has indicated a desire to have this work completed as soon as possible, to perform road work throughout the development. We are working closely to coordinate our mutual activities.

The following motion is suggested for approval:

“THAT THE DISTRICT GOVERNING BOARD authorize approval of the Agreement with Holtz Consulting Engineers, Inc., for the Turtle Creek-North End-Subsystem 3 Low Pressure Force Main System, in accordance with their proposal dated March 28, 2016, and in the amount of \$74,409.00.

And

The Board authorizes a Contingency Amount of \$4,000.00.”

Thank you for your consideration of this matter and should you have any questions please contact me.

V:/cip/proj/turtle crk/Subsyst 3/Eng/Board Awrd memo

Stephen B. Rockoff
Board Member

Dr. Matt H. Rostock
Board Member

Gordon M. Boggie
Chairman

Harvey M. Silverman
Board Member

James D. Snyder
Board Member

**AGREEMENT BETWEEN
LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT AND
HOLTZ CONSULTING ENGINEERS, INC.
FOR PROFESSIONAL ENGINEERING SERVICES
TURTLE CREEK – NORTH END – SUBSYSTEM 3
LOW PRESSURE FORCE MAIN SYSTEM
WORK AUTHORIZATION: 2015-06**

BACKGROUND

This Agreement is for the performance of engineering services by Holtz Consulting Engineers, Inc. (HCE) pursuant to the Continuing Contract for Professional Engineering Services between Loxahatchee River District (District) and HCE dated February 4, 2015, hereafter referred to as the Contract.

This project includes the installation of a low-pressure wastewater collection system for fifty-two (52) existing residences along S.E. Turtle Creek Drive and Loggerhead Lane (Lots 1-3, 7, 11, 51-62, 64, 66, 68, 70, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, and 106 -120). The proposed low-pressure force main will be connected to an existing force main located on the east side of S.E. Country Club Drive. After construction is complete, homeowners will individually connect to the proposed low-pressure force main system, install the grinder pump station and control panel, and properly abandon their existing septic tank.

The design elements are assumed to include the following:

- Approximately 4,400 linear feet of 2-inch PVC low-pressure force main with service connections, cleanouts, valves and other appurtenances per District standards to be installed via open-cut methods along S.E. Turtle Creek Drive and Loggerhead Lane. The new force main will generally be installed on the opposite side of the road as any existing water mains. Final pipeline lengths may increase or decrease due to field conditions. It is proposed that all driveways will be crossed utilizing moling methods and any roadway crossings will be installed via horizontal directional drill.
- Connection of the proposed 2-inch low-pressure force main to the existing force main located on the east side of S.E. Loggerhead Lane.
- Restoration of all affected areas to existing conditions or better.

SCOPE OF WORK

The District has requested comprehensive engineering services from HCE to provide surveying, engineering design, permitting, bidding assistance, and services during construction related to the Rolling Green Road low-pressure force main system project. Specific tasks include the following:

1. Task 1 – Surveying Services
2. Task 2 – Engineering Design Services
3. Task 3 – Permitting Services
4. Task 4 – Bidding Services
5. Task 5 – Engineering Services during Construction
6. Task 6 – Utility Locates Allowance

TASK 1 – SURVEYING SERVICES

HCE shall furnish the services of Lidberg Land Surveying, Inc. to provide survey services consisting of field topography and horizontal locations referenced by baseline stationing. Lidberg Land Surveying will prepare a route survey for the proposed low-pressure force main along S.E. Turtle Creek Drive and Loggerhead Lane fronting Lots 1-35, Block 1; Lots 1-6, Block 2 and Lots 1-13, Block 3, all as shown on the plat of Turtle Creek Village recorded in Plat Book 4, page 93, Public Records of Martin County, Florida. The survey will be in State Plane Coordinates, North American Datum of 1983 and will be based on the recorded deeds for each parcel. Each parcel will show the owners name and address. The survey will depict the location of pavement, driveways, sidewalks, curbs, walls, visible above-ground utilities, and large specimen trees. Cross sections will be obtained at 50-foot intervals, with additional elevations at any intermediate changes in grade and will extend 10 feet into the parcels adjacent to the right-of-way, and will be referenced to National Geodetic Vertical Datum of 1929 (NGVD 29). The survey will include the top and invert elevations for any storm drainage and sanitary sewer structure, along with the respective pipe sizes and materials. Permanent benchmarks will be established at 600-foot intervals and a survey baseline will be established for this project.

TASK 2 – DESIGN SERVICES

HCE shall prepare detailed drawings and specifications depicting the installation of the proposed 2-inch PVC low-pressure force main system and service connections to be installed via open-cut methods and the connection to the existing force main on the east side of S.E. Loggerhead Lane. Work will include a preliminary hydraulic evaluation to confirm the size of the low-pressure force main, and the preparation of drawings and specifications for the construction of the work. HCE will coordinate a kick-off meeting, make site visits, and attend meetings as required. HCE shall prepare engineer's opinion of probable cost of construction at the 30% submittal and at the completion of the design.

Approximately ten (10) design drawings will be provided for this project. The preliminary drawing list is as follows:

- G-1 Cover and Index
- G-2 Legend and General Notes
- G-3 Key Sheet

- P-1 Low Pressure Force Main Plan View 1
- P-2 Low Pressure Force Main Plan View 2
- P-3 Low Pressure Force Main Plan View 3
- P-4 Low Pressure Force Main Plan View 4
- P-5 Low Pressure Force Main Plan View 5
- D-1 Details Sheet 1
- D-2 Details Sheet 2

Engineer shall prepare the following submittals:

- 30% site plan and pipe layout and hydraulic evaluation for approval by LRD staff.
- 90% plans and specifications incorporating LRD's comments on the 30% submittal.
- 100% plans and specifications incorporating LRD's comments on the 90% submittal for public bidding.
- Engineer's opinion of probable construction cost with the 30% submittal and with the 100% submittal based on the final bidding documents.

TASK 3 – PERMITTING SERVICES

HCE shall prepare permit applications for construction of the low-pressure force main for submittal to the following agencies at the same time as the 90% design submittal, after incorporating comments on the 30% submittal. Permit fees will be paid by LRD. HCE will respond to requests for information (RFIs) from the permitting agencies:

- Florida Department of Environmental Protection (FDEP) – Notification / Application for Constructing a Domestic Wastewater Collection / Transmission System

HCE will coordinate with the FDEP during the review process on a regular basis in an effort to keep the project on schedule and respond to their review comments.

HCE will also coordinate with the Contractor and Martin County Engineering and provide documents as needed to assist the Contractor in procuring a Martin County Right-of-Way Use Permit.

TASK 4 – BIDDING SERVICES

HCE will perform, as required by LRD, the following services during the bidding or negotiating phase of the Project:

1. Prepare bid documents.
2. Conduct a pre-bid meeting and site visit and issue meeting minutes to all plan holders.

3. Respond to questions bidders may have concerning the bid documents and issue addenda as necessary to clarify the bid documents.
4. Attend the bid opening and prepare the bid tabulation form.
5. Evaluate bids and prepare a recommendation of award

TASK 5 – ENGINEERING SERVICES DURING CONSTRUCTION

During the construction phase of the Project, HCE will provide the following services:

1. Conduct the pre-construction meeting with the Contractor, and other interested parties, and issue meeting minutes.
2. Review and comment on submittals submitted by the Contractor. Assumed a total of 14 submittals by the Contractor (Preconstruction video, SCH 40 PVC low-pressure force main pipe, PVC fittings, curb stops/isolation valves, valve boxes, ball valves, check valves, EMS markers, brass ball valves, CDR box, air release valve, brass fittings, tapping saddle, and schedule of values).
3. Provide the Contractor with clarifications concerning questions about the Contract Documents and respond to requests for information.
4. Review quantities and payment application after review and approval by the field inspector and make the recommendations necessary for the approval or rejection of the Contractor's monthly payment applications. A total of four requests are assumed.
5. Review contractor's claims and prepare change orders as necessary.
6. Review and comment on the Record Drawings submitted by the Contractor.
7. Provide periodic visits to the project site to determine that the project is being constructed in substantial conformance with the permitted drawings to certify completion of construction to the FDEP and evaluate the Contractor's compliance with the Contract Documents (approximately 8 weeks of actual construction and an average of 15 hours per week of site visits by the Construction Inspector and 3 hours per week by the Engineer to monitor compliance with the design intent, permit, and contract requirements).
8. Verify that the work has progressed to the substantial completion point in accordance with the Contract Documents. The Engineer will inspect the completed work in a project walk-through and prepare a punch list of items remaining to be completed which will be attached to the certificate of substantial completion.
9. Verify that the work items identified on the punch list prepared under Item 8 above and all other Work identified as being incomplete have been completed in accordance with the Contract Documents. The Engineer will ensure all final punch lists are satisfactorily completed prior to approval of the Contractor's Final Payment Request.
10. Submit the required information for the closing out of the permits.

TASK 6 – UTILITY LOCATES ALLOWANCE

Lidberg Land Surveying will contract with Ground Hound Detection Services for the existing buried utilities marked and flagged.

DELIVERABLES

TASK	DELIVERABLE	QUANTITY
Task 2 – Engineering Design Services	30% Plans and Hydraulic Evaluation	2 Sets of each (24" x 36" Plans)
	90% Plans & Specifications	2 Sets (24" x 36" Plans)
	100% Plans & Specifications	2 Sets (24" x 36" Plans)
	Construction Cost Estimates	2 Copies
Task 3 – Permitting Services	Permit Application (FDEP)	2 Sets of the Permit Application
Task 4 – Bidding Services	Bidding Documents	2 Sets (24" x 36" Plans) and Full Size PDF. Word and PDF of Contract Documents As Required
	Addendum	
Task 5 – Engineering Services during Construction	Contract Documents	2 Sets (24" x 36" Plans) and PDF for LRD
		3 Sets (24" x 36" Plans) and PDF for the Contractor

TIME OF COMPLETION

HCE shall complete the project as outlined below in the project schedule.

- Task 1 – Surveying Services – 10 weeks from Notice to Proceed (NTP)
- Task 2 – Engineering Design Services
 - 30% plans – 4 weeks from receipt of Survey.
 - 90% plans and specifications – 10 weeks from receipt of comments from LRD staff on the 30% submittal.
 - 100% plans and specifications – 4 weeks from receipt of comments from LRD staff on the 90% submittal.
- Task 3 – Permitting Services – 10 weeks from receipt of comments from LRD staff on the 30% submittal. Signed and sealed plans of the 90% plans will be provided as required to the permitting agencies.
- Task 4 – Bidding Services – 2 months from advertisement.
- Task 5 – 20 weeks from Contractor's NTP.

SCHEDULE OF FEES

Proposed labor costs for engineering services (Lump Sum (LS) & Time Expense (T&E)) are tabulated below and detailed in Attachment A.

TASK	ENGINEERING FEE
Task 1 – Surveying Services	\$15,541 (LS)
Task 2 – Engineering Design Services	\$27,220 (LS)
Task 3 – Permitting Services	\$1,800 (LS)
Task 4 – Bidding Services	\$2,233 (LS)
Task 5 – Engineering Services during Construction	\$23,935 (T&E)
Task 6 – Utility Locates Allowance	\$3,680 (T&E)
TOTAL	\$74,409

ASSUMPTIONS

1. All permit fees will be paid for by LRD.
2. Construction compaction and materials testing shall be the responsibility of the Contractor.


This Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

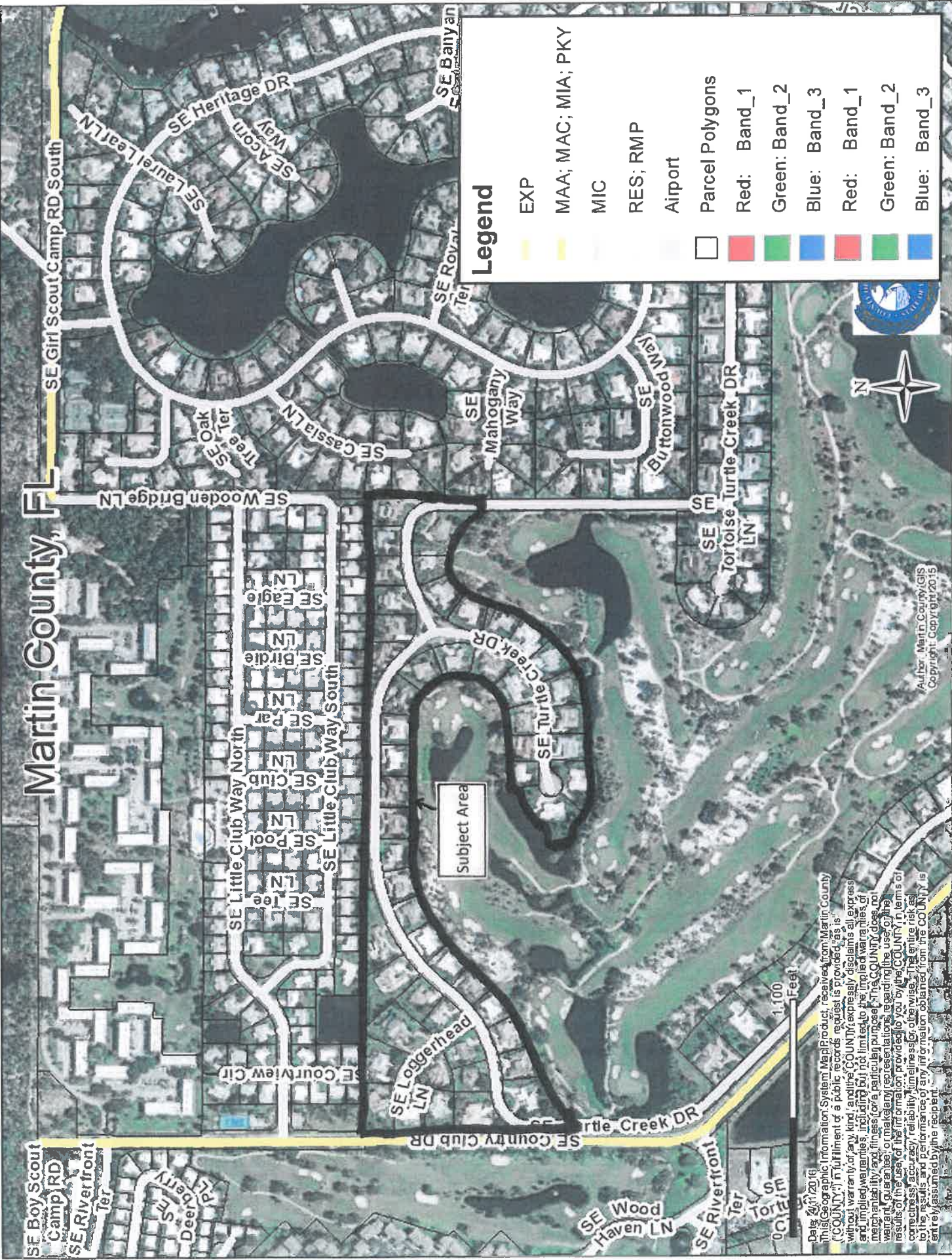
By: _____
D. Albrey Arrington, Ph.D., Executive Director

Date

HOLTZ CONSULTING ENGINEERS, INC.

By: 
Andrea Holtz, PE, President

3/28/16
Date



Martin County, FL

Legend

- EXP
- MAA; MAC; MIA; PKY
- MIC
- RES; RMP
- Airport
- Parcel Polygons
- Red: Band_1
- Green: Band_2
- Blue: Band_3
- Red: Band_1
- Green: Band_2
- Blue: Band_3



Author: Martin County GIS
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Data: 2/11/2016
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