

CITY OF DELRAY BEACH
CONSULTING SERVICE AUTHORIZATION

DATE: _____

SERVICE AUTHORIZATION NO. _____ 12-34 _____ FOR CONSULTING SERVICES

CITY P.O. NO. _____ CITY EXPENSE CODE: _____ 442-5178-536.61-36 _____

CITY PROJECT NO. _____ 17-156 _____ MATHEWS CONSULT. PROJECT NO. _____

TITLE: _____ Water Main Subaqueous Crossings _____

This Service Authorization, when executed, shall be incorporated in and shall become an integral part of the Contract.

TITLE: _____ Agreement for General Consulting Services _____

I. PROJECT DESCRIPTION

The City of Delray currently has three (3) existing subaqueous 12" water main crossings within the City limits. Recently, the City has experienced a pipe break at one of these 12" water main subaqueous crossings and the pipe is undergoing emergency patchwork to fix the problem. Based on available as-built drawings, these three (3) existing subaqueous water main crossings are between 35-40 years old. The City desires to replace these three (3) subaqueous crossings with new directionally drilled HDPE pipes due to the age of the existing pipes and the recent break.

The Scope of this Service Authorization includes, but is not limited to, providing engineering design, permitting, surveying, geotechnical investigations, utility locates (e.g. soft digs) and bidding services for the Water Main Subaqueous Crossings - project limits are shown in Exhibit 1. Project components consist of:

- Water Main replacement (approximately 2,710 LF of 12" WM) across the Intracoastal Waterway at the following locations:
 - NE 4th Street to Beach Drive; approximately 950 ft.
 - SE 8th Street to Bauhinia Road; approximately 780 ft.
 - Dogwood Drive to State Road A.1.A; approximately 980 ft.
- Connections will be made to the existing water mains in the project area.
- The new water mains will be directionally drilled across the Intracoastal Waterway.
- Roadway restoration will consist of pavement trench repair and 1-inch mill & 1-inch overlay.
- The existing 12" subaqueous water mains will be cut and capped on each end and abandoned in place.

II. SCOPE OF SERVICES

Phase I – Study and Report Phase

Not Applicable.

Phase II – Preliminary Design Phase

Not Applicable.

Phase III – Final Design Phase

Consultant shall provide final design phase services in accordance with Article III.C of the Agreement for Engineering Services with the City, dated January 24, 2012.

1. **Field Investigation:** Field reconnaissance of the proposed pipeline alignments shall be performed. Photograph log walk-through will be included. In addition, potential underground existing utilities will be identified.
2. **Utility Coordination:** Coordination with utility agencies (electric, phone, gas, and cable TV) shall be performed to collect record information. This Subtask includes reconciling apparent discrepancies between record information and existing photographic and field-verification information.
3. **Design Drawings:** Consultant shall prepare construction drawings which shall include: cover sheet, general notes, civil plan/profile drawings, and detail sheets conforming to the requirements of the current City of Delray Beach Minimum Construction Standards. The drawing scale shall be 1" = 20' for plan and 1" = 2' for profile. Consultant shall prepare the engineering design elements on topographic survey information prepared by Consultant's surveyor using AutoCAD Release 2016 format and available As-Built Drawings. Consultant shall coordinate with the City in order to design the proposed water mains in accordance with the requirements and design standards of the City. Drawings (two copies) shall be submitted for City review at 30% (plan view only), 60% (plan/profile) and 100% Stages (plan/profile).

The design shall follow the requirements of the U.S. Army Corps of Engineers for "*Subaqueous Utility and Transmission Lines in Florida*", and requirements for directional drilling.

4. **Specifications:** Contract documents consisting of "front-end" documents and technical specifications shall be prepared and shall conform to City of Delray Beach Standards and the FDOT Standard Specifications for road and bridgework. Specifications (two copies) shall be submitted for City review at the 60% and 100% stages.
5. **Cost Estimate:** At the 30%, 60% and 100% stages, Consultant shall prepare a detailed opinion of probable construction cost based upon the level of design

drawings and specifications approved by the City. The cost opinion shall reflect changes in general scope, extent or character of design requirements incorporated during the various design review stages. Opinion of probable construction cost (two copies) shall be submitted for City review at the 30%, 60% and 100% stages.

6. **Meetings:** Consultant shall attend kick-off meeting and three (3) design meetings with the City and provide written summary of the issues discussed.
7. **QA/QC:** Consultant shall provide internal QA/QC reviews on the 30%, 60% and 100% Design Documents (e.g. drawings, specifications and cost estimates).

Phase IV – Bidding/Negotiation Phase

Consultant shall provide bidding phase services in accordance with Article III.D of the Agreement for Engineering Services with the City, dated January 24, 2012.

1. **Bid Advertisement:** Consultant shall assist City in advertising for and obtaining bids or negotiating proposals for construction (including materials, equipment and labor). It is anticipated that work shall be awarded under a single construction contract. The City shall receive and process deposits for bidding documents and shall maintain a record of prospective bidders to whom bidding documents have been issued.
2. **Demand Star Bid Submittal:** Consultant shall furnish the bidding information to the City in electronic format to be used in conjunction with “Demand Star”.
3. **Pre-Bid Conference:** Consultant shall attend pre-bid conference.
4. **Bid Clarification:** Consultant shall provide supplemental information or clarification, as appropriate, to interpret, clarify, or expand the bidding documents to all prospective bidders during the bid period.
5. **Contract Award:** Consultant shall attend the bid opening, prepare bid tabulation sheets and assist City in evaluating bids and proposals, and in assembling and awarding contract for construction. Consultant shall submit to City a written recommendation concerning contract award.
6. **Final Deliverable:** After Contract Award, Consultant shall furnish the As-Bid design drawings, one (1) set of AutoCAD (Version 2016) files and one (1) set of pdf files in electronic format on CD. Consultant shall also provide one hard copy only of the Contract Documents (i.e. front-ends and technical specifications).

Other – Permitting

At the outset of the Design Phase, the Consultant shall meet with the appropriate permitting agencies to determine potential permitting requirements. Agencies anticipated to have jurisdiction over the project include:

- Palm Beach County Health Department (PBCHD)

- Florida Department of Environmental Protection (FDEP) / South Florida Water Management District (SFWMD) / Army Corps of Engineers (ACOE)
- FDOT (A.1.A. is a State Road)

Permit applications shall be completed for each of the above permitting agencies. Associated permit application fees shall be determined by MC and paid by the City. Three (3) separate permits each may be required for PBCHD and FDEP due to distance between each project site. Three (3) separate permits will be required for ACOE as each easement will need to be permitted separately. One (1) permit will be required from FDOT for the southernmost project location crossing from Dogwood Drive to S.R. A.1.A. Services do not include preparing permit application for SFWMD construction dewatering permit (Contractor will be required to secure this permit if needed for construction).

In addition to preparing the permit applications for the appropriate regulatory agencies, Consultant shall assist the City in consultations with the appropriate authorities. Consultation services shall include the following:

- Attend up to one (1) pre-application meeting with the staff of each of the regulatory agencies.
- Attend up to one (1) meeting with each of the regulatory agencies during review of the final permit applications.
- Respond to request(s) for additional information from each regulatory agency.

FDEP Permitting

MC shall prepare and submit FDEP permit application to “Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs.” The FDEP permit shall be submitted to the Palm Beach County Health Department for review and approval.

FDEP/SFWMD/ACOE Permitting

MC shall prepare and submit Florida Department of Environmental Protection / Water Management Districts / U.S. Army Corps of Engineers (ACOE) “Joint Application for Environmental Resource Permit / Authorization to use Sovereign Submerged Lands / Federal Dredge and Fill Permit”.

FDOT Permitting

MC shall prepare and submit FDOT Utility R-O-W Permit for work within S.R. A.1.A. R-O-W.

Other – Geotechnical

Consultant shall furnish the services of a professional geotechnical engineer to provide subsurface investigations of the project area that will include:

- Perform up to six (6) standard penetration test (SPT) borings to an average depth of fifty (50) feet. Evaluate field data collected and provide geotechnical engineering evaluation report.

Other – Survey

Consultant shall furnish the services of a professional surveyor to provide survey services consisting of field topography and horizontal locations referenced by baseline stationing. The control will be referenced from the Palm Beach County Control Network which is the North American Datum of 1983 and the 1990 adjustment for horizontal control and the National Geodetic Vertical Datum of 1929 for vertical control. All existing facilities and utilities within the established project limits will be referenced by baseline station with an offset distance (left or right) from baseline for the project and will include the following:

1. Topography survey at 100-foot intervals and at major ground elevation changes to depict existing ground profile at proposed project area. This shall be accomplished by creating a baseline in the field to collect pertinent data which shall include the following:
 - a. Location of all visible fixed improvements within the project limits, including physical objects, roadway pavement, railway tracks, canals, driveways, sidewalks, curb, trees, signs, fences, power poles, buildings, and other encumbrances, including point of curvature and point of tangency.
 - b. Location of all known above and below ground existing utilities: FP&L, BellSouth, Cable TV, Natural Gas, Potable Water (pipe diameter, TOP, valves, fire hydrants, and meters), Reclaimed Water Mains (pipe diameter, TOP and valves), Force Mains (pipe diameter, TOP, and valves), Sanitary Sewer (pipe diameter, manhole inverts and direction, rim elevations, laterals, and clean-outs), Storm Sewers (pipe diameter, manhole inverts and direction, catch basins, and rim/grate elevations), and **all** other accessible structures. This will include coordination with Sunshine and City of Delray Beach. Underground piping shall be pot-holed by City in a timely fashion.
 - c. Identify platted rights-of-way (including bearing and distances for centerline), lot numbers, house address, ownership lines, block numbers and dedicated easements.
 - d. Elevations shall be indicated every 100 feet, at a minimum, to indicate centerline grades, edge of pavement grades, and shoulder grades, low points, railway ditch bottoms, and all right-of-way lines. Intermediate grades shall be indicated at all grade breaks, driveways and sidewalks. Sufficient grades shall be indicated on the driveways and parking areas to indicate direction of grade.
 - e. Provide and reference benchmarks at **maximum 600-foot intervals**. Elevations to be referenced to an existing established City or County Benchmark.

- The above topographical survey data will be prepared in AutoCAD (Version 2016) format at a scale of 1"=20', as one continuous file. The City of Delray Beach standard layering system shall be followed.
2. Sketch and descriptions for each of the three (3) Intracoastal Waterway crossings shall be obtained as required by the ACOE permitting process.

Other – Field Verification

Consultant shall furnish the services of a professional underground services company to provide underground field locations of affected existing utilities. The work shall consist of measuring and recording the approximate horizontal location of affected utilities within the project limits. It is anticipated that approximately forty-five (45) utility locations will need to be pot-holed.

Other – Utility Targeting

Consultant shall furnish the services of a professional underground services company to provide utility targeting of existing utilities. Utility designation and mapping will be performed along the identified roadways within the apparent ROW for the listed facilities: City of Delray Beach Water, Sewer, Stormwater, and Reclaimed Water; FPL; FPL FiberNet; Florida Public Gas Company; Comcast and AT&T. Conductive utilities shall be marked on the surface utilizing active geophysical prospecting techniques in conjunction with electromagnetic equipment utilizing passive radio and audio frequencies. Known non-conductive utilities and/or structure will be marked on the surface utilizing 2-d radar, above ground features, professional judgement, utility plats and/or as-builts.

ASSUMPTIONS

Work described herein is based upon the assumptions listed below. If conditions differ from those assumed in a manner that will affect schedule of Scope of Work, Consultant shall advise City in writing of the magnitude of the required adjustments. Changes in completion schedule or compensation to Consultant will be negotiated with City.

1. City will provide Consultant record drawings of all available existing facilities and proposed facilities, which shall serve as the basis of design in this project. The information will be provided to Consultant within 5 calendar days of NTP.
2. City personnel will assist in field verification of affected existing City facilities. This includes marking in field (in a timely manner) existing water mains, sanitary sewers & laterals, force mains, reclaimed water mains and drainage in the field for the Surveyor in a timely manner.
3. City will be responsible for acquisition of easements (including temporary), if required.

4. The design will include crossing the Intracoastal Waterway with the proposed pipelines. The pipelines will be designed based on utilizing directional drill construction methods for installation.
5. The scope and budget are based on the design, permitting and bidding of three (3) subaqueous water main crossings only. If additional underground utilities are added to the project, an Amendment to this Service Authorization will be executed for this work.
6. City is responsible for all permitting fees, including costs of public notification in local newspapers.
7. The Contract Documents will be prepared as a single contract. No pre-purchase of materials and/or equipment is presumed.
8. A single bidding effort is assumed. Re-bidding of the project is considered an Additional Services Item.
9. City will be responsible for preparation of any descriptions, sketches and acquisition of easements (including temporary construction easements) that may be required. Consultant will identify the location and dimensions of any easements or temporary construction easements required for use of the City to prepare the easement descriptions and deeds.
10. Contractor shall be responsible for obtaining SFWMD Dewatering Permit (if required).
11. The design is to be based on the federal, state and local codes and standards in effect at the beginning of the project. Revisions required for compliance with any subsequent changes to those regulations is considered an Additional Services Item not currently included in this Scope of Work.
12. Consultant assumes that there are no contaminated soils or groundwater in the project area.
13. Assisting the City in the settlement of construction claims is considered Additional Services.

ADDITIONAL SERVICES

Consultant shall provide additional engineering services relating to the provision of surveying, geotechnical, sanitary, water, reclaimed water, and drainage improvements to the project area that are not covered under this Service Authorization. These additional services may be required due to uncertainties discovered during survey, soils, investigations, field verification of existing facilities and conditions, and potential property or easement acquisitions.

Services performed under this task will be on as-directed basis in accordance with a written Notice-to-Proceed from the City Manager. The Notice-to-Proceed issued shall contain the following information and requirements.

- A detailed description of the work to be undertaken.
- A budget establishing the amount of the fee to be paid in accordance with the Agreement.
- A time established for completion of the work.

III. TIME OF PERFORMANCE

The completion dates for this work will be as follows (starting at written notice-to-proceed). Refer to *Attachment A* for project schedule.

<u>Engineering Services</u>	<u>Time per Phase</u>	<u>Cumulative Time</u>
Survey	8 weeks	8 weeks
Final Design	20 weeks	28 weeks
<i>Geotechnical</i> ⁽¹⁾		
<i>Field Verification</i> ⁽¹⁾		
Permitting ⁽²⁾	20 weeks	41 weeks
Bidding	12 weeks	53 weeks

⁽¹⁾*Geotechnical, Surveying, and Field Verification will be completed during Final Design Phase.*

⁽²⁾*Permitting duration will have overlap with Final Design Phase.*

* The schedule is based upon conducting a review meeting within 7 calendar days after the City receives the design submittal. All review comments shall be provided to Consultant within 7 calendar days after the City receives the submittal. An adjustment to the overall schedule will be required in case the review meeting takes longer to be conducted and/or obtaining comments takes longer to receive.

***All Tasks will be completed by November 30, 2018**

VI. COMPENSATION

The compensation for services provided shall be billed on an hourly basis plus reimbursable expenses for each phase of work in accordance with Article VII, Method II, up to the following not to exceed cost for each phase. Refer to *Attachment B* for budget summary.

<u>Engineering Services</u>	<u>Estimated Fees</u>
Phase III – Final Design Phase	\$ 56,347.00
Phase IV – Bidding Phase	\$ 5,002.00
Permitting	\$ 14,942.00
Surveying	\$ 39,513.00
Geotechnical	\$ 9,197.00
Field Verification	\$ 18,103.00
Utility Targeting	\$ 7,700.00
Out-of-Pocket Expenses	<u>\$ 1,500.00⁽¹⁾</u>
TOTAL PROJECT COST	\$152,304.00⁽²⁾

Notes:

⁽¹⁾*Out-of-Pocket Expenses include the following: printing/reproduction and postage.*

This Service Authorization is approved contingent upon the City's acceptance of and satisfaction of the completion of the services rendered in the previous phase whereas encompassed by the previous Service Authorization. If the City in its sole discretion is unsatisfied with the services provided in the previous phase or Service Authorization, the City may terminate the contract without incurring any further liability. The Consultant shall commence work upon City Commission approval and this Service Authorization to be included as part of the contract without any further notice to proceed.

Approve by:

CITY OF DELRAY BEACH:

MATHEWS CONSULTING, A
BAXTER & WOODMAN
COMPANY

Date: _____

Date: 6-1-17

Cary D. Glickstein, Mayor

[Signature]
David Mathews, P.E., Vice President

[Signature]
Witness

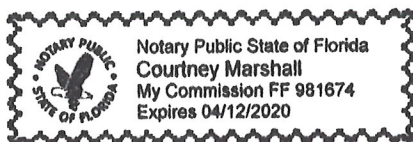
Attest:

R. Max Lohman, City Attorney

City Clerk

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 1 day of June, 2017 by David Mathews, Vice President of Mathews Consulting, a Baxter & Woodman Company, an Illinois corporation, on behalf of the corporation. He/She is personally known to me or (has produced identification), Florida Driver's License _____ and (did/did not) take an oath.



Courtney Marshall
Signature of person taking
Acknowledgement

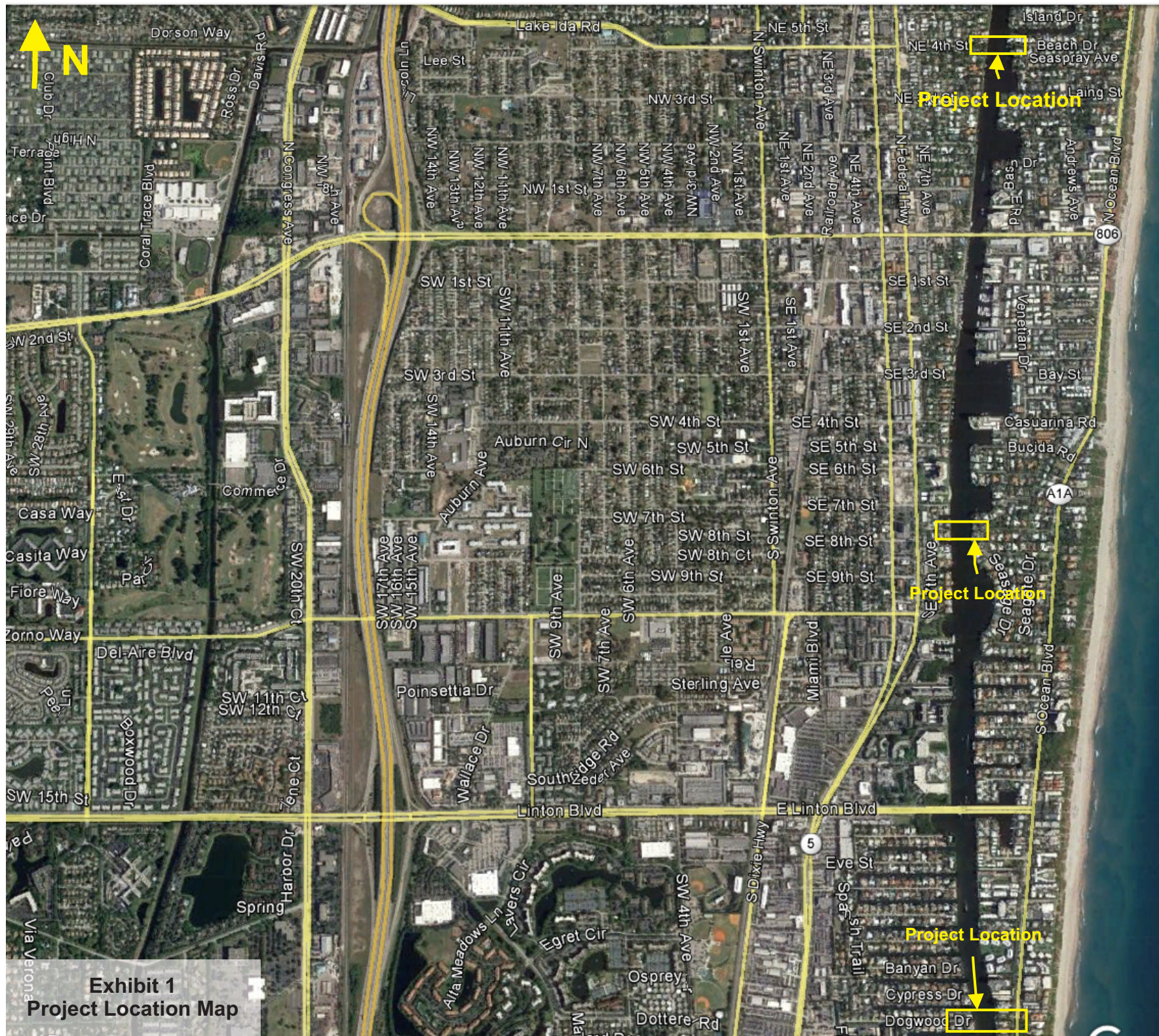
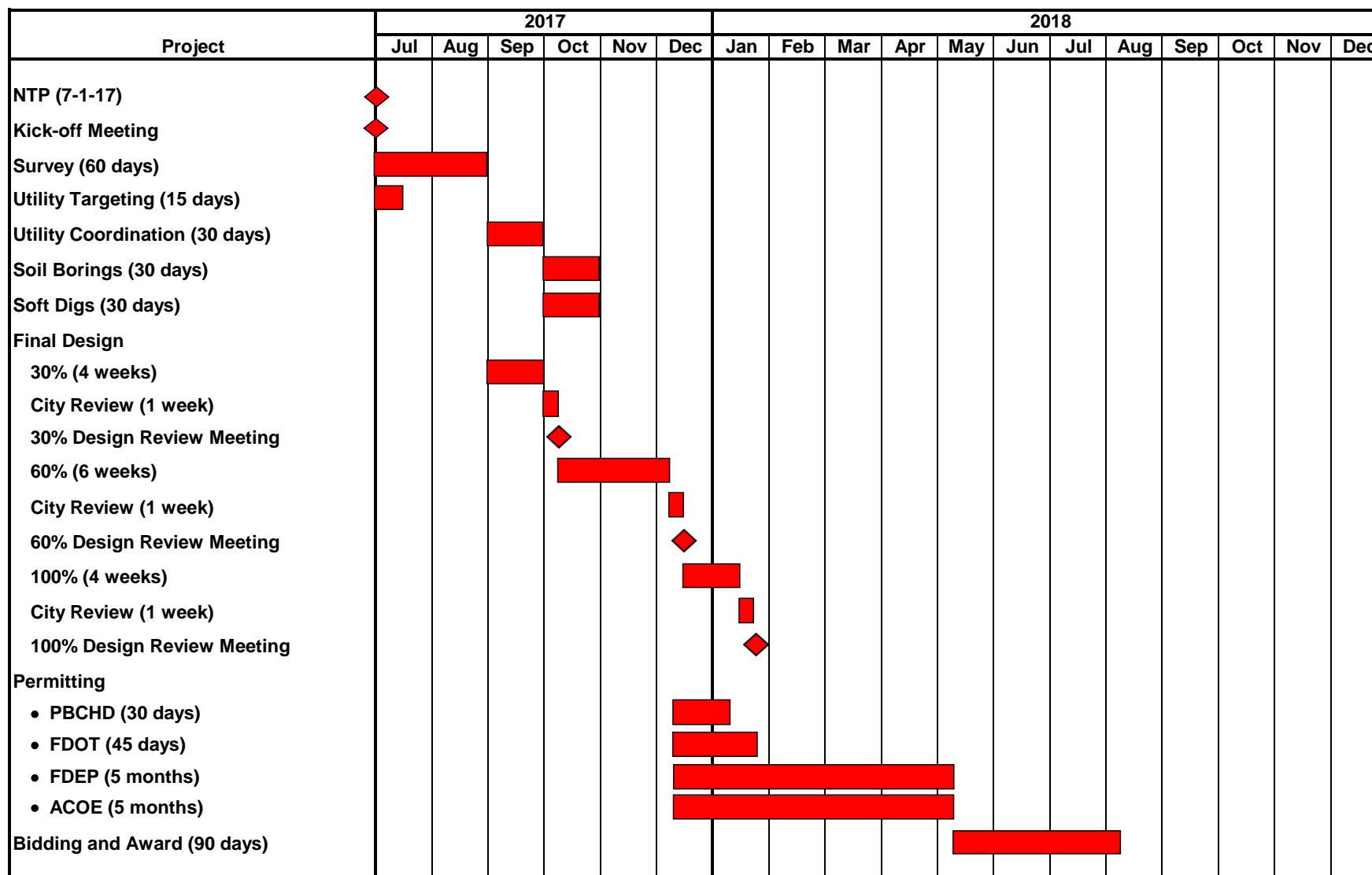


Exhibit 1
Project Location Map

Water Main Subaqueous Crossings - Project Schedule



ATTACHMENT B
City of Delray Beach Water Main Subaqueous Crossings

Budget Summary

Phase No.	Task Description	Labor Classification and Hourly Rates								
		Principal Engineer \$166.40	Senior Engineer \$144.86	Engineer I \$96.56	Senior Construction Manager \$118.22	Senior Engineering Technician \$115.13	Senior Cadd Designer \$100.27	Clerical \$70.58	Total Labor	Sub-Consultant Services
III	Final Design Phase									
	3.1 Field Investigation	1		6					\$746	
	3.2 Utility Coordination	3		6		8		2	\$2,141	
	3.3a 30% Design Drawings/Specifications	5		40		60			\$11,602	
	3.3b 60% Design Drawings/Specifications	5		75		80			\$17,284	
	3.3c 100% Design Drawings/Specifications	5		40		60			\$11,602	
	3.4 Specifications	10		25				10	\$4,784	
	3.5 Construction Cost Opinion	3		15				3	\$2,159	
	3.6 Meetings	15		15					\$3,944	
	3.7 Quality Assurance	4			12				\$2,084	
	Subtotal	51	0	222	12	208	0	15	\$56,347	
IV	Bidding Phase									
	4.1 Bid Advertisement	3				2		2	\$871	
	4.2 Demand Star Bid Submittal	3				2		5	\$1,082	
	4.3 Pre-Bid Conference	5							\$832	
	4.4 Bid Clarification	2		1		2		2	\$801	
	4.5 Contract Award	2		2				2	\$667	
	4.6 Final Deliverable	2				3		1	\$749	
	Subtotal	17	0	3	0	9	0	12	\$5,002	
Other	Permitting	30		45		45		6	\$14,942	
	Surveying	1		4		4			\$1,013	\$35,000
	Geotechnical	1				2			\$397	\$8,000
	Field Verification (i.e. soft-digs)	2		6		6			\$1,603	\$15,000
	Utility Targeting									\$7,000
	Subtotal	34	0	55	0	57	0	6	\$17,954	\$65,000
	Labor Subtotal Hours	102	0	280	12	274	0	33	\$79,303	\$65,000
	Labor Subtotal Costs	\$16,973	\$0	\$27,037	\$1,419	\$31,546	\$0	\$2,329		
	Labor Total Costs	\$79,303								
	Subconsultant Costs Total	\$65,000								
	Subconsultant Multiplier	1.1								
	Subconsultant Total	\$71,500								
	Reimbursable Expenses	\$1,500								
	Project Total	\$152,304								