

RESOLUTION NO. 24-11UD

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT, PALM BEACH COUNTY, FLORIDA, APPROVING THE FLORIDA DEPARTMENT OF TRANSPORTATION UTILITY WORK AGREEMENTS IN THE AMOUNT OF \$2,294,966.58; FOR THE CONSTRUCTION OF UTILITY IMPROVEMENTS TO THE WATER DISTRIBUTION AND SEWAGE TRANSMISSION SYSTEMS AND OTHER IMPROVEMENTS ALONG STATE ROAD NO. 5 (US1); AUTHORIZING THE DISTRICT CHAIRPERSON AND DISTRICT CLERK TO EXECUTE SAID AGREEMENTS; APPROVING AND AUTHORIZING THE INTERIM DISTRICT FINANCE DIRECTOR TO PAY SAME FROM THE UTILITY DISTRICT ACCOUNT NO. 413-1437-533-0-6558; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Florida Department of Transportation (FDOT) is performing improvements along State Road No. 5 (US1) under FDOT Project No. 229744-3-56-01. The Utility District currently has underground utility lines existing in the FDOT's right-of-way that must be moved as stipulated in Florida Statutes Section 337.403; and

WHEREAS, FDOT agrees to construct the project in its entirety by assuming all responsibility for design, contract participation, labor and materials, and contract administration necessary for the Project, including payments to contractor(s) pursuant to all applicable governmental laws and regulations; and

WHEREAS, staff recommends that the Utility District Board approve the Utility Work Agreement and Memorandum of Agreement between the Florida Department of Transportation and the City of Riviera Beach Utility District in the construction project.

NOW, THEREFORE, BE IT RESOLVED BY THE UTILITY SPECIAL DISTRICT BOARD OF THE CITY OF RIVIERA BEACH, PALM BEACH COUNTY, FLORIDA, AS FOLLOWS:

SECTION 1: That the Utility District Board hereby approves the Florida Department of Transportation Utility Work Agreement in the construction of State Road No. 5 (US1) between FDOT and the City of Riviera Beach Utility District; and approves said payment to the FDOT, in the amount of \$2,294,966.58 for the construction of utility improvements to the water distribution and sewage transmission systems; and other improvements along State Road No. 5 (US1).

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SECTION 2: That the Utility District Board authorizes the District Chairperson and District Clerk to execute the Utility Work Agreement and accompanying Memorandum of Agreement.

SECTION 3: That the Interim District Finance Director is authorized to make payment for same by proper invoice after written notice under Account Number 413-1437-533-0-6558, in the amount of \$2,294,966.58.

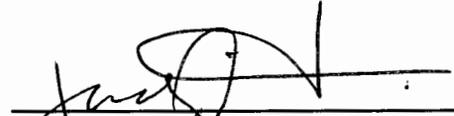
SECTION 4: This Resolution shall take effect upon its passage and approval by the Utility District Board.

PASSED AND APPROVED THIS 5th day of October, 2011

RESOLUTION NO. 24-11UD
PAGE 3

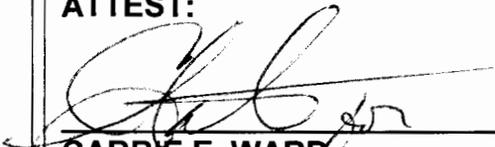
UTILITY SPECIAL DISTRICT

APPROVED:



JUDY L. DAVIS
CHAIRPERSON

ATTEST:



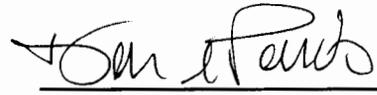
CARRIE E. WARD
MASTER MUNICIPAL CLERK
UTILITY SPECIAL DISTRICT CLERK



BILLIE E. BROOKS
VICE CHAIRPERSON

Absent

CEDRICK A. THOMAS
BOARD MEMBER



DAWN S. PARDO
BOARD MEMBER

Absent

SHELBY L. LOWE
BOARD MEMBER

MOTIONED BY: D. Pardo

SECONDED BY: B. Brooks

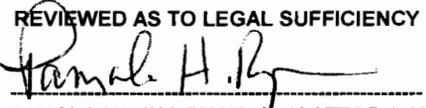
J. DAVIS aye

B. BROOKS aye

C. THOMAS absent

D. PARDO aye

S. LOWE absent

REVIEWED AS TO LEGAL SUFFICIENCY


PAMALA HANNA RYAN, CITY ATTORNEY

DATE: 9/28/11

RESOLUTION NO. 25-11UD

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT, PALM BEACH COUNTY, FLORIDA, APPROVING THE FLORIDA DEPARTMENT OF TRANSPORTATION UTILITY WORK AGREEMENTS IN THE AMOUNT OF \$2,064,379.52; FOR THE CONSTRUCTION OF UTILITY IMPROVEMENTS TO THE WATER DISTRIBUTION AND SEWAGE TRANSMISSION SYSTEMS AND OTHER IMPROVEMENTS ALONG STATE ROAD NO. 710 (MARTIN LUTHER KING, JR. BOULEVARD); AUTHORIZING THE DISTRICT CHAIRPERSON AND DISTRICT CLERK TO EXECUTE SAID AGREEMENTS; APPROVING AND AUTHORIZING THE INTERIM DISTRICT FINANCE DIRECTOR TO PAY SAME FROM THE UTILITY DISTRICT ACCOUNT NO. 413-1438-535-0-6558; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Florida Department of Transportation is performing improvements along State Road No. 710 (Martin Luther King, Jr. Boulevard) under FDOT Project No. 229897-2-56-2 & 3. The Utility District currently has underground utility lines existing in the FDOT's right-of-way that must be moved as stipulated in Florida Statutes Section 337.403; and

WHEREAS, FDOT agrees to construct the project in its entirety by assuming all responsibility for design, contract participation, labor and materials, and contract administration necessary for the project, including payments to contractor(s) pursuant to all applicable governmental laws and regulations; and

WHEREAS, staff recommends that the Utility District Board approve three (3) separate FDOT agreements for project No. 229897-2-56-2 & 3 to facilitate construction of the State Road 710 project.

NOW, THEREFORE, BE IT RESOLVED BY THE UTILITY SPECIAL DISTRICT BOARD OF THE CITY OF RIVIERA BEACH, PALM BEACH COUNTY, FLORIDA, AS FOLLOWS:

SECTION 1: That the Utility District Board hereby approves three (3) Florida Department of Transportation Utility Work Agreements as follows:

- "Utility Work by Highway Contractor– Utility Work Agreement (At Utility Expense)" w/ Associated Memorandum of Agreement
- "Utility Work by Highway Contractor–Utility Work Agreement (At FDOT Expense)"

- “Work Agreement (At FDOT Expense)”

for the construction of State Road No. 710 (Martin Luther King, Jr. Boulevard) between FDOT and the City of Riviera Beach Utility District; and approves said payment to the FDOT, in the amount of \$2,064,379.52 for the construction of utility improvements to the water distribution and sewage transmission systems; and other improvements along State Road No. 710 (Martin Luther King, Jr. Boulevard).

SECTION 2: That the Utility District Board authorizes the District Chairperson and District Clerk to execute the aforementioned agreements with FDOT and accompanying Memorandum of Agreement.

SECTION 3: That the Interim District Finance Director is authorized to make payment for same by proper invoice after written notice under Account Number 413-1438-535-0-6558, in the amount of \$2,064,379.52.

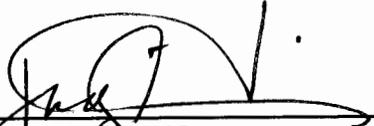
SECTION 4: This Resolution shall take effect upon its passage and approval by the Utility District Board.

PASSED AND APPROVED THIS 5th day of October, 2011

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UTILITY SPECIAL DISTRICT

APPROVED:



JUDY L. DAVIS
CHAIRPERSON

ATTEST:



CARRIE E. WARD
MASTER MUNICIPAL CLERK
UTILITY SPECIAL DISTRICT CLERK



BILLIE E. BROOKS
VICE CHAIRPERSON

Absent

CEDRICK A. THOMAS
BOARD MEMBER



DAWN S. PARDO
BOARD MEMBER

Absent

SHELBY L. LOWE
BOARD MEMBER

MOTIONED BY: D. Pardo

SECONDED BY: B. Brooks

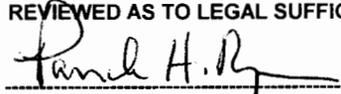
J. DAVIS aye

B. BROOKS aye

C. THOMAS absent

D. PARDO aye

S. LOWE absent

REVIEWED AS TO LEGAL SUFFICIENCY


PAMALA HANNA RYAN, CITY ATTORNEY

DATE: 9/23/11

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT, PALM BEACH COUNTY, FLORIDA, APPROVING THE PROPOSAL FROM CHEN AND ASSOCIATES, INC., IN THE AMOUNT OF \$32,716.00 TO PERFORM PROFESSIONAL ENGINEERING DESIGN AND CONSTRUCTION PERMITTING SERVICES FOR THE CONSTRUCTION OF SECONDARY DISINFECTION SYSTEMS FOR ALL THREE (3) REPUMP STATIONS; AND AUTHORIZING THE INTERIM DISTRICT FINANCE DIRECTOR TO PAY THIS AMOUNT FROM ACCOUNT NO. 411-1417-536-0-3106; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the consulting engineering firm of Chen and Associates, Inc., has prepared and submitted to the Utility Special District, a proposal for professional engineering evaluation services for the design of the secondary disinfection systems for all three (3) re-pump stations, for a fee of \$32,716.00; and

WHEREAS, the primary purpose of this project is to provide the most effective method of secondary disinfection to provide a constant system-wide total chlorine residual.

NOW, THEREFORE, BE IT RESOLVED BY THE UTILITY SPECIAL DISTRICT OF THE CITY OF RIVIERA BEACH, PALM BEACH COUNTY, FLORIDA, AS FOLLOWS:

SECTION 1: That the Utility Special District Board approves the proposal from Chen and Associates, Inc., in the amount of \$32,716.00, to provide professional engineering design and permitting services for secondary disinfection systems required.

SECTION 2: That the Interim District Finance Director is authorized to make payment for same under Account Number 411-1417-536-0-3106 in the amount of \$32,716.00.

SECTION 3: This Resolution shall take effect upon its passage and approval by the Utility Special District Board.

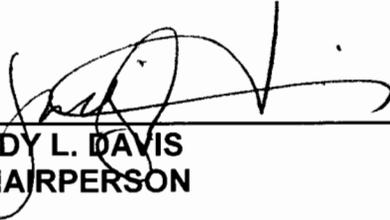
PASSED AND APPROVED this 16 day of November, 2011.

RESOLUTION NO. 26-11UD

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UTILITY SPECIAL DISTRICT

APPROVED:



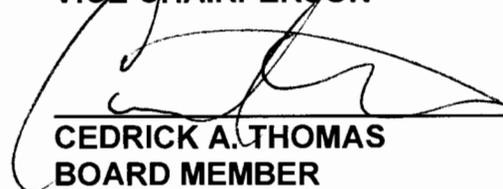
JUDY L. DAVIS
CHAIRPERSON

ATTEST:

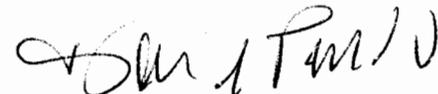


CARRIE E. WARD
MASTER MUNICIPAL CLERK
UTILITY SPECIAL DISTRICT CLERK

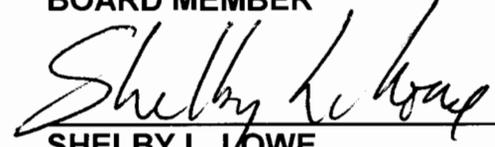
ABSENT
BILLIE E. BROOKS
VICE CHAIRPERSON



CEDRICK A. THOMAS
BOARD MEMBER



DAWN S. PARDO
BOARD MEMBER



SHELBY L. LOWE
BOARD MEMBER

MOTIONED BY: D. Pardo

SECONDED BY: S. Lowe

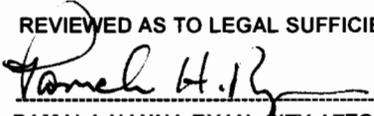
J. DAVIS aye

B. BROOKS absent

C. THOMAS aye

D. PARDO aye

S. LOWE aye

REVIEWED AS TO LEGAL SUFFICIENCY


PAMALA HANNA RYAN, CITY ATTORNEY

DATE: 11/10/11

EXHIBIT A

SCOPE OF SERVICE Design of Secondary Disinfection System

SCOPE OF SERVICES

Chen Moore and Associates was asked by the Riviera Beach Utility District (RBUD) to coordinate a design for a secondary disinfection system. Chen and Associates (ENGINEER) met with C Solutions, Inc. to provide the necessary services. The City of Riviera Beach (CITY) owns and operates three potable water remote distribution system ground storage tanks (GST) and repump stations: North Singer Island Repump Station, Avenue U Repump Station, and Avenue C Repump Station. In an attempt to maintain the required total chlorine residual in remote parts of the service area, the City evaluated their existing secondary disinfection practices at the three aforementioned repump stations. The study found that deficiencies existed with the systems being used at two of three pump stations. The CITY has decided to design and permit gaseous chlorine secondary disinfection systems at the Avenue C and Avenue U repump stations to reform free ammonia into a chloramine residual.

The scope of survey services will include the following:

- Design Development / Permit Submittal
- Answering RFIs from the Palm Beach County Health Department (PBCHD)
- Record Drawings / Request for Clearance

The Scope of Services is limited to:

- Permitting with PBCHD (City Building Department or Fire Department Permitting not included)
- Design / Build Contract documents for procurement and managed construction by the CITY
- Mechanical Design of secondary disinfection equipment

The professional engineering services and the associated fees are described below.

TASK 1 – DESIGN DEVELOPMENT / PERMIT SUBMITTAL

- 1.1 Water quality sampling will be helpful for the proper placement of chemical injection points at the repump stations. The ENGINEER will provide water quality testing parameters and sampling locations to the City at the Notice to Proceed (NTP). The CITY will perform water quality sampling and testing and provide these results to the Engineer within six weeks from the NTP.

The ENGINEER shall provide design services to submit a complete construction permit application for minor modifications to PWS components to PBCHD for secondary disinfection gaseous chlorination systems at the Avenue C and Avenue U repump stations. The ENGINEER will meet with the City and PBCHD to discuss the installation requirements.

The ENGINEER shall provide the following for PBCHD permit application.

- Completed permit application
- Engineering design report
- Signed and sealed process mechanical design drawings
- Specifications or Equipment Cut Sheets sufficient for a design / build project

The ENGINEER shall only provide process mechanical information. Ventilation, Plumbing, Electrical, instrumentation and control system design shall be by others. Design performance information for the control of chlorination equipment shall be provided to allow a qualified instrumentation supplier to provide proper system control. The contract documents prepared by the ENGINEER are for the purpose of design / build and are not to the level of detail sufficient for use as bid documents.

- 1.2 The ENGINEER shall meet with the PBCHD to perform a preliminary review of the permit package and incorporate any changes to the permit package as required by the PBCHD. The ENGINEER will submit a completed permit application to the PBCHD.

EXHIBIT A

SCOPE OF SERVICE
Design of Secondary Disinfection System

TASK 2 – PBCHD RFI RESPONSES FOR CONSTRUCTION PERMIT

- 2.1 The ENGINEER will respond to PBCHD's request for information with the assistance of the CITY. Permit fees are to be provided by others. Building permits, if required, shall be obtained by the CITY.

TASK 3 – RECORD DRAWINGS / REQUEST FOR CLEARANCE

- 3.1 Once the permanent system is installed, the ENGINEER shall conduct a site visit to prepare record drawings of the mechanical design drawings. The ENGINEER shall also prepare a request for clearance to place the new equipment into service for submittal to PBCHD on behalf of the City. Bacteriological sampling, required for clearance, will be conducted by the CITY.

DELIVERABLES

Chen & Associates will provide the following deliverables:

- Completed permit application
- Engineering design report
- Signed and sealed process mechanical design drawings
- Specifications or Equipment Cut Sheets sufficient for a design / build project

SCHEDULE OF FEES and SERVICES

The ENGINEER will commence services upon receipt of written authorization (NTP). The time of completion is defined below as is based on the receipt of the request water quality samples as specified above in Task 1.

Tasks	Approximate Duration
1. Design Development / Permit Submittal	8 weeks from receipt of requested sampling data
2. RFI Responses	Permit Review Time (Determined by PBCHD)
3. Record Drawings / Request for Clearance	4 weeks from permanent installation for record drawings and request for clearance

The fees for the above tasks are as follows.

ITEM	COST
TASK 1 – COORDINATION WITH RBUD and SUB-CONSULTANT	\$26,295
TASK 2 – PBCHD RFI RESPONSES FOR CONSTRUCTION PERMIT	\$1,633
TASK 3 – RECORD DRAWINGS / REQUEST FOR CLEARANCE	\$4,638
TASK 4 – REIMBURSABLE EXPENSES	\$150
TOTAL	\$32,716

All Tasks will be billed as a percent complete of Lump Sum Items as specified above.

See Exhibit B for a breakdown of fees.

RESOLUTION NO. 27-11UD

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT, PALM BEACH COUNTY, FLORIDA, ACCEPTING RECOMMENDATION OF STAFF AND AUTHORIZING THE UTILITY DISTRICT BOARD CHAIRPERSON AND DISTRICT CLERK TO EXECUTE A ONE-YEAR CONTRACT WITH HAZEN AND SAWYER, P.C. ENVIRONMENTAL ENGINEERS AND SCIENTISTS, OF BOCA RATON, FLORIDA, TO DEVELOP THE UTILITY SPECIAL DISTRICT WATER/WASTEWATER MASTER PLAN AS IDENTIFIED IN THE CITY'S RFQ NO. 299-11, IN AN AMOUNT NOT TO EXCEED \$534,270; AUTHORIZING THE INTERIM DISTRICT FINANCE DIRECTOR TO PAY THIS AMOUNT FROM ACCOUNT NO. 413-1417-536-0-3106; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, in accordance with the City of Riviera Beach Procurement Code, Request for Qualifications were advertised to solicit qualified professional engineering consultants to develop a Water/Wastewater Master Plan to define the short and long-range planning needs, operational and maintenance issues that impact the City of Riviera Beach Utility District; and

WHEREAS, six (6) firms submitted proposals which was publicly opened and announced and an evaluation committee consisting of the Utility District Executive Director, Interim Public Works Director, Utility District Engineer, Water Plant Superintendent, Palm Beach County Utilities Deputy Director and the Purchasing Director convened to review and discuss the responses to the City's RFQ for development of the Utility District Water/Wastewater Master Plan. After review of proposals, three (3) short-listed firms, namely AECOM, CDM and Hazen & Sawyer, P.C., were invited to give oral presentations before the committee; and

WHEREAS, Hazen and Sawyer, P.C., an Environmental Engineers & Scientists firm of Boca Raton, Florida, was selected as the top ranked firm to provide the services identified in the City Request for Qualifications No. 299-11; and in accordance with the State of Florida's "Consultants' Competitive Negotiation Act" (FS 287-055), staff recommended that the Board authorize the negotiation of a contract and;

WHEREAS, on August 17, 2011, Resolution No. 018-11UD was submitted and approved by the District Board authorizing staff to negotiate a contract with Hazen and Sawyer Environmental Engineers and Scientists. This process has been completed by the District Staff; and it is our recommendation, that the District Board approves the Contract in an amount not to exceed \$534,270.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT, PALM BEACH COUNTY, FLORIDA, AS FOLLOWS:

SECTION 1: That the contract between the City of Riviera Beach Utility Special District and Hazen and Sawyer, P.C., Environmental Engineers is approved for the development of the Water/Wastewater Master Plan.

SECTION 2: That the District Board Chairperson and District Clerk are authorized to execute the contract with Hazen and Sawyer, P.C., Environmental Engineers on behalf of the District.

SECTION 3: That the Interim Finance Director is authorized to make payment for same under Account Number 413-1417-536-0-3106 in the amount not to exceed \$534,270.

SECTION 4: This Resolution shall take effect upon its passage and approval by the Utility Special District Board.

PASSED AND APPROVED this 16 day of November, 2011.

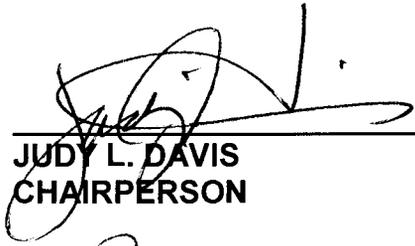
RESOLUTION NO. 27-11UD
PAGE 3

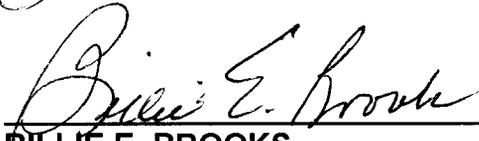
UTILITY SPECIAL DISTRICT

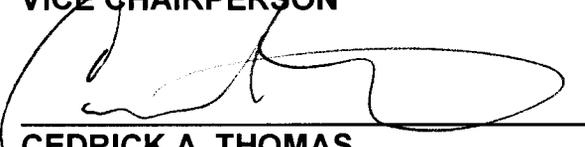
APPROVED:

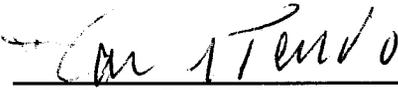
ATTEST:


CARRIE E. WARD
MASTER MUNICIPAL CLERK
UTILITY SPECIAL DISTRICT CLERK


JUDY L. DAVIS
CHAIRPERSON


BILLIE E. BROOKS
VICE CHAIRPERSON


CEDRICK A. THOMAS
BOARD MEMBER


DAWN S. PARDO
BOARD MEMBER


SHELBY L. LOWE
BOARD MEMBER

MOTIONED BY: D. Pardo

SECONDED BY: B. Brooks

J. DAVIS aye

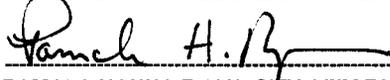
B. BROOKS aye

C. THOMAS aye

D. PARDO aye

S. LOWE aye

REVIEWED AS TO LEGAL SUFFICIENCY


PAMALA HANNA RYAN, CITY ATTORNEY

DATE: 11/14/11

**CONTRACT BETWEEN
THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT
AND
HAZEN AND SAWYER, P.C., ENVIRONMENTAL ENGINEERS & SCIENTISTS
FOR
PROFESSIONAL ENGINEERING SERVICES – WATER/WASTEWATER MASTER PLAN**

THIS CONTRACT is entered into this 16th day of November 2011, between the City of Riviera Beach Utility Special District, Florida, (hereinafter referred to as "DISTRICT") and HAZEN AND SAWYER, P.C., ENVIRONMENTAL ENGINEERS & SCIENTISTS, a Florida Corporation whose office is in Boca Raton, Florida and whose Federal Identification number is 13-2969935 (hereinafter referred to as "ENGINEER").

WHEREAS, it has been determined that it is advisable and desirable to employ a regionally recognized firm of consulting engineers having special and broad experience in the desired fields for the purpose of providing professional engineering planning and design services required in conjunction with the development of a Water/Wastewater Master Plan for the Utility District; and

WHEREAS, the DISTRICT, in accordance with the Consultant's Competitive Negotiation Act, has selected the ENGINEER to be the most qualified firm; and

WHEREAS, the DISTRICT is now desirous of contracting with ENGINEER to provide professional engineering services as set forth herein.

WITNESSETH:

NOW, THEREFORE, in consideration of the mutual covenants, Contracts, and benefits herein contained, the parties hereto mutually understand and agree as follows:

ARTICLE 1 – SCOPE OF SERVICES

This Scope of Services had been prepared with the objective of providing the DISTRICT with a comprehensive Master Plan that includes the identification of required capital improvements pertaining to water treatment (including water testing with the new sodium hypochlorite disinfectant), water storage and distribution (including system hydraulic modeling), water facility security, and identified wastewater capital components pertaining to wastewater transmission (including system hydraulic modeling), and related pumping facilities as more particularly described in **EXHIBIT "1"** (attached).

ARTICLE 2 – DISTRICT RESPONSIBILITIES

DISTRICT SHALL:

- A. Provide complete and detailed information as to its requirements for the Project.
- B. Assist ENGINEER by placing at the company's disposal all available information pertinent to a project including previous reports and any other data relative to design and construction of the Project.

- C. Furnish to ENGINEER, as required by for the performance of the Project, data prepared by or services of others, such as core borings, geophysical logs, probing and subsurface explorations, hydrographic surveys, laboratory tests and inspections of samples; appropriate professional interpretations of all of the foregoing; photogram metric surveys, property, boundary, easement, right-of-way, and property descriptions; zoning and deed restrictions; and other special data or consultations not covered in Article 2-A; all of which ENGINEER may rely upon in performing his services.
- D. Make all provisions for ENGINEER to enter upon public and private property as required for ENGINEER to perform its services.
- E. Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by ENGINEER, obtain advice of an attorney, insurance counselor and other engineers as deemed appropriate for such examination and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of ENGINEER.
- F. Pay all costs incidental to obtaining bids or proposals from Contractors. This includes advertising and mailing, but does not include reimbursement for ENGINEER'S time to discuss the Contract Documents with bidders or equipment suppliers.
- G. Provide such legal, accounting, independent cost estimating and insurance counseling services as may be required for a Project, and such auditing service as DISTRICT may require to ascertain how or for what purpose any Contractor has used the monies paid under the construction Contract.
- H. The City Manager or designee shall act as DISTRICT'S representative with respect to the work to be performed under this CONTRACT. Such person shall have complete authority to transmit instructions, receive information, interpret and define DISTRICT'S policies and decision with respect to materials, equipment, elements and systems pertinent to ENGINEER'S services.
- I. Give prompt written notice to ENGINEER whenever DISTRICT observes or otherwise becomes aware of any defect in a Project.
- J. Furnish, as required, support and fees necessary during the various permit application processes required from all governmental authorities having jurisdiction over the approval, construction and operation of a Project.
- K. Furnish or direct ENGINEER to provide necessary Additional Services as stipulated in Section 2 of this Contract or other services as required.
- L. Bear all costs incidental to compliance with the requirements of this Section

ARTICLE 3 – PERIOD OF SERVICE

This is a Lump Sum Contract not to exceed **\$534,270.00**. It is mutually agreed by DISTRICT and ENGINEER that this Contract is for a period of one year (365 days).

ARTICLE 4 – PAYMENTS TO ENGINEER

- a. ENGINEER shall invoice the CITY not more frequently than monthly for services that have been rendered in conformity with this Contract. The CITY's representative shall review each invoice and then forward each

invoice to the Finance Department for payment. Invoices will normally be paid within thirty (30) days following the CITY representative's approval.

- b. Final Invoice - In order for both parties herein to close their books and records, ENGINEER will clearly state "final invoice" on the ENGINEER's final/last billing to the CITY. This certifies that all Services have been properly performed and all charges have been invoiced to the CITY. Since this account will thereupon be closed, any and other further charges if not properly included in this final invoice are waived by the ENGINEER.
- c. If the CITY fails to make any payment due the ENGINEER for services and expenses under this Contract or a WORK ORDER within forty-five (45) days after the ENGINEER's transmittal of its invoice to the CITY, the ENGINEER may, after giving notice to the CITY, suspend services under this Contract or the WORK ORDER in question until it has been paid in full all amounts due.
- d. If the CITY disputes any invoice or part of an invoice, CITY shall notify ENGINEER of such dispute within fifteen (15) days of receipt of the invoice. CITY reserves the right to off-set, reduce or withhold any payment to ENGINEER in accordance with the terms and conditions of this Contract.

ARTICLE 5 - TRUTH-IN NEGOTIATION CERTIFICATE

Signature of this Contract by the ENGINEER shall also act as the execution of a truth-in-negotiation certificate certifying that the wage rates, over-head charges, and other costs used to determine the compensation provided for in this Contract are accurate, complete and current as of the date of the Contract and no higher than those charged to the ENGINEER'S most favored customer for the same or substantially similar service.

The said rates and costs shall be adjusted to exclude any significant sums should the DISTRICT determine that the rates and costs were increased due to inaccurate, incomplete or non-current wage rates or due to inaccurate representations of fees paid to outside engineers. The DISTRICT shall exercise its right under this Article within three (3) years following final payment.

ARTICLE 6 - TERMINATION

This Contract may be cancelled by the ENGINEER upon thirty (30) days prior written notice to the DISTRICT'S representative in the event of substantial failure by the DISTRICT to perform in accordance with the terms of this Contract through no fault of the ENGINEER; provided the DISTRICT fails to cure same within that thirty (30) day period. It may also be terminated, in whole or in part, by the DISTRICT, with or without cause, immediately upon written notice to the ENGINEER. Unless the ENGINEER is in breach of this Contract, the ENGINEER shall be paid for services rendered to the DISTRICT'S satisfaction through the date of termination. After receipt of a Termination Notice and except as otherwise directed by the DISTRICT the ENGINEER shall:

- A. Stop work on the date and to the extent specified.
- B. Terminate and settle all orders and subcontracts relating to the performance of the terminated work.
- C. Transfer all work in progress, completed work, and other materials related to the terminated work to the DISTRICT in the format acceptable to DISTRICT.
- D. Continue and complete all parts of the work that have not been terminated.

Prior to settlement upon termination of this Contract, the ENGINEER and the DISTRICT shall execute and deliver a mutual release by each party to the other of all claims and demands of any nature whatsoever arising under or by virtue of this Contract.

ARTICLE 7 - PERSONNEL

The ENGINEER represents that it has, or will secure at its own expense, all necessary personnel required to perform the services under this Contract. Such personnel shall not be employees of or have any Contractual relationship with the DISTRICT.

All of the services required hereunder shall be performed by the ENGINEER or under its supervision, and all personnel engaged in performing the services shall be fully qualified and, if required, authorized or permitted under state and local law to perform such services.

The ENGINEER shall furnish services in a manner consistent with industry standards and to a level of professional skill generally acceptable in the industry with regard to services of this kind.

The ENGINEER agrees that it is fully responsible to the DISTRICT for the acts and omissions of sub-consultants and of persons either directly or indirectly employed by the ENGINEER. Nothing contained herein shall create any Contractual relationship between any subcontractor and the DISTRICT.

All of the ENGINEER'S personnel (and all Sub-consultants) while on DISTRICT premises, will comply with all DISTRICT requirements governing conduct, safety, and security.

ARTICLE 8 - SUBCONTRACTING

The DISTRICT reserves the right to accept the use of a sub-consultant or to reject the selection of a particular sub-consultant and to inspect all facilities of any sub-consultant in order to make a determination as to the capability of the sub-consultant to perform properly under this Contract. The ENGINEER is encouraged to seek minority and women business enterprises for participation in subcontracting opportunities.

If a sub-consultant fails to perform or make progress, as required by this Contract, and it is necessary to replace the sub-consultant to complete the work in a timely fashion, the ENGINEER shall promptly do so, subject to acceptance of the new sub-consultant by the DISTRICT.

If sub-consultant(s) are used, the ENGINEER shall use only licensed and insured sub-consultant(s), and shall require any sub-consultant, as may be applicable, to provide a payment bond. All sub-consultants shall be required to promptly make payments to any person who, directly or indirectly, provides services or supplies under this Contract.

The ENGINEER shall be responsible for the performance of all sub-consultants.

ARTICLE 9 - M/WBE PARTICIPATION

Minority/Women-Owned Business Enterprises ("M/WBE") shall have the opportunity to participate in this project. ENGINEER is hereby informed that the DISTRICT has established a goal of a minimum of 15% participation of M/WBE. A good faith effort will be made to hire M/WBE.

In keeping with the DISTRICT'S policy, the ENGINEER further agrees to hire minority sub-consultants to work on this project.

In accordance with the city's M/WBE Ordinance #2412, as amended, the ENGINEER agrees to the M/WBE participation for this Contract and to abide by all provisions of the M/WBE Ordinance and understands that failure to comply with any of the requirements will be considered a breach of Contract.

The ENGINEER agrees to maintain all relevant records and information necessary to document compliance with Ordinance #2412, as amended, and will allow the DISTRICT to inspect such records.

ARTICLE 10- FEDERAL AND STATE TAX

The DISTRICT is exempt from payment of Florida State Sales and Use Tax. The DISTRICT will sign an exemption certificate submitted by the ENGINEER. The ENGINEER shall not be exempted from paying sales tax to its suppliers for materials used to fulfill Contractual obligations with the DISTRICT, nor is the ENGINEER authorized to use the DISTRICT'S Tax Exemption Number in securing such materials.

The ENGINEER shall be responsible for payment of its own and its share of its employees' payroll, payroll taxes, and benefits with respect to this Contract.

ARTICLE 11- INSURANCE

- A. Prior to execution of this Contract by the DISTRICT, the ENGINEER shall provide certificates evidencing insurance coverage as required hereunder. All insurance policies shall be issued by companies authorized to do business under the laws of the State of Florida. The Certificates shall clearly indicate that the ENGINEER has obtained insurance of the type, amount, and classification as required for strict compliance with this ARTICLE and that no material change or cancellation of the insurance shall be effective without thirty (30) days prior written notice to the DISTRICT'S representative. Compliance with the foregoing requirements shall not relieve the ENGINEER of its liability and obligations under this Contract.
- B. The ENGINEER shall maintain during the term of this Contract, standard Professional Liability Insurance in the minimum amount of \$1,000,000.00 per claim/annual aggregate.
- C. The ENGINEER shall maintain, during the life of this Contract, commercial general liability, including Contractual liability insurance in the amount of \$500,000.00 per occurrence to protect the ENGINEER from claims for damages for bodily and personal injury, including wrongful death, as well as from claims of property damages which may arise from any operations under this Contract, whether such operations be by the ENGINEER or by anyone directly or indirectly employed by or Contracting with the ENGINEER.
- D. The ENGINEER shall maintain, during the life of this Contract, comprehensive automobile liability insurance in the minimum amount of \$500,000.00 combined single limit for bodily injury and property damages liability to protect the ENGINEER from claims for damages for bodily and personal injury, including death, as well as from claims for property damage, which may arise from the Ownership, use, or maintenance of owned and non-owned automobiles, including, but not limited to, leased and rented automobiles whether such operations be by the ENGINEER or by anyone, directly or indirectly, employed by the ENGINEER.
- E. The parties to this Contract shall carry Workers' Compensation Insurance and Employer's Liability Insurance for all employees as required by Florida Statutes. In the event that a party does not carry Workers' Compensation Insurance and chooses not to obtain same, then such party shall in accordance with Section 440.05, Florida

Statutes, apply for and obtain an exemption authorized by the Department of Insurance and shall provide a copy of such exemption to the DISTRICT.

- F. All insurance, other than Professional Liability and Workers' Compensation, to be maintained by the ENGINEER shall specifically include the DISTRICT as an "Additional Insured".

ARTICLE 12 - INDEMNIFICATION

The ENGINEER shall indemnify and save harmless the DISTRICT, its employees from and against liability, losses, which arise from any negligent act or omission of the ENGINEER, its agents, servants, or employees in the performance of services under this Contract.

ENGINEER shall pay all claims, losses, liens, fines, settlements or judgments of any nature whatsoever in connection with the foregoing indemnifications including, but not limited to, all costs, expert witness fees, reasonable attorney's fees, and court and/or arbitration costs, where recoverable by law. These indemnifications shall survive the term of this Contract or any renewal thereof.

The ENGINEER shall defend all actions arising from ENGINEER'S negligent acts, in the name of the DISTRICT, when applicable, and all costs and fees associated therewith shall be the responsibility of the ENGINEER.

Nothing contained in this Article shall be construed or interpreted as consent by the DISTRICT to be sued, nor as a waiver of sovereign immunity beyond the limits provided in Section 768.28, Florida Statutes.

ARTICLE 13 - SUCCESSORS AND ASSIGNS

The DISTRICT and the ENGINEER each binds itself and its partners, successors, executors, administrators, and assigns to the other party of this Contract and to the partners, successors, executors, administrators and assigns of such other party, in respect to all covenants of this Contract. Except as above, neither the DISTRICT nor the ENGINEER shall assign, sublet, convey or transfer its interest in this Contract without the written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of the DISTRICT which may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than the DISTRICT and the ENGINEER.

ARTICLE 14 - DISPUTE RESOLUTION AND VENUE

All claims arising out of this Contract or its breach shall be submitted first to mediation in accordance with the local rules for mediation in Palm Beach County, Florida. The parties shall share the mediator's fee equally. The mediation shall be held in Palm Beach County, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

This Contract and any dispute, disagreement, or issue of construction or interpretation arising hereunder whether relating to its execution, its validity, the obligations provided therein, performance or breach shall be governed and interpreted according to laws of the State of Florida. Venue for any and all legal action necessary to enforce the Contract will be held in Palm Beach County, and if necessary be litigated by non-jury trial.

ARTICLE 15 - REMEDIES

No remedy herein conferred upon any party is intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder or now or hereafter existing at law or in equity or by statute or otherwise. No single or partial exercise by any party of any right, power, or remedy hereunder shall preclude any other or further exercise thereof.

ARTICLE 16 - CONFLICT OF INTEREST

The ENGINEER represents that it presently has no interest and shall acquire no interest, either direct or indirect, which would conflict in any manner with the performance or services required hereunder, as provided for in Florida Statutes, Section 112.311. The ENGINEER further represents that no person having any such conflicting interest shall be employed for said performance.

The ENGINEER shall promptly notify the DISTRICT'S representative, in writing, by certified mail, of all potential conflicts of interest for any prospective business association, interest or other circumstance which may influence or appear to influence the ENGINEER'S judgment or quality of services being provided hereunder. Such written notification shall identify the prospective business association, interest or circumstance, the nature of work that the ENGINEER may undertake and request an opinion of the DISTRICT as to whether the association, interest or circumstance would, in the opinion of the DISTRICT, constitute a conflict of interest if entered into by the ENGINEER. The DISTRICT agrees to notify the ENGINEER of its opinion by certified mail within thirty (30) days of receipt of notification by the ENGINEER. If, in the opinion of the DISTRICT, the prospective business association, interest or circumstance would not constitute a conflict of interest by the ENGINEER, the DISTRICT shall so state in the notification and the ENGINEER shall, at its option, enter into said association, interest or circumstance and it shall be deemed not in conflict of interest with respect to services provided to the DISTRICT by the ENGINEER under the terms of this Contract.

ARTICLE 17 – DELAYS AND EXTENSION OF TIME

The ENGINEER shall not be considered in default by reason of any failure in performance if such failure arises out of causes reasonably beyond the control of the ENGINEER or its sub-consultants and without their fault or negligence. Such causes include, but are not limited to: acts of God; natural or public health emergencies; labor disputes; freight embargoes; and abnormally severe and unusual weather conditions.

Upon the ENGINEER'S request, the DISTRICT shall consider the facts and extent of any failure to perform the work and, if the ENGINEER'S failure to perform was without its or its sub-engineers fault or negligence, the Contract Schedule and/or any other affected provision of this Contract shall be revised accordingly; subject to the DISTRICT'S rights to change, terminate, or stop any or all of the work at any time.

If the ENGINEER is delayed at any time in the process of the work by any act or neglect of the DISTRICT or its employees, or by any other ENGINEER employed by the DISTRICT, or by changes ordered by the DISTRICT or in an unusual delay in transportation, unavoidable casualties, or any causes beyond the ENGINEER'S control, or by delay authorized by the DISTRICT pending negotiation or by any cause which the DISTRICT shall decide justifies the delay, then the time of completion shall be extended for any reasonable time the DISTRICT may decide. No extension shall be made for delay occurring more than seven (7) days before claim therefore is made in writing to the DISTRICT. In the case of continuing cause of delay, only one (1) claim is necessary.

This Article does not exclude the recovery of damages for delay by either party under other provisions in the Contract.

ARTICLE 18 - INDEBTEDNESS

The ENGINEER shall not pledge the DISTRICT'S credit or make it a guarantor of payment or surety for any Contract, debt, obligation, judgment, lien, or any form of indebtedness. The ENGINEER further warrants and represents that it has no obligation or indebtedness that would impair its ability to fulfill the terms of this Contract.

ARTICLE 19 - DISCLOSURE AND OWNERSHIP OF DOCUMENTS

The ENGINEER shall deliver to the DISTRICT'S representative for approval and acceptance, and before being eligible for final payment of any amounts due, all documents and materials prepared for the DISTRICT under this Contract.

All written and oral information not in the public domain or not previously known, and all information and data obtained, developed, or supplied by the DISTRICT or at its expense will be kept confidential by the ENGINEER and will not be disclosed to any other party, directly or indirectly, without the DISTRICT'S prior written consent unless required by a lawful order. All drawings, maps, sketches, programs, databases, reports and other data developed, or purchased, under this Contract for or at the DISTRICT'S expense shall be and remain the DISTRICT'S property and may be reproduced and reused at the discretion of the DISTRICT. The DISTRICT shall hold the ENGINEER harmless should the DISTRICT use any of the ENGINEER'S work products for a purpose other than that intended by the ENGINEER.

The DISTRICT and the ENGINEER shall comply with the provisions of Chapter 119, Florida Statutes (Public Records Law).

All covenants, Contracts, representations and warranties made herein, or otherwise made in writing by any party pursuant hereto, including but not limited to any representations made herein relating to disclosure or ownership of documents, shall survive the execution and delivery of this Contract and the consummation of the transactions contemplated hereby.

ARTICLE 20 - INDEPENDENT CONTRACTOR RELATIONSHIP

The ENGINEER is, and shall be, in the performance of all work services and activities under this Contract, an Independent Contractor, and not an employee, agent, or servant of the DISTRICT. All persons engaged in any of the work or services performed pursuant to this Contract shall at all times, and in all places, be subject to the ENGINEER'S sole direction, supervision, and control. The ENGINEER shall exercise control over the means and manner in which it and its employees perform the work, and in all respects the ENGINEER'S relationship and the relationship of its employees to the DISTRICT shall be that of an Independent Contractor and not as employees or agents of the DISTRICT.

The ENGINEER does not have the power or authority to bind the DISTRICT in any promise, CONTRACT or representation other than as specifically provided for in this Contract.

ARTICLE 21 - CONTINGENT FEES

The ENGINEER warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER to solicit or secure this Contract and that it has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, gift, or any other consideration contingent upon or resulting from the award or making of this Contract.

ARTICLE 22 - ACCESS AND AUDITS

The ENGINEER shall maintain adequate records to justify all charges, expenses, and costs incurred in estimating and performing the work for at least three (3) years after completion of this Contract. The DISTRICT shall have access to such books, records, and documents as required in this section for the purpose of inspection or audit during normal business hours, at the ENGINEER'S place of business.

ARTICLE 23 - NONDISCRIMINATION

The ENGINEER warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, disability, sex, age, national origin, ancestry, political affiliation, marital status, handicap, or sexual orientation. Further, ENGINEER shall not discriminate or permit discrimination against any employee or an applicant for employment on the basis of race, color, sex, religion, political affiliation, natural origin, ancestry, marital status, sexual orientation or handicap.

ARTICLE 24 - ENFORCEMENT COSTS

If any legal action or other proceeding, including but not limited to arbitration and/or mediation, is brought for any dispute, disagreement, or issue of construction, declaration or interpretation arising hereunder whether relating to the Contract's execution, validity, the obligations provided therein, or performance of this Contract, or because of an alleged breach, default or misrepresentation in connection with any provisions of this Contract, the successful or prevailing party or parties shall be entitled to recover reasonable attorney's fees, court costs and all expenses (including taxes) even if not taxable as court costs (including, without limitation, all such fees, costs and expenses incident to appeals), incurred in that action or proceeding, in addition to any other relief to which such party or parties may be entitled.

ARTICLE 25 - AUTHORITY TO PRACTICE

The ENGINEER hereby represents and warrants that it has and will continue to maintain all licenses and approvals required to conduct its business, and that it will at all times conduct its business activities in a reputable manner. Proof of such licenses and approvals shall be submitted to the DISTRICT'S representative upon request.

The ENGINEER shall be solely responsible for obtaining and complying with all necessary permits, licenses, approvals and authorizations required for any work done pursuant to this Contract from any federal, state, regional, county or DISTRICT agency.

ARTICLE 26 - SEVERABILITY

If any term or provision of this Contract, or the application thereof to any person or circumstances shall, to any extent, be held invalid or unenforceable, the remainder of this Contract, or the application of such terms or provisions, to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected, and every other term and provision of this Contract shall be deemed valid and enforceable to the extent permitted by law.

ARTICLE 27 - PUBLIC ENTITY CRIMES

As provided in F.S. 287.132-133 by entering into this Contract or performing any work in furtherance hereof, the ENGINEER certifies that it, its affiliates, suppliers, sub-consultants and consultants who will perform hereunder, have not been placed on the convicted vendor list maintained by the State of Florida Department of Management Services within the thirty-six (36) months immediately preceding the date hereof. This notice is required by F.S. 287.133(3)(a).

ARTICLE 28 - MODIFICATIONS OF WORK

The DISTRICT reserves the right to make changes in the Scope of Work, including alterations, reductions therein or additions thereto. Upon receipt by the ENGINEER of the DISTRICT'S notification of a contemplated change, the ENGINEER shall, in writing: (1) provide a detailed estimate for the increase or decrease in cost due to the contemplated change, (2) notify the DISTRICT of any estimated change in the completion date, and (3) advise the DISTRICT if the contemplated change shall affect the ENGINEER'S ability to meet the completion dates or schedules of this Contract.

If the DISTRICT so instructs in writing, the ENGINEER shall suspend work on that portion of the Scope of Work affected by the contemplated change, pending the DISTRICT'S decision to proceed with the change.

If the DISTRICT elects to make the change, the DISTRICT shall initiate a Contract Amendment and the ENGINEER shall not commence work on any such change until such written amendment is signed by the ENGINEER and approved and executed by the DISTRICT BOARD FOR THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT or its designated representative.

ARTICLE 29 - NOTICE

All notices required in this Contract shall be sent by certified mail, return receipt requested, and if sent to the DISTRICT shall be mailed to:

**CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT
c/o LOUIS C. AURIGEMMA, P.E., EXECUTIVE DIRECTOR
600 W. BLUE HERON BOULEVARD
RIVIERA BEACH, FL 33404**

and if sent to the ENGINEER shall be mailed to:

**PATRICK A. DAVIS, P.E., VICE PRESIDENT
HAZEN AND SAWYER, P.C., ENVIRONMENTAL ENGINEERS & SCIENTISTS
2101 CORPORATE BOULEVARD
BOCA RATON, FL 33431**

ARTICLE 30 - ENTIRETY OF CONTRACTUAL CONTRACT

The DISTRICT and the ENGINEER agree that this Contract and any attachments hereto or other documents as referenced in the Contract sets forth the entire CONTRACT between the parties, and that there are no promises or understandings other than those stated herein. None of the provisions, terms and conditions contained in this Contract may be added to, modified, superseded or otherwise altered, except by written instrument executed by the parties hereto in accordance with Article 29- Modifications of Work.

ARTICLE 31 – WAIVER

Failure of the DISTRICT to enforce or exercise any right(s) under this Contract shall not be deemed a waiver of DISTRICT'S right to enforce or exercise said right(s) at any time thereafter.

ARTICLE 32 - PREPARATION

This Contract shall not be construed more strongly against either party regardless of who was more responsible for its preparation.

ARTICLE 33 - MATERIALITY

All provisions of the Contract shall be deemed material, in the event ENGINEER fails to comply with any of the provisions contained in this Contract or exhibits, amendments and addenda attached hereto, said failure shall be deemed a material breach of this Contract and DISTRICT may at its option and without notice terminate this Contract.

ARTICLE 34 - REPRESENTATIONS/BINDING AUTHORITY

ENGINEER has full power, authority and legal right to execute and deliver this Contract and perform all of its obligations under this Contract. By signing this Contract, Patrick A. Davis, P.E., Vice President, hereby represents to the DISTRICT that he has the authority and full legal power to execute this Contract and any and all documents necessary to effectuate and implement the terms of this Contract on behalf of the party for whom he or she is signing and to bind and obligate such party with respect to all provisions contained in this Contract.

ARTICLE 35 - EXHIBITS

Each exhibit referred to in this Contract forms an essential part of this Contract. The exhibits, if not physically attached, should be treated as part of this Contract and are incorporated herein by reference.

ARTICLE 36 - CONTRACT DOCUMENTS AND CONTROLLING PROVISIONS

This Contract consists of the Contract, Exhibit "1", and RFQ No. 299-11. The ENGINEER agrees to be bound by all the terms and conditions set forth in this Contract and RFQ NO. 299-11. To the extent there exists a conflict between this Contract and RFQ NO. 299-11, the terms, conditions, covenants, and/or provisions of this Contract shall prevail. Wherever possible, the provisions of such documents shall be construed in such a manner as to avoid conflicts between provisions of the various documents.

ARTICLE 37 - LEGAL EFFECT

This Contract shall not become binding and effective until approved by both parties.

ARTICLE 38 - NOTICE OF COMPLAINTS OR SUITS

Each party will promptly notify the other of any complaint, claim, suit or cause of action threatened or commenced against it which arises out of or relates, in any manner, to the performance of this Contract. Each party agrees to cooperate with the other in any investigation either may conduct, the defense of any claim or suit in which either party is named, and shall do nothing to impair or invalidate any applicable insurance coverage.

ARTICLE 39 – SURVIVABILITY

Any provision of this Contract which is of a continuing nature or imposes an obligation which extends beyond the term of this Contract shall survive its expiration or earlier termination.

ARTICLE 40 - DEFAULT

Notwithstanding anything contained in this Contract to the contrary, the parties agree that the occurrence of any of the following shall be deemed a material event of default and shall be grounds for termination:

- A. The filing of a lien by any subcontractor or third tier subcontractor including, but not limited to material, men, suppliers, or laborers, upon any property, right of way, easement, other interest in land or right to use such land within the territorial boundaries of the DISTRICT which lien is not satisfied, discharged or contested in a court of law within thirty (30) days from the date of notice to the ENGINEER;
- B. The filing of any judgment lien against the assets of the ENGINEER related to the performance of this Contract which is not satisfied, discharged or contested in a court of law within thirty (30) days from the date of notice to the ENGINEER; or
- C. The filing of a petition by or against the ENGINEER for relief under the Bankruptcy Code, or for its reorganization or for the appointment of a receiver or trustee of the ENGINEER or the ENGINEER'S property; or an assignment by the ENGINEER for the benefit of creditors; or the taking possession of the property of the ENGINEER by any governmental officer or agency pursuant to statutory authority for the dissolution or liquidation of the ENGINEER; or if a temporary or permanent receiver or trustee shall be appointed for the ENGINEER or for the ENGINEER'S property and such temporary or permanent receiver or Trustee shall not be discharged within thirty (30) days from the date of appointment.

The ENGINEER shall provide written notice to the DISTRICT of the occurrence of any event of default within ten (10) days of the ENGINEER'S receipt of notice of any such default.

ARTICLE 41 - WAIVER OF SUBROGATION

The ENGINEER hereby waives any and all rights to Subrogation against the DISTRICT, its officers, employees and agents for each required policy. When required by the insurer, or should a policy condition not permit an insured to enter into a pre-loss CONTRACT to waive subrogation without an endorsement, then the ENGINEER shall agree to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy, which a condition to the policy specifically prohibits such an endorsement, or voids coverage should the ENGINEER enter into such a CONTRACT on a pre-loss basis.

ARTICLE 42 - RIGHT TO REVIEW

The DISTRICT, by and through its Risk Management Department, in cooperation with the Contracting/monitoring department, reserves the right to review, reject or accept any required policies of insurance, including limits, coverages, or endorsements, therein from time to time throughout the term of this Contract. The DISTRICT reserves the right, but not the obligation, to review and reject any insurer providing coverage because of poor financial condition or failure to operate legally.

CONTRACT WITH THE CITY OF RIVIERA BEACH UTILITY SPECIAL DISTRICT

IN WITNESS WHEREOF, the Parties unto this Contract have set their hands and seals on the day and date first written above.

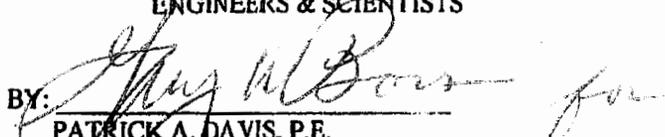
DISTRICT: CITY OF RIVIERA BEACH USD

ENGINEER: HAZEN AND SAWYER ENVIRONMENTAL
ENGINEERS & SCIENTISTS

BY:

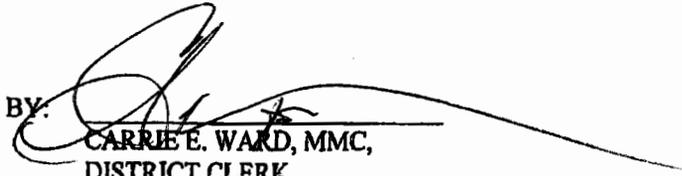

JUDY L. DAVIS
CHAIRPERSON

BY:


PATRICK A. DAVIS, P.E.
VICE PRESIDENT

ATTEST:

BY:


CARRIE E. WARD, MMC,
DISTRICT CLERK

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY

APPROVED AS TO TERMS AND
CONDITIONS

BY:


PAMALA H. RYAN,
DISTRICT ATTORNEY

BY:


LOUIS C. AURIGEMMA, P.E.
EXECUTIVE DIRECTOR OF UTILITY DISTRICT

DATE: 11/15/11

EXHIBIT "1"

THE CITY OF RIVIERA BEACH UTILITY DISTRICT

WATER AND WASTEWATER MASTER PLAN

SCOPE OF SERVICES

Background

The Riviera Beach Utility District (herein referred to as the **UTILITY DISTRICT**) owns, operates, and maintains water and wastewater facilities which serve the corporate limits of the City of Riviera Beach, the Town of Palm Beach Shores, a portion of the City of West Palm Beach, and unincorporated Palm Beach County land in the Grammercy Park area. The water facilities include the raw water supply wells, the water treatment plant (WTP), the distribution system, storage and re-pumping facilities which provide drinking water to a population of approximately 31,500 in the District's 9.5 square mile service area. The **UTILITY DISTRICT** also owns, operates and maintains wastewater facilities in same general service area which include a gravity collection sewer system, manholes, wastewater pumping stations, and transmission mains. The **UTILITY DISTRICT** desires to retain an engineering consultant to assist with the development of a needed water and wastewater master plan that will define both short and long range planning goals, and identify the operational and maintenance needs of the **UTILITY DISTRICT**.

This Scope of Services had been prepared with the objective of providing the **UTILITY DISTRICT** with a comprehensive Master Plan that includes the identification of required capital improvements pertaining to water treatment, water storage and distribution, water facility security, and identified wastewater capital components pertaining to wastewater transmission, and related pumping facilities. A task effort developed for each project element, as identified below, is provided in this Scope of Services and will be utilized for the purpose of preparing the District-wide Water and Wastewater Master Plan.

Task A.1 – Project Kickoff and Strategy Workshop

Task A.2 – Water Treatment Facilities Evaluation

Task A.3 – Water Recommendations

Task A.4 – Wastewater Service Area and Flow Projections

Task A.5 – Wastewater Regulatory Overview

Task A.6 – Wastewater Transmission System Renewal & Replacement Evaluation

Task A.7 – Wastewater Recommendations

Task A.8 – Project Implementation Plan

Task A.9 – Financial Considerations

Task A.10 – Master Plan Final Report

Task B – Water Distribution System Hydraulic Modeling

Task C – Wastewater Transmission System Hydraulic Modeling

Task D – Disinfection Testing

Task A.1 – Project Kickoff and Strategy Workshop

Hazen and Sawyer, P.C. (**H&S**) will organize and lead a project kickoff meeting and strategy workshop between **UTILITY DISTRICT** staff and key senior engineers on the project team that have local and recent experience in the south Florida utility field. During this meeting, the overall work plan and schedule will be discussed, lines of communication will be established, and data needs will be assessed. The **UTILITY DISTRICT** will provide **H&S** with required data within the first four weeks of receipt of a Project Notice-to-Proceed. Data that is anticipated to be required, but is not limited to, includes the following:

- a. Service area maps, water/sewer atlases, and any reference maps (paper/electronic)
- b. Record drawings of existing facilities and infrastructure;
- c. Shop drawings and/or vendor O&M manuals of existing equipment;
- d. Pump curves for water treatment plant high service pumps and remote storage facility pump stations;
- e. Monthly wastewater flows to the West Palm Beach East Central Regional Water Reclamation Facility (ECR) for the past 5 years;
- f. SCADA data for wastewater transmission systems;
- g. Pump curves for wastewater pumping stations;
- h. GIS shape files including piping layers w/ attributes, parcel layers, service area boundaries for water and wastewater, basin maps for wastewater collection systems, and point layers w/ attributes;
- i. Water and sewer customer account files and database; and
- j. Water production reports – raw versus finished, for the past 5 years.

The strategy workshop will focus on the development of efficient means to quickly evaluate planning level alternatives that will lead to cost effective solutions for the **UTILITY DISTRICT**. Some of the components to be developed from this workshop will include:

- Identification and prioritization of known "problem areas" to be evaluated as part of the water and wastewater modeling efforts;
- Gain consensus on the approach to utilize for the evaluation and comparison of potential alternatives; and
- Identify criteria that can be utilized for performing criticality assessments of improvement projects recommended by this master plan.

H&S will prepare and submit minutes describing the results of this kickoff meeting and the strategy workshop conducted as part of this task effort. Key elements and strategies identified as part of this workshop will be included in the Master Plan Final Report.

Task A.2 – Water Treatment Facilities Evaluation

The **UTILITY DISTRICT's** water treatment plant, originally constructed in 1958, has a design capacity of 17.5 mgd. The facility is permitted by the Florida Department of Environmental Protection (FDEP) as a community type Public Water System (PWS) system with PWS identification number of 4501229. The treatment facilities consist of four packed tower scrubbers, three lime softening clarifiers (Accelerators), sixteen filters divided into two filter banks, two interconnected clearwells, two vertical turbine pumps used for backwash and transferring water storage, and seven vertical turbine high service pumps to convey treated water to the distribution system.

Based upon current (and forecasted) water demand and the assumed water use permit increase in the Biscayne Aquifer allocation, the **UTILITY DISTRICT** likely has sufficient treatment capacity to meet the maximum day demand over the next 20 years. Consequently, the scope of services for this Water and Wastewater Master Plan will not include the identification of any capacity improvements at the water treatment plant. Furthermore, the **UTILITY DISTRICT** reports that the water treatment plant produces finished water that meets all current regulations.

Task A.2.1 Limited Bench-Scale Testing

This task is directed toward conducting bench scale testing at the WTP for the purpose of identifying operational changes that can possibly improve treatment efficiency and optimize the overall chemical usage in the treatment process. Testing included as part of this master planning is identified below.

H&S will conduct limited bench-scale testing at the **UTILITY DISTRICT's** Water Treatment Plant to assess the following:

- a. Identify major plant process equipment (and materials such as filter media) that are in need of repair, replacement, and/or automation based on visual observation and review existing available water quality data;
- b. Identify operational changes that may possibly reduce operating costs.

H&S will provide an on-site trailer type mobile laboratory for conducting the bench scale testing at the WTP. **H&S** will develop a bench-scale jar testing procedure that simulates the WTP. A testing schedule will be submitted to the **UTILITY DISTRICT** for review approximately 3 weeks prior to implementation.

H&S will assess certain filter performance parameters in accordance with the American Water Works Association document titled *Filter Evaluation Procedures for Granular Media* (hereinafter, *Filter Evaluation*). Up to three filters will be selected for bench scale testing based on discussions with **UTILITY DISTRICT** staff. Filter testing procedures will include the following:

- Filter Run Hours Analysis (per Chapter 5 of *Filter Evaluation*)
- Physical Observations (per Chapter 6 of *Filter Evaluation*)

- Backwash Observations (per Chapter 7 of *Filter Evaluation*)
- Turbidity Analysis (per Chapter 13 of *Filter Evaluation*)
- Mudball Analysis (per Chapter 14 of *Filter Evaluation*)
- Sieve Testing (per Chapter 16 of *Filter Evaluation*)

H&S will also conduct limited bench-scale testing to evaluate the effects of changing current lime and polymer dosages (used in the WTP) to assess the feasibility of plant performance and reducing chemical operating costs.

Results of the filter media evaluation, and the evaluation of changing current lime and polymer dosages will be summarized in a Draft Technical Memorandum that includes recommendations on capital improvements and operational changes at the WTP. This draft memorandum will be prepared and submitted to the **UTILITY DISTRICT** staff for review and comment. A review meeting will be held with **UTILITY DISTRICT** staff within two weeks of submission to discuss comments. Comments received at the review meeting will be documented in meeting minutes and incorporated into a Final Technical Memorandum. Recommendations from this Technical Memorandum will be incorporated into an appropriate chapter of the Master Plan Final Report.

Deliverables:

- Draft Technical Memorandum
- Final Technical Memorandum

Task A.2.2 Site Security Improvements

The **UTILITY DISTRICT** desires an evaluation of site security considerations at the WTP and water storage locations. **H&S** will provide a site security assessment that includes the following elements:

- Meet with **UTILITY DISTRICT** personnel to review overall WTP site and security provisions and discuss related concerns, priorities, and preferences.
- Review existing water vulnerability assessment documents, if available.
- Evaluate the current lime delivery traffic flow pattern involving truck access between the WTP western perimeter fence and the Florida East Coast Railway tracks. Assess possible improvements to enhance security associated with lime deliveries at the WTP.
- Conduct one site visit to each of the **UTILITY DISTRICT's** potable water storage facilities to assess existing security provisions and evaluate the possible implementation of additional security provisions that may be warranted.
- Review Human-Machine Interface (HMI) software configuration and network arrangements to assess potential security concerns. Evaluate the need for possible modifications to enhance security.
- Develop alternatives for possible improvements, including costs estimates. Provide a prioritization for improvements based on risk (likelihood and consequence of attack) as

well as a phased implementation approach.

Items and/or assistance to be provided by the **UTILITY DISTRICT** include the following:

- Available plans, specifications, and as-built drawings for existing facilities and infrastructure.
- Existing water vulnerability assessment documents, if available.

Task A.2.3 Regulatory Driven Improvements

Based upon the findings of the regulatory review compliance study (prepared by the **UTILITY DISTRICT's** consultant), capital and/or operating improvements to the WTP needed for compliance with existing regulations will be identified in the Master Plan Final Report. This task assumes that the water use permit application for an increase in the Biscayne Aquifer allocation will be approved and the **UTILITY DISTRICT** will continue to use lime softening treatment over the twenty year planning period. The evaluation of alternative treatment technologies and water sources are excluded from the scope of this master plan.

H&S will develop a list of potential capital improvement projects along with an opinion of probable project cost for each identified project. A brief conceptual description of each project will be provided. Graphics illustrating the proposed project will be limited to an overall site plan that identifies locations on the WTP site for construction of the recommended projects. Findings and recommendations from the above will be incorporated into an appropriate chapter of the Master Plan Final Report.

Task A.2.4 Renewal and Replacement Improvements

H&S will assemble a team of engineers with expertise in structural, electrical, instrumentation, and mechanical engineering along with a process engineer. This team will conduct a one day site visit at the WTP to review existing facilities with **UTILITY DISTRICT** operations and maintenance personnel.

Based on field reviews of the WTP facilities, **H&S** will develop a Microsoft Excel spreadsheet list of major water treatment above ground infrastructure (e.g., pump, motors, treatment unit rake mechanisms, filter media, filter controls, chemical systems, diesel engine generators, etc.). The list will also include the following information, if available:

- Equipment name;
- Equipment tag number;
- Location;
- Year installed;
- Estimate the expected equipment life based upon values in published literature and agreed upon by **UTILITY DISTRICT**;
- Estimate the remaining useful lives of major equipment and facilities on the basis of age;

- Estimate the cost of anticipated equipment replacement expenditures; and
- Calculate annual equipment replacement funding requirements over the next years.

Buried infrastructure and piping condition will not be physically evaluated as part of this task effort. A limited assessment of onsite WTP piping will be performed based on available information provided by the **UTILITY DISTRICT**. The **UTILITY DISTRICT** will provide information on the onsite WTP piping infrastructure regarding material type and age that will be utilized by **H&S** for the purpose of evaluating useful life based on industry guidelines.

Salvage value will be assumed to be zero. Estimating the costs of routine maintenance, such as oil changes, lubrication, belt adjustments, etc. will not be included as part of this task effort. The findings and recommendations from the above will be incorporated into an appropriate chapter of the Master Plan Final Report.

Task A.3 – Water Recommendations

Under this task, a summation and consolidation of the recommended water related improvements and their associated costs will be compiled. These improvements will be broken down by infrastructure area, as follows:

- supply,
- treatment, and
- distribution

Water supply improvements will consist of those recommendations identified by the **UTILITY DISTRICT** in previously prepared engineering documents submitted as part of the City's Water Use Permit Application. Treatment improvement costs will consist of those improvements identified as part of the water treatment facilities evaluation task effort. Additionally, **H&S** will prepare planning level cost estimates for additional improvements required for the implementation of fluoridation facilities at the WTP. Water distribution system improvement costs will include those identified in the water distribution system hydraulic modeling task effort.

Additionally, identified improvements will be further categorized by improvement type, as follows:

- capacity improvements,
- regulatory improvements, and
- renewal and replacement improvements.

Each project will be assigned a unique project identification number to facilitate with the development of the program financial plan.

Task A.4 – Wastewater Service Area and Flow Projections

Geographic information system (GIS) data coverage shape files obtained from the **UTILITY DISTRICT** will be utilized for defining the wastewater service area, defining layouts of the transmission system and attribute information, and defining the locations of valves, meters, and pump stations.

H&S will summarize the system-wide historical flows covering a 5-year period of record (2006-2010) using billing records obtained from **UTILITY DISTRICT**. Additionally, flow records obtained from the East Central Regional Water Reclamation Facility will be used for the purpose of evaluating flow variability and establishing peaking factors within the District's service area. Aggregated flow forecasts will be prepared for the **DISTRICT's** service area in 5-year intervals through the build-out year 2030. It is assumed that the **DISTRICT** is satisfied with their existing I/I program and any engineering evaluations of the flow attributed to infiltration/inflow (I/I) is not anticipated under this scope of services.

Using the 2010-based Population Allocation Model, population data will be assigned to each corresponding TAZ for the Utility's wastewater service area. Overlaying the TAZ maps on the District's most recent GIS sewer basin maps will be done for the purpose of distributing population and forecasting population throughout the wastewater service area. Population forecasts will be estimated at 5-year intervals through the year 2030 based on using appropriate values for each TAZ that falls within the designated sewer basins.

Based on population forecasts, flows will be estimated for the purpose of assigning respective wastewater demands. Flows will be tabulated for annual average daily flow (AADF) using flows provided by the **UTILITY DISTRICT's** SCADA data. Flow data projections will be developed for 5-year increments through the year 2030. These flow projections will provide the needed spatial data required for construction of the wastewater hydraulic model. Results of the forecasted wastewater flow projection data will be summarized in a Draft Technical Memorandum and reviewed with **UTILITY DISTRICT** staff.

Deliverable:

- Wastewater Flow Projections Draft Technical Memorandum

Task A.5 – Wastewater Regulatory Overview

H&S will summarize the critical regulatory and permitting issues affecting the **UTILITY DISTRICT's** existing and proposed wastewater transmission and pumping facilities as well as related operation and maintenance requirements. **H&S** will assess emerging trends in local, state, and federal wastewater regulations and identify any potential future compliance issues. These may include, but are not limited to, the following:

- Total maximum daily loads
- Effluent quality standards,
- EPA or FDEP consent decree requirements

- Industrial pretreatment program requirements

Capital improvements and their estimated capital costs that may potentially be required for meeting proposed regulatory and permitting issues will be identified as part of this task effort. Estimated capital costs identified under this task effort will be summarized and included in the Master Plan Final Report.

Task A.6 – Wastewater Transmission System Renewal & Replacement Evaluation

H&S will assemble a team of engineers with expertise in structural, electrical, and mechanical engineering. This team will conduct site visits (up to five site visits) at pumping stations to review existing facilities with **UTILITY DISTRICT** operations and maintenance personnel.

Based on field reviews of the wastewater transmission facilities, **H&S** will develop a Microsoft Excel spreadsheet list of major wastewater transmission infrastructure (e.g., pump, motors, diesel engine generators, etc.). The list will also include the following information:

- Equipment name;
- Equipment tag number;
- Location;
- Year installed;
- Estimate the expected equipment life based upon values in published literature and agreed upon by **UTILITY DISTRICT**;
- Estimate the remaining useful lives of major equipment and facilities on the basis of age;
- Estimate the cost of anticipated equipment replacement expenditures; and
- Calculate annual equipment replacement funding requirements over the next years.

Buried infrastructure and piping condition will not be physically evaluated as part of this task effort. A limited assessment of wastewater transmission piping will be performed based on available information provided by the **UTILITY DISTRICT**. The **UTILITY DISTRICT** will provide information on the wastewater transmission piping infrastructure regarding material type and age that will be utilized by **H&S** for the purpose of evaluating useful life based on industry guidelines. The wastewater gravity collection system is not included as part of this task effort.

Salvage value will be assumed to be zero. Estimating the costs of routine maintenance, such as oil changes, lubrication, belt adjustments, etc. will not be included as part of this task effort. The findings and recommendations from the above will be incorporated into an appropriate chapter of the Master Plan Final Report. **H&S** will assemble a team of engineers with expertise in structural, electrical, instrumentation, and mechanical engineering along with a process engineer. This team will conduct a one day site visit at the WTP to review existing facilities with **UTILITY DISTRICT** operations and maintenance personnel.

Task A.7 – Wastewater Recommendations

Under this task, a summation and consolidation of the recommended wastewater transmission related improvements and their associated costs will be compiled. These improvements will be broken down by infrastructure area, as follows:

- pump stations, and
- force mains

Wastewater improvements will consist of those recommendations and costs identified in regulatory overview, the renewal and replacement evaluation, and the wastewater transmission system hydraulic modeling task efforts. The improvements will be further categorized by improvement type, as follows:

- capacity improvements,
- regulatory improvements, and
- renewal and replacement improvements

Each project will be assigned a unique project identification number to facilitate with the development of the program financial plan.

Task A.8 – Project Implementation Plan

An overall project implementation plan will be prepared based on the water and wastewater improvement projects identified as part of this master plan. Projects will include:

- Water supply, storage, and treatment facility improvements;
- Water distribution system improvements; and
- Wastewater transmission and pumping improvements.

H&S will conduct an initial workshop with **UTILITY DISTRICT** staff for the purpose of reviewing the criteria and methods to be used for prioritization of capital improvement projects identified as part of the previous task efforts. **H&S** will rank and prioritize identified projects based on the agreed upon criteria methodology. This prioritized ranking of projects will be utilized for development of a cost loaded implementation schedule utilizing an EXCEL spreadsheet. This spreadsheet will be used as a basis for development of a program financial forecast.

A draft technical memorandum summarizing the prioritization of projects and the associated implementation plan will be prepared and submitted to the **UTILITY DISTRICT** staff for review and comment. A review meeting will be held within two weeks of submitting the draft technical memorandum for the purpose of discussing review comments. A final technical memorandum will be prepared with two weeks of the review meeting. This final technical memorandum will be included as part of the Master Plan Final Report.

Deliverables:

- Draft Technical Memorandum on Project Implementation Plan
- Final Technical Memorandum on Project Implementation Plan

Task A.9 – Financial Considerations

H&S will develop a ten-year financial forecast to assist the **UTILITY DISTRICT** with its evaluation of the funding of the prioritized capital program and estimate the impact on existing and planned utility rates of the **UTILITY DISTRICT**. Forecast will consider:

- Existing financial conditions as reflected in District Budget and annual financial reports and projections contained in previous financial and rate study documents;
- Water use / wastewater flow projections as developed in the Master Plan ;
- Operational changes resulting from the implementation of identified capital projects and changes in wastewater treatment service;
- The prioritized capital expenditure plan and timing of project expenditures, including capital projects that have been appropriated by the **UTILITY DISTRICT** prior to approval of the Water and Wastewater Master Plan capital improvement plan;
- Available unencumbered cash balances allocable to capital program; and
- Estimated debt leveraging capability and other capital funding sources as identified by District.

Deliverables:

- Projected capital funding plan with financial position dashboard
- Draft Technical Memorandum
- Final Technical Memorandum

Task A.10 – Master Plan Final Report

This task effort consists of preparing and assembling technical documentation resulting from each of the previously identified task efforts into an overall Final Master Plan Draft Report. This Draft Report will include the identified recommended improvements for both the water and wastewater infrastructure owned and operated by the **UTILITY DISTRICT**. The Draft Report will include identified costs, implementation schedules, and recommended financial plan. The Draft Report will be prepared and submitted to the **UTILITY DISTRICT** staff for review and comment. A review meeting will be held with **UTILITY DISTRICT** staff within two weeks of submission of the Draft Report to discuss comments.

Comments received at the review meeting will be documented in meeting minutes and incorporated into the Master Plan Final Report. A total of 10 hard copies of the Master Plan Final Report will be prepared and submitted to the **UTILITY DISTRICT** within two weeks of the

review meeting. An electronic *pdf* version of the Final Report will also be included with the submittal.

Deliverables:

- Master Plan Draft Report
- Comment summary from review meeting of Draft Plan
- Master Plan Final Report

TASK B WATER DISTRIBUTION SYSTEM HYDRAULIC MODELING

H&S will develop a new water distribution system model utilizing the Water CAD Version V8i model. Completed hydraulic model data files and corresponding documentation shall be delivered to the **UTILITY DISTRICT** for their use by staff at the completion of the project. The **UTILITY DISTRICT** will be responsible for purchasing a copy of Water CAD Version V8i (this software program will not be included as a deliverable to the **UTILITY DISTRICT**).

Task B.1 Data Collection

H&S will work with the **UTILITY DISTRICT** to collect and compile data needed for the hydraulic modeling tasks. The following is a list of data that the **UTILITY DISTRICT** will provide, if available, for this effort:

- Most recent digital aerial map of the District's water service area.
- Geographic information system (GIS) shape files that depict water system infrastructure (including valves, hydrants, pipes);
- Latest versions of the Water Atlas (in AutoCAD format) within the **UTILITY DISTRICT**'s municipal boundary;
- Monthly water meter billing data – for the years 2008, 2009 and 2010 – broken down by account number, physical address, account type (i.e., residential, commercial, and irrigation);
- SCADA data (pressures and flows) for the high service pumps, water pump stations and distribution system pressure monitoring stations – for the years 2008, 2009 and 2010;
- Identification of the location of existing automatic flushing devices via a street address and any pertinent identification via marking up a hardcopy of street map of the service area;
- For all automatic flushing devices, provide manufacturer name, model number, flow rate, operating duration, flushing start time, and flushing stop time;
- High service pump as-built drawings and available manufacturer's pump curves for high service pumps at the water treatment plants, along with pumps at the re-pump stations;
- Storage tank locations (via GIS files); as built drawings for tank elevations and dimensions and SCADA pressure and/or level control information for each individual storage tank;

- Identify – via marking up a hard copy of the water atlas – those valves located within the water distribution system that are normally closed;
- Identify areas of known low pressure during high demand periods via marking up a hardcopy of the water atlas – provide relevant available data such as pressures, if available.

Task B.2 Model Development

B.2.1 Model network development

The GIS water network atlas layer will be imported to the WaterCAD model. The water transmission system model will include mains two inches and larger throughout the **UTILITY DISTRICT's** service area. An extended period simulation (EPS) model will be prepared.

B.2.2 Demand allocation

Service area-wide water demands will be spatially distributed by applying GIS geocoding techniques to the City's water billing data for one month within a base 12 month year. Projected water demands in 5 year intervals to 2030 for each represented account will be based on the change in population from the base year to the interval year within the traffic analysis zone (TAZ) in which it is found. Base year and projected water demands will be assigned to hydraulic model nodes based on the TAZ in which a model node is located. Water treatment plant flows will be compared to composite billed water demands to estimate water losses (leaks and unbilled water) in the system.

B.2.3 Demand diurnal development

H&S shall develop up to three water demand diurnal patterns for various customer types and different area locations throughout the **UTILITY DISTRICT** water service area. The diurnal patterns will be developed based on:

- a. Available data from water metering data,
- b. Water network pressure patterns, and
- c. Wastewater pump station flow patterns.

If sufficient data is not available for the development of diurnal demands, then demand patterns from South Florida utilities with similar water consumption patterns will be used to develop the required diurnal water demands.

Task B.3 Model Verification

B.3.1 Verification Plan

H&S will conduct initial test model runs to identify any potential problems with the model, followed by development of a model verification plan that includes:

- a. The number of pressure monitoring locations in addition to the **UTILITY DISTRICT's** current pressure monitoring stations,
- b. The number of flow monitoring locations, and
- c. The time periods and time steps of the system flow and pressure monitoring data collections.

B.3.2 Field Data Collection

H&S will provide five Telog digital pressure recorders and the **UTILITY DISTRICT** will provide 15 similar pressure recorders (for a total of 20 recorders) to be installed at pre-planned locations to monitor diurnal variations in water pressure at key locations throughout the **UTILITY DISTRICT's** service area. Designated locations will be monitored simultaneously for a total period of eight (8) consecutive days. **UTILITY DISTRICT** staff will install and relocate the recorders in accordance with the location and sampling schedule provided by the **H&S**.

H&S will conduct a meeting with the **UTILITY DISTRICT's** field operation staff to obtain information on the system's physical condition, pipe ages, and areas of concern such as areas exhibiting low pressures and issues with water quality.

B.3.3 Model Verification

H&S will conduct the model verification based on network flow balance and pressure matching at model verification locations. One specific day shall be selected for a 24-hour EPS model run. The model pipe friction, minor loss coefficients and demand diurnals will be adjusted using sensitivity analysis.

According to the industry standards, the model will be considered verified when the average of the discrepancies observed between the field observed maximum pressure and the modeled results are less than 10%. One specific day shall be selected for a 24-hour EPS model run. The model pipe friction, minor loss coefficients and demand diurnals will be adjusted using sensitivity analysis until the desired accuracy is achieved.

Task B.4 Modeling Scenarios

H&S will develop network performance evaluation criteria that will be applied to the water distribution hydraulic modeling analysis. The following model scenarios will be developed for evaluating system capacity:

- a. Maximum daily flow (EPS)
- b. Maximum daily flow with fire flows (Fire flow)
- c. Average daily flow for tank filling (EPS)
- d. Average daily flow for water age (Water age)

The system maximum daily flow peaking factor will be determined based on the **UTILITY DISTRICT's** historical flow records. Peak flows of future planning years will be applied to these model scenarios.

Task B.5 Capacity Analysis

H&S will run the model scenarios to identify system capacity improvements required to meet demands through the year 2030, based on 5-year increments. **H&S** will propose capacity related capital improvements including new pipes, upgrades of existing pump stations, and new storage tanks.

Water demand projections shall be used to estimate the storage volume requirements at each remote ground storage tank location. Work effort under this task shall include an evaluation of the existing infrastructure and an assessment of needed capital improvement needs through the year 2030. Recommendations for capacity related improvements will address water storage, pump stations, and transmission/distribution needs.

Additionally, the Palm Beach County Health Department and City of Riviera Beach Fire Rescue will be consulted to review any other requirements that may be imposed on the **UTILITY DISTRICT's** water storage facilities. The potential need for additional storage capacity in the southwest part of the distribution system will be evaluated as part of this effort. **H&S** will provide opinions of probable costs and the timing required for the recommended improvements.

Task B.6 Water Model Report

H&S will prepare and submit a Water Model Draft Report that documents the findings and recommendations of the above task efforts. The Draft Report will include a recommendation of identified capital improvement projects and operational changes. The Draft Report will be submitted to the **UTILITY DISTRICT** for review and comment. A review meeting will be held within two weeks of submission of the Draft Report to review and discuss comments. Comments from the review meeting will be documented in meeting minutes and incorporated as applicable in the final version of the Report within two weeks following the review meeting.

Deliverables:

- Water Model Draft Report
- Summary of comments from review meeting
- Water Model Final Report

Task C – Wastewater Transmission System Hydraulic Modeling

This task effort is directed toward the development of a system-wide wastewater hydraulic model using scaled dimensions of force mains and lift stations utilizing the WaterCAD Version V8i model. Completed hydraulic model data files and corresponding documentation will be delivered to the **UTILITY DISTRICT** for their use by staff at the completion of the project.

Task C.1 Data Collection

H&S will collect transmission system data that will be compiled to perform a hydraulic evaluation of the **UTILITY DISTRICT's** transmission system. The following is a list of data (where available) that the **UTILITY DISTRICT** will provide **H&S** for this effort:

- Geographic information system (GIS) shape files that depict wastewater system infrastructure (including pump stations, valves, manholes, pipes, etc.);
- Latest versions of the **UTILITY DISTRICT's** Wastewater Atlas (in AutoCAD format) that includes all of the existing service area;
- Pump station as-built drawings, including wet well dimensions, pump control elevations, pump model numbers, and pump curves;
- SCADA data (pressures, flows, levels, etc.) for the master pumps, individual lift station pumps and all wastewater transmission system pressure monitoring stations for the years 2008, 2009 and 2010;
- SCADA data of all pump station pump on/off events records for the year 2010;
- Field operation log records on known valve closures for the year 2010; and
- Provide information on pumping stations that have known areas of concern, such as overflows, surcharges, and/or extended pump runtimes.

Task C.2 Model Development

C.2.1 Force Main and Pump Station Network Development

H&S will import the GIS pipe network layer into the SewerCAD model. Pump stations will be created based on sewer atlas and pump station as built drawings which have been provided by the **UTILITY DISTRICT**.

C.2.2 Pump Station Basin Boundary Development

H&S will create a GIS layer of pump station collection basin boundaries based on the **UTILITY DISTRICT's** sewer atlas. This boundary layer will be used to allocate calculated current and future flows for each pump station. Future flow conditions through the 2030 planning horizon will be used for this purpose.

C.2.3 Wastewater Dry Weather Loading Allocation

The current pump station dry weather flows will be calculated from the water billing data provided by the **UTILITY DISTRICT** and converted to wastewater loadings with a predetermined ratio. Up to five flow diurnal patterns will be developed for each pump station based on customer service type (e.g. residential, commercial, etc.).

C.2.4 Wet Weather Flow (Peak Flow) Development

The wet weather flows will be determined by reviewing available historical rainfall and flow records of pump stations and flow records from the West Palm Beach ECR Water Reclamation Facility. Peak flow factors will be determined for pump stations where adequate flow records are available.

Task C.3 Model Verification

C.3.1 Verification Plan

H&S will develop a model verification plan that includes:

- a. A list of 20 pump stations for discharge pressures monitoring locations in addition to the **UTILITY DISTRICT's** current permanent pressure monitoring stations,
- b. The number of flow monitoring locations, and
- c. The time periods and time steps of the system flow and pressure monitoring data collections.

C.3.2 Field Data Collection

H&S will provide five Telog digital pressure recorders and the **UTILITY DISTRICT** will provide 15 similar pressure recorders (for a total of 20 pressure recorders) that will be installed at pre-planned locations to monitor diurnal variations in wastewater pressure at key locations throughout the **UTILITY DISTRICT's** service area. Designated locations will be monitored simultaneously for a period of eight days. **UTILITY DISTRICT** staff will install and relocate the recorders in accordance with the location and data collection schedule provided by **H&S**.

C.3.3 Model Verification

H&S will conduct the model verification based on network flow balance and pressure matching model verification locations. According to industry standards, the model will be considered verified when the average of the discrepancies observed between the field observed maximum pressure and the modeled results are less than 10%. One specific day shall be selected for a 24-hour EPS model run. The model pipe friction, minor loss coefficients and demand diurnals will be adjusted using sensitivity analysis until the desired accuracy is achieved.

Task C.4 Modeling Scenarios

H&S will develop the following model scenarios to evaluate the network based on the above specified criteria:

- a. Maximum daily flow for current flow condition (EPS)
- b. Maximum daily flow for future flow conditions through the planning period year 2030(EPS), using 5-year increments.
- c. Maximum daily flow for future flow conditions with proposed improvements (EPS) through the planning period year 2030, using 5-year increments.

H&S will run each of the above listed model scenarios to identify system capacity deficiencies such as limitations with transmission pump station capacity, wet well capacity, and pressure related hydraulic constraints. Using the results of the modeling effort, **H&S** will propose network improvements including new pipes, new pump stations or required upgrades of existing pump stations, and/or new operation strategies to resolve identified network deficiencies.

Task C.5 Capacity Analysis

H&S will prepare a listing of force main and pump station improvements. Improvement locations will be illustrated on a map of the service area. **H&S** will provide opinions of probable costs and the timing required for the recommended improvements.

Task C.6 Wastewater Model Report

H&S will prepare and submit a Wastewater Model Draft Report that documents the methodology used with the evaluation of the **UTILITY DISTRICT's** wastewater transmission system and summarizes the results of each model scenario evaluated as part of this task effort. Based on the results of the modeling tasks, the Draft Report will include a recommendation of identified (1) capital improvement projects and (2) identified operational changes. Five copies of the Draft Report will be submitted to the **UTILITY DISTRICT** for review and comment. A review meeting will be held within two weeks of submission of the Draft Report to review and discuss comments. Comments from the review meeting will be documented in meeting minutes and incorporated as applicable in the Final Report within two weeks following the review meeting.

Deliverables:

- Wastewater Model Draft Report
- Summary of comments from review meeting
- Wastewater Model Final Report

Task D – Disinfection Testing

This task is for conducting bench-scale testing of disinfection improvement options. The testing described under this task will be completed in conjunction with the limited bench-scale testing described in Task A.2.1.

The WTP currently adds chlorine and ammonia to maintain a chloramine disinfectant residual in the distribution system. Chlorine is supplied via chlorine gas. The **UTILITY DISTRICT** is

considering switching to liquid sodium hypochlorite (generated on-site, supplied in bulk or a combination of these technologies).

In addition, the **UTILITY DISTRICT** has reported the detection of low combined chlorine residual in the distribution system. Consequently, changing the disinfection strategy to free chlorination, in lieu of chloramination, may be beneficial to maintaining adequate chlorine levels in the water distribution system and may enhance the possibility of achieving 4-log virus treatment under the federal Ground Water Rule (GWR). The disinfection testing will build upon the findings of an ongoing study currently being conducted by C Solutions, Inc.

To address both of the above issue (i.e., change from chlorine gas to liquid sodium hypochlorite and potential disinfection strategy changes) a testing plan will be developed. The testing plan will identify the sample locations and analyzes that will be preformed. The following summarizes the goals of the testing:

Alternative Disinfectant Testing:

- **H&S** will conduct jar testing to assess the finished water quality impacts of the following disinfection technologies:
 - Continued use of chlorine gas;
 - Use of bulk 12% sodium hypochlorite ; and
 - On-site generation of 0.8% sodium hypochlorite.
 - 12% sodium hypochlorite and 0.8% on-site generated sodium hypochlorite will be obtained from a water treatment plant in the vicinity of Riviera Beach.

Disinfection Strategy Testing:

- **H&S** will also conduct jar testing to assess the feasibility of GWR 4-log virus treatment compliance via testing alternative disinfection strategies, as follows:
 - Continued chloramination using current injection points and dosages;
 - Relocation of chlorine and ammonia injection points;
 - Feasibility of free chlorination
- Jar testing will simulate disinfected water leaving the WTP. Additionally, certain samples will be allowed to age for a certain period to simulate water age in the distribution system.
- Haloacetic acids (HAAs) and trihalomethanes (THMs) will be analyzed to assess disinfection by-products formed by the alternative disinfection strategies.

Findings:

- Based upon the results of the testing, comparisons of the water quality impacts for the three disinfection technologies (i.e., chlorine gas, 12% bulk sodium hypochlorite, 0.8% on-site generated hypochlorite) will be provided.

EXHIBIT "A"

to

Scope of Services

**The City of Riviera Beach Utility District
Water and Wastewater Master Plan**

FEE SCHEDULE

Task/Description	Lump Sum Fee
Task A-1 – Project Kickoff and Strategy Workshop	\$ 8,600
Task A-2 – Water Treatment Facilities Evaluation	\$ 65,850
Task A-3 – Water Recommendations	\$ 6,780
Task A-4 – Wastewater Service Area and Flow Projections	\$ 15,500
Task A-5 – Wastewater Regulatory Overview	\$ 10,480
Task A-6 – Wastewater Transmission System Renewal & Replacement Evaluation	\$ 40,820
Task A-7 – Wastewater Recommendations	\$ 6,780
Task A-8 – Project Implementation Plan	\$ 20,760
Task A-9 – Financial Considerations	\$ 30,000
Task A-10 – Master Plan Final Report	\$ 31,930
SubTotal Task A	\$237,500
Task B – Water Distribution System Hydraulic Modeling	\$150,740
Task C – Wastewater Transmission System Hydraulic Modeling	\$110,750
SubTotal Tasks B & C	\$261,490
SubTotal (Tasks A, B, & C)	\$498,990
Task D – Disinfection Testing	\$28,280
SubTotal (Tasks A, B, C & D)	\$527,270

Water Quality Laboratory Allowance (billed at cost): \$7,000

TOTAL FEE (lump sum plus Laboratory Allowance): \$534,270