



Town of Exeter
Public Works Department

*Preserving, Enhancing
Community & Environment*

Memo

To: Russell Dean, Town Manager
Board of Selectmen, Town of Exeter

From: Jennifer R. Perry, P.E., Public Works Director

Date: March 20, 2015

Re: Engineering Services for Wastewater Treatment Facility Upgrade, Main Pump Station and Forcemain Upgrade

The final draft of the Wastewater Facilities Plan is near completion and results from the Wastewater Regional Option have been presented. The Department has prepared an analysis of costs, including 20-year present worth value, for several treatment and alternative scenarios; the lowest cost option is to upgrade for nitrogen removal at the existing site in Exeter with discharge to the Squamscott River. Although we await final feasibility and cost information from the City of Portsmouth for their participation in regional wastewater treatment and disposal, the Town of Exeter needs to continue to move forward expeditiously to comply with the EPA Administrative Order. At the February 24 regional meeting, EPA administrators, indicated Exeter is still required to meet the Administrative Order, including schedule and June 2016 construction start date, and they do not recommend any extension at this time.

We requested Wright-Pierce prepare engineering design phase contract, scope of services and schedule to continue on from the facilities plan and commence preliminary and final design. Draft documents are included for your consideration. The Town approved Article 6 in March 2014 for wastewater treatment and pump station design for \$5 million.

**ENGINEERING DESIGN PHASE
CONTRACT FOR PROFESSIONAL SERVICES
FOR
TREATMENT WORKS**

TOWN OF EXETER, NEW HAMPSHIRE

This AGREEMENT made and entered into at Rockingham County, New Hampshire, this _____ day of _____ 20____, by and between Town of Exeter, hereinafter called the OWNER, and Wright-Pierce, hereinafter called the ENGINEER.

WITNESSETH:

WHEREAS, the OWNER intends to construct Treatment Works - Wastewater Treatment Facility Upgrade, Main Pump Station Upgrade and Main Pump Station Forcemain/Watermain Upgrades (as identified in the Engineering Report, identified below), hereinafter called the PROJECT, and

WHEREAS, professional sanitary engineering services will be required for the preparation of plans and specifications and contract documents, and

WHEREAS, such services are of a distinct professional nature and hence not subject to the bidding process,

NOW THEREFORE, in consideration of these premises and of the mutual covenants herein set forth, the OWNER hereby employs the ENGINEER to furnish the following engineering services in connection with the proposed PROJECT; and it is agreed by and between the OWNER and the ENGINEER as follows:

I. Services to be Performed by the ENGINEER

A. Upon execution of this AGREEMENT, the ENGINEER agrees to proceed with all engineering, surveying, drafting, calculations, borings, and other work as required and necessary to develop and produce final plans, specifications, and associated contract documents involved in the construction of treatment works for

WWTF Upgrade, Main Pump Station Upgrade, and
Main Pump Station Forcemain/Watermain Upgrade;
Engineering Report titled "Wastewater Facilities Plan";
Refer to attached Scope of Services.

as recommended in an Engineering Report dated October 2014/March 2015. The ENGINEER further agrees that said services shall include, but shall not necessarily be limited to:

1. Plans, Specifications, and Contract Documents
 - a. The preparation of detailed plans, specifications, and contract documents in accordance with the rules and regulations of the New Hampshire Department of Environmental Services, Water Division, hereinafter called the DIVISION, ready for the receipt of bids and the award of construction contracts for said construction; the work shall also include the preparation of estimates of the cost of construction based on the contract documents. Prepare applications with supporting and associated documents for Federal, State and other grant or loan programs. Assists the OWNER in securing grants or loans by State, Federal and other agency.
 - b. The furnishing of all the necessary subsurface investigations and field surveys required for the preparation and completion of approved plans, specifications, and contract documents.
 - c. The furnishing of ten (10) copies of the final plans, specifications, and contract documents to the OWNER; three (3) copies of which are to be submitted to the DIVISION. Additional copies to be available at cost to the OWNER.

~~2. Site Acquisitions~~

~~a. Assistance to the OWNER including preparation of documents for the acquisition of lands, easements, and rights of way essential to the construction of the PROJECT.~~

II. The OWNER'S Responsibilities

- A. Assist the ENGINEER by placing at his disposal all available information pertinent to the PROJECT, including previous reports and other data relative to the reports.
- B. Make provisions for the ENGINEER to enter upon public and private lands, municipal facilities and industrial establishments as required to perform work under this AGREEMENT.
- C. The OWNER also agrees to comply with DIVISION and Federal requirements (where applicable) and further agrees to acquire with the assistance of the ENGINEER all the necessary easements, options or outright purchases of land for the locations of said treatment works as shown on the contract plans. The provisions of this section shall be satisfied prior to submission of documents referred to in III (A) below. It is also understood that no approvals of reports or plans and specifications or other associated documents will be made by the DIVISION without fulfillment of this requirement.

III. Time Of Completion

- A. The ENGINEER agrees that he will submit to the DIVISION for approval after modification or revision as recommended by the DIVISION and agreed to by the ENGINEER, the completed final plans, specifications, contract, and associated documents in compliance with the current issue of the DIVISION's standards of design within 430 consecutive calendar days following the execution of this AGREEMENT, and deliver same to the OWNER within 460 calendar days following the date of final approval by the DIVISION.
- B. It is agreed by the parties to this contract that failure by the ENGINEER to complete the work within the time stipulated under III, A, above may be considered sufficient basis for the debarment of the ENGINEER from the DIVISION'S Roster of Prequalified Engineers as provided for under New Hampshire Code of Administrative Rules Env-Wq 603.08, or the Assessment of liquidated damages as provided for under RSA 485-A: 4, XII.

IV. Compensation to be Paid the ENGINEER

A. Method of Payments Amounts of Fees

1. Payment to the ENGINEER, for services rendered, shall be according to the following schedule:

Monthly billing based on hours and rates by labor category with mark-up and incidental expenses in accordance with the attached fee schedule.

2. The OWNER agrees to pay and the ENGINEER agrees to accept for all services under this AGREEMENT, a fee not to exceed

Three million, two hundred eleven thousand
Three hundred Dollars
(\$ 3,211,300.00).

3. If separate documents are required for additional construction contracts on this PROJECT, an additional fee as approved by the DIVISION shall be paid to the ENGINEER.

4. Prior to formal approval of contract documents by the DIVISION, the ENGINEER shall make such revisions in them as recommended by the DIVISION and agreed to by the ENGINEER without additional compensation. After formal approval, if it becomes necessary to revise the contract documents for reasons beyond the control of the ENGINEER, payment for such revision or revisions shall be made to the ENGINEER subject to approval by the DIVISION.

B. Limits of All Payments

1. The ENGINEER hereby assures the OWNER and agrees that the following fee for his services (exclusive of surveys, borings, and certain special services which follow) in connection with the preparation of final plans, specifications, and contract documents and other work as generally described under I(A) is adequate to complete the assignment and shall not exceed

Three million, sixty six thousand, three hundred
Dollars
(\$ 3,066,300.00).

2. It is also agreed that payment to the ENGINEER for services in relation to engineering

surveys, including layout and logging of borings, probings or seismic surveys, together with plats and project related special services shall be at actual cost. Actual cost shall include compensation to the ENGINEER for his work performed on these services. The ENGINEER further agrees that the work proposed under this item is enough to satisfactorily complete the contract documents and that the moneys to be paid under this item are adequate for the work proposed and shall not exceed

Sixty thousand
Dollars
(\$ 60,000.00).

3. It is again agreed that payment to the ENGINEER for services in relation to subsurface exploration, including borings, probings or seismic surveys, shall be at actual cost as defined in IV (B) 2. The ENGINEER further agrees that the work proposed under this item is enough to satisfactorily complete the contract documents and that the moneys to be paid under this item are adequate for the work proposed and shall not exceed

Eighty five thousand
Dollars
(\$ 85,000.00).

4. It is also agreed that payment to the ENGINEER for services in relation to cadastral surveys and other work associated with the acquisition of lands, easements, and rights-of-way essential to the construction of the PROJECT shall be at actual cost as defined in IV (B) 2. The ENGINEER further agrees that the work proposed under this item is enough to provide adequate sites, easements, and rights-of-way to permit the unencumbered construction, operation, and maintenance of the completed project without interference in any way. The ENGINEER also assures the OWNER that the moneys to be paid under this item are adequate for the work proposed and shall not exceed

N/A Dollars
(\$ N/A).

V. Additional Covenants

A. The ENGINEER agrees to provide in active charge of this PROJECT for the life of the contract a Project Engineer who is a permanent employee of the ENGINEER and who is a "qualified sanitary engineer" as defined under the DIVISION'S "Rules and Regulations for the Prequalification of Consulting Engineers." The Project Engineer shall be*

Edward J. Leonard, PE, Wright-Pierce
(name and address)
230 Commerce Way, Portsmouth, NH 03801

* *Resume clearly describing the candidate's qualifications for the assignment is appended for convenience of reference.*

Any proposed change in identity of the Project Engineer on the PROJECT shall first be approved by the DIVISION before transfer of responsibility is made. Failure of the ENGINEER to abide by the above covenant may be considered basis for debarment of the ENGINEER from the DIVISION'S Roster of Prequalified Consulting Engineers as provided for under New Hampshire Code of Administrative Rules Env-Wq 603.08.

B. The ENGINEER agrees to be solely responsible for all bills or claims for payment for services rendered by others and for all services and materials employed in his work, and to indemnify and save harmless the OWNER, and all of the OWNER'S officers, agents and employees against all suits, claims or liability of every name and nature arising out of or in consequence of the negligent acts or failures to act of the ENGINEER or others employed by him in the performance of the work covered by this AGREEMENT.

C. The ENGINEER further agrees to procure and maintain at his expense such workmen's compensation insurance as is required by the statutes and public liability insurance in amounts adequate to provide reasonable protection from claims for bodily injury, death or property damage which may result from his performance and the performance of his employees under this AGREEMENT.

D. All documents, including original drawings, design calculations, work sheets, field notes, estimates, and other data shall remain the property of the OWNER, and shall be transmitted to the OWNER in clean and orderly condition on demand; however, these may be left in the possession of the ENGINEER at the OWNER'S discretion.

E. The ENGINEER shall not sublet, assign or transfer any part of the ENGINEER's services or obligations (except surveys and borings and other special services) under this AGREEMENT without the prior approval and written consent of the OWNER.

F. It is further agreed that the ENGINEER will assist the OWNER or his authorized agent in providing the DIVISION with clear documentation certifying that the necessary easements, options or outright purchases of land have been secured to provide for location of treatment works and other associated structures and equipment as shown on the contract plans or described in the specifications. Similar documentation will be submitted on approvals from the State Department of Transportation and/or other state agencies regarding location of treatment works within rights-of-way and other lands under their jurisdiction.

VI. Termination

A. The OWNER shall have the right at any time for any reason whatsoever to interrupt or terminate any part of or all of the work required of the ENGINEER under this AGREEMENT, with a seven (7) day written notice of such interruption or termination transmitted to the ENGINEER by the OWNER. In the event of termination of any part of or all of this AGREEMENT, without fault on the part of the ENGINEER, the ENGINEER shall be entitled to compensation for all work performed to the satisfaction of the DIVISION and the OWNER, and pursuant to this AGREEMENT. In order that the ENGINEER shall receive payment under termination notice of any part of the work, all plans, drawings, tracings, field notes, estimates, specifications, proposals, sketches, diagrams, and calculations, together with all other materials and data collected or prepared in connection with the PROJECT shall be transmitted to the OWNER in a form acceptable to the OWNER and DIVISION.

IN WITNESS WHEREOF, the parties hereto have affixed their hand and seals at Rockingham County, New Hampshire, the day, month, and year first above written.

ENGINEER:

WRIGHT-PIERCE

By: _____
(Authorized Representative*)

Date: _____

OWNER:

TOWN OF EXETER, NEW HAMPSHIRE

By: _____
(Authorized Representative*)

Date: _____

APPROVED: **

DEPARTMENT OF ENVIRONMENTAL SERVICES

Water Division

By: _____
(Authorized Representative)

Date: _____

- * Signatures should be supported by appropriate document.
- ** It is agreed that as an act in furtherance of its statutory authority to approve engineering agreements for treatment works, the DIVISION's approval does not impose any contractual obligation or liability on the State of New Hampshire, the Department of Environmental Services or the Division.

Approved as to form:

Town Counsel

**WRIGHT-PIERCE
CERTIFICATE OF VOTE**

I, Walter J. Flanagan III, hereby certify that I am the duly elected clerk of Wright-Pierce.

I certify that the following is a true copy of a vote taken at a meeting of the board of directors of the corporation, duly called and held on July 9, 2014, at which a quorum of the board was present and voting.

VOTED:

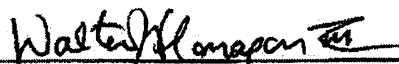
That any one or all of the following officers of Wright-Pierce, on behalf of the corporation, are authorized to execute all Wright-Pierce contracts, both service agreements and general contractual obligations:

John W. Braccio, President
William E. Brown, Chairman
Peter C. Atherton, Vice President
Paul F. Birkel Vice President
Richard N. Davee, Vice President
Jonathan C. Edgerton, Vice President
Walter J. Flanagan III, Vice President
Michael D. Giggey, Vice President
Jeffrey P. Musich, Vice President
John R. Nelson, Vice President

I hereby certify that said vote has not been amended or repealed and remains in full force and effect.

seal




Walter J. Flanagan III, Clerk

Date: 3/17/2015

COST OR PRICE SUMMARY FORMAT FOR SUBAGREEMENTS UNDER NH SAG & SRF			Form Approved DES 02/06	
PART I - GENERAL				
1. GRANTEE / LOANEE - Town of Exeter, New Hampshire			2. GRANT/LOAN NO.	
3. NAME OF CONTRACTOR OR SUBCONTRACTOR - Wright-Pierce			4. DATE OF PROPOSAL March 17, 2015	
5. ADDRESS OF CONTRACTOR OR SUBCONTRACTOR (Include ZIP) 230 Commerce Way, Suite 302, Portsmouth, NH 03801			6. TYPE OF SERVICE TO BE FURNISHED Design - WWTF and PS Upgrade	
PART II - COST SUMMARY				
7. DIRECT LABOR (Specify labor categories)	HOURS	HOURLY RATE	ESTIMATED COST	TOTAL
Principal	70	65.00	\$4,550	
Project Manager	1624	58.00	\$94,192	
Lead Project Engineers	3394	41.00	\$139,154	
Process Engineers	4586	30.00	\$137,580	
Bldg Design Engineers	6937	46.11	\$319,862	
Funding/Financing	86	50.00	\$4,300	
CAD/GIS Technicians	8530	26.50	\$226,045	
Clerical	1096	22.00	\$24,112	
Advisors, QA/QC	437	65.00	\$28,405	
DIRECT LABOR TOTAL:				\$978,200
8. INDIRECT COSTS (Specify indirect cost pools)	RATE	x BASE =	ESTIMATED COST	
	1.68	978,200	\$1,643,400	
INDIRECT COSTS TOTAL:				\$1,643,400
9. OTHER DIRECT COSTS				
a. TRAVEL			ESTIMATED COST	
(1) TRANSPORTATION			\$5,930.00	
(2) PER DIEM			\$1,550.00	
TRAVEL COSTS TOTAL:			\$7,480.00	
b. EQUIPMENT, MATERIALS, SUPPLIES (Specify categories)		QTY	COST	ESTIMATED COST
Telephone, phone, fax, photocopies		1	13570	\$13,570
Printing		1	7850	\$7,850
Laboratory		1	10000	\$10,000
EQUIPMENT SUBTOTAL :			\$31,420.00	
c. SUBCONTRACTS			ESTIMATED COST	
Topographic Survey/Wetlands Delineation (Doucet Survey/Gove Env.)			\$48,500.00	
Invasive Species Management (Gove Env.)			\$20,000.00	
Geotechnical (to be determined)			\$75,000.00	
Hazardous Materials Survey - Main Pump Station (to be determined)			\$6,500.00	
SUBCONTRACTS SUBTOTAL :			\$150,000.00	
d. OTHER (Specify categories)			ESTIMATED COST	
OTHER SUBTOTAL :			\$0.00	
e. OTHER DIRECT COSTS TOTAL :				\$188,900
10. TOTAL ESTIMATED COST				\$2,810,500
11. PROFIT				\$400,800
12. TOTAL PRICE				\$3,211,300

EDWARD J. LEONARD, PE
Associate Vice President/ Senior Project Manager

PROJECT ASSIGNMENT: Senior Project Manager

Education
B.S., Civil Engineering, University
of Massachusetts, Amherst

Professional Registration
Maine
Connecticut
New Hampshire
Massachusetts

Experience
20 Years

Joined Firm
2000

Professional Affiliations
Water Environment Federation
New England Water Environment
Association
Maine Water Pollution Control
Association

Presentations
Leonard, E.J., "Taking the Next
Step in Adaptation Planning and
Implementation in Ogunquit,
Maine", NEWEA Conference,
January 2015

Leonard, E.J., "Tackling
Collaboration Challenges to
Address Nitrogen Loading in
Shared Watersheds", Cape Cod
Coastal Conference, June 2013

Leonard, E.J., "Phased
Implementation and Funding
Agency Alphabet Soup Results in
Improved Effluent Quality in
Farmington, NH",
NEWEA Conference, January 2013

Leonard, E.J., "Public-Private
Partnership for a Shared
Wastewater Solution in Sandwich,
Massachusetts",
NEWEA Conference, June 2012

EXPERIENCE SUMMARY

Mr. Leonard is a project manager in the Wastewater Practice Group with a wide-range of experience in planning, design and construction of wastewater and water facilities for municipal clients throughout New England. Since joining Wright-Pierce in 2000, Mr. Leonard has served as project manager and lead project engineer on numerous wastewater projects in Maine, New Hampshire, Connecticut and Massachusetts.

RELEVANT PROJECT EXPERIENCE

Wastewater Management and Capital Improvements Planning

- Wastewater Treatment Facilities Planning, Exeter, NH
- Wastewater Treatment Facilities Planning, Newington, NH
- Wastewater Treatment Facilities Planning, Farmington, NH
- Targeted Wastewater Management Plan, Oyster Pond, Falmouth, MA
- Comprehensive Water Resources Management Planning, Sandwich, MA
- Comprehensive Wastewater Management Planning, Orleans, MA
- Industrial Park Wastewater Management Planning, Hingham, MA
- Wastewater Treatment Facilities Planning, Brunswick, ME
- Wastewater Treatment Facilities Planning, Sanford, ME
- Wastewater Treatment Facilities Planning, Old Orchard Beach, ME
- Water Pollution Control Facility & CSO Facilities Planning, Skowhegan, ME
- Sewer System Master Plan, Skowhegan, ME
- Dissolved Oxygen Concentration Evaluation, Confidential Client/Location

Wastewater Treatment

- WWTF Bardenpho Upgrade, Durham, NH
- Wastewater Treatment Facilities Upgrade, Farmington, NH
- WWTF Aeration Blower Upgrade, Old Orchard Beach, ME
- Water Pollution Control Facilities Upgrade, Manchester, CT
- Wastewater Treatment Facility Upgrade, Hudson, MA
- Wastewater Treatment Facility Upgrade, Sanford, ME
- Water Pollution Control Facilities Upgrade, Glastonbury, CT
- Water Pollution Control Facility & CSO Abatement Upgrade, Skowhegan ME
- Water Pollution Control Facility & CSO Abatement Upgrade, Old Town, ME
- Wastewater Treatment Facility Process Evaluations, Ogunquit, ME
- Wastewater Treatment Facility Upgrade, Gardiner, ME
- Wastewater Treatment Facility Dewatering System Upgrade, Wells, ME
- Wastewater Treatment Facility Upgrade, Wells, ME
- Wastewater Treatment Facility Evaluation, Rockland, ME
- Wastewater Treatment Facility Upgrade, Upton, MA*
- WPCF Anaerobic Digester Upgrade, Meriden, CT*
- WPCF Dechlorination Facilities, Meriden, CT*

EDWARD J. LEONARD, PE
Associate Vice President/ Senior Project Manager

Leonard, E.J., "Considerations for Full-Scale Application of Urine Diverting Toilets", NEWEA Conference, October, 2010

Leonard, E.J., "Managing the Cost of Future Growth to Ensure the Sustainability of Small Wastewater Systems", NEWEA Conference, June, 2010

Collection

- Sewer Repair & Replacement (Contract 1 and 2), Farmington, NH
- Sewer Extension Evaluation, Portsmouth, NH
- Multiple Collection System Projects, Sanford, ME
 - Davis Avenue Sewer Separation - Design and construction administration of a sewer separation project including 800-linear feet of new sewer and 950-linear feet of new storm drains.
 - Evaluation of collection system limitations, probable sewer extension requirements and cost implications related to accommodating numerous planned growth build-out scenarios.
- CSO Storage Tank and Pump Station Upgrades, Skowhegan, ME
- Infiltration and Inflow Evaluation, Skowhegan, ME
- Manhole Rehabilitation Project, Durham, NH
- Sewer Extension Project, Ogunquit, ME

Pump Stations

- Mechanic Street Pumping Station Upgrade, Portsmouth, NH
- West Grand Pump Station Upgrade, Old Orchard Beach, ME
- Mousam River Pump Station Upgrade, Sanford, ME
- Smada Drive Pump Station Upgrade, Sanford, ME
- Route 109 Pump Station Upgrade, Sanford, ME
- Goodall Pump Station Upgrade, Sanford, ME
- Pump Station No. 2 and HDD Forcemain Upgrade, Ogunquit, ME
- Pump Station No. 6 and HDD Forcemain Upgrade, Ogunquit, ME
- Pump Station and Sewer Construction, Wells, ME
- Pump Station Upgrades, Rockland, ME

General Building

- WWTF HVAC and Odor Control Upgrade, Wells, ME
- Administration Building Improvements, Millbury, MA (Upper Blackstone Water Pollution Abatement District)*

SCADA

- SCADA System Design, Old Orchard Beach, ME
- SCADA System Design, Skowhegan, ME
- SCADA System Evaluation, Meriden, CT*

NPDES Permitting

- Sanford Sewerage District, Sanford, ME - Maine DEP
- Skowhegan, ME - Maine DEP
- Farmington, NH - New Hampshire DES and EPA
- Newington, NH - EPA

EDWARD J. LEONARD, PE
Associate Vice President/ Senior Project Manager

Local Limits/ Sewer Use Ordinances/ Industrial Users

- Technically-Based Local Limits, Sanford Sewerage District, Sanford, ME
- Technical Review, Confidential Client, ME
- Significant Industrial User Evaluations/Negotiations, Skowhegan, ME
- Sewer Use Ordinance Updates, Newington, NH
- Local Limits Evaluation, Newington, NH
- Sewer Use Ordinance, Wells Sanitary District, Wells, ME
- Sewer Use Ordinance, Portsmouth, NH

Flood Certifications

- Pump Station No. 2 Upgrade, Ogunquit, ME
- WPCF Upgrade, Skowhegan, ME
- AWWTF Upgrade, Sanford, ME
- Mousam River Pump Station Upgrade, Sanford, ME
- West Grand Pump Station Upgrade, Old Orchard Beach, ME

Water

- Membrane Filtration Water Treatment Plant, South Norwalk, CT*
- Water Treatment Plant, Enfield, CT*
- Odor Evaluation, Meriden, CT*
- Water Supply and Pump Station, Danbury, CT*
- Hydraulic Analysis, Killingly, CT*

Mr. Leonard also worked for the Department of Environmental Protection in Hartford, Connecticut, as an engineer in the Urban Sites Remedial Action Program. In this capacity he had extensive contact with state agency representatives, consultants, attorneys and responsible parties to discuss the investigative and treatment alternatives available to delineate and/or mitigate contamination. He also managed technical and financial aspects of state-funded remediation projects.

**TOWN OF EXETER, NH – WWTF AND MAIN PUMP STATION UPGRADES
DESIGN PHASE CONTRACT
SCOPE OF SERVICES**

BACKGROUND

In 2010, EPA issued the Town an Administrative Order (AO) for its collection system to develop a Long-term Control Plan (LTCP). This AO is focused on system capacity (CSO, SSO, I/I, and system maintenance). In 2013, EPA issued a new NPDES discharge permit to the Town with “limit of technology” effluent nitrogen limits (TN 3 mg/l) for the WWTF point source. The Town subsequently negotiated an Administrative Order on Consent (AOC) with the EPA that requires achieving a less stringent effluent nitrogen limit (TN 8 mg/l) within 5 years as long as the Town monitors, tracks, evaluates and reduces non-point and storm water sources of nitrogen.

The Wastewater Facilities Plan (preliminary draft, October 2014) presents a recommended plan for upgrading the WWTF, including potential regional partners from the Exeter/Squamscott River watershed. The Town is also considering a regional opportunity with the City of Portsmouth (Pease WWTF) and others. This design scope of work initiates a “dual-track” – that is, to initiate the design elements for the upgrade of the Exeter WWTF while continuing to work out the potential Portsmouth Pease Regional WWTF opportunity. Assistance related to regional planning will continue to be provided under the existing “report phase” contract.

GENERAL

Within the scope of the design phase, the conceptual and preliminary design phases are very important phases, as this is where most of the key design decisions are made. In this phase, Wright-Pierce will identify options available to achieve the Town’s objectives, along with the advantages and disadvantages of each option, such that the Town can make informed decisions about the project specifics. Wright-Pierce will work closely with the Town to incorporate design details tailored to the Town’s needs and preferences. Town is hereinafter referred to as “OWNER”.

SCOPE OF SERVICES

The proposed scope of services is outlined below and is based on the recommended plan as outlined in the Wastewater Facilities Plan (Draft-Oct 2014/Final-Mar 2015), including the Main Pump Station, Main Pump Station forcemain, DPW water main and lagoon decommissioning.

I. Preliminary Design Phase.

- A. Prepare Conceptual Design documents consisting of process-related design criteria, key process equipment/tankage sizing, preliminary site plan, operational considerations and new building/tankage plans and lagoon decommissioning.
 - a. Conduct Additional Biowin Modeling and Analysis
 - i. Meet with the OWNER to discuss key factors for analysis and decision making. Specific examples include: Bardenpho or SBR; design MLSS concentrations; number of treatment units; decision regarding flow and load allocation to Stratham, phased implementation of design flows and loads, impacts on other treatment processes, capital and operating costs, etc.
 - ii. Conduct additional Biowin modeling for up to 4 alternative approaches to refine tankage sizing based on the OWNER input. Summarize the results in a technical memorandum for review with the OWNER. Review results with the OWNER and select the preferred approach.

**TOWN OF EXETER, NH – WWTF AND MAIN PUMP STATION UPGRADES
DESIGN PHASE CONTRACT
SCOPE OF SERVICES**

- B. Perform detailed field surveys and geotechnical evaluations as needed to obtain necessary topographic and geotechnical information for the project.
- a. Topographic Survey and Wetlands Delineation
 - i. Perform an initial field survey at the WWTF site to collect key site and hydraulic control elevations and locations for use in the Conceptual Design phase.
 - ii. Complete field topographic survey and wetlands delineation of the WWTF site, the Main Pump Station site and the forcemain/watermain alignment on Newfields Road. Prepare a wetlands delineation letter report. Topographic survey will locate key site features, structures and wetland flags and will provide drawings with 1-foot contours.
 - iii. Both sub-tasks will be completed by a NH licensed surveyor and NH certified soil scientist. These sub-tasks are budgeted at \$48,500.
 - b. Geotechnical Engineering
 - i. Perform preliminary geotechnical explorations within the Sludge Storage Lagoon. The purpose of the explorations will be three-fold: 1) to assess the depth to ledge; 2) to assess the amount of sludge in the lagoon; and 3) to assess the physical and chemical properties of the soils and sludges in the lagoon. This task is undefined at this time and is covered by an allowance of \$25,000.
 - ii. Perform supplemental field work, including soil borings, monitoring wells and soil laboratory analysis. Perform slope stability analysis calculations for the lagoon embankments to remain. Provide a geotechnical engineering report for the project. This task is undefined at this time and is covered by an allowance of \$50,000.
 - iii. Both sub-tasks will be completed by a NH licensed geotechnical engineer.
 - c. Hazardous Materials Survey
 - i. Conduct a hazardous materials survey for the Main Pump Station interior. Survey will identify lead-based paint, asbestos, universal wastes and polychlorinated biphenyls (PCBs) present in the existing building materials. This work will be completed by a licensed subconsultant.
 - ii. Review existing information provided by OWNER (i.e., reports, drawings, etc.) which identify the extent of soil and groundwater contamination in the vicinity of the Main Pump Station as it relates to the proposed project. Identify additional data needs. This sub-task is budgeted at \$6,500.
- C. Prepare Preliminary Design documents consisting of final design criteria for the remainder of the engineering disciplines, including preliminary drawings. Update the process-related project components based on engineering and field surveys conducted as a part of this task. Utilize the geotechnical information to update the sludge disposal cost estimates and approach identified in the Wastewater Facilities Plan.

**TOWN OF EXETER, NH – WWTF AND MAIN PUMP STATION UPGRADES
DESIGN PHASE CONTRACT
SCOPE OF SERVICES**

- a. As a part of the preliminary design phase, identify and assess approaches to complete the design/construction phases by the AOC dates. Identify the cost and schedule implications to the design phase and the construction phase.
- D. Advise OWNER if additional reports, data or other information or services are necessary and assist OWNER in obtaining such reports, data or other information and services.
- E. Based on the information contained in the Preliminary Design documents, submit to OWNER a revised Construction Cost Estimate.
- F. Furnish the Preliminary Design documents to the OWNER. Attend up to three meetings with the OWNER to review the Preliminary Design documents. Address OWNER and NHDES comments.

II. Final Design Phase.

After acceptance by OWNER of the Preliminary Design documents and revised Construction Cost estimate and indication of any specific modifications or changes in the scope of the Project desired by OWNER, and upon written authorization from OWNER, ENGINEER shall:

- A. Prepare for incorporation in the construction Contract Documents final Drawings and Specifications.
- B. Assist OWNER in filing applications for permits with, or requesting approvals from such governmental authorities as have jurisdiction to review or approve the final design of the Project. For purposes of estimating the engineering fee, we have assumed that the permits listed below will be required. *The application/permit fees for these permits are not included herein.*
 - i. Town of Exeter Planning Board Review and Approval
 - ii. NHDES Alteration of Terrain Permit
 - iii. NHDES Wetlands Permits
 - iv. NHDOT coordination and permitting for work in Newfields Road
- C. Furnish draft drawings to, and review them with, OWNER and NHDES (50% submittal).
- D. Advise OWNER of any adjustments to the Construction Cost Estimate as a result of changes in scope of the Project.
- E. Prepare for review and approval by OWNER, its legal counsel and other advisors, contract agreement forms, general conditions and supplementary conditions and (where appropriate) bid forms, invitations to bid and instructions to bidders and assist in the preparation of other related documents. The documents will be prepared using either the Joint Construction Documents for Water and Wastewater Project in New Hampshire or the Engineers Joint Contract Documents Committee, as determined in conjunction with

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OWNER and Funding Agencies. *We have anticipated preparation of up to three separate sets of Bidding Documents on the same schedule (e.g., WWTF Upgrade, Main Pump Station Upgrade, Forcemain/Watermain Construction).*

- F. Furnish drafts of the documents noted in paragraph D above and the Drawings and Specifications to, and review them with, OWNER and NHDES (90% submittal).
- G. Submit drafts of the above documents, Drawings and Specifications and a revised Construction Cost Estimate. Submit final documents Drawings and Specifications and a final Construction Cost Estimate within 30 days of receiving comments from the OWNER and all other reviewing agencies.

III. Invasive Species Management and Lagoon Decommissioning.

The WWTF Upgrade project will require an invasive species management plan for the upland project areas. The Lagoon Decommissioning elements of the project, depending on which approach is selected, will require a more extensive invasive species management plan as well as outreach to numerous potential project partners.

- A. Develop invasive species management plan for the WWTF site
 - i. Conduct a site survey to map the type, location and extent of invasive species on and near the WWTF site. Identify native species and invasive species habitat ranges (low marsh wetlands, upper wetlands, etc.) via visual observation and soil testing. Soil testing to determine hydrophytic and agronomic characteristics of existing soils. Invasive species locations to be flagged during the site survey. Field locate the flags via topographic survey. Site survey to be conducted during the growing season (mid-May to September).
 - ii. Prepare an invasive species management plan for the WWTF construction project, excluding any modifications to the lagoon embankments. The plan will include a description of acceptable identification and removal methods; post-removal monitoring and control methods; and recommended native plantings and soil amendments to prevent or minimize re-colonization of the area. Submit the draft plan for review. Address comments, update and finalize the plan.
 - iii. These sub-tasks will be completed in concert with a NH certified soil scientist, budgeted at \$20,000.
- B. Develop supplemental invasive species management planning for WWTF area.
 - i. Expand the survey area to include appropriate shoreland areas upstream and downstream of the WWTF site on both sides of the river that include invasive species. Provide general mapping of the type, location and extent of native and invasive species near the WWTF site.
 - ii. Prepare a planning document which provides guidance and recommendations for a potential multi-town/multi-agency area-wide invasive species management plan if the WWTF lower lagoon embankments were to be removed. The document will be used to coordinate the on-site and off-site efforts on numerous

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stakeholders, property owners and environmental interest groups and will include:

- i. Plan and cross-section drawings of the lower lagoons/river/opposite shore areas to depict the location and elevation of the wetlands and invasive species.
- ii. Description of potential removal methods; potential post-removal monitoring and control methods; and potential native plantings and soil amendments to prevent or minimize re-colonization of the area. Submit the draft plan for review. Address comments, update and finalize the plan.

C. Outreach - Prepare for, attend and run two meetings with project stakeholders. Project stakeholders may include: Towns of Exeter, Stratham and Newfields; NHDES, NHDOT, Rockingham County Planning Commission; Rockingham Land Trust; Great Bay Resource Protection Partnership; Great Bay National Estuarine Research Reserve; and US Army Corps of Engineers.

IV. Grant Pursuit and Coordination.

Throughout the Conceptual through Final Design phase, coordinate as needed with State and Federal funding agencies regarding potential project eligibility, grant funding applications, environmental review requirements and project reviews.

- Potential funding agencies for this wastewater treatment component of the project include: NHDES (SRF principal forgiveness, SAG); US EDA; State and Tribal Assistance Grant through Congressional delegation; and Unifund.
- Potential funding agencies for this lagoon decommissioning component of the project include: NHDES (SRF principal forgiveness, SAG, Aquatic Resource Mitigation, Coastal and Marine Habitat Restoration Program); State and Tribal Assistance Grant through Congressional delegation; NHDOT; NOAA Habitat Conservation program; US Army Corps of Engineers; partnership with Stratham and Newfields and partnership with non-governmental/non-profit organizations (The Nature Conservancy, Ducks Unlimited, etc.).

The scope of this task is undefined; therefore, an allowance of 180 hours is included.

V. Value Engineering.

NHDES has established a recommended threshold (\$25 million dollars) for projects which should undergo a value engineering process when funded through the State Revolving Fund program (CWSRF). Since this project is greater than the threshold, OWNER has requested that value engineering services be conducted for the 30% and 60% milestone submittals.

A. Coordinate with the OWNER to select a value engineering (VE) team. OWNER shall contract separately with the selected VE team.

B. 30% VE Session - Prepare for, participate in, and review the findings of the value engineering efforts with the OWNER. Prepare a VE Response document for review with the OWNER.

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- C. 60% VE Session - Prepare for, participate in, and review the findings of the value engineering efforts with the OWNER. Prepare a VE Response document for review with the OWNER.

Each VE session will take 1 month of calendar time.

VI. Bidding Phase.

- A. Make such revisions to the construction Contract Documents as may be necessary to comply with Federal, State or OWNER requirements.
- B. Assist in advertising for bids for the construction contract in appropriate newspapers and with the usual construction industry bidding information services. Costs for publishing the advertisements are not included herein.
- C. Print and distribute bidding documents. *We have anticipated up to three separate sets of Bidding Documents on the same schedule (e.g., WWTF Upgrade, Main Pump Station Upgrade, Forcemain/Watermain Construction).*
- D. Respond to bidders' questions.
- E. Prepare for and attend separate pre-bid conferences to be held on the same day in Exeter. Notify bidders of the conference.
- F. Prepare any required addenda to the bid documents.
- G. Attend one bid opening for the construction contract.
- H. Review all bids and prepare bid tabulation.
- I. Review the qualifications of the apparent low bidder(s) and compliance with other contract requirements. Report on the results of the reviews and issue a Recommendation for Award.
- J. The length of the Bidding Phase is assumed to be 90 days.

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SCHEDULE

ENGINEER shall endeavor to complete Tasks I through V (i.e., the design phase) within 15 months of the OWNER's written Authorization to Proceed. The Tasks will generally be completed on the following milestone goals:

Task	Description	Month
	Authorization to Proceed	March 31, 2015
I	Preliminary Design Phase	July 30, 2015
II	Final Design Phase 60% Submittal 90% Submittal 100% Submittal **	Dec 30, 2015 April 30, 2016 June 30, 2016
III	Invasive Species Management and Lagoon Decommissioning	Concurrent
IV	Grant Pursuit and Coordination	Concurrent
V	Value Engineering	Aug 2015, Jan 2016
VI	Bidding Phase	July to Sept 2016

** The AOC states that “By June 30, 2016, in accordance with NHDES approval, the Town shall initiate construction of the wastewater treatment facilities necessary to achieve interim effluent limits set forth in Attachment 1.a of this Order” (i.e., seasonal rolling average of 8-mg/l total nitrogen). The current schedule does not meet this requirement. During Task I, approaches to achieve the AOC date will be assessed and the cost and schedule implications to achieve such date will be identified.

Please note that, for a project of this size with two VE sessions, the schedule would typically be 15 to 18 months. This schedule will allow for reasonable review periods by OWNER and agencies; however, the schedule will need to be monitored closely. We will work diligently to keep these items communicated in advance and to streamline the schedule; however, additional time may be needed. The status of the schedule will be communicated at each key deliverable.

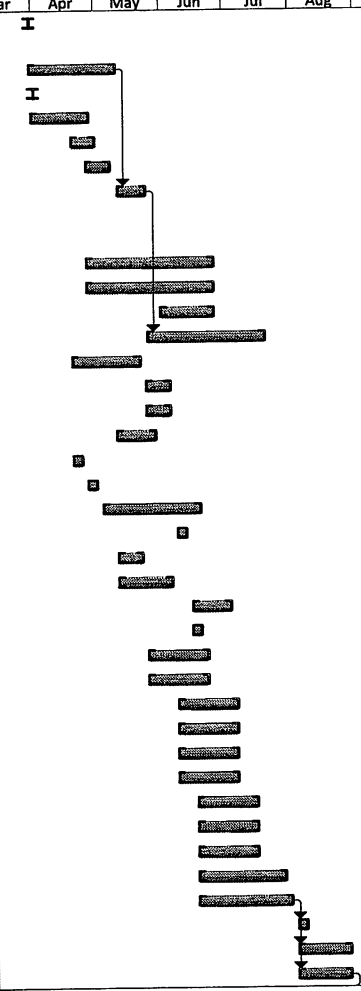
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FEE

The budgets for each task are summarized below.

Category	Hours	Labor	Expenses	Fee	Total
I - PRELIMINARY DESIGN	3,800	\$377,600	\$134,500	\$63,100	\$575,200
II - FINAL DESIGN	21,570	\$2,093,900	\$24,500	\$314,100	\$2,432,500
III - INV SPECIES/LAGOONS	170	\$18,800	\$20,900	\$3,800	\$43,500
IV - GRANT PURSUITS	180	\$20,400	\$1,300	\$3,100	\$24,800
V - VALUE ENGINEERING	328	\$37,800	\$1,700	\$5,700	\$45,200
VI - BIDDING	712	\$73,200	\$5,900	\$11,000	\$90,100
CA - Not included at this time	0	\$0	\$0	\$0	\$0
RPR - Not included at this time	0	\$0	\$0	\$0	\$0
OPS - Not included at this time	0	\$0	\$0	\$0	\$0
TOTAL	26,760	\$2,621,700	\$188,800	\$400,800	\$3,211,300

ID	Task Mode	Task Name	Duration	Start	Finish	2nd Quarter			3rd Quarter			4th Quarter			1st Quarter			2nd Quarter			3rd Quarter		
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1		Authorization to Proceed	1 day	Tue 3/31/15	Tue 3/31/15																		
2		Conceptual Design	30 days	Tue 3/31/15	Mon 5/11/15																		
3		Conc Design Kickoff Mtg	1 day	Thu 4/2/15	Thu 4/2/15																		
4		Biowin modeling	20 days	Wed 4/1/15	Tue 4/28/15																		
5		Cost estimating	10 days	Mon 4/20/15	Fri 5/1/15																		
6		Memo	10 days	Mon 4/27/15	Fri 5/8/15																		
7		Meeting(s) with Town to select	10 days	Tue 5/12/15	Mon 5/25/15																		
8		Field Surveys																					
9		Topo/Wetlands Surveys	45 days	Mon 4/27/15	Fri 6/26/15																		
10		Geotechnical	45 days	Mon 4/27/15	Fri 6/26/15																		
11		HazMat	20 days	Mon 6/1/15	Fri 6/26/15																		
12		Preliminary Design	40 days	Tue 5/26/15	Mon 7/20/15																		
13		Hydraulic Profile	25 days	Mon 4/20/15	Fri 5/22/15																		
14		Main Pump Station	10 days	Mon 5/25/15	Fri 6/5/15																		
15		Forcemain/Watermain	10 days	Mon 5/25/15	Fri 6/5/15																		
16		Headworks	15 days	Mon 5/11/15	Fri 5/29/15																		
17		Septage	5 days	Mon 4/20/15	Fri 4/24/15																		
18		Primary Treatment	5 days	Mon 4/27/15	Fri 5/1/15																		
19		Secondary/BNR	35 days	Mon 5/4/15	Fri 6/19/15																		
20		Tertiary Treatment	5 days	Mon 6/8/15	Fri 6/12/15																		
21		Disinfection	10 days	Mon 5/11/15	Fri 5/22/15																		
22		Solids Handling	20 days	Mon 5/11/15	Fri 6/5/15																		
23		Miscellaneous	15 days	Mon 6/15/15	Fri 7/3/15																		
24		Meetings with Town	5 days	Mon 6/15/15	Fri 6/19/15																		
25		Civil	21 days	Mon 5/25/15	Mon 6/22/15																		
26		Architectural	21 days	Mon 5/25/15	Mon 6/22/15																		
27		Structural	21 days	Mon 6/8/15	Mon 7/6/15																		
28		Mechanical	21 days	Mon 6/8/15	Mon 7/6/15																		
29		Instrumentation	21 days	Mon 6/8/15	Mon 7/6/15																		
30		Electrical	21 days	Mon 6/8/15	Mon 7/6/15																		
31		Identify permits	21 days	Wed 6/17/15	Wed 7/15/15																		
32		Identify sequence	21 days	Wed 6/17/15	Wed 7/15/15																		
33		Identify schedule	21 days	Wed 6/17/15	Wed 7/15/15																		
34		Prepare cost estimate	30 days	Wed 6/17/15	Tue 7/28/15																		
35		Prepare report	33 days	Wed 6/17/15	Fri 7/31/15																		
36		Meetings with Town	5 days	Mon 8/3/15	Fri 8/7/15																		
37		Review Period	20 days	Mon 8/3/15	Fri 8/28/15																		
38		Value Engineering 1	20 days	Mon 8/3/15	Fri 8/28/15																		



Project: Exeter WWTF Design, 11 Date: Fri 3/13/15	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline
	Split		External Tasks		Inactive Summary		Manual Summary		Progress
	Milestone		External Milestone		Manual Task		Start-only		Finish-only
	Summary		Inactive Task		Duration-only		Finish-only		Finish-only

ID	Task Mode	Task Name	Duration	Start	Finish	2nd Quarter				3rd Quarter			4th Quarter			1st Quarter			2nd Quarter			3rd Quarter		
						Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
39		Final Design																						
40		60% Submittal	87 days	Thu 8/20/15	Fri 12/18/15																			
41		Review Period	25 days	Mon 12/21/15	Fri 1/22/16																			
42		Value Engineering 2	25 days	Mon 12/21/15	Fri 1/22/16																			
43		90% Submittal	70 days	Mon 1/25/16	Fri 4/29/16																			
44		Review Period	20 days	Mon 5/2/16	Fri 5/27/16																			
45		100% Submittal	20 days	Mon 5/30/16	Fri 6/24/16																			
46		Bidding	1 day	Mon 6/27/16	Mon 6/27/16																			
47		Advertise	1 day	Tue 6/28/16	Tue 6/28/16																			
48		Bidding	33 days	Wed 6/29/16	Fri 8/12/16																			
49		Bid Opening-BOS	0 days	Mon 8/15/16	Mon 8/15/16																			
50		Bid Evaluation	10 days	Mon 8/15/16	Fri 8/26/16																			
51		Award	10 days	Mon 8/29/16	Fri 9/9/16																			
52		Notice to Proceed	10 days	Mon 9/12/16	Fri 9/23/16																			

Project: Exeter WWTF Design, 11
Date: Fri 3/13/15

Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
Split		External Tasks		Inactive Summary		Manual Summary		Progress	
Milestone		External Milestone		Manual Task		Start-only			
Summary		Inactive Task		Duration-only		Finish-only			