Hazen

## SCOPE OF SERVICES

## HAZEN AND SAWYER SERVICE ORDER No. 31

## CITY OF MIAMI BEACH PUBLIC WORKS DEPARTMENT

## Belle Isle Booster Station Detailed Design Services

### PROJECT BACKGROUND

The Belle Isle Water Booster Station (W-5) is located at 28 Venetian Way in Miami Beach, Florida. W-5 is used to supplement the system pressure supplied by the 30-inch interconnect from the Miami Dade Water and Sewer Department (WASD) system and increases system reliability during emergencies. W-5 is the only one-pump "booster station" in the City's water system. W-5 is also comprised of an above-grade electrical building (that is located across the street from the booster station and is shared with sewer Pump Station No. 10) that houses controls, electrical gear, and an indoor diesel emergency generator. W-5 is nearing the end of its useful life and requires significant hardening and rehabilitation to improve reliability moving into the future.

This project seeks to increase the resilience of W-5 by rehabilitating the mechanical, structural, and electrical equipment; instrumentation and controls; ventilation and air conditioning systems; and performing overall facility hardening. A new emergency generator and fuel tank will be installed at the electrical building with sufficient capacity to run the booster station and sewer pump station.

W-5 was identified as a High Criticality asset in the City of Miami Beach Water & Sewer Renewal and Replacement Report dated May 2018 and was included in the 2020-2024 implementation timeframe in the City of Miami Beach Water System Master Plan dated October 2019. In order to ensure reliability moving forward, a complete hardening and rehabilitation of the booster station is proposed.

As the improvements described above are grant funded, the design team will take careful consideration of the terms of the grant and the items that are eligible for reimbursement for construction.

The CITY has requested that Hazen and Sawyer (HAZEN) submit a proposal for engineering services related to the detailed design of upgrades to W-5, Belle Isle Booster Station. HAZEN shall provide professional engineering services consisting of the tasks further described below.

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## SCOPE OF SERVICES

### Task 1 – Site Investigation and Data Collection

HAZEN will coordinate with CITY staff to gather relevant as-builts and site-specific data on W-5 and its associated transmission mains. Utility locates will be called for using Sunshine 811 for the pump station site and the streets surrounding the pump station. Using this design ticket information, HAZEN will request as-built data from all utilities identified in the area. HAZEN will utilize this data during the design process to verify if any existing utilities will be impacted by the proposed W-5 work

HAZEN will also conduct site visits to document the accuracy of the record drawings and inspect mechanical and structural elements of the pump station. During the site visits, HAZEN will discuss with CITY staff any items that are to be replaced, modified, and/or salvaged.

The following supports services will be provided as part of the this task:

- The services of a licensed State of Florida Surveyor to conduct a topographic survey of the area proposed for the W-5 improvements. See Figure 1 for approximate survey limits. The topographic survey will include elevations, easements, right of way limits, edges of pavement, visible utilities, and other surface features. Utility locates and soft digs are also included in the surveyor scope.

- The services of a geotechnical engineering subconsultant to perform a total of (3) three Standard Penetration Test (SPT) borings in accordance with American Society of Testing Materials (ASTM) D-1586. (2) two borings to a depth of 30 feet and (1) one boring to a depth of 100 feet will be taken

in the vicinity of the pump station site . Soft digs at various locations in order to verify existing below ground utility locations to avoid conflict with new pipelines.

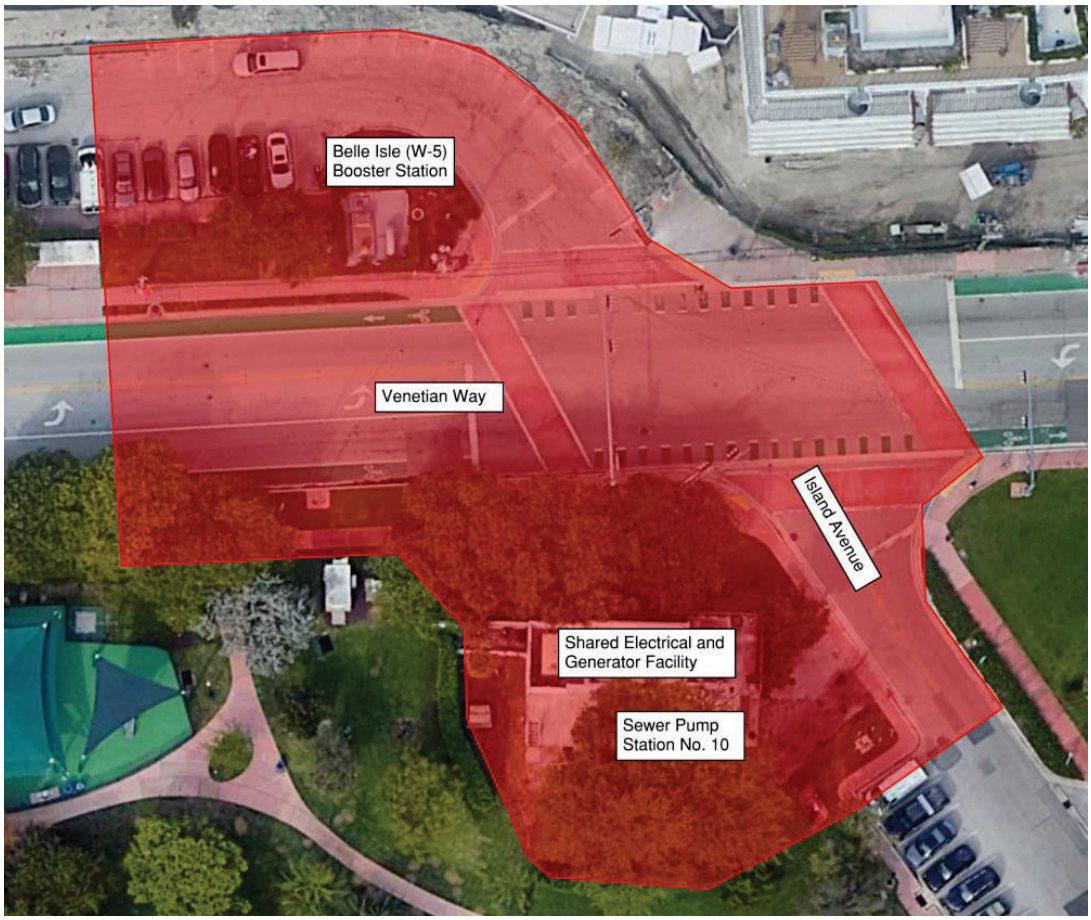


**Figure 1. Approximate Survey Limits**

HAZEN shall review the completed survey performed to assure its completeness prior to its utilization. Signed and sealed copies of the survey shall be provided for CITY record.

HAZEN shall review the completed geotechnical analysis performed to assure its completeness prior to its utilization. Signed and sealed copies of the final geotechnical report shall be provided for CITY record. A signed/ sealed geotechnical report will be included within the bid specification as an appendix.

HAZEN shall manage the subconsultants under this task including coordinating subconsultant's activities, scheduling, reviewing submitted surveys, and processing invoices.

**Task 1: Deliverables**

1. Topographic Survey: (1) Signed and sealed copy, (1) electronic copy.
2. Geotechnical Report: (1) Signed and sealed copy, (1) electronic copy

**Task 2 – 30% Design**

Upon completion of Task 1, HAZEN will take the information gathered and prepare drawings and specifications for the upgrades to W-5. The drawings and specifications will include all necessary

information to accommodate the proposed improvements. The proposed project includes numerous resilience improvements to W-5 including:

- Replacement of existing booster pump and installation of a permanent bypass.
- Structural rehabilitation, repairs, and overall facility hardening (flood proofing) of the booster station per Florida Building Code High Velocity Hurricane Zone requirements
- Replacement of existing booster station electrical equipment and controls (all booster station electrical and controls panels, and corresponding electrical components in the Sewer Pump Station 10 electrical building: VFD BI-1 in MCC-10, PCP-1, associated controls, wiring) and hardening (flood proofing) of the Sewer Pump Station 10 electrical building (replacement of windows, doors, louvers) per Florida Building Code High Velocity Hurricane Zone requirements
- Replacement of the ventilation and air conditioning systems at the booster station and Sewer Pump Station 10 electrical building
- Overall improvements for increased safety and improved accessibility of the booster station and Sewer Pump Station 10 electrical building for City maintenance operations
- Install new generator at Sewer Pump Station 10 electrical building of sufficient capacity to operate both the sewer and booster pump in the event of a power outage, including all structural, mechanical, instrumentation and/or electrical work integral to the generator.

HAZEN will examine both existing and proposed booster station operating conditions. The City's current water model will be utilized to confirm existing/proposed hydraulic operating points as well as the impact pf the proposed improvements to the transmission system and associated ancillary equipment. Flow and pressure monitoring will be deployed in the field to verify current booster station performance and system conditions.

A preliminary drawing list is presented below.

| Sheet No. | Drawing No. | Drawing Title |
|---|---|---|
| | **General** | |
| 1 | G-1 | Cover Sheet and Location Map |
| 2 | G-2 | List of Drawings |
| 3 | G-3 | Abbreviations/Acronyms |
| 4 | G-4 | General Notes |
| 5 | G-5 | Survey Sheet 1 |
| | | |
| | **Civil** | |
| 6 | C-3 | Existing/Demolition Site Plan |
| 7 | C-5 | Proposed Site Plan |
| 8 | C-8 | Proposed Grading and Drainage Plan |
| 9 | C-10 | Pavement Restoration Plan |
| 10 | C-12 | Civil Details - Sheet 1 |
| 11 | C-13 | Civil Details - Sheet 2 |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| | **Mechanical** | |
| 12 | M-1 | Bypass Pumping Plan |
| 13 | M-2 | Bypass Pumping Details |
| 14 | M-4 | Belle Isle Yard Piping Plan |
| 15 | M-6 | Belle Isle Demolition Plan |
| 16 | M-9 | Belle Isle Proposed Plan |
| 17 | M-10 | Belle Isle Proposed Section |
| 18 | M-11 | Generator and Fuel Storage Tank Plan |
| 19 | M-12 | Generator and Fuel Storage Tank Sections - Sheet 1 |
| 20 | M-14 | Mechanical Details Sheet 1 |
| 21 | M-17 | Mechanical Details Sheet 2 |
| | | |
| | **Instrumentation** | |
| 22 | I-1 | Symbols, Abbreviations and Legend |
| 23 | I-2 | Control System Architecture |
| 24 | I-3 | Booster Station P&ID |
| 25 | I-4 | Generator P&ID |
| 26 | I-5 | Intrusion Alarm Monitoring P&ID |
| 27 | I-6 | Instrumentation Details 1 |
| | | |
| | **Structural Architectural** | |
| 28 | S/A-1 | Structural General Notes |
| 29 | S/A-2 | Belle Isle Demolition Plan and Sections |
| 30 | S/A-3 | Belle Isle Proposed Plan and Sections |
| 31 | S/A-4 | Electrical/Generator Building Hardening |
| 32 | S/A-5 | Electrical/Generator Building Hardening |
| 33 | S/A-7 | Generator Room |
| 34 | S/A-8 | Fuel Storage Tank Slab |
| 35 | S/A-9 | Structural Details – Sheet 1 |
| 36 | S/A-10 | Structural Details – Sheet 2 |
| | | |
| | **Electrical** | |
| 37 | E-1 | Electrical General Notes, Legends and Symbols |
| 38 | E-3 | Electrical Site Plan |
| 39 | E-4 | Booster Station Electrical Demolition and Modifications Plan |
| 40 | E-5 | Electrical/Generator Building Demolition |
| 41 | E-6 | Electrical/Generator Building New Work Plan |
| 42 | E-7 | Single Line Diagram |
| 43 | E-9 | Electrical and Control Risers |

| | | |
|---|---|---|
| 44 | E-12 | Electrical Details |
| | | |
| | **HVAC** | |
| 45 | H-1 | HVAC Symbols, Abbreviations and Notes |
| 46 | H-2 | Booster Station Demo and Proposed |
| 47 | H-4 | Electrical/Generator Demolition Plan |
| 48 | H-5 | Electrical/Generator Building Plan |
| 49 | H-6 | HVAC Schedules |
| 50 | H-8 | HVAC Details 1 |

The 30 percent complete set of construction documents will be submitted to the CITY for review and comment. HAZEN will also provide an estimate of probable construction cost in accordance with American Association of Cost Engineering (AACE) International Recommended Practice 56R-08 Cost Estimate Classification System – As Applied for the Building and General Construction Industries. HAZEN will attend one (1) meeting with CITY representatives to receive their design input. It is anticipated the CITY will complete its review of the 30 percent drawings and specifications within 10 working days of receipt of the submittal package.

Upon receipt of the 30 percent comments from CITY staff, HAZEN will proceed with the preparation of the 60 percent construction documents.

**Task 2: Deliverables**

1. 30 Percent Submittal: (1) electronic copy of drawings and draft technical specifications
2. 30 Percent Estimate of Probable Construction Cost: (1) electronic copy
3. 30 Percent Submittal meeting minutes: (1) electronic copy emailed to meeting participants

**Task 3 – 60% Design**

The 60 percent complete set of construction documents will be submitted to the CITY for review and comment. HAZEN will also provide an estimate of probable construction cost in accordance with American Association of Cost Engineering (AACE) International Recommended Practice 56R-08 Cost Estimate Classification System – As Applied for the Building and General Construction Industries. HAZEN will attend one (1) meeting with CITY representatives to receive their design input. It is anticipated the CITY will complete its review of the 60 percent drawings and specifications within 10 working days of receipt of the submittal package.

Upon receipt of the 60 percent comments from CITY staff, HAZEN will proceed with the preparation of the 90 percent construction documents.

Under this task, all necessary administrative and managerial efforts are included, such as communication and coordination with the various governmental agencies, CITY representatives, and all other parties involved in the project.

**Task 3: Deliverables**

1. 60 Percent Submittal: (1) electronic copy of drawings and draft technical specifications
2. 60 Percent Estimate of Probable Construction Cost: (1) electronic copy

3. 60 Percent Submittal meeting minutes: (1) electronic copy emailed to meeting participants

**Task 4 – 90% Design**

The 90 percent documents will be submitted to the CITY for review and comment. HAZEN will also provide an estimate of probable construction cost in accordance with AACE International Recommended Practice 56R-08 Cost Estimate Classification System – As Applied for the Building and General Construction Industries. It is anticipated the CITY will complete review of the 90 percent complete plans and specifications within 10 working days of receipt of the submittal package. After receipt and incorporation of the 90 percent comments, HAZEN will proceed with the preparation of the 100 percent construction documents and start the permitting process, see Task 6.

Upon receipt of all permit approvals, HAZEN will generate a final bid set of construction documents to be utilized for bidding purposes.

Under this task, all necessary administrative and managerial efforts are included, such as communication and coordination with the various governmental agencies, CITY representatives, and all other parties involved in the project.

**Task 4: Deliverables**

1. 90 Percent Submittal: (1) electronic copy of drawings and specifications
2. 90 Percent Estimate of Probable Construction Cost: (1) electronic copy
3. 90 Percent Submittal meeting minutes: (1) electronic copy emailed to meeting participants
4. Permit Set Submittal: (1) electronic copy of drawings and specifications

**Task 5 – 100% Design**

The 100 percent documents will be submitted to the CITY for final review and comment. HAZEN will also provide an estimate of probable construction cost in accordance with AACE International Recommended Practice 56R-08 Cost Estimate Classification System – As Applied for the Building and General Construction Industries. It is anticipated the CITY will complete review of the 100 percent complete plans and specifications within 10 working days of receipt of the submittal package.

Upon receipt of all permit approvals, HAZEN will generate a final bid set of construction documents to be utilized for bidding purposes.

Under this task, all necessary administrative and managerial efforts are included, such as communication and coordination with the various governmental agencies, CITY representatives, and all other parties involved in the project.

**Task 5: Deliverables**

1. 100 Percent Submittal: (1) electronic copy of drawings and final technical specifications
2. 100 Percent Estimate of Probable Construction Cost: (1) electronic copy
3. Bid Set Submittal: (1) electronic copy of drawings and specifications

**Task 6 – Permitting and Bid Phase Services**

HAZEN will develop the required permit application packages to obtain the following permits/regulatory approvals:

- Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWs

(FDEP) (DERM and FDOH)
- MDWASD
- Miami Beach Building “Dry Run”
- Miami Dade County Public Works (work on Venetian Way)

Any permit comments will be addressed prior to generating the final Bid Set.

Although HAZEN will make every effort to submit in a timely manner to all permitting agencies, it is recognized that review time is often beyond the Consultant’s control. It is assumed that all permits may be obtained from the applicable regulatory agencies within sixty (60) days of initial submittal.

The selected bidder shall utilize the approved permit plans to secure the construction permit from the Building Department. The City shall be responsible for payment of any permitting fees not specifically listed under the “Assumptions” heading.

HAZEN will attend (1) one pre-bid conference.

HAZEN will receive and provide timely responses to Requests for Information (RFIs) from contractors during the bid process. HAZEN will prepare written addenda with RFIs and responses and the final version of each addenda will be transmitted to the CITY project administrator for review and issuance.

Within five (5) calendar days of receipt of bids, HAZEN will evaluate the bids for technical responsiveness and price and will make a formal recommendation to the CITY regarding award of the contract. Non-technical bid requirements shall be evaluated by others.

**Task 6: Deliverables**

1. Bid tabulation and letter discussing the technical responsiveness of the bidders and a recommendation for award.
2. Permits and approvals from each regulatory agency.

**Task 7 – Construction Phase Services**

Hazen will complete and submit the regulatory agencies certification of completion of construction forms. Hazen will perform the following services during construction:

- Attend one (1) pre construction meeting with awarded contractor to discuss scope of work, design plans, permits and any additional documentation required for construction
- Attend bi-weekly progress meetings with the City and Contractor. The number of meetings shall be limited to twenty-six (26) under this scope of work.
- Preparation of Responses to RFIs. The number of responses to RFIs from the Contractor shall be limited to ten (10) under this scope of work
- Respond to Requests for Information (RFI) within 5 days after RFI is received by Hazen, in writing. RFIs will be tracked in a spreadsheet or database format.
- Review of shop drawing submittals provided by contractor that comply with the contract documents and are coordinated with associated items of work. The number of shop drawings shall be limited to thirty (30) under this scope of work.
- Periodic site visits towards project certification. The number of site visits shall be limited to twelve (12) under this scope of work. These visits shall not constitute project inspections
- Review and approval of contractor as-built drawings, including verification of regulatory compliance
- Project certification (contingent upon the City providing Hazen with daily inspection reports and progress photographs or videos)
- Change order reviews and coordination with the City for final determination. The number of change

order reviews from the Contractor shall be limited to three (3) under this scope of work
- Review start up documentation, pump tests, and support the City on substantial completion, and project closeout.

The City shall provide Hazen with daily inspection reports and photographic records for Hazen to certify the project.

**Task 7: Deliverables**

1. Shop drawing reviews and RFI response.

## ASSUMPTIONS

This scope of services is based on the following assumptions:

1. Responses to various inquires shall be made based on the best available information provided to HAZEN at the time of the review.
2. The latest water model used in the Water Master Plan (October 2019) will be used to assess the impacts of the proposed upgrades to W-5.
3. The CITY will provide available information and record drawings for W-5 and PS 10 in ACAD format (if ACAD unavailable then PDF format is acceptable), as well as any other pertinent data requested by HAZEN.
4. The CITY acknowledges that HAZEN's scope is based on information made available at the time of this Task Order and data gathered during site visits and meetings.
5. The CITY will provide all requested information within a reasonable timeframe. It is assumed that all information provided by the CITY is complete and accurate.
6. Site visits in this task will require the presence of CITY personnel. Additionally, the CITY agrees to work with HAZEN to ensure compliance with the proposed schedule.
7. Performance durations provided assume timely permit processing by regulatory agencies having jurisdiction over the project. Delays in obtaining permits, beyond the control of HAZEN and our subcontractors, may results in delays to the performance schedule for which we cannot be held liable.
8. Proposed regulators and permits have been identified to the best of HAZEN's knowledge.
9. Permitting fees for CITY Building Department dry run shall be waived or paid directly by the CITY.
10. HAZEN will follow the provisions of the City of Miami Beach Public Works Manual as relevant and appropriate.
11. Demolition and replacement or raising the roof of the existing electrical/generator building is not included in this scope. Hardening measures to address required design flood elevation requirements for the existing electrical/generator building will include various flood proofing measures (flood barriers, flood proof doors and hatches, etc) and raising of equipment if feasible.
12. The list of drawings proposed is based on the current estimated level of effort to complete the design of the upgrades to W-5. Should additional drawings be required as the design progresses in order to satisfy all project and regulatory requirements, HAZEN reserves the right to request additional compensation for the additional work.
13. Should additional permits not listed in Task 6 be required, HAZEN reserves the right to request additional compensation for services needed to obtain the additional permits.
14. $1,500 has been included in the Direct Expenses allowance to cover permit fees and travel expenses. Should the total permit fees exceed $1,500, HAZEN will request the CITY to pay the permit fee directly or HAZEN will request additional compensation to cover the permit fee.

## PERFORMANCE SCHEDULE

The Notice to Proceed (NTP) defines the official commencement of the HAZEN's contract. The schedule presented below assumes receipt of NTP in November 2023.

| Task Description | Calendar Days after NTP |
|---|---|
| Site Investigation and Data Collection | 60 |
| 30% Submittal | 90 |
| 60% Submittal | 150 |
| 90% Submittal | 180 |
| 100% Submittal | 210 |
| Permitting and Bid Phase Services | 240 |
| Construction Phase Services | 300 |

## METHOD OF COMPENSATION

HAZEN shall perform the services defined in this scope of services for a lump sum fee of $557,164.59 and reimbursable expenses of $1,500.00 for a total fee of $558,664.59. Reimbursable expenses are an allowance set aside by the CITY and shall only include actual travel related expenditures made by HAZEN's project team members in the interest of the project. Justification for travel would include necessary in person meetings by subject matter experts. Travel reimbursement will be in accordance with the City's travel policy OD.20.01 "Travel on City Business." The breakdown of fees per task is detailed in Appendix A – Fee Estimate.

Authorization

Jayson Page, PE
Vice President

**City of Miami Beach**
**BELLE ISLE BOOSTER STATION DESIGN**
**Fee Estimate**
**Service Order No. 31**

| Task No. | Task Description | Vice President<br>Chris Kish | Vice President<br>Jose Caraballo | Senior Associate<br>Beth Waters | Associate<br>Jorge Elias | Associate<br>Dave Witte | Project Manager<br>Sergio Williams | Project Engineer<br>Ernesto Fernandez | Principal Enginner<br>Jose Cano | Sr. Principal Engineer<br>Nandita Ahuja | Assistant Engineer<br>Celia Suarez | CADD Manager<br>Mabel Villazon | CADD Technician<br>Jocelyn Roman | CADD Technician<br>Lizeth Jimenez | Administrator<br>Francisco Reborder | Surveyor & Mapper<br>Eddie Suarez | Staff Geotech Eng<br>Rafael Pina | Administrator<br>Peggy Jaime | Total Hours | Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ 280.00 | $ 280.00 | $ 280.00 | $ 227.17 | $ 227.17 | $ 229.26 | $ 194.99 | $ 178.45 | $ 203.26 | $ 133.54 | $ 179.63 | $ 88.63 | $ 88.63 | $ 100.45 | $ 134.49 | $ 106.36 | $ 100.45 | | |
| 1 | **Site Investigation and Data Collection** | | | | | | | | | | | | | | | | | | | |
| 1.1 | Data gathering, utility coordination, and site visits | | 2 | 2 | 4 | 4 | 2 | 8 | 4 | | 16 | 2 | | | 1 | | | | | $ 8,266 |
| 1.2 | Topographic survey | | | | | | 16 | 4 | | | | 6 | 8 | | 1 | | | | | $ 6,335 |
| 1.3 | Topographic survey support services | | | | | | | | | | | | | | | 141 | | | | $ 18,963 |
| 1.4 | Geotechnical | | | | | | 4 | 4 | | | | 4 | 4 | | 1 | | | | | $ 2,870 |
| 1.5 | Geotechnical support services | | | | | | | | | | | | | | | | 110 | | | $ 11,700 |
| **Subtotal Task 1** | | **0** | **2** | **2** | **4** | **4** | **22** | **16** | **4** | **0** | **16** | **12** | **12** | **0** | **3** | **141** | **110** | **0** | **348** | **$ 48,135** |
| 2 | **30% Design** | | | | | | | | | | | | | | | | | | | |
| 3.1 | Structural/Arch - rehabilitation and hardening (30% Design) | | | | | | 4 | | | | | | | | | | | | | $ 917 |
| 3.2 | Structural/Arch - Generator (30% Design) | | | | | | 4 | | | | | | | | | | | | | $ 917 |
| 3.3 | Structural/Arch - support services (30% Design) | | 4 | | | | 12 | 30 | | | 16 | 2 | 16 | | | | | | | $ 13,635 |
| 3.4 | Mechanical - HVAC (30% Design) | 1 | | 2 | | 35 | | | | | | | | 16 | | | | 1 | | $ 10,309 |
| 3.5 | Mechanical - Process Mechanical (30% Design) | | 8 | | | | 24 | 24 | | 40 | 32 | 8 | 16 | | 2 | | | | | $ 27,882 |
| 3.6 | Electrical - generator (30% Design) | 1 | | 2 | | | | | 24 | | | | | 16 | | | | 1 | | $ 6,641 |
| 3.7 | Electrical - Instrumentation and Controls (30% Design) | 1 | | 2 | 30 | | | | | | | | | 16 | | | | 1 | | $ 9,174 |
| 3.8 | Electrical - Booster Station electrical (30% Design) | 1 | | 2 | | | | | 24 | | | | | 16 | | | | 1 | | $ 6,641 |
| 3.9 | Civil - Site Civil and piping (30% Design) | | 8 | | | | 12 | 24 | | | 24 | 8 | 32 | | 2 | | | | | $ 17,350 |
| **Subtotal Task 2** | | **4** | **20** | **8** | **30** | **35** | **56** | **78** | **48** | **40** | **72** | **18** | **64** | **64** | **4** | **0** | **0** | **4** | **545** | **$ 93,466** |
| 3 | **60% Design** | | | | | | | | | | | | | | | | | | | |
| 3.1 | Structural/Arch - rehabilitation and hardening (60% Design) | | | | | | 8 | | | | | | | | | | | | | $ 1,834 |
| 3.2 | Structural/Arch - Generator (60% Design) | | | | | | 8 | | | | | | | | | | | | | $ 1,834 |
| 3.3 | Structural/Arch - support services (60% Design) | | 4 | | | | 24 | 30 | | | 24 | 2 | 24 | | | | | | | $ 18,163 |
| 3.4 | Mechanical - HVAC (60% Design) | 1 | | 2 | | 40 | | | | | | | | 30 | | | | 1 | | $ 12,686 |
| 3.5 | Mechanical - Process Mechanical (60% Design) | | 8 | | | | 24 | 42 | | | 48 | 12 | 16 | | 2 | | | | | $ 26,116 |
| 3.6 | Electrical - generator (60% Design) | 1 | | 2 | | | | | 24 | | | | | 30 | | | | 1 | | $ 7,882 |
| 3.7 | Electrical - Instrumentation and Controls (60% Design) | 1 | | 2 | 40 | | | | | | | | | 30 | | | | 1 | | $ 12,686 |
| 3.8 | Electrical - Booster Station electrical (60% Design) | 1 | | 2 | | | | | 36 | | | | | 30 | | | | 1 | | $ 10,024 |
| 3.9 | Civil - Site Civil and piping (60% Design) | | 8 | | | | 16 | 36 | | | 32 | 12 | 42 | | 2 | | | | | $ 23,280 |
| **Subtotal Task 3** | | **4** | **20** | **8** | **40** | **40** | **80** | **108** | **60** | **0** | **104** | **26** | **82** | **120** | **4** | | | **4** | **700** | **$ 114,506** |
| 4 | **90% Design** | | | | | | | | | | | | | | | | | | | |
| 4.1 | Structural/Arch - rehabilitation and hardening (90% Design) | | | | | | 4 | | | | | | | | | | | | | $ 917 |
| 4.2 | Structural/Arch - Generator (90% Design) | | | | | | 4 | | | | | | | | | | | | | $ 917 |
| 4.3 | Structural/Arch - support services (90% Design) | | 8 | | | | 24 | 40 | | | 40 | 4 | 20 | | | | | | | $ 23,375 |
| 4.4 | Mechanical - HVAC (90% Design) | 1 | | 2 | | 45 | | | | | | | | 20 | | | | 1 | | $ 12,936 |
| 4.5 | Mechanical - Process Mechanical (90% Design) | | 8 | | | | 24 | 40 | | | 40 | 10 | 24 | | 1 | | | | | $ 24,907 |
| 4.6 | Electrical - generator (90% Design) | 1 | | 4 | | | | | 35 | | | | | 20 | | | | 1 | | $ 9,519 |
| 4.7 | Electrical - Instrumentation and Controls (90% Design) | 1 | | 4 | 40 | | | | | | | | | 20 | | | | 1 | | $ 12,360 |
| 4.8 | Electrical - Booster Station electrical (90% Design) | 1 | | 4 | | | | | 35 | | | | | 20 | | | | 1 | | $ 9,519 |
| 4.9 | Civil - Site Civil and piping (90% Design) | | 8 | | | | 22 | 44 | | | 36 | 10 | 24 | | 1 | | | | | $ 24,695 |
| **Subtotal Task 4** | | **4** | **24** | **14** | **40** | **45** | **78** | **124** | **70** | **0** | **116** | **24** | **68** | **80** | **2** | | | **4** | **693** | **$ 119,144** |
| 5 | **100% Design** | | | | | | | | | | | | | | | | | | | |
| 5.1 | Structural/Arch - rehabilitation and hardening (100% Design) | | | | | | 4 | | | | | | | | | | | | | $ 917 |
| 5.2 | Structural/Arch - Generator (100% Design) | | | | | | 4 | | | | | | | | | | | | | $ 917 |
| 5.3 | Structural/Arch - support services (100% Design) | | 8 | | | | 24 | 24 | | | 25 | 4 | 20 | | | | | | | $ 18,252 |
| 5.4 | Mechanical - HVAC (100% Design) | 1 | | 2 | | 25 | | | | | | | | 20 | | | | 1 | | $ 8,392 |
| 5.5 | Mechanical - Process Mechanical (100% Design) | | 6 | | | | 12 | 20 | | | 20 | 4 | 8 | | 1 | | | | | $ 12,530 |
| 5.6 | Electrical - generator (100% Design) | 1 | | 4 | | | | | 20 | | | | | 20 | | | | 1 | | $ 6,842 |
| 5.7 | Electrical - Instrumentation and Controls (100% Design) | 1 | | 4 | 25 | | | | | | | | | 20 | | | | 1 | | $ 8,952 |
| 5.8 | Electrical - Booster Station electrical (100% Design) | 1 | | 4 | | | | | 20 | | | | | 20 | | | | 1 | | $ 6,842 |
| 5.9 | Civil - Site Civil and piping (100% Design) | | 6 | | | | 12 | 16 | | | 16 | 4 | 16 | | 1 | | | | | $ 11,925 |
| **Subtotal Task 5** | | **4** | **20** | **14** | **25** | **25** | **56** | **60** | **40** | **0** | **61** | **12** | **44** | **80** | **2** | | | **4** | **447** | **$ 75,569** |
| 6 | **Permitting and Bid Phase Services** | | | | | | | | | | | | | | | | | | | |
| 6.1 | Permit application preparation and coordination | | 8 | 4 | 8 | 24 | 32 | 16 | 32 | | 16 | 8 | 16 | | 2 | | | | | $ 31,989 |
| 6.2 | Pre-Bid Meeting | | 2 | | 2 | 2 | 2 | 2 | 2 | | | | | | 1 | | | | | $ 2,775 |
| 6.3 | Response to RFIs | | | | 2 | 2 | 6 | 24 | 2 | | | | 4 | 8 | 1 | | | | | $ 8,485 |
| 6.4 | Review of Bid s and Award Assistance | | | | | | 4 | 4 | | | | | | | 1 | | | | | $ 1,797 |
| **Subtotal Task 6** | | **0** | **10** | **4** | **12** | **28** | **44** | **46** | **36** | **0** | **16** | **8** | **20** | **8** | **5** | | | **0** | **237** | **$ 45,046** |
| 7 | **Limited Construction Phase Services** | | | | | | | | | | | | | | | | | | | |
| 7.1 | Pre-Construction Meeting | | 2 | 2 | | | 2 | | | | | | | | | | | | | $ 1,579 |
| 7.2 | Bi-weekly progress meetings | | | | | | 52 | | | | | | | | | | | | | $ 11,922 |
| 7.3 | Review Shop Drawings | | 8 | 8 | 8 | 16 | 2 | 4 | 24 | | 4 | | | | | | | | | $ 15,988 |
| 7.4 | Respond to RFIs | | 8 | 8 | 8 | 16 | 2 | 4 | 24 | | 4 | | | | | | | | | $ 15,988 |
| 7.5 | Site visits | | | 8 | | | 24 | | 16 | | | | | | | | | | | $ 10,597 |
| 7.6 | Project closeout | | 4 | 4 | | | | 8 | 8 | | | | | | | | | | | $ 5,228 |
| **Subtotal Task 7** | | **0** | **22** | **30** | **16** | **32** | **82** | **16** | **72** | **0** | **8** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **278** | **$ 61,300** |
| | | | | | | | | | | | | | | | | | | | | |
| | **Direct Expenses** | | | | | | | | | | | | | | | | | | | |
| | Permit Fees and Travel Expenses | | | | | | | | | | | | | | | | | | | **$ 1,500** |
| | | | | | | | | | | | | | | | | | | | | |
| | **TOTALS** | **16** | **118** | **80** | **167** | **209** | **418** | **448** | **330** | **40** | **393** | **100** | **290** | **352** | **20** | **141** | **110** | **16** | **3248** | **$ 558,664.59** |
| | | **$ 4,480.00** | **$ 33,040.00** | **$ 22,400.00** | **$ 37,937.39** | **$ 47,478.53** | **$ 95,830.68** | **$ 87,355.52** | **$ 58,888.50** | **$ 8,130.40** | **$ 52,481.22** | **$ 17,963.00** | **$ 25,702.70** | **$ 31,197.76** | **$ 2,009.00** | **$ 18,963.09** | **$ 11,699.60** | **$ 1,607.20** | | |