

TASK ORDER NO. 06

Design Services – Intercoastal Waterway Distribution Crossing Design

THIS TASK ORDER ("Task Order") is made on _____, 2022, between the **City of Lake Worth Beach**, a Florida municipal corporation located at 7 North Dixie Highway, Lake Worth, Florida 33460 ("City") and **Power Engineers, Inc.**, a Florida corporation ("Consultant").

1.0 Project Description:

The City desires the Consultant to provide those services as identified herein and generally described as: **Complete engineering design and permitting for a new submersible cable crossing the Intercoastal Waterway** (the "Project"). The Project is described in the consultant's proposal, dated March 11th, 2022, and is attached hereto as **Exhibit "1"** and incorporated herein.

2.0 Scope

Under this Task Order, the Consultant will provide professional services to the City as detailed in the **Consultant's proposal attached hereto and incorporated herein as Exhibit "1"**.

3.0 Schedule

The services to be provided under this Task Order shall be completed within **540** calendar days from the City's approval of this Task Order or the issuance of a Notice to Proceed.

4.0 Compensation

This Task Order is issued for a time and expense, not to exceed amount, of **\$216,553.00**. The attached proposal identifies all costs and expenses anticipated in the time and expense, not to exceed amount.

5.0 Project Manager

The Project Manager for the Consultant is Ivette Sanchez, phone: 407-341-6907; email: ivette.sanchez@powereng.com; and, the Project Manager for the City is Paul Nicholas, phone: 561-533-7353; email: Pnicholas@lakeworthbeachfl.gov

6.0 Progress Meetings

The Consultant shall schedule periodic progress review meetings with the City Project Manager as necessary but every 30 days as a minimum.

7.0 Limitation of Liability

The City agrees to limit CONSULTANT's liability, to the City and to those under contract with the City to perform the work under the scope of the Project, for insurable events arising from the CONSULTANT's performance under this Task Order to One Million Dollars (\$1,000,000.00). Except for the CONSULTANT's agreement and obligation to indemnify and hold harmless under the Agreement, the CONSULTANT's liability for non-insurable events including breach of contract shall not exceed \$216,553 under the proposed Task Order for this project.

8.0 Authorization

This Task Order is issued in compliance with the Consultants' Competition Negotiation Act, section 287.055, Florida Statutes, and pursuant to the Agreement for Professional Services between the City of Lake Worth and the Consultant, dated **May 1st, 2018** ("Agreement" hereafter). If there are any conflicts between the terms and conditions of this Task Order and the Agreement, the terms and conditions of the Agreement shall prevail; however, the specific scope of services set forth in this Task Order shall take precedence over any other more general description of services.

REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF the parties hereto have made and executed this Task Order on the day and year first above written.

CITY OF LAKE WORTH BEACH, FLORIDA

By: _____
Betty Resch, Mayor

ATTEST:

By: _____
Melissa Ann Coyne, CMC, City Clerk

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

APPROVED FOR FINANCIAL
SUFFICIENCY

By: _____
Glen J. Torcivia, City Attorney

By: _____
Bruce T. Miller, Financial Services Director

CONTRACTOR:

Power Engineers Inc.

By: Alan Sowell  Alan Sowell, PMP
VP, Project Management
POWER Engineers, Inc.
2022.03.11 15:28:55-05'00'

[Corporate Seal]

Print Name: _____

Title: _____

STATE OF Florida)
COUNTY OF Orange)

THE FOREGOING instrument was acknowledged before me by means of physical presence or online notarization on this 11 day of March 2022, by Alan Sowell, as the VP Project Management [title] of **Power Engineers Inc.**, a Florida Corporation authorized to do business in the State of Florida, who is personally known to me or who has produced _____ as identification, and who did take an oath that he or she is duly authorized to execute the foregoing instrument and bind the CONTRACTOR to the same.

Notary Seal



Betty Resch
Notary Public Signature

EXHIBIT "1"
(Consultants Proposal)



POWER ENGINEERS, INC.
1060 MAITLAND CENTER COMMONS
SUITE 110
ORLANDO, FL 32751 USA

PHONE 207-869-1200
FAX 207-869-1299

March 11, 2022

Paul Nicholas
Engineering Manager - Special Projects
City of Lake Worth Beach
1900 2nd Avenue North
Lake Worth Beach, FL 33461

Subject: Detailed Design and Engineering Proposal: Intracoastal Waterway Crossing Project

Dear Mr. Nicholas:

We are pleased to provide you with our proposal to City of Lake Worth Beach (CLWB) to provide design and engineering services to install a new underground 26kV circuit via Horizontal Directional Drilling (HDD) across the Intracoastal Waterway (ICWW). POWER Engineers, Inc. (POWER) is well positioned to provide engineering and design services for this project. POWER will also provide CLWB the required support to acquire the necessary permits to complete the project.

POWER's proposed pricing for this project is outlined in tabular form later in this proposal. Pricing provided is predicated on a time and materials approach in accordance with POWER's Professional Services Agreement with the City of Lake Worth Beach for Energy Management and Engineering Services (RFQ No. 18-303).

If you have any questions, please contact me at 407-341-6907. Our team is available to meet with you anytime to discuss our approach and proposal in detail. Thank you once again for this opportunity to work with City of Lake Worth Beach.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ivette Sanchez".

Ivette Sanchez, PMP
Project Manager

PROJECT DESCRIPTION

Provide engineering and design services for the following:

Distribution Engineering:

On West Side - Bryant Park

- Design conduit structure from crossing to proposed Automatic Transfer Switch (ATS) Location.
- Extend two conduit runs from ATS location to location determined by CLWB to tie in existing and new feeder.

On the East Side - Barton Park

- Design distribution system, conduit and cable, from crossing to new and existing underground equipment.
- Design conduit system to prepare the area for the planned upgrades to 23 kV.
- Design two riser poles to tie in existing 4 kV feeders to new equipment.

Transmission Underground Engineering:

- Detailed design of the underground line alignment, including setup required for construction of the HDD's.
- Support to CLWB's contractors for the geotechnical and survey field activities.
- Cable pulling calculations.
- Preparation of plan and profiles.
- Preparation of additional construction drawings. (trench cross sections, bonding one-lines, etc.)
- Preparation of HDD/civil specifications.
- Contractor bid support.

Environmental and Non-Environmental Permitting

- Provide CLWB the required support to acquire the necessary permits to complete the project.
- Contact the applicable federal/state/county/city government agency to determine the required permits for the project if needed.
- Collect or develop the necessary support information, complete the permit application, and submit to the appropriate agency.

POWER'S WORK PLAN FOR THIS PROJECT

This section presents our work plan prepared specifically for your project. Our work plan does the following:

- Defines the scope of work so you know exactly what we intend to do.
- Lists the deliverables that you will receive.
- Identifies your key project concerns and our proposed solutions.
- Serves as a ready-made project control system when the project begins.
- Becomes the foundation for project scheduling and budgeting throughout the project life.

A BASIS FOR PROJECT REPORTING

With this work plan, we can track tasks, subtasks and deliverables throughout the life of the project. Project status reports and project review checklists assist us in communicating and coordinating internally throughout the project.

CLWB AND POWER REVIEW

We invite you to review and revise this document with us before the project starts. This joint review will provide optimum coordination among all involved parties as the project progresses.

TASK OUTLINE**Task 0 Project Management**

Subtask 0.1 Project Supervision and Control

Task 1 Distribution Pre-Design Activities

Subtask 1.1 Design Criteria

1.2 Site Visit

Task 2 Distribution Overhead Line Design (Make Ready)

Subtask 2.1 Pre-Design

2.2 PoleForeman

2.3 Design

Task 3 Distribution Underground Design

Subtask 3.1 Pre-Design

3.2 Design

3.3 Pull Calculations

Task 4 Permitting Activities

Subtask 4.1 Permit Applications Support

Task 5 Material Procurement

Subtask 5.1 Material List

Task 6 Construction Drawings

Subtask 6.1 Plan Drawings

6.2 Plan and Profile Drawings

6.3 Project Status Meetings

Task 7 Quality Assurance

Subtask 7.1 Quality Assurance

Task 8 Construction Activities

Subtask 8.1 Issued for Construction Documents

8.2 Pre-Construction Meeting

8.3 Engineering Support During Construction

Task 9 Post-Construction Activities

Subtask 9.1 Record Drawings

Task 10 Pre-Design Activities

Subtask 10.1 Design Criteria

10.2 Site Visit

Task 11 Field Activities

Subtask 11.1 Line Survey

11.2 Geotechnical Evaluation

11.3 Thermal Evaluation

Task 12 Construction Drawings

Subtask 12.1 Plan and Profile Drawings

12.2 Trenchless Technology Design

12.3 Design Documentation

12.4 Permit Applications Support

12.5 Construction Drawings

12.6 Project Status Meetings

Task 13 Pre-Construction Activities

Subtask 13.1 Material/Construction Bid Package

Task 14 Construction Activities

Subtask 14.1 Issued for Construction Documents

14.2 Pre-Construction Meeting

14.3 Engineering Support During Construction

Task 15 Post-Construction Activities

Subtask 15.1 Record Drawings

Task 16 Environmental and Non-Environmental Permitting

Subtask 16.1 Environmental Permits

16.2 Road/Non-Environmental Permits

16.3 Project Status Meetings

TASK 0

PROJECT MANAGEMENT

Objective(s):

- To manage POWER's scope of services per City of Lake Worth Beach (CLWB)'s expectations and POWER's procedures.
- To coordinate with CLWB and to direct the smooth flow of project communications.
- To manage the work plan, schedule, and budgets for on-time completion of the project within approved parameters.

Prerequisite(s):

- Purchase Order (P.O.)
- Notice to Proceed

SUBTASK 0.1 PROJECT SUPERVISION AND CONTROL

Responsibility: POWER

Deliverable(s):

- Supervision Management
- Engineering Coordination and Bi-Weekly calls with CLWB

Communicate, supervise and coordinate project participants (within POWER's purview) to complete all tasks and activities as outlined in the approved scope of work. Establish and maintain with CLWB the project schedule for engineering related tasks. Track deliverables progress and completion relative to schedule. Monitor the work and budget and document work scope variances, if there are any, for CLWB's review. Prepare a Monthly Status Report to be attached to the Monthly Invoice which will summarize the status of deliverables, schedule and cost. Summarize the work performed in the reported billing period as well as work expected to be performed in the next billing period. Address problems, risks, trends and/or delays and the actions being taken to bring those areas back on schedule or budget.

Direct and coordinate POWER's project team with emphasis on:

- Compliance with CLWB's stated procedures and standards.
- Adherence to budget, scope, and schedule.
- Compliance with the Project Procedures and Design Criteria.
- Adherence to POWER's Quality Control and Quality Assurance procedures.

Assumption(s):

- Project duration of 18 months from P.O. Receipt.
- Project status meetings included in this subtask will address engineering time on biweekly project status meetings with CLWB and internal bi-weekly green sheet meetings.
- Meeting agendas and notes will be prepared to run meetings effectively.

TASK 1

DISTRIBUTION PRE-DESIGN ACTIVITIES

Objective(s):

- To identify, define, and secure City of Lake Worth Beach approval of the parameters necessary to proceed with the line design for the project.

Prerequisite(s):

- Notice to Proceed

SUBTASK 1.1 DESIGN CRITERIA

Responsibility: POWER

Deliverable(s):

- Design Criteria

Review the information from the project initiation meeting, ICWW Feasibility Study Report and data acquisition. Compile and issue the project conceptual for City of Lake Worth Beach review, revision, and approval. Summarize the proposed final design procedures and criteria including the proposed applicable design standards.

Ensure that the scope and content of the Design Criteria, as approved by City of Lake Worth Beach, serves as the basis for the detailed design engineering. Maintain and update the Design Criteria, during the life of the project.

Assumption(s):

- POWER will incorporate City of Lake Worth Beach's standards wherever possible.
- POWER will incorporate findings of the Intracoastal Waterway (ICWW) Feasibility Study Report issued on August 12, 2021.

SUBTASK 1.2 SITE VISIT

Responsibility: City of Lake Worth Beach/POWER

Deliverable(s):

- Meeting Notes

Review the maps or drawings for overhead and underground electric provided by City of Lake Worth Beach. POWER will note existing telephone and other communications, water, sewer, gas and storm drains during the site visit to determine any possible conflicts.

Use data obtained from the facilities maps during design to select and review routes/locations for line design to minimize possible interference between new, existing and future utilities.

ASSUMPTION(S):

- Preliminary Scope has been approved.
- Right-of-Entry has been granted.

TASK 2

DISTRIBUTION OVERHEAD LINE DESIGN (MAKE READY)

Objective(s):

- To determine the height, location, and type of structures and prepare plan drawings.
- To compile the constraining factors that determine the final line design and use this information to establish the final configurations to suit the specific requirements for the line.
- To prepare and document the design.

Prerequisite(s):

- Design Criteria
- Site Visit
- Overhead Construction Standards

SUBTASK 2.1 PRE-DESIGN

Responsibility: City of Lake Worth Beach/POWER

Deliverable(s):

- Schedule of deliverables

Following the site visit and meeting with the City of Lake Worth Beach to discuss standards, a schedule will be created. The schedule will include the delivery of design standards and will be broken out by month.

Assumption(s):

- Construction estimate will be created based on POWER's standard estimating spreadsheet unless City of Lake Worth Beach has an internal tool.

SUBTASK 2.2 POLEFOREMAN

Responsibility: POWER

Deliverable(s):

- PoleForeman Results for all distribution poles (pdf and pole foreman .pft files)

Input material specifications into PoleForeman for all relevant material, including:

- | | |
|------------------|----------------|
| • Insulators | • Guys |
| • Concrete Poles | • Anchors |
| • Wood Poles | • Reclosers |
| • Conductor | • Transformers |

Design structures to the loading conditions identified in the Design Criteria. Reference standards and use PoleForeman client file for design and loading.

Assumption(s):

- PoleForeman will be run on all distribution poles.

- Budget is based on 2 (two) poles. Additional work will be billed on a time-and-expense basis.
- City of Lake Worth Beach to provide all known material specifications and preferred vendor information (conductor, transformers, reclosers, disconnects and pole information).
- City of Lake Worth Beach to provide specifications and vendor preferences for all other material.

SUBTASK 2.3 DESIGN

Responsibility: POWER

Deliverable(s):

- Pole Class, Pole Height, Equipment Size, Design, and Specification

Design structures to the loading conditions identified in the Design Criteria. Reference City of Lake Worth Beach standards and use PoleForeman results to assist in design.

Determine and select the location and sizing for each required component (guys, anchors, insulators, line hardware, risers, cap banks, etc.) or member in conformance with applicable codes and design constraints.

Design will involve hardening the circuit and consist of:

- Structural analysis on all midspan poles. Any failing pole will be replaced.
- Replacing any damaged poles, insulators, braces, etc. discovered during the site visit.
- Replacing out of standard insulators with 35kV polymer insulators.
- Updating lightning protection and grounding to meet updated standards.
- Replace Underground riser facilities.
- Replace Overhead equipment per City of Lake Worth Beach's standards.

Assumption(s):

- City of Lake Worth Beach will provide any as built information of existing underground facilities.
- Conductor size will be provided by City of Lake Worth Beach.
- Budget is based on 2 (two) poles. Additional work will be billed on a time-and-expense basis.

TASK 3 DISTRIBUTION UNDERGROUND DESIGN

Objective(s):

- To determine the location of duct, splice boxes, type of cable and prepare plan & profile drawings.
- To compile the constraining factors that determine the final underground design, and use this information to establish the final structure, cable and foundation configurations to suit the specific requirements for the circuit.
- To prepare and document the design for the cable, splice boxes and terminations.
- Develop a phased plan with CLWB to coordinate relocation of overhead lines prior to station construction. Plan will entail the design and coordination to temporarily relocate existing facilities prior construction and leverage for final layout design.

Prerequisite(s):

- Design Criteria
- Site Visit
- Underground Construction Standards
- Topographical Survey
- Utility location survey (GPR Preferred) to show all underground utilities in the area

SUBTASK 3.1 PRE-DESIGN

Responsibility: City of Lake Worth Beach/POWER

DELIVERABLE(S):

- Schedule of deliverables

Following the site visit and meeting with the City of Lake Worth Beach to discuss standards, a schedule will be created. The schedule will include the delivery of design standards and will be broken out by month.

ASSUMPTION(S):

- Construction estimate will be created based on POWER's standard estimating spreadsheet unless City of Lake Worth Beach has an internal tool.

SUBTASK 3.2 DESIGN

Responsibility: POWER

Deliverable(s):

- Splice Box/Manholes Locations, Switch Locations, Equipment Size, Design, and Specification

Design underground circuit per conditions identified in the Design Criteria. Reference City of Lake Worth Beach standards and use survey results to assist in design.

Determine and select the location and sizing for each required component member in conformance with applicable codes and design constraints.

Design will involve creating underground circuit and consist of:

- Install new Underground riser facilities.
- Install Underground equipment per City of Lake Worth Beach's standards.

Assumption(s):

- City of Lake Worth Beach will provide any as built information of existing underground facilities.
- Cable size will be provided by City of Lake Worth Beach.
- Budget is based on ATS location, conduit and cable from the bore exit to the ATS on the west side, transformer, splice box, one new switch, cable and conduit to tie into existing equipment on the East (beach) side. Additional work will be billed on a time-and-expense basis.

SUBTASK 3.3 PULL CALCULATIONS

Responsibility: City of Lake Worth Beach/POWER

Deliverable(s):

- Pull Calculations

Review the design criteria and gather details to design the conduit/cable route for the new underground design.

Identify terminations locations and configurations. Consider the type of conduits, size of conduit, cable size, cable type and location of primary feed.

Provide engineering calculations related to conduit and cable sizing and prepare preliminary drawings to document design.

Assumption(s):

- City of Lake Worth Beach approved conduit, cable size and standard design will be used for sizing and locating.
- City of Lake Worth Beach to provide specifications on cable limitations.

TASK 4 PERMITTING ACTIVITIES

Objective(s):

- To identify other agencies or utilities that may be affected by the proposed project.
- Provide design/construction drawings to include in permitting applications packages.
- Work with POWER Environmental Team to secure permits required for the proposed project.

Prerequisite(s):

- Site Visit
- Notice to Proceed

SUBTASK 4.1 PERMITS APPLICATIONS SUPPORT

Responsibility: City of Lake Worth Beach/POWER

Review project and determine what road and environmental permits are required. Coordinate with the POWER Environmental team.

Assumption(s):

- Construction prints will be used for permit application packages. Two (2) permit applications packages are included in the work plan. If additional permit drawings are needed, they will be performed on a time-and-expense basis.
- Construction permits required by state and local agencies for access off highways, driveway permits, traffic control, de-watering, burning, etc., will be prepared, submitted and acquired by City of Lake Worth's construction contractor.

TASK 5

MATERIAL PROCUREMENT

Objective(s):

- To develop items required for the procurement phase of the project.

Prerequisite(s):

- Overhead Construction Standards
- Underground Construction Standards
- Line Design
- Underground Design

SUBTASK 5.1 MATERIAL LIST

Responsibility: City of Lake Worth Beach/POWER

Deliverable(s):

- Overall Material List
- Material List by Location

Using City of Lake Worth Beach master material list from previous projects, a material list will be created for all locations. A total material list will include an appropriate multiplier to cover loss and breakage.

Assumption(s):

- City of Lake Worth Beach is responsible for selecting vendor and ordering all material.
- City of Lake Worth Beach will provide their most up to date master material list.
- Technical specifications will not be required for purchase of miscellaneous material.
- Technical material specifications, if required, will be performed on a time-and-expense basis.
- For any needed material not on the City of Lake Worth Beach's master list, Lake Worth Beach will be responsible to select a vendor and part number.
- City of Lake Worth Beach will provide commercial conditions, solicit bids, and award contract for materials.

TASK 6

CONSTRUCTION DRAWINGS

Objective(s):

- To generate the drawings required during the construction phase of the project.

Prerequisite(s):

- Line Design
- Underground Design

SUBTASK 6.1 PLAN DRAWINGS

Responsibility: POWER

Deliverable(s):

- Plan Drawings (PDF and CAD files)

Prepare final Plan Drawings at one inch equal to forty feet (1"=40') unless otherwise specified by City of Lake Worth Beach. Profile drawings will only be created in critical areas. Depict information required for bidding, construction, and recording of the line including the following as applicable:

- Crossings
- Cable Phasing
- Transmission Locations
- Right of Way Boundaries
- Environmental Areas
- Termination Structures

Assumption(s):

- Planimetric and land line data shown in the plan view of the drawings will be limited to the detail delivered in the Line Survey or otherwise provided by City of Lake Worth Beach in electronic format.
- City of Lake Worth Beach to provide electronic version of the completed substation general arrangement drawing.
- Profile and supplemental drawings will be created only in critical areas on a time-and-expense basis.
- Modifications and/or creation of the overhead line plan drawings are not included in the budget, and if required, will be performed on a time-and-expense basis.
- Drawing format to be created by POWER and approved by City of Lake Worth Beach.
- Facility backgrounds will be easily exportable from the GIS system. If a background will need to be created from scratch, it will be created on a time-and-expense basis.

SUBTASK 6.2 PLAN & PROFILE DRAWINGS

Responsibility: POWER

Deliverable(s):

- Plan & Profile Drawings

Prepare final Plan & Profile Drawings at one inch equal to forty feet (1"=40') unless otherwise specified by City of Lake Worth Beach. Depict information required for bidding, construction, and recording of the line including the following as applicable:

- Crossings
- Cable Phasing
- Transmission Locations
- Right of Way Boundaries
- Environmental Areas
- Termination Structures

Assumption(s):

- Planimetric and land line data shown in the plan view of the drawings will be limited to the detail delivered in the Topographical Survey or otherwise provided by City of Lake Worth Beach in electronic format.
- City of Lake Worth Beach to provide electronic version of the completed substation general arrangement drawing.
- Modifications and/or creation of the underground line plan drawings are not included in the budget, and if required, will be performed on a time-and-expense basis.
- Drawing format to be created by POWER and approved by City of Lake Worth Beach.
- Facility backgrounds will be easily exportable from the GIS system or from survey. If a background will need to be created from scratch, it will be created on a time-and-expense basis.

SUBTASK 6.3 PROJECT STATUS MEETINGS

Responsibility: POWER

Deliverable(s):

- Engineering Coordination and Bi-Weekly calls with City of Lake Worth Beach
- Internal Engineering Coordination and Green-Sheet Meetings
- Actions Item List
- Status Reports

Provide communication to the City of Lake Worth Beach, POWER PM, POWER Environmental team and POWER Civil team in planning and scheduling of work.

Assumption(s):

- Meetings included in this subtask will address engineering time on biweekly project status meetings with CLWB and internal bi-weekly green sheet meetings.
- Field trips and/or hours required in excess of the limit specified above will be performed on a time-and-expense basis.

TASK 7 QUALITY ASSURANCE

Objective(s):

- To meet the quality objectives established for the project.

Prerequisite(s):

- Line Design
- Material Procurement
- Construction Drawings

SUBTASK 7.1 Quality Assurance

Responsibility: POWER

Deliverable(s):

- Green Book Design Summary
- Independent Review of Material List
- Independent Review of PoleForeman Structure Calculations
- Independent Review of Pull Calculations
- Independent Review of Construction Drawings
- Independent Review of Construction Package

Assemble project-related design data, during the course of the project, into a three-ring binder, referred to within POWER as the Green Book. Prepare cover sheets for each major set of calculations or design data included in the document as well as a table of contents summarizing the Green Book content. Include the following: Design Criteria, Supporting Calculations, Structure Design, Equipment Sizing. Assemble a complete set of the documents making up the construction package. Perform a detailed independent review of the construction drawings looking for check print history of changes, records of

picking up client requested changes, overall content quality and drafting standards. Perform a detailed independent review of the complete construction package focusing on the minimum amount of information needed to bid and construct project, as well as overall constructability issues. Address each of the reviewer's comments and incorporate changes into the documents as appropriate.

Assumption(s):

- POWER will submit digital copies to City of Lake Worth Beach at the completion of the project upon request.
- All design documents will be stored in a shared location accessible to both City of Lake Worth Beach and POWER throughout the life of the project.
- POWER'S QA/QC procedures will be followed unless City of Lake Worth Beach has additional requirements.
- Budget includes two (2) revisions with City of Lake Worth Beach reviewers. Any additional revisions will be performed on a time-and-expense basis.

TASK 8 CONSTRUCTION ACTIVITIES

Objective(s):

- To develop the documents that will be required during the construction phase of the project.
- To provide engineering support during the construction phase.

Prerequisite(s):

- Pre-Construction Activities

SUBTASK 8.1 "ISSUED FOR CONSTRUCTION" DOCUMENTS

Responsibility: POWER

Deliverable(s):

- "Issued For Construction" Drawings

Update the Construction Bid Package drawings. Modify the bid issue drawings to include any changes that have occurred in the design during the bidding process.

Assumption(s):

- One (1) electronic copy of the "Issued For Construction" Drawings will be prepared and submitted to CLWB.

SUBTASK 8.2 PRE-CONSTRUCTION MEETING

Responsibility: POWER

Deliverable(s):

- Pre-Construction Meeting Minutes

Schedule, attend, and document a Pre-Construction Meeting between CLWB, Contractor and POWER. Review the construction documents, project schedule, project contacts for involved parties and the detailed scope of the project. Issue Pre-Construction Meeting Minutes. Issue any applicable changes to the Contract documents.

Assumption(s):

- Two (2) POWER representatives will attend one (1) full-day pre-construction meeting.

SUBTASK 8.3 ENGINEERING SUPPORT DURING CONSTRUCTION

Responsibility: POWER

Deliverable(s):

- Engineering Support During Construction

Provide technical support to the City of Lake Worth Beach and Construction Crew during construction.

Assumption(s):

- Up to Twenty (20) hours of engineer time to provide office support for construction activities will be budgeted.
- Up to one (1) full day field trips will be budgeted in the event that is needed during construction progress.
- Field trips and/or hours required in excess of the limit specified above will be performed on a time-and-expense basis.

TASK 9 POST-CONSTRUCTION ACTIVITIES

Objective(s):

- To update the construction drawings with any changes that occurred during construction.
- To assist City of Lake Worth Beach with project close-out documentation.

Prerequisite(s):

- Construction Completion
- Construction As-Built Mark-Ups

SUBTASK 9.1 RECORD DRAWINGS

Responsibility: City of Lake Worth Beach/POWER

Deliverable(s):

- Construction Drawings "Issued for Record"

Incorporate the changes received during construction and furnish a complete set of drawings to reflect the "record drawing" condition when the project is completed.

Assumption(s):

- A set of red-lined drawings, depicting construction changes, will be submitted to POWER by City of Lake Worth Beach or their representative within 30- days of construction completion.
- It will not be necessary for POWER to field review the construction changes.
- One (1) electronic copy of the Record Issue Construction Drawings will be prepared and submitted.
- A field trip to walk through the completed project, if required, will be performed on a time-and-expense basis.

TRANSMISSION UNDERGROUND ENGINEERING

TASK 10

PRE-DESIGN ACTIVITIES

Objective(s):

- To identify, define, and secure City of Lake Worth Beach approval of the parameters necessary to proceed with the Horizontal Directional Drill (HDD) design for the project.

Prerequisite(s):

- Notice to Proceed

SUBTASK 10.1 DESIGN CRITERIA

Responsibility: POWER

Deliverable(s):

- Design Criteria

Review the information from the project initiation meeting, ICWW Feasibility Study Report, and data acquisition. Compile and issue the project Design Criteria for City of Lake Worth Beach review, revision, and approval.

Ensure that the scope and content of the Design Criteria, as approved by City of Lake Worth Beach, serves as the basis for the detailed design engineering. Maintain and update the Design Criteria, during the life of the project.

Assumption(s):

- POWER will incorporate City of Lake Worth Beach's standards wherever possible.
- POWER will incorporate findings of the Intracoastal Waterway (ICWW) Feasibility Study Report issued on August 12, 2021.

SUBTASK 10.2 SITE VISIT

Responsibility: City of Lake Worth Beach/POWER

Deliverable(s):

- Meeting Notes

Conduct a project-site visit to identify existing features and conditions that must be considered in evaluating the trenchless crossing design via Horizontal Directional Drilling (HDD). The visit will review site access and limitations, along with material, equipment laydown areas, and possible locations for entry/exit pits for HDD activities.

ASSUMPTION(S):

- POWER will incorporate findings of the Intracoastal Waterway (ICWW) Feasibility Study Report issued on August 12, 2021.
- Preliminary Scope has been approved.
- Right-of-Entry has been granted.

TASK 11

FIELD ACTIVITIES

Objective(s):

- To field survey the established centerline and develop the topographic and planimetric data required for project line design.
- To explore, analyze and evaluate the route geology and develop a geotechnical database for the design.
- To collect soil samples suitable for geothermal evaluation.

Prerequisite(s):

- Approved Route
- Right of Entry

SUBTASK 11.1 LINE SURVEY

Responsibility: City of Lake Worth Beach/POWER/Survey Contractor

Deliverable(s):

- Survey Report Review
- Review and provide feedback on Survey Report.

Assumption(s):

- City of Lake Worth Beach will provide existing survey data.
- City of Lake Worth Beach will contract and provide all surveys.

SUBTASK 11.2 GEOTECHNICAL EVALUATION

Responsibility: City of Lake Worth Beach/POWER/Geotechnical Contractor

Deliverable(s):

- Geotechnical Report Review
- Review and provide feedback on Geotech Report

Assumption(s):

- City of Lake Worth Beach will provide existing geotechnical data.
- City of Lake Worth Beach will perform or subcontract all geotechnical investigation.

SUBTASK 11.3 THERMAL EVALUATION

Responsibility: City of Lake Worth Beach/POWER/Geotechnical Contractor

Deliverable(s):

- Thermal Report Review
- Review and provide feedback on Thermal Report

Assumption(s):

- City of Lake Worth Beach will perform or subcontract all thermal investigation.

TASK 12

CONSTRUCTION DRAWINGS

Objective(s):

- To generate the drawings that will be required during the construction phase of the project.

Prerequisite(s):

- UG Line Design

SUBTASK 12.1 PLAN AND PROFILE DRAWINGS

Responsibility: POWER

Deliverable(s):

- Plan and Profile Drawings

Prepare final Plan and Profile Drawings at one inch equal to twenty feet (1"=20') horizontally and one inch equal to two feet (1"=2') vertically. Depict information required for bidding, construction, and recording of the line including the following as applicable:

- | | |
|----------------------|--------------------------------|
| • Centerline Profile | • Township & Range Lines |
| • Planimetric Data | • Property Ownership |
| • Crossings | • Access Roads |
| • Raceway Routings | • Right of Way Boundaries |
| • Cable Phasing | • Environmental Areas |
| • Riser Structures | • Agency Boundaries |
| • Distribution Work | • City, County and State Lines |

Assumption(s):

- Planimetric and land line data shown in the plan view of the drawings will be limited to the detail delivered in the Line Survey or otherwise provided by City of Lake Worth Beach in electronic format.
- City of Lake Worth Beach to provide electronic version of the completed substation general arrangement drawing.
- Modifications and/or creation of the substation design drawings are not included in the budget, and if required, will be performed on a time-and-expense basis.

SUBTASK 12.2 TRENCHLESS TECHNOLOGY DESIGN

Responsibility: POWER

Deliverable(s):

- Horizontal Directional Drill (HDD) Design and Layout

Identify locations of HDD laydown and setup. Review site plans, underground conflicts and geotechnical data. Perform design calculations to enable preliminary bore layout. Select casing type and size. Identify entry and exit angle parameters, minimum bend radius, and pulling tensions. Review

available right-of-way and pullback string work layout requirements. Prepare technical data and scope of work to include in the installation specification.

Assumption(s):

- Final design and layout of HDD's is the responsibility of the installation contractor.

SUBTASK 12.3 DESIGN DOCUMENTATION

Responsibility: POWER

Deliverable(s):

- Design Data Summary Document (Green Book)

Assemble project-related design data, during the course of the project, into a three-ring binder, referred to within POWER as the Green Book. Prepare cover sheets for each major set of calculations or design data included in the document as well as a table of contents summarizing the Green Book content.

Include the following:

- Design Criteria
- Supporting Calculations
- Trenchless Design
- Ampacity Calculations
- Cable Pulling Calculations

File the Green Book with the rest of the project records at the completion of the project.

Assumption(s):

- POWER will submit a copy to City of Lake Worth Beach at the completion of the project upon request.

SUBTASK 12.4 PERMITS APPLICATIONS SUPPORT

Responsibility: City of Lake Worth Beach/POWER

Coordinate with the POWER Environmental team for crossing permit support.

Assumption(s):

- Plan and Profile drawings will be suitable for the permit applications. If specific permit drawings are requested, these will be prepared on a time and material basis.
- Construction permits required by state and local agencies for access off highways, driveway permits, traffic control, de-watering, burning, etc., will be prepared, submitted and acquired by City of Lake Worth's construction contractor.

SUBTASK 12.5 CONSTRUCTION DRAWINGS

Responsibility: POWER

Deliverable(s):

- Construction Detail and Assembly Drawings

Prepare or provide the following detail and assembly drawings required for construction:

- Trench Cross Sections
- Trenchless Cross Sections
- Other Special Installation Details

Show front, side and top views; details necessary for clarity; material item number indicating each material location; applicable notes; and a material list with item numbers, quantities and descriptions.

Assumption(s):

- Standard City of Lake Worth Beach assembly and miscellaneous drawings will be utilized, as available.

SUBTASK 12.6 PROJECT STATUS MEETINGS

Responsibility: POWER

Deliverable(s):

- Engineering Coordination and Bi-Weekly calls with City of Lake Worth Beach
- Internal Engineering Coordination and Green-Sheet Meetings
- Actions Item List
- Status Reports

Provide communication to the City of Lake Worth Beach, POWER PM, POWER Environmental team and POWER Distribution team in planning and scheduling of work.

Assumption(s):

- Meetings included in this subtask will address engineering time on biweekly project status meetings with CLWB and internal bi-weekly green sheet meetings.
- Field trips and/or hours required in excess of the limit specified above will be performed on a time-and-expense basis.

TASK 13

PRE-CONSTRUCTION ACTIVITIES

Objective(s):

- To develop items required for the procurement phase of the project.

Prerequisite(s):

- UG Line Design

SUBTASK 13.1 MATERIAL/CONSTRUCTION BID PACKAGE

Responsibility: POWER

Deliverable(s):

- HDD construction bid package

Assemble the HDD construction bid package including scope of work (SOW), specifications and drawings created Task 12 so that City of Lake Worth Beach can solicit proposals to qualified HDD/Civil contractors.

Incorporate project-specific constraints and/or CLWB requirements and stipulations that would affect the method or sequence of construction.

Assist City of Lake Worth Beach in answering questions, reviewing bids and prepare bid evaluation. Review shop drawing submittals for the material and equipment. Determine if each item meets the requirements of the project and make recommendation on its suitability.

Assumption(s):

- City of Lake Worth Beach will provide commercial conditions, solicit bids, and award contract for materials.

TASK 14

CONSTRUCTION ACTIVITIES

Objective(s):

- To develop the documents that will be required during the construction phase of the project.
- Pre-construction meeting participation.

Prerequisite(s):

- Pre-Construction Activities

SUBTASK 14.1 “ISSUED FOR CONSTRUCTION” DOCUMENTS

Responsibility: POWER

Deliverable(s):

- Construction Documents “Issued For Construction”

Update the Bid Package documents. Include information included in the Contractor’s Bid, Addendums that were issued and/or changes to the documents, since the time of bidding. Update the “Issued For Bid” drawings to “Issued For Construction” drawings.

SUBTASK 14.2 PRE-CONSTRUCTION MEETING

Responsibility: POWER

Deliverable(s):

- Pre-Construction Meeting Minutes
- Schedule, attend, and document Pre-Construction Meeting. Issue Pre-Construction Meeting Minutes. Issue any applicable changes to the Contract documents.

Assumption(s):

- One (1) POWER representatives will attend one (1) full-day pre-construction meeting.

SUBTASK 14.3 ENGINEERING SUPPORT DURING CONSTRUCTION

Responsibility: POWER

Deliverable(s):

- Engineering Support During Construction

Provide an Engineering representative to attend construction progress meetings or review construction activities via conference calls.

Provide technical support to the Contract Administrator and Construction Inspectors during construction.

Review material test reports for required material and coordinate the resolution of any problems associated with the material tests.

Assumption(s):

- Budget includes up to (30) hours of engineering time to provide office support for construction activities.
- Up to two (2) full day field trips will be budgeted in the event that is needed during construction progress.
- Field trips and/or hours required in excess of the limit specified above will be performed on a time-and-expense basis.

TASK 15 POST-CONSTRUCTION ACTIVITIES

Objective(s):

- To update the construction drawings with any changes that occurred during construction.
- To assist FPL with project close-out documentation.

Prerequisite(s):

- Construction Completion
- Construction As-Built Mark-Ups

SUBTASK 15.1 RECORD DRAWINGS

Responsibility: FPL/POWER

Deliverable(s):

- Construction Documents “Issued For Record”
- Incorporate the changes received during construction and furnish a complete set of drawings to reflect the “record drawing” condition when the project is completed.

Assumption(s):

- A set of red-lined drawings, depicting construction changes, will be submitted to POWER by FPL or their representative within 30-days of construction completion.
- It will not be necessary for POWER to field review the construction changes.

TASK 16

ENVIRONMENTAL AND NON-ENVIRONMENTAL PERMITTING

SUBTASK 16.1 ENVIRONMENTAL PERMITS

Responsibility: POWER

Deliverable(s):

- Permit Applications
- Permit Authorizations from applicable Agencies

Provide CLWB the required support to acquire the necessary permits to complete the project.

Contact the applicable federal/state/county/city government agency to determine the required permits for the project if needed. Identify the necessary support information required to submit the permit application. Collect or develop the necessary support information, complete the permit application, and submit to the appropriate agency.

Follow up with the federal/state/county/city government agency to confirm that the permit application has been received and is being processed.

Anticipated permits that will be required include:

- US Army Corps of Engineers (USACE), Jacksonville District – Section 10 Permit
- USACE, Jacksonville District - Consent to Easement with Section 408 Consultation
- Florida Department of Environmental Protection (FDEP), Sovereign Submerged Lands Easement
- FDEP– Environment Resource Management Permit
- FDEP – Coastal Zone Management Program Authorization
- Palm Beach County – Building Permit and/or Letter of Permission

Assumption(s):

- Any applicable Application and/or Permit Fees for the above listed agencies will be remitted by CLWB.
- No wetland permit(s), Threatened and Endangered Species or Migratory Birds Review will be required.
- No additional real estate rights or zoning approvals are required to construct the project.
- Attendance in any public meetings to support the permit approval process is not included within this scope.
- No trips to visit city/county/government agency are anticipated.
- Subsurface and subaqueous geotechnical investigation services meeting all terms and conditions of the USACE Nationwide Permit #6 will be provided by others.
- POWER will address three (3) rounds of review and comments from each of the Permitting Agencies if needed, up to eighty (80) hours.

SUBTASK 16.2 ROAD PERMITS / NON-ENVIRONMENTAL PERMITS

Responsibility: POWER / City of Lake Worth Beach

Review project and determine what road permits will be needed.

Provide support to CLWB for public and private temporary and permanent easements along HDD corridor and entry and exit temporary workspaces.

Anticipated permit that will be required include:

- Florida Department of Transportation, Utility Permit

ASSUMPTION(S):

- The construction permit drawings will be used for permitting. If additional permit drawings are needed, they will be performed on a time-and-expense basis.
- POWER will submit any necessary road permit applications and track procurement of permits, and City of Lake Worth Beach will pay permit fees.
- POWER will address two (2) rounds of review and comments from each of the FDOT if needed, up to twenty-five (25) hours.
- POWER will support the CLWB and /or third-party contractors with any real estate easements and /or consent, up to thirty (30) hours.
- Construction permits required by state and local agencies for access off highways, driveway permits, traffic control, de-watering, burning, etc., will be prepared, submitted and acquired by City of Lake Worth Beach's construction contractor.

SUBTASK 16.3 PROJECT STATUS MEETINGS

Responsibility: POWER

Deliverable(s):

- Permits Coordination and Bi-Weekly calls with City of Lake Worth Beach
- Internal Engineering Coordination and Green-Sheet Meetings
- Actions Item List
- Status Reports

Provide communication to the City of Lake Worth Beach, POWER PM, POWER Distribution team and POWER Civil team in planning and scheduling of work.

Assumption(s):

- Meetings included in this subtask will address engineering time on biweekly project status meetings with CLWB and internal bi-weekly green sheet meetings.
- If required, POWER will attend one (1) site visit to meet with CLWB and with either the USACE or FDEP, as necessary, to inspect the project site.

Field trips and/or hours required in excess of the limit specified above will be performed on a time-and-expense basis.

ENGINEERING BUDGET

POWER proposes to perform these engineering and design services on a time and Time and Material basis, in accordance with POWER's Professional Services Agreement with the City of Lake Worth Beach for Energy Management and Engineering Services (RFQ No. 18-303). A breakdown of our budget is as follows:

BUDGET SUMMARY BY CATEGORY AND TASK					
PROJECT MANAGEMENT					
Task	Description	Hours	Labor \$	Expense \$	Total \$
0	Project Management	190	\$38,126	\$1,160	\$39,286
SUB - TOTAL		190	\$38,126	\$1,160	\$39,286
DISTRIBUTION ENGINEERING					
Task	Description	Hours	Labor \$	Expense \$	Total \$
1	Pre-Design Activities	36	\$5,850	\$1,860	\$7,710
2	OH Line Design (Make Ready)	16	\$2,295	\$0	\$2,295
3	UG Design	30	\$4,570	\$0	\$4,570
4	Permitting Activities Support	32	\$4,346	\$0	\$4,346
5	Material Procurement	16	\$2,478	\$0	\$2,478
6	Construction Drawings	72	\$10,724	\$0	\$10,724
7	QA/QC	20	\$3,128	\$0	\$3,218
8	Construction Activities	50	\$7,942	\$3,720	\$11,662
9	Post-Construction Activities	20	\$2,884	\$0	\$2,884
SUB - TOTAL		292	\$44,217	\$5,580	\$49,797
TRANSMISSION UG LINE ENGINEERING					
Task	Description	Hours	Labor \$	Expense \$	Total \$
10	Pre-Design Activities	16	\$2,480	\$1,580	\$4,060
11	Field Activities	10	\$1,550	\$0	\$1,550
12	Construction Drawings	210	\$29,100	\$0	\$29,100
13	Pre-Construction Activities	40	\$5,740	\$0	\$5,740
14	Construction Activities	104	\$15,200	\$4,740	\$19,940
15	Post-Construction Activities	36	\$4,890	\$0	\$4,890
SUB - TOTAL		416	\$58,960	\$6,320	\$65,280
ENVIRONMENTAL AND NON-ENVIRONMENTAL PERMITTING					
16.1	Environmental Permitting	196	\$34,298	\$0	\$34,463
16.2	Non-Environmental Permitting	80	\$13,470	\$0	\$13,525
16.3	Project Status Meetings/Site Visit	64	\$12,352	\$2,070	\$14,442
SUB - TOTAL		340	\$60,120	\$2,070	\$62,190
GRAND TOTAL		1,238	\$201,423	\$15,130	\$216,553