

**EAST BAY MUNICIPAL UTILITY DISTRICT  
MWWTP MAINTENANCE CENTER SEISMIC RETROFIT PROJECT,  
ENGINEERING CONSULTANT SERVICES**

**EXHIBIT E - SCOPE OF WORK**

**GENERAL**

The objectives of this project are to perform engineering evaluation and design work, produce construction bid documents for seismic retrofit improvements, and support bidding and construction efforts. Facilities to be retrofitted under this project are located at the DISTRICT's Main Wastewater Treatment Plant (MWWTP), Maintenance Center in Oakland, California, and include:

- Building
- Canopy Structure
- Associated Yard Facilities

The DISTRICT recently completed the following projects to support seismic safety improvements:

- MWWTP Seismic Evaluation Update Project (2019)
- MWWTP Geotechnical Investigation for Seismic Hazard Mitigation Project (2020)
- MWWTP Seismic Structural Evaluation and Conceptual Design Project (2021)

Evaluation results identified seismic deficiencies and prioritized improvements with a goal of mitigating risks, improving life safety, and reducing operational impacts in the event of a major earthquake. Conceptual design work was performed for the Maintenance Center Building.

**I. CONSULTANT SERVICES**

The CONSULTANT shall complete Tasks 1 through 7 as described below. Task 8 covers optional services.

**Task 1: Project Management**

The CONSULTANT shall coordinate engineering analysis and design work with the DISTRICT; prepare meeting agenda and minutes; attend meetings; manage quality assurance and quality control (QA/QC); prepare deliverables; and provide documents and invoices as necessary to effectively manage this project. The CONSULTANT shall be responsible for project coordination and communication with the project team, subconsultants, and the DISTRICT to facilitate evaluation and development efforts. The CONSULTANT shall prepare an overall

project schedule and update it on a monthly basis. The CONSULTANT shall create and maintain an Issues and Decisions Log, prepare monthly project status reports and invoices, and coordinate deliverables. The CONSULTANT shall ensure that all tasks are completed on time and within budget restrictions. The CONSULTANT shall submit deliverables in draft and final form according to the following submittal requirements, with the exception of preliminary and final design submittals which are specified under their respective tasks.

- Draft Deliverables. The CONSULTANT shall prepare draft documents, each of which shall include the task-required information. The CONSULTANT shall provide two (2) hard copies and one electronic copy (in PDF format) of each draft document. The CONSULTANT shall allow two weeks for the DISTRICT to review and provide comments on Technical Memoranda, and three weeks for the DISTRICT to review and provide comments on Reports and Detailed Design Submittals.
- Final Deliverables. The CONSULTANT shall prepare final documents, addressing and incorporating comments received from the DISTRICT on the draft versions. The CONSULTANT shall provide two (2) hard copies of each final document. The CONSULTANT shall also include an electronic version (PDF) of each document, and each document in its source file format. All final deliverables shall be stamped and signed by a licensed Architect or Professional Engineer in Civil, Structural, Electrical, or Mechanical registered in the State of California.

#### **Task 1.1: Meetings and Workshops.**

The CONSULTANT shall prepare agenda, prepare and coordinate review by DISTRICT of presentation slides, conduct meeting, and document discussion results for all the key meetings and workshops listed below. These meetings do not encompass all the meetings throughout the project by all levels of the project team staff necessary for development and coordination. Meetings will include representatives from various DISTRICT Divisions. All meetings, except the management briefings, shall be scheduled at least two weeks in advance. Management briefings shall be scheduled at least one month in advance.

The following key meetings are anticipated:

- **Kick-Off Meeting:** The purpose of the meeting is to confirm understanding of scope, review previous relevant work conducted by the DISTRICT and consultants, identify outstanding issues, identify potential risks and mitigations, discuss the project schedule, and discuss coordination protocol between the CONSULTANT and the DISTRICT.
- **Environmental, Health, Safety and Security Checklist Meeting:** This meeting is conducted to discuss all environmental, health and safety issues that may arise in this project and methods of mitigation.
- **Preliminary Design Workshop:** The purpose of this meeting is present the basis for design, design criteria, general approach and layout of improvements, and discuss and solicit input on preliminary design issues.

- 50 Percent Design Submittal
  - User Group Meeting (Typically one to two weeks after each design submittal.)
  - Management Briefing (Typically one to two weeks after user group meetings.)
- 90 Percent Design Submittal
  - User Group Meeting
  - Management Briefing
- Final Design Submittal
  - Management Briefing
- Team Meetings: Meeting agendas and notes will be maintained. Presentation slides are not required for these meetings.
  - Bi-Weekly Design team meetings with the DISTRICT and key members of the CONSULTANT's design team to review the project status, including upcoming submittals, progress of individual team members, action items, new issues and general coordination through completion of the design.
  - Monthly Construction Management team meetings with DISTRICT and key members of the CONSULTANT's design team to coordinate reviews, submittals, and other action items through completion of construction.

**Deliverable:** For all meetings, the CONSULTANT shall prepare an agenda, presentation slides, meeting minutes following the meeting, and a decision, action item, and risks log. All documents shall be provided in their source file format and PDF format.

### **Task 1.2: Project Reporting**

This task includes management and coordination of project with the DISTRICT and members of the project team. The CONSULTANT shall provide brief project status summaries of services completed, outstanding action items, and budget status with each monthly invoice. A Gantt-type project schedule, tracking progress by task, should be included with the monthly reporting.

The CONSULTANT shall manage all internal QA/QC reviews. The CONSULTANT shall also participate in and report on the coordination of Independent Peer Review (IPR) efforts delineated under Task 1.3. The IPR shall not replace the CONSULTANT's QA/QC requirements.

**Deliverables:** The CONSULTANT shall submit monthly invoices throughout the project and shall provide timely responses to any questions from DISTRICT regarding content.

### **Task 1.3: Independent Peer Review (IPR)**

The CONSULTANT's subconsultant designated to perform the IPR is referred to herein as the Peer Reviewer and shall perform their reviews independent from the CONSULTANT's design and QA/QC efforts. IPR efforts shall be performed in accordance with the industry peer review standards of care and guidelines.

Peer Reviewer shall coordinate all IPR efforts, findings, resolutions, and deliverables directly with the DISTRICT's Project Manager. Peer Reviewer shall participate in meetings with the DISTRICT and CONSULTANT as needed to discuss and resolve IPR findings. Peer Reviewer shall also attend the following project meetings:

- Kick-off
- Preliminary Design Workshop
- 50 Percent User Group Meeting
- 90 Percent User Group Meeting

Peer Reviewer shall provide an independent peer review of CONSULTANT's work delineated under Task 3 and Task 4. The IPR aim is to validate that the design achieves the desired seismic performance objectives. This shall include, but not limited to:

- Ensuring that the appropriated codes and guideline are applied
- Validating of design assumptions and approach to design
- Considering alternative design options
- Confirming selection of materials and constructability

Peer Reviewer shall perform reviews and document findings to address the design adequacy in meeting the seismic performance objectives and including, but not limited to, the items listed above.

**Deliverables:** The Peer Reviewer shall document findings and issues in a peer review log following each deliverable under Tasks 3 and Task 4. The peer review log shall be submitted within two weeks of each task deliverable by the CONSULTANT and shall include a rolling peer review log of findings, issues, and resolutions. Upon incorporation of 90 percent comments and resolution of IPR findings, the Peer Reviewer shall produce a IPR Technical Memorandum noting review process and documenting findings and outcome. The final rolling peer review log shall be attached.

## **Task 2: Data and Condition Assessments**

The CONSULTANT shall collect and review facility records for use in the evaluations and design. The CONSULTANT shall also perform condition assessments to confirm the condition and configuration of existing structural and nonstructural elements. Condition assessment will be limited to visual assessment of accessible areas. The CONSULTANT shall perform this work under the following tasks and include findings in the Preliminary Design Report that will serve as the basis of design for the project.

### **Task 2.1: Data Collection and Review**

The CONSULTANT shall assemble and review existing documents, evaluations, and data, provided by the DISTRICT or available from other sources, in support of this effort, including but not limited to:

- Record drawings and specifications
- Geotechnical reports and records
- Previous seismic evaluations and assessments
- Condition Assessment Data and Surveys (structural and nonstructural)

The CONSULTANT shall analyze the information collected and assess the quality, level of detail, and adequacy of the information. The CONSULTANT shall identify where information gaps exist and work with the DISTRICT to try to collect additional information. The CONSULTANT shall make an initial site visit to become familiar with the project site. The DISTRICT will be present and coordinate access to the facilities.

Deliverable: The CONSULTANT shall reference collected information or organize it in appendices to the TM's and reports required under relevant project tasks.

### **Task 2.2: Structural and Nonstructural Condition Assessment and Investigations**

The CONSULTANT shall review available existing survey information and perform site investigations as needed to document existing conditions to support evaluation, retrofit, or mitigation design efforts. The DISTRICT will be present and coordinate access to the facilities.

For nonstructural elements, the CONSULTANT shall further develop inventories, assess initial vulnerability base on seismic performance objectives, and develop preliminary concepts for seismic mitigation. The DISTRICT and CONSULTANT shall both contribute to the development of risk assessment ratings to support the prioritization of nonstructural elements.

No material or anchorage testing is anticipated. However, if the CONSULTANT determines that certain testing is warranted, the CONSULTANT shall submit to the DISTRICT a proposal for testing services with costs and justification for consideration.

**Deliverable:** The CONSULTANT shall summarize findings in a Condition Assessment and Investigation TM. Appendices shall include structural and nonstructural component tables. Inventory tables shall also be provided in Microsoft excel format.

### **Task 3: Preliminary Design**

The CONSULTANT shall perform preliminary design services to: define the design criteria; identify seismic vulnerabilities; develop alternatives, preliminary improvement layouts, sections, cost estimates, list of drawings, list of specifications, and other details needed to proceed to final design; and identify project constraints such as permitting, staging, procurement of materials, constructability, etc. The DISTRICT will provide past related reports, existing background

drawings, and DISTRICT standard design guidelines, and assist in providing technical information for the concept of the design to the CONSULTANT. The CONSULTANT shall be responsible for the preliminary design and preparing the final package.

The CONSULTANT's scope of evaluation and design work shall encompass all scope items listed in Table 1.

**Table 1 – Project Scope**

Category	Elements
Facilities: Includes all structural and non-structural elements.	<ul style="list-style-type: none"> <li>▪ Maintenance Center Building</li> <li>▪ Maintenance Canopy (Including storage racks)</li> </ul>
Other Seismic Anchorage and Improvement Work	<ul style="list-style-type: none"> <li>▪ Maintenance Yard Facilities <ul style="list-style-type: none"> <li>○ Electrical and Mechanical Equipment</li> <li>○ Fueling Facility</li> </ul> </li> </ul>

The work will be conducted under the following tasks and compiled into a Preliminary Design Report that will serve as the basis of design for the project.

### **Task 3.1: Environmental, Health, Safety and Security Compliance Check List**

The DISTRICT shall prepare a standard environmental, health, safety and security compliance checklist with support from the CONSULTANT. The CONSULTANT shall attend a mandatory meeting with the DISTRICT Regulatory Compliance Office (RCO) staff to discuss information required for the checklist. The CONSULTANT is not required to provide environmental, health, safety, or security specialists for this effort. Specification requirements as determined by the DISTRICT, following completion of the checklist, shall be included in the detailed design.

**Deliverables:** The CONSULTANT shall include documentation and work products in the Preliminary Design Report drafts and final. See Task 1.1 for meeting related deliverables.

### **Task 3.2: Seismic Retrofit Improvements**

The CONSULTANT shall work with the DISTRICT to clearly establish project objectives and design criteria including specific seismic performance objectives. The CONSULTANT shall incorporate current industry standards, codes and guidelines, including but not limited to:

- ASCE 41-17, Seismic Evaluation and Retrofit of Existing Buildings
- ASCE 7-16, Minimum Design Loads for Buildings and Other Structures
- ACI 350.3-06, Seismic Design of Liquid-Containing Concrete Structures
- CBC (California Building Code) 2019
- EBMUD Wastewater Seismic Evaluation and Retrofit Design Criteria Guidelines
- EBMUD Engineering Standard Practice 550.1, Seismic Design Requirements

- FEMA E-74 Reducing the Risks of Nonstructural Earthquake Damage

The CONSULTANT shall identify seismic vulnerabilities, perform preliminary evaluations and designs, and develop alternatives, sections, plans, and renderings as necessary to cover required structural and nonstructural seismic improvements. The DISTRICT will provide any available past conceptual design information, but the CONSULTANT shall perform all evaluations and analyses required to support the CONSULTANT's preliminary and final designs.

Seismic assessment of nonstructural elements shall consider FEMA E-74 guidelines. The CONSULTANT and DISTRICT will work together to categorize and prioritize the nonstructural elements. Approach to addressing deficiencies will include some retrofit scope in construction bid documents. Other less critical nonstructural components can be categorized in terms of general similarity and covered by standard details with sufficient specifications for future implementation.

The DISTRICT will provide geotechnical information for the project site from available recent reports and perform any additional geotechnical engineering necessary to support the preliminary and final design. The CONSULTANT shall direct any geotechnical inquiries and needs to the DISTRICT.

Deliverable: The CONSULTANT shall summarize findings in a Seismic Retrofit Improvement TM and shall include documentation and work products in the Preliminary Design Report drafts and final. For any nonstructural standard details for future implementation, CONSULTANT shall compile a summary, descriptions, and details in a Seismic Retrofit - Nonstructural Standard Details TM.

### **Task 3.3: Structural and Nonstructural Modifications**

The CONSULTANT shall develop sections, plans, and renderings as necessary to show changes stemming from access needs, condition assessments, or seismic improvements impacts. These changes do not include the seismic improvements included under Tasks 3.2. The CONSULTANT shall evaluate alternatives and make recommendations for inclusion. Such changes may include, but are not limited to, the following:

- Building layout change
- Access modifications
- Equipment relocation or replacement
- Architectural modification due to change in cladding, etc.

Deliverable: The CONSULTANT shall summarize findings in a Structural and Nonstructural Modifications TM and shall include documentation and work products in the Preliminary Design Report drafts and final.

### **Task 3.4: Maintenance Canopy Enclosure Evaluation**

In addition to the seismic evaluation of the canopy, the CONSULTANT shall evaluate means and the feasibility of enclosing the canopy with perimeter cladding and adequate access. The CONSULTANT shall evaluate impacts on the canopy structure and foundation in conjunction with any necessary seismic retrofit improvements.. The CONSULTANT shall develop conceptual-level design including structural and nonstructural requirements, auxiliary system requirements, a conceptual level cost estimate, and recommendations. At the DISTRICT's discretion, the preliminary and final design of an enclosure into this project will be considered under optional services.

Deliverable: The CONSULTANT shall summarize findings in a Maintenance Canopy Enclosure Evaluation TM and shall include documentation and work products in the Preliminary Design Report drafts and final.

### **Task 3.5 Preliminary Design Workshop**

The CONSULTANT shall conduct a workshop to present the evaluation and assessment findings, alternatives, issues, and recommended design, and to solicit input and direction as warranted. Material to be presented should be included in the draft Preliminary Design Report which will be distributed to participants prior to the workshop. Upon completion, the CONSULTANT shall incorporate comments and decisions into the final Preliminary Design Report. The CONSULTANT shall provide alternatives details with predesign level construction cost estimates to allow the DISTRICT to consider alternatives. The CONSULTANT shall keep a review comments log, documenting all DISTRICT comments, the CONSULTANT'S responses to those comments, and changes made to the Preliminary Report due to those comments.

**Deliverables:** The CONSULTANT shall include documentation and work products in the Preliminary Design Report. See Task 1.1 for meeting related deliverables.

### **Task 3.6: Preliminary Design Report**

The Preliminary Design Report shall be the basis for detailed design for the subsequent Task 4. The Preliminary Design Report shall address the following: scope of work for final design and description of recommended design project, project objectives, design criteria, assessment findings and seismic vulnerabilities, general arrangement of new and retrofitted elements, including considerations for other required facility modifications, evaluation of alternatives, list of drawings, list of specifications, implementation schedule for construction, list of outside utility/agency permits for DISTRICT applications, preliminary construction cost estimate, potential project constraints, staging and relocation requirements, sequencing requirements during construction, and bid package alternatives (e.g., whether there are advantages to multiple bid packages to speed implementation or reduce cost).

**Deliverables:** The CONSULTANT shall submit the Preliminary Design Report in three versions: first as a pre-draft document for review by the DISTRICT's Project Manager three (3) weeks prior to the Preliminary Design Workshop; next as an updated draft document for



distribution to the DISTRICT User Group one (1) week prior to the Preliminary Design Workshop; and then as a final document upon incorporation of changes based on User Group review and input.

All Preliminary Design Report deliverables shall include hard copies as noted below and a PDF copy. Half-size drawings, 11x17 paper size, shall be attached.

- Pre-Draft Preliminary Design Report: Two (2) hard copies
- Draft Preliminary Design Report: Eight (8) hard copies
- Final Preliminary Design Report: Eight (8) hard copies

#### **Task 4: Detailed Design**

Work on the detailed design shall be as defined and recommended in the final approved Preliminary Design Report. The DISTRICT will provide coordinated review comments for draft detailed design submittals in the form of drawing markups, tabulated specification comments, and comments from user group meetings and management briefings. The CONSULTANT shall prepare responses for each review comment, describing the action taken and noting if any follow-up discussion is necessary. Comments and responses shall be logged and tracked in Microsoft Excel spreadsheet format. This log shall be maintained and included with each draft design submittal.

The CONSULTANT shall perform design services that include preparation of any necessary evaluations and modeling, calculations, engineered drawings/plans, and technical specifications required to communicate to the construction contractor the improvements to be constructed and to produce final bid documents. The CONSULTANT shall produce documents under the following requirements:

- Structural Analysis and Design Software: The CONSULTANT shall use the latest version of SAP2000 or RISA software to perform structural analysis and design. The DISTRICT may approve the use of other comparable software upon request. Any software models developed shall be submitted electronically to the District for future use.
- Technical Specifications: The CONSULTANT shall prepare the technical specifications in the Construction Specifications Institute (CSI) master format, and the specifications shall be submitted in both Word document and PDF formats.
- Front-End Specifications (Divisions 00 and 01): The front-end specifications shall be generated by the DISTRICT with assistance from the CONSULTANT to identify project constraints and special procedures. The CONSULTANT shall review and update the front-end specifications to ensure consistency in the contract documents. The CONSULTANT shall provide detailed recommendations for these sections including the bid schedule, work restrictions, special project procedures, safety and environmental requirements, and other topics that would aid in developing the front-end specifications.

The CONSULTANT shall provide markups of the DISTRICT-provided front-end specifications to make these documents specific to the project. The DISTRICT will incorporate the CONSULTANT's markups and produce the front-end specifications for incorporation into design submittals.

- Drawings: The CONSULTANT shall provide all drafting services for this project. The CONSULTANT shall produce all drawings in Microstation format at each design phase and comply with EBMUD's "Wastewater Department Computer Aided Design and Drafting (CADD) Standard Guidelines". Component or equipment lists shall be prepared using MS Excel software, to comply with the CADD Standard Guidelines. Drawing submittals will also be submitted electronically and in PDF format for each design submittal.

The DISTRICT will provide any existing drawing backgrounds as are available to be used in drawing development. The CONSULTANT shall not modify or alter these background master files unless approved by the DISTRICT for the purpose of correcting existing conditions. At the sole discretion and approval of the DISTRICT, use of translation software from Auto-CADD to Microstation may be allowed.

- Prior to each design submittal, the CONSULTANT shall perform a QA/QC review of the submittal documents.
- Subsequent to each design submittal, the CONSULTANT shall:
  - Coordinate with the DISTRICT and Peer Reviewer to discuss and resolve DISTRICT, User Group, and IPR comments
  - Facilitate User Group Meetings, except following the Final Design Submittal
  - Facilitate Management Briefings

Other discipline support for this project shall be provided as follows:

- Geotechnical Engineering: The DISTRICT will provide geotechnical information for the project site from available recently produced reports and perform any additional geotechnical engineering necessary to support the preliminary and final design. The CONSULTANT shall direct any geotechnical inquiries and needs to the DISTRICT.
- Architectural Support: The CONSULTANT shall prepare architectural renderings, plans, sections, and details for building modifications as needed to cover architectural changes necessitated by the seismic improvements.
- Civil, Structural, Architectural, Mechanical, Electrical/Controls Engineering: The CONSULTANT shall prepare all required civil, structural, architectural, mechanical and electrical/controls drawings (including plans, sections, and details), and related specifications as needed to cover site changes and related work necessitated by the seismic improvements.

- Surveying: No new surveying work is anticipated for this project. The CONSULTANT shall use controls and locations from existing record drawings or as otherwise provided by the DISTRICT.

The CONSULTANT shall perform the final detail design work and make submittals under the tasks included below.

**Deliverables:** For meetings during the final design effort, see Task 1.1 for deliverables. For design submittals, the CONSULTANT shall provide the following deliverables listed in Table 2.

**Table 2 – Detailed Design Deliverables**

Submittal Deliverable Item	Qty	Include in Design Submittals		
		50%	90%	Final
<b>Hard Copies:</b>				
▪ Drawings Half-size (11x17 size)	8	x	x	x
▪ Specifications	8	x	x	x
▪ Construction Cost Estimate and Schedule	8		x	x
▪ Comment Log hard copy	8	x	x	x
▪ Calculations	1		x	x
<b>Electronic Copies:</b>				
▪ Drawings in source file format	1	x	x	x
▪ Specifications in MS Word	1		x	x
▪ Construction Cost Estimate & Schedule in PDF	1		x	x
▪ Comment Log in MS Excel	1	x	x	x
▪ Calculations in PDF	1			x
▪ Complete submittal in PDF	1	x	x	x

#### **Task 4.1: 50% Detailed Design**

The CONSULTANT shall incorporate findings and recommendations from the approved Preliminary Design Report into detailed design drawings, specifications, and estimates. Design documents shall be developed to an approximately 50 percent design level of completion including:

- Title page with drawing list
- All of the following drawings to scale and with appropriate dimensions shown
  - Civil site plans and major civil details.
  - Structural plans and details
  - Architectural plans and details (as applicable)
  - Electrical and mechanical relocation plans and details (as applicable)
  - Temporary and permanent utility relocation plans (as applicable)

- Key technical specifications
- 50%-design level construction cost estimate
- Updated project implementation and construction schedule, including any special constraints and sequencing requirements
- List of required permit applications and permit requirements

#### **Task 4.2: 90% Detailed Design**

The CONSULTANT shall incorporate findings and resolutions from all previous comments into 90% submittal of detailed design drawings, specifications, and cost estimates. Design documents shall be developed to an approximately 100 percent design level of completion so that the remainder of work only includes incorporation of District and IPR comments. This design submittal shall including:

- All drawings
- All technical specifications
- All front-end specifications which shall incorporate project constraints, construction schedule, specialized inspections and observations, field testing, special warranties, etc.
- 100%-level construction cost estimate
- Updated project implementation and construction schedule, including any special constraints and sequencing requirements
- Permit required documents
- Engineering calculations

#### **Task 4.3: Final Detail Design**

The CONSULTANT shall incorporate findings and resolutions from all previous comments into the final detailed design drawings, specifications, schedules and cost estimates. At this level, all the documents shall be essentially ready for public bidding of the construction. Only minor changes and additional comments are to be expected at this level of completion. Design documents shall be complete including:

- All final drawings and specifications
- Final construction cost estimate and implementation/construction schedule
- Engineering calculations

#### **Task 4.4: Permit Assistance**

The final design for occupied buildings and office spaces will require building permits from the City of Oakland. The DISTRICT shall prepare all permit applications. The CONSULTANT shall assist the DISTRICT in providing required design documents, responding to design review questions, and making design revisions. If any revisions are needed, the CONSULTANT shall submit documents in line with the Final Detailed Design submittal requirements.

## **Task 5: Evaluation and Design Data and File Management**

The CONSULTANT shall organize, describe, and tabulate all documents and files prepared, or caused to be prepared, by the CONSULTANT, and will provide the resulting documentation to the DISTRICT, as stipulated in Article 1.5 of the Agreement. Documents and files include, but are not limited to, drawings, specifications, cost estimates, reports, technical memoranda, collected data and materials, models, and calculations.

Deliverable: The CONSULTANT shall prepare a “Data Management Technical Memorandum” including a summary of the data and files provided. The CONSULTANT shall provide all data and files in both their source file format and PDF format.

## **Task 6: Bid Period Services**

This task includes technical support for the DISTRICT during the bidding process. The CONSULTANT shall attend pre-bid meetings and respond to questions from prospective bidders, as requested by the DISTRICT, and shall prepare meeting notes and addenda as necessary. If addenda are issued during the bid period, the CONSULTANT shall prepare conformed contract documents incorporating addenda. The DISTRICT will print and distribute any addenda produced during the bid period.

The CONSULTANT shall assist the DISTRICT with evaluation of the technical aspects of bids received. The CONSULTANT shall not provide evaluation of legal aspects of any bid irregularities as these require legal expertise. The CONSULTANT shall also review and reply to substitution requests from prospective bidders.

**Deliverables:** The CONSULTANT shall submit addenda, conformed plans and specifications in both source file and PDF formats.

## **Task 7: Engineering Services During Construction (ESDC)**

The CONSULTANT shall provide ESDC for the project to include the following tasks. Work effort required beyond that indicated below will be negotiated as additional services.

### **Task 7.1: Issue Resolutions and Reviews**

- Requests for Information (RFI) – The CONSULTANT shall issue necessary clarifications, interpretations, and re-design of the Contract Documents. The CONSULTANT assumes a total labor estimate of \_\_\_\_ hours based on assuming \_\_\_\_ hours per RFI response and a total of \_\_\_\_ RFIs.
- Submittal Review – The CONSULTANT shall review (or take other appropriate action in respect of) shop drawings, material and equipment data sheets, engineering calculations, and other data which the contractor is required to submit per the Contract Documents. The CONSULTANT assumes a total labor estimate of \_\_\_\_ hours based on assuming \_\_\_\_ hours per submittal response and a total of \_\_\_\_ submittals.

- Change Order Assistance – The CONSULTANT shall review and consult with the DISTRICT on change orders to the Contract Documents and provide design modifications as applicable. The CONSULTANT assumes a total labor estimate of \_\_\_ hours based on assuming \_\_\_ hours per change order assistance and a total of \_\_\_ change orders.

**Deliverables:** The CONSULTANT shall submit responses to requests and reviews as appropriate for the orderly completion of the work.

### **Task 7.2: Meetings and Construction Observations**

- Construction Observations – The CONSULTANT shall attend weekly construction meetings to assist with issue resolution and provide periodic site observations of the construction progress for general conformance to the bid document requirements. The CONSULTANT shall not be required to provide detailed analysis of construction activities or work in progress unless specifically directed by the DISTRICT to resolve a specific technical issue. The CONSULTANT shall conduct periodic site visits for observational purposes during construction. The CONSULTANT shall assume making monthly construction site visits after field work begins. CONSULTANT assumes 1 hour per construction meeting for an estimate of \_\_\_ total construction meetings. Consultant assumes \_\_\_ hours per site visit for an estimate of \_\_\_ total site visits.

**Deliverables:** The CONSULTANT shall submit observation notes and photos as appropriate for further review and documentation.

### **Task 7.3: Special Inspections**

- The CONSULTANT shall perform special inspections of the contractor's work in the field for conformance to the bid document, applicable codes and standard, approved submittals and related requirements. The CONSULTANT shall assume making daily site visits once field work requiring specialized inspections begin. Special inspections shall include welding, installation of anchors, and other related work requiring special inspections. CONSULTANT assumes \_\_\_ days of inspections at \_\_\_ hours per day.

**Deliverables:** The CONSULTANT shall submit daily field reports, observation notes and photos as appropriate for further review and documentation.

### **Task 7.4: Record Drawings**

- Record Drawings – At the completions of the project, the CONSULTANT shall prepare and submit Final Record Drawings to the DISTRICT in both source file and PDF formats. The CONSULTANT is not responsible for field verification of contractor changes to the drawings.

**Deliverables:** The CONSULTANT shall submit completed record drawings in both source file and PDF formats.

### **Task 8: Optional Services**

Optional services, if warranted, will be negotiated at a future date at the discretion of the DISTRICT.

#### **Task 8.1 Optional Service – Detailed Design of Canopy Enclosure**

Upon completion of the canopy enclosure evaluation, the DISTRICT may opt to pursue the enclosure improvements.

#### **Task 8.2 Optional Services – Other**

Other optional services may include additional engineering services identified during the course of this project. At the discretion of the DISTRICT, the following services may be considered, but are not limited to:

- Specialized field tests and inspections
- Specialized modeling, evaluation, or design work
- Development of recommended work

## **II. PROJECT SCHEDULE**

Project Kick-off	February 2022
Task 2: Data and Condition Assessment	February - April 2022
Task 3: Preliminary Design	May 2022 - September 2022
Task 4: Detailed Design	
Task 4.1: 50% Design Submittal	October 2022 - January 2023
Task 4.2: 90% Design Submittal	January - April 2023
Task 4.3: Final Design Submittal	April - July 2023
Task 4.4: Permit Assistance	August 2023
Task 5: Data and File Management	August 2023
Task 6: Bid Period Services	August 2023
Task 7: Engineering Services During Construction	December 2023 – June 2025
Task 8: Optional Services	TBD

**- End Exhibit E -**