

# ATTACHMENT A1

## CONVEYANCE PIPELINE AND PUMP STATION

### SCOPE OF WORK

The purpose of this scope of work is to provide engineering services to revise and complete the design of the RUWAP pipeline and 5th Avenue Pump Station to convey advanced treated water from the Regional Wastewater Treatment Facility to the intersection of General Jim Moore Boulevard and Eucalyptus for injection into the Seaside Groundwater basin. This scope of work includes the pipeline from the connection point at the treatment facility to Normandy Road and the 5th Avenue Pump Station. MCWD has existing 20-inch pipe in the ground south of Normandy that will be used for this project. This scope also includes connection of the Blackhorse and Bayonet Golf Course.

#### **Task 1 - Project Management and Coordination**

Carollo will provide project management as necessary for proper planning, execution, monitoring, and reporting of the project progress. The following key subtasks have been identified:

##### ***Task 1.1 - Project Administration***

Carollo will monitor project progress, manage subconsultants, develop and maintain the schedule, and prepare and submit monthly invoices and progress reports.

##### ***Task 1.2 - Project Meetings***

Carollo will prepare agenda and meeting minutes for the following project meetings, which are anticipated to take place at MCWD offices:

- Kick-Off Meeting
- Monthly Project Coordination Meetings (4 meetings anticipated)
- Design Development review meetings for the 95% design deliverable.

##### ***Task 1.3 - Coordination with MRWPCA Projects***

Carollo will coordinate with MRWPCA's Design Engineer on the AWTF and GWR Injection Well Facilities, which are anticipated to be designed concurrently, and other MRWPCA consultants as necessary to ensure all projects are integrated. As part of this task, Carollo has included a workshop with other consultants. Carollo will prepare a decision log to track key project decisions.

##### **Task 1 Assumptions**

- 7 month duration (December 2015 thru June 2016)

##### **Task 1 Deliverables**

- Monthly Invoices and Progress Reports
- Project Meeting Agenda and Meeting Minutes
- Baseline schedule and schedule updates
- Decision Log (continuously updated)

#### **Task 2 - Data Gathering and Review**

Carollo will review available reports, records, data, maps, and other documents for design development. Carollo will identify information needed to complete the design.

### Task 2 Assumptions

- All available data on system configuration and operational strategies will be provided by the District.

### Task 2 Deliverables

- List of information needs

## **Task 3 - Permits, Rights-of-Way, Easements**

Carollo will develop a matrix of all needed permits and rights-of-way/easements and property acquisition to complete the project. Carollo will then outline the steps needed to obtain all project permits and land rights. Status of permits and easements will be reviewed monthly at a minimum with regularly scheduled project coordination meetings. Carollo will develop exhibits as needed to obtain required permits and land rights. Development of up to 4 legal descriptions and plat maps has been budgeted.

Carollo will assist in revising and submitting the California Division of Drinking Water Engineer's Report for recycled water use sites.

### Task 3 Assumptions

- District will lead easement acquisition efforts
- District will lead the permit acquisition efforts

### Task 3 Deliverables

- Matrix identifying needed permits and land rights, status, and next steps
- Exhibits needed to obtain required permits and easements
- Up to nine (4) legal descriptions and plat maps
- Engineer's Report

## **Task 4 - Funding Support**

Carollo will revise the Project Report to reflect the new project components and use as well as the project cost estimates and O&M costs. Carollo will provide as needed support for the funding process through design and bidding of the project.

### Task 4 Assumptions

- None

### Task 4 Deliverable

- Revised Project Report
- Revised Cost Estimates

## **Task 5 - Environmental Support**

Carollo will provide revised design information and figures as needed to support any additional environmental work required for the project.

### Task 5 Assumptions

- None.

### Task 5 Deliverable

- As needed figures or work descriptions

## **Task 6 - Design Plans and Specifications**

Carollo will revised the current plans, specifications, and cost estimate to reflect the current project configuration and sizing. Plans will be develop in AutoCAD. Carollo technical specifications will be used in conjunction with MCWD front end documents.

*Survey.* Carollo's survey subconsultant will review the existing topographic survey against current field conditions and suggest locations for survey augmentation if existing conditions have changed substantially. Survey will be provided on an as needed basis.

*Potholing/Utility Location.* Carollo will send all of the existing utilities in the project vicinity a letter requesting mapping of their facilities within the project limits. We will review existing pothole data for the project. Based on information received from the utility companies and on existing pothole data, we will create a new potholing plan. Up to two (2) days of potholing has been budgeted.

### ***Task 6.1 - 95% Design Package: Plans, Specifications, and Cost Estimate***

Carollo will submit a 95% design package A meeting to review the 95% design documents will be conducted. Meeting notes and comments will be captured and recorded, with responses to comments provided as needed.

### ***Task 6.2 - Final Bid Documents***

Carollo will submit final bid documents including plans, specifications, cost estimate, and project calculations. The submittal will include a list of 95% comments and responses to comments

#### *Task 6 Assumptions:*

- Alignment will follow the existing RUWAP alignment.
- 5th Ave Pump Station will sited at the currently designed location.

#### *Task 6 Deliverables:*

- Five (5) hard copies and 1 electronic copy of the 60% half size drawings, 5 hard copies of the technical specifications. Updates of the project schedule and matrix of permits and land rights will be provided.
- Five (5) hard copies and 1 electronic copy of the 95% half size drawings, 5 hard copies of the technical specifications. Updates of the project schedule and matrix of permits and land rights will be provided.
- Two (2) hard copies of half-sized drawings and two (2) hard copies of full sized drawings of the Final Bid Documents; Two (2) hard copies of the specifications; Electronic copies (editable and non-editable) of the drawings and specifications; and design calculations binder.

## **Task 7 - Bids Services**

Carollo will prepare for and attend a pre-bid meeting, respond to all bidder inquiries, and prepare addenda to the bid documents, as needed. Carollo will also assist in evaluation of the bids, if requested.

#### *Task 7 Assumptions*

- None

### Task 7 Deliverables

- Pre-Bid meeting agenda and meeting minutes
- Responses to Bidder Questions and Addenda (2 assumed)

### **Task 8 - Engineering Services During Construction**

Carollo will provide engineering services during construction including submittal review, responding to contractor requests for information, attending a pre-construction meeting and up to 3 field visits, reviewing change orders, providing design modifications and clarifications, and providing specialty inspection, as required, including corrosion monitoring facility testing.

### Task 8 Assumptions

- Project administration for 14 months
- Reviewing and commenting on up to 150 submittals/resubmittals
- Responding to up to 20 RFIs
- Attendance at the preconstruction meeting
- Up to 3 field visits
- Review of up to 2 change orders
- Preparation of up to 10 design clarifications
- Specialty inspection for cathodic protection system

### Task 8 Deliverables

- Submittal review comments
- Responses to RFIs
- Design clarifications

### **Task 9 - Record Drawings**

Carollo will provide record drawings for the project based on a single set of red-lined drawings received from the Contractor or MRWPCA.

### Task 9 Assumptions

- MCWD will provide contractor redlines

### Task 9 Deliverables

- One set of full size drawings
- One pdf
- AutoCAD files

### **OPTIONAL Task 10 - Design of Pipeline to Injection Well Site**

The current scope does not include the design of the pipeline from General Jim Moore Boulevard to the injection well site. The following scope of work can be added if the District would like to include this segment of pipeline in the design.

*Survey.* Topographic survey will be provided along the pipeline alignment from General Jim Moore Boulevard to the injection well site (~0.75 miles).

*Geotechnical Investigation.* Carollo's geotechnical subconsultant will perform a desktop geotechnical investigation utilizing existing geotechnical data available within the vicinity of the project. A boring plan will be prepared identifying locations where additional borings are needed based on the review of existing information. Laboratory analysis will be conducted on material from the geotechnical investigations including soil resistivity testing to determine corrosion

potential. Conclusions and recommendations will be developed. An addendum to the existing geotechnical report will be developed to summarize all the geotechnical data, analysis, and recommendations.

*Cathodic Protection Services.* Carollo's corrosion subconsultant will review available existing information for the area as well as current site conditions. The work will be coordinated with the geotechnical subconsultant to provide soil samples for corrosivity testing. Resistivity testing will be performed. Extent of cathodic protection design services will be dependent on the selection of pipe material. This task includes development of details and specifications based on corrosion facilities recommended. The design will be incorporated in the design submittals.

*Permitting and Easement Assistance.* The pipeline outside of General Jim Moore Boulevard will likely require an easement either from the City of Seaside or from the Army. We will assist the District in obtaining these easements.

#### Task 10 Assumptions

- Survey for the well sites will be performed by MRWPCA's consultant
- Field work is for approximately 0.75 miles of pipe.
- 2 geotechnical borings
- 2 legals and plats

#### Task 10 Deliverables

- Topographic Survey
- Draft and Final Addendum to the Geotechnical Report.
- Cathodic Protection Recommendations Technical Memorandum
- Incorporation of design elements into the 95% design submittal
- Figures/legals and plats to support permitting and easement acquisition

### **Task 11 - Construction Management and Inspection of Pipeline and Pump Station**

Carollo will provide construction management services during pre-construction, construction and post-construction of the Regional Urban Water Augmentation Project Recycled Water Pipeline Project.

#### Task 11.1 Pre-construction Services

Carollo will schedule, facilitate and document the preconstruction meeting. Carollo inspectors will visit the site to document existing conditions along the alignment using photographs and videos.

#### Task 11.1 Deliverables

- Preconstruction site videos and photographs

#### Task 11.2 Construction Services

Carollo will provide a Construction Manager to perform a wide range of services during construction including but not limited to: contract administration, facilitate and document project meetings, quality assurance, safety monitoring, change and claims mitigation, document control including processing of submittals, RFIs, and other project communications, labor compliance assistance if needed, processing of contractor progress pay estimates, review of contractor schedules, support for SRF documentation and reimbursement requests, and coordination of Carollo and Owner provided subconsultants working on the project. Carollo will review the contractor's SWPPP and perform compliance inspections during construction. Carollo will

coordinate with the contractor and owner for all start up testing, commissioning and training that is required.

#### Task 11.2 Assumptions

- 18 month contract duration
- Construction meetings held weekly
- Carollo (through sub consultants where necessary) to provide materials and specialty inspections such as concrete sampling and testing, backfill and compaction testing, masonry inspections, coating inspection, electrical inspections, and cathodic protection inspections and testing,
- Agency to provide environmental consultant services

#### Task 11.2 Deliverables

- Monthly progress report,
- Record of Discussions for all meetings
- Weekly update to owner if requested on project issues and progress
- Monthly contractor progress payment requests
- Change orders for signature with supporting documentation
- All project files at the end of the project
- SRF reimbursement requests and quarterly DBE reporting

#### Task 11.3 On-Site Inspections

Carollo will be on site daily to inspect construction to verify the work is proceeding in accordance with the Contract Document. Observations will be documented in daily reports that are sufficiently detailed to document project conditions, production rates and contractor activities, contractor labor, equipment and materials that are engaged in the work. Photographs will be obtained daily to document existing conditions, work activities and progress. Carollo inspectors will confirm daily that traffic control plans are properly implemented and recommend immediate correction or modification when necessary. Carollo inspectors will be the first line of defense for addressing complaints/concerns/questions of the public and will work with the contractor to address issues brought forth by the public and property owners.

#### Task 11.3 Assumptions

- Full time inspection will be necessary on the pipeline work
- Half time inspection will be necessary on the pump station construction

#### Task 11.3 Deliverables

- Daily reports documenting work progress, labor and equipment. Reports can be provided daily, weekly or kept in project files for access when needed.
- Photo documentation provided at end of project.

#### Task 11.4 Post-Construction Services

Carollo will develop a punchlist of remaining items after the work is substantially complete and monitor contractor efforts to complete items. Carollo will coordinate and conduct a final project review with designer owner and other agencies impacted by the work. Upon satisfactory completion, Carollo will recommend project acceptance. Carollo will prepare and submit a project documentation in an organized and timely manner at the conclusion of the project. Carollo will assist in preparing final documentation for the SRF loan and the final DBE utilization report.

#### Task 11.4 Deliverables

- Project acceptance documentation
- Project files