Stantec Consulting Services Inc.
3133 West Frye Road, Suite 300,
Chandler, Arizona 85226

October 31, 2024

**Attention: Mr. Luis Pedroza**
Deputy City Manager & City Treasurer
City of Douglas
425 10th Street
Douglas, AZ 85607

Dear Mr. Luis Pedroza,

**Reference: Scope of Work (SOW) - 100% DETAILED DESIGN WATER, WASTEWATER DESIGN, PERMITTING, BID CONTRACTOR SELECTION SUPPORT and CM SERVICES FOR THE CROSSING OF WHITEWATER DRAW BETWEEN NORTH COPPER AVENUE AND CITY MH 18**

This letter is the Scope of Work for the 'Wastewater Design, Permitting and Contractor Selection Support and CM Services for the Crossing of Whitewater Draw Between North Copper Avenue and City MH 18 (The Project).

The Project builds from the '**Preliminary Engineering in Support of the 60% Detailed Design Funded by the North American Development Bank Memorandum Task 222.01'.** The total length of gravity wastewater system piping is approximately 3,850-ft, including an elevated gravity crossing of Whitewater Draw, and pipe support by engineered fill along State Route 80 (SR 80). The elevated crossing avoids the need and capital and permanent operation and maintenance cost of the East Wastewater Lift Station (pump station).

**The Scope of Work:**

The Scope of Work (SOW) can be found under **Attachment A** and includes:

1. Permitting of the Whitewater Draw elevated wastewater pipe crossing of the Flood Way including working with Cochise County Flood Control District, United States Army Corp of Engineers, and the Arizona Department of Transportation (ADOT).
2. Development of the 100% detailed design and specifications for the wastewater pipe and the Whitewater Draw crossing.
3. Assistance to the City in the process to select a contractor by Design, Bid, Build.
4. Assistance to the City with Construction Management for construction of the Wastewater system piping and elevated Whitewater Draw Crossing
5. Assisting the City with acquiring easements from Freeport-McMoRan.

**The Draft Project Schedule:**

The Draft Project Schedule accompanies in **Appendix B**. The assumed project start date is assumed December 2, 2024, with a target completion date of January 2026. The

project schedule is 'tight' or 'highly constrained'. The project schedule depends on Stantec to deliver the 100% Design, the timely Cochise County Flood Control District, ADOT, possibly the U.S. Army Corps of Engineers and ADEQ project permitting process, and the timely City Contracting Selection and Contact Award process.

**Geotechnical Subcontractor Proposal:**

The proposal for a Geotechnical Subcontractor can be found in **Appendix C**. The proposal is from SCE Geotechnical Consultants located in Tucson, Arizona.

**The Fee:**

The fee development includes estimates of Stantec labor hours over the project by task. It is detailed in the Fee Spreadsheet in **Appendix D** of **Attachment A**.

The Engineering total fee (Stantec Labor, Subconsultants, and Stantec Expenses) for the Scope of Work for the 'Wastewater Design, Permitting and Contractor Selection Support and CM Services for the Crossing of Whitewater Draw Between North Copper Avenue and City MH 18' scope of work is $900,966.

**Table 1 – Summary of the Project Fee**

| Task | Fee |
|---|---|
| 101 - Project Administration and Coordination | $68,807.00 |
| 201 - Supporting Services | $98,303.00 |
| 202 - Permitting of the Whitewater Draw Crossing | $186,952.00 |
| 301 - Elevated Wastewater Crossing of Whitewater Draw | $82,578.00 |
| 302 - SR 80 Pipeline Design Drawings and Specifications | $247,930.00 |
| 303 - Opinion of Probable Construction Cost | $68,762.00 |
| 401 - Construction Management | $142,134.00 |
| 901 - Expenses | $5,500.00 |
| Total | $900,966.00 |

The Stantec total project fee is $900,966.00. The total fee includes project delivery and work by our subconsultant SCE Geotechnical, in the total amount of $84,838.55. The Stantec labor and expenses fee are $816,127.45. The Fee assumes that the City will hire the on-site Construction Inspector that will be part of the Stantec delivery team. The work will be time and materials not to exceed.

The Fee Estimate is based on the Rate Table from the Stantec Contract Amendment with the City of Tucson 'On Call Civil Engineering Services'

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We are excited to continue our collaboration with the City and County on this important project. We would recommend a meeting with you to review the proposal and discuss any questions or directions you might have.

Regards,

Stantec Consulting Services Inc.

Bryck, Jack

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**ATTACHMENT A**

**SCOPE OF WORK FOR THE CITY OF DOUGLAS**

**WASTEWATER DESIGN, COCHISE COUNTY FLOOD CONTROL DISTRICT, ADEQ AND ADOT PERMITTING, BID AND CONTRACTOR SELECTION SUPPORT and CONSTRUCTION MANAGEMENT**

FOR THE CROSSING OF WHITEWATER DRAW BETWEEN NORTH COPPER AVENUE AND CITY MH 18

# INTRODUCTION

This scope of work (SOW) is for Engineering Services for the West Douglas Service Area including the City of Douglas Port of Entry Wastewater crossing of State Route 80 (SR 80) at North Copper Avenue and crossing of Whitewater Draw to the point of connection at City Manhole 18. Tasks include issued for construction design plans and specifications, permitting, and support to the City for bidding and contractor selection. The work builds from the Preliminary Engineering in Support of the 60% Detailed Design Funded by the North American Development Bank Task 222.01. The total length of gravity wastewater system pipe in this SOW is approximately 3,850 feet.

The Draft Project Schedule accompanies in **Appendix B** with key milestones as follows:

1. Project Notice to Proceed - November 15, 2024
2. Kickoff Meeting - November 22, 2024
3. Project Alignment
    a. Location of the City of Douglas infrastructure along SR 80 - November 22, 2024, to January 15, 2025
    b. Contact with Cochise County Flood Control District, Arizona Department of Transportation, and Arizona Department of Environmental Quality regarding permitting - November 22, 2024, to December 15, 2024
    c. Geotechnical investigation and laboratory testing - November 22, 2024, to February 7, 2025
    d. Detailed onsite survey of Whitewater Draw and ADOT SR 80 bridge necessary for the development of the hydraulic model in support of a Floodplain Use Permit as required by the Cochise County Flood Control District - November 22, 2024, to February 7, 2025
    e. Modeling of the Floodplain/Floodway - November 22, 2024, to May 1, 2025

4. 30% Detailed Design Phase (Preliminary) - November 22, 2024, to March 14, 2025
5. 60% Detailed Design Phase - March 14, 2025, to May 16, 2025
6. 90% Detailed Design Phase - May 16, 2025, to June 27, 2025, Arizona Department of Transportation, and Arizona Department of Environmental Quality Permit Review July 7, 2025, to September 7, 2025
7. Issued for Construction Detailed Design - June 27, 2025, to July 7, 2025
8. Construction - September 7, 2025, to December 31, 2026

This scope of work for Engineering Services includes the tasks summarized below and the fee proposal is located on the attached **Appendix D**.

The following information and assumptions are a general description of the engineering services required to prepare and deliver this project:

1. The approximate date for the City of Douglas Notice to Proceed is the third week of November 2024.
2. The approximate end of construction date is anticipated to be December 31, 2026.

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# 101 PROJECT ADMINISTRATION AND COORDINATION

## Task 101.100: Project Management

Stantec will provide project management services that include planning, organizing, staffing, and coordinating the work efforts of the team members and subconsultants. Stantec will manage the work and monitor progress against an agreed upon schedule and budget.

Stantec will prepare and submit monthly project progress packages including the invoice, progress report, and updated project schedule for work completed in the period. These progress packages are intended to provide the City with the status of deliverable performance against the schedule, budget expended, project issues and general activities during the monthly period.

The draft Project Schedule dated October 2024 proposed for this project is attached in **Appendix B.** Stantec will maintain a comprehensive project schedule (to be updated at intervals agreed upon) for Issued for Construction (IFC) design through contractor selection.

The schedule is specific to the IFC design and will not include any Douglas POE project tasks by the U.S. General Services Administration (GSA), Arizona Department of Transportation, or other organizations.

**Assumptions:**

1. The draft schedule will be presented, modified as agreed upon, and adopted at the Kickoff Meeting.
2. The project progress packages including updated schedule and monthly progress reports will be submitted during the project.

**Deliverables:**

1. Initial Project Schedule in PDF format (PDF)
2. Monthly Project Progress Packages in PDF format (PDF)

## Task 101.200: Design Meetings

Stantec will conduct project meetings to discuss the progress, direction, and technical aspects of the project. It is assumed that the City Engineer and Wastewater System Manager and Cochise County Flood Control District Engineer, will attend the meetings and be actively involved in task development, decision making and information sharing where required to support project the project.

Meetings in this scope of work include:

1. One (1) Kickoff Meeting with the City on Microsoft TEAMS. Up to four (4) Stantec Project and Task leaders will attend the kickoff meeting. The meeting duration will be up to one and one-half (1.5) hours. The agenda and meeting materials will be provided 2 to 5 days before the meeting date to allow for detailed preparation and understanding by attendees. The kickoff meeting will include introductions between the City and the Stantec project leaders, in addition to the following:

    a. City providing any updates to the project information,

    b. Review of the SOW,

    c. Review the project schedule and the project critical path

2. Two (2) meetings prior to start of detailed design with ADOT to allow ADOT and the City to understand and document the ADOT design approach requirements within the ADOT right-of-way (ROW) and to establish/ document the ADOT project permitting approval approach. Up to four (4) Stantec Project and Task leaders will attend this ADOT meeting. These meetings will be held virtually on TEAMS for up to two (2) hours.

3. Biweekly (every two weeks) City/Stantec Project design team meetings will be scheduled by Stantec for one (1) hour duration and held on TEAMS over the course of the project delivery schedule. Stantec Team members will include the Project Technical Manager, Senior Consultant, and discipline leads as required. It will also include a Junior Engineer to prepare the meeting agenda and record meeting notes that will include an action item list. The agenda will be provided one full workday before the meeting date to allow for detailed preparation by attendees. It is proposed that meeting materials will be provided early when practical on a mutual site that can be shared with the City but will always be made available after technical discipline leads present them in the project meeting.

4. One (1) meeting to review and finalize the 90% Plans and Technical Specifications at Douglas, AZ. Up to four (4) Stantec team project members will attend in person, including the Project Technical Leader, Project Manager, Senior Consultant, and a Junior Engineer to prepare the meeting agenda and record meeting notes. ADOT and CCFCD will be invited. The meeting will be up to five (5) hours.

    a. For this meeting, Stantec discipline leaders with professional responsibility for Structural, and Civil will participate virtually on TEAMS and will summarize their discipline design elements. The agenda and meeting materials will be provided before the meeting date on a mutual site that can be shared with the City, to allow for detailed preparation by attendees.

    b. The City of Douglas is requested to provide any comments regarding the 90% Plans and Technical Specifications at least one week prior to the meeting.

5. One (1) meeting for final review of the IFC Plans and Technical Specification prior to Stantec issuing the Design Package to the City. It is anticipated that the meeting duration will be approximately one (1) hour. Four (4) Stantec project members will attend in person; including, the Project Technical Leader, Project Manager, Senior Consultant, and a Junior Engineer who will prepare the meeting agenda and record meeting minutes.

Project documentation will consist of preparing and distributing meeting agendas and notes. Meeting notes will summarize key discussions, comments, decisions, and any action items required. All meeting dates will be established at the Project Kickoff Meeting.

**Assumptions*:***

1. Public meetings are not included in this Scope of Work.

**Deliverables:**

1. Meeting Agendas and Materials
2. Meeting Notes
3. Graphics, figures, plans, notes, and details necessary for meeting discussion
4. It is proposed that Stantec create a Microsoft SharePoint site be shared with the City, CCFCD and ADOT that will be suitable for sharing meeting data including project agendas, meeting notes, current design schedule, and technical discipline data and exhibits shared in meetings.

# 201 SUPPORTING SERVICES

The following subconsultants will be engaged by Stantec to provide services for this project.

# Task 201.100: Geotechnical Investigation

The Whitewater Draw elevated crossing will be located to the immediate south of the existing ADOT Whitewater SR 80 bridge that may include piers outside the limits of the anticipated Whitewater Draw Floodway (Floodway) at proposed City elevated crossing Floodway and/or up to two (2) piers within the Floodway with what is believed to be is an existing concrete scour retrofit that included installation of a new concrete floor beneath the SR 80 bridge.

Stantec proposes to contract with a subconsultant geotechnical engineering firm to complete geotechnical borings and laboratory testing to be utilized for pipe and infrastructure detailed design. Geotechnical criteria to be provided by the subconsultant will include:

1. Soil physical properties including Unified Soil Classification System (USCS) soil classification, gradation, plasticity index, soil density;
2. Drainage properties,
3. Structural stability of soils,
4. Corrosivity of soils, and
5. Suitability of proposed borrow site and excavated soils as a potential fill source.

Also included in the SOW will be a geotechnical investigation of the geotechnical conditions related to proposed piers across Whitewater Draw. The selected geotechnical firm will perform one (1) site visit that includes a visit for the soil investigation along the wastewater (sanitary sewer) pipeline alignment and an investigation of the soils at the proposed pier locations. A proposal from SCE Engineering accompanies in **0**.

**Assumptions:**

1. Additional site visits by SCE Engineering will require a Change Order.

**Deliverables:**

1. Report – A Draft Digital copy (PDF) sent via Microsoft SharePoint of the soil's investigation report for the Option B pipeline alignment along SR 80. A draft Geotechnical Report to be placed on the City/Stantec shared Microsoft SharePoint site.
2. A Final Digital copy (PDF) sent via Microsoft SharePoint of the soils investigation report for the Option B pipeline alignment along SR 80. A final Geotechnical Report to be placed on the City/Stantec shared Microsoft SharePoint site.

# Task 201.200: Survey

The Cochise County LIDAR mapping already acquired from Cochise County will be used in design and hydraulic modeling development. Survey topography of Whitewater Draw necessary for completing hydraulic modeling and the physical location of the ADOT ROW will be required for detailed design drawing tasks and permitting exhibits. Included will be the location and elevations of the ADOT and Freeport McMoRan bridge piers, topography and boundary locations along the north and south sides of Whitewater Draw. This work will be additional to the Cochise County LIDAR and the Bowman survey Task from a separate project.

**Deliverables:**

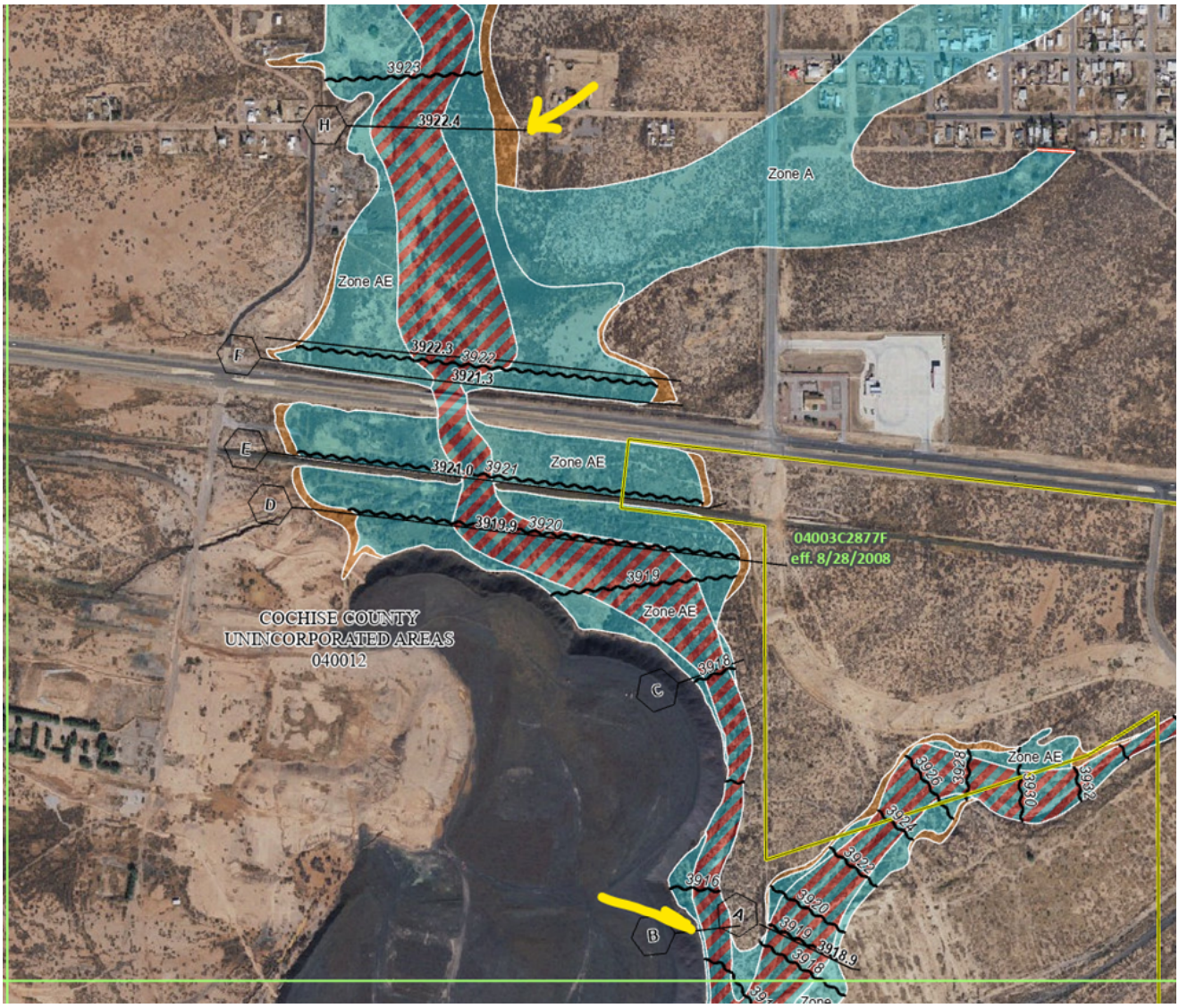
1. AutoCAD – AutoCAD compatible (.dwg), (.csv), or (.xml) file with vertical and horizontal information provided by utility staking.

# 202 PERMITTING OF THE WHITEWATER DRAW CROSSING

## Task 202.100: Whitewater Draw Floodplain Modeling and Cochise County Flood Control District Floodplain Use Permitting

In support of utility design related to a new wastewater main located just south of the SR 80 Bridge across Whitewater Draw, a hydraulic analysis related to the existing and post-improvement conditions floodplain will need to be completed. The ‘effective’ study is from 1983 and is of such a condition that a limited re-study is recommended. As the location of this project is within a Federal Emergency Management Agency (FEMA) Mapped Special Flood Hazard Area (SFHA), Zone AE classification, such is within the jurisdiction of the Cochise County Flood Control District (CCFCD). This approach was reviewed and agreed to with the CCFCD prior to development of this SOW. In coordination with the CCFCD, submittal of the findings of this hydraulic analysis will not be presented to FEMA.

Limits of the floodplain re-study are from, based on the figure shown below, FEMA Lettered XS H to XS B or about one river mile.




The floodplain analysis will consist of three tasks: hydrologic analysis, hydraulic analysis and the preparation of a Drainage Report.

The tasks are as follows:

1. Hydrologic Analysis

    a. Given the presence of an active United States Geological Survey (USGS) stream gage, #09537500 located on the south end of SR 80 bridge pier, the Consultant will analyze available gage data using the United States Army Corps of Engineer's software program HEC-SSP.

i. Available “effective” (FEMA term for basis of published information) will be reviewed and a brief memorandum of the two data sets (i.e., HEC-SSP and FEMA effective) will be submitted to the CCFCD for review.

ii. A TEAMS meeting not to exceed 1 hour will be held with CCFCD and the City to review, address CCFDC comments, and seek direction, discuss and agree on the strategy forward. Two (2) Stantec project members will attend the TEAMS meeting including, the Project Permitting Leader and a Junior Engineer who will prepare the meeting agenda and record meeting minutes.

**Deliverable:** Memorandum of Findings – Hydrologic Peak Discharge Information [draft only, PDF version].

2. Hydraulic Analysis

a. Stantec will develop a hydraulic analysis using HEC-RAS version 6.4.1. Given the existing conditions of the stream and study location, a standard one-dimensional (1D) approach will be used. The model will be based on recent LIDAR information supplemented by onsite field survey of:

i. ADOT SR 80 bridge - parapet and guardrail (if applicable) data

ii. ADOT SR 80 bridge and Freeport-McMoRan - width of bridge (deck)

iii. ADOT SR 80 bridge and Freeport-McMoRan - Pier and Pier Cap data

iv. ADOT SR 80 bridge and Freeport-McMoRan - Bridge “low chord”

v. ADOT SR 80 bridge and Freeport-McMoRan - Abutment data

vi. ADOT SR 80 bridge and Freeport-McMoRan - Ground elevation beneath the bridge

vii. Structures located within the approximate limits of construction (e.g., drainage down drain)

viii. Location of the USGS Gauging Station on the ADOT SR 80 Bridge

b. Terrain obtained from the County (LiDAR, 2023) will be used to develop the Existing Conditions model scenario which will be used as a basis for the Post Improvement Conditions model. The limits of the hydraulic analysis will be, based on published information from FEMA, from Lettered XS H to XS B, for an overall distance of approximately one river-mile. Hydraulic cross sections included in the model will be based on engineering judgement and may or may not align with cross section alignment currently published by FEMA.

c. As the purpose of the hydraulic analysis is to determine the floodplain/floodway limits under current conditions, and that the findings of this analysis will not be submitted to FEMA, extensive effort to match existing water surface elevation(s) at the bounding cross sections (i.e., XS H and XS B) will not be undertaken.

d. Two bridge features occur within the limits of the study: SR 80 and abandoned railroad (trestle) and will be included within all model scenarios.

e. Manning's roughness n-values will be based on, aerial photography, site investigation, engineering judgement and a comparison to using Jarrett's Method (HEC-RAS Reference Manual), where appropriate. Roughness values will be limited, in general, to three values representing overbank (left and right) and main channel conditions during the 100-year event.

f. Peak discharges resulting from the hydrologic analysis will be used during modeling and will include the 10-, 100- and 500-year recurrence events. A floodway analysis will also be performed and will be based on equal conveyance reduction at all hydraulic cross sections. The target surcharge value will be 1.0-foot. An attempt to align the floodway limits determined through this study and the "effective" floodway will not be undertaken for this project.

g. Two scenarios will be included within the analysis:

    i. Existing Conditions

    ii. Post-Improvement Conditions (new wastewater line)

Schedule – existing conditions analysis will be completed in approximately four (4) weeks after approval of the Memorandum of Findings related to determination of peak discharge. Post-improvement conditions analysis will be complete at the same time as completion of the 90-percent construction improvement plans.

**Deliverables:** Hydraulic model digital files available upon request.

3. Drainage Report

    a. Stantec will develop a Technical Support Data Notebook (TSDN) in accordance with Arizona Department of Water Resources State Standard 1-2012 and will include the following sections.

        i. Introduction

        ii. Survey and Mapping

        iii. Hydrology

iv. Hydraulics

v. Erosion Control

b. Erosion Control Analysis **-** will only be applied to the proposed earthen embankment encapsulating the proposed wastewater line. The purpose of the analysis is to determine a recommended erosion mitigation countermeasure such as dumped rock riprap.

c. Preliminary Drainage Report and 60% Construction Improvement Plans will be submitted to ADOT for review.

d. Preliminary Technical Support Data Notebook (TSDN) - will be submitted to the CCFCD and the City of Douglas for review and comment after acceptance of the 60% plans by ADOT.

e. Comments Coordination - A TEAMS meeting will be held with CCFCD and the City to review and address CCFCD comments, agree on the preferred direction, and agree on the strategy forward.

f. Final Report - Based on the comments from the CCFCD, the report will be finalized and submitted to CCFCD and the City.

Schedule – the draft Drainage Report (TSDN) will be completed at the same time as the 90-percent construction improvement plans. The Final Drainage Report will be completed approximately 3-4 weeks after receipt of comments from the CCFCD.

**Deliverable:** Preliminary TSDN (PDF) and Final TSDN (PDF).

4. CCFCD Floodplain Use Permit (FUP)

a. Stantec will work with the City to draft and submit the CCFCD Floodplain Use Permit that will include draft construction improvement plans and the draft Drainage Report.

b. It is assumed that the CCFCD will require approximately two (2) weeks to review and issue comments. Thereafter and depending on the complexity of the review comments, Stantec will respond to the CCFCD within three (3) to four (4) weeks. Furthermore, it is assumed that the CCFCD will only issue one set of comments as part of the first review.

c. Application fee associated with the CCFCD Floodplain Use Permit will be paid for by Stantec.

# Task 202.200: Clean Water Act Section 404 Nationwide Permit Documentation

If Whitewater Draw is determined jurisdictional Waters of the U.S., Stantec will support the City by providing the services necessary to conduct any required field delineation to identify potential Waters of the US and wetlands, along with the documentation to support the use of a Nationwide Permit (NWP) to satisfy the Clean Water Act Section 404 requirements. The proposed alternative is to construct engineered pipe support fill generally located in the ADOT SR 80 right-of-way and partially in Whitewater Draw. The work includes building the support piers potentially below the ordinary high-water mark and elevated pipe support structures that will span the floodway of Whitewater Draw. This infrastructure will be located on the east and west side of Whitewater Draw on the south side of SR 80. There will also be temporary construction areas required for constructing the fill and Whitewater Draw floodway elevated crossing.

The SR 80 Environmental Information Document (EID) in support of the Environmental Protection Agency (EPA) National Environmental Policy Act (NEPA) review dated October 2024 prepared by Stantec will be used for information to support the NWP Documentation development. The Stantec tasks are as follows:

5. Task 1: USACE Meeting / Coordination - A virtual meeting will be held with the Los Angeles District of the U.S. Army Corp of Engineers (USACE) and the CCFCD to discuss jurisdiction of the Whitewater Draw and NWP requirements. Stantec will provide the wetland specialist and environmental task manager to attend this meeting. This time includes time for researching the NWP permitting requirements, state requirements and jurisdictional consideration as the waterway does not drain into waters of the U.S.

1. Task 2: Aquatic Resource Delineation Field Work - Stantec will send a team of two to conduct an aquatic resources delineation of approximately a 250-ft stretch of Whitewater Draw. It is anticipated that this field work can be conducted in one day. This task includes mobilization, preparation of a safety plan, and preparation of field mapping. GPS data (ordinary high-water mark, field photos, and aquatic resources information will be collected during the survey using a handheld device in the field.

2. Task 3: Aquatic Resource Delineation Report - Stantec will prepare an Aquatic Resources Delineation report summarizing the findings of the research and field work. Field forms and photos will be included as an appendix. This report will be provided to the City for review and comment. Following the review, the report will be sent to the Los Angeles District USACE or accompany the supporting documentation as part of Task 4 that follows. Stantec assumes the LA District could take from two to six weeks to review the report and provide review comments.

3. Task 4: Draft Nationwide Permit Documentation - This proposal assumes that an NWP is applicable for the proposed crossing of the Whitewater Draw. Stantec will develop the draft NWP for submission to the USACE. It is assumed that NWP 58 applies. Stantec assumes that the review time required by the LA District could range from two to five months. This task also

includes up to four project meetings (4) via MS Teams with the LA District and CCFD that Stantec will facilitate with two Stantec representatives.

**Deliverables:**

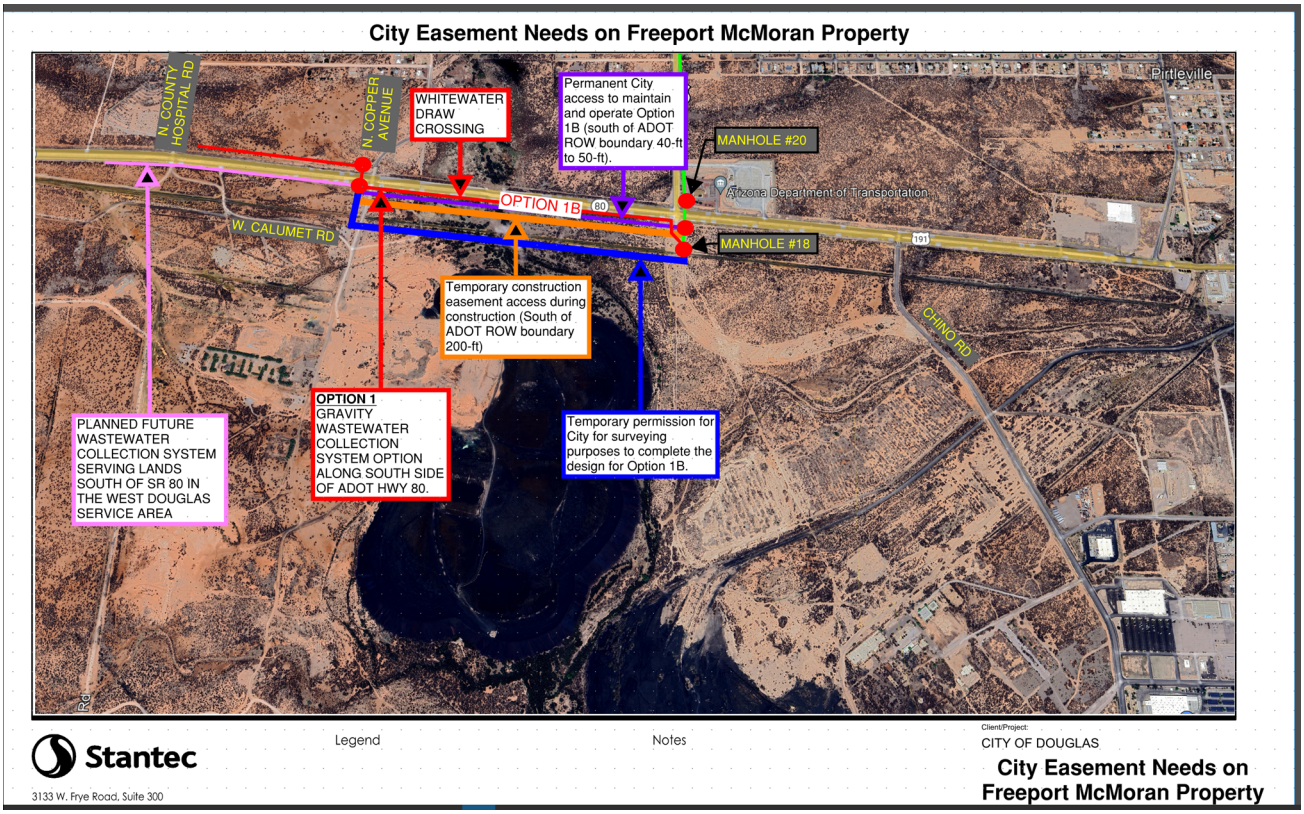
1. Aquatic Resources Delineation Report:
    a. Draft submitted to City for review (PDF).
    b. Final report sent to USACE (PDF)
2. NWP Permit (if applicable):
    a. Draft NWP Permit Documentation in PDF for review by permitting agencies.
    b. Final NWP Permit Documentation to permitting agencies, including the USACE, CCFD, and ADOT (PDF).

# Task 202.300: Permanent and Construction Easements

There will be several permanent and temporary construction easements needed to be secured by the City as follows:

1. Freeport McMoRan - A temporary City easement south of the ADOT south ROW boundary is recommended to allow Stantec/City access for surveying need for the Hydraulic Model Development.
2. Freeport McMoRan - A temporary City easement south of the ADOT south ROW boundary is required to allow Stantec/City access for geotechnical field work investigation.
3. Freeport McMoRan – Temporary easement of 150-ft to 200-ft is recommended south of the ADOT SR ROW boundary between North Copper Ave and Chino Road to facilitate construction of the engineered fill, wastewater pipe and the Whitewater Draw elevated crossing.
4. Freeport McMoRan – Permanent easement may be required between the ADOT ROW and to locate the pipe for connection to the City MH 18.
5. Freeport McMoRan – A permanent easement of 30-ft to 40-ft is recommended south of the ADOT south ROW boundary between North Copper Ave and Chino Road to allow the City to access the pipe and Whitewater Draw Crossing for operation and maintenance after completion of the project.

The location of the temporary easement boundaries will be identified during detailed design. Stantec will create the exhibits and legal descriptions for the easements above. The City will have responsibility to acquire the easement from the landowner.




**Deliverables:**

1. Figures identifying the boundaries of the recommended permanent and temporary construction easements will be prepared and submitted to the City.

# 301 ELEVATED WASTEWATER CROSSING OF WHITEWATER DRAW

## Task 301.100: Whitewater Crossing Type Selection Report

There are several possible alternatives to carry the gravity wastewater collection system pipe across the Whitewater Draw floodway that meet the permitting criteria by the CCFCD. The approach is to create a 4-ft

to 6-ft deck spanning Whitewater Draw to support the wastewater collection pipe an estimated 200-ft to 240-ft in length over the defined Whitewater Draw floodway.

Stantec will evaluate alternative crossing based on the following criteria:

1. Number of Spans: Based on the definition of the Whitewater Flood floodway east and west boundaries from the floodway modeling as noted above, three approaches to spanning Whitewater Draw will be as follows:
    a. A single span bridge with two abutments on the east and west outside the floodway Boundary.
    b. A two-span bridge with similar two abutments outside the floodway boundary and an intermediate pier in the floodplain.
    c. A three-span bridge with similar abutments outside the floodway boundary and two intermediate piers in the floodplain.
2. Type of Bridge
    a. Pre-engineered
    b. Conventional engineered bridge
3. Material
    a. Concrete
    b. Steel
4. Type of Deck
    a. Slab deck
    b. Girder
    c. Truss bridge
5. Approaches and Wingwalls
    a. Fill approach with sloping sides and no wing walls
    b. Fill approach with reinforced concrete wing walls holding fill
    c. 2-3 Meetings and coordination with ADOT for the approval on approaches.

Stantec will evaluate the alternative crossing approaches and conduct a constructability and economical review highlighting the advantages and disadvantages of each alternative along with the recommended bridge alternative in the ‘Type Selection Report’. Stantec will then meet with CCFCD via TEAMS for one (1) hour to present and discuss the Stantec recommended Whitewater Draw elevated bridge crossing approach. There will be two Stantec team members each for 2 hours to prepare, present and follow up

A TEAMS meeting will be held with CCFCD, ADOT, and the City to review, address CCFCD comments and direction, discuss and agree on the strategy forward. There will be three Stantec team members each for 2

hours to prepare, present and follow up. Based on the comments from the CCFCD and the City the 'Type Selection Report" report will be finalized and submitted to CCFCD and the City.

**Deliverables:**

1. Draft 'Type Selection Report' including Plan and Section (P&S) drawing of the preferred alternative in AutoCAD (dwg) format.
2. Final 'Type Selection Report' including Plan and Section (P&S) drawing of the preferred alternative in AutoCAD (dwg) format.

# Task 301.200: Structural Design

The structural design will be based off CCDFC approving a single-span pre-engineered bridge Once the type of bridge is approved by CCDFC, Stantec will start carrying out the analysis, design and detailing of the bridge. Design will be based on national codes and standards adopted and/or approved by CCDFC as well as FEMA requirements. Both an Independent Technical Review and QA/QC will be carried. The analysis and design will include the following:

1. Bridge layout and alignment
2. Analysis and design of bridge superstructure
3. Analysis and design of substructure including the abutments and piers

**Deliverables:**

1. Bridge drawing in AutoCAD (.dwg) format.
2. Technical Specifications at 90% and IFC submittal (PDF)

**Assumptions:**

1. Stantec has assumed a single-span pre-engineered bridge. If a two-span or three-span bridge is required per the Type Selection Report and permitting, Stantec will provide a scope of fee for a change order.
2. If a pre-engineered bridge is not feasible Stantec will provide a scope and fee for a change order.

# 302 PIPELINE DESIGN DRAWINGS AND SPECIFICATIONS

## Task 302.100: Civil

As identified in Memorandum Task 222.01 from a different SR 80 project with the City, an engineered fill embankment is proposed for the sanitary wastewater line in the area between the south SR 80 shoulder and the south ADOT ROW boundary. The fill embankment location was selected to provide gravity wastewater line containment each side of Whitewater Draw.

1. This Task will include the design criteria for the engineer fill as follows:

    a. Embankment is proposed with imported borrow material suitable to be used for embankment construction and wastewater line trench construction. Working with the geotechnical subconsultant, material will ideally be well graded cohesionless soil with high shear strength.

    b. Embankment will be constructed with 4:1 or flatter slopes (to be approved by ADOT) on the SR 80 (north) side of embankment and no steeper than 2:1 slope on the south side of the embankment. The north side embankment slope is proposed to gradually transition to the south SR 80 10-ft wide shoulder.

    c. It is proposed that the existing ADOT SR 80 right-of-way will be cleared and grubbed, then scarified prior to embankment fill. Embankment fill will be proposed in designated loose lift thicknesses with moisture and compaction that matches 95% compaction of the geotechnical subconsultant's laboratory density.

    d. Access roads for fill and Whitewater Draw crossing construction. Construction and permanent access will be identified from SR 80 and North Copper Road (on the west) and Chino Road and MH 18 (on the east).

2. This task will include preparation of the preliminary, 60%, 90%, and IFC detailed plans and Technical specifications for the wastewater (sanitary sewer) and broadband plan and profile drawings (the City is responsible for the Contract Specifications).

    a. Embankment construction required for gravity sanitary sewer line containment will be proposed adequately high for construction of the sanitary sewer line with a minimum of 3-ft of cover. Embankment top width will be proposed a minimum of 12-ft wide for excavator and other construction equipment access.

    b. The sewer plan and profile drawings will be advanced from North Copper Avenue (the east termination point of the SR 80 Detailed Design), beneath the crossing of SR 80,

then located in engineered fill to the west side of Whitewater Draw and from the east side of Whitewater Draw to the connection to the City's Manhole (MH) 18.

c. There will be no service connections installed along the wastewater pipe as part of this project.

d. The sewer plans will contain the following information: new wastewater pipe diameters material, true pipe length, pipe slope, all existing utilities including sizes, dimension separation between sewer and water, finished and existing profile grade along the alignment.

e. Develop and design a swale and riprap to convey ADOT SR 80 drainage from the road shoulder to the Whitewater Draw Channel. This will include recognizing the existing drain and outlet system.

3. Efforts associated with plan preparation will include

a. Two meetings with ADOT (one Virtual for 2 hours with four Stantec Staff and one onsite for 10 hours with two Stantec Staff including travel time) to review the proposed approach and capture ADOT design concern and direction.

i. ADOT concerns identified in a meeting with the City on June 24, 2024, were in general to avoid affecting the existing drainage patterns from SR 80, erosion issues with the engineered berm, proximity to the SR 80 road shoulder (clear zone 30-ft at 55-mph) and affecting ADOT maintenance.

b. Utility coordination with the City on the location of the two City watermains from Well 14 that cross beneath SR 80 north to southeast of the east end of the ADOT Whitewater Bridge and then in an east west alignment. One pipe is reported to be under the south ADOT SR 80 travel lane and the other along the ADOT SR 80 south highway shoulder.

A traffic control plan to be submitted to ADOT for review and approval will be created by Stantec for this project to satisfy the requirements required to receive an ADOT encroachment permit. ADOT will not issue a permit until after a contractor is selected.

**Deliverables:**

1. Plans –Three (3) 22" x 34" hard copies of the plans delivered to the City at IFC and a Microsoft SharePoint link to the electronic format (PDF). All submissions prior to IFC will be electronic only.

2. Plans – Five (5) 11" x 17" hard copies of the plans delivered to the City at IFC. All submissions prior to IFC will be electronic only.

3. Technical Specifications - Three (3) 8.5” x 11” hard copies of the technical specifications delivered to the City at IFC and a Microsoft SharePoint link to the electronic format at 90% and IFC submittal (PDF).

# Task 302.200 SR 80 Highway Crossing

The jack and bore crossing across SR 80 will be located at North Copper Avenue and SR 80. The design will include a steel carrier pipe from outside of the SR 80 east and west shoulder with the wastewater collection pipe located within the carrier pipe with manholes at each end of the wastewater collection pipe.

1. The inverts of both end of the carrier pipe and the inverts of the wastewater collection pipe at the manholes will be established as will the pipe cover between the SR 80 elevation and the top of the carrier.

2. The jack and bore design criteria would be established from the geotechnical investigation at both ends of the carrier pipe under SR 80. The location of the ends of the carrier pipe would be reviewed with ADOT.

3. The room for the jack and bore installation and work area will also need to be identified at both ends.

4. Prepare detailed design plan and profile of the crossing in alignment with the permit design and submittal requirements. It is estimated that the length of the steel carrier pipe will be about 180 feet. The actual length will be confirmed in discussion with ADOT.

**Deliverables:**

1. The deliverable packages at 90% will include a design plan and profile of carrier pipe and wastewater collection pipe (PDF). This will be reviewed with the City and ADOT.

2. Based on City and ADOT comments, the IFC Plans will be prepared (PDF) and submitted to ADOT for an Encroachment Permit.

3. Technical Specifications at 90% submittal and IFC submittal (PDF)

# 303 OPINION OF PROBABLE CONSTRUCTION COST (OPCC)

Stantec will prepare a detailed Opinion of Probable Construction Cost (OPCC) for this project, including summaries of bid items and quantities all based upon a unit price system. It will be in the format that is being used for the SR 80 Detailed Design - Cochise College to North Copper Avenue project. The OPCC will include supplier budget quotations for large equipment and materials such as a prefabricated bridge deck where applicable.

OPCCs will be prepared for the 60% plans, 90% plans, and IFC plans.

| OPCC Milestones | Class |
|---|---|
| 60% | 3 |
| 90% | 2 |
| IFC | 2 |

The OPCC will not include the cost of purchasing land, if necessary. The City will have responsibility for all costs associated with permitting fees and right of way/easement acquisition.

**Deliverables:**

1. Construction cost estimates will be sent via a Microsoft SharePoint link in electronic format (PDF) at each of the 60%, 90%, and IFC submittal milestones.

# 304 PERMIT COORDINATION

Stantec will identify permits required for the Project, including those which may be necessary for applications to, or permits from, local, state, and federal authorities including CCFCD, ADEQ and ADOT. Stantec will produce a standalone permit matrix identifying permitting requirements for the project. The City of Douglas will be responsible for paying all review and permit fees necessary to procure construction permits.

Stantec will prepare a Draft ADOT Encroachment Permit for the location and work in the ADOT ROW and submit to ADOT for review and comments. Stantec will Revise and finalize, assuming 1 resubmittal and 4-month review time, based on ADOT direction. Stantec on behalf of the City will submit the ADOT Encroachment Permit.

Submittal of plans/permits will be made to ADOT first, then after comment resolution will the CCFCD Flood Plain Use Permit (FPUP) be prepared and submitted to the County.

It is expected that permits will be required from:

1. ADOT Encroachment Permit
2. ADEQ Approval to Construct
3. Cochise County – Clearing Permit

**Deliverables:**

1. Permit Matrix via a Microsoft SharePoint link to the electronic format (PDF).

# 401 CONSTRUCTION MANAGEMENT

Stantec will provide Construction Management Services for the wastewater system crossing of Whitewater Draw improvements on behalf of the City of Douglas. The Construction Management team will be led by the Stantec Engineer of Record and design task leaders and will include a local Construction Inspector hired directly by the City of Douglas. The Inspector hired by Douglas will be qualified to provide construction QA/QC with all relevant agencies through which the project is permitted. The Inspector will report to Stantec's Project Manager and will coordinate with Stantec daily to ensure the project is constructed as designed (see Task 401.200 for a breakdown of the Construction Inspector's role and responsibilities).

This Scope of Services will be performed during the construction and post-construction phases of the Project. The duration of construction is estimated to be 320 calendar days to Substantial Completion and 365 calendar days to Final Completion.

## Task 401.100: Bidding Assistance

The bidding assistance phase will begin once the City advertises the Project for construction bids.

Typical items completed during this phase include the following:

CONTRACT DOCUMENT PREPARATION: Stantec will provide the City with the standard Engineers Joint Contract Documents Committee (EJCDC) contracting package, Stantec will assist the City in creating Contract Documents for the Project by providing the Technical Specifications. It does not include the General Contract and Division 1 of the Technical Specifications nor City/Contractor Contract Documents.

**Deliverables:**

1. EJCDC Contract Documents and Technical Specifications in digital copy (PDF)

**Assumptions:**

1. It is assumed that the City will provide the construction plans to the contractors electronically.
2. It is assumed that the City will provide the bid advertising as required by the project funding agencies and the construction procurement rules.
3. Stantec has estimated up to 20 questions from contractors and approximately 2 hours of engineering time per question.
4. Submittal of plans/permits will be made to ADOT first, then after comment resolution will the CCFCD Flood Plain Use Permit (FPUP) be prepared and submitted to the County.

PRE-BID CONFERENCE: Stantec shall send up to two (2) staff members for 12 hours including travel to attend and provide technical support at one pre-bid conference to be held at the City offices.

BID SUPPORT SERVICES: Stantec shall interpret and provide written responses to requests from the City for technical clarifications on construction contract documents during bid period.

Stantec shall prepare addenda to the construction documents as requested by the City. Stantec will sign and issue addenda to the City to distribute to the plan holders. Up to three (3) addenda are anticipated. Conformed drawings will not be provided.

**BID EVALUATION:** Stantec will review and tabulate the submitted bids for compliance with the Bid Criteria. The deliverable will be a letter of recommendation on contract award. Stantec will attend the Bid Opening via Microsoft TEAMS and the City Council meeting in person with up to two (2) staff members for 12 hours each including travel.

The City will have responsibility for preparation of the Bidding Documents, managing the Bid Process, preparing the Contracting documents including the required contract bonds and insurance and managing the signing of the contract.

**Deliverables:**

1. Spreadsheet furnished by the City containing bid form, bid tabulation, and low bid
2. Contract Documents in digital copy (PDF)
3. Three addenda in PDF format (electronic format only).

# Task 401.200: Construction Monitoring

The City will hire or subcontract with a Construction Monitoring inspector for the duration of construction. The City hired inspector will be responsible for daily inspections including quality control for the City. Stantec will provide limited coordination, up to two (2) hours per week.

**CITY CONTRACTED INSPECTOR RESPONSIBILITIES:** The City's Inspector will be responsibilities will include but are not limited to:

1. Assisting with coordinating client provided testing services
2. Conduct daily on-site observations of the Contractor's work
3. Prepare daily written reports of records of their observations
4. Identify deficient or non-conforming work and inform City of Douglas, Stantec, and the Contractor
5. Monitor corrective action on deficient and non-conforming work

6. Perform preliminary punch lists for substantial and final completion prior to Stantec's engineers' preparation of final punch list.

**WEEKLY MEETINGS:** Stantec shall attend weekly construction project meetings and provide weekly update reports to the City. The Stantec Project Technical Leader and other disciplines will attend as required, approximately once per month during construction (to be combined with the weekly meeting with SR 80 Design Project, with a total meeting time of 1.5 hours for both projects).

**CONTRACTOR PAYMENTS:** Stantec will review the Contractor's initial and updated schedule of estimated monthly payments and advise the City of Douglas as to acceptability. Stantec will review and process the Contractor's monthly payment requests, and forward to the City for final approval and processing. Stantec's review shall be for the purpose of making an independent opinion of work completed and mathematical check of the Contractor's payment request. Stantec will verify the quantities of work which are the basis of the payment requests. The final monthly pay requests will be approved and processed by the City.

**SUBSTANTIAL COMPLETION AND FINAL INSPECTION:** Stantec will conduct, with the assistance of the City, a final inspection and prepare a final punch list, including all items remaining on the deficiency list, as well as any additional items discovered during the final inspection. Subsequent inspections should be anticipated to ensure completion of all identified deficient items.

Stantec will provide written recommendations concerning final payment to the City, including a list of closeout items, if any, to be completed prior to making such payment.

**CLOSEOUT:** Stantec will compile a list of required final submittals, including, but not necessarily limited to contractor red-line drawings, warranty and guarantee documents, lien waivers, product manuals, maintenance and operation manuals, and any spare parts and training required to be provided by the Contractor. Stantec shall review the project closeout documents for final approval. The Project Closeout will be held on site at the City's office.

As part of closeout Stantec will review As-Built drawings provided by the Contractor.

### Assumptions:

1. Contractor will notify Stantec when work is substantially complete
2. City is responsible for final review and processing of all Contractor Payment Applications.
3. Contractor will provide complete surveyed As-Built drawings to Stantec prior to closeout.

### Deliverables:

1. Punch List
2. Contractor Payment Applications

3. Recommendation for payment
4. Contractor's As-Built Drawings provided in the following formats: one (1) D size bound paper copy, one (1) PDF electronic file.
5. List of Close-out items
6. Close-out documents

# Task 401.300: Submittals, Shop Drawings, and RFI's

Stantec shall review the Contractor's overall list of submittals and maintain a submittal log in a spreadsheet for the project. Stantec shall complete reviews and coordinate with the City as required for input and with the Contractor for any resubmittals. Stantec shall review drawings and other data submitted by the Contractor by comparing to the construction contract documents. Stantec's review shall be for general conformity to the construction contract documents and shall not relieve the Contractor of any of their contractual responsibilities. Such reviews shall not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs.

Submittals shall be provided for all documents as indicated in the Contract Documents. It is anticipated reviews shall be completed for review guarantees, bonds, and certificates of inspection, and tests in addition to manufacturer's information and shop drawings.

Stantec shall provide clarifications to construction contract documents and respond when requested by the City or Contractor. The Stantec shall maintain a Request for Information Log (RFI) tracking all submitted RFI's.

**Assumptions*:***

1. Up to 20 RFIs, requiring up to four (4) hours each.
2. Up to 20 total Shop Drawings and submittals and 10 total resubmittals, requiring up to two (2) hours per submittal.

**Deliverables:**

1. Reviewed submittals
2. Submittal Log
3. Response to RFI's
4. RFI Log

## Task 401.400: Contractor Change Orders and Change Directives

Stantec will evaluate the cost and scheduling aspects of all contractors change orders and provide recommendations as to the contractor change orders justifications to the City. No change order shall be implemented without the prior approval of the City.

**Assumptions:**

1. City shall be responsible for all final approval and processing of Change Orders.
2. Up to 10 change orders will be reviewed and evaluated, assuming three (3) hours of effort per change order.

**Deliverables:**

1. Recommendations to the City regarding Contractor Change Order Requests.

# 901 REIMBURSABLE EXPENSES

The City shall reimburse Stantec for direct costs identified in this scope of work. Reimbursable expenses will be paid by Stantec and reimbursed at-cost by the City. The following tasks are anticipated to require reimbursable expenses.

## Task 901.100: Printing and Plotting

The City shall reimburse Stantec for direct costs associated with printing, plotting and graphics reproduction. Printing, plotting and graphics costs shall include production of submittals and internal printing costs as well as mailing costs for paper submissions.

## Task 900.200: Travel

The City shall reimburse Stantec for direct costs associated with travel, including mileage (at current IRS mileage rate), parking, rental vehicle, lodging, and meals, should a meeting time require the staff to be away from the office. Stantec has identified travel requirements in each applicable task.

# ASSUMPTIONS

This proposal was based on the following assumptions related to the proposed project:

1. The acquisition of easements is the responsibility of the City including the agreements, purchase costs, legal sale and filing documentation.
2. The findings of the hydraulic (i.e., floodplain) analysis of Whitewater Draw will not be submitted to the Federal Emergency Management Agency (FEMA).
3. This scope of services assumes that no encroachment into the floodway will be done. However, if the results of the floodway analysis dictate encroachment into the floodway is warranted, then a separate scour analysis, such as associated and/or needed for the placement of new piers, can be provided as an additional service including any necessary additional geotechnical sampling and testing.

# EXCLUSIONS

Items not specifically identified in the scope of service sections of this proposal are to be excluded from this work effort and would be considered additional services. Such services would include, but are not limited to, the following:

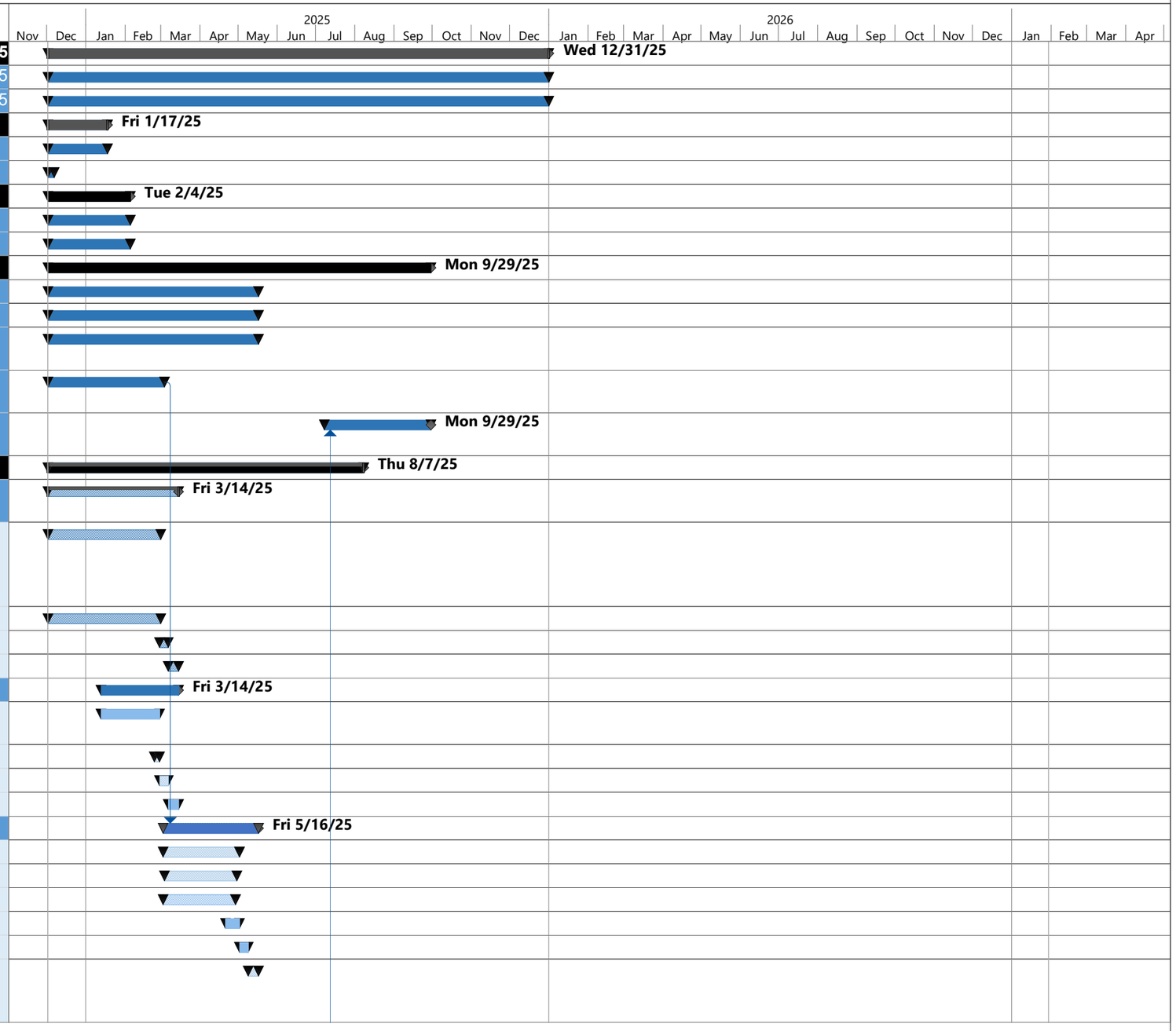
1. Agency Submittal Fees
2. Traffic Studies
3. Noise study
4. Constraint Specifications; Stantec will provide the Technical Specifications only.
5. Any modifications to the City SR 80 Environment Impact Document.

# APPENDIX

# B Draft Project Schedule

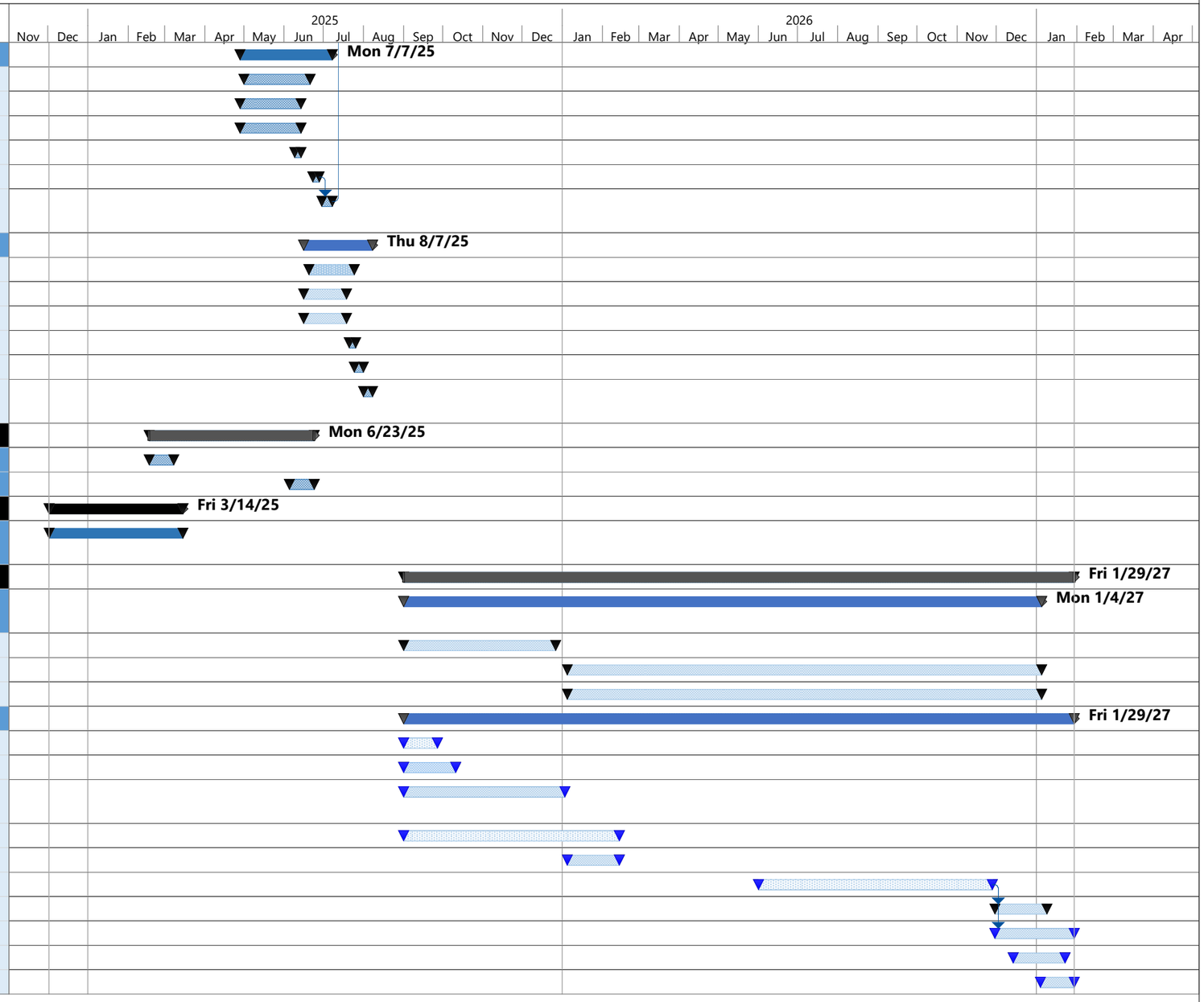
# CITY OF DOUGLAS - WHITEWATER DRAW SANITARY SEWER PROJECT
# DESIGN AND CONSTRUCTION ENGINEERING SCHEDULE
# OCTOBER 2024

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Project Management** | **283 days** | **Mon 12/2/24** | **Wed 12/31/25** |
| 2 | **Notice to Proceed** | 283 days | Mon 12/2/24 | Wed 12/31/25 |
| 3 | **Design Meetings (WITH CLIENT)** | 283 days | Mon 12/2/24 | Wed 12/31/25 |
| 4 | **Data Collection and Field Investigations** | **35 days** | **Mon 12/2/24** | **Fri 1/17/25** |
| 5 | **Document Collection & Review** | 35 days | Mon 12/2/24 | Fri 1/17/25 |
| 6 | **Site Visit** | 5 days | Mon 12/2/24 | Fri 12/6/24 |
| 7 | **Subconsultants** | **47 days** | **Mon 12/2/24** | **Tue 2/4/25** |
| 8 | **Geotechnical - SCE Engineering** | **47 days** | **Mon 12/2/24** | **Tue 2/4/25** |
| 9 | **Survey - Bowman Survey** | **47 days** | **Mon 12/2/24** | **Tue 2/4/25** |
| 10 | **Permitting Support** | **216 days** | **Mon 12/2/24** | **Mon 9/29/25** |
| 11 | **Cochise County Flood Control District** | **120 days** | **Mon 12/2/24** | **Fri 5/16/25** |
| 12 | **404 Permit** | **120 days** | **Mon 12/2/24** | **Fri 5/16/25** |
| 13 | **ADOT Permit - SR-80 Xing/ Easement Along SR-80** | **120 days** | **Mon 12/2/24** | **Fri 5/16/25** |
| 14 | **Freeport McMoRan Temp Const Easem Coord** | **66 days** | **Mon 12/2/24** | **Mon 3/3/25** |
| 15 | **ADEQ Approval to Const and Approval of Const San Sewer Permitting** | **60 days** | **Tue 7/8/25** | **Mon 9/29/25** |
| 16 | **Engineering Design** | **179 days** | **Mon 12/2/24** | **Thu 8/7/25** |
| 17 | **30% Civil - Elevated Whitewater Draw Sanitary Sewer Crossing Design** | **75 days** | **Mon 12/2/24** | **Fri 3/14/25** |
| 18 | 30% Options Tech Memo w/ Recommendations - Structural, Elevated Xing Pipe P&P, Trenchless Xing, Pipe Type, Lining, Coating, Anchoring, MH Design, Maint. | 65 days | Mon 12/2/24 | Fri 2/28/25 |
| 19 | 30% (Preliminary) Elevated Xing Pipe, P&P, | 65 days | Mon 12/2/24 | Fri 2/28/25 |
| 20 | 30% QC & Internal Technical Review (ITR) | 5 days | Fri 2/28/25 | Thu 3/6/25 |
| 21 | 30% Address QC/ITR & Submittal Preparation | 6 days | Fri 3/7/25 | Fri 3/14/25 |
| 22 | **30% Civil - Pipeline Sanitary Sewer** | **45 days** | **Mon 1/13/25** | **Fri 3/14/25** |
| 23 | 30% (Prelim) Plan & Profile, Civil Details Development, & QA | 34 days | Mon 1/13/25 | Thu 2/27/25 |
| 24 | 30% List of Specification TOC | 4 days | Mon 2/24/25 | Thu 2/27/25 |
| 25 | QC & Internal Technical Review (ITR) | 5 days | Fri 2/28/25 | Thu 3/6/25 |
| 26 | 30% Address QC/ITR & Submittal Preparation | 6 days | Fri 3/7/25 | Fri 3/14/25 |
| 27 | **60% Civil Engineering Design** | **55 days** | **Mon 3/3/25** | **Fri 5/16/25** |
| 28 | 60% P&P, Civil Details Development, & QA | 44 days | Mon 3/3/25 | Thu 5/1/25 |
| 29 | 60% Elevated Xing Structural Design | 41 days | Tue 3/4/25 | Tue 4/29/25 |
| 30 | 60% SR80 Trenchless Highway Crossing | 41 days | Mon 3/3/25 | Mon 4/28/25 |
| 31 | 60% Specifications | 9 days | Mon 4/21/25 | Thu 5/1/25 |
| 32 | 60% QC & Internal Technical Review (ITR) | 5 days | Fri 5/2/25 | Thu 5/8/25 |
| 33 | 60% Address QC/ITR, 30% City Comm & Submittal Preparation | 6 days | Fri 5/9/25 | Fri 5/16/25 |



# CITY OF DOUGLAS - WHITEWATER DRAW SANITARY SEWER PROJECT
# DESIGN AND CONSTRUCTION ENGINEERING SCHEDULE
# OCTOBER 2024

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 34 | **90% Engineering Design** | **51 days** | **Mon 4/28/25** | **Mon 7/7/25** |
| 35 | 90% P&P, Civil Details Development, & QA | 37 days | Thu 5/1/25 | Fri 6/20/25 |
| 36 | 90% Elevated Xing Structural Design | 35 days | Mon 4/28/25 | Fri 6/13/25 |
| 37 | 90% SR80 Trenchless Highway Crossing | 35 days | Mon 4/28/25 | Fri 6/13/25 |
| 38 | 90% Specifications | 5 days | Mon 6/9/25 | Fri 6/13/25 |
| 39 | QC & Internal Technical Review (ITR) | 5 days | Mon 6/23/25 | Fri 6/27/25 |
| 40 | 90% Address QC/ITR, 60% City Comm & Submittal Preparation | 6 days | Mon 6/30/25 | Mon 7/7/25 |
| 41 | **Issued For Construction (IFC) Design** | **39 days** | **Mon 6/16/25** | **Thu 8/7/25** |
| 42 | IFC P&P, Civil Details Development, & QA | 25 days | Fri 6/20/25 | Thu 7/24/25 |
| 43 | 90% Elevated Xing Structural Design | 25 days | Mon 6/16/25 | Fri 7/18/25 |
| 44 | IFC SR80 Trenchless Highway Crossing | 25 days | Mon 6/16/25 | Fri 7/18/25 |
| 45 | IFC Specifications | 5 days | Mon 7/21/25 | Fri 7/25/25 |
| 46 | IFC QC & Internal Technical Review (ITR) | 5 days | Fri 7/25/25 | Thu 7/31/25 |
| 47 | IFC Address QC/ITR, 90% City Comm & Submittal Preparation | 5 days | Fri 8/1/25 | Thu 8/7/25 |
| 48 | **Opinion of Probable Cost** | **91 days** | **Mon 2/17/25** | **Mon 6/23/25** |
| 49 | **30%** | **15 days** | **Mon 2/17/25** | **Fri 3/7/25** |
| 50 | **90%** | **13 days** | **Thu 6/5/25** | **Mon 6/23/25** |
| 51 | **Construction Right-of-Way Documents** | **75 days** | **Mon 12/2/24** | **Fri 3/14/25** |
| 52 | **Permanent and Temporary Construction Easement Exhibits and Legal Descriptions** | **75 days** | **Mon 12/2/24** | **Fri 3/14/25** |
| 53 | **Construction Phase Services** | **370 days** | **Mon 9/1/25** | **Fri 1/29/27** |
| 54 | **Res Eng Srvcs, Eng Site Visits and Const Proj Mtgs** | **351 days** | **Mon 9/1/25** | **Mon 1/4/27** |
| 55 | Bidding Assistance | 85 days | Mon 9/1/25 | Fri 12/26/25 |
| 56 | Construction Progress Meetings (52 weeks) | 261 days | Mon 1/5/26 | Mon 1/4/27 |
| 57 | Construction Monitoring/Site Visits | 261 days | Mon 1/5/26 | Mon 1/4/27 |
| 58 | **Construction Engineering Services** | **370 days** | **Mon 9/1/25** | **Fri 1/29/27** |
| 59 | Operations Plan | 20 days | Mon 9/1/25 | Fri 9/26/25 |
| 60 | Commissioning & Startup Plan | 30 days | Mon 9/1/25 | Fri 10/10/25 |
| 61 | Submittal/Shop Drawing Review: (15 struct, 15 mech, 15 civil, 10 arch, 15 elect) @ 4 hrs ea | 90 days | Mon 9/1/25 | Fri 1/2/26 |
| 62 | RFIs - Assume 10 RFI's | 120 days | Mon 9/1/25 | Fri 2/13/26 |
| 63 | Commissioning & Startup Plan | 30 days | Mon 1/5/26 | Fri 2/13/26 |
| 64 | Special Inspections (sub) | 130 days | Mon 6/1/26 | Fri 11/27/26 |
| 65 | Commissioning/Startup Coordination with TW | 30 days | Mon 11/30/26 | Fri 1/8/27 |
| 66 | O&M Manual Review and Submittal Coord | 45 days | Mon 11/30/26 | Fri 1/29/27 |
| 67 | Construction Close-out | 30 days | Mon 12/14/26 | Fri 1/22/27 |
| 68 | As-built/Record Drawings | 20 days | Mon 1/4/27 | Fri 1/29/27 |



# C Sub Consultant Proposal Fee Spreadsheet

510 E. 4th St
TUCSON, AZ 85705
(520) 405-7353

# Scope of Work
# Professional Engineering Services
# For the
# Cochise County and City of Douglas, Arizona
# Commercial Port of Entry Water and Wastewater Infrastructure, Crossing of Whitewater Draw (Item 5)

SCE Engineering (SCE) is pleased to provide this cost proposal to Stantec for geotechnical services associated with the crossing of Whitewater Draw (Item 5) of the Cochise County and City of Douglas, Arizona – Commercial Port of Entry Water and Wastewater Infrastructure project. This project is located in Cochise County and City of Douglas, Arizona. We look forward to providing quality and timely services to Stantec.

This letter proposal includes our understanding of the scope of work, assumptions, and deliverables that will be developed for the proposed geotechnical services of Item 5 of this project.

## A. GENERAL INFORMATION

SCE Engineering (SCE) is pleased to provide this cost proposal for the project listed below.

**Project Name:** Cochise County and City of Douglas – Commercial Port of Entry Water and Wastewater Infrastructure
**Project Client:** Stantec
**Project Location:** Cochise County and City of Douglas, Arizona
**Project Description:** Design water, wastewater, and broadband conduit infrastructure to serve the new Douglas Port of Entry (POE) that will go into service in 2028 and the lands between the POE and the City of Douglas along SR80.
**Scope of Work:** For the utility crossing of Whitewater Draw (Item 5 of this project), perform a geotechnical investigation that includes borings and laboratory testing. Provide geotechnical recommendations for the utility overhead crossing pier foundations (2 abutments and 1 pier assumed), embankment fills (material requirements and slopes), and suitability of existing soils for backfill purposes and bedding based on the existing soil's mechanical and chemical properties.
**SCE Role:** SUB
**Contract Type:** Lump Sum
**Date:** 10/29/2024

## B. SCOPE OF WORK

### 1. Project Administration

- **Task 1.1 –** Administering Contract, invoicing, and filing.

### 2. Field Reconnaissance

- **Task 2.1 –** One site visit for two of SCE's employees that will be involved with the fieldwork. Scope includes travel to the site and coordination between senior personnel and the project manager from SCE in preparation for the site visit.

510 E. 4th St
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(520) 405-7353

## 3. Data Collection

- **Task 3.1** – Perform 13 borings, ranging from 7.5-ft to 65-feet in depth (total linear footage of 340-feet) in support of the utility, embankment, abutment and pier foundation design. SCE has retained Geomechanics Southwest, Inc. (GSI) to perform the drilling services for the borings. Traffic control is anticipated for a shoulder closure of all the boring locations and is included in GSI's estimate. Refer to GSI's estimate for more detail on the drilling procedures and traffic control services. SCE will be on-site to collect the soil samples and record the boring logs.
- **Task 3.2** – Perform laboratory testing on representative soil samples obtained from the borings. Laboratory tests will include grain size distribution, Atterberg limits, standard proctor, moisture content tests, organic content, and chemical tests (pH, resistivity, chlorides, and sulfates). SCE has retained Speedie and Associates, Inc. (Speedie) to perform the laboratory testing.
- **Task 3.3** – Develop of the right-of-entry permit application for access to the few boring locations within ADOT right-of-way. For any boring locations outside of the ADOT right-of-way, SCE will assist in obtaining a right-of-entry permit from the applicable jurisdiction. It is assumed that any private property right-of-entry needs will be obtained by others.

## 4. Data Reduction

- **Task 4.1** – Evaluation of the soil data from field and laboratory investigations.
- **Task 4.2** – Develop boring logs.

## 5. Develop Deliverables

- **Task 5.1 –** Develop geotechnical recommendations for the 2 abutments and 1 pier of the utility overhead crossing of Whitewater Draw. The geotechnical recommendations include development of axial resistance charts in accordance with the 2012 AASHTO LRFD Bridge Design Specifications (current geotechnical design specifications used by ADOT) and geotechnical lateral design parameters for use with LPILE.
- **Task 5.2 –** Develop geotechnical recommendations for earthwork factors of the on-site soils and ground compaction factor for proposed embankment fills.
- **Task 5.3 –** Develop geotechnical recommendations for fill slopes (including an evaluation of a rapid draw-down scenario). The geotechnical recommendations include development of active, at-rest, and passive pressure coefficients for slope armoring design.
- **Task 5.4 –** Develop geotechnical recommendations for the suitability of existing soils for backfill purposes and bedding.
- **Task 5.5 –** Prepare a draft geotechnical report for review. The draft geotechnical report will include a summary of the geotechnical investigation, laboratory test results, boring logs, and geotechnical recommendations.
- **Task 5.6 –** Incorporate review comments and prepare a final geotechnical report.

## 6. Project Team Coordination

- **Task 6.1 –** Discussions with Stantec and sub consultants
- **Task 6.2 –** Attend 1 progress meeting via video conference or phone, 2-hour duration is assumed.

## 7. QA/QC

- **Task 7.1 –** Internal quality control/quality assurance (QC/QA) for the geotechnical report.

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# C. ASSUMPTIONS FOR COST PROPOSAL

The cost proposal is based on the following assumptions:

- Any environmental and cultural clearances for drilling geotechnical borings will be provided by others. The geotechnical borings and soil samples will not include any environmental investigation, and borings will be immediately terminated upon encountering environmental contamination.
- Boring locations will be surveyed before the field investigation by others. Alternatively, boring locations can be located in the field based off of measurements from visual landmarks shown in CAD imagery (CAD imagery and base files to be provided by Stantec in Microstation dgn format).
- One progress meeting with Stantec via video conference or phone, 2-hour duration, is assumed. No minor review meetings, pre-review meetings, or other internal meetings with Stantec are assumed.
- Traffic control is anticipated for access to the boring locations.
- Post-design services are not included in the scope.
- Design services will be lump sum for the scope of services described in this letter.

# D. SCOPE IMPLEMENTATION

Our geotechnical investigation program based on the above scope of work and assumptions is described below.

- A total of 13 borings as summarized in Section A.
- Traffic control is anticipated for the drilled boring locations.
- GSI will provide a track mounted drill rig for the field investigation.
- The borings will be advanced to target depth discussed in Section A unless auger refusal is encountered at shallower depths at which time the borings will be terminated.
- Representative soil samples obtained from the borings will be tested for grain size distribution, Atterberg limits, moisture content, organic content, and chemical tests (pH, resistivity, chlorides, and sulfates).

Based on the scope of work, it is anticipated that the field investigations by means of borings will take approximately 5 days of field work (not including travel) and 1 additional day of field reconnaissance (including travel). The field work can typically be initiated 3-weeks after the latter of the following events, pending prior defined schedules:

- Receipt of notice-to-proceed (NTP) from Stantec,
- approval of the field investigation program by Stantec.
- acquisition of all permits as necessary (environmental, cultural, 404, ADOT ROW, private property, etc.), and
- completion of boring location staking by Stantec or field located by SCE.

Once the fieldwork is complete, we anticipate 4 weeks for the laboratory testing to be completed. After which we anticipated 4 more weeks to develop the draft geotechnical report that includes SCE's geotechnical recommendations for review. After review comments are resolved for the draft geotechnical report, we anticipate 1 more week to finalize and submit the final geotechnical report.

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# E. DELIVERABLES

SCE deliverables will include a sealed PDF copy of the geotechnical report. The report will include all results and recommendations of the subsurface exploration program. The report will be submitted in PDF format to Stantec who will then print hard copies if necessary. A draft and final version of the report will be prepared and submitted.

# F. COST PROPOSAL

The costs for the scope of work and the assumptions noted above are estimated to be $84,838.55. Detailed breakdown of labor effort for design is attached.

# G. CLOSURE

A detailed cost proposal has been provided herein. This is based on our understanding of the scope of work and assumptions.

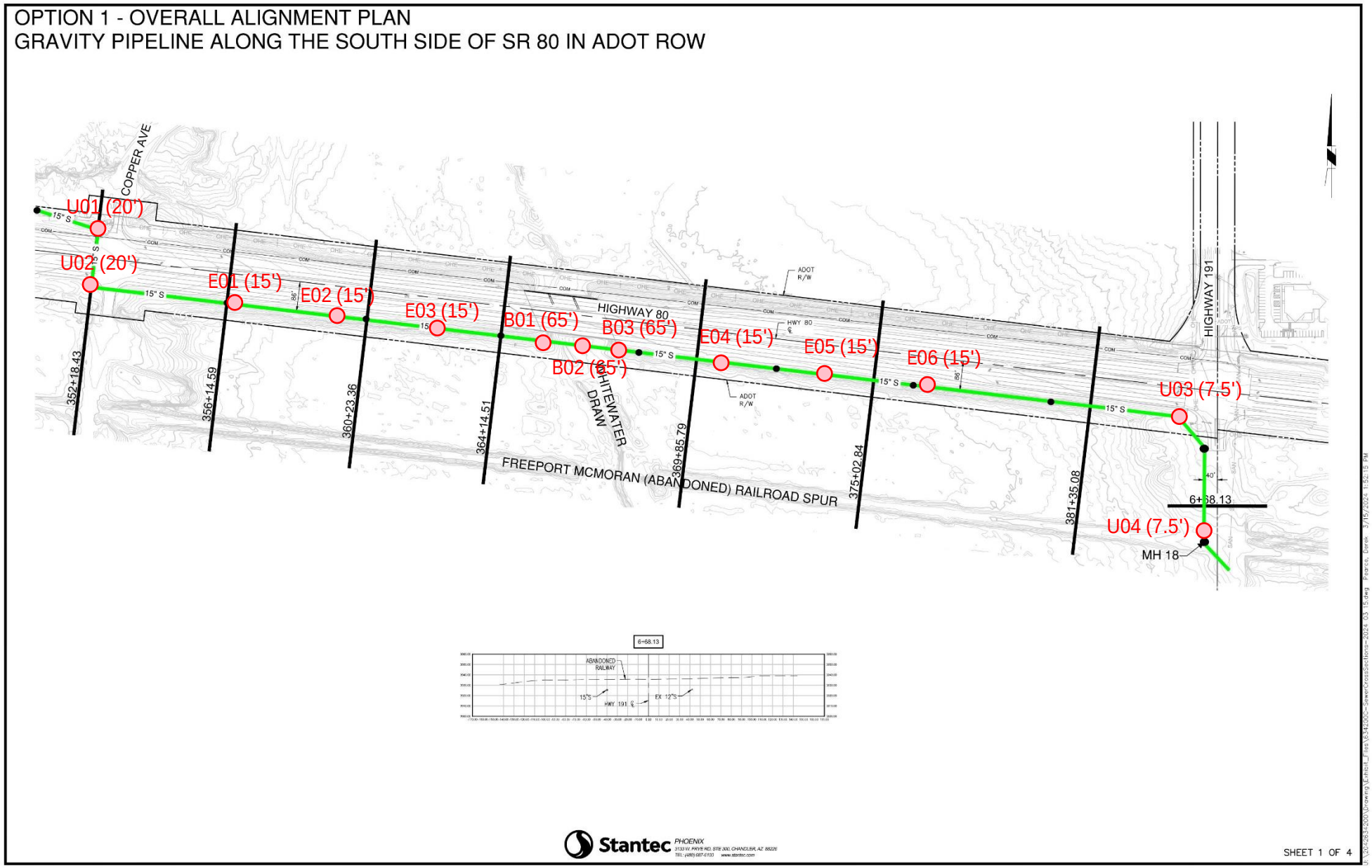
Please contact the undersigned if you have any questions or comments or require any further information. We look forward to working with Stantec on this challenging project.

Sincerely,
**SCE Engineering**

Joseph B Harris, PE
Principal, Lead Geotechnical Engineer

**Reference: Task 222.01 Memorandum: Alternative to the East Wastewater Lift Station**

**Figure 9 - Option 1, Attachment 1 - Centerline, Cross Sections, and Profile**



SCE ENGINEERING
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TUCSON, AZ 85705
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Cochise County and City of Douglas, Arizona
Commercial Port of Entry Water and Wastewater Infrastructure,
Crossing of Whitewater Draw (Item 5)

Contract Type: LS
Date: 10/29/2024

Labor

| Category | Labor Rate | Hours | Total Labor |
|---|---|---|---|
| Project Principal | $165.00 | 9 | $1,485.00 |
| Project Manager | $155.00 | 20 | $3,100.00 |
| Engineer | $135.00 | 117 | $15,795.00 |
| Designer | $125.00 | 123 | $15,375.00 |
| Clerical | $95.00 | 10 | $950.00 |
| Total Labor Cost | | 279 | $36,705.00 |

Direct Costs

| | |
|---|---|
| Travel (Mileage) to Douglas, Arizona from Tucson, Arizona. 2 trips, at approximatley 240 mile round trip each, at $0.655 per mile | $314.40 |
| Lodging/Meals (5 days at $156/day) | $780.00 |
| Permit Fees (No Fee Assumed) | $0.00 |
| Total Direct Cost | $1,094.40 |

Subconsultants

| | |
|---|---|
| Gemochanics Southwest, Inc (Drilling and Excavation) | $41,051.15 |
| Speedie and Associates, Inc. (Lab Testing) | $5,988.00 |
| Total Subconsultant Cost | $47,039.15 |

| | |
|---|---|
| Total Fee | $84,838.55 |

Joseph B Harris, PE

SCE ENGINEERING
510 E. 4th St
TUCSON, AZ 85705
(520) 405-7353

Task Summary

| Task | Task Description | Project Principal | Project Manager | Project Engineer | Designer/ Drafter | Clerical | Total by Task | Cost by Task |
|---|---|---|---|---|---|---|---|---|
| | Total by Category | 9 | 20 | 117 | 123 | 10 | 279 | $36,705.00 |
| 1 | Project Adminstration | 0 | 2 | 3 | 0 | 6 | 11 | $1,285.00 |
| 2 | Field Reconaissance | 1 | 1 | 6 | 6 | 0 | 14 | $1,880.00 |
| 3 | Data Collection | 0 | 2 | 13 | 56 | 0 | 71 | $9,065.00 |
| 4 | Data Reduction | 1 | 3 | 18 | 27 | 0 | 49 | $6,435.00 |
| 5 | Develop Recommendations | 6 | 7 | 68 | 32 | 4 | 117 | $15,635.00 |
| 6 | Project Coordination | 0 | 1 | 7 | 2 | 0 | 10 | $1,350.00 |
| 7 | QA/QC | 1 | 4 | 2 | 0 | 0 | 7 | $1,055.00 |

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(520) 405-7353

Task Hours

| Task 1 | Description | Project Principal | Project Manager | Project Engineer | Designer/Drafter | Clerical | Total by Task |
|---|---|---|---|---|---|---|---|
| Total by Category | Project Adminstration | 0 | 2 | 3 | 0 | 6 | 11 |
| Task 1.1 | Administering Contract, invoicing, and filing. | 0 | 2 | 3 | 0 | 6 | 11 |

| Task 2 | Description | Project Principal | Project Manager | Project Engineer | Designer/Drafter | Clerical | Total by Task |
|---|---|---|---|---|---|---|---|
| Total by Category | Field Reconaissance | 1 | 1 | 6 | 6 | 0 | 14 |
| Task 2.1 | One site visit (2 SCE staff) | 1 | 1 | 6 | 6 | 0 | 14 |

| Task 3 | Description | Project Principal | Project Manager | Project Engineer | Designer/Drafter | Clerical | Total by Task |
|---|---|---|---|---|---|---|---|
| Total by Category | Data Collection | 0 | 2 | 13 | 56 | 0 | 71 |
| Task 3.1 | Perform 15 borings (5 days + 1 day to coordinate digging and access issues) | 0 | 1 | 5 | 48 | 0 | 54 |
| Task 3.2 | Coordinate laboratory testing, deliver samples | 0 | 1 | 3 | 3 | 0 | 7 |
| Task 3.3 | Develop the ADOT right-of-entry permit application | 0 | 0 | 5 | 5 | 0 | 10 |

| Task 4 | Description | Project Principal | Project Manager | Project Engineer | Designer/Drafter | Clerical | Total by Task |
|---|---|---|---|---|---|---|---|
| Total by Category | Data Reduction | 1 | 3 | 18 | 27 | 0 | 49 |
| Task 4.1 | Evaluation of soil data | 0 | 1 | 6 | 6 | 0 | 13 |
| Task 4.2 | Develop boring logs | 1 | 2 | 12 | 21 | 0 | 36 |

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| Task 5 | Description | Project Principal | Project Manager | Project Engineer | Designer/Drafter | Clerical | Total by Task |
|---|---|---|---|---|---|---|---|
| Total by Category | Develop Recommendations | 6 | 7 | 68 | 32 | 4 | 117 |
| Task 5.1 | Abut and Pier foundations | 2 | 1 | 16 | 4 | 0 | 23 |
| Task 5.2 | Earthwork factors/Ground Compaction Factor | 1 | 1 | 16 | 4 | 0 | 22 |
| Task 5.3 | Fill slopes | 1 | 1 | 8 | 4 | 0 | 14 |
| Task 5.4 | Suitability of exisiting soils for backfill pruposes and bedding | 1 | 1 | 8 | 4 | 0 | 14 |
| Task 5.5 | Develop draft geotechnical report | 1 | 2 | 16 | 16 | 4 | 39 |
| Task 5.6 | Incorporate review comments and finalize the geotechnical report | 0 | 1 | 4 | 0 | 0 | 5 |

| Task 6 | Description | Project Principal | Project Manager | Project Engineer | Designer/Drafter | Clerical | Total by Task |
|---|---|---|---|---|---|---|---|
| Total by Category | Project Coordination | 0 | 1 | 7 | 2 | 0 | 10 |
| Task 6.1 | Discussions with Stantec and subconsultants | 0 | 1 | 4 | 2 | 0 | 7 |
| Task 6.2 | Attend 1 progress meeting via video conference or phone, 2-hour is assume plus 1 hour prep | 0 | 0 | 3 | 0 | 0 | 3 |

| Task 7 | Description | Project Principal | Project Manager | Project Engineer | Designer/Drafter | Clerical | Total by Task |
|---|---|---|---|---|---|---|---|
| Total by Category | QA/QC | 1 | 4 | 2 | 0 | 0 | 7 |
| Task 7.1 | Internal quality control/quality assurance (QC/QA) | 1 | 4 | 2 | 0 | 0 | 7 |

| Tasks 1 - 7 Totals | Project Principal | Project Manager | Project Engineer | Designer/Drafter | Clerical | Total by Task |
|---|---|---|---|---|---|---|
| Total by Category | 9 | 20 | 117 | 123 | 10 | 279 |

## Lab Testing and Estimated Fees for Drilled Borings Investigations
## (to be provided by Speedie and Associates, Inc.)

| | Test Description | ASTM | Unit Costs ($) | | Total Cost |
|---|---|---|---|---|---|
| 1 | Grain size analysis | C136, D 2217 | 70 | 25 | $ 1,750.00 |
| 2 | Hydrometer | D 422 | 130 | 0 | $ - |
| 3 | Atterberg Limits (LL/PL) | D 4318 | 70 | 25 | $ 1,750.00 |
| 4 | Water content | D 2216 | 12 | 10 | $ 120.00 |
| 5 | pH | ADOT 236 | 42 | 4 | $ 168.00 |
| 6 | Soluble sulfates | D 4542 | 80 | 4 | $ 320.00 |
| 7 | Chlorides | D 4542 | 80 | 4 | $ 320.00 |
| 8 | Minimum Resistivity | ADOT 236 | 100 | 4 | $ 400.00 |
| 9 | Proctor (moisture-density) test | D 698 | 130 | 2 | $ 260.00 |
| 10 | Loss of ignition (organic content) | D 2974 | 80 | 2 | $ 160.00 |
| 11 | Collapse | D 5333 | 120 | 2 | $ 240.00 |
| 12 | Consolidation test (1-D) including time data | D 2435 | 250 | 1 | $ 250.00 |
| 13 | Dry unit weight and water content | Measured Vol | 25 | 10 | $ 250.00 |
| | | | | **TOTAL** | $ 5,988.00 |

# Geomechanics Southwest, Inc.

5839 S Belvedere Ave
Tucson, Arizona 85706
520-889-7787
AROC 079441 / ADWR 498 www.gsidrilling.com


Date: October 29, 2024
Proposal # 02823T

**Joseph B. Harris, P.E.**
SCE Engineering
510 E. 4th Street
Tucson, Arizona 85705
joseph@sce.engineering.com

**RE: Geotech Services Request; Douglas POE Water & Wastewater Infrastructure Project (10.29.24)**

**SCOPE: Item #5**

- **Provide a CME-75HT track-mounted drill and 3-man crew.**
- **Drill will come equipped with 3-1/4"ID HSA and required support equipment.**
- **Auger / Sample the following to depth or refusal:**
  - **2/20', 2/7.5', 6/15', 3/65'**
- **Auger cuttings will be used to backfill each boring that doesn't encounter GW.**
- **GSI will mark out and call-in blue stake for drill locations.**
- **GSI assumes ADWR Permitting and Abandonment is required.**
- **GSI assumes Shoulder Closure for Traffic Control Plan.**

| ITEM | QUANTITY | UNITS | UNIT PRICE | LINE TOTAL |
|---|---|---|---|---|
| Mobilization / Demobilization / Local Travel | 1 | EACH | 2900.00 | $2,900.00 |
| Auger / Sample | 340 | L.F. | 43.50 | $14,790.00 |
| Blue Stake | 1 | EACH | 600.00 | $ 600.00 |
| Support Equipment | 5 | DAYS | 700.00 | $3,500.00 |
| ADWR Geotechnical Permitting (if GW) (est., qty.) | 1 | EACH | 250.00 | $ 250.00 |
| Grout Abandonment (if GW) (est., qty.) | 195 | L.F. | 12.50 | $2,437.50 |
| Additional Crewmember | 5 | DAYS | 850.00 | $4,250.00 |
| Crew Lodging & Subsistence (3-men) (est., qty.) | 5 | DAYS | 750.00 | $3,750.00 |
| Traffic Control (24 HR Shoulder Closure) | 5 | DAYS | 1250.00 | $6,250.00 |
| Temporary Fuel Surcharge (6% of Invoice Total) (est., qty.) | .06 | % | 38727.50 | $2,323.65 |
| | | | ESTIMATED TOTAL | $41,051.15 |

**We estimate a completion time of 5 days to complete.**

We at Geomechanics Southwest Inc., appreciate the opportunity to provide you with an estimate. If you have any questions, please don't hesitate to call or email us. We look forward to hearing from you soon.

Respectfully submitted by,

**GEOMECHANICS SOUTHWEST, INC.**

Steve Bradshaw
Vice President

SLB/sb
Copies (1) addressee
SCE 122022 – Douglas POE Item 5 (updated 10.29.24)

**GSI Estimate Conditions & Assumptions – RE: Proposal # 02823T**

1) Geomechanics Southwest, Inc., assumes no responsibility for the transportation, removal and/or disposal of auger cuttings, decontamination rinseate, well development fluids or expendable items known to be, or suspected of being contaminated as a result of the performance of drilling services associated with this project.
2) ~~Geomechanics Southwest, Inc., assumes no responsibility for any damages to underground structures, pipelines or utility services incurred as a result of the performance of drilling services associated with this project. Client will call in blue stake and list GSI as an additional contractor to each ticket.~~
3) In the event that any downhole tooling & sampling equipment is lost due to adverse subsurface conditions, GSI reserves the right to charge client for the replacement of the equipment at current replacement cost.
4) In the event that drilling depths and sampling intervals are changed or increased, GSI reserves the right to charge for this.
5) Project is **not** subject to any Davis Bacon/Prevailing Wage/Certified Payroll labor laws.
6) Any and all Local, State & Federal Permits are the responsibility of others.
7) If subsurface conditions require the use of a different drilling methodology to obtain target depth other than listed above in scope of work, GSI reserves the right to renegotiate price.
8) Client agrees to pay GSI within **ninety (90) days** of invoice billed date unless otherwise agreed in advance. Client agrees to pay any and all court fees, attorney fees and late fees associated with trying to collect past due amounts.
9) This estimate is valid for **thirty (30) days**.
10) GSI will charge a 25% restocking fee on any materials purchased for a project that is changed, cancelled or otherwise delayed. Additional materials will be delivered at $225.00 per hour (portal to portal).
11) Any estimated (est.) line item in proposal is exactly that, an estimate. Actual time and daily effort will be charged.

Acceptance of all outlined pricing, terms & conditions:

Company Name:_____.

Authorized Representative:_____.

Signature:_____.

Date:

# Appendix D Fee Proposal

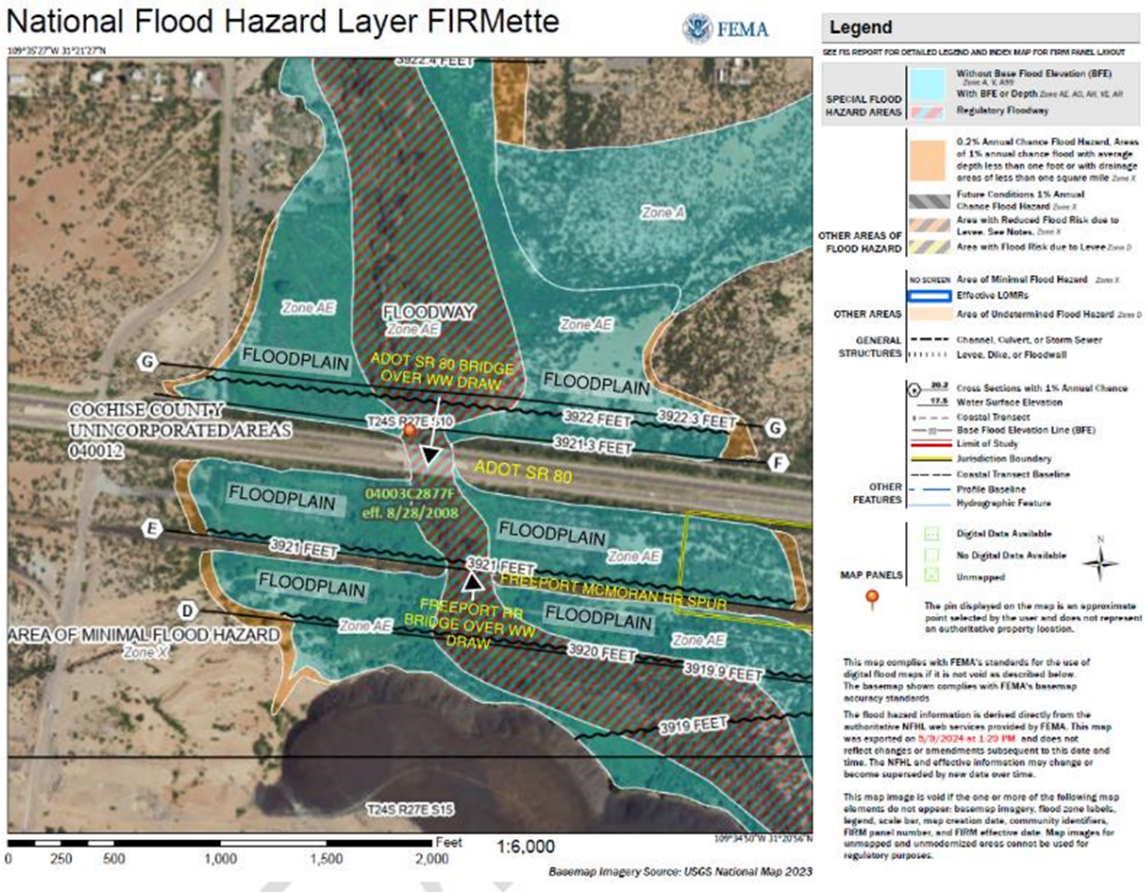
# FEE ESTIMATE - Douglas Whitewater Draw

| | Principal | Survey, 2-person | Project Manager | Senior A/E | Prof Level IV | Prof Level III | Designer | Prof Level II | Expenses | Geotechnical - Engi |
|---|---|---|---|---|---|---|---|---|---|---|
| **Project Billing Rate (T&M)** | $296.00 | $290.00 | $193.00 | $233.00 | $218.00 | $185.00 | $142.00 | $116.00 | $1.00 | $1.00 |
| **Total Units (T&M)** | 205 | 40 | 437 | 636 | 400 | 1,770 | 544 | 120 | 5,500 | 84,839 |
| **Total Fee (T&M)** | $60,680.00 | $11,600.00 | $84,341.00 | $148,188.00 | $87,200.00 | $327,450.00 | $77,248.00 | $13,920.00 | $5,500.00 | $84,839.00 |

| Task Code | Task Name | Units | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **101** | **Project Administration and Coordination** | | | | | | | | | | |
| 101.100 | Project Management | 24 | | | | | 80 | | 120 | | |
| 101.200 | Design Meetings | 29 | | 29 | 14 | | 84 | | | | |
| **201** | **Supporting Services** | | | | | | | | | | |
| 201.100 | Geotechnical Investigation | | | | | | | | | | 84,839.00 |
| 201.200 | Survey | | 40 | | 8 | | | | | | |
| **202** | **Permitting of the Whitewater Draw Crossing** | | | | | | | | | | |
| 202.100 | Cochise County Flood Control District | | | | 104 | | 164 | | | | |
| 202.200 | Clean Water Act Section 404 Nationwide Permit Documentation | | | | 180 | 200 | 168 | | | | |
| 202.300 | Permanent and Construction Easements | | | | 20 | | 60 | | | | |
| **301** | **Elevated Wasterwater Crossing of Whitewater Draw** | | | | | | | | | | |
| 301.100 | White Water Crossing Type Selection Report | | | | 46 | | 140 | | | | |
| 301.200 | Structural Design | | | 8 | 62 | | 162 | | | | |
| **302** | **SR 80 Pipeline Design Drawings and Specifications** | | | | | | | | | | |
| 302.100 | Civil | 68 | | 236 | 74 | | 632 | 136 | | | |
| 302.200 | SR 80 Highway Crossing | | | | 60 | | 80 | | | | |
| **303** | **Opinion of Probable Construction Cost** | 30 | | 24 | 50 | 200 | | | | | |
| **401** | **Construction Management** | | | | | | | | | | |
| 401.100 | Bidding Assistance | 10 | | 10 | 2 | | 40 | | | | |
| 401.300 | Submittals, Shop Drawings, and RFIs | 10 | | 20 | 16 | | 80 | | | | |
| 401.400 | Contractor RFIs, ESIs,Const Mtgs, Change Orders | 10 | | 10 | | | 20 | | | | |
| 401.200 | Construction Monitoring | 24 | | 100 | | | 60 | 408 | | | |
| **901** | **Expenses** | | | | | | | | | | |
| 901.100 | Printing | | | | | | | | | 1,000.00 | |
| 901.200 | Travel | | | | | | | | | 4,500.00 | |

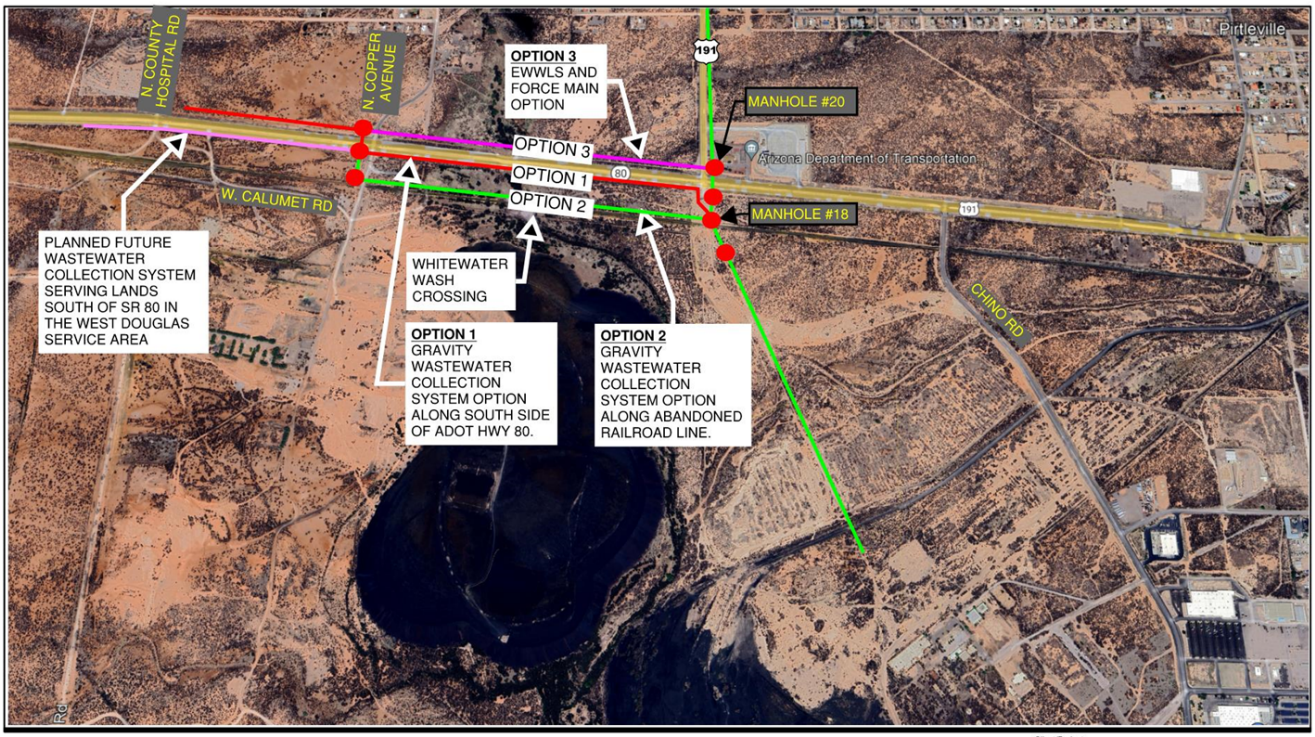
| Project Summary | Hours | Expense | Labour | Subs | Total |
|---|---|---|---|---|---|
| **Time & Material** | 4,152 | $5,500.00 | $810,627.00 | $84,839.00 | $900,966.00 |

# Appendix E National Flood Hazard and Whitewater Draw Crossing



**Scope of Work for the City of Douglas**

**Wastewater Design, Permitting, and Contractor Selection Support Crossing of Whitewater Draw Between North Copper Avenue and City MH 18**




Stantec

3133 W. Frye Road, Suite 300
Chandler, AZ 85226
www.stantec.com

Legend

Notes

Client/Project:
CITY OF DOUGLAS
DOUGLAS POE WASTEWATER COLLECTION SYSTEM ALTERNATIVE ASSESSMENT
Figure No.
1
Title
FACILITIES MAP - OPTIONS 1, 2, & 3