

June 27, 2023

File: 2042584400

**Attention: Sharon Gilman**  
Associate Cochise County Administrator  
Cochise County Procurement Department  
1415 Melody Lane, Building C  
Bisbee, AZ 85603

**Luis Pedroza**  
Management Services Director & City Treasurer  
City of Douglas  
425 10<sup>th</sup> Street  
Douglas, AZ 85607

Dear Sharon and Luis,

**Reference: Scope of Work (SOW) - Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank**

**This Scope of Work, Preliminary Engineering in Support of the 60% Detailed Design- Funded by the North American Development Bank revised document dated June 27, 2023, supersedes, and reflects City/County comments and directions to the March 24, 2023, document. These were provided in a City /County Spreadsheet received by Stantec April 11, 2023. A complementary SOW document 'Preliminary Engineering in Support of the 60% Detailed Design - Not Funded by the North American Development Bank' is provided to the City and County separate to this document.**

**This letter includes a spreadsheet summarizing the Scope of Work 'Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank' SOW Tasks, the proposed SOW schedule, and the SOW fees to each corresponding Task. Attached to this letter is the Stantec 'Attachment A SOW'. The Attachment A includes the fee spreadsheet.**

The Stantec Estimated Most Probable Construction and Total Project Cost Fee as detailed in Stantec December 11, 2020, report for the County and the City entitled 'Proposed Douglas Port of Entry Water and Wastewater Feasibility Report' (2020 Report) identified the estimated most probable construction cost of \$21,150,000 and the estimated most probable total project delivery cost of \$27,495,000.

The water supply to the West Douglas Expansion includes the new west Groundwater Well, the new elevated West Storage Tank, and a water main with fire hydrants and connections. It is located along James Ranch Road (JRR) between the West Douglas Expansion (WDE) area and State Route 80 (SR 80), along SR 80 between the elevated storage tank and the intersection of James Ranch Road and SR 80 and includes service to Cochise College and possibly the US Customs and Border Patrol complex.

The estimated length of water main pipe in the 60% detailed design of 12-inch and 16-inch diameter pipe is 20,000 feet. The work includes a 550,000-gallon storage tank and an approximately 1,000 gallons per minute groundwater well and water treatment. The work includes APS power, local SCADA system with ability to connect in the future to the improved City's SCADA system and water service connections.

Wastewater collection and treatment includes a wastewater collection system along James Ranch Road between the West Douglas Expansion area and SR 80 and along SR 80 from Cochise College to a point of connection to the City collection system for treatment at the City Wastewater Treatment



Plant. The project includes possible service to the US Customs and Border Patrol complex at West Puzzi Road and James Ranch Road, as well as homes on septic tanks in the Old Hospital Area. The estimated length of pipe is 36,500 feet.

The wastewater collection system includes two wastewater lift stations: (about 75 gpm and 400 gpm at ultimate build out). The wastewater collection infrastructure includes APS power to the lift stations, /local SCADA system to connect to the future improved City SCADA system, and wastewater sewer connections to serve the County-identified lands adjacent to the collection system.

The Broadband (conduit only) will be parallel to the water and wastewater infrastructure. The fiber optic cable and connections are not part of this design.

It is noted the 2020 Feasibility Report costing did not include water, broadband or wastewater service to Cochise College. For purposes of the 30% and 60% Detailed Design the estimated additional length of water pipe to serve Cochise College is 5,800-feet with six fire hydrants, the additional length of wastewater collection pipe is 10,720-feet with twenty manholes and additional length of broadband conduit is 10,720-feet.

The following is noted:

1. The project delivery schedule has been changed to July 1, 2023, project start and July 1, 2024, project completion from March 1, 2023, project start and February 28, 2024, project completion in the December 22, 2022, submittal. This includes Preliminary Engineering in Support of the 60% Detailed Design- Funded by the North American Development Bank'. There is a second proposal submitted to the City for Preliminary Engineering in Support of the 60% Detailed Design - Not Funded by the North American Development Bank by others.

The schedule for Preliminary Engineering in Support of the 60% Detailed Design includes the schedules for Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank and Not Funded by the NADB. A project schedule will be prepared in MS Project on award of the two SOW and in close consultation with the City and County.

This schedule assumes that the project teams, including the City and the County, provide the information and direction in an expedited fashion. The project schedule relies on receipt of information, decisions and direction from Douglas West Douglas Expansion project teams including GSA, ADOT, APS and Southwest Gas.

2. The Stantec Fee in this package is based on the contracted City of Tucson/Stantec rate schedule for March 8, 2023, to March 7, 2024.

It is noted that this work will be followed by the 90% Detailed Design (not part of this scope of work) to complete the project design, including plans and specifications, subject to review comments by the permitting and funding agencies and location requirements. The 100% Detailed Design (not part of this scope of work) is the release of the final detailed design package for permitting and the construction bidding process as an outcome of the 90% Detailed Design.



Figure 1 Project Task and Fee Summary Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank



Task	July	August	September	October	November	December	January	February	March	April	May	June	July	Task Engineering Cost (Stantec Labor, Stantec Expenses, Stantec Subconsultant Costs)
	*													
Task 222.01: Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]														\$62,040.73
Task 222.04: Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank														\$111,420.40
Task 222.07: Survey the Location of El Paso Natural Gas Interstate Pipelines														\$32,180.60
Task 223.02: Survey of Alignment in ADOT ROW along SR 80														\$55,317.26
Task 225.01: West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development														\$51,296.50
Task 225.04: Planning Old County Hospital Service Area - Wastewater Collection System														\$12,960.00
<b>TOTAL COST:</b>													<b>\$325,215.49</b>	

\* Notice to Proceed by City

The fee development includes estimates of Stantec labor hours over the project by Tasks. It is detailed in the Fee Spreadsheet in **Appendix B** of Attachment A. A summary is provided in **Figure 1** Project Task and Fee Summary Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank.

**The Engineering total fee (Stantec Labor, Subconsultants, and Stantec Expenses) for the 'Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank' scope of work is \$325,215.49.**

The Stantec total labor fee **'Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank'** is \$199,077.28. The total fee includes project delivery and work by subconsultants in the total amount of \$126,138.21 which includes Bowman Engineering Tucson (Surveying), SCE (Geotechnical), Darling Geomatics Inc., and T2 Engineers (Infrastructure Location). The work will be time and materials not to exceed.

The 'Revised Fee Estimate Summary' is based on the Rate Table from the Stantec Contract Amendment with the City of Tucson 'On Call Civil Engineering Services' effective March 8, 2023, to March 7, 2024. The Contract Number is 181820-02. **It accompanies as Appendix C in Attachment A.**

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.**

**Ruiz, Colleen**

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**Colleen M. Ruiz** P.E., MPA, CFM  
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**ATTACHMENT A**  
**Professional Services Agreement Scope of Work**  
**COCHISE COUNTY AND CITY OF DOUGLAS**  
**60% WATER, WASTEWATER, AND BROADBAND CONDUIT DESIGN**  
**FOR WEST DOUGLAS EXPANSION**  
**Preliminary Engineering in Support of the 60% Detailed Design - Funded by the**  
**North American Development Bank**  
**June 27, 2023**

## INTRODUCTION

**Note: Attachment A was originally prepared and submitted to the City of Douglas and Cochise County on December 22, 2022. This revised Attachment A dated June 9, 2023, reflects City comments and directions received from the City/County to the December 22, 2022, and March 23, 2023, Stantec submittals, the City/County review spreadsheet provided to Stantec on April 11, 2023, and the direction received from the City/North American Development Bank (NADB) on May 5, 2023. The focus is addressing existing environmental issues associated with the Cochise College, Old Hospital Road residential area, existing residential/commercial along Highway 80 and the Douglas US Customs and Border Patrol Complex.**

This proposal is for Engineering Services to advance water, wastewater, and broadband conduit infrastructure along SR 80 from 30% Detailed Design to 60% Detailed Design. Specifically, this proposal is **'Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank'**. The Tasks from the March 23, 2023, Stantec Proposal included in this proposal are 222.01, 222.04, 227.07, 223.02, 225.01, and 225.04.

It is noted that there is a separate **'Preliminary Engineering in Support of the 60% Detailed Design - Not Funded by the North American Development Bank'**. The Tasks from the March 23, 2023, Stantec Proposal included in that proposal are 221.01, 221.02, 221.05, 222.03, 222.06, 223.01, 223.03, 223.05 and 224.01.

There will be a third proposal for **'Detailed Design Engineering'**.

The 30% Design Plan Set, and Basis of Design Report package was submitted to Cochise County and the City of Douglas as a draft on August 31, 2022. The final package reflecting Cochise County and City of Douglas direction was submitted on October 21, 2022.

The project concept was developed in the 'Proposed Douglas Port of Entry Water and Wastewater Feasibility Report' (2020 Report) prepared by Stantec and submitted to Cochise County (County) and the City of Douglas (City) on December 11, 2020. This Scope of Work will be accomplished per the terms and agreements that governed the 2020 Report.



This Proposal for Engineering Services includes several Tasks summarized as follows:

1. Task 222.01: Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]
2. Task 222.04: Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank
3. Task 222.07: Survey the Location of El Paso Natural Gas (EPNG) (Southwest Gas) Interstate Pipelines
4. Task 223.02: Survey of Alignment in ADOT ROW along SR 80
5. Task 225.01: West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development
6. Task 225.04 Planning Old County Hospital Service Area – Wastewater Collection System





## Task 222.01: Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]

The 30% Design included the East Wastewater Lift Station (East WW LS) located at SR 80 and Copper Road area. The lift station would pump sewage from the proposed wastewater system to an existing City Manhole 20 at the intersection of SR 80 and U.S. 191. An alternative approach for a gravity connection to the City Manhole 20 (MH 20) will be investigated. This requires more detailed survey by a Registered Land Surveyor and analysis than provided with the 30% design and Basis of Design Report. The benefit to the project is possible elimination of the East WW LS.

The following tasks will be accomplished to verify the opportunity for gravity flow between North Copper Avenue and I80 and the City MH 20 that would eliminate the need for the East WW LS:

1. Supplement the County LIDAR mapping with a detailed survey by a Registered Land Surveyor along the north side of SR 80 between North Copper Avenue and the point of connection to the existing City MH 20 including survey details of MH 20 invert elevations. The survey area would be between North Copper Avenue/SR 80 and the City MH 20 along the west bound I80 shoulder to approximately 150 feet north from the edge of the I80 road shoulder and include the plan view of the existing ADOT bridge over Whitewater Draw.
2. Locate and verify the El Paso Natural Gas high pressure gas line where the wastewater collection pipe will cross and survey the vertical separation requirements of the EL Paso Natural Gas.
3. Survey the Wastewater system MH 20 connection invert elevation.
4. Using the survey information, the 30% hydraulic model, confirm the pipe diameter and slope will provide gravity flow to the City connection point at MH 20.
5. Determine the 60% wastewater pipe centerline location, pipe cover, and work with ADOT as needed. Prepare an illustrating Figure.
6. Topographic survey west of North Copper Avenue intersection for at least 1,000 feet to ensure the pipe inverts can serve the Wastewater system.

### Deliverables:

- A memorandum (**Survey and Investigation of a Gravity Connection to the City Wastewater System**) detailing the survey results, detailing the wastewater pipe gravity flow analysis and route, evaluation criteria, and recommendation whether the system can continue flowing by gravity from North Copper Avenue and MH 20.





## **Task 222.04: Survey, Geotechnical Investigation, and Capital Cost Development of the Groundwater Well / Elevated Storage Tank**

This task is for location and planning of the new groundwater well along SR 80 in the vicinity of Cochise College, as follows:

1. Assist City in the location and acquisition of the site survey for the new groundwater well and elevated storage tank identified in the 30% Design. Support a Registered Land Surveyor in the State of Arizona in preparation of plan for requisition of the land parcel. Undertake a detailed topographic survey and establish the property boundaries. The City will have responsibility for managing all tasks and costs associated with acquisition of the property.
2. Undertake geotechnical investigation to establish site design criteria including the elevated storage tank foundation.
3. Work with the City, US Customs and Border Patrol, and Cochise College to confirm the required operating pressures for the water system (peak day, peak hour, and peak day plus fire flow). Review and refine the groundwater well and elevated storage tank site plans developed in the 30% Design. Set the high-water level in the storage tank and establish the system pressure.
4. Correspond with ADOT for direction of the R/W/easement/access driveway from SR 80 detailed locations, and road access requirements prepared for the groundwater well/elevated storage tank site.
5. Establish the connected electrical load and correspond and survey with APS the primary power supply location.
6. Develop an approach with the City for SCADA to link to the City Public Works SCADA operation. Undertake a radio path survey to confirm the connection to the City Public Works Yard.

Deliverables:

- A Memorandum (**Selection of the Groundwater Well/Elevated Storage Tank Location**) detailing the survey and geotechnical outcomes referenced above.

## **Task 222.07: Survey the Location of El Paso Natural Gas Interstate Pipelines**

In the 30% Design Water, Wastewater, and Broadband Conduit utilities cross El Paso Natural Gas (EPNG) Inter-state high-pressure gas lines at SR 80 and North Copper Avenue. locations. The 30% design plans have identified the preliminary vertical and horizontal locations of the water, wastewater, and broadband conduit at the estimated EPNG crossing points.







Further design development with EPNG is required to determine the existing natural gas pipe crown and invert elevations at the water, wastewater, and broadband conduit. at the SR 80 in the vicinity of North Copper Avenue crossing point. Additionally, specific design details are needed such as vertical separation requirements between the existing high-pressure gas lines and the City proposed water, wastewater and broadband conduit utilities. (The location of a second crossing at James Ranch Road and West Puzzi Road is assumed to be done by ADOT and is not part of this SOW).

Stantec will:

1. Work with EPNG to confirm vertical and horizontal locations by potholing and surveying at the SR 80 and North Copper Avenue The potholing program would be developed in close collaboration with EPNG.
2. Document by survey the pipe horizontal and vertical locations at the time of the potholing. The potholing will be carried out by T2 Utility Engineers, Tucson AZ contracting to Stantec. (The T2 Utility Engineers proposals accompanies in the **Appendix A**). The City will have a representative on site during the and will share the information with Stantec. potholing. Stantec will not be onsite for the potholing.
3. Based on the survey, develop a plan with EPNG that will include crossing the high-pressure gas lines, construction schedules, safety requirements, construction and permitting requirements necessary for the crossings.
4. Work with EPNG to develop construction documentation to be included in the technical specifications and design drawings.
5. Prepare a permit application and other documentation needed, for submittal to EPNG for permission to cross the gas line.

Deliverable:

- A survey and potholing report from T2 Utility Engineers
- A memorandum (**Crossing of El Paso Natural Gas Interstate Pipelines**) identifying the high-pressure gas line details (these revisions would be captured in the 60% Design Drawings), EPNG identified construction schedule, permit requirements, technical specifications, and detail what is needed to prepare and submit a permit to EPNG for permission to cross the gas lines.

## Task 223.02: Survey of Alignment in ADOT R/W Along SR 80

The 30% design located the wastewater collection system and broadband conduit between Cochise College and the connection to the City wastewater collection system at the intersection of SR 80 and U.S. 191 in the existing ADOT SR 80 R/W. It also includes the watermain from the storage tank to the intersection of SR 80 and James Ranch Road. The ADOT R/W also has infrastructure easements for APS.

The ADOT right of way along SR 80 in the 30% Design was based on County LIDAR Mapping. The development of the 60% detailed design requires establishing the infrastructure in the Universal Coordinate





system between Cochise College and the City MH 20 at the intersection of SR 80 and U.S. 191. It will also be used by the Contractor during construction for ground control and infrastructure location purposes.

Stantec will:

Review the available ADOT R/W plans and record mapping from Cochise County shows that a minimum of approximately one hundred monuments would need to be located/positioned to support a full and comprehensive right of way R/W location effort. This would include ADOT R/W monuments, private boundary monuments set along the north R/W, and to adjoining section corners and quarter corners. Specific ADOT R/W plans reviewed are:

1. F-016-1-817\_11\_pages (1970)
2. F-016-1-818\_15\_pages (1970)
3. N-810-602\_10\_pages (1977)
4. N-900-0-919\_2\_pages (2001)

Provide interval and control-location appropriate ground truthing of the calculated configuration of the north R/W line. Stantec will locate and position approximately 30 R/W monuments, including angle points in the north line, beginning, and ending of curves in the north line, and various points along the tangent sections of the north line. The survey will be performed to ground truth the north R/W line only.

Unless indicated otherwise, horizontal positions will be based on the North American Datum of 1983 (NAD83) Arizona State Plane Coordinate System (East Zone). Stantec will work with Cochise County to determine any additional specifics, i.e., specific coordinate Epoch, specific base control, etc. as to the origin of the control for the County supplied LiDAR mapping that the project design is based on.

The basis of the vertical control shall be the North American Vertical Datum of 1988 (NAVD88) as derived from static, post-processed measurements to surrounding Continuously Operating Reference Station (CORS) locations.

Deliverables:

- A digital CAD file containing the resulting survey and base-map data.
- A Surveyor's Report, prepared by the Registrant, detailing the survey methods, procedures, and accuracies of the survey as well as any other relevant information pertaining to the re-establishment of the north line of the ADOT R/W.
- The registered boundary monument locations will be located on the 60% detailed design plan and profile, two wastewater lift stations, the groundwater well/ storage tank and the City MH 20 drawings.
- The 60% detailed centerline location of the wastewater collection system, water main and broadband conduit in the SR 80 and JRR corridor will be agreed to with ADOT.
- The ADOT surveyed R/W line will then be referenced into all applicable 60% design plan sheets and carried over to the 90% and 100% detailed designs (90% and 100% detailed designs are not part of this SOW)





- The key features of the 60% design wastewater collection system, water main and broadband conduit will be referenced to the Universal Coordinate system.

## **Task 225.01: West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development**

The 30% design identified James Ranch Road and West Puzzi Road as the location for the West WW Lift Station (West WW LS), and developed a conceptual site plan with civil/site, mechanical, electrical and I&C. The design of the West WW LS will require acquisition of property. The general location is identified in the 30% Water and Wastewater Infrastructure Detailed Design.

Stantec will:

1. The Registered Land Surveyor will undertake a detailed topographic survey, establish the property boundaries and legal survey needed for the property title registration.
2. Undertake geotechnical investigation of the West WW LS site. A geotechnical report would be produced to support the preliminary design efforts.
3. Assist the City in locating, finalizing and acquiring the West WW LS property along the Connector Highway identified in the ADOT DCR in a general location midway between SR 80 and the US Customs and Border Patrol by providing a legal description and exhibit for acquisition of the property. Support a Registered Land Surveyor in the State of Arizona in preparation of plan for requisition of the land parcel.
4. The acquisition of lands for the West Wastewater Lift Station is the responsibility of the City/County including the purchase agreements, purchase costs, legal sale and filing documentation and so on.
5. Work with ADOT and APS to survey and identify the detail locations for vehicle access requirements and power supply prepared for the West WW LS site.
6. Survey of power supply location with APS and ADOT.
7. Most Probable Engineering Cost for the West WW Lift station.

Deliverables:

- Memorandum on the West WW Lift Station Design Development. Survey, geotechnical and most probable engineering cost investigation.

The 'Preliminary Engineering in Support of the 60% Detailed Design- Funded by the North American Development Bank' deliverables packages will be as noted in the above Tasks.





## **Task 225.04: Planning Old County Hospital Service Area – Wastewater Collection System**

The Old County Wastewater Service Area is generally bounded the south by SR 80, on the north by 0.25 miles northwest Oak Avenue, Whitewater Draw on the East and North Beki Lane on the west. Cochise County has identified that wastewater treatment and disposal practices in this area are based on aging septic tank and drain fields.

This Task is developing a preliminary approach to the development of a community wastewater collection system connected to the proposed West Douglas wastewater collection system along SR 80 between Cochise College and the connection to the existing City system at MH 20 at the northeast corner of SR 191 and SR 80. In the 30% Detailed Design, an action to the State Route 80 wastewater collection system has been identified.

The City will provide details on the existing development and future development that may occur within the service area.

Stantec will:

1. Prepare an estimate of existing wastewater flows and anticipated future flows based on City-identified land-use. The City will provide historical wastewater flow records from the pump station serving the existing complex at the intersection of northwest Oak Avenue and North County Hospital Road.
2. Based on serving existing development and recognizing future infilling, Stantec will identify a trunk wastewater collection system draining to the proposed wastewater collection system along State Route 80. This effort will rely on the use of County LIDAR mapping with contours.
3. Prepare a memo with a drawing locating the trunk sewer system and points of connection to the wastewater collection system along State Route 80.

Deliverable: A memo of the evaluation criteria analysis outcomes and recommended approach using capital costing of the collection system.





### 3 SCHEDULE, FEE, AND EXPENSES

#### Task 301: DRAFT DELIVERY SCHEDULE

The Draft Delivery Schedule accompanies as Figure 1. It is assumed that the Notice to Proceed will be issued at the latest by July 1<sup>st</sup>, 2023 with a completion date by July 1, 2024. The completion date includes work under the ‘Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank’ and the ‘Preliminary Engineering in Support of the 60% Detailed Design - Not Funded by the North American Development Bank’. This schedule assumes that the project teams including the City and the County provide the information and direction in an expedited fashion. The project schedule relies on receipt of information, decisions and direction from several organizations including GSA, ADOT, APS, Southwest Gas and so on.

This proposal is for ‘Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank’ to advance the West Douglas Expansion Water, Wastewater, and Broadband Conduit Infrastructure along SR 80 from 30% Detailed Design to 60% detailed design. The 30% design and Basis of Design Report was submitted to Cochise County and the City of Douglas as a draft on August 31, 2022, and was submitted final on October 21, 2022.

#### Task 302: FEE

The ‘Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank’ fee development includes Stantec labor hours over the project by Tasks and Sub Tasks. It is detailed in the Fee Spreadsheet in Appendix B. A summary is provided in Table 1 60% Scope of Work ‘Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank’.

The Stantec Contract Amendment – ‘Revised Fee Estimate Summary’ with City of Tucson ‘On Call Civil Engineering Services’ effective March 8, 2023, through to March 7, 2024, was used in the development of this fee. The Contract Number is 181820-02. It accompanies as Appendix C. The City of Tucson and Stantec will contract for a new rate sheet for the period after March 7, 2024.

The estimated Stantec Fee for ‘Preliminary Engineering in Support of the 60% Detailed Design- Funded by the North American Development Bank’ is \$325,215.49. It includes Stantec labor, Stantec Expenses, and sub consultants.

The fee includes Stantec expenses associated with project delivery and work by four sub consultants as follows. The SOW and fee for each sub consultant is based on the assumed level of effort at the time of the development of this SOW. The Sub consultant effort and fee will be reviewed with each sub consultant if the Stantec/sub consultants SOW changes.

The detailed SOW for each sub consultant accompanies as Appendix A.





1. **Bowman Engineering Tucson - Survey:** Task 222.01 and Task 222.04. The fee provided by Bowman includes traffic control.
2. **T2 Engineers – Survey and Potholing:** Task 222.07. Potholing with survey of the El Paso Natural Gas Line location across SR 80.
3. **SCE Engineers – Geotechnical Investigation:** Task 222.04: Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank.
4. **Darling Geomatics, LTD –** Task 223.02: Survey of Alignment in ADOT ROW along SR 80.





**Table 1: 60% Scope of Work for 'Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank'**



## Scope of Work - PRELIMINARY ENGINEERING IN SUPPORT OF THE 60% DETAILED DESIGN - FUNDED BY NADB

Project Summary	Labour	Expense	Subs	Total
Fixed Fee	\$0.00	\$0.00	\$0.00	\$0.00
Time & Material	\$199,077.28	\$0.00	\$126,138.21	\$325,215.49
<b>Total</b>	<b>\$199,077.28</b>	<b>\$0.00</b>	<b>\$126,138.21</b>	<b>\$325,215.49</b>

Task Code	Task Name	Labour	Expense	Subs	Total
<b>222</b>		<b>\$94,353.52</b>	<b>\$0.00</b>	<b>\$111,288.21</b>	<b>\$205,641.73</b>
222.01	Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]	\$29,040.73	\$0.00	\$33,000.00	\$62,040.73
222.04	Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank	\$39,226.19	\$0.00	\$72,194.21	\$111,420.40
222.07	Survey the Location of El Paso Natural Gas Interstate Pipelines	\$26,086.60	\$0.00	\$6,094.00	\$32,180.60
<b>223</b>		<b>\$40,467.26</b>	<b>\$0.00</b>	<b>\$14,850.00</b>	<b>\$55,317.26</b>
223.02	Survey of Alignment in ADOT ROW along SR 80	\$40,467.26	\$0.00	\$14,850.00	\$55,317.26
<b>225</b>		<b>\$64,256.50</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$64,256.50</b>
225.01	West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development	\$51,296.50	\$0.00	\$0.00	\$51,296.50
225.04	Planning Old County Hospital Service Area - Wastewater Collection System	\$12,960.00	\$0.00	\$0.00	\$12,960.00



## **Task 303: Reimbursable Expenses Allowance Preliminary Engineering in Support of the 60% Detailed Design – Funded by the North American Development Bank**

The City shall reimburse Engineer (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 303.01: PRINTING, PLOTTING AND GRAPHICS REPRODUCTION**

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.

### **TASK 303.02: TRAVEL**

The City shall reimburse Stantec for direct costs associated with travel, including mileage, parking, and meals, should a meeting time require the staff to be away from the office. Stantec has identified 60% Design travel.

Per Diem Rates for General Arizona have been established by the U.S. General Services Administration (GSA). The FY 2023 (October 2022 - September 2023) Standard Rate for Meals includes a \$13 allowance for breakfast, a \$15 allowance for lunch, and a \$26 allowance for dinner (these reimbursement rates include any taxes and tips). The U.S. GSA reimbursement rates are revised annually; the U.S. GSA meal rate at the time when the meal expense is incurred will represent the authorized allowance for reimbursement. Reimbursement will not require a receipt.

## **Assumptions and Exclusions**

### **Assumptions**

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

- The acquisition of lands for the East and West Wastewater Lift Stations and the Groundwater Well/Storage Tank is the responsibility of the City including the purchase agreements, purchase costs, legal sale and filing documentation and so on.
- Stantec is not responsible and cannot be held accountable for the accuracy of As-Builts or Record Drawings provided by the Agencies or utility providers. Stantec has no means of determining whether subsurface features were constructed per the construction / improvement drawings and does not claim to do so. Pot holing of utilities should be performed by others if there are concerns or uncertainties regarding the subsurface utilities.
- This proposal assumes that all data prepared by others and provided to Stantec will be made available in a digital format, compatible with our systems. It is also understood that the information and technical data provided and prepared by others, on the Client's behalf or Property Owner's







behalf, may be used by Stantec in performing its services and is entitled to rely upon the accuracy and completeness thereof.

- Mapping will be based on available local agency vertical datum and an assumed horizontal datum, unless specifically requested otherwise.
- Stantec assumes that there is enough available record information to determine the location of the boundaries and encumbrances of the subject properties. Additional work resulting from patent or latent boundary ambiguities, or a lack of available records may constitute an additional work effort that is not covered within this Scope of Services.
- We will rely on an independent certification from the geotechnical firm to verify construction materials testing has met the requirements on the plans and specifications.

## 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:

- Public meetings or public consultation processes or events.
- Preparation of legal documents, conditions of transfer, execution of the contract and so on, should the City/County reach an agreement with Cochise College to transfer ownership of the Cochise College drinking water well to the City/County.
- Final Detailed Engineering Services and Construction Support Services.
- Agency Submittal Fees.
- Changes to any designs resulting from a revision to or re-definition of City/Cochise County policies.



# **APPENDIX**



**Appendix A: Subconsultant Proposals for Preliminary Engineering in Support of the 60% Detailed Design - Funded by the North American Development Bank**





## **A.1 Land Survey - Proposal by Bowman Engineering**

1. West Ground Water Well/Elevated Storage Tank – Task 222.04
2. Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station] – Task 222.01





Dec 27, 2022

Cassandra Flores  
Civil Engineer  
Stantec  
One South Church Ave., Suite 2100  
Tucson, AZ 85701  
520-545-7485  
cassandra.flores@stantec.com

<b>Re:</b>	<b>City of Douglas, 4 Sites</b> (the "Project") SR 80 and US 191 Douglas, Cochise County, Arizona, 85607 Proposal to provide Boundary & Topographic Survey Services (the "Proposal") Proposal No. 2022-202 Project Category: GOVERNMENT - Infrastructure
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Dear Ms. Flores:

We are pleased to submit this Proposal to provide Boundary & Topographic Survey services for the above referenced project. Upon verbal or written direction to proceed with performance of the services described herein, this Proposal, along with all attachments thereto, will constitute a binding agreement (the "Agreement") between Bowman Consulting Group Ltd. ("Bowman") and Stantec (the "Client").

### **Proposal Assumptions and Project Understanding**

It is our understanding that Bowman will provide Boundary & Topographic Survey services for the City of Douglas, 4 Sites project in Cochise County, Arizona. The deliverables for each of the four sites are 3D electronic Civil 3D .DWG files, V. 2019 or later, files of the planimetric and topographic data, a .PDF of the topographic and right of way/property mapping signed and sealed by an individual authorized to practice Land Surveying in the State of Arizona, and a Surveyor's Report, signed and sealed by an individual authorized to practice Land Surveying in the State of Arizona, detailing the date(s) of the field survey, the specific brand name and model of the equipment used in the field survey, the character and record reference of control and boundary monuments used the establishment of site controls, the procedures used to derive the final control data, and the physical character & positions, (northing, easting, and elevation), and uncertainties, expressed at the 95% Confidence Region, of all monuments found or set in conjunction with this survey. Data shall be prepared and presented at a scale of 1" = 40' unless otherwise noted..

Standard of Care - Services provided by Bowman under this proposal will be performed in a manner consistent with the degree of care and skill ordinarily exercised by members of the same profession practicing under similar circumstances, including standard of care at the time the services were provided.

Quality Control - A portion of the stated compensation is set-aside for Quality Control/Quality Assurance, which is part of the Bowman Quality Control Policy.



## SCOPE OF SERVICES AND FEES

The scope of services (the “Scope”) and associated fees shall be as follows:

### 1. Top Field Run/Existing Conditions Survey (SC-14)

Bowman will provide boundary and topographic mapping of site features of the proposed four sites including but not limited to:

- The detailed site elevation contours at 1.0 foot contour intervals.
- The topographic data shall include but not be limited to survey roadway monuments, signs, landscape walls, fences, retaining walls, trees access driveways from the City road rights of ways and internal vehicle driving surfaces.  
The legal street right of way boundary and other legal property boundaries including the location of all survey monuments/property corners.
- Storm water drainage channels/features.
- The location of APS power poles including pole identification info.  
Edge of pavement along State Route 80 and other features  
Whitewater draw shall include location of ADOT bridge over whitewater draw for the west bound lanes only
- In conformance with the standards and guidelines detailed in ASCE 38-02, Subsurface Utility Engineering Quality Level ‘B’, the horizontal location and diameter, (if possible), of all the buried piping and electrical/instrumentation and control conduit located by the City.
- This will be provided by a sub contractor SUE company. Proposals received from Cobb Fendley and included in site fees.
- Each site will use the North American Datum of 1983 (NAD 83) Arizona State Plane ‘Eastern’ Zone, 2011 adjustment of the 2010.00 Epoch, expressed in International Feet, and the vertical control using the North American Vertical Datum of 1988 (NAVD 88).

Site	Description (SC)	Total	Fee Type
Site 1	Groundwater Well/Storage/Storage Tank (See Stantec Drawing 38/54)	\$20,847.00	Lump Sum
Site 2	Proposaed East Wastewater Pump Station (See Stantec Drawing 36/54)	\$19,267.00	Lump Sum
Site 3	Proposed West Wastewater Pump Station (See Stantec Drawing 37/54)	\$19,287.00	Lump Sum
Site 4	Whitewater Drawer N. Copper Avenue (See Stantec Drawing 22 and 23/54)	\$33,288.00	Lump Sum

**Total Contract Value      \$92,689.00**

# Bowman

## EXCLUSIONS

The following services are specifically excluded from the scope of this agreement and may be performed as contract addendums upon request:

- No Record of Surveys
- No Legal Descriptions
- No Parcel Splits
- Items not specifically delineated in Scope.

## REIMBURSABLE EXPENSES

Reimbursable expenses shall include actual expenditures made by Bowman in the interest of the Project and will be invoiced at the actual cost to Bowman plus fifteen percent (15%) for handling and indirect costs. Reimbursable expenses shall include but not be limited to costs of the following:

- Mailing, shipping, and out source delivery (i.e. DHL, FedEx) costs.
- Fees and expenses of special consultants as authorized by the Client.
- Parking fees and mileage for employee travel by car to facilitate the project.

## CLIENT RESPONSIBILITIES

The Client shall be responsible for obtaining permission for Bowman, its employees, agents and subcontractors to enter onto the subject property and any properties in the vicinity as reasonably necessary for Bowman to perform the services described herein. By either countersigning this Proposal or verbally authorizing Bowman to proceed, the Client warrants and represents that it has obtained such permission. The Client shall provide the following items upon request of Bowman in a timely manner and at no expense to Bowman:

- Existing plans from previous research
- Unrestricted access to the sites

## OTHER TERMS

This proposal is based on the scope of services indicated herein and the information available at the time of the proposal preparation. If any additional services are required due to unforeseen circumstances and/or conditions, client or regulatory requested revisions, additional meetings, regulatory changes, etc, Bowman will notify the client that additional scope of work and fees are required and will obtain the client's written approval prior to proceeding with any additional work.

Bowman's Standard Terms and Conditions and Hourly Rate Schedule are attached hereto and incorporated into this Proposal by reference.

# Bowman

Please indicate your acceptance of this proposal by executing below and returning a copy to this office. Thank you for the opportunity to provide service to Stantec.

Sincerely,

**BOWMAN CONSULTING GROUP LTD.**

*Nate Garduer*

Nate Gardner  
Survey Director

**Stantec** hereby accepts all terms and conditions of this Proposal (including the Standard Terms and Conditions) and authorizes Bowman to proceed with the Project, and the undersigned represents that he or she is authorized by Stantec to so execute this Proposal.

**Stantec**

By:

---

Print Name

Title:  
Date:





**BOWMAN CONSULTING GROUP LTD.**

**SCHEDULE B - HOURLY RATE**

January 2022

<b>CLASSIFICATION</b>	<b>HOURLY RATES</b>
Principal	\$250.00/HR
Department Executive	\$210.00/HR
Senior Project Manager	\$200.00/HR
Project Manager	\$165.00/HR
Project Controls Team Lead	\$175.00/HR
Project Controls Specialist I	\$130.00/HR
Project Controls Specialist II	\$155.00/HR
Project Controls Specialist III	\$165.00/HR
Assistant Project Manager	\$145.00/HR
Project Coordinator	\$115.00/HR
Senior Surveyor	\$170.00/HR
Engineer I	\$125.00/HR
Engineer II	\$135.00/HR
Engineer III	\$160.00/HR
Planner I	\$100.00/HR
Planner II	\$120.00/HR
Planner III	\$180.00/HR
Designer I	\$110.00/HR
Designer II	\$135.00/HR
Designer III	\$150.00/HR
CADD Drafter I	\$ 85.00/HR
CADD Drafter II	\$ 95.00/HR
CADD Drafter III	\$110.00/HR
Landscape Architect I	\$120.00/HR
Landscape Architect III	\$160.00/HR
Right of Way Specialist I	\$106.00/HR
Right of Way Specialist II	\$123.00/HR
Right of Way Specialist III	\$140.00/HR
Survey Technician I	\$ 98.00/HR
Survey Technician II	\$110.00/HR
Survey Technician III	\$120.00/HR
Project Surveyor	\$150.00/HR
Survey Field Crew – 1 Man	\$130.00/HR
Survey Field Crew – 2 Man	\$160.00/HR
Survey Field Crew – 3 Man	\$195.00/HR
3D Scanning Crew	\$245.00/HR
Survey Field Technician	\$ 75.00/HR
3D/UAV Modeling Technician	\$140.00/HR
UAV Operation	\$245.00/HR
Machine Control Technician	\$245.00/HR
Administrative Professional	\$ 85.00/HR

Initials: Bowman *N.G.* / Client



**BOWMAN CONSULTING GROUP LTD.**  
**SCHEDULE C - REQUEST FOR INFORMATION**

**Accounts Payable Contact:**

Point of Contact:

Phone:

Fax:

E-Mail:

**Billing Information:**

Billing Entity:

Billing Address:  Same as Proposal

If Different, Please Provide:

**Billing Requirements:**

Invoice Due Date:

Requirements/Attachments:

Invoices Transmitted Via Electronic Mail to:

Offer ACH Direct Deposit:  Yes, Contact:

Not Sure, Contact Our Office

Not At This Time

Initials: Bowman *N.G.* / Client



## BOWMAN CONSULTING GROUP LTD. TERMS AND CONDITIONS

These Terms and Conditions are incorporated by reference into the Proposal and its exhibits (the "Proposal") from **Bowman Consulting Group Ltd.** ("Bowman") to **Stantec** ("Client") for performance of services described in the Proposal and associated with the project described in the Proposal (the "Project"), and in any subsequent approved Change Order related to the Project. These Terms and Conditions, the accepted Proposal, and any Change Orders or other amendments thereto, shall constitute a final, complete, and binding agreement (the "Agreement") between Bowman and Client, and supersede any previous agreement or understanding.

**1. Scope of Services.** Bowman will provide the services expressly described in and limited by the Proposal (the "Scope"). If in Bowman's professional judgment the Scope must be expanded or revised, Bowman will forward a change order agreement to Client that describes the revision to the Scope (the "Change Order") and the adjusted fee associated therewith.

**2. Standard of Care.** The standard of care for all services performed by Bowman for Client shall be the care and skill ordinarily used by members of the applicable profession practicing under similar circumstances at the same time and locality of the Project. Client shall not rely upon the correctness or completeness of any design or document prepared by Bowman unless such design or document has been properly signed and sealed by a licensed professional on behalf of Bowman.

**3. Payment Terms.** Bowman will invoice Client monthly or more frequently based on a percentage of the work completed for lump sum tasks, number of units completed for unit tasks, and actual hours spent for hourly tasks. Invoices are due and payable in full upon receipt without offset of any kind or for any reason. Bowman shall have the discretion to apply payments made by Client to an invoice or retainer account of Client in accordance with its business practices. Client agrees to pay a finance charge of one and one-half percent (1.5%) per month from the invoice date on any unpaid balance not received by Bowman within thirty (30) days of the invoice date. Payment of invoices is subject to the following further terms and conditions:

(a) If any invoice is not paid in full within forty-five (45) days of the invoice date, and Client has not timely and in good faith disputed the invoice as provided below, Bowman shall have the right at its election by giving notice to Client to either: (i) suspend the performance of further services under this Agreement and, at its sole discretion, suspend the performance of further services on other projects which are being performed by Bowman on behalf of Client or any related Client entities, until all invoices are paid in full and Bowman has received a retainer in such amount as Bowman deems appropriate to be held as described below; or (ii) deem Client to be in material breach of this Agreement and proceed pursuant to Section 17 below. Client agrees to pay any and all charges, costs or fees incurred in collection of unpaid invoices, including reasonable attorneys' fees and costs. Following Bowman's election above, Bowman shall bear no liability to Client or any other person or entity for any loss, liability or damage resulting from any resulting delay, and any schedule for the performance of services hereunder prepared previously shall be deemed void with any future schedule for the performance of services requiring the approval of both Client and Bowman.

(b) If Client disputes any submitted invoice, Client shall give written notice to Bowman within thirty (30) days of the invoice date detailing the dispute. If no written notice of a dispute is provided to Bowman within that time period, the invoice shall then be conclusively deemed good and correct. If part of an invoice is disputed, Client shall remain liable to timely pay the undisputed portion of the invoice in accordance with the terms of this Agreement. Client and Bowman shall promptly negotiate in good faith to resolve any disputed portion of an invoice.

**4. Retainer and Other Payments.** Bowman reserves the right to require that Client make a payment to be held by Bowman as an advance against future billings (the "Retainer"). The Retainer is not intended as the regular source of payment for invoices issued to Client under this Agreement or otherwise, and the parties intend that the Retainer be applied to the final invoice for the services described in the Agreement, or against any other unpaid amounts owed to Bowman should Client (or any affiliate of Client) fail to timely pay invoices due Bowman. The Retainer account may consist in part of payments applied by Bowman pursuant to the authority granted it under Paragraph 3 above. If the Retainer is applied during the course of the Agreement, Client agrees to promptly replenish the Retainer upon request of Bowman. Upon the conclusion of this Agreement, or its earlier termination, Bowman shall (a) apply the Retainer to any unpaid amount owed Bowman by Client (or its affiliates), and (b) return any unapplied portion to Client. The Retainer shall not be required to be held in a separate account nor shall it bear interest, and the Retainer may include other amounts paid to Bowman by Client with respect to the Project or other projects.

**5. Client Duties and Responsibilities.** Client shall inform Bowman of any special criteria or requirements related to the Project or Scope, and shall timely and at its cost furnish any and all information in its possession relating to the Project, including reports, plans, drawings, surveys, deeds, topographical information and/or title reports. Bowman shall bear no responsibility for errors, omissions, inaccuracy or incompleteness in third-party information or additional costs arising out of its reliance upon such third-party information supplied by Client. Client warrants and represents that: (a) Client has obtained the full and unconditioned prior written consent from

# Bowman

any third-party for Bowman to use such third-party information; (b) such consent shall be provided to Bowman upon request; and (c) such consent shall be in a form that, in Bowman's reasonable discretion, does not violate any applicable law, regulation, or code of ethics. If the Scope requires a current title report, Client shall timely and at its cost provide such title report to Bowman. If the Scope includes preparation of plats to be recorded in the land records of the Project jurisdiction, Client shall timely prepare, submit, and record necessary deeds and pay all recording fees associated with deeds and plats. All off-site easements are the responsibility of Client. Client shall indemnify and hold harmless Bowman from and against any and all claims, demands, losses, costs, and liabilities, including without limitation reasonable attorney fees and expenses incurred by Bowman and arising out of (a) Client's breach of this Agreement or (b) an action by Client or a third-party with respect to any matter not included in the Scope or that is excluded from the responsibility of Bowman pursuant to this Agreement.

**6. Insurance.** Bowman and its employees are protected by workman's compensation, commercial general liability, automobile liability, and professional liability insurance policies. Upon request of Client, Bowman shall provide a certificate of insurance to Client evidencing such coverage and shall attempt to include Client as an additional insured on those coverages that permit additional insured status. Client acknowledges it has been offered the opportunity to review the current limits of such coverage and finds them satisfactory, and further agrees that in no event shall Bowman's liability to Client or any party claiming through Client be greater than the limits of such insurance. From time to time Bowman may, without notice to Client, amend the carriers, conditions, exclusions, deductibles or limits of any such insurance; provided that prior to any decrease in any insurance limit becoming effective Bowman shall give notice thereof to Client.

**7. Potential Liability of Bowman.** The following provisions shall operate with respect to any potential liability of Bowman arising under the Agreement:

(a) Client may not assert that there is a breach, defect, error, omission or negligence in the services performed by Bowman that Client believes creates liability on the part of Bowman unless Client gave written notice to Bowman not later than the first to occur of (i) the beginning of any corrective work, or (ii) thirty (30) days after Client had knowledge of the existence of the breach, defect, error, omission or negligence. Bowman shall have the opportunity to participate in decisions regarding the corrective work, and Client shall ensure that corrective action is taken at the lowest reasonable expense under the circumstances.

(b) Notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of Bowman and Bowman's officers, directors, partners, employees, agents, and consultants to Client and anyone claiming through Client, shall not in any manner whatsoever exceed the direct losses incurred by Client (to the extent of and in proportion to Bowman's comparative degree of fault) that resulted from the error, omission or negligent act of Bowman in the performance of services under this Agreement.

(c) To the fullest extent permitted by law, Bowman and Bowman's officers, directors, partners, employees, agents, and sub-consultants shall not be liable to Client or anyone claiming through Client for any special, incidental, indirect, or consequential damages whatsoever arising out of, resulting from, or in any way related to the Project or this Agreement, regardless of whether such damages are alleged to be caused by the negligence, professional errors or omissions, strict liability, breach of contract, or breach of express or implied warranty.

(d) Client agrees that Bowman's shareholders, principals, partners, members, agents, directors, officers and/or employees shall have no personal liability whatsoever arising out of or in connection with this Agreement or the performance of services hereunder.

**8. Certificate of Merit.** In addition to the requirement of notice under section 7(a) above, Client shall make no claim (whether directly or in the form of a third-party claim) against Bowman unless Client shall have first provided Bowman with a written certification executed by an independent professional licensed in the state in which the Project is located and licensed in the profession to which the claim relates. Such certificate shall: (a) contain the name and license number of the certifier; (b) specify each and every act or omission which the certifier contends constitutes a violation of the standard of care expected of a professional performing professional services under similar circumstances; (c) state in complete detail the basis for the certifier's opinion that each such act or omission constitutes such a violation; and (d) be provided to Bowman thirty (30) days prior to the presentation of and as a precondition to any such claim, or the institution of any mediation, arbitration, judicial or other dispute resolution proceeding.

**9. Conflict Resolution and Applicable Law.** Any dispute, controversy or claim arising out of or relating to this Agreement, or the breach thereof, that cannot be resolved by the parties and for which the amount in controversy is less than One Hundred Thousand Dollars (\$100,000.00) shall be settled by arbitration administered in Fairfax County, Virginia by the American Arbitration Association in accordance with its Commercial Arbitration Rules and Expedited Procedures, and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction over the parties. For any other dispute, controversy or claim arising out of or relating to this Agreement, or the breach thereof, the parties agree to first submit such dispute, controversy or claim to non-binding mediation, with each party to bear its own costs of such mediation and to equally share the costs of any mediator. If such mediation does not successfully resolve all issues, then the parties agree that the state and federal courts located in Virginia shall have jurisdiction and



venue over such dispute. This Agreement shall be governed and interpreted in accordance with the laws of the state in which the Project is located, without giving effect to conflicts of laws principles thereof.

#### **10. Ownership of Documents and Other Rights of Bowman.**

(a) All reports, plans, specifications, computer files, field data, notes, and other documents and instruments prepared by Bowman as instruments of service ("Work Product") shall remain the property of Bowman up until such time as all monies due to Bowman have been paid in full, at which time (i) Client may take possession of the Work Product, and (ii) Bowman shall be deemed to have granted Client a fully paid, non-exclusive license to use the same solely for the Project. Subject to such license Bowman shall retain all common law, statutory, and other reserved rights, including the copyright to all Work Product. If Client or a party acting on Client's behalf modifies any part of the Work Product or reuses them on a different project, Client agrees to indemnify and hold Bowman harmless from any claim, liability or cost (including reasonable attorneys' fees and defense costs) arising therefrom. Client acknowledges that if Bowman provides Client with Work Product in an electronic or digital format ("Electronic Data"), Client is responsible for cross checking the Electronic Data with the applicable paper document for full conformance and consistency between such paper document and the Electronic Data.

(b) Bowman reserves the right to include photographs and descriptions of the Project in its promotional, marketing, and professional materials. Client grants its consent to Bowman for Bowman to install reasonable signage at the Project equivalent to that which is or could be installed by other vendors to the Project.

**11. Modification.** From time to time Bowman may either in writing or by electronic mail submit a Change Order to Client and Client shall be deemed to have approved such Change Order if: (a) Client signs the Change Order; (b) Client signifies its consent to the Change Order by electronic mail; or (c) a representative of Client with actual or apparent authority to approve the Change Order orally approves it and Bowman subsequently confirms such approval in writing or by email and begins work associated therewith without receiving written or electronic mail objection thereto. Except for Change Orders authorized by Client as provided immediately above, this Agreement may be amended, modified, or supplemented only in writing signed by all parties hereto. Any signature required or permitted hereunder may be either by hand or by electronic signature.

**12. Exclusions from Scope.** By way of illustration and not limitation, unless specifically included in the Scope, Bowman has no obligation or responsibility for: (a) favorable or timely comment or action by any governmental entity; (b) taking into account off-site conditions or circumstances that are not clearly visible or reasonably ascertainable by the performance of on-site services; (c) the accurate location or characteristics of any subsurface utility or feature that is not clearly and entirely visible from the surface; or (d) structural design (including, but not limited, to structural design of retaining wall(s) or of special drainage structure(s)).

#### **13. Limits of Scope.**

(a) Early Bid Documents. Client agrees that if it requests submission of Work Product documents to contractors for bid purposes either prior to full completion thereof by Bowman or prior to final governmental approval, the potential exists for additional design and construction costs arising from required subsequent revisions and additions to Bowman design documents so as to conform to those of other design disciplines and/or governmental agencies, and any such costs shall be Client's responsibility.

(b) Estimates. Any cost, timing or quantity estimates provided as a part of the Scope are estimates only and reflect Bowman's judgment as a design professional familiar with the construction industry, but expressly do not represent a guarantee of quantities or construction costs. Client agrees that Bowman has no control over contractors as to cost, timing, or quantity matters, and further agrees that if Client desires greater accuracy as to construction costs it should engage an independent cost estimator.

(c) Construction Means and Methods. Client agrees that Bowman does not control and is not responsible for construction means, methods, techniques, sequences, or procedures, or for any safety precautions in connection with the Project or for the acts or omissions of any contractor, subcontractor, or any other person or entity performing work for the Project.

(d) Shop Drawing Review. If specifically included in the Scope, Bowman shall review and check the contractor's shop drawings, product data, and samples, but only for the limited purpose of checking for general conformance with the intent of such contract documents. Client acknowledges that such review is not for the purpose of determining or substantiating the accuracy and completeness of other details, such as dimensions or quantities, or for substantiating instructions for installation or performance of equipment or systems designed by the contractor. Bowman's review shall not constitute approval of safety precautions, construction means, methods, techniques, schedules, sequences or procedures, or of structural features.

(e) Plan and Permit Processing. If the Scope includes preparation of plans and/or plats for review and approval by public agencies, submission and processing of such plans and plats in a manner consistent with a normal course of business is included within the Scope. If Client requests Bowman to either expedite the plan review process by attending meetings, hand carrying plans and





documents from agency to agency, or performing similar services, or to prepare and process permit applications of any type, then, unless specifically included in the Scope, those services will be performed by Bowman as hourly rate services under Section 14 below.

(f) **Building Plan Coordination.** If the Scope includes preparation of site plans, site grading plans, subdivision plans, or similar plans that involve coordination with building plans (including architectural, mechanical, structural, or plumbing plans) to be prepared by others, Client shall provide such building plans to Bowman by such date and in such state as Bowman reasonably deems necessary to timely perform its services. If Client fails to so provide building plans to Bowman, Bowman may make reasonable assumptions regarding building characteristics in order to timely perform its services and any later revisions to Bowman plans required to properly coordinate them with building plans will require a Change Order, subject to an additional fee.

**14. Fees by Hourly Rate Schedule.** If Client requests Bowman to perform services not included in the Proposal or an approved Change Order (including, without limitation, attending meetings and conferences on an as-needed basis with public agencies), Client shall compensate Bowman for such services in accordance with the Hourly Rate Schedule attached to and made a part of the Agreement. Expert witness testimony or participation at legal discussions, hearings or depositions, including necessary preparation time, will be charged at 150% of the quoted rates. If the Project extends beyond the calendar year in which the Proposal is dated, Bowman may revise its Hourly Rate Schedule in January of each subsequent year.

**15. Covenants Benefiting Third-Parties.** Bowman and Client acknowledge that from time to time third-parties may request Bowman to execute documents which benefit that third-party. These documents may include certifications, consent of assignment, and/or waiver of certain of Bowman's rights under this Agreement ("Requested Covenant"). Client acknowledges that execution of Requested Covenants is beyond the Scope, is at Bowman's discretion, and, if Bowman decides to so execute a Requested Covenant, the language, terms, and conditions of such Requested Covenant must be acceptable to Bowman, at Bowman's discretion.

**16. Assignment.** This Agreement may not be assigned by one party without the express written consent of the other party. Notwithstanding the forgoing, Bowman may employ consultants, sub-consultants, or subcontractors as it deems necessary to perform the services described in the scope. Also, Bowman may assign its right to receive payments under this Agreement.

**17. Termination.** Either party may terminate the provision of further services by Bowman under this Agreement for convenience with thirty (30) days advance notice to the other party. In addition, following a material breach by the other party, the non-breaching party may terminate the provision of further services by Bowman under this Agreement by giving ten (10) days prior notice and an opportunity to cure to the reasonable satisfaction of the non-breaching party. Client acknowledges that its failure to timely pay undisputed invoices is a material breach and that full payment of all undisputed invoices is required to cure such breach. Following any termination of services: (a) Client shall immediately pay Bowman for all services performed through the termination date, including reasonable costs of transitioning the Project to a new design professional designated by Client, if applicable; (b) Bowman shall have the right to withhold from Client the use or possession of Work Product prepared by Bowman for Client under this or any other agreement with Client, until all outstanding invoices are paid in full; (c) if the termination by Bowman resulted from a material breach by Client, Bowman shall have the right to withdraw any Work Product or other documents filed with any governmental agency by Bowman in its name on behalf of Client; and (d) if Client selects a new design professional then, as a condition of transferring any files or documents, Client and Client's new design professional shall execute Bowman's standard Electronic File Transfer Agreement or such other similar agreement as the parties shall in good faith negotiate.

**18. Miscellaneous.** If any provision of this Agreement shall be held invalid, illegal or unenforceable, the other provisions of this Agreement shall remain in full force and effect. The failure of a party to enforce any provision hereof shall not affect its right at a later time to enforce same. A waiver by a party of any condition or breach hereunder must be in writing to be effective and, unless that writing provides otherwise, shall waive only one instance of that condition or breach. This Agreement is solely for the benefit of the parties hereto and, to the extent provided herein, their respective affiliates, directors, officers, employees, agents and representatives, and no provision of this Agreement shall be to confer upon third-parties any remedy, claim, liability, reimbursement, cause of action, or other right. The headings in this Agreement are for convenience and identification purposes only, are not an integral part of this Agreement, and are not to be considered in the interpretation of any part hereof. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. References in this Agreement to any gender shall include references to all genders. Unless the context otherwise requires, references in the singular include references in the plural and vice versa. The words "include," "including," or "includes" shall be deemed to be followed by the phrase "without limitation." The individual who signs this Agreement warrants that he has the authority to sign as, or on behalf of, Client, and to bind Client to all of the terms and conditions of this Agreement. To the extent that they are inconsistent or contradictory, the terms of the Proposal or an authorized Change Order shall supersede these Terms and Conditions.

**19. Notices.** Any notice, request, instruction, or other document to be given hereunder by a party hereto shall be in writing and shall be deemed to have been deemed delivered: (a) on the day sent if delivered personally or by courier service during regular business hours (i.e., prior to 5:00 p.m. on weekdays that are not Federal holidays); (b) on the business day after the day sent if sent by overnight

# Bowman

delivery service; or (c) two business days after the day sent if sent by certified mail or delivered by two-day delivery service.

If to Client, notice shall be addressed to the individual signing this Agreement at the address noted on the Proposal.

If to Bowman, notice shall be sent to the address set forth in the proposal, with a copy sent to:

Bowman Consulting Group Ltd.  
12355 Sunrise Valley Drive, Suite 520  
Reston, Virginia 20191  
Attn: Robert A. Hickey

or to such other individual or address as a party hereto may designate for itself by notice given as herein provided.

Initials: Bowman *N.G.* / Client



## **A.2 Locating /Potholing of the El Paso Natural Gas Pipeline - Proposal by T2 Utility Engineers**

1. Locating and Potholing the El Paso Natural Gas Pipeline at SR 80 and North Copper Avenue –  
Task 222.07







December 20, 2022

**Cassandra Flores**  
**Civil Designer**  
**Stantec**  
One South Church Ave,  
Suite 2100  
Tucson, AZ 85701-1635

T2 Utility Engineers  
4855 N. Shamrock Place  
Suite 109  
Tucson, AZ, 85705  
USA  
Phone +1 520 770 0021  
Fax +1 520 408 3002  
[www.T2ue.com](http://www.T2ue.com)

**RE: Kinder Morgan/EPNG Pothole AZ State Route 80, AZ  
Douglas Port of Entry Project  
Proposal for Subsurface Utility Engineering Services**

Dear Ms. Flores,

T2UES, Inc. dba T2 Utility Engineers (T2), is pleased to submit this proposal to provide professional Subsurface Utility Engineering (SUE) services for the above referenced project to Stantec (Client). The scope of work and fee structure are as follows:

#### **SCOPE OF WORK**

T2 will provide one (1) air-vacuum excavation utility testhole (pothole) with survey of an existing Kinder Morgan El Paso Natural Gas main along the north shoulder of Arizona State Route 80 near the north ADOT right of way fence in Douglas, AZ as identified on the attached Exhibit A. The utility data obtained through our standard potholing procedure includes the depth, horizontal and vertical location tied to project datum via survey, size and material composition of the utility exposed. Our standard potholing procedure includes backfill of excavated testholes using compacted native material, 12" x 12" pavement restoration using "Perma-Patch" brand permanent asphalt cold patch for testholes excavated in existing pavement, and 12" x 12" concrete restoration of testholes excavated in concrete sidewalks using bagged pre-mixed concrete. It is anticipated that the requested pothole will require ADOT permitting which will be included in T2's scope. Additionally T2 will coordinate monitoring of the pothole excavation by Kinder Morgan/El Paso Natural Gas monitor per their requirements.

Prior to beginning excavation T2 will request to be provided with horizontal and vertical survey control data in spreadsheet format for a minimum of three non-linear control points signed and sealed by an Arizona RLS adequate to stake the testhole locations utilizing RTK GPS technology along with a location map displaying the control points. The list shall identify point number, horizontal location in coordinate format, and a physical description of each monument. Please note, electronic CAD files from which the survey monument data must be extracted is not considered acceptable survey control. Also prior to beginning work, T2 will request a testhole request list identifying the testhole number, and the type of utility to be excavated along with 11" x 17" plan sheets displaying background topography, existing utilities, and testhole locations clearly marked and annotated with the corresponding testhole number.

#### **DELIVERABLES**

Pertinent utility data will be presented in electronic format on our standard "Testhole Data Summary" form sealed by an Arizona Registered Land Surveyor or Arizona Registered



Professional Engineer that includes the depth, horizontal coordinates, vertical elevation, size, and material composition of the utility line exposed at each testhole. Data will be submitted in both sealed hard copy format and electronic Excel format.

**SCHEDULE**

T2 will work closely with the project team to provide deliverables in a timeframe consistent with the overall project schedule. For scheduling purposes, please allow 15 business days for submittal of deliverable from date of Notice to Proceed and receipt of applicable permit(s).

**ESTIMATED FEES**

For the requested services, T2 proposes compensation as identified below.

Classification	Number	Rate	Total
Two Person Vacuum Excavation Crew Truck and Equipment (portal to portal from Tucson office)	9 hrs.	\$240 / hr.	\$2,160.00
Survey of Excavated Test Holes (Lump Sum)	--	--	\$1,900.00
Project Manager	1	\$155.00	\$155.00
Survey Manager RLS	1	\$155.00	\$155.00
Administrative Support	1	\$65.00	\$65.00
Subtotal			\$4,435.00

Reimbursable Expenses	Number	Rate	Total
ADOT Permit (Time for Application Preparation)			\$155.00
Traffic Control: Permits, Plans, and Control for Potholing Effort (Invoiced at Cost + 10%)	-	-	\$950.00
Subtotal			\$1,105.00

**TOTAL ESTIMATED FEE –**

**\$5,540.00**

The fees identified above include project management, One Call coordination, coordination of utility monitor if required, air-vacuum extraction excavation with two person crew, our standard backfill with compacted native material, our standard pavement restoration with asphalt cold patch procedures or standard 1 ft. x 1 ft. concrete restoration for testholes in sidewalks, and project deliverable submitted on our “Testhole Data Report” in scanned electronic format. Please note that exploratory type excavation that is not in search of a utility is not considered a test hole covered under this proposal and would be conducted on an hourly basis under a separate proposal. Please note that above fee schedule does not include such reimbursable expenses as uniformed police officers (if required), special backfill requirements, compaction testing, replacement of full sections of concrete sidewalk, and or asphalt hot patch; if any of these items become required they shall be considered a reimbursable item, submitted to client for pre-authorization, subcontracted, and billed separately.

T2 will not exceed the estimated fees without prior authorization from Client. **T2 will prepare an invoice upon completion for the hours worked plus reimbursable expenses up to the Total Estimated amount.**



We appreciate this opportunity to provide subsurface utility investigation services for your project. Should you have any questions or require additional information, please do not hesitate to call me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dan Padilla'.

Dan Padilla  
Senior Project Manager  
for T2ue  
Direct Line: 520-770-0021  
Email: dan.padilla@t2ue.com



# Location Map

Gas line potholing

# Legend



**GAS MAIN ALIGNMENT**

Location to be potholed, in ADOT ROW on the north side of Hwy 80, overhead powerlines are present in the ROW

**CITY OF DOUGLAS, AZ**





## **A.3 Geotechnical by SCE Engineers**

1. Geotechnical Investigation of the Groundwater Well / Elevated Storage Tank – Task 222.04



**Scope of Work  
Professional Engineering Services  
For the  
Cochise County and City of Douglas, Arizona  
Commercial Port of Entry Water and Wastewater Infrastructure,  
Groundwater Well/Storage Tank (Item 4)**

SCE Engineering (SCE) is pleased to provide this cost proposal to Stantec for geotechnical services associated with the groundwater well/storage tank (Item 4) 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 4 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 proposed groundwater well/storage tank (Item 4 of this project), perform a geotechnical investigation that includes borings, a test pit, and laboratory testing. Provide geotechnical recommendations for suitability of existing soils for backfill purposes and bedding, concrete slab foundations, storage tank foundation, and pavement structural section.

**SCE Role:** SUB

**Contract Type:** Lump Sum

## **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 one of SCE’s employees that will be involved with the field work. Scope includes travel to the site and coordination between senior personnel and the project manager from SCE in preparation for the site visit.

### 3. Data Collection

- **Task 3.1** – Perform 1 test pit, approximately 5-feet deep and 4-feet wide, in support of the proposed retention basin. Perform 8 borings, ranging in depth from 5-feet to 60-feet (total linear footage of 180-feet). SCE has retained Geomechanics Southwest, Inc. (GSI) to perform the drilling and digging services for the borings and test pits. SCE will be on-site to collect the soil samples and record the boring and test pit logs.
- **Task 3.2** – Perform laboratory testing on representative soil samples obtained from the borings and test pits. Laboratory tests will include grain size distribution, hydrometer, Atterberg limits, standard proctor, moisture content tests, dry density, organic content, and chemical tests (pH, resistivity, chlorides, and sulfates). In addition to the laboratory testing, perform one double ring infiltrometer test within the test pit excavated at the proposed retention basin during the field investigation. SCE has retained Speedie and Associates, Inc. (Speedie) to perform the laboratory and field testing.

### 4. Data Reduction

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

### 5. Develop Deliverables

- **Task 5.1** – Develop geotechnical recommendations for earthwork factors.
- **Task 5.2** – Develop geotechnical recommendations for the suitability of existing soils for backfill purposes and bedding.
- **Task 5.3** – Develop geotechnical recommendations for concrete slab foundations (i.e., modulus of subgrade reaction) and the storage tank foundation (circular strip footing assumed).
- **Task 5.4** – Develop geotechnical recommendations for pavement section thickness.
- **Task 5.5** – Prepare a draft geotechnical memorandum for review. The draft geotechnical memorandum will include a summary of the geotechnical investigation, laboratory test results, boring and test pit logs, and geotechnical recommendations.
- **Task 5.6** – Incorporate review comments and prepare a final geotechnical memorandum.

### 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 memorandum.

## 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, test pits and soil samples will not include any environmental investigation and borings/test pits will be immediately terminated upon encountering environmental contamination.
- Boring and test pit 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 will not be needed for the borings and test pits and is not included in the scope and fee.
- Traffic loading in Equivalent Single Axle Loads (ESALs) will be provided by others for the pavement design.
- 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 1 test pit and 8 borings as summarized in Section A.
- Traffic control is not anticipated for the drilled borings.
- GSI will provide a backhoe and track mounted drill rig for the field investigation.
- The borings/test pit will be advanced to target depth discussed in Section A unless digging refusal is encountered at shallower depths at which time the borings/test pit will be terminated.
- Representative soil samples obtained from the borings/test pit will be tested for grain size distribution, hydrometer, Atterberg limits, standard proctor, dry density, 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/test pit will take approximately 2 days of field work and 1 additional day of field reconnaissance. 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/test pit staking by Stantec.

Once the fieldwork is complete, we anticipate 4 weeks for the laboratory testing to be completed. After which we anticipated 3 more weeks to develop the draft geotechnical memorandum that includes SCE's geotechnical recommendations for review. After review comments are resolved for the draft geotechnical memorandum, we anticipate 1 more week to finalize and submit the final geotechnical memorandum.

## **E. DELIVERABLES**

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

## **F. COST PROPOSAL**

The costs for the scope of work and the assumptions noted above are estimated to be \$45,631.10. Detailed breakdown of labor effort for design is attached

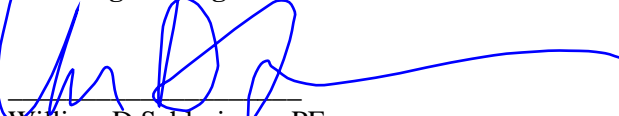


## G. CLOSURE

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**



William D Schlesinger, PE  
Principal

Cochise County and City of Douglas, Arizona  
Commercial Port of Entry Water and Wastewater Infrastructure,  
Groundwater Well/Storage Tank (Item 4)

Contract Type: LS  
Date: 12/19/2022

Labor

Category	Labor Rate	Hours	Total Labor
Project Principal	\$160.00	10	\$1,600.00
Project Manager	\$150.00	19	\$2,850.00
Engineer	\$130.00	103	\$13,390.00
Designer	\$120.00	86	\$10,320.00
Clerical	\$90.00	10	\$900.00
<b>Total Labor Cost</b>		<b>228</b>	<b>\$29,060.00</b>

Direct Costs

Travel (Mileage) to Douglas, Arizona from Tucson, Arizona. 2 trips, at approximately 240 mile round trip each, at \$0.445 per mile	\$213.60
Lodging/Meals (3 days at \$139/day)	\$417.00
Permit Fees (No Fee Assumed)	\$0.00
Field Equipment and Materials	\$20.00
<b>Total Direct Cost</b>	<b>\$650.60</b>

Subconsultants

Gemochanics Southwest, Inc (Drilling and Excavation)	\$10,785.50
Speedie and Associates, Inc. (Lab Testing)	\$5,135.00
<b>Total Subconsultant Cost</b>	<b>\$15,920.50</b>

<b>Total Fee</b>	<b>\$45,631.10</b>
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\_\_\_\_\_  
William D Schlesinger, PE

Task Summary

Task	Task Description	Project Principal	Project Manager	Project Engineer	Designer/Drafter	Clerical	Total by Task	Cost by Task
	Total by Category	10	19	103	86	10	228	\$29,060.00
1	Project Administration	0	2	3	0	6	11	\$1,230.00
2	Field Reconnaissance	1	1	1	8	0	11	\$1,400.00
3	Data Collection	0	2	5	31	0	38	\$4,670.00
4	Data Reduction	1	2	5	19	0	27	\$3,390.00
5	Develop Recommendations	6	7	80	24	4	121	\$15,650.00
6	Project Coordination	0	1	7	4	0	12	\$1,540.00
7	QA/QC	2	4	2	0	0	8	\$1,180.00

Task Hours

Task 1	Description	Project Principal	Project Manager	Project Engineer	Designer/Drafter	Clerical	Total by Task
Total by Category	Project Administration	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 Reconnaissance	1	1	1	8	0	11
Task 2.1	One site visit	1	1	1	8	0	11

Task 3	Description	Project Principal	Project Manager	Project Engineer	Designer/Drafter	Clerical	Total by Task
Total by Category	Data Collection	0	2	5	31	0	38
Task 3.1	Perform 1 test pit and 8 borings (2 days + 1 day to coordinate digging and access issues)	0	1	3	27	0	31
Task 3.2	Coordinate laboratory testing, deliver samples	0	1	2	4	0	7

Task 4	Description	Project Principal	Project Manager	Project Engineer	Designer/Drafter	Clerical	Total by Task
Total by Category	Data Reduction	1	2	5	19	0	27
Task 4.1	Evaluation of soil data	0	1	2	6	0	9
Task 4.2	Develop boring and test pit logs	1	1	3	13	0	18

Task 5	Description	Project Principal	Project Manager	Project Engineer	Designer/Drafter	Clerical	Total by Task
Total by Category	Develop Recommendations	6	7	80	24	4	121
Task 5.1	Earthwork factors	1	1	8	2	0	12
Task 5.2	Suitability of existing soils for backfill purposes and bedding	1	1	12	4	0	18
Task 5.3	Concrete Slab foundations and storage tank foundation	2	1	24	6	0	33
Task 5.4	Pavement thickness	1	1	12	4	0	18
Task 5.5	Develop draft geotechnical memorandum	1	2	20	8	4	35
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	4	0	12
Task 6.1	Discussions with Stantec and subconsultants	0	1	4	4	0	9
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	2	4	2	0	0	8
Task 7.1	Internal quality control/quality assurance (QC/QA)	2	4	2	0	0	8

Tasks 1 - 7 Totals		Project Principal	Project Manager	Project Engineer	Designer/Drafter	Clerical	Total by Task
Total by Category		10	19	103	86	10	228

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

	<b>Test Description</b>	<b>ASTM</b>	<b>Unit Costs (\$)</b>		<b>Total Cost</b>
1	Grain size analysis	C136, D 2217	60	15	\$ 900.00
2	Hydrometer	D 422	165	1	\$ 165.00
3	Atterberg Limits (LL/PL)	D 4318	60	15	\$ 900.00
4	Water content	D 2216	10	10	\$ 100.00
5	pH	ADOT 236	35	2	\$ 70.00
6	Soluble sulfates	D 4542	30	2	\$ 60.00
7	Chlorides	D 4542	30	2	\$ 60.00
8	Minimum Resistivity	ADOT 236	85	2	\$ 170.00
9	Proctor (moisture-density) test	D 698	120	2	\$ 240.00
10	Loss of ignition (organic content)	D 2974	65	2	\$ 130.00
11	Dry unit weight and water content	Measured Vol	20	2	\$ 40.00
12	Double Ring Infiltrometer (1 tests including travel)	D 3385	Lump Sum	1	\$ 2,300.00
				<b>TOTAL</b>	<b>\$ 5,135.00</b>



# Geomechanics Southwest, Inc.

5839 S Belvedere Ave  
Tucson, Arizona 85706  
520-889-7787

AROC 079441 / ADWR 498

[www.gsidrilling.com](http://www.gsidrilling.com)

Date: December 9, 2022  
Proposal # 02323T

## Joseph B. Harris, P.E.

SCE Engineering  
510 E. 4<sup>th</sup> Street  
Tucson, Arizona 85705  
[joseph@sce.engineering.com](mailto:joseph@sce.engineering.com)

### RE: Geotech Services Request; Douglas POE Water & Wastewater Infrastructure Project

#### SCOPE: Item #4

- Provide a CME-75HT track-mounted drill and 2-man crew.
- Drill will come equipped with 3-1/4"ID HSA and required support equipment.
- Auger / Sample the following:
  - 2/60', 2/20', 4/5'
- Backfill using auger cuttings with any additional being spread adjacent to each boring location.
- Provide a Backhoe & Operator to perform the following:
  - 1/5' Test Pits for Double Ring Infiltrometers.
- GSI will mark out and call-in blue stake for drill & test pit locations.
- GSI assumes no water will be encountered but have provided unit rates in the event that ADWR Permitting and Abandonment is required.

ITEM	QUANTITY	UNITS	UNIT PRICE	LINE TOTAL
Mobilization / Demobilization / Local Travel	1	EACH	2100.00	\$2,100.00
Auger / Sample	180	L.F.	26.25	\$4,725.00
Blue Stake	1	EACH	600.00	\$ 600.00
Backhoe & Operator	1	DAY	2000.00	\$2,000.00
ADWR Permitting (if GW) (est., qty.)	0	EACH	250.00	\$ 0.00
Grout Abandonment (if GW) (est., qty.)	0	L.F.	10.50	\$ 0.00
Crew Lodging & Subsistence (2-men) (est., qty.)	1.5	DAYS	500.00	\$ 750.00
Temporary Fuel Surcharge (6% of Invoice Total) (est., qty.)	.06	%	10175.00	\$ 610.50
<b>ESTIMATED TOTAL</b>				<b>\$ 10,785.50</b>

**We estimate a completion time of 2 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 120922 – Douglas POE Item 4



**GSI Estimate Conditions & Assumptions – RE: Proposal # 02323T**

- 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 \$150.00 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:

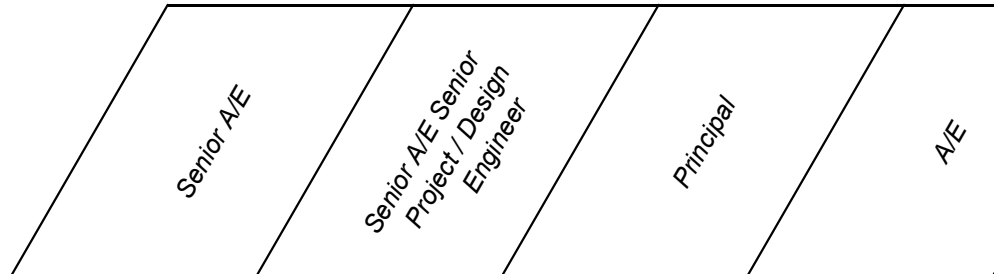




**Stantec**

**Appendix B: Detailed Fee Spreadsheet**





<b>Name</b>	Peterson, Mark	Bryck, Jack	Ruiz, Colleen	Albor Castillo, Omar
<b>Project Billing Rate</b>	\$217.12	\$217.12	\$294.46	\$167.97
<b>Total Units (T&amp;M)</b>	126.00	121.00	20.00	134.00
<b>Fee (T&amp;M)</b>	\$27,357.12	\$26,271.52	\$5,889.20	\$22,507.98

Task Code	Task Name	Units			
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**222**

222.01	Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]	8.00	26.00	4.00	
222.04	Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank	30.00	42.00	4.00	
222.07	Survey the Location of El Paso Natural Gas Interstate Pipelines	60.00	6.00	4.00	30.00

**223**

223.02	Survey of Alignment in ADOT ROW along SR 80	20.00	6.00	4.00	80.00
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**225**

225.01	West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development	8.00	25.00	4.00	
225.04	Planning Old County Hospital Service Area - Wastewater Collection System		16.00		24.00



	<i>Prof Level III</i>	<i>Designer</i>	<i>Prof Level III</i>	<i>Prof Level III</i>	<i>Senior A/E</i>
<b>Name</b>	Crouthamel, Todd	Flores, Cassandra	Hamblin, Elizabeth	Michel, Randy	Brady, Gary
<b>Project Billing Rate</b>	\$178.56	\$136.37	\$178.56	\$178.56	\$217.12
<b>Total Units (T&amp;M)</b>	164.00	190.00	42.00	20.00	20.00
<b>Fee (T&amp;M)</b>	\$29,283.84	\$25,910.30	\$7,499.52	\$3,571.20	\$4,342.40

Task Code	Task Name					
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**222**

222.01	Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]	40.00	33.00	8.00	20.00	4.00
222.04	Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank	24.00	11.00	8.00		4.00
222.07	Survey the Location of El Paso Natural Gas Interstate Pipelines		2.00	8.00		4.00

**223**

223.02	Survey of Alignment in ADOT ROW along SR 80		2.00	9.00		4.00
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**225**

225.01	West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development	100.00	102.00	9.00		4.00
225.04	Planning Old County Hospital Service Area - Wastewater Collection System		40.00			



	<i>Prfo Level IV I&amp;C Lead Design Engineer</i>	<i>Prof Level IV Electrical Lead Design Engineer</i>	<i>Prof Level III Electrical Design Engineer</i>	<i>Senior A/E Senior Structural Engineer QA/QC</i>	<i>Senior A/E Whitewater Draw Hydrology</i>
<b>Name</b>	Muthart, Johnathan	Wong, Bruce	Callaway, Corey	Zahawi, Benan	Kern, Edward
<b>Project Billing Rate</b>	\$217.12	\$217.12	\$178.56	\$217.12	\$217.12
<b>Total Units (T&amp;M)</b>	10.00	50.00	35.00	20.00	20.00
<b>Fee (T&amp;M)</b>	\$2,171.20	\$10,856.00	\$6,249.60	\$4,342.40	\$4,342.40

Task Code	Task Name					
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**222**

222.01	Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]		4.00		4.00	4.00
222.04	Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank	10.00	24.00	15.00	4.00	4.00
222.07	Survey the Location of El Paso Natural Gas Interstate Pipelines		4.00		4.00	4.00

**223**

223.02	Survey of Alignment in ADOT ROW along SR 80		4.00		4.00	4.00
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**225**

225.01	West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development		14.00	20.00	4.00	4.00
225.04	Planning Old County Hospital Service Area - Wastewater Collection System					



	QA/QC	Prof Level IV GW Well Hydrogeologist	Prof Level IV Project Surveyor	Designer Senior Survey Tech	Clerical/Admin Project Manager Assistant	Darling Geomatics LTD
<b>Name</b>	Graves, Dustin	Cuomo, Anthony	Carr, Rick	Ream, Daisy		
<b>Project Billing Rate</b>	\$217.12	\$217.12	\$136.37	\$91.15	\$1.10	
<b>Total Units (T&amp;M)</b>	10.00	36.58	48.00	20.00	13,500.00	
<b>Fee (T&amp;M)</b>	\$2,171.20	\$7,942.64	\$6,545.76	\$1,823.00	\$14,850.00	

Task Code	Task Name					
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**222**

222.01	Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]				4.00	
222.04	Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank	10.00			4.00	
222.07	Survey the Location of El Paso Natural Gas Interstate Pipelines				4.00	

**223**

223.02	Survey of Alignment in ADOT ROW along SR 80		36.58	48.00	4.00	13,500.00
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**225**

225.01	West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development				4.00	
225.04	Planning Old County Hospital Service Area - Wastewater Collection System					



	SCE Engineering	T2 Utility Engineers	Bowman Survey - Estimate
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<b>Name</b>			
<b>Project Billing Rate</b>	\$1.10	\$1.10	\$1.10
<b>Total Units (T&amp;M)</b>	45,631.10	5,540.00	50,000.00
<b>Fee (T&amp;M)</b>	\$50,194.21	\$6,094.00	\$55,000.00

<b>Project Summary</b>
<b>Fixed Fee</b>
<b>Time &amp; Material</b>
<b>Total</b>

Task Code	Task Name				Task Type
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<b>222</b>					<b>Time &amp; Material</b>
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222.01	Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]			30,000.00	Time & Material
222.04	Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank	45,631.10		20,000.00	Time & Material
222.07	Survey the Location of El Paso Natural Gas Interstate Pipelines		5,540.00		Time & Material

<b>223</b>					<b>Time &amp; Material</b>
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223.02	Survey of Alignment in ADOT ROW along SR 80				Time & Material
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<b>225</b>					<b>Time &amp; Material</b>
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225.01	West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development				Time & Material
225.04	Planning Old County Hospital Service Area - Wastewater Collection System				Time & Material



Name	Hours	Labour	Expense	Subs	Total
<b>Project Billing Rate</b>	0.00	\$0.00	\$0.00	\$0.00	<b>\$0.00</b>
<b>Total Units (T&amp;M)</b>	1,086.58	\$199,077.28	\$0.00	\$126,138.21	<b>\$325,215.49</b>
<b>Fee (T&amp;M)</b>	1,086.58	\$199,077.28	\$0.00	\$126,138.21	<b>\$325,215.49</b>

Task Code	Task Name	Hours	Labour	Expense	Subs	Total
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<b>222</b>		<b>483.00</b>	<b>\$94,353.52</b>	<b>\$0.00</b>	<b>\$111,288.21</b>	<b>\$205,641.73</b>
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222.01	Alignment Investigation Gravity Connection to the City Wastewater System [Alternative to the East Wastewater Lift Station]	159.00	\$29,040.73	\$0.00	\$33,000.00	\$62,040.73
222.04	Survey, Geotechnical Investigation and Capital Cost Development of the Groundwater Well / Elevated Storage Tank	194.00	\$39,226.19	\$0.00	\$72,194.21	\$111,420.40
222.07	Survey the Location of El Paso Natural Gas Interstate Pipelines	130.00	\$26,086.60	\$0.00	\$6,094.00	\$32,180.60

<b>223</b>		<b>225.58</b>	<b>\$40,467.26</b>	<b>\$0.00</b>	<b>\$14,850.00</b>	<b>\$55,317.26</b>
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223.02	Survey of Alignment in ADOT ROW along SR 80	225.58	\$40,467.26	\$0.00	\$14,850.00	\$55,317.26
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<b>225</b>		<b>378.00</b>	<b>\$64,256.50</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$64,256.50</b>
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225.01	West Wastewater Lift Station Survey, Geotechnical Investigation, and Capital Cost Development	298.00	\$51,296.50	\$0.00	\$0.00	\$51,296.50
225.04	Planning Old County Hospital Service Area - Wastewater Collection System	80.00	\$12,960.00	\$0.00	\$0.00	\$12,960.00



**Appendix C: City of Tucson/Stanec On-Call Rate Sheet  
March 2023 to March 2024**





# CONTRACT ADDENDUM

CITY OF TUCSON BUSINESS SERVICES DEPARTMENT  
255 W. ALAMEDA, 6TH FLOOR, TUCSON, AZ 85701  
P.O. BOX 27210, TUCSON, AZ 85726  
PHONE: (520) 837-4118 / FAX: (520) 791-4735  
Sandra.alcorn@tucsonaz.gov  
ISSUE DATE: April 7, 2023

**CONTRACT # 181820-02**  
CONTRACT ADDENDUM NUMBER: FOUR (4)  
PAGE 1 of 1  
SA  
CONTRACT OFFICER: Sandra Alcorn

## ON-CALL CIVIL ENGINEERING

THIS CONTRACT IS AMENDED AS FOLLOWS:

### ITEM 1: CONTRACT RENEWAL

Pursuant to the contract, Special Terms and Conditions, Number 4, Contract Term and Renewal the City is hereby exercising its option to extend the contract for the period of **March 8, 2023 through March 7, 2024.**

### ITEM 2: RATE ADJUSTMENT

In accordance with Contract Special Terms and Conditions, Section 5, Rate Adjustment, the City hereby accepts the proposed price adjustment per the attached updated fee summary.

**\*\*\*END OF ADDENDUM ITEMS\*\*\***

**ALL OTHER PROVISIONS OF THE CONTRACT SHALL REMAIN IN THEIR ENTIRETY.**

#### CONTRACTOR:

CONTRACTOR HEREBY ACKNOWLEDGES RECEIPT OF  
AND UNDERSTANDING OF THE ABOVE ADDENDUM



Digitally signed by Vandenberg,  
Katy  
Date: 2023.04.10 09:14:09 -06'00'

Signature of person authorized to sign      Date

Katy Vandenberg, Principal

Name and Title (typed or printed legibly)

Stantec Consulting Services Inc.

Company Name

410 17th Street, Suite 1400

Address

katy.vandenberg@stantec.com

Email Address

Denver                      CO                      80202

City                              State                              Zip

Contact information for Sales/Account  
Representative for daily business operations:

Kiersten Wangsvick, Principal

Name and Title (typed or printed legibly)

520-247-1701

Phone Number

Kiersten.Wangsvick@stantec.com

Email Address

#### CITY OF TUCSON:

THE ABOVE REFERENCED CONTRACT ADDENDUM

IS HEREBY EXECUTED THIS 12th DAY

OF April, 2023, AT TUCSON, ARIZONA.

*Dan Longanecker* for  
Director of Business Services and not personally

**FEE ESTIMATE SUMMARY**

DATE: March 22, 2023

PROJECT: On Call Civil Engineering Services

PREPARED BY: Elizabeth Hamblin/Kiersten Wangsvick CONTRACT NUMBER 18120-02

EFFECTIVE DATE March 8, 2023 PRIME CONTRACTOR Stantec

CONTRACT TIME Two Years CONTRACT TYPE Lump Sum per Task Order

ITEM NO.	FIRM	Discipline	Direct Labor Rate	A	B	C	D
				Overhead	Profit	Billing Rate	
				<u>165.25</u> %	<u>10</u> %		
1	Stantec	Principal	\$100.92	\$166.77	\$26.77	\$294.46	
2	Stantec	Project Manager	\$64.24	\$106.16	\$17.04	\$187.44	
3	Stantec	Senior A/E	\$74.41	\$122.97	\$19.74	\$217.12	
4	Stantec	A/E	\$57.57	\$95.13	\$15.27	\$167.97	
5	Stantec	Designer	\$46.74	\$77.24	\$12.40	\$136.37	
6	Stantec	CADD	\$34.39	\$56.83	\$9.12	\$100.34	
7	Stantec	Prof Level IV	\$74.41	\$122.97	\$19.74	\$217.12	
8	Stantec	Prof Level III	\$61.20	\$101.13	\$16.23	\$178.56	
9	Stantec	Prof Level II	\$38.37	\$63.40	\$10.18	\$111.94	
10	Stantec	Prof Level I	\$32.88	\$54.34	\$8.72	\$95.95	
11	Stantec	Clerical/Admin	\$31.24	\$51.62	\$8.29	\$91.15	
12	Stantec	Survey Crew- 3 Man				\$390.00	
13	Stantec	Survey Crew- 2 Man				\$290.00	

**Formulas**

(A) Direct Labor Rate

(B) Overhead @ 165.25 % X (A)

(C) Profit @ 10 % X (A + B)

(D) Billing Rate (A+B+C)