# Exhibit "A" to Amendment No. 1



November 23, 2024

Michael Rezk, PE, PMP City of Delray Beach 434 South Swinton Avenue Delray Beach, FL 33444

Subject: City Delray Beach Water Treatment Progressive Design Build Project Change Order Number 1

Dear Mr. Rezk:

A project description for Design-Build of the Delray Beach Water Treatment Plant upgrade is provided in the Agreement between the City of Delray Beach (City) and CDM Constructors Inc (Design-Builder), dated March 22, 2024. The preconstruction phase of the project is underway including design development of the water system improvements.

The following is Change Order Number 1 for adjustments to the scope of work for the City's water treatment upgrades. Details are provided for each item of this change order with a summary of fee adjustments at the end.

## A. Water Plant Capacity Increase

The Owner's Project Criteria as provided in Exhibit A of the Agreement, reads as follows:

"Design and construction of a new membrane water treatment plant with an initial minimum treatment capacity of 14 million gallons per day (MGD) and flexibility to expand treatment capacity to 22 MGD of finished water. The new plant will include the necessary ancillary facilities for pre-treatment of raw water supply and post-treatment for permeate stability.

Infrastructure required for blending of membrane water with lime softener water from the existing water treatment plant."

Meeting the requirement for "flexibility to expand treatment capacity to 22 MGD" was to be accomplish by expanding the membrane building in the future. The current design was to include yard space for a building expansion to accommodate a capacity increase to 22 MGD. It was not the intent to install a building sized for 22 MGD at this time, but to just design a building sized for 14 MGD. This design intent is corroborated by the site layout shown on page 75 of the Design-Builder's proposal as shown below.

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Within the "Blending Assessment of Membrane and Lime Softening Process Streams" memorandum (dated April 17, 2024), the Design-Builder has documented that it is not feasible to pursue a blend of a new membrane process train with the existing lime plant, and still meet the project objectives. During the May 7, 2024 project progress meeting, the City directed the Design-Builder to change the project scope and begin the planning for a new 22 MGD membrane WTP, that is expandable to 25 MGD.

The project scope has changed from a 14 MGD membrane process train addition, to a full replacement of the existing lime softening facility with a building sized for 25 MGD and installed process capacity of 22 MGD.

This change contains two primary impacts. First, there are design changes to accommodate the increased size of the membrane building, chemical canopy and site work. The process areas have nearly doubled in size and as a result, require greater designer effort.

Second and more impactful are changes that now require the integration of several existing processes into the new membrane plant design. This includes new power feeds and



automation of 4 chemical feed systems, transfer pump station, clearwell, surficial wells, distribution system and high service pump station. Automation details do not exist for most of these process systems including I/O lists, control narratives, P&IDs or control logic. For these to be incorporated into the new SCADA system, the Design-Builder must reverse engineer the automation of all these existing process systems.

The change in water plant capacity requires greater effort from all design disciplines during the 30 percent through 100 percent design milestones. Specific changes include:

- 1. A water plant replacement (rather than addition) requires an alternative approach to standby/emergency power. The capacity of backup power has significantly increased, and a Tier 4 generator is now required due to an Industrial Load Agreement. The design now must include:
  - a. Urea storage and supply system
  - b. New compressor for emissions
  - c. Changes to the FPL load agreement
  - d. Development of a temporary paralleling agreement
  - e. Greater emissions permitting requirements
- 2. Increased effort for change in membrane process treatment systems (increase in assets and tagging, power demand changes, more process design and electrical sheets).
  - a. There are 4 new electrical drawings required to detail power supply and termination within existing buildings for existing MCCs and processes. In addition, the electrical site power distribution plan will be expanded to include power to existing facilities.
  - b. Process design changes for capacity increases are not as simple copy and paste. Greater design effort is required to define the increase in process units and sizes. For example, piping drawings for 7 NF skids it much more time consuming than 4 skids. It includes more detailing NF feed piping, CIP pipes, permeate pipes, concentrate pipes and other ancillary piping.
- 3. The original intent was for a new 14 MGD process train to be incorporated into the existing lime plant and integrated into the existing SCADA system, which already has logic to control and monitor the lime plant. Outside of the new membrane building, the plan for automation was for a meter and motorized valve to accurately split the flow between the existing lime plant and new membrane plant. Permeate would then be discharged to the existing clearwell and all existing automation would remain in operation.



Since the lime plant is being abandoned, a new SCADA system will be required to replace the existing system. This includes the development of new control system architecture, P&IDs, control narratives and logic, I/O lists, for the following existing systems to remain in operation:

- a. Raw water wells and distribution system
- b. Four existing chemical systems and clearwell
- c. High service pump station and transfer pumps

For the integration of existing processes, eleven new P&IDs have been added along with modified system architecture for the entire WTP, rather than just a process train (membrane treatment) addition. The following are the P&IDs required for existing processes:

I-GW-1	P&ID – Existing Surficial Wells (30Nos.)
I-CW-1	P&ID – Existing Clearwell and Transfer Pump Station
I-PS-1	P&ID – Existing Clearwell and High Service Pump Station
I-CSE-1	P&ID – Existing 4 Log Sample Panel
I-CSE-2	P&ID – Existing Sodium Hypochlorite Storage and Feed System I
I-CSE-3	P&ID – Existing Sodium Hypochlorite Storage and Feed System II
I-CSE-4	P&ID – Existing Phosphate Storage and Feed System I
I-CSE-5	P&ID – Existing Phosphate Storage and Feed System II
I-CSE-6	P&ID – Existing Ammonia Feed System
I-CSE-7	P&ID – Existing Fluoride Feed System I
I-CSE-8	P&ID – Existing Fluoride Feed System II

- 4. Integrating the existing and new security systems (devices and software)
- 5. More complex civil design on a congested site for a larger WTP footprint (more stormwater management for more impervious area, tighter roadways, more congested yard piping). There is increased coordination of site civil for new power and low voltage to existing processes (High Service PS, clearwell, chemical building) remaining in service.
- 6. Greater assets and takeoffs for cost estimating. An increase in estimating level of effort is required for the significant increase in automation and power supply for the existing processes mentioned above.



The fee increase for these additional services is summarized as follows:

Task	<u>Fe</u>	<u>e Change</u>
Task 1 – Project Management	\$	6,104
Task 2 – Well System Assessment and Mitigation	\$	0
Task 3 – Membrane Pilot Testing & Corrosion Control Study	\$	0
Task 4 – Phase 1 Design Services	\$1	87,017
Task 5 – Preconstruction Services	<u>\$</u>	20,860
Total:	\$2	13,981

## **B. Changes to Corrosion Control Study**

The project scope includes a Corrosion Control Study, which is defined in Subtask 3.2 and was based on the water quality of a blended flow from a 14 MGD new membrane train, with the balance of flow from the existing lime plant. Since the blended finish water quality would not differ much from existing conditions, it was assumed that just a desk top corrosion control study would be required. As noted in Item A (above), a blended flow is no longer being considered. Replacing the lime softening plant with a full membrane plant and changing the disinfectant from chloramine to free chlorine will alter the distribution system corrosion characteristics.

To properly define corrosion prevention recommendations, the Design-Builder must now perform specialized field work and gather data from the distribution system and plant entry point, for greater accuracy of input data to the geochemical and water quality models for corrosion control. The added distribution field assessments include:

- 1. Gathering and assessing details on the existing distribution system such as pipe material, pipe size and hydrant locations.
- 2. Assessing existing consumer confidence reports and customer complaints.
- 3. Perform flow variable hydrant tests and collect water quality data.
- 4. Collect pipe mobile samples for analysis.
- 5. Laboratory water quality testing of collected samples for metals and anions.
- 6. Bench scale testing of collected samples for ORP.
- 7. Develop summary report on enhanced corrosion study.



The fee increase for these additional services is summarized as follows:

Task	<u>Fee</u>	<u>Change</u>
Task 1 – Project Management	\$	0
Task 2 – Well System Assessment and Mitigation	\$	0
Task 3 – Membrane Pilot Testing & Corrosion Control Study	\$	28,840
Task 4 – Phase 1 Design Services	\$	0
Task 5 – Preconstruction Services	<u>\$</u>	0
Total:	\$	28,840

## C. Addition of Administration Building

As part of the change in project scope to increase capacity from 14 MGD to 22 MGDG, the City has decided to abandon or repurpose many of the existing lime plant facilities including the Administration Building, in favor of a more modern building. The facilities to remain in service are the High Service Pumping Station, Chemical Building, and Clearwell. During contract negotiations, it was understood that the existing Administration Building would remain in service but now a replacement building is desired.

The scope and fee for these additional services are based on the Administration Building concept defined in the Basis of Design Report (October 2024) and the 30 percent design drawings. The general spaces programmed for this new building include:

- Staff offices, cubicles, locker and lunch spaces
- Conference rooms
- Support spaces (mechanical, electrical, storage)
- Restrooms
- Approximately 7,600 square foot and one level

The addition of this building requires greater effort from all design disciplines during the 30 percent through 100 percent design stages, including 44 new design drawings and several new technical specification sections. The following is the draft drawing list for the new Administration Building:

**Civil and Landscaping** 

- 1. Site Layout and Paving
- 2. Grading & Drainage
- 3. Landscaping plan



## <u>Architectural</u>

- 4. Administration Building Life Safety Plan
- 5. Administration Building Floor Plan
- 6. Administration Building Roof Plan
- 7. Administration Building Exterior Elevations I
- 8. Administration Building Exterior Elevations II
- 9. Administration Building Sections I
- 10. Administration Building Sections II
- 11. Administration Building Wall Sections
- 12. Administration Building Ceiling Plan
- 13. Administration Building Floor Finish Plan
- 14. Administration Building Enlarged Plans and Interior Elevations I
- 15. Administration Building Enlarged Plans and Interior Elevations II
- 16. Administration Building Enlarged Plans and Interior Elevations III
- 17. Administration Building Signage Plan and Types
- 18. Administration Building Schedules and Types
- 19. Architectural Details
- 20. Architectural Details
- 21. Signage Plan

## <u>Structural</u>

- 22. Administration Building Foundation Plan
- 23. Administration Building Roof Plan
- 24. Administration Building Sections
- 25. Administration Building Sections and Details

## <u>HVAC</u>

- 26. Administration Building HVAC Plan
- 27. Administration Building ATC & Sequence of Operations
- 28. HVAC Schedules

## <u>Plumbing</u>

- 29. Administration Building Plumbing Sanitary Plan
- 30. Administration Building Plumbing Water Plan
- 31. Administration Building Plumbing Sanitary Riser Diagram
- 32. Administration Building Plumbing Water Riser Diagram



## Fire Protection

- 33. Administration Building Admin Building Fire Alarm Floor Plan
- 34. Administration Building Admin Building Fire Protection Floor Plan
- 35. Fire Alarm Riser Diagram and Cause & Effect Matrix

## **Electrical**

- 36. Administration Building Power Enlarged Plan I
- 37. Administration Building Power Enlarged Plan II
- 38. Administration Building Power Enlarged Plan III
- 39. Administration Building Power Enlarged Plan IV
- 40. Administration Building Electrical Lighting Plan I
- 41. Administration Building Electrical Lighting Plan II
- 42. Administration Building Electrical Lighting Plan III
- 43. Administration Building Electrical Room Layout
- 44. Administration Building Electrical Grounding Plan

The civil work and geotechnical exploration at the new Administration Building were not anticipated. Also, an additional (deep) soil boring, perk test and laboratory analysis have been added.

The fee increase for these added services is summarized as follows:

Task	Fee Change	2
Task 1 – Project Management	\$	6,336
Task 2 – Well System Assessment and Mitigation	\$	0
Task 3 – Membrane Pilot Testing & Corrosion Control Stu	dy \$	0
Task 4 – Phase 1 Design Services	\$3	64,864
Task 5 – Preconstruction Services	<u>\$</u>	28,800
Tota	l: \$4	00,000

## **D. Limited Demolition Design**

At project inception, there were no plans to demolish any of the existing facilities. Following the increase in plant capacity (14 MGD to 22MGD), it was decided that demolition of the existing Dewatering Build would be necessary. This requires the development of demolition drawings and specifications defining the construction to be completed. In addition, a specialized Hazard Assessment of the existing Dewatering Building is required to identify and quantify the presence of lead paint, asbestos or any other hazardous material requiring



specialized mitigation. The following is the draft drawing list for demolition of the Dewatering Building:

- 1. Site Demolition Plan I
- 2. Demolition Dewatering Building
- 3. Electrical Demolition Plan
- 4. Demolition Notes and Legend

The fee increase for these added services is summarized as follows:

Task	<u>Fee Chan</u>	<u>ge</u>
Task 1 – Project Management	\$	0
Task 2 – Well System Assessment and Mitigation	\$	0
Task 3 – Membrane Pilot Testing & Corrosion Control Study	\$	0
Task 4 – Phase 1 Design Services	\$ 29	,076
Task 5 – Preconstruction Services	<u>\$</u>	0
Total:	\$ 29	,076

## E. Additional Permitting

*Subtask 4.4 – Permitting and Approvals Plan* defines the Design-Builder's scope of services regarding permits necessary to proceed with the construction of the work. This scope is based on the list of permits provided in the Design-Builder's proposal. Although, scope and fee were not included for services to update the existing Water Use Permit (WUP) for installation of new production wells or for new/modified Underground Injection Control (UIC) permits to construct deep injection wells.

For the six (6) new surficial production wells, it was understood that the existing WUP included capacity and locations for these wells, and that the WUP would not require an update. The Design-Builder has only included scope for permitting by Florida Department of Health to construct and operate the new wells. The City has now requested the Design-Builder to:

- 1. Document and submit a permit application for an increase in the allotted capacity for losses due to new WTP membrane technology.
- 2. Perform analysis and models to document how to allocated the requested volume increase and where to locate the new wells within any of the 5 existing wellfields. This includes groundwater modeling to document the primary objective of increasing the current allocation for the Morikami well field. All of this work requires extensive groundwater modeling.



3. Preparation of documentation and an application to renew the WUP for another 20 year duration.

For the deep injection well, the Design-Builder did not include scope for a UIC permit application because the City obtained the permit prior to finalizing the Design-Build Agreement. Subtask 5.6.1 of the Project Scope states "Since permitting for the work has been completed by the OWNER, construction of this well can commence during the Phase 1 portion of the Project.". The City has now requested the Design-Builder to:

- 1. Submit a major modification to the UIC permit for the changes in the deep injection well design and
- 2. Submit a new UIC application for a second and backup deep injection well.

The fee increase for these added services is summarized as follows:

Task	<u>Fee (</u>	<u>Change</u>
Task 1 – Project Management	\$	6,336
Task 2 – Well System Assessment and Mitigation	\$	0
Task 3 – Membrane Pilot Testing & Corrosion Control Study	\$	0
Task 4 – Phase 1 Design Services	\$1	29,668
Task 5 – Preconstruction Services	<u>\$</u>	0
Total:	\$1	.36,004

## F. Deep Injection Well Assessment and Design Modifications

Exhibit A – Owners Project Criteria – Project Scope, identifies that the Design-Builder's scope of work is "Construction of a deep injection well for concentrate disposal". The work includes installation of one injection well that was designed by others (to 60% design), has been permitted and is ready to bid for contractor pricing, GMP development and construction as an early work package. The UIC permit application contains design details sufficient for GMP pricing and the Engineer of Record for the permit and design was anticipated to remain with the previous consultant.

The deep injection well scope has since changed and the permitting, design and construction delivery, differ from the Design-Build Agreement. The City has removed well construction by the Design-Builder and now wants the new well publicly bid through the City's procurement department, along with several other changes. This requires the Design-Builder to:

 Provide procurement specifications for public bidding of the deep injection well in accordance with the City's requirements. The Design-Builder will now tailor Division 0 documents and develop Division 1 specification sections, which define the legal terms and conditions for procurement, award and execution of the work.



- 2. Add contract conditions necessary for projects receiving Florida State Revolving Loan (grant) Funding.
- 3. Add a second, backup deep injection well to the design package. This includes the assessment of DIW backup options and then the addition of the second well to the design package.

Not included in this change order are services during bidding and Engineering Services During Construction for the two new deep injection wells.

The fee increase for these added services is summarized as follows:

Task	<u>Fee</u>	<u>Change</u>
Task 1 – Project Management	\$	3,848
Task 2 – Well System Assessment and Mitigation	\$	0
Task 3 – Membrane Pilot Testing & Corrosion Control Study	\$	0
Task 4 – Phase 1 Design Services	\$ 3	32,980
Task 5 – Preconstruction Services	<u>\$</u>	0
Total:	\$ 3	36,828

## G. Credit for Discontinued Services

Subtask 3.1.6 – Condition Assessment and Procedures for Piloting FAS Well and Subtask 4.5 (3) Assessment of Existing Floridan ASR Aquifer System Well were partially completed because initial investigations revealed that it's not feasible to repurpose the ASR well to draw raw water from the Floridan or Biscayne aquifers. It was decided during the June 18, 2024 progress meeting to discontinue design services (investigations and assessments) for this subtask. The work completed to date and reasons for abandoning the effort are all defined in Technical Memorandum Number 4 and 7.

The fee reduction for these discontinued services are:

<u>Task</u>	<u>Fee Chai</u>	<u>nge</u>	
Task 1 – Project Management	\$	3,68	35
Task 2 – Well System Assessment and Mitigation	\$		0
Task 3 – Membrane Pilot Testing & Corrosion Control Study	<i>r</i> \$	25,52	28
Task 4 – Phase 1 Design Services	\$	15,51	16
Task 5 – Preconstruction Services	<u>\$</u>		0
Total (	Credit: (\$	5 44,7	29)



### Summary of Fee Adjustments by Task

The following summarizes the net fee changes by tasks.

Task	<u>Fe</u>	<u>e Change</u>
Task 1 – Project Management	\$	18,939
Task 2 – Well System Assessment and Mitigation	\$	0
Task 3 – Membrane Pilot Testing & Corrosion Control Study	\$	3,312
Task 4 – Phase 1 Design Services	\$	728,089
Task 5 – Preconstruction Services	<u>\$</u>	49,660
Total for Change Order No.1:	\$	800,000

In addition to the scope and fee modifications, we also request a schedule extension of 56 days (8 weeks) for design, starting with the 30% design deliverable milestone and through the 100% design completion. The proposed revisions to the contract schedule are enclosed along with the details for the fee increases requested herein.

Please consider the project scope and fee changes as defined in Change Order Number 1. If you have any questions, or require additional information, please do not hesitate to contact me.

Sincerely,

Gregory A. Roy, PE Vice President and Senior Project Manager CDM Smith Inc.

Enclosure

CC: Hassan Hadjimiry Juan Guevarez Monica Pazahanick Suzanne Mechler Ryan Hagaman Tommy Floyd

### PHASE 1 PROJECT SCHEDULE

## **CONTRACT MILESTONES**

No.	Milestones	Task	Days from NTP Contract/Revised	Contract Date	Revised Date
1	Pilot Testing Report	3.1.5	313/469	2/3/2025	8/1/2025
2	10 Percent Design Documents	4.5	110/110	7/15/2024	7/15/2024
3	Basis of Design Report (30 Percent Design)	4.6	201/212	10/14/2024	10/25/2024
4	Issued for Bid Documents (60 Percent Design)	4.7	327/366	2/17/2025	3/28/2025
5	90 Percent Design Documents	4.8	411/458	5/12/2025	6/28/2025
6	Issued for Construction Documents (100 Percent Design)	4.9	460/513	6/30/2025	8/22/2025
7	GMP Pricing Notebook for City Review	5.7	418/474	5/19/2025	7/14/2025
8	City Approval of GMP	5.7	460/516	6/30/2025	8/25/2025

Notes:

- 1. Notice to Proceed (NTP) assumed to occur on March 27, 2024.
- 2. Schedule dependent on City reviews within 2-weeks (calendar days).

				Senior				Senior											
CL		Design Build		Technical				Technical											
G	Position/Title	Project	Associate/Prin	Advisor/Specia			Senior Design	Advisor/Specia	Senior	Senior Design	Senior		Principal	Principal					
		Manager	cinal	list	Engineer IV	Designer	Engineer	list	Designer	Engineer	Designer	Designer	Architect	Architect	Architect	Architect	Architect	Designer	Designer
- 1	Billing Bate	¢ 240.00	¢ 292.00	¢ 261.00	¢ 192.00	¢ 126.00	¢ 210.00	¢ 261.00	¢ 157.00	¢ 210.00	¢ 157.00	¢ 126.00	¢ 220.00	¢ 220.00	¢ 125.00	¢ 125.00	¢ 125.00	¢ 126.00	¢ 126.00
	bining Rate	\$ 540.00	\$ 282.00	\$ 201.00	\$ 165.00	\$ 156.00	\$ 219.00	\$ 201.00	Ş 157.00	\$ 219.00	ş 157.00	\$ 156.00	\$ 250.00	\$ 250.00	\$ 125.00	\$ 125.00	\$ 125.00	\$ 150.00	\$ 156.00
Task A	water Plant Capacity Increase																		
	Project and Quality Management	8	12																
	Architectural												8	20	16	16			24
	Structural																		
	Electrical																		
	HVAC and Fire																		
	Automation																		
	Process Mechanical		8																
	Plumbing		-																
	Civil							12	16	12	8	8							
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	Asset MGI																		
	Pre-Construction and OPCC																		
	Task A Subtotal	8	20	0	0	0	0	12	16	12	8	8	8	20	16	16	0	0	24
Task B	Changes to Corrosion Control Study																		
	Task 3.2 - OCCT Field Work																		
	1																		
	Task B Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Task C	Addition of Administration Building	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-		-
Task C	Addition of Administration Building	12	0																
	Project and Quality Management	12	8												100	60	<u></u>	10	400
	Architectural												60	80	120	60	60	40	100
	Structural																		
	Electrical																		
	HVAC and Fire																		
	Automation																		
	Plumbing																		
	Geotechnical																		
	Specification																		
	BIM and Drawing Production																		
	Civil						20	16	16	16	0	0							
							20	10	10	10	٥	0							
	Asset MGI																		
	Pre-Construction and OPCC																		
	lask C Subtotal	12	8	0	0	0	20	16	16	16	8	8	60	80	120	60	60	40	100
Task D	Limited Demolition Design																		
	Civil			4	12	16					8	8							
	Electrical																		
	Structural																		
	Hazard Assessment																		
	Task D Subtotal	0	0	4	12	16	0	0	0	0	8	8	0	0	0	0	0	0	0
Tack F	Additional Permitting		-				-	-	-	-	-	-		-	-	-	-	-	
TASKL	Additional Permitting	12	0																
	Project and Quality Management	12	8		40														
	Deep well oic permits	16		24	40	80		8											
	Raw Well CUP Permits	16		32				24											
	J																		
	Task E Subtotal	44	8	56	40	80	0	32	0	0	0	0	0	0	0	0	0	0	0
	Deep Injection Well Assessment and Design																		
Task F	Modifications																		
	Project and Quality Management	8	4																
	DIW Assessment (existing design & backup)			8	16	16									i i				
	Design 2 Wells DBB SRE Sners			24	24	32													
	besign 2 mens, bbb, bitt, spees			27	27	52													
	Tack E Subtotal	0	4	22	40	49	0	0	0	0	0	0	0	0	0	0	0	0	0
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	Labor Cubin 11																		
	Labor Subtotal Hours	72	40	92	92	144	20	60	32	28	24	24	68	100	136	76	60	40	124
	Labor Subtotal Costs	\$ 24,480.00	\$ 11,280.00	\$ 24,012.00	\$ 16,836.00	\$ 19,584.00	\$ 4,380.00	\$ 15,660.00	\$ 5,024.00	\$ 6,132.00	\$ 3,768.00	\$ 3,264.00	\$ 15,640.00	\$ 23,000.00	\$ 17,000.00	\$ 9,500.00	\$ 7,500.00	\$ 5,440.00	\$ 16,864.00

			Senior					Senior									Senior		
CL			Technical					Technical			Technical					Technical	Technical		
G	Position/Title	Senior Design	Advisor/Specia		Associate/Prin			Advisor/Specia			Advisor/Specia			Senior	Senior	Advisor/Specia	Advisor/Specia		
		Enginoor	lict	Engineer II	cinal	Engineer IV	Dosignor	lict	Engineer	Engineer	lict	Engineer III	Engineer III	Dosignor	Dosignor	lict	lict	Engineer III	Engineer
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		\$ 219.00	\$ 201.00	\$ 151.00	\$ 282.00	\$ 185.00	\$ 150.00	\$ 201.00	ş 115.00	\$ 115.00	ş 255.00	\$ 102.00	\$ 162.00	\$ 157.00	\$ 157.00	ş 255.00	\$ 201.00	\$ 162.00	\$ 115.00
Task A	Water Plant Capacity Increase																		
	Project and Quality Management																		
	Architectural																		
	Structural	16	12		12	8	8												
	Electrical																		
	HVAC and Fire																8	8	12
	Automation																		
	Process Mechanical										8	10	10		12	12			
	Plumbing										0	10	10			12	8		
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	Asset MG1																		
	Pre-Construction and OPCC																		
	Task A Subtotal	16	12	0	12	8	8	0	0	0	8	10	10	0	12	12	16	8	12
Task B	Changes to Corrosion Control Study																		
	Task 3.2 - OCCT Field Work							40	80	80									
	Task B Subtotal	0	0	0	0	0	0	40	80	80	0	0	0	0	0	0	0	0	0
Task C	Addition of Administration Building	-	-	-	-	-	-	-			-		-	-	-	-	-		-
TUSKC	Project and Quality Management																		
	Project and Quality Management																		
	Architectural																		
	Structural	60	40	80	60	44	40												
	Electrical																		
	HVAC and Fire																40	100	120
	Automation																		
	Plumbing																40		
	Geotechnical																		
	Specification																		
	BIM and Drawing Production											1			16				
	Civil																		
	Asset MGT											1							
	Bro Construction and OBCC																		
	Tack C Subtotal	60	40		60		40	•	•						16			100	120
		60	40	80	60	44	40	U	U	U	U	U	U	U	16	U	80	100	120
Task D	Limited Demolition Design																		
	Civil																		
	Electrical																		
	Structural	4		16	12														
	Hazard Assessment																		
	Task D Subtotal	4	0	16	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Task E	Additional Permitting																		
	Project and Quality Management																		
	Deen Well LIIC nermits											1							
	Paw Woll CLIP Pormits																		
	Task E Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	U	0	0	0	0
	Deep Injection Well Assessment and Design			1		1											1		
Task F	Modifications											Į							
	Project and Quality Management																		
	DIW Assessment (existing design & backup)																		
	Design 2 Wells, DBB, SRF, Specs																		
	•																		
	Task F Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Labor Subtotal Hours	80	52	96	84	52	49	40	80	80	8	10	10	0	28	12	96	102	127
<u> </u>	Labor Subtotal Hours	¢ 17 5 30 00	5 12 572 00	5 12 576 00	¢ 22 600 00	5 0 F16 00	+0 ¢ ¢ € 5000	÷ 10 440 00	¢ 0.200.00	\$ 0,200,00	6 1 000 00	\$ 1 630 00	\$ 1,630,000	ć	¢ 4 206 00	£ 2 020 00	\$ 25 056 00	\$ 17 ADC 00	£ 1E 100 00
		÷ 17,520.00	\$ 13,372.00	\$ 12,570.00	÷ 23,000.00	à 3'2TO'OO	9 0,520.00	÷ 10,440.00	\$ 9,200.00	\$ 9,200.00	э 1,000.00	\$ 1,020.00	⇒ 1,020.00		÷ 4,590.00	⇒ 2,020.00	÷ 25,050.00	⇒ 11,430.00	\$ 15,100.00

CDN				Taskaisal	Taskaisal		Technical						Senior						
	Position/Title			Technical	Technical		Technical	Associate (Driv					Technical	Contra Douter	Gentler				Destantional
<b>5m</b>		Cardia and III	En einen u	Advisor/Specia	Advisor/Specia	En einen ei	Advisor/Specia	Associate/Prin	Designed	Facility and	Facility and U	Fa sia sa U	Advisor/Specia	Senior Design	Senior	Designed	Fasiana	Facility and U	Protessional
	Pilling Pato	Engineer III	Engineer II	11St	list	Engineer I	list	cipai	Designer	Engineer I	Engineer II	Engineer II	list	Engineer	Designer	besigner	Engineer I	Engineer II	Geologist
Took A Mate	or Plant Canacity Increase	\$ 102.00	\$ 151.00	\$ 255.00	\$ 255.00	\$ 115.00	\$ 255.00	\$ 282.00	\$ 150.00	\$ 115.00	\$ 151.00	\$ 151.00	\$ 201.00	\$ 219.00	\$ 157.00	\$ 150.00	\$ 115.00	\$ 151.00	\$ 230.00
Task A Wall	er Plant Capacity Increase																		
Arch	sitectural																		
Strug	stural																		
Floct	trical												c	10	20	40	40	20	
	C and Fire			0	0	10							5	10	20	40	40	20	
Auto	mation			0	0	10	170		220	12	26	80							
Proc	ess Mechanical						1/0		220	12	20	00							
Plum	nhing	12	12																
Civil																			
Asse	t MGT																		
Pre-0	Construction and OPCC																		
	Task A Subtotal	12	12	8	8	10	170	0	220	12	26	80	5	10	20	40	40	20	0
Task B Char	nges to Corrosion Control Study			-	-	-		-	-		-		-			-	-		-
Task	3.2 - OCCT Field Work																		
		l	l	l				İ								İ	İ		1
	Task B Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Task C Addi	ition of Administration Buiding																		
Proje	ect and Quality Management																		
Arch	itectural																		
Struc	ctural																		
Elect	trical												24	60	80	60	60	80	
HVA	C and Fire			16	60	20													
Auto	omation						16	10	24										
Plum	nbing	120	180																
Geot	technical																		
Spec	cification																		
BIM	and Drawing Production																		
Civil																			
Asse	E MGI																		
FIER	Task C Subtotal	120	190	16	60	20	16	10	24	0	0	0	24	60	80	60	60	80	0
Tack D. Limit	ted Domelition Design	120	180	10	00	20	10	10	24	0	Ū	U	24	00	80	00	00	80	0
Civil	ted Demontion Design																		
Elect	trical												8	16	8				
Struc	ctural												-						
Haza	ard Assessment																		
	Task D Subtotal	0	0	0	0	0	0	0	0	0	0	0	8	16	8	0	0	0	0
Task E Addi	itional Permitting																		
Proje	ect and Quality Management																		
Deep	p Well UIC permits																		24
Raw	Well CUP Permits																		30
	Task E Subtotal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54
Deep	p Injection Well Assessment and Design																		
Task F Mod	lifications																		
Proje	ect and Quality Management																		
DIW	Assessment (existing design & backup)																		6
Desi	gn 2 Wells, DBB, SRF, Specs																		4
$\vdash$	Tack F Subtatal	0			0				0	0								0	10
	lask F Subtotal	0	0	Ű	U	Ű	0	U	U	U	Ű	0	U	0	0	0	0	U	10
	Labor Subtotal Hours	122	107	24	69	20	196	10	244	12	26	80	27	96	109	100	100	100	64
$\vdash$	Labor Subtotal Costs	\$ 21 294 00	152 \$ 25 152 00	\$ 5.640.00	\$ 15 980 00	\$ 3,450,00	\$ 43 710 00	\$ 2,820,00	\$ 33 184 00	\$ 1380.00	\$ 3,406,00	\$ 10,480,00	\$ 9,657,00	\$ 18,834,00	\$ 16 956 00	\$ 13,600,00	\$ 11 500 00	\$ 13,100,00	\$ 14 720 00

CI											Senior		Total				
	Position/Title			1 1	1	. ·					Technical		Labor	Total Labor	Hazardous		
2	mith	Professional	Professional			Senior		Lead	Preconstructio	Administrative	Advisor/Specia	Senior	(hrs)	(\$)	Assessment	Ardaman	MicCafferty Brinsen
	Pilling Pate	Geologist	Geologist	Geologist	Geologist	Designer	vice President	Estimator	n Manager	Assistant	list	Designer		/	(demo)	(geot drill)	(process design)
Tool: A	Billing Rate	\$ 230.00	\$ 230.00	\$ 115.00	\$ 115.00	\$ 157.00	\$ 319.00	\$ 230.00	\$ 260.00	\$ 125.00	\$ 261.00	\$ 157.00		ļ/	<b> </b>	───	
Task A	Water Plant Capacity Increase			<b>└────</b> ┤	└──── <sup>′</sup>	<u> </u>	'						20	¢ (101.00		<u> </u>	
	Project and Quality Management			┟────┦	<u> </u> '	<u> </u>							20	\$ 6,104.00		<u> </u>	-
	Structural			┟────┦	<u> </u> '	<u> </u>							64 E.C	\$ 13,704.00		<u> </u>	-
	Electrical			┟────┦	<u> </u> '		<u> </u> '						125	\$ 10,372.00	ł		
				┟────┦	<u> </u> '		<u> </u> '						133	\$ 9,233.00	ł		
-	Automation			┟────┦	<u> </u> '		<u> </u> '						508	\$ 85,136.00	ł		
	Process Machanical				<sup> </sup>	+	+						60	\$ 12,090,00		+	
	Plumbing				<sup> </sup>	+	+						32	\$ 5,604,00		+	\$9.976.00
	Civil												56	\$ 10,616,00			\$3,570.00
	Asset MGT										20	20	40	\$ 8360.00			
	Pre-Construction and OPCC							50	36		20	20	86	\$ 20,860,00			
								50	50				00	\$ 20,000.00			
	Task A Subtotal	0	0	0	0	0	0	50	36	0	20	20	1131	\$ 204.005.00	\$0.00		\$9.976.00
Task B	Changes to Corrosion Control Study						<u> </u>	50	50			20	1101	\$ 201,000100	<i><b>Q</b></i> 0.00		\$5,570,00
TUSKD	Task 3.2 - OCCT Field Work						<u> </u>						200	\$ 28.840.00			
l		1	1	l – – I	'	1	1	1	1	1	1	1			1	1	1
	Task B Subtotal	0	0	0	0	0	0	0	0	0	0	0	200	\$ 28,840.00	\$0.00		\$0.00
Task C	Addition of Administration Buiding		1				1							(			
	Project and Quality Management					1							20	\$ 6,336.00		1	
	Architectural						1						520	\$ 81,240.00			
	Structural					1							324	\$ 64,472.00		1	
	Electrical						1						364	\$ 57,504.00			
	HVAC and Fire						1						356	\$ 60,600.00			
	Automation												50	\$ 9,844.00			
	Plumbing												340	\$ 53,460.00			
	Geotechnical					8	8						16	\$ 3,808.00		\$2,648.00	
	Specification			P		1				28			28	\$ 3,500.00			
	BIM and Drawing Production												16	\$ 2,512.00			
	Civil												84	\$ 16,916.00			
	Asset MGT										20	20	40	\$ 8,360.00			
	Pre-Construction and OPCC							80	40				120	\$ 28,800.00			
	Task C Subtotal	0	0	0	0	8	8	80	40	28	20	20	2278	\$ 397,352.00	\$0.00	\$2,648.00	\$0.00
Task D	Limited Demolition Design																
	Civil				'		'						48	\$ 7,760.00			
	Electrical			ļ!	ļ'	<u> </u>	'						32	\$ 6,848.00	L	<u> </u>	
	Structural			ļ!	ļ'	<u> </u>	'						32	\$ 6,356.00	L	<u> </u>	
L	Hazard Assessment		───	µ′	<b> </b>	<b> </b>	<b> </b> '	L					0	Ş -	\$8,000.00	───	───
L	Test Do Live		<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>						A	40.000.07	───	40.00
	Task D Subtotal	U	U	U	U	<u> </u>	U	U	U	U	U	U	112	\$ 21,076.00	\$8,000.00	───	\$0.00
lask E	Additional Permitting		l	<b>└────</b> ┘	<b> </b> '	───	<b> </b> '	ł						¢	ł	───	l
┣───	Project and Quality Management	16		<u> </u>		───	<b> </b> '	ł		40			20	\$ 6,336.00	┣────	───	ł
┣───	Deep well OIC permits	10	24	120	00	───	<b> </b> '			40			392	> 05,512.00	<u> </u>	┨─────	
<u> </u>	kaw well COP Permits	16	24	120	80	───	<b> </b> '			40			382	\$ 64,156.00	<b> </b>	<u> </u>	
<b>├</b> ──	Task F Subtotal	37	/18	180	140			0	0	80	0	0	794	\$ 136,004,00	\$0.00	╂─────	\$0.00
<u> </u>	Deen Injection Well Assessment and Dorign	32	40	100	140			0	0	00	0	0	7.54	÷ 130,004.00		┼────	ŞU.UU
Task F	Modifications			1 !	1		1	1									
. usk r	Project and Quality Management		1		'	1	<u> </u> '						12	\$ 3,848.00	1	1	1
	DIW Assessment (existing design & backup)		2		16	<u> </u>	<u> </u>						64	\$ 10.872.00	1	<u> </u>	
	Design 2 Wells, DBB, SRF, Specs		4		24	<u> </u>	<u> </u>			20			132	\$ 22,108.00	<u> </u>	<u> </u>	
			· · ·		<u> </u>	<u> </u>	<u> </u>			20			102	+ 22,200.00	<u> </u>	<u> </u>	
<u> </u>	Task F Subtotal	0	6	0	40	0	0	0	0	20	0	0	208	\$ 36,828.00	\$0.00	1	\$0.00
	1	-	1	I			1		-	-	-				\$8,000.00	\$2,648.00	\$9,976.00
	Labor Subtotal Hours	32	54	180	180	8	8	130	76	128	40	40	4723	\$ 824,105.00		1	
	Labor Subtotal Costs	\$ 7,360.00	\$ 12,420.00	\$ 20,700.00	\$ 20,700.00	\$ 1,256.00	\$ 2,552.00	\$ 29,900.00	\$ 19,760.00	\$ 16,000.00	\$ 10,440.00	\$ 6,280.00			Total Fee:		\$844,729