



MEMORANDUM

Date: October 17, 2011
To: City of Tempe
Mr. Philip Brown, P.E.
From: Jacobs Engineering Group Inc
Dusan Stanistic, P.E.
Subject: Contract Amendment No. 4 *(pub)*
Copies To: DW100300.15.03

Message:

Jacobs Engineering Group (Jacobs) has prepared this Contract Amendment No. 4 for professional engineering services beyond the current contracted scope of work, including all addendums, for Project No. 3201091, Johnny G. Martinez (JGM) WTP Water Quality Upgrades Disinfection By-Product Control. The additional services were requested by the City and include the following major tasks:

Task 3100 - Construction Administration

Task 3110 – Weekly Site Visits

In addition to attending weekly construction meetings, Jacobs will regularly visit the construction site to gain better understanding of construction progress as required to complete engineer's certificate of Completion for MCESD at the end of the project. This effort assumes up to 72 site visits.

Task 3120 – Responses to Additional RFIs

Jacobs will provide responses up to 15 additional Requests for Information (RFIs) and Engineering Clarifications (ECs). This effort is anticipated mostly during construction of groundwater treatment system (Phase 2).

Task 3130 – Additional MCEDS Permitting

Construction schedule and phasing at the JGM WTP will require additional interim Approval to Commence Operation (ATCO) from the Maricopa County Environmental Services Department (MCESD) for PAC system. Jacobs will prepare application and supporting documentation and submit it to the MCESD.

Jacobs will also prepare the Approval of Construction application to MCESD on behalf of the City for the groundwater treatment system (Phase 2). The application will include Certificate of Completion, Equipment/Piping Test Summary, Operations Manual, Record Documents and CMAR's Start-up Plan.

Task 3140 – Additional Submittal Reviews

Jacobs will receive through the City's CM and provide review comments for Shop Drawings, samples, test results, and other data that the CMAR is required to submit. Jacobs's review shall only be for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Such review or other action shall not extend to means, methods, sequences,

techniques or procedures of construction selected by CMAR, or to safety precautions and programs incident thereto.

Assumptions:

- In addition to 100 first-time submittals in the original contract scope of work, the level of effort associated with this task is based on up to 100 first-time Shop Drawing submittals and 5 Operations and Maintenance (O&M) Manuals and Lesson Plan submittals.
- 25 percent of the original submittals will require a re-submittal, or supplementary submittal.
- 5 percent of those re-submittals will require a third-time submittal.
- O&M manuals will be submitted in Adobe PDF, or other usable software format for development, or upgrade of existing Electronic Operations Manual content.

Jacobs kindly requests that the City authorize the not to exceed combined cost of \$66,148.00 for these changes, which will be billed based on the actual effort. Exhibit A provides details of the contract amendment changes by task in terms of hours and costs.

We trust that these additional tasks met the City's needs and look forward to working with you through these tasks. Please contact me at 602.650-4058, or at dusan.stanisic@Jacobs.com with any questions.

Sincerely,

Dusan Stanisic, P.E. | Manager of Projects | Jacobs Engineering Group, Inc.



CITY OF TEMPE WATER UTILITIES DEPARTMENT
Johnny G Martinez WTP Water Quality Upgrades DBP Control



EXHIBIT A - PROJECT FEES - AMMENDMENTS 1 to 4

Task No.	Description	Consultant Hours										Total Hours	Total Cost	
		PIC	PM	QA/QC	Proj Eng	Staff Eng.	EE4	EE2	CAD Design	CAD Draft	Cler			
BILLABLE RATES		\$ 199.00	\$ 179.00	\$ 170.00	\$ 134.00	\$ 114.00	\$ 152.00	\$ 114.00	\$ 134.00	\$ 87.00	\$ 77.00			
1000	WATER QUALITY UPGRADES													
1100	General Project Management	10	20		40							20	90	\$12,470
1200	Project Meetings													
1210	Kickoff Meeting	2	4		4	8						2	20	\$2,716
1220	Monthly Progress Meetings	12	20		30	30						6	98	\$13,870
1230	Design Review Workshops	20	24		40	40						8	132	\$18,812
1240	Focus Group Meetings	8	16		24	24						4	76	\$10,716
	Total Task 1200												326	\$46,114
1300	Preliminary (30%) Design													
1305	Background and Data Review		4	4	16	24							48	\$6,276
1310	Carbon Dioxide Storage and Feed System		8		32	16	4	8					68	\$9,084
1315	Sodium Hydroxide Storage and Feed System		8		32	16	4	8					68	\$9,084
1320	Static Mixer for Sludge Clarifier		4		16	8							28	\$3,772
1325	PAC Tank Liner Modifications		2		4	8							14	\$1,806
1330	Evaluate Sludge Clarifier Access and Sample Issues		8		24	16							48	\$6,472
1335	Oils Storage Area		4		24	16							44	\$5,756
1340	Roll-Off Containers Area		4		16	8							28	\$3,772
1345	Carbon Pumps Upgrades		8		24	16							48	\$6,472
1350	Pre-Sedimentation Basins Shaft Replacement		4		24	8							36	\$4,844
1355	South Sedimentation Basin Access		4		16	8							28	\$3,772
1360	North Sedimentation Basin Influent Channel Dewatering		4		16	8							28	\$3,772
1365	Filter Media Depth Evaluation		2		8	12							22	\$2,798
1370	Preparation of Preliminary Design Report	4	8	16	32	48	16	24	16	80	8		252	\$29,596
	Sub - NSB Structural												0	\$16,900
	Sub - Swan Architectural												0	\$3,450
1375	Geotechnical Investigation		4		8								12	\$1,788
	Sub - Acura Engineering Geotechnical Investigation												0	\$3,500
1380	Utility Locating Services		4		8								12	\$1,788
	Sub - Utility Locating Services												0	\$500
1385	Site Survey		4		8								12	\$1,788
	Sub - DEI Site Survey												0	\$6,000
	Total Task 1300												796	\$132,950
1400	Miscellaneous Upgrades Evaluation													
1410	North Reservoir Liner		4		24	16							44	\$5,756
1420	Raw Water Flume Assessment		6		24	16							48	\$6,472
1430	Alum Room Drainage		4		24	16							44	\$5,756
1440	Roll-Off Containers Area Drainage Evaluation	1	8		8	16	4			4			41	\$5,483
1450	Flocculation Mixing Evaluation	1	6		24								33	\$4,847
	Total Task 1400												210	\$28,314

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		PIC	PM	QA/QC	Proj Eng	Staff Eng.	EE4	EE2	CAD Design	CAD Draft	Cler		
BILLABLE RATES		\$ 199.00	\$ 179.00	\$ 170.00	\$ 134.00	\$ 114.00	\$ 152.00	\$ 114.00	\$ 134.00	\$ 87.00	\$ 77.00		
1500	Detailed Design												
1510	60% Design	4	24	16	64	80	24	40	32	120		404	\$48,444
1520	90% Design	4	24	16	64	72	24	40	32	80		356	\$44,052
1530	Regulatory Submittal	2	8	4	16	24	8	16	8	40	4	130	\$15,290
1540	100% Design	4	16	4	32	56	10	28	16	88	7	261	\$30,063
	Sub - NSB Structural											0	\$67,600
	Sub - Swan Architectural											0	\$8,050
	Total Task 1500											1,151	\$213,499
1600	Coordination with CMAR	2	16		32	16	8	16				90	\$12,414
1700	Permitting		8		16	24						48	\$6,312
1800	Ground Water Treatment Evaluation												
1810	Baseline Water Quality and Treatment Process Evaluation		8	8	24	32						72	\$9,656
1820	Performance Modeling and/or Bench-Scale Testing		8	8	24	32						72	\$9,656
1830	Ground Water Treatment Technical Memorandum	2	8	8	24	32						74	\$10,054
	Total Task 1800											218	\$29,366
1900	JGMWTP Empirical Model Customization	1	8		32	96						137	\$16,863
	TOTAL HOURS TASK 1000	77	328	64	878	842	102	180	104	412	59	3,066	
	TOTAL COST TASK 1000												\$498,302

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Task No.	Description	Consultant Hours										Total Hours	Total Cost
		PIC	PM	QA/QC	Proj Eng	Staff Eng.	EE4	EE2	CAD Design	CAD Draft	Cler		
BILLABLE RATES		\$ 199.00	\$ 179.00	\$ 170.00	\$ 134.00	\$ 114.00	\$ 152.00	\$ 114.00	\$ 134.00	\$ 87.00	\$ 77.00		
2000	GROUND WATER TREATMENT DESIGN												
2100	General Project Management	4	8		24						8	44	\$6,060
2200	Project Meetings												
2210	Monthly Progress Meetings	6	12		18	18					6	60	\$8,268
2210	Design Review Workshops	12	18		24	24					4	82	\$11,870
	Total Task 2200											142	\$20,138
2300	Preliminary (30%) Design												
2305	Ground Water Treatment System and Blending Design	3	30		56	92	8	16				205	\$26,999
2306	Filter Media Sampling Assistance	1	2		24	12						39	\$5,141
2315	North Reservoir Upgrades		8		24	32						64	\$8,296
2325	Alum Room Drainage Design		8		16	24						48	\$6,312
2330	Preparation of Preliminary Design Report	4	16	4	20	32	8	16	20	80	8	208	\$23,964
	Sub - NSB Structural											0	\$13,650
	Total Task 2300											564	\$84,362
2400	Detailed Design												
2410	60% Design	4	20	4	24	64	16	24	24	96	8	284	\$32,920
2420	90% Design	4	20	4	40	60	8	20	24	64	8	252	\$30,152
2430	Regulatory Submittal	2	8	4	16	24	8	16	8	32	4	122	\$14,594
2440	100% Design	2	4	4	8	16	4	8	4	24	4	78	\$9,142
	Sub - NSB Structural											0	\$28,980
	Total Task 2400											736	\$115,788
2500	Coordination with CMAR	2	16		32	16	8	16				90	\$12,414
2600	Permitting		8		32	24						64	\$8,456
	TOTAL HOURS TASK 2000	44	178	20	358	438	60	118	80	296	50	1,640	
	TOTAL TASK 2000 COST												\$247,218
TOTAL TASKS 1000 THROUGH 2000		121	506	104	1,236	1,280	162	296	184	706	109	4,706	\$745,520

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Task No.	Description	Consultant Hours										Total Hours	Total Cost
		PIC	PM	QA/QC	Proj Eng	Staff Eng.	EE4	EE2	CAD Design	CAD Draft	Cler		
BILLABLE RATES		\$ 199.00	\$ 179.00	\$ 170.00	\$ 134.00	\$ 114.00	\$ 152.00	\$ 114.00	\$ 134.00	\$ 87.00	\$ 77.00		
3000	CONSTRUCTION & POST-CONSTRUCTION SERVICES (Allowance)												
3100	Construction Administration	11	86		456	204	112	100		4	36	1,009	\$133,487
	Sub - NSB Structural Construction Admin											0	\$65,000
3200	Record Drawings		24		40	80	20	40	40	80		324	\$38,696
3300	Application for Approval of Construction from MCESD	1	6		24	32				16	12	91	\$10,453
3400	Systems Operations Manual		16		40	80	16	32	20	40	16	260	\$30,816
3500	System Training		16		32	40		8				96	\$12,624
3600	Commissioning		16		60	40						116	\$15,464
3700	Warranty Period Services		8		48		48					104	\$15,160
	TOTAL HOURS	12	172	0	700	476	196	180	60	140	64	2,000	
TOTAL TASK 3000 COST												\$321,700	
TOTAL TASKS 1000 THROUGH 3000		133	678	104	1,936	1,756	358	476	244	848	173	6,706	\$1,067,220
OTHER DIRECT COSTS													
1	Reproduction and Printing												\$2,750
2	Lab Work												\$2,000
3	Permitting Fees												\$7,000
4	Potholing												\$3,000
5	Cost Engineering												\$27,870
6	Courier Services												\$250
TOTAL OTHER DIRECT COSTS		0	0	0	0	0	0	0	0	0	0	0	\$42,870
ALLOWANCES													
1													\$0
GRAND TOTAL		133	678	104	1,936	1,756	358	476	244	848	173	6,706	\$1,110,090

Total Lump Sum: \$745,520
Total Time & Material (NTE): \$321,700
Total Direct Costs: \$42,870

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CITY OF TEMPE WATER UTILITIES DEPARTMENT
Johnny G Martinez WTP Water Quality Upgrades DBP Control
Project No. 3201091



EXHIBIT A - AMMENDMENT 4 - PROJECT FEES

Task No.	Description	Consultant Hours										Total Hours	Total Cost
		PIC	PM	QA/QC	Proj Eng	Staff Eng.	EE4	EE2	CAD Design	CAD Draft	Cler		
BILLABLE RATES		\$ 199.00	\$ 179.00	\$ 170.00	\$ 134.00	\$ 114.00	\$ 152.00	\$ 114.00	\$ 134.00	\$ 87.00	\$ 77.00		
3100	Construction Administration												
3110	Weekly Site Visits	1	4		48		24					77	\$10,995
3120	RFI Responses	1	2		8	24	8				4	47	\$5,929
3130	Additional MCESD Permitting	1	2		8	16					16	43	\$4,845
3140	Additional Submittal Reviews	1	8		200		40	40			4	293	\$39,379
	Total Additional Task 3100	4	16	0	264	40	72	40	0	20	4	460	\$61,148
TOTAL HOURS ALL TASKS		4	16	0	264	40	72	40	0	20	4	460	
TOTAL COST ADDITIONAL TASKS												\$61,148	
OTHER DIRECT COSTS													
1	MCESD Approval to Construct Fee for Phase 2												\$4,000
2	Reproduction												\$1,000
TOTAL OTHER DIRECT COSTS												0	\$5,000
ALLOWANCES													
1													\$0
GRAND TOTAL												4	\$66,148

Total Time & Material (NTE): \$61,148
Total Direct Costs: \$5,000

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