CITY OF
WASILLA
• ALASKA •

Council Action:	
Approved: ☑	Denied: ☐
Date of Action:	5/13/19
Verified by:	

CITY COUNCIL ACTION MEMORANDUM

AM No. 19-17: Contract Extension to Stantec Consulting Services in the amount of $450,778 for the Wastewater Outfall Pilot Study Project.

Originator: Public Works Director
Date: May 1, 2019 Agenda of: May 13, 2019

Route to:	Department Head	Signature	Date
X	Public Works Director		5/2/19
X	Finance Director		5/3/19
X	Deputy Administrator		5/2/19
X	City Clerk		5/2/19

Reviewed by Mayor Bert L. Cottle: 5/3/2019

Fiscal Impact: ☒ yes **Funds Available**: ☒ yes $450,778
Account name/number: Sewer Treatment Plant-State/310-4359-435.45-29
Attachments: Stantec Proposal (10 pages)

Summary Statement: This contract extension is a continuation of engineering services awarded to Stantec Consulting Services through the City's Request for Proposal No. 0321-0-2014/AG. To date, Stantec has completed an environmental investigation of the 70-acre parcel the City purchased adjacent to the wastewater treatment plant that contains wetlands. The investigation shows the wetlands within the parcel have the potential to serve as the future outfall for the wastewater treatment plant. The wetland outfall piping has been installed and the pilot study is ready to proceed this summer.

This contract extension includes a significant amount of monthly water sampling and laboratory analysis through 2019 of the pilot study. This contract extension will be funded through a $2 million State of Alaska Legislative Grant the City received in FY2014.

Staff Recommendation: Adopt AM No.19-17.

Stantec 725 East Fireweed Lane Suite 200, Anchorage AK 99503-2245

April 15, 2019
File: 204700415

Attention: Archie Giddings
City of Wasilla
290 East Herning Avenue
Wasilla, AK 99654-7091

Reference: Wasilla Wastewater Outfall
Subject: Request for Amendment 4 - Pilot Study Continuation

Dear Mr. Giddings:

The original scope for the Wasilla Wastewater Outfall project developed alternatives for disposal of treated wastewater effluent in the 70-acre parcel of wetlands adjacent the wastewater treatment plant (WWTP). To date, Stantec has completed the geotechnical and environmental investigation of the property, developed the feasibility study, performed detailed groundwater and effluent treatment modeling, and conducted agency scoping and permitting coordination. The recommended alternative consists of an effluent discharge to the wetlands. The discharge pipe was constructed in 2018, and the intent is to be begin effluent discharge in May or June of this year (the "pilot study").

Stantec collected approximately 12 months of background data in 2018. Previously approved funding has been sufficient to continue background sampling into the first quarter of 2019. Stantec is requesting a contract amendment to allow for continuation of the pilot study through the end 2019.

This amendment adds the following scope of work to the Stantec contract:

Task 1 – 2019 Wetlands Discharge Pilot Study

This task includes field, laboratory, and reporting efforts to monitor the effluent discharge and water quality within the project limits during the pilot study discharge. Monitoring for the pilot study will be implemented based on the May 18, 2017, discussions with the ADEC. Additionally, the monitoring will address concerns raised by neighboring property owners during the June 2018 public involvement efforts.

Continuation of Monitoring

Background (pre-effluent disposal) data collection has been ongoing and will continue with monthly surface water and quarterly groundwater and vegetation monitoring through approximately June 2019. At that time, effluent application will begin, along with daily inspections and the weekly surface sampling (see below) requested by the public.

Reference: Wasilla Wastewater Outfall
Subject: Request for Amendment 4 - Pilot Study

The budget for this task includes sampling from April 2019 to December 2019. Subsurface water (i.e. wells), and vegetation will be sampled quarterly (June, September, December), 3 events total. Surface waters will be sampled monthly, in the warmer months – April to October. Sampling in the winter will be limited to sites with liquid water and has been estimated at about half the typical samples based on last winter. Random duplicates (roughly 1 every 10 tests) are built into the testing quantities for quality control purposes.

Additional Discharge Monitoring

Increased observation and sampling frequency is recommended for the first several weeks of the pilot study discharge. To track the speed at which the effluent travels through the wetland, fecal coliform and nitrate tests will be collected in a small grid near the effluent discharge during the 6-week startup. Daily sampling will occur during the first week (5 days) and then weekly sampling for an additional 5 weeks. The grid size will be determined by the field staff based on water surface and flow observations, and include 10 sample locations.

In addition to the small grid testing of fecal coliform and nitrate, surface and subsurface water sampling of the northern half of the wetland (18 sites, 10 surface and 8 subsurface) will occur weekly for the first 6 weeks of discharge. The typical suite of tests will be performed for these additional samples. This sampling is in addition to the regular monthly schedule. A regular monthly sampling event will take place during this period on all normal sites, so that only 5 additional events are required in the northern half of the wetland.

The monitoring includes DNA specific sampling capable of differentiating human fecal bacterial from other mammal fecal matter. This upgraded fecal coliform testing will allow us to show the spread of wastewater effluent bacteria (expected to be limited), versus the animal fecal matter occurring throughout the site. The DNA testing is proposed to be included both immediately prior to and following effluent discharge. Background sampling includes 8 sites at the point of compliance for two events. After discharge, four discretionary sites will be sampled every month.

Once the pilot study is operating at planned discharge and flow patterns are established, Stantec will perform a dye tracer study to examine the spread of the effluent and flow paths within the wetlands. The tracer study will help to determine the effective treatment area, and if there is any short circuiting to be corrected. The study will use a biodegradable potable water fluorescent dye. Dye maybe visible near the discharge, but will not be obvious throughout the wetland. Instead, the dilute (parts per million range) dye will be detected with a handheld fluorometer, not visually.

Reporting for the pilot study will be done with each sampling event. Comparison tables, graphs or graphics will be updated at least quarterly. At the end of the pilot study, Stantec will provide a summary report with conclusions on the treatment potential of the wetland site and recommendations for continuing, modifying, or concluding effluent application.

Reference: Wasilla Wastewater Outfall
Subject: Request for Amendment 4 - Pilot Study

As of March 2019, there is approximately $89,000 remaining in the currently authorized pilot study sampling budget (Amendment #2). This amount will be rolled over to the 2019 proposed budget as reflected in the fee estimate.

Additional WWTP Effluent Parameters – to be Collected by WWTP Operators During Pilot Study

The WWTP operators regularly collect compliance and operational data. Once effluent application starts, data will need to be collected on a more frequent basis. Stantec will need the WWTP operators to collect the data shown in the following table in addition to what they already collect starting the week before discharge is planned and then for 6 weeks before reverting to normal sampling interval:

Description	Typical Frequency	Pilot Study Frequency Starting Week Prior to Wetland Discharge
Flow to Beds	Daily	Daily
Flow to Wetlands	--	Daily when flow to wetland starts
pH	Mondays	Daily
Dissolved oxygen (DO)	Mondays	Daily
5-day biochemical oxygen demand (BOD_5) at Effluent & Influent Weir	Monthly	Weekly
Total suspended solids (TSS) at Effluent & Influent Weir	Mondays	Daily
E. Coli bacteria	Monthly	Weekly
Fecal coliform (FC) bacteria	Monthly	Weekly
Conductivity	Monthly	Weekly
Nitrate-N	Monthly	Weekly
Ammonia	Monthly	Weekly
Nitrite	Monthly	Weekly
TKN Nitrogen	Monthly	Weekly
Metals	Monthly	Weekly at MW7, 17A, 18A, and MW19

The laboratory costs for these WWTP samples are not included in our proposal, this testing cost will need to be borne by the City.

Reference: Wasilla Wastewater Outfall
Subject: Request for Amendment 4 - Pilot Study

Task 2 – Public Involvement

To support the ongoing public involvement needs identified to date for this project, Stantec will assist the City as host of two more public meetings, one prior to discharge and one after. Stantec will provide letters and draft a newspaper notice for City distribution.

An allowance is included for responding to public comments in writing, via the City's website, and over the phone. There is currently $4750 left in the public involvement budget (Amendment #3). This sum will be rolled over into the 2019 proposed budget as reflected on the fee estimate.

2018 Remaining Tasks

The following tasks remain under our current authorizations. No budget modifications are requested at this time.

- **Expanded Feasibility Study –** Stantec will continue to finalize the expanded feasibility study as outlined in Task 1 of Amendment 2.
- **Aerial Photography –** Two more drone aerial photography sessions will be conducted in 2019.
- **Permitting –** Ongoing agency coordination will continue through 2019.
- **Private Well Testing –** Stantec will continue to oversee and implement the private home owner well testing program that started in 2018 as a result of the public meeting. To date, 12 private wells have been tested.

Amendment Cost Summary

The total estimated fee for all tasks and services expected under this amendment in 2019 is $544,528. A spreadsheet showing the development of the fee is attached. At present, there is approximately $93,750 total remaining in prior 2018 authorizations that will be rolled forward. Stantec is requesting an amendment in the total amount of $450,778 to cover the balance of the 2019 pilot study efforts.

Reference: Wasilla Wastewater Outfall
Subject: Request for Amendment 4 - Pilot Study

	2019 Budget	2018 Amend #2 Budget to Roll Forward	Requested Amendment
Task 1 – Pilot Study	$531,948	$89,000	$442,948
Task 2 – Public Involvement	$12,580	$4,750	$7,830
Total	**$544,528**	**$93,750**	**$450,778**

Work for Amendment #4 tasks will be performed on a time and materials basis under the executed Contract for Professional Services between Stantec-USKH and the City. Tasks will be invoiced monthly at the standard Stantec rates in effect at the time the work was completed.

Closure

We trust this proposal meets your needs and are ready to begin immediately upon your approval. If you have any questions please contact me or Stephanie Gould (343-5235, Stephanie.gould@stantec.com).

Sincerely,
Stantec Consulting Services Inc,

Dean Syta
Senior Principal
Phone: (907) 343-5260
Fax: (907) 258-4653
dean.syta@stantec.com

Attachment: Fee Proposal

c. file

sdg u:\204700415_management_1448200_wasilla_wwtp\contract\amendment_2_pilot_study_design\rev1_to_2018\amend2r1_wasilla_wwtp_pilot study proposal rev 1.docx

Stantec

725 East Fireweed Lane, Suite 200
Anchorage, AK 99503
Fee Estimate
Prepared by: Dean Syta

204700415
Wastewater Outfall Study Amendment 4
City of Wasilla
April 15, 2019

Price Per Task Summary

Task	Task Name	Labor	Subcontractors	Expenses	Total
1	Wetlands Discharge Pilot Study -2019	$291,350	$230,148	$10,450	$531,948
	2018 Remain Funds to roll forward (Amend #2)	($10,000)	($79,000)	$0	($89,000)
2	Public Involvement	$12,330	$0	$250	$12,580
	2018 Remain Funds to roll forward (Amend #3)	($4,500)	$0	($250)	($4,750)
	Totals	**$289,180**	**$151,148**	**$10,450**	**$450,778**

Notes/Assumptions

1 Final design and permitting of a new WWTP effluent discharge at end of pilot study are not included.
2 Subcontracts will be billed at cost plus 10%.
3 Rates shown are 2019. T&M tasks will be invoiced at rates in affect at time work is completed.
4 Sampling of off property private wells continues under budget for Amendment #3; not included in these totals.

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Labor Hours Per Job Classification

Task 1: Wetlands Discharge Pilot Study - 2019	QC	Civil					Environmental				Misc			
	Sr. Level 18	D. Syta Sr. Eng. Level 16	B. Miskill Process Eng. Level 16	S. Gould Sr. Eng. Level 13	R. Bronga EIT Level 9	J. Alward EIT Level 10	S. Linderg Env Manager Level 14	R. Cooper Env. Scientist Level 12	J. Marshall Env. Scientist Level 11	C. Pannone Technician Level 10	Intern / Student	K. Ross Structural Level 10	L. Schneller Sr. Elect. Level 14	Admin / Clerical
Sub-Task	$232	$216	$216	$185	$142	$147	$181	$166	$158	$147	$116	$147	$179	$147
1 Initial Startup		16		16										
Continuation of Monthly Monitoring														
2 Sampling Events April-Dec 2019														
3 Subsurface Sampling (16 sites, 3 events @ 2 days each, 3 people)					27	54			54		27			
4 Surface Sampling - SUMMER (20 sites, 7 events @ 2 days each, 3 people)					63	126			126		63			
5 Surface Sampling - WINTER (11 sites, 2 events @ 1 day each, 3 people)					18	18			18					
6 Vegetation Monitoring (6 sites, 3 events at 1 day each)								27						
7 Prep, Mob, Laboratory Coordination (12 events)				5		36					36			
8														
9 Additional Discharge Monitoring at Startup														
10 Additional Discharge - Surface (10 sites, 5 events @ 1 days each, 3 people)					22	45			45		22			
11 Additional Discharge - Sub-Surface (8 sites, 5 events @ 1 days each, 3 people)					22	45			45		22			
12 Effluent Tracking (FC and Nitrates) (10 sites, 10 events @ 1 day each, 2 people)									90		90			
Effluent Dye Tracer (1 event @ 1 day each, 3 people)		8		8	9	9			16					
13 Prep, Mob, Laboratory Coordination (20 events)				5		60					60			
14														
15 Event Summary Reporting (32 events)		12		32		60		12	20	24	32			32
16														
17 Reporting														
18 Preparation of Annual Report, Graphics, & Analysis		12		32		60		16	60	24				16
Subwet Model update									12	4				
Update of Subwet Model Report		2		4			2		4					1
19														
20 QC and Project Management, Safety Plans	8	40		24		16								24
Total Labor Hours	8	90	0	126	161	529	2	55	490	52	352	0	0	73
Labor Costs Subtotal	$1,856	$19,440	$0	$23,310	$22,862	$77,763	$362	$9,130	$77,420	$7,644	$40,832	$0	$0	$10,731

SUBCONTRACTORS

Firm	Amount
SGS Lab - Water Testing - see attached table	$187,825
Microbial Insights, Inc - see attached table	$15,400
K2 Dronotics - roll over from 2018	$6,000
Subtotal	**$209,225**
Markup	**10.0%**
Subcontractor Subtotal	**$230,148**

EXPENSES

Item No.	Item (s)	Qty.	Unit Price	Total Price
1	Printing Allowance	1	$500	$500
2	Site Visit (mileage, field supplies, and disposables)	45	$125	$5,625
3	Misc field equipment (pumps, YSI)	1	$1,500	$1,500
4	Microbial Insights Shipping	9	$125	$1,125
5	Tracer Dye, Florometer	1	$1,700	$1,700
				$0
				$0
Expenses Subtotal				**$10,450**

NOTES

Surface, subsurface, and vegetation sampling events may be concurrent, but staff/hours needed remain the same.

TOTALS	
Direct Labor Cost	$291,350
Total Subcontractors	$230,148
Total Expenses	$10,450
Total Cost	**$531,948**

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204700415
Wastewater Outfall Study Amendment 4
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Task 2: Public Involvement

Labor Hours Per Job Classification

	Sub-Task		Civil					Environmental				Misc			
			D. Syta Sr. Eng. Level 16	B. Miskill Process Eng. Level 16	S. Gould Sr. Eng. Level 13	R. Bronga EIT Level 9	J. Alward EIT Level 10	S. Linderg Env Manager Level 14	R. Cooper Env. Scientist Level 12	J. Marshall Env. Scientist Level 11	C. Pannone Technician Level 10	Intern / Student	K. Ross Structural Level 10	L. Schneller Sr. Elect. Level 14	Admin / Clerical
			$216	$216	$185	$142	$147	$181	$166	$158	$147	$92	$147	$179	$147
1	Public Involvement														1
2	Meeting Pre-Discharge		4		8		6			6	2				1
3	Meeting Post-Discharge		4		8		6			6	2				1
4	Response to Comments & Other Coordination				12										
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17	QC and Project Management		1		2										1
Total Labor Hours			9	0	30	0	12	0	0	12	4	0	0	0	4
Labor Costs Subtotal			$1,944	$0	$5,550	$0	$1,764	$0	$0	$1,896	$588	$0	$0	$0	$588

SUBCONTRACTORS

Firm	Amount
Subtotal	$0
Markup	10.0%
Subcontractor Subtotal	$0

EXPENSES

Item No.	Item (s)	Qty.	Unit Price	Total Price
1	Printing Allowance	2	$25	$50
2	Mileage & Meeting Supplies	2	$100	$200
				$0
				$0
				$0
Expenses Subtotal				$250

NOTES

TOTALS	
Direct Labor Cost	$12,330
Total Subcontractors	$0
Total Expenses	$250
Total Cost	$12,580

SGS Quote # 348183, dates 01/20/17, expires 12/31/20

Sample	Matrix	Unit Price
Fecal Coliform	Water	$100.00
Ammonia by SM 4500G (W)	Water	$35.00
Total Coli P/A - Quantitray	Water	$125.00
RCRA Metals +Cu/Zn	Water	$200.00
Metals Digestion, Water	Water	$20.00
Total Kjeldahl Nitrogen (W)	Water	$70.00
Biochemical Oxygen Demand	Water	$50.00
Total Phosphorus	Water	$50.00
Total Suspended Solids	Water	$20.00
Nitrate/Nitrite Combo IC	Water	$50.00

Task 1: Quarterly Subsurface Sampling (June, September, and December)

Parameter	Analytical Method	# Sites	Duplicates	#Events	Unit Price from above	Subtotal	Notes
Temperature	Field Measurement	16		3	$0.00	$0.00	
Conductivity	Field Measurement	16		3	$0.00	$0.00	
pH	Field Measurement	16		3	$0.00	$0.00	
Dissolved Oxygen (DO)	Field Measurement	16		3	$0.00	$0.00	
FC bacteria	SM21 9555D	16	2	3	$100.00	$5,400.00	
Nitrate (NO3-N)	SM21 4500NO3-F or EPA 300.0	16	2	3	$50.00	$2,700.00	
Nitrite-N	SM21 4500NO3-F or EPA 300.0	16	2	3	with above		
Ammonia (NH_3 – N)	SM21 4500-NH3 G	16	2	3	$35.00	$1,890.00	
Total Kjeldahl Nitrogen (W)		16	2	3	$70.00	$3,780.00	
RCRA Metals +Cu/Zn		16	2	3	$220.00	$11,880.00	
Sites at 16 designated borings and monitoring wells.						**$25,650.00 TOTAL**	

Task 1: Monthly Surface Sampling (9 events total; half the sites Nov, Dec addressed by counting as 1/2 events)

Parameter	Analytical Method	# Sites		#Events	Unit Price from above	Subtotal	Notes
Temperature	Field Measurement	20		8	$0.00	$0.00	
Conductivity	Field Measurement	20		8	$0.00	$0.00	
pH	Field Measurement	20		8	$0.00	$0.00	
DO	Field Measurement	20		8	$0.00	$0.00	
BOD_5	SM21 5210B	20	2	8	$50.00	$8,800.00	
TSS	SM21 2540D	20	2	8	$20.00	$3,520.00	
FC bacteria	SM21 9555D	20	2	8	$100.00	$17,600.00	
E. Coli bacteria (Total Coli P/A - Quantitray)	EPA 9132	20	2	8	$125.00	$22,000.00	
Nitrate (NO3-N)	SM21 4500NO3-F or EPA 300.0	20	2	8	$50.00	$8,800.00	
Nitrite-N	SM21 4500NO3-F or EPA 300.0	20	2	8	with above		
Ammonia (NH_3 – N)	SM21 4500-NH3 G	20	2	8	$35.00	$6,160.00	
Total Phosphorus	EPA 365.4	20	2	8	$50.00	$8,800.00	
RCRA Metals		4	1	8	$220.00	$8,800.00	
Total Kjeldahl Nitrogen (W)		20	2	8	$70.00	$12,320.00	
Sites include 18 surface sites, 1 at the pipe outfall, and 1 for random locations and / or special samples. Half sites Nov, Dec equal to 1 event						**$96,800.00 TOTAL**	

Task 1: Additional Weekly Discharge Surface (5 additional subsurface events, north section of site following discharge)

Parameter	Analytical Method	# Sites	Duplicates	#Events	Unit Price from above	Subtotal	Notes
Temperature	Field Measurement	10		5	$0.00	$0.00	
Conductivity	Field Measurement	10		5	$0.00	$0.00	
pH	Field Measurement	10		5	$0.00	$0.00	
DO	Field Measurement	10		5	$0.00	$0.00	
BOD_5	SM21 5210B	10	1	5	$50.00	$2,750.00	
TSS	SM21 2540D	10	1	5	$20.00	$1,100.00	
FC bacteria	SM21 9555D	10	1	5	$100.00	$5,500.00	
E. Coli bacteria (Total Coli P/A - Quantitray)	EPA 9132	10	1	5	$125.00	$6,875.00	
Nitrate (NO3-N)	SM21 4500NO3-F or EPA 300.0	10	1	5	$50.00	$2,750.00	
Nitrite-N	SM21 4500NO3-F or EPA 300.0	10	1	5	with above		
Ammonia (NH_3 – N)	SM21 4500-NH3 G	10	1	5	$35.00	$1,925.00	
Total Phosphorus	EPA 365.4	10	1	5	$50.00	$2,750.00	
Total Kjeldahl Nitrogen (W)		10	1	5	$70.00	$3,850.00	
Includes north half of the project site for an additional 5 events.						**$27,500.00 TOTAL**	

Task 1: Additional Weekly Discharge Sub-Surface (5 additional events, north section of site following discharge)

Parameter	Analytical Method	# Sites	Duplicates	#Events	Unit Price from above	Subtotal	Notes
Temperature	Field Measurement	8		5	$0.00	$0.00	
Conductivity	Field Measurement	8		5	$0.00	$0.00	
pH	Field Measurement	8		5	$0.00	$0.00	
DO	Field Measurement	8		5	$0.00	$0.00	
FC bacteria	SM21 9555D	8	1	5	$100.00	$4,500.00	
Nitrate (NO3-N)	SM21 4500NO3-F or EPA 300.0	8	1	5	$50.00	$2,250.00	
Nitrite-N	SM21 4500NO3-F or EPA 300.0	8	1	5	with above		
Ammonia (NH_3 – N)	SM21 4500-NH3 G	8	1	5	$35.00	$1,575.00	
Total Kjeldahl Nitrogen (W)		8	1	5	$70.00	$3,150.00	
RCRA Metals +Cu/Zn		8	1	5	$220.00	$9,900.00	
Only includes north half of the project site for an additional 5 events.						**$21,375.00 TOTAL**	

Task 1: Additional Discharge Surface - Effluent Tracking (Fecal & Nitrates)

Parameter	Analytical Method	# Sites	Duplicates	#Events	Unit Price from above	Subtotal	Notes
Temperature	Field Measurement	10		10	$0.00	$0.00	
Conductivity	Field Measurement	10		10	$0.00	$0.00	
pH	Field Measurement	10		10	$0.00	$0.00	
DO	Field Measurement	10		10	$0.00	$0.00	
FC bacteria	SM21 9555D	10	1	10	$100.00	$11,000.00	
Nitrate (NO3-N)	SM21 4500NO3-F or EPA 300.0	10	1	10	$50.00	$5,500.00	
Nitrite-N	SM21 4500NO3-F or EPA 300.0	10	1	10	with above		
Includes 10 additional samples daily the first week (5 events) and weekly during effluent discharge (5 events).						**$16,500.00 TOTAL**	

Task 1: Additional DNA Source Tracking - Microbial Insights

Parameter	Analytical Method	# Sites	Duplicates	#Events	Unit Price	Subtotal	Notes
Microbial Source Tracking (Background)		8		2	$350.00	$5,600.00	
Microbial Source Tracking (Ongoing)		4		7	$350.00	$9,800.00	
Background sampling includes two rows at point of compliance for two events. Ongoing is 3 discretionary sites every month between June & December						**$15,400.00 TOTAL**	

$187,825.00 TOTAL SGS
$203,225.00 TOTAL All tables