Ivins City Staff Report
City Council Meeting 8/15/19

Agenda Item: Discuss and consider approval of expenditure for construction of the 200 West Sewer Diversion, HWY 91 Sewer Extension, and Lower Tuacahn Wash Sewer Line Improvements

Submitted by: Thomas J. Jorgensen, P.E., Assistant Public Works Director

Recommended City Council Action:
Approve selection and expenditure of $411,352.04 for construction services for the 200 West Sewer Diversion and HWY 91 Sewer Extension, $118,210.00 for the Lower Tuacahn Wash 12' Access Road Project, $57,100 for Bidding and Construction Management Services, plus an additional $60,000 for contingency for a total of $646,662.04.

BACKGROUND:

200 West Sewer Diversion Project (PROJECT S-3):
In 2016, a Sewer Master Plan was prepared by Bowen Collins and Associates. The intent of this master plan was to evaluate existing sewer infrastructure and identify existing and future deficiencies in the collection system. This master plan identified and recommended some short-term improvements to the system.

The collection system model results indicated that as flows increase there will end up being a string of pipe deficiencies down the primary corridor of the collection system. The primary corridor of the system passes through the heart of the City. After evaluating multiple options, the Master Plan (project S-3) recommended that instead of upsizing the main trunk line through town that a diversion pipeline would be installed to divert sewer flows away from these future deficient sections of pipe. The location chosen for the diversion was 200 West, resulting in a new 10" pipeline from 400 South to Highway 91 (approximately 2,500 feet).

HWY 91 Sewer Extension Project (PROJECT S-4):
The 2016 Sewer Master Plan also included a recommendation to extend the existing sewer line along Old Hwy 91 up from 400 West to 600 West.

Lower Tuacahn Wash Line Improvements Project (PROJECT S-1A):
Another project identified in the Sewer Master Plan was the Tuacahn Wash Access Improvements Project (project S-1A). Nearly all wastewater from Ivins City flows through a trunk line located in the Tuacahn Wash from Pioneer Parkway, in Santa Clara, down to Snow Canyon High School. This line is susceptible to inflow during flood events and needs maintenance-related improvements. The following short-term improvements were recommended:

- Construct a 12' access road along the wash for maintenance crews to access manholes
- Raise/repair manholes that have been damaged from flooding or that are susceptible to inflow.
- Camera the line and repair any damaged sections of pipe susceptible to inflow or leakage.

This project to improve the access along the Tuacahn Wash is a joint project between Ivins City and Santa Clara City. Per our interlocal agreement Ivins City is responsible for 87% of the cost of project improvements to this portion of the pipeline and Santa Clara is responsible for the remaining 13%.

Staff has publicly advertised for the 200 West and the HWY 91 sewer project and has also received bids from three local contractors to complete the first portion of the Lower Tuacahn Wash Line Improvements, to construct a 12' access road along the wash for maintenance crews to access manholes. The results of the public bid and the results of the request for bids can be found below.

A map has been included showing the three projects from the 2016 Sewer Master Plan labeled as Projects S-1A, S-3, and S-4.

Also, as part of the original request for engineering services, staff had each firm include their costs for bidding services and construction management. Sunrise Engineering was awarded the engineering design contract, and staff is recommending that Sunrise Engineering also perform the bidding and construction management services as well. Those costs are also summarized below.

FINDINGS AND ANALYSIS:

200 West and HWY 91 Sewer Projects

CONTRACTOR	200 West BID TOTAL	HWY 91 BID TOTAL	COMBINED TOTAL
Royal T Enterprises	$270,414.54	$140,937.50	$411,352.04
SONEV	$306,981.17	$135,268.09	$442,159.26
Interstate Rock Products	$313,644.84	$183,973.86	$497,618.70
Meadow Valley	$413,280.80	$319,686.80	$750,966.80

Tuacahn Wash 12' Access Road Project

CONTRACTOR	BID TOTAL
Feller Enterprises	$118,210.00
Interstate Rock Products	$139,007.00
Royal T Enterprises	$155,000.00

Staff has reviewed the bids and are recommending awarding the 200 West and HWY 91 Sewer Projects to Royal T Enterprises and the Tuacahn Wash 12' Access Road Project to Feller Enterprises. Staff has also reviewed the proposal for Sunrise Engineering for Bidding and Construction Management services for the three projects for $57,100. Staff recommends that Council approve the expenditure of $586,662.04 plus an additional $60,000 in contingency for a total of $646,662.04 for these projects.

SUPPORT MATERIALS:

- Map of 200 West, HWY 91, and Lower Tuacahn Wash Improvements from Sewer Masterplan
- Bid Tabulation – 200 West and HWY 91 Sewer Projects
- Quotes for Tuacahn Wash 12' Access Road Improvements
- Sunrise Engineering Proposal for Bidding and Construction Management Services

FINANCIAL IMPACT:

The expenses are impact fee eligible and have been budgeted.
200 West Sewer Diversion – GL 52-42-880: $298,414.54
HWY 91 Sewer Extension – GL 52-42-880: $154,937.50
Bidding and Construction Management Services – GL 52-42-880: $63,100

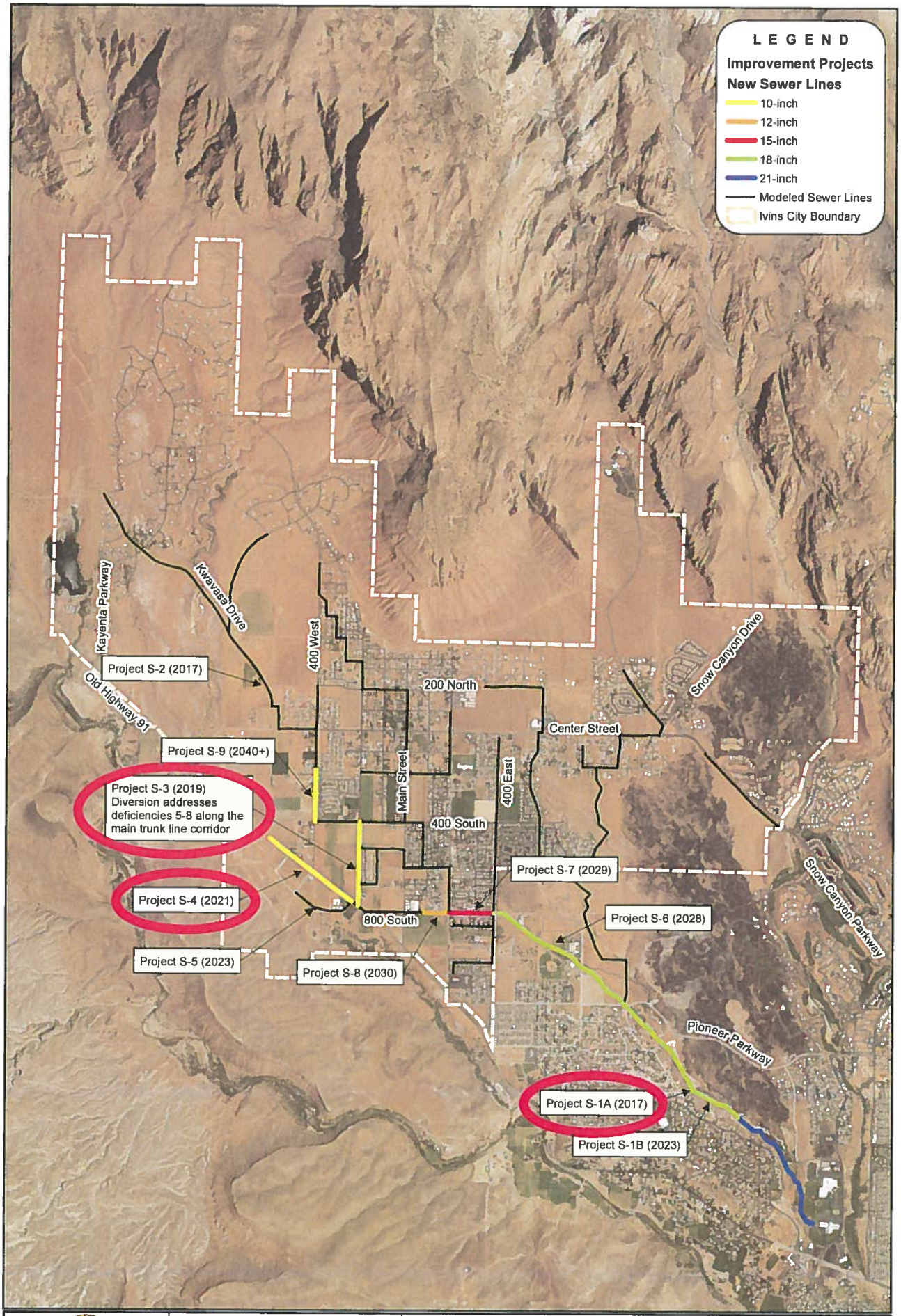
This expense has been budgeted and is not impact fee eligible.
Lower Tuacahn Wash Line Improvements – GL 52-42-880: $130,210 (13% will be reimbursed by Santa Clara City)

Respectfully Submitted:

Thomas J. Jorgensen, P.E., Assistant Public Works Director

Content Review:

Dale Coulam, City Manager



IVINS CITY
2016 SEWER MASTER PLAN

RECOMMENDED SYSTEM IMPROVEMENTS THROUGH BUILDOUT

NORTH:

SCALE: 0 1,250 2,500 Feet

FIGURE NO.
ES-2

SUNRISE ENGINEERING

Irins City
Irins 200 W Sewer Improvement Project
BID OPENING DATE: July 30, 2019

BID SCHEDULE

BASE BID			ENGINEERS ESTIMATE		ROYAL T ENTERPRISES		SONEV		MEADOW VALLEY		INTERSTATE ROCK	
Item	APWA Specification Reference Number Classification of Work	Quantity Unit	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT	UNIT PRICE	AMOUNT
1	01 71 13 Mobilization and Demobilization	1 Lump Sum	$ 15,000.00	$ 15,000.00	$ 20,000.00	$ 20,000.00	$ 10,100.00	$ 10,100.00	$ 77,700.00	$ 77,700.00	$ 8,843.29	$ 8,843.29
2	01 55 26 Traffic Control	1 Lump Sum	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 4,432.78	$ 4,432.78	$ 14,700.00	$ 14,700.00	$ 2,729.53	$ 2,729.53
3	00 72 00 Investigate Underground Facilities	8 Hour	$ 200.00	$ 1,600.00	$ 400.00	$ 3,200.00	$ 799.18	$ 6,393.44	$ 397.00	$ 3,176.00	$ 181.20	$ 1,449.60
4	02 41 14 Pavement Removal	30378 Square Foot	$ 0.80	$ 24,302.40	$ 0.33	$ 10,024.74	$ 0.20	$ 6,075.60	$ 0.20	$ 6,075.60	$ 0.28	$ 8,505.84
5	01 57 00 Temporary Controls	1 Lump Sum	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 550.00	$ 550.00	$ 10,800.00	$ 10,800.00	$ 1,473.35	$ 1,473.35
6	01 45 00 Quality Control	1 Lump Sum	$ 7,000.00	$ 7,000.00	$ 6,100.00	$ 6,100.00	$ 4,950.00	$ 4,950.00	$ 6,550.00	$ 6,550.00	$ 6,385.17	$ 6,385.17
7	31 23 17 Rock Removal	50 Cubic Yard	$ 45.00	$ 2,250.00	$ 88.00	$ 4,400.00	$ 7.99	$ 399.50	$ 106.00	$ 5,300.00	$ 79.09	$ 3,954.50
8	33 05 25 Pavement Restoration	32388 Square Foot	$ 4.25	$ 137,649.00	$ 3.35	$ 108,499.80	$ 3.72	$ 120,483.36	$ 3.40	$ 110,119.20	$ 4.16	$ 134,734.08
9	33 31 00 10 inch Sanitary Sewer Pipe	2470 Linear Foot	$ 58.00	$ 143,260.00	$ 27.00	$ 66,690.00	$ 50.22	$ 124,043.40	$ 66.00	$ 163,020.00	$ 46.97	$ 116,015.90
10	33 31 00 48" Manhole	4 Each	$ 4,500.00	$ 18,000.00	$ 5,000.00	$ 20,000.00	$ 3,882.48	$ 15,529.92	$ 4,260.00	$ 17,040.00	$ 3,970.99	$ 15,883.96
11	33 31 00 60" Manhole	3 Each	$ 5,250.00	$ 15,750.00	$ 5,500.00	$ 16,500.00	$ 4,644.39	$ 13,933.17	$ 5,600.00	$ 16,800.00	$ 4,556.54	$ 13,669.62
BID SCHEDULE A - TOTAL			$	379,811.40	$	270,414.54	$	306,891.17	$	431,280.80	$	313,644.84
1	01 71 13 Mobilization and Demobilization	1 Lump Sum	$ 10,000.00	$ 10,000.00	$ 14,000.00	$ 14,000.00	$ 2,600.00	$ 2,600.00	$ 71,900.00	$ 71,900.00	$ 2,180.24	$ 2,180.24
2	01 55 26 Traffic Control	1 Lump Sum	$ 14,000.00	$ 14,000.00	$ 5,400.00	$ 5,400.00	$ 4,432.70	$ 4,432.70	$ 14,800.00	$ 14,800.00	$ 16,482.09	$ 16,482.09
3	00 72 00 Investigate Underground Facilities	8 Hour	$ 200.00	$ 1,600.00	$ 400.00	$ 3,200.00	$ 799.18	$ 6,393.44	$ 397.00	$ 3,176.00	$ 181.47	$ 1,451.76
4	02 41 14 Pavement Removal	1575 Square Foot	$ 0.80	$ 840.00	$ 1.00	$ 1,575.00	$ 3.83	$ 6,032.25	$ 3.40	$ 5,355.00	$ 0.99	$ 1,559.25
5	01 57 00 Temporary Controls	1 Lump Sum	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 10,000.00	$ 550.00	$ 550.00	$ 10,800.00	$ 10,800.00	$ 1,222.63	$ 1,222.63
6	01 45 00 Quality Control	1 Lump Sum	$ 4,000.00	$ 4,000.00	$ 3,600.00	$ 3,600.00	$ 2,882.00	$ 2,882.00	$ 6,550.00	$ 6,550.00	$ 6,390.29	$ 6,390.29
7	31 23 17 Rock Removal	50 Cubic Yard	$ 45.00	$ 2,250.00	$ 88.00	$ 4,400.00	$ 7.99	$ 399.50	$ 106.00	$ 5,300.00	$ 79.19	$ 3,959.50
8	33 05 25 Pavement Restoration	1575 Square Foot	$ 6.00	$ 9,450.00	$ 7.00	$ 11,025.00	$ 9.53	$ 15,009.75	$ 6.90	$ 10,867.50	$ 9.35	$ 14,726.25
9	33 31 00 12 Inch Sanitary Sewer Pipe	1975 Linear Foot	$ 65.00	$ 128,375.00	$ 30.50	$ 60,237.50	$ 37.34	$ 73,746.50	$ 82.50	$ 162,937.50	$ 56.18	$ 110,955.50
10	33 31 00 60" Manhole	5 Each	$ 5,250.00	$ 26,250.00	$ 5,500.00	$ 27,500.00	$ 4,644.39	$ 23,221.95	$ 5,600.00	$ 28,000.00	$ 5,009.27	$ 25,046.35
BID SCHEDULE B - TOTAL			$	206,765.00	$	140,937.50	$	135,268.09	$	319,686.00	$	183,973.86
TOTAL OF BID SCHEDULES A AND B			$	586,576.40	$	411,352.04	$	442,159.26	$	750,966.80	$	497,618.70

PROFESSIONAL ENGINEER
No. 8328781
STEVEN B. HALL
8/5/19
STATE OF UTAH

Engineer, P.E.

Feller Enterprises

Ivins sewer 200 west

no.	bid item	QTY	unit		unit price		amount	
1	mobilization	1	LS	$	4,500.00	$	4,500.00	
2	Swpp compliance and erosion control	1	LS	$	3,500.00	$	3,500.00	
3	dust control & watering	1	LS	$	5,000.00	$	5,000.00	
4	materials sampling & testing	1	LS	$	1,250.00	$	1,250.00	
5	Clear and grubing	1	LS	$	4,500.00	$	4,500.00	
6	Road Base	2060	Cy	$	36.00	$	74,160.00	3708 tons
7	stabilizing rock	480	Cy	$	28.00	$	13,440.00	
8	Drain rock	70	Cy	$	28.00	$	1,960.00	
9	Armoring (LF only works if we know the dementions of the amoring is im going to give you ton price)	150	ton	$	28.00	$	4,200.00	
10	PVC Drain pipe	150	LF	$	25.00	$	3,750.00	
11	Culverts (12" ads pipes)	3	EA	$	650.00	$	1,950.00	
		Total				**$**	**118,210.00**	
6a	alternet to base 4" mins a1a	2060	cy	$	25.00	$	51,500.00	
		Total W/ alt				**$**	**95,550.00**	

BID SCHEDULE

IVINS CITY - TUACHAN WASH ACCESS ROAD

NO.	BID ITEM	QTY	UNIT	UNIT PRICE	AMOUNT
BASE BID ITEMS					
1	MOBILIZATION	1	LS	14,470.00	14,470.00
2	SWPPP COMPLIANCE AND EROSION CONTROL	1	LS	7,000.00	7,000.00
3	DUST CONTROL & WATERING	1	LS	6,000.00	6,000.00
4	MATERIALS SAMPLING & TESTING	1	LS	4,000.00	4,000.00
5	CLEAR AND GRUBBING	1	LS	10,000.00	10,000.00
6	ROAD BASE	2060	CY	38.00	78,280.00
7	STABILIZING ROCK	480	CY	45.00	21,600.00
8	DRAIN ROCK	70	CY	45.00	3,150.00
9	ARMORING	150	LF	25.00	3,750.00
10	PVC DRAIN PIPE	150	LF	25.00	3,750.00
11	CULVERTS	3	EA	1,000.00	3,000.00
				BASE TOTAL	155,000.00

Royal T Enterprises [redacted]

One Hundred fifty five Thousand dollars

Ted Griffiths

President 8/6/2019

Interstate Rock Products

BID SCHEDULE

IVINS CITY - TUACHAN WASH ACCESS ROAD

NO.	BID ITEM	QTY	UNIT	UNIT PRICE	AMOUNT
BASE BID ITEMS					
1	MOBILIZATION	1	LS	10000 00	10000 00
2	SWPPP COMPLIANCE AND EROSION CONTROL	1	LS	6590 00	6590 00
3	DUST CONTROL & WATERING	1	LS	6640 00	6640 00
4	MATERIALS SAMPLING & TESTING	1	LS	4060 00	4060 00
5	CLEAR AND GRUBBING	1	LS	5836 00	5836 00
6	ROAD BASE	2060	CY	36 10	74366 00
7	STABILIZING ROCK	480	CY	36 50	17520 00
8	DRAIN ROCK	70	CY	42 00	2940 00
9	ARMORING	150	LF	28 00	4200 00
10	PVC DRAIN PIPE	150	LF	25 00	3750 00
11	CULVERTS	3	EA	1035 00	3105 00
				BASE TOTAL	$139,007 00

SUNRISE ENGINEERING

11 North 300 West, Washington, Utah 84780
TEL 435.652.8450 | FAX 435.652.8416 | sunrise-eng.com

March 25, 2019

Ivins City
Tom Jorgensen, P.E.
Asst. Public Works Director
tjorgensen@ivins.com

Re: 200 West & Tuacahn Sewer Improvements Project

Dear Tom,

Enclosed please find the Fee Proposal letter, and the Amendment to Professional Services on the above referenced project, modifying the contract amount.

If you have any comments, etc., please give us a call.

Sincerely,

Carole Ingalls
Admin Asst.
cingalls@sunrise-eng.com

SUNRISE ENGINEERING

11 North 300 West, Washington, Utah 84780
TEL 435.652.8450 | FAX 435.652.8416 | sunrise-eng.com

AMENDMENT NO. 1

to Professional Services Contract for Engineering Services for 200 W & Tuacahn Sewer Improvement Projects Dated Jan 17, 2019

March 25, 2019

The Professional Services Contract for Engineering Services for 200 W & Tuacahn Sewer Improvement Projects (the Contract), by and between Ivins City referred to herein as CLIENT and Sunrise Engineering, Inc. referred to herein as ENGINEER, is hereby amended as noted:

JUSTIFICATION:

Attachment B of the Contract defines the scope of services provided by the ENGINEER. During the kick off meeting, CLIENT has requested additional work required beyond the original scope. This Amendment is intended to cover additional services to be performed. The attached letter outlines the modified scope and additional costs to accommodate that change.

MODIFICATIONS:

Based on the changes to the scope of work as outlined in the attached letter, CLIENT and ENGINEER agree to the following:

1. CLIENT agrees to increase the cost to the ENGINEER for Predesign & Design services by $13,100 to the total amount of sixty-two thousand seven hundred dollars ($62,700).

IN WITNESS WHEREOF, the parties hereto have executed, by their duly authorized officials, this Amendment on the dates indicated below:

CLIENT: Ivins City		ENGINEER: Sunrise Engineering, Inc
By:		By:
Name:	Charles R. Gillette	Name: Marvin J Wilson, P.E.
Title:	Public Works Director	Title: Principal Engineer
Date:	4/2/19	Date: March 25, 2019

SUNRISE ENGINEERING

11 North 300 West, Washington, Utah 84780
TEL 435.652.8450 | FAX 435.652.8416 | sunrise-eng.com

February 6, 2019

Ivins City
Tom Jorgensen, P.E.
Asst. Public Works Director
tjorgensen@ivins.com

Re: Fee Proposal for Additional Consulting Services
200 West Sewer Diversion Project and Lower Tuacahn Wash Sewer Improvements Project

Dear Tom,

We were asked in the kick-off meeting to put together an estimated cost for increased scope of work on Hwy 91. This letter contains the proposed additional costs to accommodate for the change that was discussed. The new scope would include addition of sewer line improvements along Old Hwy 91 from Kwavasa Dr. to 400 W. In calculating the costs, in addition to the assumptions and exceptions from the proposal, the following assumptions were made:

- Meetings will be combined with the 200 West Sewer Diversion Project.
- During bidding, Old Hwy 91 and 200 West will be considered as one project.
- During construction, pre-construction meetings and progress meetings will be combined with the 200 W. project.

The estimated fees for each major task are summarized in the table below and a breakdown of each subtask is detailed in the attached tables including billing rates and estimated hours required.

Major Task	Estimated Fee
Old Hwy 91 Sewer Improvement Project	**$37,200**
Predesign & Design Engineering	$13,100
Bidding/Construction Administration	$24,100

Please review these costs and scope and let us know if you would like us to proceed with the proposed change or need any further information.

Sincerely,

Merv Wilson, P.E.
Principal Engineer
mwilson@sunrise-eng.com

SUNRISE ENGINEERING

11 North 300 West, Washington, UT 84780
TEL 435.652.8450 | FAX 435.652.8416 | sunrise-eng.com

December 11, 2018

Tom Jorgensen, P.E.
Assistant Public Works Director, Ivins City
tjorgensen@ivins.com

Re: Fee Proposal for Consulting Services
200 West Sewer Diversion Project and Lower Tuacahn Wash Sewer Improvements Project

Dear Tom and Selection Committee Members,

It is our pleasure to submit this proposal to provide engineering services for the two projects referenced above. We have reviewed the City's template contract for professional services that was provided with Addendum No. 2 and are comfortable with the terms and conditions.

The estimated fees for each major task are summarized in the table below and a breakdown of each subtask is detailed in the attached tables including billing rates and estimated hours required.

Major Task	Estimated Fee
200 West Sewer Diversion Project	**$57,800**
Predesign & Design Engineering	$24,800
Bidding/Construction Administration	$33,000
Lower Tuacahn Wash Sewer Improvements Project	**$48,100**
Predesign & Design Engineering	$24,800
Bidding/Construction Administration	$23,300
Total	**$105,900**

We would like to thank you again for the opportunity to submit this proposal to the City and for your consideration. We look forward to working with you on this project. Please call us at (435) 652-8450 with any questions or concerns.

Sincerely,

Marv Wilson, P.E.
Principal Engineer
mwilson@sunrise-eng.com

Estimated Fees - 200 West Sewer Diversion Project

200 WEST SEWER DIVERSION PROJECT
IVINS CITY
Sunrise Engineering Inc.
Project Engineer's Estimate of Civil Engineering Services

SERVICE TYPE				PREDESIGN & DESIGN ENGINEERING							BIDDING/CONSTRUCTION ADMINISTRATION							HOUS PER CLASS	COST PER CLASS
PHASE				001	001	001	001	001	001	001	002	002	002	002	002	002	002		
TASK				0001	0002	0003	0004	0005	0006	0007	0001	0002	0003	0004	0005	0006	0007		
TASK DESCRIPTION				Coordination Meetings- Kickoff and Progress During Design	Review & Gather Data (Docs, GIS)	Site and Utilities Invest. - Survey	Design Drawings	Tech Specs	Contract Docs	EOPC	Bidding	Pre-Construction Meeting	Progress Meetings	Submittal, CO's, Pay Requests, etc	Construction Observation	Construction Observation - Substantial Completion, Final Completion	CRD's		
CLASS	DESCRIPTION	RATE	BUDGET →	$4,700	$1,500	$4,300	$7,800	$1,700	$2,700	$2,100	$2,300	$1,700	$4,000	$5,700	$13,600	$2,700	$3,000		
102	Engineer Intern (E.I.T.) II	$105.00	Hours	9	4	8	32	6	10	8	8	6	8	12		12		123	
			Cost	$893	$420	$840	$3,360	$630	$1,050	$840	$840	$630	$840	$1,260		$1,260			$12,863
104	Engineer IV	$149.00	Hours	17			8	6	10	4	8	3	16	24		6		102	
			Cost	$2,533			$1,192	$894	$1,490	$596	$1,192	$447	$2,384	$3,576		$894			$15,198
105	Engineer V	$169.00	Hours	4	4	6				1	1	3	4					23	
			Cost	$718	$676	$1,014				$169	$169	$507	$676						$3,929
110	Principal Engineer	$190.00	Hours	2				1	1					4				8	
			Cost	$404				$190	$190					$760					$1,544
352	Construction Observer II	$85.00	Hours												160	6	16	182	
			Cost												$13,600	$510	$1,360		$15,470
404	CAD Drafter IV	$101.00	Hours		2	8	32			2							16	60	
			Cost		$202	$808	$3,232			$202							$1,616		$6,060
604	GIS Specialist	$95.00	Hours		2													2	
			Cost		$190														$190
53	Administrative III	$72.00	Hours	2						4	1	1	1	1			1	11	
			Cost	$153						$288	$72	$72	$72	$72			$72		$801
935	One Man Survey Crew	$140.00	Hours			12												12	
			Cost			$1,680													$1,680
TOTAL			HOURS	34	12	34	72	13	21	19	18	13	29	41	160	24	33	523	-
			ROUNDED	$4,700	$1,500	$4,300	$7,800	$1,700	$2,700	$2,100	$2,300	$1,700	$4,000	$5,700	$13,600	$2,700	$3,000		$57,800

Estimated Fees Lower Tuacahn Wash Sewer Line

LOWER TUACAHN WASH LINE IMPROVEMENTS PROJECT
IVINS CITY
Sunrise Engineering Inc.
Project Engineer's Estimate of Civil Engineering Services

SERVICE TYPE				PREDESIGN & DESIGN ENGINEERING									BIDDING/CONSTRUCTION ADMINISTRATION							HOUS PER CLASS	COST PER CLASS
PHASE				001	001	001	001	001	001	001	001	001	002	002	002	002	002	002	002		
TASK				0001	0002	0003	0004	0005	0006	0007	0008	0009	0001	0002	0003	0004	0005	0006	0007		
TASK DESCRIPTION				Coordination Meetings- Kickoff and Progress During Design	Review & Gather Data (Docs, GIS)	Site and Utilities Investigation - Survey & Geotechnical	ROW/ Easment Investigation and Acquisition	Assist With Camera Proposal and Cordination of Project	Design Drawings	Tech Specs	Contract Docs	EOPC	Bidding	Pre-Construction Meeting	Progress Meetings	Submittal, CO's, Pay Requests, etc	Construction Observation	Construction Observation - Substantial Completion, Final	CRD's		
CLASS	DESCRIPTION	RATE	BUDGET →	$3,100	$1,500	$6,100	$3,000	$1,400	$5,500	$500	$1,800	$1,900	$2,300	$1,700	$2,300	$3,200	$10,200	$2,700	$900		
102	Engineer Intern (E.I.T.) II	$105.00	Hours	5	4	16	8	5	16	2	4	8	8	6	5	6		12		105	
			Cost	$525	$420	$1,680	$840	$525	$1,680	$210	$420	$840	$840	$630	$473	$630		$1,260			$10,973
104	Engineer IV	$149.00	Hours	10				5	4	2	8	4	8	3	9	12		6		71	
			Cost	$1,490				$745	$596	$298	$1,192	$596	$1,192	$447	$1,341	$1,788		$894			$10,579
105	Engineer V	$169.00	Hours	4	4	5	8					1	1		2					25	
			Cost	$676	$676	$845	$1,352					$169	$169		$380						$4,267
110	Principal Engineer	$190.00	Hours	2							1			3		4				10	
			Cost	$380							$190			$570		$760					$1,900
352	Construction Observer II	$85.00	Hours														120	6	8	134	
			Cost														$10,200	$510	$680		$11,390
404	CAD Drafter IV	$101.00	Hours		2		8		32											42	
			Cost		$202		$808		$3,232												$4,242
604	GIS Specialist	$95.00	Hours		2														2	4	
			Cost		$190														$190		$380
53	Administrative III	$72.00	Hours	1				2				4	1	1	1				1	11	
			Cost	$72				$144				$288	$72	$72	$72				$72		$792
935	One Man Survey Crew	$140.00	Hours			8														8	
			Cost			$1,120															$1,120
-	Geotechnical Subconsultant	-	Cost			$2,500														-	$2,500
TOTAL			HOURS	22	12	29	24	12	52	4	13	17	18	13	17	22	120	24	11	410	-
			ROUNDED	$3,100	$1,500	$6,100	$3,000	$1,400	$5,500	$500	$1,800	$1,900	$2,300	$1,700	$2,300	$3,200	$10,200	$2,700	$900		$48,100