BOWEN COLLINS & ASSOCIATES

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March 28, 2025

Chuck Gillette
Ivins Public Works Director/City Engineer
Ivins City
85 N. Main Street
Ivins, UT 84738

Subject: **Proposed Scope of Services for the Ivins City Potable Water and Secondary Irrigation Master Plans, Impact Fee Facilities Plans, Impact Fee Analyses, and User Rate Studies**

Dear Chuck:

In accordance with your request, this letter has been prepared for your review and consideration. Below is a scope of services and an associated fee from Bowen Collins & Associates (BC&A) to provide engineering services to complete an update to the Master Plan, Impact Fee Facilities Plan, Impact Fee Analysis, and User Rate Analysis (rate study) for each system. The scope will include two separate master plans for each utility and a combined IFFP, IFA and rate study that incorporates projects from both systems.

Our proposed scope of services is as follows:

PROPOSED SCOPE OF SERVICES – WATER AND SEWER MASTER PLANS WITH IFFP

Task 1: Potable Water System Master Plan

Subtask 1-1: Collect and Review Data

BC&A will collect, review, and organize the data needed to perform the tasks listed in this scope of services. Much of the information needed for the master plan has already been collected by BC&A as part of ongoing projects with Ivins City and WCWCD. As part of this Task, BC&A will prepare for and attend a project kickoff meeting to review the project objectives and schedule, develop project and data coordination procedures, and discuss questions regarding information to be provided by the city.

Subtask 1-2: Progress and Coordination Meetings

BC&A will prepare for and attend up to five (5) progress/coordination meetings with the city to review goals and findings as the master plan progresses. BC&A will also prepare and attend up to three (3) meetings with the Ivins City Council to present and discuss finding and recommendations for the master plan update.

Subtask 1-3: Update City Population Projections

BC&A will update the growth projections for the potable water system using the growth assumptions used in the sewer master plan. BC&A will coordinate final growth projection assumptions with city staff.

Subtask 1-4: Evaluate Current Potable Water Use Patterns and Project Future Potable Demand

In order to determine the quantity and distribution of demand on the water system, BC&A will evaluate available water use records to determine the estimated quantity and distribution of water demand. This task includes:

- Analysis of available water use records to estimate demand per ERU (equivalent residential unit) and indoor vs. outdoor demand.
- Use city provided growth shapefiles to estimate future development density.
- Develop projected water demands through buildout based on the combined results of the activities described above.

Subtask 1-5: Evaluate City Potable Water Supplies

A key component of this study is the evaluation of the city's water supply sources. Water sources will be evaluated on a city-wide basis as well as by each individual pressure zone. This task will involve the following steps:

- Evaluate the adequacy of city sources to meet projected demands on an annual basis.
- Evaluate the adequacy of city sources to meet projected peak demands. This will include consideration of the capacity of individual source during peak demand periods.
- Investigate the effects of major source failure on the system and identify needed source redundancy.
- Compare water production and water sales to identify system losses.

Subtask 1-6: Evaluate City Water Storage Facilities

BC&A will review the city's existing storage capacities and projected needs for future storage needs. Like the evaluation of the city's sources, this analysis will be performed on a city-wide basis as well as by individual pressure zone. Total storage needs will consider equalization, emergency, and fire flow storage needs. This task includes:

- Evaluation of existing storage capacity in terms of equalization, emergency, and fire flow needs.
- Evaluation of the adequacy of existing storage tanks to meet future water system demands.

Subtask 1-7: Update/Calibrate the Hydraulic Computer Model and Evaluate the Potable Water Distribution System

BC&A will update and calibrate the existing hydraulic computer model of the city's water transmission and distribution system. The master plan will utilize a "steady state" simulation which provides a snapshot of the system under steady state flow conditions. Using the updated system demands, supplies, and distribution model, BC&A will evaluate the performance of existing and projected future conveyance and distribution facilities. This will include the evaluation of the following:

- Update demands, pipelines, and other facilities in the city's hydraulic water model. The model will include all pipelines 8-inch and larger and will not include individual service connections. It has been assumed that the city will provide updated GIS data for the system to update the model.
- Use available meter data/GIS records to distribute demand throughout the model.
- Calibrate the model using any available pressure logger data, flow data, etc.
- Evaluate the distribution system under peak day, peak hour, fire flow, and static demand conditions.

Subtask 1-8: Identify Existing Operating Deficiencies

Using the information gathered in previous tasks, BC&A will identify any existing deficiencies in the city's supply sources, storage facilities, transmission and distribution pipelines, and pump stations. This task will include:

- Use the hydraulic computer model to identify potential system deficiencies. Computer model output will be reviewed with city personnel.
- Utilize information provided by the city operations personnel to identify condition related system improvements that should be implemented.

Subtask 1-9: Identify Future Operating Deficiencies

Using the information gathered in previous tasks, BC&A will identify future system deficiencies with sources, storage facilities, pipelines, and pump stations. This task includes:

- Use the hydraulic computer model with future demands to identify parts of the system that have insufficient capacity for future growth.
- Evaluate the adequacy of existing water supply sources and water storage facilities to meet the future needs imposed in the water system.

Subtask 1-10: Evaluate Improvements to Resolve Identified Operating Deficiencies

BC&A will evaluate alternative improvement projects to resolve the identified water system deficiencies. This includes improvements to the city's sources, storage facilities, pipelines, and pump stations. Together with city personnel, BC&A will identify recommended water system capital improvement projects that will resolve the identified deficiencies. The city may also provide a list of

any condition-related improvements that it desires to have included in the list of capital improvements. A cost estimate will be included for the list of improvements.

Subtask 1-11: Develop Potable Water System Capital Facilities Plan

With input from city personnel, BC&A will develop a detailed Capital Facilities Plan for the potable water system. The plan will prioritize projects based on whether they are needed to correct existing deficiencies, replacement and rehabilitation, or future development. The Capital Facilities Plan will provide the city with a detailed 10-year project and budget plan for the potable water system improvements.

Task 2: Secondary Irrigation System Master Plan

Subtask 2-1: Update City Population Projections

BC&A will update the growth projections for the secondary irrigation system using the growth assumptions used in the sewer master plan. BC&A will coordinate final growth projection assumptions with city staff.

Subtask 2-2: Evaluate Current Water Use Patterns and Project Future System Water Demand

In order to determine the quantity and distribution of demand on the water system, BC&A will evaluate available water use records to determine the estimated quantity and distribution of water demand. This task includes:

- Evaluate historical water use records to estimate outdoor/irrigation water demand trends.
- Develop projected water demands through buildout based on the combined results of the activities described above.

Subtask 2-3: Evaluate City Secondary Irrigation Water Supplies

The city's existing secondary irrigation supplies will be evaluated on a city-wide basis as well as by each individual region within the system. This task will involve the following steps:

- Evaluate the adequacy of city sources to meet projected demands on an annual basis.
- Evaluate the adequacy of city sources to meet projected peak demands. This will include consideration of the capacity of individual sources during peak demand periods.
- Investigate the effects of major source failure on the system and identify needed source redundancy.
- Estimate system loss (non-revenue water).

Subtask 2-4: Evaluate Secondary Irrigation Storage Facilities

BC&A will identify future storage facilities needed to operate the secondary irrigation system. Like the evaluation of the city's sources, this analysis will be performed on a city-wide basis as well as by

individual region/pressure zone. Total storage needs will consider equalization storage and emergency storage (if deemed necessary).

Subtask 2-5: Update/Calibrate the Hydraulic Computer Model and Evaluate the Secondary Irrigation Distribution System

BC&A will update and calibrate the existing hydraulic computer model of the city's secondary irrigation transmission and distribution system. The master plan will utilize a "steady state" simulation which provides a snapshot of the system under steady state flow conditions. Using the updated system demands, supplies, and distribution model, BC&A will evaluate the performance of existing and projected future conveyance and distribution facilities.

Subtask 2-6: Identify Existing Operating Deficiencies

Using the information gathered in previous tasks, BC&A will identify any existing deficiencies in the city's supply sources, storage facilities, transmission and distribution pipelines, and pump stations. This task will include:

- Use the hydraulic computer model to identify potential system deficiencies. Computer model output will be reviewed with city personnel.
- Utilize information provided by the city operations personnel to identify condition related system improvements that should be implemented.

Subtask 2-7: Identify Future Operating Deficiencies

Using the information gathered in previous tasks, BC&A will identify future system deficiencies with sources, storage facilities, pipelines, and pump stations. This task includes:

- Use the hydraulic computer model with future demands to identify parts of the system that have insufficient capacity for future growth.
- Evaluate the adequacy of existing water supply sources and water storage facilities to meet the future needs imposed in the water system.

Subtask 2-8: Evaluate Improvements to Resolve Identified Operating Deficiencies

BC&A will evaluate alternative improvement projects to resolve the identified secondary irrigation system deficiencies. This includes improvements to the city's sources, storage facilities, pipelines, and pump stations. Together with city personnel, BC&A will identify recommended secondary irrigation system capital improvement projects that will resolve the identified deficiencies. The city may also provide a list of any condition-related improvements that it desires to have included in the list of capital improvements. A cost estimate will be included for the list of improvements.

Subtask 2-9: Develop Secondary Irrigation System Capital Facilities Plan

With input from city personnel, BC&A will develop a detailed Capital Facilities Plan for the secondary irrigation water system. The plan will prioritize projects based on whether they are needed to correct existing deficiencies, replacement and rehabilitation, or future development. The Capital Facilities Plan will provide the city with a detailed 10-year project and budget plan for the secondary irrigation system improvements.

Task 3: Update IFFP, IFA, and Rate Study

Subtask 3-1: Update Impact Fee Facilities Plan

Using the Capital Facilities Plans developed in previous tasks, BC&A will assemble an Impact Fee Facilities Plan (IFFP) for projects to be included in the 10-year planning window for the potable and secondary irrigation systems. BC&A will develop a methodology for dividing projects between expenses eligible for impact fees and expenses not eligible for impact fees. This will include consideration of capacity used by growth within the 10-year planning window and capacity used by growth beyond the 10-year planning window.

Subtask 3-2: Update Impact Fee Analysis

Using the IFFP developed in Task 3-1, BC&A will assemble an Impact Fee Analysis (IFA). The IFA will calculate the equitable impact fee for new users following Utah State Law.

Subtask 3-3: Update User Rate Analysis

Upon completing the Capital Facilities Plan, IFFP, and IFA, BC&A will update the city's user rate study. This study will include a thorough evaluation of the city's future revenue needs. Based on the findings of the analysis, BC&A will provide recommendations to the city for updates to user rates.

COST SUMMARY

BC&A has tabulated the estimated man-hours and costs to complete each task outlined in the previously defined scope of services. As presented in the attached exhibit, we propose to complete the scope of services for a fee not to exceed $120,700.

We are willing to negotiate the scope of work, schedule, and fee if there is something in this proposal that does not meet your needs. We enjoy working with Ivins City and are very interested in providing engineering services on this project. We are available to start work immediately. Please call if you have any questions or if you need additional information.

Sincerely,

BOWEN COLLINS AND ASSOCIATES

Aaron Anderson, P.E.
Project Manager

Attachment

ATTACHMENT

Ivins Potable and Secondary Irrigation Master Plan Update

Ivins City

Engineering Man-hours and Fee Estimate

3/28/2025

		Office		Engineers			Subtotal Hours	Subtotal Labor	Subtotal Expenses	Total Cost
	Labor Category	Account	Editor	Staff	PM	QAQC				
	Staff	Snow	Hilbert	Goodrich	A. Anderson	Olsen				
	Labor Rate	$104	$117	$149	$188	$228				
Task	**Task Description**									
TASK 1 - POTABLE WATER SYSTEM MASTER PLAN										
1-1	Collect and Review Data			4	2		6	$ 972	$ -	$ 972
1-2	Progress and Coordination Meetings				20		20	$ 3,760	$ 250	$ 4,010
1-3	Update City Population Projections			8	4		12	$ 1,944	$ -	$ 1,944
1-4	Evaluate Current Potable Water Use Patterns and Project Future Potable Demand			24	8		32	$ 5,080	$ -	$ 5,080
1-5	Evaluate City Potable Water Supplies			28	8		36	$ 5,676	$ -	$ 5,676
1-6	Evaluate City Water Storage Facilities			20	8		28	$ 4,484	$ -	$ 4,484
1-7	Update/Calibrate the Hydraulic Computer Model and Evaluate the Potable Water Distribution System			60	16		76	$ 11,948	$ -	$ 11,948
1-8	Identify Existing Operating Deficiencies			24	4		28	$ 4,328	$ -	$ 4,328
1-9	Identify Future Operating Deficiencies			24	4		28	$ 4,328	$ -	$ 4,328
1-10	Evaluate Improvements to Resolve Identified Operating Deficiencies			24	4		28	$ 4,328	$ -	$ 4,328
1-11	Develop Potable Water System Capital Facilities Plan			12	4	4	20	$ 3,452	$ -	$ 3,452
	Sub-Total	**0**	**0**	**228**	**82**	**4**	**314**	**$ 50,300**	**$ 250**	**$ 50,550**
TASK 2 - SECONDARY IRRIGATION MASTER PLAN										
2-1	Update City Population Projections			8	4		12	$ 1,944	$ -	$ 1,944
2-2	Evaluate Current Water Use Patterns and Project Future System Water Demand			20	8		28	$ 4,484	$ -	$ 4,484
2-3	Evaluate City Secondary Irrigation Water Supplies			20	8		28	$ 4,484	$ -	$ 4,484
2-4	Evaluate Secondary Irrigation Storage Facilities			20	8		28	$ 4,484	$ -	$ 4,484
2-5	Update/Calibrate the Hydraulic Computer Model and Evaluate the Secondary Irrigation Distribution System			60	16		76	$ 11,948	$ -	$ 11,948
2-6	Identify Existing Operating Deficiencies			20	4		24	$ 3,732	$ -	$ 3,732
2-7	Identify Future Operating Deficiencies			20	4		24	$ 3,732	$ -	$ 3,732
2-8	Evaluate Improvements to Resolve Identified Operating Deficiencies			20	4		24	$ 3,732	$ -	$ 3,732
2-9	Develop Secondary Irrigation System Capital Facilities Plan			12	4	4	20	$ 3,452	$ -	$ 3,452
	Sub-Total	**0**	**0**	**200**	**60**	**4**	**264**	**$41,992**	**$0**	**$ 41,992**
TASK 3 - IFFP, IFA AND RATE STUDY										
3-1	Update Impact Fee Facilities Plan			32	24	2	58	$ 9,736	$ -	$ 9,736
3-2	Update Impact Fee Analysis			32	24	2	58	$ 9,736	$ -	$ 9,736
3-3	Update User Rate Analysis			30	20	2	52	$ 8,686	$ -	$ 8,686
	Sub-Total	**0**	**0**	**94**	**68**	**6**	**168**	**$28,158**	**$0**	**$ 28,158**
	TOTAL HOURS	***0***	***0***	***522***	***210***	***14***	***746***			
	TOTAL COST NOT TO EXCEED							**$ 120,450**	**$ 250**	**$ 120,700**

Expenses include:
Mileage Charge at $0.75/mile
10% Markup on other project related expenses