

EXHIBIT A

SCOPE OF WORK WATER SYSTEM MASTER PLAN CITY OF WEST LINN

Introduction/General/Background

This Scope of Services has been separated into eleven tasks for clarity and is described in detail below.

Project Understanding and Assumptions

Murraysmith (Consultant) has developed the following scope of work and accompanying fee estimate (Exhibit B) for engineering services for the City of West Linn (City) Water System Master Plan (WMP) Project. This scope of work and estimate of fees have been developed based on our discussions with City staff, the City's Request for Proposals (RFP) and our understanding of the project.

This scope of work details services to be provided to the City by Murraysmith to complete a Water System Master Plan (WSMP) which complies with Oregon Health Authority-Drinking Water Services (OHA-DWS), OAR 333, Division 61 requirements for water master plans.

Scope of Services

Consultant will perform the following services.

Task 1 - Project Management

1.1 Invoices/Status Reports

Consultant will prepare monthly invoices, including expenditures by task, hours worked by project personnel, and other direct expenses with the associated backup documentation. Monthly status reports will accompany each invoice and include comparisons of monthly expenditures and cumulative charges to budget by Task, including cost-to-complete, earned value, cash flow, and certified firm participation.

1.2 Coordination with the Owner

Consultant will maintain communication with the City through meetings via voice, email, and fax communication.

1.3 Management and Coordination of Staff

Consultant will manage and coordinate the technical and scope issues of the overall project. Progress meetings will be conducted as appropriate.

In addition, a Health and Safety Plan (HASP) will be created that is custom to this project. It is the Consultant's policy to promote and foster a safe work environment for the team both inside the office and in the field. The HASP will align with all local Occupation Health and Safety Administration (OSHA) requirements, client safety plans and program, and contractor safety plans.

Based on the Consultant's assessment of the probably risks and demands of this project, the HASP will consist of the Murraysmith + Quincy Office Safety Handbook.

1.4 Coordination of Subconsultants

Consultant will coordinate with subconsultants on specific tasks, scope, and budget. Conduct progress meetings as appropriate.

Task Deliverables

- Consultant shall deliver to the City a monthly invoice and status report covering:
 - Work on the project performed during the previous month.
 - Meetings attended.
 - Problems encountered and actions taken for their resolution.
 - Potential impacts to submittal dates, budget shortfalls or optional services.
 - Budget Analysis.
 - Issues requiring project team action.

Assumptions

- Consultant assumes a Notice to Proceed date by July 2022.
- Consultant assumes up to sixteen (16) one-hour meetings with the Consultant's Project Manager and the City's Project Manager.
- Project duration will be 16 months, therefore it is assumed that there will be up to 16 progress payments/status reports.

Task 2 – Data Collection and Verification

Consultant will provide the City with a written data request, review items provided and request clarification of relevant details. Consultant’s objective is to understand current water system context, known challenges, and goals.

Included in this task is the review of the following water system documentation and information:

- Previous water system studies and financial planning documents
- Water system mapping, record drawings and GIS data
- Codes, standards and operating procedures and practices
- Water use records and water quality data
- Land use, population and planning documents

Task Deliverables

- Formal data request(s).

Assumptions

- All requested reports and data will be provided electronically and transferred to Consultant through Microsoft SharePoint electronic file transfer or another similar platform upon request.

Task 3 – Facilities Inventory – Existing System Description

This task is intended to set the context for the subsequent water system analysis. Consultant will review the 2008 WSMP and update the water system description to include facility, service area, and operational strategy changes since 2008, including:

- Current and future water service area description and boundary definition
- Existing and future service level boundary definitions
- Inventory of existing facilities (supply, reservoirs, pump stations, pressure reducing valves, transmission and distribution piping, and hydrants) – document new, abandoned, or upgraded facilities and operational changes

Task Deliverables

- System Plan Map

- Hydraulic schematic
- Draft Report Section – Existing System Description

Task 4 – Update Population and Water Demand Estimates and Forecasts

Summarize current water capacity requirements based on available water production and customer billing data. Forecast future water requirements at 5, 10 and 20 years, based on available land use information and current water use by customer type. Review projected future water requirements for consistency with other City planning documents and anticipated development timelines for expansion and redevelopment areas.

As part of this task, a water audit will be conducted to quantify annual water loss volumes to help quantify the need for pipeline renewal/replacement programs and provide a baseline for documentation of program implementation benefits.

Task Deliverables

- Draft Report Section – Water Requirements

Assumptions

- City will provide historical water consumption (billing) records for all customers electronically for the past three years (2019, 2020 and 2021).
- City will provide daily water supply records from South Fork Water Board (@ Division Street Pump Station) and from the Lake Oswego WTP (@ City's Emergency Pump Station).
- City to provide data from Regional Water Providers Consortium/PSU – Population Research Center forecasting future population for the City's water service area
- City project staff will coordinate with West Linn Planning Department to solicit feedback on proposed timing of projected growth.

Task 5 – Analysis Criteria Review

Review and, if needed, update capacity and performance criteria for source and distribution facilities established in the 2008 WSMP including:

- Infrastructure renewal and replacement prioritization
- Source capacity, reliability, and quality

- Storage capacity
- Booster pumping capacity, redundancy, and backup power
- Service pressure ranges under normal and emergency conditions
- Required fire flow capacity

Deliverables

Draft Report Section – Planning and Analysis Criteria

Task 6 – System Analysis

6.1 Field Calibration Data Collection

Field calibration data needs to be collected in all pressure zones. A Field Calibration Plan will be developed that will include the identification of the number and location of pressure and flow measurements in the system. The plan will identify the general process for measuring pressure and flow in the system for use in the actual data collection. It is assumed the City will gather the field data without the need for onsite support from Consultant.

Assumptions

- The field testing should be completed in less than one (1) week of field time by City crews.
- The City will take the lead in collecting pressures and flows in the system including providing all the required calibrated equipment.
- City staff will ensure the Supervisory Control and Data Acquisition (SCADA) is recording at all facilities during the field calibration effort.
- The City will provide an electronic summary of all the fire flow tests that will include date, time, location of tests, and results of both the static and fire flow conditions.
- The City will provide SCADA information for all facilities in an electronic format for the time of the field testing in adequate time resolution (i.e. 1 to 5 minute).
- One (1) figure will be developed as part of this subtask.

Deliverables

- Field Calibration Plan and Map

6.2 System Capital Maintenance Needs (Renewal and Replacement)

This subtask will provide an inventory of each water system asset's estimated age, general condition, and estimated remaining life expectancy. In addition to facilities, tabular and graphic illustration of pipe age, material and known condition (pipe break history) will be documented.

A system renewal and replacement plan will be developed to identify:

- Future studies to assess condition and rehabilitation needs for reservoirs and pumps stations (based on known age, condition and other prior investigations)
- Facility renewal needs and timing (ie, reservoir recoating)
- Prioritized water main replacement programming

Assumptions

- The estimated age, condition, remaining life, and improvements required from each facility are available from prior analysis. No updated analysis of condition will be done.

Deliverables

- Capital maintenance needs will be documented in the System Analysis section

6.3 Model Demand Update

The base average water demands will be determined by meter location. Demands will be updated in the hydraulic model using the City's three (3) years of customer billing data, as identified in Task 2.

Assumptions

- City will provide three (3) years of customer billing data (meter usage per billing cycle linked to meter address).

Deliverables

- Demand results and usage patterns will be updated in the City's model.

6.4 Water Supply, Storage and Pumping Evaluation

An update to previous calculations of water supply versus demand will be made on a pressure zone by pressure zone basis for existing, 10, and 20-year scenarios. This will include the evaluation of standby power as well as MDD, PHD, and MDD plus fire flow compared with available supply. Using the criteria established in Task 5, requirements for storage components will also be calculated. Storage components include operational, equalizing, standby, and fire/emergency storage. These calculations will also be conducted under existing, 10-year, and 20-year scenarios.

Deliverables

- Water supply, storage, and pumping capacity analysis tables will be developed as part of this subtask.

6.5 Calibrate Hydraulic Model

Consultant has been supporting the City with maintenance of the existing system model. The model updated as part of that previous work will be used for this WSMP. Consultant will conduct a steady state calibration of the model. The calibration will use the field pressures and flows as well as boundary condition information for all facilities collected by City staff. Calibration results will be documented in tabular and graphical format for inclusion in the WSMP.

Assumptions

- Accuracy of the calibration will be targeted at 5 pounds per square inch (psi) difference for static tests and 10 psi drop difference for flow tests.

Deliverables

- Results of the calibrations will be summarized and included in the WSMP.

6.6 Distribution System Hydraulic Analysis

Using the calibrated hydraulic model, Consultant will evaluate the hydraulics of the distribution system. Consultant will conduct steady state evaluations under ADD, MDD, PHD, and fire flow for existing, 10-year, and 20-year scenarios. Where deficiencies are identified, potential solutions will be determined for review with the City as part of the System Analysis Workshop. Consultant will provide documentation in the form of a narrative as well as tables and figures for summarizing the analysis for inclusion in the WSMP. Consultant will evaluate system improvements and requirements relative to planned zoning and the City's policies on pipe sizing based on land use.

Assumptions

- Consultant will analyze the water system under the existing, 10-year, and 20-year demand scenarios without conservation measures.
- The City will provide feedback to Consultant on areas that are identified with deficiencies in the system.

Deliverables

- A list of deficiencies will be developed as part of this analysis, which will be included in the overall system analysis documentation.

6.7 Water Quality and Regulations

This subtask will include development of a Water Quality and Regulations section of the WSMP. The focus of the section will be distribution system water quality regulations, as SFWB is responsible for source water quality, monitoring and reporting. A summary of trends and areas of concern for the City from a water quality perspective will be provided.

Assumptions

- The City will provide a summary of all water quality sampling since 2018.

Deliverables

- Water Quality and Regulation section will be developed as part of this subtask.

6.8 System Analysis Workshop

Once the model has been simulated under existing, 10-year, and 20-year scenarios, a workshop will be conducted with City staff to discuss the resulting deficiencies and alternatives for potential improvements.

Assumptions

- Additional modeling will be limited to identifying improvements that are suggested at the workshop.
- Up to two (2) workshops will be held virtually with City staff and Consultant to discuss the deficiencies and identify potential solutions. Total duration will be four (4) hours and three (3) Consultant staff will be in attendance.

Deliverables

- A preliminary listing of the proposed capital improvement projects will be developed.

6.9 Document System Analysis

The overall system analysis chapter will be created in this subtask. The 2008 WSMP will be utilized as a template where possible.

Deliverables

- Draft Report Section - System Analysis

Task 7 – Seismic Resilience Analysis

7.1 Identification of Critical Water Supply Locations/ Infrastructure

In collaboration with City staff, develop a map illustrating critical water supply facilities and customers. This mapping will include key water supply points, interties, reservoirs and pump stations. In addition, this mapping will identify the major transmission and distribution piping backbone of the City's water system. Critical water supply locations, such as hospitals, emergency shelters, anticipated emergency water supply distribution sites, and other essential facilities will be identified on the developed map.

7.2 Background Information Review and Site Reconnaissance

Compile and review existing geologic/geotechnical and seismic data in the City water system area to develop preliminary understanding of subsurface conditions and potential seismic hazards. Information sources will include:

- Local and regional geologic publications and maps,
- DOGAMI Seismic Hazard Maps,
- Oregon Department of Water Resources well logs,
- Available geotechnical boring information and reports, and
- Foundation design drawings of the critical facilities of the City's water system.

Consultant will conduct a site visit for the identified critical facilities of the City's water system. We will visually examine the conditions of the slopes and other geologic features near the critical facilities.

7.3 Seismic Hazards Evaluation

Assess the general seismic hazards from a Cascadia Subduction Zone event and potential foundation performances at the critical facilities. We will update and revise the seismic hazard maps (for ground shaking, liquefaction, lateral spreading, and seismic landslide hazards) in the vicinity of the water system areas. In the maps, we will identify potential strong ground shaking zones, liquefaction zones, seismic landslide zones, lateral spreading zones, and critical transition zones between non-liquefiable and liquefiable soils/rock.

Summarize the background review and seismic evaluation results in a seismic hazard technical memorandum.

7.4 Evaluate Pipeline Fragility

Identify pipes in areas subject to Geohazards such as strong ground shaking, liquefaction, and landslides, and assign the probability of occurrence for peak ground velocity and permanent

ground deformation hazards to the water distribution system. Pipeline fragilities will be assigned using published guidelines given pipe material, age and assumed joint type.

For the purposes of this analysis, the fragility of backbone piping identified in Task 6.1 will be evaluated. Broader analysis of the full distribution system is beyond the scope of this assessment.

7.5 - Seismic Resiliency Workshop

Conduct a workshop with City staff to review the various elements of the seismic resiliency evaluation. It is anticipated that this workshop will focus on defining further seismic resiliency study needs and confirming recommended improvements to be included in the CIP for this Water System Master Plan document.

Task Deliverables

- Draft Report Section – Seismic Resilience Analysis

Task 8 – Capital Improvement Plan

This task will be focused on the development of a capital improvement plan (CIP) for the next 20 years. There are two (2) primary pieces to this task: the development of the unit costs that are applied to each of the identified projects and the CIP prioritization workshop.

This task will include projects identified in the system analysis, the Seismic Resilience Analysis, and other projects based on the City’s knowledge of the system.

8.1 Development of Unit and Project Costs

A list of proposed projects based on hydraulic deficiencies and previously identified condition or O&M related deficiencies will be generated. Water supply projects will also be included. Unit costs for pipelines, pump stations and reservoirs in particular will be developed for generating project specific order of magnitude costs. Each project will be described in terms of the reason for the improvement, the location, its size and extent, as well as the total project cost including engineering, administration, legal, and construction. A system-wide figure will be generated showing the improvements along with a unique identifier for each project.

Consultant will compare the capital improvements identified within the City’s existing CIP with those generated as part of this WSMP. Where project costs are different, these differences will be reviewed and incorporated into the WSMP where appropriate.

Assumptions

- The City will provide the existing water system capital projects including those listed in the City’s existing CIP list and identify completed projects.

- Consultant will utilize cost estimating conducted for other northwest utilities cost estimate references (e.g. RS Means) and the current Engineering News Record (ENR) indices.
- Order of magnitude, Class 5 cost estimates will be developed in 2023 dollars.

8.2 CIP Prioritization Workshop

Consultant will conduct a prioritization workshop based on the draft CIP. Consultant will work with the City to develop criteria for the prioritization based on a number of factors including whether it is an existing deficiency or not, the extent of the deficiency, number of customers impacted, type of customer impacted, and whether it addresses both a hydraulic and condition deficiency. Projects to be implemented will be grouped into 4 categories, 1-5 years, 6-10 years, between 11 years and 20 years, and beyond 20 years.

Assumptions

- One (1) workshop has been budgeted for this task. The workshop will be held virtually with City staff and Consultant to prioritize the capital improvement projects. It will be up to three (3) hours total duration with two (2) Consultant staff in attendance.
- Consultant will leverage City staff and existing City CIP documentation where possible and appropriate.

Deliverables

- A preliminary list of the prioritized capital improvement projects and schedule will be developed.

8.3 Document Capital Improvement Program

The overall Capital Improvement Program chapter will be created in this subtask.

Deliverables

- A draft prioritized CIP will be developed for City review and will be included.
- A draft Capital Improvement section will be delivered to the City.

Task 9 – Financial Evaluation

Task 9.1 Data Request and Review

Consultant will provide a data needs list to the City for information such as existing water utility cost projections, historical financial records, and customer base information. Consultant will follow

up as needed to confirm data interpretation and assumptions, and request any required additional information.

Task 9.2 SDC Study

Perform an SDC study for the water utility, including calculation of an improvement fee and a reimbursement fee (if applicable).

- Estimate growth in the water utility customer base over the period covered by the master plan.
- Calculate an improvement fee cost basis based on the project list(s) included in the master plan
- Calculate a reimbursement fee cost basis based on available capacity (if any) in existing water infrastructure
- Calculate the water SDC using the units of estimated growth as the basis of the charge

Task 9.3 Rate Study

Perform a rate study for the water utility, including projection of revenue needs and development of water rate adjustments.

- Using a spreadsheet model, project water utility revenue requirements for twenty fiscal years
- Meet with City staff via video conference to review and refine SDC and rate findings

Task 9.4 Documentation

Communicate the findings and recommendations of the financial portion of the water system master plan.

- Write draft report
- Incorporate staff and Council comments into the final report.
- Provide the City with all spreadsheets used in the analysis

Task 9.5 Meetings and Presentations

Consultant will develop and deliver up to 3 presentations to the public or elected officials, as requested.

Task 10 – Report Preparation

Prepare a draft WSMP report summarizing all work tasks and provide to the City for initial staff review and comment.

Address staff comments and prepare executive summary for City Council.

Coordinate delivery of draft plan to Oregon Health Authority, Drinking Water Services (OHA-DWS) for review including addressing review comments and follow-up correspondence, as required. The City will pay the OHA-DWS plan review fee.

Prepare final WSMP document addressing interim and final review comments from City staff, advisory committees, City Council and OHA-DWS.

The WSMP is anticipated to include the following major sections.

- Executive Summary
- 1. Introduction and Existing System
- 2. Water Requirements
- 3. Planning and Analysis Criteria
- 4. Distribution System Analysis
- 5. Seismic Resilience Evaluation
- 6. Recommendations and CIP
- 7. Financial Plan
- Appendix

Deliverables

- Draft Water System Master Plan
- Executive Summary
- Final Water System Master Plan

Assumptions

1. Draft reports will be delivered in electronic format.
2. Final reports will be in electronic format, except where requested by the District and OHA-DWS. In those cases where printed versions are required, no more than 5 hard copies will be produced.

Task 11 – Board Presentation & Plan Adoption

Consultant will present the draft Water System Master Plan to the Utility Advisory Board, Planning Commission and City Council for adoption, as required. For estimating purposes, two (2) team

members are assumed to attend each meeting, and the following meeting presentations are anticipated:

Utility Advisory Board

Initial presentations of WSMP Scope, Goals and Schedule

Overview of Analysis Findings

Draft WSMP Overview

Planning Commission

WSMP Overview in support of Comprehensive Plan Amendment process (if required)

City Council (assumes two meetings, one as a Work Session)

WSMP Overview #1

WSMP Overview #2

Deliverables

- Presentation materials

Budget

Payment will be made at the Billing rates for personnel working directly on the project, which will be made at the Consultant’s Hourly Rates, plus Direct Expenses incurred. Billing rates are as shown in the table below.

2022 SCHEDULE OF CHARGES			
Personnel:			
Labor will be invoiced by staff classification at the following hourly rates, which are valid from January 1, 2022 through December 31, 2022. After this period, the rates are subject to adjustment.			
<u>Billing Classifications</u>	<u>2022 Rates</u>	<u>Billing Classifications</u>	<u>2022 Rates</u>
Principal Engineer VI	\$292	Construction Manager X	\$270
Principal Engineer V	\$281	Construction Manager IX	\$252
Principal Engineer IV	\$270	Construction Manager VIII	\$238
Principal Engineer III	\$258	Construction Manager VII	\$230
Principal Engineer II	\$249	Construction Manager VI	\$214
Principal Engineer I	\$239	Construction Manager V	\$197
Professional Engineer IX	\$229	Construction Manager IV	\$187
Engineering Designer IX	\$220	Construction Manager III	\$170
Professional Engineer VIII	\$218	Construction Manager II	\$157
Engineering Designer VIII	\$208	Construction Manager I	\$140
Professional Engineer VII	\$206	Inspector VII	\$197
Engineering Designer VII	\$199	Inspector VI	\$181
Professional Engineer VI	\$196	Inspector V	\$164
Engineering Designer VI	\$189	Inspector IV	\$153
Professional Engineer V	\$185	Inspector III	\$136
Engineering Designer V	\$177	Inspector II	\$122
Professional Engineer IV	\$174	Inspector I	\$105
Engineering Designer IV	\$174	Technician IV	\$168
Professional Engineer III	\$169	Technician III	\$150
Engineering Designer III	\$169	Technician II	\$130
Engineering Designer II	\$155	Technician I	\$110
Engineering Designer I	\$143	Project Coordinator IV	\$158
Principal III	\$295	Project Coordinator III	\$147
Principal II	\$270	Project Coordinator II	\$131
Principal I	\$245	Project Coordinator I	\$116
Project Manager III	\$225	Administrative III	\$116
Project Manager II	\$200	Administrative II	\$107
Project Manager I	\$175	Administrative I	\$94
Cost Estimator III	\$263		
Cost Estimator II	\$210		
Cost Estimator I	\$158		
Project Expenses:			
Expenses incurred that are directly attributable to the project will be invoiced at actual cost. These expenses include the following:			
CADD Hardware/Software		\$18.00/hour	
Modeling and GIS Hardware/Software		\$10.00/hour	
Mileage		Current IRS Rate	
Postage and Delivery Services		At Cost	
Printing and Reproduction		At Cost	
Travel, Lodging, and Subsistence		At Cost	
Outside Services:			
Outside technical, professional, and other services will be invoiced at actual cost-plus 10 percent to cover administration and overhead.			
2022 W OR/SW WA	MURRAYSMITH	Confidential	

WATER SYSTEM MASTER PLAN
CITY OF WEST LINN
PROPOSED FEE ESTIMATE

Staff Name	LABOR CLASSIFICATION (HOURS)										Hours	Labor	Subconsultants		Sub Total with Markup	Expenses	GIS Units \$10/hr	Total
	Principal Engineer V \$281	Principal Engineer IV \$270	Prof Eng V \$185	Engineering Designer III \$169	Cost Estimator III \$263	Tech IV \$168	Prof Eng VII \$206	Admin II \$107	Coord IV \$158				MJA	FCS Group				
	Ginter	Boland	DeVoe	King	Griesinger	Harjala	Trott	Steinberg	Ritz									
Task 1 - Project Management																		
Task 1.1 - Invoices/Status Reports	16								20	36	\$ 7,943			\$ -	\$ -	\$ -	\$ -	\$ 7,943
Task 1.2 - Coordination with the Owner	16	4	4							24	\$ 6,553			\$ -	\$ -	\$ -	\$ -	\$ 6,553
Task 1.3 - Management and Coordination of Staff	30	2								40	\$ 10,618			\$ -	\$ -	\$ -	\$ -	\$ 10,618
Task 1.4 - Coordination of Subconsultants	8		4							20	\$ 4,411			\$ -	\$ -	\$ -	\$ -	\$ 4,411
Task 1 Subtotal	70	6	8	0	0	0	0	0	36	120	\$ 29,525	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 29,525
Task 2 - Data Collection and Verification																		
	2		6	8						18	\$ 3,486			\$ -	\$ -	\$ -	\$ -	\$ 3,486
Task 2 Subtotal	2	0	6	8	0	2	0	0	0	18	\$ 3,486	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,486
Task 3 - Facilities Inventory																		
	4		8	24						44	\$ 8,304			\$ -	\$ -	\$ 80	\$ -	\$ 8,384
Task 3 Subtotal	4	0	8	24	0	8	0	0	0	44	\$ 8,304	\$ -	\$ -	\$ -	\$ -	\$ 80	\$ -	\$ 8,384
Task 4 - Population and Water Demand Forecasts																		
	4		8	40						52	\$ 9,715			\$ -	\$ -	\$ -	\$ -	\$ 9,715
Task 4 Subtotal	4	0	8	40	0	0	0	0	0	52	\$ 9,715	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,715
Task 5 - Analysis Criteria Review																		
	6		8	4						18	\$ 3,986			\$ -	\$ -	\$ -	\$ -	\$ 3,986
Task 5 Subtotal	6	0	8	4	0	0	0	0	0	18	\$ 3,986	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,986
Task 6 - System Analysis																		
Task 6.1 - Field Calibration Data Collection	1		6	10			1			18	\$ 3,410			\$ -	\$ -	\$ -	\$ -	\$ 3,410
Task 6.2 - System Capital Maintenance Needs	4		24	24						52	\$ 9,981			\$ -	\$ -	\$ -	\$ -	\$ 9,981
Task 6.3 - Model Demand Update	4		4	16			1			21	\$ 3,787			\$ -	\$ -	\$ 160	\$ -	\$ 3,947
Task 6.4 - Water Supply, Storage and Pumping Evaluation	4		8	16						28	\$ 5,507			\$ -	\$ -	\$ -	\$ -	\$ 5,507
Task 6.5 - Calibrate Hydraulic Model			12	30			2			44	\$ 7,991			\$ -	\$ -	\$ 300	\$ -	\$ 8,291
Task 6.6 - Distribution System Hydraulic Analysis	4		16	40			2			62	\$ 11,678			\$ -	\$ -	\$ 400	\$ -	\$ 12,078
Task 6.7 - Water Quality and Regulations	1		8	8						17	\$ 3,230			\$ -	\$ -	\$ -	\$ -	\$ 3,230
Task 6.8 - System Analysis Workshop	8		8	12						28	\$ 5,972			\$ -	\$ -	\$ -	\$ -	\$ 5,972
Task 6.9 - Document System Analysis	8		16	30						54	\$ 10,663			\$ -	\$ -	\$ -	\$ -	\$ 10,663
Task 6 Subtotal	30	0	102	186	0	0	6	0	0	324	\$ 62,219	\$ -	\$ -	\$ -	\$ -	\$ 860	\$ -	\$ 63,079
Task 7 - Seismic Resilience Analysis																		
Task 7.1 - Identification of Critical Water Infrastructure	4		8	8						20	\$ 4,104			\$ -	\$ -	\$ -	\$ -	\$ 4,104
Task 7.2 - Background Information Review	8		8	4						20	\$ 4,569	\$ 2,910		\$ 3,201	\$ 26	\$ -	\$ -	\$ 7,796
Task 7.3 - Seismic Hazards Evaluation	2	2	4					4		12	\$ 2,608	\$ 7,170		\$ 7,887	\$ -	\$ -	\$ -	\$ 10,495
Task 7.4 - Evaluate Pipeline Fragility	4		16	30						50	\$ 9,497			\$ -	\$ -	\$ -	\$ -	\$ 9,497
Task 7.5 - Seismic Resiliency Workshop	6	2	12	12						32	\$ 6,717			\$ -	\$ -	\$ -	\$ -	\$ 6,717
Task 7 Subtotal	24	4	48	54	0	4	0	0	0	134	\$ 27,496	\$ 10,080	\$ -	\$ 11,088	\$ 26	\$ -	\$ -	\$ 38,610
Task 8 - Capital Improvement Plan																		
Task 8.1 - Development of Unit and Project Costs	4	2	8	32	8					54	\$ 11,056			\$ -	\$ -	\$ -	\$ -	\$ 11,056
Task 8.2 - CIP Prioritization Workshop	8		16	20						44	\$ 8,910			\$ -	\$ -	\$ -	\$ -	\$ 8,910
Task 8.3 - Document Capital Improvement Program	8		16	24						48	\$ 9,611			\$ -	\$ -	\$ -	\$ -	\$ 9,611
Task 8 Subtotal	20	2	40	76	8	0	0	0	0	146	\$ 29,577	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 29,577
Task 9 - Financial Evaluation																		
Task 9.1 - Data Request and Review	1									1	\$ 292		\$ 1,055	\$ 1,161	\$ -	\$ -	\$ -	\$ 1,452
Task 9.2 - SDC Study	2		2							4	\$ 967		\$ 8,185	\$ 9,004	\$ -	\$ -	\$ -	\$ 9,970
Task 9.3 - Rate Study	2		2							4	\$ 967		\$ 8,920	\$ 9,812	\$ -	\$ -	\$ -	\$ 10,779
Task 9.4 - Documentation	1									1	\$ 292		\$ 8,060	\$ 8,866	\$ -	\$ -	\$ -	\$ 9,158
Task 9.5 - Meetings and Presentations	6									6	\$ 1,749		\$ 8,550	\$ 9,405	\$ -	\$ -	\$ -	\$ 11,154
Task 9 Subtotal	12	0	4	0	0	0	0	0	0	16	\$ 4,266	\$ -	\$ 34,770	\$ 38,247	\$ -	\$ -	\$ -	\$ 42,513
Task 10 - Report Preparation																		
	16	4	60	80				20		184	\$ 34,246			\$ -	\$ 500	\$ -	\$ -	\$ 34,746
Task 10 Subtotal	16	4	60	80	0	4	0	20	0	184	\$ 34,246	\$ -	\$ -	\$ -	\$ 500	\$ -	\$ -	\$ 34,746
Task 11 - Board Presentation & Plan Adoption																		
	24	2	32					8		66	\$ 14,587			\$ -	\$ 154	\$ -	\$ -	\$ 14,742
Task 11 Subtotal	24	2	32	0	0	0	0	8	0	66	\$ 14,587	\$ -	\$ -	\$ -	\$ 154	\$ -	\$ -	\$ 14,742
TOTAL - ALL TASKS	212	18	324	472	8	18	6	28	36	1122	\$ 227,408	\$ 10,080	\$ 34,770	\$ 49,335	\$ 680	\$ 940	\$ -	\$ 278,363