

EXHIBIT A
CITY OF CAMAS
SCOPE OF SERVICES

WATER SYSTEM PLAN UPDATE

The following Scope of Services has been developed to assist the City of Camas (City) with the update of its Water System Plan (WSP). The objective of this project is to update and review the elements of the WSP documents, in accordance with Washington Administrative Code (WAC) 246-290-100 and State of Washington Department of Health (DOH) regulations. The following tasks under this Scope of Services have been prepared based on Carollo Engineers, Inc.'s (Consultant) and its subconsultant's current understanding of the proposed project, and through discussions with City staff.

PROJECT BACKGROUND

The City initiated this WSP update recognizing the importance of planning, developing, and maintaining water system facilities that provide reliable and efficient service for existing customers and to serve anticipated growth. The WSP is designed to meet state, county, and local requirements. The project represents a limited update of the City's existing WSP (Carollo, 2019) to align with recent Comprehensive Plan updates, which extend the land use planning period through 2045. This project will consider system needs in the context of providing water service to meet updated population and economic development projections presented in the updated Comprehensive Plan. Limited additional effort will involve evaluating water system needs in portions of the City's service area not considered in the existing WSP.

PROJECT ASSUMPTIONS

- Carollo Engineers, Inc. will be referred to as "Consultant" in this document.
- City of Camas and its staff will be referred to as "City" in this document.
- All meetings will be held on Microsoft Teams, unless otherwise specified.
- Draft chapters will be provided in electronic copy (PDF and/or Microsoft Word) transmitted via email or secure file transfer.
- City comments on draft chapters will be documented in the Project Comment Response Log by the Consultant. The Consultant will prepare responses to address the comments in the Comment Response Log for the City's review and acceptance. Resulting changes will be incorporated in the Draft Agency Review Plan, rather than reissuing a draft chapter at the time. However, revised draft chapters can be produced upon City request.
- Electronic Demand Tool will be provided in .xlsx format.
- The Consultant will prepare an agenda, presentation materials, and document discussions, including action items and decisions, in meeting minutes for Consultant-led meetings.
- Meeting notes and related materials will be transmitted electronically in MS Word and/or PDF formats via email.
- The City will print and produce all documents as necessary for its use. Consultant will not provide any deliverables in a paper format.

- In providing opinions of cost, financial analyses, economic feasibility projections, schedules, and quantity and/or quality estimates for potential projects, the Consultant has no control over cost or price of labor and material; unknown or latent conditions of existing equipment or structures that may affect operation and maintenance costs; competitive bidding procedures and market conditions; time or quality of performance of third parties; quality, type, management, or direction of operating personnel; the incoming water quality and/or quantity; the way the City's plant(s) and/or associated processes are operated and/or maintained; and other economic and operational factors that may materially affect the ultimate project elements, including, but not limited to, cost or schedule. Therefore, the Consultant makes no warranty that the City's actual project costs, financial aspects, economic feasibility, schedules, and/or quantities or quality realized will not vary from the Consultant's opinions, analyses, projections, or estimates.
- The Consultant shall not be responsible for acts and decisions of third parties, including governmental agencies, other than the Consultant's subconsultants, that impact project completion and/or success other than noted elsewhere in this scope of work.
- The City will furnish the Consultant with available studies, reports and other data pertinent to the Consultant's services; obtain or authorize the Consultant to obtain or provide additional reports and data as required; furnish to the Consultant services of others required for the performance of the Consultant's services hereunder, and the Consultant shall be entitled to use and reasonably rely upon all such information and services provided by the City or others in performing the Consultant's services hereunder.
- The WSP update will follow this organization of chapters and meetings as listed in Table 1.

Table 1 Summary of Chapters and Appendices

Chapter/Appendix		Lead
Executive Summary		Consultant
Chapter 1	Introduction	Consultant
Chapter 2	Planning Considerations	Consultant
Chapter 3	Existing System	Consultant
Chapter 4	Operations and Maintenance	Consultant
Chapter 5	Water Requirements	Consultant
Chapter 6	Water Use Efficiency	City
Chapter 7	Water Quality	Consultant
Chapter 8	Water Resources	Consultant with Mott MacDonald
Chapter 9	Water System Analysis	Consultant
Chapter 10	Capital Improvement Plan	Consultant
Chapter 11	Financial Plan	Consultant with FCS
Appendix A	Notice of DNS	City
Appendix B	SEPA Checklist	City
Appendix C	Local Government Consistency Determination Form	City
Appendix D	Agency Comment Letters and Responses	City
Appendix E	Ordinances and Approvals	City

Chapter/Appendix		Lead
Appendix F	Water System Plan Submittal Form	Consultant
Appendix G	DOH Water System Plan Checklist	Consultant
Appendix H	Service Area and Interlocal Agreements	City
Appendix I	Water Facilities Inventory Form	City
Appendix J	Water Rights Self-Assessment Forms	Consultant
Appendix K	Demographic and Demand Forecast	Consultant
Appendix L	Wellhead Protection Plan	City
Appendix M	Water Quality Sampling Procedures and Program	City
Appendix N	Coliform Monitoring Plan	City
Appendix O	Emergency Response Plan	City
Appendix P	Water Shortage Response Plan and Service Reliability	City
Appendix Q	Cross-Connection Control Program	City
Appendix R	Hydraulic Model Development and Calibration TM	Consultant
Appendix S	Standard Construction Specifications for Distribution Mains	City
Appendix T	CIP Cost Estimates	Consultant

Notes:

CIP - capital improvement program; DNS - determination of non-significance; SEPA - State Environmental Policy Act; TM - technical memorandum

Table 2 Summary of Meetings

Meetings	Title	Type
Pre-Plan DOH Meeting	DOH Pre-Meeting	Virtual
Meeting No. 1	Kickoff Meeting	Virtual
Meeting No. 2	Policies and Criteria, Existing System, and Service Area	Virtual
Meeting No. 3	Water Demand Forecasts, Water Use Efficiency, and Conservation	Virtual
Meeting No. 4	Water Management Plan and Hydraulic Model Development	Virtual
Meeting No. 5	Preliminary System Deficiencies	Hybrid
Meeting No. 6	Recommendations Workshop	Virtual
Meeting No. 7	Capital Improvement Plan	Hybrid
Meeting No. 8a, 8b, 8c, and 8d	Financial Review	Virtual
Meeting No. 9	City Review comments	Virtual
Meeting No.10	Agency Review comments	Virtual
	Up to 2 council meetings	In Person
Project Management	36 Coordination Calls (joint with GSP)	Virtual

TASKS

To meet the objectives of this Scope of Services, the Consultant shall complete the tasks as summarized in Table 3 and discussed in detail in the text that follows.

Table 3 Task Summary

Task Number	Task Name
Task 100	Project Management
Task 200	Planning Considerations
Task 300	Existing System
Task 400	Operations and Maintenance
Task 500	Water Requirements
Task 600	Water Use Efficiency
Task 700	Water Quality
Task 800	Water Resources
Task 900	Water System Analysis
Task 1000	Capital Improvement Plan
Task 1100	Financial Plan
Task 1200	Plan Development

TASK 100 - PROJECT MANAGEMENT

The purpose of this task is to direct activities within the WSP as assigned by the City and maintain the project within the contracted scope, schedule, and budget. This consists of project administration, monthly invoicing, client and team coordination and quality assurance/quality control review necessary to successfully complete the WSP to the City's expectations. Additionally, the Consultant will develop a Project Management Plan (PMP) and lead the initial team kickoff meeting. This task consists of the following activities:

TASK 100 ACTIVITIES

Subtask 101 - Monthly Progress Reports and Invoices

This subtask consists of production and implementation of the project plan, schedule, and budget. Assist the project team members in the implementation of the task items, reviewing the work-in-progress reports. Prepare and submit monthly activity reports showing current project status and identifying key issues or elements of the project that will need to be addressed in the proceeding weeks. An electronic version of the monthly progress reports will be sent to the City for review and approval. This task assumes that no hard copy of the monthly progress reports will be distributed.

Subtask 102 - Project Management Plan

Prepare a Project Management Plan (PMP) that describes deliverables, plan outline, anticipated meetings, project roles and responsibilities, lists contact information for the project team, describes communications

protocols, quality management, and includes the scope of services, schedule, and budget. Quality Management includes, but is not limited to, the following elements:

- Project Manager overview of all primary documents to verify technical consistency and compliance with contract requirements.
- Organization of the work into logical deliverables with qualified staff for each task assigned to the work.
- Resolution of all review comments summarizing key comments and the manner in which each was addressed in the work.

Subtask 103 - Pre-Plan DOH Meeting

- Attend DOH Pre-Planning meeting with City staff.

Subtask 104 - Meeting No. 1- Kickoff Meeting

- Facilitate a kickoff meeting to review project management and initial data requests.

Subtask 105 - Client Coordination

- Manage the consultant project team to track time and budget, work elements accomplished, work items planned for the next period, manpower, scope changes, time and budget needed to complete the project.
- Create and maintain a working project schedule based on the schedule in the PMP.
- Review project status, including scope, budget, and schedule.
- Bi-Monthly Virtual Status Meeting. Facilitate virtual PM meetings two times per month to review status of project.

Task 100 Assumptions

1. The PMP will be updated with full incorporation of review comments after the City review of the draft PMP.
2. The total length of the project is 18 months.
3. City provides required documents for appendices.
4. Thirty-six bi-monthly status meetings will be held over Microsoft Teams.
5. Bi-monthly Status Meetings will be jointly held on the WSP and GSP.

Task 100 City Input

1. Team member contact information.
2. Receive, review, and process Consultant invoices in a timely manner.

Task 100 Consultant Deliverables

1. Draft WSP outline.
2. Eighteen monthly progress reports and invoices.

Task 100 Meetings

1. Pre-Plan DOH Meeting.
2. Meeting No. 1 - Kickoff Meeting.
3. PM Virtual Meetings.

TASK 200 - PLANNING CONSIDERATIONS

The objective of this task is to document the planning considerations that influence the WSP. These include the study area, policies, criteria, and related documents.

TASK 200 ACTIVITIES

Subtask 201 - Data Request

Prepare a data request for the required information. The request is expected to consist of updates in the following categories provided by the City since the 2019 WSP:

- Agreements with neighboring jurisdictions.
- Interlocal agreements.
- Review of updated Comprehensive Plan.
- Study area.
- Legislation, regulations, and permits.
- Policies and criteria.

Subtask 202 - Summarize Related Documents

Review list of City, County, and Regional Planning documents related to the 2019 WSP. Summarize information that is important to the operation of the City's water system. It is expected that this will include the updated Comprehensive Plan.

Subtask 203 - Draft and Final Chapter 1 - Introduction

Prepare draft Chapter 1 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final plan.

Subtask 204 - Draft and Final Chapter 2 - Planning Considerations

Prepare draft Chapter 2 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final plan.

Task 200 Assumptions

1. No site visit will be performed.
2. City can provide elements listed under Task 201.
3. No hard copy of the chapters will be distributed.

Task 200 City Input

1. Requested Data from Task 201.
2. Comments on draft Chapter 1 - Introduction.
3. Comments on draft Chapter 2 - Planning Considerations.

Task 200 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Draft Chapter 1 - Introduction.
3. Return on cost (ROC) for Chapter 1 - Introduction.

4. Draft Chapter 2 - Planning Considerations.
5. ROC for Chapter 2 - Planning Considerations.

Task 200 Meetings

1. None.

TASK 300 - EXISTING SYSTEM

The purpose of this task is to document the City's existing water system, including supply, storage, booster pump stations, interties, treatment, and distribution. This task will develop Chapter 3 - Existing System.

TASK 300 ACTIVITIES

Subtask 301 - Data Request

Prepare a data request for the required information. The request is expected to consist of updates to the following since the 2019 WSP:

- Geographic information system (GIS) data for existing facilities, service areas, and inventory.
- Data on pipeline materials and age by linear foot, as available.
- Existing renew and replacement program.
- Summary of improvements completed since the last WSP.
- Data on existing infrastructure (e.g., supply, storage, booster pump stations, interties, and distribution).
- Water Facilities Inventory Form.

Subtask 302 - Review and Update of Existing System

Review and update Chapter 3 of the 2019 WSP to reflect the latest information and maintain consistency throughout the WSP, including storage, booster pump stations, and treatment. Facilities will be updated, as required, based on information provided by the City.

Subtask 303 - Meeting No. 2 - Policies and Criteria, Existing System and Service Area

Review and discuss existing policies and criteria, as well as recommendations. Review and update the existing system and service area. Discuss current operations and City concerns during the meeting.

Subtask 304 - Draft and Final Chapter 3 - Existing System

Prepare draft Chapter 3 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 300 Assumptions

1. City will provide pertinent information for missing or updated facility data.

Task 300 City Input

1. Requested Data from Task 301.
2. Comments on draft Chapter 3 - Existing System.

Task 300 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Draft Chapter 3 - Existing System.
3. ROC for Chapter 3 - Existing System.

Task 300 Meetings

1. Meeting No. 2 - Policies and Criteria, Existing System and Service Area.

TASK 400 - OPERATIONS AND MAINTENANCE

The purpose of this task is to review, update, and evaluate the City's Operations and Maintenance (O&M) Program and document in Chapter 4 - Operations and Maintenance of the WSP.

TASK 400 ACTIVITIES

Subtask 401 - Data Request

Prepare a data request for the required information. The request is expected to consist of the following updates since the 2019 WSP:

- Any updates to the City's standard plans, in PDF format; and specifications, in MS Word. It is assumed the City will provide its standard plans and specifications for inclusion in the WSP.
- Any updates to the City's Cross-Connection Control Program.
- Any updates to the City's Water Shortage Response Plan and Service Reliability, if available.

Subtask 402 - Review O&M Analysis

Review O&M analysis to identify deficiencies and recommendations from the 2019 WSP. Summarize and update as necessary the current operations and maintenance programs. Programs may include Operator certificates and training, lead free, routine, and preventive maintenance, Cross Connection Control Program, and Public Notification Plan/Procedures. O&M analysis will include a description of how O&M will be impacted by per- and polyfluoroalkyl substances (PFAS) removal facilities. Review current operation and maintenance program in relation to state and national water operation standards, including American Water Works Association (AWWA) G200-09 Standards. Propose recommendations and develop CIPs, if needed, based on the review.

Subtask 403 - Draft and Final Chapter 4 - Operations and Maintenance

Prepare draft Chapter 4 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 400 Assumptions

1. City can provide elements listed under Task 401.
2. A detailed evaluation of City O&M programs will not be conducted.
3. City will provide existing design and construction standards as needed to be included in an Appendix.

Task 400 City Input

1. Requested Data from Task 401.
2. Comments on draft Chapter 4 - Operations and Maintenance.

Task 400 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Draft Chapter 4 - Operations and Maintenance.
3. ROC for Chapter 4 - Operations and Maintenance.

Task 400 Meetings

1. None.

TASK 500 - WATER REQUIREMENTS

The purpose of this task is to perform a demographic and demand analysis to predict current and future demands within the City's retail water service area (RWSA). Five-year, 10-year, 20-year, and build-out planning horizons will be evaluated using the best available information. This task will develop Chapter 5 - Water Requirements of the WSP.

TASK 500 ACTIVITIES

Subtask 501 - Data Request

Prepare a data request for the required information. The request is expected to consist of the following updates since the 2019 WSP:

- Growth rates by customer class through the end of the water supply planning horizon. The rates should be consistent with regional planning and population and employment projections on a transportation analysis zones (TAZ) basis.
- Historical connection and water use information by customer class for the past 5 years, since the 2019 WSP.
- Historical Production from each source for the past 5 years, since the 2019 WSP, including annual volume and maximum day production.
- Updates to largest customer locations on a map and annual consumption by customer class.
- Accounted-for Non-Revenue Water for the past 5 years, since the 2019 WSP.
- Identify infill capacity and areas of redevelopment. Specific emphasis will be placed on those areas with a high potential for large scale residential or commercial development, as well as new industrial customers.
- GIS Data: Updates to land use and zoning data, vacant and re-developable land, TAZ boundaries.

Subtask 502 - Demographic Projections Review and Update

Demographic projections will be reviewed and updated to project the future growth in customers. Projections will use data from Clark County and the City to calculate rates of growth for each TAZ and each pressure zone. High, low, and average number of accounts will be prepared for the 5-year, 10-year, and 20-year, and build-out by pressure zone, if sufficient data is available. Accounts per acre will be developed based on existing densities.

Subtask 503 - Demand Projections Review and Update

Demand projections will be for the 5-year, 10-year, 20-year, and build-out planning horizons. Demand projections will include the following:

- Evaluate impact of climate change on demand trends based on results of local climate models.

- Develop the historical average day demands (ADD) and maximum day demands (MDD), the accounted-for-revenue water uses, estimated water loss and leakage planning values, and establish equivalent residential unit (ERU) values for the different customer classes.
- Estimate the future ADD and MDD water demand for each pressure zone based on the demographic projections and historical ERU demand. Estimates of the future water demand will be determined. The range will be based on the statistical variation in the historical ERU demand, leakage values, conservation goals, and the high and low ranges of the demographic projection and the effects of climate change. The City's largest connections, potential large scale industrial demands and future wholesale water customers will be evaluated and projected separately and added to other projected system demands. Peak hour demand (PHD) will be calculated using City specific peaking factors.

Demand projections will be provided to the City in an excel database demand projecting and loading tool.

Subtask 504 - Meeting No. 3 - Water Demand Forecast, Water Use Efficiency, and Conservation

Review demographic analysis and demand projection results. Confirm allocation of demand across customer classes and pressure zones. Review Water Use Efficiency (WUE) program and conservation volumes.

Subtask 505 - Draft and Final Chapter 5 - Water Requirements

Prepare draft Chapter 5 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 500 Assumptions

1. The City will provide most current information from ongoing Comprehensive Plan update.
2. The City will provide data request for data available from 2019 WSP to present.
3. Demographic projections will update projections from 2019 WSP.

Task 500 City Input

1. Requested Data from Task 501.
2. Comments on draft Chapter 5 - Water Requirements.

Task 500 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Draft Chapter 5 - Water Requirements.
3. ROC for Chapter 5 - Water Requirements.
4. Electronic demand tool.

Task 500 Meetings

1. Meeting No. 3 - Water Demand Forecast, Water Use Efficiency, and Conservation.

TASK 600 - WATER USE EFFICIENCY

The City will lead the Water Use Efficiency Chapter, which summarizes the WUE program, estimate the water savings from measures in the past 6 years, and project future conservation water demand. The City will author Chapter 6 - Water Use Efficiency of the. The City will summarize the existing and future WUE

program, including program measures, effectiveness, costs, and benefits. The Consultant will develop future demand projections with the WUE program and review and format Chapter 6. The WUE work efforts will be presented as part of Meeting No. 4 - Water Demand Forecast, Water Use Efficiency, and Conservation.

TASK 600 ACTIVITIES

Subtask 601 - Data Request

Prepare a data request for the required information. The request is expected to consist of the following items if they have been updated since the 2019 WSP:

- Historical Word Document of Chapter 6 - Water Use Efficiency.
- Electronic version of figures and large tables.
- Conservation goals.
- Water Use Efficiency Public Meeting Minutes.

Subtask 602 - Review Future Conservation Water Demand

Review conservation demands (both MDD and ADD) based on the established conservation goals provided by the City from the 2019 WSP. MDD and ADD conservation demands will be developed in the same demand years used in demand projections. Demands will be transmitted electronically to the City.

Subtask 603 - Final Chapter 6 - Water Use Efficiency

Review draft Chapter 6 and provide comments. Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 600 Assumptions

1. City can provide elements listed under Task 601.

Task 600 City Input

1. Requested Data from Task 601.
2. Draft Chapter 6 - Water Use Efficiency.

Task 600 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Comments on Draft Chapter 6 - Water Use Efficiency.
3. Final Chapter 6 - Water Use Efficiency.

Task 600 Meetings

1. None.

TASK 700 - WATER QUALITY

The purpose of this task is to summarize the water quality regulations and reporting requirements, evaluate water quality against the regulations, summarize any water quality violations, and recommend improvements if necessary to meet anticipated or future water quality regulations. This task will develop Chapter 7 - Water Quality of the Plan. The water quality work efforts will be presented as part of Meeting No. 4 - Water Demand Forecast, Water Use Efficiency, and Conservation.

TASK 700 ACTIVITIES

Subtask 701 - Data Request

Prepare a data request for the required information. The request is expected to consist of updates since the 2019 WSP for the following:

- Water Quality Monitoring Plan.
- Summary of water quality test results, including data from well water, treated water, and the distribution system.
- Testing Waivers.

Subtask 702 - Water Quality Summary

Summarize the City's water quality programs and activities. Identify key requirements of applicable water quality regulations.

Subtask 703 - Water Quality Analysis

Review draft Chapter 6 and provide comments. Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Subtask 704 - Draft and Final Chapter 7 - Water Quality

Prepare draft Chapter 7 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 700 Assumptions

1. This task does not include review or update of the City's Water Quality Monitoring Plan and other water quality programs and plans.
2. This task does not include a blending study between surface water and groundwater.

Task 700 City Input

1. Requested Data from Task 701.
2. Comments on draft Chapter 7 - Water Quality.

Task 700 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Draft Chapter 7 - Water Quality.
3. Final Chapter 7 - Water Quality.

Task 700 Meetings

1. None.

TASK 800 - WATER RESOURCES

The purpose of this task is to review and update the current and future water resources to identify potential deficiencies and proposed improvements. Evaluations will consider current water rights, Water Resources Inventory Areas (WRIA), and coordinated regional water system plans. This task will develop Chapter 8 - Water Resources of the Plan.

TASK 800 ACTIVITIES

Subtask 801 - Data Request

Prepare a data request for the required information. The request is expected to consist of the following if updated since the 2019 WSP:

- Existing water rights certificates/permits and pending water rights applications.
- Existing well pump tests, surface water diversion capacity, and other evaluations and/or characterizations of supply capacity.
- Known limitations in supply transmission or treatment capacity.
- Electronic information for the City's existing monitoring wells and sampling protocol.
- Information required by Mott MacDonald for updating the Wellhead Protection Report.
- Source Water Protection Plan.

Subtask 802 - Water Supply Summary

Review and summarize the existing sources of supply for the City's RWSA, including all surface water, groundwater, and interties. The "ability to pump" of each source will include an evaluation of capacity, water rights, treatment capacity, auxiliary power, and other limitations. Identify the criticality of each source.

Subtask 803 - Water Rights Assessment

Review and summarize water right permits, claims, certificates, and pending water right applications and change applications from 2019 WSP. Update DOH Water Rights Self-Assessment Tables 1, 2, and 3 for the existing, 5-year, 10-year, and 20-year planning years, respectively.

Subtask 804 - Water Supply Analysis

Review and summarize the City's ability to provide water supply in accordance with the City's confirmed reliability and supply criteria for the 10-, 20-year, and build-out projected demands within the whole system. Additional supplies or improvements will be identified and summarized, as needed. Summarize the City's water supply strategy plan and recommend program modifications, if needed, to meet all system demands for the planning period.

Subtask 805 - Wellhead Protection Program Update

Review and update City's Wellhead Protection Plan from 2019 WSP to maintain compliance with all requirements of the State of Washington's wellhead protection rules. Work will be performed by Mott MacDonald and will include the following:

- Wellhead Protection Capture Zone Delineations. Mott MacDonald previously modeled the City's wellhead capture zones at full build-out conditions (i.e., total water rights) for the lower Washougal well field area and do not anticipate the need for any updates to the delineations in the 2015 WSP, and therefore were not included in the budget.
- Assess Environmental Threats and Risk Reduction Strategies. Inventory and map potential and confirmed contaminant sources within the delineated capture zone areas using current data contained within Ecology Environmental Information Management (EIM) database system. Evaluate and rank potential risks to the City's supply sources and assess management strategies that can be employed to minimize risk.

- Prepare Contingency Supply Plans. Prepare a contingency supply plan that considers the potential loss of the City's largest supply source due to groundwater contamination including options to use interties from the Cities of Vancouver and Washougal and use of the Camas surface water diversions on Boulder and Jones creeks.
- Prepare Notification Letters. Prepare notification letters that will need to be sent to hazardous waste handlers, first responders, and regulatory agencies as required by WAC 246-290-135. The letters will include maps showing the locations of the wellhead protection capture zones, transportation corridors where spills might be of concern, and waste storage and handling sites. It is assumed that the City will transmit the letters using their letterhead. Electronic versions of the documents and mailing lists will be provided to the City for their transmittal. Copies of the letters will be provided for inclusion in the WSP.
- Provide Assistance with Steigerwald Wellfield Supply Options and Analysis. Mott MacDonald will assist with integrating information from the Steigerwald water supply work that we have completed to date as needed for the 2015 WSP. Up to 2 days of staff time have been included in the budget.
- Prepare Wellhead Protection Plan Summary Report. Prepare a letter report which summarizes the findings of Subtasks 1 through 5. The document will serve as an appendix to the City's WSP document which will be submitted to DOH.
- Mott MacDonald Project Management. Conduct internal communication and management of personnel in accomplishing the project tasks. Mott MacDonald will communicate regularly with City staff and other project team members to keep them informed on project status and will solicit input, as needed. Mott MacDonald will prepare and submit invoices on a monthly basis.

Subtask 806 - Draft and Final Chapter 8 - Water Resources

Prepare draft Chapter 8 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 800 Assumptions

1. The City will provide assumptions on future sources and quantities of supply.
2. City staff will field-verify hazard sites.
3. No sensitivity analyses have been budgeted.

Task 800 City Input

1. Requested Data from Task 801.
2. Comments on draft Chapter 8 - Water Resources.

Task 800 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Wellhead Protection Plan Report Update.
3. Draft Chapter 8 - Water Resources.
4. Final Chapter 8 - Water Resources.

Task 800 Meetings

1. None.

TASK 900 - WATER SYSTEM ANALYSIS

The purpose of this task is to convert the City's model to InfoWater Pro and recalibrate it to current conditions. The model will then be used to evaluate the distribution system. Improvements will be developed for identified deficiencies. Improvements identified in other tasks will be incorporated into the model, as appropriate, to determine the effect of comprehensive improvements. Identified improvements will be reviewed as part of Meeting No. 9 - Capital Improvements.

TASK 900 ACTIVITIES

Subtask 901 - Data Request

- Prepare a data request for the required information. The request is expected to consist of the following:
 - » Potential future supplies or interties, including locations.
 - » Potential location for future storage facilities.
 - » Supervisory control and data acquisition (SCADA) data for diurnal curve development and calibration.
 - » As-builts or list of new projects to be added to the hydraulic model.

Subtask 902 - Updated Hydraulic Profile

Update the previous hydraulic profile according to data provided in the hydraulic model. Prepare a hydraulic profile figure for review by City.

Subtask 903 - Storage Analysis

Identify the storage volume required for each pressure zone based on the established storage criteria for equalizing, fire flow, operational and standby volumes. The storage analysis will be performed for the 6-, 10-, and 20-year projected demands. If storage deficiencies are identified, additional storage volume requirements will be identified by pressure zone and capacity. Potential storage size and location specifically identified by the City will be utilized if future storage needs are identified.

Subtask 904 - Pump Station Analysis

Identify the pumping capacity requirements per City specified criteria. Compare requirements to current pump station capacity to identify any deficiencies for the 10- and 20-year projected demand scenarios. Required upgrades, modifications, or operational changes will be recommended, as necessary.

Subtask 905 - Perform Hydrant Flow Tests

Consultant will provide up to 10 pressure loggers to be used for hydrant flow testing at up to 10 locations. Consultant will identify hydrants to be tested and develop a calibration plan to summarize activities. City staff will install pressure loggers at predetermined locations. Consultant will accompany City staff during flow testing and will read and record flow hydrant flows and pressures. All residual hydrant pressure results will be measured by pressure loggers in addition to manual pressure readings by City staff and recorded by Consultant staff. City will provide hydrant pitot tubes and diffusers. Flow testing will be documented in a Hydrant Flow Testing TM.

Subtask 906 - Update Hydraulic Model

Convert the City's Hydraulic model from InfoWater to InfoWater Pro. Apply demand distribution to the model based on meter locations and demand factors for each customer class. Projected demands for the

largest customers will be applied directly to each customer location. The demands will include the current year for model calibration, as well as the 5-year, 10-year, and 20-year ADD and MDD for planning. Custom diurnal patterns will be developed by service area utilizing historical representative SCADA data.

Subtask 907 - Calibrate Hydraulic Model

Calibrate the model using hydrant flow test data provided by Consultant. Up to 10 hydrant tests will be used for calibration. Consultant will work with the City to determine the appropriate hydrant sites; it is assumed no more than 10 sites will be considered. Verify appropriate model settings and parameters (such as tank levels, pump curves, etc.) using data provided by City, including SCADA information. Calibrate the hydraulic model according to M32 guidelines. Calibrate the model for a 24-hour extended period simulation scenario and 10 steady state conditions. SCADA data will be provided by the City and will be used for calibration.

Subtask 908 - Meeting No.4 - Water Management Plan and Hydraulic Model Development

Review and summarize the existing sources of supply for the City's RWSA, including all surface water, groundwater, and interties. The "ability to pump" of each source will include an evaluation of capacity, water rights, treatment capacity, auxiliary power, and other limitations. Identify the criticality of each source. This meeting will also present the results of the model development and calibration efforts.

Subtask 909 - Draft and Final TM 1 - Hydraulic Model Development and Calibration TM

Prepare draft TM 1 - Hydraulic Model Development and Calibration for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Subtask 910 - Fire and System Pressure Analysis

Using the hydraulic model, perform steady state analysis of the system evaluating fire flow and system pressures per DOH regulations and guidelines based on the City's water system criteria. Identify improvements to address deficiencies under the MDD plus fire flow simulations and the peak hour simulations for the 5-year, 10-year, and 20-year scenarios. The model will also be used to identify minimum system pressures and velocities during peak hour demands. Operational changes will be recommended in addition to physical improvements. The system analysis will focus on distribution capacity deficiencies for pressure, velocity, and flow. The analysis will be conducted for both supply scenarios.

Subtask 911 - Meeting No. 5 - Preliminary System Deficiencies

Facilitate a meeting to review the results from the pumping, storage, and fire and pressure analyses. Discuss potential improvement projects.

Subtask 912 - Meeting No. 6 - Recommendations Workshop

Facilitate a meeting to review the recommendations for inclusion in the City's CIP.

Subtask 913 - Draft and Final Chapter 9 - System Analysis

Prepare draft Chapter 9 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 900 Assumptions

1. The City and Consultant will conduct hydrant flow testing to support model calibrations. Field testing is anticipated to last up to 6 days (an average of five hydrant tests per day).
2. Consultant will provide up to 10 pressure loggers. City will provide the rest of the equipment, including pitot tubes, diffusers for hydrants and any needed equipment to operate hydrants.
3. Hydrant flow testing will be performed in the summer of 2024.
4. The City will provide SCADA data for extended period simulations (EPS) calibration.

Task 900 City Input

1. Requested Data from Task 901.
2. Comments on draft TM 1 - Hydraulic Model Development and Calibration.
3. Comments on draft Chapter 9 - System Analysis.

Task 900 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Draft TM 1 - Hydraulic Model Development and Calibration.
3. Final TM 1 - Hydraulic Model Development and Calibration.
4. Draft Chapter 9 - System Analysis.
5. Final Chapter 9 - System Analysis.
6. Hydrant Flow Testing TM.

Task 900 Meetings

1. Meeting No.4 - Water Management Plan and Hydraulic Model Development.
2. Meeting No.5 - Preliminary System Deficiencies.
3. Meeting No.6 - Recommendations Workshop.

TASK 1000 - CAPITAL IMPROVEMENTS

This Task will review and update the recommended improvements for the sources of supply, storage, distribution and transmission, and pressure zones outlined in the 2019 WSP. Total project costs will be developed for each recommended improvement and ranked by priority. This task will develop Chapter 10 - Capital Improvement for the Plan.

TASK 1000 ACTIVITIES

Subtask 1001 - Cost Estimates

Update project cost for pipe replacement, pump station, reservoir, treatment, and other improvement projects from 2019 WSP. Summarize the recommended system improvements for the 5-year, 10-year, and 20-year terms. Costs will be presented in current dollars and represents an American Association of Cost Engineering (AACE) Class V estimate.

Subtask 1002 - Project Prioritization

Review project prioritization criteria from 2019 WSP. Prioritize all projects into 5-year, 10-year, and 20-year schedules based on evaluation during the WSP. Projects not identified in the WSP will be identified by the City and included for prioritization during this task.

Subtask 1003 - Meeting No. 7 - Capital Improvements

Prepare a data request for the required information. The request is expected to consist of the following.

Subtask 1004 - Electronic CIP

Review CIP projects and develop project prioritization. Review and confirm all CIP project costs.

Subtask 1005 - Draft and Final Chapter 10 - Capital Improvement Plan

Prepare draft Chapter 10 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 1000 Assumptions

1. City provides bid costs of recent projects, if available.

Task 1000 City Input

1. Requested Data from Task 1001.
2. Comments on draft Chapter 10 - Capital Improvement Plan.

Task 1000 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Draft Chapter 10 - Capital Improvement Plan.
3. Final Chapter 10 - Capital Improvement Plan.
4. Electronic CIP.

Task 1000 Meetings

1. Meeting No.7 - Capital Improvements

TASK 1100 - FINANCIAL

The purpose of this task is to review and update Chapter 11 - Financial Plan, which will be conducted by FCS. Chapter 11 will identify the total cost of providing water service, assure that the utility improvement schedule will be implemented, and assist in establishing adequate fees for service. The financial program will be coordinated with the CIP.

TASK 1100 ACTIVITIES

Subtask 1101 - Data Collection and Validation

Prepare an initial data request identifying financial and operational documents pertinent to the performance of the study. The Consultant will provide the CIP and relevant draft WSP chapters. Review, analyze, and validate data as necessary for use in formulating the technical analysis. Follow up with requests for any additional items or explanations, as necessary.

Subtask 1102 - Historical Financial Performance Review

Review and document the financial operations (revenue and expenses) and financial condition (assets and liabilities) of the water utility for the previous 6-year period. Summarize noteworthy financial trends.

Subtask 1103 - Fiscal Policy Review

Review the City's current fiscal policies for operating and capital reserves, system reinvestment funding, debt management, and debt service coverage.

Subtask 1104 - Capital Financing Plan

Evaluate capital funding options and develop a capital financing plan for the 6-, 10-, and 20-year CIPs. The analysis will include a forecast of capital funding needs, borrowing requirements, and associated cash flows and cash balances over the study period. Evaluate and recommend an appropriate balance of funding from cash, system development charges (SDC), bonds, low interest loans and/or other available funding sources. Depending upon preliminary results, FCS will work closely with the Consultant and the City to perform sensitivity analyses for alternative scheduling of capital projects in order to smooth customer rate impacts. The budget provides for up to three scenarios.

Subtask 1105 - Operating Forecast

The City's current water operating budgets will be used as the baseline for forecasting ongoing O&M costs, debt service, and other financial obligations of the water utility over the 6-year and 20-year study periods. Incorporate engineering planning growth forecasts and establish economic factors for cost escalation. Integrate additional O&M expenses, if any, resulting from the CIP and any other known changes in operational requirements.

Subtask 1106 - Revenue Needs Assessment

Integrate fiscal policies, capital financing impacts and the operating forecast, and develop an operating cash flow projection for the 6-year and 20-year study periods. Compare forecasted financial requirements against forecasted revenue under existing rates to determine annual and cumulative revenue adjustments needed to ensure financial sustainability over time.

Subtask 1107 - Rate Forecast and Affordability Test

Develop a rate forecast for the 6-year period. Apply annual rate adjustments to the City's existing water rate structures "across-the-board" to each rate class and rate charge (fixed and variable). Note: this scope does not include changes to the City's existing water rate structure. The Financial Chapter will include a narrative discussion of potential rate structure enhancements, if necessary. Perform an affordability test as an indication of a residential customer's ability to pay the existing and forecasted rates. This includes an analysis and comparison of the water system's existing and forecasted average residential bills to 2.5 percent of the median household income. This test will be conducted for the 6-year and 20-year study periods.

Subtask 1108 - Meeting No. 8 - Financial Review

Review results over four remote meetings before finalizing the Financial Chapter. Meeting will be attended by FCS and Carollo.

Subtask 1109 - Draft and Final Chapter 11 - Financial Plan

Prepare draft Chapter 11 for City's review and approval. City comments and Consultant responses will be tracked in the Comment Response Log. Comments on this chapter will be incorporated into the final WSP.

Task 1100 Assumptions

1. City can provide elements listed under Task 1101.
2. This scope does not include changes to the City's existing water rate structure.

Task 1100 City Input

1. Requested Data from Task 1101.
2. Comments on draft Chapter 11 - Financial Plan.

Task 1100 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Draft Chapter 11 - Financial Plan.
3. Final Chapter 11 - Financial Plan.

Task 1100 Meetings

1. Meeting No. 8a, 8b, 8c, 8d - Financial Review.

TASK 1200 - PLAN DEVELOPMENT

The purpose of this task is to integrate comments on the WSP into a clear and comprehensive Water System Plan document. The City Draft Plan will be prepared, including an Executive Summary. This task also includes incorporating comments and developing the Agency Review Draft Plan and Final Plan.

TASK 1200 ACTIVITIES

Subtask 1201 - Executive Summary

Prepare an executive summary, summarizing each element of the Water System Plan.

Subtask 1202 - City Draft Plan

Prepare Cover Sheet, Table of Contents, and Executive Summary. Compile Chapters and develop Appendices. Prepare one PDF of City draft document for City staff review the City's water quality programs and activities. Identify key requirements of applicable water quality regulations.

Subtask 1203 - Meeting No. 9 - City Review Comments

Meet with City to discuss comments on draft document. Incorporate comments to be included into Agency Draft Plan.

Subtask 1204 - Agency Draft Plan

Incorporate City comments into an Agency Draft plan to be submitted for agency review. An electronic PDF will be developed for City reproduction and distribution of plan to agencies and adjacent purveyors.

Subtask 1205 - Meeting No. 10 - Agency Review Comments

Meet with Agency to discuss comments on draft document. Incorporate comments to be included into Final Plan.

Subtask 1206 - Final Plan

Consultant will review agency review letters for incorporation into the Final Plan. Delivery of the Final Plan will include one electronic PDF.

Task 1200 Assumptions

1. The City provides required documents for appendices, including acceptance ordinances.
2. It is anticipated that City will distribute the WSP to DOH, county agencies, and adjacent purveyors review for approval. The City will collect public and agency review comments and deliver to Consultant. City will develop written responses received during agency review process.
3. Plans will be delivered via electronic PDF.

Task 1200 City Input

1. City comments.
2. Public and Agency review comments.

Task 1200 Consultant Deliverables

1. Meeting Agendas, Materials, and Minutes.
2. Executive Summary.
3. City Draft Plan - PDF.
4. Agency Draft Plan - PDF.
5. Final Plan - PDF

Task 1200 Meetings

1. Meeting No. 9 - City Review Comments.
2. Meeting No. 10 - Agency Review Comments.

CITY OF Camas
Water System Plan
LEVEL OF EFFORT

4076 00

1-Aug-24

TASK / DESCRIPTION	PERSONNEL											Total Hours	Carroll Labor Cost	CONSULTANTS					Total Direct Charges	PECE	TOTAL COST	
	Jude Grounds	Matt Huang	Jill Kjellson	Ali Leeds	Aurelie Nabonnand	Max Mozer	Connor Mancosky	Madeleine LaPorte	Kevin Christensen/ Varies	Varies				FCS	Mott McDonald	Total Subconsultant Cost	Total Subconsultant Markup 5%	Total Subconsultant Cost with Markup				
	PIC	PM	APM	Principal Professional - Water Quality	QA/QC	Professional - Modeler	Project Professional - Water Quality	Staff Engineer	GIS/Graphics	DP												
Task 100 - Project Management	9	29	45	0	4	27	0	0	0	22	136	\$ 30,373	\$ -	\$ 15,628	\$ 15,628	\$ 782	\$ 16,410	\$ -	\$ 15,80	\$ 2,149	\$ 48,938	
101 Monthly Progress Report and Invoice		3	18							16	39	\$ 7,187	\$ -	\$ 5,255	\$ 5,255	\$ 263	\$ 5,518	\$ -	\$ 616	\$ -	\$ 13,331	
102 Project Management Plan			1							4	5	\$ 705	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 79	\$ -	\$ 784
103 Pre-Plan DQH Meeting		4	4			1					9	\$ 2,249	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 142	\$ -	\$ 2,391
104 Meeting No. 1 - Kick-off Meeting		4	4			8					16	\$ 3,656	\$ -	\$ 3,533	\$ 177	\$ 3,710	\$ -	\$ 253	\$ -	\$ -	\$ 7,619	
105 Client and Team Coordination	9	18	18		4	18					67	\$ 16,572	\$ -	\$ 6,840	\$ 6,840	\$ 342	\$ 7,182	\$ -	\$ 1,059	\$ -	\$ 24,813	
Task 200 - Planning Considerations	0	2	4	0	3	13	0	14	5	12	53	\$ 9,296	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 837	\$ -	\$ 10,133	
201 Data Request			1			1		2			4	\$ 768	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 63	\$ -	\$ 831
202 Summarize Related Documents			1			2		4			7	\$ 1,299	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 111	\$ -	\$ 1,410
203 Draft and Final Chapter 1 - Introduction		1	1		1	4		4	1	4	16	\$ 2,833	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 253	\$ -	\$ 3,086
204 Draft and Final Chapter 2 - Planning Considerations		1	1		2	6		4	4	8	26	\$ 4,396	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 411	\$ -	\$ 4,807
Task 300 - Existing System	0	2	4	0	3	15	0	12	6	8	50	\$ 9,852	\$ 4,925	\$ 4,925	\$ 247	\$ 5,172	\$ -	\$ 790	\$ -	\$ 790	\$ 15,014	
301 Data Request						1		2			3	\$ 531	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47	\$ -	\$ 578
302 Review and Update Existing System						4		2	4		10	\$ 1,742	\$ 1,930	\$ 1,930	\$ 97	\$ 2,027	\$ -	\$ 158	\$ -	\$ 158	\$ 3,927	
303 Meeting No. 2 - Policies and Criteria, Existing System, and Service Area		1	2		1	8					12	\$ 2,594	\$ 780	\$ 780	\$ 39	\$ 819	\$ -	\$ 190	\$ -	\$ 190	\$ 3,603	
304 Draft and Final Chapter 3 - Existing System		1	2		2	2		8	2	8	25	\$ 4,185	\$ 2,215	\$ 2,215	\$ 111	\$ 2,326	\$ -	\$ 395	\$ -	\$ 395	\$ 6,906	
Task 400 - Operations and Maintenance	0	1	3	0	2	13	0	14	0	8	41	\$ 7,319	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 648	\$ -	\$ 7,967	
401 Data Request						1		2			3	\$ 531	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47	\$ -	\$ 578
402 Review O&M Analysis			1			6		6			13	\$ 2,433	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 205	\$ -	\$ 2,638
403 Draft and Final Chapter 4 - Operations and Maintenance		1	2		2	6		6		8	25	\$ 4,355	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 395	\$ -	\$ 4,750
Task 500 - Water Requirements	0	7	6	0	5	29	0	54	12	9	122	\$ 22,148	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,928	\$ -	\$ 24,076	
501 Data Request						1		2			3	\$ 531	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47	\$ -	\$ 578
502 Demographic Projections Review and Update		1				4		12	4		21	\$ 3,667	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 332	\$ -	\$ 3,999
503 Demand Projections Review and Update		1			2	8		24	4		39	\$ 6,925	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 616	\$ -	\$ 7,541
504 Meeting No. 3 - Water Demand Forecast, Water Use Efficiency, and Conservation		4	4		1	8		8		1	26	\$ 5,330	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 411	\$ -	\$ 5,741
505 Draft and Final Chapter 5 - Water Requirements		1	2		2	8		8	4	8	33	\$ 5,695	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 521	\$ -	\$ 6,216
Task 600 - Water Use Efficiency	0	3	8	0	2	3	0	18	0	6	40	\$ 7,470	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 632	\$ -	\$ 8,102	
601 Data Request						1		2			3	\$ 531	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47	\$ -	\$ 578
602 Review Future Conservation Water Demand		2	4			2		8			16	\$ 3,220	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 253	\$ -	\$ 3,473
602 Final Chapter 6 - Water Use Efficiency		1	4		2			8		6	21	\$ 3,719	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 332	\$ -	\$ 4,051
Task 700 - Water Quality	0	1	1	9	2	0	64	0	0	8	85	\$ 18,093	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,343	\$ -	\$ 19,436	
701 Data Request					1			1			5	\$ 1,131	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 79	\$ -	\$ 1,210
702 Water Quality Summary					2			24			26	\$ 5,886	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 411	\$ -	\$ 6,097
703 Water Quality Analysis					2			24			26	\$ 5,886	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 411	\$ -	\$ 6,097
704 Draft and Final Chapter 7 - Water Quality		1	1	4	2			12		8	28	\$ 5,590	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 442	\$ -	\$ 6,032
Task 800 - Water Resources	0	7	7	4	2	13	0	22	2	8	65	\$ 12,641	\$ 26,160	\$ 26,160	\$ 1,308	\$ 27,468	\$ -	\$ 1,027	\$ -	\$ 1,027	\$ 41,136	
801 Data Request						1		2			3	\$ 531	\$ 2,260	\$ 2,260	\$ 113	\$ 2,373	\$ -	\$ 47	\$ -	\$ 47	\$ 2,951	
802 Water Supply Summary			2			4		4			6	\$ 1,134	\$ 1,705	\$ 1,705	\$ 85	\$ 1,790	\$ -	\$ 95	\$ -	\$ 95	\$ 3,019	
803 Water Rights Assessment			2			2		4			4	\$ 876	\$ 2,515	\$ 2,515	\$ 126	\$ 2,641	\$ -	\$ 63	\$ -	\$ 63	\$ 3,580	
804 Water Supply Analysis		2	2			4		8			16	\$ 3,148	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 253	\$ 3,401	
805 Wellhead Protection Program Update		1	1			2		2			4	\$ 914	\$ 12,920	\$ 12,920	\$ 646	\$ 13,566	\$ -	\$ 63	\$ -	\$ 63	\$ 14,543	
806 Draft and Final Chapter 8 - Water Resources		4	4	4	2	4		8	2	8	32	\$ 6,038	\$ 6,760	\$ 6,760	\$ 338	\$ 7,098	\$ -	\$ 506	\$ -	\$ 506	\$ 13,642	
Task 900 - Water System Analysis	1	31	35	0	13	143	0	164	48	29	464	\$ 86,703	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,200	\$ 7,331	\$ 97,234	
901 Data Request						1		2			3	\$ 531	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47	\$ -	\$ 578
902 Updated Hydraulic Profile			1			4		4		8	17	\$ 2,637	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 269	\$ -	\$ 2,906
903 Storage Analysis		2	1			6		4	2	2	15	\$ 2,957	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 237	\$ -	\$ 3,194
904 Pump Station Analysis		2	1			6		4	2	2	15	\$ 2,957	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 237	\$ -	\$ 3,194
905 Perform Hydrant Flow Tests		1	4			36		60	12		113	\$ 20,183	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000	\$ 1,785	\$ -	\$ 23,968	
906 Update Hydraulic Model		4	2		2	12		16	8		44	\$ 8,316	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 695	\$ -	\$ 9,011
907 Calibrate Hydraulic Model		6	2		1	24		36	2		71	\$ 13,429	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,122	\$ -	\$ 14,551
908 Meeting No. 4 - Water Management Plan & Hydraulic Model Development	1	2	6		2	8		8	2	1	22	\$ 4,785	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 348	\$ -	\$ 5,133
909 Draft and Final TM 1 - Hydraulic Model Development and Calibration TM		2	4		2	6		6	4	8	32	\$ 5,712	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 506	\$ -	\$ 6,218
910 Fire and System Pressure Analysis		2	2			12		16	8		40	\$ 7,292	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 632	\$ -	\$ 7,924
911 Meeting No. 5 - Preliminary System Deficiencies		4	6		2	12		8	2	2	28	\$ 5,946	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,200	\$ 442	\$ -	\$ 7,588	
912 Meeting No. 6 - Recommendations Workshop		2	4		2	8		8	2	2	28	\$ 5,438	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 442	\$ -	\$ 5,880
913 Draft and Final Chapter 9 - System Analysis		4	2		2	8		8	4	8	36	\$ 6,520	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 589	\$ -	\$ 7,089
Task 1000 - Capital Improvements	0	13	12	0	5	28	0	50	20	9	137	\$ 25,575	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,200	\$ 2,165	\$ 28,940	
1001 Cost Estimates		1	1			2		8			12	\$ 2,234	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 190	\$ -	\$ 2,424
1002 Project Prioritization		2	1			4		8			15	\$ 2,911	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 237	\$ -	\$ 3,148
1003 Meeting No. 7 - Capital Improvements		6	6		1	8		8	2	1	32	\$ 6,658	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,200	\$ 506	\$ -	\$ 8,364	
1004 Electronic CIP		2	2			8		24	16		54	\$ 9,498	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 853	\$ -	\$ 10,351
1005 Draft and Final Chapter 10 - Capital Improvement Plan		2	2		2	6		2	2	8	24	\$ 4,274	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 379	\$ -	\$ 4,653
Task 1100 - Financial	0	6	12	0	2	18	0	12	4	8	62	\$ 12,110	\$ 23,535	\$ 23,535	\$ 1,633	\$ 25,168	\$ -	\$ 980	\$ -	\$ 980	\$ 38,258	
1101 Data Collection and Validation						2		4			6	\$ 1,062	\$ 1,720	\$ 1,720	\$ 316	\$ 2,036	\$ -	\$ 95	\$ -	\$ 95	\$ 3,	

CONSULTANT BILLING RATES

CITY OF CAMAS

2025 WATER SYSTEM PLAN AND GENERAL SEWER PLAN

Carollo Engineers, Inc. billing rates and other direct expenses are defined in the tables below. These rates are for calendar years 2024 and projected through 2026. If the contract is extended beyond December 31, 2026, Carollo Engineers, Inc., reserves the right to modify the rates on an annual basis.

Project Role	Hourly Rate		
	2024	2025	2026
Senior Advisor/SME	\$295.00	\$310.00	\$325.00
Project Manager	\$262.00	\$275.00	\$289.00
Principal Professional	\$262.00	\$275.00	\$289.00
Senior Professional	\$226.00	\$237.00	\$249.00
Project Professional	\$204.00	\$214.00	\$225.00
Professional	\$191.00	\$201.00	\$211.00
Staff Professional	\$157.00	\$165.00	\$173.00
Senior Technician	\$159.00	\$167.00	\$175.00
Assistant Professional	\$149.00	\$156.00	\$164.00
Technician	\$145.00	\$152.00	\$160.00
Document Processing	\$111.00	\$117.00	\$123.00

Expense			
Project Equipment Computer Expense (PECE)	\$15.00/hr	\$15.80/hr	\$16.60/hr
Travel and Subsistence	At cost		
Mileage at IRS Reimbursement Rate	\$0.67 per mile effective January 1, 2024		
Subconsultant	Cost + 10%		
Other Direct Cost	Cost + 10%		