

HIGHLINE WATER DISTRICT King County, Washington

RESOLUTION 25-1-28B

RESOLUTION AUTHORIZING CONSULTANT AGREEMENT FOR SERVICES WITH CAROLLO ENGINEERS, INC., FOR 2026 WATER SYSTEM PLAN UPDATE

WHEREAS, per RCW 57.16.010, the Board of Commissioners of Highline Water District shall adopt a general comprehensive plan for the type or types of facilities the district proposes to provide; and

WHEREAS, the District reviewed Statement of Qualifications from three (3) firms on the Municipal Research and Services Center (MRSC) Consultant Roster in accordance with District procurement policy to provide the consulting services to update the District's 2026 Comprehensive Water System Plan; and

WHEREAS, management recommends Carollo Engineers, Inc. as the most qualified firm.

NOW, THEREFORE, BE IT RESOLVED:

1. The Board of Commissioners authorizes the General Manager or designee to prepare and enter a consultant contract with Carollo Engineers, Inc. to update the District's 2026 Comprehensive Water System Plan based on the Scope of Services (Attachment-A) and Budget (Attachment-B) for a not-to-exceed amount of \$359,993.00.
2. The General Manager and Legal Counsel are authorized to make minor changes to the District's standard consultant contract as required.

ADOPTED BY THE BOARD OF COMMISSIONERS of Highline Water District, King County, Washington, at an open public meeting held this **28th** day of **January 2025**.

BOARD OF COMMISSIONERS

DocuSigned by:


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Vince Koester, President

Signed by:

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Todd Fultz, Secretary

DocuSigned by:

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Polly Daigle, Commissioner

Signed by:

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Daniel Johnson, Commissioner

Signed by:

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Kathleen Quong-Vermeire, Commissioner

HIGHLINE WATER DISTRICT
2026 WATER SYSTEM PLAN

The following Scope of Services has been developed to assist the Highline Water District (District) with the update of its Water System Plan (Plan). The objective of this project is to update and/or provide technical assistance and review of all elements of the Highline Water District Comprehensive Water System Plan document, in accordance with WAC 246-290-100. The following tasks under this Scope of Services have been prepared based on Carollo Engineers' (Consultant) current understanding of the proposed project and on discussions with District staff.

PROJECT BACKGROUND

The District operates and maintains a water supply, treatment, and distribution system, serving customers in its water service area. Currently, the District delivers water to its customers from local wells, interties with Seattle Public Utilities, booster pump stations, and storage tanks. The District's last Comprehensive Water System Plan was completed in 2015.

Project Assumptions:

- Carollo Engineers, Inc. will be referred to as "Consultant" in this document.
- Highline Water District and its staff will be referred to as "District" 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.
- District 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 District'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 District 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 District will print and produce all documents as necessary for its use. Consultant will not provide any deliverables in a paper format.
- The Consultant shall complete the services required hereunder in accordance with the prevailing engineering standard of care by exercising the skill and ability ordinarily required of engineers performing the same or similar services, under the same or similar circumstances, in the State of Washington.
- 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 District'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 District's actual project costs, financial aspects, economic feasibility,

EXHIBIT A – Scope of Services

schedules, and/or quantities or quality realized will not vary from the Consultant’s opinions, analyses, projections, or estimates.

- The services to be performed by the Consultant are intended solely for the benefit of the District. No person or entity not a signatory to the Agreement shall be entitled to rely on the Consultant's performance of its services hereunder, and no right to assert a claim against the Consultant by assignment of indemnity rights or otherwise shall accrue to a third party as a result of the Agreement or the performance of the Consultant's services hereunder.

Summary of Chapters and Meetings:

Executive Summary	
Chapter 1:	Introduction
Chapter 2:	Description of Water System
Chapter 3:	Planning Data and Water Demands
Chapter 4:	Water Use Efficiency and Conservation
Chapter 5:	Water System Analysis
Chapter 6:	Water Quality
Chapter 7:	Operations and Maintenance Program
Chapter 8:	Capital Improvement Program
Chapter 9:	Financial Program

Meeting	Title	Type
Meeting No. 1	Kickoff Meeting	Virtual
Meeting No. 2	Review of Water System	Virtual
Meeting No. 3	Water Demand Forecast, Water Use Efficiency, and Conservation	In Person
Meeting No. 4	Water Supply Analysis	In Person
Meeting No. 5	System Analysis and Identified Improvements	In Person
Meeting No. 6	Water Quality	Virtual
Meeting No. 7	Operations and Maintenance Plan	In Person
Meeting No. 8	Capital Improvement Plan	In Person
Meeting No. 9	Financial Plan	In Person
Meeting No. 10	District Review Comments	Virtual
	18 Project Management Meetings	Virtual
	District Board meeting(s)	In Person

EXHIBIT A – Scope of Services

PROJECT TASKS**TASK 100 – PROJECT MANAGEMENT**

The purpose of this task is to direct activities within the Plan as assigned by the District 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 Plan to the District's expectations. Additionally, the Consultant will develop a Project Management Plan (PMP) and lead the initial team kick-off meeting. This task consists of the following 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 District 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.

An electronic version of the Project Management Plan will be sent to the District for review and approval. This task assumes that no hard copy of the Project Management Plan will be distributed.

Subtask 103: DOH Preplan Meeting and Meeting No. 1 – Kickoff Meeting

Attend DOH Pre-Planning meeting with District staff. Facilitate a kick-off meeting to review project management and initial data requests.

Subtask 104: Project Administration

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. Include monthly progress meetings with District staff.

Task 100 Assumptions:

1. The PMP will be updated with full incorporation of review comments after the District review of the draft PMP.

EXHIBIT A – Scope of Services

2. The total length of the project is 18 months.
3. District provides required documents for appendices.
4. 18 monthly Status Meetings will be held over Microsoft Teams.

Task 100 District Input:

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

Task 100 Consultant Deliverables:

1. Meeting agendas, materials, and minutes.
2. Draft Plan outline.
3. Draft PMP.
4. Final PMP.
5. Eighteen monthly progress reports and invoices.

Task 100 Meetings:

1. Pre-Plan DOH Meeting.
2. Meeting No. 1 – Kick off Meeting.
3. PM Monthly Meetings.

TASK 200 – PLANNING CONSIDERATIONS AND WATER SYSTEM REVIEW

The objective of this task is to create the District's introduction to the Plan, review and establish new policies and criteria, and document the District's existing water system (e.g., supply, storage, booster pump stations, interties, and distribution). This task consists of the following activities:

Subtask 201: Data Request and Review

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

- Related comprehensive water plans from the neighboring jurisdictions and other related plans.
- Agreements with neighboring jurisdictions.
- Interlocal Agreements.
- Neighboring/adjacent jurisdictions map, in Geographic Information System (GIS) format with current boundaries.
- GIS data for the water system includes District Limits, current water service area, urban growth area (UGA), and interties.
- Policies and criteria related to service area and conditions of service.
- Emergency Management goals, including redundancy and reliability standards related to system components, in MS Word.
- Duty to Serve.
- Satellite management program.
- Annexation policy.
- GIS data for existing facilities, service areas, and inventory.
- Summary of improvements completed since the last Plan.

EXHIBIT A – Scope of Services

- Data on existing infrastructure (e.g., supply, storage, booster pump stations, interties, and distribution).
- Water Facilities Inventory Form.

Subtask 202: Policy and Regulatory Review

Summarize established water system policies and criteria, provided by the District, that relate to the administration, operation and management of the Water System for the Plan. Review District’s policies and criteria from the previous water system plan and recommend changes to comply with State standards or industry best practices. Confirm the service area for the 10 and 20 year scenarios including future wholesale customers.

Subtask 203: Climate Resilience Element

The purpose of this subtask is to include a climate resilience element in the Plan. This effort will include the following, to meet RCW 43.20.310

- Summarize which extreme weather events pose significant challenges to the District’s system and potential impacts;
- Summarize critical assets and the actions necessary to protect the system from the consequences of extreme weather events on system operations; and
- Summarize costs and benefits of the system’s risk reduction strategies and capital project needs. Develop recommendations, if not available.

Subtask 204: Meeting No. 2 – Review of Water System

Facilitate a meeting to review policies and criteria and discuss recommendations. This meeting will also include a review of existing system, infrastructure, as well as service area and boundaries.

Subtask 205: Draft Chapters 1 & 2

Produce and deliver Draft Chapters associated with Task 200 activities for the District’s review and approval. An electronic version of the draft Chapter will be sent to the District for review. District comments and Consultant responses will be tracked in the Comment Response Log (ROC). Comments on these chapters will be incorporated into the Final Plan, developed in Task 1000. Task 200 Chapters consist of:

- Draft Chapter 1 – Introduction
- Draft Chapter 2 – Description of Water System

Task 200 Assumptions:

1. No site visit will be performed.
2. District can provide elements listed under Task 201.
3. No hard copy of the chapters will be distributed.
4. The Consultant will coordinate with the District to send data requests to external agencies on behalf of the District.
5. The Consultant will coordinate with the District to locate applicable data for local Cities and County land use plans and zoning.
6. The District Risk and Resilience Assessment report will be used as a baseline for the inclusion of the climate resilience element in the Plan. It is assumed that most of the information required to fulfill RCW 43.20.310 can be found in either the District’s RRA or ERP documents.

EXHIBIT A – Scope of Services

Task 200 District Input:

1. Requested Data from Task 301.
2. Comments on draft Chapter 1 – Introduction.
3. Comments on draft Chapter 2 – Description of Water System.

Task 200 Consultant Deliverables:

1. Meeting agendas, materials, and minutes.
2. Draft Chapter 1 – Introduction.
3. ROC for Chapter 1 – Introduction.
4. Draft Chapter 2 – Description of Water System.
5. ROC for Chapter 2 – Description of Water System.

Task 200 Meeting:

1. Meeting No. 2 – Review of Water System

TASK 300 – DEMAND FORECASTS AND WATER USE EFFICIENCY AND CONSERVATION

The purpose of this task is to perform a demographic analysis and demand projections for the District's Service Area; 10-year and 20-year planning horizons will be evaluated using the best available information. This task consists of the following activities:

Subtask 301: Data Request and Review

Develop and submit a request for data required for Chapter 3. The following data are anticipated to be required:

- Demographic growth rates. Population, household, and employment projections (if available) by Transportation Analysis Zones (TAZ) are preferred.
- Historical connection and water use information by customer class from 2012 through the present. Monthly or Bimonthly water use is preferred.
- Historical supply production from 2012 through the present, including maximum day supply (if available). Monthly or Bimonthly production data is preferred.
- Historical water use from up to ten (10) large customers. If large users have more than one meter, then water use by meter is preferred.
- Accounted-for Non-Revenue water from 2012 through the present.
- Wholesale contracts and future water commitments.
- GIS data: land use and zoning data, vacant and re-developable land, TAZ boundaries.

Subtask 302: Demographic Analysis

Demographic projections will be developed for 10 years and 20 years. Estimate the number of accounts in each pressure zone based on existing customers and vacant and partially vacant lands. Use data from the District to project the number of accounts in the 10-year and 20-year planning horizon. Establish 20-year planning horizons demographic projections using historical growth rates. Incorporate District comments to finalize demographic projections.

Subtask 303: Develop Demand Forecasts

Demand projections will be developed for 10 years and 20 years.

EXHIBIT A – Scope of Services

Historical Consumption/Production

Summarize historical water consumption and production information, consisting of average day demands (ADD) and maximum day demands (MDD), accounted-for revenue water uses, estimated water loss and leakage planning values, and establish equivalent residential unit (ERU) values for the different customer classes. Data will be compared to the detailed analysis of historical consumption performed by the District.

Estimate the future ADD and MDD

Estimate future water demand for each pressure zone based on the demographic projections and historical ERU demand. Average, high, and low estimates of the future water demand will be determined for the ADD and MDD. The range will be based on the statistical variation in the historical ERU demand, leakage values, conservation goals, and climate change projections. Up to 10 of the District's largest connections, and wholesale water customers will be evaluated and projected separately and added to other projected system demands. Peak hour demand (PHD) will be calculated using diurnal curves provided by the District and used in distribution system modeling.

Demand Model

Provide excel database with projected ERUs and resulting demand for District's use in future updates.

Subtask 304: Water Conservation and Efficiency Programs

The purpose of this subtask is to support the district in updating their water use efficiency and conservation plan and document those updates in Chapter 4.

- Update consumption trends.
- Update charts of historical consumption trends.
- Update DSL Trends.
- Report the District's historical DSL trends.
- Develop Draft Water Uses Efficiency (WUE) Goals for the next ten-year planning period. Provide analysis of historical consumption and DSL trends equivalent to that provided in the previous Plan. Propose potential WUE goal updates and work with the District to select WUE goals that align with the District's goals and are realistic as informed by historical water consumption trends. The Consultant will incorporate WUE goals into the demand projections and the District will have the opportunity to see how the WUE goals impact the demand projections before finalizing the goals.

Subtask 305: Meeting No. 3 – Water Demand Forecast, Water Use Efficiency, and Conservation

Present the methods and results of the demographic analysis and demand projections for the District's review and approval. The WUE program will also be discussed. Prepare an agenda, presentation materials, and document discussions, including action items and decisions, in meeting minutes.

Subtask 306: Draft Chapters 3 & 4

Produce and deliver Draft Chapters associated with Task 300 activities for the District's review and approval. An electronic version of the draft Chapter will be sent to the District for review. District comments and Consultant responses will be tracked in the Comment Response Log (ROC). Comments on these chapters will be incorporated into the Final Plan, developed in Task 1000. Task 300 Chapters consist of:

- Draft Chapter 3 – Planning Data and Water Demands
- Draft Chapter 4 – Water Use Efficiency and Conservation

Task 300 Assumptions:

1. District can provide elements listed under Task 301.

EXHIBIT A – Scope of Services

2. No hard copy of the chapters will be distributed.
3. The Service Area and pressure zone delineation will be verified prior to development of the water requirements.
4. District already has WUE goals adopted by Board.

Task 300 District Input:

1. Requested Data from Task 401.
2. Comments on Draft Chapter 3 – Planning Data and Water Demands.
3. Comments on Draft Chapter 4 – Water Use Efficiency and Conservation.

Task 300 Consultant Deliverables:

1. Meeting agendas, materials, and minutes.
2. Draft Chapter 3 – Planning Data and Water Demands.
3. ROC for Draft Chapter 3.
4. Draft Chapter 4 – Water Use Efficiency and Conservation.
5. ROC for Draft Chapter 4.
6. Demographic and Demand Forecast Tables.
7. Electronic Demand Model.

Task 300 Meeting:

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

TASK 400 – WATER SUPPLY ANALYSIS AND WATER RIGHTS

The purpose of this task is to evaluate the District’s water resources. Chapter 5 will document the District’s existing water resources, list the District’s water rights, and present the results of a supply reliability and redundancy analysis.

Subtask 401: Data Request and Review

The following data is anticipated to be required from the District for Task 400:

- Changes to water rights and pending water rights applications.
- Purchase water agreements with Tacoma and ASR information, as needed.

Subtask 402: Review Water Rights

The Consultant will update the Water Rights Self Assessment form from the District last water system plan and include any edits recommended by the District. The Consultant will verify that the attributes of the water-right authorizations are consistent with the District’s use of the supply sources. The Consultant will update language in Chapter 5 as needed.

Subtask 403: Water Supply Analysis

The purpose of this subtask is to identify a water supply plan to meet future demands. An Ability to Serve Analysis will identify future deficiencies for the District’s level of service goals identified in Task 200.

- Ability to Serve Analysis - Determine the “ability to serve” of each source based on available estimates of capacity, water rights, treatment capacity, auxiliary power, and other limitations.

EXHIBIT A – Scope of Services

Identify supply deficiencies based on the level of service goals for the 10 year, 20-year projected demands. This may include new service areas.

Subtask 404: Meeting No. 4 – Water Supply Analysis

Review and refine future water supply strategies with District Staff; refine alternatives and select preferred long-term supply strategy.

Task 400 Assumptions:

1. District can provide elements listed under Task 401.
2. District will provide assumptions and the information needed to review the Water Rights under Task 402.

Task 400 District Input:

1. Requested Data from Task 401.

Task 400 Consultant Deliverables:

1. Meeting agendas, materials, and minutes.

Task 400 Meeting:

1. Meeting No. 4 – Water Supply Analysis

TASK 500 – DISTRIBUTION SYSTEM ANALYSIS

Desktop evaluations will be performed to identify pumping and storage deficiencies. The updated and calibrated hydraulic model will be used to evaluate the system's fire flow, pressure, and velocity performance. Improvements identified in other tasks will be incorporated into the model, as appropriate, to determine the effect of comprehensive improvements. This task consists of the following activities:

Subtask 501: Data Request and Review

Develop and submit a request for data required for Chapter 5. The following data are anticipated to be required:

- Updated and calibrated hydraulic model.

Subtask 502 - Desktop Analysis – Storage Analysis.

Identify the storage volume required for each pressure zone based on the District's storage criteria for equalizing, fire flow, operational, and standby volumes. The storage analysis will be performed for the 10-year and 20-year projected demands.

Subtask 503 - Desktop Analysis – Pump Station Analysis

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

Subtask 504 - Desktop Analysis – Limiting Factor Analysis

Conduct the limiting factor analysis using DOH WSDM 6-1. Calculate the water system service connections correlated to ERUs and the physical system capacity as ERUs. The Limiting Factor Analysis will use information summarized in previous chapters, where applicable.

EXHIBIT A – Scope of Services

Subtask 505 - Fire and System Pressure Analysis

Using the updated hydraulic model, perform analysis of the system evaluating fire flow and system pressures per DOH regulations and guidelines based on the District’s water system criteria. The steady state analysis will focus on distribution capacity deficiencies for pressure, velocity, and available fire flow. Prepare figures showing deficiencies.

Subtask 506: Meeting No. 5 – System Analysis and Identified Improvements

Facilitate a meeting to review the results from the pumping, storage, and fire and pressure analyses. Discuss potential improvement projects. Identify improvements to address deficiencies under the MDD plus fire flow simulations and the peak hour simulations for the 10-year and 20-year scenarios. Previously identified supply, storage, and booster pump station improvements will be incorporated to assist in meeting deficiencies. Review the recommendations for inclusion in the District’s CIP.

Subtask 507: Draft Chapter

Produce and deliver Draft Chapters associated with Task 400 and 500 activities for the District’s review and approval. An electronic version of the draft Chapter will be sent to the District for review. District comments and Consultant responses will be tracked in the Comment Response Log (ROC). Comments on these chapters will be incorporated into the Final Plan, developed in Task 1000. Task 400 and 500 Chapters consist of:

- Chapter 5 – Water System Analysis

Task 500 Assumptions:

1. Hydraulic model is updated and calibrated

Task 500 District Input:

1. Comments on Chapter 5 – Water System Analysis

Task 500 Consultant Deliverables:

1. Meeting agendas, materials, and minutes.
2. Draft Chapter 5 – Water System Analysis.
3. ROC for Chapter 5 – Water System Analysis.

Task 500 Meeting:

1. Meeting No. 5 – System Analysis and Identified Improvements

TASK 600 – WATER QUALITY

The purpose of this task is to review District’s compliance with current Federal and State water quality regulations. Summarize the current treatment process types, capacity, overall performance, and treatment system conditions. Evaluate District’s ability to meet future potential water quality regulations. Identify improvements required to the District’s water treatment systems to meet current and/or future regulations. Review and update previous Plan to reflect the latest information and maintain consistency throughout the Plan.

Subtask 601: Data Request and Review

Prepare a data request for the required information. The following data are anticipated to be required to be included in the appendices:

- Water Quality Sampling Procedures & Program.

EXHIBIT A – Scope of Services

- Consumer Confidence Reports.
- Revised Coliform Monitoring Plan.
- Source Water Protection Plan

Subtask 602: Regulatory Assessment

Summarize upcoming and future water quality regulations and summarize the impacts to the District’s distribution system. Current process capabilities will be compared/contrasted with water quality goals to determine if additional treatment processes are recommended for future compliance.

Subtask 603: Meeting No. 6 – Water Quality

Facilitate a meeting to review the results from the Historical Raw Water Quality, Regulatory Assessment, and Water Quality Goals subtasks.

Subtask 604: Draft Chapter

Produce and deliver Draft Chapters associated with Task 600 activities for the District’s review and approval. An electronic version of the draft Chapter will be sent to the District for review. District comments and Consultant responses will be tracked in the Comment Response Log (ROC). Comments on these chapters will be incorporated into the Final Plan, developed in Task 1000. Task 600 Chapters consists of:

- Chapter 6 – Water Quality

Task 600 Assumptions:

1. District can provide elements listed under Task 601.
2. No hard copy of the chapter will be distributed.

Task 600 District Input:

1. District can provide elements listed under Task 601.
2. Comments on Draft Chapter 6 – Water Quality.

Task 600 Consultant Deliverables:

1. Meeting agendas, materials, and minutes.
2. Requested Data from Task 601.
3. Draft Chapter 6 – Water Quality.
4. ROC for Chapter 6 – Water Quality.

Task 600 Meeting:

1. Meeting No. 6 – Water Quality

TASK 700 – OPERATIONS AND MAINTENANCE

The purpose of this task is to review, update, and evaluate the District's Operations and Maintenance (O&M) Program document. An evaluation of the O&M programs will provide recommendations for new or updated maintenance programs, as needed. This task will also develop the District's prioritized repair and replacement. This task will consist of the following activities:

Subtask 701: Data Request and Review

EXHIBIT A – Scope of Services

Prepare a data request for the required information. The request may include, but is not limited to, the following:

- The standard plans, in PDF format; and specifications, in MS Word. It is assumed the District will provide its standard plans and specifications for inclusion in the Plan.
- Current design and construction standards.
- Water system organization chart and operator certifications.
- Public Works Emergency Response Plan.
- Cross-Connection Control Program.
- Route and preventive maintenance schedules for major system components
- Water Shortage Response Plan and Service Reliability, if available.
- Pipe material and installation year.

Subtask 702: O&M Update

Review previous O&M chapter and update based on information provided by the District. This may include organization, certification, O&M program activities updates, and known major deficiencies in the District's O&M program. A detailed evaluation of District O&M programs will not be conducted.

Subtask 703: Meeting No. 7 – Operations and Maintenance Plan

Meeting with O&M staff to discuss O&M programs, determine O&M goals, and develop O&M standards.

Subtask 704: Draft Chapter

Produce and deliver Draft Chapters associated with Task 700 activities for the District's review and approval. An electronic version of the draft Chapter will be sent to the District for review. District comments and Consultant responses will be tracked in the Comment Response Log (ROC). Comments on these chapters will be incorporated into the Final Plan, developed in Task 1000. Task 700 Chapters consists of:

- Chapter 7 – Operations and Maintenance Program

Subtask 705: Remaining Useful Life

Calculate the remaining useful life (RUL) of each pipe considering the value of replacing versus maintaining the pipe for the primary distribution system. It is expected that RUL will be based on pipe age, material, and previously identified deficiencies, as available from the District. The RUL will be used to recommend the extent of the District's pipeline replacement during the planning period.

Subtask 706: Risk Based R&R Rankings

Aid the District in developing risk-based ranking of its distribution system repair and replacement (R&R) using risk, which is defined as vulnerability (e.g., remaining useful life (RUL)) multiplied by criticality. Assign criticality to the distribution system using available data from the geographic information system (GIS). Criticality is anticipated to include pipe size, known maintenance issues, service customers, location and known accessibility limitations. Prepare maps and tables to review with District Staff to confirm criticality. Combine system RUL (Subtask 705) with criticality to determine risk throughout the District's distribution system. Document ranking distribution system R&R into Chapter 7 - Operations and Maintenance Program.

Task 700 Assumptions:

1. District can provide elements listed under Task 701.
2. No hard copy of the chapter will be distributed.

EXHIBIT A – Scope of Services

3. District will make updates to existing design and construction standards as needed.
4. No update to existing design and construction standards.

Task 700 District Input:

1. Requested Data from Task 701
2. Comments on Draft Chapter 7 – Operations and Maintenance Program

Task 700 Consultant Deliverables:

1. Meeting agendas, materials, and minutes.
2. Draft Chapter 7 – Operations and Maintenance Program
3. ROC for Chapter 7 – Operations and Maintenance Program

Task 700 Meeting:

1. Meeting No. 7 – Operations and Maintenance Plan

TASK 800 – CAPITAL IMPROVEMENT PLAN

This task will summarize the recommended improvements for the water system in accordance with the District’s policies and criteria. Tasks involved include consist of the following activities:

Subtask 801: Develop Capital Improvement Projects

Identify and describe CIP projects from prior tasks and existing District planning. Prepare a description of each project. A recommended implementation date based on a quantitative project “trigger”, will be defined for each CIP project.

Subtask 802: Cost Estimates for CIP Projects

Develop planning level cost estimates for all recommended projects using costs provided in other planning efforts. Cost estimates for construction, engineering, permitting, and other contingencies will be prepared; all costs will be given in 2025 dollars.

Subtask 803: Meeting No. 8 – Capital Improvement Plan

Facilitate meeting with District Staff to review the recommended CIP.

Subtask 804: Draft Chapter

Produce and deliver Draft Chapters associated with Task 800 activities for the District’s review and approval. An electronic version of the draft Chapter will be sent to the District for review. District comments and Consultant responses will be tracked in the Comment Response Log (ROC). Comments on these chapters will be incorporated into the Final Plan, developed in Task 1000. Task 800 Chapters consists of:

- Chapter 8 – Capital Improvement Program

Task 800 Assumptions:

1. The District can provide all elements listed under District Inputs below.
2. District will share bid tabs from the past 2 years.
3. District will provide recent project costs to use as the basis for planning estimates.

EXHIBIT A – Scope of Services

4. District will review previous CIP and provide updates as needed.
5. No hard copy will be distributed.

Task 800 District Input:

1. Comments on draft Chapter 8 – Capital Improvement Program.

Task 800 Consultant Deliverables:

1. CIP Cost Estimates.
2. Draft Chapter 8 – Capital Improvement Program.
3. ROC for Chapter 8 – Capital Improvement Program.
4. Meeting agenda, materials, and minutes.

Task 800 Meeting:

1. Meeting No. 8 – Capital Improvement Plan

TASK 900 – FINANCIAL PLAN

FCS GROUP will be performing the financial portion of the Plan in support of this project. This scope includes a review of historical financial performance along with Fiscal policy review, Capital Financing Plan, Revenue Needs Assessment, Rate forecast, and an Affordability Test.

Subtask 901: Historical Financial Performance Review

This task will review and document the financial operations (revenue and expenses) and financial condition (assets and liabilities) of the water utility for the previous six-year period. Noteworthy financial trends will be summarized.

Subtask 902: Revenue Requirement Forecast

The revenue requirement forecast will involve the following subtasks:

Fiscal policy review

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

Capital Financing Plan

Evaluate capital funding options and develop a capital financing plan for the 10-year capital improvement program (to align with Carollo's planning period). 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, GFCs, bonds, low-interest loans, and / or other available revenue sources. Depending upon the preliminary results of customer impacts, FCS will work closely with Carollo and the District to perform sensitivity analyses for alternative scheduling of capital projects to smooth customer rate impacts.

Operating Forecast

The District's current water operating budget will be used as the baseline for forecasting ongoing operating and maintenance (O&M) costs, debt service, and other financial obligations of the water utility over the 10-year study period. Engineering and planning growth forecasts as well as economic factors for cost escalation will be incorporated. If applicable, additional O&M expenses resulting from the CIP will also be considered in the forecast.

EXHIBIT A – Scope of Services

Revenue Needs Assessment

Integrate fiscal policies, capital financing impacts, and the operating forecast, and develop an operating cash flow projection over the study period to coincide with the capital program that Carollo is developing for the District. Compare forecasted financial requirements against forecasted revenue under existing rates to determine an annual and cumulative rate strategy to ensure financial sustainability over time. The scope and budget include up to three (3) scenarios. Scenarios may cover either different versions of the CIP, or different rate strategies on a single CIP. Perform a single-family service rate comparison for up to six (6) jurisdictions chosen by District staff.

Rate forecast

The results of the revenue requirement analysis will be the recommended percentage rate increases or decreases, as applied to the current rate structure, needed to meet the obligations of the utility (i.e., an “across-the-board” adjustment).

Affordability Test

Perform an affordability test as an indication of a residential customer’s ability to pay the existing and forecasted rates. This includes a median household income index analysis and a comparison of the water system’s existing and forecasted average residential bills to 2.5 percent of the median household income.

Subtask 903: Meeting No. 9 – Financial Plan

Review the draft results before finalizing the Financial Chapter. Prepare materials for and attend one (1) onsite workshop meeting at the District to review final results with staff, elected officials, and / or members of the public.

Subtask 904: Draft Chapter

Produce and deliver Draft Chapters associated with Task 900 activities for the District’s review and approval. An electronic version of the draft Chapter will be sent to the District for review. District comments and Consultant responses will be tracked in the Comment Response Log (ROC). Comments on these chapters will be incorporated into the Final Plan, developed in Task 1000. Task 900 Chapters consists of:

- Chapter 9 – Financial Program

Subtask 905: Cost of Service Analysis (COSA)

The cost of service analysis is an evaluation, based on available engineering and customer information, of how the District should recover costs from customer classes. If the revenue requirement analysis determines the size of the pie, the cost of service analysis determines how you slice it among customers. The result of the cost of service analysis will be updated rates that equitably charge utility customers based on the unique demands of their class. Major subtasks of the cost of service analysis include:

- Evaluate customer billing statistics to develop customer profiles of usage characteristics.
- Determine the appropriate grouping of customers to review. The grouping distinction intends to evaluate any potential cost differences that may exist in serving different customer classes (e.g., single-family, multi-family, commercial, irrigation, and standby fire).
- Functionalize, classify, and allocate costs to customer classes. The analysis will review existing and planned infrastructure along with annual costs to determine how best to assign cost pools. In general, based on industry practice, cost pools for water utilities may include:
 - Customer accounts
 - Meters & services
 - Base demand
 - Peak demand
 - Fire Protection

EXHIBIT A – Scope of Services

- The cost of service summary will distribute each functional cost pool to each of the existing customer classes / service groups based on the class / group-specific demands and facility requirements. The results will identify any warranted shifts in cost burden from the existing rate structure that could improve the cost of service equity.
- Cost of service adjustments applied “across-the-board”. If the COSA determines that one group of customers is subsidizing another group of customers, this alternative rate design will provide a set of rates that will correct the balance, possibly over a multi-year period.

Subtask 906: General Facilities Charge (GFC)

GFCs are imposed on new development and certain redevelopment to promote a proportional share of the cost between new and existing customers by recovering a proportional share of the cost of system facilities from growth as it occurs. This task will calculate a legally defensible charge for consideration. Note: this scope does not include changes to how the GFC is scaled up (i.e., equivalent residential units).

This task will update the current water general facilities charge study completed in 2014 with the latest asset inventory and capital improvement program. Following industry guidelines and legal precedence, conduct the technical analysis to incorporate current system assets, eligible capital projects (or portions thereof) from the capital improvement program, and system capacity estimates provided in the WSP. Work closely with Carollo to determine the appropriate allocation of each capital project to the categories of (a) repair & replacements and (b) upgrades and expansions. Calculate the maximum allowable connection fee per customer equivalent and develop a schedule of GFCs.

A GFC benchmarking survey of up to six jurisdictions in the region will also be conducted.

Subtask 907: Review Meetings for COSA and GFC

Attend two (2) remote meetings with the District and / or Carollo to review the draft results before finalizing the optional tasks. Prepare materials for and attend one (1) onsite workshop meeting at the District to review final results with staff, elected officials, and / or members of the public.

Subtask 908: Documentation for COSA and GFC

Craft a draft report for District staff review. An electronic copy of the draft report will be provided to the District. Incorporate requested changes, as appropriate, and submit the final version of the report.

Task 900 Assumptions:

1. None

Task 900 District Input:

1. District Comments on draft Chapter 9 – Capital Financial Program.

Task 900 Consultant Deliverables:

1. Meeting agendas, materials, and minutes.
2. Draft Chapter 9 – Financial Program.
3. ROC for Chapter 9 – Capital Financial Program.

Task 900 Meeting

1. Meeting No. 9 – Financial Plan
2. Review meetings for optional tasks

EXHIBIT A – Scope of Services

TASK 1000 – PLAN DEVELOPMENT

The purpose of this task is to integrate all chapters and appendices into the full Plan for review and adoption by the District. This task includes review of all chapters for consistency with DOH’s requirements for a Comprehensive Water System Plan per WAC 206-290-100:

Subtask 1001: Executive Summary

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

Subtask 1002: District Draft Plan

Prepare Cover Sheet and Table of Contents. Compile Chapters and develop Appendices. Incorporate comments into Draft Chapters based on District accepted ROCs. Prepare electronic review draft document for District Staff (one PDF copy).

Subtask 1003: Operations and Maintenance Plan

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

Subtask 1004: Agency Draft Plan

Incorporate District comments into an Agency Draft plan to be submitted for agency review. Prepare one PDF for distribution of Plan to Agencies.

Subtask 1005: Board Presentations

Up to 2 PowerPoint presentations for District Board meetings.

Subtask 1006: Final Plan

The Consultant will review agency review letters for incorporation into the Final Plan. Delivery of the Final Plan will include one PE Stamped final hard copy that will be co-stamped by District, and all electronic deliverables.

Task 1000 Assumptions:

1. District provides required documents for appendices, including acceptance ordinances.
2. It is anticipated that the District will lead the environmental and agency Plan review and approval process. The District will provide all associated documentation to the Consultant.
3. It is anticipated that District will distribute the Plan to DOH for review and approval. The Consultant, in collaboration with the District, will distribute the Plan to County, adjacent agencies, and adjacent purveyors for review, on behalf of the District. The District will collect public and agency review comments and address all comments. The Consultant will provide technical assistance, if required. District will develop written responses to comments received during Agency Review process.
4. The District requests electronic deliverables.
5. Two hard copies will be produced

Task 1000 District Input:

1. District Comments.
2. Public and Agency Review Comments.
3. Agency Comment Letters and Responses.
4. Adopting ordinances and approvals.
5. Water System Plan Submittal Form.

EXHIBIT A – Scope of Services

Task 1000 Consultant Deliverables:

1. Meeting agenda, materials, and minutes.
2. Executive Summary.
3. District Draft Plan – one PDF.
4. Agency Draft Plan –one PDF.
5. Final Plan –one stamped PDF.
6. Up to 2 PowerPoint presentations for District Board meetings.
7. DOH Water System Plan Checklist.

Task 1000 Meeting:

1. Meeting No. 10 – District Review Comments
2. District Board meeting(s)



HIGHLINE WATER DISTRICT
2026 WATER SYSTEM PLAN
PROJECT BUDGET

ATTACHMENT B

TASK / DESCRIPTION	QM	WQ	PM	PE	Planning Eng.	GIS	DP	Total Hours	Carollo Labor Cost	FCS Bowman	Sub Markup at 10%	Total Sub Cost	OTHER DIRECT COSTS		TOTAL COST	
	Total Labor Rate	\$315.00	\$265.00	\$255.00	\$205.00	\$165.00	\$145.00						\$135.00	Travel, Shipping and Printing		PECE \$ 16.00 Total ODC
Task 100 - Project Management	1	2	64	30	-	-	22	119	\$ 26,285	\$ -	\$ -	\$ -	\$ -	\$ 1,904	\$ 1,904	\$ 28,189
101 Monthly Progress Reports and Invoices			18	18			18	54	\$ 10,710			\$ -	\$ -	\$ 864	\$ 864	\$ 11,574
102 Project Management Plan	1		4	6			4	15	\$ 3,105			\$ -	\$ -	\$ 240	\$ 240	\$ 3,345
103 DOH Preplan Meeting and Meeting No. 1 – Kickoff Meeting		2	6	6				14	\$ 3,290			\$ -	\$ -	\$ 224	\$ 224	\$ 3,514
104 Project Administration			36					36	\$ 9,180			\$ -	\$ -	\$ 576	\$ 576	\$ 9,756
Task 200 - Planning Considerations & Water System Review	4	-	14	26	28	6	6	84	\$ 16,460	\$ -	\$ -	\$ -	\$ -	\$ 1,344	\$ 1,344	\$ 17,804
201 Data Request and Review			2	6	4			12	\$ 2,400			\$ -	\$ -	\$ 192	\$ 192	\$ 2,592
202 Policy and Regulatory Review	2		2	2	4			10	\$ 2,210			\$ -	\$ -	\$ 160	\$ 160	\$ 2,370
203 Climate Resilience Element			4	8				12	\$ 2,660			\$ -	\$ -	\$ 192	\$ 192	\$ 2,852
204 Meeting No. 2 – Review of Water System			2	4	8	2		16	\$ 2,940			\$ -	\$ -	\$ 256	\$ 256	\$ 3,196
205 Draft Chapters 1 & 2	2		4	6	12	4	6	34	\$ 6,250			\$ -	\$ -	\$ 544	\$ 544	\$ 6,794
Task 300 - Demand Forecasts and Water Use Efficiency and Conservation	7	-	8	40	110	28	8	201	\$ 35,735	\$ -	\$ -	\$ -	\$ -	\$ 3,216	\$ 3,216	\$ 38,951
301 Data Request and Review				2	2			4	\$ 740			\$ -	\$ -	\$ 64	\$ 64	\$ 804
302 Demographics Analysis				8	36	20		64	\$ 10,480			\$ -	\$ -	\$ 1,024	\$ 1,024	\$ 11,504
303 Develop Demand Forecasts	2			12	40			54	\$ 9,690			\$ -	\$ -	\$ 864	\$ 864	\$ 10,554
304 Water Conservation and Efficiency Programs	1			2	4	2		9	\$ 1,675			\$ -	\$ -	\$ 144	\$ 144	\$ 1,819
305 Meeting No. 3 – Water Demand Forecast, Water Use Efficiency, and Conservation			4	4	8	2		18	\$ 3,450			\$ -	\$ -	\$ 288	\$ 288	\$ 3,738
306 Draft Chapters 3 & 4	4		4	12	20	4	8	52	\$ 9,700			\$ -	\$ -	\$ 832	\$ 832	\$ 10,532
Task 400 - Water Management Plan & Water Rights	3	-	8	10	12	-	-	33	\$ 7,015	\$ -	\$ -	\$ -	\$ -	\$ 528	\$ 528	\$ 7,543
401 Data Request and Review				2	2			4	\$ 740			\$ -	\$ -	\$ 64	\$ 64	\$ 804
402 Review Water Rights			4	2				6	\$ 1,430			\$ -	\$ -	\$ 96	\$ 96	\$ 1,526
403 Water Supply Analysis	2		2	4	6			14	\$ 2,950			\$ -	\$ -	\$ 224	\$ 224	\$ 3,174
404 Meeting No. 4 – Water Supply Analysis (combined with Meeting No.5)	1		2	2	4			9	\$ 1,895			\$ -	\$ -	\$ 144	\$ 144	\$ 2,039
Task 500 - Distribution System Analysis	18	-	22	50	176	34	12	312	\$ 57,120	\$ -	\$ -	\$ -	\$ -	\$ 4,992	\$ 4,992	\$ 62,112
501 Data Request and Review				2	2			4	\$ 740			\$ -	\$ -	\$ 64	\$ 64	\$ 804
502 Desktop Analysis – Storage Analysis	2			6	32			40	\$ 7,140			\$ -	\$ -	\$ 640	\$ 640	\$ 7,780
503 Desktop Analysis – Pump Station Analysis	2			4	12			18	\$ 3,430			\$ -	\$ -	\$ 288	\$ 288	\$ 3,718
504 Desktop Analysis – Limiting Factor Analysis	2			4	6			12	\$ 2,440			\$ -	\$ -	\$ 192	\$ 192	\$ 2,632
505 Fire and System Pressure Analysis, including improvements	6		6	8	60	12		92	\$ 16,700			\$ -	\$ -	\$ 1,472	\$ 1,472	\$ 18,172
506 Lakehaven Intertie System Analysis	4		4	8	24	8		48	\$ 9,040			\$ -	\$ -	\$ 768	\$ 768	\$ 9,808
507 Meeting No. 5 – System Analysis and Identified Improvements			4	6	16	6		32	\$ 5,760			\$ -	\$ -	\$ 512	\$ 512	\$ 6,272
508 Draft Chapter 5	2		8	12	24	8	12	66	\$ 11,870			\$ -	\$ -	\$ 1,056	\$ 1,056	\$ 12,926
Task 600 - Water Quality	5	30	3	-	-	-	6	44	\$ 11,100	\$ -	\$ -	\$ -	\$ -	\$ 704	\$ 704	\$ 11,804
601 Data Request and Review		2						2	\$ 530			\$ -	\$ -	\$ 32	\$ 32	\$ 562
602 Regulatory Assessment	2	16						18	\$ 4,870			\$ -	\$ -	\$ 288	\$ 288	\$ 5,158
603 Meeting No. 6 – Water Quality	1	6	2					9	\$ 2,415			\$ -	\$ -	\$ 144	\$ 144	\$ 2,559
604 Draft Chapter 6	2	6	1				6	15	\$ 3,285			\$ -	\$ -	\$ 240	\$ 240	\$ 3,525
Task 700 - Operation & Maintenance	8	-	11	34	66	34	6	159	\$ 28,925	\$ -	\$ -	\$ -	\$ -	\$ 2,544	\$ 2,544	\$ 31,469
701 Data Request and Review				2	2			4	\$ 740			\$ -	\$ -	\$ 64	\$ 64	\$ 804
702 O&M Update			2	6				8	\$ 1,740			\$ -	\$ -	\$ 128	\$ 128	\$ 1,868
703 Meeting No. 7 – O&M			2	4	4	2		12	\$ 2,280			\$ -	\$ -	\$ 192	\$ 192	\$ 2,472
704 Draft Chapter 7	2		1	2	8		6	19	\$ 3,425			\$ -	\$ -	\$ 304	\$ 304	\$ 3,729
705 Remaining Useful Life	2		2	8	12	8		32	\$ 5,920			\$ -	\$ -	\$ 512	\$ 512	\$ 6,432
706 Risk Based R&R Rankings	4		4	12	40	24		84	\$ 14,820			\$ -	\$ -	\$ 1,344	\$ 1,344	\$ 16,164
Task 800 - Capital Improvement Plan	8	8	16	30	80	4	12	150	\$ 29,020	\$ -	\$ -	\$ -	\$ -	\$ 2,362	\$ 2,362	\$ 31,382
801 Develop Capital Improvement Projects	2	4	6	8	32			52	\$ 10,140			\$ -	\$ -	\$ 832	\$ 832	\$ 10,972
802 Cost Estimates for CIP Projects	2	4	2	6	16			30	\$ 6,070			\$ -	\$ -	\$ 480	\$ 480	\$ 6,550
803 Meeting No. 8 – Capital Improvement Plan	2		4	8	16			30	\$ 5,930			\$ -	\$ -	\$ 480	\$ 480	\$ 6,410
804 Draft Chapter 8	2		4	8	16	4	12	38	\$ 6,880			\$ -	\$ -	\$ 570	\$ 570	\$ 7,450
Task 900 - Financial Plan	-	-	12	8	-	-	4	24	\$ 5,240	\$ 70,755	\$ 7,076	\$ 77,831	\$ -	\$ 384	\$ 384	\$ 83,455
901 Historical Financial Performance Review			1					1	\$ 255	\$ 17,658	\$ 1,766	\$ 19,423	\$ -	\$ 16	\$ 16	\$ 19,694
902 Revenue Requirement Forecast			1					1	\$ 255	\$ 17,658	\$ 1,766	\$ 19,423	\$ -	\$ 16	\$ 16	\$ 19,694
903 Meeting No. 9 – Financial Plan			2	2				4	\$ 920			\$ -	\$ -	\$ 64	\$ 64	\$ 984
904 Draft Chapter 9			2	2			4	8	\$ 1,460			\$ -	\$ -	\$ 128	\$ 128	\$ 1,588
905 Cost of Service Analysis			1					1	\$ 255	\$ 17,720	\$ 1,772	\$ 19,492	\$ -	\$ 16	\$ 16	\$ 19,763
906 General Facilities Charge			1					1	\$ 255	\$ 17,720	\$ 1,772	\$ 19,492	\$ -	\$ 16	\$ 16	\$ 19,763
907 Review Meetings for COSA and GFC			2	2				4	\$ 920			\$ -	\$ -	\$ 64	\$ 64	\$ 984
908 Documentation for COSA and GFC			2	2				4	\$ 920			\$ -	\$ -	\$ 64	\$ 64	\$ 984
Task 1000 - Plan Development	10	-	40	54	64	16	40	224	\$ 42,700	\$ -	\$ -	\$ -	\$ -	\$ 1,000	\$ 3,584	\$ 47,284
1001 Executive Summary	2		2	4	8	4	4	24	\$ 4,400			\$ -	\$ -	\$ 384	\$ 384	\$ 4,784
1002 District Draft Plan	4		6	12	24	4	16	66	\$ 11,950			\$ -	\$ -	\$ 1,056	\$ 1,056	\$ 13,006
1003 Meeting No. 10 – District Review Comments			4	6				10	\$ 2,250			\$ -	\$ -	\$ 160	\$ 160	\$ 2,410
1004 Agency Draft Plan	2		8	8	16	4	12	50	\$ 9,150			\$ -	\$ -	\$ 800	\$ 800	\$ 9,950
1005 Board Presentations			16	16				32	\$ 7,360			\$ -	\$ -	\$ 512	\$ 512	\$ 7,872
1006 Final Plan	2		4	8	16	4	8	42	\$ 7,590			\$ -	\$ -	\$ 672	\$ 1,672	\$ 9,262
TOTAL	64	40	198	282	536	122	116	1350	\$ 259,600	\$ 70,755	\$ 7,076	\$ 77,831	\$ 1,000	\$ 21,562	\$ 22,562	\$ 359,993