

**CITY COUNCIL AGENDA ITEM**  
CITY OF SHORELINE, WASHINGTON

<b>AGENDA TITLE:</b>	Authorize the City Manager to Execute a Professional Services Contract with Brown and Caldwell in the Amount of \$596,000 for the 2017 Surface Water Master Plan Update
<b>DEPARTMENT:</b>	Public Works
<b>PRESENTED BY:</b>	Uki Dele, Surface Water and Environmental Services Manager
<b>ACTION:</b>	<input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution <input checked="" type="checkbox"/> Motion <input type="checkbox"/> Discussion <input type="checkbox"/> Public Hearing

**PROBLEM/ISSUE STATEMENT:**

The current Surface Water Master Plan was last updated in 2011. Since that update the Surface Water Utility has grown, several projects and activities are underway or have been completed, and new regulations are anticipated or have been implemented. The current plan will be obsolete in the near future and needs to be updated.

The purpose of the 2017 Surface Water Master Plan Update Project (2017 Master Plan) is to address drainage and water quality challenges associated with growth, increasing regulations, and aging infrastructure within the City of Shoreline. The 2017 Master Plan will review and consolidate information from several different source documents in order to develop a plan that will guide the Surface Water Utility (Utility) for the next five to 10 years. Sources of information to be reviewed include:

- 2011 Surface Water Master Plan,
- Prior drainage basins plans,
- Piping and other infrastructure condition assessments,
- Capital Improvement Plan (CIP),
- Financial Sustainability Model,
- National Pollutant Discharge Elimination System (NPDES) Permit (2013 – 2018),
- 2015 Comprehensive Plan,
- 145<sup>th</sup> Street Multimodal Corridor Study,
- 185<sup>th</sup> Street Station Subarea Plan
- 145<sup>th</sup> Street Station Subarea Plan (if adopted), and
- Parks Recreation and Open Space (PROS) plan update.

The 2017 Master Plan will help the City define Levels of Service (LOS), develop a prioritized asset management improvement strategy, prepare the Utility for anticipated requirements related to compliance with the 2018-2022 NPDES Phase II permit, provide recommendations for future CIP projects, develop rate structure and financial planning recommendations, develop policy recommendations for Council consideration where existing policies may need to be updated or do not exist, develop a draft and Final

Condition Assessment Plan, develop technical memorandum that addresses drainage capacity issues, and develop an Operations and Maintenance Manual.

**RESOURCE/FINANCIAL IMPACT:**

Funding for this project will come from the Surface Water Capital Fund. This consultant services contract for the Surface Water Master Plan is \$595,027. The total budget for the 2017 Master Plan is \$650,000, of which \$483,000 is provided for in the 2016 budget with the remaining \$163,000 to be budgeted in 2017.

The cost of this contract will be paid based on the following schedule:

<b>EXPENDITURES</b>	<b>2016</b>	<b>2017</b>	<b>Total</b>
Pump Station Condition Assessment	\$50,000		\$50,000
<b>Surface Water Master Plan Contract</b>	<b>\$433,000</b>	<b>\$163,000</b>	<b>\$596,000</b>
<b>Total Project Cost</b>	<b>\$483,000</b>	<b>\$163,000</b>	<b>\$646,000</b>
<b>REVENUE</b>			
	<b>2016</b>	<b>2017</b>	<b>Total</b>
Surface Water Capital Fund	\$500,000	\$150,000	<b>\$650,000</b>
<b>Total Funding</b>			<b>\$650,000</b>

**RECOMMENDATION**

Staff recommends Council to authorize the City Manager to execute a professional services agreement with Brown and Caldwell for \$596,000 to provide an update to the Surface Water Master Plan update and establish a guide for the Surface Water Utility for the next five to 10 years including developing an asset management plan, recommendations for CIP projects, and a financial plan for long-term utility management.

Approved By:           City Manager **DT**   City Attorney **MK**

## **INTRODUCTION**

The Surface Water Master Plan is a vision document that establishes the management strategy for the Surface Water Utility to help meet the established levels of service goals and permit requirements. It also includes the development of both a financial and policy process for the Utility to implement the strategy.

The Current Surface Water Master Plan (2011 Master Plan) was adopted by the Shoreline City Council in December 2011. The plan established a prioritized schedule to implement basin plans for each of the City's basins (11 in total). The 2011 Master Plan was to serve as a management plan for the next five years until all the basin plans have been completed.

The final basin plan (Puget Sound Drainages Surface Water Basin Plan) will be completed in August 2016. This project will update the 2011 Master Plan, consolidate information from all the basin plans and include a rate study to determine Surface Water management rates to meet the targeted levels of service over the next 20-year planning horizon.

## **BACKGROUND**

The Surface Water Utility provides stormwater, water quality, and environmental services to the residents of Shoreline. The Utility is funded through the Surface Water Utility Fund, which generates revenue from annual Surface Water management fees. The Utility provides for CIP Projects and operational activities to reduce flooding and drainage issues within the City, water quality programs to meet the NPDES Phase II permit requirements, plus stream and wetland enhancement within the City.

The City's first Surface Water Master Plan was adopted in 2005. The 2005 Master Plan guided prioritization of Surface Water projects and program development. In 2011, the City updated its Surface Water Master Plan and established a prioritized schedule to implement basin plans for each of the remaining 10 watersheds. The goal of the basin plans was to provide a detailed examination of the watersheds/drainage basins and identify problems, system needs and management activities to address the needs and problems in the City.

Subsequent to adoption of the 2011 Master Plan, the Storm Creek Basin Plan and Boeing Creek Basin Plan were both completed (in 2013), including a condition assessment of the City's stormwater infrastructure. The McAleer Creek Basin Plan and Lyon Creek/Ballinger Creek Basin Plan were then completed in spring 2015, further expanding the condition assessment by providing a risk-based prioritization of stormwater pipe repair and replacement projects. The Puget Sound drainages Basin Plan, scheduled to be completed in summer 2016 will complete the City's initial basin planning efforts and include all the aforementioned components of prior basin plans.

Since the 2011 Master Plan, the Utility has accomplished a number of program advances including improving on the condition assessments in the Basin Plans and developing a method to prioritize Surface Water projects and activities identified in the basin plans. There have also been new CIP projects that were not identified in the 2011

Master Plan, including the ongoing Stormwater Pipe Repair and Replacement program that addresses the critical pipe repair work identified in each of the completed basin plans, and Small works/Greenworks projects that apply Low Impact Development (LID) techniques to reduce runoff and improve water quality through infiltration and bioretention.

In 2013, the City also implemented Cityworks, the City's asset management framework. Staff use Cityworks to track up to date service requests, maintenance activities and associated costs against each of the Utility assets managed by the City. Cityworks is helping to provide better information to cost effectively manage the City's infrastructure and maximize the return on City investment.

Now, the 2011 Master Plan needs to be updated. The purpose of the 2017 Master Plan is to address drainage and water quality challenges associated with growth, increasing regulations, and aging infrastructure within the City of Shoreline. The 2017 Master Plan will review and consolidate information from several different source documents in order to develop a plan that will guide the Utility for the next five to 10 years. To accomplish this, the City must hire a consulting firm to help develop the 2017 Master Plan.

It is staff's goal that the 2017 Master Plan will provide a well-informed comprehensive management strategy for the Utility. The 2017 Master Plan will be developed in 2016 and 2017 and will be presented to the City Council for review and adoption in summer 2017.

## **DISCUSSION**

### **Consultant Selection Process**

In February, the City solicited consultants to provide their qualifications (RFQ 8401) for the 2017 Surface Water Master Plan Update and Rate Study. Two submittals were received from the following consultants:

<b>Consultant Name</b>
AltaTerra
Brown and Caldwell

City staff reviewed the consultant submittals and selected Brown and Caldwell as the most qualified for the project. Brown and Caldwell scored highest in the project approach, related project experience and expertise of project team. The Brown and Caldwell team also includes the FCS Group. Together, they have partnered on more than 25 projects including the development of master plans for the cities of Auburn, Puyallup and Mukilteo. In addition FCS Group worked on the Public Works Department's data inventory review and facilitated the selection of Cityworks for the City's asset management system.

### **Scope of Work**

The project scope of work (Attachment A) consists of major components necessary to develop the 2017 Master Plan, including defining levels of service for the Utility programs, consolidating information from the completed or ongoing basin plans and

condition assessment plans (Pump Station Condition Assessment), preparing the Utility for anticipated requirements related to compliance with the 2018-2022 NPDES Phase II permit, providing recommendations for future CIP projects, developing rate structure and financial planning recommendations, and developing policy recommendations for Council consideration where existing policies may need to be updated or do not exist.

A major component of the 2017 Master Plan that was not included in the 2011 Master Plan is the development of an Asset Management Plan. The Asset Management Plan will establish the Utility's asset management program as a framework for monitoring the condition and evaluating the performance of the Utility with respect to defined LOS targets. Asset management activities will not only guide the development of the 2017 Master Plan, but also facilitate a "living" process that the City can use to efficiently adapt to future conditions. This plan will serve as a guidance document on how to manage each class of asset over the asset's life cycle and track its performance over time. It will tie operations and maintenance procedures to capital planning, capital planning to enterprise planning, and enterprise planning to meet LOS goals.

The proposed scope of work also includes additional task items that will be addressed when funding becomes available in 2017. These include:

- **Condition Assessment** – This task will involve consolidating all condition assessment work including the pipe, catch basin and pump station condition assessment work and creating a Condition Assessment Management Plan for the Utility. This task will also include strategies for asset repairs and retrofits and will document the processes and timeline for asset re-inspections and revised prioritization.
- **System Capacity** – The purpose of this task is to address drainage capacity issues by identifying improvement projects and developing a long-term strategy and approach to evaluating system capacity throughout the City. This task will include system capacity analysis and evaluation of deficiencies in the City-owned and operated stormwater infrastructure in the 145<sup>th</sup> and 185<sup>th</sup> Street Station Subarea Plans and the 145<sup>th</sup> Street Multimodal Corridor Study.
- **Operations and Maintenance (O&M) Manual** – The purpose of this task is to update the City's current O&M Manual. This task will build on the asset management work of the Master Plan to produce an updated and expanded O&M Manual to help the City establish clear protocols and maximize the use of Cityworks.

### **COUNCIL GOAL(S) ADDRESSED**

This project addresses City Council Goal #2: Improve Shoreline's utility, transportation and environmental infrastructure.

### **RESOURCE/FINANCIAL IMPACT**

Funding for this project will come from the Surface Water Capital Fund. This consultant services contract for the Surface Water Master Plan is \$595,027. The total budget for the 2017 Master Plan is \$650,000, of which \$483,000 is provided for in the 2016 budget with the remaining \$163,000 to be budgeted in 2017.

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Total Project Cost	\$483,000	\$163,000	\$646,000

  

<b>REVENUE</b>	<b>2016</b>	<b>2017</b>	<b>Total</b>
Surface Water Capital Fund	\$500,000	\$150,000	<b><i>\$650,000</i></b>
Total Funding			\$650,000

**RECOMMENDATION**

Staff recommends Council to authorize the City Manager to execute a professional services agreement with Brown and Caldwell for \$596,000 to provide update to the Surface Water Master Plan update and establish a guide for the Surface Water Utility (Utility) for the next five to 10 years including developing an asset management plan, recommendations for CIP projects, and a financial plan for long-term utility management.

**ATTACHMENTS**

Attachment A: Brown and Caldwell 2017 Surface Water Master Plan Update Service Contract – Scope & Budget

## Exhibit A: Scope of Work

# Surface Water Master Plan

The Brown and Caldwell and FCS Group (BC Team) are pleased to present this scope of work (SOW) to the City of Shoreline (City) to update its 2011 Surface Water Master Plan Update (2011 Master Plan). This purpose of the 2017 Surface Water Master Plan Update (Master Plan) is to address drainage and water quality challenges associated with growth, increasing regulations, and aging infrastructure. The Master Plan will guide the Surface Water Utility (Utility) for the next 5 to 10 years including recommendations for capital improvements, programs, and a financial plan for long-term asset management.

## Scope of Work

The activities, deliverables, and assumptions associated with each task are described in detail below. Tasks 13, 14 and 15 are “additional” tasks; the work under these tasks will not be performed without prior written approval from the City.

### Task 1: Review and consolidate data

The purpose of this task is to gather, consolidate, and organize existing data and information that will be used to develop the Master Plan, and to review the data for use in subsequent tasks. The BC Team will complete the following activities:

- Collect and review the data and information provided by the City including basin plans, asset plans, draft reports, condition assessment and maintenance records, and geospatial (GIS) data; create an organized file structure and spreadsheet listing the sources.
- Prepare GIS base mapping data for subsequent analyses including basic data layers such as streets, land use, zoning, soils, topography, and City infrastructure.
- Review the City’s project and program tracking spreadsheet (*MasterCIPList.xls*) and compare with GIS mapping and relevant documents (e.g., basin plans) to identify discrepancies and/or data gaps.
- Review the City’s condition assessment data and compare with GIS mapping and relevant documents to identify discrepancies and/or data gaps.
- Prepare a brief email to the City summarizing data needs, identified discrepancies, and/or data gaps (if any).

#### City Activities:

- Provide all relevant surface water management documents, data, and any other information that was not provided as part of the Request for Proposal (RFP) data package; additional data sources could include updated GIS data, recently revised basin plans, asset plans, condition assessments and maintenance records.
- The City has provided the current version of the Utility’s project and program tracking spreadsheet (*MasterCIPList.xls*).
- The City will provide the program and project recommendations from the Puget Sound Basins Plan as soon as it is completed.
- The City will provide pump station condition assessment documents as they are completed.
- Provide access to Cityworks, the City’s existing Computerized Maintenance Management Software (CMMS).
- Resolve and respond to discrepancies and/or data gaps identified in the summary email from the BC Team.
- Information and data sources to be used for other tasks are listed in this scope under City Activities for those tasks.

#### Deliverables:

D1. Data needs summary; to be provided in email format.

#### Assumptions:

- The City has already provided several documents, including draft and final basin plans, draft operations and maintenance (O&M) manual, and asset condition assessment reports; any new or additional documentation that has become available since those transmittals will be provided by the City prior to execution of Task 1.

## Task 2: Define levels of service (LOS)

The purpose of this task is to define draft Levels of Service (LOS) for the Utility, which will be used to evaluate and prioritize projects and programs for the Master Plan, as well as guide asset management planning. The LOS developed in this task will be preliminary and will be refined in subsequent tasks based on the costs and staffing resources needed to achieve the associated targets. The BC Team will complete the following activities:

- Review current City of Shoreline Surface Water Utility services, types of customers and their expectations, LOS established by the 2011 Master Plan, and current policies related to surface water management.
- Review LOS guidelines established by other local agencies, such as WSDOT, King County, Seattle, and other local municipalities, for reference.
- Review current and planned expenditures and how they line up with customer needs.
- Facilitate a 2-hour workshop with the City to discuss the Utility’s service goals, customer expectations, and existing or de facto LOS.
- Provide coaching to City staff on the process for identifying customer’s needs through surveys, feedback, or focus groups.
- Analyze unplanned expenditures and major service failures over past five years to assess the pattern of decisions and determine how they related to customer needs.
- Develop recommendations for potential updates and/or changes to the City’s current LOS based on the Utility’s services, goals, objectives, and customer needs.
- Identify LOS targets and define key performance indicators (KPIs) to measure Utility performance with respect to the updated LOS.
- Prepare an LOS matrix summarizing the LOS results; the matrix will serve as a tool to help show the links between LOS decisions, project needs, capital improvement costs, and utility rates.
- Prepare presentation materials and attend an “open house” to help support the City’s public outreach activities; these materials will summarize the draft levels of service and provide a brief overview of the master planning process.

### City Activities:

- Provide relevant information on customer types, current and planned expenditures, policies, existing LOS.
- Coordinate appropriate City staff and participate in a 2-hour LOS workshop on LOS.
- Advertise, coordinate, and facilitate a public open house to discuss LOS and the Master Plan.
- Review and provide one set of consolidated comments on the draft LOS matrix.

### Deliverables:

- D2. Draft LOS matrix with services, goals, objectives, targets, and KPIs
- D3. Presentation materials for public meeting on LOS

### Assumptions:

- Evaluations made in Tasks 4 and 5 and in additional Tasks 13 through 15 may identify current or potential future service gaps. Evaluations will analyze the state of the Utility with respect to a desired state as defined by LOS targets. If an LOS is not being met, then this difference is considered a “gap” and a project or strategy is needed to close or eliminate that gap.
- LOS matrix will be a working document; revisions and updates—including those based on the City’s comments—will be completed in subsequent tasks and final LOS will be provided with Mast Plan submittals.
- Up to three members of the BC Team will participate in the 2-hour LOS workshop to be held after all initial data and information reviews have been completed.
- While the BC Team will develop presentation materials and participate in the public open house, the City will be responsible for advertising, coordinating, and facilitating the open house at a location to be provided by the City.

## Task 3: Update asset management process

The purpose of this task is to advance the Utility’s asset management program as a framework for monitoring the condition and evaluating the performance of the Utility with respect to defined LOS targets. Asset management activities will not only guide the development of the Master Plan, but also facilitate a “living” process that the City can use to efficiently adapt to future conditions.



### Subtask 3.1: Evaluate asset management program

The BC Team will work with the City to evaluate the asset management activities for the Utility. The following activities will be completed:

- Evaluate the current asset management activities using a Utility Business Management Evaluation (UBME) gap analysis approach consisting of 90 different business elements, organized within 16 categories of effective utility management as follows:
 

✓ Vision and Support	✓ Communication	✓ Asset Decision Making
✓ Organization	✓ Performance Management	✓ Operations Strategy
✓ Planning	✓ Risk Management	✓ Maintenance Strategy
✓ Asset Knowledge	✓ Asset Development	✓ Asset Renewal Strategy
✓ Levels of Service	✓ Asset Financing and Reporting	✓ Information Systems
✓ Resource Management		

Each category is broken down into specific elements that help to identify where the City currently stands with respect to best practices and opportunities for improvement. The evaluation will look at the current status of asset management at the City through a series of approximately 10 interviews with key staff, conducted over a three-day period, and compare the City with industry-wide practices to identify and prioritize gaps.

- Develop a prioritized asset management improvement strategy to correspond with the City planning intervals.
- Provide overall recommendations for improving the Utility's asset management program, with special attention to two key areas: 1) levels of service, and 2) condition assessment and condition ratings.
- Recommend time intervals for condition assessment and inspection of stormwater assets.
- Provide a basis for developing in-house skills of City staff to continue developing the City's asset management program after the Master Plan is completed.
- Submit a summary of the results of the interviews into a UBME evaluation matrix with measures of the current status in comparison of priorities to approximately 90 asset management elements. Provide the summary of results to the City for review.
- Meet with the City in a 2-hour workshop to discuss the findings and the targets for each of the 90 business elements; after the meeting the BC Team will summarize the gaps within the UBME gap matrix format and then present the results to the City to determine priorities for planning and developing an improvement strategy.
- Follow up with the City to revise the UBME gap matrix and provide an updated document.

### Subtask 3.2: Develop a surface water asset plan

An Asset Plan is a guidance document on how to manage each class of asset over the asset's life cycle and track its performance over time. An Asset Plan ties operation and O&M procedures to capital planning, capital planning to enterprise planning, and enterprise planning to meet level of service goals. The following is a typical outline for an Asset Plan:

#### **Typical Asset Plan Outline**

- 1.0 *Introduction and Purpose*
- 2.0 *Description of Assets Covered by the Plan*
  - 2.1 *Age of Surface Water System Assets*
  - 2.2 *Surface Water System Asset Materials*
  - 2.3 *Surface Water System Asset Locations*
  - 2.4 *Functionality of Surface Water Asset Structures*
- 3.0 *Regulations, Policies, and Plans/ Service Level Requirements and Performance Measures*
  - 3.1 *Regulations and Policies*
  - 3.2 *Service Level Requirements and Performance Measures*
- 4.0 *Inventory and Asset Profile of Surface Water System Assets*
- 5.0 *Criticality Matrix (Likelihood and Consequence of Failure)*
  - 5.1 *Surface Water System Asset Criticality Matrix*
- 6.0 *Operation and Maintenance Activities*

- 6.1 *Operational Activities*
- 6.2 *Maintenance Activities*
- 7.0 *Condition Assessment and Monitoring Activities*
- 8.0 *Rehabilitation and Replacement Strategies*
  - 8.1 *Rehabilitation and Replacement Cycles and Costs*
  - 8.2 *Life Cycle Cost Analysis*
  - 8.3 *Capital Improvement Project Planning*
- 9.0 *Data Requirements and Tools*
  - 9.1 *Data Requirements*
  - 9.2 *Document Management*
  - 9.3 *Tools*
- 10.0 *Action Plan*

The BC Team will complete the following activities:

- Prepare a template for developing Asset Plans that will be organized by asset class and tied to the overall asset management program.
- Work with City staff to refine the Asset Plan template and to prepare a plan for the development of the specific Asset Plans for each major asset class (e.g., pipes, hydraulic structures, stormwater BMPs). City staff and the BC Team will develop the criteria and data needs for an asset plan for each asset type based on the Asset Plan Outline.

### **Subtask 3.3: Prepare an asset management work plan**

The BC Team will work collaboratively with the City to develop an asset management framework that establishes processes for data governance, monitoring of asset performance, evaluating the condition of assets, and establishing performance measures for meeting LOS targets. The BC Team will complete the following activities:

- Update the current Asset Management Work Plan by providing a strategy for program improvement at a level suitable for preparing annual budgets for executing the strategy; the Asset Management Work Plan will include actions to close prioritized gaps, grouped into planning time frames such as 1, 3, and 6 years.
- Work with staff to review and refine the framework and the updates to the Asset Management Work Plan.
- Estimate the staff resources and/or external services needed to implement the Asset Management Work Plan based on input from the City including programmatic funding needs and estimated cost to close gaps identified in Subtask 3.1.
- Prepare an Asset Management Process Memorandum and prepare an asset management framework documenting the recommended approach to tracking performance, evaluating risks, prioritizing utility activities such as capital improvement projects, repair and replacement (R&R), maintenance, and condition assessment.

#### **City Activities:**

- Participate in, or coordinate up to 10 interviews with City staff for UMBE
- Coordinate appropriate City staff and participate in one 2-hour workshop to discuss UMBE findings and asset management targets
- Coordinate appropriate City staff and participate to refine the Asset Plan
- Provide current Asset Management Work Plan
- Provide input on staff resources and/or external services needed implement the Asset Management Work Plan
- Review and provide on set of consolidated comments on the draft Asset Management Process Memorandum and Asset Management Framework

#### **Deliverables:**

- D4. Draft UMBE Matrix with results from staff interviews
- D5. Asset Plan Template and recommended schedule for developing asset plans
- D6. Updated Asset Management Work Plan
- D7. Draft and Final Asset Management Process Memorandum and Asset Management Framework

**Assumptions:**

- Up to 10 UBME interviews will be conducted by two members of the BC Team over the course of 3 days
- One member of the BC Team will participate in up to 10 interviews with City staff for the UMBE
- Two members of the BC Team will participate in the 2-hour UMBE workshop
- Two members of the BC Team will work with staff in developing the asset plan
- City will provide work space, as needed, within public works facilities when that space is available.

**Task 4: Regulatory Compliance**

The purpose of this task is to assess the City policies and programs with respect to anticipated requirements related to compliance with the 2018-2022 NPDES Phase II Stormwater Permit. The BC Team will complete the following activities:

- Review the results of the City's 2014 NPDES Gap Analysis and confirm that recommended activities are complete.
- Interview Ecology permit writers for trends in 2018-2022 Phase II Permit and summarize discussions.
- Compare the City's existing NPDES Program with predicted future requirements in the 2018-2022 Phase II Permit and perform high-level gap analysis on future trends and City's program.
- Identify likely gaps and prepare a brief summary of recommendations with respect to LOS, O&M, and policy decisions.

**City Activities:**

- Provide feedback on summary recommendations.

**Deliverables:**

D8. Summary Recommendations for Regulatory Compliance issues

**Assumptions:**

- BC will compare the City's existing NPDES program with predicted future requirements in the 2018-2022 permit. The comparison will result in gap analysis that will be considered in defining LOS in Task 2.

**Task 5: Stormwater Treatment**

The purpose of this task is to evaluate the options for water quality treatment by comparing end-of-pipe treatment options (i.e., regional facilities) with distributed best management practices (BMPs) and green stormwater infrastructure. The BC Team will prepare a brief memorandum describing various options for stormwater quality treatment, and outlining the pros, cons, and relative costs of the treatment options.

**City Activities:**

- Review and provide on set of consolidated comments on the Stormwater Treatment Options Memorandum.

**Deliverables:**

D9. Draft and Final Stormwater Treatment Options Memorandum

**Assumptions:**

- The Stormwater Treatment Options Memorandum will be brief, roughly 2 to 3 pages.

**Task 6: Develop project and program recommendations for CIP**

The purpose of this task is to develop planning-level project descriptions and estimate life-cycle costs to address the needs identified in previous tasks. In some cases, projects from previous basin planning efforts will be carried forward and simply updated for inclusion in this plan. In other cases, new projects will be developed; and where appropriate, programmatic recommendations will be prepared to address problems through non-structural Utility improvements. The BC Team will complete the following activities:

- Develop a preliminary set of project and program summaries; each summary will contain a brief description of the problem, associated LOS and performance targets, and a basic description of recommended improvements.
- Work with the City to perform a preliminary screening of the project and program recommendations to determine if anything should be deferred or eliminated prior to performing a full sizing and cost analysis.

- Perform a streamlined business case evaluation (BCE) for each of the projects and programs by analyzing the benefits of the project with respect to defined LOS, while also considering the financial, environmental, and social impacts. Life-cycle costs will be developed to include project initiation, construction, operation, maintenance, and ultimate decommissioning; please note that environmental and social impacts will not be monetized.
- Develop a project prioritization spreadsheet to link projects and programs with life-cycle costs and LOS targets; the spreadsheet will be developed to provide clear and transparent process for prioritizing projects.
- Conduct a project prioritization workshop with City staff to discuss project and program recommendations and costs, and to review the prioritization method; the prioritization spreadsheet will be revised based on comments received from the City.

#### City Activities:

- Review preliminary set of project and program summaries and provide input on project screening.

#### Deliverables:

D10. Preliminary set of project and program summaries

D11. Prioritization spreadsheet with project/program recommendations, cost estimates, and LOS targets

#### Assumptions:

- All deliverables will be submitted in electronic format.
- For scoping purposes, BC has assumed that this screening process will result in no more than 25 projects/programs for inclusion in the CIP; the remaining projects/programs will be summarized in the plan at a preliminary level and deferred to later planning efforts.
- Environmental and social impacts will not be monetized
- The life-cycle cost estimates will use planning level cost estimates based on recent City, consultant experience and bid tabs, with appropriate allowances for project contingencies and unknowns.
- The City will provide the BC Team life-cycle cost assumptions including operation and maintenance frequencies based on city finance methodologies and O&M information.
- For budgeting purposes, the number of projects and programs shall be limited to the allocated labor effort, which is 174 hours for project descriptions, preliminary screening, and BCE analysis.
- Project sheets for each CIP are limited to one page of text and one figure (where appropriate).
- The City will review the draft CIP, 2-page summary sheets and the life-cycle costs and provide a single set of comments to BC Team. The city will resolve all conflicting review comments prior to delivery to BC Team.

## Task 7: Develop rate structure and financial planning recommendations

The purpose of this task is to determine the amount of revenue required from rates to meet the O&M, debt service, and capital improvement costs associated with meeting the desired LOS. A financial model will be developed to evaluate the rate structure needed to achieve LOS targets over the 6-year and 20-year planning horizons. The BC Team will complete the following:

- *Capital Financing Plan.* Based on the CIP developed as part of the Master Plan, project capital funding needs, borrowing requirements, and associated cash flows and cash balances for the requested 20-year study period. The analysis will be constructed to evaluate optional capital scheduling and prioritization.
- *Operating Forecast.* Forecast ongoing operating, maintenance, administrative, debt service, capital and other cash obligations for the 20-year study period. We will incorporate economic factors for customer growth and cost escalation, as well as additional O&M expenses, if any, resulting from the capital improvement programs or other known changes in operational requirements.
- *Revenue Needs Assessment.* The revenue needs assessment ultimately identifies the total rate revenue to be collected from customers of the City. We will compare projected cash requirements against projected revenue under existing rate levels to determine annual rate adjustments needed to satisfy the projected cash obligations of the surface water utility. We will perform this analysis for up to five different levels of service and associated costs, for a 20-year planning period.
- *Service Level Matrix.* Update the LOS matrix to communicate rate results for varying service levels and associated costs. The LOS Matrix may be updated accordingly.

- *Policy Analysis.* Provide an issue paper on rate credits / incentives for qualifying on-site provision of natural drainage systems, and possibly other types of on-site mitigation. Provide an issue paper evaluating the City's existing rate structure, and recommend potential changes to improve rate equity.
- *Rate Credit Calculation.* If applicable, construct an allocation of surface water costs to determine the maximum credit amount.
- *Documentation.* Prepare a Financial Planning Memorandum to document the results of the rate study including: funding options, rate forecast for up to a 20-year period, related rate impacts, recommended fiscal and rate policies, rate/credit options tied to construction of natural drainage systems on residential properties, and an updated LOS matrix showing the rates for different program components for different service levels.

#### City Activities:

- Review the draft Financial Planning Memorandum and provide a single set of comments to BC Team. The City will resolve all conflicting review comments prior to delivery to BC Team.

#### Deliverables:

D12. Draft and Final Financial Planning Memorandum

## Task 8: Evaluate utility billing

The purpose of this task is to review the legacy programs related to 1) the process and data associated with the King County administered utility billing and 2) the review and cost evaluation of performing in house billing for surface water customers. The City of Shoreline currently uses the King County Surface Water Utility rate structure, based on density of development and imposed on total parcel area – with the exception of single family residential and very lightly developed parcels which are charged uniformly. The City rate is billed by the County on the County property tax statement.

### Subtask 8.1: Audit Utility Billing System.

Perform a review of King County billing practices and results to assess the timeliness and accuracy of the County's billing of the City surface water rates. It is important to identify any revenue gaps based on the method of billing. The City provides parcel and billing classification information to King County, which uses the information to annually bill surface fees along with County tax statements. The City has not updated or thoroughly reviewed the data for several years. King County uses the information received but does not check or review data. An audit of the data would involve assessing the extent to which redevelopment and infill have not been recorded in the City's parcel database with a percent impervious categorization for non-residential customers. In addition to the audit, an analysis of the impervious coverage of residential lots can provide information for use in providing incentives for conversion to natural drainage systems on properties where none exists. The BC Team will make recommendations on capturing and managing the data necessary for King County billing and how to best address the billing issues. The team will review the City's applicable rate structure compared to the customer data provided by the City and/or used by the County for billing and compare expected revenue to actual revenue performance for the most recent full billing year (likely 2015).

### Subtask 8.2: Evaluate Cost and Operations for an In-house Billing System.

The City is considering whether to bill its stormwater customers directly rather than contracting with King County to perform the billing. The City will be taking over the billing activities for the Ronald Wastewater District customers when the City assumes the district in October 2017. The billing capture rate with the current system is 98 percent. While this is a very high capture rate, other advantages may exist by using in-house billing platform that could serve the surface water utility as well as the wastewater utility.

The BC Team will evaluate the pros and cons of King County versus City billing of the surface water rate, including a discussion of relative cost, collection enforcement, and feasibility of billing the City's desired rate structure, if different from the current structure. The issue paper will include the option of third-party billing by contract. In addition, the paper will address additional rate structure options, such as the impervious basis as applied by the equivalent service unit, as they pertain to equity and billing feasibility (if desired).

*Review In-House Utility Billing Option.* Provide an issue paper evaluating the in-house billing option. Define the pros and cons of County v. City billing of the surface water rate, including a discussion of relative cost, collection enforcement, and feasibility of billing the City's desired rate structure, if different from the current structure. The issue paper will include the option of third party billing by contract. In addition, the paper will address additional rate structure options, such as the impervious basis as applied by the equivalent service unit, as they pertain to equity and billing feasibility (if desired).

**City Activities:**

- To prepare a data audit of impervious surface coverage by address, the City will obtain parcel, hard surface and impervious coverage GIS information from King County.
- Provide the consultant team with utility billing review work performed by others.
- Provide confirmation of the City's current billing capture rate.

**Deliverables:**

- D13. Utility Billing Memorandum: Describing methodologies, results, and recommendations to more accurately reflect parcel size and percent impervious classification
- D14. In-house Billing Memorandum: summary review of utility billing options

**Assumptions:**

- A review of the current permitting process used to capture new addresses and impervious coverage will be assessed for methods to capture and store data before it is sent to King County.

**Task 9. Utility management policy review**

The surface water utility has several programs and policies that have not kept pace with redevelopment within the city and, in some cases, do not have documented approaches to making surface water-related decisions. The purpose of this task is to assist the City with developing policies to address these issues. The BC Team will complete the following activities:

- *Surface Water Utility Effort and Program Summary.* Prepare a summary document that describes the various programs and activities performed by the Surface Water Utility, organizational structure, and basic roles and responsibilities of internal staff and departments.
- *Utility Funds on Private Property.* Review the "Draft Decision Guidelines for Use of Utility Funds on Private Property" memorandum that was prepared for the 2011 Master Plan. Revise the document to include recommendations for a decision making process for private property issues encountered by the City (e.g., how to manage surface water generated on public right-of-way that discharges onto private property).
- *Staffing Costs for O&M Activities.* Investigate options and prepare an issue paper on surface water-related maintenance activities being performed by City staff that could alternatively be performed by an outside contractor.
  - Examine interdepartmental agreements with Parks and Streets for surface water staffing efforts and budgets.
  - Perform analysis for work in parks and streets as it relates to surface water infrastructure maintenance and operations.
  - Impact investigation will include reviewing staff and contractor billing rates and hours, interviewing city staff, performing a benchmarking study with similar sized utilities, assessing impact of maintenance services being performed by City staff, and assessing the potential of shared resources with roads, and wastewater system assumption.
- *Data Management Protocols.* Review the City's current data management needs and procedures. Prepare an issue paper on recommended data management methods and protocols. For example, work with City staff to determine data storage needs for the City's video inspection program.
- *Lateral Connection Policy.* Prepare an issue paper on lateral connection policies and fees for public/private infrastructure. Drainage connections have four typical conditions, 1) no drainage, 2) lateral that spans from public to private and then back to public, 3) laterals from private to public and 4) lateral connection in the right of way. Investigate pros, cons and costs of establishing lateral connection policy on new infrastructure and existing infrastructure during pipe repair and replacement.

**City Activities:**

- Provide a list of programs, policies and procedures and will provide hard or electronic copies where available.
- Provide BC team with existing information related to each policy study
- If staff interviews are necessary, coordinate interview meetings between City staff and BC team.

**Deliverables:**

- D15. Summary document on Surface Water Program
- D16. Update to the Use of Utility Funds on Private Property Policy

- D17. Issue paper on O&M staffing costs
- D18. Issue paper on data management protocols
- D19. Issue paper on a lateral connection policy

#### Assumptions:

- Assume up to two meetings with City staff. The City PM will assist in scheduling meeting times between the BC Team and City staff.
- Presentations to City Council regarding recommended policy will be managed in Task 11.

## Task 10: Prepare master planning document

The BC Team will use the results of the previous tasks to prepare the Master Plan document. This will include final LOS, the asset management framework, programmatic recommendations, CIP, and rates. BC proposes that the document consist of the following four parts:

- Plan Overview: prepared for general public/stakeholders to present a general understanding of the Master Plan contents.
- Executive Summary: the intended audience is the City Manager, City Council, and key stakeholders. The executive summary provides policy perspective, general technical understanding, background (for recommended policies, programs, and projects), and links to financial policies/strategies.
- Master Plan Update: this is the main body of the document, intended for City staff who will be implementing the Master Plan recommendations. The Master Plan will consist of a concise summary of the planning process and focus primarily on the recommended improvements and policies. It will also address continuity from the 2011 Master Plan, and discuss the status of recommendations from the Master Plan.
- Appendices: Supporting information (e.g., Asset Management Framework, system capacity memoranda, etcetera) would be provided in appendices for City staff needing supporting data or specific details.

The BC Team will prepare a preliminary draft of the Master Plan document for review and comment by Surface Water Utility staff. A revised draft will then be prepared for submitting to City Council for their review (if necessary). After addressing comments, the BC Team will produce a final version of the Master Plan.

#### City Activities:

- Confirm and finalize LOS revisions to be included in Master Plan.
- Compile review comments, resolve any conflicting comments, and provide BC Team with a single set of comments on the preliminary draft and draft Master Plans.

#### Deliverables:

- D20. Preliminary Draft Master Plan submitted electronically via e-mail in PDF; if desired, the draft report can also be provided in Word format to facilitate comments and editing.
- D21. Draft Master Plan submitted electronically via e-mail in PDF; if desired, the draft report can also be provided in Word format to facilitate comments and editing.
- D22. Final Master Plan submitted electronically via e-mail in PDF (and Word if desired).

#### Assumptions:

- One preliminary draft Master Plan will be prepared.
- One draft Master Plan will be prepared.
- One final Master Plan will be prepared.

## Task 11. Present to City Council and Public

The BC Team will work with the Utility staff to develop information for briefing the City Council at key points during Master Plan development. Up to three City presentations will be prepared and presented; subjects are anticipated to be:

- Recommended policy and staffing needs
- Recommended Surface Water Utility LOS
- Draft Surface Water Master Plan

The BC Team will also prepare presentation materials and attend an “open house” to help support the City’s public outreach activities; these materials will summarize provide a brief overview of the master planning process and summarize the projects and programmatic recommendations.

#### City Activities:

- Review PowerPoint presentations and provide BC Team with anticipated questions and comments from City Council.
- Coordinate with the City Council regarding agenda and document submittals
- Advertise, coordinate, and facilitate a public open house to discuss the Master Plan.
- Coordinate with other City departments as needed to align with other planning efforts such as Parks and Transportation plans, including meeting arrangements and logistics.

#### Deliverables:

- D23. Presentation materials for public open house (draft Master Plan)
- D24. Presentation materials for City Council briefing (policy and staffing needs)
- D25. Presentation materials for City Council briefing (surface water utility LOS)
- D26. Presentation materials for City Council briefing (draft Master Plan)

#### Assumptions:

- Up to three members of the BC Team will attend up to two public open house meetings.
- Up to three members of the BC Team will attend up to three City Council meetings.
- While the BC Team will develop presentation materials and participate in the public open house, the City will be responsible for advertising, coordinating, and facilitating the open house at a location to be provided by the City.

## Task 12. Project Management

BC’s project manager will be responsible for team coordination, staff supervision, budget and schedule controls, status reports, and adherence to QA/QC procedures. At the outset of the project, BC will conduct an initial Web conference to kickoff the project, initiate activities of Tasks 1 through 5, and 9, and to discuss schedule. The BC project manager will then provide the City with a detailed schedule to complete the project, including major milestones, deliverables, and a proposed workshop date.

BC will conduct weekly conference calls with the City’s project team to review project status, coordinate data/ information exchange, address outstanding issues, preview upcoming tasks, and answer any other questions that may arise. BC will also prepare monthly invoices, including expenditures by task, hours worked by project personnel, and other direct expenses, with the associated backup. Project status reports will accompany each invoice, including an up-to-date comparison between cumulative charges and work progress by task.

If at any point BC identifies potential changes or deviations from the original scope of work, they will document the requested changes using a Project Change Request (PCR) and submit the suggested changes to the City prior to proceeding with any of the new work. The City project manager will review the PCR and provide BC with written approval for modifications to the existing scope and budget.

#### City Activities:

- Coordinate City staff attendance on weekly and monthly conference calls, as needed.

#### Deliverables:

- D27. Proposed project schedule
- D28. Brief summary e-mails following each weekly and monthly status call containing key decisions and action items from the discussion.
- D29. Monthly progress reports and invoices including a detailed progress report at each of two major milestones

#### Assumptions:

- All deliverables will be submitted in electronic format.
- Total duration of the project will be 12 months; an equivalent number of progress reports, status calls, and invoices are to be provided on a monthly basis.
- Up to two members of the BC Team will participate in ½-hour weekly status calls; 48 over the 12-month duration. Up to three revisions to the project schedule will be provided throughout the course of the project.



## Task 13: Condition Assessment (Additional)

The purpose of this task is to work with the City to advance their condition assessment program by reviewing existing data, approaches, and activities and preparing an updated Condition Assessment Management Plan. This is an additional task; work under this task will not be performed without prior written approval from the City. Upon written approval, the BC Team will complete the following activities:

- Building on the data review activities performed in Task 1, evaluate the existing condition of assets based on the available data and identify needed infrastructure improvements.
- Review the City's current prioritization process and underlying criteria; work with City staff to revise and update the process and criteria to be consistent with the asset management framework developed in Task 3.
- Where feasible, develop GIS or Access-based queries to expedite the prioritization processes and/or create automated links with data stored in Cityworks.
- Investigate alternative technologies and approaches for performing pipe and structure condition assessments.
- Develop project and programmatic recommendations for the inclusion in the Capital Improvement Plan (CIP) based on the results from existing condition assessments, maintenance records from Cityworks, and the City's project and program tracking spreadsheet.
- Prepare a Condition Assessment Management Plan documenting the processes and timeline for inspections and revised prioritization; the plan will include strategies for repairs and retrofits.

### City Activities:

- Provide input on condition assessment-repair prioritization criteria
- Review and provide on set of consolidated comments on the draft Condition Assessment Management Plan

### Deliverables:

D30. Draft and Final Condition Assessment Management Plan

### Assumptions:

- The City will provide electronic versions of all previous and anticipated pipe and structure condition assessments in either GIS or Excel format.
- BC will summarize and identify gaps for the existing condition assessment data in Task 1.
- BC will work with City staff to update the most recent condition assessment-repair prioritization criteria and re-rank all inspected and condition-assessed pipes.

## Task 14: System Capacity (Additional)

The purpose of this task is to address drainage capacity issues by identifying improvement projects and developing a long-term strategy and approach to evaluating system capacity throughout the city. This is an additional task; work under this task will not be performed without prior written approval from the City. Upon written approval, the BC Team will complete the following activities:

- Identify outstanding drainage capacity problems and project recommendations from previous basin planning work and work with the City to determine which projects should be carried forward and included in the updated 6 and 20 year CIP.
- Work with City staff to identify any additional known capacity problems and determine whether they are simply maintenance issues or if an improvement project is required.
- Develop a technical approach for evaluating drainage system capacity (e.g., models, methods, data sources) that is consistent with the capacity-related service targets specified in the LOS matrix.
- Conduct focused, and where possible, simplified, hydrologic and hydraulic modeling analyses for up to three new capacity problems and perform simulations to size recommended improvements.
- Develop a system-wide strategy for prioritizing areas of the city for comprehensive capacity evaluations; this strategy will consider zoning changes/redevelopment, historical problems areas, drainage and infrastructure conditions, and data availability, and will include recommendations for system inventories and flow monitoring.
- Prepare a technical memorandum describing the recommended strategic approach to performing system-wide capacity analyses, including subarea prioritization, technical approaches and modeling methods, data sources, and recommendations for additional data collection.

- Analyze system capacity and evaluate deficiencies for up to two high-priority areas; specifically, the light rail station subareas at 185th Street and the 145th Street. Each analysis will involve several steps:
  - Review stormwater infrastructure data provided in GIS; assess the quality and completeness of the data for use in constructing an area-wide hydraulic model.
  - Delineate drainage areas/catchments and develop existing-conditions runoff parameters for constructing an area-wide hydrologic model; since measured flow data are not available for calibration, input parameters will be adjusted to obtain reasonable results when compared with other methods or typical values for the region.
  - Map future build-out conditions based on zoning, effective imperviousness estimates, and flow control requirements; then modify the hydrologic model inputs to simulate future build-out conditions.
  - Analyze the modeling results to identify predicted capacity deficiencies, then evaluate potential improvements and develop project recommendations.
- Prepare two supplementary technical memorandums summarizing the results of the Subarea Drainage Studies.

#### City Activities:

- Provide all previous hydrologic and hydraulic studies performed including those for the 185th and 145th subarea planning work.
- Participate in up to 2 conference calls to discuss system capacity analysis approaches, strategies, and/or assumptions.
- If more than 3 new capacity problems require projects, the City will prioritize the problems and identify the top three for further analysis, while the remaining problems will be deferred for future studies.
- Review and provide on set of consolidated comments on the 3 draft technical memoranda.

#### Deliverables:

- D31. Draft and Final Technical Memorandum on evaluating system capacity
- D32. Draft and Final Technical Memorandum on 145th Street Subarea Capacity Analysis
- D33. Draft and Final Technical Memorandum on 185th Street Subarea Capacity Analysis

#### Assumptions:

- The 185th Street Subarea covers approximately 400 acres in the vicinity of 185th Street and Interstate 5.
- The 145th subarea is a roadway expansion project surrounded by a proposed rezoned growth area. The 145th Street Subarea covers approximately 300 acres between 145th and 155th Streets east of Meridian Avenue.

## Task 15: Operations and Maintenance (Additional)

The City has completed a precursory O&M Manual to outline the basics and lay the groundwork for development of a more substantive document. Building on our asset management work in Task 3, the BC Team will prepare an updated and expanded O&M manual to help the City establish clear protocols and maximize the use of their Cityworks CMMS. This is an additional task; work under this task will not be performed without prior written approval from the City. Upon written approval, the BC Team will complete the following activities:

- Following on to the asset management interviews, work with City Staff to verify the information contained in Cityworks, understand lessons learned from ongoing O&M activities, and identify potential improvements.
- Conduct an analysis of business activities related to the surface water O&M program including condition assessment and monitoring; document the protocols and procedures. For O&M procedures that are currently ad hoc, examine the frequency and need for periodic maintenance.
- Review the current configuration of Cityworks and identify potential updates to support the O&M Program; this will include assisting the City with improvements in the use of the system, and consideration for adding modules to perform O&M functions that are currently not supported.
- Develop condition rating methodology for up to 5 types of assets (in addition to pipe and structure rating in Task 14) for updating maintenance ratings.
- Prepare an updated O&M Manual and make recommendations on linking the O&M manual with the asset plans; this will include a standard condition rating methodology and failure analysis process for updating criticality ratings and CIP prioritization.

**City Activities:**

- Provide a description of how maintenance and operation is performed on specific assets.
- Participate in up to 2 conference calls to discuss current O&M activities, lessons learned, and improvements.
- Review and provide on set of consolidated comments on the draft Surface Water Operations and Maintenance Manual.

**Deliverables:**

D34. Draft and Final Surface Water Operations and Maintenance Manual

**Assumptions:**

- BC anticipates that the City will provide significant input as to how O&M is currently performed to inform the development of the manual and to help identify improvements to their current activities.

**Table B. Cost Estimate<sup>1</sup>**

No.	Task Description	M.Milne	N.Foged	M.Ales	P.Weber	A.Dorn	B.Jacobsen	K.Caley	D.Dressner	D.Draheim	E.Boyd	J.Breedeen	C.Foy	Total Labor Hours	Total Labor Effort	FCS Group	Total ODCs	Total Effort
		Monitoring Manager	Project Manager	Assistant PM	Projects/Prioritization	Capacity Evaluations	Condition Assessment	Engineering Support	Utility Operations	Tech Editor	Word Processing	Project Analyst	Project Admin.					
		Rates: \$210	\$210	\$149	\$149	\$176	\$176	\$108	\$200	\$114	\$72	\$108	\$108					
101	1. Review and consolidate data	-	12	68	4	8	12	40	-	-	-	-	-	144	21,088	-	-	21,088
102	2. Define levels of service (LOS)	-	26	30	-	-	-	4	6	6	6	-	-	78	12,678	18,123	18,123	30,801
103	3. Update asset management process	-	24	12	-	-	4	-	-	12	6	-	-	58	9,332	67,095	67,095	76,427
104	4. Regulatory Compliance	4	2	16	24	-	-	-	-	-	-	-	-	46	7,220	-	-	7,220
105	5. Stormwater Treatment	14	-	6	-	-	-	-	-	3	3	-	-	26	4,392	-	-	4,392
106	6. Develop project and program recommendations for CIP	-	36	60	64	88	-	-	-	-	-	-	-	248	41,524	3,150	3,150	44,674
107	7. Develop rate structure and financial planning recommendations	-	10	4	4	-	-	-	-	4	4	-	-	26	4,036	31,143	31,143	35,179
108	8. Evaluate utility billing	-	12	4	32	60	-	24	-	6	-	-	-	138	21,720	4,326	4,326	26,046
109	9. Utility management policy and standards review	-	-	42	88	-	4	-	36	14	12	-	-	196	29,734	-	-	29,734
110	10. Prepare master planning document	-	52	164	28	28	28	-	28	24	16	-	-	368	58,872	8,673	8,673	67,545
111	11. Present at Public Open House and to City Council	-	32	36	2	2	2	4	6	8	-	-	-	92	15,630	10,458	10,458	26,088
112	12. Project Management	16	154	138	-	-	-	-	-	-	-	56	8	372	63,174	-	-	63,174
<b>GRAND TOTAL (Tasks 1 through 12)</b>		<b>34</b>	<b>360</b>	<b>580</b>	<b>246</b>	<b>186</b>	<b>50</b>	<b>72</b>	<b>76</b>	<b>77</b>	<b>47</b>	<b>56</b>	<b>8</b>	<b>1,792</b>	<b>289,400</b>	<b>142,968</b>	<b>142,968</b>	<b>432,368</b>
<i>1. Hours and Dollars are rounded to nearest whole number.</i>																		
113	13. Condition Assessment (Additional)	-	4	4	-	-	156	42	-	12	-	-	-	218	34,796	3,381	3,381	38,177
114	14. System Capacity (Additional)	-	32	60	-	260	-	236	-	16	8	-	-	612	89,308	-	-	89,308
115	15. Operations and Maintenance Manual (Additional)	-	6	-	88	-	24	-	60	8	6	-	-	192	31,940	3,234	3,234	35,174
<b>GRAND TOTAL (including Optional Tasks)</b>		<b>34</b>	<b>402</b>	<b>644</b>	<b>334</b>	<b>446</b>	<b>230</b>	<b>350</b>	<b>136</b>	<b>113</b>	<b>61</b>	<b>56</b>	<b>8</b>	<b>2,814</b>	<b>445,444</b>	<b>149,583</b>	<b>149,583</b>	<b>595,027</b>
<i>1. Hours and Dollars are rounded to nearest whole number.</i>																		