

**Portland Water Bureau  
FY 2018-19  
Decision Package**

**Water Treatment**

Staffing	Operating	Capital	Total
7	\$351,000	\$600,000	\$951,000

**Problem Statement**

As a public water system, the bureau's provision of drinking water is federally regulated predominantly under the 1974 Safe Drinking Water Act (SDWA). The bureau also has to comply with the requirements of the Long Term 2 Enhanced Surface Water Treatment (LT2) Rule. This compliance resulted in a comprehensive Watershed compliance program (Bull Run Treatment Variance) and replacement of some of the bureau's largest capital assets, its five uncovered terminal reservoirs.

The LT2 Rule also requires water systems using surface water as a source to provide treatment to remove or inactivate *Cryptosporidium*. A provision of the SDWA allows a variance from that treatment under certain circumstances. The City made a request for a treatment variance to the Oregon Health Authority (OHA), and was granted the variance in March 2012 based on data, the legal protections for the Watershed, and the level of Watershed controls provided by the current management agreements and policies.

In addition to the LT2 Rule requirements, the Lead and Copper Rule triggers systems that have Action level exceedances and/or modify their supply systems to perform additional testing to ensure that optimized corrosion controls are in place. Due to recent exceedances and that we are in the process of changing our supply due to filtration, the bureau is studying the best interim and eventual long term (post filtration installation) methods for corrosion control. The interim project and distribution system efforts will be a stop gap solution until filtration is complete.

From January 2017 through March 2017, *Cryptosporidium* was detected in drinking water from the intake of the Bull Run Watershed in 14 samples. These were the first detections of *Cryptosporidium* at the intake since the treatment variance went into effect. After the repeated number of detections in early 2017, it became apparent that the concentration of *Cryptosporidium* would not be below allowable levels, and OHA issued an order to provide treatment.

The Portland City Council has directed PWB to comply with the order by proceeding with planning, design and construction of a filtration plant. The Project will require a significant number of consultant expertise and internal staff for which the current staffing level is insufficient. The additional staff requested in this decision package will help PWB complete the required work for both Corrosion Control and Filtration to meet the deadlines imposed by OHA.

PWB currently has two water treatment facilities at Headworks and Lusted Hill that treat water from the Bull Run watershed to meet state and federal drinking water regulations. The required increase in treatment with the Water Filtration Project and Corrosion Control Optimization will require additional staff resources in both the Engineering and Operations groups. There is also a great deal of planning and system maintenance that will need to be performed to prepare the

**Commented [FS1]:** I imagine that you are going to include the L2T and crypto background and update in the Requested Budget narrative. Given this, you should cut some of this language out of the DP narrative. That said, I would add more information about Corrosion Control and how it relates to the filtration project (are you thinking of them as one project as this point? A little confusing) and include the timelines you are under for both projects as that is a key component in your business case/problem statement.

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current system for the Project. Below is a description of each position request and how they will fit into the framework of preparation for and execution of the Corrosion Control and Water Filtration Project:

- The Principal Engineer is a new position request necessary to manage and oversee the new 10-year filtration project as a program manager. This position will be the lead for all the efforts that will be completed by internal staff and consultants. PWB will be looking for an individual that has experience with treatment systems to fill this position.
- The Engineering Associate positions, one position in Operations and one position in Engineering, are technical project support staff for the filtration project. These positions will support the planning, design, construction and operations phases of the filtration and corrosion control improvements. Further, the Engineering Associate position in Operations would support the Water Supply and Treatment Manager by evaluating optimizations of the treatment plants, preparing standard operating procedures and evaluating impacts of source water quality changes on the treatment processes.
- The Program Coordinator position is a non-technical project support staff member for the filtration project. This position will provide general project support. The bureau will be the lead of all the efforts required to meet treatment requirements. This position will support the Principal Engineer and other team members in keeping the project organized and on schedule.
- The Management Analyst position request is to add another position to the Contract Administration Branch (CAB). The Filtration project will need full-time support from CAB due to the increased number of estimated procurements. Further, there will be an increase in the amount of reporting and invoicing required over the course of the project. The volume of contract issues for both the corrosion control and filtration projects will increase substantially. Current level of staffing would not be able to continue normal workload processing and add these elements without significant delays for all contract documents. This position will enable CAB to continue to support the rest of the organization as well as the Filtration project.
- The Water Treatment Operators will oversee the day to day operations and maintenance of the treatment plants; an integral part of ensuring appropriate treatment to meet the safe drinking water act, handling hazardous chemicals and diverting water to meet clean water act requirements. The two requested positions are needed in the near-term for bench and pilot testing for the filtration facility, as well as working with Engineering on Corrosion Control Optimization while handling the existing duties at Headworks and Lusted Hill. Pilot testing for corrosion control is underway but additional testing will be required after completion of the new Corrosion Control facility. It will take a minimum of three years to train and certify the new operators under the State of Oregon operator certification requirements for time on the job requirements for making operational decisions. Hiring the operators now is necessary to ensure

**Commented [FS2]:** Can you provide some examples of work to prepare the current system for the Project? What role do these positions have in the prep work, if any? Including this information will help with the "why now" question.

**Commented [JR3R2]:** Per Dave Peters: This fiscal year is focused on procuring support services, setting up a public engagement framework and working to answer some basic questions. This is being done by existing staff who are continuing to work on other assigned projects. Coming this fall the Program Support Service contract will be complete and the planning and pilot testing will begin in earnest, without the resources in the decision package resource would need to be reassigned from other budgeted projects to complete the work. The engineering resources will be needed at the beginning of the fiscal year to work with the program support consultant. The operations resources would be needed mid fiscal year to build and operate the pilot plant facility.

**Commented [FS4]:** Why will it increase? Who are you reporting to (internal, external or both) and what is the nature of the reporting?

**Commented [JR5R4]:** The volume of contract issues for both the corrosion control and filtration projects will increase substantially. Current level of staffing (3 staff and 1 supervisor) would not be able to continue normal workload processing and add these elements without significant delays for all contract documents. This position will report directly to Annette Dabashinsky as the supervisor. This group closely works with the city procurement office and the project team.

**Commented [FS6]:** When is pilot testing expected to start?

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staffing is available to operate the new Corrosion Control facility and to perform additional pilot testing that will be necessary as the Filtration project moves forward.

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**Alternatives**

This request represents a supplement to the existing staff needed to complete this project.

PWB believes it is in the bureau's best interest to have bureau staff, rather than contractors, assist with the Corrosion Control Optimization and Water Filtration Projects. It allows the opportunity to develop in-house expertise. By growing this expertise in-house, staff members will acquire the knowledge and skills necessary to operate this facility once on-line. The bureau has seen that this approach provides valuable expertise and value in the long-term.

If this package is not approved this year, there will be several outcomes. The engineering and management efforts contemplated for these positions will likely be procured via contract. The internal management of the services to be procured would result in less effort on other capital improvement projects. The treatment operators would be requested again in the future as the treatment facility will require more staff than the current treatment operations. The impact of not hiring the management analyst would yield delays in processing contracts and invoices bureau-wide.

If the bureau uses a consultant for these services, the knowledge of the system is lost when the project ends. This could result in additional long-term costs at the end of the project to hire the consultants back for additional training of staff. In discussions with utilities that have filtration plants such as Tacoma, staffing had to be increased to accommodate the short and long term needs during testing and normal operations once the plant is in service.

**Commented [FS7]:** This is more of comment: What if you lose the permanent FTE or they don't deliver? A permanent FTE is not without risk. This is a ten-year project so you may lose them regardless. Do you have retention data that suggests why this may or may not be a risk? Something to consider.

**Impact**

The decision to move forward with the Corrosion Control and Water Filtration Projects ensure that the bureau will be able to meet regulatory requirements by providing reliable and safe water to customers. This decision package is an integral part of the larger projects, and the project's success will rely heavily on the due diligence of the organization in preparation for it. Without appropriate staff and staff levels, the bureau risks continued compliance with all drinking water regulations.

**Commented [FS8]:** What about meeting regulatory requirements? Meeting timelines? If you don't get these positions, will it have an impact on your ability to meet OHA's requirements?

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Additional CBO Analyst Questions

- 1) What's your budget for staffing these projects in FY 17/18? **The current project plan lists \$910,000 total or the FY17/18, \$300m000 in personal services, \$450,000 in PTE and \$160,000 in contingency.**
- 2) Do you anticipate needing more staff for this work in the future? If so, when and for what (recognize these are rough estimates)? **Requested staff levels, in the decision package, will see the bureau through planning and design. During planning evaluations will be completed to determine the right size team for construction and future operations.**
- 3) Is the bureau's EMS budget increasing to support this work? If so, by how much and how many contract FTE does it include? **Yes, the external M&S will increase. However, that external M&S is included in the CIP project. The base ESM is not expected to change because of the project.**
- 4) For more context on how these positions fit into the current staff structure, it would be helpful to know the number of permanent and contract staff you have assigned to filtration and corrosion control currently and how you plan to staff this work over the next few years. The current staff org chart would be helpful. Otherwise, the analysis is the margins and I miss the broader picture of what it takes to get this work off the ground. **Current (FY17-18) work load is being handled by eight existing staff members who are fitting this effort into their current workload. A majority of the support is coming from managers in Engineering Planning and Operations. In FY 18-19 a separate program will be set up for the filtration program and staff will be identified (including those requested in this PD) to work solely on the filtration program. An org chart for the FY 18-19 is being developed over the next few months.**
- 5) What were the inputs you used to identify these staff requests? Previous experience, permanent to contract employee ratio, learning from other utilities have completed similar projects, all of the above? **For the engineering staff, we used our experience on the Bull Run Supply Treatment – UV Project. The approach and lessons learned on that project are directly applicable to this effort. We have also talked with utilities that have recently built or are in the process of building similar facilities. We looked at existing available engineering resources and this DP is to fill some of the gaps we anticipate after redeploying existing staff. For the treatment operators, discussions with Tacoma as they shifted from unfiltered to filtered and addressed corrosion control issues.**
- 6) Is the program coordinator a new position for the bureau? If not, how many do you have? Is this person trained in project management? **This is not a new classification. The bureau has 4 that I know of that run programs in the other parts of the bureau. This one for the filtration project will focus on project support and will require project management experience.**
- 7) Efficiency related questions: Has the bureau identified any process improvements in its capital improvement planning process that would help with project delivery? Has the bureau reallocated any staff to this work? What efficiencies has the bureau explored

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before requesting additional staff? **We have already assigned 8 people to the project to work part time on the project based on current availability and at least a dozen others as various project stakeholders. The project will be delivered using an alternative delivery method – design build or construction manager/general contractor.**

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**UniDirectional Flushing Program**

Staffing	Operating	Capital	Total
5	\$444,000		\$444,000

**Problem Statement**

In 1991, Environmental Protection Agency (EPA) published the Lead and Copper Rule (LCR) to control lead and copper in drinking water. As a result, Portland installed additional treatment at the Lusted Hill Treatment Facility to control corrosion by increasing the pH of the water.

In 1997, the Oregon Health Authority (OHA) approved the Lead Hazard Reduction Program as the optimal corrosion control treatment. This program is comprised of four components:

- Corrosion Control Treatment – Adds sodium hydroxide to increase pH and reduce the presence of lead in tap water;
- Lead in Water Education and Testing – Provides free lead in water testing to all customers in the Bull run service area;
- Education and Outreach for all sources of lead exposure – Raises awareness of all potential sources of lead, focusing on highest risk to children through trainings, workshops, and community events; and
- Lead paint remediation – Provides in-home risk assessments and lead hazard reduction measures through a partnership with the Housing Bureau’s Lead Hazard Control Grant Program.

In 2014, in anticipation of the changes to the Water System with the disconnection of uncovered reservoirs, the bureau began a water quality corrosion control study. Due to events in Flint, Michigan the bureau contacted OHA to discuss Lead and Copper Rule (LCR) compliance. The Bureau proposed an improved corrosion control treatment schedule which was approved by OHA in January 2017. The schedule includes completing an improved corrosion control treatment facility by 2022.

This program has become increasingly important as the bureau is moving forward with optimizing corrosion control. Following the completion of the Corrosion Control Study, the bureau will move forward with the construction of a new corrosion control treatment facility at Lusted Hill in the form of a structure to house and deliver protective elements to the water to prevent corrosion. Prior to the new facility going online, it is prudent to have the entire distribution system flushed. The current program staff resources are not sufficient to perform the level of UniDirectional Flushing (UDF) and ad hoc water quality flushing necessary to maintain the current distribution system in a level of water quality expected in drinking water systems.

Operations currently has one position dedicated to flushing, backfilled with available positions when necessary. UDF staff systematically open and close pipe valves, forcing water through the system to scour the insides of pipes and remove sediment, biofilm, debris, and other deposits.

With Portland Water Bureau’s (PWB) current level of staffing, it would take approximately 70 years to flush the entire distribution system. An individual UniDirectional (UDF) field crew is

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**UniDirectional Flushing Program**

typically composed of two people. Regardless of corrosion control or filtration treatment techniques, the distribution system will need to be flushed to ensure that treatment is optimized.

The current industry standard for a filtered system's UDF program is to flush the entire system every 5-10 years. The five positions requested in this decision package will provide 6 dedicated field positions to the flushing program and will provide three, two-person crews to begin flushing the entire system. The three crews are estimated to complete a 10-year flushing cycle for the entire system. This decision package represents the first phase of flushing in preparation for corrosion control optimization. Once the bureau can analyze the flushing rate of three crews, a determination can be made to hire limited term and/or community service aides to supplement and essentially double the number of crews to flush the entire system before 2022. Moreover, the bureau will be able to make long term decisions as to what the most efficient amount of staffing necessary to ensure the water quality stability in the distribution system for proper corrosion control and filtered water performance.

This decision package will increase labor costs for the bureau, but will reduce the cost of treating water once the corrosion control optimization program is implemented. Flushing the entire distribution system prior to optimization will potentially reduce the amount of chemicals that are needed to treat the water for corrosion. The bureau will evaluate the amount of chemical reduction after the entire distribution system has been flushed.

**Alternatives**

If this decision package is not approved, the bureau will continue to flush the system at the current level, then will need to add more chemicals to the water once corrosion control optimization is implemented. The addition of chemicals will cause a substantive increase in program cost. The current study and analysis of the requirements to modify treatment may require that the existing dosing of sodium hydroxide will need to be five times the rate introduced now. Current budget for FY 18/19 for sodium hydroxide is \$380,000. Any additional dosing due to the lack of a flushed system may add up to \$190,000/year depending on corrosion control treatment process decisions (type of treatment chemical(s) and dosing levels).

**Impact**

A core strategic goal of PWB is to provide reliable water service to customers in the quantities they desire and at a quality level that meets or exceeds both customer and regulatory standards. Distribution system deficiencies have been attributed to more than 25 percent of waterborne disease outbreaks annually in the United States. UDF is one of the most powerful tools available to a water utility for maintaining distribution system water quality. Left in the system, sediment, biofilm, and deposits in pipelines can reduce the effectiveness of disinfection treatment and potentially foster the growth of microbes in the system. In the fall of 2013 the distribution system had a tier two violation of drinking water quality standards in SW Portland primarily caused by pipes with biofilm and silt accumulations. Dedicating three full-time crews to UDF will ensure that the bureau can meet industry standards for UDF programs and continue to meet all regulatory requirements prior to corrosion optimization and after filtration.

**Commented [FS1]:** My recommendation last year was to wait until the study was done before making a request. If the study is done, what are the findings and how do they inform this request? This is an important piece of the business case.

How did the bureau come up with this staff request if they don't have an estimated flushing rate in mind for the three-two person teams? Confused. Can you determine the rate you need to clean the system before corrosion control comes online and then identify your mix of permanent to contract staff?

**Commented [HC2R1]:** See highlighted paragraphs.

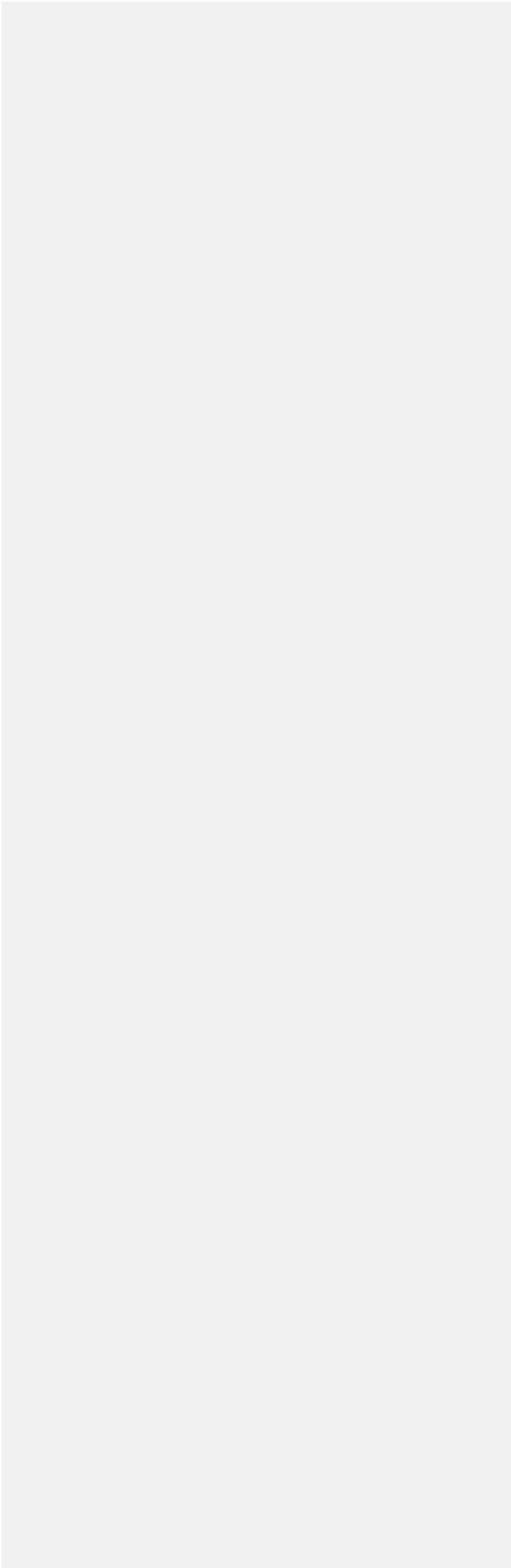
**Commented [FS3]:** Do you have an estimate to include here?

**Commented [FS4]:** Have you had water quality issues that you can point to in which regular flushing would have prevented? In addition to limiting the amount of chemicals going into the water, is this also addressing other water quality issues? If so, I would be more explicit about that.

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**UniDirectional Flushing Program**

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**Workforce Management**

Staffing	Operating	Capital	Total
3	\$176,000	\$233,000	\$409,000

**Problem Statement**

The Portland Water Bureau (PWB) employs nearly 600 full-time and seasonal employees. PWB's workforce management goals include:

- ensuring that staff has all the necessary skills and certifications
- providing a safe work environment
- developing internal expertise to meet future needs

The nature of much of the work conducted at the bureau is subject to multiple safety requirements that must be renewed on a schedule. For example, Occupational Safety and Health Administration (OSHA) requirements must be met in all the work the bureau does. It is critical to maintain a staff that has the necessary expertise and training to meet the bureau's safety requirements and all other regulatory conditions, as well as provide specialized expertise to maximize the bureau's efficiency and effectiveness. The three positions requested in this decision package are aimed at supplying the bureau with the resources necessary for successfully meeting regulatory and safety requirements and ensuring the necessary expertise to complete work as efficiently and effectively as possible.

**Organizational Expertise**

The purpose of this package is to fund two Public Works Inspectors tasked with supporting the construction of CIP project improvements to the PWB distribution system. PWB typically hires contract public works inspectors to augment the bureau's permanent staff when the bureau is short of internal resources and the project needs are above a sustained level. PWB has used on-call service contracts since 2006 and have consistently employed two to three general contract inspectors and an electrical contract inspector per year. The inspection workload fluctuates during the year so an inspector might work for the bureau three months, laid off for two months, and then rehired for the remainder of the year. Records from FY 2013-14 to FY 2017-18 below shows the inspector hours utilized. Records prior to FY 2013-14 are not easily recoverable, but the bureau believes inspector utilization to be consistent since 2006.

Fiscal Year	Hours	Comment
2013-14	705	specialty inspector
2013-14	1,315	three inspectors working concurrently
2014-15	1,858	specialty inspector
2014-15	3,630	three inspectors working concurrently during peak season
2015-16	756	one inspector during peak season
2015-16	1,553	specialty inspector
2016-17	4,076	two inspectors working concurrently during peak season
2016-17	1,803	specialty inspector

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**Workforce Management**

These inspectors work primarily on capital improvement projects that improve the bureau's resilience and reliability as well as meeting the bureau's public health obligations and regulations. Projects include Washington Park Reservoirs, Willamette River Crossing, the Corrosion Control Treatment project, filtration, seismic improvements, and numerous distribution projects.

The City and bureau are committed to maintaining and developing staff as workload dictates. Based on the data since 2013, it is possible to sustain hiring two permanent fulltime public works inspectors.

This additional staffing is necessary to comply with the DCTU contract negotiations to reduce the use of contract inspectors by hiring permanent full time public works inspectors. DCTU contract 2013-17 Article 6.3 allows use of contract staff to augment permanent full-time staff provided no permanent City staff are displaced and "... that there is a cost savings, an emergency, a statutory requirement, extreme risk, capital improvement projects, work covered by warranty, proprietary work, urgent work, limited work, or work occurs during peak loads..."

**Safety**

The current level of safety support, housed in Maintenance and Construction, does not provide sufficient coverage for all activities, particularly the field work associated with Operations. There is a need in Operations for a Safety Officer to ensure that safe work practices and training are inherent. As new large capital projects are completed and come into service, such as the Hannah Mason Pump Station and the Washington Park complex, it becomes imperative that personnel safety be a part of initial and on-going work.

The Operations group routinely works in high hazard situations that include high voltage electrical, fall hazards, and extreme confined spaces such as elevated tanks. This work is extremely specialized and requires continual training to perform it safely and in compliance with Oregon OSHA workplace safety requirements. Tasks from the Risk Management Plan (RMP) document are not being completed. The RMP is especially important at Headworks due to the amount of chlorine stored on site. It's also fundamental in creating SOPs for activities such as working on dam assets. This position will be required to manage training requirements, safety talks, safety committees, incident responses, lockout tagout, first aid, respiratory protection equipment, and various other safety related work.

**Alternatives**

If the two Public Works Inspector positions are not funded, the bureau will need to continue to utilize contracted services to meet the requirement for the public works inspections of capital projects. If the proposed safety position is not filled, some of the work such as the required Risk Management Plan or Process Safety Management plans could be done by an outside consultant but this PTE effort would still take a tremendous amount of staff time.

**Commented [FS1]:** At what point in the construction do inspectors come into the process? Are you considering bringing them in earlier in the process?

**Commented [JR2R1]:** Per Teresa Elliot: We bring inspectors into a project as early as planning depending on the project. If it is a large where it warrants constructability reviews during planning that when we bring them. Most projects the inspectors are brought in for construction input around 50 percent design.

**Commented [FS3]:** ? I need some help understanding what the hours represent in the table and how long peak season lasts to understand if the data supports this statement. Also, how will these positions be utilized during non-peak season? What's the business case for needing them year-round? Some additional about the need for year-round inspection versus peak season would be useful.

**Commented [JR4R3]:** Per Teresa Elliot: The table is a summary of how many contract inspectors we have been using annually. According to the DCTU contract, use of contract employees is only supposed to be used for the peaks not long term sustained levels. Based on the number of hours per year we could support have 2 full-time inspectors working rather than 3-4 contract employees. We are already using them full time.

We are not talking about peak inspect though that typically is March to December.

**Commented [FS5]:** Does the bureau have any permanent FTE doing this work now?

**Commented [JR6R5]:** We have 10 full time permanent inspectors.

**Commented [FS7]:** Who's doing this work now at the bureau? How do other utilities and infrastructure bureaus with large capital projects in the city meet this need?

**Commented [WC8]:** There are two in Maintenance and Construction that perform safety coordination for the bureau. Their ability to provide an appropriate level of service for existing work requirements is very limited. As new infrastructure is built, the need to work with engineering to design out safety issues is current and more critical in the future.

BES has four personnel including the safety manager in their Safety and Risk Management Section. One of the Safety Officer spends all of their time working with BES Operations group.

**Commented [FS9]:** For example?

**Commented [JR10R9]:** Per Teresa Elliot: We would include in the PTE consultant contracts that they provide the bureau a safety manager. This is not ideal since they would want to impose their company's standards not the city's.

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**Workforce Management**

**Impact**

**Organizational Expertise**

All three of these positions increase the bureau's organizational expertise to ensure a safe work environment for employees and the ability to meet the regulations that govern the bureau's work. Using outside staff and/or consultants reduces ability to fully meet the requirements.

**Safety**

If this position is not funded, Operations will be required by OR-OSHA to update their RMP through the consultant hiring process. This would not address the Process Safety Management (PSM) requirements for the bureau's other high hazard sites such as the Groundwater facility. Future facilities will require outside resources to provide high level training and document development. It is preferential that in-house knowledge and document development occur to ensure the long-term success of all safety requirements.

Many of the bureau's existing documents were developed by a consulting firm, such as the existing PSM, which is far out of date. While there is an expense to hiring a consultant, the true advantage of having in-house development is that the knowledge remains within the bureau and updates will not require the additional time necessary to lead a consultant through the system processes.



OPs safety needs.xlsx

**Commented [FS11]:** Which requirements will you not be able to meet? Can you be more specific? What are the implications of not meeting a requirement?

**Commented [JR12R11]:** Per Teresa Elliot: It's more an issue of level of service that won't be met because the one safety manager will continue to be pulled directions and require a lot of overtime.

The inspection positions will continue to use contract inspectors contrary to the DCTU contract intent.

**Commented [FS13]:** I'm having a hard time following this. In addition to worker safety, are there regulatory and/or insurance implications to this that should be communicated to understand the problem that these positions are trying to solve that a consultant cannot?

**Commented [WC14]:** There are regulatory implications to much of our safety requirements. Most of the regulatory drivers are through OR-OSHA. Worker safety also drives our Risk numbers and thereby our self-insured costs not only through Risk but in consideration of our worker's safety and ability to go home at night without injury.

Please take a look at the attached list of safety and other training needs. Many of these are specific to the Operations group and there are no defined resources that can ensure that appropriate training and safety directives are implemented.

**Field Code Changed**

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**Asset Management**

<b>Staffing</b>	<b>Operating</b>	<b>Capital</b>	<b>Total</b>
<b>2</b>	<b>\$281,000</b>		<b>\$281,000</b>

**Problem Statement**

The Portland Water Bureau (PWB) has focused on specific actions to develop and implement asset management methods and best business practices throughout the bureau. Asset management enables PWB to set and maintain desired levels of service to its customers while supporting the lowest possible asset life-cycle cost, at an acceptable level of risk. The goal of PWB Asset Management Branch (AMB) is to create a framework from which the organization can pursue and achieve sustainable infrastructure management and can obtain and provide data in support of making life-cycle infrastructure decisions.

Two key areas of focus for the AMB are Reliability Centered Maintenance (RCM) and Water Loss Control. The following decision package aims to address the goals of both key areas.

**Reliability Centered Maintenance**

Reliability-centered maintenance practices support daily operations and business cases to evaluate project alternatives and life cycle costs to support decisions to either invest in major rehabilitation or replacement. Asset Management assists in evaluation in order to make decisions to maintain, repair, rehabilitate, or replace assets.

At PWB, RCM process improvements started with internal data improvements to track asset condition, field test results, work performed on work orders, and how and why assets fail and how often. PWB has an inventory of operational assets in the computerized maintenance and management system (CMMS) and has now gathered several years of failure code information on the distribution system assets. The AMB has worked with the Maintenance and Construction group as well as the Operations group to identify asset failure codes for key assets such as pipes, valves, and pumps; these codes are now required information on repair and maintenance work orders. Failure codes in recently completed work orders have allowed the bureau to better answer questions such as: *how do the assets fail, what assets fail more frequently, do maintenance strategies appear to be effective in minimizing emergency asset failures?* As the bureau continues to use RCM, the quality and reliability of the CMMS failure data will improve.

There has been little work with advancing the CMMS usage and failure coding information with the Headworks (supply and treatment) assets due to the lack of support staff necessary to implement this effort. More progress has been made on distribution-system assets than on supply-system assets. The greatest progress in implementing RCM has been with pump stations.

Next steps for the bureau are as follows:

- 1) Implement an RCM strategy
- 2) Develop predictive/preventive maintenance strategies
- 3) Complete an asset register for all maintenance-managed items (MMI)
  - o Once completed, review asset register periodically to ensure accuracy
- 4) Refine workflow processes

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**Asset Management**

- 5) SOP development
- 6) Set maintenance performance targets
- 7) Complete work order scheduling structure in Computerized Maintenance Management System (CMMS)
- 8) Record and track maintenance actions in CMMS
- 9) Implement cost-effective predictive and preventive maintenance activities
- 10) Meet/exceed performance targets (e.g., for percentages of preventive compared to reactive maintenance)
- 11) Develop RCM strategy for certain asset categories
- 12) Tie all asset management principles and practices into normal operations – for example, the storeroom orders items based on predictive schedules rather than reactive

These steps are still applicable at the maintenance programmatic level; however, RCM will be further defined as a rigorous set of process questions used to optimize the maintenance strategies used by PWB.

RCM is fundamentally a failure mode, effects, and criticality analysis used to optimize where and when maintenance is effective at preventing failure of the assets, and when not, finding an operating or capital solution that is better suited than further maintenance. For each process area with vertical assets, and each major asset cohort with linear assets, an RCM evaluation should be done to determine the appropriate maintenance tactics that prevent failure of the assets. When a proactive cost-effective maintenance strategy is not available, the evaluation will determine whether to run the asset to failure and replace, or request an evaluation to refurbish or replace the asset. The goal is to determine the optimum maintenance strategies, and/or capital replacements, that prevent failure of the assets at the least life-cycle cost.

PWB is also investigating using RCM techniques during the design of the new corrosion control and filtration facilities. Potential failure modes can be effectively identified, and where cost effective, designed out of the asset before the asset is constructed and commissioned. As a result, Operations & Maintenance strategies can be identified and optimized at the lowest life-cycle cost to PWB before the asset is built and commissioned.

The AMB recommends creating a position in either the Operations group that will have the responsibility to analyze failure information and recommend optimized maintenance strategies and assets that are ready for rehabilitation or replacement.

The output from this requested position will begin to modify maintenance activities such that work is performed with the most efficient methods. This additional position will satisfy the needs of the bureau into the future, including requirements of the existing and future facilities. Using the decision-making outputs anticipated from this position could reduce the need for more field maintenance personnel in the future by reducing failure rates of those assets.

If the position remains unfilled, decisions will continue to be made in an often ad hoc, reactive method.

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**Decision Package**

**Asset Management**

**Water Loss Control**

The State of Oregon requires that all water suppliers who request extensions of their water rights permits prepare and submit a Water Management and Conservation Plan which includes detailed reporting on water loss. Lost water is considered non-revenue water and includes transmission and distribution system leaks, meter inaccuracies, unauthorized consumption, and billing inconsistencies. High rates of water loss are cause for concern both in terms of state regulation of water rights and bureau sustainability and stewardship goals. Excessive water loss poses a risk to the bureau's ability to develop additional source capacity to address future supply and resilience needs. These cost the bureau money in terms of wasted treatment, power and transmission expenses and potential lost revenues.

Drinking water utilities throughout the country struggle with minimizing water loss, including dealing with pipeline leakage, meter inaccuracies, inconsistent accounting, or unauthorized consumption. A Water Loss Control program will provide the necessary stewardship to maintain accurate information on the nature and volumes of water loss, account for water loss on an annual basis, and implement studies and improvements that will reduce financial and customer service impacts to the bureau.

In October of 2017 the bureau published a *Water Audit and Strategic Water Loss Control Plan*. This plan included the findings from desktop water audits done by the bureau and the consulting firm Black and Veatch. The *Water Audit and Strategic Water Loss Control Plan* calculated that the water loss was valued at \$2.88 million in FY 2015-16.

The bureau's Engineering Services Planning staff with contracted services has been leading the data gathering effort, and with the finalization of the *Water Audit and Strategic Water Loss Control Plan* this fall, the bureau is poised to begin implementing the recommendations to reduce lost water and revenue. Currently, responsibility to continue to manage water loss data and the implementation of the plan is unassigned, and the bureau does not have staff resources available to manage this work. The purpose of this package is to fund a full-time position tasked to collect and manage water loss data, perform cost/benefit analyses on the recommendations from the Water Audit then develop recommendations for implementation to reduce water loss and minimize non-rate revenue losses.

**Alternatives**

**RCM:**

Providing the highest value to customers through customer expectations, excellent business management, and operational practices and appropriate application of innovation and technology is a core mission of the bureau. It is fiscally responsible of PWB to utilize the data it collects and modify maintenance activities based on RCM.

**Water Loss Control:**

Implementation of the *Water Audit and Strategic Water Loss Control Plan* is considered a core business of the bureau and funding by traditional methods is deemed most appropriate. Investments in developing and implementing the water loss control program are expected to be recouped through savings from reductions in lost water. The consequence of not funding the

Commented [FS1]: Per year?

Commented [HC2R1]: Yes, amount would reduce as we reduce the water loss each year.

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package is continued high water loss rates, continued waste of expenses and natural resources, and potential impacts to the bureau's ability to secure additional source capacity.

**Impact**

**RCM:**

Success will be measured over time with efficiency improvements, lower total life-cycle cost of assets, minimization of unnecessary asset overhauls, and improvement of reliability of critical equipment.

**Water Loss Control:**

Success will be measured by decreases in water loss each year as measured by the program's annual water audit using the industry-standard AWWA M36 Water Audit Loss tool, targeted to reducing and maintaining the overall loss rate to below 10%. The reduction in water loss will result in reductions in overall bureau costs, energy consumption, CO2 emissions and lost revenues. Moving closer to industry standard water loss rates will also better position the bureau to obtain additional source capacity if needed through its upcoming Water Management and Conservation Plan process.

**Analyst Questions:**

**RCM Position**

1. **To what extent have you explored implementing a RCM strategy by realigning existing staff and resources? The narrative mentions many successes that the bureau will experience because of this position. Given this, where do existing ASM staff and other bureau staff fit into this work? What role will they have in implementing the RCM strategy? While there is an AM group (AMG) that is fully encumbered with existing strategies, this position will implement the field and data analyses that are currently not being accomplished. This position will provide the link from field operations to the AMG**
2. **What processes need to change to make strategy implementation effective? It sounds like you have some RCM processes in place already, but it's in pockets at the bureau and it hasn't been implemented to scale. What makes this time different? See above, currently the AMG is not staffed to move forward with RCM and other aspects of AM within Operations purview.**
3. **Does it make sense to use existing staff to improve processes and lay the framework first and then, if still needed, bring on a RCM FTE later? Existing staffing levels cannot meet current workloads as it is.**
4. **Where will this person sit at the bureau? Operations group.**

**Water Loss Control**

1. **Clarification on where the bureau is in the process would be helpful. For example, is the bureau is ready to implement the recommendations in the plan, but it just needs someone to do it? Or does the bureau need someone to gather data so that it can at**

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**some point begin implementing recommendations?** We will need to determine how and in what order to best implement the recommendations in the plan. The position will also do the cost benefit analysis on the recommendations.

- 2. What recommendations is the bureau ready to implement now?** We will need to evaluate the cost benefit analysis before making decision on what to implement first.
- 3. How long will these recommendations take to implement?** That will need to be part of the cost benefit analysis.
- 4. Where will this person sit at the bureau?** This person will be part of Asset Management.
- 5. If this person is not approved, will the recommendations get implemented?** This is position is not approved, the bureau would not have the staffing or resources to implement the recommendations in the plan.

DRAFT

**Portland Water Bureau  
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**Communications**

Staffing	Operating	Capital	Total
1	\$142,000		\$142,000

**Problem statement**

The bureau has relied on the services of a dedicated technical writer since 2006 to help design, draft, edit and finalize significant documents including the bureau’s Habitat Conservation Plan, Long Term 2 Enhanced Surface Water Treatment Rule variance request, Water Management and Conservation Plan (WMCP), bond financing official statements, as well as annual budget, Capital Improvement Plan documents and regulatory reports. The bureau’s technical writer has over the last three years been assigned increasing non-technical writing responsibilities within the Asset Management Program. This year the project management workload demands for this position have eliminated the bureau’s dedicated technical writing capacity. Various staff throughout the bureau have helped fill in for this role in an ad-hoc manner and contracts have been issued for particular projects; however, the continuity, quality control and coordination among efforts has suffered. In addition to ongoing regulatory reporting needs, technical writing requirements within the bureau are increasing with a larger and more complex CIP, increased asset management documentation needs (including ongoing asset management plan drafting and updating and the bureau’s strategic business planning process which is being managed from that section), increased documentation requests from the public and oversight bodies, and a pending document submission deadline for a new WMCP (2020). The bureau has derived significant benefits from having a dedicated technical writer on staff to manage most of its critical document development and delivery. In addition to saving external costs on documentation, the bureau has benefitted from the accumulated expertise of the position, which has increased quality control, consistency, and workload scheduling for major documentation projects.

**Alternatives**

If the package is denied, individual project managers will either need to reassign staff working on other projects (if available), contract for technical writing support separately as group budgets allow, or the bureau will need to develop a sizeable central technical writing services contract to serve across the several functions in need of support. Establishing a contract is a time consuming process as well.

**Impact**

This position supports multiple strategic goals for the bureau. Virtually anything requiring documentation, translation of technical information for multiple audiences, or regulatory reporting is supported by the work of this position. It would provide direct support to the bureau’s Water Quality, Equity, Resiliency and Customer Service Budget Priorities. In addition to the projects the position has worked on in the past, the bureau has new and anticipated demands for support in drafting emergency response templates, employee handbooks, quarterly *Cryptosporidium* regulatory reports, and customer service publications and letter templates to customers. Success will be measured by the degree to which regulatory reporting requirements continue to be fulfilled, the quality and quantity of major documentation projects achieved, and the amount of bureau spending on external technical writing services. Results should be realized within the first year of hiring the position and be ongoing.

**Commented [FS1]:** Examples? Are these internally or externally driven?

**Commented [CE2]:** Both Asset Management plans and the Strategic Business Plan are externally and internally driven.

**Commented [FS3]:** Where I struggle with this request is that you had a technical writer and then they shifted to other priorities in the bureau. What position did the technical writer fill? Are the non-technical writing responsibilities the person took on long-term or temporary? How will you ensure that this shift toward other duties won’t leave a hole in technical writing support again?

**Commented [CE4]:** The former technical writer is classified as a Senior Management Analyst and now functions as a project manager within the Asset Management Section of the Engineering Services Group. The duties that have been assumed are ongoing and include facilitation of the Asset Management Steering Committee and management of the ongoing process to draft and update twenty-plus Asset Management Plan. Currently, the position is also being used to manage the bureau’s Strategic Business Planning process and it is anticipated that the position will continue to have a role in ensuring progress, accountability and reporting regarding implementation of that plan.

The question about not losing the internal capacity to do this work is legitimate; however, for context it should be noted that the former incumbent has served as the bureau’s technical writer since 2006 and has progressed in her knowledge, skills and abilities over the course of a more than a decade of experience within the bureau. The Water Bureau believes the long-term development and provision of growth opportunities for staff should be actively pursued. So while the bureau cannot guarantee that a new technical writer will not also develop desirable skills and abilities that will make that individual attractive for other critical bureau work a decade or more into the future, it can work to ensure that it maintains a position that is dedicated to the function going forward and pledge not to convert the position to a different use.

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**Communications**

Approximately \$30,000 in professional services dollars that would otherwise be used for technical writing services in FY 2018-19 may be eliminated from the budget if this decision package is approved. Future years would see additional professional services costs avoided, particularly leading up to the production of the bureau's WMCP due in 2020.

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**Portland Water Bureau  
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**Equity Manager**

Staffing	Operating	Capital	Total
1	\$144,000	---	\$144,000

**Problem Statement**

The City has adopted Citywide Racial Equity Goals and Strategies including: to end racial disparities within city government; to strengthen outreach, public engagement, and access to City services for communities of color and immigrant and refugee communities; and to collaborate with communities and institutions to eliminate racial inequity in all areas of government. Per the Mayor’s Budget Guidance, this continues to be a critical area on which to focus our efforts.

The bureau has adopted a 5-year Racial Equity Plan that lays out the bureau’s approach to operationalizing the City’s goals and strategies while also articulating goals and strategies unique to the bureau. See: <https://www.portlandoregon.gov/oehr/article/595598>.

Currently the bureau has four staff directly engaged in operationalizing the strategies outlined in the plan: Water Administrative Manager, Training and Development Officer, and two Community Outreach and Information Representatives. The work done by the team has focused on employee and organization development and outreach. The proposed position will be part of the existing team to assist with the implementation of the bureau’s Racial Equity Plan, promoting equitable policies, practices, and actions to produce equitable access, opportunities, impacts, and outcomes. The addition of this position will allow the bureau to add to our efforts and meet our goals by focusing on equity in the development and delivery of projects, programs and services. Overall, this position will concentrate on equity impact assessments and the implementation of an equity lens/tool as a standard bureau practice to ensure that both existing and proposed programs, polices, projects and decisions will empower communities of color in decision making and minimize unanticipated adverse consequences to underrepresented racial and ethnic groups. The position will provide expertise and advice and serve as a resource to managers to analyze impacts and outcomes, provide data and historical context to ensure that programs, policies, and decisions are aligned with the equity goals of the Racial Equity Plan. For example, if the Water Efficiency program wanted to expand its reach in communities of color, this position could advise the program manager about finding and using demographic data; creating meaningful relationships with community partners; applying an equity lens to potential program changes; and communicating effectively with customers the program has not reached in the past. This will be done for both internally and externally facing projects, programs, policies, decisions, etc.; however, the major focus will be on our external programs with community impact. This position will make recommendations to project and program management staff and to bureau leadership.

This position will also coordinate closely with the Office of Equity and Human Rights (OEHR) as well as Equity Managers in other bureaus.

**Alternatives**

**Commented [FS1]:** It would be helpful if more information was provided on what the bureau is doing now on equity and how the position will augment or change the direction of that work. Is the bureau prioritizing internal work first or external?

**Commented [JR2R1]:** See additional info provided in the paragraph/

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**Equity Manager**

If this decision package is not approved, the bureau will continue to move forward pursuing the goals and strategies put forth in the Equity Plan with existing resource. Work will proceed more slowly and without the expertise this position will provide. Additionally, there are no dedicated existing resources at the bureau to coordinate with OEHR. If this position is not funded, the bureau will request funding for this position in the next budget year.

**Impact**

This position will support a more expeditious implementation of the Racial Equity Plan, particularly in areas not covered by current dedicated staff.

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**Portland Water Bureau  
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**Low Income Program Expansion**

Total	\$582,000	
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**Commented [FS1]:** Does this represent the entire cost of the program or just the Water Bureau's portion? Not clear.

**Commented [JR2R1]:** See new table.

		Water			BES		
		FY17 Actual Discounts	Cost	FY19 Discounts Funded by Other Customers	FY17 Actual Discounts	Cost	FY19 Discounts Funded by Other Customers
A	Service Team		\$182,000				
B.	Crisis Voucher Increase (3,000 customers)	\$179,400		\$120,000	\$179,400		\$420,000
C.	Income Guidelines at Local levels	\$1,319,061		\$324,900	\$2,363,892		\$588,000
D.	New Discount for Extremely Low Income	\$0	\$200,000	\$457,000	\$0		\$825,000
E	Multi-Family Rent Assistance	\$0	\$200,000		\$0	\$400,000	
	Total LINC & Crisis Vouchers	\$1,511,596		\$901,900 (+60%)	\$2,543,292		\$1,833,000 (+72%)

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**Low Income Program Expansion**

**Problem Statement:**

This decision package comprises a comprehensive update to our low-income services for a rapidly changing Portland. Our current program includes a Bill Discount, Flexible Bill Pay, Crisis Assistance, Fixture Repair and Replacement, Utility Safety Net Program, and Free Water Conservation Kits.

The decision package will allow the bureau to target underserved communities and Portlanders in need, reach customers without individual water accounts, and reduce shutoffs for low-income customers.

The decision package includes improvements to our existing suite of programs in five areas. The package will 1) create a low-income services team; 2) increase the value of the crisis voucher; 3) adjust income guidelines to reflect local incomes; 4) provide a new discount for extremely low-income customers; and 5) provide multi-family low income crisis assistance. More detail on each program is below.

- 1) **Low-income services team:** This portion of the package will consolidate all low-income services within the bureau and authorize the hire of two program specialists well-versed in working with low-income communities to manage data collection and generate regular analysis; submit policy recommendations as needed; provide customer service tailored to underserved communities and Portlanders in need; and host a biannual workshop and trainings for service providers and other community groups.

Currently, Portland Water Bureau (PWB) Customer Service Representatives (CSRs) are trained and evaluated based on customer service best practices and key service levels. As part of their training, CSRs learn how to recognize and respond to low-income issues when speaking with customers, but CSRs also need to be efficient to meet the two-minute wait time key service level. Many low-income households require time and sensitivity to overcome obstacles specific to their income level. They might include language/cultural barriers; a general distrust of government; the shame inherent in falling into debt; as well as the reluctance to ask for help. These instances require time, a sophisticated understanding of poverty and specialized training.

- 2) **Increase value of crisis voucher:** PWB and Bureau of Environmental Services (BES) currently offer a \$150 Crisis Voucher to Low Income Discount recipients (single-family households) once a year. It is a flexible tool to assist households that require immediate assistance. The current voucher has been in place since 2004 and has not kept pace with inflation, cost of living, or utility rate increases. For comparison, the Oregon Energy Assistance Program (OEAP) currently offers \$500 annually to qualifying energy customers. For purposes of this package, an increase to \$300 is used. The cost of the voucher increase will be split between PWB and BES, proportionate to the cost of the bill.

- 3) **Adjust income guidelines:** PWB income guidelines are currently based the state's median family income (MFI), which includes income data from the entire state. These guidelines do not reflect Portland incomes and should be adjusted accordingly. With this change to include local income guidelines the participation will increase.

**Commented [FS3]:** Why not shift two existing staff to this unit rather than adding two more? Are you expecting more people to call? How do you anticipate call times to change if the current team is not taking as many calls? Will the new team be subject to call time KSLs?

**Commented [JR4R3]:** The Water Bureau has 190,000 accounts. The LINC program has fewer than 10,000 participants. To transfer these call from the Call Center to a LINC group is not a question of volume but rather a question of the quality time available to solve more complicated and time-consuming issues. Yes, we do expect more calls but the number of calls is a small factor. Existing staff is required to know a certain level of information about a wide variety of Water Bureau topics, the new staff will have significantly specialized knowledge of the bureau's low-income services and function as a dedicated resource to customers. In hiring, the bureau will look for candidates with expertise and experience working with underserved populations, seniors, and low-income populations. The low-income group will not have the same call metrics as Call Center employee. Appropriate metrics will be designed and re-evaluated as the team develops and matures.

**Commented [FS5]:** The audit report mentioned that CSRs treat current customers differently in whether assistance is even offered. How is that issue being addressed?

The low-income services team sounds like the customer service rep will, at times, play a caseworker role. Is that the intention?

**Commented [JR6R5]:** The bureau is not in total agreement with this point in the audit other than to acknowledge that no two people see every scenario exactly the same way creating different solutions by different people. We routinely give refresher trainings on our financial assistance programs.

**Commented [FS7]:** How did you arrive at \$300 and \$500? What data is available to help determine the most appropriate option?

**Commented [JR8R7]:** \$300: Raising the value of the crisis voucher to \$300 is based on combined rate increases relative to customers who are mainly on fixed incomes. Applying the combined rate increase to the crisis voucher from 2006-2017, the value would be raised \$150 to approximately \$290. In meetings with service

**Commented [FS9]:** By how much?

**Commented [JR10R9]:** Expansion of the income guidelines only impacts households of 1-4 people. Based on the "INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS)

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**Low Income Program Expansion**

- 4) Provide a new discount for extremely low-income customers: This proposal would increase the low-income discount to 80% of the typical bill amount for households below 30% of the median family income. By discounting that service for Portlanders on the extreme low end of income, the bureau will be able to reduce shutoffs to customers who are least able to pay for this essential service. A four-person family earning below \$22,000 annually would pay less than \$30 monthly for water, sewer, and stormwater services.
- 5) Provide multi-family low income crisis assistance: Currently, the low income assistance program is focused mainly on providing a discount to customer's bills through the account process. As multi-family residents do not receive a bill, there has been no way to provide a discount. However, multi-family residents are customers. Recognizing this inequity, the recommendation is for a \$600,000 annual transfer to Home Forward's Short-Term Rent Assistance Program (split proportionally between BES and PWB). The funds would be distributed to 19 community organizations and provide up to \$500 of crisis assistance per household, annually. The program will be evaluated after the first year of implementation.

**Alternatives:**

If the package is not approved, the comprehensive suite of improvements to the low income program will not be made. Without a low-income services team, the entire customer service team will continue to field calls and inquiries from low-income customers mixed with all customers, avoiding efficiencies that could occur with the decision package. If the crisis voucher is not increased the bureau will continue to offer a program that has not kept pace with inflation and rate increases since 2004. Without this package, the bureau will not change our eligibility to match local demographics and will instead rely on eligibility requirements that are based on broader and less targeted data. If this program is not approved, extremely low-income customers will rely on the same discounts as customers with higher incomes. Finally, without the multi-family approach in this program, the bureau will continue the inequity of having low-income Portlanders living in multi-family properties who are not eligible for a bill discount because they receive no individual bill. If the package is granted at less than the full request, some portion of these services will be enhanced. For instance, the crisis voucher could be increased from \$150 to \$250, rather than a greater and more effective number.

**Impact:**

The elements of this package support both the city's and the bureau's equity plans and specific goals, particularly those directed by Council. The program improvements target underserved communities and Portlanders most in need. The program would finally reach low-income customers without water accounts, and reduce shutoffs for low-income customers, particularly those in extreme circumstances. The program encompasses all recommendations from the Auditor's 2017 audit report and has been presented to more than 20 stakeholder groups.

**Commented [FS11]:** How many people will this impact?

**Commented [JR12R11]:** There are currently 3,515 households that would qualify as extremely low income. Expanding their discount from 50% to 80%, assuming a typical bill, would result in a \$456,936 increase to foregone water revenue. The impact of revising budgeted participation rate and revising income guidelines results is a nominal increase (approximately \$24,000) to foregone Water revenue.

**Commented [FS13]:** Where does \$500 come from? How many people will you serve? Do you anticipate serving more people with this money or augmenting what they already getting? If it's the latter, how do you know they need more money? How are you going to track performance?

**Commented [JR14R13]:** \$500 represents approximately 80% of the average water-sewer consumption in a Portland multifamily unit. We are currently budgeting for up to 1,200 recipients: the number of households served with eviction prevention funding through Home Forward's Short-Term Rent Assistance (STRA) last year. We expect that the funding will serve the existing need, and not additional households. Water Bureau funds are strictly encumbered by City Charter and Anderson-related criteria, and cannot be used for other forms of assistance unrelated to utility costs, such as move-in costs or short-term subsidies. Due to these strict criteria, bureau funding will likely free up other sources of STRA funding for other forms of rental assistance. Through regular reporting, the bureau will track the amount of assistance received in each case, and the number of households served. In addition, Home Forward will closely monitor the distribution of funding and its appropriate application, using the existing mechanisms as required by the Joint Office of Homelessness. This data will be submitted quarterly to the Low-Income Services Manager by Home Forward. Upon the conclusion of the IGA, the bureau and Home Forward will conduct an evaluation on the effectiveness of the funding.

**Commented [FS15]:** Which of the interventions specified is going to reduce shutoffs? The auditor's report mentioned that bureaus should know its customers to identify the appropriate interventions. How does customer data inform this request?

**Commented [JR16R15]:** This decision package represents a significant step toward serving all our customers more equitably. Reducing shut-offs is only one aspect of that goal. In terms of shut-offs, specifically, we believe that we are introducing measures to address both the acute and chronic needs of our customers: an increase in the crisis voucher, an expanded discount for extremely low-income customers, and dedicated customer service will all contribute to a reduction in shut-offs for Portlanders most in need. While still a considerably low portion of our overall shut-off numbers are represented by participants in our low-income program (8%), we

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**Tabor Preservation Project**

**Total Request:** \$1,115,000, one time, 3rd year, \$4.0 million over 4 years

**Problem Statement**

Resolution No. 37146 was adopted by City Council on July 15, 2015 to maintain, repair and preserve the Mount Tabor Reservoirs following disconnection. The Portland Water Bureau (PWB), and other City agencies as are necessary, including any City agency that may be responsible for managing the reservoirs in the future, are directed to work with the Mt. Tabor Neighborhood Association (MTNA) to prioritize maintenance, repair and preservation work identified in the 2009 Mt. Tabor Reservoirs Historic Structures Report to be accomplished over a four-year period beginning in FY 2016-17. Resolution No. 37146 required that City Council set aside \$4.0 million total over four years for this work, and that the financial obligations and other commitments are binding city policy.

The bureau began work on the project in FY 2016-17, including monthly meetings with representatives of the MTNA. The bureau worked collaboratively with MTNA to update the 2009 Historic Structures Report and developed a prioritized list of projects. The bureau also worked with MTNA representatives to hire two design firms, one for historic preservation and one for the interpretive program. The contracts for this work were approved in February 2017 and both firms have been working on their respective parts of the project. The first preservation contract was bid in Summer of 2017 and construction started in fall 2017 on the first batch of priority work at Reservoir 1. The contract is in the amount of \$827,839. There is some uncertainty in the amount of concrete repair that may be discovered after the contractor starts construction. The contract is unit price bid items, so the contract amount could increase to \$ 1.0 million (up to 25% over). With carryover from FY 2016-17, including soft costs, it is expected that the project will expend most of the budget allocation in FY 2017-18.

PWB is submitting this request to the General Fund to allocate \$1,115,000 for FY 2018-19. This is the year three request of the \$4 million total over the four-year period beginning FY 2016-17 for the maintenance, repair and preservation work identified in the 2009 Mt. Tabor Reservoirs Historic Structures Report, as updated in 2016. A list of prioritized work for year three has been developed by the preservation consultant in collaboration with MTNA representatives and PWB, and is about \$2.0 million in construction costs. This work will be further refined to meet the project budget prior to bidding. The design for this work has started, and is scheduled to bid out in spring 2018. Approval of this Decision Package will fund the second year construction project beginning in FY 2018-19.

PWB and other City bureaus as are necessary are directed to collaborate with the MTNA to develop an interpretive program that tells the history of the Mt. Tabor reservoirs and the City's water system.

With the intent to minimize the visual impact on the treed character of the park, PWB will confer and consult with the MTNA before planned work and after emergency events in the park which have potential impact on trees.

**Commented [FS1]:** More specifics on what the different construction projects will fund and the timelines would be helpful.

**Commented [JR2R1]:** Per Teresa Elliot: The 2009 Historic structures report has an itemized list of potential restoration requests. This report was updated last year for the dollars. We have already the list of work in that report. We have contracts that are under construction right now and are expected to be complete this fiscal year.

Since they are maintenance type activities they are taking more effort than was originally planned especially for the concrete restoration of the reservoir 1 wall. Once that work is done, we will know how much is left to spend on the next set of contracts.

Once we know how much is left we can refine what work will be included in the contracts for next fiscal year. We will work on the list of priorities until we have expended the \$4 Million that council obligated.

**Commented [JR3R1]:** Per Mary Ellen Collentine: We have a list of proposed work developed by the project team, (which includes the neighborhood representatives) along with estimated costs. It is estimated to be about \$ 2.0 M, which would take care of FY 18/19 and 19/20 allocations (assuming we are granted the requested budget).

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**Tabor Preservation Project**

PWB and other City bureaus as appropriate will coordinate and collaborate with the MTNA on a joint semi-annual written Report to City Council documenting compliance with this Resolution, as well as annual presentations to City Council and the Portland Utility Board, including a Final Summary Report to be submitted by December 31, 2020 to City Council regarding the implementation of the maintenance, repair and preservation work identified in the 2009 Mt. Tabor Reservoirs Historic Structures Report.

**Alternatives**

If this package is not approved, the work at Mt. Tabor will no longer be supported, or will require increase to Water retail rates to provide funding to continue the work.

**Impact**

Success of this project will be measured by the work completed in the four-year timeframe directed by the Resolution, and the total cost of the project when completed.

**Commented [FS4]:** Can water rates support this work? Is that a real alternative?

**Commented [HC5R4]:** We believe so, although if we did fund it with Water rates, we could be challenged as to whether the work is reasonably related to provision of water service. It is also possible that the type of work may need to be altered to fit within the Anderson guidelines.

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