Agenda

ENVIRONMENTAL SERVICES COMMISSION MEETING
450 110th Ave. NE (City Hall)
Conference Room 1E-113
Thursday 6:30PM
February 1, 2018 Regular Meeting

Commissioners:

Diann Strom
Chair

Sanjay Kumar
Vice Chair

Anne Howe

Vanja Knezevic

Aaron Morin

Lisa Schreiner

Gregg Takamura

City Council Liaison:

Jared Nieuwenhuis

Staff Contact:
Andrew Lee
425-452-7675

Staff Support:
Katie LaFree
425-452-4497

		Page	Action
1.	Call to Order – Diann Strom, Chair		
2.	Approval of Agenda *	1	X
3.	Public Meeting on the 2018 Draft Storm Water Management Program *Presenter:* Don McQuilliams, Regulatory Compliance Mgr.	2	
4.	Oral and Written Communications Note: Three-minute limit per person, maximum of three persons for each side of topic. Additional comments may be heard at Agenda Item 11.		
5.	Communication from City Council, community council, Boards and Commissions		
6.	Staff Reports		
7.	Approval of Minutes • January 4, 2018 Regular Meeting Minutes *	3 - 7	X
8.	Reports & Summaries • ESC Calendar/Council Calendar * • Conservation & Outreach Events & Volunteer Opportunities *	8 – 9 10	
9.	Unfinished Business		
10.	New Business • Storm and Surface Water Plan Implementation * *Presenter:* Kit Paulsen, Sr. Environmental Scientist • 2019-2020 Budget Planning Process Overview * *Presenter(s):* Lucy Liu, Assistant Director - Resource Management & Customer Service Martin Chaw, Utilities Fiscal Manager • Waterworks Financial Policies Overview * *Presenter(s):* Lucy Liu, Assistant Director - Resource Management & Customer Service Martin Chaw, Utilities Fiscal Manager	11 – 27 28 29 – 55	
11.	Continued Oral & Written Communications		
12.	Review of ESC Calendar/Council Calendar*		
13.	Adjournment		

*Materials included in packet
Materials separate from packet

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City of Bellevue

MEMORANDUM

____ Action
_____Discussion
_____Information

DATE: February 22, 2017

TO: Environmental Services Commission

FROM: Don McQuilliams, Regulatory Compliance Manager

SUBJECT: 2018 Draft Storm Water Management Program (SWMP)

Action Required

No action is required at this time. Presentation of the draft 2018 SWMP is intended to brief the Commission on upcoming Stormwater Utility activities outlined in the plan and to gather any comments the Commission has to provide. This time also serves as a Public Meeting where input will be collected and considered in the final 2018 SWMP.

Fiscal Impact

Components of the SWMP have been planned for and approved in the 2018 budget.

Policy Issues

Annual preparation of the SWMP, including a process for public input on the plan, is a requirement of the Phase II NPDES permit.

Background

The SWMP has been prepared annually since the first issuance of the Phase II NPDES permit for Western Washington in August 2007.

CITY OF BELLEVUE
ENVIRONMENTAL SERVICES COMMISSION
MEETING MINUTES

Thursday
January 4, 2018
6:30 p.m.

Conference Room 1E-113
Bellevue City Hall
Bellevue, Washington

COMMISSIONERS PRESENT: Diann Strom (Chair), Sanjay Kumar (Vice Chair), Anne Howe, Vanja Knezevic, Aaron Morin, Lisa Schreiner, Gregg Takamura,

COMMISSIONERS ABSENT: None

OTHERS PRESENT: Andrew Lee, Deputy Director; Paul Bucich, Water Resources Planning Manager; Jared Nieuwenhuis, Council Representative

MINUTES TAKER: Laurie Hugdahl

1. CALL TO ORDER:

The meeting was called to order by Chair Strom at 6:30 p.m.

2. APPROVAL OF AGENDA

Motion made by Commissioner Shriener, seconded by Commissioner Knezevic, to approve the agenda as presented. Motion passed unanimously (7-0).

3. ORAL COMMUNICATIONS

None

4. COMMUNICATIONS FROM CITY COUNCIL, COMMUNITY COUNCIL, BOARDS AND COMMISSIONS

Newly elected Councilmember Jared Nieuwenhuis introduced himself.

5. STAFF REPORTS

Deputy Director Lee suggested that the ESC would start having the Chair make a regular report to the City Council. This could potentially happen quarterly.

The AMI Contract is continuing to be negotiated. Staff hopes to be able to provide an update in February.

Based on feedback from the retreat there will be an increased focus on resiliency. He gave an update on topics that would be included in the Council calendar in 2018.

Since this is a budget year the budget will be a topic of discussion at most meetings. There may be a need for an additional meeting in May.

6. APPROVAL OF MINUTES

November 2, 2017 Regular Meeting Minutes

Motion made by Commissioner Morin, seconded by Commissioner Shriener, to approve the minutes as presented. Motion passed unanimously (7-0).

7. UNFINISHED BUSINESS

None

8. NEW BUSINESS

- Introduce 2019-2025 CIP Update & DIP Review & Updating Process
  Presenter: Paul Bucich, P.E. – Water Resources Planning Manager
  Martin Chaw, Fiscal Manager

  Mr. Bucich gave a Capital Improvement Program Update. He explained that CIP funds are used to repair and replace aging infrastructure, to build utilities to accommodate additional growth, to protect and enhance the environment, and to comply with regulatory mandates. He reviewed the proposed ESC Tentative 2019-2020 Budget Review Schedule. Staff will be hosting an online open house as they did last year. There will also be a short in-person open house, but turnout has historically been very low at those.

  Mr. Bucich explained that good utility infrastructure is fundamental to a first class city and leads to a healthy and sustainable environment. The City strives to be forward-looking with Storm and Surface Water System Plan Initiatives and Water and Sewer system capacity for anticipated growth. Having the right level of capital investment to maintain service levels at reasonable cost is of great importance to the City. The goal is to maintain the capital program for new investment and reinvestment of existing infrastructure in such a fashion that when something goes wrong it is relatively minor or is taken care of quickly.

  The Environmental Service Commission's role is to review the system plans and policies and proposed CIP investments. The CIP update process encompasses all areas of the utility. Information is solicited from all departments so that there is a coordination of projects.

The Capital Investment Program starts with water resources planning. Preparation of Water, Wastewater and Storm & Surface Water System Plans is done with a 20-year horizon. The development of Utilities' Capital Investment Program is a 7-year anticipated spending plan which is adjusted every two years. In addition to system plans, Utilities relies heavily on the Asset Management Program. Deputy Director Lee added that there is actually a 75-year capital planning model which is used for the City's utilities. The CIP provides for the Floodplain Management Program and Stream, Habitat, and Fisheries Analysis. It provides maintenance of computer models for system capacity, fire flow and operational analysis and management/maintenance of Utility system maps. The CIP includes water, wastewater, and stormwater constructed infrastructure. On the stormwater side, it also deals with the natural system management. Through the Capital Program construction services are funded.

Mr. Bucich reviewed the 2017 spending plan which amounted to $220.5 million. The CIP comprises about 45% of the overall utilities budget and approximately 50% of the City's CIP expenditure program. The majority of projects relate to Renewal and Replacement. Adding capacity for growth, environmental preservation and mandates comprises a smaller portions of the programs.

As an example of the magnitude of what Utilities deals with, Mr. Bucich explained that Bellevue's Water Service Area encompasses Bellevue, Clyde Hill, Medina, Yarrow Point and Hunts Point plus a small portion of Kirkland and unincorporated areas in the city. There are over 600 miles of water main which serve approximately 145,000 residents. There are 13 regional supply inlet stations with 25 different reservoirs that are maintained by the City. The water system has 22 pump stations that move the water from lower elevations up to higher elevations and manage pressure. There are 145 pressure reducing stations.

The Water CIP spends approximately $15 million per year on average. The goal is to replace five miles of older pipe per year. It is the City's largest utility program. The goal is to design and rehabilitate or replace one reservoir per year and to try to address one pump station per year. This could include replacing, moving, renovating, or eliminating. Water storage conveyance and capacity are also assessed.

Bellevue's Sewer Service Area includes all of Bellevue, Clyde Hill, Medina, Yarrow Point, Hunts Point and Beaux Arts, plus small incorporated areas. There are 520 miles of sewer mains, 36 pump stations, and 10 lakeline pump stations.

The goal of the Sewer CIP is $9 million per year on average to replace or reline about a mile of pipe per year. This amount is expected to grow to a sustainable level in years to come. The Sewer CIP would also cover investigation of the sewer lakeline condition, looking for cost effective solutions to control inflow and infiltration, and evaluation of sewer force mains. It would also design and rehabilitate or replace two sewer pump stations per year.

Unlike Water and Wastewater, Stormwater only covers the City of Bellevue. This includes 32 square miles, 82 miles of streams, 3 small lakes, 13 miles of lake shorelines, 392 miles of public pipes, and 20,000 structures which the City must inspect and maintain on an annual basis. The storm drainage system is both a built system and a natural system. It is also a public system interconnected with private system. This is an area in which the City is spending a lot of time doing condition assessment and trying to be strategic about how to address what is expected to be happening in the future. The Stormwater CIP comprises about $7 million per year on average. This covers pipe repairs, large programs, replacement of major culverts, flood control program, and fish passage program. Challenges and opportunities include aging infrastructure, environmental initiatives, and regulatory requirements.

Mr. Bucich reiterated that the CIP Spending Plan is a 7-year outlook with a 2-year budget authorization. It is revisited every two years so there are opportunities to change the spending plan where necessary. Staff starts with a zero-based budget process and each project has to be justified. There are objectives and prioritization guidelines that have been developed for each area of the focus and any projects must demonstrate need and merit. A completed summary form of the proposed CIP will be sent to the ESC prior to the next meeting.

Deputy Director Lee added there are no big additions to the CIP budget this time, but the AMI will continue to be part of it. In general, this budget proposal will be a continuation of the course the City has been on. There are a couple of new projects. One of those is a lakeline project, but the bulk of the expenses for that project will occur much later.

Questions and Comments:

Commissioner Morin asked if the City does a certain amount of pipe assessment with Ecologics each year. Mr. Bucich replied that they do; staff is also recommending allocating more money to this in order to do enough advance condition assessment so that there is a high degree of confidence in what needs to be replaced. The City started using Ecologics a few years ago to get a better idea about the condition of pipes. As time progresses, the City is getting a high degree of confidence about the value of this tool. Commissioner Morin thought there would be a huge advantage to mapping as much as

possible. Deputy Director Lee noted that the City is currently doing about a mile a year and hopes to increase it to three miles a year with a focus on higher risk areas. Commissioner Kumar asked if this could be used for wastewater. Mr. Bucich replied that it can only be used for clean water.

Chair Strom asked about a previous proposal for an additional utilities operational yard space location. Deputy Director Lee stated that staff is still evaluating the efficiencies that could be gained from adding another service center in the south. The study is expected to be done in the summer. Staff is not anticipating requesting additional funds for this in the 2019-25 CIP Plan, but it may be included in a future CIP Plan.

9. ORAL AND WRITTEN COMMUNICATIONS

Chair Strom pointed out that there was a written communication from Mr. Plummer in the ESC packet.

10. REVIEW OF ESC CALENDAR/COUNCIL CALENDAR

Deputy Director Lee reviewed the calendars as contained in the ESC packet. He pointed out that the AMI briefing will be coming up in February.

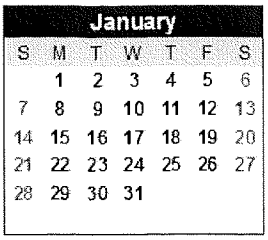
11. ADJOURNMENT

Motion made by Commissioner Morin, seconded by Commissioner Kumar, to adjourn the meeting at 7:30 p.m. Motion passed unanimously (7-0).

The meeting was adjourned at 7:30 p.m.

2018 Tentative Environmental Services Commission Calendar

Updated 1-25-18



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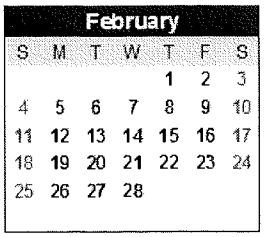

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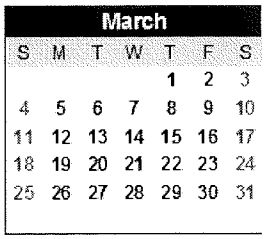

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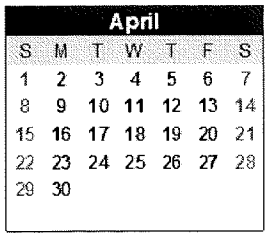

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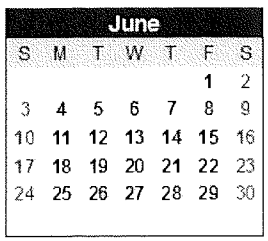

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JANUARY 4

Introduce 2019-2025 CIP Update & CIP Review & Updating Process (Paul/Martin)

FEBRUARY 1

2018 Draft Storm Water Mgmt. Program (Don McQ)
Storm & Surface Water Plan Implementation (Paul/Kit)
2019-2010 Budget Planning Process Overview (Lucy/Martin)
Waterworks Financial Policies Overview (Lucy/Martin)

MARCH 1

AMI Program Update (Brian)
Emergency Management (Joe)
Review Proposed Changes & Additions to Utilities CIP (Paul/Martin)
Utilities Finance 101 (Lucy/Martin)

APRIL 5

2017 Year-end Financial Report & Early outlook 2019-2025 Rates forecast (Lucy/Martin)
Online CIP Open House (Linda)
Summarize CIP Public Comments & Request ESC CIP Concurrence (Paul/Martin)

MAY 3

CWA and SPU Rpt of Wtr Resiliency (SPU & CWA)
Review Preliminary Utilities CIP & Operating Budget Proposals (Lucy/Martin)

MAY 17

Tentative – Additional Mtg to Review Prelim Util CIP & Operating Budget Proposals (Lucy/Martin)

JUNE 7

Election of Chair & Vice Chair (Andrew)
AMI Program Update (Brian)
Final ESC Comments & recommendations on budget proposals (Lucy/Martin)
O&M Yard Space Master Plan (Joe)

JULY 5

Sewer/Storm Cost of Service Studies (Lucy/Martin)
CIP Tour

AUGUST 2

Recess

SEPTEMBER 6

AMI Program Update (Brian)
Budget Follow-Up (Lucy/Martin)
Wastewater System Plan (Doug)

OCTOBER 4

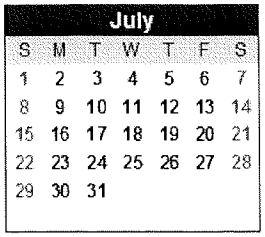
Preliminary Rates Forecast; Public Hearing on proposed Utilities Budget (Lucy/Martin)
Water System Seismic Resiliency Plan (Doug)

NOVEMBER 1

Budget/Rate Recommendation to Council (Lucy/Martin)

DECEMBER 6

Retreat



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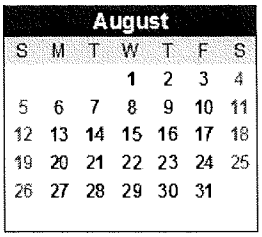

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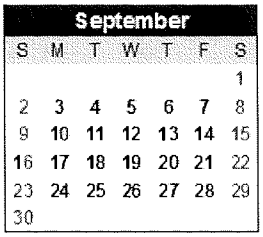

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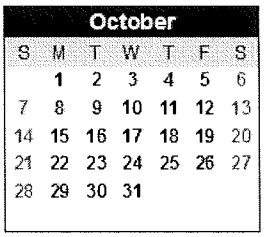

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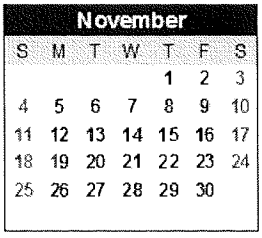

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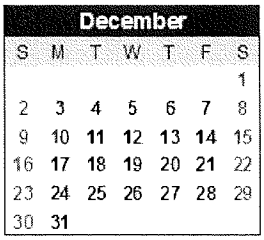

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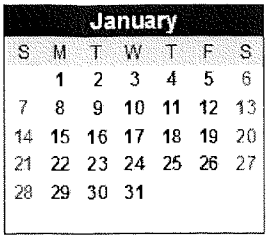
2018 Tentative Council Calendar

Updated 1-24-18



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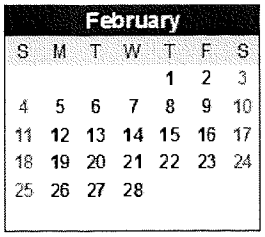

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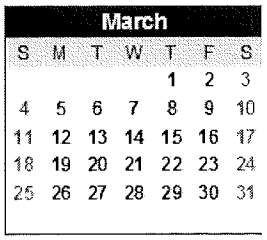

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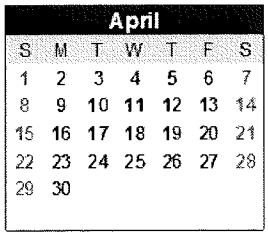

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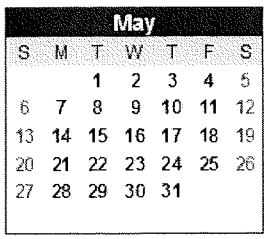

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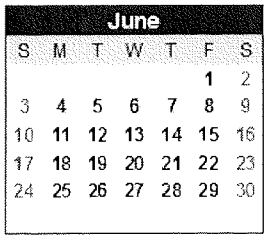

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FEBRUARY 5

Bortko Easement W Lk Samm Pkway SE Sewer Pump Station (Joe)

Payment for Easement Access Sewer Util Lift Station (Civic Svcs/Joe/Tony)

Tentative Lower Coal Creek/Newport Shores KCFD Agrmt (Paul/Jerry)

NE 8th St. Culvert Replacement at Kelsey Creek (Jim)

FEBRUARY 26

Tentative Salmon Recovery Plan Update (Kit)

MARCH 5

Tentative Resolution for Salmon Recovery Plan (Kit)

APRIL

MAY

JUNE

JULY

AUGUST

Recess

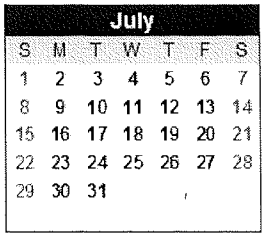
SEPTEMBER

OCTOBER

NOVEMBER

Tentative SW Comp Plan (TBD)

DECEMBER



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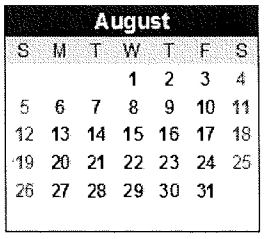

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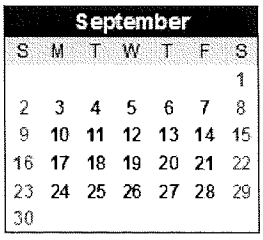

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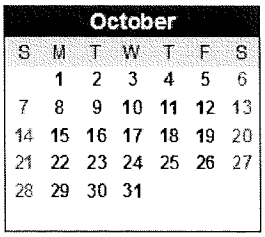

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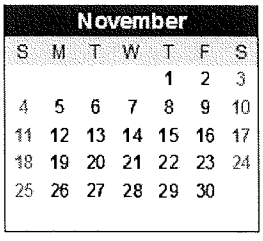

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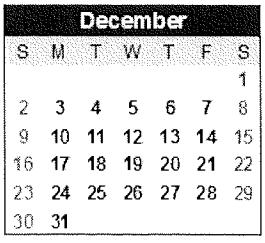

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Utilities' Environmental Conservation & Outreach Events and Volunteer Opportunities

February

1. **Waterwise Garden Volunteer Work Party**
   Location: Bellevue Botanical Garden
   Dates: February 21st, 1 pm to 3 pm
   Staff: Patricia Burgess, 425-452-4127, pburgess@bellevuewa.gov
   Karren Gratt, 425-452-6166, kgratt@bellevuewa.gov

March

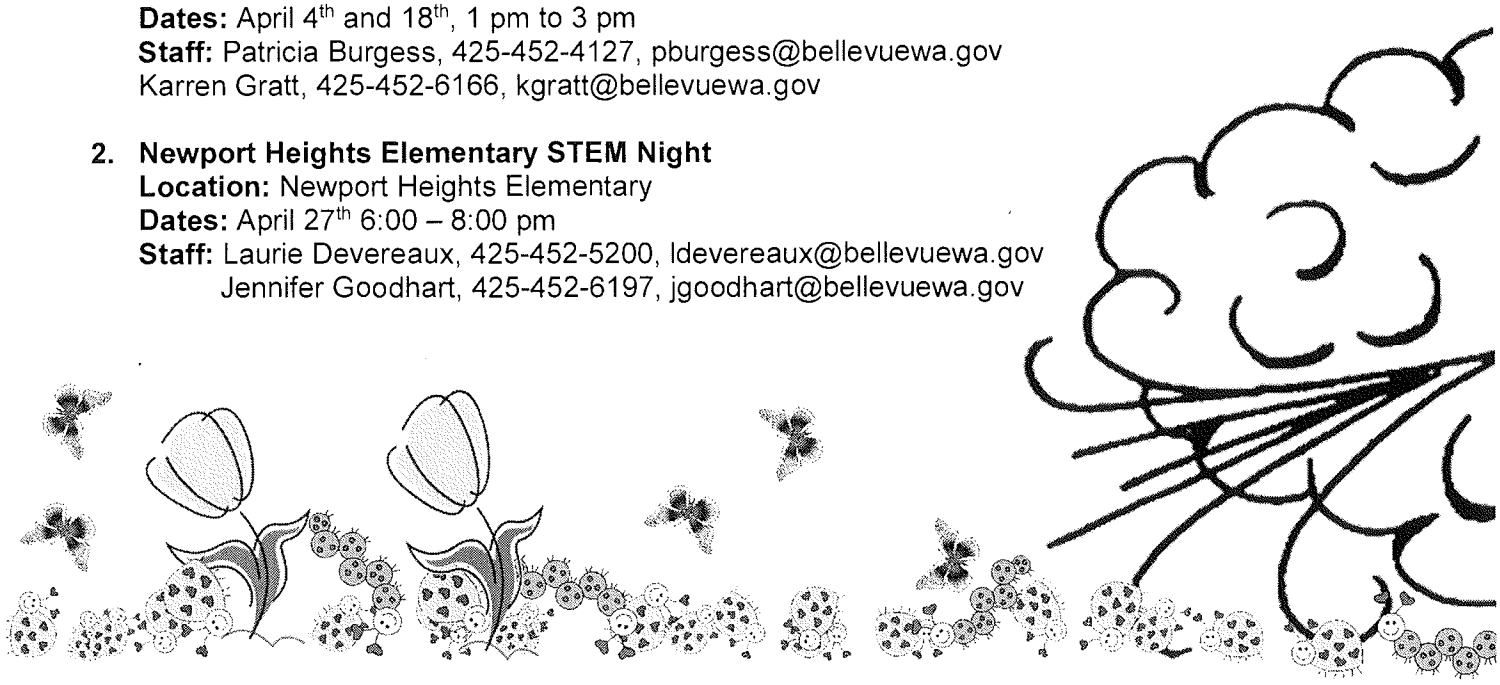
1. **Waterwise Garden Volunteer Work Party**
   Location: Bellevue Botanical Garden
   Dates: March 7th and 21st, 1 pm to 3 pm
   Staff: Patricia Burgess, 425-452-4127, pburgess@bellevuewa.gov
   Karren Gratt, 425-452-6166, kgratt@bellevuewa.gov

2. **Peamouth Patrol Workshop**
   Location: Mercer Slough Environmental Education Center Community Room
   Dates: March 28, 2018, 6:30 pm to 7:70 pm
   Staff: Laurie Devereaux, 425-452-5200, streamteam@bellevuewa.gov

April

1. **Waterwise Garden Volunteer Work Party**
   Location: Bellevue Botanical Garden
   Dates: April 4th and 18th, 1 pm to 3 pm
   Staff: Patricia Burgess, 425-452-4127, pburgess@bellevuewa.gov
   Karren Gratt, 425-452-6166, kgratt@bellevuewa.gov

2. **Newport Heights Elementary STEM Night**
   Location: Newport Heights Elementary
   Dates: April 27th 6:00 – 8:00 pm
   Staff: Laurie Devereaux, 425-452-5200, ldevereaux@bellevuewa.gov
   Jennifer Goodhart, 425-452-6197, jgoodhart@bellevuewa.gov



City of Bellevue

MEMORANDUM

_____ **Action**
_____ **Direction**
_X_ **Information**

DATE: January 22, 2018

TO: Environmental Services Commission

FROM: Paul Bucich, P.E., Water Resources Planning Manager
Kit Paulsen, Watershed Planning Supervisor

SUBJECT: Storm and Surface Water System Plan Update—Strategic Initiatives

Action Required at the Time

No action is required.

Staff will present an update on the *Storm and Surface Water System Plan* and invite the Commissioners to provide feedback and comments on this update.

Background

On December 7, 2015, City Council passed a resolution authorizing the City Manager to adopt the 2015 *Storm and Surface System Water Plan* (Plan). This Plan describes:

- The City's storm and surface water system
- Management and operations of the system, and
- System needs and recommendations.

The recommendations included five strategic initiatives to help guide stormwater management in Bellevue for the 10-year horizon this planning document covers.

Moving Forward – Strategic Initiatives

The long-range/systemic problems identified in the plan are indicative of urban storm and surface water systems in the Puget Sound. Bellevue's projected growth and plan for increased urban density will likely mean that drainage basins are increasingly covered by impervious area which impacts Bellevue's storm water system making maintaining or restoring compromised aquatic systems more challenging.

The following five storm and surface water management strategic initiatives are included in the System Plan:

1. **Primary Stormwater Infrastructure:** will identify and develop strategies for maintaining system functionality of the primary components of the built storm and surface water system (both public and privately-owned conveyance systems) with the objective of having management strategies in place that maintain long term system viability.
2. **Property Management:** will support the development of property management plans for Surface Water Utility Enterprise owned properties that have the potential for benefitting the storm and surface water system and natural conveyances.

3. **Improving Water Quality**: will support the development of a plan to address water quality problems that threaten aquatic habitat and Bellevue's surface waters.
4. **Open Streams Condition Assessment:** will support development of a stream protection and restoration plan that has the objective of improving stream health. The plan is intended to identify information gaps, objectives and restoration criteria for each stream within the city.
5. **Citywide Watershed Management Plan Assessment:** will support development of plan that considers how to optimize stormwater mitigation investments that strategically achieve flow and water quality conditions supportive of healthier waterways, fish, and other aquatic life sooner than what might otherwise occur with the existing regulatory approach for improving water quality. The objective is to evaluate opportunities of redistributing stormwater mitigation resources generated by regulatory drivers towards priority stormwater basins where habitat and water quality improvements would have the greatest impacts. The plan is intended to develop a holistic Citywide Watershed management strategy that meets multiple stormwater and economic development needs.

The attachment to this memorandum contain the detailed descriptions of the Storm and Surface Water Strategic Initiatives excerpted from the Plan.

Implementation of other Plan Recommendations

The Plan also included additional recommendations related to:

- Capital projects for flood control, habitat, and water quality;
- Asset management;
- Outreach and education; and
- Regional efforts.

Staff will provide an update on these recommendations in the presentation.

Next Steps:

- Staff will continue to move ahead with implementing the Strategic Initiatives and other recommendations in the Plan.
- Staff will periodically brief the ESC on the progress while implementing the Strategic Initiatives.

Attachments

Attachment 1—Storm and Surface Water System Plan Strategic Initiatives.

Strategic Initiatives

1) Primary Stormwater Infrastructure

Table 1-1. Initiatives, policies, and Mission Statement goals related to the Primary Stormwater Infrastructure initiative.

Mission Statement	☑ Control Damage From Storms	☐ Protects Water Quality	☐ Protects Fish & Wildlife Habitat	☐ Protects the Environment	
Policy Issue	☐ Aquatic Habitat	☑ Public/Private	☑ Easements		
Related Strategic Initiatives	☐ Open Streams Assessment	☐ Improving Water Quality	☐ Property Management	☑ Primary Infrastructure	☑ Watershed Planning

Problem Statement:

Bellevue's ability to effectively operate the publically-owned storm and surface water system is contingent upon all of the primary components of the system (both public and private) functioning as designed. Primary components are those elements of the drainage system that, if they failed to perform as designed, would result in conditions that jeopardize the ability of the surrounding drainage system to safely convey storm water and avoid substantial environmental and property damage. When primary stormwater components on private property fail to perform as designed, the city's ability to successfully convey runoff to receiving waters is compromised. This can result in:

- Emergency capital improvement projects;
- Flooding of major transportation corridors , and property in both public and private ownership;
- Jeopardized public safety; and
- Environmental damage.

The complexities of property rights and the ambiguity of drainage system[1] responsibility in some circumstances contribute to an uncertain set of roles and responsibilities for storm system management. Timely maintenance and asset renewal of primary drainage components (both publically and privately owned) is important to a fully functioning drainage system.

Bellevue does not currently have a management strategy to address the long-term viability of private conveyance components of the drainage system. Bellevue's private drainage inspection program is currently limited to the inspection of privately-owned detention and water quality facilities. It does not extend to inspecting the condition or function of private conveyance facilities that comprise a critical part of the primary stormwater conveyance system.

[1] Drainage system also referred to as the "storm and surface water system," means the entire system within the city, both public and private, naturally existing and manmade, for the drainage, conveyance, detention, treatment or storage of storm and surface waters.

In addition, there is not a definitive policy or legal analysis that facilitates a quick and accurate determination of system ownership.

Objective:

To identify the primary components of the built storm and surface water system (publically and privately owned components) and to develop management strategies for addressing long term system viability so that drainage services continue to be provided in a safe and functional manner as the components age.

Background:

The built storm and surface water system is comprised of pipes, manhole structures, detention structures, water quality facilities, catch basins, outfall pipes and many other appurtenances necessary to provide for management of runoff. In addition, the system is designed to alleviate a wide array of environmental effects that occur as a result of an urbanizing landscape. Examples of unmanaged effects include impacts to water quality, degradation of aquatic habitat, increased flows to downstream properties, and increased flood frequencies.

Bellevue Utilities has not explicitly identified those elements of the built drainage system that are considered "primary." Primary components are individual elements that are part of a larger drainage system network which, if they failed to perform as designed, would result in conditions that jeopardize the ability of the surrounding drainage system to safely convey storm water and avoid substantial environmental and property damage. Not knowing which components are "primary" puts Bellevue Utilities in a vulnerable position for meeting its duty of providing drainage services to the community in the event those primary components fail or are otherwise rendered incapable of functioning as designed.

Current policy asserts that responsibility for system maintenance, construction of renewal projects, and replacement of failed system components belongs to the property owner where the drainage asset is located. Unless otherwise stipulated by an easement or other legal agreement, land ownership implies management responsibility of the storm water asset whether or not it is a primary system component. Much of the built stormwater system in Bellevue is located in the public right-of-way, meaning the City is responsible for that portion of the system's condition. However, in many locations throughout the City large conveyance pipes (12" or greater in diameter) are located on private properties whose owners are unaware that the pipe is their responsibility to maintain, renew and replace. In those instances where the pipes are on single family residential properties, maintenance actions are rare and seldom undertaken. Replacement has yet to occur but many pipes are reaching their service life and will need replaced in the next decade or two.

Current storm system policy limits public responsibility to *"all components of the storm and surface water system in city-owned right-of-way and in easements or tracts dedicated to, and accepted by, the Utilities Department."*[2] The policy also establishes criteria for when other components of the drainage system can be incorporated into public ownership. It states "All of the following conditions must be met before ownership is transferred":

1. There is a public benefit;
2. Easement or property is offered by the property owner at no cost;
3. The system meets current City standards or is brought up to current City standards by the

[2] City of Bellevue. Storm and Surface Water System Plan. Bellevue, WA. Storm and Surface Water System Responsibility policy

owner;

4. There is access for Utilities Department maintenance from public right-of-way;
5. The Utilities Department has adequate resources to maintain the system, and for detention systems,
6. The system serves a residential plat or short plat (rather than a commercial property).[3]

This policy, established in 1995, has all but eliminated transfer of private systems into public ownership, and does not consider the criticality of the role that conveyance component may play in providing drainage services to the surrounding drainage area.

Big Vision Outcome:

The city will identify the "primary" drainage system components that collect and/or convey stormwater runoff. This effort will also identify the associated cost of its continued maintenance and eventual replacement. The "primary" system will be established by using criteria that identify components of the built drainage system that are considered to have a primary function for the operation of the larger drainage system's performance, regardless of ownership. In circumstances where a "primary component" is in private ownership, the city will develop management options or strategies for those primary conveyance systems.

Strategies:

1. Develop criteria that identify individual components of the built storm and surface water system that are essential to the function of the larger drainage system network. Quantify how much of the system is considered primary for system operation.

2. Once the City knows which components are primary, focus condition assessment efforts toward those primary system components (regardless of ownership). Use the information as the basis for developing management options for keeping the infrastructure components functioning to defined performance standards.

3. For those primary components not in explicit public ownership identify mechanisms that provide the agency assurance that the components are functioning appropriately and are appropriately maintained.

4. Identify maintenance cost associated with any new or added infrastructure.

[3] City of Bellevue. Storm and Surface Water System Plan. Bellevue, WA. Storm and Surface Water System Responsibility policy

2) Property Management Plans

Table 2-1. Initiatives, policies, and Mission Statement goals related to the Property Management Plan initiative.

Mission Statement	☑ Control Damage From Storms	☑ Protects Water Quality	☑ Protects Fish & Wildlife Habitat	☑ Protects the Environment	
Policy Issue	☐ Aquatic Habitat	☑ Public/Private	☑ Easements		
Related Strategic Initiatives	☑ Open Streams	☑ Water Quality	☑ Property Mgt.	☐ Primary Infrastructure	☑ Watershed Planning

Problem Statement:

The Utilities Department owns 430 acres of land on 247 (204 parcels owned by the SSWU) parcels within Bellevue's City Limits, of that total, 136 acres are located in or near sensitive areas. Many of these properties have been acquired over time through development review, donations or acquisition through unique conditions. Much of the land is nearby or associated with open streams, wetlands and other sensitive areas that have the potential to help the City achieve the SSWU Mission goals. Because no comprehensive long-term management plans exist for these properties, their potential benefit may be under-realized. Proper long-term management plans would allow Utilities to optimize the potential of these properties to improve water quality, control flooding and better protect the environment. There is also potential to provide future mitigation areas once an accurate assessment of these properties has occurred.

Objective:

Create Management Plans for properties owned by the Storm and Surface Water Utility that are within or near sensitive areas and have the potential for helping the department achieve its Strategic Plan goals related to Environmental Stewardship.

The Management Plans will provide individual assessments for achieving long term goals for each significant property associated with sensitive areas. These assessments will guide the Utility in managing the properties to meet SSWU mission goals, which are aligned with the City's Comprehensive Plan policies. The Plans will be used as management tools and can be submitted to permit agencies in support of future maintenance, capital construction and/or CIP project mitigation.

Each assessment would evaluate, document, and measure existing conditions for:

- Aquatic habitat
- Invasive and native vegetation
- Forest conditions
- Channel blockages
- Wildlife features
- Encroachments and debris locations
- Establishing clear property boundaries.

Each assessment will provide future recommendations for the property and will take significant time to develop. Site inspections will be conducted at the appropriate time to collect desired data (e.g. identification of some invasive vegetation is best accomplished while the species is flowering in late summer). Larger, more significant properties will have their own assessment. Smaller, similar use sites may be combined into a single assessment. Partnerships with other Departments will be pursued for evaluation of properties with multi-use opportunities.

Background:

Over time the SSWU has developed a substantial inventory of large tracts of land within and around sensitive areas. Generally these properties are comprised of wetlands and riparian areas surrounding stream channel and upland drainages. These properties are significant because of their role in controlling runoff during storm events, preventing erosion, protecting habitat biodiversity, and their influence on native vegetation and aquatic ecosystems.

Management and maintenance of these properties has been very task- focused, primarily performed reactively in an effort to mitigate a problem or deficiency. To date there has been no effort to look at each property to assess potential and identify strategies to optimize their benefit.

Because Bellevue's citizens continue to assign significant importance to the management and protection of our open spaces, particularly those that harbor streams, lake and wetlands; the Storm and Surface Water Utility seeks to optimize use of these properties toward that goal.

Big Vision Outcome:

The Utilities Department has a complete inventory of its land holdings and understands how they can be managed to optimize their contributions towards achieving the goals in the Storm and Surface Water Mission Statement (see page 3-1).

Strategies:

Develop land management plans for all the properties owned by the Utilities Department. Developing land management plans would provide the city and the department critical information about the properties and about how they can best be used to help achieve goals, and it would provide the city with a guidance document for implementing future land management actions. The land management plans would help with future budget requests, would work synergistically with other land management plans (e.g. Parks property management plans), and support other city-wide initiatives.

Development of management plans will allow for future maintenance and CIP efforts to be aligned with the goals for each property to support the goals of the SSWU and the City as a whole.

3) Improving Water Quality

Table 3-1. Initiatives, policies, and Mission Statement goals related to the Improving Water Quality initiative.

Mission Statement	☐ Control Damage From Storms	☑ Protects Water Quality	☑ Protects Fish & Wildlife Habitat	☑ Protects the Environment	
Policy Issue	☑ Aquatic Habitat	☐ Public/Private	☐ Easements		
Related Strategic Initiatives	☐ Open Streams	☑ Water Quality	☐ Property Mgt.	☑ Primary Infrastructure	☑ Watershed Planning

Problem Statement:

Throughout Bellevue and the region, lakes, streams, and wetlands are affected by stormwater runoff. Stormwater runoff from developed land—such as roads, parking areas, rooftops and lawns—transports a mixture of pollutants such as petroleum, heavy metals, animal waste, and sediments into nearby streams. Stormwater runoff is the leading contributor to water quality pollution of urban waterways in the state[4]. Fish, wildlife, and habitat are compromised, as well as the community's ability to experience a healthy natural environment that supports fishable and swimmable waters.

Objective:

Improve surface water quality and habitat by removing pollutants that threaten Bellevue's surface waters where feasible and practicable through application of selective stormwater retrofit Best Management Practices (BMPs) in locations where there is a lack of adequate water quality treatment.

Background:

Bellevue has a long history of using codes, standards and municipal programs to address ongoing pollutant runoff affecting fish, wildlife, and the environment. Despite these efforts untreated pollutants from areas developed prior to regulations continue to degrade lakes, streams, and wetlands, impacting fish, habitat, and the community's ability to enjoy the natural environment.

This is a national issue and local governments and regulators are increasingly turning to stormwater "retrofit" in urban areas to augment existing programs as a means of managing stormwater runoff to improve water quality in lakes and streams. Retrofits include installations or upgrades of best management practices (BMP's) in developed areas where there is a lack of adequate stormwater treatment. For example, rain gardens may be installed on the roadside to collect surface pollutants, trap them in soils, and percolate clean runoff into the ground. In other areas a vault could be installed and maintained to remove sediment instead of allowing it to travel to a stream and impact fish habitat. While some studies show high costs for reducing urban pollution to levels that support biological function[5], other studies provide evidence to support that properly applied stormwater retrofits can

[4] Puget Sound Partnership (www.psp.wa.gov/stormwater.php#2)

[5] Stormwater Retrofit Analysis and Recommendations for Juanita Creek Basin in the Lake Washington Watershed; August 2012; work completed by King County, City of Kirkland and the Washington State Department of Transportation and funded by state Department of Ecology stormwater grant.

reduce pollutants in lakes and streams in a cost effective manner.[6] Successful projects have implemented a balance of traditional and low impact BMP's that treat for specific pollutants of concern based on modelling results, water chemistry and biological indicators. This project would evaluate the opportunities and constraints for achieving environmental improvements in water quality through focused use of retrofit technology.

It is anticipated that future Phase II Municipal Stormwater Permits (NPDES), such as Bellevue's, will likely mandate stormwater retrofit. Implementing this initiative would allow the City of Bellevue to provide information to the State about the opportunities and constraints of retrofit in an urban environment, as well as position the city for future grant programs.

The Utilities Department and city's mission statements support investigating and implementing retrofit BMPs where benefits can be demonstrated and are cost effective. This approach is also consistent with adopted policies and the community's values for a healthy and sustainable environment.

Big Vision Outcome:

Utilities will develop a plan that prioritizes Bellevue's drainage system to identify where retrofit makes the most sense to address water quality issues related to runoff. Criteria and processes will be developed to determine the use of appropriate retrofit technologies. A list of priority areas that would benefit most from WQ retrofit will be developed using a variety of factors. A menu of BMP alternatives will be developed that weighs existing options with BMP retrofit using cost/benefit, pollution reduction, and/or habitat enhancement to provide staff with more tools for improving habitat and the uses of Bellevue's streams. This effort will provide guidance for where retrofit may be a reasonable, effective, and appropriate tool to improve water quality through the Capital Investment Program or operational efforts. It will also serve to inform other strategic efforts, such as the Open Streams Assessment and Watershed Planning, by providing important information regarding where the highest risk and highest priority areas for water quality improvement needs are, helping to further those efforts and improve water quality.

Strategies:

Identify priority areas where water quality projects could improve stream and lake conditions. Assess site constraints for those areas. Evaluate existing and new technology to determine whether the retrofit options are appropriate for highly developed areas, will not cause other water quality issues, and are expected to address pollutants of concern. Identify areas where pollutants, such as sediment, pathogens, nutrients, metals, and other organics and inorganics are likely to persist without a focused retrofit water quality plan. Develop a plan for prioritized projects to achieve improved and measurable water quality results. Identify potential grants and funding sources. Focused water quality monitoring may be employed to determine specific needs or effectiveness of treatments. Other data, such as biological, habitat, and pre-spawn mortality will be incorporated as additional effectiveness indicators of selected installations.

[6] K. Brian Boyer and mark S. Kieser (2012) Urban Stormwater Management – An MS4 Success Story for Western Michigan University. Journal of Green Building: Winter 2012, Vol. 7. No. 1 pp. 28-39.

4) Open Streams Condition Assessment

Table 4-1. Initiatives, policies, and Mission Statement goals related to the Open Streams Condition strategic initiative.

Mission Statement	☑ Control Damage From Storms	☑ Protects Water Quality	☑ Protects Fish & Wildlife Habitat	☑ Protects the Environment	
Policy Issue	☑ Aquatic Habitat	☑ Public/Private	☑ Easements		
Related Strategic Initiatives	☑ Open Streams	☑ Water Quality	☑ Property Management	☐ Primary Infrastructure	☑ Watershed Planning

Problem Statement:

There is no strategic pathway to achieve the city's vision for healthy streams[7]. Like most urban municipalities, maintaining healthy streams is a challenging goal to achieve. Urban streams experience increased flow and pollutants that degrade aquatic habitat, impact water quality, and cause erosion of stream beds and banks.

Objective:

The outcome of this initiative will be a stream protection and restoration plan for improving stream health. The plan will identify information gaps, identify objectives for streams (including measureable restoration outcomes and barriers to achieving these outcomes), and develop criteria for prioritizing streams and objectives.

Background:

Bellevue's Comprehensive Plan expresses the community's vision for the future. This vision for the Environmental element states that in 2035:

> Bellevue embraces its stewardship of the environment by protecting and retaining natural systems, and building for a sustainable future. As growth and development occurs, Bellevue is working to build a healthier, greener and more sustainable future for generations to come. New buildings are designed to protect and even restore natural systems. The community highly values and celebrates the results, such as reduced energy use and greenhouse gas emissions, increasing tree canopy and more salmon in local creeks.

The Utilities Mission statement states that the city's storm and surface water system "...protects water quality, supports fish & wildlife habitat, and protects the environment."

There is an estimated 80 miles[8] of open stream channel in Bellevue of which 23 miles (or 38%) are in public ownership either through title, easement or other property obligation. The City of Bellevue's constructed drainage system connects directly to the open streams and lakes throughout the city.

[7] City of Bellevue Comprehensive Planning. Bellevue 2025 Vision Details.
[8] City of Bellevue Utilities Department. Storm and Surface Water Utility Statistical Report. 2013.

Stormwater runoff is conveyed to streams, lakes and wetlands by the stormwater drainage system or by overland flow. As an alternative to piping and burying streams, Bellevue chose to preserve the network of open streams and lakes from the impacts of stormwater runoff by implementing detention and water quality treatment (primarily sediment controls) regulations, constructing in-stream storage facilities (regional stormwater facilities) and implementing stormwater management programs such as operation and maintenance, public education and outreach.[9] As explained in Chapter 6, Current Conditions, maintaining healthy streams in an urbanizing area is a challenging goal to achieve because they experience increased flow and pollutants that degrade aquatic habitat, impact water quality and erode stream beds and banks.

Some of the storm and surface water system problems that must be addressed to achieve the vision for healthy streams include:

- Mitigate stream flow changes. Urban stream flow characteristics are distinctly different than the flow characteristics of a forested pre-developed period. Urban streams have significantly higher annual peak flow rates, a higher degree of "flashiness" between storms, meaning they rise and fall at a faster rate than they once did causing more erosion, and there has been a shift in seasonal peak flows. What were once considered peak winter flows are now routinely matched during the dry summer season. This is reflective of trends across the region.
- Address stream temperature and water quality issues. Urban streams routinely have temperatures above thresholds that block migration and are sometimes even lethal for salmon. Some reaches of Mercer Slough, Coal Creek, Ardmore (Idylwood) Creek, Lewis Creek and Kelsey Creek, are among urban streams listed as "water quality impaired" for certain pollutants by Ecology.
- Improve stream biota habitat. Aquatic life in urban streams reflects the changes in stream flow and water quality. Pre-spawn mortality in coho has been linked to highway and ultra-urban street runoff and environmental indicator scores for aquatic life are typically rated as "poor" to "very poor" in urban streams.

Current Utilities Department practices focus the department's efforts for stream and aquatic habitat restoration on public lands or publically owned infrastructure. This policy has resulted in stream restoration efforts at sites other than where the greatest "ecological lift" will occur. The policy, coupled with the relatively small amount of land in public ownership minimizes the ability of most public efforts at stream restoration to effectively change the environmental response to urbanization. Moreover, expectations that private property owners on their own will improve stream conditions are unrealistic and will not address a wide-spread systemic problem. Few, if any private property owners have the necessary technical skills, financial resources, or understanding of the full system which are needed to restore a stream or stream segment. This piecemeal approach will take decades to achieve restoration goals, even if there was full property owner participation. This plan will identify options to remedy these barriers to stream rehabilitation.

Recognizing a need to incentivize public/private partnerships to hasten urban stream restoration, the Department of Ecology is supporting regional efforts to focus stormwater management at a basin or watershed scale, rather than strictly focusing efforts on individual site development. Focusing stormwater management at a basin or watershed scale recognizes that dense urban growth will

[9] KCM-WRE/YTO. City of Bellevue. 1976. Drainage Master Plan. Bellevue, WA

continue and that options for focusing urban stream improvements to see restoration results more quickly exist through such approaches. Some strategies, such as the Redmond citywide management plan, include a fee-in-lieu program that maintains existing stream conditions in some basins while moving the stormwater mitigation improvements from all development to specific high priority basins. This concentrated approach is designed to restore high priority habitat faster, provide streamlined development, and reduce costs. All basins within the city must have baseline information, restoration objectives, and prioritized actions before the watershed management plan can be developed. This stream protection and restoration plan will develop the foundational support for a comprehensive, holistic watershed management plan to be explored under a separate strategic initiative paper.

Big Vision Outcome:

The outcome of this initiative is a comprehensive stream protection and restoration plan for each basin to achieve the city's vision for healthy streams. This will include identifying opportunities to reduce flow rates and volumes that degrade aquatic habitat, impact water quality, cause erosion of stream beds and banks, as well as other urban stresses to streams.

Strategies:

The Utilities Department will work with other City departments to:

- Identify existing conditions, data gaps and performance measures needed to evaluate progress towards the city vision for healthy streams.
- Develop vision, objectives, and prioritized actions based on basin characteristics, water quality, current and future land use, historical or anticipated fish use, and other criteria appropriate for each basin.
- Identify options for working with private property owners to improve stream habitat in the most effective locations, in accordance with the city's vision and objectives.
- Provide required information to develop a comprehensive, holistic watershed management plan for the City.

And, as a result of having the plan:

- Utilities staff will have a clear understanding of the department's role for streams and aquatic habitat restoration in the context of the city's vision and goals for stream health.
- All city staff will understand their role for implementing the city's integrated approach for stream stewardship and restoration.

Known/Existing Actions:

Bellevue's NPDES Municipal Permit.

The Utilities Department meets NPDES requirements, but those requirements are primarily focused on new development and not on pre-existing development and its impacts. The NPDES permit currently does not require jurisdictions to develop a plan/strategy for returning impacted streams to a healthy aquatic state.

Community Surveys.

Bellevue surveys consistently rate environmental stewardship and healthy open spaces as high community priorities and an important element of quality of life in Bellevue. In a 2009 representative

sample survey for Bellevue Parks and Community Services, three out of four respondents agreed (with half expressing strong agreement) with the statement:

> "...the city should place a priority on improving health and ecological function of forest, wetlands, lakes and streams."

This is supported by Bellevue residents' extensive use of the city's open space system. The survey found that 97% of respondents had used park facilities at least twice in the last year, with 74% identifying natural areas as the facilities used.

Environmental Stewardship Initiative.

The Environmental Stewardship Initiative vision is:

> "To integrate the natural and developed environments to create a sustainable urban habitat with clean air and water, habitat for fish and wildlife, and comfortable and secure places for people to live and work."

Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan

Bellevue City Council adopted the 2005 Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Chinook Salmon Conservation Plan, supporting Chinook salmon recovery efforts with the objective of maintaining the region's quality of life including preserving and protecting a healthy environment and economy.

5) Citywide Watershed Management Plan Assessment

Table 5-1. Initiatives, policies, and Mission Statement goals related to the Citywide Watershed Management Plan strategic initiative.

Mission Statement	☑ Control Damage From Storms	☑ Protects Water Quality	☑ Protects Fish & Wildlife Habitat	☑ Protects the Environment	
Policy Issue	☑ Aquatic Habitat	☑ Public/Private	☑ Easements	☑ Water Quality	
Related Strategic Initiatives	☑ Open Streams Assessment	☑ Improving Water Quality	☑ Property Management	☑ Primary Infrastructure	☑ Watershed Planning

Problem Statement:

Current approaches to stormwater management constrain the city's ability to implement strategic improvements in urban waterbodies and waterways. Increased pollution, flow rates and volumes impact water quality, degrade aquatic habitat, flood property and cause erosion of stream beds and banks despite significant public/private stormwater investments and increasing regulatory controls. For many cities, including Bellevue, a significant source of these impacts is from development that occurred prior to storm and surface water regulations, which continue to evolve and become more stringent.

The Washington State Department of Ecology recently recognized the fiscal challenges and regulatory limitations of addressing the continuing degradation of the Puget Sound under the parcel by parcel retrofit/development approach currently mandated by the permit regulatory approach. It approved a Citywide Watershed Management Plan for Redmond which allows for actions that are a departure from previous Ecology stormwater management directives and which may help local jurisdictions balance multiple and sometimes conflicting regulatory requirements for population growth and stormwater management. Redmond's Watershed Plan includes actions to:

- strategically plan and prioritize stormwater investments (private and public) to targeted watersheds,
- where they will deliver the greatest environmental benefit; and
- address multiple regulatory requirements using a holistic watershed approach.

Redmond's watershed approach is intended to produce focused high quality habitat sooner, albeit in limited areas, as opposed to implementing incremental improvements in all streams and lakes that would not provide significant overall habitat benefits for decades. Bellevue might benefit from a similar strategic and holistic approach to stormwater management and investment.

Objective:

Invest resources strategically to achieve flow and water quality conditions supportive of aquatic beneficial uses in focused areas, meet multiple regulatory drivers and support beneficial economic development and redevelopment by assessing the benefits and challenges of a comprehensive, holistic Citywide Watershed Management Plan approach to storm and surface water management.

Background

Stormwater Management

Management of stormwater is a relatively recent discipline. The City of Bellevue incorporated in 1953 (population 6,000). By the time the Storm and Surface Water Utility (SSWU) was formed in 1974, the city's population was 63,940. At that point, a significant portion of the area within the present city boundaries had already been developed without stormwater controls (Figure 6-15).

The focus of the newly formed SSWU was to implement stormwater controls and programs to reduce flooding, erosion and property damage and prevent the deterioration of water quality, and to construct regional detention ponds and other stormwater capital improvements to mitigate previous development impacts. An open stream policy was adopted which preferred streams remain open to support fish and quality of life (rather than piped and buried under fill to support development).

It is now 40 years since the SSWU was formed and:

- Eleven regional detention ponds and other stormwater capital improvements have been constructed;
- Stormwater management programs have been implemented to
  - Inspect, operate and maintain the storm and surface water system,
  - Minimize flooding and water quality impacts, and
  - Improve aquatic habitat conditions;
- Stormwater flow control and water quality treatment controls have been applied to new development and redevelopment projects, evolving over time to require flow control mitigation back to forested predevelopment conditions and low impact development techniques where feasible such as rain gardens; and
- Federal and state regulatory controls to protect water quality and fisheries, address stormwater and land use impacts, and meet growth management needs continue to multiply and increase.

Despite these significant public/private stormwater investments and increasing regulatory controls, Bellevue's waterbodies and waterways, like most urbanized areas, continue to experience increased pollution, flow rates and volumes that impact water quality, degrade aquatic habitat, flood property and cause erosion of stream beds.

Today

Bellevue is now the fifth largest city in Washington, with a population of more than 130,000. It is the high-tech and retail center of the Eastside, with more than 130,000 jobs and a skyline of high-rises. While business booms downtown and 84% of the City has been developed, much of Bellevue retains a small-town feel because of thriving, woodsy neighborhoods and undeveloped areas consisting of parks and open spaces that are not anticipated to be developed and which together keep people calling Bellevue "a city in a park." Only 6 percent of the remaining vacant land is likely to be developed. Therefore, today's stormwater regulations will mostly be applied to redevelopment of existing development.

A recent local study estimated a cost of $1.4 billion (or $200 million per square mile) in 2011 dollars to achieve flow control and water quality conditions supportive of aquatic life in a single watershed[10]. In 2013, Ecology approved a citywide watershed management plan for the City of Redmond which allowed

[10] Stormwater Retrofit Analysis and Recommendations for Juanita Creek Basin in the Lake Washington Watershed; August 2012; work completed by King County, City of Kirkland and the Washington State Department of Transportation and funded by state Department of Ecology stormwater grant.

for departure from previous Ecology stormwater management directives. These two recent events motivate Bellevue to explore whether a watershed-based approach could be a significant improvement over the parcel-by-parcel retrofit/development approach currently mandated by the permit regulatory approach.

Focusing stormwater management at a basin or watershed scale recognizes that dense urban growth will continue and that targeting stream improvements for more rapid restoration results may make sense. One strategy is to include a fee-in-lieu program that maintains existing stream conditions in some basins while moving the stormwater mitigation improvements from all development to specific high priority basins. This concentrated approach is designed to restore high priority habitat faster, provide streamlined development, and reduce costs. All basins within the watershed plan must have baseline information, restoration objectives, and prioritized actions in order to develop a comprehensive watershed management approach.

Big Vision Outcome:

The big vision outcome is to have healthier waterways, supportive of fish and other aquatic life sooner. This initiative will assess whether employing a watershed-based approach (relative to the current approach) allows Bellevue to be more strategic with resources, projects and programs, to meet conflicting regulatory drivers while supporting future development and redevelopment and to more likely achieve more immediate and measurable improvements to flow, water quality and aquatic habitat of our streams and lakes.

Strategies:

To implement this initiative, staff expects to:

1. Assess the benefits and challenges of a comprehensive, holistic Citywide Watershed Management Plan approach to storm and surface water management and present the results to City Council for discussion and consideration.

   Some of the criteria Redmond and the state Department of Ecology considered in arriving at a viable watershed plan and which Bellevue will include in assessing a watershed-based approach are:

   - Directs stormwater management improvements to those watersheds within the City where they will provide the most immediate environmental benefit and where the City has control and an ability to affect overall water quality; Provides greatest return (environmental benefit) on investment;
   - Addresses surface water pollution and ecosystem degradation using a holistic watershed approach that locally tailors and provides a coordinated framework for addressing multiple regulatory drivers;
   - Supports future development and redevelopment;
   - Delivers the greatest environmental improvement while not allowing stormwater runoff from any development to further degrade conditions in any receiving water or new or increased impacts due to flows or pollutants in any receiving water;
   - Produces more immediate and measurable positive results relative to the current approach;

- Provides guidance to stormwater programs and operations to more efficiently benefit surface waters.

2. The steps to assess a watershed management approach include:
   - Implementing the Open Streams Assessment Initiative first to characterize and prioritize Bellevue's watersheds and associated waterbodies and waterways where the greatest return (environmental benefit) on investment can be achieved and to identify opportunities to reduce stormwater flow rates and volumes as well as other urban stressors.
   - Identifying the watershed planning policies, management techniques and tools to consider in the watershed-based management approach including the results of the Improving Water Quality initiative. This process would start with considering those strategies which Ecology approved for the Redmond Plan (such as fee-in-lieu programs, transferring water quality or flow improvements to priority watershed sites and tailoring stormwater regulations based on a prioritized watershed approach). It would also include consideration of other policies, management techniques and tools such as public-private partnerships, property acquisition, tree retention or replacement, aquatic habitat restoration, source control, retrofit improvements, etc.
   - Developing a citywide watershed management plan, based on the results of the open stream assessment initiative, which identifies how and where to apply different policies, management techniques and tools to achieve the big vision outcome.

City of Bellevue

MEMORANDUM

___ **Action**

_X_ **Discussion**

_X_ **Information**

DATE: January 22, 2018

TO: Environmental Services Commission

FROM: Lucy Liu, Assistant Utilities Director, RMCS Division
Martin Chaw, Utilities Fiscal Manager

SUBJECT: **2019-2020 Utilities Budget Process Overview and Calendar**

Action Required

No action by the Commission is required at this time. This is an informational briefing.

Background

On February 1st, staff will formally kick off the 2019-2020 budget process and present the Commission with an overview of the City's budget development process. At this meeting, the staff will review with the ESC two presentations as follows:

1. Overview the ESC CIP and Operating budget review calendar and key milestones. This will include expectations of the Commission in budget review and the Commission's role and responsibility for making budget and rate recommendations to the City Council.

2. Overview the Waterworks Financial Policies and how these policies guide the development of the Utilities Department operating and capital budgets and its management of reserves.

City of Bellevue

MEMORANDUM

___ **Action**

_X_ **Discussion**

_X_ **Information**

DATE: January 22, 2018

TO: Environmental Services Commission

FROM: Lucy Liu, Assistant Utilities Director, RMCS Division
Martin Chaw, Utilities Fiscal Manager

SUBJECT: **Waterworks Utility Financial Policies Overview**

Action Required

No action by the Commission is required at this time. This is an informational briefing.

Background

Staff will provide an overview of the City's Waterworks Utility Financial Policies. These Council-adopted policies relate to rate-making, funding and management of operating reserves, capital planning, and serve as the foundation for building each biennial budget.

Waterworks Utility

Financial Policies

TABLE OF CONTENTS

INTRODUCTION

The Waterworks Utility is the financial consolidation of the Sewer, Storm & Surface Water and Water Utilities of the City of Bellevue for debt rating and coverage purposes as established in Ordinance No.'s 2169, 2845, 3158 and 4568. It pledges the strengths and revenues of the three separate Utilities for the common financial good while keeping each Utility financially separate for budgeting, rate-setting, revenues, expenditures, debt and accounting.

These "Financial Policies" apply uniformly to the Sewer, Storm & Surface Water and Water Utilities with few, unique exceptions which are identified separately. This update reflects changes consistent with current long-range financial planning, particularly with regard to renewal and replacement funding, the use of debt and rate policies. They supersede the Financial Policies, which were adopted under Resolution No. 5967 in 1995.

These policies do not stand-alone. They must be taken in context with the other major City and Utilities documents and processes. For instance, each Utility has its own System Plan, which documents its unique objectives, planning, operations and capital needs. These System Plans have historically had a 20-year planning horizon. Future System Plans will need to evaluate long term renewal and replacement of aging facilities, much of which were constructed in the 1950's and 1960's during periods of high growth rates and are approaching the end of their useful life. Life cycle costs should be considered in planning the future capital facilities and infrastructure needs.

The City has a seven-year City-wide Capital Investment Program (CIP) Plan which is updated with each biennial budget cycle. All major City capital projects are included. Generally, they are described as over $25,000; involving new physical construction, reconstruction or replacement; and involving City funding. The CIP identifies the level and source of funding for each project. The CIP includes specific sections for each Utility which identify near-term capital projects consistent with each current Utility System Plan and several projects of general scope including renewal and rehabilitation, capital upgrades, response to growth and other system needs.

I. GENERAL POLICIES

A. *Fiscal Stewardship*

The Waterworks Utility funds and resources shall be managed in a professional manner in accordance with applicable laws, standards, City financial practices and these Financial Policies.

Discussion:

It is incumbent on Utility management to provide professional fiscal management of utility funds and resources. This requires thorough knowledge of and conformance with the City financial management processes and systems as well as applicable laws and standards. It also requires on-going monitoring of revenues and expenses in order to make decisions and report to City officials, as needed, regarding the status of Utilities financing. Independent financial review, analysis and recommendations should be undertaken as needed.

B. *Self-sufficient Funding*

Each Utility shall remain a self-supporting enterprise fund.

Discussion:

The revenues to each Utility primarily come from customer charges dependent on established rates. State law requires that utility funds be used only for utility purposes. Since each Utility has somewhat differing service areas, it is essential for ratepayer equity that they be kept financially separate and accountable. The City's General Fund can legally contribute to the Utility funds but does not. The City budgeting process includes a balanced and controlled biennial Utility budget. This requires careful preparation of expense and revenue projections that will be reviewed by City management, the Environmental Services Commission, the general public and the City Council prior to approval of any change in Utility rates.

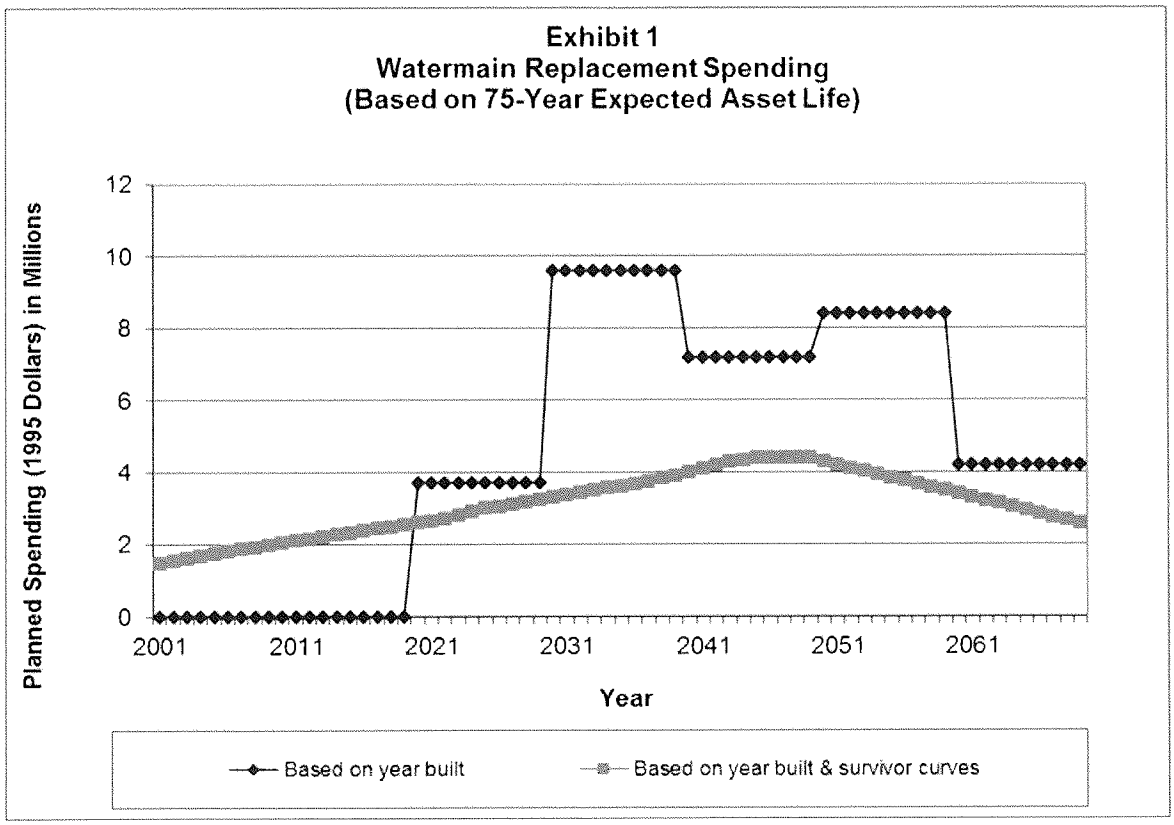
C. *Comprehensive Planning Policies*

The Water Utility System Plan shall be updated every six years as required by state statute; the Wastewater and Storm & Surface Water System Plans shall be updated as required by changed conditions or state statute, between every six to ten years. All Utility system plans shall use a 20-year planning horizon or greater, and shall consider life cycle costs to identify funding needs. Studies to analyze specific geographic areas or issues, such as Storm & Surface Water sub-basin plans, Wastewater capacity and flow studies, or Water pressure zone studies will be completed as required using similar criteria for planning infrastructure needs.

Substantial portions of the City utility systems were constructed in the 1950's and 1960's. These systems are approaching the end of their useful life as illustrated on the following Exhibit 1 - Watermain Replacement Spending and Exhibit 2 - Sewermain Replacement Spending. The storm & surface water infrastructure is of similar age but has not been graphed. It most likely has a relatively shorter expected life span. The object is to determine and follow a survivor curve replacement schedule rather than the replacement schedule based on age alone. Assumptions for survivor curves and useful lives are revisited periodically. These were assessed in 2004 and updated for the most recent engineering and financial findings. Significant changes include the adjustment of replacement costs to current price levels, categorization of pipe assets based on expected useful lives, and replacement of major non-pipe Utility assets such as pump stations and reservoirs. The Exhibits illustrate an example survival replacement curve based on preliminary estimates only. As real needs are determined, they will replace the estimated curves. Renewal and/or replacement will require substantial reinvestment in the future and have major rate impacts if large portions of the systems have to be replaced in relatively short periods of time. The actual useful life of underground utilities is difficult to determine and the best available data is needed to be able to plan for the orderly and timely renewal and/or replacement. For this purpose, the comprehensive plans need to have at least 20 year planning horizons and must address the aging of the Utility systems.

Long term system planning for the Utility systems is required in order to assure that future financial needs are anticipated and equitable funding plans can be developed. In order to keep funding plans current, utility system plans need to be updated between six and ten years. State law requires six years for water system plans. Wastewater system plans are not mandated to be updated on a six year cycle, however updating them between six and ten years is the common standard of practice. Stormwater system plans similarly have no state or federal mandate for

updating, however with the implementation of the NPDES General Permit, it is reasonable to expect significant changes within two 5-year permit terms to warrant a system plan update. Depending on the significance of the changes, the Storm system plan may require updating sooner than after two 5-year permit cycles. These Financial Policies will be reviewed and updated as needed.



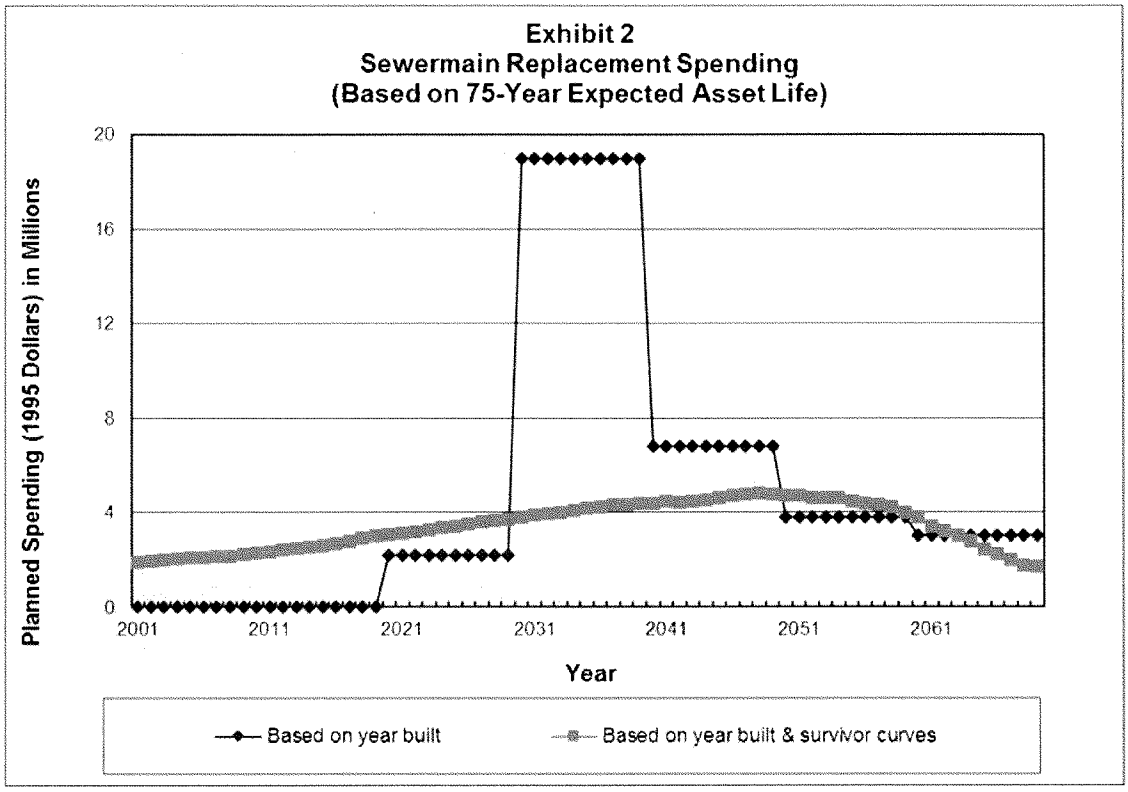


Exhibit 2
Sewermain Replacement Spending
(Based on 75-Year Expected Asset Life)
Planned Spending (1995 Dollars) in Millions
20
16
12
8
4
0
2001
2011
2021
2031
2041
2051
2061
Year
Based on year built
Based on year built & survivor curves

II. CAPITAL INVESTMENT PROGRAM POLICIES

A. *General Scope*

The Utilities Capital Investment Program (CIP) will provide sufficient funds from a variety of sources for implementation of both short- and long-term capital projects identified in each Utility System Plan and the City-wide Capital Investment Program as approved by the City Council.

Financial planning for long-term capital investment shall be based on principles that result in smooth rate transitions, maintain high credit ratings, provide for financial flexibility and achieve inter-generational equity.

Discussion:

These near-term capital projects are usually identified in each Utility system plan which also provides the criteria and prioritization for determining which projects will be constructed. Several projects of general scope are also included to allow for on-going projects that are less specifically identified due to their more inclusive nature.

In addition to these near-term projects, funding should be provided for long-term capital reinvestment in the system to help minimize large rate impacts as the systems near the end of their useful life and have to be renewed or replaced. Ordinance No. 4783 established a Capital Facilities Renewal & Replacement (R&R) Account for each Utility to provide a funding source for this purpose. Other policies describe how this Account is to be funded and expended.

A reinvestment policy by itself, without some form of planned and needed expenditure, could lead to excessive or unneeded expenditures, or conversely unnecessary accumulations of cash reserves. The reinvestment policy needs to tie the planned expenditures over time with a solid, long-term financial plan that is consistent with these policies.

The actual needs for the renewal/replacement expenditures should relate to the on-going need to minimize system maintenance and operating costs consistent with providing safe and reliable service, the age and condition of the system components, and any regulatory or technical obsolescence. In essence, plant should be replaced when it is needed and before it fails. As such, the goal setting measure of how much is an appropriate annual or periodic reinvestment in renewals and replacement of existing assets should be compatible with the age and condition of the infrastructure and its particular circumstances.

WP0459C-ORD
06/27/95

ORIGINAL

CITY OF BELLEVUE, WASHINGTON

ORDINANCE NO. 4783

AN ORDINANCE creating utility capital replacement accounts for the Water, Sewer and Storm and Surface Water Utilities within the Utility Capital Investment Fund for the purpose of accumulating funding for long term replacement of utility facilities.

WHEREAS, the Utilities 1995 Cost Containment Study prepared by Financial Consulting Solutions Group, Inc. (FCSG) recommends that current utility rates recover from the ratepayers amounts which at a minimum are equal to the depreciated value of the original cost of utility facilities and at a maximum are amounts equal to the replacement value of utility infrastructure; and

WHEREAS, FCSG recommends that utility funds not needed for current expenditure be placed in a replacement account to be used in the future in combination with current revenues and/or debt financing to replace capital facilities nearing the end of their useful life; and

WHEREAS, implementation of FCSG's recommendations would promote intergenerational rate equity and provide more stable rates to customers over the long term; and

WHEREAS, the Council desires to make an initial, 1995 deposit of $600,000 in savings from the Water Fund into the new capital replacement account for the Water Utility; now, therefore,

THE CITY COUNCIL OF THE CITY OF BELLEVUE, WASHINGTON, DOES ORDAIN AS FOLLOWS:

Section 1. The purpose of this ordinance is to establish capital facilities replacement accounts within the Utility Capital Investment Fund in order to assure a future funding source for replacement of utility facilities nearing the end of their useful life. The City Council will determine each year, as part of the adoption of the utilities operating budgets, how much, if any, utility revenue during the upcoming year shall be designated for transfer to a replacement account. The City Council may also authorize the receipt of other funds directly into these capital facility replacement accounts. Once deposited the funds will accumulate with interest. The decision regarding when and how to utilize such accumulated funds for the replacement of utility facilities will be made as part of the Utility Comprehensive Plans and Utility Capital Investment Program approval process.

ORIGINAL

WP0459C-ORD
06/27/95

Section 2. The following new accounts are established in the Utility Capital Investment Fund:

Capital Facilities Replacement Account - Sewer
Capital Facilities Replacement Account - Water
Capital Facilities Replacement Account - Storm and Surface Water

Section 3. There is hereby authorized the 1995 transfer from the Water Utility Operating Fund to the Capital Facilities Replacement Account - Water the amount of $600,000.

Section 4. This ordinance shall take effect and be in force five days after its passage and legal publication.

PASSED by the City Council this 24th day of July, 1995, and signed in authentication of its passage this 24th day of July, 1995.

(SEAL)

Donald S. Davidson, DDS, Mayor

Approved as to form:

Richard L. Andrews, City Attorney

Richard L. Kirkby, Assistant City Attorney

Attest:

Myrna L. Basich, City Clerk

Published July 28, 1995

B. *Funding Levels*

Funding for capital investments shall be sustained at a level sufficient to meet the projected 20 year (or longer) capital program costs.

Funding from rate revenues shall fund current construction and engineering costs, contributions to the Capital Facilities Renewal and Replacement (R&R) Account, and debt service, if any.

Inter-generational equity will be assured by making contributions to and withdrawals from the R&R Account in a manner which produces smooth rate transitions over a 20 year (or longer) planning period.

On an annual basis, funding should not fall below the current depreciation of assets expressed in terms of historical costs less any debt principal payments.

Discussion:

These policies are based on the experience gained by developing a long-term Capital Replacement Funding Plan. In absence of such a plan, the range of capital investment funding should fall between the following minimum and maximum levels:

The minimum annual rate funding level would be based on the current depreciation of assets expressed in terms of historical costs, less any debt principal payments.

The maximum annual rate funding level would be based on the current depreciation of assets expressed in terms of today's replacement costs, less any debt principal payments.

The minimum level based on historical cost depreciation approximates the depletion of asset value. Some of the cost may already be in the rates in the form of debt service. Depreciation less debt principal repayment provides a minimum estimate of the cost of assets used. Any funding level below this amount defers costs to future rate payers and erodes the Utility's equity position, which puts the Utility's financial strength and viability at risk.

The maximum level based on replacement cost depreciation represents full compensation to the utility, in terms of today's value, for the depletion of assets. The replacement cost depreciation, again less debt principal repayment, provides a ceiling to an equitable definition of "cost of service".

The purpose of long-term capital reinvestment planning is to establish a target funding level which is based on need and to assure that funds will be available for projected capital costs in an equitable manner. The best projection of the needed capital reinvestment is based on a "survival curve" approach, approximating the timing and cost of replacing the entire system. This defines the projected financial needs and allows determination of equitable rate levels, funding levels for current capital construction and engineering, contributions to and withdrawals from the R&R Account, and the use of debt, if any. It also provides a means to project depreciation on both historical cost and replacement cost basis which are used to calculate minimum and maximum funding levels, debt to fixed asset ratios, and debt coverage levels, if debt is used. These later measures can be used to assure that the financial plan meets conventional standards.

C. *Use of Debt*

The Utilities should fund capital investment from rates and other revenue sources and should not plan to use debt except to provide rate stability in the event of significantly changed circumstances, such as disasters or external mandates.

Resolution No. 5759 states that the City Council will establish utility rates/charges and appropriations in a manner intended to achieve a debt service coverage ratio (adjusted by including City taxes as an expense item) of approximately 2.00". Please note that the Moody's Investor Services rating should be Aa2 (not Aa as stated in Resolution No. 5759).

Discussion:

The Utilities are in a strong financial position and have been funding the Utility Capital Investment Program from current revenues for a number of years. The current 20 year and 75 year capital funding plans conclude that the entire long-term renewal and replacement program can be funded without the use of debt if rates are planned and implemented uniformly over a sufficient period. Customers will pay less over the long-term if debt is avoided, unless it becomes truly necessary due to unforeseen circumstances such as a disaster or due to changes in external mandates. Having long-term rate stability also assures inter-generational equity without the use of debt because the rate pattern is similar to that achieved by debt service.

Use of low interest rate debt such as the Public Works Trust Fund loans, by offering repayment terms below market rates, investment earnings or even inflation, should be viewed as a form of grant funding. When available or approved, such sources should be preferred over other forms of rate or debt funding, including use of available resources. Since such reserves would generate more interest earnings than the cost of the loan, the City's customers would be assured to benefit from incurring such debt.

WP0254C-RES
03/03/94

CITY OF BELLEVUE, WASHINGTON

RESOLUTION NO. 5759

A RESOLUTION relating to financial policy for the Waterworks Utility and adopting a debt service coverage policy for the Waterworks Utility

WHEREAS, the City of Bellevue is consistently recognized for its prudent financial management; and

WHEREAS, the City of Bellevue's Water and Sewer Bonds are currently rated Aa by Moody's Investor Services and AA- by Standard & Poor's Corporation, which are considered to be excellent ratings; and

WHEREAS, these excellent ratings result in lower interest costs on the City's Water and Sewer bonds, which, in turn, may result in lower water, sewer and storm drainage costs; and

WHEREAS, it is important to the rating agencies and to the financial community that the City articulate its financial goals for its Waterworks Utility; and

WHEREAS, a desirable debt service coverage ratio, the ratio of revenues available for debt service to the annual debt service requirement, positively affects the Utility's bond ratings; and

WHEREAS, the City Council deems it in the City's best interest to establish a debt service coverage policy target for the purpose of protecting its current bond rating and to allow for the development of financial projections, NOW, THEREFORE,

THE CITY COUNCIL OF THE CITY OF BELLEVUE, WASHINGTON, DOES RESOLVE AS FOLLOWS:

Section 1. The City Council hereby adopts the following debt service coverage policy for the bonds issued by the City's Waterworks Utility.

The City Council will establish utility rates/charges and appropriations in a manner intended to achieve a debt service coverage ratio (adjusted by including City taxes as an expense item) of approximately 2.00. The City Council authorizes the Waterworks Utility to utilize this policy in development of pro

WP0254C-RES
03/03/94

forma projections which will be disseminated to the bond rating agencies and to the financial community generally.

PASSED by the City Council this 7th day of March, 1994, and signed in authentication of its passage this 8th day of March, 1994.

(SEAL)

Donald S. Davidson, DDS, Mayor

Attest:

Myrna L. Basich, City Clerk

D. *Capital Facilities Renewal & Replacement (R&R) Account*

1. **Sources of Funds**

Revenues to the R&R Account may include planned and one-time transfers from the operating funds, transfers from the CIP Funds above current capital needs, unplanned revenues from other sources, Capital Recovery Charges, Direct Facility Connection Charges and interest earned on the R&R Account.

2. **Use of Funds**

Funds from the R&R Account shall be used for system renewal and replacement as identified in the CIP. Because these funds are invested, they may be loaned for other purposes provided repayment is made consistent with the need for these funds and at appropriate interest rates. Under favorable conditions, these funds may be loaned to call or decrease outstanding debt.

3. **Accumulation of Funds**

The R&R Account will accumulate high levels of funds in advance of major expenses. These funds will provide rate stability over the long-term when used for this purpose and *should not be used for rate relief.*

Discussion:

Revenues from Capital Recovery Charges, Direct Facility Connection Charges and interest earned on the R&R Account are deposited directly into the R&R Account. Other transfers are dependent on the long-term financial forecast, current revenues and expenses, and CIP cash flows. The long-term financial forecast projects a certain funding level for the transfers to the CIP and the R&R Accounts. Rates should be established consistent with this long-term financial plan and will generate the funds for such transfers. Setting rates at lower levels may result in current rate payers contributing less than their fair share for long-term equity.

R&R Account funds must only be used for the purpose intended; that is, the long-term renewal and replacement of the utility systems. They may be used for other purposes if it is treated as a loan, which is repaid with appropriate interest in time for actual R&R needs for those funds.

These accounts are each projected to accumulate tens of millions of dollars in order to meet the anticipated costs for the actual projects at the time of construction. It is the intent of these policies that these reserve funds will not be used for other purposes or to provide rate relief because that would defeat the long-term equity and could lead to the need for the use of debt to fund the actual needs when they occur.

III. SYSTEM EXPANSION AND CONNECTION POLICIES

A. *Responsibilities*

Those seeking or who are required to have Utility service are responsible for extending and/or upgrading the existing Utility systems prior to connecting.

Discussion:

It is the responsibility of the party seeking Utility service to make and pay for any extensions and/or upgrades to the Utility systems that are needed to provide service to their property. The extensions or upgrades must be constructed to City standards and requirements. This is typically accomplished through a Developer Extension Agreement with the City wherein requirements are documented, standards are established, plans are reviewed and construction is inspected and approved. Service will not be provided until these requirements are met.

The philosophical underpinning of this policy is that "growth pays for growth". Historically, developers constructed much of the City's utility infrastructure. If the infrastructure eventually would benefit more than the initial developer, the Utility signed a Latecomer Agreement to reimburse the original financier from charges to those connecting and receiving benefit at a later point in time. When the cost to extend and/or upgrade the system to accommodate development or redevelopment is beyond the means of a single developer, the Utility has employed a variety of methods to assist in the construction of the necessary infrastructure. Local Improvement Districts (LID's) historically have been used to provide financing for infrastructure for new development, with the debt paid over time by the property owners. Most of the older Utilities infrastructure was financed by this method.

The Utility has in some cases up-fronted the infrastructure construction for new development or redevelopment from rate revenues which are later reimbursed with interest, in whole or in part, by subsequent development through direct facility connection charges (see Cost Recovery Policy). Examples are the water and sewer infrastructure for Cougar Mountain housing development and Central Business District (CBD) redevelopment. Another example is the use of the Utility's debt capacity to provide for development infrastructure whereby the City sells bonds at lower interest rates than can private development, constructs the infrastructure, and collects a rate surcharge from the benefited area to pay off the bonds. Examples of this type of financing include the Lakemont development drainage infrastructure and the Meydenbauer Drainage Pipeline in the CBD.

B. *Cost Recovery*

The Utility shall establish fees and charges to recover Utility costs related to: (1) development services, and (2) capital facilities that provide services to the property.

The Utility may enter into Latecomer Agreements with developers for recovery of their costs for capital improvements, which benefit other properties in accordance with State law. The Utility will add an administrative charge for this service.

Discussion:

In general, Utility costs related to development services are recovered through a variety of fees and charges. There are fixed rates for some routine services based on historical costs and inflation. There are fixed plus direct cost charges and applicable overhead for developer

extension projects to cover the lengthy but variable level of development review and inspection typically required to implement these projects. These rates are reviewed periodically to ensure that the cost recovery is appropriate.

When the means of providing the infrastructure to serve a new development or redevelopment are beyond the means of a single developer, the Utility may elect to assist the developer by using: LID's, Latecomer Agreements, special debt (to be paid by special rate surcharges), up-fronting the costs from Utility rate revenues (to be reimbursed by future developers with interest through direct facility connection charges), or other lawful means. It is the intent of this policy to fully recover these costs, including interest, so as to reimburse the general rate payer.

Latecomer charges allow cost recovery for developers and private parties, for facilities constructed at their own expense and transferred to the Utility for general operation. Properties subsequently connecting to those systems will pay a connection charge that will be forwarded to the original individual or developer or the current owner depending on the terms of the Latecomer Agreement. The Utility collects an overhead fee on this charge for processing the agreements and repayments.

C. ***Use of Revenues***

All capital-related revenues such as Capital Recovery Charges and Direct Facility Connection Charges should be deposited in the Capital Facilities Renewal & Replacement Accounts.

Discussion:

Capital Recovery Charges are collected from all newly developed properties in the form of monthly rate surcharges over a ten year period to reimburse the Utility for historical costs that have been incurred by the general rate base to provide the necessary facilities throughout the service area. These Capital Recovery Charges should be deposited in the Capital Facilities Renewal & Replacement Accounts.

Direct Facility Connection Charges are collected for capital improvements funded by the City as described above in Section 2 under Cost Recovery. The total cost of the improvement is allocated to the area of benefit and distributed on an equitable basis such as per residential equivalent unit. Interest is collected in accordance with State law.

D. ***Affordable Housing Consideration***

The Utility shall base connection charges on the number of units allowed under the basic zoning. Only incremental cost increases will be charged to affordable housing units.

Discussion:

The City has adopted bonus density incentives for developers to build units specifically for affordable housing. Under historical practices these additional units would have been charged the same connection fee as all other units, resulting in a lower cost per unit for all units. While this is fair, it does not create any incentive to develop affordable housing. By charging only the incremental increased facility cost to the affordable housing units, all developers who include an affordable housing component will experience no increase in cost because of the affordable bonus density units. The cost per unit for affordable units is thereby reduced. The cost per unit for all other units, based on underlying land use zoning, remains unchanged.

IV. RATE POLICIES

A. *Rate Levels*

Rates shall be set at a level sufficient to cover current and future expenses and maintain reserves consistent with these policies and long-term financial forecasts.

Changes in rate levels should be gradual and uniform to the extent that costs (including CIP and R&R transfers) can be forecast.

Cost increases or decreases for wholesale services shall be passed directly through to Bellevue customers.

Local and/or national inflation indices such as the Consumer Price Index (CPI) shall be used as a basis for evaluating rate increases.

At the end of the budget cycle, fund balances that are greater than anticipated and other one-time revenues should be transferred to the R&R account until it is shown that projected R&R account funds will be adequate to meet long-term needs, and only then used for rate relief.

Discussion:

A variety of factors including rate stability, revenue stability, the encouragement of practices consistent with Utility objectives and these Waterworks Utility Financial Policies are considered in developing Utility rates. The general goal is to set rates as low as possible to accomplish the on-going operations, maintenance, repair, long-term renewal and replacement, capital improvements, debt obligations, reserves and the general business of the Utility.

Long-range financial forecast models have been developed for each of the Utilities, which include estimated operating, capital and renewal/replacement costs for a 75 year period in order to plan for funding long-term costs. Operating costs are assumed to remain at the same level of service and don't include impacts of potential changes due to internal, regional or federal requirements. Capital costs, including renewal/replacement, are projected based on existing CIP costs and approximated survival curves for the infrastructure. The models are used to project rate levels that will support the long-term costs and to spread rate increases uniformly over the period. This is consistent with the above policy that changes in rate levels should be gradual and uniform. Uniform rate increases help ensure that each generation of customers bears their fair share of costs for the long-term use and renewal/replacement of the systems.

The biennial budget process provides an opportunity to add to or cut current service levels and programs. The final budget, with the total authorized expenses including transfers to the CIP Fund and the R&R Account, establishes the amount of revenue required to balance the expenses. A balanced budget is required. The budgeted customer service revenue determines the level of new rates. For example, if the current rates do not provide sufficient revenues to meet the projected expenses, the costs have to be reduced or the rates are increased to make up the shortfall.

For purposes of these policies, wholesale costs are defined as costs to the Utilities from other regional agencies such as the Seattle Public Utilities and/or the Cascade Water Alliance (CWA), and King County Department of Natural Resources for sewer treatment and any agreed upon Storm & Surface Water programs. Costs which are directly based on the Utilities' revenues or budgets such as taxes, franchise fees and reserve levels that increase proportionally to the

wholesale increases are included within the definition of wholesale costs.

B. ***Debt Coverage Requirements***

Utility rates shall be maintained at a level necessary to meet minimum debt coverage levels established in the bond covenants and to comply with Resolution No. 5759 which establishes a target coverage ratio of 2.00.

Discussion:

Existing revenue bond covenants legally require the City's combined Waterworks Utility, which includes the Water, Sewer and Storm & Surface Water Utilities, to maintain a minimum debt coverage ratio of 1.25 on a combined basis. In 1994, Council also adopted Resolution No. 5759 that established a policy, which mandates the Utilities to maintain a target combined debt coverage ratio of approximately 2.00, to further protect the City's historically favorable Utility revenue bond ratings. Water and Sewer Utility resources are counted in the official coverage calculation though Storm & Surface Water is responsible for the major portion of current outstanding Utility debt. Requiring Storm & Surface Water to separately maintain the minimum 1.25 legal debt coverage level and to move toward the 2.00 level will help ensure that necessary coverage requirements are met, and that customers of the other Utilities will not be unfairly burdened with the cost of meeting this obligation. It also ensures that sufficient coverage is available to the Water and Sewer Utilities if they need to incur debt.

C. ***Frequency of Rate Increases***

Utility rates shall be evaluated annually and adjusted as necessary to meet budgeted expenses including wholesale cost increases and to achieve financial policy objectives.

Discussion:

In 1996, the City changed to a biennial budget process and adopted a two-year Utilities budget including separate rates for 1997 and 1998. This practice will continue on a biennial basis. However, Utility rates will be evaluated on an annual basis and adjusted as necessary to ensure that they are effectively managed to achieve current and future financial policy objectives. Annual rate reviews will include preparation of forecasts covering a twenty-year period for Utility revenues, expenditures, reserve balances and analysis of the impact of various budgetary elements (i.e. CIP transfers, R&R Account transfers, debt service costs, debt coverage levels, operating expenses, and reserves) on both current and future rate requirements.

D. ***Rate Structure - Sewer***

The Sewer Utility rate structure will be based on a financial analysis considering cost-of-service and other policy objectives, and will provide for equity between customers based on use of the system and services provided.

Discussion:

In 1993, a Sewer Rate Study was performed that resulted in Council approval of a two-step, volume-based rate structure for single-family customers based on winter average metered water volumes instead of the traditional flat rate structure. Flat rate structures were seen as inequitable to low-volume customers who paid the same amount as high volume customers. Rates are based on the level of service used, rather than the availability of service.

The revenue requirements are based on the "average" single-family winter average volume calculated annually from the billing database. The charge for an individual customer is based on their winter average and then charged at that level each bill for the entire year to avoid charging for irrigation use. The customer's winter average is based upon the prior year's three winter bills because the current year's bills include winter months, which would result in the average constantly changing. Customers without prior winter averages to use for a basis are charged at the "average" volume until they establish a "winter-average" or sufficient evidence that their use is significantly different than the "average".

E. ***Rate Structure - Storm & Surface Water***

The Storm & Surface Water Utility rate structure will be based on a financial analysis considering cost-of-service and other policy objectives, and will provide adjustments for actions taken under approved City standards to reduce related service impacts.

Discussion:

In the existing Storm & Surface Water rate structure, customer classes are defined by categories of development intensity, i.e., *undeveloped, lightly developed, moderately developed, heavily developed* and *very heavily developed*. Based on theoretical run-off coefficients for each of these categories, higher rates are charged for increasing degrees of development to reflect higher run-off resulting from that development. Under this structure, billings for both residential and non-residential customers are determined by total property area and rates assigned to applicable categories of development intensity. Customers providing on-site detention to mitigate the quantity of run-off from their property receive a credit equal to a reduction of one rate level from their actual development intensity. Property classified as "wetlands" is exempt from Storm & Surface Water service charges.

Large properties, over 35,000 square feet, with significantly different levels of intensity of development may be subdivided for rate purposes in accordance with Ordinance No. 4947. In addition, properties with no more than 35,000 square feet of developed area in the light and moderate intensity categories may, at the option of the owner, defer charges for that portion of the property in excess of 66,000 square feet. The property owner may apply for a credit against the Storm & Surface Water charge when they can demonstrate that the hydrologic response of the property is further mitigated through natural conditions, on-site facilities, or actions of the property owner that reduce the City's costs in providing Storm & Surface Water quantity or quality services.

Future design of a water quality rate component will also use cost-of-service principles to assign defined water quality costs to customer classes, according to their proportionate contribution to Utility service demand. It is anticipated that these rate structure revisions will also provide financial incentives to customers taking approved actions to mitigate related water quality impacts.

F. ***Rate Structures - Water***

The water rate structure will be based on a financial analysis considering cost-of service and other policy objectives, and shall support water conservation and wise use of water resources.

Discussion:

The water rate structure consists of fixed monthly charges based on the size of the customer's

water meter and volume charges, which vary according to customer class and the actual amount of water that the customer uses. There are three different meter rate classifications: domestic, irrigation and fire standby. The different charges are based on a cost-of-service study.

State law and the wholesale water supply contract require the Utility to encourage water conservation and wise use of water resources. Seattle first established a seasonal water volume rate structure for this purpose in 1989 with higher rates in the summer than in the winter. In 1990, based on a water rate study and the desire to provide a conservation-pricing signal to our customers, the City adopted an increasing block rate structure for local volume rates. The rate structure was revised in 1991 to pass through an increase in wholesale water costs, which also included a higher seasonal water rate for summer periods. The block water rate structure was revised again in 1997, to incorporate new cost-of-service results from a 1996 water rate study.

An increasing block rate structure, charges higher unit rates for successively higher water volumes used by the customer. The current rate structure has four rate steps for single-family and three rate steps for multi-family customers, based on metered water volumes. All irrigation-metered water is charged at a separate, higher rate. Because non-residential classes do not fit well in an increasing block rate approach due to wide variations in their size and typical water use requirements, seasonal rates, with and without irrigation, were established for these customers. This rate structure will be thoroughly reviewed, as more historical information is available on the effect of the increasing block and seasonal rate structure.

In 1997, an additional category of fire protection charges was added for structures and facilities that benefit from the City water system but are not otherwise being charged for water service. For example, a number of homes are on private wells but are near a City-provided fire hydrant and enjoy the additional benefit of fire protection yet didn't pay for the benefit on a water bill. The charge is based on an equivalent meter size that would normally serve the facility. It also applies to facilities that have terminated water service but still stand and require fire protection, such as homes or buildings that are not occupied.

G. *Rate Equity*

The rate structure shall fairly allocate costs between the different customer classes. Funding of the long-term Capital Investment Program also provides for rates that fairly spread costs over current and future customers.

Discussion:

As required under State law, Utility rates will provide equity in the rates charged to different customer classes. In general, rates by customer class are designed to reflect the contribution by a customer group to system-wide service demand, as determined by cost-of-service analysis. The RCW also authorizes utility rates to be designed to accomplish "any other matters, which present a reasonable difference as a ground for distinction". For example, increasing water rates for irrigation and higher levels of use is allowed to encourage the wise use and conservation of a valuable resource. Formal rate studies are periodically conducted to assure ongoing rate equity between customer classes and guide any future rate modifications necessary to support changing Utility program or policy objectives.

Contributions from current rates to the R&R Account also provide equity between generations of rate payers by assuring that each user pays their fair share of capital improvements, including renewal and replacement, over the long-term. (See sections B and D under the Capital Investment Program Policies).

H. *Rate Uniformity*

Rates shall be uniform for all utility customers of the same class and level of service throughout the service area. However, special rates or surcharges may be established for specific areas, which require extraordinary capital investments and/or maintenance costs. Revenues from such special rates or surcharges and expenses from capital investments and/or extraordinary maintenance shall be accounted for in a manner to assure that they are used for the intended purposes.

Discussion:

The City Water and Sewer Utilities originally formed by assuming ownership of three separate operating water districts and two sewer districts. In the assumption agreements, each included a provision that requires the Utility to uniformly charge all customers of the same class throughout the entire service area. The basic rates are set for all customers, inside and outside of the City, except for local utility taxes in Bellevue, and franchise fees in Clyde Hill, Hunts Point, Medina, and Yarrow Point. Unlike the Water and Sewer Utilities, the Storm & Surface Water Utility only serves areas within the City limits.

Under state law, Utilities are required to charge uniform rates to all customers in a given customer class, regardless of property location within the service area. The only exception permitted is for certain low-income customers (see below).

However, when conditions in particular service areas require extraordinary capital improvement or maintenance costs to be incurred, special rates or surcharges may be adopted to recover those costs directly from properties contributing to the specific service demand, instead of assigning that cost burden to the general Utility rate base. This will only apply for costs above and beyond normal operations, maintenance and capital improvements. For example, rate surcharges are being used to recover debt service costs for capital facilities in Lakemont and the CBD. An additional rate surcharge for Lakemont properties is being collected for extraordinary maintenance costs of the storm water treatment facility.

I. *Rate Assistance*

Rate assistance programs shall be provided for specific low-income customers as permitted by State law.

Discussion:

Continual increases in all utility rates have had a significant impact on low-income customers. The City has adopted a rate discount or rebate program for disabled customers and senior citizens over 62 years old and with income below certain levels as permitted under State law and defined in Ordinance No. 4458. It has two levels, one discounting Utility rates by 40 percent and the other level by 75 percent, based on the customer's income level. Customers that indirectly pay for Utility charges through their rent can obtain a rebate for the prior year's Utility charges on the same criteria. The City also rebates 100 percent of the Utility Tax for these customers. The cost of this program is absorbed in the overall Utility expenses and is recovered through the rate base. The General Fund provides for the Utility tax relief.

There are other low-income customers who are less than 62 years old and currently receive no Utility rate relief. However, the City has instituted a separate rebate of Utility taxes for qualified low-income citizens.

V. OPERATING RESERVE POLICIES

A. *Operating Reserve Levels*

The Utilities' biennial budget and rate recommendations shall provide funding for working capital, operating contingency, and plant emergency reserve components on a consolidated basis in accordance with the attached Summary of Recommended Consolidated Reserve Levels table and as subsequently updated.

Discussion:

Utility resources not spent for operations remain in the fund and are referred to as reserves. At the end of each year, these funds are carried forward to the next year's budget and become a revenue source for funding future programs and operations. Under the terms of this policy, the Utility budget is targeted to include a balance of funds for the specific purposes stated above. While included in the total operating budget, these reserves will only be available for use pursuant to these reserve policies. Setting aside these budget resources in the reserve balance will help to ensure continued financial rate stability in future Utility operations and protect Utility customers from service disruptions that might otherwise result from unforeseen economic or emergency events.

The working capital reserve is maintained to accommodate normal cyclical fluctuations within the two month billing cycle and during the budget year. These are higher for Water than for Sewer and Storm & Surface Water due to more variable revenues and expenditures. They are described in terms of a number of days of working capital as a percentage of a full-year's budget.

The operating contingency reserve protects against adverse financial performance or budget performance due to variations in revenues or expenses. Again, the Water Utility is most susceptible to year-to-year variations in water demand. They are described in terms of percentages of budgeted wholesale costs and operations and maintenance (O&M) costs.

The plant emergency contingency reserve provides protection against a system failure at some reasonable level. The Storm & Surface Water Utility requires the largest reserve due to the risk of major flood damage to Utility facilities. Water and Sewer Utilities protect against the cost of a major main break or failure. These do not protect against the loss of facilities that are covered by the City's Self-Insurance to which the Utilities pay annual premiums nor are they sufficient to respond to a major disaster, such as a major earthquake.

The reserves of the three utilities have historically been treated separately. This protects against cross-subsidy, thereby retaining rate equity for each utility, each of which has different customers. However, it results in higher reserve targets, with more funds retained than otherwise may be needed. Sharing risks among utilities can reduce reserves. This does not require that reserves actually be consolidated into a single fund, but simply that individual reserve targets reflect the strength provided by the availability of cross-utility support. Under the "consolidated" scenario, cash shortfalls in one reserve could be funded through inter-utility loans, to be repaid from future rates. The likelihood that a serious shortfall would occur in more than one fund at the same time is slight and the benefits of lower overall reserve levels will benefit rate payers. Also, the rate policies and the debt coverage policy will ensure that there will be a strong financial response to any significant shortfall. The risk is considered a prudent financial policy.

City of Bellevue

Summary of Recommended Consolidated Reserve Levels*

	Water		Wastewater		Storm Drainage	
Type of Reserve	**Basis**	**Level**	**Basis**	**Level**	**Basis**	**Level**
Working Capital – Reserves against revenue and expense fluctuations within the 2 month billing cycle and during the budget year.	48 days of budgeted O&M costs (excludes debt service, capital funding).	$5,574,900	30 days of Metro costs and 20 days of City O&M costs (excludes debt service, capital funding).	$3,598,100	29 days of budgeted O&M costs (excludes debt service, capital funding).	$1,021,500
Operating Contingency – Reserves against annual budget shortfalls due to poor financial performance.	7.5% of water purchase costs and 11.0% of other water O&M costs.	$3,984,400	2.0% of Metro costs and 5.0% of other wastewater O&M costs.	$1,433,200	2.5% of O&M costs.	$321,400
Plant Emergency Contingency – Reserves against failure of a major facility or piece of equipment.	Cost for repair of water main break.	$100,000	Cost of repair for wastewater main break.	$100,000	Based on potential net cost of flood damage.	$500,000
Less: Allowance for duplicating or offsetting reserves	None.	$0	Working Capital and Operating Contingency include offsetting reserves equal to 2.0% of all O&M.	($977,000)	None.	$0
Less: Allowance for consolidating reserves	2.5% of O&M expenses for interfund charges between utilities.	($575,000)	1.0% City O&M for interfund charges between utilities.	($152,100)	1.0% of City O&M for interfund charges between utilities.	($128,600)
	Share of reduced plant emergency reserve.	($15,000)	Share of reduced plant emergency reserve.	($15,000)	Share of reduced plant emergency reserve.	($70,000)
	Lesser of min. working capital or plant emergency reserves.	($85,000)	Lesser of min. working capital or plant emergency reserves.	($85,000)	Lesser of min. working capital or plant emergency reserves.	($220,000)
Total		**$8,984,300**		**$3,902,200**		**$1,424,300**

* - Reserve levels based on proposed 2017 Utility budgets.

For this purpose, O&M costs are the entire annual operating budget of the Utility less the annual debt service, Capital Investment Program transfers and R&R Account transfers. Independent reserve levels are the levels that would be required by an individual Utility Fund (Water, Sewer and Storm & Surface Water) at any point in time to cover financial obligations if any one of the three reserve components where called for; i.e., working capital, operating contingency or plant emergency. At any single time, the full independent reserve levels should be available for the individual stated purpose, again because it is unlikely that all three components would be called for at once. For example, the Water Utility needs $100,000 available for an emergency repair but it is not likely that the Sewer Utility will need $100,000 and the Storm & Surface Water Utility will need $500,000 all at the same point in time.

The consolidated basis is for budget and rate setting purposes only, to reduce the total revenue requirement by considering the reserve risk shared between the three utilities. The dual reserve levels should be considered as circumstances evolve.

In 2004, the Financial Consulting Solution Group (FCSG) performed an analysis of recommended changes to the Water Utility's working capital and operating contingency reserves to reflect the new wholesale water contract with CWA and to update reserve levels for current conditions. Under the new contract, billing practices for wholesale costs have changed as follows:

1. CWA payment occurs before the associated revenues are collected, resulting in a greater lag between wholesale expense and when revenues are collected.

2. CWA payments are distributed over the whole year based on predetermined percentages and not based on actual consumption during the year. Due to seasonal revenue variation, there is an accumulative deficit in revenues prior to the peak revenue period.

In addition, the total costs to Bellevue are now largely fixed for the year due to the "take or pay" nature of the contract between CWA and Seattle Public Utilities. This shifts the risk during a poor water sales year to the City since there will not be a corresponding reduction in water purchase costs when water sales are down.

Changes in both billing practices as well as the fixed nature of the wholesale costs will result in an increase in required reserves for working capital and operating contingency for the Water Fund.

As part of their 2004 analysis, FCSG recommended increasing working capital operating reserve requirements for the Water fund from 48 days of budgeted O&M costs (excluding debt service and capital funding) to 70 days. The change was primarily related to an expected increase in seasonal revenue variation resulting from Cascade's fixed monthly billing percentages. However, our experience has been that since implementing the change in 2005 there has been essentially no increase in seasonal revenue variation. As a result, beginning in 2011, working capital operating reserve requirements for the Water fund will be reduced from 70 days of budgeted O&M costs (excluding debt service and capital funding) to the original level of 48 days.

B. ***Management of Operating Reserves***

Related to the recommended target reserve levels, a working range of reserves is established with minimum and target levels. Management of reserves will be based on the level of reserves with respect to these thresholds, as follows:

Above target - Reserve levels will be reduced back to the target level by transferring excess funds to the R&R Accounts in a manner consistent with the long-range financial plan.

Between Minimum and Target - Rate increases would be imposed sufficient to ensure that: 1) reserves would not fall below the minimum in an adverse year; and 2) reserves would recover 50% of the shortfall from target levels in a normal year. Depending on the specific circumstances, either of these may be the constraint, which defines the rate increase needed.

Below Minimum - Rate increases would be imposed sufficient to ensure that even with adverse financial performance, reserves would return at least to the minimum at the end of the following year. To meet this "worst case" standard, a year of normal performance would be likely to recover reserve levels rapidly toward target levels.

Negative Balance - Reserves would be borrowed from another utility to meet working capital needs. Similar to the "below minimum" scenario, rate increases would be imposed sufficient to ensure that even with adverse financial performance, reserves would return from the negative balance to at least the minimum target at the end of the following year, which would allow for loan repayment within that time frame.

Discussion:

"Adverse financial performance" or "worst case" are defined by the 95% confidence interval based on historical patterns. The worst case year is currently defined as a year with sales volumes 15% below the sales volume for a normal year. This was determined by using statistical measurements of sales volumes for 18 years with a 95% confidence interval. That is, in any given year there is only a 5% chance that the worst case year would be more than 15% below the normal year. Another way to say the same thing is that in 19 out of 20 years the worst case year would not be more than 15% below the normal year.

Maintaining the 95% confidence interval, as more and more data becomes available, a worst case year could change upward or downward from the 15% variation from a normal year.

The recommended reserve policies are premised on the vital expectation that reserves are to be used and reserve-levels will fluctuate. Although budget and rate planning are expected to use the target reserve number, reserve levels planned to remain static are by definition unnecessary. It is therefore important to plan for managing the reserves within a working range between the minimum and target levels as stated in the above policies. There may be situations in short-range financial planning where reserves are maintained above target levels to overcome peaks in actual expenses.

In the event of an inter-utility loan, the balance for the borrowing utility would essentially be any cash balance less the amount owed. The lending utility would count the note as a part of its reserves, so that it does not unnecessarily increase rates to replenish reserves that are loaned.

In this management approach, there is still a risk that a major plant emergency could exceed the amount reserved. Such a major shortfall would require rate action to assure a certain level of replenishment in one year. To avoid rate spikes due to this type of action, they should be considered on a case-by-case basis. This will provide the flexibility to use debt or capital reserves in lieu of operating reserves to cover the cost and allow a moderated approach to replenishing reserves out of rates.

C. *Asset Replacement Reserves*

Utility funds will maintain separate Asset Replacement Accounts to provide a source of funding for future replacement of operating equipment and systems.

Anticipated replacement costs by year for the upcoming 20-year period, for all Utility asset and equipment items, will be developed as a part of each biennial budget preparation process. Budgeted contribution to the Asset Replacement Account will be based on the annual amount needed to maintain a positive cash flow balance in the Asset Replacement Account over the 20-year forecast period. At a minimum, the ending Asset Replacement Account balance in each Utility will equal, on average, the next year's projected replacement costs for that fund.

The Utilities Department will observe adopted Equipment Rental Fund (ERF) and Information Services budget policies and procedures in formulating recommendations regarding specific equipment items to be replaced.

Discussion:

Providing reserves for equipment and information technology systems replacement allows monies to be set aside over the service life of these items to pay for their eventual replacement and alleviate one-time rate impacts that these purchases might otherwise require. Annual revenues set aside for this purpose will be based on aggregate Utility asset replacement cash flow needs over the long-term forecast period, instead of individual asset replacement amounts. This strategy will allow Utilities to minimize the progressive build-up of excess Asset Replacement Account balances that would result from creating and funding separate reserve accounts for individual Utility asset and equipment items.