City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

Section 1: Proposal Descriptors

Proposal Title:	P-AD-89 Nature Trail Expansion (Levy)		
Proposal Number:	100.61NA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:		**Primary Dept:**	Parks & Community Services
Dependent Proposal:		**Proposal Type:**	Existing
Previous Proposal:	100.61NA	**Project Status:**	Existing
Attachments:		**Primary Staff:**	Glenn Kost

Section 2: Executive Summary

No funding is requested. Previous funding proposals funded new trails and amenities for increased recreation opportunities in Bellevue's Parks and Open Space system. The program planned, designed, permitted and built trails and trail linkages in the Lake Hills Greenbelt, Lewis Creek open space system, and Coal Creek Natural Area to connect Bellevue's parks to regional trails and facilities. This project was funded by the 2008 voter-approved Parks and Natural Areas Levy, and will be completed in 2014.

Section 3: Responsiveness to Request For Results

Section 4: Performance Measures and Targets

No Performance Measures to be displayed.

Section 5: CIP

5A: Description and Scope?

N/A

5B: Rationale?

N/A

5C: Environmental Impacts?

N/A

5D: Location/Address?

Not Specified

5E: CIP Summary

P-AD-89	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure	2,580,138	0	0	0	0	0	0	0
Revenue		0	0	0	0	0	0	0

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Section 1: Proposal Descriptors

Proposal Title:	Replacement of Aging Water Infrastructure		
Proposal Number:	140.02NA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:		**Primary Dept:**	Utilities
Dependent Proposal:		**Proposal Type:**	Existing
Previous Proposal:	140.02NA	**Project Status:**	
Attachments:		**Primary Staff:**	Pamela Maloney, x4625

Section 2: Executive Summary

This proposal funds replacement or rehabilitation of drinking water system infrastructure. Bellevue's water system is a complex network of pipes, reservoirs, pump stations, supply inlets, valves and meters that together deliver almost 6 billion gallons of drinking water to our customers annually. System replacement value is estimated at $1.1 billion, and most of the system is more than halfway through its useful life. Failure trends and obsolete equipment provides evidence that system components are rapidly approaching the end of their service life and must be replaced. This proposal implements Utilities' long term water system renewal and replacement strategy by funding CIP programs for each major type of water system component, right-sized for proactive, sustainable water system management to maintain acceptable service levels at the lowest life-cycle cost.

Section 3: Responsiveness to Request For Results

This proposal funds replacement of water system components as they approach the end of their functional life, or rehabilitate facilities to maximize their service life. This proposal is entirely supported by utility rates. It assumes 2.0 to 3.0 % inflation per year for 2015-21, consistent with regional cost indices for public works engineering and construction. All programs in this proposal were included in the adopted 2013-2019 CIP; no new projects or significant scope changes are proposed. W-16 continues implementation of the council-approved plan to ramp up the water pipe replacement rate to a sustainable 5 miles/year by 2018. Revenue has been collected since 2008 to support acceleration of that program. Included: W-16 Small Diameter Water Main Replacement W-67 Pressure Reducing Valve (PRV) Rehabilitation W-69 Minor (Small) Water Capital Improvement Projects W-82 Fire Hydrant Standardization W-85 Reservoir Rehabilitation or Replacement W-91 Water Pump Station Rehabilitation or Replacement W-98 Replacement of Large Commercial Water Meters W-99 Water Service Line and Service Saddle Replacement Program Bellevue's water system is a complex network of 620 miles of pressurized pipes, 29 in-use water storage reservoirs (including five shared with other jurisdictions), 21 pump stations, 13 active supply inlet stations, and various other component parts required to deliver almost 6 billion gallons of drinking water every year. System replacement value is estimated at $1.1 Billion, or about $8000 for each of the 140,000+ customers who receive water service. Most of the system is more than halfway through its useful life; many pipes are rapidly approaching the end of their lives and are at high risk of failure. Utilities Financial Policies (adopted by Council) require appropriate capital investment for asset replacement. These are long term renewal and replacement programs, with individual programs for each major type of water system component (known as an asset class). Each program is right-sized for sustainable, cost effective water system management. Water infrastructure rehabilitation and replacement is based on asset criticality and business risk, per industry best practices. This Proposal Responds to HSE Cause & Effect maps and Purchasing Strategies Water and Natural Environment primary factors are addressed by this proposal: Clean, reliable drinking water supply: Replacement of aging water infrastructure ensures a continued supply of clean drinking water, reliably available and in sufficient quantity for homes and businesses. Lakes, streams and wetlands; Wildlife habitat: Minimizing water system failures means reduced environmental damage such as flooding and erosion, which damage lakes, streams, and wetlands Conservation of resources: Timely replacement of aging water pipes and appurtenances reduces the volume of treated, potable water lost to leakage into the ground or following system breaks.Purchasing Strategies in support of the HSE outcome: These programs replace aging drinking water infrastructure to ensure the delivery of safe drinking water in an

environmentally sensitive and sustainable way by minimizing the cost of service over the life of assets, while maintaining expected service delivery. They are right-sized to assure we don't prematurely replace assets that should be repaired and maintained. It is proactive system management, rather than responding after systems fail. It looks to the future, incorporating a 75-year forecast of resources needed for system replacement, considering inter-generational cost equity, and precluding sharp rate increases. It reduces the chance of failure and minimizes the likelihood of large damage claims. Maximizing asset component life means efficient system replacement, avoiding wasting materials. City-wide purchasing strategies: This proposal delivers best value and considering long- and short-term financial impacts. Life cycle cost analyses that consider economic, environmental and social (triple bottom line) costs and benefits are used to evaluate project alternatives so that the best value, not only in pure economic terms but also in terms of the environment and "quality of life," is identified. Life cycle cost includes design, construction, operations, maintenance, risk (failure costs), and decommissioning. Other best value activities: Bellevue participated in a Water Research Foundation project to identify optimum strategies for AC pipe replacement. Various saddle materials (e.g., stainless steel, bronze, brass, or epoxy coated) are being evaluated to determine which provides the most value. This proposal supports other Primary Outcomes: Quality Neighborhoods and Safe Communities require reliable, safe, and affordable basic support services including drinking water. A high quality infrastructure with reliable service delivery supports Bellevue's Economic Growth and Competitiveness. Customer impacts: In the short term, these programs reduce the likelihood of catastrophic system failures, damage claims to the city, and sharp rate increases to react to system failures rather than proactively managing the system. In the long term, timely replacement or repair of water facility assets keeps customer rates as low as practical by managing the system at the least life-cycle cost, while maintaining target service levels and meeting regulatory requirements. Appropriate service levels: The proposed annual program budgets are established to minimize the total life-cycle cost of ownership. Underfunding any of the programs will increase the total cost of system replacement over time. Proposed investment for each program was developed based on Asset Management Program recommendations to minimize the life-cycle cost of ownership/operation of the water utility system, and to assure assets aren't prematurely replaced if repair and maintenance is more cost effective. For instance, the ramping up of W-16 for water main replacement is based on a presumed water main asset life of 100-125 years. Performance Indicators are established to Measure the rate of system failure against established targets. An upward trend would point to higher required investment. Progress toward timely replacement or rehab of pipes, pump stations, and reservoirs. Timely replacement of water system infrastructure reduces the potential for catastrophic failure, unplanned customer service interruptions, and costly damage claims.Efficiencies/Innovations: Significant cost savings have been identified and are reflected in this proposal. $108,000/year ongoing savings (W-67) for replacing Pressure Reducing Valves at sustainable rate of 3/year $40,000/year ongoing savings (W-69) for lower anticipated costs in Minor Water Capital projects Annual program budgets are proposed based on design and construction projects planned for each year, for improved accountability over the previous practice of level annual funding for ongoing programs. New repair and replacement technologies and asset management strategies are continuously identified evaluated and (when appropriate,) implemented. Asset replacement practices are continually evaluated and improved to eliminate low-value activities. For example, we used to "pothole" (dig a pit to observe) water service saddle condition prior to deciding whether to replace them for W-99. Potholing required keeping a maintenance crew on standby at the project in case saddles blew apart once they were unearthed. Experience showed that saddles nearly always required replacement, once exposed. Potholing provided little value at significant expense, so it was discontinued.Partnerships and coordination: Utilities partners with Transportation to combine asphalt pavement restoration over pipeline replacement into a single large contract for cost savings. Utilities coordinates with Transportation to assure utility work in public rights-of-way is completed prior to planned street resurfacing. W-16 constructs 3.5-4 miles of water main each year, mostly under streets. Selection of water pipes for replacement and streets for overlay is a collaborative, iterative inter-departmental process to achieve both programs' objectives. Utilities coordinates in-street work with other jurisdictions in Bellevue's water service area (Medina, Hunts Point, Yarrow Point, Clyde Hill, Kirkland, Issaquah, and King Co.)Scaleability:

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If this proposal was not funded at all: Increase in sudden failures requiring emergency response and repair at a higher total cost; Increased likelihood of drinking water flooding private and public facilities, and damaging streams, lakes, and other sensitive areas; Increased risk of claims and associated poor customer service; Increased risk of regulatory action; and Increased operations and maintenance costs. Funding this program at a lower rate would have similar consequences, although less severe. Funding less than the cost of system repair and replacement that has been determined to minimize the life-cycle cost of system ownership and operation will cost more over time. It is truly "Pay me now, or pay me more later."

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.0082f	Utilities: Condition related water main failures per 100 miles of water main	4.36	2.75	2.59	3	5	5	5
140.0085f	Utilities: Percentage of water pump stations rehabilitated within their useful life (25 years)	76.19%	76.19%	71.43%	66.67%	76%	76%	76%
140.0088f	Utilities: Percentage of reservoirs without significant structural deficiencies	77.78%	77.78%	77.78%	77.78%	80%	80%	84%
140.0107	Utilities: Number of miles of water pipe replaced	1.9	3.5	3.3	3.26	3.3	3.3	3.3

Section 5: CIP

5A: Description and Scope?

5B: Rationale?

5C: Environmental Impacts?

5D: Location/Address?

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5E: CIP Summary

Project	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure								
W-16	49,168,885	6,119,000	7,708,000	8,503,000	9,326,000	9,513,000	9,703,000	9,897,000
W-67	7,639,971	433,000	384,000	392,000	399,000	407,000	416,000	424,000
W-69	5,017,619	269,000	212,000	216,000	220,000	225,000	229,000	234,000
W-82	1,238,965	0	58,000	309,000	254,000	0	0	0
W-85	8,781,705	1,045,000	1,639,000	1,057,000	1,093,000	140,000	229,000	746,000
W-91	3,361,238	2,477,000	2,188,000	2,186,000	2,010,000	634,000	1,274,000	2,902,000
W-98	1,882,308	581,000	516,000	527,000	537,000	548,000	559,000	570,000
W-99	1,936,932	237,000	243,000	248,000	253,000	258,000	263,000	269,000
Expenditure	79,027,623	11,161,000	12,948,000	13,438,000	14,092,000	11,725,000	12,673,000	15,042,000
Revenue								
W-16		6,119,000	7,708,000	8,503,000	9,326,000	9,513,000	9,703,000	9,897,000
W-67		433,000	384,000	392,000	399,000	407,000	416,000	424,000
W-69		269,000	212,000	216,000	220,000	225,000	229,000	234,000
W-82		0	58,000	309,000	254,000	0	0	0
W-85		1,045,000	1,639,000	1,057,000	1,093,000	140,000	229,000	746,000
W-91		2,477,000	2,188,000	2,186,000	2,010,000	634,000	1,274,000	2,902,000
W-98		581,000	516,000	527,000	537,000	548,000	559,000	570,000
W-99		237,000	243,000	248,000	253,000	258,000	263,000	269,000
Revenue		11,161,000	12,948,000	13,438,000	14,092,000	11,725,000	12,673,000	15,042,000

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Section 1: Proposal Descriptors

Proposal Title:	Replacement of Aging Sewer Infrastructure		
Proposal Number:	140.03NA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:		**Primary Dept:**	Utilities
Dependent Proposal:		**Proposal Type:**	Enhancing
Previous Proposal:	140.03NA	**Project Status:**	
Attachments:		**Primary Staff:**	Pamela Maloney, x4625

Section 2: Executive Summary

This proposal funds replacement or rehabilitation of sanitary sewer system infrastructure. Bellevue's wastewater system is comprised of pipes and pump stations that remove 11 million gallons of sewage from homes and businesses every day, and convey it safely to King Co. Metro's regional system for treatment and disposal. System replacement value is estimated at $1.4 Billion, and most of the system is more than halfway through its useful life. Ongoing inspection of sewer asset condition and claims experience trends provide evidence that much of the system requires significant repair or will soon need to be replaced. This proposal implements Utilities' long term sanitary sewer renewal and replacement strategy by funding CIP programs for each type of major sewer system component, each right-sized for proactive, sustainable wastewater system management to maintain acceptable service levels at the lowest life-cycle cost.

Section 3: Responsiveness to Request For Results

This proposal funds replacement of sewer system components as they approach the end of their functional life, or rehabilitate facilities to maximize their service life. This proposal is entirely supported by utility rates. It assumes 2.0 to 3.0 % inflation per year for 2015-21, consistent with regional cost indices for public works engineering and construction. Included: S-16 Sewer Pump Station Improvements S-24 Sewer System Pipeline Major Repairs S-32 Minor (Small) Sewer Capital Improvements Projects S-58 Lake Washington Sewer Lake Line Assessment Program S-66 Sewer System Pipeline Replacement S-67 Inflow and Infiltration Investigations and Flow Monitoring (New) S-68 Sewer Force Main Condition Assessment (New) S-69 Meydenbauer Bay Park Sewer Lake Line Replacement (formerly part of S-58) Most programs in this proposal were included in the adopted 2013-2019 CIP. Significant changes: An increase to S-16 budget to fund a sustainable rate of two pump stations/year rather than one, based on forecast needs in this CIP window. Mechanical and electrical equipment need to be replaced every 20-25 years. Many stations are approaching 25 years since the last rehabilitation. By rehabilitating 2/year, max station age will reach 35 years in this CIP period. At the 1/year rate, stations would need to last as much as 50 years, which is not sustainable. New 5-year project to investigate the condition of pressurized sewer pipes (S-68). Force mains comprise 5.8 miles of the system. They operate under pressure in a severe environment, with high risk and consequence of failure. Many are asbestos cement, which fails catastrophically. The analysis will determine the schedule for replacement of force mains, which can then be scheduled as part of S-66 in future years. New 5-year project to investigate and eliminate storm-water inflow and groundwater infiltration (I&I) from the sewer system (S-67). I&I elimination may reduce the need for costly system capacity increases. A project to replace the Meydenbauer sewer lake line in conjunction with Meydenbauer Bay Park development (S-69) was previously included in (S-58), but has been separated for improved accountability.Additional rationale is included in the CIP pages specific to each program. Bellevue's wastewater system is comprised of over 650 miles of pipe and 46 pump and flush stations which reliably remove 11 million gallons of sewage every day (on average) from homes and businesses, and convey it safely to King Co. Metro's regional system for treatment and disposal. System replacement value is estimated at $1.4 Billion, or about $10,000 for each of 141,000+ population served. Most of the system is more than halfway through its useful life. Ongoing inspection of pipe condition reveals that many pipes require significant repair, or will soon need to be replaced. Failures and claims experience trends provide further evidence. Utilities Financial Policies (adopted by Council) require appropriate capital investment for asset replacement. The Washington

Depts. of Ecology and Health require sewer system operators to minimize overflows to surface water bodies. Repeated overflows can lead to enforcement action or state-mandated capital projects. (WAC 173 240 060) Bellevue's NPDES Permit (Western Washington Phase II Municipal Stormwater Permit) requires Bellevue to reduce the discharge of pollutants to surface water to the maximum extent practicable. These are long term renewal and replacement programs, with individual programs for each major type of sewer system component (known as an asset class). Each program is right-sized for sustainable, cost effective wastewater system management. Sewer infrastructure rehabilitation and replacement is based on asset criticality and business risk, per industry best practices. This Proposal Responds to HSE Cause & Effect maps and Purchasing Strategies Water and Natural Environment factors are addressed by this proposal: Wastewater Management: A reliable wastewater system efficiently and reliably removes sewage from homes and businesses. Healthy Lakes, Streams, Wetlands, and Improved Wildlife Habitat: Minimizing wastewater system failures means reduced environmental damage that results from failures, such as sewage backups and pollution to surface waters. Lakes; Open space, natural areas, and greenbelts: Sewage overflows present human health and environmental hazards that threaten a community, and result in beach closures. Timely replacement or rehabilitation of aging sewer infrastructure minimizes this hazard.Purchasing Strategies in support of the Healthy and Sustainable Environment outcome: These CIP programs replace aging wastewater infrastructure to ensure the continued removal of wastewater in an environmentally sensitive and sustainable way by minimizing the cost of service over the life of assets, while maintaining expected service delivery. They are right-sized to assure we don't prematurely replace assets that should be repaired and maintained. They reflect proactive system management, rather than responding after systems fail. They reduce the chance of failure and minimizes the likelihood of large damage claims. Maximizing asset component life means efficient system replacement, avoiding wasting materials. Citywide purchasing strategies addressed by this proposal: Delivers best value and considers long- and short-term financial impacts. Life cycle cost analyses that consider triple bottom line costs and benefits (economic, environmental, and social) are used to evaluate project alternatives so that the best value, not only in pure economic terms but also in terms of the environment and "quality of life" is identified. Life cycle cost analyses are used to assess project alternatives. Life cycle includes design, construction, operations and maintenance, risk, and decommissioning costs. Provides efficiency gains or cost savings: Less expensive sewer pipeline repair techniques are being evaluated for feasibility. (E.g. root saws that can travel up stubs from the sewer main line and the use of herbicides to retard root growth.) Innovative and Creative strategies and methods are evaluated for cost-effective sewer infrastructure replacement. (e.g. non-traditional alternatives such as vacuum wastewater systems are being considered for lake line replacement) Life cycle cost analyses eliminate low value-added project elementsOther primary outcomes are supported by this proposal: Quality Neighborhoods and Safe Communities require reliable, safe, and affordable basic support services including wastewater removal. A high quality infrastructure with reliable service delivery supports Bellevue's Economic Growth and Competitiveness. Customer impacts: In the short term, these programs reduce the likelihood of catastrophic system failures, damage claims, and sharp rate increases to react to failures rather than proactively managing the system. In the long term, timely replacement or repair of wastewater facilities keeps customer rates as low as practical by managing the system at the lowest life-cycle cost, while maintaining service levels and meeting regulatory requirements. Appropriate service levels: The proposed annual program budgets are established to minimize the total life-cycle cost of ownership. Underfunding any of the programs will increase the total cost of system replacement over time. Proposed investment for each program was developed based on Asset Management Program recommendations to minimize the life-cycle cost of ownership/operation of the water utility system, and to assure assets aren't prematurely replaced if repair and maintenance is more cost effective. Underfunding any of the programs will increase the total cost of system ownership, over time. Performance Indicators are established to Measure the rate of system failures against established targets, and the number of sewage overflows to surface water caused by asset failure. An upward trend would point to higher required investment. Progress toward timely replacement or rehab of pipes and pump stations. Timely replacement of wastewater system infrastructure reduces the potential for catastrophic failure, unplanned customer service interruptions, environmental damage, and costly damage

claims.Efficiencies/Innovations: $375,000 in one-time savings and $50,000/year in ongoing savings to reflect reduced anticipated costs for Minor Sewer Capital projects (S-32). Implementation of a new program (S-67) to investigate the source and magnitude of stormwater and groundwater into the wastewater system where it could lead to expensive conveyance or pump station capacity increases. Such flows increase as the system ages, when pipes and joints crack and separate, allowing more water to get in. If such flows can be removed, costly capacity improvements might be avoided. Implementation of a new program (S-68) to assess the structural condition of 5.8 miles of sewer force main located throughout Bellevue's system, and to develop a renewal/replacement plan for them. Force mains are sewer pipes operating under pressure in a severe environment, with high risk and consequence of failure. Replacement of the sewer pipe currently buried under Meydenbauer Bay (S-69) will be separated from the ongoing sewer lake line assessment program (S-58) for increased accountability of each activity. Assessment of the condition of sewer lake line will focus on the Lake Washington pipes, which are oldest, and will include development of replacement strategies for the most critical segments. (S-58) Annual program budgets will be based on design and construction projects planned for each year, for improved accountability over the previous practice of level annual funding for ongoing programs. New technologies for pipe repair and re-lining are evaluated and incorporated when cost effective.Partnerships and coordination: Utilities partners with Transportation to combine asphalt pavement restoration into a single large contract for lower bids. Sewers under Bellevue streets which are scheduled for resurfacing are video-inspected up to two years ahead of Transportation's planned street work, to assure that repairs or replacement that require street cutting and patching (S-24 and S-66) are completed cost-effectively ahead of resurfacing. Utilities coordinates in-street work with other jurisdictions in Bellevue's sewer service area (Medina, Clyde Hill, Hunts Pt., Yarrow Pt., Beaux Arts, Issaquah, and King Co.) (S-24 and S-66) Utilities is collaborating with Parks to design and construct a new sewer main under Meydenbauer Beach Park. (S-58) to minimize costs to both projects S-66 replaces or re-lines sewer pipes when that is a more cost effective solution than continued repair and extraordinary maintenanceScaleability: If this proposal was not funded at all, aging sewer infrastructure would fail with increasing frequency, potentially catastrophically, resulting in damage to property and the environment, and leading to damage claims and lawsuits and the potential for violation of Bellevue's NPDES municipal stormwater permit. Significant consequences of deferred wastewater system replacement or repair include Increased likelihood of sewage overflow into private and public facilities, or polluting streams, lakes, beaches, and other sensitive areas; Increase in sudden failures requiring emergency response and repair at a higher total cost; Increased risk of regulatory action; Increased risk of claims and associated poor perception of customer service; and Increased operations and maintenance costs.Funding this program at a lower rate would have similar consequences, although less severe. Funding less than the cost of system repair and replacement that has been determined to minimize the life-cycle cost of system ownership and operation will cost more over time. It is truly "Pay me now, or pay me more later."

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.0091	Utilities: Wastewater overflows caused by pipeline failures	1	1	0	5	2	2	2
140.0092f	Utilities: Percentage of sewer pump stations rehabilitated within their useful life (25 years)	89.36%	91.49%	82.98%	58.7%	65%	65%	65%
140.0095	Utilities: Wastewater pipeline defects corrected via CIP	26	16	36	33	59	59	59
140.0096	Utilities: Miles of wastewater pipe replaced or rehabilitated	0	0	0	0.5	0.5	0.5	0.5

Section 5: CIP

5A: Description and Scope?

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5B: Rationale?

5C: Environmental Impacts?

5D: Location/Address?

5E: CIP Summary

Project	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure								
S-16	12,181,491	512,000	1,340,000	2,310,000	1,075,000	1,097,000	1,090,000	995,000
S-24	17,946,785	1,232,000	1,836,000	1,873,000	1,911,000	1,949,000	1,988,000	2,027,000
S-32	2,155,323	103,000	106,000	108,000	110,000	112,000	115,000	117,000
S-58	1,309,400	360,000	132,000	0	0	0	0	0
S-66	1,170,100	1,102,000	1,132,000	1,154,000	1,178,000	1,201,000	1,225,000	1,250,000
S-67	0	211,000	259,000	313,000	220,000	225,000	0	0
S-68	0	258,000	264,000	270,000	275,000	281,000	0	0
S-69	0	62,000	286,000	1,888,000	265,000	0	0	0
Expenditure	34,763,099	3,840,000	5,355,000	7,916,000	5,034,000	4,865,000	4,418,000	4,389,000
Revenue								
S-16		512,000	1,340,000	2,310,000	1,075,000	1,097,000	1,090,000	995,000
S-24		1,232,000	1,836,000	1,873,000	1,911,000	1,949,000	1,988,000	2,027,000
S-32		103,000	106,000	108,000	110,000	112,000	115,000	117,000
S-58		360,000	132,000	0	0	0	0	0
S-66		1,102,000	1,132,000	1,154,000	1,178,000	1,201,000	1,225,000	1,250,000
S-67		211,000	259,000	313,000	220,000	225,000	0	0
S-68		258,000	264,000	270,000	275,000	281,000	0	0
S-69		62,000	286,000	1,888,000	265,000	0	0	0
Revenue		3,840,000	5,355,000	7,916,000	5,034,000	4,865,000	4,418,000	4,389,000

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

Section 1: Proposal Descriptors

Proposal Title:	Replacement of Aging Storm Infrastructure		
Proposal Number:	140.04NA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:		**Primary Dept:**	Utilities
Dependent Proposal:		**Proposal Type:**	Enhancing
Previous Proposal:	140.04NA	**Project Status:**	
Attachments:		**Primary Staff:**	Pamela Maloney, x4625

Section 2: Executive Summary

This proposal funds replacement or rehabilitation of aging stormwater system infrastructure. Bellevue's stormwater system is comprised of regional detention facilities, pipes and culverts, and open streams that convey stormwater runoff to eventual outfall into Lake Washington or Lake Sammamish. The constructed portions of the system, estimated replacement value $1 Billion, are managed to prevent failures that cause flooding, erosion and traffic disruption, and to protect streams, lakes and wetlands as much as practicable from high velocity, erosive flows and pollution. Replacement of infrastructure prior to failure precludes property and environmental damage. This proposal implements Utilities' long term stormwater management strategy by funding CIP programs for the replacement and rehabilitation of Storm infrastructure at the least life-cycle cost, while maintaining acceptable service levels, for sustainable storm system management.

Section 3: Responsiveness to Request For Results

This proposal funds replacement or rehabilitation of the constructed portions (pipes, ponds, vaults) of Bellevue's aging stormwater system. This program is entirely supported by utility rates. 2.0 to 3.0 % inflation per year is assumed for 2015-21, consistent with regional cost indices for public works engineering and construction. All but one of the programs in this proposal is included in the adopted 2013-2019 CIP. One new project (D-107) is included in this proposal to assess the condition of the most critical 20% of stormwater pipes. Video inspection of these pipes with the highest consequence and likelihood of failure will help determine overall storm pipe condition so that renewal and replacement funding and timing can be better predicted. Included: D-59 Minor Storm and Surface Water Capital Improvement Projects D-64 Storm Water System Conveyance Infrastructure Rehabilitation D-103 Replace the Coal Creek Parkway Culvert at Coal Creek D-105 Replace the NE 8th Street Culvert at Coal Creek D-107 Stormwater Pipeline Video Inspection Enhancement (NEW) Bellevue's stormwater system includes 410 miles of pipes and culverts, 11 regional ponds, and over 22,000 catch basins, inlets, and manholes. Replacement of infrastructure prior to failure prevents flooding of public facilities and private property, erosion and traffic disruption, and protects nature spaces (streams, lakes and wetlands) as much as practicable from high velocity, erosive stormwater runoff, and detrimental water quality pollutants. This proposal implements a long term strategy to manage storm infrastructure at the least life-cycle cost, while maintaining acceptable service levels. Utilities Financial Policies (adopted by Council) require appropriate capital investment for asset replacement. These are long term renewal and replacement programs. Asset replacement is based on asset criticality and business risk, per industry best practices. Bellevue's NPDES Permit (Western Washington Phase II Municipal Stormwater Permit) requires Bellevue to reduce the discharge of pollutants to surface water to the maximum extent practicable. This Proposal Responds to HSE Cause & Effect maps and Purchasing Strategies: Water and Natural Environment factors are addressed by this proposal: Storm and Surface Water Management: A reliable stormwater system controls stormwater runoff from rain events to minimize flood and erosion damage to public and private property and the environment. Minimizing stormwater system failures reduces environmental damage that results from failures, such as high flow volumes that erode streams and wash out riparian habitat. Flooding presents safety and environmental hazards that threaten a community. Timely replacement or rehabilitation of aging stormwater infrastructure minimizes this hazard. Healthy Lakes, Streams and Wetlands; Improved Wildlife Habitat: Lakes, streams and wetlands are protected by minimizing storm system failures that cause damage. Purchasing Strategies in

support of the HSE outcome: These programs replace aging stormwater infrastructure to ensure the controlled removal of storm runoff in an environmentally sensitive and sustainable way by minimizing the cost of service over the life of assets, while maintaining expected service delivery. They are right-sized to assure we don't prematurely replace assets that would be more cost-effectively repaired and maintained. The strategy for proactive system management, rather than responding after systems fail, reduces the chance of failure (which would cause erosion and flooding) and minimizes the likelihood of large damage claims. This also protects natural surface water environments and the habitats they provide. Maximizing asset component life means efficient system replacement, avoiding material waste. This proposal incorporates City-wide purchasing strategies: Delivers best value, and considers long- and short-term financial impacts. Life cycle cost analyses that consider triple bottom line costs and benefits (economic, environmental and social) are used to evaluate project alternatives. The best value, not only in pure economic terms but also in terms of the environment and 'quality of life," is readily identified. Total life cycle costs are used to assess project alternatives. Life cycle includes design, construction, operations and maintenance, risk, and decommissioning costs. Provides efficiency gains or cost savings; uses innovation and creative strategies. Less expensive storm pipe repair techniques and new technologies are continually evaluated for feasibility. Leverages collaboration or partnerships as described below. Life cycle cost analyses are used to assess project alternatives, to identify the most cost-effective alternative, and eliminate low value-added project elements.This proposal supports other Primary Outcomes: Quality Neighborhoods and Safe Communities require reliable, safe, and affordable basic support services including control of stormwater runoff resulting in protection from flooding. A high quality infrastructure with reliable service delivery supports Bellevue's Economic Growth and Competitiveness. Customer impacts: In the short term, these programs and projects reduce the likelihood of catastrophic system failures; traffic disruption due to failed culverts under streets; damage claims to the city; and sharp utility rate spikes to respond to system failures rather than proactively managing the system. In the long term, timely replacement or repair of stormwater facilities keeps customer rates as low as practical by managing the system at the lowest life-cycle cost, while maintaining service levels and meeting regulatory requirements. Appropriate service levels: The proposed annual investment for each ongoing CIP program in this proposal was developed to minimize the life-cycle cost of ownership/operation of the stormwater utility system. Timely replacement of stormwater utility infrastructure reduces the potential for catastrophic failure, which can lead to property and environmental damage, street damage, and claims. Reducing the annual program budgets would necessitate maintenance beyond the point where it is cost effective, increasing the life-cycle cost of system ownership. Performance Indicators are established to Monitor the frequency of flooding incidents caused by drainage system failure. An upward trend would point to higher required investment. Demonstrate progress toward timely repair of defective drainage pipes. Timely repair of stormwater system infrastructure reduces the potential for catastrophic failure, environmental damage, and damage claims.Efficiencies/Innovations: Significant cost savings have been identified and are reflected in this proposal. $500,000 in one-time savings for D-103 (Replace Coal Creek Parkway Culvert) The proposed new program for stormwater pipeline video inspection will help determine overall pipeline condition for improved forecasting of repair and replacement resources. Less expensive storm pipe repair techniques and new technologies are continually evaluated for feasibility. Partnerships and coordination: Internally Utilities partners with Transportation to combine asphalt pavement restoration into a single large contract for lower bids. Utilities works with Parks to find opportunities for joint use facilities. For example, Coal Creek Parkway Culvert Replacement (D-103) will incorporate a trail extension in the underpass, allowing pedestrians to cross Coal Creek Parkway safely, avoiding the four-lane roadway. The project will save approximately $60,000, the amount it would have cost to build a trail extension for pedestrians to cross Coal Creek Parkway at an existing crosswalk. D-64 involves coordination with Transportation to assure any storm pipe defects which require street cuts are completed prior to any planned street resurfacing. D-103 and D-105 also involve collaboration with Transportation; the new bridges that replace existing culverts will become a part of the City's arterial system. Utilities coordinates with external agencies for utility relocations. D-103 Coal Creek Culvert replacement project includes agreements with PSE and Olympic Pipe Line to share traffic control to save costs and make projects more seamless to the public.Scaleability: If this proposal was not

funded at all: Legal Consequences: Aging storm infrastructure would fail with increasing frequency, potentially catastrophically, resulting in damage to property and the environment, traffic disruption, and leading to damage suits and claims. Potential for violation of Bellevue's NPDES municipal stormwater permit, leading to fines or other sanctions. Customer impacts due to failures and disruption would increase Investment/Costs already incurred would be lost: For D-103, construction is underway. For D-105, interim repairs were made to extend the culvert life until replacement funding can be secured. Significant consequences of deferred stormwater system (pipes, culverts, ditches, detention ponds, or other components) replacement or repair include: • increased potential for flooding of private and public facilities, traffic disruption, and downstream damage to streams, lakes, and other sensitive areas; • increase in sudden failures requiring emergency response and repair at a higher total cost • increased risk of claims and associated poor perception of customer service • increased risk of regulatory action ; and • increased O&M resource to maintain facilities that have exceeded their service lives. Reduced funding would have proportionately less severe consequences for the ongoing programs. One-time projects (D-103 and D-105) are not scalable. Funding less than the cost of system repair and replacement that has been determined to minimize the life-cycle cost of system ownership and operation will cost more over time. It is truly "Pay me now, or pay me more later."

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.0097	Utilities: Flooding incidents caused by drainage system pipeline failure	0	5	2	1	5	5	5
140.0098	Utilities: Drainage pipeline defects corrected via	12	10	2	1	6	6	6

Section 5: CIP

5A: Description and Scope?

5B: Rationale?

5C: Environmental Impacts?

5D: Location/Address?

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

5E: CIP Summary

Project	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure								
D-103	5,460,250	10,000	5,000	5,000	6,000	6,000	6,000	6,000
D-105	0	110,000	226,000	231,000	1,178,000	1,785,000	11,000	6,000
D-107	0	299,000	614,000	626,000	638,000	326,000	0	0
D-59	2,009,677	163,000	167,000	170,000	174,000	177,000	181,000	185,000
D-64	12,021,231	937,000	963,000	1,031,000	1,104,000	1,184,000	1,266,000	1,356,000
Expenditure	19,491,158	1,519,000	1,975,000	2,063,000	3,100,000	3,478,000	1,464,000	1,553,000
Revenue								
D-103		10,000	5,000	5,000	6,000	6,000	6,000	6,000
D-105		110,000	226,000	231,000	1,178,000	1,785,000	11,000	6,000
D-107		299,000	614,000	626,000	638,000	326,000	0	0
D-59		163,000	167,000	170,000	174,000	177,000	181,000	185,000
D-64		937,000	963,000	1,031,000	1,104,000	1,184,000	1,266,000	1,356,000
Revenue		1,519,000	1,975,000	2,063,000	3,100,000	3,478,000	1,464,000	1,553,000

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

Section 1: Proposal Descriptors

Proposal Title:	Utility Capacity for Growth		
Proposal Number:	140.05NA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:		**Primary Dept:**	Utilities
Dependent Proposal:		**Proposal Type:**	Existing
Previous Proposal:	140.05NA	**Project Status:**	
Attachments:		**Primary Staff:**	Pamela Maloney, x4625

Section 2: Executive Summary

This proposal funds construction of additional utility system capacity so that development and re-development projects are not delayed. Planned population growth of residents and workers in downtown, the Bel-Red Corridor, and the Wilburton area will require more drinking water storage and water from our regional system supplier, sewer pump station capacity, and added water and sewer pipe capacity to meet state minimum requirements. Existing facilities are at or near capacity to serve the current population. The initial cost of growth-driven projects will be recovered via connection charges to benefited properties.

Section 3: Responsiveness to Request For Results

Planned growth (primarily) downtown, the Bel-Red Corridor, and Wilburton will need additional water facilities to assure a reliable, safe supply of drinking water for daily use and to meet emergencies, and sufficient sewer capacity to safely convey sewage from homes and businesses. Insufficient water and sewer system capacity (storage, supply, and conveyance) can result in development moratoriums imposed by the Washington State Departments of Health or Ecology, so they must be built before development. Sufficient sewer system capacity prevents sewer overflows to surface waters, resulting in a Healthy and Sustainable Environment. Included: W-103 Increase Drinking Water Storage Availability for the West Operating Area W-104 Water Facilities for the NE 15th Multi-Modal Corridor S-52 East Central Business District (CBD) Sewer Trunkline Capacity Improvement S-53 Bellefield Pump Station Capacity Improvements S-60 Wilburton Sewer Capacity Upgrade S-61 Midlakes Pump Station Capacity Improvements All projects in this proposal were included in the adopted 2013-2019 CIP. Council approved water and sewer rate increases to pay for these projects when they approved the prior budgets. Revenue has been collected since then toward construction of those projects. 2.0 to 3.0 % inflation per year is assumed for 2015-21, consistent with regional cost indices for public works engineering and construction. Utility capacity projects to meet growth needs are required by state and city mandate: Insufficient water and sewer system capacity (storage, supply, and conveyance) can result in development moratoriums imposed by the Washington State Department of Health or Ecology. Minimum water storage volume and supply availability based on population are established by state law: WAC 246-290-222(6) and 246-290-235 Sewer system management to preclude overflows is regulated by state law: WAC 173-221-010, WAC 173-240-060, and WAC 246-271-020 Construction of utility capacity improvement projects is initially paid from utility rate revenue. The initial project costs associated with growth are subsequently recovered through connection charges proportional to benefit received, collected when properties develop or redevelop. Revenue collected from connection charges pays for future utility system replacement, helping to keep utility rates lower in the future. Portions of projects associated with replacing aging facilities are not recovered through connection charges, but rather through general utility rates. Operations and maintenance costs of new facilities are also recovered through utility rates. This Proposal Responds to HSE Cause & Effect maps and Purchasing Strategies Water and Natural Environment primary factors are addressed: Projects for growth are all future-focused, necessary to meet the water and wastewater needs of planned population and employment growth without detrimental impact to the environment. The need for each was identified during comprehensive planning efforts and targeted studies for proposed changes in land use. This proposal ensures a safe, reliable supply of drinking water to and removal of wastewater from homes and businesses as Bellevue grows. Lakes, streams, and wetlands will be protected from sewage overflows, avoiding pollution and

protecting the environment for plans and wildlife. New reservoirs and pump stations are more energy efficient, reducing greenhouse gas emissions. Building utility capacity in time for planned growth is proactive, allowing time for alternatives analyses that consider life-cycle costs and consider costs and benefits using triple bottom line principles of environmental, fiscal, and social. Citywide purchasing strategies: Proactive planning and pre-design assure the added capacity is right-sized. Building capacity 'just in time' is cost effective, minimizing financial impacts in the short term; recovery of the investment from benefited properties keeps utility rates lower in the long term, providing best value. Collaboration with Cascade, King Co. Metro, Transportation, and Parks results in lower construction and ownership costs, and may provide opportunities for multi-purpose uses of public property. Life-cycle cost analysis of alternatives that incorporates triple bottom line principles for each project is a best practice that assures sound management of utility fiscal resources. This proposal supports other Primary Outcomes: Quality Neighborhoods and Safe Communities need reliable drinking water service and wastewater removal to protect public health. The water system capacity provided by these projects will ensure our continued ability to respond to fire and water supply emergencies, for Safe Communities. Economic growth and thriving business districts rely on robust utility systems, and cannot tolerate state-imposed development moratoriums. City Policy UT-4 states "Base the extension and sizing of system components on the land use plan of the areas. System capacity will not determine land use." Bellevue's continued Economic Growth and Competitiveness is assured by constructing these facilities in time to avoid delaying proposed development activity. Customer Impacts: In the short term, utility capacity will be available without delaying development and redevelopment projects. In the long term, recovering the cost of projects from benefited properties will reduce future rate increases to pay for utility system replacement. Appropriate service levels / Scalability: The proposed service level is to build facilities that meet state minimum requirements for water and wastewater systems, constructed in time to prevent costly delays of development or redevelopment projects. These capacity projects are not scalable. Performance Indicators are established to Monitor the number of development projects delayed awaiting water and sewer system capacity, and Measure the environmental consequence of insufficient sewage conveyance and pumping capacity. Efficiencies/Innovations: Cost savings of over $3.5 Million have been identified: This proposal previously included an ongoing program (S-30) to extend sewer service to un-served areas. It was intended to facilitate orderly extension of the sewer system, and provided an affordable option for customers who might otherwise not be able to develop their property. Requests for this service have been infrequent in the past few years. The program will be discontinued; infrequent requests for system extension will be funded by other mechanisms (low cost loans, etc.) Savings include $774,000 unspent from 2013-14, and $410,000/year ongoing (in 2014 constant dollars). During preliminary design work for adding drinking water storage (W-103), an alternative solution was identified. Improving the water transmission capability between the east and west sides of the water system will make excess reservoir storage from the east side of Bellevue available to the west side in an emergency. This solution has the added benefit of improving the water system's reliability and flexibility of operation. Additional drinking water storage will still be needed, but further into the future beyond this CIP window. The improved transmission pipeline capacity (W-103) will also defer the need for a new supply inlet station from Seattle's regional supply line (W-104), by reducing reliance on the existing BelRed water supply inlet. Utilities partners with Transportation to combine similar types of asphalt pavement restoration into a single contract, typically resulting in lower bids. Partnerships and Coordination: W-104: Collaboration with Cascade Water Alliance regarding regional water supply lines to Bellevue. S-52 and S-53: Collaboration with Sound Transit to avoid constructing facilities at locations which would conflict with planned light rail alignment. All projects that affect street rights-of-way involve collaboration with Transportation Dept. to coordinate any planned street work, assuring utility work is completed prior to surface road improvements. Consequences if this proposal was not funded at all: Legal: Insufficient water and sewer system capacity (storage, supply, and conveyance) can result in development moratoriums imposed by the Washington State Department of Health or Ecology. Cost consequences to Bellevue (lost revenue) if development was halted awaiting utility capacity projects.Customer Impacts: Development projects could be denied pending water and sewer system capacity that meets state law. Sewer overflows pollute surface waters and result in restricted access to streams or beaches. In order to

preserve storage for emergencies such as fires or supply outages, mandatory water use restrictions may be imposed. Investment/Costs already incurred: Many of these projects have incurred pre-design costs. Projects S-52 and S-53 involve adding sewage pipe and pump station capacity for downtown. Because the new facilities will be located near future Sound Transit Light Rail facilities, the projects have been delayed to ensure the design avoids conflicts that might require relocation once Sound Transit alignment is finalized.

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.0073	Utilities: Number of Development Proposals Delayed by System Capacity	0	0	0	0	0	0	0
140.0074	Utilities: Number of Wastewater Overflows due to System Capacity	5	0	1	0	0	0	0

Section 5: CIP

5A: Description and Scope?

5B: Rationale?

5C: Environmental Impacts?

5D: Location/Address?

5E: CIP Summary

Project	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure								
S-30	8,640,407	0	0	0	0	0	0	0
S-52	1,135,045	2,203,000	21,000	0	0	0	0	0
S-53	1,559,681	7,488,000	1,068,000	0	0	0	0	0
S-60	1,777,599	5,253,000	952,000	0	0	0	0	0
S-61	655,715	1,684,000	1,730,000	0	0	0	0	0
W-103	328,547	134,000	317,000	755,000	440,000	1,347,000	0	0
W-104	0	0	0	0	637,000	2,273,000	2,319,000	0
Expenditure	14,096,994	16,762,000	4,088,000	755,000	1,077,000	3,620,000	2,319,000	0
Revenue								
S-30		0	0	0	0	0	0	0
S-52		2,203,000	21,000	0	0	0	0	0
S-53		7,488,000	1,068,000	0	0	0	0	0
S-60		5,253,000	952,000	0	0	0	0	0
S-61		1,684,000	1,730,000	0	0	0	0	0
W-103		134,000	317,000	755,000	440,000	1,347,000	0	0
W-104		0	0	0	637,000	2,273,000	2,319,000	0
Revenue		16,762,000	4,088,000	755,000	1,077,000	3,620,000	2,319,000	0

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

Section 1: Proposal Descriptors

Proposal Title:	Environmental Preservation		
Proposal Number:	140.08NA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:		**Primary Dept:**	Utilities
Dependent Proposal:		**Proposal Type:**	Existing
Previous Proposal:	140.08NA	**Project Status:**	
Attachments:		**Primary Staff:**	Pamela Maloney, x4625

Section 2: Executive Summary

This proposal funds Utility CIP projects focused on environmental preservation or restoration. It includes on-going programs and one-time projects intended to restore stream health and environmental habitat, or to prevent pollution of stream and habitat resources. These projects guard against harmful environmental impacts from City operations or repair environmental damage on public lands or lands with public responsibilities.

Section 3: Responsiveness to Request For Results

This proposal is for Utility CIP projects with environmental preservation or restoration as the primary goal. It includes programs and projects intended to restore stream health and environmental habitat, or prevent pollution of those resources. These projects guard against detrimental impacts from city operations, or they repair environmental damage on public lands or lands with public responsibilities (e.g. easements, and past project sites). D-106 is funded entirely by revenue form the King Co. Flood Control Zone District (KCFZD) as a regional priority flood control project. D-94 is funded in part (~50%) by the KCFZD. All other proposed investments are paid by utility rates. Included: D-81 Fish Passage Improvement Program D-86 Stream Channel Modification Program D-94 Flood Control Program (funded in part by KCFZD) D-104 Stream Restoration for Mobility and Infrastructure Initiative D-106 Lower Coal Creek Flood Hazard Reduction Phase 1 (funded in whole by KCFZD) S-59 Add On-site Power Generation Capability at 3 Sewer Pump Stations D-95, D-100, and D-101 were included in this proposal in the last biennium—they are now complete. All of the programs in this proposal are included in the adopted 2013-2019 CIP; no scope changes to those programs are proposed. Council approved rate increases to pay for D-104 and S-59 as part of the 2009-10 budget; revenues have been collected for that purpose since that time. 2.0 to 3.0 % inflation per year is assumed for 2015-21, consistent with regional cost indices for public works engineering and construction. Mandates and Contractual Agreements for environmental projects: Council directive for the Mobility and Infrastructure Initiative, December 2008 (D-104) RCW 77.57.030 and WAC 22-110-070 require fish passage for all water crossing structures, including culverts. (D-81). Those statutes give WDWF the authority to resolve problems and bill local governments, if necessary. WAC 173-24.060 regarding sewage overflow requirements (S-59) Western Washington Phase II Municipal Stormwater Permit (effective Aug 1, 2013) regulating surface water quality. (aka NPDES permit) (S-59) This Proposal Responds to HSE Cause & Effect maps and Purchasing Strategies Water and Natural Environment primary factors are addressed. Project-specific objectives are to restore or preserve Bellevue's surface waters. Ongoing investment and effort is necessary to maintain water quality and habitat for streams in an urban environment. These projects protect water quality by reducing the potential for sewer overflows to sensitive surface waters, reducing sediment that chokes stream habitat, restoring degraded stream reaches, and removing barriers that prevent fish from accessing healthy stream habitat. Surface and Storm Water Management: S-59, D-86, and D-94 will result in reduced pollutants (sewage spills and sediment transport) to Bellevue's water resources. Healthy lakes, streams and wetlands and Improved Wildlife Habitat: S-59, D-81, D-86, D-104, and D-106 will preserve and restore streams and surface waters that provide critical habitat for salmon, other fish and riparian animals, and plants. D-94 and D-106 provide flood control and D-104 will provide recreational benefits. S-59, D-81, and D-104 in particular will support preservation of lakes, streams, and wetlands for the enjoyment of Bellevue citizens. Purchasing Strategies in the Healthy and Sustainable Environment outcome: S-59 is a proactive measure to protect surface water quality and habitat,

and safely remove wastewater from homes and businesses, by preventing sewer overflows during power outages. D-94 and D-106 will ensure that storm and surface water runoff is controlled to minimize the impacts of flooding and erosion. D-81, D-86, D-104, and D-106 will manage, maintain, and restore Bellevue's streams to ensure their continued viability to support salmon and other species. D-104 will create new green spaces for recreation by restoring streams that currently flow through pipes. Citywide purchasing strategies: This proposal leverages resources from KCFZD to provide Bellevue citizens reduced flooding and better environmental outcomes for their ratepayer dollars. All Utility CIP designs undergo alternatives analysis using triple bottom line principles (financial, environmental and social costs and benefits) and total life cycle cost considerations (best practices), to assure best value in design and efficient resource investment for the long term. This proposal is focused on protection and stewardship of environmental resources. This proposal supports other Primary Outcomes: S-59 results in a Safer Community by reducing the chance of sewage overflow into Bellevue's streams and lakes, which contaminates stream water quality and can result in beach closures to protect public health. D-94 and D 106 will support Safer Community by reducing flooding hazards. D-104 directly supports Improved Mobility by making improvements to streams in the BelRed Corridor in conjunction with planned street improvements of Bellevue's Mobility and Infrastructure Initiative, and supports Economic Growth and Competitiveness by funding stream restoration that will enhance and encourage redevelopment of high quality attractive residential and commercial urban areas. Benefits/Customer Impacts: Each project results in immediate short term benefits: making streams accessible to salmon, reducing and removing habitat-choking and flood-causing sediment, and reducing flooding at homes and businesses, or which blocks roads. Even more important, this proposal will lead to long term, measurable and sustainable improvement of water quality and valuable habitat of Bellevue's surface waters. Appropriate service levels: See descriptions for D-81, D 86, D 94, and D 104, for the rationale for the proposed annual budget of these ongoing programs. Performance Indicators are established to: Measure progress toward elimination of fish passage blockages (D-81) Measure the number of flooding claims (D-94 and D-106) Efficiencies/Innovations and Cost Avoidance: Each ongoing program uses criteria specific to the program objective to prioritize projects within it. Specific project designs are selected after evaluating alternative designs and considering financial, environmental, and social costs and benefits (triple-bottom line), which incorporates life cycle cost analysis of the alternatives. Steady progress toward stream restoration projects that benefit salmon reduce the likelihood of third-party lawsuits under the Endangered Species Act. D-94 and D-106 remove flood hazards that might otherwise result in damage claims to the City Partnerships and Coordination: Bellevue Parks Department and Sound Transit (D-104) King County Flood Control Zone District (KCFZD) (D-94; D-106) Various granting agencies (especially D-81 and D-86) Consequences of not funding the proposal at all Legal: Increased likelihood of third-party lawsuits for non-compliance with state requirements or court order; Potential fines by Washington Department of Fisheries; Risk of mandated capital projects by the Washington Departments of Ecology or Health; and State resource agencies less likely to issue permits to Bellevue if we don't fulfill permit obligations. Customer Impact: Reduced amenities in Bel-Red Corridor to attract redevelopment; Salmon would never be able to access almost two miles of restored habitat in Goff Creek or West Tributary; Bellevue citizens would have increasingly reduced opportunity to enjoy fish and other riparian species in the 70+ miles of open streams that meander through their neighborhoods; Higher utility rates resulting from state agency fines and for mandated corrective actions; and Continued flooding and access restrictions at known locations affecting homes and businesses. Consequence of reduced funding: D-106 is fully funded by KCFZD to reduce flooding in the Newport Shores area; scaling back doesn't make sense. S-59 is a one-time project to add power generation capability at three wastewater pump stations. Scaling back to one or two is possible, with proportionally less benefit. D-81, D-86, D-94 and D-104 are ongoing programs; reducing funding to the proposal would have similar consequences as described for no funding at all, but proportionately less severe.

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.0042f	Utilities: Percentage of scheduled culvert fish	N/A	7.69%	9.09%	100%	100%	100%	100%

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	passage retrofits completed							
140.0053	Utilities: Number of FEMA flood claims	0	0	0	0	0	0	0

Section 5: CIP

5A: Description and Scope?

5B: Rationale?

5C: Environmental Impacts?

5D: Location/Address?

5E: CIP Summary

Project	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure								
D-100	776,000	0	0	0	0	0	0	0
D-101	815,000	0	0	0	0	0	0	0
D-104	6,039,015	1,613,103	1,854,702	2,231,300	2,634,167	0	0	0
D-106	466,889	300,000	600,000	200,000	2,177,000	2,176,000	2,176,000	0
D-81	3,590,895	752,000	201,000	421,000	413,000	196,000	366,000	23,000
D-86	4,370,568	85,000	231,000	338,000	675,000	531,000	427,000	33,000
D-94	5,753,973	1,113,000	725,000	1,248,000	1,519,000	1,914,000	939,000	651,000
D-95	608,000	0	0	0	0	0	0	0
S-59	74,981	74,000	76,000	312,000	417,000	290,000	0	0
Expenditure	22,495,321	3,937,103	3,687,702	4,750,300	7,835,167	5,107,000	3,908,000	707,000
Revenue								
D-104		1,613,103	1,854,702	2,231,300	2,634,167	0	0	0
D-106		300,000	600,000	200,000	2,177,000	2,176,000	2,176,000	0
D-81		752,000	201,000	421,000	413,000	196,000	366,000	23,000
D-86		85,000	231,000	338,000	675,000	531,000	427,000	33,000
D-94		1,113,000	725,000	1,248,000	1,519,000	1,914,000	939,000	651,000
S-59		74,000	76,000	312,000	417,000	290,000	0	0
Revenue		3,937,103	3,687,702	4,750,300	7,835,167	5,107,000	3,908,000	707,000

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

Section 1: Proposal Descriptors

Proposal Title:	Utility Improvements for New NE 15th Multi Modal Corridor		
Proposal Number:	140.54DA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:	130.52PA,N/A	**Primary Dept:**	Utilities
Dependent Proposal:		**Proposal Type:**	Existing
Previous Proposal:	140.54DA	**Project Status:**	Approved and Begun
Attachments:		**Primary Staff:**	Pam Maloney, x4625

Section 2: Executive Summary

This proposal is for design and construction of new water pipes under the new NE 15th Multi Modal Corridor, where they will be needed to provide water service for redeveloping properties in the Bel-Red Corridor. This proposal is required as a result of Transportation's proposal 130.52PA, R-163 NE 15th St Multi-Modal Corridor – 116th Ave NE at NE 12th St to 136th Pl NE at Northup Way, and is therefore developed to complement that proposal's scope. No new sewer pipes are needed in this section of the corridor.

Section 3: Responsiveness to Request For Results

This proposal is supported by utility rates, and was included in the 2013-19 adopted CIP. The timing of the work is not known, but will be implemented to align with the Parent Proposal. The utility investment associated with redevelopment of the Bel-Red Corridor will be recouped via connection charges collected from benefited properties when they redevelop. No enhancements since the last budget cycle. Water pipes will be needed to provide utility services to properties adjacent to the new NE 15th Multi Modal Corridor, and to improve water supply capacity for anticipated growth throughout the Bel-Red Corridor. This project will eventually design and construct approximately 1.0 mile of 16-inch water pipe in the new NE 15th/16th Street right-of-way. Utility design and construction will be coordinated with corridor design and construction, so that utilities are in place and do not conflict with surface design of street/path/bikeway/light rail. Specific improvements included in this proposal: Design and construction of water facilities needed in the NE 15th St Multi Modal Corridor, between 116th Ave. NE and 136th Pl NE. A new 16" water pipe would be installed from 116th Avenue NE to approximately 128th Ave NE. From 128th Avenue NE east to 136th Place NE and then north in 136th Pl NE to Northup Way, two parallel 12" water pipes would be installed, one on each side of the proposed Sound Transit Light Rail tracks. One pipe would be relocation and up-sizing, the other would be a new pipe. This CIP will fund the cost of the upsizing and the cost of the new pipe. Relocation costs will be borne by the Sound Transit project. Total cost of design and construction for the water pipes is estimated at $4.3 million. This includes improvements that will be constructed beyond this CIP window (cost is provided in 2014 constant dollars.) This proposal involves close collaboration between Transportation and Utilities to assure the design and construction of utility facilities is done in coordination with the corridor design and construction. Benefits of this proposal: This proposal will assure collect resources to assure that design and construction of utility facilities can be coordinated with construction of the corridor. Design and construction of these utilities will be foundational to eventual construction of the primary mobility corridor through the Bel-Red Corridor. The service level proposed will provide design and construction for utility facilities concurrent with design of planned street, bikeway, pedestrian and light rail improvements. This proposal supports a Healthy and Sustainable Environment by designing facilities that will deliver clean drinking water to and safely remove wastewater from residents and businesses along and near the multi-modal corridor. (Clean Reliable Water). Well-designed utility facilities minimize the opportunities for pipe failures, protecting the streams, wetlands, and lakes in the Bel-Red Corridor from pollution and erosion. (Natural Environment). Designing sufficient utility capacity for the planned population is proactive and results in least life cycle cost for pipelines, which last 125 years (Sustainable Built Environment) This proposal also supports Improved Mobility Factors and Purchasing Strategies: Existing and Future Infrastructure. Design of utility facilities concurrent with design of the street corridor supports thoughtful planning and integration of the infrastructure that will be needed to meet the

City's vision for the Bel-Red Corridor. Much as the surface improvements will provide the 'backbone' for mobility through the redeveloping residential/commercial district, the large diameter water pipes will provide the primary water pipes for moving water from the regional supply station through the corridor. Traffic Flow. Design of utility facilities concurrent with the road design supports coordinated construction of utilities with the surface improvements, so that traffic disruptions are minimized. The water infrastructure will be designed with sufficient capacity to accommodate future population demand, based on land use. New water pipes are expected to last 125 years, on average, so pipes sized for ultimate capacity will be constructed. Utility facilities designed to deliver safe, reliable utility service are part of the Built Environment, and promote and support the economic vitality of the City. City-wide Purchasing Strategies: Design of utilities concurrent with the road improvements assures close collaboration between Utilities and Transportation, as well as Sound Transit for coordination with light rail construction plans. It provides best value for the community by identifying and resolving potential design conflict issues. Selection of a consultant or team of consultants for coordinated road and utility design may result in lower design costs. (short term financial benefits) The design will assure right-sized utilities that will provide water and wastewater services appropriate for the planned land use, and results in lowest life-cycle cost by building capacity appropriate to the expected 125+year life of the facilities (long term financial benefits), which is a sound resource management strategy. Consequence of not funding the proposal at all: Construction of multi-modal surface improvements could be delayed awaiting utility facilities; or newly paved surfaces will need to be dug up for utility facility construction. Development projects may be delayed awaiting availability of utility service. Consequence of funding at a lower level: Utility facilities could not be constructed for the full extent of the planned multi-modal corridor.

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.Dependent	This Budget Proposal is a Dependent of a Budget Proposal housed in another City Department.	N/A	N/A	N/A	N/A			

Section 5: CIP

5A: Description and Scope?

This project provides funds for the design and construction of new water facilities concurrent with the design and construction of the NE 15th Multi-Modal corridor. The corridor will consist of a new street, bikeways, pathways, and the new East Link light rail. This project will eventually design and construct approximately 2 miles of 12 and 16 inch water main. Absent better data, costs are shown spread thorughout the CIP window, and are presumed to extend well beyond 2030. The project schedule will be revised when better information is available about road improvement schedules.

5B: Rationale?

Water pipes will be needed to provide utility services to properties adjacent to the new NE 15th Multi Modal Corridor. Collaboration with the Transportation Department will occur to ensure the design is completed in coordination with the street design. This project will ensure water facilities are ready for construction when resources to build the corridor are secured. In the long term, this project will assure utilities that are foundational to eventual construction of this corridor. The utility investment associated with redevelopment of the Bel-Red Corridor will be recouped via connection charges collected from benefited properties when they redevelop.

5C: Environmental Impacts?

The environmental impacts and State Environmental Protection Act (SEPA) requirements will be determined during the design process with the Transportation Department, but are expected to be minimal and incidental to construction of the corridor.

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

5D: Location/Address?

NE 15th St from 116th Ave NE to 136th Ave NE

5E: CIP Summary

W-105	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure	1,039,937	220,000	226,000	231,000	236,000	240,000	245,000	250,000
Revenue		220,000	226,000	231,000	236,000	240,000	245,000	250,000

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

Section 1: Proposal Descriptors

Proposal Title:	Water Facilities for NE4th St. Extension		
Proposal Number:	140.55DA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:	130.50PA	**Primary Dept:**	Utilities
Dependent Proposal:		**Proposal Type:**	Existing
Previous Proposal:	140.55DA	**Project Status:**	Approved and Begun
Attachments:		**Primary Staff:**	Pam Maloney, x4625

Section 2: Executive Summary

This proposal is for design and construction of approximately 1400 feet of new 16-inch watermain within the new NE 4th right-of-way, to improve Bellevue's water system's ability to deliver water to the downtown area, and to improve water system redundancy/reliability. This proposal is required as a result of Transportation's proposal 130.50PA, R-160 NE 4th Street Extension – 116th to 120th Avenues NE. The project is currently in construction.

Section 3: Responsiveness to Request For Results

This proposal is supported by utility rates, and was included in the 2013-19 adopted CIP. The timing of the project has been updated to align with the Parent Proposal. The project is in construction; a portion of the water main has been constructed. No enhancements to this proposal since the last budget cycle. This proposal funds construction of approximately 1400 feet of new 16-inch watermain within the new NE 4th right-of-way, to improve Bellevue's water system's ability to deliver water to approximately 20% of the utility's residential customers and the downtown area, and to improve water system redundancy/reliability. There are only limited opportunities for pipelines to cross the BNRR and I-405 that run through Bellevue. As downtown has developed, an increasing portion of Bellevue's employment and residential population rely on delivery of water from across the highway and rail corridors. The NE 4th Street Extension project provides an opportunity to strengthen water system connections so that water can be delivered more easily to downtown Bellevue, and will adds flexibility in case any of the pipes that cross the railroad or highway need to be taken out of service for repair or maintenance. Utility construction has been coordinated with street construction, so that utilities are in place prior to final street surfacing. This proposal involves close collaboration between Transportation and Utilities to assure the design and construction of utility facilities are coordinated with street design and construction. Selection of a consultant or team of consultants for coordinated road and utility design may result in lower design costs. Short- and long-term benefits of this proposal: In the short term, this proposal will assure design and construction of utility facilities is coordinated and accomplished efficiently. In the long term, this proposal is will assure utilities that are foundational to reliably meeting the future water needs of the Wilburton area and downtown. The level of service being proposed will design and construct water facilities concurrent with design and construction of planned street improvements. It is not scalable. This proposal supports a Healthy and Sustainable Environment by adding water facilities that will improve reliable delivery of clean drinking water to residents and businesses in Wilburton and downtown. (Reliable delivery of Clean Water). Well-designed utility facilities minimize the opportunities for water pipe failures, protecting streams, wetlands, and lakes from pollution and erosion. (Healthy Natural Environment). Designing sufficient utility capacity for the planned population is proactive and results in least life cycle cost for pipelines, which last 125 years. (Sustainable Built Environment). This proposal also supports Improved Mobility Outcome Factors and Purchasing Strategies: Existing and Future Infrastructure. Design and construction of utility facilities concurrent with design and construction of NE 4th supports thoughtful planning and integration of the infrastructure that will be needed to meet the City's vision for downtown and the Wilburton Area. Much as the new street will provide improved mobility through Wilburton and to/from downtown, the large diameter water pipe will provide improved reliability of water movement through Wilburton and into downtown. Traffic Flow. Design and construction of utility facilities concurrent with road design and construction supports coordinated of

utilities and surface improvements, so that traffic disruptions are minimized. The water infrastructure will be designed with sufficient capacity to accommodate future population demand, based on land use. New water pipes are expected to last 125 years, on average, so pipes sized for ultimate capacity will be constructed. Utility facilities designed to deliver safe, reliable utility service are part of the Built Environment, and promote and support the economic vitality of the City. City-wide Purchasing Strategies: Design of utilities concurrent with the road improvements assures close collaboration between Utilities and Transportation. It provides best value for the community by identifying and resolving potential design conflict issues. Selection of a consultant or team of consultants for coordinated road and utility design may result in lower design costs. (Reduced short term financial impacts) The design will assure right-sized utilities that will provide water service appropriate for the planned land use, and results in lowest life-cycle cost by building capacity appropriate to the expected 125 +year life of the facilities (long term financial benefits), which is a sound resource management strategy. Consequence of not funding the proposal at all: The first phase of this project has been constructed (from 116th Ave to the railroad right of way). That sunk cost would be wasted if the connecting link from that point to 120th Ave NE were never constructed. Customer Impacts of not funding the project at this time: Construction of street improvements will be delayed awaiting water facility design; or Newly paved surfaces will need to be dug up to allow construction of water facilities in the future. Consequence of funding at a lower level: This proposal is not scalable.

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.Dependent	This Budget Proposal is a Dependent of a Budget Proposal housed in another City Department.	N/A	N/A	N/A	N/A			

Section 5: CIP

5A: Description and Scope?

This project will design and construct approximately 1,400 feet of new 16 inch watermain within the new NE 4th Street right-of-way.

5B: Rationale?

This project provides a rare opportunity to strengthen the capability of the water system, by installing a new water main crossing through the BNRR right-of-way in conjunction with the new road. This project will strengthen water system links so that water can be delivered more easily to downtown Bellevue and approximately 20% of the utility's residential customers. It will also add redundancy in case any one of the mains that cross the railroad need to be taken out of service. Collaboration between Transportation and Utilities will occur to ensure the design and construction of utility facilities is completed in coordination with street design and construction.

5C: Environmental Impacts?

The environmental impacts and State Environmental Protection Act (SEPA) requirements will be determined during the design process with the Transportation Department, but are expected to be minimal and incidental to construction of the new road.

5D: Location/Address?

NE 4th St Extension from 116th Ave NE to 120th Ave NE

5E: CIP Summary

W-106	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure	198,723	206,000	89,000	0	0	0	0	0
Revenue		206,000	89,000	0	0	0	0	0

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

Section 1: Proposal Descriptors

Proposal Title:	Utility Facilities for 120th Ave NE Improvements Segment 2		
Proposal Number:	140.56DA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:	130.53PA,N/A	**Primary Dept:**	Utilities
Dependent Proposal:		**Proposal Type:**	Existing
Previous Proposal:	140.56DA	**Project Status:**	Approved and Begun
Attachments:		**Primary Staff:**	Pam Maloney, x4625

Section 2: Executive Summary

This proposal is for design and construction of approximately 580 feet of 18-inch sewer pipe and 1000 feet of 15" sewer pipe, in a portion of 120th Ave NE – Segment 2, between NE 8th St and NE 12th St, in conjunction with street improvements as needed to provide sewer service for redevelopment of adjacent properties consistent with Bel-Red Corridor development. This proposal is required as a result of Transportation's proposal 130.52PA, R-164 120th Avenue Segment 2 – NE 8th Street to NE 12th Street.

Section 3: Responsiveness to Request For Results

This proposal is supported by utility rates, and was included in the 2013-19 adopted CIP. The timing and magnitude of work have been updated to align with the Parent Proposal. The utility investment associated with redevelopment of the Bel-Red Corridor will be recouped via connection charges collected from benefited properties when they redevelop. No enhancements to this proposal since the last budget cycle. Commercial and residential development along 120th Avenue NE and just uphill from the intersection with NE 12th St will require new sewer facilities be constructed in the street. Utility construction will be coordinated with street construction so that utilities are in place prior to final street surfacing. Specific improvements included in this proposal: Design and construction of sewer facilities needed in a portion of 120th Ave NE – Segment 2, between NE 8th St and NE 12th St. 1000 feet of new 15-inch sewer pipe, and 580 feet of new 18-inch. The 18-inch pipe has been relocated to accommodate street design, and upsized to add capacity for anticipated growth. Benefits of this proposal: In the short term, this proposal will assure utility facilities are designed and construction in coordination with planned street improvements. In the long term, this proposal will assure sewer utilities that are foundational to realizing the vision of the Bel-Red Corridor redevelopment. Describe why the level of service being proposed is the appropriate level: The proposal will design and construct utility facilities concurrent with design of planned street and light rail improvements. The project is not scalable except if the parent proposal scope is changed, which could affect the location of needed utility facilities. This proposal supports a Healthy and Sustainable Environment by Water: Wastewater Management. Designing facilities that will safely remove wastewater from residents and businesses along and near 120th Ave NE. Natural Environment: Healthy lakes, streams and wetlands. Well-designed utility facilities minimize the opportunities for sewer pipe failures, protecting streams, wetlands, and lakes in the Bel-Red Corridor from pollution and erosion. Built Environment: Sustainable Building. Designing sufficient utility capacity for the planned population is proactive and results in least life cycle cost for pipelines, which last 125 years. Wastewater service is a basic human need (Innovative, Vibrant and Caring Community), and integral to public health and safety (Quality and Safe Neighborhoods.) This proposal also supports Improved Mobility Factors and Purchasing Strategies: Existing and Future Infrastructure. Design of utility facilities concurrent with design of the street corridor supports thoughtful planning and integration of the infrastructure that will be needed to meet the City's vision for the Bel-Red Corridor. Much as the surface improvements will provide for mobility needs through the redeveloping residential/commercial district, the sewer pipes will provide needed sewer service through this portion of the corridor. Traffic Flow. Design of utility facilities concurrent with the road design supports coordinated construction of utilities with the surface improvements, so that traffic disruptions are minimized. Sustainability: The sewer infrastructure will be designed with sufficient capacity to accommodate future population demand, based on land use. New sewer pipes are expected to last 125 years,

on average, so pipes sized for ultimate capacity will be constructed. Utility facilities designed to deliver safe, reliable utility service are part of the Built Environment, and promote and support the economic vitality of the City. This proposal responds to City-wide Purchasing Strategies: Design of utilities concurrent with the road improvements assures close collaboration between Utilities and Transportation, as well as Sound Transit for coordination with light rail construction plans. It provides best value for the community by identifying and resolving potential design conflict issues. Selection of a consultant or team of consultants for coordinated road and utility design may result in lower design costs. (Reduced short term financial impacts) The design will assure right-sized utilities that will provide wastewater services appropriate for the planned land use, and results in lowest life-cycle cost by building capacity appropriate to the expected 125+year life of the facilities (long term financial benefits), which is a sound resource management strategy. Selection of a consultant or team of consultants for coordinated road and utility design may result in lower design costs. Consequence of not funding the proposal at all Customer Impact: Construction of multi-modal surface improvements will be delayed awaiting sewer facility design; or (if design is not done prior to corridor construction) Newly paved surfaces will need to be dug up to allow construction of sewer facilities; and Development/redevelopment projects may be delayed awaiting availability of sewer service. Consequence of funding at a lower level: Utility facilities could not be designed for the full extent of the planned street improvements.

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.Dependent	This Budget Proposal is a Dependent of a Budget Proposal housed in another City Department.	N/A	N/A	N/A	N/A			

Section 5: CIP

5A: Description and Scope?

This project will design and construct new sewer pipe in 120th Ave NE in conjunction with street improvements, and where needed to provide sewer service for redevelopment of adjacent properties consistent with the Bel-Red Corridor Final Report. The project is broken down into segments. Segment 2 is from NE 8th St to NE 12th St and will construct approximately 1000 feet of new 15-inch pipe, and 580 feet of 18-inch pipe which requires relocation and upsizing to accommodate the new street design.

5B: Rationale?

Much of 120th Avenue NE is currently without sewer facilities. Commercial and residential development along the street will require sewer facilities be constructed in the street, to obtain sewer service. Collaboration with the Transportation Department will occur to ensure the design is completed in coordination with the street design. This project will ensure sewer facilities are ready for construction when resources to construct this project are secured and approved. Costs associated with expanded capacity of the sewer system will be recovered from benefited properties.

5C: Environmental Impacts?

The environmental impacts and State Environmental Protection Act (SEPA) requirements will be determined during the design process with the Transportation Department, but are expected to be minimal and incidental to the street improvement project.

5D: Location/Address?

120th Ave NE: NE 8th St to NE 12th Street

5E: CIP Summary

S-63	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure	296,914	751,000	151,000	0	0	0	0	0
Revenue		751,000	151,000	0	0	0	0	0

City of Bellevue - Budget One
2015-2016 CIP Budget Proposal

Section 1: Proposal Descriptors

Proposal Title:	East Link Utility Relocations		
Proposal Number:	140.65DA	**Outcome:**	Healthy and Sustainable Environment
Parent Proposal:		**Primary Dept:**	Utilities
Dependent Proposal:	130.21DA,N/A	**Proposal Type:**	New
Previous Proposal:	N/A	**Project Status:**	
Attachments:		**Primary Staff:**	Regan Sidie

Section 2: Executive Summary

East Link is a voter approved $2.5 billion extension of light rail transit that will connect Bellevue with Overlake, Mercer Island, and Seattle. This proposal is for the Utility Fund cost associated with relocating water, wastewater, and stormwater pipelines that will conflict with the East Link rail system construction.

Section 3: Responsiveness to Request For Results

Partnerships/Collaboration and Cost Savings: The utility relocation work identified in this proposal will require collaboration with Sound Transit and the City's Transportation Department and other City departments during rail design and construction. Cooperation during pre-design and design phases, such as sharing topographic and geotechnical information, may result in reduced design and construction costs. Efficiencies/Innovations: Many utilities will need to be relocated ahead of East Link construction. However, some of the utility work may most effectively be constructed as part of the East Link construction. Doing so wherever possible could save Bellevue money due to efficiencies in combining the work with the rail project. Combining projects would also minimize disruption to Bellevue citizens who live, work, or commute near the project. Mandates & Contractual Agreements: In 2011, the City and Sound Transit (ST) entered into a Memorandum of Understanding (MOU) that commits the City to contribute up to $160 million to the project. ST will relocate utilities to accommodate the new light rail. Bellevue will benefit from the replacement of aging utility systems with new facilities. As part of the MOU, the City has agreed to pay the depreciated value of the relocated utilities ($7.7 million) as part of the $160 million overall contribution. Funding will be from the Utilities Capital Investment Program (CIP): $2,630,000 Fund 04694 – Utility CIP-Water $1,925,000 Fund 04695 – Utility CIP-Sewer $3,145,000 Fund 04692 – Utility CIP-Drainage This proposal is for funding to pay the depreciated value of aging infrastructure replaced by new facilities as a result of the need to relocate water, wastewater, and stormwater pipelines to accommodate Sound Transit's (ST) East Link light rail project. ST will construct over six miles of rail system including up to seven rail stations from I-90 through downtown Bellevue and through the Bel-Red corridor to the Overlake area. Water, wastewater, and stormwater pipelines located within the East Link project area are critical facilities that provide water and wastewater services to our customers and carry stormwater to prevent flooding. This proposal will fund the City's share of the cost of adjustments, relocation, and replacement of utility infrastructure as needed to accommodate the new transit system. East Link facilities will occupy existing City rights-of-way that contain a network of buried utilities. The width of right-of-way needed for the trains, rails and associated facilities is approximately 30 feet. Rail stations will take up an even greater footprint and construction of a potential train tunnel in downtown will require large excavations that may take up a significant portion of the public right-of-way. This will affect the City's utility systems in the following ways: • Pipes that lay parallel to the rail system will need to be relocated completely outside the 30-foot rail right-of-way, to avoid damage by the rail construction and so future maintenance can be performed without impacting rail operations. • Pipes that cross the rail system will need to be buried deeper to provide enough clearance for rail construction. These pipelines will also need to be installed inside larger pipes (casings) that extend beyond the limits of the rail right-of-way. Pipe casings will allow future maintenance or replacement of utility pipes without excavating through the rail system. • Pipes in the path of the downtown tunnel may require relocation. If the tunnel is constructed by open excavation rather than underground boring, many more utilities (located above the tunnel) will need to be moved. In addition to the utility relocations noted above, "Stray

currents" emitted from the trains' power system will be a significant issue for utilities. Stray currents entering the ground from the rails reduce the life of underground metallic pipes such as ductile iron and copper water lines. Stray currents have impacts up to buried metallic pipelines in the vicinity of the track. Many utility facilities that would otherwise not require relocation could require protection from the stray currents. Solutions need to be tailored to each location. This work will be complex and expensive. Utility relocations would normally be a ST expense. However, the City has agreed to assume a portion of this cost to partially offset the cost of the City-preferred downtown tunnel in lieu of ST's surface rail option. The City Attorney's Office has advised that public utilities relocations for East Link are, by law, a General Fund expense. However, Utilities will realize a benefit when aging infrastructure is replaced with new facilities. This proposal provides partial funding of the relocations equal to estimated depreciated value of the facilities that will be replaced. Affected utilities are located along the entire East Link corridor. Factors/Purchasing strategies addressed by this proposal - for the PRIMARY outcome (Improved Mobility): Factor 1: Existing and Future Infrastructure. Design of utility facilities concurrent with design of the light rail corridor supports thoughtful planning and integration of the infrastructure needed to meet the City's vision for downtown and the Bel-Red Corridor. Just as the rail system will provide for mobility needs through the redeveloping residential/commercial districts within Bellevue, the relocated pipes will continue to provide needed utility services through the East Link corridor. The water pipes will provide fire protection and water service for planned land uses; wastewater pipes will convey anticipated wastewater; and stormwater facilities will convey surface water runoff from streets and the rail system. Factor 2: Traffic Flow. Design of utility facilities concurrent with the rail design supports coordinated construction of utilities with the surface improvements, so that traffic disruptions are minimized. The proposal addresses these Purchasing Strategies for Improved Mobility: • Maintains current investments in pipeline infrastructure by preserving existing facilities where possible. • Provides funding that upgrades older pipelines to current standards when relocated. This includes increased pipe size to accommodate future demand. • By coordinating utility relocations as part of the rail construction we leverage our partnership with ST by reducing multiple construction impacts to the community and may reduce construction costs through economies of scale. • All utility facilities will be designed to deliver safe, reliable utility service are part of the built environment, and promote and support the economic vitality of the City. • By coordinating utility construction with the rail construction work, neighborhoods are protected from repeated negative traffic impacts. Factors/Purchasing strategies addressed by this proposal - for OTHER outcome(s): This proposal supports a Healthy and Sustainable Environment by designing facilities that will ensure a continued supply of clean drinking water; reliable, safe wastewater removal; and that surface water run-off from rain and storms is controlled to minimize the impacts of high flows and flooding on people, property, and the environment. (Water and Natural Environment). Well-designed utility facilities minimize the opportunities for wastewater and stormwater pipe failures, protecting streams, wetlands, and lakes from pollution and erosion. (Natural Environment). Water and wastewater service is a basic human need (Innovative, Vibrant & Caring Community), and integral to public health and safety (Quality Neighborhoods.). Citywide purchasing strategies addressed by this proposal: The proposal will provide water, wastewater, and drainage facilities that are designed and constructed to provide service life for 75 to 100+ years. Maximizing asset quality and lifespan provides for good stewardship of both fiscal and natural resources, in addition to a sustainable utility infrastructure that provides customers with reliable service (long term financial benefits), which is a sound resource management strategy. Short- and long-term benefits of this proposal: In the short term, this proposal will assure that design and construction of utility relocations is complete so utility facilities are ready for construction of the ST East Link rail system. In the long term, this proposal will assure utilities that are foundational to eventual construction of the rail system that is part of a primary mobility corridor from Seattle to Overlake, and supports redevelopment of the Bel-Red Corridor. Long-term maintenance costs of pipelines near East Link rails are minimized through designs that install casings at rail crossings and relocate pipelines away from rail corridors. Describe why the level of service being proposed is the appropriate level: The proposal is intended to relocate utility facilities ahead of or as appropriate concurrent with construction of planned light rail improvements. The work proposed is the minimum necessary to accommodate light rail and is

based on Asset Management Program (Proposal 140.11NA) recommendations to minimize the lifecycle cost of ownership/operation of the water, wastewater, and stormwater systems, and to assure we don't prematurely replace assets that should be repaired and maintained. This practice manages infrastructure assets at the lowest practicable lifecycle cost while meeting service levels expected by customers and required by state and federal regulations, at an acceptable risk level. Consequence of Not Funding the Proposal: • The full cost of utility relocations would need to be funded by ST or Bellevue's General Fund, thereby reducing the likelihood that ST will be able to fund a tunnel in downtown Bellevue.

Section 4: Performance Measures and Targets

Code	Performance Measure	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Target	2015 Target	2016 Target
140.0419	Utilities: Has the Utilities Department made its contractually mandated contribution for East Link by the due date?						Yes	Yes

Section 5: CIP

5A: Description and Scope?

5B: Rationale?

5C: Environmental Impacts?

5D: Location/Address?

5E: CIP Summary

Project	ITD	2015	2016	2017	2018	2019	2020	2021
Expenditure								
D-108	0	3,145,000	0	0	0	0	0	0
S-70	0	1,925,000	0	0	0	0	0	0
W-107	0	2,630,000	0	0	0	0	0	0
Expenditure	0	7,700,000	0	0	0	0	0	0
Revenue								
D-108		3,145,000	0	0	0	0	0	0
S-70		1,925,000	0	0	0	0	0	0
W-107		2,630,000	0	0	0	0	0	0