2016-2018 UTILITIES BUDGET

CITY COUNCIL DISCUSSIONS

TRANSFORMING | **EDMONTON**

BRINGING OUR CITY VISION TO LIFE

Utilities

Table of Contents

Department — Utilities

Introduction

The City of Edmonton provides a wide range of programs and services to the public. This includes the delivery of utility services through the creation of municipally owned public utilities to serve the needs of citizens. The City of Edmonton operates two public utilities: Drainage Services (Sanitary and Stormwater) and Waste Management Services. The city-owned utilities provide vital services which play an integral part in the day to day lives of City of Edmonton residents. The city-owned utilities also help promote City Council's overall vision and long-term strategic objectives.

The Utility Fiscal policies, Drainage Utility Policy - C304D and Waste Management Utility Policy - C558A, both adopted on September 23, 2014 govern the respective financial sustainability of each Utility. The policies reflect City Council directions on the financial objectives and management for both the Drainage and the Waste Management Utilities. The purpose of the policy is to ensure the Utilities are operated in a manner that reflects City Council's overall vision and philosophical objectives, while maintaining a consistent approach for financial planning, budgeting and rate setting to ensure long term financial sustainability.

Drainage Services:

The Utility is mandated to provide all operations, maintenance, rehabilitation and environmental protection services related to the sanitary and stormwater infrastructure systems within the City of Edmonton.

The goals of the Utility outlined in the 2016-2018 Business Plan align with the Aspirational Drainage Master Plan (2015 -2024) and links to the City's 10 year goals.

Waste Management Services:

The Utility is mandated to provide Collection and Processing & Disposal services to residential (regulated) and non-residential (non-regulated) customers within the City of Edmonton. Regulated services are funded by utility rates while non-regulated services are funded by program revenues to be delivered on a profit basis.

The goals of the Utility outlined in the 2016-2018 Business Plan align with the Waste Management Strategic Plan and links to the City's 10 year goals.

The 2016-2018 Approved Budgets for the Utilities reflect the strategic directions and initiatives in the 2016-2018 Business Plans presented to the Utility Committee on June 25, 2015.

Links to the 2016-2018 Business Plans:

Drainage Services Business Plan

Waste Management Business Plan

The financial impact to the typical residential customer is as follows:

Impacts on Typical Residential Customer	2015 Actual Typical Monthly Fee	2016 Proposed Typical Monthly Fee	Requested Monthly Increase	Annual Increase
Waste Management	**$40.69**	**$43.00**	**$2.31**	**$27.72**
Drainage Services				
Sanitary	$22.29	$22.79	$0.50	$6.00
Stormwater	$9.74	$10.24	$0.50	$6.00
Total	**$32.03**	**$33.03**	**$1.00**	**$12.00**
Rate Impact to Typical Customer			**$3.31**	**$39.72**

The following captures the major reasons for the approved rate changes:

Major Reasons for 2016 Proposed Rate Changes	Waste Management	Drainage Services	
		Sanitary	Stormwater
Operating Impacts	$1.54	$0.39	$0.11
Capital Impacts	$2.28	$0.75	$0.80
Other Impacts	($1.51)	($0.64)	($0.41)
Total Change	**$2.31**	**$0.50**	**$0.50**

PUBLIC UTILITIES	
Drainage Services	**Waste Management Services**
Planning and Biosolids Disposal	Collection Services
Operations	Processing and Disposal Services
Strategic Services	
Design and Construction	

Page intentionally left blank

Branch — Drainage Services

Introduction

Drainage Services provides high quality and reliable services to Edmonton residents through the Drainage Utility. The Utility is operated as a public utility under a full cost recovery model without subsidy from property tax. Drainage Services also operates an in-house design and construction service primarily focused on drainage infrastructure.

Vision: Excellence and innovation in wastewater, stormwater and biosolids management through customer service, environmental stewardship, and fiscal responsibility.

Mission: We protect public health and the environment by managing wastewater, stormwater and biosolids through environmentally and financially sustainable practices for the City of Edmonton, the North Saskatchewan River system, and our regional partners.

Sanitary

Through a network of over 3,400km of sanitary and combined sewers, the Sanitary system conveys wastewater from approximately 250,000 customers to the Gold Bar Wastewater Treatment Plant for final treatment. The resulting bio-solids from the treatment process are returned to the Sanitary system for storage at the Cloverbar Lagoons and eventual beneficial disposal.

Stormwater

The Stormwater system conveys and treats rainfall runoff from approximately 250,000 customers. Increased requirements and expectations are pushing the Stormwater system to achieve higher levels of water quality through over 150 lakes and wetlands before the runoff is released into creeks and the North Saskatchewan River.

Highlights for 2016-2018 include:

- **Flood Mitigation**

  Historical severe storm events that have resulted in neighbourhood flooding has prompted Drainage Services to develop flood mitigation strategies to address the issue. While implementation of the recommended capital improvements is underway, a proactive program continues to evolve from the City-wide Flood mitigation program.

  Retrofitting neighbourhood features with stormwater ponds and sewer upgrades is resource intensive, and must be staged in order to balance these works with other critical infrastructure management that the utility implements.

  As reported last year, the near term plan is to continue with flood mitigation projects currently planned to address the impacted communities as part of the 2015 to 2018 Capital Budget. The impact of the city-wide improvements is expected to be more substantial, and quantified as concept plans are better known. In addition, this will also address how we can mitigate the potential risks associated with climate change.

Branch — Drainage Services

- **Drainage Capacity Implementation Plan**

  The Drainage Services capital budget will see a significant increase over the next 10 years from $186M in 2016 to $288M in 2025. This is due to the need to address system demands to ensure current and future customer needs are met in regards to Flood Mitigation, Neighbourhood Renewal and System Rehabilitation. To manage this effectively, Drainage Services is developing a plan to address these growing demands.

  The objective of the Drainage Capacity Implementation Plan is to ensure the successful delivery of the approved Drainage Services Capital Program with a focus on the 4 major areas (i.e. Flood Mitigation, Neighbourhood Renewal, System Rehabilitation, and Sanitary Servicing Strategy). Each area will have a working group that will validate the capital and operational needs by determining our current ability (capacity, processes and delivery approach) to deliver these key programs and further explore viable alternatives to ensure delivery of the committed work.

  This will help us to define our strategy and develop an Action Plan for the next three years (2016-2018). The strategy will take into consideration the lag time to build competency as well as the scalability of expanding the existing functions; while the Action Plan will include key activities, estimated timelines and resource requirements.

  Throughout the process, there will be a continuous engagement with stakeholders both internally within the City as well as externally with industry partners.

- **Odour Control Strategy**

  Drainage Services addresses sewer odour issues based on areas of significant resident or community concern. This approach has led to the development of odour mitigation projects in several neighbourhoods.

  Drainage Services is developing a proactive approach to mitigate sewer odour across the city based on the comprehensive collection and analysis of the over 3,000 sewer odour complaints reported over the past decade. Drainage Services will be developing a list of prioritized projects to mitigate sewer odours throughout the City based on the location, frequency, and severity of these complaints, as well as other factors. Odour mitigation projects will then be planned, designed, and constructed in accordance with the prioritization list. With this proactive approach, Drainage Services aims to significantly reduce the impact of sewer odours on residents.

- **Sewer Asset Renewal**

  As sewer systems age, the importance for a utility to systematically manage the condition of these assets, including timely repair/replacement, is increasingly important in order to ensure minimal service disruptions to citizens. Investigation is focused on a holistic approach involving significant investigation and data management resources. The goal of these efforts is to develop asset upgrade and replacement plans for the short term (3 years), mid-term (10 years) and long term (20-75 year). Recently, there has also been a trend of increasing emergency repairs (2009 - $6.5 million; 2014 - $16.0 million).

- **Implementation of Biosolids Management Strategy**

  The implementation of the Biosolids Management Strategy will continue as presented in the 2016-2018 Business Plan to Utility Committee in June 2015. The 120% disposal target rate will be maintained throughout the 2016-2018 Budget. Operational changes in 2017 may temporarily reduce disposals from the lagoon site to match biosolids generation but will provide more cost effective biosolids disposal in the future program years. The primary methods of disposal will focus on the Compost Facility, the Nutrigold Program, and developing beneficial reuse options in non-agricultural uses. Drainage Services will continue to review the program to reduce risk and increase efficiencies.

Branch — Drainage Services

Positive Change—Innovation & Continuous Improvement

Drainage Services has several Positive Change Initiatives that are under development, or underway. These initiatives will contribute towards City Council's 2% Innovation Savings.

- **SAP Mobility Solution** – Drainage Operations converted from paper based to electronic work orders within their working areas in conjunction with SAP timesheet reporting and management. This initiative is achieving a cost avoidance of approximately $650,000 annually through efficiencies such as:
    - Reduction in driving time ($375,000)
    - Administrative costs (associated with data entry, personnel, and paper savings: $275,000)

  The implementation of this initiative required a technology expenditure of $2.6M which occurred over 2014/2015.
- **Tunnel Boring Machine Refurbishment** - The City of Edmonton's new Edmiston facility provides Drainage Services with the necessary infrastructure to refurbish tunnel boring machines in-house. The trades group has been incrementally increasing its refurbishment capacity without having to hire external contractors. The group will complete 1-2 tunnel boring machine refurbishments annually achieving an annual cost savings of $380,000 per tunnel boring machine, or approximately $570,000 annually.
- **Managing Engineering Drawings Review** – Drainage Services is in the process of implementing a new review system that will allow us to switch from paper based engineering drawing reviews to a digital process. This initiative will achieve efficiencies by enabling improved workflow processes, decrease redundancy and duplication of work, and enhance document management. This initiative will achieve a cost savings of approximately $320,000 annually. The implementation of this initiative required a technology expenditure of approximately $630,000. The potential of expanding this initiative to other areas of the City organization has also been identified and is being explored.
- **Business Process Review** — Drainage Services will be exploring an initiative for process review to promote continuous improvement and optimize efficiency and effectiveness (e.g.: Lean Six Sigma). Drainage Services will be piloting this process in business areas in the 2016-2018 Budget period.
- Apart from these four major initiatives, there are other smaller continuous initiatives that will be implemented that will result in some minor cost savings/avoidance.

Branch — Drainage Services

Proposed 2016-2018 Budget – Summary by Program Area ($000)

	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers						
Rate Revenue	$ 133,061	$ 150,073	$ 156,400	$ 161,707	$ 168,838	$ 176,384
Program Revenue	13,477	15,667	10,797	11,183	12,221	10,758
Total Revenue & Transfers	**146,538**	**165,740**	**167,197**	**172,890**	**181,059**	**187,142**
Expenditure & Transfers						
Planning	9,232	6,304	12,841	15,281	16,701	16,892
Biosolids Disposal	13,903	11,022	15,936	16,662	17,412	17,562
Design & Construction	5,058	10,000	1,429	1,713	1,619	1,238
Operations	30,009	31,901	26,919	28,334	29,727	30,976
Strategic Services	53,710	59,049	70,310	71,906	78,012	83,252
Total Expenditure & Transfers	**111,912**	**118,276**	**127,435**	**133,896**	**143,471**	**149,920**
Net Income (Loss)	**$ 34,626**	**$ 47,464**	**$ 39,762**	**$ 38,994**	**$ 37,588**	**$ 37,222**
Full-time Equivalents	684.9	690.9	725.9	760.9	769.9	777.9

Branch — Drainage Services

Proposed 2016-2018 Budget – Summary by Category ($000)

	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers						
Rate Revenue	$ 133,061	$ 150,073	$ 156,400	$ 161,707	$ 168,838	$ 176,384
Program Revenue	13,477	15,667	10,797	11,183	12,221	10,758
Total Revenue & Transfers	**146,538**	**165,740**	**167,197**	**172,890**	**181,059**	**187,142**
Expenditure & Transfers						
Personnel	60,924	62,442	66,136	72,353	77,782	81,080
Materials, Goods & Supplies	23,274	23,563	35,551	39,376	42,906	37,797
External Services	61,690	76,840	72,092	81,438	88,649	77,372
Biosolids Disposal	13,903	11,022	15,936	16,662	17,412	17,562
Shared Services	12,013	13,045	15,926	15,953	16,905	17,351
Fleet Services	4,512	4,536	4,151	4,012	4,095	4,077
Other Intra-municipal Services	10,223	978	2,726	4,603	8,327	2,415
Interest and Amortization	31,917	35,365	41,280	44,205	48,563	52,805
Local Access Fee	7,836	8,340	8,443	8,762	9,074	9,408
Customer Billing Services	5,660	5,191	6,096	6,046	6,183	6,323
Utilities & Other Charges	2,801	4,671	5,460	3,790	3,914	3,931
Transfer to Sanitary Servicing Strategy Fund	1,300	1,300	1,300	1,300	1,300	1,300
Subtotal	**236,053**	**247,293**	**275,097**	**298,500**	**325,110**	**311,421**
Intra-municipal Recoveries	(124,141)	(129,017)	(147,662)	(164,604)	(181,639)	(161,501)
Total Expenditure & Transfers	**111,912**	**118,276**	**127,435**	**133,896**	**143,471**	**149,920**
Net Income (Loss)	**$ 34,626**	**$ 47,464**	**$ 39,762**	**$ 38,994**	**$ 37,588**	**$ 37,222**
Full-time Equivalents	684.9	690.9	725.9	760.9	769.9	777.9

Branch — Drainage Services

Budget Changes for 2016-2018

Revenue & Transfers - Changes

Rate Revenues

The year over year increases are based on rate increases to provide Drainage Services with sufficient funds to meet current and future operating and capital needs per the approved Drainage Services Utility Fiscal Policy (C304D). The proposed annual rate increases are $1.00 to the monthly rate (an average increase of 3.0%) each year for a typical residential customer for 2016 to 2018.

Program Revenue

The 2016 increase is primarily due to higher external project volume from Design & Construction ($0.3 million) as well as increases related to lot grading, regulatory inspections and service connections based on expected demands from home owners ($1.0 million). This is offset by a reduction in forecasted tonnage for biosolids disposal for the Capital Region ($0.5 million). The increase of $0.9 million in 2017 and subsequent decrease in 2018 of $0.7 million is due primarily to the implementation of the Geotube Dewatering Operation in 2017. For more information please see variance explanation for biosolids disposal below. The decrease in costs for 2018 is also due to lower expected external project volume for Design and Construction ($0.4 million).

Expenditures & Transfers - Changes

Personnel

The year over year increases ($6.2 millon in 2016, $5.4 million in 2017 and $3.2 million in 2018) are primarily due to the additional FTE requests (35.0 FTE in 2016, 9.0 FTE in 2017 and 8.0 FTE in 2018), negotiated collective agreement wage increases, and associated allowances & benefits.

Material, Goods and Supplies

The year over year variances primarily include materials, goods and supplies used by Design & Construction in the delivery of construction projects. The changes each year ($3.3 million increase in 2016, $3.5 million increase in 2017 and $5.1 million decrease in 2018) are primarily due to the change in forecasted internal project volume. The forecasted internal project volume for 2016, 2017 and 2018 are $162 million, $178 million and $153 million respectively.

External Services

The year over year variances ($9.3 million increase in 2016, $7.2 million increase in 2017 and a $11.3 million decrease in 2018) are primarily due to costs required for external contractors and consultants to support the delivery of the Drainage Services capital plan.

Biosolids Disposal

The year over year variances in Biosolids Disposal costs are primarily the result of maintaining the disposal targets of 120% from 2015 through the 2016–2018 Budget. In addition, a portion of the larger increase in 2017 ($0.4 million) accompanied by a decrease in 2018 ($0.2 million) is due to the planned implementation of a Geotube dewatering operation. This operation is a risk mitigation initiative which entails the removal and dewatering of biosolids from the lagoons to be stored in Geotube bags on site in 2017. This dewatered material is then disposed of in 2018. As such additional costs are incurred in 2017 rather than 2018 resulting in increased overall costs in one year and reduced costs in the following year.

Shared Services

Year over year variances are primarily due to increased costs for Space Rent as well as inflationary factors. The increased costs for space rent in 2017 ($0.5 million) are associated with Drainage Services downtown staff moving into the new Civic Accommodation Tower. The move will be completed in a phased approach with an anticipated late 2016 start date. The Civic Accommodation Tower is a City Wide initiative to efficiently deal with a number of expiring leases in various buildings spread across the downtown core as well as to gain efficiencies by housing Departments and staff who need to coordinate operations in closer proximity.

Branch — Drainage Services

Budget Changes for 2016-2018

Fleet Services

The changes in year over year costs are based on Fleet Services evaluation of Drainage Services fleet needs due to fleet complement and the estimated costs based on recovery of estimated costs for fuel and maintenance.

Other Intra-municipal Services

The year over year variances ($1.8 million increase in 2016, $3.7 million increase in 2017 and $5.9 million decrease in 2018) are primarily based on forecasted on-demand services from other intra-municipal areas related to Design & Construction internal project volume. Examples of these costs include asphalt and concrete repair services from Transportation and miscellaneous supplies and inventories through Corporate Procurement & Supply Services.

Interest and Amortization

The year over year variance ($2.9 million increase in 2016, $4.3 million increase in 2017 and $4.2 million increase in 2018) are primarily due to increased amortization expense as new capital assets are put into service as well as higher interest expenses due to additional long term debt to support increased capital requirements.

Local Access Fee

The Local Access Fee is calculated based on 8% of Rate Revenue, therefore as the total amount of Rate Revenue increases, so does the amount of Local Access Fee to be paid to the City of Edmonton.

Customer Billing Services

The service is provided by EPCOR for the provision of customer billing and meter reading services. The year over year changes are primarily due to inflationary factors partially offset by adjustments due to corporate allocations.

Utilities & Other Charges

The year over year change is primarily due to the elimination of the transfer to capital reserve in 2016 for Design and Construction ($2.2 million) for the replacement of construction equipment. The reserve was set up, while Design & Construction was a self-sustaining enterprise, to give it the ability to replace required construction equipment when required as they did not have a capital budget. The reserve is no longer needed with the integration into Drainage Services. This is partially offset with an increase in utility costs from Design & Construction due to higher forecasted internal project volume.

Intra-municipal Recoveries

The year over year variances ($16.9 million increase in 2016, $17.0 million increase in 2017 and a $20.1 million decrease in 2018) are primarily related to forecasted internal project volume for Design & Construction and represent transfers to capital.

Branch — Drainage Services

Budget Changes for 2016-2018

Full-time Equivalents - Changes

The 2016-2018 FTE change reflects new staffing requirements to manage the increased workload and planning requirements for current system demands and the increase in the Drainage Services capital plan in 2015 and beyond. This results in an increase of 35.0 FTE's for Drainage Services in 2016, 9.0 FTE in 2017 and 8.0 FTE in 2018 as shown in the table below.

To better align services and gain long-term efficiencies for ratepayers, the Development Services area was also consolidated into the Drainage Planning and Operations areas. No change in service levels or services provided previously will be experienced as a part of the consolidation. Please see section 11.0 & 11.1 in the Drainage Services 2016 - 2018 Rate Filing for more information.

	2016 Service Needs (FTE's)	2017 Service Needs (FTE's)	2018 Service Needs (FTE's)	Total Service Needs (FTE's)	2016-2018 Utility Rate Filing Appendix
Opening Balance	**725.9**	**760.9**	**769.9**	**725.9**	
Planning					
Water Resources Engineer	1.0	1.0	1.0	3.0	A-63
Project Controls Specialist	1.0	-	-	1.0	A-68
Infrastructure Engineer	1.0	1.0	-	2.0	A-74
Senior Engineer	1.0	-	-	1.0	A-84
Development Engineer	3.0	-	-	3.0	A-84
Engineering Technologist II	3.0	-	-	3.0	A-84
Engineering Technologist II (Inspector)	2.0	-	-	2.0	A-84
Subtotal - Planning	**12.0**	**2.0**	**1.0**	**15.0**	
Operations					
Sewer Substructure Foreman	1.0	-	-	1.0	A-41
Sewer Substructure Inspector	5.0	-	-	5.0	A-41
Millwright Foreman	1.0	-	-	1.0	A-51
Millwright II	1.0	1.0	1.0	3.0	A-51
Millwright I	1.0	1.0	1.0	3.0	A-51
Millwright Apprentice	1.0	-	1.0	2.0	A-51
Electrician I	-	1.0	-	1.0	A-51
Maintenance Repairman 1	-	-	1.0	1.0	A-51
Electrical Foreman	-	-	1.0	1.0	A-51
Subtotal - Operations	**10.0**	**3.0**	**5.0**	**18.0**	
Strategic Services					
Program and Analytics Coordinator	1.0	-	-	1.0	A-1
Strategic Business Specialist	-	1.0	-	1.0	A-12
Tech & Asset Coordinator/Administrator	1.0	-	-	1.0	A-22
Training Clerk	1.0	-	-	1.0	A-30
Subtotal - Strategic Services	**3.0**	**1.0**	**-**	**4.0**	

Branch — Drainage Services

Budget Changes for 2016-2018

	2016 Service Needs (FTE's)	2017 Service Needs (FTE's)	2018 Service Needs (FTE's)	Total Service Needs (FTE's)	2016-2018 Utility Rate Filing Appendix
Design and Construction					
Senior Engineer (Design, Structural)	1.0	1.0	-	2.0	A-92
Engineer (Specification, Design)	1.0	-	1.0	2.0	A-92
Engineer Technologist	1.0	1.0	-	2.0	A-92
Drafting Techologist	-	1.0	-	1.0	A-92
Senior Engineer (Project)	1.0	-	1.0	2.0	A-107
Leader (Open Cut)	1.0	-	-	1.0	A-113
Pipeman (Open Cut)	1.0	-	-	1.0	A-113
Labourer III (Open Cut)	4.0	-	-	4.0	A-113
Subtotal - Design and Construction	**10.0**	**3.0**	**2.0**	**15.0**	
Total Additional Resources	**35.0**	**9.0**	**8.0**	**52.0**	
Closing Balance	**760.9**	**769.9**	**777.9**	**777.9**	

Branch — Drainage Services

Proposed 2016-2018 Budget – Program Summary

Program Name - Planning and Biosolids Disposal

Results to be Achieved

Ensure that Edmonton has a drainage system that supports the City's plan for livability, growth, and environmental and financial sustainability by effectively planning and managing the growth, renewal and enhancement of the Sanitary and Stormwater systems and coordinating the development and implementation of the Drainage Services capital program.

Cost Drivers

Major cost drivers are the biosolids disposal program delivery, enhanced system monitoring and assessment activities required to drive asset renewal planning, and additional staffing resources needed to deliver Drainage Capital programs and private development reviews.

Policy and/or Legislation

Policy C304D Drainage Services Utility Fiscal Policy
Drainage Bylaw 16200

Resources

($000)	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers	$ 3,844	$ 3,883	$ 4,605	$ 3,234	$ 4,116	$ 3,394
Expenditure & Transfers	29,077	18,101	30,609	33,664	36,434	37,105
Subtotal	**(25,233)**	**(14,218)**	**(26,004)**	**(30,430)**	**(32,318)**	**(33,711)**
Intra-municipal Recoveries	(5,942)	(775)	(1,832)	(1,721)	(2,321)	(2,651)
Net Operating Requirement	**$ (19,291)**	**$ (13,443)**	**$ (24,172)**	**$ (28,709)**	**$ (29,997)**	**$ (31,060)**
Full - Time Equivalents	**84.8**	**84.8**	**88.8**	**100.8**	**102.8**	**103.8**

2015 Services

- Plan and coordinate Drainage Capital programs, including Flood Mitigation, Neighbourhood Renewals, Drainage System Rehabilitation, Environmental Quality Enhancement, Combined Sewer Overflow Strategy, Drainage System Expansion, and Sanitary Servicing Strategy Fund.
- Biosolids Disposal program delivery to reach 120% of generation target.
- River for Life concept development and Low Impact Development demonstration sites implemented.
- Drainage Master Plan action plan and key performance measures.
- Increased system inspection and assessment for key assets, including pumpstations.
- Provide review of private development applications.
- Support for corporate initiatives including The Way We Grow and The Way We Green .
- Regulatory Compliance monitoring and reporting.

Changes in Services for 2016 - 2018

- Increase monitoring required for River for Life strategy, transboundary creeks, and weather radar.
- Increase asset inspection and assessment activities to support asset renewal.
- Increase staffing resources to improve delivery of ramped up Drainage Capital programs and private development reviews (infill).
- Expand non-agricultural land application options to diversify biosolids program; examine efficiencies of the various programs.

Branch — Drainage Services

Proposed 2016-2018 Budget – Program Summary

Program Name - Operations

Results to be Achieved

Provides preventative maintenance of the drainage infrastructure system as well as responding to customer service inquiries. This work ensures a reliable system, public health of citizens, environmental protection and customer satisfaction.

Cost Drivers

Major cost drivers are operations and maintenance of aging Drainage infrastructure and customer related inquiries due to weather related events.

Policy and/or Legislation

Policy C304D Drainage Services Utility Fiscal Policy
Drainage Bylaw 16200

Resources

($000)	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers	$ 3,217	$ 3,209	$ 2,975	$ 3,212	$ 3,238	$ 3,264
Expenditure & Transfers	32,429	34,038	28,037	29,339	30,751	32,020
Subtotal	**(29,212)**	**(30,829)**	**(25,062)**	**(26,127)**	**(27,513)**	**(28,756)**
Intra-municipal Recoveries	(2,420)	(2,137)	(1,118)	(1,005)	(1,024)	(1,044)
Net Operating Requirement	**$ (26,792)**	**$ (28,692)**	**$ (23,944)**	**$ (25,122)**	**$ (26,489)**	**$ (27,712)**
Full - Time Equivalents	**201.1**	**207.1**	**232.2**	**242.2**	**245.2**	**250.2**

2015 Services

- Responded effectively to customer service inquires during the summer months dealing with respect to concerns with sewer odour and algae on stormwater lake.
- Maintained and operated over 97 pumpstations throughout the City.
- Completed 1,780 outfall inspections and 1,584 stormwater management facilities visits as of August YTD.
- Limited wasterwater mainline blockages to 1.02 per 100 km of sewer pipe maintained as of August YTD.
- Responded to over 11,476 customer inquiries through 311 calls as of August YTD.
- Responded to 3 pumpstation system failures and 13 near misses. There were 6 issues requiring alternate bypass pumping/sewage collection.
- Perform 2,477 inspections of industrial, commercial and institutional facilities in regards to compliance with the Drainage Bylaw 16200 as of August YTD.

Changes in Services for 2016 - 2018

- Optimize management efficiency by reallocation of resources within a new management organizational structure with an emphasis on developing engineering capacity.
- Combine regulatory, environmental and ISO application under one roof, obtain synergy in protecting City's sewer asset and the environment.
- Optimize operations efficiency through exploring new equipment, new technology and IT innovation.
- Continue to improve on key performance measures: number of system blockages and customer service.

Branch — Drainage Services

Proposed 2016-2018 Budget – Program Summary

Program Name - Strategic Services

Results to be Achieved

Provide administrative support for Drainage Services and recommendations to the Utility Committee/City Council to provide opportunities for greater operational efficiencies and address utility rate issues as required. Provide overall governance and support to the branch to ensure achievement of each section's goals. Support being provided covers areas on Business Planning, Workforce Development, Procurement, Asset & Facilities Planning, Information & Systems and Occupational Health & Safety.

Cost Drivers

Major cost drivers are for planning required for future Drainage Services work force development, information systems, asset, facilities and capacity needs. Establishing and tracking internal performance measures, training and occupational health & safety needs.

Policy and/or Legislation

Policy C304D Drainage Services Utility Fiscal Policy
Drainage Bylaw 16200

Resources

($000)	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers	$ 134,422	$ 151,608	$ 158,162	$ 164,698	$ 172,056	$ 179,223
Expenditure & Transfers	54,643	59,876	72,165	73,738	79,953	84,982
Subtotal	**79,779**	**91,732**	**85,997**	**90,960**	**92,103**	**94,241**
Intra-municipal Recoveries	(933)	(827)	(1,855)	(1,832)	(1,941)	(1,730)
Net Operating Requirement	**$ 80,712**	**$ 92,559**	**$ 87,852**	**$ 92,792**	**$ 94,044**	**$ 95,971**
Full - Time Equivalents	**34.0**	**34.0**	**37.0**	**40.0**	**41.0**	**41.0**

2015 Services

- Provide reports/analysis to Utility Committee and City Council as requested.
- Ensure Drainage Services is aligned to the goals and vision of the Department and the City organization.
- Implementation of the Performance Measure Pilot initiative underway, with completion of 8 sub-sections.
- Coordinated the leasing and move of Drainage Construction to Edmiston Facility, upgrades to Kennedale Yard, and restacking of downtown office space.
- 74 private developments recorded as of August YTD.
- Standard Operating Procedures project completed for Drainage Operations, initiated for Drainage Design & Construction.
- Initiated Collision Reduction Strategy.
- Lost time days decreased by 22% versus 2014.

Changes in Services for 2016 - 2018

- Continuous implementation and development of branch wide performance measures.
- Develop long term facilities plan for Drainage Services.
- Deployment of the Managing Engineering Drawings Project.
- Better coordination and centralization of training across Drainage Services.
- Continue the implementation of the Collision Reduction Strategy.

Branch — Drainage Services

Proposed 2016-2018 Budget – Program Summary

Program Name - Design & Construction

Results to be Achieved

The primary responsibility of Design & Construction is to design and construct sanitary and stormwater drainage infrastructure in support of the Drainage Services Utility. It also provides underground infrastructure design, construction, and project management services to other City of Edmonton departments and external clients.

Cost Drivers

Cost depends on the amounts within 2015-18 Drainage Services Capital Plan, the number and size of projects, market conditions and capacity.

Policy and/or Legislation

Policy C304D Drainage Services Utility Fiscal Policy
Drainage Bylaw 16200

Resources

($000)	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers	$ 5,055	$ 7,040	$ 1,455	$ 1,746	$ 1,649	$ 1,261
Expenditure & Transfers	119,904	135,278	144,286	161,759	177,972	157,314
Subtotal	**(114,849)**	**(128,238)**	**(142,831)**	**(160,013)**	**(176,323)**	**(156,053)**
Intra-municipal Recoveries	(114,846)	(125,278)	(142,857)	(160,046)	(176,353)	(156,076)
Net Operating Requirement	**$ (3)**	**$ (2,960)**	**$ 26**	**$ 33**	**$ 30**	**$ 23**
Full - Time Equivalents	**365.0**	**365.0**	**368.0**	**378.0**	**381.0**	**383.0**

2015 Services

- Flood Mitigation: implement projects to reduce flood risk.
- Neighbourhood Renewal: renew existing drainage infrastructure.
- Drainage System Rehabilitation: repair and replace existing drainage infrastructure*.
- Environmental Quality Enhancement: install infrastructure to enhance environmental protection.
- Combined Sewer Overflow Strategy: install upgrades to prevent sewage overflows on existing infrastructure.
- Drainage System Expansion: construct new drainage infrastructure to support system growth.

*Infrastucture includes pipes, tunnels, storm water management facilities and pump stations.

Changes in Services for 2016 - 2018

- Implement project requirements for expanded Flood Mitigation program
- Implement a branch wide capacity plan to deliver Drainage Services capital program

Branch — Drainage Services

Pro-Forma Statement of Operations & Retained Earnings ($000)

	2016 Budget	2017 Budget	2018 Budget	2019 Forecast	2020 Forecast
Revenues					
Rate Revenue	161,707	168,838	176,384	184,213	192,625
Program Revenue	11,183	12,221	10,758	10,936	11,128
Total Revenues	**172,890**	**181,059**	**187,142**	**195,149**	**203,753**
Expenditures					
Operations and Maintenance	62,967	67,122	68,845	69,729	71,089
Biosolids Disposal	16,662	17,412	17,562	18,987	19,505
Amortization Expense	23,007	24,532	26,326	28,265	30,173
Interest Expense	21,198	24,031	26,479	29,613	34,389
Local Access Fee	8,762	9,074	9,408	9,744	10,113
Transfer to Sanitary Servicing Strategy Fund	1,300	1,300	1,300	1,300	1,300
Total Expenses	**133,896**	**143,471**	**149,920**	**157,638**	**166,569**
Net Income	**$ 38,994**	**$ 37,588**	**$ 37,222**	**$ 37,511**	**$ 37,184**
Opening Retained Earnings	2,372,813	2,498,087	2,615,524	2,727,485	2,838,040
Net income (loss)	38,994	37,588	37,222	37,511	37,184
Net Change in Contributed Assets	86,280	79,849	74,739	73,044	70,374
Ending Retained Earnings	**$2,498,087**	**$2,615,524**	**$2,727,485**	**$2,838,040**	**$2,945,598**

Branch — Drainage Services

Pro-Forma Statement of Financial Position

($000)

	2016 Budget	2017 Budget	2018 Budget	2019 Forecast	2020 Forecast
Financial Assets					
Cash	$ 58,490	$ 38,656	$ 36,759	$ 35,264	$ 31,910
Other Current Assets	26,596	26,596	26,596	26,596	26,596
Total Assets	**85,086**	**65,252**	**63,355**	**61,860**	**58,506**
Liabilities					
Liabilities	28,455	28,455	28,455	28,455	28,455
Long-term Debt	616,500	688,064	758,630	874,080	990,538
Total liabilities	**644,955**	**716,519**	**787,085**	**902,535**	**1,018,993**
Net Financial Assets (Net Debt)	**(559,869)**	**(651,267)**	**(723,730)**	**(840,675)**	**(960,487)**
Non-Financial Assets					
Contributed Tangible Capital Assets	1,970,399	2,050,249	2,124,987	2,198,031	2,268,405
Non-Contributed Tangible Capital Assets	1,087,557	1,216,542	1,326,228	1,480,684	1,637,680
Total Non-Financial Assets	**3,057,956**	**3,266,791**	**3,451,215**	**3,678,715**	**3,906,085**
Retained Earnings	**$2,498,087**	**$2,615,524**	**$2,727,485**	**$2,838,040**	**$2,945,598**

Branch — Drainage Services

Approved 4-Year Capital Budget (2015-2018) and Forecast (2019-2025) ($000)

		Approved 4 Year Capital Budget				Forecast							Total
	Major Project Class	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2015-2025
	Non-Contributed												
Renewal & Upgrading	**Drainage Neighbourhood Renewal**	**29,634**	**32,872**	**41,293**	**35,975**	**51,587**	**53,135**	**60,879**	**62,705**	**64,586**	**66,524**	**68,518**	**567,708**
	Drainage Neighbourhood Renewal Coordination	28,861	29,159	28,181	22,470	31,300	32,239	33,206	34,203	35,229	36,285	37,374	348,507
	Sewer Upgrading	258	2,652	12,020	12,380	18,548	19,104	25,828	26,602	27,400	28,222	29,068	202,082
	Service Connection Renewal	515	1,061	1,092	1,125	1,739	1,792	1,845	1,900	1,957	2,017	2,076	17,119
	Drainage System Rehabilitation	**36,990**	**43,616**	**41,711**	**28,490**	**29,344**	**30,224**	**31,131**	**32,382**	**33,679**	**35,025**	**37,001**	**379,593**
	Mill Woods Double Barrel Replac/SESS SA1	10,300	7,427	-	-	-	-	-	-	-	-	-	17,727
	Structures Rehabilitation	5,369	6,059	7,334	7,555	7,781	8,014	8,256	8,819	9,410	10,028	10,329	88,954
	Sewer Rehabilitation	4,944	5,093	5,244	5,403	5,565	5,732	5,903	6,081	6,263	6,451	6,644	63,323
	High Priority Repair	11,845	12,200	12,567	12,943	13,332	13,732	14,143	14,568	15,005	15,455	15,920	151,710
	Creek Erosion Protection	2,163	2,228	2,513	2,589	2,666	2,746	2,829	2,914	3,001	3,091	4,108	30,848
	Optimization of 30 Avenue storm trunk overflow	309	2,122	5,311	-	-	-	-	-	-	-	-	7,742
	Groat Road Trunk Sewer Rehabilitation	2,060	8,487	8,742	-	-	-	-	-	-	-	-	19,289
	Flood Mitigation	**29,198**	**30,751**	**29,222**	**34,955**	**51,174**	**48,508**	**58,803**	**64,006**	**51,421**	**50,864**	**52,389**	**501,291**
	Neighbourhood Flood Mitigation Projects	9,702	13,932	10,509	9,511	10,526	-	-	-	-	-	-	54,180
	Expanded Neighbourhood Flood Mitigation Program	14,140	16,819	18,713	25,444	28,134	26,776	32,976	64,006	51,421	50,864	52,389	381,682
	Opportunistic Flood Mitigation Project	5,356	-	-	-	12,514	21,732	25,827	-	-	-	-	65,429
Environmental	**Environmental Quality Enhancement**	**6,586**	**7,688**	**9,591**	**7,236**	**25,388**	**28,836**	**21,216**	**16,087**	**16,570**	**17,068**	**17,580**	**173,846**
	Enhanced Biosolids Dewatering	300	-	-	-	-	-	-	-	-	-	-	300
	River for Life	-	-	1,410	1,857	12,346	12,716	13,099	13,491	13,896	14,313	14,742	97,870
	Biosolids Facilities Renewal	1,853	2,801	2,229	1,171	3,768	6,269	2,767	317	326	336	346	22,183
	Fat, Oil and Grease Facility	-	-	-	-	6,955	7,164	-	-	-	-	-	14,119
	Environmental & Collection System Monitoring	438	451	398	410	464	479	492	506	522	538	554	5,252
	Quenelle Basin Loading Reduction	-	-	-	-	232	537	3,136	-	-	-	-	3,905
	City Wide Odour Control Program	1,545	1,591	1,639	1,238	1,275	1,313	1,353	1,393	1,435	1,478	1,523	15,783
	Environmental Enhancement Projects	154	212	219	225	348	358	369	380	391	403	415	3,474
	Mill Creek End of Pipe Treatment Facility	2,296	2,633	3,696	2,335	-	-	-	-	-	-	-	10,960
	Combined Sewer Overflow Strategy	**5,150**	**3,715**	**4,918**	**4,502**	**4,638**	**4,776**	**4,920**	**5,068**	**5,220**	**5,376**	**5,536**	**53,819**
	Opportunistic Sewer Separation	-	532	4,918	4,502	4,638	4,776	4,920	5,068	5,220	5,376	5,536	45,486
	Combined Sewer Overflow Control Projects	5,150	3,183	-	-	-	-	-	-	-	-	-	8,333
Growth	**Drainage System Expansion**	**19,953**	**19,166**	**20,693**	**23,342**	**19,540**	**20,774**	**15,526**	**15,858**	**19,817**	**16,931**	**17,439**	**209,039**
	Review/Inspect Developer Built Sewers	1,666	1,784	1,912	2,048	2,152	2,260	2,373	2,494	2,620	2,754	2,836	24,899
	Drainage Construction and Equipment	5,037	3,592	3,484	9,476	12,404	13,140	7,620	7,664	11,326	8,130	8,374	90,247
	Drainage Facility Upgrading	3,606	3,714	1,638	1,688	927	1,194	1,230	1,267	1,305	1,343	1,384	19,296
	Kennedale Accommodation	5,150	5,304	-	-	-	-	-	-	-	-	-	10,454
	Drainage IT Assets	2,950	2,652	2,732	2,814	2,898	2,986	3,074	3,166	3,262	3,360	3,461	33,355
	Interconnection Control Program	1,030	1,059	1,092	1,126	1,159	1,194	1,229	1,267	1,304	1,344	1,384	13,188
	Servicing for Downtown Intensification	515	1,061	9,835	6,190								17,601
Growth	**Sanitary Servicing Strategy**	**23,008**	**24,558**	**22,310**	**22,759**	**25,504**	**26,269**	**27,057**	**27,869**	**28,705**	**29,566**	**30,453**	**288,058**
	Sanitary Servicing Strategy Projects	23,008	24,558	22,310	22,759	25,504	26,269	27,057	27,869	28,705	29,566	30,453	288,058
	Drainage System Expansion	**21,136**	**23,611**	**26,189**	**17,554**	**14,143**	**12,180**	**16,233**	**14,188**	**17,223**	**58,057**	**58,876**	**279,390**
	Initial Phase Downtown STM Drainage Services	9,600	13,851	13,949	7,199	-	-	-	-	-	43,005	44,296	131,900
	Local Improvement	7,210	5,304	7,650	5,628	8,114	5,970	8,610	6,334	9,134	6,720	6,922	77,596
	Sevice Connection Expansion	3,296	3,395	3,497	3,602	3,710	3,821	3,935	4,054	4,175	4,301	4,430	42,216
	Creek Erosion Protection	1,030	1,061	1,093	1,125	2,319	2,389	3,688	3,800	3,914	4,032	3,228	27,679
	Total Capital	**171,655**	**185,977**	**195,927**	**174,813**	**221,318**	**224,702**	**235,765**	**238,163**	**237,221**	**279,411**	**287,792**	**2,452,745**

Branch — Drainage Services

Financial Indicators

	2016 Budget	2017 Budget	2018 Budget	2019 Forecast	2020 Forecast
1 Typical Customer Rate Impacts					
Sanitary					
Typical Residential Monthly Billing Increase	*$ 0.50*	*$ 0.50*	*$ 0.50*	*$ 0.52*	*$ 0.54*
Impact of Customer Rate	*2.2%*	*2.2%*	*2.1%*	*2.2%*	*2.2%*
Stormwater					
Typical Residential Monthly Billing Increase	*$ 0.50*	*$ 0.50*	*$ 0.50*	*$ 0.54*	*$ 0.55*
Impact of Customer Rate	*5.1%*	*4.9%*	*4.7%*	*4.8%*	*4.7%*
Combined					
Typical Residential Monthly Billing Increase	***$ 1.00***	***$ 1.00***	***$ 1.00***	***$ 1.06***	***$ 1.09***
Impact of Customer Rate	***3.1%***	***3.0%***	***2.9%***	***3.0%***	***3.0%***
Sanitary - Typical Residential Customer Monthly Rate	*$ 22.79*	*$ 23.29*	*$ 23.79*	*$ 24.31*	*$ 24.85*
Stormwater - Typical Residential Customer Monthly Rate	*$ 10.24*	*$ 10.74*	*$ 11.24*	*$ 11.78*	*$ 12.33*
Combined - Typical Residential Customer Monthly Rate	***$ 33.03***	***$ 34.03***	***$ 35.03***	***$ 36.09***	***$ 37.18***
Target	***Stable, consistent rate increases***				
2 Rates Sufficient to Meet Expenses ($000's)					
Net Income (Sanitary)	$ 17,046	$ 15,835	$ 15,704	$ 15,603	$ 15,972
Net Income (Stormwater)	$ 21,948	$ 21,753	$ 21,518	$ 21,909	$ 21,212
Target	***Positive Net Income***				
3 Cash Balance ($000's)					
Next Year's Capital Pay As You Go Requirement	$ 54,963	$ 35,677	$ 34,147	$ 32,871	$ 27,825
Risk Allowance	$ 1,860	$ 1,959	$ 1,748	$ 2,213	$ 2,247
Rate Stabilization	$ 1,667	$ 1,020	$ 864	$ 180	$ 1,838
Cash Target	**$ 58,490**	**$ 38,656**	**$ 36,759**	**$ 35,264**	**$ 31,910**
Cash Position	**$ 58,490**	**$ 38,656**	**$ 36,759**	**$ 35,264**	**$ 31,910**
Target	***Cash position at minimum equal to Cash Target***				
4 Financing of Capital Investments					
Debt to Net Assets Ratio	58%	57%	58%	60%	61%
Target	***Between 50% - 70%; balancing cash availability, interest rates and construction inflation***				

Branch — Drainage Services

Bylaws Requiring Approval

Bylaw #	Description
Bylaw 16200	**Drainage Bylaw 17433 (Amendment #4)** - To set sanitary sewer and stormwater drainage rates to provide for the operation of the Drainage Utility in accordance with the Utility Fiscal Policy and to set sanitary sewer trunk charge rates that allow for the connection of a private drainage system to a sewer service that connects or will be connected to a sanitary or combined sewer.

Branch — Drainage Services

Proposed 2016-2018 Budget—User Fee Information

	2015 Fee	2016 Proposed	2017 Proposed	2018 Proposed
Drainage Bylaw - Bylaw 17433				
Santary Utility - Fixed Rate (based on metre size)				
16 mm	$8.65	$8.85	$9.04	$9.24
20 mm	$15.57	$15.93	$16.27	$16.63
25 mm	$24.23	$24.79	$25.31	$25.87
40 mm	$46.72	$47.80	$48.80	$49.89
50 mm	$64.03	$65.51	$66.88	$68.36
75 mm	$132.38	$135.44	$138.28	$141.34
100mm	$246.59	$252.29	$257.58	$263.29
150mm	$466.36	$477.15	$487.14	$497.94
200mm	$744.09	$761.31	$777.26	$794.48
250mm	$1,846.39	$1,889.11	$1,928.68	$1,971.42
300mm	$1,846.39	$1,889.11	$1,928.68	$1,971.42
400mm	$2,088.82	$2,136.86	$2,181.74	$2,229.74
500mm	$2,249.76	$2,301.50	$2,349.84	$2,401.53
Sanitary Utility - Variable Rate (based on m^3)				
Uniform	$0.8857	$0.9109	$0.9314	$0.9570
Large Wholesale with Collection System	$0.4953	$0.5142	$0.5326	$0.5524
Stormwater Utility - Variable Rate				
Uniform (based on m^2)	$0.035274	$0.037114	$0.038911	$0.040738
Other				
Hauled Wastewater per axle	$17.00	$17.00	$17.00	$17.00
Service calls for investigating and releasing of plugged sewer	$305.00	$334.00	$341.00	$348.00
Application Fees				
Permit to Release	$344.00	$344.00	$344.00	$344.00
Compliance Approval	$344.00	$344.00	$344.00	$344.00
Records Search	$107.00	$107.00	$107.00	$107.00
Application for Sewer Metering Approval	$300.00	$300.00	$320.00	$320.00
Application for Utility Credit	$300.00	$300.00	$320.00	$320.00
Application for Reduction in Stormwater Utility Intensity Development Factor	$300.00	$300.00	$320.00	$320.00
Application for Large Wholesale Designation	$300.00	$300.00	$320.00	$320.00
Lot Grading Inspection Fees				
Single Family Residential	$135.00	$135.00	$140.00	$140.00
Semi-detached Residential (per unit)	$135.00	$135.00	$140.00	$140.00
Multiple Family Residential	$220+$55/per unit	$220+$55/per unit	$227+$57/per unit	$227+$57/per unit
Any other premises type (per hectare)	$220.00	$220.00	$227.00	$227.00
Sanitary Sewer Trunk Charge				
Residential - 1-2 Dwellings	$1,430.00	$1,566.00	$1,715.00	$1,878.00
Residential - Secondary/garage/garden Suites	$633.00	$693.00	$759.00	$831.00
Residential - 3 or more Dwellings	$1,021.00	$1,118.00	$1,224.00	$1,340.00
Commercial	$7,152.00	$7,832.00	$8,576.00	$9,391.00
Industrial	$7,152.00	$7,832.00	$8,576.00	$9,391.00
Institutional	$7,152.00	$7,832.00	$8,576.00	$9,391.00
Expansion Assessment				
South Edmonton Sanitary Sewer (SESS)	$20,426.00	$22,367.00	$24,492.00	$26,814.00
North Edmonton Sanitary Sewer (NEST)	$20,426.00	$22,367.00	$24,492.00	$26,814.00
Terwillegar and University Farms (TUFS)	$20,426.00	$22,367.00	$24,492.00	$26,814.00
West Edmonton Sanitary Sewer (WESS)	$25,536.00	$27,962.00	$30,618.00	$33,527.00

Branch — Drainage Services

Performance Measures

Performance Measures summarizes the Branches' outcomes as identified in its Branch Business Plan, their alignment to corporate level goals and/or Branch goals; and the means to monitor progress towards achieving these Branch outcomes. Specifically, it provides the following:

- The Branches' outcomes that are expected to be achieved through implementation of the Branches' planned strategies and actions.

- The outcomes' alignment or support to achieving corporate level and/or Branch level goals, for example: The Way Ahead, and/or a Corporate Leadership Team Focus Area and/or a Branch Initiative.

- The performance measure or indicator used to monitor progress towards achieving the Branch outcome:
    - Performance measure: A means to monitor progress towards a desired result. To be a measure of performance the organization must have the ability to directly influence the desired result.
    - Indicator: The state or condition of something, generally at a community level, for which an organization has limited influence. Indicators are not considered measures of performance as the organization has little ability to move the indicator.

- The performance measure type (effectiveness or efficiency)
    - Effectiveness measure: Describes a measure that generally occurs at the outcome level and answers the question "are we doing the right things" in order to achieve our desired results.
    - Efficiency measure: Describes a measure that occurs around resources (inputs - labour, equipment, $) and outputs and answers the question "are we doing things well?"

Administration is currently working on a corporate performance measure register to house and organize the City's performance measurement information. Administration is reviewing all Branch Business Plan measures to ensure their readiness, including consistency, for Branch Business Plan reporting in 2016.

Branch — Drainage Services

Branch Outcome Measures	Measure Type	2016 Target	2017 Target	2018 Target
1. Reduced environmental impact, reduced negative health impact, increased health & safety | *Alignment: Branch Initiatives*				
1.1 Edmonton Watershed Contaminant Index Score (five-year rolling average)	Effectiveness	6.7	6.8	6.9
1.2 River Water Quality Index	Effectiveness	87	87	88
1.3 Kg of Total Loading – TSS (five-year rolling average)	Effectiveness	51,000	50,000	50,000
2. Increased client & citizen satisfaction | *Alignment: Branch Initiatives*				
2.1 Percentage of customers satisfied with Drainage Services	Effectiveness	Under Development	Under Development	Under Development
2.2 Percentage of emergencies responded to within 2 hours	Efficiency	85%	90%	90%
2.3 Number of blocked mainline sewers per 100km length (five-year rolling average)	Effectiveness	2.5	2.4	2.4
2.5 Percent of mature neighbourhoods at 1:100 level of service	Effectiveness	12%	13%	16%
3. Increased support for city growth & development, Increased client & citizen satisfaction, Improved quality of products and processes | *Alignment: Branch Initiatives*				
3.1 Percent of Land Development Applications reviewed on time	Efficiency	80%	80%	80%
3.2 Pipe Capacity Rating	Effectiveness	Under Development	Under Development	Under Development
4. Improved infrastructure condition, reduced maintenance cost, improved project management, improved quality of products and processes | *Alignment: Branch Initiatives*				
4.1 Percentage of infrastructure at or above the minimum level of condition rating	Effectiveness	90%	90%	90%
4.2 Percentage capital (as rehabilitation) re-invested compared to total system replacement value	Effectiveness	0.58%	0.70%	0.81%
5. Ensure long term financial sustainability, rate payers receive value for rates | *Alignment: Branch Initiatives*				
5.1 Annual Net Income	Effectiveness	39.0M	37.6M	37.2M
5.2 Percentage Rate Increase	Effectiveness	3.1%	3.0%	2.9%
5.3 Debt to Net Asset ratio	Effectiveness	58%	59%	60%
5.4 Cash position	Effectiveness	58.4M	38.7M	36.8M
6. Increased health and safety | *Alignment: Branch Initiatives*				
6.1 Employee Engagement Survey Score	Indicator	68%	Not available	70%
6.2 Percentage turnover per 100 FTEs (excluding retirement)	Indicator	6%	6%	6%

Page intentionally left blank

Branch — Waste Management Services

Introduction

Edmonton's Waste Management Services is recognized nationally and internationally as a leader in sustainable waste management. Waste Management Services focuses on three pillars: environmental sustainability, customer-focused services, and cost effectiveness. Waste Management Services provides:

- Collection of waste and recyclables for approximately 360,000 single and multi-family homes
- Assisted Waste Collection program for over 300 residents with mobility limitations
- Services to the non-residential sector to promote waste diversion and recycling
- Waste and household hazardous waste drop-off services through four Eco Stations
- 21 Community Recycling Depots accessible 24/7
- 12 annual community Big Bin Events for large, bulky items not suitable for regular waste collection
- Reuse Centre for collection of small items that are reused by individuals and community groups
- Reuse Area at Ambleside Eco Station and Kennedale Eco Station to encourage the reuse of large items such as furniture and sporting goods
- Waste processing and disposal services at the Edmonton Waste Management Centre, home to 12 specialized waste recycling and processing facilities including the world's first Waste to Biofuels and Chemicals Facility opened in late 2014
- Advanced Energy Research Facility for various research and technology projects
- Hauling and landfilling of waste that cannot be recycled or composted
- Litter collection in business districts and adjacent areas servicing 1,588 litter receptacles in support of Capital City Clean Up
- Total Look of Clean Program to maintain public spaces in Rice Howard Way and Old Strathcona
- Collection of waste and recyclables from City facilities

The integrated waste management system is currently capable of diverting over 50% of the residential waste stream from landfill and targets diversion of up to 90% by 2018 including the full availability of the Waste to Biofuels and Chemicals Facility.

Vision: A customer-driven world leader in sustainable and innovative solid waste management.

Mission: Provide waste management services for the City of Edmonton with due regard to needs of customers, the preservation of natural resources, the protection of the environment and the financial capabilities of the City.

Highlights for 2016 to 2018 include:

- First year of operation of the Waste to Biofuels and Chemicals Facility
- Continued testing of hybrid vehicle technology in collection vehicles utilizing stored energy to start and stop engine to reduce idling time
- Development and commissioning of the Anaerobic Digestion Facility to augment the organics diversion program, address current capacity constraint and allow for growth in volume of waste
- Upgrades to the Materials Recovery Facility that will lead to greater efficiency and higher quality of outputs
- Development and implementation of a new 20-year strategic vision and plan
- Training Waste Management Services mechanics to service specialized equipment used in the wood chipping and composting process

- Assuming end-of-life cycle asset management responsibilities for large vehicles to maximize input costs
- Transition Nutri-Gold program from contracting to in-house management

Over the period from 2016 to 2018, Waste Management Services will continue its leadership in the residential sector while increasing its effort to foster high rates of landfill diversion for the non-residential sector. During the next three years, Waste Management Services will address the following challenges:

1. **Revenue from commercial waste at the Edmonton Waste Management Centre.** Revenue has declined significantly over the past few years due to access disruptions to the Edmonton Waste Management Centre and competing services. Over this period, Waste Management Services will continue to be impacted by traffic delays caused by the construction of the northeast leg of Anthony Henday Drive. Also, multiple competing landfills and transfer stations located in or near Edmonton will continue to operate. Revenue projections in the 2016-2018 Budget reflect these factors, however, with expected completion of the Anthony Henday Drive in 2016 coupled with Waste Management Services' marketing plan, tip fee revenue is anticipated to recover throughout 2017 and 2018.
2. **Achieving financial sustainability**. Through challenges identified in the 2016-2018 Budget and prior Business Plans, Waste Management Services continues to work towards achieving its financial indicator targets. These targets include positive net income, cash position, stable consistent rates, and debt to net asset ratio.
3. **Contracted services cost escalation.** Cost increases are projected based on existing contracts and current market conditions and are difficult to predict with certainty.

Positive Change—Innovation & Continuous Improvement

The positive change initiatives will leverage and foster the existing culture of continuous improvement and innovation to advance Waste Management Services in achieving its three pillars. This is accomplished by the following initiatives:

- **Training and utilizing Waste Management Services mechanics to service specialized equipment used in the wood chipping and composting process.** Having dedicated trained and experienced mechanics to maintain specialized equipment reduces reliance on external services which are subject to availability, distantly located and costly. In addition, Waste Management Services mechanics can quickly address service issues, reduce costly service visits and improve productivity.
- **Assuming end of life cycle asset management responsibilities to maximize input costs.** Waste Management Services will assess vehicles throughout their life cycle for refurbishment seeking to extend asset life and lower capital costs.
- **Transition Nutri-Gold program from contracting to in-house management**. Duties formerly contracted will now be performed by in-house staff related to Nutri-Gold, the City's biosolids management program. These duties include seeking potential customers and all aspects of product sampling, analysis, application and regulatory reporting.
- **Business Process Review.** Waste Management Services will be exploring an initiative of process review to promote continuous improvement and optimize efficiency and effectiveness (e.g. Lean Six Sigma). Waste Management Services will be piloting this process in business areas during the 2016-2018 Budget period.

Branch — Waste Management Services

Proposed 2016 - 2018 Budget – Branch Summary by Program

($000)

	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers						
Rate Revenue	122,402	133,177	146,173	157,939	167,745	179,247
Program Revenue	22,838	24,379	23,125	24,170	26,545	28,085
Grant Revenue	3,701	4,000	-	5,843	5,000	-
Total Revenue & Transfers	$148,941	$161,556	$169,298	$187,952	$199,290	$207,332
Expenditure & Transfers						
Collection Services	61,756	65,140	72,586	75,342	79,650	87,659
Processing & Disposal Services	85,674	92,173	99,274	111,656	117,677	118,802
Grants	3,700	4,000	-	-	-	-
Total Expenditure & Transfers	$151,130	$161,313	$171,860	$186,998	$197,327	$206,461
Net Operating Requirement	**$ (2,189)**	**$ 243**	**$ (2,562)**	**$ 954**	**$ 1,963**	**$ 871**
Full-time Equivalents	465.8	476.7	525.9	549.6	564.3	567.5

Branch — Waste Management Services

Proposed 2016 - 2018 Budget – Branch Summary by Category

($000)

	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers						
Rate Revenue	122,402	133,177	146,173	157,939	167,745	179,247
Program Revenue	22,838	24,379	23,125	24,170	26,545	28,085
Grant Revenue	3,701	4,000	-	5,843	5,000	-
Total Revenue & Transfers	$148,941	$161,556	$169,298	$187,952	$199,290	$207,332
Expenditure & Transfers						
Personnel	36,719	38,311	43,391	48,001	50,546	52,446
Materials, Goods & Supplies	3,069	5,147	5,858	6,667	8,252	8,500
External Services	64,562	67,532	74,071	76,425	78,719	86,850
Fleet Services	15,444	16,594	15,584	15,800	16,241	16,689
Shared Services	6,426	7,441	9,719	10,051	10,357	10,669
Intra-municipal Services	1,214	1,413	1,226	1,570	1,595	1,607
Utilities & Other Charges	4,468	5,058	6,278	11,924	12,334	7,956
Amortization & Interest	27,178	27,318	30,605	32,064	35,180	38,122
Grants	3,700	4,000	-	-	-	-
Subtotal	162,779	172,814	186,732	202,503	213,224	222,838
Intra-municipal Recoveries	(11,649)	(11,501)	(14,872)	(15,505)	(15,896)	(16,377)
Total Expenditure & Transfers	$151,130	$161,313	$171,860	$186,998	$197,327	$206,461
Net Operating Requirement	**$ (2,189)**	**$ 243**	**$ (2,562)**	**$ 954**	**$ 1,963**	**$ 871**
Full-time Equivalents	465.8	476.7	525.9	549.6	564.3	567.5

Branch — Waste Management Services

Budget Changes for 2016 - 2018
($000)

Revenue & Transfer - Changes

Rate Revenue

The rate revenue increases for 2016-2018 represent a 5.7%, 5.0%, and 5.7% annual rate increases, respectively. This is the amount of rate revenue required to ensure the Utility retains enough cash to cover both operating and capital needs, as required by the Waste Management Utility Fiscal Policy C558A, which was adopted by City Council on September 23, 2014.

Program Revenue

2016 Program Revenue is anticipated to increase primarily as a result of increased revenue from Construction and Demolition Waste ($0.5 million), Commercial Collection ($0.4 million), and Eco Station Revenue ($0.3 million). This is partially offset by lower revenues at the Materials Recovery Facility as a result of softening in the recyclable market ($0.6 million decrease).

Tip Fee Revenues are generated from private haulers who dispose their collected waste materials at the Edmonton Waste Management Centre. With expected completion of construction on Anthony Henday Drive in 2016, coupled with Waste Management Services' marketing plan, tip fee revenues are anticipated to recover throughout 2017 ($1.4 million increase) and 2018 ($0.9 million increase).

Commercial Collection revenue increases primarily account for remaining increases in 2017 ($0.6 million) and 2018 ($0.3 million).

Grant Revenue

The $5.0 million grant in 2016 and 2017 are provincial capital grants for the Anaerobic Digestion Facility. There is also $0.8 million of partnership funding provided by the University of Alberta for this project in 2016. As these grants relate to capital, the grant revenue is transferred to capital and has no net impact on the operating budget. The offsetting transfer to capital is reflected under "Utilities & Other Charges".

Expenditures & Transfer - Changes

Personnel

Personnel increases associated with additional resources (FTEs) are included for 2016-2018, at $2.0 million in 2016, $1.1 million in 2017, and $0.2 million in 2018. The remainder of the increases are due to union settlements, wage increments, and associated benefits.

Materials, Goods and Supplies

The increase in direct materials in 2016 and 2017 is for wear parts at the Refuse Derived Fuel facility. The increased requirement for wear parts is a result of the Refuse Derived Fuel facility being used to produce feedstock for the Waste to Biofuels and Chemical Facility, which has only been in limited production in 2015, but expected to be at 80% production in 2016 and full production in 2017 and going forward. Although the Refuse Derived Fuel facility does not directly result in cost savings, the benefits realized are through increase diversion of waste from landfill.

External Services

The primary increase in 2016 is the result of increased contract costs at the Materials Recovery Facility. The Utility has retained an independent consultant to review the facility operations to gain process efficiency, enhance safety, and improve product quality. Collaborative efforts continue to be made to find operational efficiencies and reduce costs.

Branch — Waste Management Services

Budget Changes for 2016 - 2018
($000)

External services for Organics and Nutri-Gold Operations are for the operations and maintenance of the composter, along with contracts for disposal of some biosolids through agricultural application. In 2017, the Anaerobic Digestion Facility will be commissioned, allowing for an additional 48,000 tonnes of organic materials to be composted, resulting in increases of $1.3 million in 2017 and $1.5 million in 2018.

Collection Services external contracts include single and multi-family residential refuse and recycling collection as well as costs for contracted equipment, services at Eco Stations and other Collection Services programs. Contract work is anticipated to increase in 2018 ($5.2 million) as contracts expire and need to be retendered. Potential increases are determined by assessing historical results, current market conditions and the impact of changes during the current contract period.

Other external services increases are due to inflation.

Fleet Services

There are no significant changes in Fleet Services.

Shared Services

For 2016-2018, there are no significant changes beyond inflation for shared services, with the exception of Information Technology in 2016, which is proposed to increase by $195 (10.6%). These costs have increased due to inflationary measures and some additional software and staffing requirements within Information Technology. Waste Management Services' utilization of Information Technology services has also increased, in particular in application use and the proportion of system users.

Intra-Municipal Services

There are no significant changes in Intra-Municipal Services.

Utilities & Other Charges

The transfer of grant revenue to fund capital needs is reflected under "Utilities & Other Charges." The $5.0 million grant in 2016 and 2017 are provincial capital grants for the Anaerobic Digestion Facility. There is also $0.8 million of partnership funding provided by the University of Alberta for this project in 2016. As these grants are transferred to capital, there is no net impact on the operating budget.

Power ($0.7 million) and natural gas ($0.5 million) are anticipated to increase in 2017 as a result of the commissioning of the Anaerobic Digestion Facility and increased usage of natural gas in 2017 at the Refuse Derived Fuel facility to produce feedstock for the Waste to Biofuels and Chemicals Facility.

Amortization & Interest

The increase is primarily due to increased amortization expense as new capital assets are put into service.

Intra-Municipal Recoveries

The recovery from Drainage Services for processing of biosolids is anticipated to increase in 2016 as a result of negotiated rate and volume changes. There are no significant changes in Intra-Municipal Recoveries beyond inflation in 2017 and 2018.

Branch — Waste Management Services

Budget Changes for 2016 - 2018

($000)

Full-time Equivalents - Changes

	2016 Service Needs (FTEs)	2017 Service Needs (FTEs)	2018 Service Needs (FTEs)	2016-2018 Utility Rate Filing Appendix
Starting (Prior Year Budget)	**525.9**	**549.6**	**564.3**	
Collection Services	3.3	5.5	2.2	A1, A2, A3
EWMC Operators	6.8	6.2		A4, A5
Electrical Engineer	1.0			A6
Environmental Engineer		1.0		A7
Public Information Officer	1.0			A8
Public Service Representative	1.0			A9
Training Coordinator	1.0			A10
Reuse Program Assistant		1.0		A11
Reuse Operator			1.0	A12
Heavy Duty Mechanic	2.0			A13
Data Management Clerk	1.0			A14
Mechanical Maintenance Planner	2.0			A4
EWMC Laboratory Technician	1.0			A15
P&D Truck Driver	3.6			A4
BPCO Methods Analyst		1.0		A16
Total Additional Resources	**23.7**	**14.7**	**3.2**	
Total	**549.6**	**564.3**	**567.5**	

Branch — Waste Management Services

Proposed 2016 - 2018 Budget – Program Summary

Program Name - Collection Services

Results to be Achieved

The Collections Services Section responds to the current and changing needs of customers through efficient and effective collection and drop-off services.

Cost Drivers

- variable volumes of waste and recycling impacted by seasonal weather conditions
- residential growth increasing service requirements and increased demand at Eco Stations, Community Recycling Depots and Big Bin Events

Policy and/or Legislation

Waste Management Utility Fiscal Policy C558A and Waste Management Policy C527

Resources

($000)	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers	$61,756	$65,140	$72,586	$75,342	$79,650	$87,659
Expenditure & Transfers	63,696	67,118	74,571	77,386	81,728	89,795
Subtotal	(1,940)	(1,978)	(1,985)	(2,044)	(2,078)	(2,136)
Intra-municipal Recoveries	(1,940)	(1,978)	(1,985)	(2,044)	(2,078)	(2,136)
Net Income (Loss)	-	-	-	-	-	-
Full - Time Equivalents	267.6	272.1	305.3	309.8	316.1	318.7

2015 Services

- weekly collection of residential waste and recyclables for approximately 360,000 single and multi-family homes by both City of Edmonton staff and contracted services
- Assisted Waste Collection program for over 300 residents with mobility restrictions
- target of 270,000 residents use four conveniently located Eco Stations and 12 Big Bin Events annually
- 21 Community Recycling Depots located throughout the city
- service existing non-residential customer base and promote new services

Changes in Services for 2016 - 2018

- first full year of operation of Kennedale Eco Station
- continued testing of hybrid technology in collection vehicles

Branch — Waste Management Services

Proposed 2016 - 2018 Budget – Program Summary

Program Name - Processing & Disposal Services

Results to be Achieved

The Processing and Disposal Section processes residential and non-residential waste streams to recover resources and minimize landfilling.

Cost Drivers

- variable volumes of recyclable materials and fluctuating commodity markets
- high and seasonally variable volumes in organics program
- hauling and landfilling of unprocessed and residential waste since closure of Clover Bar Landfill
- volume of waste processed through the Waste to Biofuels and Chemical Facility to aid in diversion from haul to landfill

Policy and/or Legislation

Waste Management Utility Fiscal Policy C558A and Waste Management Policy C527

Resources ($000)	2013 Actual	2014 Actual	Adjusted 2015 Budget	2016 Budget	2017 Budget	2018 Budget
Revenue & Transfers	$87,184	$96,416	$96,712	$112,610	$119,640	$119,673
Expenditure & Transfers	99,083	105,696	112,161	125,117	131,495	133,043
Subtotal	(11,899)	(9,280)	(15,449)	(12,507)	(11,855)	(13,370)
Intra-municipal Recoveries	(9,710)	(9,523)	(12,887)	(13,461)	(13,818)	(14,241)
Net Income (Loss)	($2,189)	$243	($2,562)	$954	$1,963	$871
Full - Time Equivalents	198.2	204.6	220.6	239.8	248.2	248.8

2015 Services

- 47,000 projected tonnes of residential recyclable materials processed at the Materials Recovery Facility
- 225,000 projected customer transactions at the Edmonton Waste Management Centre
- 15,000 projected loads of waste material hauled to the contracted landfill in Ryley
- 220,000 projected tonnes of material processed at the Integrated Processing and Transfer Facility
- 108,000 projected tonnes of material processed at the Construction and Demolition Recycling Facility
- begin production of Refuse Derived Fuel in support of the Waste to Biofuels and Chemicals Facility

Changes in Services for 2016 - 2018

- increasing amounts of biofuels produced from residual waste as Waste to Biofuels and Chemicals Facility ramps up to first full production year in 2017 resulting in less waste hauled to landfill and higher residential diversion rate
- start-up of new Anaerobic Digestion Facility in the second half of 2017
- improvement in access to Edmonton Waste Management Centre as stages of Anthony Henday Drive are projected to be completed by the end of 2016 and made available for public use, particularly the overpass over the problematic train tracks near the site
- implementation of a marketing plan designed to increase commercial tonnage and generate revenue from tip fees as access to Edmonton Waste Management Centre improves
- commissioning of additional processing equipment in the Integrated Processing and Transfer Facility and in the Materials Recovery Facility as refurbishments/upgrades and to increase processing capacity to match growth

Branch — Waste Management Services

Approved 2016 - 2018 Capital Budget and Forecast Plan

($000)

Capital Projects	4 Year Capital Budget					Forecast								
	2015	2016	2017	2018	Total 2015-2018	2019	2020	2021	2022	2023	2024	2025	Remaining Plan 2019-2025	Budget and Plan 2015-2025
Collection Services Facilities														
Northeast Eco Station	829	-	-	-	829	-	-	-	-	-	-	-	-	**829**
Northwest Eco Station	1,500	1,500	1,500	1,500	6,000	5,000	8,800	-	-	-	-	-	13,800	**19,800**
Kennedale Facility	150	-	-	-	150	-	-	-	-	-	-	-	-	**150**
Eco Stations Facilities Upgrade	1,760	-	-	-	1,760	-	-	-	-	-	-	-	-	**1,760**
Southeast Eco Station	-	-	-	-	-	-	-	-	6,000	9,000	10,000	-	25,000	**25,000**
	$ 4,239	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 8,739**	**$ 5,000**	**$ 8,800**	**$ -**	**$ 6,000**	**$ 9,000**	**$10,000**	**$ -**	**$ 38,800**	**$ 47,539**
Processing & Disposal Facilities														
Integrated Processing & Transfer Facility	748	2,250	12,000	8,020	23,018	-	-	-	-	-	-	-	-	**23,018**
Anaerobic Digestion Facility	5,870	16,542	14,387	-	36,799	-	-	-	12,668	9,786	10,079	-	32,533	**69,332**
Materials Recovery Facility Renewal	832	1,221	-	-	2,053	1,739	1,791	-	127	1,783	1,957	-	7,397	**9,450**
Equipment Storage & Maintenance Facility Expansion	607	-	-	-	607	-	-	-	-	-	-	-	-	**607**
Cure Site Land Use and Development	-	3,100	2,900	3,000	9,000	-	-	-	-	-	-	-	-	**9,000**
Landfill Capping and Revegetation	950	1,519	958	1,392	4,819	1,673	233	1,679	585	-	-	-	4,170	**8,989**
Refuse Derived Fuel Dryer	1,500	8,450	-	-	9,950	-	-	-	-	-	-	-	-	**9,950**
Arterial Roadway Assessment	500	500	500	500	2,000	580	597	615	633	652	672	1,384	5,134	**7,134**
Construction & Demolition Facility	-	-	-	-	-	1,313	1,384	-	-	-	-	-	2,697	**2,697**
Biosolids Dewatering Capacity Increase Asset Purchase	-	-	-	-	-	9,000	-	-	-	-	-	-	9,000	**9,000**
Composting Facility Centrifuges Replacement	-	-	-	-	-	1,783	-	2,024	-	-	-	-	3,807	**3,807**
Changes to Accommodate Source Separated Organics	-	-	-	-	-	580	1,194						1,774	**1,774**
Solar Cells on Facilities Roof	-	-	-	-	-		1,493						1,493	**1,493**
	$11,007	**$33,582**	**$30,745**	**$12,912**	**$ 88,246**	**$16,667**	**$ 6,692**	**$ 4,318**	**$14,013**	**$12,221**	**$12,708**	**$ 1,384**	**$ 68,003**	**$ 156,249**
Infrastructure														
Collection Facilities & Infrastructure	400	850	725	1,350	3,325	4,600	2,500	500	500	1,000	1,000	500	10,600	**13,925**
Waste Management Centre Facilities	8,372	4,440	3,233	3,417	19,462	9,788	8,705	8,096	6,510	6,096	6,553	6,315	52,063	**71,525**
Waste Management Centre Site Infrastructure	2,347	1,676	2,047	3,886	9,956	5,765	3,911	3,358	2,606	2,487	2,436	2,486	23,049	**33,005**
Southwest Waste Management Centre	-	-	-	-	-	-	-	-	-	-	-	34,606	34,606	**34,606**
	$11,119	**$ 6,966**	**$ 6,005**	**$ 8,653**	**$ 32,743**	**$20,153**	**$15,116**	**$11,954**	**$ 9,616**	**$ 9,583**	**$ 9,989**	**$43,907**	**$ 120,318**	**$ 153,061**
Vehicles and Equipment														
Waste Containers	**1,932**	2,390	2,764	2,886	9,972	**1,911**	2,008	2,000	2,100	2,200	2,300	2,400	14,919	**24,891**
Equipment and Vehicles (Collections)	**2,841**	4,435	4,123	4,197	15,596	**4,175**	8,814	6,925	5,776	11,213	9,237	8,879	55,019	**70,615**
Equipment and Vehicles (P&D)	**2,785**	3,147	2,191	4,604	12,727	**5,672**	6,371	2,144	4,075	839	4,437	1,709	25,247	**37,974**
	$ 7,558	**$ 9,972**	**$ 9,078**	**$11,687**	**$ 38,295**	**$11,758**	**$17,193**	**$11,069**	**$11,951**	**$14,252**	**$15,974**	**$12,988**	**$ 95,185**	**$ 133,480**
Total	**$33,923**	**$52,020**	**$47,328**	**$34,752**	**$ 168,023**	**$53,578**	**$47,801**	**$27,341**	**$41,580**	**$45,056**	**$48,671**	**$58,279**	**$ 322,306**	**$ 490,329**

For information only. The 4 year capital budget illustrates in 2015 - 2018 Approved Capital Budget (Approved by City Council in 2014) plus approved budget adjustments.

Branch — Waste Management Services

Pro-Forma Income Statements

($000)

	2016 Budget	2017 Budget	2018 Budget	2019 Forecast	2020 Forecast
Revenues					
Rate revenue	157,939	167,745	179,248	187,182	195,307
Program revenue	24,170	26,544	28,084	27,129	27,656
Grant revenue	5,843	5,000	-	-	-
	$ 187,952	**$ 199,289**	**$ 207,332**	**$ 214,311**	**$ 222,963**
Expenses					
Operating and maintenance	170,439	178,042	184,716	188,593	192,556
Intra-municipal recoveries	(15,505)	(15,896)	(16,377)	(16,700)	(17,029)
Net amortization	21,762	24,483	27,272	29,677	32,088
Interest	10,302	10,697	10,850	11,319	12,161
	$ 186,998	**$ 197,326**	**$ 206,461**	**$ 212,889**	**$ 219,777**
Net Income	**$ 954**	**$ 1,963**	**$ 871**	**$ 1,422**	**$ 3,186**
Opening Retained Earnings	45,085	52,525	65,611	66,467	66,929
Net Income	954	1,963	871	1,422	3,186
Amortization of contributed capital	(602)	(867)	(1,133)	(1,133)	(1,133)
Government transfers for capital/partnerships	5,843	5,000	-	-	-
Equity transfer from City of Edmonton	1,245	6,990	1,118	173	(200)
Ending Retained Earnings	**$ 52,525**	**$ 65,611**	**$ 66,467**	**$ 66,929**	**$ 68,782**

Branch — Waste Management Services

Pro-Forma Balance Sheet

($000)

	2016 Budget	2017 Budget	2018 Budget	2019 Forecast	2020 Forecast
Assets					
Cash	760	1,222	2,447	3,060	3,701
Other current assets	20,093	20,093	20,093	20,093	20,093
	$ 20,853	**$ 21,315**	**$ 22,540**	**$ 23,153**	**$ 23,794**
Liabilities					
Other liabilities	17,880	17,879	17,879	17,879	17,879
Landfill closure and post-closure care	15,818	15,243	14,657	14,060	13,451
Short-term debt	4,364	5,977	8,264	6,937	5,591
Long-term debt	255,344	270,651	276,784	302,001	317,323
	$ 293,406	**$ 309,750**	**$ 317,584**	**$ 340,877**	**$ 354,244**
Net Financial Assets (Net Debt)	**$ (272,553)**	**$ (288,435)**	**$ (295,044)**	**$ (317,724)**	**$ (330,450)**
Non-Financial Assets					
Contributed tangible capital assets	14,620	18,753	17,620	16,487	15,353
Non-contributed tangible capital assets	310,458	335,293	343,891	368,166	383,879
	$ 325,078	**$ 354,046**	**$ 361,511**	**$ 384,653**	**$ 399,232**
Retained Earnings	**$ 52,525**	**$ 65,611**	**$ 66,467**	**$ 66,929**	**$ 68,782**

Branch — Waste Management Services

Financial Indicators

($000)

	2016 Budget	2017 Budget	2018 Budget	2019 Forecast	2020 Forecast
1 Rates Sufficient to Meet Expenses					
Net Income (loss)	$ 954	$ 1,963	$ 871	$ 1,422	$ 3,186
Target: Positive Net Income	***Yes***	***Yes***	***Yes***	***Yes***	***Yes***
2 Cash Position					
Pay As You Go Requirement	5,081	5,589	5,848	9,047	8,604
Risk Allowance	2,100	1,700	1,300	1,250	1,250
Target Cash Position	***7,181***	***7,289***	***7,148***	***10,297***	***9,854***
Actual Cash Balance	760	1,222	2,447	3,060	3,701
Actual Cash =Target	***No***	***No***	***No***	***No***	***No***
3 Residential Customer Rate Impacts					
Single Family					
Monthly Billing Increase	$ 2.31	$ 2.16	$ 2.56	$ 1.55	$ 1.55
Impact of Customer Rate	*5.7%*	*5.0%*	*5.7%*	*3.2%*	*3.2%*
Monthly Unit Rate	$ 43.00	$ 45.16	$ 47.72	$ 49.27	$ 50.82
Multi-Family					
Monthly Billing Increase	$ 1.50	$ 1.40	$ 1.66	$ 1.01	$ 1.01
Impact of Customer Rate	*5.7%*	*5.0%*	*5.7%*	*3.2%*	*3.2%*
Monthly Unit Rate	$ 27.95	$ 29.35	$ 31.01	$ 32.02	$ 33.03
Target: Stable, consistent rate increases	***No***	***No***	***No***	***Yes***	***Yes***
4 Financing of Capital Investments					
Debt to Net Assets Ratio	82%	81%	80%	82%	83%
Target: Between 50% - 70%; balancing cash availability, construction inflation, and interest	***No***	***No***	***No***	***No***	***No***

Branch — Waste Management Services

Proposed 2016 - 2018 Budget – Program Summary

Facility User Fees (Non-Regulated Rates)

Fee Description	Proposed Change (2015 to 2016)	Proposed Change (2016 to 2017)	Proposed Change (2017 to 2018)	Explanation
Fees charged for waste processing and disposal at the Edmonton Waste Management Centre	• Commercial waste fee increases from $87 to $90 per tonne • Mixed Construction, Renovation and Demolition waste fee increases from $67 to $70 per tonne • Self haul residential waste fee increases from $58 to $60 per tonne • Drywall increases from $40 to $42 per tonne • Shingles increase from $50 to $70 per tonne • Mattresses surcharge increases from $12 to $15 per mattress/boxspring • Green wood increases from $20 to $25 per tonne • Minimum Charge for waste load excluding (commercially-hauled waste) at Edmonton Waste Management Centre increases from $17 to $20	• Commercial waste fee increases from $90 to $92 per tonne • Mixed Construction, Renovation and Demolition waste fee increases from $70 to $72 per tonne • Self haul residential waste fee increases from $60 to $62 per tonne • Drywall increases from $42 to $44 per tonne • Shingles increase from $70 to $75 per tonne	• Commercial waste fee increases from $92 to $94 per tonne • Mixed Construction, Renovation and Demolition waste fee increases from $72 to $75 per tonne • Self haul residential waste fee increases from $62 to $65 per tonne • Drywall increases from $44 to $46 per tonne	• To cover inflationary increases in operational costs. • To cover inflationary increases in operational costs. • To cover inflationary increases in operational costs. • To cover inflationary increases in operational costs. • The cost of shingle reprocessing for recycling has increased due to external market pressure. The proposed increase will return to cost recovery. • Mattresses and boxsprings are problematic in a weight-based transfer system as they are lightweight and bulky. Residents can still deliver up to four units with no surcharge. • Incoming volumes of fresh cut trees and wood chips exceed the requirements of the composting operation. The proposed increase returns to cost recovery for additional required processing. • To cover inflationary increases in operational costs.

Bylaw Requiring Approval

Bylaw #	Description
Waste Management Bylaw #17282	To amend current Bylaw #13777 for the monthly utility rate and for specific fees charged at the EWMC

Branch — Waste Management Services

Performance Measures

Performance Measures summarizes the Branch's outcomes as identified in its Branch Business Plan, their alignment to corporate level goals and/or Branch goals; and the means to monitor progress towards achieving these Branch outcomes. Specifically, it provides the following:

- The Branch's outcomes that are expected to be achieved through implementation of the Branch's planned strategies and actions.
- The outcomes alignment or support to achieving Corporate level and/or Branch level goals, for example: The Way Ahead, and/or a Corporate Leadership Team Focus Area and/or a Branch Initiative.
- The performance measure or indicator used to monitor progress towards achieving the Branch outcome:
  - Performance measure: A means to monitor progress towards a desired result. To be a measure of performance the organization must have the ability to directly influence the desired result.
  - Indicator: The state or condition of something, generally at a community level, for which an organization has limited influence. Indicators are not considered measures of performance as the organization has little ability to move the indicator.
- The performance measure type (effectiveness or efficiency):
  - Effectiveness measure: Describes a measure that generally occurs at the outcome level and answers the question "are we doing the right things" in order to achieve our desired results.
  - Efficiency measure: Describes a measure that occurs around resources (inputs - labour, equipment, $) and outputs and answers the question "are we doing things well?"

Administration is currently working on a corporate performance measure register to house and organize the City's performance measurement information. Administration is reviewing all Branch business plan measures to ensure their readiness, including consistency, for Branch business plan reporting in 2016.

Branch Outcome Measures	Measure Type	2016 Target	2017 Target	2018 Target
1. Deliver efficient, environmentally sound collection services | *Alignment:* The Way We Finance				
1.1 Cost per tonne for curbside collection of refuse and recyclables	Efficiency	$153	$158	$180
2. Process residential and non-residential waste to recover resources and increase landfill diversion rates | *Alignment:* The Way We Green, The Way We Finance				
2.1 Compliance with environmental permits and regulations	Effectiveness	100%	100%	100%
2.2 Percentage diversion of residential waste from landfill	Efficiency	65%	75%	90%
2.3 Cost per tonne for material processed at the Edmonton Waste Management Centre	Efficiency	$104	$107	$108
2.4 Tonnes of non-residential waste diverted from landfill	Effectiveness	80,000	80,000	80,000
3. Provide responsive services that meet the changing needs of our customers | *Alignment:* The Way We Green, The Way We Live				
3.1 Number of users of Eco Stations and Big Bin Events	Effectiveness	280,000	290,000	300,000
3.2 Number of missed collection stops per 10,000	Efficiency	4	4	4
3.3 Percentage of customers satisfied with waste collection services	Effectiveness	95%	95%	95%
4. Maintain our leadership status focusing on innovation and attracting green businesses | *Alignment:* The Way We Green				
4.1 Percentage diversion of residential waste from landfill	Efficiency	65%	75%	90%
5. Engage and facilitate residents' participation in waste reduction, reuse, and recycling | *Alignment:* The Way We Green				
5.1 Percentage of homeowners recycling	Effectiveness	95%	95%	95%

Page intentionally left blank

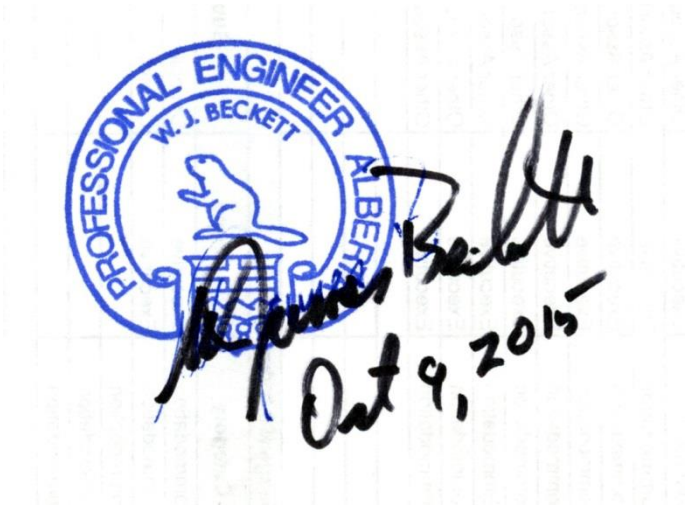
UTILITY ADVISOR

RESPONSE TO THE CITY OWNED UTILITIES

- **Waste Management**
- **Drainage Services**

2016-2017-2018 RATE SUBMISSIONS

October 09, 2015



1.0 PURPOSE OF THIS REPORT

This report is prepared to provide advice to the City of Edmonton Utilities Committee and Edmonton City Council on the 2016 rate submissions of the City-regulated utilities, Waste Management and Drainage Services. Pursuant to the terms of reference for the Utility Advisor, the rate submissions have been reviewed by the Utility Advisor, and several requests for additional information were sent and received.

Currently, City Council acts as both the governor and regulator of the City managed utilities, approving both operating and capital budgets as well as the utility customer rates.

As noted in a City of Edmonton internal legal memo dated December 7, 2009, the Municipal Government Act (MGA) provides Council with the authority to pass bylaws and otherwise regulate municipal public utilities. The MGA does not provide for any specific guidance for Council regarding municipal utility governance. To that end, the regulation of these municipal public utilities would be subject to the same duty of good faith that applies to general municipal governance. Municipal public utilities are regulated by the municipalities which operate those utilities within the municipalities. Unlike investor-owned utilities, the shareowners of the utility, and the customers of the utility are, to a large extent, the same. However, that does not change the overall objective of regulating such utilities, the establishment of just and reasonable rates, in the public interest, and not unduly discriminatory. The major difference between investor-owned utilities and municipally-owned utilities is the determination of what makes up the public interest.

These rate applications represent a departure from previous applications, as they include projected rates for three years (2016, 2017, and 2018). However, the Utility Advisor understands that only the 2016 rates will be approved.

2.0 EXECUTIVE SUMMARY

The 2016 rate increase requested by the Waste Management Utility is 5.7%, with similar increases proposed for 2017 and 2018. The 2016 rate increase requested by the Sanitary Utility is 2.2%, with similar increases proposed for 2017 and 2018. The 2016 rate increase requested by the Stormwater Utility is 5.1%, again with similar increases proposed for 2017 and 2018. All three utility rate requests meet the criteria of relatively stable rate changes year over year.

Utility management does not have significant flexibility to reduce the revenue requirement of their utilities in any area other than Operation and Maintenance costs. Reductions here would require slowing down the addition of new employees and finding additional economies of operation.

The Utility Advisor has not found any indications of imprudent forecasting. However in any utility, it is always possible to find some savings if the regulator deems it necessary.

3.0 PROCESS

Because of the significant improvement in the quality of the rate applications over previous years, the Utility Advisor continued last year's approach to understanding the applications. In past year, the only interaction between the Utility Advisor and utility management has been through the exchange of written Information Requests. This year, after receiving essentially complete drafts of the rate applications, the Utility Advisor met with utility management to deal with any questions the Utility Advisor might have.

The Utility Advisor was encouraged by both the quality of the initial applications, the opportunity to discuss possible issues with utility management, and the revisions that were made to the initial applications after the information sessions.

4.0 RECOMMENDATIONS

i. The Utility Advisor encourages management to seek continuing improvement in Capital Business Cases.
ii. While it does not appear to be possible in the short-term, any and all opportunities to increase the capitalization of the Waste Management Utility should be considered.
iii. The Utility Advisor recommends that Waste Management invest some additional time and resources into researching and implement a more sophisticated risk allowance calculation.
iv. The Utility Advisor believes that additional work on metrics and benchmarking the number of FTEs is warranted.
v. The rate stabilization accounts and short term loans to Waste need to be monitored on an ongoing basis to avoid inappropriate balances.

5.0 PREVIOUS RECOMMENDATIONS

In response to the previous (2015) rate applications of these utilities, the Utility Advisor made the following recommendations:

i. The utilities should adopt a code of conduct for dealing with affiliated parties, that at a minimum requires each utility to determine the Fair Market Value of all services being provided by affiliates, and ensure that the utility pays no more than that Fair Market Value for such services. (Repeat finding from 2013 and 2014 Rate Applications).
ii. The utilities should continue to review select affiliate transactions with a view to completing the review of all affiliate transactions in a reasonable period of time.
iii. Management should continue to seek improvements in the preparation and presentation of Capital Business Cases.
iv. Management of the Waste Management Utility should proactively address what appears to be a serious under-capitalization of the utility.

The Utility Advisor is satisfied that Utility Management is paying close attention to affiliate transactions, and that the evidence provided to date shows that these services are being provided at a price level that is fair to Utility customers.

Significant progress has been made in the development and presentation of Capital Business Cases. The Utility Advisor encourages management to seek continuing improvement in this area.

Management of the Waste Management Utility did not specifically address the issue of under-capitalization in the rate application. However, as a result of IR-UA-1, the picture of under-capitalization is beginning to become clear.

6.0 SPECIFIC FINDINGS

Starting at Page 8 of the Waste Management Application, management presents four alternatives. As a result of UA-IR-1, a fifth alternative is presented.

With respect to the four alternatives presented by Management in the rate application, the Utility Advisor is in agreement with the rationale used to select Option 1.

UA-IR-1 requested a fifth alternative that involved a capital injection into the Utility. As has been mentioned in previous Utility Advisor reports, this Utility appears to be significantly under-capitalized. Management response to this request confirms that a capital injection of $47.8 million would be required to allow this Utility to immediately begin meeting the financial targets identified in the Waste Management Fiscal Policy.

The likelihood that $47.8 million will be found to be injected into this Utility appears to be pretty slim. With the magnitude of rate increase proposed by the Utility, any additional revenue from customers to improve the capitalization of this Utility would violate the principles of stable rate increases and the avoidance of rate shock. As such, this review is an interesting exercise, and should be kept in mind in the future whenever an opportunity to increase the capitalization of this utility becomes available.

IR-UA-2 explored the rationale used by management to calculate the necessary risk allowance. While the answer was complete, the Utility Advisor is not convinced that an appropriate methodology is being used. Assuming that all the identified risks might occur in the same year seems to be overly conservative. The Utility Advisor recommends that Waste Management invest some additional time and resources into researching and implement a more sophisticated risk allowance calculation.

IR-UA-4 explored the methodology of charging shared service costs to Waste Management. The Utility Advisor was not questioning the methodology of allocating the charges. Time and experience have shown that the methodology used is very good. Rather the Utility Advisor was exploring the discipline that the departments providing these services exhibit in providing the services at their budgeted costs, and the impacts of cost-savings and cost-overruns in the providing department. Hypothetically, a service provider could lowball their budget numbers, but then require the service recipient to pay higher than budgeted costs. This does not seem to be the case.

IR-UA-7/12 asked for additional information on metrics used to track increases in FTEs. The answer was satisfactory, however the significant increases in FTEs is concerning. The Utility Advisor believes that additional work on metrics and benchmarking the number of FTEs is warranted.

Appendix A

Information Requests and Responses Received

IR-UA-1

Topic: **Scenarios for Rate Revenue Requirements**

Reference: **Waste Management Rate Filing Page 8**

Background: **Difficulty in Meeting Debt to Net Asset Target**

Request

None of the scenarios presented indicate that the debt to net asset target will be reached in the near future. Please prepare one additional column to the table which is a scenario which meets the debt to net asset target in 2016 through the infusion of a one-time grant which is immediately used to reduce debt.

Response to IR-UA-1

Scenario 5 has been created to incorporate a one-time grant in 2016 in order to achieve the debt to net asset target and has been incorporated into the following Comparison of Scenarios table:

Comparison of Scenarios

Below is a comparison of the scenarios as presented in Section 6.0 Financial Indicators.

Scenario	Recommended as per Business Plan	Mirror Preliminary Tax Levy Forecast	Return on Rate Base = 0%	Achieve Targets by 2018	Achieve Debt to Net Asset Targets
Fundamental Principal	Based on operational requirements and capital forecasts, as presented in the Business Plan.	Mirror preliminary tax levy forecast increases as per preliminary budget guideline report to Council in June 2015.	If return on rate base is set to zero. Waste Management Services would generate enough rate revenue to cover operating and capital needs. No adjustment for stable, consistent rate increases.	Calculates the necessary rate increases in order to achieve all financial indicator targets by 2018.	Maintain debt to net asset targets through a one time grant provided in 2016.
Rate Implications Per Month					
2016 Rate Increase %	5.7%	6.0%	7.1%	32.6%	5.5%
2017 Rate Increase %	5.0%	6.1%	5.1%	13.6%	5.6%
2018 Rate Increase %	5.7%	5.9%	6.2%	10.4%	5.6%
2016 Rate Increase $ (Monthly Single Family)	2.31	2.44	2.88	13.27	2.26
2017 Rate Increase $ (Monthly Single Family)	2.16	2.64	2.24	7.32	2.42
2018 Rate Increase $ (Monthly Single Family)	2.56	2.69	2.84	6.38	2.54
2016-2018 Rate Increase $	7.03	7.77	7.96	26.97	7.22
Financial Indicator Implications					
Positive Net Income Achieved	2016	2016	2016	2016	2016
Year cash target is achieved	2022	2018	2018	2018	2018
Stable Rate Increases	2019	2019	Not achieved by 2025	2019	2019
Year Debt to Net Asset Ratio target is achieved	Not achieved by 2025; 75% in 2025	2025	Not achieved by 2025; 74% in 2025	2016 74% is the minimum in 2018	2016

The debt to net assets targets are achieved from 2016 to 2025 with a one-time grant of $48.7 million applied in 2016 in the above scenario. To meet the minimum debt to net asset target in 2016 alone, the grant required would be $38.1 million. However, in order to maintain the debt to net assets targets and

stable, consistent rate increases from 2019 onwards, the grant received would need to be $10.6 million higher, or $48.7 million.

IR-UA-2

Topic: **Risk Allowance**

Reference: **Waste Management Rate Filing Page 18**

Background: **Probability That Risks will Occur**

Request

It appears that the risk allowance was calculated by adding up the potential risks associated with each category of revenue risk and expenditure risk.

a) Has the probability of each risk been assessed?

b) What is the probability that all the risks would occur in one year, requiring the Waste Utility to access the entire risk premium?

c) Does management have any data or judgment which would suggest that, since the probability of each risk occurring is less than 100% that a smaller risk allowance might suffice?

Response to IR-UA-2

The structure for determining the risk allowance is based on the Waste Management Services' Fiscal Policy C558A, 2.1b. The risk allowance for each identified risk is based on historical trends and adjusted for projected future conditions. The purpose of the risk allowance is to maintain equity in the event of unforeseen and therefore unbudgeted net expenditures.

The identified risks are those activities and initiatives predominately tied to uncertainty for which Waste Management Services has limited control. These include the Recyclable Markets where international influences determine pricing, or implementation of advanced technology in waste management such as Refused Derived Fuel Processing, potentially resulting in revenue or expenditure risks.

The risk allowance is not incorporated into the regulated rate calculation; however, it is combined with Pay As You Go to determine the target cash position in order to mitigate risk exposures.

The probability of each risk occurring has been incorporated in the year over year amount of risk based on previous years trends.

The identified risks are independent of each other. The probability that all risks occurring in the same year has not been assessed.

The projected amount of risk is based on historical trends, which incorporate the probability through prior year's data.

IR-UA-3

Topic: **Materials Recovery Facility**

Reference: **Waste Management Rate Application Page 25**

Background: **Responsibility for Achieving Efficiencies**

Request

The material provided indicates that the operation of the facility has been contracted out, that a consultant has been hired to seek additional efficiencies, and that a collaborative effort will be undertaken to seek additional efficiencies.

a) What incentives exist for the contractor to seek out and implement additional efficiencies?

b) Does the contractor operate this facility for an annual fixed cost, an annual variable cost, a combination of the two, or through a pass through of costs actually incurred?

c) Is the cost of the consultant mentioned paid for by Waste Management regulated utility customers?

Response to IR-UA-3

a) The contract has a revenue share provision as an incentive where the contractor receives a portion of revenue from the sale of commodities. A dedicated City position is providing management oversight of the operational contractor on a daily basis, and is mandated to ensure the contractor is meeting the City's expectations.

b) This contract has two parts, a fixed annual management fee portion and the direct billing of the contractor's incurred expenses (pass through).

c) The consultant's scope is to develop a design for the capital renewal of the Materials Recovery Facility to be implemented in multiple phases between 2016 and 2018. The cost of this consultant is paid through regulated rates. Regulated customers realize the benefits of the MRF improvements through operational efficiencies.

IR-UA-4

Topic: **Shared Services**

Reference: **Waste Utility Rate Filing Page 28**

Background: **Basis for Charges**

Request

For each service itemized on this page, please give a description of the basis for actual charges. Explain whether the charges are billed as forecast, may vary depending on usage, or may vary if the actual costs of the service provider are higher or lower than forecast.

Response to IR-UA-4

Shared service cost allocations to the Utilities are derived from a corporate cost allocation model which is updated on an annual basis. The charge is based on the Utilities' estimated portion of budgeted shared service resources for the upcoming year. The estimated portion allocated to the Utilities is based on predetermined cost drivers. The table below identifies the key cost driver(s) applied for each shared service area.

Shared Service	Cost Drivers
Central Management	% of Branch Budget
Communications	% of FTEs assigned to Utility

Financial Services	% of Branch Budget / % of Branch FTEs
Customer Information Services	% of Utility 311 Contacts
Human Resources	Employee Headcount
Legal Services	% of Utility Legal Files / % of Branch FTEs
Corp. Procurement & Supply Services	% of FTEs assigned to Utility
Information Technology	System Usage / Subscription / % of Branch FTEs
Space Rent / Utilities	Market Occupancy Rates
Facility & Landscape Infrastructure	Maintenance / Custodial work orders

Shared service costs represent indirect program costs that are fully allocated to all branches, including the Utilities. The charges are billed based on the initial cost model calculations and are not generally adjusted for budget variances throughout the year. Changes to shared service program budgets and cost driver activity is reflected in future year shared service cost allocations. The Utilities are able to manage or minimize these cost allocations through measured usage. For example, reducing the Utility user count for an enterprise IT application would impact the subsequent year's IT shared service cost allocation.

IR-UA-5

Topic: **Interest Free Loans from the City**

Reference: **Waste Management Rate Application Page 39**

Background: **Availability of Interest Free Loans**

Request

Please provide the circumstances which led to the City providing an interest free loan to Waste Management.

Response to IR-UA-5

On January 20, 2014 Council considered a verbal report on Emerging Waste Management Issues In-Private pursuant to sections 16, 24, 25 and 27 of the Freedom of Information and Protection of Privacy Act.

At this session a Notice of Renewal was dispensed with a motion approving a Waste Management Services' capital budget amendment for the addition of $2 million in equipment. The funding of this capital equipment included a transfer of $1 million from the 2014 City Operating Budget contingency, which is identified in Schedule 9.4 of the 2016 – 2018 Waste Management Services Rate Filing.

IR-UA-6

Topic: **Cash Position**

Reference: **Waste Management Rate Application Various Locations**

Background: **Inter-relation between Net Income, Pay-As-You-Go, Risk Allowance, Rate Stabilization and Short Term Loan from the City for 2016**

Request

From Scenario 1, Section 6.0, target cash is 7,181, and actual cash is 760. From table 9.4, 2016 Short Term Loan borrowing has a beginning balance of 2,334, and additions of 2,540. From table 10.1, Pay-As-You-Go requirement is 5,081, and Rate Stabilization is (2,088). Please provide a continuity schedule which ties all of these numbers together.

Response to IR-UA-6

Target cash position does not change with changes in actual cash position. The response therefore separates target cash position and actual cash position.

Target Cash Position ($000s)

Item	Schedule	2016		Note
Pay as You Go Requirement	12.2, Line #2	5,081		1
Risk Allowance	6.0	2,100		2
Target Cash	6.0		7,181	

Note: Risk Allowance affects the target cash position, but has no impact on the actual cash position.

Short Term Loan from City of Edmonton ($000s)

Item	Schedule	2016		Note
Beginning Balance	9.4, Line #1	2,334		3
Additions	9.4, Line #2	2,540		4
Principal Payments	9.4, Line #3	510		
Ending Balance	9.4, Line #5		4,364	5
Interest Payments	9.4, Line #4		72	

Actual Cash Position ($000s)

Item	Schedule	2016		Note
Cash balance, beginning of year	**6.0**		**2,153**	
Operating expenses	8.0		(186,998)	6
+ Pay as You Go Requirement	12.2, Line #2	5,081		7
+ Rate Stabilization	10.1, Line #6	(2,088)		8
Revenue requirement		*189,991*		9
- Losses from Non-regulated Programs	10.1, Line #8	(1,967)		10
- Interest on COE short term loan	9.4, Line #4	(72)		11
Total revenue			*187,952*	12
Net income/(loss)	7.0		**954**	
Amortization	9.0		21,762	
Post Closure Care			(564)	
Cash Flow from Operating Activities			**22,153**	
(Purchase)/Disposal of Capital Assets		(52,622)		
Amortization of Contributed Assets	9.2	602		
Cash Flow from Investing Activities	**12.0**		**(52,020)**	13
Short Term Borrowing from COE	9.4, Line #2	2,540		
Repayment of Short-Term Debt	9.4, Line #3	(510)		
Debenture Borrowings	12.2, Line #1	40,223		
Repayment of Long-Term Debt	11.3	(19,622)		
Contributed Assets Financing	12.2, Line #3 & 4	5,843		
Cash Flow from Financing Activities			**28,474**	
Increase (decrease) in cash position		(1,393)		14
Cash, beginning of year	6.0	2,153		
Cash, end of year	**6.0**		**760**	

Notes:

1 - Pay as You Go Requirement	Capital funded from operating cash flow in the next year.
2 - Risk Allowance	Cash maintained for the purpose of meeting unforeseen requirements.
3 - Beginning Balance	Beginning balance for the COE short term loan is the end balance from prior year.
4 - Additions	Additions to COE short term loan equals the additional amount borrowed in a given year to cover non-regulated program losses and to maintain positive cash flow for the Utility.
5 - Ending Balance	Ending balance for the COE short term loan equals starting balance plus additions, minus principal payments.
6 - Operating expenses	Operating costs including amortization and interest.
7 - Pay as You Go Requirement	See Note 1. Pay as You Go is included to ensure WMS has enough cash to cover operating and capital needs as per fiscal policy.
8 - Rate Stabilization	The amount required to increase/(decrease) regulated rate revenue in order to achieve the Financial Indicator target of "stable, consistent rate increases".
9 - Revenue requirement	Total amount of revenue required to cover operating and capital needs.
10 - Losses from Non-regulated Programs	WMS cannot subsidize non-regulated program losses with regulated rate revenue.
11 - Interest on COE short term loan	Interest payments on COE short term loan cannot be subsidized by regulated rate revenue.
12 - Total revenue	Total revenue from rate revenue and non-rate revenue (program revenue and grant revenue).
13 - Cash Flow from Investing Activities	Approved capital plan.
14 - Increase (decrease) in cash position	Cash Flow from Operating Activities + Cash Flow from Investing Activities + Cash Flow from Financing Activities

IR-UA-7

Topic: **FTEs**

Reference: **Waste Management Rate Application Page 22**

Background: **Increases to FTEs**

Request

The rate application justifies the addition of 23.65 additional FTE, increasing from 526 to 549.65. This represents an increase of approximately 4.5%. Population increase for the same period is estimated at 1.6%. While there is no expected direct correlation between FTE in the short term with population increase, the Utility Advisor expects that growth in FTE should be measured as part of productivity reviews by senior management.

a) Does senior management use any metrics involving FTEs to track productivity?

b) If the answer to a) above is yes, please provide a description and the results of the metrics used.

c) If the answer to a) above is no, please provide management's perspective on tracking this element of productivity.

Response to IR-UA-7

a) Yes. Senior Management uses metrics to oversee employee productivity in a number of different ways dependent on the work involved. During annual staff evaluations, statistical data is reviewed by the employee and supervisors used to discuss performance, wherever feasible.

b) The following table describes metrics used for requested FTE's in the Processing and Disposal Section of the Waste Management Utility where for the most part, operations allow for statistical data to be collected and analyzed. From this data, management's productivity expectations can be discussed with staff involved.

2016-2018 EDMONTON UTILITY RATE FILINGS INFORMATION REQUESTS OF THE UTILITY ADVISOR

Position	2016 Service Needs FTE	2016 Service Needs	Measure Identified to Track/ Demonstrate Productivity	Trend Explanation
Commercial Collection Services (growth)	3.30	$261,000	This information is provided in a confidential memo to Utility Advisor	This information is provided in a confidential memo to Utility Advisor
EWMC Operators	6.75	$508,000	1 EWMC operator is expected to process approximately 15,000 tonnes of waste through the RDF Process	135,000 tonnes of waste is expected to be processed through the RDF process on an annual basis once the Waste-to-Biofuels and Chemicals facility is at full capacity. In 2016 6.75 FTE's are required for projected tonnages.
Electrical Engineer	1.00	$124,000	1 electrical engineer is expected to be able to provide services for the electrical components at the EWMC.	EWMC has grown to now eleven major facilities, each of which house advanced electrical systems.
Heavy Duty Mechanic	2.00	$198,000	A well established predictive maintenance program will increase fleet availability	In 2014 the fleet availability of the complex processing fleet was 73%. With the addition of these mechanics, we will be able to fully implement a predictive maintenance program that will allow us to increase our fleet availability above 80%.
Data Management Clerk	1.00	$54,000	1 data management clerk addresses about 400,000 tonnes of processed waste material transactions at EWMC.	An increase of 25% of waste transactions, equals to 400,000 tonnes of waste materials per year is expected in the next budget cycle for the operation of the Waste-to-Biofuel and Chemicals facility and the Anaerobic Digestion facility.
Mechanical Maintenance Planner	2.00	$208,000	The percentage of total work time a mechanic spends repairing or maintaining equipment (wrench time percentage).	The stationary equipment mechanics currently spend approximately 35% of their time turning wrenches. By adding these positions, we expect wrench time to increase to approximately 65%.
EWMC Lab Technician	1.00	$73,000	1 lab technician is expected to process about 360 samples per year.	Laboratory analysis will be required for about 380 additional samples from the Refuse Derived Fuel, external cure site, environmental monitoring and Research & Development program.
P&D Truck Driver	3.60	$285,000	1 driver is expected to haul approximately 10,000 tonnes of waste to landfill or compost to an offsite cure site.	We expect to haul 20,000 tonnes of compost to an off site cure site (2 FTE). We are also planning on replacing 16,000 tonnes of waste hauled by our contract haulers with City haulers (1.6 FTE)
Public Information Officer	1.00	$98,000	Productivity is measured by the ability of the communications advisor (Public Information Officer) to provide timely and high quality communications services to support the Branch in meeting its business objectives.	This position resides within Corporate Communications. The volume of projects that require communications support continues to grow, (and is currently at more than 50). Communications is a key element of all social marketing programs, marketing programs, and issues management.
Public Service Representative	1.00	$68,000	Metrics include the number of calls from public that are answered; goal is 95% (standard for call centres); field orders created, internet enquiries completed.	Number of calls and requests for service are trending up. This includes calls from the public and in particular requests for service from commercial clients, which increased by 142% in 2014 and is trending up slightly in 2015.
Training Coordinator	1.00	$84,000	No metrics in place	This position is responsible for training and information sharing within the branch. This is in response to our culture action plan to increase information sharing in the utility and includes in-house training. Productivity is measured with employee surveys and levels of employee engagement.

c) Not applicable.

IR-UA-8

Topic: **Rate Stabilization**

Reference: **Drainage Utilities Rate Application Page 21**

Background: **Philosophy of Rate Stabilization**

Request

a) Please confirm that the amount shown for 2016 rate stabilization is a cost to 2016 customers over and above the cost that is forecast to be incurred as a result of providing service.

b) Please confirm that the intent of the rate stabilization category is to smooth rate increases over the forecast period.

c) Do positive balances in the rate stabilization account attract any interest on behalf of customers?

Response to IR-UA-8

a) Confirmed.

b) Confirmed.

c) Yes. The interest earned would be similar to what the City of Edmonton would earn on other similar positive short term cash balances.

IR-UA-9

Topic: **Sanitary Operations and Maintenance Expenses**

Reference: **Drainage Services Rate Application Section 7.2**

Background: **Operations and Maintenance versus Capital**

Request

While this section is labelled Operations and Maintenance, it appears that some of the costs are associated with capital activities of Drainage Design & Construction, such as explained in the note to Line 2.

a) Are capital related costs transferred from operating accounts to capital at some point in the rate application?

b) If so, please provide the reference.

c) If not, why are capital related costs being included in Operations and Maintenance?

Response to IR-UA-9

a) Yes.

b) Please refer to Schedule 7.1 and Schedule 7.8. Schedule 7.1 outlines the overall operating costs for the Sanitary Utility. Schedule 7.8 provides a breakdown of those same costs by Program Area.

Under the Design and Construction area, for every data column (e.g. 2015 Budget, 2016 Proposed, etc.) the total costs are offset by a corresponding Interdepartmental Charges/Recovery line which primarily represents the transfer to capital. The net balance is the amount that impacts Operations and Maintenance costs.

For example, for 2016 Proposed, only $1.7 Million is allocated to Operations and Maintenance costs. In the case of Design and Construction, these represent costs incurred to provide Design and Construction external project services (non-rate revenue). These are subsequently offset by Non-Rate Revenue earned by Design and Construction identified in Schedule 7.5. For more information, please refer to the response to IR-UA-11.

c) Not applicable.

IR-UA-10

Topic: **Shared Services**

Reference: **Drainage Services Rate Application**

Background: **Basis for Charges**

Request

Please refer to IR-UA-4. The Utility Advisor would appreciate a similar response from Drainage Services.

Response to IR-UA-10

Please refer to the response to IR-UA-4.

IR-UA-11

Topic: **Design and Construction**

Reference: **Drainage Services Rate Application Section 7.8**

Background: **Transfers from Operations and Maintenance to Capital**

Request

All but $1,427 of Design and Construction's expenses are shown to be recovered through interdepartmental recoveries. As explained in the Note:

> Drainage Design & Construction Interdepartmental Charges/Recoveries includes both recoveries to capital (representing project volume) offset by interdepartmental charges from other City of Edmonton departments.

a) Why are less than 100% of Design and Construction's costs recovered?

b) Is the recovery of Design and Construction's costs through interdepartmental recoveries the method by which Design and Construction's costs are assigned to capital projects?

Response to IR-UA-11

a) These non-recovered amounts represent costs incurred to provide Design and Construction external project services (non-rate revenue). These costs are subsequently offset by Non-Rate Revenue earned by Design and Construction identified in Schedule 7.5.

b) Yes. Please refer to the response to IR-UA-9.

IR-UA-12

Topic: **FTEs**

Reference: **Drainage Services Rate Application**

Background: **Increases to FTEs**

Request

Please refer to IR-UA-7 and provide a similar response for Drainage Services.

The rate application justifies the addition of 23.65 additional FTE, increasing from 526 to 549.65. This represents an increase of approximately 4.5%. Population increase for the same period is estimated at 1.6%. While there is no expected direct correlation between FTE in the short term with population increase, the Utility Advisor expects that growth in FTE should be measured as part of productivity reviews by senior management.

a) Does senior management use any metrics involving FTEs to track productivity?

b) If the answer to a) above is yes, please provide a description and the results of the metrics used.

c) If the answer to a) above is no, please provide management's perspective on tracking this element of productivity.

Response to IR-UA-12

a) Yes, Drainage Services has metrics involving FTEs to track productivity. Some of the productivity metrics directly involve FTEs, while other metrics are indirectly related to FTEs but can be used to support justifications for additional FTE requests.

b) The table below includes the productivity measures that Drainage Services is tracking and monitoring. Please note that some of these measures were recently established and the targets and data collection processes are still being developed.

Business Area	**Performance Measure**	**Reporting Frequency**	**2015 Target**	**Results** *(Some Performance Measures Data have been aggregated for reporting purposes)*		
Public Services	# Lot Grading Inspections / FTE	Monthly	2000 Lot grading inspections per FTE	2012 2,101 inspections per FTE	2013 2,193 inspections per FTE	2014 2,317 inspections per FTE
Open Cut Construction	Labour $ / Metre pipe installed	Quarterly	Target being developed	Q1 & Q2 1 2015 $ 990.00 (Labour $) per Metre of Pipe installed		
	Labour hours / Metre pipe installed	Quarterly	Target being developed	Q1 & Q2 2015 22 hours per Metre of Pipe installed		
	Project $ / Metre Pipe installed	Quarterly	Target being developed	Q1 & Q2 2015 $ 2,982.34 (Project $) per Metre of Pipe installed		
Cost Estimation & Specifications	# Cost Estimates completed / FTE	Annual	Target being developed			
	# Third Party Design Reviews completed / FTE	Annual	Target being developed			
	# New Product Reviews completed / FTE	Annual	Target being developed			

Growth & Land Development	# Construction Site & Erosion Sedimentation Control Inspections / FTE	Quarterly	Target being developed	Q1 2015 17.25 inspections per FTE	Q2 2015 355.50 inspections per FTE	
	# Construction Completion Certificate & Final Acceptance Certificate Inspections / FTE	Quarterly	Target being developed	Q1 2015 1.75 inspections per FTE	Q2 2015 29.25 inspections per FTE	
Pipeline Maintenance	Labour Cost ($) / Metre of Sewer Pipes Cleaned (HPF & CHF)	Monthly	$ 3.00 per Metre of Sewer Pipe Cleaned	June 2015 $ 3.19 per Metre of Sewer Pipe Cleaned	July 2015 $ 1.85 per Metre of Sewer Pipe Cleaned	Aug 2015 $ 1.71 per Metre of Sewer Pipe Cleaned
	Labour Cost ($) / Metre of Sewer Pipes with Televised Inspection	Monthly	Target being developed			

c) An initiative to establish comprehensive branch wide performance measures is underway. This involves extensive consultation with business areas across the branch to establish meaningful measures for business decision making. Over time more metrics, including productivity measures will be tracked and monitored on a regular basis.

City of Edmonton

Drainage Services Utilities

2016-2018 Utility Rate Filing

October 09, 2015

Table of Contents

1.0 Introduction

Since 2011, City Council has followed a governance framework for all of the City of Edmonton's Public Utilities. The Utility Committee, comprised of the Mayor and four members of City Council, is responsible for reviewing all matters relating to the Utilities' operations and to make recommendations to City Council where budgets and policies are involved.

The services of a Utility Advisor are also retained to provide technical expertise and advice to the Utility Committee and City Council in utility matters.

In 2015, Drainage Services provided to the Utility Committee a number of reports, including the following key documents, which were either approved or received for information:

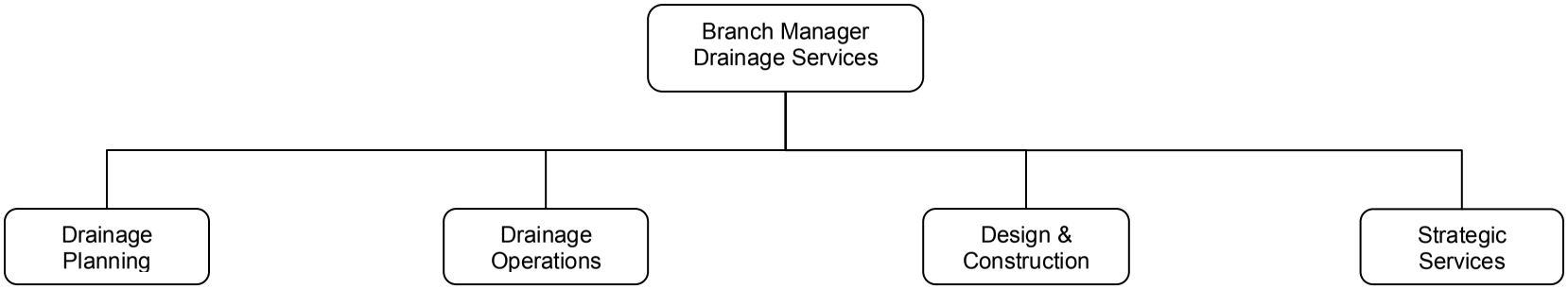
- 2014 Drainage Services Annual Report
- 2016-2018 Drainage Services Utility Business Plan
- Biosolids Management Agreement (Alberta Capital Region Wastewater Commission)
- Analysis of Ratio of In-House Work to External Consultants
- Shared Services Fair Market Evaluation (Real Estate Services, 311, Fleet Services)
- Process to Manage Debt (Utilities)
- Sanitary Grit Facility
- Comparison of Incremental Employee Costs to External Consultants

The 2016-2018 rate filing has been prepared based upon the directions contained within these documents and/or provided by the Utility Committee during their review. Administration has also prepared budget documents for Drainage Services following the corporate format to enable communication with citizens. This document will be publicly released as part of the City of Edmonton Budget process in late October 2015.

This rate filing has been prepared in accordance with the approved Drainage Services Utility Fiscal Policy (C304D). The Utility Fiscal Policy focuses on balancing the best possible service delivery at the lowest cost while employing private sector approaches to rate setting. The financial targets for Drainage Services focus on providing stable and consistent rate increases and overall long-term financial sustainability.

This rate filing has been organized to include both the rate requirements of the Sanitary Utility and the Stormwater Utility. Where there is commonality in the overall description of the services, they have been reflected concurrently.

2.0 Organization Structure



- Infrastructure planning
- Environmental planning
- Sanitary Servicing Strategy Fund management
- Biosolids management
- EPCOR & ACRWC coordination
- Growth and land development
- Land development review and approval
- Systems management
- Asset management
- Environmental monitoring & reporting
- Service connections
- Lot grading & flood proofing

- Maintenance of collection system, sewer, manholes, catch basins, pump stations, wet and dry ponds
- Environmental services
- Compliance report (Approval to Operate)
- Regulatory inspections and compliance
- Operational planning

- Design and construct wastewater and storm drainage system facilities
- Project management
- Open cut construction
- Tunneling construction

- Business planning & strategy development
- Performance measures
- Facilities, non-system assets and procurement management
- Workforce development
- Infrastructure records
- Health and safety

3.0 Methodology and Key Assumptions

The 2016-2018 Utility Rate Filing is based upon the 2015 Forecast prepared as of July 31, 2015 and incorporating any significant changes that came to light in August. The City of Edmonton provided corporate budget guidelines and includes the following:

	2016	2017	2018
Population Projection	1.6%	1.9%	2.1%
Consumer Price Index	1.73%	2.03%	1.97%

Economic Increases

The following Unions have settled: ATU 569 Main, ATU 569 DATS, CSU 52, IBEW 1007 and CUPE 30. The settlements are at the following rates:

2016	2017	2018
2.75%	2.0% (January) 1.0% (June)	3.0%

Economic Increase for the Management group:

2016
2.50%

Employment benefits

Calculated by the City of Edmonton Capital and Operating Budget System (COBS) which allocates benefit dollars by employee

Other assumptions used include the following:

- **Cost of Debt**

	2016	2017	2018
25 Year Financing Term	3.26%	3.51%	3.76%

Debt servicing calculations use Corporate-wide approved Cost of Debt rates based on 2015 actual second quarter Alberta Capital Finance Authority borrowing rates. An additional 0.25% increment is added on per year starting in 2016 through to 2025.

Drainage Services is only utilizing 25 year debt financing in the 2015-2018 approved capital plan and the 2019-2025 forecast for capital with an asset life of 25 years or greater. No other debt financing terms are forecasted to be needed at this time.

- **Staff Vacancy** –a vacancy discount of 6% has been applied to reflect typical vacant positions that exist during the year. In addition, the 2016-2018 filing reflects hiring of new positions in October. These vacancy assumptions reflect the historical difficulty experienced in hiring skilled employees to meet the Utility requirements.

- **Full-Time Equivalent** – a full-time equivalent (FTE) is defined as the hours (and associated personnel costs) one full-time employee would work in a year. For example, if a position is funded for a full year, it is equivalent to 1.0 FTE, whereas a position funded for six months, is equivalent to 0.5 of an FTE. Funding for the new position may be adjusted in the first year to reflect the vacancy during the hiring of the new position, with full funding for the position beginning the following year.
- **Consumption and Growth** – customer consumption and growth assumptions are derived from incorporating historical trending, the corporate projection of population, and information from the EPCOR billing system. The proposed 2016-2018 budget customer billing base is made up of the following:

2016 Proposed	Customer Type	# of Customers	Consumption	Density
Sanitary Utility	Residential	240,386 (1.5% growth)	15.3 m^3	N/A
	Multi Family	3,570 (1.0% growth)	416.3 m^3	N/A
	Non-Residential	14,724 (1.0% growth)	119.0 m^3	N/A
Stormwater Utility	Residential	235,816 (2.0% growth)	N/A	276
	Multi Family	3,447 (0.8% growth)	N/A	1,880
	Non-Residential	14,488 (0.0% growth)	N/A	3,147

2017 Proposed	Customer Type	# of Customers	Consumption	Density
Sanitary Utility	Residential	243,992 (1.5% growth)	15.3 m^3	N/A
	Multi Family	3,606 (1.0% growth)	416.3 m^3	N/A
	Non-Residential	14,871 (1.0% growth)	119.0 m^3	N/A
Stormwater Utility	Residential	240,532 (2.0% growth)	N/A	276
	Multi Family	3,475 (0.8% growth)	N/A	1,880
	Non-Residential	14,546 (0.4% growth)	N/A	3,147

2018 Proposed	Customer Type	# of Customers	Consumption	Density
Sanitary Utility	Residential	247,651 (1.5% growth)	15.2 m^3	N/A
	Multi Family	3,642 (1.0% growth)	416.3 m^3	N/A
	Non-Residential	15,020 (1.0% growth)	119.0 m^3	N/A
Stormwater Utility	Residential	245,343 (2.0% growth)	N/A	276
	Multi Family	3.503 (0.8% growth)	N/A	1,880
	Non-Residential	14,604 (0.4% growth)	N/A	3,147

NOTE: The variances shown in customer growth between Sanitary and Stormwater customers and customer types is the result of an analysis of historical trending. Over the last few years, Administration has been refining the approach taken to

forecast customer growth and consumption as well as working with EPCOR to ensure customers are being billed appropriately and to improve processes.

As such, in an effort to continue improving, Administration will be continuing to work with EPCOR to determine a more synergized approach to refine customer and consumption reporting and forecasting in the future as well as to develop additional internal analytic reporting.

- **Consolidation of Development Services** - To better align services and gain long-term efficiencies for ratepayers, the Development Services area has been consolidated into the Drainage Planning and Operations areas. No change in service levels or services provided previously will be experienced as a part of the consolidation. Prior year figures have been restated to reflect the consolidation. For more details regarding the reorganization of FTE's, please refer to Section 11.1.

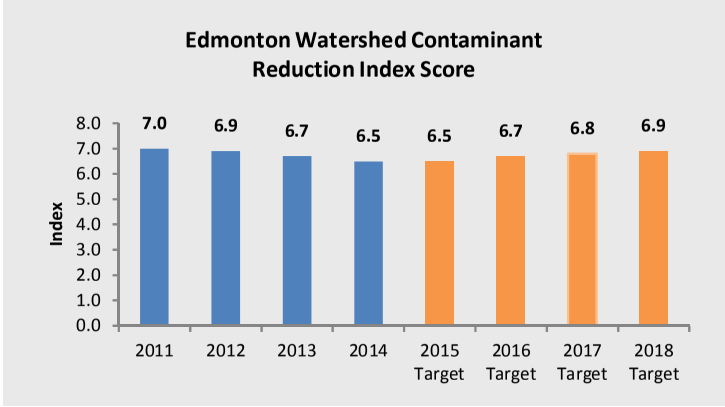
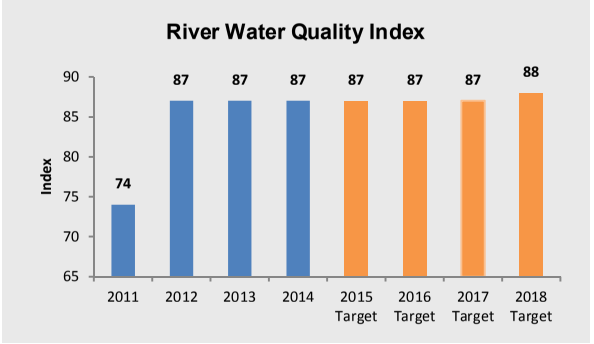
- **Integration of Drainage Design and Construction** - Included is the full merging of Drainage Design and Construction within Drainage Services, as approved by Executive Committee on June 17, 2014. Drainage Design and Construction is integrated as part of the Sanitary Utility and historical figures have been restated to ensure comparable figures year over year. The full merging of Drainage Design and Construction includes all assets and liabilities including cash, capital assets, and retained earnings.

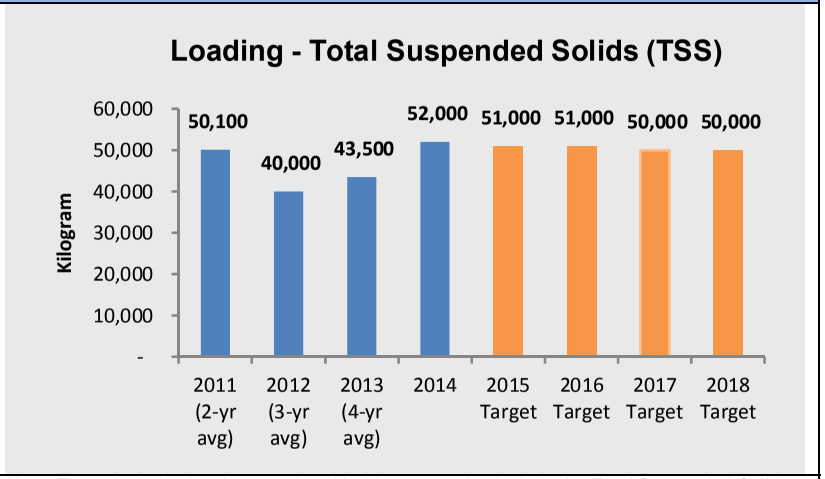
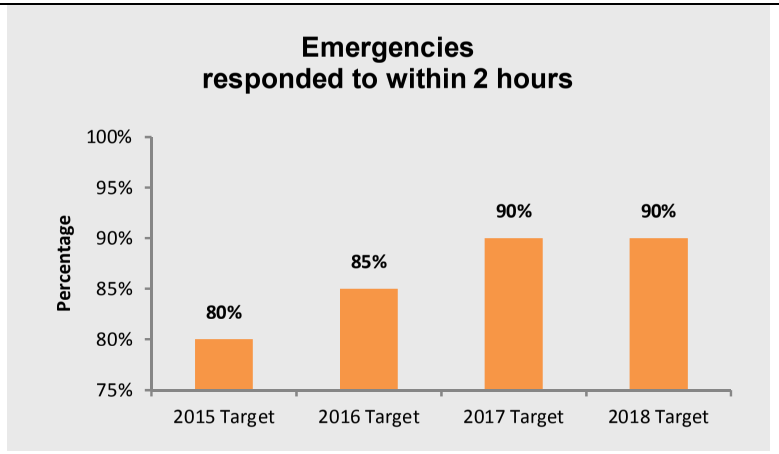
- **Drainage Design and Construction Overhead** - the Drainage Design and Construction section of Drainage Services provides design and construction services in support of Drainage Services' capital plan. In providing these services, the area has forecasted the following overhead rates, primarily based on the Drainage Services Capital Plan (in $millions), as shown below:

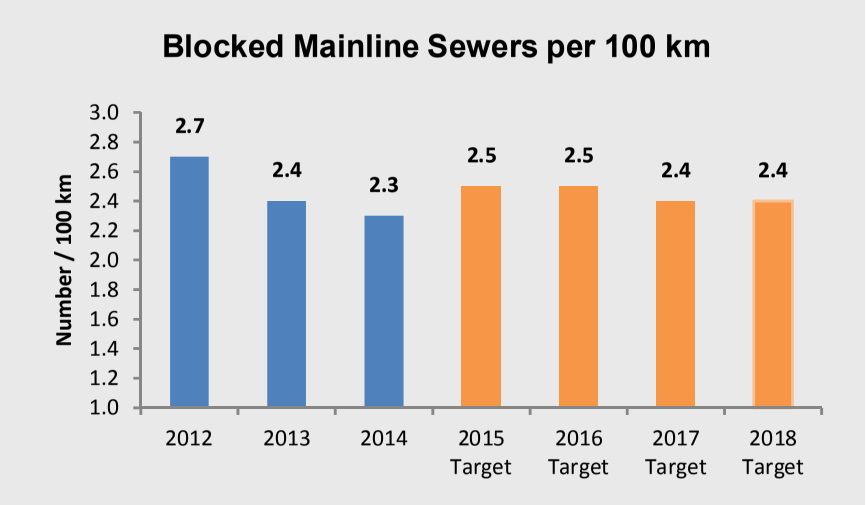
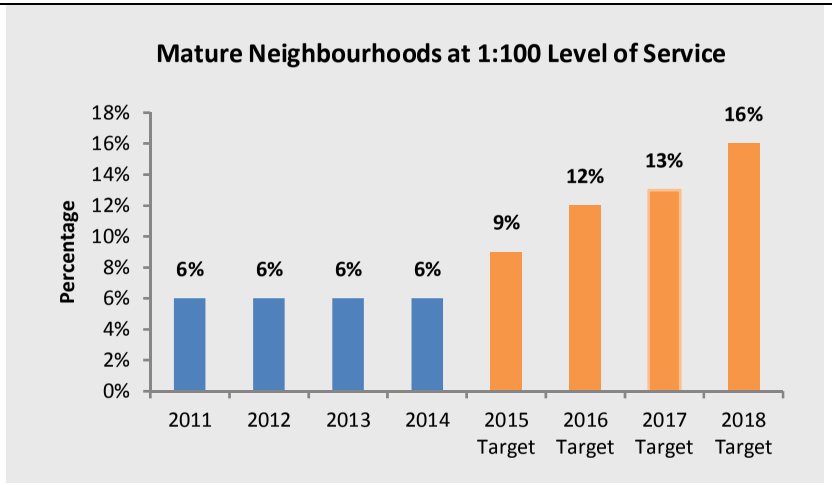
	2016	2017	2018
Direct Costs:	$147	$164	$138
Overhead:	15	14	15
Total Project Volume:	**$162**	**$178**	**$153**
Overhead Rate:	**10.0%**	**8.6%**	**10.5%**

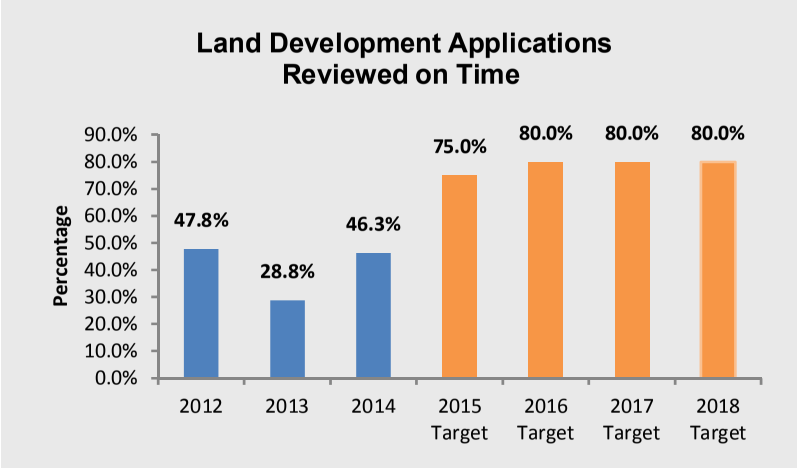
4.0 Operational Performance

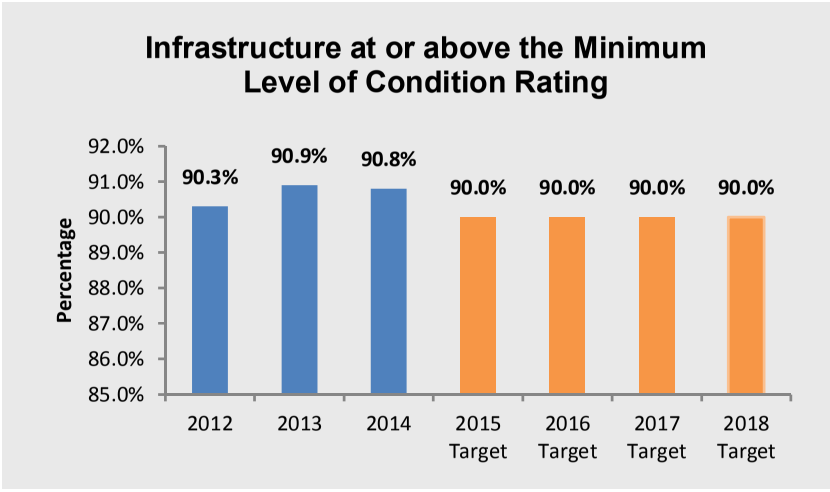
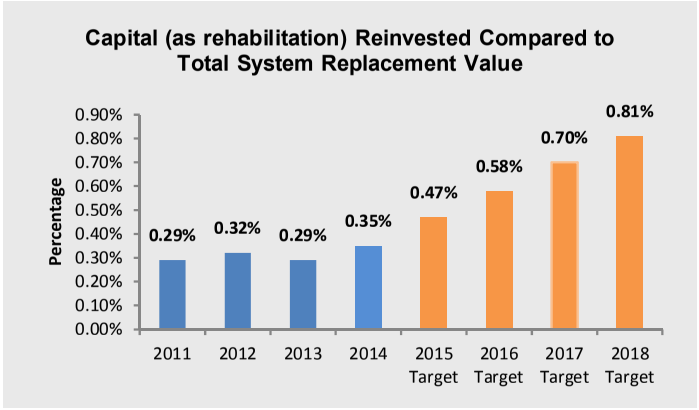
- The six operational performance goals below align with Drainage Services Approved Business Plan (2016-2018) as well as Drainage Services Approved Aspirational Drainage Master Plan (2015-2024).

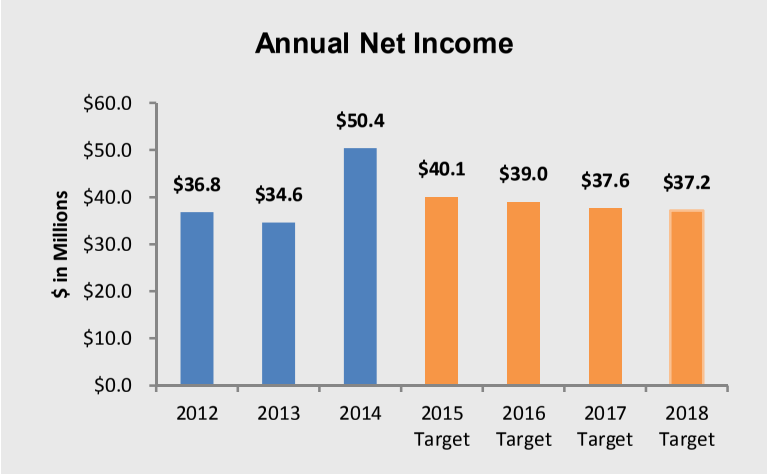
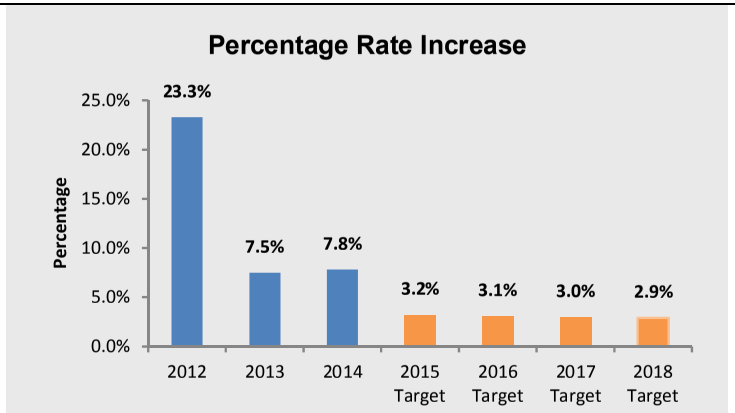
Goals	Strategic Directions	Performance Measure	Results & Target
1. **Healthy Living and Environmental Stewardship**	**1.1** Mitigate the environmental and public health impacts of combined sewers. **1.2** Coordinate with regulators to ensure understanding and compliance with current and emerging regulations. **1.3** Reduce the amount and improve the quality of stormwater discharge through a variety of approaches including encouraging low impact development, increasing the use of green infrastructure and exploring innovative techniques. **1.4** Develop solutions to support the beneficial use of biosolids. **1.5** Engage in Proactive Watershed management and planning such as the River for Life Strategy. **1.6** Minimize system odour emissions and air entrapment impacts. **1.7** Proactively manage the potential impacts of climate change through adaptation of current systems. **1.8** Support conservation of natural areas and wetlands.	• Edmonton Watershed Contaminant Reduction Index Score (five-year rolling average)	 *Note: The 2014 index result of 6.5 is considered fair. An index of 7.45 or higher is considered good. The decreasing trend is due in part to major rainstorm events that influenced the outcome for 2012 and 2013 as well as the 5 year average. The city is expecting to be at 6.9 by 2018; progress is being made toward reducing contaminant loading to the river through implementation of low impact development and other management programs.*
		• River Water Quality Index	 *Note: The River Quality Index was developed specifically by Alberta Environment & Parks as a way to summarize physical, chemical and biological data into a simple descriptor of water quality. Based on the results, the North Saskatchewan River (NSR) system has a good to excellent water quality for the past years and is expected to remain the same in the next coming years. Water quality may appear to be better in drier years since dry conditions cause less surface run off and fewer contaminants coming from the land to the river. The upgrading of the wastewater treatment in the past has improved the water quality downstream of Edmonton.*

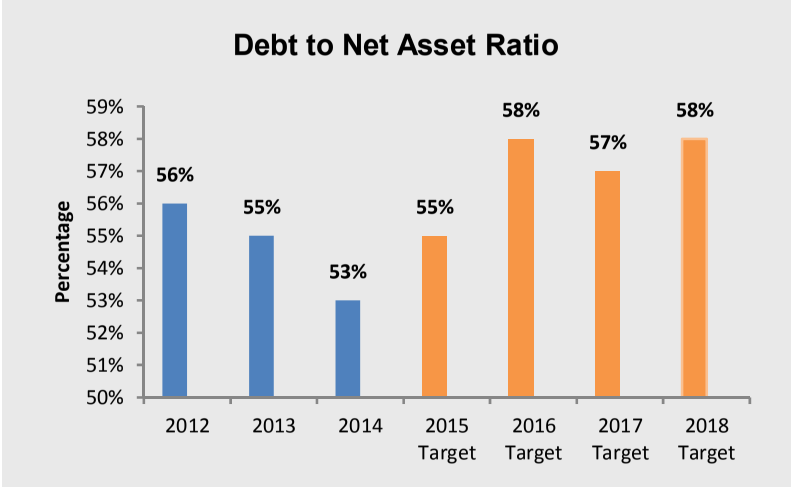
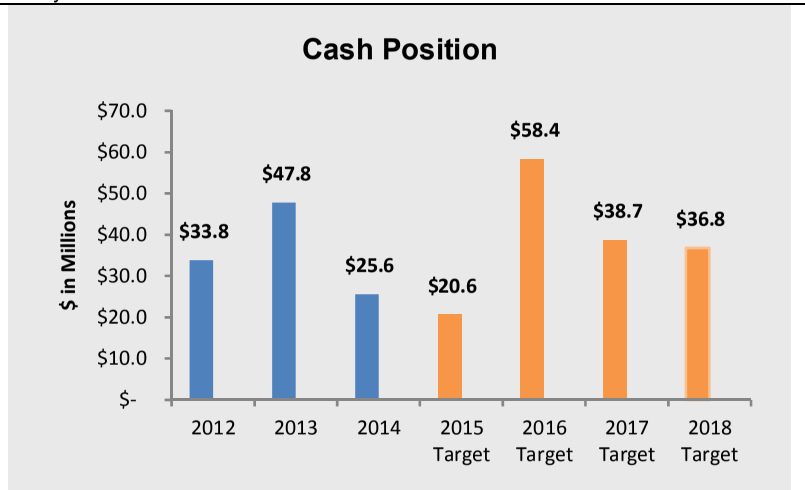
Goals	Strategic Directions	Performance Measure	Results & Target
		• Kg of Total Loading – TSS (five-year rolling average)	 *Note: The calculation has been updated in 2014 onward to include the Total Suspended Solids (TSS) loadings that go into the City's creeks. The inclusion of loadings into the creek reflects a more comprehensive calculation of the City's Total Suspended Solids (TSS) loads not considered in previous years.*
2. **Citizens Well Served**	**2.1** Reduce the risk of flooding for private property and public spaces. **2.2** Increase customer satisfaction with drainage services and responsiveness. **2.3** Strengthen customer relations through communication, engagement and education by developing proactive programs.	• Percentage of customers satisfied with Drainage Services	Targets under development
		• Percentage of emergencies responded to within 2 hours	

Goals	Strategic Directions	Performance Measure	Results & Target
		• Number of blocked mainline sewers per 100 km length (5-year rolling average)	
		• Percentage of mature neighborhoods at 1:100 level of service	 *Note: Over the last decade, several flood mitigation programs have been implemented or are in the process of being implemented with the primary objective of systematically addressing long term drainage and flooding problems in at-risk mature neighbourhoods. As of 2014, about 6% out of a total of 157 identified at-risk neighbouthoods have been protected against a 100 year storm flood. This is expected to double in 2016 to 12%. These improvements include building new sewer pipes, improving overland drainage routes, and constructing ponds. With the implementation of the city-wide flood mitigation program, the % rate is expected to increase to 29% over the next decade.*

Goals	Strategic Directions	Performance Measure	Results & Target
3. Supporting and Enhancing Growth and Development	**3.1** Manage ongoing wastewater and stormwater servicing programs to ensure growth and development is well planned and coordinated. **3.2** Support densification and infill development through planning and implementation of system upgrading and/or green infrastructure. **3.3** Coordinate on industrial land development to support the City's prosperity goals. **3.4** Enhance servicing in a regional context by supporting planning for growth and coordination/harmonization of regional servicing.	• Percent of Land Development Applications reviewed on time	 *Note: The Growth and Land Development business area recently restructured in 2014 to address the gap in Land Development Application reviews. Currently the section is working on expanding the team to accommodate the increasing workload. Internal business processes will also be reviewed to improve efficiency and effectiveness within the group.*
		• Pipe Capacity Rating	Targets under development

Goals	Strategic Directions	Performance Measure	Results & Target
4. Sustainable Infrastructure	**4.1** Proactive maintenance, rehabilitation and replacement of assets through increased monitoring, inspection and condition assessment. **4.2** Enhance the processes around data gathering, management, and application and link the data more effectively into the planning, design, construction, and maintenance phase. **4.3** Integrate an asset management philosophy into day-to-day activities to extend responsibility across Drainage Services. **4.4** Increase innovation to achieve more efficient and effective management of Drainage infrastructure.	• Percentage of infrastructure at or above the minimum level of condition rating	
		• Percentage capital (as rehabilitation) re-invested compared to total system replacement value	 *Note: Drainage Neighbourhood Renewal and System Rehabilitation Programs are proactively working to rehabilitate/renew the aging drainage infrastructure to maintain the required level of service to the residents and minimize any sudden disruption of sewer services. The level of investment has gradually increased over the past years because of the increasing number of drainage asset segments that require rehabilitation work. The number of mature neighbouhoods impacted by Drainage projects has also increased due to the coordination required with Transportation Neighbourhood Renewal Program to ensure compliance with the 3 year no cut policy.*

Goals	Strategic Directions	Performance Measure	Results & Target
5. Fiscal Responsibility	**5.1** Ensure a fair and equitable rate structure that supports necessary Drainage Services Initiatives. **5.2** The Drainage Utility is operating in a manner that is financially sustainable. **5.3** Engage in transparent and efficient budgeting and reporting processes to provide clear and timely financial information. **5.4** Manage the process of funding the renewal of developer contributed assets.	• Annual Net Income	 *Note: The annual net income is a measure of profitability and represents whether or not the utility has a funding source that is able to meet annual operating expenses. The focus of the utility is not on being profit driven but rather on achieving long term financial sustainability. As such the annual net income is only high enough to ensure that short and long term requirements are met.*
		• Percentage Rate Increase	 *Note: The percentage rate increase has a direct effect on profitability and whether or not the utility has a funding source that is able to meet annual operating expenses. The focus of the utility is not on being profit driven but rather on achieving long term financial sustainability. As such the percentage rate increase is only high enough to ensure that short and long term requirements are met. The utility also strives to minimize rate shock as much as possible by having consistent and stable rate increases.*

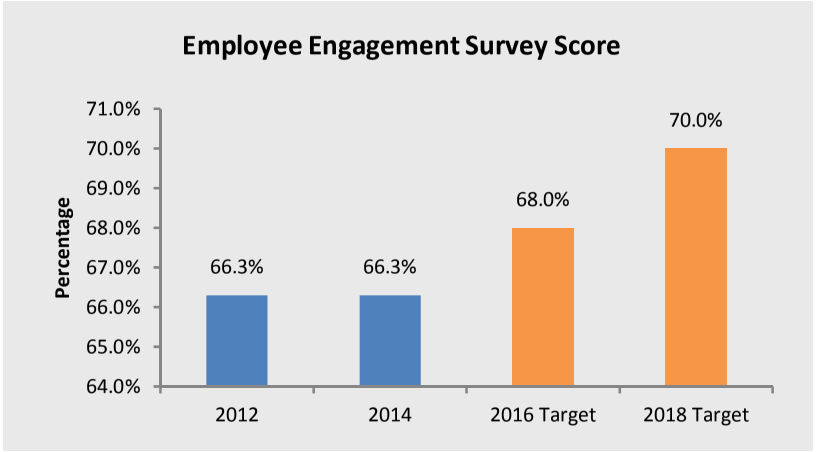
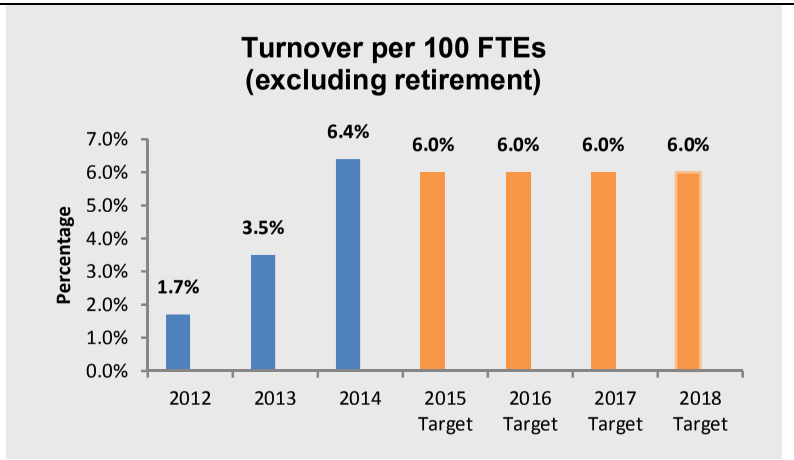
Goals	Strategic Directions	Performance Measure	Results & Target
		• Debt to Net Asset Ratio	 *Note: The debt to net assets ratio is a measure of how much debt the utility has versus the amount invested in utility financed capital assets. The current approved target is to be between 50% to 70%. Capital needs are generally funded through a mixture of debt and cash. The focus of the utility is to ensure long term financial sustainability by balancing financing between debt and cash based on availability.*
		• Cash Position	 *Note: The cash position target is to have enough funds to at a minimum cover next years required Pay As You Go requirement (financing through cash) and an amount for risk due to estimated volatility of capital expenditures. If required, cash may also be required to aid in stabilizing rate increases. The focus of the utility is to ensure long term financial sustainability. This target is balanced against the debt to net assets ratio as well rate increases/net income.*

<table>
<tr><th>Goals</th><th>Strategic Directions</th><th>Performance Measure</th><th>Results & Target</th></tr>
<tr><td rowspan="3">6. Organizational Excellence</td><td rowspan="3">6.1 Ensure Workforce sustainability through effective recruitment, training and retention.

6.2 Improve internal communication, coordination and collaboration within Drainage Services and between City departments.

6.3 Develop a culture to support a high performing organization.

6.4 Optimize equipment management and adopt new technology to support effective and efficient operations.

6.5 Enhance knowledge transfer within and across Drainage Services' functions.</td><td>• Employee Engagement Survey Score</td><td> 
</td></tr>
<tr><td>• Percentage turnover per 100 FTEs (excluding retirement)</td><td> 
</td></tr>
<tr><td>Note: The turnover rate in 2014 was driven by the “qualified trades, helpers and labourers” which accounts for around 30% of the entire workforce. A 6% turnover rate is still expected over the next coming years .</td></tr>
</table>

5.0 Rate Request and Factors Influencing Rate Requirement

The 2016-2018 Budget and Utility Rate Filing includes a request for rate increases as follows:

Sanitary Utility

2015 Actual		2016 Proposed		2017 Proposed		2018 Proposed	
Monthly Fixed Rate ($ Per Meter)							
15mm	8.65	15mm	8.85	15mm	9.04	15mm	9.24
20mm	15.57	20mm	15.93	20mm	16.27	20mm	16.63
25mm	24.23	25mm	24.79	25mm	25.31	25mm	25.87
40mm	46.72	40mm	47.80	40mm	48.80	40mm	49.89
50mm	64.03	50mm	65.51	50mm	66.88	50mm	68.36
75mm	132.38	75mm	135.44	75mm	138.28	75mm	141.34
100mm	246.59	100mm	252.29	100mm	257.58	100mm	263.29
150mm	466.36	150mm	477.15	150mm	487.14	150mm	497.94
200mm	744.09	200mm	761.31	200mm	777.26	200mm	794.48
250mm	1,846.39	250mm	1,889.11	250mm	1,928.68	250mm	1,971.42
Variable Rate ($ per m^3)							
Standard	0.8857	Standard	0.9109	Standard	0.9314	Standard	0.9570
Large Wholesale	0.4953	Large Wholesale	0.5142	Large Wholesale	0.5326	Large Wholesale	0.5524

Stormwater Utility

Monthly Rate ($ per m2)	2015 Actual	2016 Proposed	2017 Proposed	2018 Proposed
Standard	0.035274	0.037114	0.038911	0.040738

Impacts on Typical Residential Customer

Typical Monthly Fee	2015 Actual	2016 Proposed	2017 Proposed	2018 Proposed
Sanitary Drainage	$22.29	$22.79	$23.29	$23.79
Stormwater Drainage	$9.74	$10.24	$10.74	$11.24

Monthly Increase	2016 Proposed	2017 Proposed	2018 Proposed
Sanitary Drainage	$0.50	$0.50	$0.50
Stormwater Drainage	$0.50	$0.50	$0.50

Annual Increase	2016 Proposed	2017 Proposed	2018 Proposed
Sanitary Drainage	$6.00	$6.00	$6.00
Stormwater Drainage	$6.00	$6.00	$6.00

5.1 Financial Rate Impacts

The financial rate impacts of the proposed 2016-2018 Drainage Services Utility Budget are presented in the following tables and are separated to reflect the cost increases associated with both the Sanitary and Stormwater Utilities. The supporting rate impacts reflect the services and processes needed to support the Utility's mission, values and strategic initiatives.

The rate impacts are grouped into three categories. These are Operating Impacts, Capital Impacts, and Other Impacts. Both the Sanitary and Stormwater Utilities have similar rate impact components with the exception of Biosolids Disposal and Local Access Fees, which only relate to the Sanitary Drainage Utility.

Sanitary Drainage Rate Impacts

The proposed monthly rate change for the typical residential family is comprised of:

	2016 Proposed	2017 Proposed	2018 Proposed
Operating Impacts			
Operating & Maintenance	$0.29	$0.52	$0.15
Biosolids Disposal	0.10	0.10	0.02
Subtotal	**0.39**	**0.62**	**0.17**
Capital Impacts			
Flood Mitigation	0.29	0.36	0.43
Rest of Capital Program	0.46	(0.02)	0.10
Subtotal	**0.75**	**0.34**	**0.53**
Other Impacts			
Rate of Return	(0.68)	(0.50)	(0.24)
Local Access Fee	0.04	0.04	0.04
Subtotal	**(0.64)**	**(0.46)**	**(0.20)**
Total	**$0.50**	**$0.50**	**$0.50**
Sanitary - Impact to Customer Rate	**2.2%**	**2.2%**	**2.1%**

Stormwater Drainage Rate Impacts

The proposed monthly rate change for the typical residential family is comprised of:

	2016 Proposed	2017 Proposed	2018 Proposed
Operating Impacts			
Operating & Maintenance	$0.11	$0.17	$0.08
Subtotal	**0.11**	**0.17**	**0.08**
Capital Impacts			
Flood Mitigation	0.63	0.72	0.88
Rest of Capital Program	0.17	0.64	0.37
Subtotal	**0.80**	**1.36**	**1.25**
Other Impacts			
Rate of Return	(0.41)	(1.03)	(0.83)
Subtotal	**(0.41)**	**(1.03)**	**(0.83)**
Total	**$0.50**	**$0.50**	**$0.50**
Stormwater - Impact to Customer Rate	**5.1%**	**4.9%**	**4.7%**
Combined - Impact to Customer Rate	**3.1%**	**3.0%**	**2.9%**

Operating Impacts

- **Operating & Maintenance**

Operating and Maintenance rate increases are primarily due to increased costs of operating a larger drainage system and increased demand for services from developers. This is primarily represented by the request to hire an additional 35 new FTE's for Drainage Services in 2016, 9 FTE's in 2017 and 8 FTE's in 2018 for a total of 52 FTE's. The costs associated with the FTE's are estimated at 25% in the first year the FTE is hired and 100% the following year and beyond. Further support for the increase in FTE's is provided in Section 11.0 and 11.1 and Appendix A.

- **Biosolids Management (Sanitary Drainage Only)**

Biosolids Disposal rate increases are the result of maintaining the 2015 disposal targets of 120%. The 120% disposal target will be maintained throughout the 2016 to 2018 Business Plan period with the primary methods of disposal being the Compost Facility (operated by Waste Management Services), the Nutrigold Program (administered by Waste Management Services), and beneficial reuse options in non-agricultural uses.

The Biosolids Management Strategy is a long-term plan to manage the beneficial use of biosolids in a cost effective and environmentally responsible manner. The benefits to residents' quality of life are also an important consideration. As such this Budget has been prepared based on a scenario in which disposal and the reduction of inventory levels is maximized.

The current long-term plan is to mitigate any potential environmental issues by drawing down the inventory levels at the Clover Bar Lagoons to a more manageable level of 50,000 dry tonnes. Based on the proposed disposal targets, this will be achieved by 2029.

Negotiations were also completed in 2015 with the Alberta Capital Region Wastewater Commission resulting in a renewal of the Biosolids Agreement to continue working as a partnership in sharing overall disposal costs and risks associated with biosolids management within Edmonton and the Capital Region.

Another factor that can potentially limit Drainage Services' capacity to dispose of biosolids is dewatering capacity. To address these needs, an Enhanced Biosolids Dewatering Facility, approved at the March 14, 2013 Utility Committee Meeting, was commissioned in early 2015.

Drainage Services will also continue to investigate future options for odour control, as well as explore additional disposal options, as cost effective opportunities emerge that could potentially increase disposal targets to reach the 50,000 dry tonne inventory level sooner.

For additional information, please see Section 7.2.5.

Capital Impacts

The rate impacts related to capital expenditures are the result of increased capital investment in key Drainage Services infrastructure such as Mature Neighbourhood Renewal, Flood Mitigation, and Structure & Sewer Rehabilitation.

The capital impacts incorporate the addition of the Expanded Neighbourhood Flood Mitigation Program beginning in 2015. As the overall Flood Mitigation program ramps up, increased rate impacts will flow proportionately higher to the Stormwater Utility.

Depreciation and interest rate impacts will also occur as drainage infrastructure is put into operation and the resulting depreciation and related interest from debt financing are incurred.

Other Impacts

- **Rate Sufficient to Meet Expenses**

The rates have been adjusted to ensure that it is sufficient to meet ongoing capital and operating needs while balancing rate stability and cash needs.

- **Local Access Fee (Sanitary Drainage Only)**

The Utility pays 8.0% of rate revenue to the City of Edmonton for exclusive right of way access. As rate revenue increases, the Local Access Fees also increase.

6.0 Financial Indicators

This rate filing is based on the approved Drainage Services Utility Fiscal Policy (C304D). The primary focus of the Utility is to balance the best possible service at the lowest cost while striving to ensure rate stability; sufficient funds are available to meet ongoing capital and operating needs, and a healthy amount of debt while employing private sector approaches to rate setting.

	Budget	Forecast	Proposed			Forecast						
	2015	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
FINANCIAL INDICATORS												
1 Rate Sufficient to Meet Expenses												
Net Income												
Sanitary	18,000	20,722	17,046	15,835	15,704	15,603	15,972	16,152	15,995	15,632	15,465	15,066
Stormwater	21,762	19,350	21,948	21,753	21,518	21,909	21,212	20,182	18,390	16,580	15,017	13,212
Target: Positive Net Income												
Cash Position (Combined)												
Next Year's Capital Financed by Pay As You Go	51,183	17,577	54,963	35,677	34,147	32,871	27,825	25,122	23,416	14,629	11,703	10,025
Risk Allowance	6,651	1,717	1,860	1,959	1,748	2,213	2,247	2,358	2,382	2,372	2,794	2,878
Rate Stabilization	-	1,346	1,667	1,020	864	180	1,838	2,429	251	2,548	2,851	38
Cash Target	**57,834**	**20,640**	**58,490**	**38,656**	**36,759**	**35,264**	**31,910**	**29,909**	**26,049**	**19,549**	**17,348**	**12,941**
Cash Position	**57,834**	**20,640**	**58,490**	**38,656**	**36,759**	**35,264**	**31,910**	**29,909**	**26,049**	**19,549**	**17,348**	**12,941**
Target: Cash position at minimum equal to the Cash Target.												
Rate Increase												
Sanitary												
Typical Residential Monthly Billing Increase	**$ 0.50**	**$ 0.50**	**$ 0.50**	**$ 0.50**	**$ 0.50**	**$ 0.52**	**$ 0.54**	**$ 0.56**	**$ 0.57**	**$ 0.60**	**$ 0.64**	**$ 0.65**
Impact of Customer Rate	2.3%	2.3%	2.2%	2.2%	2.1%	2.2%	2.2%	2.3%	2.2%	2.3%	2.4%	2.4%
Stormwater												
Typical Residential Monthly Billing Increase	**$ 0.50**	**$ 0.50**	**$ 0.50**	**$ 0.50**	**$ 0.50**	**$ 0.54**	**$ 0.55**	**$ 0.57**	**$ 0.59**	**$ 0.60**	**$ 0.59**	**$ 0.61**
Impact of Customer Rate	5.4%	5.4%	5.1%	4.9%	4.7%	4.8%	4.7%	4.6%	4.6%	4.4%	4.2%	4.2%
Combined												
Typical Residential Monthly Billing Increase	**$ 1.00**	**$ 1.00**	**$ 1.00**	**$ 1.00**	**$ 1.00**	**$ 1.06**	**$ 1.09**	**$ 1.13**	**$ 1.16**	**$ 1.20**	**$ 1.23**	**$ 1.26**
Impact of Customer Rate	3.2%	3.2%	3.1%	3.0%	2.9%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Target: Stable, consistent rate increases												
2 Debt Financing of Capital (Combined)												
Debt to Net Assets Ratio	56%	55%	58%	57%	58%	60%	61%	62%	64%	64%	65%	66%
Target: Between 50% - 70%; balancing cash availability, interest rates, and construction inflation.												

The 10 year forecast shows a financially healthy position in both the short and long-term. Rate increases are consistently set at a combined rate of $1.00 or an average increase of 3.0% each year for a typical residential customer over the proposed 2016-2018 Budget. The 3.0% rate increase is also maintained over the 2019-2025 forecast period.

Regarding Cash Position, the cash positions achieved over the 10 year forecast are sufficient to meet the required cash targets. The annual risk allowance is 1.0% based on each year's planned capital program and fluctuates up and down as planned capital needs increase and decrease. The rate stabilization balance fluctuates to allow for the balancing of rate increases over the 10 year period and is driven by the total increase in the forecasted capital plan in later years. For more details regarding the forecasted capital plan, please refer to Sections 7.9, 8.8, and 9.0.

As far as the Debt to Net Assets ratio, the forecasted results are within the target range over the 10 year forecast. While not a part of the currently approved 2015-2018 Capital Plan, the forecast period after 2018 includes provisions for the proposed City-Wide Flood Mitigation plan which will take a more proactive approach to flood mitigation. The current plan is to deal with this issue over a 100 year period. This along with increased capital requirements to deal primarily with aging infrastructure (e.g. Drainage Neighbourhood Renewal and System Rehabilitation) causes the Debt to Net Assets ratio to move from 58% (2016) to 66% (2025).

While the projected Debt to Net Assets ratio for 2025 is approaching the high end of the target range, it is important to understand that the projected capital spending for 2019 to 2025 is not currently part of the approved capital plan and is based on preliminary estimates. Due to the increase in capital requirements, Drainage Services is in the process of preparing a Drainage Capacity Implementation Plan to determine the internal and external capacity required to effectively implement the forecasted capital plan. The completion of the Drainage Capacity Implementation Plan and additional flood mitigation studies will allow Drainage Services to develop a more detailed estimate of capital requirements over the next few years to include in the next capital budget cycle.

7.0 Sanitary Utility Budget Details ($000's)

The following sub-sections provide a detailed breakdown of the proposed 2016-2018 Budget for the Sanitary Utility. The Sanitary Utility Budget Details includes costs related to Drainage Design & Construction. For a detailed breakdown of Drainage Design & Construction please see section 7.8.

7.1 Utility Summary Schedule ($000's)

Line #		Reference	2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
Expenses															
1	Operating and Maintenance	Schedule 7.2	34,321	42,147	43,044	43,044	45,383	2,339	5.4%	48,448	3,065	6.8%	49,507	1,059	2.2%
2	Biosolids Disposal	Schedule 7.2.5	13,903	11,022	15,936	15,436	16,662	1,226	7.9%	17,412	750	4.5%	17,562	150	0.9%
3	Amortization Expense	Schedule 7.3	11,632	12,933	14,287	12,828	15,644	2,816	22.0%	16,344	700	4.5%	17,135	791	4.8%
4	Interest Expense	Schedule 7.3	11,950	12,786	13,881	13,132	14,239	1,107	8.4%	15,287	1,048	7.4%	16,007	720	4.7%
5	Local Access Fee	Schedule 7.4	7,836	8,340	8,443	8,444	8,762	318	3.8%	9,074	311	3.6%	9,408	334	3.7%
6	Transfer to Sanitary Servicing Strategy Fund		1,300	1,300	1,300	1,300	1,300	-	0.0%	1,300	-	0.0%	1,300	-	0.0%
	Total Expenses	Schedule 7.8	**80,942**	**88,529**	**96,892**	**94,185**	**101,990**	**7,806**	**8.3%**	**107,865**	**5,874**	**5.8%**	**110,919**	**3,054**	**2.8%**
7	Return on Rate Base	Schedule 7.6.2	25,739	29,645	18,000	20,722	17,046	(3,676)	-17.7%	15,835	(1,211)	-7.1%	15,704	(131)	-0.8%
	Total Revenue Requirement		**106,681**	**118,174**	**114,892**	**114,907**	**119,037**	**4,130**	**3.6%**	**123,700**	**4,663**	**3.9%**	**126,623**	**2,923**	**2.4%**
8	**Non-Rate Revenues**	Schedule 7.5	12,376	14,244	9,354	9,353	9,506	153	1.6%	10,280	774	8.1%	9,025	(1,255)	-12.2%
9	**Total Rate Revenue**		**94,305**	**103,930**	**105,538**	**105,554**	**109,531**	**3,977**	**3.8%**	**113,420**	**3,889**	**3.6%**	**117,598**	**4,178**	**3.7%**

For explanation of variances please refer to the applicable referenced schedules.

7.2 Operations and Maintenance ($000's)

Line #		Reference	2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Personnel	Schedule 7.2.1	51,555	53,342	57,278	57,276	62,626	5,350	9.3%	66,996	4,370	7.0%	69,748	2,752	4.1%
2	Materials, Goods, and Supplies		21,929	22,395	33,998	33,998	38,135	4,137	12.2%	41,583	3,448	9.0%	36,517	(5,066)	-12.2%
3	External Services	Schedule 7.2.2	60,072	75,863	68,628	68,628	78,385	9,757	14.2%	85,608	7,223	9.2%	74,301	(11,307)	-13.2%
4	Fleet Services	Schedule 7.2.3	3,990	3,855	3,566	3,566	3,432	(134)	-3.8%	3,496	64	1.9%	3,478	(18)	-0.5%
5	Shared Services	Schedule 7.2.4	10,037	11,054	13,247	13,247	13,217	(30)	-0.2%	13,902	685	5.2%	14,270	368	2.6%
6	Customer Billing Services		4,582	4,201	4,900	4,900	4,897	(3)	-0.1%	5,014	117	2.4%	5,133	119	2.4%
7	Other Expenses		2,419	4,210	4,989	4,989	3,069	(1,920)	-38.5%	3,172	103	3.4%	3,127	(45)	-1.4%
8	Interdepartmental Charges/(Recoveries)		(120,262)	(132,773)	(143,562)	(143,560)	(158,378)	(14,818)	10.3%	(171,323)	(12,945)	8.2%	(157,067)	14,256	-8.3%
Total - Operating & Maintenance Expenses			**34,321**	**42,147**	**43,044**	**43,044**	**45,383**	**2,339**	**5.4%**	**48,448**	**3,065**	**6.8%**	**49,507**	**1,059**	**2.2%**

Line 2 – Materials, Goods and Supplies

These costs primarily include materials, goods and supplies used by Drainage Design & Construction in the construction of Open Cut & Tunnel project volume. These amounts are linked to the expected project delivery each year. The variance each year is mainly due to the change in the amount of forecasted project volume. In 2015 Drainage Design & Construction did $142 million in project volume. In 2016 they have a forecasted project volume of $162 million, $178 million in 2017 & $153 million in 2018.

Line 6 – Customer Billing Services

The service is provided by EPCOR for the provision of customer billing and meter reading services. The year over year changes are primarily due to inflationary factors offset by adjustments due to corporate allocations.

Line 7 – Other Expenses

The year over year change is primarily due to the elimination of the transfer to capital reserve in 2016 for Design of Construction for the replacement of construction equipment. The reserve was set up, while Design & Construction was a self-sustaining enterprise, to give it the ability to replace required construction equipment when required as they did not have a capital budget. The reserve is no longer needed with the integration into Drainage Services.

Line 8 – Interdepartmental Charges/ (Recoveries)

The year over year changes are primarily due to recoveries from capital based on Drainage Design & Construction project volume and to a lesser extent from Planning, Operations and Strategic Services. This is driven by the capital program. They are partially offset by on-demand charges from other City departments such as internal construction supplies, printing, parking and general maintenance work.

7.2.1 Personnel Costs ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Salaries & Wages	33,900	34,876	41,709	41,707	42,530	823	2.0%	45,772	3,242	7.6%	47,753	1,981	4.3%
2	Overtime	6,389	6,312	6,283	6,283	6,397	114	1.8%	6,513	116	1.8%	6,631	118	1.8%
3	Allowances and Benefits	11,266	12,154	9,286	9,286	13,699	4,413	47.5%	14,711	1,012	7.4%	15,364	653	4.4%
Total - Personnel Costs		**51,555**	**53,342**	**57,278**	**57,276**	**62,626**	**5,350**	**9.3%**	**66,996**	**4,370**	**7.0%**	**69,748**	**2,752**	**4.1%**

- **Sanitary/Stormwater Allocation** - From an operational perspective, Drainage Services employees do not distinguish their time working on Sanitary vs. Stormwater infrastructure. As such, the budget has been allocated between the two Utilities (70% - Sanitary / 30% - Stormwater) based on an examination of the distribution of rate applicable assets and how services are provided relative to them.

Line 1 – Salaries and Wages

The Proposed 2016-2018 Budget contains a request for an increase of 35.0 permanent FTE's (split between Sanitary and Stormwater) in 2016, 9.0 FTE's in 2017 and 8.0 FTE's in 2018. For further details, please see Sections 11.0, 11.1 and the attached business cases in Appendix A. The permanent FTE positions have been budgeted assuming an average starting date in October each year. In addition, the vacancies in the current year are expected to be filled by early 2016.

Line 3 – Allowances and Benefits

The increase in Allowance and Benefits in 2016 is due to a change in treatment for how Paid Absence is reported. In 2015, Paid Absence was reported as part of Salaries and Wages. In 2016, Paid Absence is now part of Allowances and Benefits. Paid Absence is an estimate of labour costs associated with paid sick time and is used for internal labour analysis.

7.2.2 External Services ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Planning	1,890	1,455	3,200	3,200	3,469	269	8.4%	3,431	(38)	-1.1%	3,456	25	0.7%
2	Operations	2,197	2,184	1,132	1,132	1,491	359	31.7%	1,476	(15)	-1.0%	1,495	19	1.3%
3	Design & Construction	55,793	72,098	62,745	62,745	73,017	10,272	16.4%	80,285	7,268	10.0%	68,925	(11,360)	-14.1%
4	Strategic Services	192	126	1,551	1,551	408	(1,143)	-73.7%	416	8	2.0%	425	9	2.2%
Total - External Services		**60,072**	**75,863**	**68,628**	**68,628**	**78,385**	**9,757**	**14.2%**	**85,608**	**7,223**	**9.2%**	**74,301**	**(11,307)**	**-13.2%**

Line 1 - Planning

The increase in 2016 is primarily due to the need for studies in the overall planning for environmental monitoring and condition assessment for infrastructure.

Line 2 – Operations

The variance in 2016 is primarily due to the introduction of a large spill promotional campaign by Regulatory Services to bring awareness to the impacts of large spills of containments. Regulatory Services used to be part of Development Services and was moved to Operations in 2015.

Line 3 – Drainage Design & Construction

The increase in 2016 is primarily due to the hiring of external contractors to support the delivery of the Drainage Services capital plan.

Line 4 – Strategic Services

The decrease in 2016 is primarily due to the decrease in anticipated management consulting contract work.

7.2.3 Fleet Services ($000's)

Line #		2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Fleet Charges	446	791	506	506	338	(168)	-33.2%	262	(76)	-22.5%	165	(97)	-37.0%
3	Fuel	1,116	1,230	1,184	1,184	942	(242)	-20.4%	1,021	79	8.4%	1,044	23	2.3%
4	Major Repairs	2,428	1,834	1,876	1,876	2,152	276	14.7%	2,213	61	2.8%	2,269	56	2.5%
Total - Fleet Services		**3,990**	**3,855**	**3,566**	**3,566**	**3,432**	**(134)**	**-3.8%**	**3,496**	**64**	**1.9%**	**3,478**	**(18)**	**-0.5%**

Effective beginning in 2015, Fleet Services was repositioned, through a city wide initiative, as a tax supported area rather than a municipal enterprise. The primary reason for this change is that over 90% of Fleet activities are provided for City of Edmonton operations rather than external parties. As a result, Fleet Services no longer pays internal Shared Services costs resulting in overall lower charge-out rates for users of services.

The changes in year over year costs is based on Fleet Services evaluation of Drainage Services Fleet needs due to Fleet complement and the estimated costs based on recovery of estimated costs for fuel and maintenance.

7.2.4 Shared Services ($000's)

Line #		2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Human Resources	1,201	1,167	1,243	1,243	1,168	(75)	-6.0%	1,205	37	3.2%	1,241	36	3.0%
2	Legal Services	391	442	417	417	348	(69)	-16.5%	361	13	3.7%	370	9	2.5%
3	Communications	248	411	431	431	464	33	7.7%	478	14	3.0%	493	15	3.1%
4	Customer Information System	293	295	334	334	361	27	8.1%	372	11	3.0%	383	11	3.0%
5	Information Technology	3,686	4,280	4,543	4,543	4,794	251	5.5%	4,938	144	3.0%	5,083	145	2.9%
6	Corp. Procurement & Supply Services	1,067	1,191	1,323	1,323	1,586	263	19.9%	1,633	47	3.0%	1,683	50	3.1%
7	Financial Services	1,578	1,721	1,977	1,977	1,634	(343)	-17.3%	1,683	49	3.0%	1,733	50	3.0%
8	Space Rent	844	943	1,330	1,330	1,447	117	8.8%	1,783	336	23.2%	1,798	15	0.8%
9	Building Maintenance & Custodial	149	47	806	806	869	63	7.8%	887	18	2.1%	907	20	2.3%
10	Central Management	580	557	845	845	546	(299)	-35.4%	562	16	2.9%	579	17	3.0%
Total - Shared Services		**10,037**	**11,054**	**13,247**	**13,247**	**13,217**	**(30)**	**-0.2%**	**13,902**	**685**	**5.2%**	**14,270**	**368**	**2.6%**

The City of Edmonton employs a Shared Services model whereby support services required for the operations of all City businesses are provided through centralized areas of expertise. The rationale behind this approach is to take advantage of the efficiencies gained through economies of scale as well as potential opportunities to provide more robust systems and services (e.g. particularly technology related services). The 2016-2018 costs above are based on 2014 data as cost drivers.

Throughout 2014 and 2015, Administration presented a fair market evaluation of several of the shared services to the Utility Committee in order to better understand the nature of changes as well as ensure reasonableness in the changes. From the reports received, the Utility Committee determined proper due diligence is used in determining the shared services charges and thus will only request additional fair market reports as deemed necessary.

Actuals charged to Drainage Services in 2016-2018 will be based on the proposed amounts cash flowed evenly throughout the year. If deemed necessary by Administration, an annual adjustment may be performed if there is a material difference between actuals incurred and what was originally budgeted to Drainage Services.

Other than for Financial Services, Central Management, and Space Rent (as explained below), the primary rationale for year over year changes are based on demand as well as inflationary factors. Primary areas for increased demand for services include Materials Management and Information Technology due to an increased need for support for the Drainage Services capital plan.

Lines 7 & 10 – Financial Services and Central Management

Year over year changes are primarily due to a change in corporate allocation as a result of Drainage Services proportional usage compared to the rest of the other City of Edmonton Branches.

Line 8 – Space Rent

Year over year increases are primarily due to costs associated with Drainage Services downtown staff moving into the new Civic Accommodation Tower. The move will be completed in a phased approach with an anticipated late 2016 start date.

The Civic Accommodation Tower is a City Wide initiative to efficiently deal with a number of expiring leases in various buildings spread across the downtown core as well as to gain efficiencies by housing Departments and staff who need to coordinate operations in closer proximity. Information regarding associated costs and plans for the integration of Departments is still in the early stages and will be updated as available.

7.2.5 Biosolids Disposal (Sanitary Only)

Line #		Reference	2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Provided by Waste Management Services		9,001	8,790	11,993	11,493	12,476	983	8.6%	12,807	331	2.7%	13,206	399	3.1%
2	External Contract Work		4,902	2,232	3,943	3,943	4,186	243	6.2%	4,605	419	10.0%	4,356	(249)	-5.4%
	Total	Schedule 7.1	**13,903**	**11,022**	**15,936**	**15,436**	**16,662**	**1,226**	**7.9%**	**17,412**	**750**	**4.5%**	**17,562**	**150**	**0.9%**

The Biosolids Management Strategy is a long-term plan by Drainage Services to manage the beneficial use of Biosolids in a cost effective and environmentally responsible manner. The primary methods of disposal are through the Compost Facility (operated by Waste Management Services), the Nutrigold Program (administered by Waste Management Services), and beneficial reuse options in non-agriculture uses that are contracted through external services.

The year over year change in Biosolids Disposal costs are primarily the result of maintaining the disposal targets of 120% from 2015 through the 2016–2018 Budget. The larger increase in 2017 for external contract work accompanied by a decrease in 2018 is due to the planned implementation of a Geotube dewatering operation.

This operation is a risk mitigation initiative which entails the removal and dewatering of biosolids from the lagoons to be stored in Geotube bags on site in 2017. This dewatered material is then disposed of in 2018. As such additional costs are incurred in 2017 rather than 2018 resulting in increased overall costs in one year and reduced costs in the following year.

7.3 Amortization and Interest Expense ($000's)

Line #		Reference	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed Budget	% Variance	2018 Proposed	Change from 2017 Proposed Budget	% Variance
1	Amortization Expense	Schedule 7.3.1	20,238	21,833	25,382	22,829	26,764	3,935	17.2%	28,287	1,523	5.7%	29,903	1,616	5.7%
2	Amortization (Design & Construction)	Schedule 7.8	1,048	990	1,100	1,100	1,122	22	2.0%	1,144	22	2.0%	1,167	23	2.0%
3	Amortization (Contributed Assets)	Schedule 7.3.2	(9,654)	(9,890)	(12,195)	(11,101)	(12,243)	(1,142)	10.3%	(13,088)	(845)	6.9%	(13,936)	(848)	6.5%
	Total - Depreciation Expense (net)		**11,632**	**12,933**	**14,287**	**12,828**	**15,643**	**2,815**	**21.9%**	**16,343**	**700**	**4.5%**	**17,134**	**791**	**4.8%**
3	Interest Expense	Schedule 7.3.3	11,950	12,786	13,881	13,132	14,239	1,107	8.4%	15,287	1,048	7.4%	16,007	720	4.7%
4	Principal Repayment	Schedule 7.7.1	12,354	13,548	15,282	15,235	16,979	1,744	11.4%	18,135	1,156	6.8%	19,183	1,048	5.8%

Amortization expense represents the amount of Non-Contributed Asset life used up during the operating period. The amortization rate is dependent upon the class of asset as each has an estimated useful life based upon historic experience.

Amortization of contributed assets represents the amount of benefit from Contributed Assets that are realized during the operating period. It is used to offset the amount of total amortization expense.

Interest Expense and Principal Repayment represent the total annual cash requirement to service outstanding debt. Interest expense is projected to increase by $1.1 million in 2016, $1.0 million in 2017 and $720 thousand in 2018 due to timing of borrowing in the previous year. Total debt issued in 2014 was $26 million and the planned issuance for 2015 through 2018 are as follow; $38 million in 2015, $56 million in 2016, $37 million in 2017 and $40 million in 2018.

7.3.1 Amortization Expense

Line #		Expected Useful Life in Years	2016 Amortization on Existing	1/2 Year Amortization on 2016 New	2016 Total Amortization	2017 Amortization on Existing	1/2 Year Amortization on 2017 New	2017 Total Amortization	2018 Amortization on Existing	1/2 Year Amortization on 2018 New	2018 Total Amortization
1	Bldgs-Office	44	51,773	-	51,773	51,773	-	51,773	51,773	-	51,773
2	Bldgs-Warehouses	44	-	-	-	119,863	-	119,863	191,863	-	191,863
3	Bldgs-Labs/R&D	44	40,444	-	40,444	40,444	-	40,444	40,444	-	40,444
4	Vehicles-Autos	10	2,119	-	2,119	2,119	-	2,119	2,119	-	2,119
5	Vehicles-Trucks	10	2,353,003	126,000	2,479,003	2,443,002	121,500	2,564,502	2,690,002	135,000	2,825,002
6	Other Equipment	10	11,519	-	11,519	11,519	-	11,519	11,519	-	11,519
7	Office Furn & Eqpt	5	14,519	-	14,519	14,519	-	14,519	522	-	522
8	Computer Eqpt.	5	232,679	31,000	263,679	27,181	42,500	69,681	-	54,000	54,000
9	GBIS/SCADA/DC Eqp	10	28,360	-	28,360	28,360	-	28,360	28,360	-	28,360
10	Machinery & Eqpt	5	483,802	-	483,802	569,299	-	569,299	423,478	-	423,478
11	GA-Com-Support	75	295,492	-	295,492	295,492	-	295,492	295,492	-	295,492
12	GA-Com-Pipes	75	2,572,295	532,000	3,104,295	1,372,295	544,000	1,916,295	1,372,295	527,000	1,899,295
13	GA-San-Support	75	2,044,246	-	2,044,246	2,044,246	-	2,044,246	2,044,246	-	2,044,246
14	GA-San-Pipes	75	13,340,956	200,000	13,540,956	16,001,095	200,000	16,201,095	17,482,094	200,000	17,682,094
15	GA-San-Serv Conn	75	2,430,220	-	2,430,220	2,430,220	-	2,430,220	2,430,220	-	2,430,220
16	GA-San-Misc Struct.	75	500,393	-	500,393	500,393	-	500,393	500,393	-	500,393
17	GA-Com-Misc Struct.	75	18,260	-	18,260	18,260	-	18,260	18,260	-	18,260
18	GA-San-Pumpstations	44	1,244,580	-	1,244,580	1,244,580	-	1,244,580	1,244,580	-	1,244,580
19	GA-WW-Biosolids	44	165,231	38,000	203,231	122,231	35,000	157,231	122,231	30,000	152,231
20	GA-WW-Support I/F	44	7,109	-	7,109	7,109	-	7,109	7,109	-	7,109
	Total Depreciation		**25,837,000**	**927,000**	**26,764,000**	**27,344,000**	**943,000**	**28,287,000**	**28,957,000**	**946,000**	**29,903,000**

7.3.2 Amortization of Contributed Assets ($000's)

Line #		Expected Useful Life in Years	2016 Amortization on Existing	1/2 Year Amortization on 2016 New	2016 Total Amortization	2017 Amortization on Existing	1/2 Year Amortization on 2017 New	2017 Total Amortization	2018 Amortization on Existing	1/2 Year Amortization on 2018 New	2018 Total Amortization
1	GA-San-Pipes	75	11,824	419	12,243	12,662	426	13,088	13,514	422	13,936
	Total Amortization		**11,824**	**419**	**12,243**	**12,662**	**426**	**13,088**	**13,514**	**422**	**13,936**

7.3.3 Interest Expense ($000's)

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
1	03800A	1	-	-	-	-	-	-
2	11961F	1	1	1	1	1	1	1
3	14082A	2	1	1	1	0	-	-
4	12535E	2	2	2	2	2	1	1
5	14016C	2	2	2	2	2	2	1
6	16113M	2	2	2	2	2	2	2
7	14082B	3	3	2	2	1	1	-
8	14591A	3	3	2	2	1	1	-
9	16113N	3	3	3	3	3	3	2
10	14421D	4	4	4	4	4	3	3
11	14294E	5	5	4	4	4	4	4
12	11039D	5	5	4	4	4	3	3
13	13677C	20	8	-	-	-	-	-
14	14084D	9	9	9	9	8	8	8
15	14294A	10	10	9	9	9	8	8
16	13677A	32	10	-	-	-	-	-
17	14016E	14	13	13	13	12	12	11
18	14294G	14	14	13	13	13	12	12
19	14592F	18	18	17	17	17	16	16
20	15245B	18	18	17	17	17	16	16
21	14015D	33	25	16	16	7	-	-
22	15245E	29	28	28	28	27	26	25
23	15245D	30	29	28	28	27	26	25
24	16113A	31	30	29	29	28	27	26
25	14294B	33	32	31	31	30	28	27
26	14592E	41	40	39	39	38	37	35
27	14421A	43	41	40	40	38	37	35
28	14016A	46	44	42	42	40	38	36
29	14893C	46	44	43	43	42	40	39
30	14293B	57	46	34	34	22	9	-
31	13678B	48	46	44	44	42	40	37
32	11039C	51	47	43	43	38	34	29
33	12286F	53	50	47	47	44	40	37
34	14294C	53	52	50	50	48	47	45
35	14015A	81	52	22	22	-	-	-
36	14294F	56	54	52	52	51	49	47
37	14293C	74	55	35	35	15	-	-
38	14016D	59	57	55	55	53	50	48
39	16113B	64	62	60	60	58	56	54
40	14893D	74	71	69	69	67	65	62
41	14893A	76	74	72	72	69	67	64
42	15244E	78	76	74	74	72	69	66
43	14294D	92	89	87	87	84	81	78
44	12899A	97	93	89	89	85	80	75
45	14084A	98	95	91	91	87	84	79
46	16113J	100	97	94	94	91	88	85
47	15245C	100	98	95	95	92	88	85
48	15245F	58	51	49	52	50	48	47
49	13294D	109	106	102	102	99	95	90
50	14592G	119	116	112	112	109	105	101

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
51	11961A	126	119	112	112	105	97	89
52	16113K	123	120	116	116	113	109	105
53	14893E	131	127	124	124	120	116	112
54	13080B	138	132	125	125	118	111	104
55	14592C	148	143	139	139	135	130	125
56	14421C	152	148	143	143	139	134	129
57	12535D	160	153	145	145	137	129	120
58	14592A	166	161	155	155	150	144	137
59	14421B	166	162	157	157	152	146	141
60	14592D	169	165	160	160	155	149	144
61	15244F	191	186	180	180	174	168	162
62	14084C	197	192	186	186	180	174	167
63	15244D	222	216	210	210	203	197	190
64	12535A	254	242	228	228	215	200	184
65	13080E	263	252	241	241	230	217	204
66	14893B	291	283	274	274	266	256	247
67	13678A	297	285	273	273	260	246	232
68	16113L	327	318	308	308	299	289	279
69	16113C	331	322	313	313	303	293	282
70	14084B	345	336	326	326	315	304	292
71	15245A	365	355	344	344	333	322	309
72	15244B	415	403	391	391	379	366	352
73	16113O	225	380	370	371	360	349	337
74	15244G	448	435	422	422	408	394	379
75	15244C	478	465	450	450	436	421	405
76	14592B	563	513	531	531	514	496	477
77	15244A	953	892	899	899	870	840	808
78	10778A	-	78	69	69	59	49	38
79	10778B	86	152	137	137	121	104	85
80	10778C	166	42	39	39	35	31	26
81	11039A	46	272	241	241	208	172	133
82	11039B	300	61	55	55	48	42	34
83	11249A	66	340	310	310	279	245	210
84	11249B	367	154	142	142	128	114	99
85	11249C	166	278	263	263	247	230	212
86	11760B	292	-	-	-	-	-	-
87	11761A	-	49	45	45	41	37	32
88	11761B	52	253	236	236	218	199	179
89	11761C	268	20	19	19	18	17	15
90	11960A	21	-	-	-	-	-	-
91	11961B	-	10	9	9	9	8	8
92	11961C	10	264	250	250	234	218	202
93	11961D	278	7	7	7	7	6	6
94	11961E	8	173	166	166	158	149	140
95	12285B	181	-	-	-	-	-	-
96	12285E	10	-	-	-	-	-	-
97	12285F	12	9	4	4	-	-	-
98	12286A	13	160	151	151	141	130	119
99	12286B	169	26	24	24	23	21	19
100	12286C	27	171	162	162	152	141	130

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
101	12286D	180	332	316	316	299	280	261
102	12286E	347	50	47	47	45	42	39
103	12534A	52	-	-	-	-	-	-
104	12535B	-	89	84	84	79	74	68
105	12535C	94	55	52	52	49	46	43
106	13080A	57	37	35	35	33	31	29
107	13080C	39	71	68	68	65	61	58
108	13080D	74	1	1	1	1	1	1
109	13293A	1	3	-	-	-	-	-
110	13293B	8	15	10	10	4	-	-
111	13294A	21	168	161	161	154	147	139
112	13294B	175	165	159	159	152	145	138
113	13294C	171	81	78	78	75	72	69
114	13294E	83	76	73	73	71	68	66
115	13294F	78	75	73	73	70	68	65
116	13677B	77	12	-	-	-	-	-
117	13784A	28	326	312	312	297	282	265
118	13784B	339	129	124	124	118	112	105
119	13784C	134	336	322	322	308	293	277
120	13784D	446	727	730	730	699	668	635
121	14015B	786	31	20	20	8	-	-
122	14015C	42	181	135	135	87	37	-
123	14015E	225	52	42	42	31	20	8
124	14015F	62	44	36	36	27	18	9
125	14015G	52	1	0	0	0	0	0
126	14016B	1	120	116	116	111	106	101
127	14016F	125	45	44	44	42	41	39
128	14016G	22	22	20	20	20	19	18
129	14293A	46	9	6	6	2	-	-
130	14293D	12	46	37	37	27	18	7
131	14591B	55	225	180	180	134	86	36
132	14591C	267	70	57	57	44	29	15
133	14591D	83	19	16	16	12	9	5
134	14591E	23	1	1	1	1	0	0
135	16113P	-	344	370	354	345	335	326
136	16113T	-	85	83	79	77	75	73
137	16113U	-	176	171	164	160	155	151
138	16113V	-	242	236	226	220	214	208
139	16113W	-	4	4	4	4	4	4
140	16113X	-	17	16	15	15	15	14
141	16113Y	-	19	18	17	17	16	16
142	16571A	-	125	122	117	114	111	107
143	16572B	-	52	51	49	48	46	45
144	15245G	-	115	112	86	84	82	79
145	15245H	-	52	51	49	48	46	45
146	15245I	-	17	-	57	56	54	52
147	15245J	-	-	-	26	32	31	30
148	16570B	-	-	-	44	54	52	51
149	16571B	-	35	-	118	114	111	108
150	16571C	-	2	-	37	36	35	34

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
151	16572C	-	1	-	25	24	23	22
152	17102B	-	-	-	163	292	284	275
153	161131	-	108	-	360	350	340	329
154	16572D	-	-	-	3	6	6	5
155	16691A	-	41	-	137	133	129	125
156	16691B	-	3	-	64	63	61	59
157	16722A	-	11	-	35	34	33	32
	Totals	**16,481**	**17,010**	**16,018**	**17,017**	**16,234**	**15,290**	**14,356**
	2014 Borrowing	-	-	605	-	-	-	-
	2015 Borrowing	-	-	1,180	37	37	37	37
	2016 Borrowing	-	-	-	-	1,592	1,592	1,592
	2017 Borrowing	-	-	-	-	-	1,697	1,697
	2018 Borrowing	-	-	-	-	-	-	1,369
	Less EPCOR Debt	(4,531)	(4,224)	(3,922)	(3,922)	(3,624)	(3,329)	(3,044)
	Total Debt Servicing	**11,950**	**12,786**	**13,881**	**13,132**	**14,239**	**15,287**	**16,007**
	Average Cost of Debt	**4%**	**4%**	**4%**	**4%**	**4%**	**4%**	**4%**

7.4 Local Access Fee ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Rate Revenue	94,305	103,930	105,538	105,554	109,531	3,977	3.8%	113,419	3,888	3.5%	117,598	4,179	3.7%
2	Local Access Fee Rate	8.0%	8.0%	8.0%	8.0%	8.0%			8.0%			8.0%		
Total - Local Access Fee		**7,836**	**8,340**	**8,443**	**8,444**	**8,762**	**318**	**3.8%**	**9,074**	**311**	**3.6%**	**9,408**	**334**	**3.7%**

Local Access Fee is calculated based on 8% of qualifying revenues (essentially Rate Revenue). As the total amount of Rate Revenue increases, so does the amount of Local Access Fee to be paid to the City of Edmonton.

7.5 Non-Rate Revenue ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Design & Construction	5,055	7,040	1,455	1,455	1,746	291	20.0%	1,649	(97)	-5.6%	1,261	(388)	-23.5%
2	Alberta Capital Region Biosolids	2,960	2,289	3,711	3,711	3,233	(478)	-12.9%	4,124	891	27.6%	3,408	(716)	-17.4%
3	Other Program Revenue	4,255	4,684	3,589	3,588	4,072	484	13.5%	4,101	29	0.0%	4,131	30	0.0%
4	Interest Revenue	106	231	599	599	455	(144)	-24.0%	406	(49)	-10.7%	225	(181)	-44.5%
Total - Non-Rate Revenue		**12,376**	**14,244**	**9,354**	**9,353**	**9,506**	**153**	**1.6%**	**10,280**	**774**	**8.1%**	**9,025**	**(1,255)**	**-12.2%**

Line 1 – Design & Construction

The increase in Design & Construction in 2016 is due to an expected increase in external project volume. The decrease in 2017 and 2018 is due to an expected decrease in external project volume.

Line 2 – Alberta Capital Region Biosolids

The decrease in non-rate revenue in 2016 is due to the reduction in forecasted tonnage for biosolids disposal for the Capital Region. The increase in 2017 and subsequent decrease in 2018 is due to the implementation of the Geotube Dewatering Operation in 2017. For more details, please refer to Section 7.2.5.

Line 3 – Other Program Revenue

Program revenue includes items such as lot grading, regulatory inspections and service connections. The increase in 2016 is based on a forecast of expected demand from home owners.

7.6 Revenue Requirement ($000's)

Line #		Reference	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
1	Personnel	Schedule 7.2	57,276	62,626	66,996	69,748
2	Materials, Goods, and Supplies	Schedule 7.2	33,998	38,135	41,583	36,517
3	External Services	Schedule 7.2	68,628	78,385	85,608	74,301
4	Fleet Services	Schedule 7.2	3,566	3,432	3,496	3,478
5	Shared Services	Schedule 7.2	13,247	13,217	13,902	14,270
6	Biosolids	Schedule 7.1	15,436	16,662	17,412	17,562
7	Customer Billing Services	Schedule 7.2	4,900	4,897	5,014	5,133
8	Other Expenses	Schedule 7.2	4,989	3,069	3,172	3,127
9	Interdepartmental Charges/(Recoveries)	Schedule 7.2	(143,560)	(158,378)	(171,323)	(157,067)
10	Amortization Expense (net)	Schedule 7.3	12,828	15,644	16,344	17,135
11	Interest Expense	Schedule 7.3	13,132	14,239	15,287	16,007
12	Local Access Fee	Schedule 7.1	8,444	8,762	9,074	9,408
13	Transfer to Sanitary Servicing Strategy Fund	Schedule 7.1	1,300	1,300	1,300	1,300
Total - Expenditures			**94,185**	**101,990**	**107,865**	**110,919**
14	Return on Rate Base	Schedule 7.1	20,722	17,046	15,835	15,704
Total - Revenue Requirement			**114,907**	**119,037**	**123,700**	**126,623**
15	Non-Rate Revenues	Schedule 7.1	9,353	9,506	10,280	9,025
Total - Rate Revenue			**105,554**	**109,531**	**113,420**	**117,598**

7.6.1 Rate Base ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
Investment in Tangible Capital Assets								
1	Gross Book Value - Non Contributed	683,031	771,385	809,982	835,371	901,425	964,924	1,025,423
2	Gross Book Value - Contributed	743,345	771,274	846,199	835,302	902,206	965,541	1,027,325
3	**Gross Book Value - All Assets**	**1,426,376**	**1,542,659**	**1,656,181**	**1,670,673**	**1,803,631**	**1,930,465**	**2,052,748**
4	Accumulated Amortization - Non Contributed	(149,562)	(161,458)	(174,581)	(173,186)	(187,707)	(202,907)	(218,874)
5	Accumulated Amortization - Contributed	(101,166)	(111,056)	(122,465)	(122,157)	(134,399)	(147,486)	(161,421)
6	**Accumulated Amortization - All Assets**	**(250,728)**	**(272,514)**	**(297,046)**	**(295,343)**	**(322,106)**	**(350,393)**	**(380,295)**
7	Net Book Value - Non Contributed	533,469	609,927	635,401	662,185	713,718	762,017	806,549
8	Net Book Value - Contributed	642,179	660,218	723,734	713,145	767,807	818,055	865,904
9	**Net Book Value - All Assets**	**1,175,648**	**1,270,145**	**1,359,135**	**1,375,330**	**1,481,525**	**1,580,072**	**1,672,453**
10	**Non-Contributed Assets (Mid-Year)**	**520,034**	**581,449**	**611,612**	**639,541**	**691,436**	**741,352**	**787,768**
11	**Working Capital (1 Month Operations)**	**7,140**	**5,541**	**8,130**	**8,022**	**8,610**	**9,138**	**9,413**
Rate Base (Mid-Year)		**527,174**	**586,990**	**619,742**	**647,563**	**700,046**	**750,490**	**797,181**

7.6.2 Return on Rate Base ($000's)

Line #		Reference	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
1	Mid-Year Rate Base	**Schedule 7.6.1**	647,563	700,046	750,490	797,181
2	Rate of Return		3.20%	2.44%	2.11%	1.97%
3	**Return on Rate Base**		**20,722**	**17,046**	**15,835**	**15,704**

7.7 Outstanding Long Term Debt ($000's)

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
1	11039C	767	700	630	630	555	476	392
2	11039D	63	57	51	51	44	36	28
3	11961A	1,921	1,809	1,689	1,689	1,563	1,428	1,285
4	11961F	19	18	17	17	16	15	13
5	12286F	801	754	704	704	651	595	536
6	12535A	4,220	3,993	3,752	3,752	3,499	3,230	2,946
7	12535D	2,621	2,495	2,362	2,362	2,221	2,072	1,914
8	12535E	29	28	26	26	25	23	21
9	12899A	1,591	1,522	1,449	1,449	1,372	1,290	1,203
10	13080B	2,259	2,151	2,036	2,036	1,914	1,786	1,649
11	13080E	4,311	4,124	3,926	3,926	3,717	3,495	3,260
12	13294D	2,250	2,175	2,096	2,096	2,014	1,927	1,837
13	13677A	486	-	-	-	-	-	-
14	13677C	277	-	-	-	-	-	-
15	13678A	5,448	5,226	4,991	4,991	4,744	4,483	4,208
16	13678B	910	872	832	832	790	746	700
17	14015A	1,414	722	-	-	-	-	-
18	14015D	665	452	231	231	-	-	-
19	14016A	953	915	875	875	834	790	745
20	14016C	36	35	33	33	32	31	29
21	14016D	1,305	1,257	1,206	1,206	1,153	1,097	1,039
22	14016E	254	247	239	239	231	222	213
23	14082A	35	24	12	12	-	-	-
24	14082B	63	48	33	33	17	-	-
25	14084A	2,170	2,089	2,004	2,004	1,916	1,824	1,727
26	14084B	6,460	6,271	6,072	6,072	5,862	5,642	5,409
27	14084C	4,216	4,093	3,964	3,964	3,830	3,689	3,542
28	14084D	209	203	197	197	190	184	177
29	14293B	1,089	835	569	569	291	-	-
30	14293C	1,481	1,007	514	514	-	-	-
31	14294A	218	210	201	201	192	183	173
32	14294B	676	653	630	630	605	579	552
33	14294C	992	963	933	933	900	867	831
34	14294D	2,111	2,052	1,990	1,990	1,925	1,857	1,787
35	14294E	142	138	133	133	129	124	119
36	14294F	1,749	1,697	1,644	1,644	1,590	1,533	1,475
37	14294G	441	428	415	415	402	388	374
38	14421A	875	846	815	815	783	750	714
39	14421B	3,109	3,018	2,922	2,922	2,822	2,715	2,603
40	14421C	2,966	2,881	2,791	2,791	2,697	2,598	2,495
41	14421D	82	80	77	77	75	72	69
42	14591A	63	48	33	33	17	-	-
43	14592A	3,413	3,299	3,180	3,180	3,055	2,924	2,786
44	14592B	10,544	10,236	9,911	9,911	9,568	9,208	8,828
45	14592C	2,876	2,793	2,707	2,707	2,616	2,520	2,419
46	14592D	3,618	3,513	3,402	3,402	3,287	3,166	3,040
47	14592E	917	891	864	864	835	805	774
48	14592F	462	449	435	435	420	405	389
49	14592G	3,596	3,489	3,378	3,378	3,263	3,145	3,023
50	14893A	1,421	1,380	1,336	1,336	1,290	1,241	1,190

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
51	14893B	6,215	6,033	5,844	5,844	5,646	5,438	5,221
52	14893C	1,009	980	950	951	919	886	851
53	14893D	1,849	1,795	1,739	1,739	1,680	1,619	1,556
54	14893E	3,007	2,923	2,834	2,834	2,742	2,646	2,546
55	15244A	20,364	19,771	19,150	19,150	18,500	17,820	17,109
56	15244B	9,171	8,910	8,636	8,636	8,351	8,053	7,741
57	15244C	12,021	11,668	11,302	11,302	10,920	10,524	10,112
58	15244D	5,104	4,960	4,810	4,810	4,654	4,491	4,321
59	15244E	2,366	2,295	2,222	2,222	2,147	2,069	1,989
60	15244F	5,772	5,600	5,422	5,422	5,239	5,049	4,853
61	15244G	13,502	13,099	12,684	12,684	12,254	11,811	11,353
62	15245A	7,797	7,569	7,332	7,332	7,083	6,823	6,550
63	15245B	462	449	435	435	420	405	389
64	15245C	3,028	2,938	2,844	2,844	2,748	2,649	2,546
65	15245D	931	903	875	875	846	816	785
66	15245E	932	905	878	878	849	820	790
67	15245F	1,606	1,563	1,518	1,518	1,472	1,424	1,374
68	16113A	970	943	914	914	885	854	823
69	16113B	2,013	1,956	1,897	1,897	1,836	1,773	1,708
70	16113C	10,472	10,174	9,866	9,866	9,548	9,220	8,882
71	16113J	3,186	3,095	3,001	3,001	2,904	2,803	2,700
72	16113K	3,927	3,814	3,698	3,698	3,578	3,455	3,327
73	16113L	10,410	10,112	9,804	9,804	9,486	9,159	8,822
74	16113M	73	71	69	69	66	64	62
75	16113N	91	89	86	86	83	80	77
76	16113O	11,559	11,247	10,925	10,925	10,592	10,248	9,892
77	10778A	975	866	748	748	621	483	334
78	10778B	2,089	1,888	1,672	1,672	1,441	1,192	925
79	10778C	693	633	569	569	502	430	354
80	11039A	3,414	3,031	2,618	2,618	2,172	1,690	1,169
81	11039B	836	756	669	669	577	477	370
82	11249A	5,565	5,084	4,572	4,572	4,030	3,454	2,843
83	11249B	2,794	2,579	2,352	2,352	2,113	1,859	1,591
84	11249C	4,852	4,591	4,314	4,314	4,022	3,714	3,387
85	11761A	853	788	719	719	645	568	486
86	11761B	3,908	3,654	3,383	3,383	3,095	2,788	2,461
87	11761C	351	332	312	312	291	268	245
88	11961B	173	164	154	154	143	132	121
89	11961C	4,611	4,363	4,100	4,100	3,823	3,529	3,219
90	11961D	123	118	112	112	106	100	93
91	11961E	2,962	2,833	2,697	2,697	2,553	2,401	2,239
92	12285F	234	120	-	-	-	-	-
93	12286A	2,578	2,427	2,267	2,267	2,097	1,917	1,725
94	12286B	446	422	397	397	370	341	311
95	12286C	2,985	2,824	2,654	2,654	2,475	2,285	2,084
96	12286D	5,696	5,422	5,133	5,133	4,826	4,502	4,158
97	12286E	851	810	767	767	721	672	621
98	12535B	1,556	1,472	1,384	1,384	1,290	1,191	1,086
99	12535C	941	895	848	848	797	743	687
100	13080A	637	607	574	574	540	504	465
101	13080C	1,219	1,167	1,111	1,111	1,051	988	922
102	13080D	11	11	10	10	10	9	9

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
103	13293A	108	-	-	-	-	-	-
104	13293B	409	278	142	142	-	-	-
105	13294A	3,653	3,508	3,356	3,356	3,197	3,030	2,856
106	13294B	3,771	3,631	3,483	3,483	3,330	3,169	3,001
107	13294C	1,709	1,652	1,592	1,592	1,530	1,464	1,395
108	13294E	1,456	1,413	1,369	1,369	1,321	1,272	1,219
109	13294F	1,518	1,474	1,428	1,428	1,379	1,328	1,275
110	13677B	393	-	-	-	-	-	-
111	13784A	6,227	5,972	5,704	5,704	5,422	5,124	4,810
112	13784B	2,566	2,459	2,347	2,347	2,228	2,104	1,973
113	13784C	7,303	7,013	6,710	6,710	6,392	6,059	5,711
114	13784D	17,346	16,699	16,022	16,022	15,315	14,577	13,805
115	14015B	837	569	290	290	-	-	-
116	14015C	4,312	3,305	2,252	2,252	1,151	-	-
117	14015E	1,375	1,121	857	857	583	297	-
118	14015F	1,309	1,091	864	864	628	384	130
119	14015G	14	11	9	9	7	4	1
120	14016B	2,753	2,650	2,543	2,543	2,430	2,313	2,191
121	14016F	913	886	859	859	830	799	767
122	14293A	236	160	82	82	-	-	-
123	14293D	1,212	989	756	756	514	262	-
124	14591B	5,918	4,827	3,691	3,691	2,509	1,279	-
125	14591C	2,083	1,735	1,374	1,374	999	611	207
126	14591D	518	432	342	342	249	152	52
127	14591E	29	24	19	19	14	9	3
128	14016G	677	657	637	637	616	594	571
129	16113P	9,031	8,816	8,594	8,594	8,361	8,120	7,868
130	16113T	2,100	2,049	1,996	1,996	1,941	1,884	1,825
131	16113U	4,354	4,249	4,139	4,139	4,025	3,906	3,783
132	16113V	6,000	5,855	5,704	5,704	5,546	5,383	5,214
133	16113W	110	107	105	105	102	99	96
134	16113X	410	400	390	390	379	368	356
135	16113Y	460	449	437	437	425	413	400
136	16571A	3,100	3,025	2,947	2,947	2,866	2,781	2,694
137	16572B	1,300	1,269	1,236	1,235	1,202	1,166	1,130
138	15245G	2,220	2,167	2,112	2,112	2,055	1,996	1,934
139	15245H	1,300	1,269	1,236	1,236	1,202	1,166	1,130
140	15245I	-	1,800		1,752	1,703	1,652	1,599
141	16571B	-	3,700		3,601	3,501	3,396	3,288
142	16571C	-	1,200		1,168	1,134	1,100	1,064
143	16572C	-	800		778	756	733	709
144	161131	-	11,600		11,305	10,695	10,375	10,045
145	16694A	-	4,300		-	-	-	-
146	16691B	-	2,100		2,043	1,985	1,925	1,862
147	16722A	-	1,100		1,071	1,041	1,010	977
148	15245J	-	-		1,176	1,142	1,107	1,071
149	16570B	-	-		1,972	1,915	1,856	1,796
150	17102B	-	-		10,012	9,727	9,435	9,134
151	16572D	-	-		197	192	186	180
152	16691A	-	-		4,186	4,068	3,947	3,821
		376,816	**383,716**	**337,802**	**377,063**	**356,314**	**336,232**	**316,745**
	2014 Borrowing	-	-	33,979	-	-	-	-
	2015 Borrowing	-	-	41,123	37,928	37,928	37,928	37,928
	2016 Borrowing	-	-	-	-	55,863	55,863	55,863
	2017 Borrowing	-	-	-	-	-	36,833	36,833
	2018 Borrowing	-	-	-	-	-	-	39,866
	Less: EPCOR Debt	(81,668)	(75,513)	(69,629)	(69,629)	(63,832)	(58,319)	(53,194)
	Total Outstanding	**295,148**	**308,203**	**343,275**	**345,362**	**386,273**	**408,537**	**434,041**

7.7.1 Principal Repayment ($000's)

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
1	03071A	-	-	-	-	-	-	-
2	03135A	-	-	-	-	-	-	-
3	03269A	-	-	-	-	-	-	-
1	03336A	14	-	-	-	-	-	-
2	03799A	7	-	-	-	-	-	-
3	03800A	19	-	-	-	-	-	-
4	11039C	63	66	70	70	75	79	84
5	11039D	6	6	7	7	7	8	8
6	11961A	106	112	119	119	127	135	143
7	11961F	1	1	1	1	1	1	1
8	12285A	-	-	-	-	-	-	-
9	12285G	-	-	-	-	-	-	-
8	12286F	44	47	50	50	53	56	60
9	12535A	215	227	240	240	254	269	284
10	12535D	119	126	133	133	141	149	158
11	12535E	1	1	1	1	2	2	2
12	12899A	65	69	73	73	77	82	87
13	13080B	102	108	115	115	122	129	136
14	13080E	177	187	198	198	210	222	235
15	13294D	72	75	79	79	82	86	91
16	13677A	464	486	-	-	-	-	-
17	13677C	266	277	-	-	-	-	-
18	13678A	211	222	235	235	247	261	275
19	13678B	36	38	40	40	42	44	46
20	14015A	663	692	722	722	-	-	-
21	14015D	204	213	221	221	231	-	-
22	14016A	36	38	40	40	41	43	45
23	14016C	1	1	1	1	1	1	1
24	14016D	47	49	51	51	53	56	58
25	14016E	7	7	8	8	8	9	9
26	14082A	11	11	12	12	12	-	-
27	14082B	14	15	15	15	16	17	-
28	14084A	78	81	85	85	88	92	97
29	14084B	180	189	199	199	210	221	233
30	14084C	117	123	129	129	135	141	147
31	14084D	6	6	6	6	6	7	7
32	14293B	243	254	266	266	278	291	-
33	14293C	455	474	493	493	514	-	-
34	14294A	8	8	9	9	9	9	10
35	14294B	22	23	24	24	25	26	27
36	14294C	28	29	31	31	32	34	36
37	14294D	57	59	62	62	65	67	70
38	14294E	4	4	4	4	5	5	5
39	14294F	50	51	53	53	55	56	58
40	14294G	12	13	13	13	13	14	14
41	14421A	28	29	31	31	32	34	35
42	14421B	86	91	96	96	101	106	112
43	14421C	81	85	89	89	94	99	104
44	14421D	2	2	3	3	3	3	3
45	14591A	14	15	15	15	16	17	-
46	14592A	109	114	119	119	125	131	137
47	14592B	293	309	325	325	342	360	380
48	14592C	78	82	87	87	91	96	101
49	14592D	101	105	110	110	115	121	126
50	14592E	25	26	27	27	29	30	31
51	14592F	13	14	14	14	15	15	16
52	14592G	104	107	111	111	114	118	122
53	14893A	40	42	44	44	46	49	51
54	14893B	173	181	189	189	198	207	217

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
55	14893C	28	29	30	30	31	33	34
56	14893D	52	54	56	56	59	61	63
57	14893E	81	85	88	88	92	96	100
58	15244A	567	593	621	621	650	680	711
59	15244B	250	261	273	273	285	298	312
60	15244C	339	353	367	367	381	396	412
61	15244D	138	144	150	150	156	163	170
62	15244E	68	71	73	73	75	78	80
63	15244F	167	172	178	178	184	190	196
64	15244G	390	403	416	416	429	443	458
65	15245A	217	227	238	238	249	260	272
66	15245B	13	14	14	14	15	15	16
67	15245C	87	90	93	93	96	99	103
68	15245D	27	27	28	28	29	30	31
69	15245E	26	27	28	28	28	29	30
70	15245F	21	43	45	45	46	48	49
71	16113A	27	28	29	29	29	30	31
72	16113B	56	57	59	59	61	63	65
73	16113C	290	299	308	308	318	328	338
74	16113J	89	91	94	94	97	100	103
75	16113K	109	113	116	116	120	123	127
76	16113L	290	299	308	308	317	327	337
77	16113M	2	2	2	2	2	2	2
78	16113N	3	3	3	3	3	3	3
79	16113O	152	312	322	322	333	344	356
80	10778A	101	109	118	118	128	138	149
81	10778B	187	201	216	216	232	249	267
82	10778C	57	60	64	64	68	72	76
83	11039A	354	383	413	413	446	482	521
84	11039B	75	80	86	86	93	100	107
85	11249A	454	482	511	511	543	576	611
86	11249B	203	214	227	227	240	254	268
87	11249C	247	261	276	276	292	309	327
88	11761A	62	66	69	69	73	77	82
89	11761B	239	254	271	271	288	307	327
90	11761C	18	19	20	20	21	22	24
91	11961B	9	9	10	10	10	11	12
92	11961C	235	248	262	262	277	293	310
93	11961D	5	5	6	6	6	6	7
94	11961E	121	128	136	136	144	152	161
95	12285B	-	-	-	-	-	-	-
96	12285C	-	-	-	-	-	-	-
95	12285D	201	-	-	-	-	-	-
96	12285E	237	-	-	-	-	-	-
97	12285F	110	115	120	120	-	-	-
98	12286A	142	151	160	160	170	181	192
99	12286B	23	24	25	25	27	28	30
100	12286C	152	161	170	170	180	190	201
101	12286D	258	273	289	289	306	324	344
102	12286E	39	41	43	43	46	48	51
103	12534A	-	-	-	-	-	-	-
103	12535B	79	84	89	89	94	99	105
104	12535C	43	45	48	48	51	54	57
105	13080A	29	31	32	32	34	36	38
106	13080C	50	53	56	56	59	63	66
107	13080D	-	-	1	1	1	1	1
108	13293A	104	108	-	-	-	-	-
109	13293B	126	131	136	136	142	-	-
110	13294A	138	145	152	152	159	166	174
111	13294B	135	141	147	147	154	161	168
112	13294C	54	57	60	60	63	66	69
113	13294E	40	43	45	45	47	50	52
114	13294F	42	44	46	46	48	51	54

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
115	13677B	377	393	-	-	-	-	-
116	13784A	241	254	268	268	283	298	314
117	13784B	102	107	113	113	118	125	131
118	13784C	277	290	304	304	318	333	348
119	13784D	620	648	677	677	707	738	771
120	14015B	257	268	279	279	290	-	-
121	14015C	963	1,007	1,053	1,053	1,101	1,151	-
122	14015E	244	254	264	264	275	286	297
123	14015F	211	219	227	227	236	244	254
124	14015G	2	2	2	2	2	3	3
125	14016B	98	103	107	107	112	117	122
126	14016F	25	26	28	28	29	31	32
127	14016G	19	20	21	21	21	22	23
128	14293A	72	75	78	78	82	-	-
129	14293D	215	224	233	233	242	252	262
130	14591B	1,049	1,091	1,136	1,131	1,182	1,230	1,279
131	14591C	335	348	361	361	375	389	403
132	14591D	83	86	89	89	93	97	101
133	14591E	5	5	5	5	5	5	6
134	16113P	-	214	223	223	232	242	252
135	16113T	-	51	53	53	55	57	59
136	16113U	-	105	110	110	114	118	123
137	16113V	-	145	151	151	157	163	170
138	16113W	-	3	3	3	3	3	3
139	16113X	-	10	10	10	11	11	12
140	16113Y	-	11	12	12	12	13	13
141	16571A	-	75	78	78	81	84	88
142	16572B	-	32	33	33	34	35	37
143	15245G	-	53	55	55	57	59	62
144	15245H	-	32	33	33	34	35	37
145	15245I	-	-		48	49	51	53
146	15245J	-	-		17	34	35	36
147	16570B	-	-		28	57	59	60
148	16571B	-	-		98	101	105	108
149	16571C	-	-		32	33	34	36
150	16572C	-	-		22	22	23	24
151	17102B	-	-		139	284	292	301
152	161131	-	-		300	310	320	330
153	16572D	-	-		3	6	6	6
154	16691A	-	-		114	118	122	126
155	16691B	-	-		57	58	60	62
156	16722A	-	-		29	30	31	32
		18,426	**19,704**	**19,310**	**20,196**	**20,449**	**20,082**	**19,488**
	2014 Borrowing			684	-	-	-	-
	2015 Borrowing	-	-	1,172	923	923	923	923
	2016 Borrowing	-	-	-	-	1,404	1,404	1,404
	2017 Borrowing	-	-	-	-	-	1,239	1,239
	2018 Borrowing	-	-	-	-	-	-	1,254
	Less: EPCOR Debt Repaym	(6,072)	(6,156)	(5,884)	(5,884)	(5,797)	(5,513)	(5,125)
	Total Principal Repaid	**12,354**	**13,548**	**15,282**	**15,235**	**16,979**	**18,135**	**19,183**

7.8 Total Expenses by Program Area ($000's)

Planning	2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
Personnel	3,632	2,642	6,270	6,270	7,265	8,612	9,038
Materials, Goods & Supplies	487	354	161	161	373	455	372
External Services	1,890	1,455	3,200	3,200	3,469	3,431	3,456
Biosolids Disposal	13,903	11,022	15,936	15,436	16,662	17,412	17,562
Other Expenses	71	52	161	161	121	134	139
	19,983	**15,525**	**25,728**	**25,228**	**27,890**	**30,044**	**30,567**
Interdepartmental Charges/(Recoveries)	(5,797)	(5,260)	(1,089)	(1,089)	(1,022)	(1,382)	(1,579)
	14,186	**10,265**	**24,639**	**24,139**	**26,868**	**28,662**	**28,988**

Design & Construction	2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
Personnel	31,893	32,522	34,675	34,673	37,831	39,665	41,065
Materials, Goods & Supplies	19,477	19,417	31,588	31,588	35,458	38,764	33,720
External Services	55,793	72,098	62,745	62,745	73,017	80,285	68,925
Shared Services	4,775	5,574	6,995	6,995	6,834	6,896	7,081
Fleet Services	2,232	2,271	2,177	2,177	2,025	2,045	2,027
Amortization Expense	1,048	990	1,100	1,100	1,122	1,144	1,167
Other Expenses	820	2,314	3,247	3,247	1,536	1,602	1,530
	116,038	**135,186**	**142,527**	**142,525**	**157,823**	**170,401**	**155,515**
Interdepartmental Charges/(Recoveries)	(110,980)	(125,186)	(141,098)	(141,098)	(156,110)	(168,782)	(154,277)
	5,058	**10,000**	**1,429**	**1,427**	**1,713**	**1,619**	**1,238**

Operations	2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
Personnel	15,445	16,294	13,937	13,937	15,037	15,993	16,788
Materials, Goods & Supplies	1,952	2,556	1,889	1,889	2,072	2,128	2,184
External Services	2,197	2,184	1,132	1,132	1,491	1,476	1,495
Fleet Services	1,758	1,584	1,389	1,389	1,407	1,451	1,451
Other Expenses	1,311	1,312	1,278	1,278	1,137	1,154	1,170
	22,663	**23,930**	**19,625**	**19,625**	**21,144**	**22,202**	**23,088**
Interdepartmental Charges/(Recoveries)	(2,565)	(1,842)	(362)	(362)	(482)	(556)	(569)
	20,098	**22,088**	**19,263**	**19,263**	**20,662**	**21,646**	**22,519**

Strategic Services	2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
Personnel	585	1,884	2,396	2,396	2,493	2,726	2,857
Materials, Goods & Supplies	13	68	360	360	232	236	241
External Services	192	126	1,551	1,551	408	416	425
Shared Services	5,262	5,480	6,252	6,252	6,383	7,006	7,189
Customer Billing Services	4,582	4,201	4,900	4,900	4,897	5,014	5,133
Other Expenses	217	532	303	303	275	282	288
Amortization Expense	10,584	11,943	13,187	11,728	14,522	15,200	15,968
Interest Expense	11,950	12,786	13,881	13,132	14,239	15,287	16,007
Local Access Fee	7,836	8,340	8,443	8,444	8,762	9,074	9,408
Transfer to Sanitary Servicing Strategy Fund	1,300	1,300	1,300	1,300	1,300	1,300	1,300
	42,521	**46,660**	**52,573**	**50,367**	**53,511**	**56,541**	**58,816**
Interdepartmental Charges/(Recoveries)	(921)	(484)	(1,012)	(1,011)	(764)	(603)	(642)
	41,600	**46,176**	**51,561**	**49,356**	**52,747**	**55,938**	**58,174**

Total Expenses	**80,942**	**88,529**	**96,892**	**94,185**	**101,990**	**107,865**	**110,919**

NOTE: Drainage Design & Construction Interdepartmental Charges/Recoveries includes both recoveries to capital (representing project volume) offset by interdepartmental charges from other City of Edmonton departments.

7.9 10 Year Capital Forecast (2016-2025) – Sanitary ($000's)

	Major Project Class	Project #	4 year Capital Plan 2015	2016	2017	2018	Forecast 2019	2020	2021	2022	2023	2024	2025	Total 2015-2025
Renewal & Upgrading	**Non-Contributed**													
	Drainage Neighbourhood Renewal		**19,636**	**21,213**	**25,251**	**21,616**	**30,819**	**31,744**	**35,771**	**36,844**	**37,949**	**39,088**	**40,260**	**340,191**
	Drainage Neighbourhood Renewal Coordination	CM-23-9510	19,337	19,537	18,881	15,055	20,971	21,600	22,248	22,916	23,603	24,311	25,041	233,500
	Sewer Upgrading	CM-23-9703	129	1,326	6,010	6,190	9,274	9,552	12,914	13,301	13,700	14,111	14,534	101,041
	Service Connection Renewal	CM-23-9512	170	350	360	371	574	592	609	627	646	666	685	5,650
	Drainage System Rehabilitation		**19,883**	**18,463**	**14,045**	**14,467**	**14,901**	**15,348**	**15,808**	**16,504**	**17,228**	**17,979**	**18,519**	**183,145**
	Mill Woods Double Barrel Replac/SESS SA1	08-23-9202	7,725	5,570	-	-	-	-	-	-	-	-	-	13,295
	Structures Rehabilitation	CM-23-9503	3,568	4,045	4,932	5,080	5,232	5,389	5,551	5,939	6,346	6,771	6,974	59,827
	Sewer Rehabilitation	CM-23-9504	1,483	1,528	1,573	1,621	1,670	1,720	1,771	1,824	1,879	1,935	1,993	18,997
	High Priority Repair	CM-23-9520	7,107	7,320	7,540	7,766	7,999	8,239	8,486	8,741	9,003	9,273	9,552	91,026
	Flood Mitigation		**7,679**	**10,330**	**8,997**	**9,844**	**10,890**	**5,355**	**6,595**	**12,801**	**10,284**	**10,173**	**10,478**	**103,426**
	Neighbourhood Flood Prevention Projects	CM-23-9511	4,851	6,966	5,254	4,755	5,263	-	-	-	-	-	-	27,089
	Expanded Neighbourhood Flood Prevention Program Includes SW and Millwoods	CM-23-9611	2,828	3,364	3,743	5,089	5,627	5,355	6,595	12,801	10,284	10,173	10,478	76,337
Environmental	**Environmental Quality Enhancement**		**3,814**	**4,511**	**4,046**	**2,755**	**12,839**	**15,612**	**5,750**	**3,388**	**3,490**	**3,595**	**3,703**	**63,503**
	Enhanced Biosolids Dewatering	13-23-9621	300	-	-	-	-	-	-	-	-	-	-	300
	River for Life	CM-23-9640	-	-	88	141	1,304	1,343	1,384	1,425	1,468	1,512	1,557	10,222
	Biosolids Facilities Renewal	CM-23-9623	1,750	2,695	2,120	1,171	3,768	6,269	2,767	317	326	336	346	21,865
	Fat, Oil and Grease Facility	19-23-6112	-	-	-	-	6,260	6,448	-	-	-	-	-	12,708
	Environmental & Collection System Monitoring	CM-23-9620	219	225	199	205	232	239	246	253	261	269	277	2,625
	City Wide Odour Control Program	CM-23-9630	1,545	1,591	1,639	1,238	1,275	1,313	1,353	1,393	1,435	1,478	1,523	15,783
														-
	Combined Sewer Overflow Strategy		**2,575**	**1,858**	**2,459**	**2,251**	**2,319**	**2,388**	**2,460**	**2,534**	**2,610**	**2,688**	**2,768**	**26,910**
	Opportunistic Sewer Separation	CM-23-2160	-	267	2,459	2,251	2,319	2,388	2,460	2,534	2,610	2,688	2,768	22,744
	Combined Sewer Overflow Control Projects	12-23-9702	2,575	1,591	-	-	-	-	-	-	-	-	-	4,166
Growth	**Drainage System Expansion**		**9,719**	**9,052**	**5,430**	**8,576**	**9,770**	**10,387**	**7,763**	**7,929**	**9,908**	**8,466**	**8,719**	**95,719**
	Review/Inspect Developer Built Sewers	CM-23-9470	833	892	956	1,024	1,076	1,130	1,187	1,247	1,310	1,377	1,418	12,450
	Drainage Construction and Equipment	CM-23-6130	2,518	1,796	1,742	4,738	6,202	6,570	3,810	3,832	5,663	4,065	4,187	45,123
	Drainage Facility Upgrading	CM-23-6140	1,803	1,857	820	844	463	597	615	633	652	672	692	9,648
	Kennedale Accommodation	15-23-6142	2,575	2,652	-	-	-	-	-	-	-	-	-	5,227
	Drainage IT Assets	CM-23-6200	1,475	1,326	1,366	1,407	1,449	1,493	1,537	1,583	1,631	1,680	1,730	16,677
	Interconnection Control Program	CM-23-9435	515	529	546	563	580	597	614	634	652	672	692	6,594
	Contributed													
Growth	**Sanitary Servicing Strategy**		**23,008**	**24,558**	**22,310**	**22,759**	**25,504**	**26,269**	**27,057**	**27,869**	**28,705**	**29,566**	**30,453**	**288,058**
	Sanitary Servicing Strategy Projects	CM-23-9210	23,008	24,558	22,310	22,759	25,504	26,269	27,057	27,869	28,705	29,566	30,453	288,058
	Drainage System Expansion		**11,701**	**12,973**	**14,297**	**10,015**	**7,767**	**6,806**	**8,240**	**7,221**	**8,742**	**29,163**	**30,039**	**146,964**
	Initial Phase Downtown STM Drainage Services	14-23-4102	4,800	6,926	6,975	3,599	-	-	-	-	-	21,503	22,148	65,951
	Local Improvement	CM-23-9420	3,605	2,652	3,825	2,814	4,057	2,985	4,305	3,167	4,567	3,360	3,461	38,798
	Sevice Connection Expansion	CM-23-9430	3,296	3,395	3,497	3,602	3,710	3,821	3,935	4,054	4,175	4,301	4,430	42,216
	Total Capital		**98,016**	**102,958**	**96,835**	**92,283**	**114,809**	**113,909**	**109,444**	**115,090**	**118,916**	**140,718**	**144,939**	**1,247,917**

8.0 Stormwater Utility Budget Details ($000's)

The following sub-sections provide a detailed breakdown of the proposed 2016-2018 Budget for the Stormwater Utility.

8.1 Utility Summary Schedule ($000's)

Line #		Reference	2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
Expenses															
1	Operating and Maintenance	**Schedule 8.2**	22,635	20,101	17,431	17,431	17,584	153	0.9%	18,674	1,090	6.2%	19,338	664	3.6%
2	Amortization Expense	**Schedule 8.3**	3,725	4,358	6,574	5,533	7,363	1,830	33.1%	8,188	825	11.2%	9,191	1,003	12.2%
3	Interest Expense	**Schedule 8.3**	4,610	5,288	6,538	5,344	6,959	1,615	30.2%	8,744	1,785	25.7%	10,472	1,728	19.8%
	Total Expenditures		**30,970**	**29,747**	**30,543**	**28,308**	**31,906**	**3,598**	**12.7%**	**35,606**	**3,700**	**11.6%**	**39,001**	**3,395**	**9.5%**
4	Return on Rate Base	**Schedule 8.5.2**	8,887	17,819	21,762	19,350	21,948	2,597	13.4%	21,753	(195)	-0.9%	21,518	(235)	-1.1%
	Total Revenue Requirement		**39,857**	**47,566**	**52,305**	**47,659**	**53,854**	**6,195**	**13.0%**	**57,359**	**3,505**	**6.5%**	**60,519**	**3,160**	**5.5%**
5	**Non-Rate Revenues**	**Schedule 8.4**	1,101	1,423	1,444	1,444	1,678	234	16.2%	1,939	261	15.6%	1,733	(207)	-10.6%
6	**Total Rate Revenue**		**38,756**	**46,143**	**50,861**	**46,214**	**52,176**	**5,961**	**12.9%**	**55,419**	**3,244**	**6.2%**	**58,786**	**3,367**	**6.1%**

For explanation of variances please refer to the applicable referenced schedules.

8.2 Operations and Maintenance ($000's)

Line #		Reference	2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Personnel	Schedule 8.2.1	9,369	9,100	8,858	8,858	9,727	869	9.8%	10,786	1,059	10.9%	11,332	546	5.1%
2	Materials, Goods, and Supplies		1,345	1,168	1,553	1,553	1,241	(312)	-20.1%	1,323	82	6.6%	1,280	(43)	-3.3%
3	External Services	Schedule 8.2.2	1,618	977	3,464	3,464	3,053	(411)	-11.9%	3,041	(12)	-0.4%	3,071	30	1.0%
4	Fleet Services	Schedule 8.2.3	522	681	585	585	580	(5)	-0.9%	599	19	3.3%	599	-	0.0%
5	Shared Services	Schedule 8.2.4	1,976	1,991	2,679	2,679	2,736	57	2.1%	3,003	267	9.8%	3,081	78	2.6%
6	Customer Billing Services		1,078	990	1,196	1,196	1,149	(47)	-3.9%	1,169	20	1.7%	1,190	21	1.8%
7	Other Expenses		382	461	471	471	721	250	53.1%	742	21	2.9%	804	62	8.4%
8	Interdepartmental Charges/(Recoveries)		6,345	4,733	(1,375)	(1,375)	(1,623)	(248)	18.0%	(1,989)	(366)	22.6%	(2,019)	(30)	1.5%
	Total Operations & Maintenance		**22,635**	**20,101**	**17,431**	**17,431**	**17,584**	**153**	**0.9%**	**18,674**	**1,090**	**6.2%**	**19,338**	**664**	**3.6%**

Line 2 – Materials, Goods and Supplies

The year over year changes are primarily related to anticipated lower costs related to Asset & Facility Planning and other various small cost adjustments.

Line 6 – Customer Billing Services

The service is provided by EPCOR for the provision of customer billing and meter reading services. The year over year changes are primarily due to inflationary factors offset by adjustments due to corporate allocations.

Line 7 – Other Expenses

The year over year changes are primarily related to number of small adjustments including higher anticipated training requirements for Drainage Services staff.

Line 8 – Interdepartmental Charges/ (Recoveries)

The year over year changes are primarily due to recoveries from Planning, Operations and Strategic Services. This is driven by the capital program. They are partially offset by on-demand charges from other City departments such as internal construction supplies, printing, parking and general maintenance work.

8.2.1 Personnel Costs ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Salaries & Wages	6,641	6,361	6,896	6,896	7,236	340	4.9%	8,076	840	11.6%	8,500	424	5.3%
2	Overtime	613	680	376	376	516	140	37.2%	522	6	1.2%	527	5	1.0%
3	Allowances and Benefits	2,115	2,059	1,586	1,586	1,975	389	24.5%	2,188	213	10.8%	2,305	117	5.3%
	Total Personnel Costs	**9,369**	**9,100**	**8,858**	**8,858**	**9,727**	**869**	**9.8%**	**10,786**	**1,059**	**10.9%**	**11,332**	**546**	**5.1%**

- **Sanitary/Stormwater Allocation** - From an operational perspective, Drainage Services employees do not distinguish their time working on Sanitary vs. Stormwater infrastructure. As such, the budget has been allocated between the two Utilities (70% - Sanitary / 30% - Stormwater) based on an examination of the distribution of rate applicable assets and how services are provided relative to them.

Line 1 – Salaries and Wages

The Proposed 2016-2018 Budget contains a request for an increase of 35.0 permanent FTE's (split between Sanitary and Stormwater) in 2016, 9.0 FTE in 2017 & 8.0 FTE in 2018. For further details, please see Sections 11.0, 11.1 and the attached business cases in Appendix A. The permanent FTE positions have been budgeted assuming an average starting date in October each year. In addition, the vacancies in the current year are expected to be filled by early 2016.

Line 2 – Overtime

The increase in overtime is primarily due to Public Services anticipating a higher volume of work. Public Services is responsible for reviewing plans on water service connections, providing public information and inspection on flood mitigation and lot grading, and all licenses and permitting. Public Services is not requesting any new FTE's through 2016-2018 and will manage the anticipated increase in workload with current staff.

Line 3 – Allowances and Benefits

The increase in Allowance and Benefits in 2016 is due to a change in treatment for how Paid Absence is reported. In 2015, Paid Absence was reported as part of Salaries and Wages. In 2016, Paid Absence is now part of Allowances and Benefits. Paid Absence is an estimate of labour costs associated with paid sick time and is used for internal labour analysis.

8.2.2 External Services ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Planning	824	411	2,060	2,060	2,313	253	12.3%	2,287	(26)	-1.1%	2,304	17	0.7%
2	Operations	724	520	593	593	468	(125)	-21.1%	476	8	1.7%	484	8	1.7%
3	Strategic Services	70	46	811	811	272	(539)	-66.5%	278	6	2.2%	283	5	1.8%
	Total External Services	**1,618**	**977**	**3,464**	**3,464**	**3,053**	**(411)**	**-11.9%**	**3,041**	**(12)**	**-0.4%**	**3,071**	**30**	**1.0%**

Line 1 - Planning

The increase in 2016 is primarily due to the need for studies in the overall planning for the City-wide Flood Mitigation program beginning in 2022.

Line 2 – Operations

The decrease in 2016 is primarily due to the allocation of external services for Regulatory Services relating to a large spill promotional campaign in the Sanitary Utility. For more details see section 7.2.2.

Line 3 – Strategic Services

The decrease in 2016 is primarily due to the decrease in anticipated management consulting contract work.

8.2.3 Fleet Services ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Fleet Charges	125	95	83	83	65	(18)	-21.7%	45	(20)	-30.8%	25	(20)	-44.4%
2	Fuel	125	172	185	185	144	(41)	-22.2%	166	22	15.3%	171	5	3.0%
3	Major Repairs	272	414	317	317	371	54	17.0%	388	17	4.6%	403	15	3.9%
	Total Fleet Services	**522**	**681**	**585**	**585**	**580**	**(5)**	**-0.9%**	**599**	**19**	**3.3%**	**599**	**-**	**0.0%**

Effective beginning in 2015, Fleet Services was repositioned, through a city wide initiative, as a tax supported area rather than a municipal enterprise. The primary reason for this change is that over 90% of Fleet activities are provided for City of Edmonton operations rather than external parties. As a result, Fleet Services no longer pays internal Shared Services costs resulting in overall lower charge-out rates for users of services.

The changes in year over year costs is based on Fleet Services evaluation of Drainage Services Fleet needs due to Fleet complement and the estimated costs based on recovery of estimated costs for fuel and maintenance.

8.2.4 Shared Services ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Human Resources	204	175	233	233	220	(13)	-5.7%	227	7	3.2%	234	7	3.1%
2	Legal Services	90	75	109	109	110	1	0.7%	114	4	3.6%	117	3	2.6%
3	Communications	43	62	76	76	82	6	7.6%	85	3	3.7%	87	2	2.4%
4	Customer Information System	61	68	88	88	95	7	7.7%	98	3	3.2%	101	3	3.1%
5	Information Technology	667	685	873	873	895	22	2.6%	921	26	2.9%	949	28	3.0%
6	Corp. Procurement & Supply Services	77	68	85	85	82	(3)	-3.8%	85	3	3.7%	87	2	2.4%
7	Financial Services	404	437	548	548	547	(1)	-0.2%	564	17	3.1%	580	16	2.8%
8	Space Rent	210	205	218	218	245	27	12.3%	438	193	78.8%	443	5	1.1%
9	Building Maintenance & Custodial	16	17	188	188	228	40	21.4%	232	4	1.8%	237	5	2.2%
10	Central Management	204	199	260	260	232	(28)	-10.9%	239	7	3.0%	246	7	2.9%
	Total Shared Services	**1,976**	**1,991**	**2,679**	**2,679**	**2,736**	**57**	**2.1%**	**3,003**	**267**	**9.8%**	**3,081**	**78**	**2.6%**

The City of Edmonton employs a Shared Services model whereby support services required for the operations of all City businesses are provided through centralized areas of expertise. The rationale behind this approach is to take advantage of the efficiencies gained through economies of scale as well as potential opportunities to provide more robust systems and services (e.g. particularly technology related services). The 2016-2018 costs above are based on 2014 data as cost drivers.

Throughout 2014 and 2015, Administration presented a fair market evaluation of several of the shared services to the Utility Committee in order to better understand the nature of changes as well as ensure reasonableness in the changes. From the reports received, the Utility Committee determined proper due diligence is used in determining the shared services charges and thus will only request additional fair market reports as deemed necessary.

Actuals charged to Drainage Services in 2016-2018 will be based on the proposed amounts cash flowed evenly throughout the year. If deemed necessary by Administration, an annual adjustment may be performed if there is a material difference between actuals incurred and what was originally budgeted to Drainage Services.

Other than for Financial Services, Central Management, and Space Rent (as explained below), the primary rationale for year over year changes are based on demand as well as inflationary factors. Primary areas for increased demand for services include Materials Management and Information Technology due to an increased need for support for the Drainage Services capital plan.

Lines 7 & 10 – Financial Services and Central Management

Year over year changes are primarily due to a change in corporate allocation as a result of Drainage Services proportional usage compared to the rest of the other City of Edmonton Branches.

Line 8 – Space Rent

Year over year increases are primarily due to costs associated with Drainage Services downtown staff moving into the new Civic Accommodation Tower. The move will be completed in a phased approach with an anticipated late 2016 start date.

The Civic Accommodation Tower is a City Wide initiative to efficiently deal with a number of expiring leases in various buildings spread across the downtown core as well as to gain efficiencies by housing Departments and staff who need to coordinate operations in closer proximity. Information regarding associated costs and plans for the integration of Departments is still in the early stages and will be updated as available.

Line 9 – Building Maintenance & Custodial

The increase is primarily related to higher custodial costs due to higher anticipated on-demand work requests for Drainage Services.

8.3 Amortization and Interest Expense ($000's)

Line #		Reference	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Amortization Expense	**Schedule 8.3.1**	20,577	21,782	24,839	23,525	26,197	2,672	11.4%	27,662	1,465	5.6%	29,318	1,656	6.0%
2	Amortization (Contributed Assets)	**Schedule 8.3.2**	(16,852)	(17,424)	(18,265)	(17,992)	(18,834)	(842)	4.7%	(19,474)	(640)	3.4%	(20,127)	(653)	3.4%
	Total Amortization Expense (net)		**3,725**	**4,358**	**6,574**	**5,533**	**7,363**	**1,830**	**33.1%**	**8,188**	**825**	**11.2%**	**9,191**	**1,003**	**12.2%**
3	Interest Expense	**Schedule 8.3.3**	4,610	5,288	6,538	5,344	6,959	1,615	30.2%	8,744	1,785	25.7%	10,472	1,728	19.8%
4	Principal Repayment	**Schedule 8.6.1**	3,755	4,387	6,173	5,682	7,296	1,614	28.4%	8,854	1,558	21.4%	10,586	1,732	19.6%

Amortization expense represents the amount of Non-Contributed Asset life used up during the operating period. The amortization rate is dependent upon the class of asset as each has an estimated useful life based upon historic experience.

Amortization of contributed assets represents the amount of benefit from Contributed Assets that are realized during the operating period. It is used to offset the amount of total amortization expense.

Interest Expense and Principal Repayment represent the total annual cash requirement to service outstanding debt. Interest expense is projected to increase by $1.6 million in 2016, $1.8 million in 2017 and $1.7 million in 2018 due to timing of borrowing in the previous year. Total debt issued in 2014 was $14 million and the planned issuance for 2015 through 2018 are as follow; $37 million in 2015, $61 million in 2016, $54 million in 2017 and $50 million in 2018.

8.3.1 Amortization Expense

Line #		Expected Useful Life in Years	2016 Depreciation on Existing	1/2 Year Depreciation on 2016 New	2016 Total Depreciation	2017 Depreciation on Existing	1/2 Year Depreciation on 2017 New	2017 Total Depreciation	2018 Depreciation on Existing	1/2 Year Depreciation on 2018 New	2018 Total Depreciation
1	Bldgs-Warehouses	10	-	-	-	-	-	-	-	-	-
2	Computer Eqpt.	5	576,982	22,000	598,982	575,245	32,000	607,245	131,810	41,000	172,810
3	GBIS/SCADA/DC Eqpt	10	10,828	41,000	51,828	10,828	44,000	54,828	620,000	60,000	680,000
4	Machinery & Eqpt	5	108,190	-	108,190	136,926	-	136,926	108,000		108,000
5	GA-Com-Support	75	171,150	-	171,150	171,150	-	171,150	171,000		171,000
6	GA-Com-Pipes	75	899,627	267,000	1,166,627	899,627	267,000	1,166,627	899,627	266,500	1,166,127
7	GA-Stm-Support	75	5,732,873	-	5,732,873	5,732,873	-	5,732,873	5,732,873		5,732,873
8	GA-Stm-Sup-Swales	75	147,911	-	147,911	147,911	-	147,911	147,911		147,911
9	GA-Stm-Pipes	75	16,371,850	385,000	16,756,850	17,674,850	469,000	18,143,850	19,144,189	465,500	19,609,689
10	GA-Stm-Serv Conn	75	793,876	-	793,876	793,876	-	793,876	793,876		793,876
11	GA-Stm-Misc Struct.	75	444,698	-	444,698	444,698	-	444,698	444,698		444,698
12	GA-Com-Misc Struct.	75	16,015	-	16,015	16,015	-	16,015	16,015		16,015
13	GA-Stm-Pumpstations	44	186,000	22,000	208,000	230,000	16,000	246,000	263,000	12,000	275,000
	Total Depreciation		**25,460,001**	**737,000**	**26,197,001**	**26,834,000**	**828,000**	**27,662,000**	**28,473,000**	**845,000**	**29,318,000**

8.3.2 Amortization of Contributed Assets ($000's)

Line #		Expected Useful Life in Years	2016 Amortization on Existing	1/2 Year Amortization on 2016 New	2016 Total Amortization	2017 Amortization on Existing	1/2 Year Amortization on 2017 New	2017 Total Amortization	2017 Amortization on Existing	1/2 Year Amortization on 2017 New	2018 Total Amortization
1	GA-Stm-Pipes	75	18,521	313	18,834	19,146	328	19,474	19,801	326	20,127
	Total Amortization		**18,521**	**313**	**18,834**	**19,146**	**328**	**19,474**	**19,801**	**326**	**20,127**

8.3.3 Interest Expense ($000's)

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
1	13401A	138	133	127	127	121	114	108
2	13401B	51	49	47	47	45	42	40
3	13401C	1	1	1	1	1	1	1
4	13676A	119	114	109	109	104	99	93
5	13676B	1	1	1	1	1	1	1
6	13731A	8	3	-	-	-	-	-
7	13731B	4	3	1	1	-	-	-
8	13826A	50	48	46	46	44	42	40
9	13826B	41	40	38	38	37	36	34
10	14017A	12	8	3	3	-	-	-
11	14017B	5	4	3	3	1	-	-
12	14018A	138	133	127	127	122	116	110
13	14018B	41	40	38	38	37	36	34
14	14083A	7	4	2	2	-	-	-
15	14083B	13	9	6	6	3	-	-
16	14291A	22	17	11	11	5	-	-
17	14291B	8	6	5	5	3	1	-
18	14292A	49	48	46	46	44	42	40
19	14292B	23	22	22	22	21	20	20
20	14292C	159	154	150	150	145	140	135
21	14422A	149	145	141	141	136	131	126
22	14422B	46	45	43	43	42	41	39
23	14422C	2	2	2	2	2	2	2
24	14422D	221	214	208	208	201	194	187
25	14422E	118	114	111	111	107	104	100
26	14593A	285	276	267	267	257	247	236
27	14593B	314	306	296	296	287	277	266
28	14593C	152	148	143	143	139	134	129
29	14890A	12	12	11	11	11	10	10
30	14890B	81	78	76	76	74	71	68
31	15243A	509	495	480	480	465	449	432
32	15243B	74	71	69	69	67	65	62
33	15243C	586	570	554	554	537	519	500
34	15243D	133	129	125	125	121	117	113
35	15243E	42	41	39	39	38	37	35
36	15243F	22	21	21	21	20	19	19
37	14422F	5	4	4	4	4	4	4
38	14422G	3	6	6	6	5	5	5
39	16113D	35	34	33	33	32	31	30
40	16113E	187	181	176	176	171	165	159
41	16113F	656	638	619	621	600	580	560

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
42	16113G	2	2	2	2	2	2	2
43	16113H	26	26	25	25	24	23	22
44	16113I	3	3	3	3	3	3	2
45	16113Q	15	27	27	26	25	24	24
46	16113R	5	121	123	118	115	112	108
47	16113S	1	29	30	28	28	27	26
48	16113Z	12	40	51	39	38	37	36
49	16569A	4	97	98	94	92	89	87
50	16570A	18	403	411	393	383	372	361
51	16572A	2	50	51	49	48	46	45
52	14422H	-	22	-	75	73	71	68
53	161132	-	78	-	261	254	246	239
54	161133	-	1	-	18	18	17	17
55	16569B	-	19	-	4	62	60	58
56	16569C	-	1	-	-	30	29	28
57	17102A	-	-	-	-	86	84	81
		4,610	**5,288**	**5,028**	**5,344**	**5,328**	**5,133**	**4,939**
2014 Borrowing		-	-	638	-	-	-	-
2015 Borrowing		-	-	872	-	-	-	-
2016 Borrowing		-	-	-	-	1,631	1,631	1,631
2017 Borrowing		-	-	-	-	-	1,980	1,980
2018 Borrowing		-	-	-	-	-	-	1,922
	Total Debt Servicing	**4,610**	**5,288**	**6,538**	**5,344**	**6,959**	**8,744**	**10,472**
Average Cost of Debt		**4%**	**2%**	**3%**	**3%**	**3%**	**3%**	**3%**

8.4 Non-Rate Revenue ($000's)

Line #		2013 Actuals	2014 Actuals	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Program Revenues	669	960	676	676	1,143	467	69.0%	1,152	9	0.8%	1,161	9	0.8%
2	Interest Revenue	432	463	768	768	535	(233)	-30.4%	787	252	47.1%	572	(216)	-27.4%
	Total Non-Rate Revenues	**1,101**	**1,423**	**1,444**	**1,444**	**1,678**	**234**	**16.2%**	**1,939**	**261**	**15.6%**	**1,733**	**(207)**	**-10.6%**

Line 1 – Program Revenue

Program revenue includes items such as lot grading, inspections and service connections. The increase in 2016 is based on a forecast of expected demand from home owners.

8.5 Revenue Requirement ($000's)

Line #		Reference	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
1	Personnel	**Schedule 8.2**	8,858	9,727	10,786	11,332
2	Materials, Goods, and Supplies	**Schedule 8.2**	1,553	1,241	1,323	1,280
3	External Services	**Schedule 8.2**	3,464	3,053	3,041	3,071
4	Fleet Services	**Schedule 8.2**	585	580	599	599
5	Shared Services	**Schedule 8.2**	2,679	2,736	3,003	3,081
6	Customer Billing Services	**Schedule 8.2**	1,196	1,149	1,169	1,190
7	Other Expenses	**Schedule 8.2**	471	721	742	804
8	Interdepartmental Charges/(Recoveries	**Schedule 8.2**	(1,375)	(1,623)	(1,989)	(2,019)
9	Amortization Expense (net)	**Schedule 8.3**	5,533	7,363	8,188	9,191
10	Interest Expense	**Schedule 8.3**	5,344	6,959	8,744	10,472
Total - Expenditures			**28,308**	**31,906**	**35,606**	**39,001**
11	Return on Rate Base	**Schedule 8.1**	19,350	21,948	21,753	21,518
Total - Revenue Requirement			**47,659**	**53,854**	**57,359**	**60,519**
12	Non-Rate Revenues	**Schedule 8.1**	1,444	1,678	1,939	1,733
Total - Rate Revenue			**46,214**	**52,176**	**55,419**	**58,786**

8.5.1 Rate Base ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
	Investments in Tangible Capital Assets							
1	Gross Book Value - Non Contributed	341,095	375,310	479,092	439,768	512,334	602,352	677,865
2	Gross Book Value - Contributed	1,305,584	1,401,597	1,368,284	1,450,780	1,501,232	1,550,307	1,597,324
3	Gross Book Value - All Assets	**1,646,679**	**1,776,907**	**1,847,376**	**1,890,548**	**2,013,566**	**2,152,659**	**2,275,189**
4	Accumulated Depreciation - Non Contributed	(149,340)	(153,564)	(161,403)	(159,097)	(166,460)	(174,648)	(183,839)
5	Accumulated Depreciation - Contributed	(237,361)	(254,785)	(271,360)	(272,777)	(291,611)	(311,085)	(331,212)
6	Accumulated Depreciation - All Assets	**(386,701)**	**(408,349)**	**(432,763)**	**(431,874)**	**(458,071)**	**(485,733)**	**(515,051)**
7	Net Book Value - Non Contributed	191,755	221,746	317,689	280,671	345,874	427,704	494,026
8	Net Book Value - Contributed	1,068,223	1,146,812	1,096,924	1,178,003	1,209,621	1,239,222	1,266,112
9	Net Book Value - All Assets	**1,259,978**	**1,368,558**	**1,414,613**	**1,458,674**	**1,555,495**	**1,666,926**	**1,760,138**
10	**Non-Contributed Assets (Mid-Year)**	**199,234**	**222,576**	**286,495**	**254,753**	**316,817**	**390,333**	**464,408**
11	**Working Capital (1 Month Operations)**	**2,373**	**2,086**	**2,512**	**2,254**	**2,653**	**3,022**	**3,366**
Rate Base (Mid-Year)		**201,607**	**224,662**	**289,007**	**257,007**	**319,470**	**393,355**	**467,774**

8.5.2 Return on Rate Base ($000's)

Line #		Reference	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
1	Mid-Year Rate Base	**Schedule 8.5.1**	257,007	319,470	393,355	467,774
2	Rate of Return		7.53%	6.87%	5.53%	4.60%
3	**Return on Rate Base**		**19,350**	**21,948**	**21,753**	**21,518**

8.6 Outstanding Long Term Debt ($000's)

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
1	13401A	2,271	2,172	2,068	2,068	1,958	1,841	1,717
2	13401B	934	896	856	856	813	769	721
3	13401C	21	20	19	19	18	17	16
4	13676A	2,179	2,090	1,996	1,996	1,898	1,793	1,683
5	13676B	20	19	18	18	17	16	16
6	13731A	121	-	-	-	-	-	-
7	13731B	75	38	-	-	-	-	-
8	13826A	1,042	1,000	957	957	912	864	814
9	13826B	844	816	787	787	756	723	689
10	14017A	208	106	-	-	-	-	-
11	14017B	110	75	38	38	-	-	-
12	14018A	2,887	2,773	2,653	2,653	2,527	2,396	2,258
13	14018B	844	816	787	787	756	723	689
14	14083A	117	60	-	-	-	-	-
15	14083B	251	171	87	87	-	-	-
16	14291A	447	304	155	155	-	-	-
17	14291B	153	117	80	80	41	-	-
18	14292A	1,089	1,048	1,006	1,006	962	915	867
19	14292B	449	436	423	423	409	394	378
20	14292C	4,794	4,651	4,503	4,503	4,351	4,193	4,031
21	14422A	2,789	2,707	2,621	2,621	2,531	2,435	2,335
22	14422B	899	873	846	846	817	787	756
23	14422C	40	39	37	37	36	35	33
24	14422D	5,548	5,385	5,216	5,216	5,040	4,857	4,667
25	14422E	3,548	3,443	3,333	3,333	3,221	3,104	2,984
26	14593A	5,861	5,665	2,791	5,461	5,246	5,021	4,785
27	14593B	5,883	5,711	209	5,529	5,338	5,137	4,926
28	14593C	2,966	2,881	1,618	2,791	2,697	2,598	2,495
29	14890A	222	216	10,235	209	202	194	186
30	14890B	1,721	1,671	1,739	1,618	1,563	1,506	1,446
31	15243A	10,884	10,567	12,699	10,235	9,888	9,524	9,144
32	15243B	1,849	1,795	3,767	1,739	1,680	1,619	1,556
33	15243C	13,474	13,094	1,186	12,699	12,286	11,855	11,406
34	15243D	4,010	3,891	622	3,767	3,640	3,508	3,372
35	15243E	1,262	1,225	137	1,186	1,146	1,104	1,061
36	15243F	662	643	162	622	601	579	557
37	14422F	145	141	5,461	137	132	128	123
38	14422G	172	167	5,529	162	157	152	147
39	16113D	1,126	1,093	1,060	1,060	1,026	990	954
40	16113E	5,950	5,780	5,604	5,604	5,422	5,235	5,042
41	16113F	20,918	20,018	19,699	19,699	19,061	18,404	17,726
42	16113G	74	72	70	70	67	65	63

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
43	16113H	837	813	788	788	762	736	709
44	16113I	91	89	86	86	83	80	77
45	16113Q	806	785	762	762	739	715	690
46	16113R	3,125	3,049	2,971	2,971	2,889	2,804	2,715
47	16113S	753	735	716	716	696	676	654
48	16113Z	1,006	982	957	957	931	904	876
49	16569A	2,500	2,439	2,376	2,376	2,311	2,243	2,172
50	16570A	10,430	10,177	9,915	9,915	9,642	9,358	9,063
51	16572A	1,300	1,269	1,236	1,236	1,202	1,166	1,130
52	14422H	-	2,350		2,288	2,223	2,157	2,088
53	161132	-	8,200		7,982	7,758	7,526	7,287
54	161133	-	600		584	567	550	532
55	16569B	-	2,000		1,947	1,892	1,836	1,777
56	16569C	-	1,000		973	945	916	887
57	17102A	-	-		2,959	2,875	2,789	2,700
		129,708	**139,171**	**120,880**	**137,613**	**132,729**	**127,940**	**123,001**
	2014 Borrowing	-	-	28,967	-	-	-	-
	2015 Borrowing	-	-	42,520	36,757	36,757	36,757	36,757
	2016 Borrowing	-	-	-	-	60,742	60,742	60,742
	2017 Borrowing	-	-	-	-	-	54,091	54,091
	2018 Borrowing	-	-	-	-	-	-	50,000
	Total Outstanding	**129,708**	**139,171**	**192,367**	**174,370**	**230,228**	**279,530**	**324,591**

8.6.1 Principal Repayment ($000's)

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
1	13401A	93	98	104	104	110	117	124
2	13401B	36	38	40	40	42	45	47
3	13401C	1	1	1	1	1	1	1
4	13676A	84	89	94	94	99	104	110
5	13676B	1	1	1	1	1	1	1
6	13731A	116	121	-	-	-	-	-
7	13731B	35	37	38	38	-	-	-
8	13826A	39	41	43	43	45	47	50
9	13826B	27	28	30	30	31	32	34
10	14017A	98	102	106	106	-	-	-
11	14017B	34	35	37	37	38	-	-
12	14018A	109	115	120	120	126	132	138
13	14018B	27	28	30	30	31	32	34
14	14083A	55	57	60	60	-	-	-
15	14083B	77	80	84	84	87	-	-
16	14291A	137	143	149	149	155	-	-
17	14291B	34	36	37	37	39	41	-
18	14292A	39	41	42	42	44	46	48
19	14292B	12	13	14	14	14	15	16
20	14292C	138	143	148	148	152	157	163
21	14422A	78	82	86	86	91	95	100
22	14422B	25	26	27	27	28	30	31
23	14422C	1	1	1	1	1	1	1
24	14422D	157	163	169	169	176	183	190
25	14422E	102	106	109	109	113	117	120
26	14593A	187	195	205	205	215	225	236
27	14593B	164	172	181	181	191	201	212
28	14593C	81	85	89	89	94	99	104
29	14890A	6	7	7	7	7	8	8
30	14890B	48	50	52	52	55	57	60
31	15243A	303	317	332	332	347	363	380
32	15243B	52	54	56	56	59	61	63
33	15243C	364	379	396	396	413	431	449
34	15243D	116	120	123	123	128	132	136
35	15243E	36	38	39	39	40	41	43
36	15243F	19	20	20	20	21	22	22
37	14422F	4	4	4	4	4	5	5

Line #	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed Budget	2017 Proposed Budget	2018 Proposed Budget
38	14422G	2	5	5	5	5	5	5
39	16113D	31	32	33	33	34	35	36
40	16113E	166	171	176	176	181	187	193
41	16113F	582	600	619	619	638	658	678
42	16113G	2	2	2	2	2	2	2
43	16113H	23	24	25	25	26	26	27
44	16113I	3	3	3	3	3	3	3
45	16113Q	11	22	22	22	23	24	25
46	16113R	-	76	79	79	82	85	88
47	16113S	-	18	19	19	20	20	21
48	16113Z	-	24	25	25	26	27	28
49	16569A	-	61	63	63	65	68	71
50	16570A	-	253	263	263	273	284	295
51	16572A	-	31	33	33	34	35	37
52	14422H	-	-		62	64	66	69
53	161132	-	-		218	225	232	239
54	161133	-	-		16	17	17	18
55	16569B	-	-		53	55	57	58
56	16569C	-	-		27	28	29	30
57	17102A	-	-		41	84	86	89
		3,755	**4,387**	**4,441**	**4,858**	**4,884**	**4,789**	**4,940**
45	AMHC Loan	-	-	-	-	-	-	-
	2014 Borrowing	-	-	48	-	-	-	-
	2015 Borrowing	-	-	1,684	824	824	824	824
	2016 Borrowing	-	-	-	-	1,588	1,588	1,588
	2017 Borrowing	-	-	-	-	-	1,653	1,653
	2018 Borrowing	-	-	-	-	-	-	1,581
	Total Principal Repaid	**3,755**	**4,387**	**6,173**	**5,682**	**7,296**	**8,854**	**10,586**

8.7 Total Expenses by Program Area ($000's)

Planning	2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
Personnel	2,386	1,765	2,623	2,623	3,113	3,690	3,874
Materials, Goods & Supplies	274	197	124	124	249	304	248
External Services	824	411	2,060	2,060	2,313	2,287	2,304
Other Expenses	48	32	58	58	81	90	93
	3,532	**2,405**	**4,865**	**4,865**	**5,756**	**6,371**	**6,519**
Interdepartmental Charges/(Recoveries)	5,417	4,656	(727)	(727)	(681)	(920)	(1,053)
	8,949	**7,061**	**4,138**	**4,138**	**5,075**	**5,451**	**5,466**

Operations	2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
Personnel	6,598	7,197	5,207	5,207	5,546	5,928	6,234
Materials, Goods & Supplies	1,065	965	1,189	1,189	838	862	873
External Services	724	520	593	593	468	476	484
Fleet Services	522	681	585	585	580	599	599
Other Expenses	241	229	261	261	457	464	519
	9,150	**9,592**	**7,835**	**7,835**	**7,889**	**8,329**	**8,709**
Interdepartmental Charges/(Recoveries)	761	221	(179)	(179)	(217)	(248)	(252)
	9,911	**9,813**	**7,656**	**7,656**	**7,672**	**8,081**	**8,457**

Strategic Services	2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
Personnel	385	138	1,028	1,028	1,068	1,168	1,224
Materials, Goods & Supplies	6	6	240	240	154	157	159
External Services	70	46	811	811	272	278	283
Shared Services	1,976	1,991	2,679	2,679	2,736	3,003	3,081
Customer Billing Services	1,078	990	1,196	1,196	1,149	1,169	1,190
Other Expenses	93	200	152	152	183	188	192
Interest Expense	4,610	5,288	6,538	5,344	6,959	8,744	10,472
Amortization Expense	3,725	4,358	6,574	5,533	7,363	8,188	9,191
	11,943	**13,017**	**19,218**	**16,983**	**19,884**	**22,895**	**25,792**
Interdepartmental Charges/(Recoveries)	167	(144)	(469)	(469)	(725)	(821)	(714)
	12,110	**12,873**	**18,749**	**16,514**	**19,159**	**22,074**	**25,078**

Total Expenses	**30,970**	**29,747**	**30,543**	**28,308**	**31,906**	**35,606**	**39,001**

8.8 10 Year Capital Forecast (2016-2025) – Stormwater ($000's)

	Major Project Class	Project #	4 Year Capital Plan 2015	2016	2017	2018	Forecast 2019	2020	2021	2022	2023	2024	2025	Total 2015-2025
	Non-Contributed													
Renewal & Upgrading	**Drainage Neighbourhood Renewal**		**9,998**	**11,659**	**16,042**	**14,359**	**20,768**	**21,391**	**25,108**	**25,861**	**26,637**	**27,436**	**28,258**	**227,517**
	Drainage Neighbourhood Renewal Coordination	CM-31-9510	9,524	9,622	9,300	7,415	10,329	10,639	10,958	11,287	11,626	11,974	12,333	115,007
	Sewer Upgrading	CM-31-9703	129	1,326	6,010	6,190	9,274	9,552	12,914	13,301	13,700	14,111	14,534	101,041
	Service Connection Renewal	CM-31-9512	345	711	732	754	1,165	1,200	1,236	1,273	1,311	1,351	1,391	11,469
	Drainage System Rehabilitation		**17,107**	**25,153**	**27,666**	**14,023**	**14,443**	**14,876**	**15,323**	**15,878**	**16,451**	**17,046**	**18,482**	**196,448**
	Mill Woods Double Barrel Replac/SESS SA1	08-31-9202	2,575	1,857	-	-	-	-	-	-	-	-	-	4,432
	Structures Rehabilitation	CM-31-9503	1,801	2,014	2,402	2,475	2,549	2,625	2,705	2,880	3,064	3,257	3,355	29,127
	Sewer Rehabilitation	CM-31-9504	3,461	3,565	3,671	3,782	3,895	4,012	4,132	4,257	4,384	4,516	4,651	44,326
	High Priority Repair	CM-31-9520	4,738	4,880	5,027	5,177	5,333	5,493	5,657	5,827	6,002	6,182	6,368	60,684
	Creek Erosion Protection	CM-31-9604	2,163	2,228	2,513	2,589	2,666	2,746	2,829	2,914	3,001	3,091	4,108	30,848
	Optimization of 30 Avenue storm trunk overflow	15-31-9525	309	2,122	5,311	-	-	-	-	-	-	-	-	7,742
	Groat Road Trunk Sewer Rehabilitation	15-31-9515	2,060	8,487	8,742	-	-	-	-	-	-	-	-	19,289
	Flood Mitigation		**21,519**	**20,421**	**20,225**	**25,111**	**40,284**	**43,153**	**52,208**	**51,205**	**41,137**	**40,691**	**41,911**	**397,865**
	Neighbourhood Flood Prevention Projects	CM-31-9511	4,851	6,966	5,255	4,756	5,263	-	-	-	-	-	-	27,091
	Expanded Neighbourhood Flood Prevention Program (includes SW and Millwoods)	CM-31-9611	11,312	13,455	14,970	20,355	22,507	21,421	26,381	51,205	41,137	40,691	41,911	305,345
	Opportunistic Flood Prevention Project	CM-31-9612	5,356	-	-	-	12,514	21,732	25,827	-	-	-	-	65,429
Environmental	**Environmental Quality Enhancement**		**2,772**	**3,177**	**5,545**	**4,481**	**12,549**	**13,224**	**15,466**	**12,699**	**13,080**	**13,473**	**13,877**	**110,343**
	River for Life	CM-31-9640	-	-	1,322	1,716	11,042	11,373	11,715	12,066	12,428	12,801	13,185	87,648
	Biosolids Facilities Renewal	CM-31-9623	103	106	109	-	-	-	-	-	-	-	-	318
	Fat, Oil and Grease Facility	19-31-6112	-	-	-	-	695	716	-	-	-	-	-	1,411
	Environmental & Collection System Monitoring	CM-31-9620	219	226	199	205	232	240	246	253	261	269	277	2,627
	Quenelle Basin Loading Reduction	15-31-9618	-	-	-	-	232	537	3,136	-	-	-	-	3,905
	Environmental Enhancement Projects	CM-31-9616	154	212	219	225	348	358	369	380	391	403	415	3,474
	Mill Creek End of Pipe Treatment Facility	13-31-9617	2,296	2,633	3,696	2,335	-	-	-	-	-	-	-	10,960
	Combined Sewer Overflow Strategy		**2,575**	**1,857**	**2,459**	**2,251**	**2,319**	**2,388**	**2,460**	**2,534**	**2,610**	**2,688**	**2,768**	**26,909**
	Opportunistic Sewer Separation	CM-31-2160	-	265	2,459	2,251	2,319	2,388	2,460	2,534	2,610	2,688	2,768	22,742
	Combined Sewer Overflow Control Projects	CM-31-9702	2,575	1,592	-	-	-	-	-	-	-	-	-	4,167
Growth	**Drainage System Expansion**		**10,235**	**10,114**	**15,263**	**14,766**	**9,770**	**10,387**	**7,763**	**7,929**	**9,909**	**8,465**	**8,720**	**113,321**
	Review/Inspect Developer Built Sewers	CM-31-9470	833	892	956	1,024	1,076	1,130	1,186	1,247	1,310	1,377	1,418	12,449
	Drainage Construction and Equipment	CM-31-6130	2,519	1,796	1,742	4,738	6,202	6,570	3,810	3,832	5,663	4,065	4,187	45,124
	Drainage Facility Upgrading	CM-31-6140	1,803	1,857	818	844	464	597	615	634	653	671	692	9,648
	Kennedale Accommodation	15-31-6142	2,575	2,652	-	-	-	-	-	-	-	-	-	5,227
	Drainage IT Assets	CM-31-6200	1,475	1,326	1,366	1,407	1,449	1,493	1,537	1,583	1,631	1,680	1,731	16,678
	Interconnection Control Program	CM-31-9435	515	530	546	563	579	597	615	633	652	672	692	6,594
	Servicing for Downtown Intensification	15-31-9415	515	1,061	9,835	6,190	-	-	-	-	-	-	-	17,601
	Contributed													
Growth	**Sanitary Servicing Strategy**		**9,435**	**10,638**	**11,892**	**7,539**	**6,376**	**5,374**	**7,993**	**6,967**	**8,481**	**28,894**	**28,837**	**132,426**
	Initial Phase Downtown STM Drainage Services	14-31-4102	4,800	6,925	6,974	3,600	-	-	-	-	-	21,502	22,148	65,949
	Local Improvement	CM-31-9420	3,605	2,652	3,825	2,814	4,057	2,985	4,305	3,167	4,567	3,360	3,461	38,798
	Creek Erosion Protection	CM-31-9604	1,030	1,061	1,093	1,125	2,319	2,389	3,688	3,800	3,914	4,032	3,228	27,679
	Total Capital		**73,641**	**83,019**	**99,092**	**82,530**	**106,509**	**110,793**	**126,321**	**123,073**	**118,305**	**138,693**	**142,853**	**1,204,829**

9.0 10 Year Capital Forecast (2016-2025) – Combined ($000's)

	Major Project Class	Project #	4 year Capital Plan 2015	2016	2017	2018	Forecast 2019	2020	2021	2022	2023	2024	2025	Total 2015-2025
	Non-Contributed													
Renewal & Upgrading	**Drainage Neighbourhood Renewal**		**29,634**	**32,872**	**41,293**	**35,975**	**51,587**	**53,135**	**60,879**	**62,705**	**64,586**	**66,524**	**68,518**	**567,708**
	Drainage Neighbourhood Renewal Coordination	9510	28,861	29,159	28,181	22,470	31,300	32,239	33,206	34,203	35,229	36,285	37,374	348,507
	Sewer Upgrading	9703	258	2,652	12,020	12,380	18,548	19,104	25,828	26,602	27,400	28,222	29,068	202,082
	Service Connection Renewal	9512	515	1,061	1,092	1,125	1,739	1,792	1,845	1,900	1,957	2,017	2,076	17,119
	Drainage System Rehabilitation		**36,990**	**43,616**	**41,711**	**28,490**	**29,344**	**30,224**	**31,131**	**32,382**	**33,679**	**35,025**	**37,001**	**379,593**
	Mill Woods Double Barrel Replac/SESS SA1	9202	10,300	7,427	-	-	-	-	-	-	-	-	-	17,727
	Structures Rehabilitation	9503	5,369	6,059	7,334	7,555	7,781	8,014	8,256	8,819	9,410	10,028	10,329	88,954
	Sewer Rehabilitation	9504	4,944	5,093	5,244	5,403	5,565	5,732	5,903	6,081	6,263	6,451	6,644	63,323
	High Priority Repair	9520	11,845	12,200	12,567	12,943	13,332	13,732	14,143	14,568	15,005	15,455	15,920	151,710
	Creek Erosion Protection	9604	2,163	2,228	2,513	2,589	2,666	2,746	2,829	2,914	3,001	3,091	4,108	30,848
	Optimization of 30 Avenue storm trunk overflow	9525	309	2,122	5,311	-	-	-	-	-	-	-	-	7,742
	Groat Road Trunk Sewer Rehabilitation	9515	2,060	8,487	8,742	-	-	-	-	-	-	-	-	19,289
	Flood Mitigation		**29,198**	**30,751**	**29,222**	**34,955**	**51,174**	**48,508**	**58,803**	**64,006**	**51,421**	**50,864**	**52,389**	**501,291**
	Neighbourhood Flood Prevention Projects	9511	9,702	13,932	10,509	9,511	10,526	-	-	-	-	-	-	54,180
	Expanded Neighbourhood Flood Prevention Program Includes SW and Millwoods	9611	14,140	16,819	18,713	25,444	28,134	26,776	32,976	64,006	51,421	50,864	52,389	381,682
	Opportunistic Flood Prevention Project	9612	5,356	-	-	-	12,514	21,732	25,827	-	-	-	-	65,429
Environmental	**Environmental Quality Enhancement**		**6,586**	**7,688**	**9,591**	**7,236**	**25,388**	**28,836**	**21,216**	**16,087**	**16,570**	**17,068**	**17,580**	**173,846**
	Enhanced Biosolids Dewatering	9621	300	-	-	-	-	-	-	-	-	-	-	300
	River for Life	9640	-	-	1,410	1,857	12,346	12,716	13,099	13,491	13,896	14,313	14,742	97,870
	Biosolids Facilities Renewal	9623	1,853	2,801	2,229	1,171	3,768	6,269	2,767	317	326	336	346	22,183
	Fat, Oil and Grease Facility	6112	-	-	-	-	6,955	7,164	-	-	-	-	-	14,119
	Environmental & Collection System Monitoring	9620	438	451	398	410	464	479	492	506	522	538	554	5,252
	Quenelle Basin Loading Reduction	9618	-	-	-	-	232	537	3,136	-	-	-	-	3,905
	City Wide Odour Control Program	9630	1,545	1,591	1,639	1,238	1,275	1,313	1,353	1,393	1,435	1,478	1,523	15,783
	Environmental Enhancement Projects	9616	154	212	219	225	348	358	369	380	391	403	415	3,474
	Mill Creek End of Pipe Treatment Facility	9617	2,296	2,633	3,696	2,335	-	-	-	-	-	-	-	10,960
	Combined Sewer Overflow Strategy		**5,150**	**3,715**	**4,918**	**4,502**	**4,638**	**4,776**	**4,920**	**5,068**	**5,220**	**5,376**	**5,536**	**53,819**
	Opportunistic Sewer Separation	2160	-	532	4,918	4,502	4,638	4,776	4,920	5,068	5,220	5,376	5,536	45,486
	Combined Sewer Overflow Control Projects	9702	5,150	3,183	-	-	-	-	-	-	-	-	-	8,333
Growth	**Drainage System Expansion**		**19,953**	**19,166**	**20,693**	**23,342**	**19,540**	**20,774**	**15,526**	**15,858**	**19,817**	**16,931**	**17,439**	**209,039**
	Review/Inspect Developer Built Sewers	9470	1,666	1,784	1,912	2,048	2,152	2,260	2,373	2,494	2,620	2,754	2,836	24,899
	Drainage Construction and Equipment	6130	5,037	3,592	3,484	9,476	12,404	13,140	7,620	7,664	11,326	8,130	8,374	90,247
	Drainage Facility Upgrading	6140	3,606	3,714	1,638	1,688	927	1,194	1,230	1,267	1,305	1,343	1,384	19,296
	Kennedale Accommodation	6142	5,150	5,304	-	-	-	-	-	-	-	-	-	10,454
	Drainage IT Assets	6200	2,950	2,652	2,732	2,814	2,898	2,986	3,074	3,166	3,262	3,360	3,461	33,355
	Servicing for Downtown Intensification	9415	-	-	-	-	-	-	-	-	-	-	-	-
	Interconnection Control Program	9435	1,030	1,059	1,092	1,126	1,159	1,194	1,229	1,267	1,304	1,344	1,384	13,188
	Servicing for Downtown Intensification	9415	515	1,061	9,835	6,190								17,601
Growth	**Sanitary Servicing Strategy**		**23,008**	**24,558**	**22,310**	**22,759**	**25,504**	**26,269**	**27,057**	**27,869**	**28,705**	**29,566**	**30,453**	**288,058**
	Sanitary Servicing Strategy Projects	9210	23,008	24,558	22,310	22,759	25,504	26,269	27,057	27,869	28,705	29,566	30,453	288,058
	Drainage System Expansion		**21,136**	**23,611**	**26,189**	**17,554**	**14,143**	**12,180**	**16,233**	**14,188**	**17,223**	**58,057**	**58,876**	**279,390**
	Initial Phase Downtown STM Drainage Services	4102	9,600	13,851	13,949	7,199	-	-	-	-	-	43,005	44,296	131,900
	Local Improvement	9420	7,210	5,304	7,650	5,628	8,114	5,970	8,610	6,334	9,134	6,720	6,922	77,596
	Sevice Connection Expansion	9430	3,296	3,395	3,497	3,602	3,710	3,821	3,935	4,054	4,175	4,301	4,430	42,216
	Creek Erosion Protection	9604	1,030	1,061	1,093	1,125	2,319	2,389	3,688	3,800	3,914	4,032	3,228	27,679
	Total Capital		**171,655**	**185,977**	**195,927**	**174,813**	**221,318**	**224,702**	**235,765**	**238,163**	**237,221**	**279,411**	**287,792**	**2,452,745**

10.0 Sanitary Related Party Transactions

Line #		Reference	2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Shared Services	Schedule 7.2.4	10,037	11,054	13,247	13,247	13,217	(30)	-0.2%	13,902	685	5.2%	14,270	368	2.6%
2	Fleet Services	Schedule 7.2.3	3,990	3,855	3,566	3,566	3,432	(134)	-3.8%	3,496	64	1.9%	3,478	(18)	-0.5%
3	Customer Billing Services	Schedule 7.2	4,582	4,201	4,900	4,900	4,897	(3)	-0.1%	5,014	117	2.4%	5,133	119	2.4%
4	Intra-municipal Charges/(Recoveries)	Schedule 7.2	(120,262)	(132,773)	(143,562)	(143,560)	(158,378)	(14,818)	10.3%	(171,323)	(12,945)	8.2%	(157,067)	14,256	-8.3%
5	Biosolids Disposal	Schedule 7.2.5	9,001	8,790	11,993	11,493	12,476	983	8.6%	12,807	331	2.7%	13,205	398	3.1%
	Total		**(92,652)**	**(104,873)**	**(109,856)**	**(110,354)**	**(124,356)**	**(14,002)**	**12.7%**	**(136,104)**	**(11,748)**	**83.9%**	**(120,981)**	**15,123**	**-128.7%**

10.1 Stormwater Related Party Transactions

Line #			2013 Actuals	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	Change from 2015 Forecast	% Variance	2017 Proposed	Change from 2016 Proposed	% Variance	2018 Proposed	Change from 2017 Proposed	% Variance
1	Shared Services	Schedule 8.2.4	1,976	1,991	2,679	2,679	2,736	57	2.1%	3,003	267	9.8%	3,081	78	2.6%
2	Fleet Services	Schedule 8.2.3	522	681	585	585	580	(5)	-0.9%	599	19	3.3%	599	-	0.0%
3	Customer Billing Services	Schedule 8.2	1,078	990	1,196	1,196	1,149	(47)	-3.9%	1,169	20	1.7%	1,190	21	1.8%
4	Intra-municipal Charges/(Recoveries)	Schedule 8.2	6,345	4,733	(1,375)	(1,375)	(1,623)	(248)	18.0%	(1,989)	(366)	22.6%	(2,019)	(30)	1.5%
	Total		**9,921**	**8,395**	**3,085**	**3,085**	**2,842**	**(243)**	**-7.9%**	**2,782**	**(60)**	**24.7%**	**2,851**	**69**	**-115.0%**

11.0 Impact of Requested Full Time Equivalents (FTE's)

Drainage Services is requesting a total of 52 new FTE(s) from 2016 to 2018 as identified in the table below. Included with the request for full time equivalents is a capital impact related to select FTE requests as identified below. For additional details, please see the FTE Business Cases in Appendix A.

Operating Impacts

		OPERATING BUDGET REQUIREMENTS										
		2016 Budget			2017 Budget			2018 Budget			Total	
Position Requested	Reference	FTE	Salary & Labour O/H	Total	FTE	Salary & Labour O/H	Total	FTE	Salary & Labour O/H	Total	FTE	Salaries & Labour O/H
Strategic Services												
Program and Analytics Coordinator	A-1	1.0	98,409	98,409	-	-	-	-	-	-	1.0	98,409
Strategic Business Specialist	A-12	-	-	-	1.0	105,141	105,141	-	-	-	1.0	105,141
Tech & Asset Coordinator/Administrator	A-22	1.0	110,710	110,710	-	-	-	-	-	-	1.0	110,710
Training Clerk	A-30	1.0	54,709	54,709	-	-	-	-	-	-	1.0	54,709
FTE Request (Full)		**3.0**	**$ 263,828**	**$ 263,828**	**1.0**	**$ 105,141**	**$ 105,141**	**-**	**$ -**	**$ -**	**4.0**	**$ 368,969**
FTE Request (Net of Recoverable)		**3.0**	**$ 263,828**	**$ 263,828**	**1.0**	**$ 105,141**	**$ 105,141**	**-**	**$ -**	**$ -**	**4.0**	**$ 368,969**
Operations												
Sewer Substructure Foreman	A-41	1.0	87,356	87,356	-	-	-	-	-	-	1.0	87,356
Sewer Substructure Inspector	A-41	5.0	77,821	389,105	-	-	-	-	-	-	5.0	389,105
Millwright Foreman	A-51	1.0	122,627	122,627	-	-	-	-	-	-	1.0	122,627
Millwright II	A-51	1.0	111,772	111,772	1.0	114,885	114,885	1.0	119,056	119,056	3.0	345,713
Millwright I	A-51	1.0	104,260	104,260	1.0	107,178	107,178	1.0	111,087	111,087	3.0	322,525
Millwright Apprentice	A-51	1.0	74,235	74,235	-	-	-	1.0	79,230	79,230	2.0	153,465
Electrician I	A-51	-	-	-	1.0	110,098	110,098	-	-	-	1.0	110,098
Maintenance Repairman 1	A-51	-	-	-	-	-	-	1.0	85,521	85,521	1.0	85,521
Electrical Foreman	A-51	-	-	-	-	-	-	1.0	137,267	137,267	1.0	137,267
FTE Request (Full)		**10.0**	**$ 578,071**	**$ 889,355**	**3.0**	**$ 332,161**	**$ 332,161**	**5.0**	**$ 532,161**	**$ 532,161**	**18.0**	**$ 1,753,677**
FTE Request (Net of Recoverable)		**8.5**	**$ 458,956**	**$ 770,240**	**3.0**	**$ 332,161**	**$ 332,161**	**5.0**	**$ 532,161**	**$ 532,161**	**16.5**	**$ 1,634,562**

Position Requested	Reference	OPERATING BUDGET REQUIREMENTS										
		2016 Budget			2017 Budget			2018 Budget			Total	
		FTE	Salary & Labour O/H	Total	FTE	Salary & Labour O/H	Total	FTE	Salary & Labour O/H	Total	FTE	Salaries & Labour O/H
Planning												
Water Resources Engineer	A-63	1.0	111,124	111,124	1.0	114,481	114,481	1.0	117,915	117,915	3.0	343,520
Project Controls Specialist	A-68	1.0	93,081	93,081	-	-	-	-	-	-	1.0	93,081
Infrastructure Engineer	A-74	1.0	111,124	111,124	1.0	114,481	114,481	-	-	-	2.0	225,605
Senior Engineer	A-84	1.0	128,350	128,350	-	-	-	-	-	-	1.0	128,350
Development Engineer	A-84	3.0	111,124	333,372	-	-	-	-	-	-	3.0	333,372
Engineering Technologist II	A-84	3.0	95,350	286,050	-	-	-	-	-	-	3.0	286,050
Engineering Technologist II (Inspector)	A-84	2.0	95,350	190,700	-	-	-	-	-	-	2.0	190,700
FTE Request (Full)		**12.0**	**$ 745,503**	**$ 1,253,801**	**2.0**	**$ 228,962**	**$ 228,962**	**1.0**	**$ 117,915**	**$ 117,915**	**15.0**	**$ 1,600,678**
FTE Request (Net of Recoverable)		**11.0**	**$ 634,379**	**$ 1,142,677**	**1.0**	**$ 114,481**	**$ 114,481**	**0.5**	**$ 58,958**	**$ 58,958**	**12.5**	**$ 1,316,116**
Design and Construction												
Senior Engineer (Design, Structural)	A-92	1.0	128,350	128,350	1.0	133,560	133,560	-	-	-	2.0	261,910
Engineer (Specification, Design)	A-92	1.0	111,124	111,124	-	-	-	1.0	117,915	117,915	2.0	229,039
Engineer Technologist	A-92	1.0	95,350	95,350	1.0	97,560	97,560	-	-	-	2.0	192,910
Drafting Techologist	A-92	-	-	-	1.0	97,560	97,560	-	-	-	1.0	97,560
Senior Engineer (Project)	A-107	1.0	128,350	128,350	-	-	-	1.0	137,566	137,566	2.0	265,916
Leader (Open Cut)	A-113	1.0	86,039	86,039	-	-	-	-	-	-	1.0	86,039
Pipeman (Open Cut)	A-113	1.0	80,294	80,294	-	-	-	-	-	-	1.0	80,294
Labourer III (Open Cut)	A-113	4.0	77,725	310,900	-	-	-	-	-	-	4.0	310,900
FTE Request (Full)		**10.0**	**$ 707,232**	**$ 940,407**	**3.0**	**$ 328,680**	**$ 328,680**	**2.0**	**$ 255,481**	**$ 255,481**	**15.0**	**$ 1,524,568**
FTE Request (Net of Recoverable)		**-**	**$ -**	**$ -**	**-**	**$ -**	**$ -**	**-**	**$ -**	**$ -**	**-**	**$ -**
Total (Full)		**35.0**	**$ 2,294,634**	**$ 3,347,391**	**9.0**	**$ 994,944**	**$ 994,944**	**8.0**	**$ 905,557**	**$ 905,557**	**52.0**	**$ 5,247,892**
Total (Net of Recoverable)		**22.5**	**$ 1,357,163**	**$ 2,176,745**	**5.0**	**$ 551,783**	**$ 551,783**	**5.5**	**$ 591,119**	**$ 591,119**	**33.0**	**$ 3,319,646**

Capital Impacts

		CAPITAL BUDGET REQUIREMENTS						
		2016 Budget		2017 Budget		2018 Budget		Total
Position Requested	Reference	Cost	Equipment Needed	Cost	Capital Requirement	Cost	Capital Requirement	Cost
Operations								
Sewer Substructure Foreman	A-41	184,000	Transit Van	-		-		184,000
Sewer Substructure Inspector	A-41	155,000	F550 Crew Cab (Service Body)	-		-		155,000
Millwright Foreman	A-51	74,000	F150 Pickup	-		-		74,000
Millwright II	A-51	155,000	F550 Crew Cab (Service Body)	159,000	F550 Crew Cab (Service Body)	164,000	F550 Crew Cab (Service Body)	478,000
Electrician I	A-51	-		159,000	F550 Crew Cab (Service Body)	-		159,000
Electrical Foreman	A-51	-		-		78,000	F150 Pickup	78,000
Total		**$ 568,000**		**$ 318,000**		**$ 242,000**		**$ 1,128,000**

Capital Budget amendments are required for years 2016-2018 to purchase vehicles to support additional FTE's hired in Drainage Operations. The amounts total $1,128,000 (uninflated) over the three years and are included as part of the Drainage Construction and Equipment capital profile (CM-23-6130) in the 10 Year Capital Forecast (Tables 7.9, 8.8 and 9.0). For further information refer to the Environmental Services (A-41) and Pumpwell Services (A-51) Business Cases found in Appendix A.

Please see the table below for a comparison of uninflated vs inflated capital costs related to the above request:

			CAPITAL BUDGET REQUIREMENTS							
2016 Budget			2017 Budget			2018 Budget			Total	Total
Base Cost	Inflated Cost	Equipment Needed	Cost	Inflated Cost	Capital Requirement	Cost	Inflated Cost	Capital Requirement	Cost	Inflated Cost
184,000	190,000	Transit Van	-	-		-	-		184,000	190,000
155,000	160,000	F550 Crew Cab (Service Body)	-	-		-	-		155,000	160,000
74,000	76,000	F150 Pickup	-	-		-	-		74,000	76,000
155,000	160,000	F550 Crew Cab (Service Body)	159,000	168,500	F550 Crew Cab (Service Body)	164,000	179,000	F550 Crew Cab (Service Body)	478,000	507,500
-	-		159,000	168,500	F550 Crew Cab (Service Body)	-	-		159,000	168,500
-	-		-	-		78,000	85,000	F150 Pickup	78,000	85,000
$ 568,000	**$ 586,000**		**$ 318,000**	**$ 337,000**		**$ 242,000**	**$ 264,000**		**$ 1,128,000**	**$ 1,187,000**

11.1 Full Time Equivalents (FTE's) Count by Business Area

	2015 Budget			2016 Budget			Total	
Organizational Areas	FTE Count	Re-Org	FTE Count (Adjusted)	Service Needs	FTE Annualization	FTE Request	Service Needs	FTE Count
Planning	63.0	25.8	88.8	3.0	9.0	12.0	91.8	100.8
Operations	212.9	19.3	232.2	2.5	7.5	10.0	234.7	242.2
Development Services	45.0	(45.0)	-	-	-	-	-	-
Design and Construction	368.0	-	368.0	2.5	7.5	10.0	370.5	378.0
Strategic Services	37.0	-	37.0	0.8	2.3	3.0	37.8	40.0
Total	**725.9**	**-**	**725.9**	**8.8**	**26.3**	**35.0**	**734.7**	**760.9**

	2016 Budget			2017 Budget			Total	
Organizational Areas	FTE Count	Re-Org	FTE Count (Adjusted)	Service Needs	FTE Annualization	FTE Request	Service Needs	FTE Count
Planning	100.8	-	100.8	0.5	1.5	2.0	101.3	102.8
Operations	242.2	-	242.2	0.8	2.3	3.0	242.9	245.2
Development Services	-	-	-	-	-	-	-	-
Design and Construction	378.0	-	378.0	0.8	2.3	3.0	378.8	381.0
Strategic Services	40.0	-	40.0	0.3	0.8	1.0	40.3	41.0
Total	**760.9**	**-**	**760.9**	**2.3**	**6.8**	**9.0**	**763.2**	**769.9**

	2017 Budget			2018 Budget			Total	
Organizational Areas	FTE Count	Re-Org	FTE Count (Adjusted)	Service Needs	FTE Annualization	FTE Request	Service Needs	FTE Count
Planning	102.8	-	102.8	0.3	0.8	1.0	103.0	103.8
Operations	245.2	-	245.2	1.3	3.8	5.0	246.4	250.2
Development Services	-	-	-	-	-	-	-	-
Design and Construction	381.0	-	381.0	0.5	1.5	2.0	381.5	383.0
Strategic Services	41.0	-	41.0	-	-	-	41.0	41.0
Total	**769.9**	**-**	**769.9**	**2.0**	**6.0**	**8.0**	**771.9**	**777.9**

Additional service needs in the 2016-2018 proposed budget represent the associated budgeted dollars being requested from 2016 to 2018. The FTE annualization represents the portion of the FTE request in each year that will not be needed until the following year as positions are anticipated, on average, to be filled by the beginning of the fourth quarter in each year. Therefore the full FTE request in each year is the total number of FTE's being requested for approval.

12.0 Five Year Cost History

Sanitary Utility

Line #		2011 Actuals	2012 Actuals	2013 Actuals	2014 Actuals	2015 Forecast
Expenses						
1	Operating and Maintenance	42,527	36,010	34,321	42,147	43,044
2	Biosolids Disposal	5,105	7,190	13,903	11,022	15,436
3	Amortization Expense	9,179	10,073	11,632	12,933	12,828
4	Interest Expense	10,511	11,163	11,950	12,786	13,132
5	Local Access Fee	5,300	6,739	7,836	8,340	8,444
6	Transfer to Sanitary Servicing Strategy Fund	1,300	1,300	1,300	1,300	1,300
	Total Expenses	**73,922**	**72,475**	**80,942**	**88,529**	**94,185**
7	Return on Rate Base	6,834	23,466	25,739	29,645	20,722
	Total Revenue Requirement	**80,756**	**95,941**	**106,681**	**118,174**	**114,907**
8	**Non-Rate Revenues**	18,810	11,590	12,376	14,244	9,353
9	**Total Rate Revenue**	**61,946**	**84,351**	**94,305**	**103,930**	**105,554**

Stormwater Utility

Line #		2011 Actuals	2012 Actuals	2013 Actuals	2014 Actuals	2015 Forecast
Expenses						
1	Operating and Maintenance	13,680	15,344	22,635	20,101	17,431
2	Amortization Expense	3,505	3,829	3,725	4,358	5,533
3	Interest Expense	3,405	3,799	4,610	5,288	5,344
	Total Expenditures	**20,590**	**22,972**	**30,970**	**29,747**	**28,308**
4	Return on Rate Base	8,735	13,420	8,887	17,819	19,350
	Total Revenue Requirement	**29,325**	**36,391**	**39,857**	**47,566**	**47,659**
5	**Non-Rate Revenues**	712	788	1,101	1,423	1,444
6	**Total Rate Revenue**	**28,613**	**35,603**	**38,756**	**46,143**	**46,214**

Appendix A

Operational Business Cases

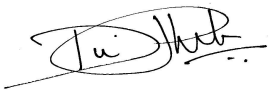
Table of Content:

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	D. Philip Alex		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 1 FTE be approved for funding in the 2016 -2018 Drainage Services Utility Operating Budget at a total budget increase of $98,409 (based on full year operational requirement). The following is a description of the position(s) requested:

For approval in 2016: 1 FTE
Total budget: $98,409

a) One Drainage Services OH&S Program and Analytics Coordinator (PT1): This includes a salary of $80,000 (based on the midpoint of salary range), and $18,409 for benefits and overhead for a total budget of $98,409 per FTE.

2. Position(s) Scope:

- The position requested will report to the Occupational Health and Safety Consultant within Drainage Strategic Services and will play a key role in supporting the Health and Safety System for the Drainage Services branch.
- This position will be integral to enable Drainage Services to shift from a reactive culture of safety and move towards a proactive model in workplace safety, incidents and injuries.

- The position will be primarily performing office work but may be required to visit field sites when developing new programs or initiatives. The key responsibilities of this position will include:

  - Using workplace incidents statistics to identify trends on injuries, including types of work activities being conducted, areas of injuries, as well as other incidents; such as vehicle collisions.
  - Research and monitor new and revised industry standards, OHS Legislation and remain current with the latest safety requirements and best practices.
  - Based on trends and research, identify opportunities and deficiencies requiring new programs, initiatives to reduce workplace incidents and injuries.
  - Provide recommendations for health and safety programs, policies and standards to be used by employees, supervisors, and managers in accordance with legislative and corporate guidelines.
  - Assist (and eventually lead) in the development, implementation and management of initiatives and programs for Drainage Services.
  - Facilitate working groups to solicit ideas, recommendations related to safety program/data collection, design, implementation and analysis.
  - Conduct quantitative and qualitative analysis of data collected. Analyze operational, financial and other safety related data collected from day to day operational activities. Take the sophisticated data and develop and present clear, concise analyses, reports, briefs and other relevant products.
  -Develop and implement evaluation tools designed to assess the effectiveness of new programs and initiatives.
  - Oversee, maintain and manage the day to day operations of OH&S data collection and data housing (database/tracking site). Ensure that information is current and up to date.
  - Assist with the development of benchmarks, metrics, and key performance indicators and identify trending impacts.
  - Entering incident reports, vehicle collision reports, emergency drills, inspection reports and other safety related data into tracking software.
  -Update and/or lead the update on other documents and procedures, such as Safety Manuals, as well as yearly reviews of hazard assessments, Emergency Response

Procedures and Codes of Practices.

- Provide support to the Occupational Health & Safety Consultant and work as a cohesive team member within OH&S group.

- This position will be hired in the fourth quarter of 2016.

3. Justification

3.1. **Why the position is required**

The Drainage Strategic Services section was formed in late 2013 with the purpose of streamlining the support functions and centralizing key functions across Drainage Services. The Occupational Health and Safety (OH&S) group was then realigned to be part of Drainage Strategic Services with the intention of ensuring that an effective Health and Safety program/ system is in place and aligned with Corporate and Legislative requirements and at the same time meet the operational needs of Drainage Services to ensure a safe, healthy and motivated work environment. The Health & Safety program/system that is in place today is reactive to safety needs and is effectively set up to deal with incidents. The review of the Health and Safety program/system saw the need to move to a more proactive model of safety to educate employees, to put effective safety practices and procedures in place and build safety champions so as to limit incidents that could become serious while ensuring that safe practices and procedures are being followed in the job site. The realignment of the Health and Safety system ensures that we are increasing the service levels of safety in the following areas:

- Program Development & Analytics: Development of safety programs/initiatives through better data collection, data management and data analytics.

- Onsite Safety Enhancement: Enhancing the presence of safety on the job site and other operational areas with the intent of ensuring that staff are aware and trained on safe work practices and compliant with legislature

This position is being requested to assist and eventually lead the Program Development and Analytics section of the Health and Safety system. The position reports to the Occupational Health and Safety Consultant and is responsible for collecting, managing, maintaining and analyzing incident data to identify areas of

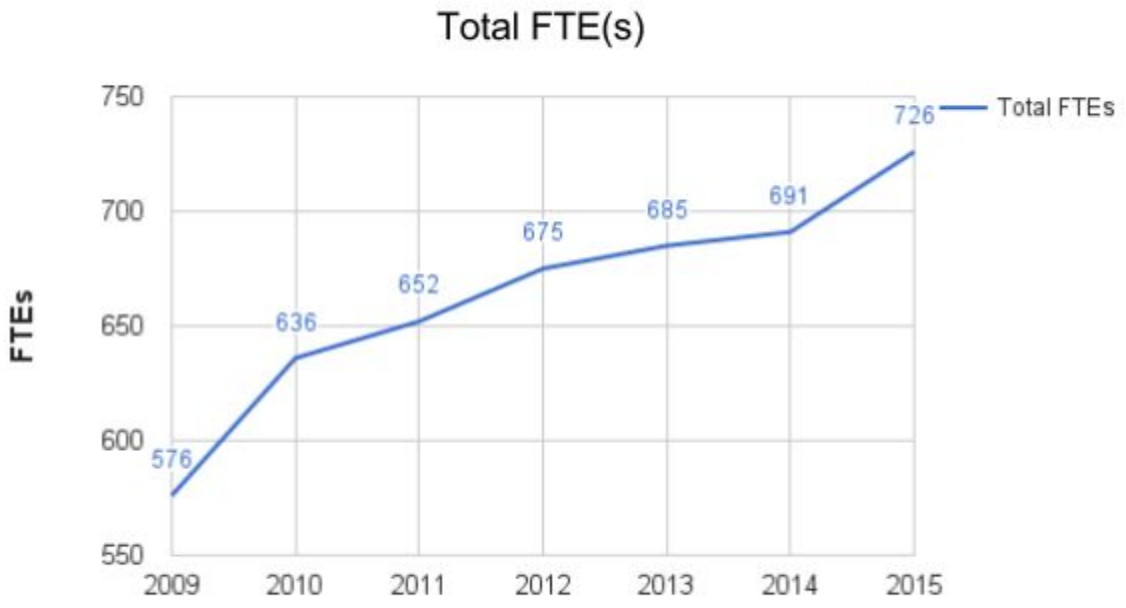
opportunities for development of programs, procedures and policies. The development of the new initiatives/programs are designed to mitigate incidents, create safety awareness, showcase safe work practices and create a stronger safety cultured environment. The operations at Drainage Services vary from low risk operations (office environment) to high hazard operations (field workers entering confined spaces in manholes, tunnels and mechanical facilities). The varied risks are not just associated with location of work, but also the type and environment of work, where employees are exposed to hazardous elements such as silica, asbestos, welding fumes and electrical currents. These exposures can cause life threatening injuries and it is important to ensure that safe work ethics, procedures and practices are implemented and being followed to further mitigate such injuries as well limit the City from liabilities.

The City of Edmonton will be undergoing an external safety audit in 2016, this position will be instrumental in providing assistance to the OHS Consultant in obtaining necessary resources, as well as, developing and implementing recommendations by the external auditor or from the branch audit action plan. The position will be essential to ensure that programs are developed, implemented and maintained for future audits.

3.2. **Growth/Demand Implications:**

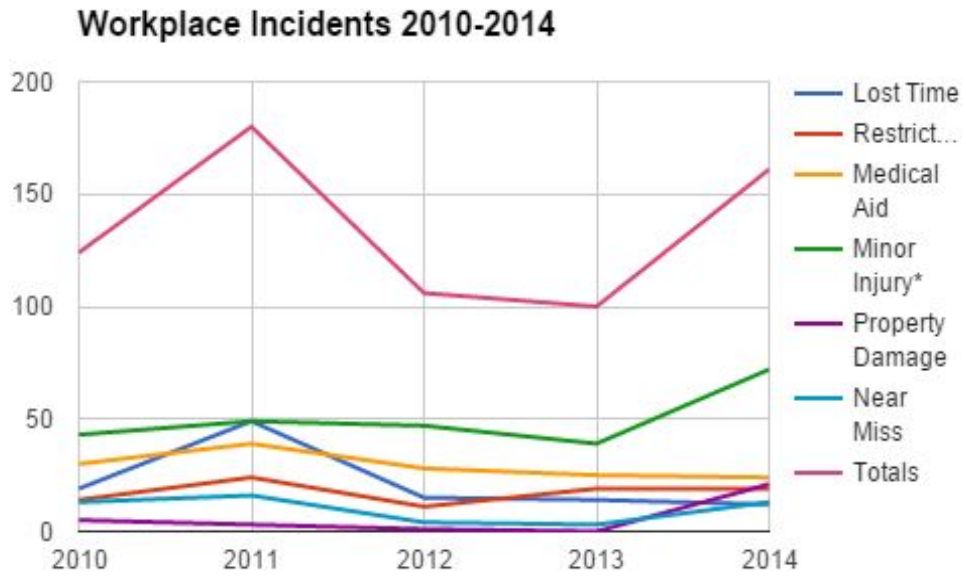
Since 2009 Drainage Services has seen a steady increase in Full Time Equivalents as illustrated in Figure 1 and it is projected that this growth is expected to continue based on the 10 year proposed capital budget.

Figure 1 : Total FTE(s) in Drainage Services



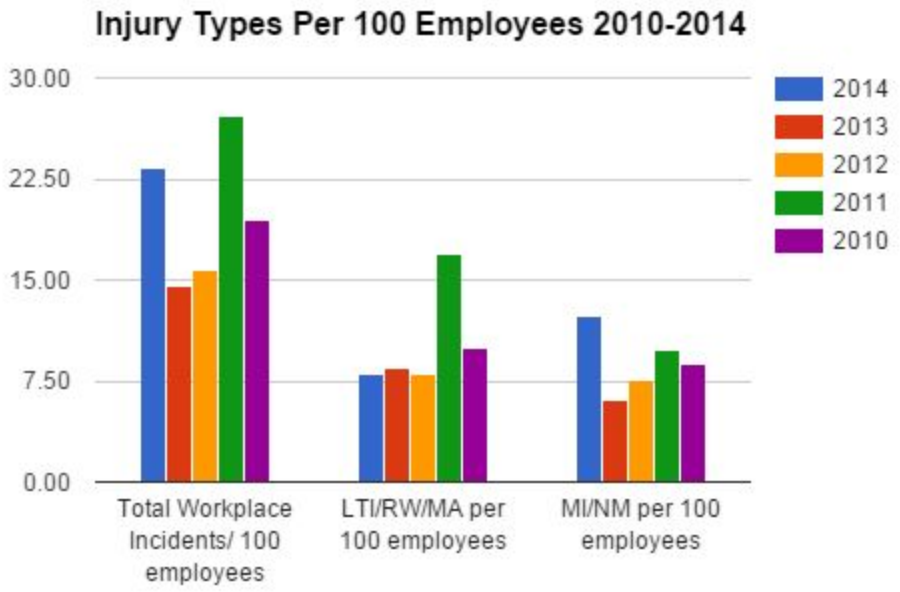
With the anticipated increase in work being conducted by Drainage Services and the competent workforce that is required to complete the work, it is necessary to ensure that the workforce is knowledgeable and adequately trained on how to work safely and have the necessary tools, procedures and policies in place to support the operational needs for the Branch.

Figure 2 : Total Workplace Incidents in Drainage Services



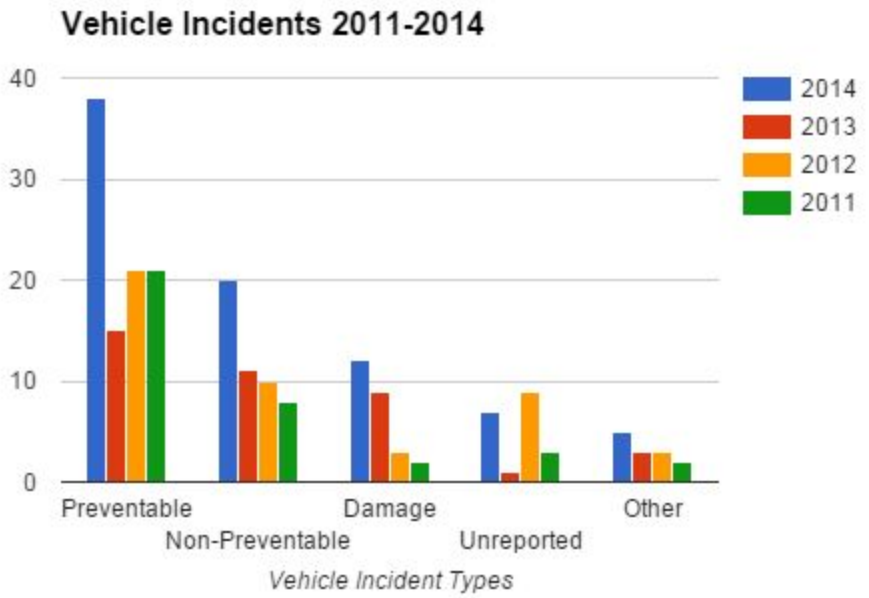
Based on Figure 2, there are years when the total incidents and serious incidents spike and then level off. This could be due to a cyclical reactive approach to incidents whereby the program and procedures are refreshed and not kept top priority. This position will be instrumental in ensuring that all components within the health and safety program are continually communicated and kept top of mind, while ensuring that the program evolves and improves as deficiencies within the system are identified. Building a strong safety team, field expertise and program development expertise, will enable Drainage Services to move to a proactive approach model rather than reactive.

Figure 3 : Workplace Incident Types Per 100 Employees



Analyzing incident trends are essential to reduce, eliminate and address any workplace injuries. As seen in figure 3, the total workplace incidents has been averaging 15 incidents per 100 employees, which reflects the need to have more emphasis put on being on a safe work environment. Based on some current proactive changes, there has been some reduction in Lost Time Incidents (LTI), Restricted Work (RW) and Medical Aid (MA), while on the flip side, there is a slight increase in Minor Injury (MI) and Near Miss (NM) which implies that the major incidents have been prevented by implementing corrective actions to minimise recurrence. While the trends show progress, the number of incidents per 100 employees, does state that there needs more emphasis on being proactive to mitigate incident increases.

Figure 4 : Vehicle Incidents in Drainage Services



Drainage Service's vehicle collisions have increased each year since 2011, and as the anticipated growth in staff increases, so will the number of positions that require the employees to utilize vehicles for City business. Based on the increased vehicle incidents, there is the need to understand the potential reasons for the collisions (analytics) and then develop programs and initiatives designed to educate the employees and address the increased costs associated with the damage, possible employee injuries and third party liability in order to sustain long term goals of reducing those incidents and costs.

3.3. **Regulatory Drivers:**

In the Occupational Health and Safety field, rules and regulations are constantly changing and being updated. It is important not only for employees within Drainage Services, but also for the citizens of Edmonton that employees work in a safe manner. This position will play a key role in ensuring that the required documentation and programs are relevant, up to date, implemented where applicable and monitor and ensure they are working effectively and efficiently. This position will have to align all initiatives with Corporate Standards, Alberta

OH&S Legislation, Alberta Environment and research industry best practices when no legislation exists.

Operational Efficiencies

This positions will focus on analyzing incidents trends; vehicle collisions and injuries, to identify commonalities and develop recommendations on new programs and initiatives to reduce these statistics. Trending injury and incident statistics will clearly identify areas of concern, such as increases in injuries to a specific body part or incidents associated with a task. Identifying these trends are vital in creating programs and initiatives focused to reduce injuries and incidents. This will ultimately reduce the cost of incident claims; such as surgeries, physiotherapy, vocational retraining for permanent relocation incidents, vehicle damage costs, repairs and third party costs. This will also create a proactive health and safety program where the workforce is knowledgeable, informed and healthy which results in a more productive workforce and improved safety culture. Currently, the sections have variations on how the health and safety program is utilized and this position would evaluate the work process and develop recommendations on how to streamline and align with both Branch and Corporate guidelines. This would also include evaluating the program and initiative on a regular basis to ensure meeting legislation, Branch and Corporate guidelines and effectiveness within the sections, which reduces the risk of Provincial Stop Work Orders.

- **Tangible Benefits**

-Proactive health and safety program.

- Assisting OH&S Consultant during the external safety audit and providing input on meaningful audit action item. Once developed the audit action plan is communicated to branch.
- Ensuring programs are relevant and implementable within the work sections by conducting evaluations and audits.
- A Health and Safety system Branch that provides various safety statistics; such as injuries, vehicle collisions, inspections and emergency drills.
- Builds a strong health and safety management system that proactively works towards building a safe work culture while reducing the liability from the City of Edmonton.
- In a proactive model, when new hazards, processes, or work tasks change, new documentation, such as hazard assessments and procedures, may be required to be developed.
- A strong safety management system means that all employees, whether working in a high hazard work environment or in an office setting, have the necessary knowledge on what the safety requirements are based on their position, task and understanding of their roles and responsibilities.
- Having the necessary documents and programs implemented ensures that Drainage Services is meeting Alberta OH&S Legislation, Corporate and Branch

Intangible Benefits

- One full time position to develop, manage, implement and maintain safety programs and initiatives for Drainage Services employees.
- Strong safety culture where all employees know that their health and wellness is important and are provided with the necessary tools and knowledge to do their work in the safest manner possible.

3.4. **Risk/Implications of NOT hiring**

Not funding this position increases the risk of an increased workforce that may not be fully aware, trained or equipped with the knowledge of safe work practices, procedures and policies that may result in an increased number of workplace incidents and injuries. This may increase the risk of incidents requiring to be reported to the Provincial OH&S and may result in delayed projects, loss in productivity, additional fines, tickets and administrative penalties being levied against the City of Edmonton and Drainage Services. With the importance of a strong safety program, these positions will help to support the Occupational Health and Safety Consultant to ensure that all program goals and needs for Drainage Services are successfully met.

3.5. **Alignment with The Ways (Social/Environmental/Safety/Economic)**

The Way We Live speaks to creating a vibrant, engaged, welcoming, safe, caring and inclusive City. Specifically, the Program & Analytics position with the Occupational Health and Safety group aligns in creating a safe city work environment for employees and as such the citizens of Edmonton. This position will have a primary focus for safety awareness for employees of Drainage Services, ensuring that OH&S Legislation, policies and procedures are up to date and shared among all employees and taking a lead in ensuring a proactive approach to working safely at work.

This position will also align to advocating for best practices in safety standards by ensuring that not only the employees themselves stay current and are aligned with OH&S legislation but that the Drainage Services Branch as a whole does the same.

4. Funding Source / Financing Alternatives

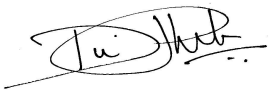
This position will be fully funded through Utility rates.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	D. Philip Alex		09/08/2015

1. Recommendation

The Drainage Utility is recommending that the addition of 1 FTE be approved for funding in the 2016-2018 Drainage Utility Operating Budget at a total budget increase of $105,141 (based on full year operational requirement). The following is a description of the position(s) requested:

For approval in 2017: 1 FTE
Total Budget: $105,141

a) One Strategic Business Specialist (Methods Analyst II): This includes a salary of $85,060 (based on the Step 3 of salary range), and $20,081 for benefits and overhead, for a total budget of $105,141.

2. Position(s) Scope:

- At present, the Business Planning group is comprised of two Utilities Business Specialists (MA1) and one Strategic Financial Analyst (FA1) who report to the Strategic Business Advisor. The position requested will be a supervisory role for the

two Utilities Business Specialists and will report to the Strategic Business Advisor. This position will provide the senior level support that is required for the Business Planning group in order to develop and implement strategic business initiatives.

- The major responsibilities of this position includes:
  - Lead and support major business planning initiatives
  - Support/lead development of business intelligence strategic framework and ensuring all initiatives are aligned to the framework
  - Provide direction to the project teams and work with business areas and stakeholders as required.
  - Supervise the day to day operations of the Utility Business Specialists.
  - Lead business studies (in-house and external consultants)
  - Support coordination of branch level 3 year operating budget
  - Support/lead coordination and development of council and committee reports and presentations.
  - Provide guidance/support/advice to the Drainage Services Leadership Team.
- The work associated with this project is complex in nature and includes development of framework and models that the Utility Business Specialists and other stakeholders may utilize for day to day operations. The position is also responsible to:
  - Lead, manage, and coordinate complex non IT related business intelligence initiatives
  - Carry out research, collect data and statistical information, evaluate theories, identify issues, conduct analysis of complex situations, then form and explore hypotheses and solutions
  - Run focus groups, facilitate large workshops, interview business areas and form strategic alliances and partnerships with stakeholders at all levels
  - Provide expert recommendations on strategic and operational business decisions related to complex concerns
- This position will be hired in the fourth quarter of 2017.

3. Justification

3.1. **Why the positions are required**

Background

The Drainage Services organizational review identified the need of Drainage Strategic Services, which was then created in the fall of 2013. The Strategic Services section is comprised of several different functions that provide branch wide support to Drainage Services. Some examples of these functions include business planning, workforce development, facilities management, Occupation Health & Safety, as well as data warehousing and mapping of drainage infrastructure. The Business Planning group is unique as it provides support to the Branch Manager's Office as well and ensures that Drainage Services is engaged in any department or corporate level initiatives.

Current Service Levels

Currently, the Business Planning group is responsible for the following activities:

- Development of branch wide performance management system. Ensuring that the branch has meaningful measures for decision making, while maintaining alignment to the Drainage Master Plan, and any corporate strategic plans.
- Coordination of the 3 year operating budget, including the coordination with finance, as well as the department
- Business related research and Business studies and reports (e.g. cost of service studies, environmental scans, capacity studies, etc)
- Business analytics to support decision making
- IT Governance to ensure proper oversight over IT priorities and the IT capital budget
- Development/coordination of all reports and presentations for Utility Committee and City Council

- Other strategic business activities and initiatives.

Increase in Service Levels

The creation of Strategic Services as well as the integration of Design and Construction back into Drainage Services has shown potential to focus and create a better opportunity to enhance the level of services for Drainage Services, thereby providing better value to the citizens of Edmonton. The restructure has resulted in a shift in scope for the Business Planning group as additional projects and initiatives have become the responsibility of the group. These additional responsibilities will require additional staffing to ensure that service levels are maintained with this increase in responsibilities.

The corporate shift from a 1 year to the current 3 year operating budget and the 4 year capital budget is an added responsibility in terms of volume of work for the Business Planning group, as the group is responsible for budget coordination for the entire branch. This process includes the annual development of 3 (or 4) year business plan, supporting the development of the annual Utility Rate Filing, as well as the coordination of the 3 year operating budget, and an update to the Drainage Bylaw. The Business Planning group also provides review and analysis to ensure all budget (Capital and Operating) requests are adequately justified to the satisfaction of the Utility Advisor, and City Council. This shift to the 3 year operating budget impacts the Business Planning group as increased analysis is required to review and justify a 3 year operating budget.

Figure 1 : Total Capital (2012-2018) and Operating (2012-2015) Budget

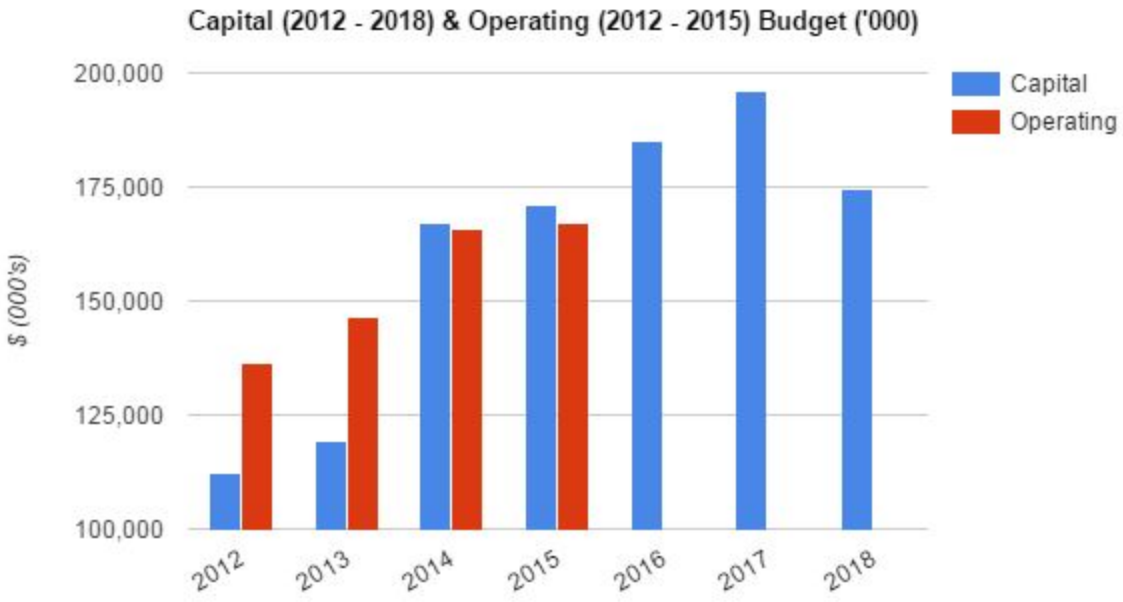
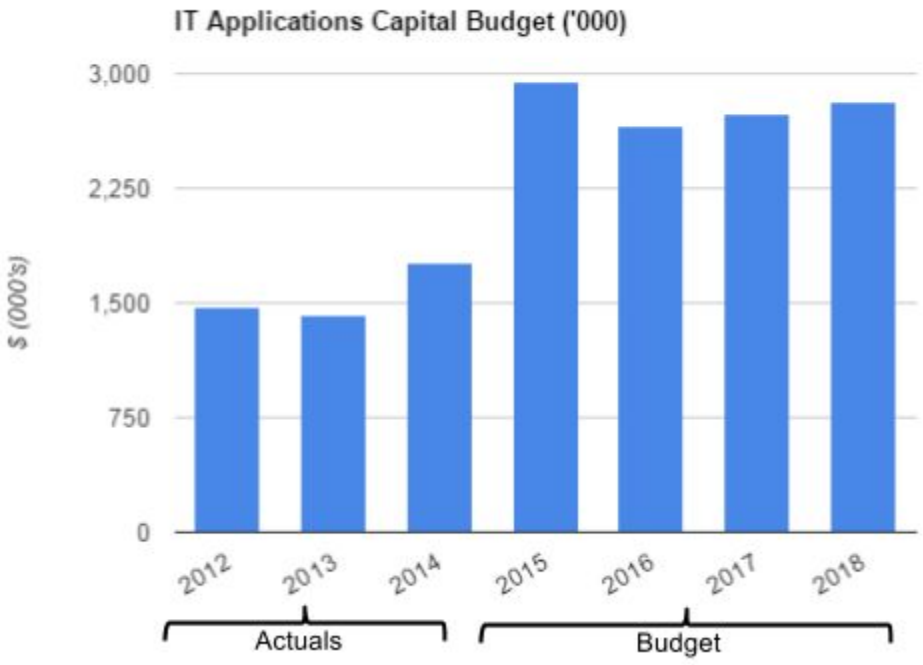


Figure 1 illustrates the growth in capital budget from 2012 to 2018 which has implied impacts to the operational budget and it is anticipated that the capital budget and the associated operational impact will continue to grow. Additionally, a significant responsibility that has been transferred to the Business Planning group to manage is the IT Capital Assets budget (CM-31-6200). The budget allocated and approved for the 2015-2018 capital budget for this program is approximately $11 million. In the past, the Business Planning group was only responsible for providing high level oversight to ensure that the Drainage IT Strategy was making progress. With the new responsibility for managing the Drainage IT Capital Assets budget, the section is responsible to work with all the business areas to develop a governance framework to identify, prioritize and recommend potential IT investments for the Drainage Services Leadership team to approve. The group is also responsible to liaise with the corporate IT branch and ensure that the framework and processes that are being developed and implemented are in line with the corporate IT Investment Committee (ITIC). Figure 2 illustrates the

increase in the IT Capital Assets budget from the previous capital cycle (2012 - 2014). With the growing demand to enhance levels of services and built in efficiencies, technology continues to play a larger and more essential role in business and operational solutions and has warranted an increase in the capital budget.

Figure 2 : Total IT Capital Budget (2012-2018)



The Business Planning group, with the support of the IT governance committee will be responsible for managing the implementation of any new processes, as well as ensuring proper change management. The approval of this position is important in ensuring that the Drainage IT budget and priorities are well managed, and in alignment with the corporate IT strategy.

In 2015, the Drainage Services Leadership team identified that developing Performance Measures and identifying targets associated with these measures as one of the top priorities for the branch. The demand is on the Business Planning group to take the lead

on this initiative to develop comprehensive branch wide measures to enhance performance management and support business areas in decision making.

There are 37 sections identified as part of the performance measures development plan across Drainage Services and the Business Planning group is utilizing the Logic model developed corporate wide as part of this plan. The plan will include a bottom-up approach in the development of the performance measures where tactical measures will be developed at the operational level and will filter up to more strategic measures. The implementation of this plan is time and resource intensive but necessary for the development and application of meaningful measures for the longer term.

Table 1 : Performance Measures schedule for a typical work unit

No.	***Activity/area***	***Time***	***Comments***
1	*Project Initiation*	*1 week*	
2	*Workshop & Focus Groups*	*4 weeks*	*4 half day workshops once a week*
3	*Analytics & PM Development*	*3 weeks*	
	Total Time/area	***8 weeks***	*~ 5.5 years for the 37 areas*

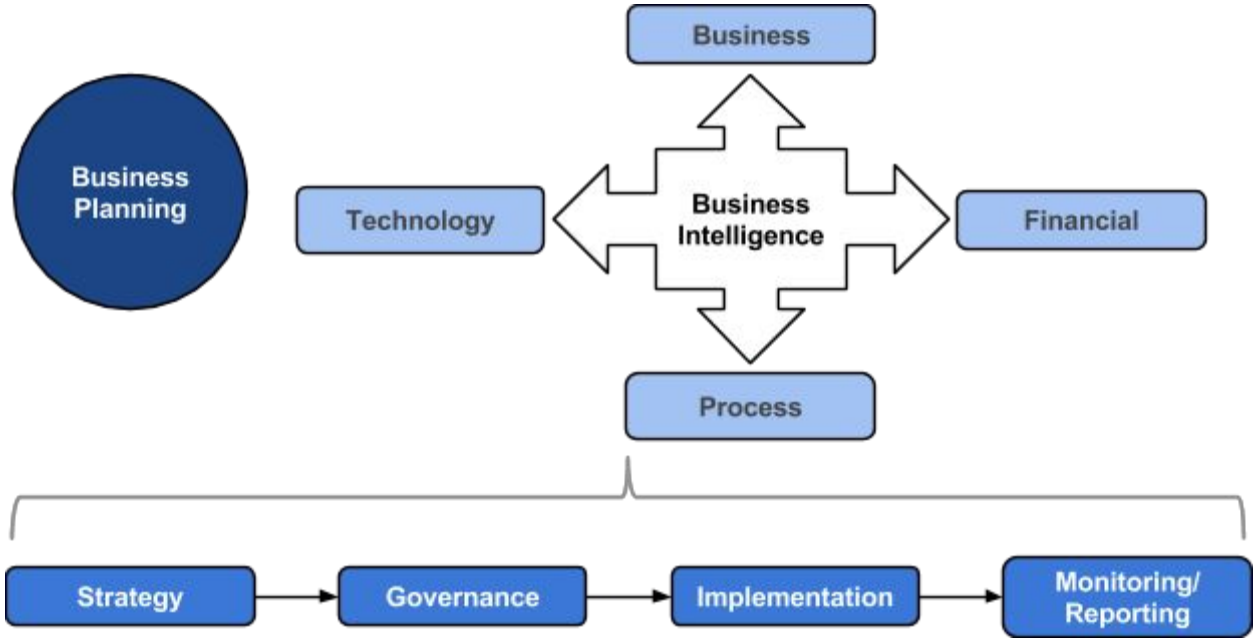
Table 1 illustrates the time lines associated with the development of effective performance measures within a given section based on the existing resource complement within the Business Planning section. The implementation is targeted to take approximately 5.5 years but the additional resource will allow the flexibility to accelerate this to being completed in about 3 years. This will also allow the Business Planning group greater expertise regarding the application, monitoring, and reporting of performance measures, over which this position will have oversight. Overall, the added scope to existing services clearly suggests that the current complement of resources within the Business Planning group is not sufficient to meet the growing demand. A request for a supervision level will allow for adequate management of all

the different activities and initiatives. The addition of a senior business specialist will also allow for increased competency and expertise that will bring about long term benefits in the development of the team.

Long Term Strategic Business Planning

In addition to the increased scope in services provided, the Business Planning group is also in the process of creating a strategic business intelligence framework for the branch. The business intelligence framework is intended to integrate business, finances, processes, and the need for technology strategically while tapping into the power of analytics (data analytics, advanced analytics, and predictive analytics) for the purposes of equipping and enabling business areas to make informed and meaningful decisions to improve business value and processes. Current initiatives (e.g. performance measures) will also be aligned to this framework. This work is currently being developed at the conceptual level (see. Figure 3) and will require additional resources to make progress on the development. The development of this framework will require a team that is able to think both on a strategic and operational level, in order to develop a meaningful framework. The requested Strategic Business Specialist will support and lead the strategic development of a plan, as well as guide a team through the future implementation of the plan.

Figure 3: Conceptual Business Intelligence Framework



Tangible Benefits

- Development of a long term business intelligence strategy.
- Ensure alignment of Drainage Services to branch, department, and corporate initiatives.
- Ability to continue progress on branch wide performance measures initiative.
- Proper fiscal management of the IT Applications Capital budget.

Intangible Benefits

- Adding a senior business specialist will allow for more adequate oversight over business planning activities, and initiatives.
- Employees will be better supported, and receive additional guidance on their projects.
- A senior business specialist will be able to help mentor and develop staff to support succession planning.

- Improved employee morale leading to more engaged, and satisfied employees.
- Improved work-life balance

3.2. **Risk/Implications of NOT hiring**

Not hiring this position will impact and delay the Business Planning group's ability to achieve its short term and long term goals, and ultimately impact Drainage Services branch as a whole. A lack of resources will lead to capacity issues, which may impact employee engagement in the long run. In addition, not hiring this position may affect the overall quality of the results achieved by the group as the increase in scope of services provided will lack the adequate oversight required for its success. It is not recommended to delay any of the short term and long term goals for the group as this would continue having Drainage Services operate as-is with little to no efforts being made to improve and be optimized to operate as an effective Utility. The addition of a senior business specialist will provide more competence and advanced level of oversight to ensure that the other areas of Drainage Services are equipped with the right processes, tools and information required to operate effectively.

3.3. A**lignment with The Ways (Social/Environmental/Safety/Economic)**

This position is strategically aligned with The Way We Finance. Business Planning processes and initiatives supports Drainage Services' ability to function in a financially sustainable manner, which in turn helps to ensure that Edmonton is financially sustainable, with the revenue resources required to support its plans and provide the infrastructure performance and services citizens need. Overall, the programs and services provided by Drainage Services are strategically aligned to The Way We Green, The Way We Live, and The Way We Grow. The Business Planning group supports the Drainage branch and indirectly supports alignment to these Ways.

4. Funding Source / Financing Alternatives

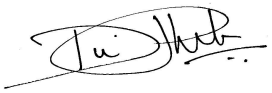
This position will be fully funded through Utility rates.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	D. Philip Alex		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 1 FTE be approved for funding in the 2016-2018 Drainage Services Utility Operating Budget at a total budget increase of $110,710 (based on full year operational requirement). The following is a description of the position(s) requested:

For approval in 2016: 1 FTE
Total budget: $110,710

a) One Technology Asset Coordinator (PT2) : This includes a salary of $90,000 (based on the midpoint of salary range), and $20,710 for benefits and overhead, for a total budget of $110,710.

2. Position(s) Scope:

- The position requested will report to the Facility & Asset Management Lead within Drainage Strategic Services. The Technology Asset Coordinator will play a key role in the development of policies, procedures and tools to assist in the management of Drainage Services technology assets related to information, including hardware, software and telecommunication systems.
- The position will work closely with the City of Edmonton's Information Technology department to administer the inventory of technology assets and ensure that these assets are being deployed in an efficient and organized manner.
- This position is intended to further enhance technology services by having a proactive approach to hardware and software to better manage the systems for Drainage Services staff. This position is not intended to replace existing services of the City of Edmonton's Information Technology branch.
- Other responsibility of this position include:
  - Administration and Management of Drainage Services information and telecommunication database
  - Liaise with administrative staff within the various sections of Drainage Services to ensure asset information is accurate and up to date
  - Develop and implement policies, guidelines and processes for the administration of Drainage Services Information and Telecommunication systems.
  - Develop and manage the budget associated with capital and operating requirements of the Drainage Service Information and Telecommunication systems.
  - Liaise and coordinate with sections within Drainage Services on budget and technology needs for the budget cycle
  - Will be a non voting representative as part of the Drainage Services Information Technology Governance Committee
  - Accountable to ensure the effective refreshment of information and telecommunication hardware for the branch

- Lead on technology research and development to support branch business processes (tie in with Drainage Services Information Technology Governance Committee)
- Lead on the development of the Position Management System which will include the mapping of hardware and software needs specific to a job role or position

- This position will be hired in the fourth quarter of 2016.

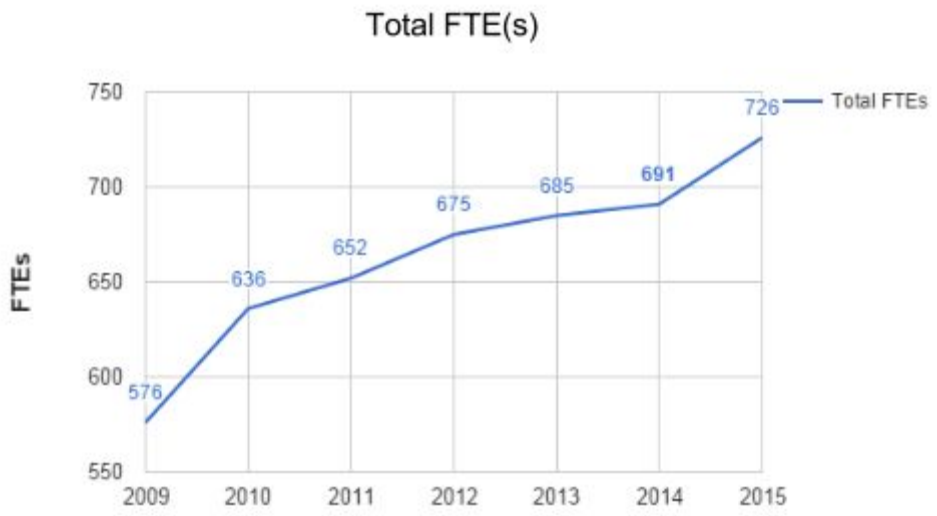
3. Justification

3.1. Why the position is required

The Drainage Strategic Services section was formed in late 2013 with the purpose of streamlining the support functions and centralizing key functions across Drainage Services. The Facilities & Asset Management group is responsible for managing the assets of the branch specific to buildings and facilities, furniture, information and telecommunication hardware and software systems. The section is growing and has to accommodate for the needs of the 700 employees within the Drainage Services Branch.

3.2. Growth/Demand Implications

Figure 1 : Total FTE(s) in Drainage Services



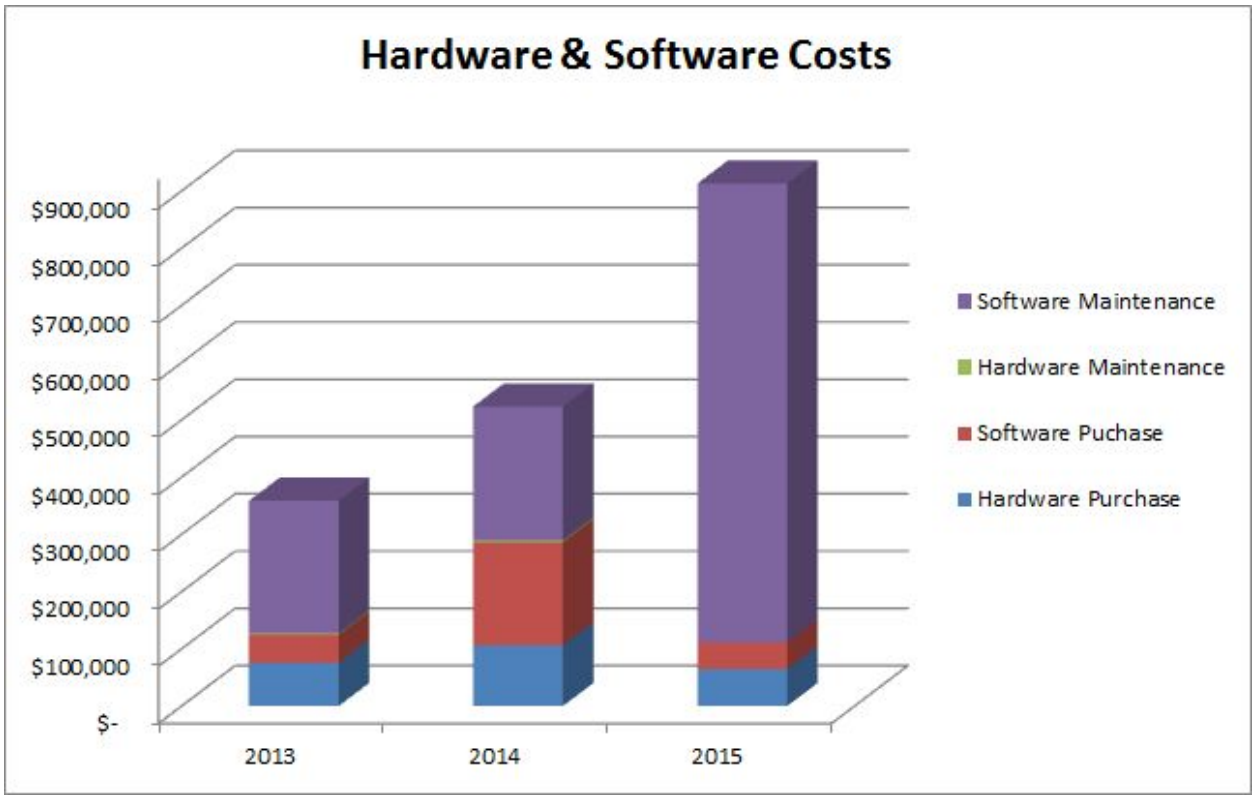
Since 2009 Drainage Services has seen a steady increase in Full Time Equivalents as illustrated in Figure 1 above and it is projected that this employee growth is expected to continue to grow to include more FTE's for Drainage Services in the upcoming years. The increase in the workforce only indicates the need to have systems and processes in place to ensure effective utilization of the technology and telecommunication systems.

3.3. Hardware & Software Cost Management

Currently there are over 700 employees within Drainage Services with approximately 500 computers deployed to Drainage Services staff at various levels. In addition to this, there hundreds of tablets, smart-phones and other mobility devices spread across various locations within the office and on the field. Overall there are approximately 100 applications being utilized across Drainage Services with a large portion of these being end-user supported applications that are not centrally managed by the City of Edmonton.

As shown in the table below, hardware and software related costs including purchase and maintenance have continued to grow over the past 3 years with a projected total cost of over $900,000 in 2015. With the anticipated growth in Drainage Services staff in the coming years combined with the increasing utilization of technology in our work, it is anticipated that this trend will continue.

Figure 2 : Hardware & Software Costs



3.4. **Processes and Inventory Management**

Currently, all technology assets are being administered in a decentralized model across Drainage Services. The decentralized approach allows for the respective areas throughout the branch to handle their own assets which results in inefficiencies with respect to avoidable costs, confusion in administrative ownership, unused software licences and under deployed hardware, wrongly mapped network drives and ineffective permission. The Technology Asset Coordinator position is required in order to ensure that all assets are being managed effectively to avoid such inefficiencies. The position would ensure that policies, guidelines and processes are in place and are being followed to ensure that such redundancies and inefficiencies are avoided, thereby reducing unnecessary costs.

Currently, the process by which profiles are created for new or transferred employees is to duplicate the profile of a person in a similar position within the group. This process creates a situation where numerous new licenses are being ordered without confirmation of the need for all assets under that profile. This situation has resulted in an exponentially increasing number of redundant and unused licenses across the branch.

3.5. **Operational Efficiencies**

The Technology Asset Coordinator position will seek to create operational efficiencies by:

- Establishing and administering processes that reduce end-user involvement and ensure timely delivery of required technology assets
- Reducing operational expenditures on hardware and software purchases in a way that can be tracked and measured in order to gauge overall performance.
- Create alignment and standardization of IT processes across the branch as a whole.

3.6. **Tangible Benefits**

- The Technology Asset Coordinator is expected to lead the development of the centralized technology asset inventory system across Drainage Services. This system will allow of site coordinators and senior management to be able to view, in real-time, the technology assets that are currently in use among all staff across the branch. This will aid in the management of these assets in addition to providing budgeting, reporting and performance measures data through the use of accurate reports.
- By reducing the number of underutilized assets, the branch is expected to generate cost savings in the operational budget relating to software and hardware costs.
- By leading the development of the technology asset process, the branch stands to gain efficiencies through streamlining and convenience of a standard branch-wide

process.

3.7. **Intangible Benefits**

- Removal of confusion surround the inventory of technology assets across the branch.
- Closer working relationship with the Corporate IT branch.
- Stronger accountability relating to the approval, management and deployment of technology assets.
- Proactive management of future technological development to ensure that Drainage is well positioned to utilize these technologies and deploy them in a sustainable manner.

3.8. Risk/Implications of NOT hiring

Given the current state of how technology assets are managed, the branch will be at risk of the following items:

- Although technology assets are being deployed across the branch, the process by which these assets are tracked, inventoried, refreshed and redeployed is ineffective and cumbersome. This situation combined with the lack of ownership of these functions creates an unorganized and ineffective asset management framework. As the number of staff and technology assets continues to grow, the organization of these assets will become more difficult to track resulting in inefficiencies and confusion.
- Given the large number of hardware and software assets in use, the rapid development of technology means that these assets must be closely tracked to ensure that the right assets are being deployed and upgraded accordingly. The risk associated with this is that hardware of software may become obsolete if not managed properly.
- By not having a centralized inventory management system, there is a risk that the different operating areas may utilize software programs that are incompatible with each other. This would result in lost productivity, increase in expense to rectify the compatibility issues and lack of overall collaboration capability.

- Given that there are currently a large number of underutilized and underdeployed assets, the costs associated with these items will continue to grow as the branch staff count rises. Given that hardware and software costs are approaching $1 million annually, there is significant risk of this number growing exponentially if not managed effectively.

3.9. **Alignment with The Ways (Social/Environmental/Safety/Economic)**

The Technology Asset Coordinator position is intended to align with The Ways to contribute to the sustainable growth of the City of Edmonton. Specifically, this position aligns well with the Way we Finance in that the long-term results of this position will provide a net positive effect to the City of Edmonton through minimization of unnecessary technology costs and operational efficiencies. Additionally, this position aligns with the Way we Grow. Given the significant amount of growth that is being forecasted for Drainage Services, this position will allow for the inventory of technology assets to grow in a calculated and sustainable matter to ensure that employees are well equipped for the tasks that lie ahead.

4. Funding Source / Financing Alternatives

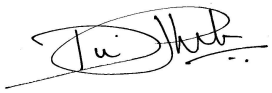
This position will be fully funded through Drainage Services Utility rates.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016 - 2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	D. Philip Alex		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 1 FTE be approved for funding in the 2016 - 2018 Drainage Services Utility Operating Budget at a total budget increase of $54,709 (based on full year operational requirement). The following is a description of the position requested:

For approval in 2016: 1 FTE

Total Budget: $54,709

a) One Training Clerk (Training Clerk II): This includes a salary of $42,752 (based on Step 3 of salary range), and $11,957 for benefits and overhead, for a total budget of $54,709

2. Position(s) Scope:

- The position requested will report to the Workforce Development Lead within Drainage Strategic Services and will play a key role in centralizing training for

the current 700+ Drainage Services employees as well as the anticipated growth in FTE's. Centralizing training is important for Drainage Services to ensure consistency across the Branch for training and keeping certifications, memberships and records current for employees. Currently, staff do not take initiative to ensure that certifications, courses, credits and memberships are maintained, up to date and that they do not expire. Many of the employees within Drainage Services have to maintain mandatory certification to do their jobs and the Training Clerk II's will be responsible for working with employees to ensure that this certification is maintained.

The responsibilities of this position will include:

- Support the Drainage Services training strategy through playing a key role in the centralization of training for Drainage Services employees
- Providing administrative support by maintaining accurate training records and data, creating and maintaining a centralized training calendar for the Drainage Services Branch.
- Providing training support and enhancements to the current training program for Drainage Services to ensure that employees are receiving quality training they require to work safely and be successful on the job.
- Providing support to internal and external trainers as needed including preparing for training sessions by preparing training materials, ensuring that training spaces are set up accordingly, ensuring that supplies and resources required for the training sessions are available and by providing evaluation forms to collect employee feedback and creating reports and summaries based on training completed.
- Act as the main point of contact for certification and memberships for all Drainage Services employees including registering, coordinating exams, maintaining records for employees, making payments for memberships and certifications and working with external membership associations to

maintain positive working relationships. This will include being responsible for paying for all annual membership fees for Drainage Service employees.

- Research, prepare and review documentation to create and complete travel and training forms and documents as per City policies and procedures for the Branch.
- Support the Drainage Services workforce development strategy including training by providing support to the key initiatives and activities.

- This position will be hired in the fourth quarter of 2016.

3. Justification

3.1. Why the position is required

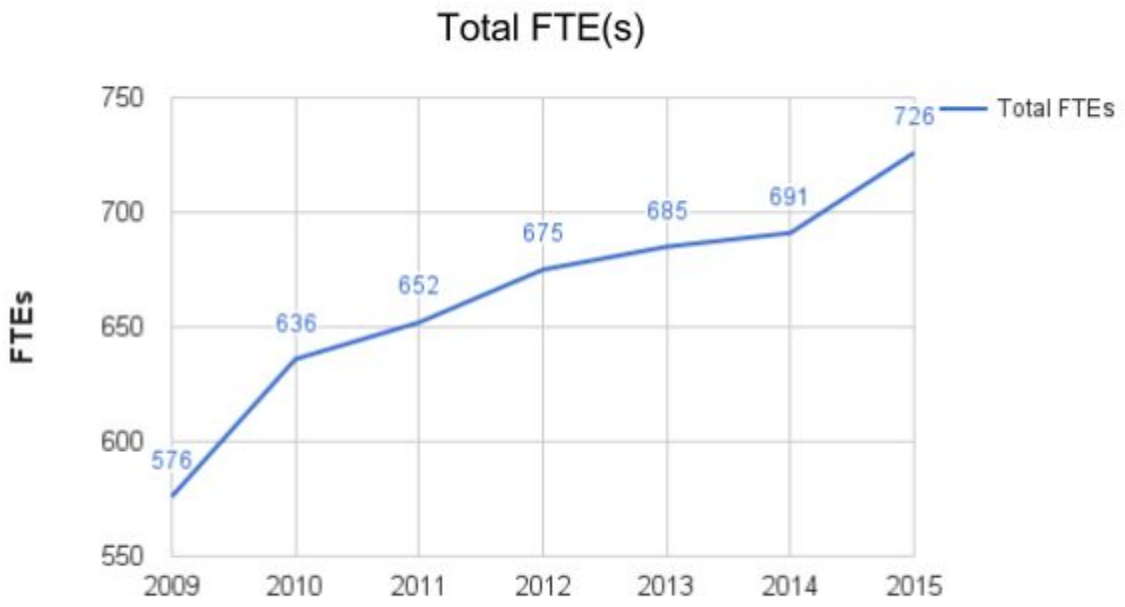
The Workforce Development group was created in 2013 as part of Drainage Strategic Services with the intent of developing and implementing a Workforce Development Strategy to ensure that Drainage Services continues to provide a robust workforce to meet the growing capital and operating needs for drainage infrastructure. The section has grown and the roles and responsibilities associated with the group has further been defined to not just developing and implementing a framework for the Branch of 700 employees, but also to support and continually improve and innovate. The Workforce Development group thus now focuses on:

- workforce planning
- workforce development and training
- workforce management
- workforce analytics
- public education

In 2015 the Workforce Development section hired one permanent Training Clerk

II FTE to provide training related administrative support to one section of Drainage Services. This role was hired to provide training related administrative support to approximately 250 employees. With the intent to centralize training for the Branch of 700 employees, there is the need to hire one more FTE at the same position to ensure that the incumbents in the roles are able to keep up with the volume of work, continue to provide excellent customer service to the staff of Drainage and provide support to a large volume of employees for the Branch. Prior to 2013 Drainage Services had one trainer position to support 250 employees and currently the Workforce Development Section has three trainers supporting Drainage Services.

Figure 1 : Total FTE(s) in Drainage Services

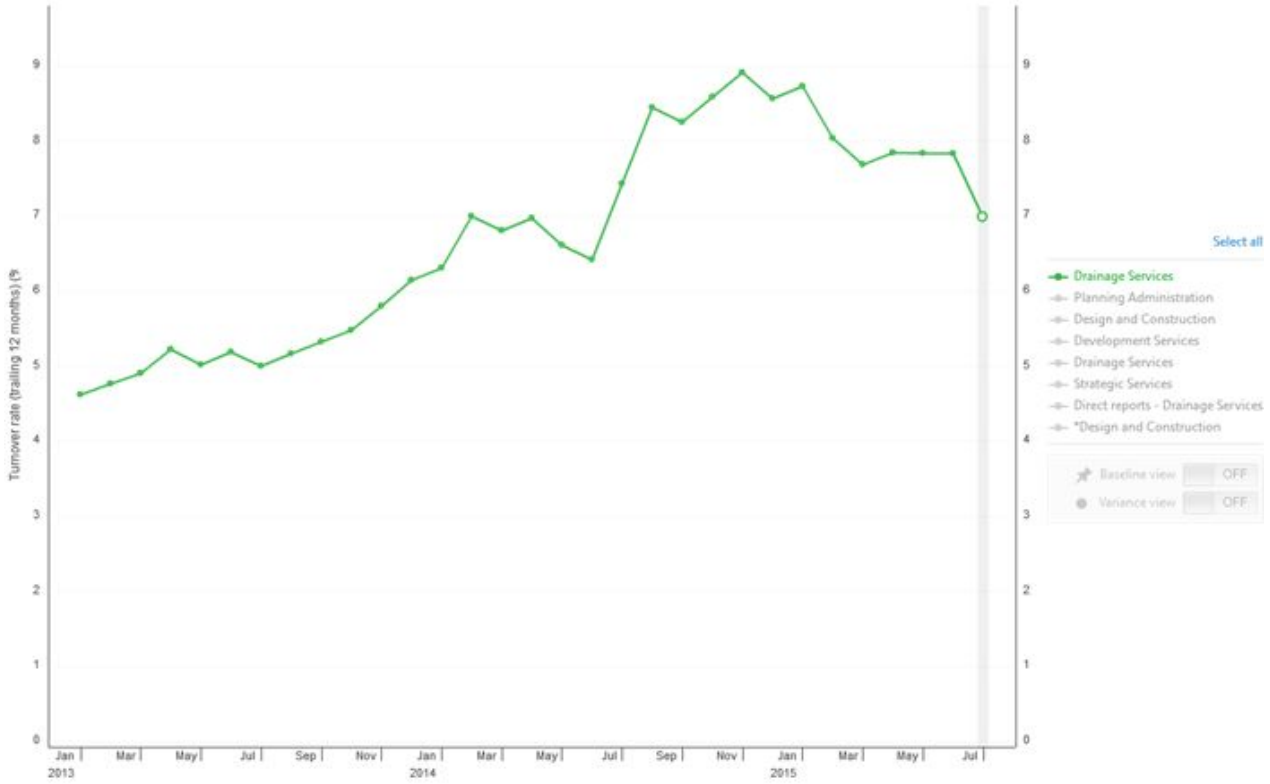


Since 2009 Drainage Services has seen a steady increase in Full Time Equivalents as illustrated in Figure 1 and it is projected that this employee growth is expected

to continue to grow to include more FTE's for Drainage Services in the upcoming years.

With the expected growth and the staff turnover as seen in Figure 2, there is the need to develop a training support to meet the needs of Drainage Services. This is essential to meet the training requirements for new and existing staff, plan for transferring knowledge of seasoned employees to employees with less experience, and develop a succession planning & talent management program for Drainage Services employees. This work will reside in the Workforce Development section, but the Training Clerk II roles will be vital to complete the administrative tasks to meet these needs.

Figure 2: Turnover rate in Drainage Services 2013 - July 2015



Currently each business area is providing training related administrative support within each area in the Branch and each area has developed their own processes and tracking systems that are not consistent for the purpose of workforce analytics. A need was thus identified to centralize training to ensure consistency across the Branch and to ensure that training dollars are being spent to ensure a more robust workforce. With a goal of creating consistent processes and eliminating duplication of work and errors, moving towards centralizing training is essential. With the current 700 employees, and looking at anticipated growth in the upcoming years, it is critical to ensure that training is consistently planned, scheduled, conducted, evaluated and maintained for the Branch.

Figure 3 - Projected Drainage Service Retirements

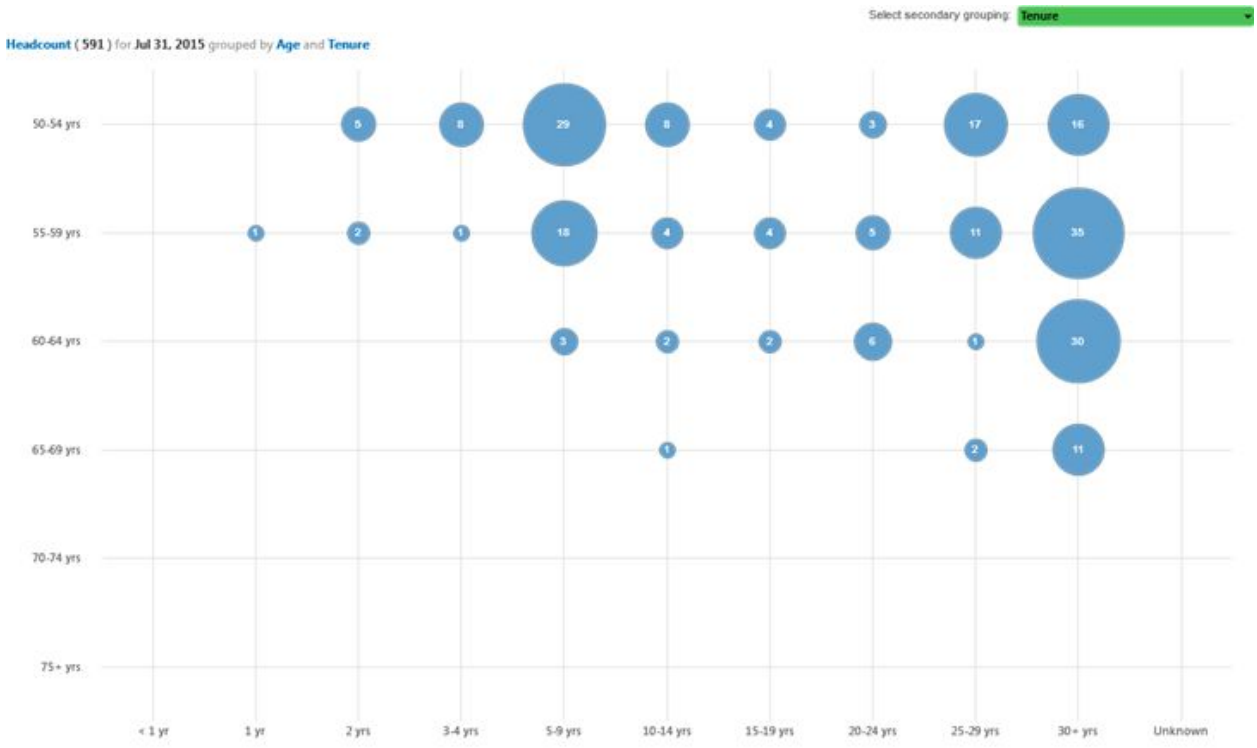


Figure 3 showcases the projected retirements based on the existing data available for Drainage Services. About 21% of the employees have over 25 years of service and are eligible for retirement immediately or within the next couple of years.

Drainage Services must be prepared to make this critical transition to meet the potential retirements and the intake of new employees. There is thus the need for a focused knowledge transfer program and the tools to enhance and potentially automate the employee development process. With the anticipated increase in work being conducted by Drainage Services and the competent workforce that is required to complete the work it is also important for this Training Clerk II position to be in place to support a robust training program to fully meet all operational needs for the Branch. It will also support the long term workforce development goal of succession planning, knowledge transfer and sustaining a qualified workforce.

The need for hiring a permanent Training Clerk II is expected to support all areas of the workforce development group with a primary focus on the training area. The Training Clerk II position will be important to the success of centralizing training for the Branch and will assisting in ensuring that all the training goals from the Drainage Services Leadership team can be met with resources in place to support the workforce development area.

3.2. Growth/Demand Implications: As the work for Drainage Services grows, so does the need for skilled workers to ensure that work is complete for the Branch. The Training Clerk II position will provide administrative support for the Branch to ensure that all of the training records are recorded, updated and maintained accurately and in a timely manner for over 700 employees. Drainage Services is anticipating growth, retirements and employee turnover and new employees which will increase the need for training and to ensure that training for both field and office staff is complete and up to date to ensure compliance and that employees have the tools and support to competently do their job Within the Workforce Development strategy the focus is also on developing employee competency for current and future positions, planning and preparing for knowledge transfer for employees who are retiring, ensuring succession plans are in place to meet these

needs, cross training for employees both internally across Drainage Services and a potential external to Drainage Services and continued professional development for employees.

3.3. Regulatory Drivers: Many positions within Drainage Services require certification, professional credits and specific training to meet industry standards or professional code of practice. This position will be responsible for ensuring that all of the documentation is up to date so that employees keep their certification or professional credits, that employees are aware of upcoming courses to register for, ensuring that employees are registered for courses and specialized training to maintain City of Edmonton and Provincial standards.

3.4. Operational Efficiencies: The focus of this position will be to look at operational efficiencies through centralization of training for the Branch through one point of contact approach. The Training Clerk II position will act as the one point of contact for both internal employees and external vendors and contacts. This will lead to efficient operational practices for the Branch. This role will include centralizing training records, employee information, streamlining travel and training processes for employees to follow and ensuring all training related documentation is accurate and consistently tracked and maintained for all Drainage Services employees. By centralizing the administrative training tasks to the Training Clerk II's it will also free up other Clerk II's in Drainage Service to focus on the core business areas associated with each respective area.
Another efficiency that will occur through hiring this position is having a key point of contact for all internal and external trainers and vendors to share information in a fast paced environment to ensure consistency of booking training for the Branch and to reduce the number of individuals involved in coordinating training. With the anticipated growth for Drainage Services it is important to ensure that organizational efficiencies are consistently reviewed to

continue to provide excellent services for the citizens of Edmonton.

3.5. Safety Implications: One of the most important components of strong training programs is the safety elements of the program. Drainage Services is unique in its work as it is one of the very few municipalities that includes a construction component that is very specialized in nature (i.e. tunnel construction, operations in live sewers, etc). Many of the positions and work that is done within Drainage Services are safety sensitive and it is crucial to have the right training in place for employees to safely know how to operate equipment and work safely in various environments. The Training Clerk II is responsible to work with the trainers to ensure that all safety components to training are set up and reviewed on a regular basis for employees. The role will also be responsible for maintaining centralized training records and information and ensuring the Workforce Development Team is up to date to share training information with supervisors on a regular basis. Ensuring consistent training opportunities are provided for employees and coordinating safety related training for the Branch will look at reducing the risk of safety incidents for employees.

3.6. Tangible Benefits:

- Centralized training for the Drainage Services Branch
- Providing a single point of contact for Drainage Services employees and external vendors
- Focus on ensuring adherence to City and Branch processes for training are followed and ensuring as the key point of contact that processes are followed, employee questions are answered and that training is set up in accordance with approvals and processes in place
- Creating, managing and maintaining training records, files and manuals for the Branch
- Alignment with core competencies and performance reviews for employees for areas for training

- Increased ability for employee training
- Ensuring workforce development initiatives are completed accurately and in a timely manner for the Branch

3.7. Intangible Benefits

- Increasing from 1 to 2 permanent Training Clerk II positions to support the Drainage Services Branch to ensure consistency across the branch for training related supports provided to all 700 employees.
- Moving towards a strong centralized training program for the Drainage Services Branch instead of each section operating independently of one another
- Ability to track training more effectively for the Branch and being able to report on Branch training at any given time.

3.8. Risk/Implications of NOT hiring: Not funding this position will not allow a move to centralize training for the Drainage Services Branch as the resources will not be in place to support over 700+ current employees as well as anticipated future growth. Without a Training Clerk II to provide one point of contact for all of the identified items for centralized training (creating, managing, updating and maintaining training records, maintaining training related statistical data, working with internal and external trainers and vendors to provide training) Drainage Services will not be able to look at enhancing efficiencies through aligned centralized training for the Branch as the section continues to move forward to provide training for the entire Branch.

3.9. Alignment with The Ways (Social/Environmental/Safety/Economic) The Way We Prosper focuses on diversifying Edmonton's economy and sustaining Edmonton as a prosperous and competitive world city. In order to continue to strive to meet this goal the City of Edmonton has identified a need to invest in and improve the skills of City of Edmonton employees. the Strategic Services section was created to enhance and ensure efficiencies for the support function of the

Drainage Services Branch. Training is one of the large components of the Workforce Development section and moving towards centralized training is in alignment with investing in and improving the skills of internal Drainage Services employees.

One challenge identified in The Way We Prosper was the difficulty with attracting and retaining a skilled workforce. A strong training program with centralized training will be a draw not only for potential employees but also for current employees to show the commitment to employee training from the Branch. This also ties in with the current identification of training gaps for employees to be both successful on the job as well as to look at future potential positions for employees through the Workforce Development section.

Work that is completed by Drainage Services supports The Way We Green and The Way We Grow. By ensuring that Drainage has a competent and skilled workforce that is supported by a strong centralized training program will indirectly contribute towards achieving the goals outlined in those two strategies.

4. Funding Source / Financing Alternatives

This position will be fully funded through Utility rates.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	Ellen Tian		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 6 FTE (s) be approved for funding in the 2016-2018 Drainage Services Utility Operating Budget at a total increase of $815,461. The following is a description of the position(s) requested:

For approval in 2016: 6 FTEs
Total Budget: $815,461

a) **One Sewer Substructure Crew:**

- **One** Sewer Substructure **Leader**: This includes a salary of $70,693 (based on Step 3 of salary range), and $,16,663 for benefits and overhead, $184,000 for a transit van, for a total budget of $271,356.
- **Five** Sewer Substructure **Inspectors**: This includes a salary of $62,589 (based on Step 3 of salary range), and $15,232 for benefits and overhead per FTE for a total personnel budget of $77,821. The five inspectors will also require 1 service body truck at a budget of $155,000. The total budget required is $544,104.

2. Position(s) Scope:

The budget request is for an additional Sewer Substructure Crew that would be added to the existing one crew with Drainage Operations. The following is a list of work activities completed by the existing Sewer Substructure Crew:

- Storage Tank Inspection and Maintenance
- Utilidor inspection and maintenance
- Low flow bleed off inspections
- Outfall structure inspection and maintenance
- Deep manhole inspection (deeper than 40 feet or with a significant updraft or connected to a trunkline 1200 mm diameter or larger)
- Reactive large diameter pipe inspection (greater than 1200 mm diameter) and minor repair
- Lake control chamber operation and maintenance (manual control only)
- Oil Grit Separator Maintenance
- Groat Road Facility operations and maintenance
- Spill/Release investigations
- Corrugated metal pipe inspections
- Subsidence investigation
- Failure investigation
- Assisting other areas of operations with entries so they can do their work (eg. pumpwell maintenance, deep trunk televising)
- Assisting Design and Construction with their projects in gathering data and other activities such as gas monitoring, odour control, plate installation,etc.
- Installation of odour flaps,
- Assisting Police or Fire Rescue Services in retrieving/rescuing items (or animals, bodies or people) from the sewer system
- Rescue (crew must be trained to self rescue as Fire Rescue Services does not provide this service due to specialized breathing apparatus needs)
- Equipment Maintenance (specialty equipment has detailed maintenance requirements)

A Sewer Substructure Crew comprises of one Sewer Substructure Leader and five Sewer Substructure Inspector. The key responsibilities of theses positions have been identified below:

- The **Sewer Substructure Leader** is leading up to five Sewer Substructure Inspectors. The Sewer Substructure Leader plans and schedules inspection activities, prioritizes requests, briefs the crew on the work plan for entry, evaluates structural integrity of infrastructure, coordinates work with internal and external sources, performs Hazard Assessments, monitors and improves where necessary, efficiency and effectiveness of work procedures and
- The **Sewer Substructure Inspector** works as part of a crew, consisting of up to 6 team members (the leader can be part of the team). The primary purpose of the Sewer Substructure Inspector is to perform inspection, monitoring, maintenance, rehabilitation and repair activities on a variety of underground drainage structures including large diameter storm, sanitary and combined trunklines, storage tanks and pipes, control structures, interconnection sites, deep manholes and related drainage structures. Major responsibilities include inspection and maintenance of large diameter pipe and other underground structure, operation and maintenance of lake control structures, special projects which often include assisting the Design and Construction group
- These positions will be hired in the fourth quarter of 2016 if funded.

3. Justification

3.1. Why the positions are required

These positions have been identified to increase the capacity to two Sewer Substructure crew with the intent to inspect larger diameter pipes (> 1200mm).

In the late 1990's and early 2000's, a regular inspections program was in place to overlook the inspection, the data collection and analysis of the physical condition of these large diameter sewer systems. The single Sewer Substructure crew were able to inspect up to 75 km of pipe in one year as a preventative maintenance program, however, with the continuous growth of the drainage system, environmental, health & safety regulations and the addition of other kinds of substructures (Groat Filter Facility, storage tanks,

stormwater lake control chamber, etc.) the program has become more reactive in nature with crews reacting to impending concerns.

Although significant efforts have been made to introduce technology and CCTV camera's to inspect the large diameter pipes, there have been significant concerns owing to the uncertainty of the environment. Some concerns include:

- Unknown condition of the bottom of the pipe which may be slippery or maybe buried under sediments
- The manholes leading to these pipes are very deep (depth can be of 200 m) and spaced at 1 km apart that reduce the efficiencies of using current technology
- The weight of the cable as well as the bends and crevices in pipe serves as obstacles for cameras
- Dark lighting condition that are not ideal for cameras in the location.

Two recent pipe condition inspection jobs intended by CCTV technology (still needs tob done in conjunction with the Sewer Substructure Crew) , one on Groat Road and the other on 151 Street and 91 Ave highlighted the difficulties in accessing these long difficult stretches. In both jobs, the work was incomplete where the camera got severely stuck and the cable broke which demonstrated the limitation of the technologies available on the market.

In order to address the ever increasing inspection need of the large and aging diameter pipes, so as to address the environmental and City's liability concerns, the additional crew is required to fulfill our professional due diligence requirement so that proper funding and resources can be planned for future deep trunk sewer rehabilitation need. The addition of the second crew will help to capture the large diameter pipe condition information on a preventative maintenance basis which will provide significant financial and social benefit to the citizens of Edmonton on the long run. To address the safety issues of this work, all sewer substructure crews are equipped with the right breathing equipments, training and are made aware of the potential safety hazards while working in such an environment.

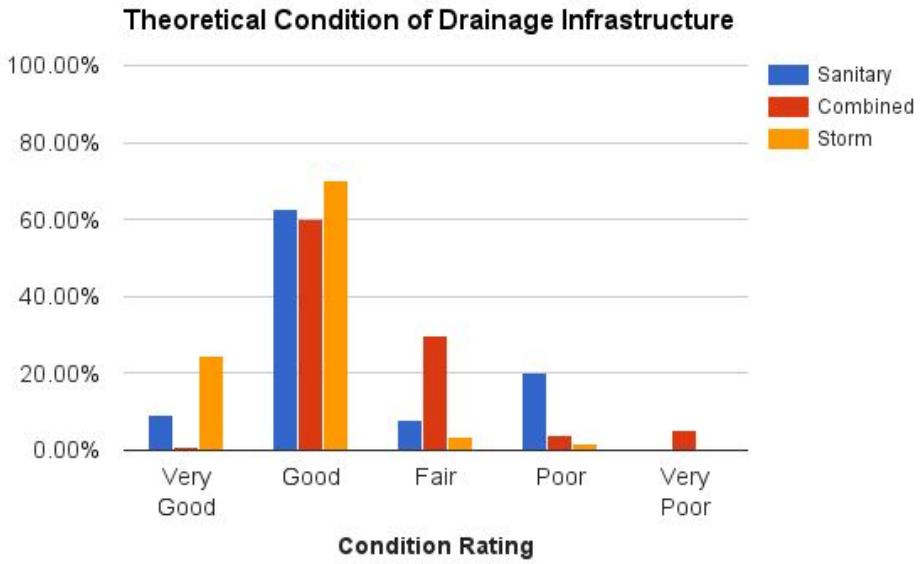
As the existing Sewer Substructure crew will continue to focus on the routine maintenance need for the various specialty substructures across the City, the proposed

Sewer Substructure Crew are intended to move the deep trunk sewer inspection program from the current reactive state to a more proactive one. The rate of inspection of the big diameter pipe under the proposed Proactive Sewer Inspection Plan is still under development, it is anticipated that the addition of the new Sewer Substructure Crew will help expedite the inspection and data collection that would help validate the theoretical condition ratings of Drainage Infrastructure as represented in Table 1 and Figure 1.

Table 1: Theoretical Condition of Drainage Pipe by Condition Rating (km)

Condition of Pipe (km)	**Sanitary** (>/=1200 mm diameter)	**Combined** (>/=1200 mm diameter)	**Storm** (>/=1200 mm diameter)	**Total** (>/=1200 mm diameter)
Very Good (A)	6.62	0.69	109.90	117.21
Good (B)	44.26	54.40	312.71	411.37
Fair (C)	5.67	26.85	15.41	47.93
Poor (D)	14.19	3.65	7.45	25.29
Very Poor (F)	0	4.77	0	4.77
Total	**70.75**	**90.37**	**445.48**	**606.57**

Figure 1: Theoretical Condition Rating for Drainage Infrastructure



Based on the theoretical analysis of condition ratings, there is 5 km of pipe with an F (very poor) rating, 25 km of pipe with a D(poor) rating and 48 km of pipe with a C (fair) rating. It is anticipated the Sewer Substructure Crews will inspect these pipes first before addressing the remaining 528 km of pipes that have been theoretically identified as being in A (very good) and B (good) ratings. The plan is to inspect all pipe with a fair, poor and very poor condition within three years of putting the additional crew in place.

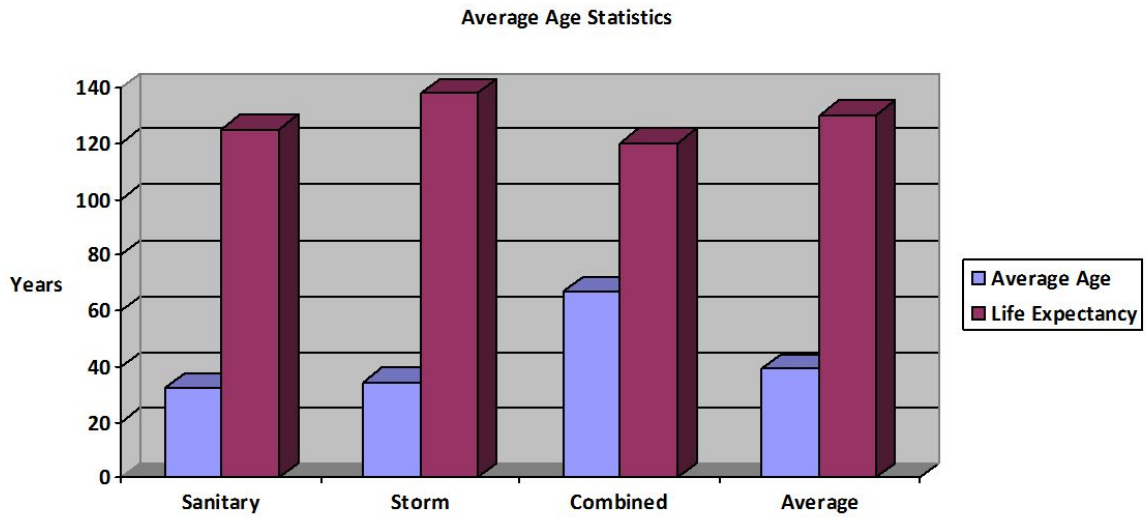
With the addition of this substructure crew in place, and anticipating inspection of 75km of large diameter pipes on an annual basis, it would take approximately 8.5 years to complete one round of inspections for just the existing large diameter pipes (606 km).

3.2 Growth/Demand Implications

The City has been growing very rapidly over the last decade and this trend will continue with expansion to the suburbs as well as with brownfield construction and infill. This rapid growth will put significant demands on the need for new drainage infrastructure as identified in the Sanitary Sewer Servicing Strategy and at the same time will put significant strain on existing infrastructure, in terms of capacity. It is this very important to ensure that the existing conditions of the City's Drainage substructure are prepared and capable to meet the growing demands.

Figure 2 illustrates that in theory, the average life expectancy of the City's Sanitary, Storm and Combined systems is about 125 years while the average age of our infrastructure based on actual data is about 40 years (approximately one third of the life expectancy).

Figure 2: Average Age Expectancy of Drainage Systems



While theoretical assessment assists in providing some input for long term proactive planning, it is important to update and validate these theoretical models with actual data. With the aging infrastructure, the added infrastructure (through growth and rehabilitation) and the anticipated growth in future years, the need and the demand to inspect the systems and bring clarity to condition of the drainage infrastructure is evident.The addition of the Sewer Substructure Crew will be able to provide actual data in terms of condition ratings, age of pipe, construction material (some material is more susceptible to corrosion than other), pipe diameter (pipes that carry larger volumes take precedence over smaller pipe due to increased consequence of failure), force main vs. gravity main, subsurface conditions (soil properties eg. high pH) and corrosion potential.

The visual inspection program will help refine the maintenance plan strategy for Drainage Services. Additionally, the information gathered will validate the theoretical assessments and ensure better forecasting. This includes better assessment of the pipes, identification of those that need renewal, allow for prioritization and thereby proactively distribute the capital budget over a period of time.

3.2. Operational Efficiencies

At this point in time, the conditions of the large diameter drainage infrastructure pipe in the City is unknown. Other substructure inspections as well as assisting other areas

currently uses up all existing resources. An additional Sewer Substructure crew will allow a proactive inspection program to be implemented for large diameter pipe within the City. It is estimated that 75 km of pipe could be inspected per year. With the existing complement of Sewer Substructure crew, it would take the crew 8.5 years to complete one round of inspection of the infrastructure. The addition of this one crew will allow Drainage Services to assess and manage the risk in the sewer system much more effectively by providing information on the condition of the system in a more proactive and timely fashion.

3.3. Regulatory Drivers

The significant regulatory drivers are the Environmental Protection and Enhancement Act and the Fisheries Act. This legislation prohibits the release of deleterious substances to natural watercourses. A failure of a large diameter pipe could result in a significant environmental release . By proactively inspecting these pipes, the new Sewer Substructure crew will identify problems within the pipes before they become large enough to cause a collapse or blockage and this may prevent a release to the environment.

3.4. Risk/Implications of NOT hiring

In the past few years it has been found that some of the large diameter pipes in the sanitary and combined systems are deteriorating badly, some to the point of imminent failure. A recent example of this is a large diameter pipe located in the area of 151 Street and 99 Avenue. This pipe has deteriorated so badly due to hydrogen sulphide that there is almost no concrete left on the pipe and only the ribs and lagging are holding the pipe in place. This large diameter pipe services more than 100,000 residents of Edmonton and its failure could be both a public health and environmental disaster. The hiring of an additional Sewer Substructure crew will allow the City to identify high risk pipes in a timely manner, reducing the risk of pipe failure, loss of service to residences and avoiding a potential significant environmental release.

3.5. Alignment with The Ways (Social/Environmental/Safety/Economic)

This positions align with The Way We Green through proactive management of drainage infrastructure; The Way We Live through protection of public health, reduced risk of

flooding, and service to citizen; and The Way We Finance, through well-planned, effective and efficient planning and renewal of infrastructure.

4. Funding Source / Financing Alternatives

This position will be fully funded through Utility rates. There are no other known contractors that are available to do similar work.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016 - 2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	Ellen Tian		09/08/2015

1. **Recommendation**

   The Drainage Services Utility is recommending that the addition of 12 FTE(s) be approved for funding in the 2016-2018 Drainage Services Utility Operating Budget at a total budget increase of $2,066,216 (based on full year operational requirements). The following is a description of the position(s) requested:

   For approval in 2016: 4 FTEs
   Total Budget:$641,894

   a. One Millwright Foreman: This includes a salary of $100,668 (based on Step 3 of salary range), and $ 21,959, for benefits and overhead, $ 74,000 for a truck, for a total budget of $ 196,627 .

b. One Millwright II: This includes a salary of $91,442 (based on Step 3 of salary range), and $ 20,330, for benefits and overhead, $ 155,000 for a service body truck, for a total budget of $ 266,772.

c. One Millwright I: This includes a salary of $ 85,058 (based on Step 3 of salary range), and $ 19,202, for benefits and overhead, for a total budget of $ 104,260 .

d. One Millwright Apprentice: This includes a salary of $ 59,542 (based on Step 3 of salary range), and $ 14,693, for benefits and overhead, for a total budget of $ 74,235.

For approval in 2017: 3 FTEs
Total Budget:$650,162

e. One Millwright II: This includes a salary of $ 93,818 (based on Step 3 of salary range), and $ 21,067, for benefits and overhead, $ 159,000 for a service body truck, for a total budget of $ 273,885 .

f. One Millwright I: This includes a salary of $ 87,268 (based on Step 3 of salary range), and $ 19,910, for benefits and overhead, for a total budget of $ 107,178 .

g. One Electrician/Instrumentation I: This includes a salary of $ 89,750 (based on Step 3 of salary range), and $ 20,348, for benefits and overhead, $ 159,000 for a service body truck, for a total budget of $ 269,098 .

For approval in 2018: 5 FTEs
Total Budget:$774,161

h. One Millwright II: This includes a salary of $ 97,020 (based on Step 3 of salary range), and $ 22,036, for benefits and overhead, $ 164,000for a service body truck, for a total budget of $ 283,056 .

i. One Millwright I: This includes a salary of $ 90,247 (based on Step 3 of salary range), and $ 20,840, for benefits and overhead, for a total budget of $ 111,087.

j. One Millwright Apprentice: This includes a salary of $ 63,173 (based on Step 3 of salary range), and $ 16,057, for benefits and overhead, for a total budget of $ 79,230 .

k. One Repairman I: This includes a salary of $ 68,520 (based on Step 3 of salary range), and $ 17,001, for benefits and overhead, for a total budget of $85,521.

l. One Electrical/Instrumentation Foreman: This includes a salary of $ 112,497 (based on Step 3 of salary range), and $ 24,770, for benefits and overhead, $ 78,000 for a truck, for a total budget of $ 215,267.

2. **Position(s) Scope:**

- The Millwright Foreman (Pumpwells Foreman) position requested will bring the number of direct reports to the foreman down to a reasonable number. The Millwright Foreman directs the activities of Millwrights and repairmen in the shop and in the field for repairing pumps, unclogging pumps, cleaning stations, and providing emergency response when sewer pipes collapse or pump stations fail. The foreman also assists in the review of development submissions of new pump stations and in planning for upgrading and setting priorities for upgrading.

- The Mechanical Tradesman requested (Millwright II (3), Millwright I(3), Millwright Apprentices (2) and Repairman (1)) will be used to provide adequate and improved (proactive) maintenance to the growing number of pumping stations and lake control gates. These trades staff repair pumps, unclog pumps, clean stations, and provide emergency response when sewer pipes collapse or pump stations fail.

- The Electrician / Instrumentation trade position will provide increased electrical support for upgrading and replacement of wiring and electrical machines. This position will also provide increased electrical support for the Electrical/Instrumentation side of Pumpwell Maintenance. This position will assist in the maintenance, upgrading and replacement of electrical machines. These machines have a service life of 15 to 20 years, and many of our older stations need new machines. Due to the increasing number of pump stations in the City, replacement and renewal of electrical (and mechanical) machines has become a regular and time consuming task. The new tradesperson will replace pump motor starters, variable frequency drives, generators, explosion proof lighting systems, program stations and renew wiring and conduit etc.

- The Electrical/Instrumentation Foreman will provide day to day supervision and direction to the Electrical and Instrumentation Tradesmen. The position will assign work to the Electrical and Instrumentation tradesmen and plan station rehabilitation and electrical machine maintenance and repair.

- These positions will be hired in succession, in the fourth quarter in each of 2016, 2017 and 2018.

3. **Justification**

3.1 Why the positions are required

The number of mechanical stations in the City of Edmonton is continuing to grow.

- Pump stations were once only needed for certain specific low lying areas such as Riverdale and Cloverdale, with the rest of the City's sewage traveling to the plant by gravity systems. In recent years, pump stations are becoming more common - and larger - as the gravity systems cannot extend to the more distant suburbs. The current 92 pump stations (70 Sanitary and 22 storm) are expected to grow to 107 (12 more sanitary and 3 more storm) over the next few years.
- Also in recent years, the need for mechanically controlled stormwater systems has grown rapidly. These systems delay stormwater in ponds until downstream sewers have regained their capacity. While this process makes efficient use of the existing pipes, and allows development to proceed without building new pipes to the river, the new facilities require maintenance.
- Control of combined sewer discharges to the river is being achieved through the inclusion of gates in the major sewers. These 3 stations are a challenge for the City's tradesmen to operate.

The charts included below show the growth in mechanical facilities in the City of Edmonton and the staff increases made in the past. The need for increasing the staff to maintain and operate the drainage mechanical facilities is demonstrated in Figure 2 and 3. Mechanical crews, even with the proposed additions, will be responsible for approximately twice as many stations as they were in the 1990's. This reflects advances in alarm and SCADA technology that increase operational efficiencies. Electrical and Instrumentation staff, with the planned additions, are responsible about the same number of stations as in the past. Advances in

technology (e.g. SCADA), have also benefitted this group, but maintenance of the SCADA system has added a great deal of work also.

Figure 1: Growth in mechanical facilities over time within the Drainage system
(Facilities include pumping stations, storm and sewer gate stations, sensor stations, etc.)

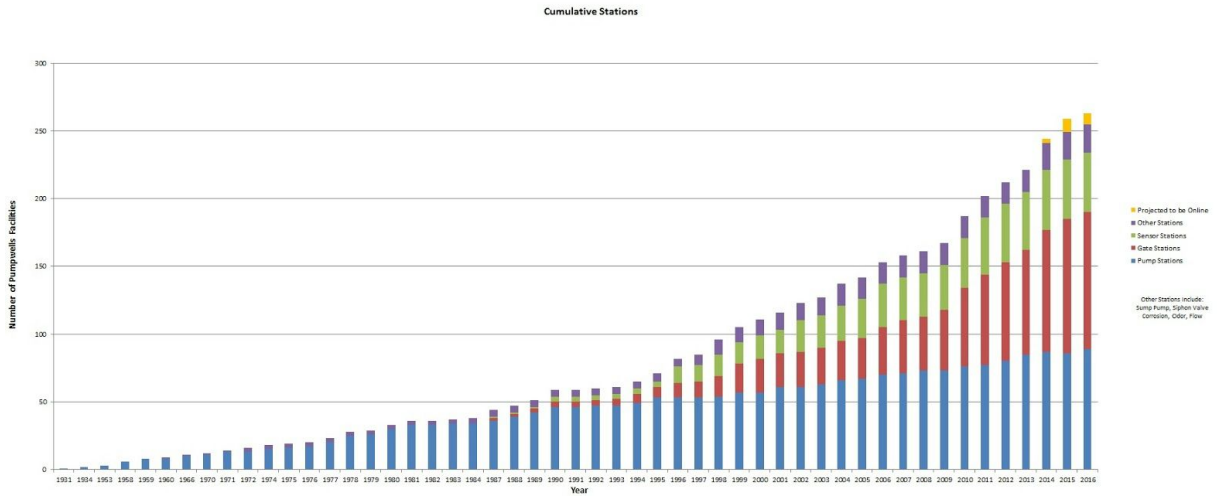


Figure 2: Growth in the number of stations that each crew is responsible for.

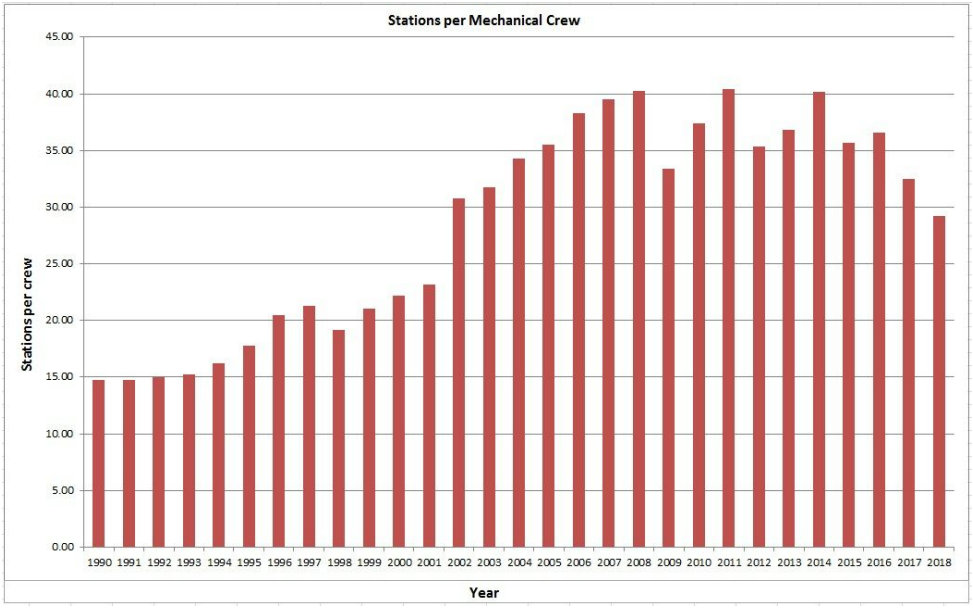
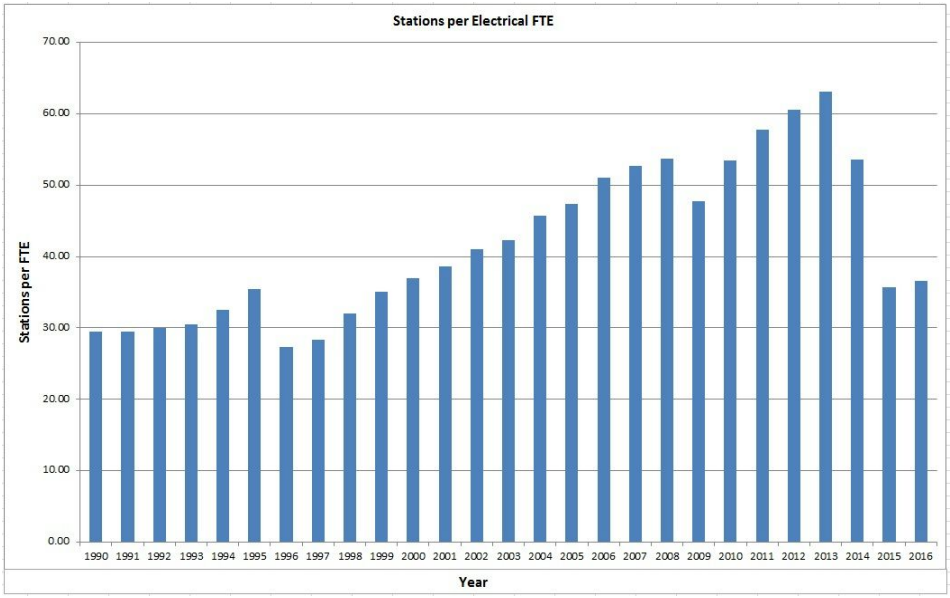


Figure 3: Growth in the number of stations that each electrician or instrumentation technician is responsible for.

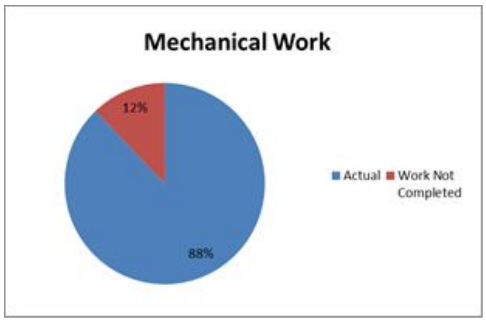


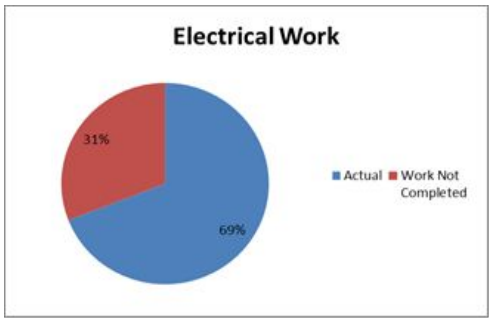
Referring to Figure 3, increases in the height of the bar reflect new stations coming online and decreases in the annual bar height indicate where staff have been added to the team.

Implementation of the SAP Maintenance Management system in the Pumpwells group in late 2013 has allowed the tracking of what work is expected to be done and what is actually done. The system has one full year of monitoring (2014) and Figure 4 shows that only 88% of the planned jobs are completed for mechanical maintenance and 69% for electrical calibration and maintenance. Note that 1 Electrician was added to the group in 2015 to address this issue.

In 2014, there were 11 bypass jobs that used up approximately 6,100 hours of staff time (2 man crew, 24 hours). Seven of those jobs were pumpstation forcemain breaks – an indication of what is to come with our aging infrastructure.

Figure 4: Completion of Planned Mechanical and Electrical Work (2014)





a) Millwright Foreman – The current single Millwright Foreman has 24 direct reports, increasing to 27 with temporary staff. With the new proposed mechanical staff, the mechanical group will grow to 40 staff. An additional foreman will result in 20 direct reports for each foreman. The additional foreman is required to:

- Bring the number of direct reports down to a reasonable level (organizational and Management Workload), and accommodate the 9 staff to be added.
- Provide continuity and succession for the group. Station knowledge and maintenance planning is currently in the hand of 1 person who may retire in the near future.

b) Mechanical Maintenance Staff: This consists of:

- 3 Millwright II (Pumpwell Operator II)
- 3 Millwright I (Pumpwell Operator I)
- 2 Millwright Apprentices and 1 Repairman).
- Mechanical crews consist of 3 staff as required for safe entry of confined space.

The requested additional mechanical staff are required for the following reasons:

- Complete assigned work - 121 regular inspections for pumping stations were missed in 2014 due to crews being unavailable (too much regular work, emergency work, sick). There are approximately 1000 inspections to be done annually by the 6 crews. With the recent implementation of SAP we are just now able to track this work and are developing performance expectations
- Manage impacts on the workforce – manage vacation time and absences due to injury. 3 staff are absent currently due to long term injury/illness. Emergency work - 9 bypass jobs (Main failures and forcemain breaks) in 2014 and 1 up to May 15, 2015 take work away from regular inspections and preventive maintenance.
- Increasing number of stations (see figure 1).

1. **Electrician I** – An additional electrician is required to provide support to dual ticket tradesmen and SCADA Instrumentation Staff (Electrician/Instrumentation Coordinators). This position will assist in maintaining and upgrading electrical machines and replace wiring and conduit as needed. The reason for this new position is the increasing number of stations and increasing age of stations (figure 1).
2. **Electrical/Instrumentation Foreman** - to adequately supervise the growing number of Electrical Staff (8 by this time), relieving the Electrical Engineer to perform other functions such as troubleshooting station issues and working with developers and designers on new stations and station upgrade projects.

3.2 Risk/Implications of NOT hiring

The risks of not hiring the positions are as follows:

<u>Private/Public Property Damage & Environmental Risk</u>

Maintenance is critical to the reliability of Pump Stations and Lake Control Gates. The SAP Maintenance Management system recently implemented for the Pumpwells group has shown (see Figure 4 above) that we continue to operate in a reactive mode, with many regular inspections being missed due to the workload.

With increasing numbers of stations, if proper maintenance and inspections are not completed, emergency work will increase along with the risk of basement flooding and environmental spills. Crews will not be able to respond in time to prevent basement flooding or sewage flowing to the environment.

<u>Increased costs and station breakdown</u>

Without the proper support of required staff, the sewage pumping stations and storm water stations will continue to be repaired in a reactive mode, and the level of maintenance will continuously erode. Currently, the Pumpwells group is falling behind in regular inspections and proactive maintenance, and this will become worse without the injection of new staff. Not having staff available to inspect, maintain and repair these Drainage Services infrastructures could ultimately result in station breakdown,

incurring basement flooding, environmental spills, Provincial and Federal fines and more costs to the City.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

These positions protect the environment (The Way We Green) through proactive improvements and effective management of the sewer system, preventing wastewater spills and basement flooding (The Way We Live). Effective maintenance to prevent environmental spills (The Way We Green) is also important to avoid Provincial or Federal fines (The Way We Prosper). These positions are needed to serve our growing City and the increasing number of mechanical sewage and drainage facilities (The Way We Grow; see figures 1 to 3).

4 Operational Efficiencies

The additional staff will improve operational efficiencies in the following ways:

Additional Millwright Foreman - with 24 (up to 27 with temporary staff) direct reports, the current single position is too busy to provide good field supervision. With the additional 9 staff to be added, an extra foreman is required for field supervision and staff management.

4.2 **Additional Mechanical staff** (Millwrights and repairmen) - These staff are needed to complete the required inspections and proactive maintenance. In 2014 (the only year with data due to the recent implementation of the SAP Maintenance Management system) 12% of this work was not done due to staff not being available. With the significant expected growth in the City's mechanical drainage facilities (15 major pumping stations, and numerous lake control gates), extra staff will be needed to maintain these facilities. Without new staff, the new stations will greatly erode our ability to maintain our stations properly to keep sewage out of basements and the environment.

Additional crews will allow the City to be divided into 6 rather than 4 districts, shortening driving times between stations, and ensuring a crew is close by when a station experiences problems.

4.3 **Additional Electrical & Instrumentation Position** - the 2017 addition of a new Electrical / Instrumentation (E/I) tradesperson will address the lack

of inspections and proactive maintenance being completed and help with the new stations coming on line.

Drainage Services has undertaken a number of initiatives to focus more electrical and Instrumentation trades attention on station maintenance and repair:

- Re-assigned 1.5 electrical and Instrumentation FTE to station work in 2014 due to outsourcing cctv camera repairs.
- Two new electrical and Instrumentation trades positions were added in 2014 and 2015.
- A remote system of gate inspections was implemented through site programming in 2014 (i.e. the central SCADA (computer control) system initiates a full cycle open/close of each gate. Only those gates where the sensors detect a failure to operate properly require an inspection by staff).

4.4 **Electrical /Instrumentation (E/I) Foreman** - Foreman activities are currently being shared between 2 E/I coordinators and a Senior Electrical Engineer. A foreman would free up time for the 2 coordinators to spend more time on station maintenance;would increase field supervision of staff; would set standards for performance; and would provide mentoring for new staff . The engineer's time would be freed up to work on site programming and high level maintenance planning.

5 Regulatory Drivers

Drainage Services operates The City of Edmonton' sewage and drainage collection systems under the Province's Environmental Protection and Enhancement Act (EPEA). Overflows from the system are also regulated by the government of Canada under the Fisheries Act. The pumpwells group in Drainage Operations looks after the proper operation, maintenance, repair and upgrading of the mechanical parts of the collection systems. The mechanical facilities that can impact the environment include:

- 70 existing sanitary & combined pumping stations, growing to 82 over the next few years.

- 3 Real time Combined Sewer Overflow (CSO) control gates. Two of these facilities were built in the 1990's with the third gate added to the system in 2015)
- 1 Oil separator on Mill Creek

Sanitary and combined pumping stations can spill sewage to the ground surface or to the river when problems arise. The pumpwell group reports on problems (e.g. spills) as required by the legislation and works with Alberta Environment and Parks as well as Environment Canada to improve systems where more frequent problems arise. For example, we have been working with an Environment Canada investigator (as well as the Province and Industry) to resolve recurring overflows at a pump station on the east side of the Beverly Bridge. High discharges from industry, combined with very limited pump station capacity are found to be the cause. Industry has worked to limit high flow releases and redirect stormwater, while the City is working on increasing the station's capacity. Regular maintenance of the pumps and electrical machines are the core work for the pumpwells group.

The 3 Real Time CSO control gates are located in the very large diameter sewers near the City's core. These gates close to limit high flows and store excess water in the tunnels, reducing or stopping sewage overflows from the system into the river. These gates are very effective in protecting the river from sewage and are part of the 10 year Combined Sewer Overflow Control program that the City (Drainage Services) has negotiated with the province to reduce the impacts of the combined sewer. Maintenance for these facilities is a growing area of responsibility for the pumpwells group. Work in these facilities requires staff to be on supplied air and working in dangerous confined space conditions.

The Mill Creek Oil Separator is a unique facility that pulls surface oil from the water of Mill Creek. It was built in response to several massive spills of oil to the creek in the 1990's and became operational in 2000. This facility continues to pull oil out of the creek in diminishing amounts, and stands as a central collection point should a large spill occur. Oil is collected in barrels and removed by trucks on a regular basis.

The additional staff will help the pumpwells group cope with station growth and resolve its current struggles with:

- Working on deep, dangerous, complex stations using supplied air (e.g. the new real time CSO control gate)
- Assessing and dealing with sediment accumulation in deep tunnels that erode storage capacity and cause odour.
- Cleaning debris and 'fatbergs' out of deep tunnel stations.

6 Funding Source/Financing Alternatives

- These positions will be fully funded through Utility rates.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	Todd Wyman		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 3 FTE(s) be approved for funding in the 2016-2018 Drainage Services Utility Operating Budgets at a total budget increase of $343,518 (based on full year operational requirement). The following is a description of the positions requested for the Infrastructure Planning sub-section within Drainage Planning:

For approval in 2016: 1 FTE
Total Budget: $111,124

a) One Water Resources Project Engineer (PE2): This includes a salary of $90,000 (based on the midpoint of salary range), and $21,124 for benefits and overhead, for a total budget of $111,124.

For approval in 2017: 1 FTE
Total Budget: $114,480

b) One Water Resources Project Engineer (PE2): This includes a salary of $92,718, (based on the midpoint of salary range), and $21,762 for benefits and overhead, for a total budget of $114,480.

For approval in 2018: 1 FTE
Total Budget: $117,915

c) One Water Resources Project Engineer (PE2): This includes a salary of $95,500 (based on the midpoint of salary range), and $22,415 for benefits and overhead, for a total budget of $117,915.

2. Positions Scope:

The Water Resources Project Engineer positions requested will contribute to the planning, development, and implementation of proactive strategies including city-wide flood mitigation works, land acquisition, overland flow management, creek bed erosion protection works, and sewer system odour mitigation. They will provide engineering expertise necessary to plan and implement long range capital programs and address risks and emerging challenges identified in the business plan. These include flood mitigation, protecting the receiving environment from stormwater discharges, and supporting new developments, especially in industrial areas.

These positions will be hired in succession, in the fourth quarter in each of 2016, 2017 and 2018.

3. Justification

3.1. **Why the positions are required**

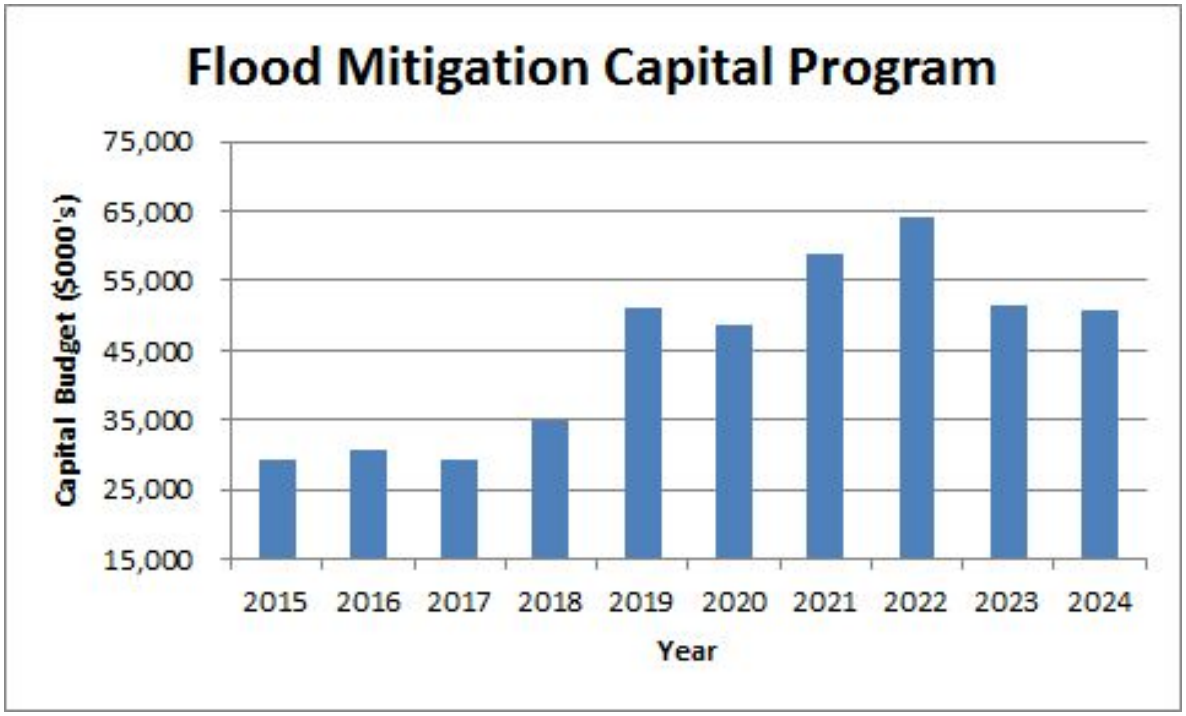
The Drainage Services capital budget will see a significant increase over the next 10 years from $171M in 2015 to $279M in 2024. This is the result of the need to undertake significant Flood Mitigation works, and continue a growing asset rehabilitation program.

In 2014, Drainage Services determined that current capacity could not meet the upcoming capital delivery requirements and began a detailed capacity assessment in 2015. In

consideration of this development, the Drainage Services 2016-2018 Business Plan, and long term goals of the Drainage Master Plan's Aspirational Plan, the following resources are identified for the Infrastructure Planning group.

a) **Water Resources Project Engineer -** Additional positions are needed to deal with the risks of climate change. These positions are required primarily due to increased workloads in the on-going flood mitigation programs (Expanded Flood Mitigation, Neighbourhood Flood Prevention, Opportunistic Flood Prevention), and the development and implementation of a proactive and a long-term City-Wide Flood Mitigation Program. The projected capital expenditures are shown in Figure 1 (below). The latter program that is currently being developed will address flooding in over 150 residential neighbourhoods and 28 industrial parks that are at risk of flooding in the event of large storms. A drainage program of this magnitude and coverage is the first of its kind to be carried out by any municipality in North America.

Figure1 - Flood Mitigation Program, 2015-2024

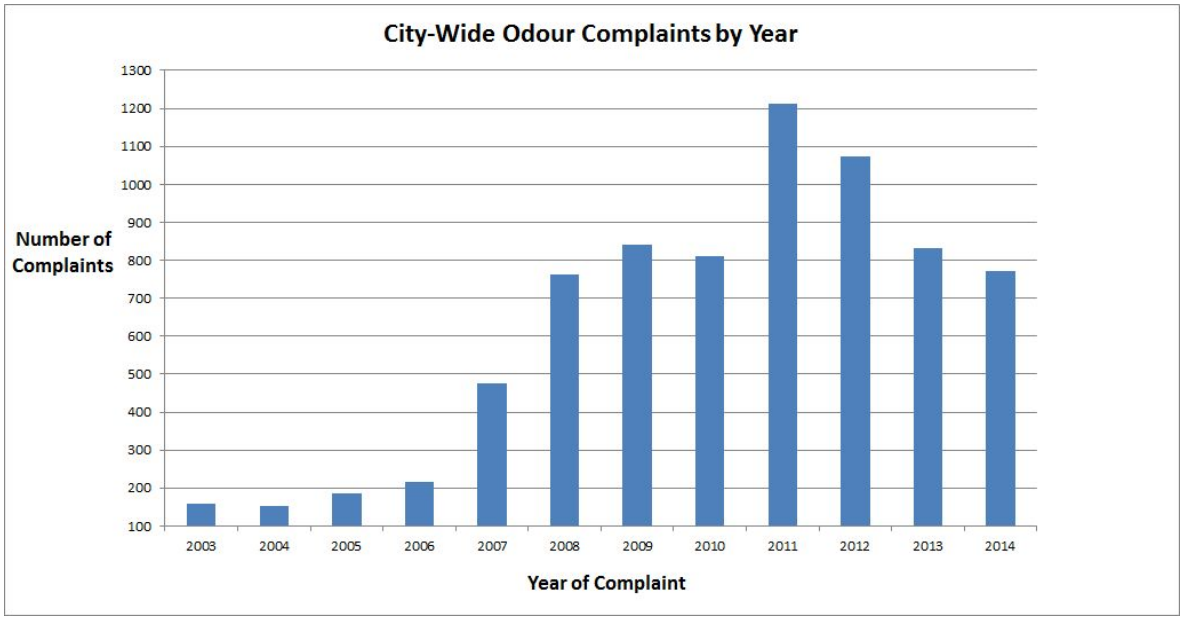


Currently, staff resources are not set up to manage potential new lines of business anticipated from this program (new type of outfalls, regulatory work requirement and

environmental assessment). Key activities under this program will include city-wide land acquisitions (including school sites/green spaces and wetlands) for storm ponds, undertaking feasibility studies, environmental and geotechnical assessments, public and stakeholder consultations, overall program development and establishment, and engineering design support.

In addition, workloads to address sanitary system odour emissions have also increased. The City has received over 8,000 odour complaints over the last decade (see Figure 2). Targeted odour hot-spot areas need to be investigated. city-wide program needs to be developed. This program is expected to generate over 30 new projects with a number of associated engineering measures and research activities that will need to be implemented. Primary activities under this program will include undertaking feasibility studies, public and stakeholder consultations, overall program development and establishment, and engineering design.

Figure 2 - Odour Complaints 2003-2014



The positions are also required in part due to increased workload to investigate, evaluate, and carry out overland drainage remedial works and creek protection works due to increased runoff originating from urban development. The City receives 35-40 citizen complaints each year regarding flooding issues and unsafe conditions resulting from

overland flows. These complaints need to be investigated in a timely manner, prioritized, and addressed.

3.2. **Risk/Implications of NOT hiring**

The 2016-2018 business plan identifies emerging issues associated with flood mitigation and sewer asset renewal. At current staffing levels and increasing project demands, if these proposed positions are not hired, the following risks are likely to be realized:

- Delayed concept planning and delivery of capital works, resulting in missed project milestones, lessened budget control, and/or reduced quality of projects;
- Reduced effectiveness for strategic planning and implementation of long range capital program objectives resulting in multiple or prolonged visits to neighbourhoods;
- Not being able to address citizens' concerns and inquiries in a timely manner;
- Not able to implement proactive projects to address the needs of our customers;
- An increase in incurred overtime costs, and
- Low staff morale (and/or increased staff turnover) as employees become overloaded.

3.3. **Alignment with The Ways (Social/Environmental/Safety/Economic)**

These positions align with The Way We Green through proactive watershed improvements and effective management of drainage infrastructure; The Way We Live through protection of public health, reduced risk of flooding, and service to citizen; The Way We Grow through support of orderly growth support by provision of system capacity for new developments as well as infill; and The Way We Finance, through well-planned, effective and efficient planning and renewal of infrastructure.

4. Funding Source / Financing Alternatives

These positions will be funded through Utility rates. It is estimated that the equivalent of 1.75 FTE positions will be recovered through capital budget.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	Todd Wyman		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 1 FTE be approved for funding in the 2016-2018 Drainage Services Utility Operating Budgets at a total budget increase of $93,081 (based on full year operational requirement). The following is a description of the position requested for the Infrastructure Planning sub-section within Drainage Planning:

For approval in 2016: 1 FTE
Total Budget: $93,081

a) One Project Controls Specialist (Financial Analyst): This includes a salary of $75,000 and $18,081 for benefits for a total budget of $93,081

2. Positions Scope:

- The Project Controls Specialist position requested will support the Infrastructure Planning sub-section by monitoring both efficiency and effectiveness of mandated services delivered. This position will provide technical expertise to benchmark and assess key performance indicators for the capital and operating budgets, perform critical analysis and forecasting of infrastructure costs, perform life-cycle cost analysis for project

prioritization and to support long term resource planning, maintain financial/ growth forecasting models and develop business cases.

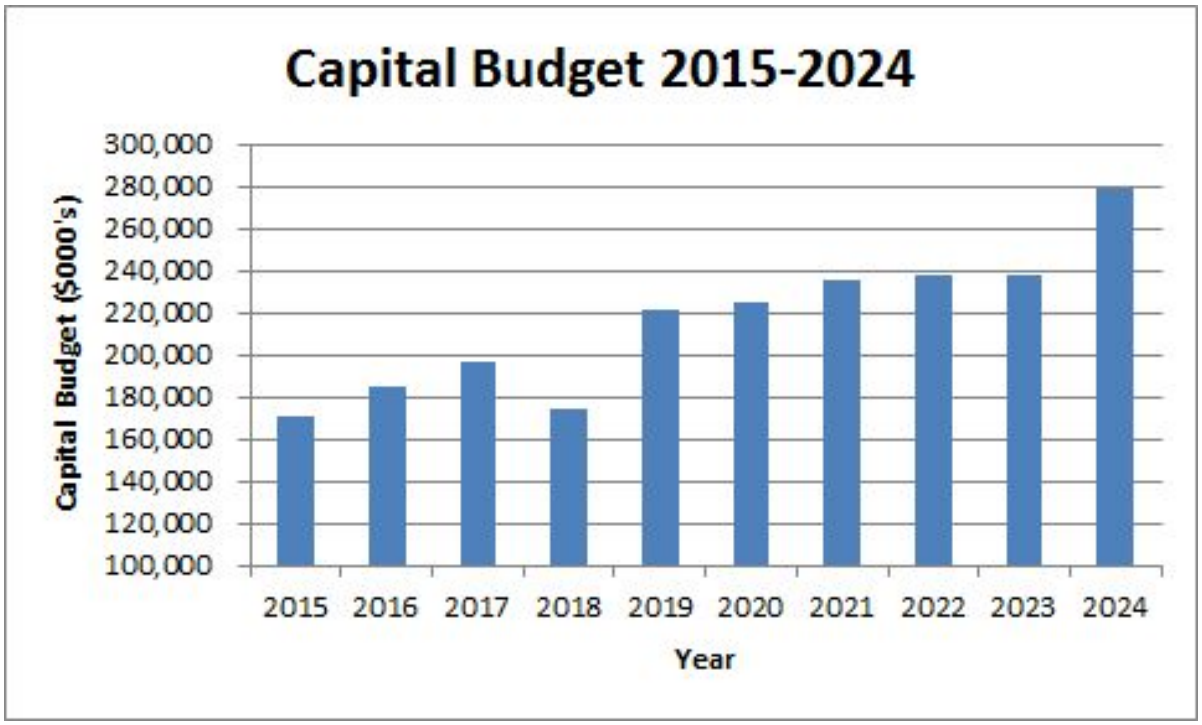
- This position will be hired in the third quarter of 2016.

3. Justification

3.1. **Why the positions are required**

The Drainage Services capital budget will see a significant increase over the next 10 years from $171M in 2015 to $279M in 2024 (see Figure 1). This is the result of the need to undertake significant flood mitigation works, and to continue a growing asset rehabilitation and upgrading program. Compared to 2014, the capital budget will increase by 45% by 2017 and by 106% in 2024.

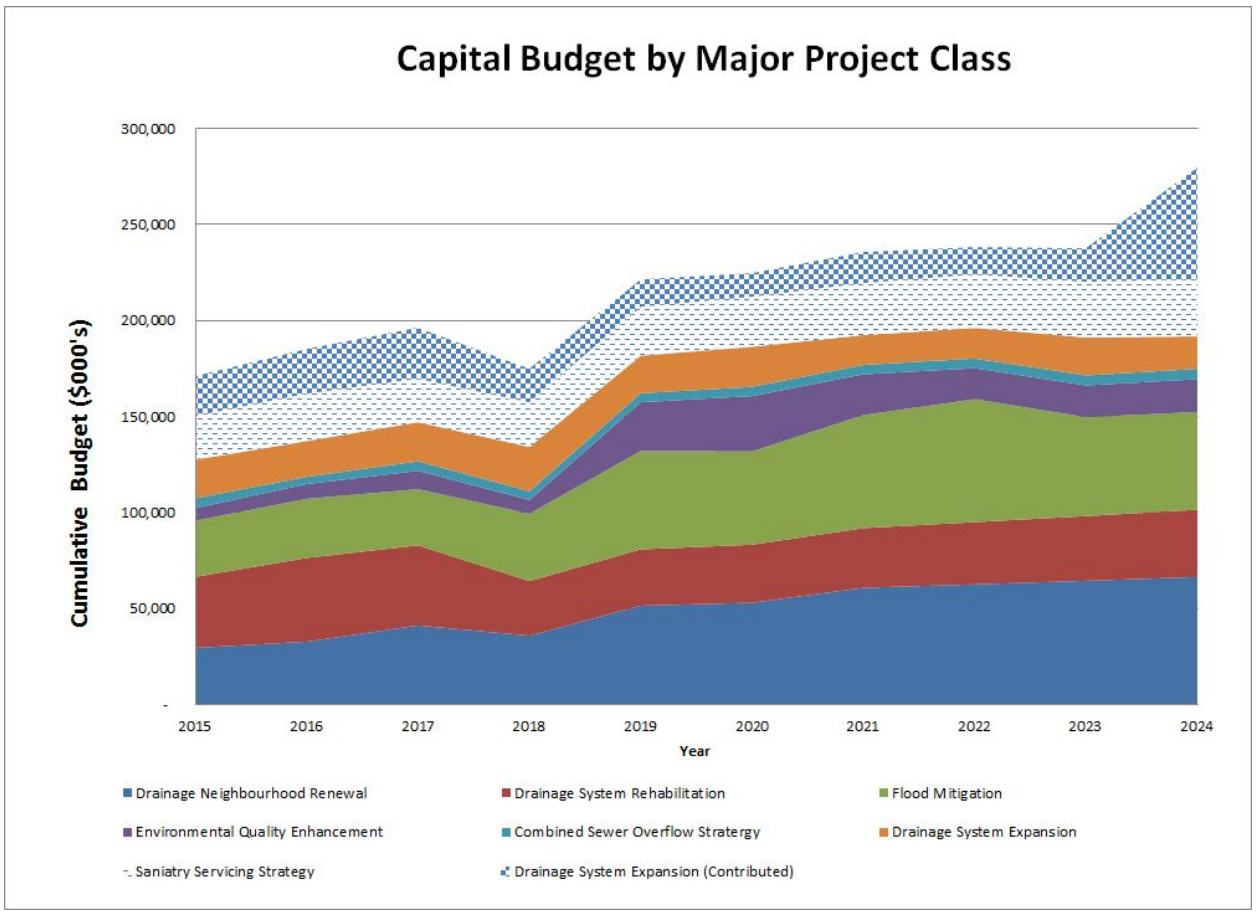
Figure 1 - Drainage Capital Priorities Plan



In 2014, Drainage Services determined that current capacity could not meet the upcoming capital delivery requirements and began a detailed capacity assessment in 2015. In consideration of this development, the Drainage Services 2016-2018 Business Plan, and long term goals of the Drainage Master Plan's Aspirational Plan, the following resource was identified for the Infrastructure Planning group.

a) **Project Controls Specialist -** This position is required to support Infrastructure Planning in capital and operating budget planning, scheduling, and project performance tracking. Currently, programs are managed and tracked by individual project/program managers. Due to expanding capital activities (see Figure 2 for planned works by major project class) it is increasingly important to have a dedicated position to assist the Senior Engineer of Capital Planning coordinate various activities related to capital/operating budget in order to maximize value of investments and services provided. This position is needed to provide oversight for complex capital programs and improve the overall process including progress tracking, variance explanations, financial model updates and analysis (e.g., Sanitary Servicing Strategy Fund model and Biosolids Financial model), and coordination with various program managers within the section, Drainage Design and Construction, and Finance. This position will also provide further analysis to ensure capital budget impacts are fully analyzed and incorporated into operating budgets using a full life-cycle costing approach.

Figure 2 - Major Project Classes



This position will support a corporate mandate to continuously improve the project management process through performance benchmarking. It will define and monitor internal key performance indicators (KPI's) and benchmark the performance and effectiveness of the overall group delivery approach to develop more implementation synergies, and recommend corrective actions accordingly. This is consistent with achieving our goal of organizational excellence identified in the Drainage Master Plan's Aspirational Plan.

The Infrastructure Planning group is responsible for planning and managing various programs and initiatives such as:

- Sanitary Servicing, Strategy Program
- Neighborhood Renewal Program
- Sewer Upgrading Strategy

- Infill Assessment initiatives
- Drainage Sewer Rehabilitation Program
- Service Connection Renewal Program
- Flood Mitigation Program
- Odour Control Program
- Opportunistic Sewer Separation
- River for Life Strategy
- Low Impact Development
- Biosolids Management Strategy

The addition of this position will provide a collective, consistent and integrated approach in developing short and long term prioritization, and evaluating the performance and effectiveness of section's delivery approach to support the increasing demand of capital planning and operational budget requirements. Being a single and dedicated contact person, this will improve internal communication, coordination and collaboration within Drainage Services and between City Departments.

3.2. **Risk/Implications of NOT hiring**

The 2016-2018 business plan identifies emerging issues associated with flood mitigation and sewer asset renewal. At current staffing levels and increasing project demands, if these proposed positions are not hired, the following risks are likely to be realized:

- Delayed concept planning and delivery of capital works, resulting in missed project milestones, lessened budget control, and/or reduced quality of projects;
- Reduced effectiveness for strategic planning and implementation of long range capital program objectives resulting in multiple or prolonged visits to neighbourhoods;
- Not being able to address citizens' concerns and inquiries in a timely manner;
- Not able to implement proactive projects to address the needs of our customers;
- An increase in incurred overtime costs, and
- Low staff morale (and/or increased staff turnover) as employees become overloaded.

3.3. **Alignment with The Ways (Social/Environmental/Safety/Economic)**

This positions align with The Way We Green through proactive watershed improvements and effective management of drainage infrastructure; The Way We Live through protection of public health, reduced risk of flooding, and service to citizen; The Way We Grow through support of orderly growth support by provision of system capacity for new developments as well as infill; and The Way We Finance, through well-planned, effective and efficient planning and renewal of infrastructure.

4. Funding Source / Financing Alternatives

The position will be fully funded through Utility rates.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	Todd Wyman		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 2 FTE (s) be approved for funding in the 2016 – 2018 Utility Operating Budget at a total budget increase of $225,604 (based on full year operational requirement). The following is a description of the position(s) requested for Drainage Planning section:

For approval in 2016: 1 FTE
Total Budget: $111,124

a) One Infrastructure Engineer (PE2): This includes a salary of $90,000 (based on the midpoint of salary range), and $21,124 for benefits and overhead, for a total budget of $111,124.

For approval in 2017: 1 FTE

Total Budget: $114,480

a) One Infrastructure Engineer (PE2): This includes a salary of $92,718 (based on the midpoint of salary range), and $21,762 for benefits and overhead, for a total budget of $114,480.

2. Position(s) Scope:

- The first Infrastructure Engineer position requested will develop and manage projects and initiatives related to Drainage System Condition Assessment. The Infrastructure Engineer will carry out work related to the following functions: Manage the pump station condition assessment program and provide prioritized inspection plans for critical stations and collect station specific replacement value; Manage the Proactive Trunk Sewer Inspection Plan, review its effectiveness, and update the Inspection Plan periodically; Manage the condition assessment program for Trestles, Stormwater Management Facilities, Outfalls and other asset types as necessary; Support system rehabilitation planning for all asset groups based on condition assessment output; Analyze and utilize asset management data to inform management decision making; Support long term infrastructure planning strategies by identifying needs for inspection, assessment, and forecasting rehabilitation requirements. This position will be hired in 2016, if funded.
- The second Infrastructure Engineer position requested will contribute to the planning, development, and implementation of proactive strategies for drainage system asset renewal, rehabilitation and upgrading, including mature neighbourhoods and infill areas. This position will apply engineering expertise necessary to address aging infrastructure under a coordinated long range capital programs.

- This position will be hired in the fourth quarter of 2017.

3. Justification

3.1. **Why the positions are required**

The 2015 Utilities Budget indicated that Emergency Repairs have increased by over 30% for the period between 2009 and 2013. These emergency repairs include items such as sewer main breaks, pump station failures and forcemain leaks, service connection repairs, etc. In 2009 these costs were $6.5 Million, and increased to $14.2 Million in 2013. The current 2015-2018 Capital Budget has approx. $12 Million allocated per year due to the rising trend of increasing failures and problems. The unexpected nature of the work performed under the High Priority Repair Program, in combination with the increasing costs and amount of aging infrastructure, is not in alignment with "Sustainable Infrastructure". It is noted that the emergency repairs are significantly more expensive than proactive maintenance and rehabilitation. In other words, increasing the efforts under assessment and rehabilitation will be more sustainable in the long term.

Drainage Master Plan Goal 4: Sustainable Infrastructure has two key performance measures.

Table 1: Sustainable Infrastructure Performance Measures

Performance Measure	Current	3 Year Target	5 Year Target	10 Year Target
Percentage of infrastructure at or above the minimum level of condition rating	90.8%	90%	90%	90%
Percentage capital (as rehabilitation) re-invested compared to total system replacement value	0.35%	0.7%	0.9%	1.5%

Table 1 shows the plan to increase the capital expenditure on rehabilitation by two times in the next 3 years, and continue to increase. The increase is needed so that the rehabilitation efforts will offset the system deterioration and maintain the acceptable level of condition rating. In order to achieve the minimum condition rating (as it varies for different assets types), it is necessary to know what condition the assets are in. Complete and accurate condition information will allow for effective rehabilitation plans, and this will ensure that the capital will be spent on the right asset, at the right time.

This increase in rehabilitation expenditure will require inspection plans and condition data collection, and assessment in order to prioritize projects. Current resources will not be able to undertake the additional workload.

With the aim to reduce the amount of High Priority/Emergency Repair projects and increase the capital expenditure on rehabilitation, increased efforts are needed in other areas, such as inspection, assessment and rehabilitation. Furthermore, it is necessary to prioritize all rehabilitation work in a defensible manner using asset management best practices, such as a risk-based approach. The benefit of this will be reduced interruption in service to customers, less impact to the environment, and protection of public health and safety.

a) Infrastructure Engineer (2016)

This first position is required to initiate, expand, and manage condition assessment programs and plans. Due to the large number of assets and asset types that comprise the Drainage system, the amount of information and analysis required will continue to increase.

Currently the System Condition Assessment team is comprised of one (1) Senior Engineer, and one (1) Engineering Technologist. This team is operating at capacity to meet the present workload. This includes the annual update for the Office of Infrastructure, Structural Condition Rating for pipes, some inventory analysis and data management, initiating development of Condition Assessment Programs for Pump Stations, and Stormwater Management Facilities. Condition Assessment Programs are only just being developed, and once developed will need to be managed, evaluated, and continuously improved to allow for efficiency and accuracy as time passes and drainage assets age.

The primary focus for the team is directly related to the “System Rehabilitation” Capital Program. As such, this team is responsible to provide corresponding assessments and (inspection and rehabilitation) plans, in a prioritized, defensible manner. The System Rehabilitation program consists of; Sewer System Upgrading Projects, Structures Rehabilitation, Sewer Rehabilitation, High Priority Repair, and some specific localized projects (Groat Rd, and 30th Ave). Overall this includes a number of asset types, like; Trunk Sewers, Outfalls, Pump Stations, and Drill Drop Manholes. Other asset types not listed under this program, but have been in the past, or could be added to it are: Trestles, Stormwater Management Facilities, Odour Control Facilities, and Storage Tanks.

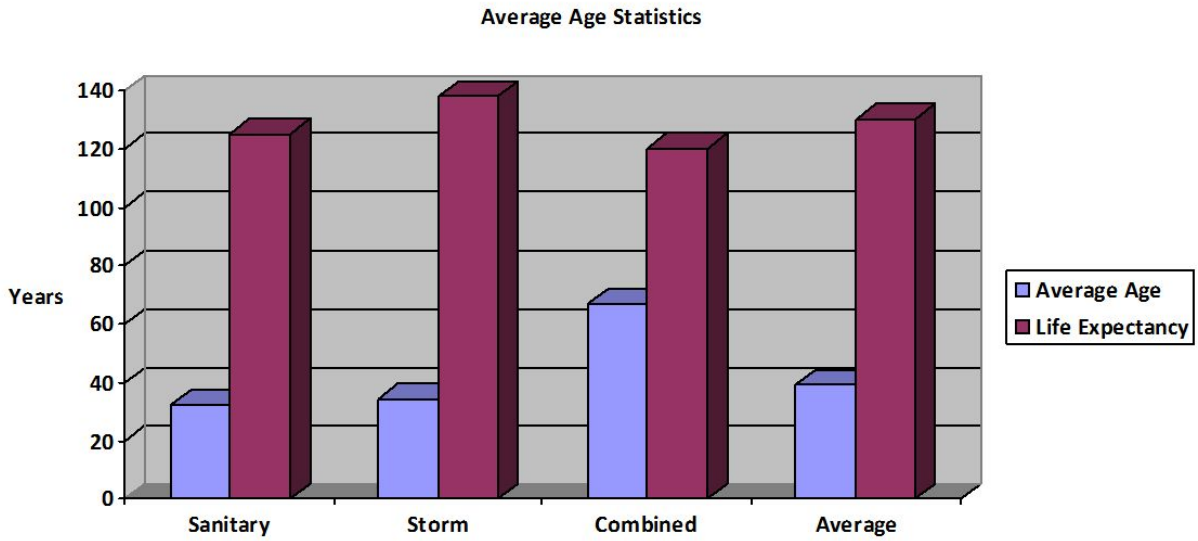
The fact that the system is aging and at the same time expanding as new development and in-fill continues, creates a significant need for efficient processes related inventory data management, inspection planning, analysis and decision support for rehabilitation planning. Furthermore, this needs to be a continual improvement process. Therefore it is necessary to have the resources capable of collecting and analyzing large amounts of information, and to evaluate the effectiveness of plans on a continual basis.

Infrastructure age is also a key factor in the need to increase assessment and rehabilitation efforts.Table 2 and Figure 1 shows the system piping average age and life expectancy, for each waste type.

Table 2: System Piping Average Age and Life Expectancy by Type

	Length (km)	Age (Year)	Life Expectancy (year)
Sanitary	2,306	32.4	125
Storm	2,514	34.5	138
Combined	944	66.9	120
Weighted Average (by Length)		39	130

Figure 1: System Piping Average Age and Life Expectancy by Type



Average age for piping has tended to rise by less than 1 year per year, due to system expansion (new pipes), and current rehabilitation and replacement efforts. However, as the system ages, the number of older pipes requiring rehabilitation could increase more rapidly. Further analysis is required to forecast the periods where a large number of pipes may need rehabilitation, and to proactively carry out the work in order to more evenly distribute the capital over time, rather than large spikes.

For other assets like Pump Stations, the average age is approximately 26 years, with components such as pumps and electrical, having a life expectancy of about 20 years, and buildings 50 years. Therefore, many stations will require rehabilitation to replace these aging components.

For Outfalls, the average age is approximately 42, with a life expectancy of about 90 years. Therefore, many of these structures have reached the mid-point in their lifecycle, and will require proper assessment and planning to ensure that the right outfalls are replaced or rehabilitated at the right time.

b) Infrastructure Engineer (2017)

The second position is required to conduct planning and management of renewal, rehabilitation and upgrading projects of drainage infrastructure, primarily to share

increasing workloads. The workloads are increasing partly due to implementation of sewer system upgrading projects, upgrading study and the necessity of infill assessment in mature neighbourhoods, implementation of service connection renewal and concept plan reviews.

Drainage System Rehabilitation Program works which include structural rehabilitation and sewer rehabilitation are also continuously expanding to include more pro-active plan and implementations. These works require budget planning, project prioritization, schedule and budget follow up, more coordination and communication within Drainage Services and with City Departments and other external stakeholders.

Moreover as part of Infrastructure Planning, Priority Asset group is responsible for planning and managing many major drainage initiatives and projects such as Neighbourhood Renewal Program, Sewer Upgrading Strategy Projects, Mature Neighbourhoods Upgrading Study and Infill Assessment, Drainage Sewer Rehab Program, Servicing Downtown Intensification and Service Connection Renewal Program. As a result this group is responsible for reviews of and responding to diverse and increasing number of inquiries from public, council, other city departments and internal Drainage Services.

Table 3: Time Allocation for System Renewals Group

Programs/Initiatives	Project Hours Required
Administrative/Management	480
Neighbourhood Renewal Program Coordination	502
Sewer Upgrading Strategy	2038
Service Connection Renewal	621
Sewer Rehabilitation	451
Structures Rehabilitation	551
High Priority Repairs	510
CSO Control Program Implementation	315
Planning Studies/Research	975

Internal/External Inquiries	885
Corporate Initiatives	360
Total Estimated Hours	**7688**

Time Allocation, System Renewals group

As shown in Table 3, at 1575 hours of work per year per FTE, at least one FTE is required to fulfil the demands of the group.

Table 4 shows a high-level breakdown of the required resources versus the current resources, to implement the related directives of the Drainage Master Plan, namely Goal 4: Sustainable Infrastructure.

Table 4: Required Resources vs. Current Resources

Directive/Task for Drainage Planning related to these two positions	% of Team Time Needed (Team based on additional 2 FTE's)	% Covered with current resources	Gap or deficit in resources
Proactive maintenance, rehabilitation and replacement of assets through increased monitoring, inspection and condition assessment	30%	5%	25%
Integrate an asset management philosophy into day-to-day activities to extend responsibility across Drainage Services	10%	5%	5%
Enhance the Process around data gathering and link the data more effectively into the planning, design, and construction, and maintenance phases	40%	15%	25%
Other duties (Corporate Reporting, Project specific requests and inquiries, Supervisory duties)	20%	20%	
Total	100% (Meet all targets)	45% (Current team)	55% (Gap to be filled)

As shown from the Table 4 above, in order to achieve the goals and performance targets, it requires approximately 55% more resources then is currently available. It is proposed that the 2 full time FTE's requested will be sufficient to fill this gap.

3.2. **Risk/Implications of NOT hiring**

The 2016-2018 business plan identifies emerging issues associated with sewer asset renewal. At current staffing levels and increasing project demands, if these proposed positions are not hired, the following risks are likely to be realized:

- Delayed concept planning and delivery of capital works, resulting in missed project milestones, lessened budget control, and/or reduced quality of projects;
- Not able to implement proactive projects to address the needs of our customers;
- Low staff morale (and/or increased staff turnover) as employees become overloaded.
- Management decision making would not be based on leading asset management practices.
- Costly repairs and replacements that may have been identified earlier on and been able to have employed more cost-effective rehabilitation methods.
- Drainage would be unable to integrate innovative data collection and analysis tools to support effective and efficient decision making.

Furthermore, there is a need to provide long-term planning of all Drainage assets, and the condition assessment programs and inspection plans will provide the foundation for asset management.

3.3. **Alignment with The Ways (Social/Environmental/Safety/Economic)**

Citizens well served – reduce the risk of flooding, proactive infrastructure upgrades and system capacity maintenance.

Sustainable Infrastructure – enhance the process around data collection, analysis and application and use the data to effectively assess and evaluate drainage system.

4. Funding Source / Financing Alternatives

These positions will be funded from Utility rates. It is estimated that the equivalent of 0.50 FTE will be recovered through capital budgets for the 2017 position.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-18 Operating Budgets

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	Todd Wyman		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 9 FTE (s) be approved for funding in the 2016 - 2018 Drainage Services Utility Operating Budget at a total budget increase of $938,471 (based on full year operational requirement). The following is a description of the position(s) requested for the Growth and Land Development section:

For approval in 2016:9 FTEs
Total Budget: $938,471

a) One Senior Engineer (PE3): This includes a salary of $105,000 (based on the midpoint of salary range), and $23,250 for benefits and overhead, for a total budget of $128,350.

b) Three Development Engineers (PE2): This includes a salary of $90,000 (based on the midpoint of salary range), and $21,124 for benefits and overhead, for a total budget of $111,124 per FTE.

c) Three Engineering Technologists II (ET2): This includes a salary of $76,816 (based on Step 3 of salary range), and $18,534 for benefits and overhead, for a total budget of $95,350 per FTE.

d) Two Engineering Technologists II – Inspectors (ET2)**:** This includes a salary of $76,816 (based on Step 3 of salary range), and $18,534 for benefits and overhead, for a total budget of $95,350 per FTE.

2. Position(s) Scope:

- The **Senior Engineer** will lead a team of professional technical staff in the evaluation of proposals and submissions for Infill Development for all stages of the land development process and for preparation of responses on behalf of Drainage Services.
- One **Development Engineer** will report to the new senior engineer for Infill and will ensure that the developing infill lots have adequate drainage servicing that meets the expected service level and that the long term operation and maintenance costs are reasonable and not a prohibitive burden to the City and its residents.
- Two **Development Engineers** will ensure that lots which are developed and sold by developers to the general public have adequate drainage servicing that meets the expected service level and that the developer funded and built drainage facilities' long term operation and maintenance cost are reasonable and not a prohibitive burden to the City and its residents.
- Three **Engineering Technologists II** will undertake the review aspect of the review and approval processes relating to all customers' submissions involving storm and sanitary servicing at planning, development, and construction stages.
- Two **Engineering Technologists II Inspectors** will conduct all necessary site inspections during the construction of drainage facilities on projects funded and initiated by developers; and participate in the processing of Construction Completion and Final Acceptance Certificates through site inspections and review of documents required by the approved engineering drawings, servicing standards and specifications, and Servicing Agreements.
- These positions will be hired in the fourth quarter of 2016. Process review will provide additional justification and identify specific timing of hiring based on need.

3. Justification

3.1. Why the positions are required

The positions requested will address desired improvements in two basic areas:

1. Need to respond to increased volume of work
2. Need to achieve performance goals

In addition to the overall growth in development within the City, the current development model is evolving to include a significant growth component from Infill Development and other complex applications. The additional staff will be used to resource a team that can respond to growth and land development including Infill in a timely manner while being flexible to the workload in the various steps of the land development processes. This would allow staff to maintain their health and wellness, as well as providing the expected development review deliverables.

These resources will provide a baseline level of service that will allow the responses and approvals to be conducted in a timely manner while ensuring that the drainage infrastructure being built will be effective and efficient. The additional resources will also provide some flexibility to respond to increased workloads that occur when the development industry becomes very busy. A team that is focused on Infill will allow the extensive and complicated analysis of the existing drainage systems to be evaluated with the attention it needs while not jeopardizing review for green field development.

Internal reorganization from Private Development to Growth and Land Development took place at the beginning of 2014 and added, in addition to Infill, the responsibilities for review of Transportation concept plans and higher level planning document reviews (ASP and AMP) that were previously done outside the group.

In addition to workload growth, Drainage Services has established key performance measures that relate to delivery of services to external and internal customers. For both engineering drawing reviews and land development application reviews, the current response timeliness is below targets.

These new positions request aligns with the goals set out in the Drainage Master Plan.

- Healthy Living and Environmental Stewardship: these positions will help ensure the systems constructed will function effectively and efficiently leaving the residents healthy because the sewage is conveyed away from them and will reduce overflows to the environment.
- Citizens Well Served: these positions will enhance our ability to ensure a consistent and high level of storm and sanitary drainage services is provided.
- Supporting and Enhancing Growth and Development: These positions will allow us to respond to industry in a timely manner while ensuring the best drainage systems are constructed. This allows the City to grow through the provision of this essential service, and supports greener development.
- Sustainable Infrastructure: these positions will help ensure that the infrastructure constructed is done to improve sustainably.

3.2. **Risk/Implications of NOT hiring**

The risks of not hiring these positions are:

- reduced timeliness of response to land development submissions,
- reduced timeliness of response to internal client submissions,
- reduced overall quality of review,
- more overtime occurring and overworked employees leading to impacts on their health and wellness, and more staff turnover.

The impact of delays in responses will result in a slowing down of development within the City both in green field and especially infill areas. As well, if review quality is reduced, then there may be impacts on the service levels expected by the public and on the long term operation and maintenance costs. The result of these impacts would be an increase in complaints to administration and council.

3.3. **Alignment with The Ways (Social/Environmental/Safety/Economic)**

This aligns with THE WAY WE GROW, THE WAY WE GREEN, THE WAY WE FINANCE and THE WAY WE LIVE. This alignment is as a result of the relationships between the function of our systems and the preservation of public health and the environment while allowing the City to expand through development in a financially responsible way and following the vision of Council.

3.4. **Comparable Reference Data (if available)**

Data from Sustainable Development shows the growth trend for the number of single family lots from signed servicing agreements as follows:

Year	2012	2013	2014
Total Lots	5199	5450	7576

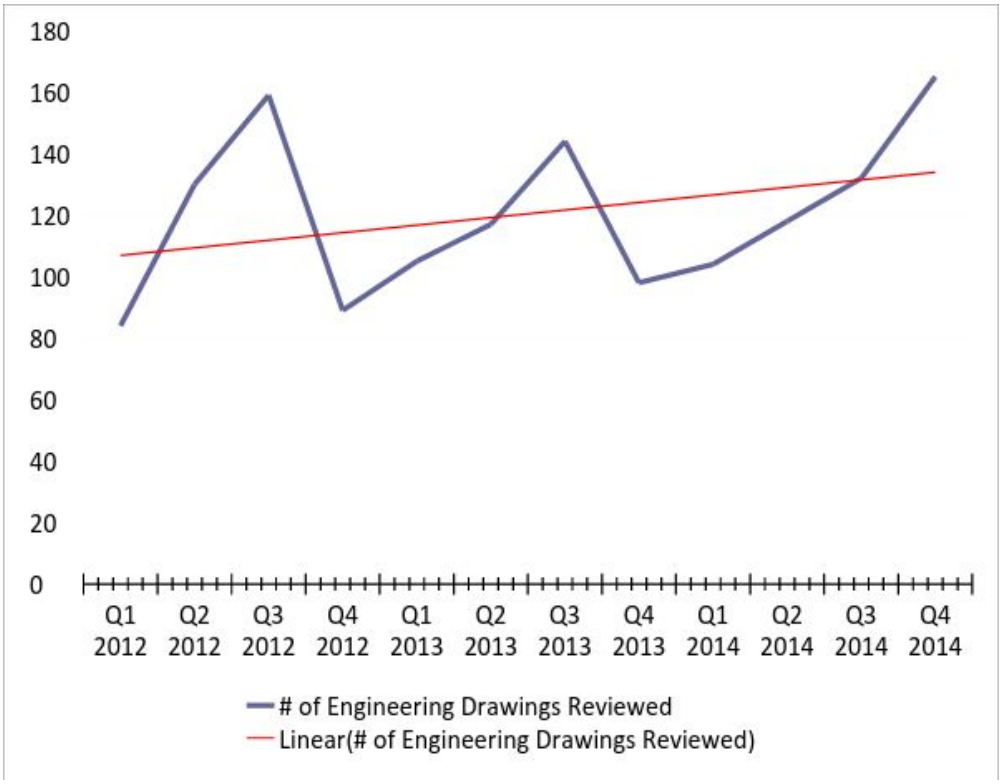
This is one of the general measures used for assessing development activity, but does not include some areas such as industrial and commercial development.

The City is establishing an engineering drawings baseline of 150 to 175 projects per year as part of an internal Service Level Agreement. Each project usually has a minimum of 3 submissions (reviews) and often 4 or more resulting in approximately 450 to 700 reviews being required in a year. Currently, we have the equivalent of 6 staff under two Senior Engineers assigned to drawing reviews, however, all staff members have other position duties as well. In the last three years (2012-2014) we have completed 462, 464, and 519 drawing reviews respectively, with some of the reviews done at the expense of land development application reviews and with staff working overtime, and in 2014, enlisting the help of others. Within the same time

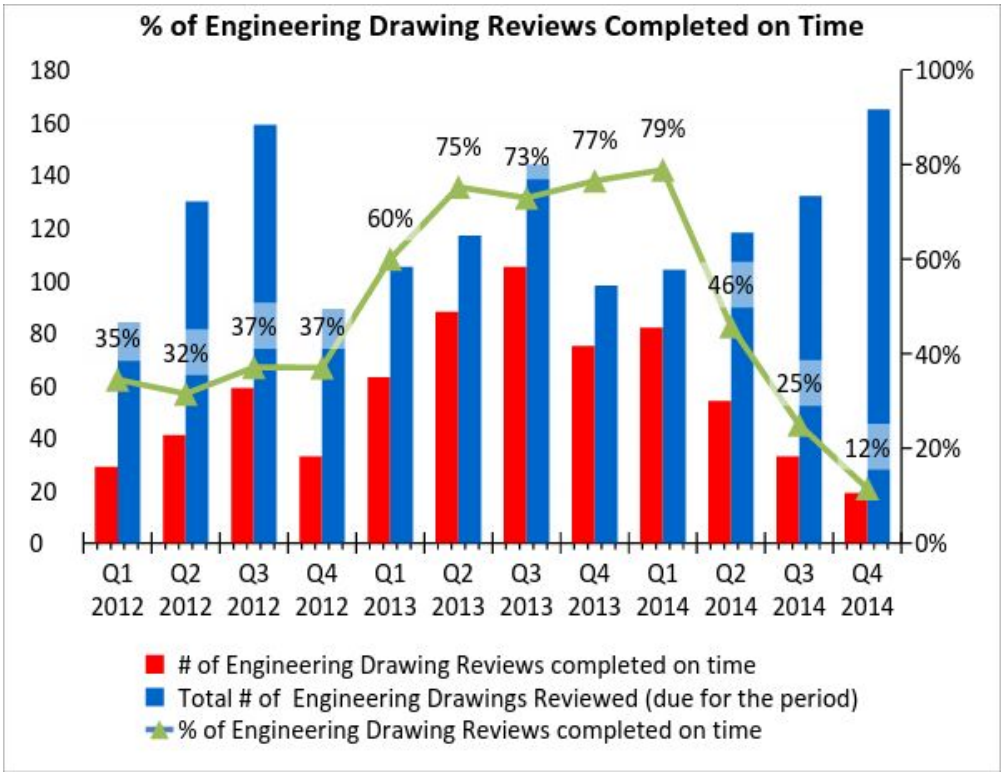
period for the reviews that were completed, only 35%, 71%, and 36% were completed on time compared with the performance measure target of 80%.

Engineering Drawing Review	2012	2013	2014
Average FTEs	8	11	13 *
# of Engineering Drawing Reviews completed on time	162	331	188
# of Engineering Drawings Reviewed	462	464	519
% of Engineering Drawing Reviews completed on time - Target 80%	35%	71%	36%
Variance vs Last Year		104%	-43%

Note: * For 2014, FTEs at year end - Internal reorganization and resignation of key staff in first half of 2014. FTEs include all staff assigned to both engineering drawing review as well as land development application review.



Upward trend for drawing review workload



Currently, our average on-time response rate for land development applications (LDA) is 46%, less than our Drainage Services Business Plan target of 80% for 2016 - 2018. These additional positions will help us to improve that rate.

		2012	2013	2014
LDAs Completed on Time	% of Land Development Application (LDA) Reviews completed on time	48%	29%	46%
	# of LDAs reviewed on time	307	227	357
	Total # of LDA applications Reviewed (due for the period)	642	789	771

In addition to the requested FTE's the area is conducting a process review of all drainage related LDA activities. Though we are anticipating efficiency and effectiveness gains resulting from the review, we will need to strategically hire new personnel to meet the baseline needs and address the negative trends.

4. Funding Source / Financing Alternatives

- Approximately, 50% of these positions will be funded by Utility rates and 50% recovered through development fees.

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016 - 2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	Albert Kwan		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 7 FTEs be approved for funding over the 2016 to 2018 Drainage Services Utility Operating Budget at a total budget increase of $781,417. The following is a description of the positions requested:

For approval in 2016: 3 FTEs
Total Budget: $334,824

a) One Senior Design Engineer (PE3): This includes a salary of $105,000 (based on the midpoint of salary range), and $23,250 for benefits and overhead, for a total budget of $128,350.

b) One Specification Engineer (PE2): This includes a salary of $90,000 (based on the midpoint of salary range), and $21,124 for benefits and overhead, for a total budget of $111,124.

c) One Engineering Technologist (ET2): This includes a salary of $76,816(based on Step 3 of salary range), and $18,534 for benefits and overhead, for a total budget of $95,350.

For approval in 2017: 3 FTEs
Total Budget: $328,679

a) One Senior Structural Engineer (PE3): This includes a salary of $108,171 (based on the midpoint of salary range), and $25,389 for benefits and overhead, for a total budget of $133,560.

b) One Engineering Technologist (ET2): This includes a salary of $78,822 (based on Step 3 of salary range), and $18,738 for benefits and overhead, for a total budget of $97,560.

c) One Drafting Technologist (ET2): This includes a salary of $78,822 (based on Step 3 of salary range), and $18,738 for benefits and overhead, for a total budget of $97,560.

For approval 2018: 1 FTE
Total Budget: $117,915

a) One Design Engineer (PE2): This includes a salary of $95,500 (based on the midpoint of salary range), and $22,415 for benefits and overhead, for a total budget of $117,915.

These positions will support Drainage Services in meeting the public and customer service demands relating to the provision of adequate drainage servicing and renewing the City's aging drainage infrastructure.

2. Positions Scope:

These positions will be used to conduct various design activities in assigned projects.

For approval in 2016:

Senior Design Engineer (PE3): This position will report to the General Supervisor of Design. This position will lead and manage a team of engineers and engineering technologists to deliver engineering design services for the Sewer Upgrading Program in

coordination with the Drainage Neighbourhood Renewal Program. The key responsibilities of this position will include:

- Managing and leading in-house design team and external consultants for the delivery of design services for the Drainage Neighbourhood Renewal and Sewer Upgrading Programs.
- Preparing annual work plan and schedule for the in-house design team to ensure that proper performance measures are developed and tracked.
- Acting as the Design Manager for the different projects in the capital program and developing the design management plans, reviewing design deliverables and stamping drawings.
- Leading the procurement process for external consultants such as preparing the "Requests for Proposals", addressing inquiries, evaluating proposals and awarding the contracts.

Specification Engineer (PE2): This position will report to the Senior Specification Engineer. This position will support the senior engineer with the conducting of research and evaluation of products, materials, and methodologies for drainage projects, as well as establish specifications and estimation information repository, and approve third party designs. The key responsibilities of this position will include:

- Developing and maintaining inventory of engineering products, materials and methods for construction in drainage projects.
- Collecting project information (including site visits and survey), analyzing data for technical studies for the purpose of research and evaluation of products, material and methodologies in drainage construction.
- Reviewing third party design submissions, providing comments and approvals so that proper standards and requirements are maintained.

Engineering Technologist (ET2): This position will report to the Senior Specification Engineer. This position will help the senior engineer to manage and maintain outline agreements for the purpose of delivering drainage construction projects. The key responsibilities of this position will include:

- Maintaining the Drainage Design & Construction outline agreements database including the development of the tool associated with the acquisition, construction and housing of the database.
- Soliciting inputs on expiring outline agreements, and liaising with Corporate Procurement & Supply Services and procurement managers to address comments in tender documents.
- Updating SmartEst library (material, labour and equipment), outline agreements database, bid database and providing status reports.

These positions will be hired in the fourth quarter of 2016.

For approval in 2017:

Senior Structural Engineer (PE3): This position will report to the General Supervisor of Specifications and Estimation. This position will manage the delivery of engineering shop drawings in support of in-house construction activities related to shafts, tunnels and other drainage structures. This key responsibilities of this position will include:

- Leading the in-house shop drawing design team and external consultants for the delivery of the required shop drawings for all in-house construction projects.
- Preparing the annual work plan and schedule for the in-house shop drawing design team to ensure that proper performance measures are developed and tracked.
- Conducting design services for the development of shop drawings such as performing appropriate structural analysis, reviewing technical studies and stamping shop drawings.
- Developing training programs for the purpose of knowledge transfer, cross training and succession planning.

Design Engineering Technologist (ET2): This position will report to the new Senior Design Engineer for Sewer Upgrading Program as requested in 2016. This position will help the senior design engineer by undertaking engineering design in sewer system upgrading projects. The key responsibilities of this position will include:

- Reviewing specific project locations within Drainage Neighbourhood Renewal and Sewer Upgrading Programs and identifying locations for project integration when available.
- Identifying drainage system components (main sewer, catch basins, manholes, leads and services) to be upgraded and updating project status under the neighbourhood renewal database.
- Conducting site visits, sewer hydraulic capacity analysis, sewer condition assessment, and system design.

Drafting Technologist (ET2): This position will report to the Drafting Supervisor. This position will help with the delivery of the Flood Mitigation Program and support designers by developing and producing various design and construction drawings. The key responsibilities of this position will include

- Preparing base plan drawings so that specific design components can be introduced and evaluated.
- Coordinating inputs with designers and checking for utility conflicts, potential crossing requirements and supporting the crossing agreements application process.
- Developing and producing design drawings according to specifications and City Design and Construction Standards.

These positions will be hired in the fourth quarter of 2017.

For approval 2018:

Design engineer (PE2): This position will report to the Senior Design Engineer, Flood Mitigation. This position will assist the senior engineer in managing internal and external designers, and delivering the engineering design for the Flood Mitigation Program. The key responsibilities of this position will include:

- Preparing design management plans, design work plan and schedule for the specific projects assigned.
- Conducting design services for the assigned projects such as site visits, engineering analysis, condition assessment, drawings development and stamping drawings.

- Leading the procurement process for external consultants such as preparing the "Request for Proposals", addressing inquiries, reviewing proposals and awarding contracts.
- Managing external consultants for the delivery of design services including reviewing design reports and drawings.

These positions will be hired in the fourth quarter of 2018.

3. Justification

3.1. Why the positions are required

The additional Senior Engineers, Engineers, Engineering Technologists and Drafting Technologist are identified in Design Services to support the proposed increases in the Drainage Services capital plan from 2016 to 2018 in the program areas of Drainage Neighbourhood Renewal, Sewer Upgrading, Drainage System Rehabilitation and Flood Mitigation. The additional resources requested will add capacity to the current 2015 workforce compliment within Design Services.

3.2. Growth/Demand Implications

The Drainage Services capital budget will see a significant increase over the next 10 years from $171M in 2015 to $279M in 2024 (see Figure 1). This is the result of the need to undertake significant flood mitigation works, and to continue a growing asset rehabilitation and upgrading program. Compared to 2014, the capital budget will increase by 45% by 2017 and by 106% in 2024.

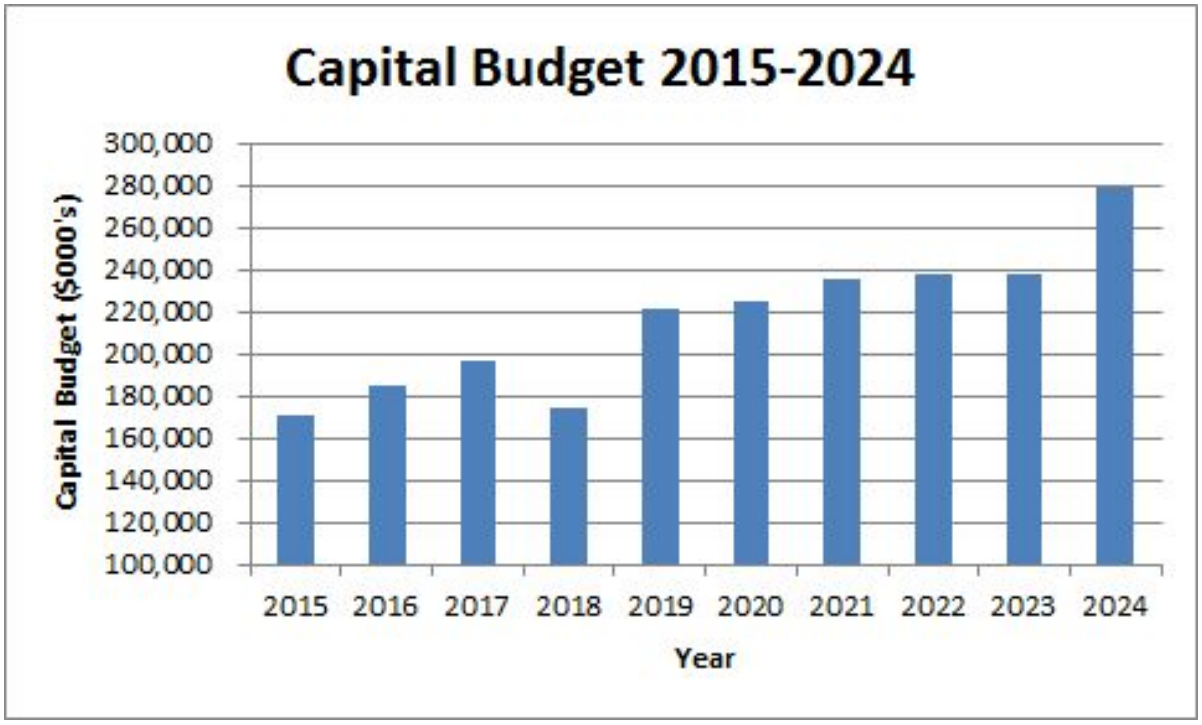


FIGURE 1 - Drainage Capital Budget 2015 to 2024

In 2014, Drainage Services determined that current capacity could not meet the upcoming capital delivery requirements and began a detailed capacity assessment in 2015. In consideration of this development, the Drainage Services 2016-2018 Business Plan, and long term goals of the Drainage Master Plan's Aspirational Plan, the following resource was identified for the Design Services group:

Senior Design Engineer (2016) & Engineering Technologist (2017), Sewer Upgrading: These additional resources are required to manage design activities for the newly created Sewer Upgrading Program. The Sewer Upgrading Program is one of the profiles within Drainage Neighbourhood Renewal Program. Figure 2 below shows the budget of the Drainage Neighbourhood Renewal Program for the next 10 years (2015 to 2024).

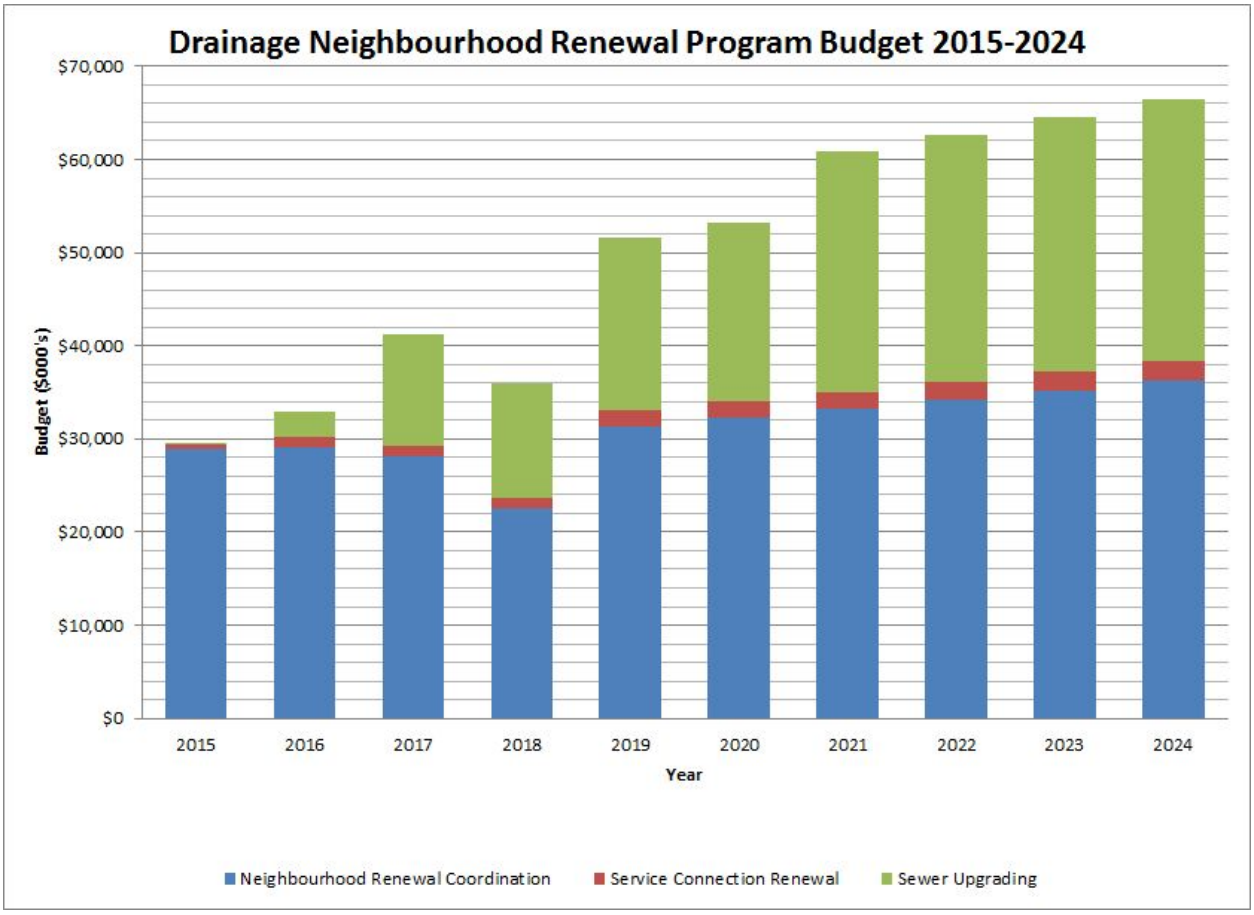


FIGURE 2 - Drainage Neighbourhood Renewal Program Budget 2015-2024

Sewer Upgrading is a new capital profile with construction scheduled to start in two neighbourhoods on 2017. The scope involves increasing the capacity of the sewers in coordination with the renewal projects in Drainage Neighbourhood Renewal where practical. The goal is to improve the service level of the sewer systems in mature neighbourhoods by upgrading the local sewers (less than 750 mm in diameter) from their current size to a larger size. The addition of a senior design engineer in 2016 and an engineering technologist in 2017 will be essential in the effective delivery of this new capital program.

Specification Engineer (2016), Engineering Technologist (2016), & Senior Structural Engineer (2017): These additional resources are required to address the increasing demands in third party design reviews, to streamline the procurement management process within Drainage Design & Construction, and to provide better engineering support for tunnel construction. In 2012-13, Drainage Design & Construction undertook a transformation initiative to refine

operations and created an updated business model. One of the outcomes of the transformation initiative is the creation of a dedicated project management group along with the different functional areas to support the delivery of project. The areas of specifications, procurement management and construction engineering are three of the new support areas created.

In 2014, there were 60 third party design projects reviewed and each one took about 5 working days to complete the review. The purpose of the review is to ensure acceptable standards are maintained for the Drainage infrastructures. Currently there is only one senior engineer managing the review of these designs, along with other duties and responsibilities. The capacity of the design review group within Design Services needs to be improved to accommodate the increasing demands. The addition of a specification engineer will help to improve the capacity and competency to enable the delivery of third party design review effectively. This requested specification engineer is also part of a longer term succession plan and knowledge transfer plan.

Currently, each purchase manager is managing their own individual procurement with Corporate Procurement & Supply Services and many opportunities have been identified to streamline the procurement process in Drainage. One of the improvement opportunities is the addition of a dedicated staff for tracking these agreements. The addition of an engineering technologist will be essential in managing the outline agreements for construction and allow for a coordinated approach to procurement. This engineering technologist will enable us to build capacity and competency, allowing the section to be prepared for the increased workload.

Currently there are two design engineers managing the design in all tunnel projects on a part time basis. These engineers have other design assignments to manage. In addition, the design work scope has increased in the areas of constructability review, structural design and shop drawings for tunnel constructions. The addition of a senior structural engineer will help to improve our capacity and competency to enable dedicated resources for the delivery of structural designs and shop drawings. This requested senior structural engineer is also part of a longer term succession plan and knowledge transfer plan.

Drafting Technologist (2017) & Design Engineer (2018), Flood Mitigation: The additional FTEs are required to manage the increasing demands for the Flood Mitigation Program. The projected capital expenditures for Flood Mitigation are shown in Figure 3 (below).

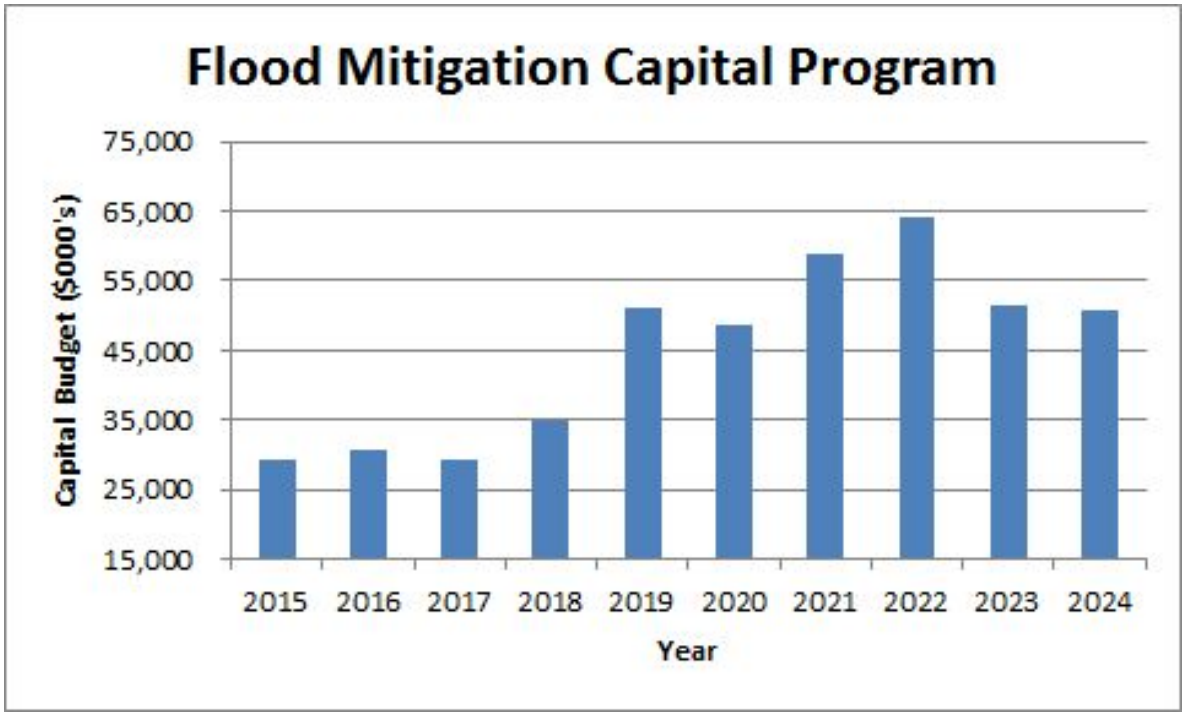


FIGURE 3 - Flood Mitigation Program, 2015-2024

Right now, we have 1.5 FTE working on delivering the design for Flood Mitigation. Based on the concept studies, there will be many trenchless constructions planned under this program; therefore, internal tunnel design and drafting workload is expected to increase significantly. The addition of 2 FTE will be essential in the effective delivery of design services for Flood Mitigation without impacting service delivery for other Drainage capital programs.

3.3 **Operational Efficiencies**

The following table (Table 1) shows the actual capital expenditures for Drainage Design & Construction from 2010 to 2014, the approved budget amounts from 2015 to 2018, and the proposed budget amounts from 2019 to 2022. These are compared with FTEs in Design Services.

TABLE 1. Capital Expenditures and Staff Comparison

Capital Delivery and Staff in Design Services						
	2010 to 2014 (Actual Annual Average)	**2015 (Approved)**	**2016 (Proposed)**	**2017 (Proposed)**	**2018 (Proposed)**	**2019 to 2022 (Proposed Annual Average)**
No. FTEs	36*	40	43	46	47	47
Capital Delivered /Bugetted	$122M	$143M	$160M	$176M	$152M	$200M
Average Capital per FTE	$3.4M	$3.6M	$3.7M	$3.8M	$3.2M	$4.2M

* Actual Design FTEs following 2012-13 reorganization

The above table shows the FTEs and the annual capital amount per FTE in Design Services. As seen from the table, each Design FTEs delivered about $3.4 million of capital expenditure from 2010 to 2014 on average. In 2015, the amount of capital delivery is projected to increase to $3.6 million per FTE. The amount of capital per FTE continues to rise for 2016 and 2017 even with the proposed additional FTEs. In 2018, the amount of capital per FTE decreases to $3.2 million due to the lower capital budget. The overall average capital amount from 2016 to 2018 is at $3.6 million per FTE which is the same as 2015. Therefore, the 2016 to 2018 FTE requests will allow the workload distribution within the Design Services to remain approximately similar to 2015 for delivering the Drainage capital program.

3.4 **Alternate Delivery Considerations**

Alternatively, Drainage Services can obtain design services by hiring more external consultants to deliver the increasing Drainage capital program. The following table (Table 2) shows the historical data on expenditures and the actual ratio of work done between in-house resources and external consultants from 2010 to 2014.

TABLE 2. Historical Expenditures on External Consulting and Ratio of In-House Work to External Consultants

	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual
Total Fee for External Consultants	$5.6M	$6.7M	$7.0M	$8.2M	$8.8M
Total Cost on in-house Design	$5.3M	$5.5M	$5.6M	$5.7M	$5.7M
Ratio of in-house over Consultants	48.5%	45.0%	44.3%	40.9%	39.9%

The above table shows that the ratio of work done by in-house resources is decreasing, from 48.5% in 2010 to 39.9% in 2014. The average ratio of work done by in-house resources over the same period was about 43.7%. With the proposed additional FTEs, the ratio of work done by in-house resources will be increased to around 50%. The question is whether it is more cost-effective to do work using in-house resources or not.

While salary data from external consultants is private information and difficult to obtain, the suggested hourly rates from the Consulting Engineers of Alberta provides good information for comparing costs. The Consulting Engineers of Alberta publishes an annual 'Consulting Engineers Rate Guideline' listing the recommended industry standard hourly rates.

In order to calculate the City hourly rates, a number of assumptions are used as noted in the following table (Table 3). The following table below illustrates the calculated hourly rates for City employees and the established hourly rates for external consultants. Note that the hourly rates provided from Consulting Engineers of Alberta include salary, benefits, overhead and profit, where the City of Edmonton numbers only the incremental costs.

TABLE 3. Hourly Rates Comparison between City Employees and External Consultants

Level	Total City 2015 Employee Cost[1]	Total City 2015 Hourly Rate	CEA[2] 2015 Hourly Rate	% of City over CEA[2]
Engineer-in-Training	$100,072	$64	$125	51%
Project Engineer	$125,384	$80	$168	47%
Supervisory Engineer	$148,910	$95	$203	47%
Management Engineer	$163,804	$104	$242	43%
Senior Management Engineer	$193,588	$123	$292	42%

Notes:
1. Total City employee cost includes the 2015 salary, labour overhead and training
2. Consulting Engineers of Alberta (CEA)

From Table 3, the hourly rates for the City range from 42% to 51% of the hourly rates of external consultants. Based on this comparison, increasing internal capacity could be more cost effective than retaining external consultants. However, there are situations and specific value to retaining external consultants.

Drainage Services will continue to be vigilant in hiring internally while practicing due diligence when retaining external consultants. As the demand for work increases, the additional FTEs will allow Design Services to keep up and to deliver quality engineering design services for projects on time and on budget.

3.5 **Risk/Implications of NOT hiring**

With current staffing levels and increasing project demands, Design Services is unable to deliver quality engineering design (both by internal and external sources) on schedule and within budget. If these proposed positions are not hired, the risks will be:

Project Delay- With increasing work demand, design staff will have to shoulder more design projects at the same time. Many design activities are field related and weather dependent such as site visits and geotechnical investigations. There will be more difficulties in scheduling field design activities and thus increase the frequency in missing important schedules.

Bad Design: Design activities are tedious and require a lot attention. With increasing workload, staff could not afford the time to check for all details such as utility crossings and detailed analysis. As a result, some important details could be missed during the design process. In extreme situations, bad design could lead to unsafe work conditions in addition to the expensive re-works.

Increase Costs: Bad design will increase costs for the project due to re-works. With the increasing workload, staff will also require more overtime to complete the work. An increase in staff overtime will thus increase project cost.

Low Engagement: Low staff morale and engagement could be the results when staff are overloaded with heavy workloads.

3.6 Alignment with the Ways (Social/Environmental/Safety/Economic)

The additional FTE's will help to ensure the building of sustainable quality infrastructure, reduce maintenance cost, and providing best value servicing to the citizens of Edmonton.

This is in alignment with the:
The Way We Grow (building new drainage infrastructure to support growth both in new and matured neighbourhoods)
The Way We Green (building drainage infrastructure to protect environment such as reducing combined sewer overflows to the river)
The Way We Live (building drainage infrastructure to support a socially sustainable society and improved quality of life by reducing the risks of flooding and drainage infrastructure failures)
The Way We Move (building infrastructure to provide effective drainage for transportation infrastructure)

4. Funding Source / Financing Alternatives

The funding for all the positions will be 100% recovered from the Capital budget (operating costs are capitalized).

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016 - 2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	Clement Yong		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of 2 FTE(s) be approved for funding in the 2016 to 2018 Utility Operating Budget at a total budget increase of $265,916 (based on full year operational requirement). The following is a description of the position(s) requested:

For approval in 2016: 1 FTE
Total Budget: $128,350

a) One Senior Project Engineer (PE3) - This includes a salary of $105,000 (based on the midpoint of salary range), and $23,350 for benefits and overhead, for a total budget of $128,350.

For approval in 2018: 1 FTE
Total Budget: $137,566

a) One Senior Project Engineer (PE3) - This includes a salary of $111,416 (based on the midpoint of salary range), and $26,150 for benefits and overhead, for a total budget of $137,566.

These positions will support Drainage Services in meeting the public and customer service demands relating to the provision of adequate drainage servicing and renewing the City's aging drainage infrastructure.

2. Positions Scope:

The Senior Project Engineer positions will plan, manage and control drainage capital infrastructure design and construction projects. These positions apply project management, public engagement and corporate best practices to implement projects in a way that optimizes value for the City and manages risk.

Key responsibilities of this position include:

- Managing multidisciplinary project teams to ensure efficient and effective delivery of drainage capital projects through all phases
- Planning, organizing, leading, monitoring and controlling projects in accordance with project management best practices and corporate policies
- Managing project risks and changes
- Developing and implementing project communications, including notices and responses to Council and public inquiries
- Mentoring and coaching junior staff

These positions will report to a project management general supervisor. These positions will be hired in succession, in the fourth quarter in each of 2016, and 2018.

3. Justification

3.1. Why the positions are required

Additional responsibilities have been added to the Project Delivery group as part of continuous improvement efforts. These responsibilities relate to monitoring and managing construction activities/issues in the field, public engagement and project management. The additional resource requested for 2016 will add capacity to the current 2015 workforce complement within the Project Delivery group.

The 2015-2018 capital plan contains increased work in the Flood Mitigation and Drainage Neighbourhood Renewal Programs. These increases reflect Council's direction towards improved flood mitigation and a continuing need to manage aging drainage infrastructure. The additional FTE in 2018 will allow the workload distribution within the Project Delivery group to remain approximately similar to 2015, and will build the group's capacity in preparation for anticipated increases in the 2019-2022 drainage capital budget.

Table 1 below shows historical capital delivery and approved/proposed budgets for the current (2015-2018) and next (2019-2022) capital budget cycles. These are compared with FTEs assigned to project management functions in the Project Delivery area.

Table 1: Capital delivery by Project Management Staff

Capital Delivery by Project Management Staff						
	2010 to 2014 (Actual Annual Average)	**2015 (Approved)**	**2016 (Proposed)**	**2017 (Proposed)**	**2018 (Proposed)**	**2019 to 2022 (Proposed Annual Average)**
No. FTEs	14*	17	18	18	19	20
Capital Delivered/ Bugetted	$122M	$143M	$160M	$176M	$152M	$200M

Average Capital per FTE	$8.7M	$8.4M	$8.9M	$9.8M	$8.0M	$10M

* Actual project management FTEs following 2014 reorganization

The Senior Project Engineers will allow Drainage Services to continue effectively delivering its expanding capital plan, sufficiently engage stakeholders (other departments, public, community leagues, etc.) and implement more rigorous project management best practices and procedures. They will also enable the group to enhance its skill sets in preparation for the challenging 2019-2022 capital program.

These new positions align with the goals of the Drainage Master Plan:

- Healthy Living and Environmental Stewardship - Contributing to building drainage infrastructure that protects the health of Edmontonians and the environment.
- Citizens Well Served - Enabling Drainage Services to continue providing cost effective services with responsible oversight and appropriate communications with all stakeholders in our delivery of the capital program.
- Supporting and Enhancing Growth and Development - Managing delivery of the projects that enable growth and development in new and mature neighbourhoods.
- Sustainable Infrastructure - Delivering the infrastructure that is a result of proactive asset management. Project management best practices, integrated risk management and a life cycle approach to delivering the capital program ensures efficiency and reduces overall infrastructure costs.
- Fiscal Responsibility - Managing capital projects within allocated budgets and providing timely reporting of project statuses.
- Organizational Excellence - Increasing the depth and breadth of our workforce with their experiences, and helping to develop and mentor staff.

3.2. **Risk/Implications of NOT hiring**

An alternative to increasing FTEs would be to engage project management consultants to deliver the capital program. This practice has been shown to be more costly than

increasing internal capacity (refer to Utility Committee Reports CR-1976 and CR-2438 for comparisons of internal and consultant incremental costs). In addition, internal resources can offer established networks and insights to the City's organizational complexity and corporate objectives. This can facilitate communication, collaboration and overall increased effectiveness in project delivery.

The major risks of not hiring these positions include:

Project Delays

Projects may take longer to complete, as each staff member will need to take on an increased workload. This may impact their ability to make the timely decisions necessary to maintain required progress on projects. Staff may generate more time through overtime, but this will also increase project costs.

Increased Costs

Insufficient staff may cause project risks to be ineffectively managed. This may increase costs due to risks materializing at a greater cost than if they had been properly managed. Future operating and maintenance costs may increase due to the lack of resources to properly obtain input from stakeholders regarding operating and maintenance requirements, and to ensure that the required quality and standards are met. Constructed infrastructure that does not meet the required quality and standards may also result in future legal liabilities should the infrastructure fail and negatively impacts the environment or private property.

3.3. **Alignment with The Ways (Social/Environmental/Safety/Economic)**

The additional FTEs will help to ensure the building of sustainable quality infrastructure, reduce maintenance costs, and provide best value servicing to the citizens of Edmonton.

This is in alignment with:

- The Way We Grow (building new drainage infrastructure to support growth both in new and mature neighbourhoods)
- The Way We Green (building drainage infrastructure to protect the environment such as reducing combined sewer overflows to the river)

- The Way We Live (building drainage infrastructure to enable a socially sustainable society, and improving quality of life by reducing the risks of flooding and drainage infrastructure failures)
- The Way We Move (building infrastructure to provide effective drainage for transportation infrastructure)

4. Funding Source / Financing Alternatives

Funding for all the positions will be 100% recovered from the Capital budget (operating costs are capitalized).

Justification for Additional Resources (FTE's)

Financial Services and Utilities Department

Drainage Services Utility

2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	Chris Ward		09/08/2015
Director	James Tan		09/08/2015

1. Recommendation

The Drainage Services Utility is recommending that the addition of an Open Cut Construction crew consisting of 6 FTE(s) be approved for funding in the 2016 to 2018 Drainage Services Utility Operating Budget at a total budget increase of $477,234 (based on full year operational requirements). The following is a description of the positions requested:

For approval in 2016: 6 FTE(s)
Total Budget: $477,234

a) One Open Cut Leader: This includes a salary of $69,214 (based on Step 3 of salary range), and $16,825 for benefits and overhead, for a total budget of $86,039.
b) One Open Cut Pipeman: This includes a salary of $64,332 (based on Step 3 of salary range), and $15,962 for benefits and overhead, for a total budget of $80,295.

c) Four Open Cut Labourer III: This includes a salary of $62,348 (based on Step 3 of salary range), and $15,377 for benefits and overhead, for a total budget of $77,725 per FTE.

These positions will support Drainage Services in meeting the public and customers' service demands relating to provision of adequate drainage servicing and renewing the City's aging drainage infrastructure.

2. Positions Scope:

These requested new positions will be incorporated with with existing positions with the Open Cut Section to compile an additional Open Cut crew thereby increasing the existing crew capacity from 11 crews to 12 crews.

The open cut crews conduct various construction activities such as:

- Sanitary & storm sewer repairs
- Sanitary, storm and water service installations
- Catch basin & manhole installation and repairs
- Storm outfall installation and repairs
- Pump station and force main repairs
- Emergency response & repairs
- Trenchless installation (pipe bursting, pipe ramming, pilot tube, pipe patch)

The Open Cut Leader assigns and directs the day to day work activities of the crew; ensure quality of work including safety and environmental requirements; interprets construction plans with Open Cut supervisor and communicates instructions on the technical aspects of the project to the crew; and arranges for equipment and materials required for the project.

The Open Cut Pipeman is responsible for all new pipes and appurtenance installations and ensures that the installations are done in accordance to the design drawings and City's Design & Construction Standards. This position is also responsible for exposing and locating existing utilities.

The Open Cut Labourer III assists the Pipeman in the installation of new pipes and appurtenances; directs the activities of Labourer II in the cutting, grinding, leveling, aligning and orientation of pipes and fittings and appurtenance erecting; directs backhoe operator during excavation and crew members during hand exposing of existing underground utilities.

These positions will be hired in the fourth quarter of 2016.

3. Justification

3.1. Why the positions are required

Currently, the Open Cut Section comprises of 3 management staff, 3 dispatch personnel and 70 field personnel. The 70 field personnel constitute the 11 crews that are currently operational in delivering the open cut work associated with the Drainage Services Capital program.

The additional Open Cut Leader, Pipeman and Labourer III positions are required to support the Drainage Services capital plan from 2016-2018 in the program areas of Drainage Neighbourhood Renewal, Drainage System Rehabilitation and Flood Mitigation. The Drainage Neighbourhood Renewal work is conducted in close coordination with Transportation Services.

Table 1 illustrates a consistent increase in the Drainage Design and Construction Capital Budget . In particular , the table shows:

- The average annual capital expenditures for Drainage Design & Construction from 2010 to 2014 (average $122 million/year),
- the approved budget amounts from 2015 to 2018 (average $158 million/year), and
- the proposed amounts from 2019 to 2022 average $200 million/year).

Table 1 : Drainage Design and Construction Capital Budget (2010 - 2022)

Annual Capital Amounts Delivered	Capital Budget Amounts	Capital Budget Amounts	Capital Budget Amounts	Capital Budget Amounts	Capital Budget Amounts
2010 to 2014 (Actual Annual Average)	**2015 (Approved)**	**2016 (Approved)**	**2017 (Approved)**	**2018 (Approved)**	**2019-2022 (Proposed Annual Average)**
$122M	$143M	$160M	$176M	$152M	$200M

The average increase in capital budget from the period 2010-2014 to 2015-2018 is $36 million (30% increase) while the anticipated average increase in capital budget from the period 2010 - 2014 to 2019-2022 is $ 78 million (64% increase).

3.2 **Growth/Demand Implications**

The additional 6 FTE(s) requested represents a 8.6% increase in the field staffing levels. There has not been any new FTE request in Construction Services since 2011.

Table 2 below shows the open cut workload locations from 2012 to 2015 specific to neighbourhood renewal works, emergency repairs, high and medium priority repairs and new service connections. The current workload and the number of locations per crew have both increased by 70% compared to 2012.

Table 2: 2012-2015 Open Cut Workload (locations)

2012 - 2015 Open Cut Workload (locations)					
Type of Work Completed	**2012**	**2013**	**2014**	**2015 (as of July 31)**	**2015 (Projected year end)**
Neighbourhood Renewal Program	447	726	767	667	1048
Emergency Repairs	75	85	90	60	94
High & Medium Priority Repairs	303	463	494	236	371
New Service Connections	167	195	223	110	173
Total	**992**	**1469**	**1574**	**1073**	**1686**
Number of Open Cut Crews	11	11	11	11	11
Locations/ Crew	**90**	**134**	**143**	**98**	**153**

Currently open cut works of 5 neighbourhoods in the Drainage Neighbourhood Renewal Program are done by in-house construction crews. The plan is to increase the internal work to 6 neighbourhoods in 2016 & 2017 and then 7 neighbourhoods in 2018. On average, a full neighbourhood renewal has about 150 to 200 locations.

3.3 **Operational Efficiencies**

A high level cost comparison between contracted out open cut works and in-house open cut works under the Neighbourhood Renewal Program in 2012 and 2013 is shown in the Table 3 below. The results show that the average cost per location utilizing external contractors is approximately 30% higher. There is no contracted out open cut work for the Neighbourhood Renewal Program in 2014. The open cut renewal works consist of repair and/or replacement

of manholes, sewers, catch basins and leads, service connections and some sewer abandonments.

Table 3: Work Issued for Neighbourhood Renewal Program

Neighbourhood Renewal Program – Work issued in 2012 – 2013			
Open Cut Works	Number of Completed Locations	Total Cost	Average Cost per Location
Contracted Out	325	$4,160,000	$12,800
In-House	912	$8,850,000	$9,700

As the demand for work increases, this increase in FTE(s) will enable the Open Cut Group to do more in-house construction, better workload distribution and resource planning. It will ensure that the current ISO 9001 Quality Management System Targets of completing 95% of the projects with no rework; 97% of emergencies are responded to within 2 hours and service restored within 2 days and, 85% of service connections are installed within 6 weeks of customer commitment for servicing are met. It will also result in the completion of assigned projects on time and on budget.

3.2 **Risk/Implications of NOT hiring**

With current staffing levels and increasing work demands, if these proposed positions are not approved, the risks will be:

- More difficulties in delivering projects on time and on budget
- Building up of backlog of high and medium priority repairs and new service connections
- Low staff morale due to employees becoming overloaded with heavy workloads.

3.3 Alignment with the Ways (Social/Environmental/Safety/Economic)

The additional FTE(s) will help to ensure the building of sustainable quality infrastructure, reduce maintenance cost, and providing best value servicing to the citizens of Edmonton.

This is in alignment with the:

The Way We Grow (building new drainage infrastructure to support growth both in new and matured neighbourhoods)

The Way We Green (building drainage infrastructure to protect the environment such as reducing combined sewer overflows to the river)

The Way We Live (building drainage infrastructure to support a socially sustainable society and improved quality of life by reducing the risks of flooding and failure of drainage infrastructures)

The Way We Move (building drainage infrastructure to provide effective drainage for transportation infrastructure)

4. Funding Source / Financing Alternatives

The funding for all the positions will be 100% recovered from the Capital budget (operating costs are capitalized).

City of Edmonton

Waste Management Services

2016-2018 Utility Rate Filing

October 9, 2015

Table of Contents

1.0 Introduction

Since 2011, City Council has followed a governance framework for the City of Edmonton's Utilities. The Utility Committee is responsible for reviewing all matters related to the Utilities' operations and to make recommendations to City Council where budgets and policies are involved. City Council also retained the services of a Utility Advisor to provide technical expertise in advising the Utility Committee and City Council in utility matters.

To date in 2015, Waste Management Services has provided the Utility Committee with the following key documents, which were accepted for information:

- 2014 Waste Management Services Annual Report
- 2016-2018 Waste Management Services Business Plan
- Utility Shared Services Fair Market Evaluation

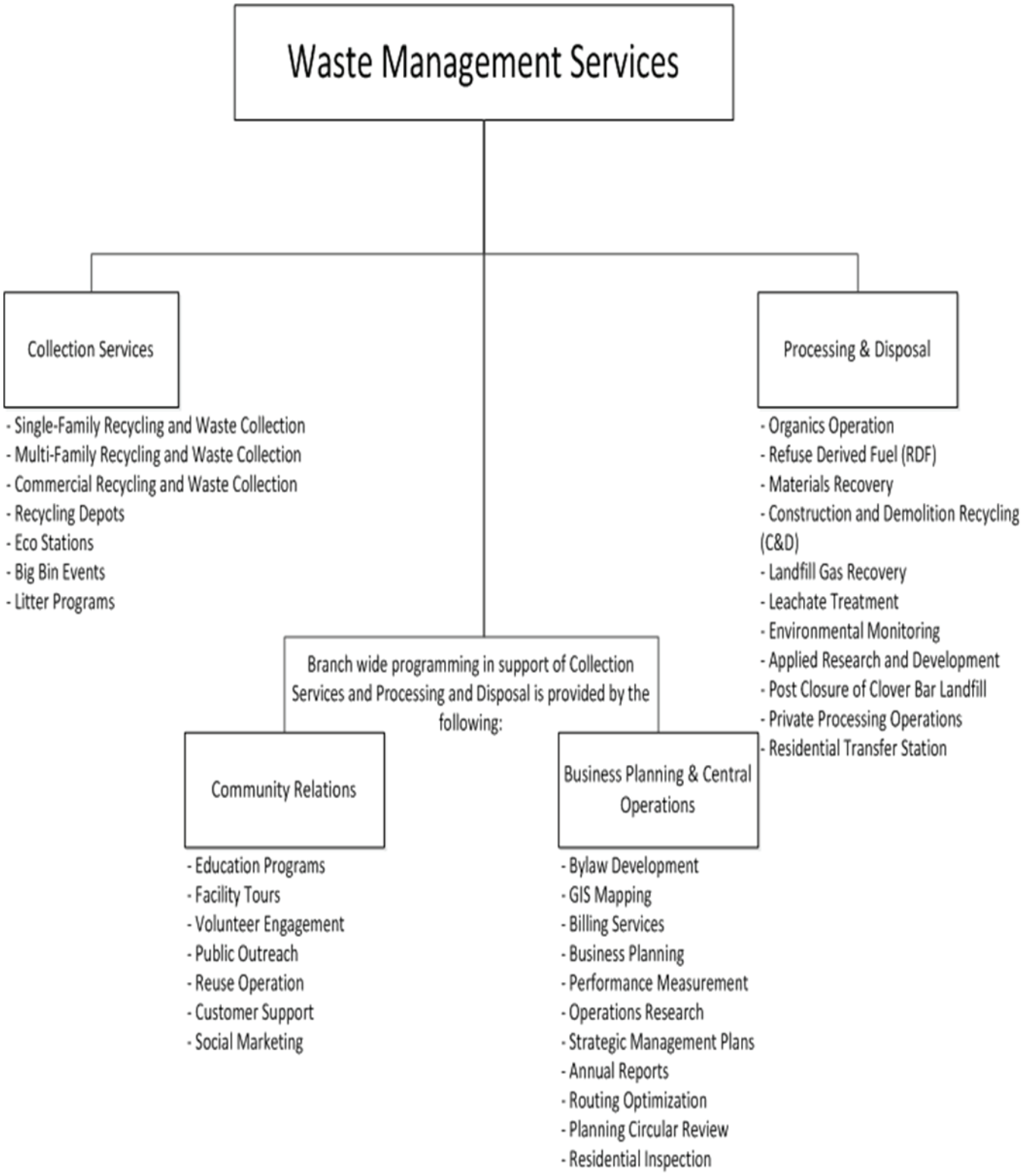
The 2016-2018 Waste Management Services Rate Filing has been prepared by reviewing historical annual performance, the 2015 Approved Operating Budget and the 2016-2018 Business Plan, along with consideration of City Council's direction. This Rate Filing reflects the City Council's direction to Administration to utilize a three-year budget presentation and approval process. However, within this Rate Filing, only the first year is for City Council approval while 2017 and 2018 are considered indicative. Administration will also prepare budget documents for Waste Management Services following the corporate format to enable communication with citizens. These budget documents will be released as part of the City of Edmonton budget process in late October 2015.

Some changes within the 2016-2018 Rate Filing include:

- Waste Management Services adoption of a Rate Filing structure similar to the Alberta Utilities Commission and EPCOR using the 2015 forecast numbers. The forecast numbers lead appropriately to the 2016-2018 Rate Filing as it considers the current year's performance.
- Beginning in 2016, the Pay As You Go requirement will be included in the revenue requirement calculation. This ensures that Waste Management Services has sufficient cash to cover both operating and capital expenses. This change is prompted by the Waste Management Utility Fiscal Policy C558A, which was adopted by City Council on September 23, 2014.
- New schedules have been added to provide more details about Intra-Municipal Services, Short Term Loans, Capital Project Funding, Segmented Reporting and Historical Trends.

Waste Management Services continues to focus on three pillars: environmental sustainability, customer-focused services and cost effectiveness. At the time of 2016-2018 Operating Budget preparation, Waste Management Services has not accessed the short term loan as approved by City Council in the 2015 Operating Budget process. This loan assists in ensuring that Waste Management Services increases its focus on stable consistent rates, positive cash position and positive net income while utilizing a capital funding strategy that maximizes debt financing over cash.

2.0 Functional Organization Structure



3.0 Methodology and Key Assumptions

The 2016-2018 Utility Rate Filing is based on the July 31, 2015 Forecast incorporating significant changes up to August 31, 2015. The assumptions used to develop this Rate File include City of Edmonton Council approved corporate budget guidelines and the following:

	2016	2017	2018
Population projection	1.6%	1.9%	2.1%
Consumer Price Index	1.73%	2.03%	1.97%
Economic increases	The following Unions have settled ATU 569 Main, ATU 569 DATS, CSU 52, IBEW 1007 and CUPE 30. The settlements rates are: 2016 – 2.75% 2017 – 2.0% (January); 1.0% (June) 2018 – 3.0% Economic increase for the Management group are: 2016 – 2.50% 2017 & 2018 – in negotiation		
Employment benefits	Calculated by the City of Edmonton Capital and Operating Budget System (COBS) which allocates benefit dollars by employee.		

Cost of Debt

Term	2016	2017	2018
10 Year	2.35%	2.60%	2.85%
15 Year	2.88%	3.13%	3.38%
20 Year	3.08%	3.33%	3.58%
25 Year	3.26%	3.51%	3.76%

Debt servicing calculations use Corporate-wide approved Cost of Debt rates based on 2015 actual second quarter Alberta Capital Finance Authority borrowing rates. An additional 0.25% increment is added on per year starting in 2016 through to 2025.

Other Assumption used includes the following:

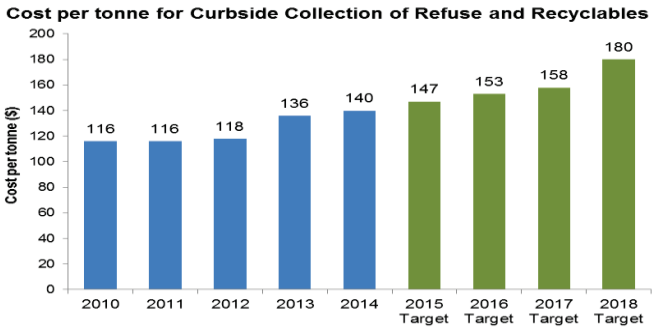
- Staff vacancy – unless otherwise stated, the typical expectation for staff vacancy is 3% for operational staff and 2% for the remaining staff.
- Full-Time Equivalent – a full time equivalent (FTE) is defined as the hours (and associated personnel costs) one full-time employee would work in a year. For example, if a position is funded for one year, it is equivalent to 1.0 FTE, whereas a position funded for six months, is equivalent to 0.5 of an FTE. Funding for a new position may be adjusted in the first year to reflect the timing between approval of a new position and hiring, with full funding for the position beginning the following year.
- Growth in customer count is based on historical trends and anticipated population growth projections.

4.0 Key Measures

Strategic Goal
Deliver efficient, environmentally sound collection services

Initiative
Route optimization – continue to maximize efficiencies by addressing geographic expansion and traffic congestion.

Performance Measure
Cost per tonne for curbside collection of refuse and recyclables.

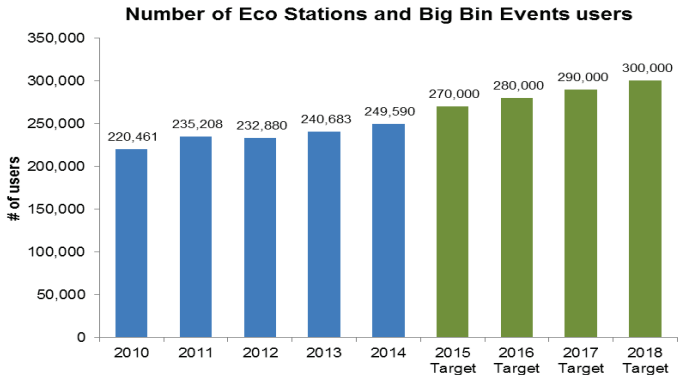


The cost per tonne for the collection of curbside waste and recycling is sensitive to factors that influence waste generation such as seasonal weather conditions and economic activity. Projected increases are due to contract, labour and amortization expenses.

Strategic Goal
Provide responsive services that meet the changing needs of our customers.

Initiative
Operations of all 4 Eco Stations and 12 Big Bin Events.

Performance Measure
Number of users of Eco Stations and Big Bin Events.

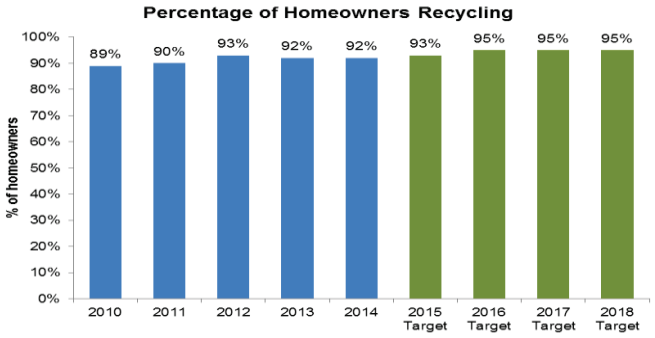


Visits per year have been limited by facility capacity but with the opening of the Kennedale Eco Station in 2015 additional growth is anticipated.

Strategic Goal
Engage and facilitate residents' participation in waste reduction, reuse and recycling.

Initiative
Continue to deliver education and social marketing programs with the support of volunteers.

Performance Measure
Percentage of homeowners recycling.

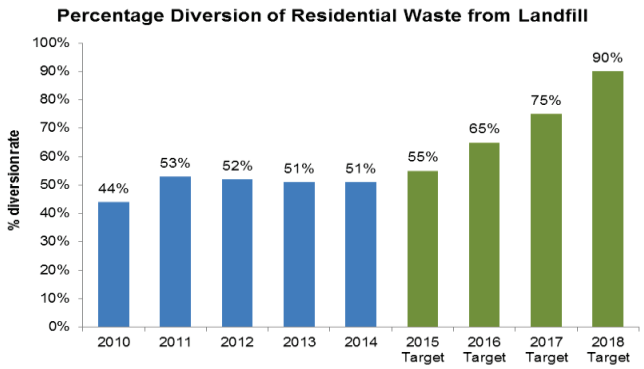


Edmonton has achieved and sustained a very high participation rate in voluntary curbside recycling with only minor fluctuations over the past five years. While 100% participation is not considered realistic, the long term goal is to continue to aim for nominal increases.

Strategic Goal
Maintain our leadership status focusing on innovation and attracting green businesses.

Initiative
Production of biofuels.

Performance Measure
Percentage diversion of residential waste from landfill.

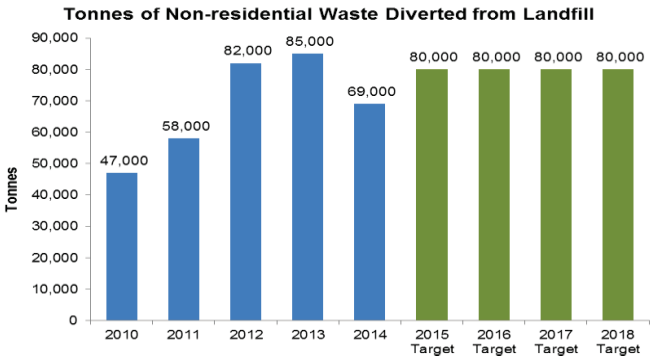


Residential waste diversion rate trends are largely influenced by the capacity and performance of the Edmonton Composting Facility. The plant has been operating at or near maximum capacity for the past few years even as the waste stream has grown, leading to slight declines year-over-year in the percent diverted. The increasing trend indicated is based on the expectation of the Biofuels Facility ramping up production and the AD facility coming on stream between now and 2017.

Strategic Goal
Process residential and non-residential waste to recover resources and increase landfill diversion rates.

Initiative
Continue to expand services to non-residential sector for collection and processing of waste.

Performance Measure
Tonnes of non-residential waste diverted from landfill.



Non-residential diversion figures are predominantly amounts diverted through the C&D recycling program. Diverted amounts grew as intended with the start-up of the mixed C&D waste processing facility in 2012 but volatility seen in 2014 is a reflection of the degree to which the C&D tonnages are related to construction activity in a given year and generator decisions on where to take materials. Relatively flat projections in future years reflect conservative assumptions.

The Way We Green **The Way We Finance**

5.0 Scenarios for Rate Revenue Requirements

At the June 25, 2015 Utility Committee, four scenarios were requested to be presented based on different objectives for the Utility. Note that the expenses are the same for each scenario, and utilize a short-term loan from the City of Edmonton to cover non-regulated program losses and maintain cash flow, as approved by Council during the 2015 Operating Budget deliberations.

The scenarios are summarized in the table below:

Scenario	Recommended as per Business Plan	Mirror Preliminary Tax Levy Forecast	Return on Rate Base = 0%	Achieve Targets by 2018
Fundamental Principal	Based on operational requirements and capital forecasts, as presented in the Business Plan.	Mirror preliminary tax levy forecast increases as per preliminary budget guideline report to Council in June 2015.	If return on rate base is set to zero. Waste Management Services would generate enough rate revenue to cover operating and capital needs. No adjustment for stable, consistent rate increases.	Calculates the necessary rate increases in order to achieve all financial indicator targets by 2018.
Rate Implications Per Month				
2016 Rate Increase %	5.7%	6.0%	7.1%	32.6%
2017 Rate Increase %	5.0%	6.1%	5.1%	13.6%
2018 Rate Increase %	5.7%	5.9%	6.2%	10.4%
2016 Rate Increase $ (Monthly Single Family)	2.31	2.44	2.88	13.27
2017 Rate Increase $ (Monthly Single Family)	2.16	2.64	2.24	7.32
2018 Rate Increase $ (Monthly Single Family)	2.56	2.69	2.84	6.38
2016-2018 Rate Increase $	7.03	7.77	7.96	26.97
Financial Indicator Implications				
Positive Net Income Achieved	2016	2016	2016	2016
Year cash target is achieved	2022	2018	2018	2018
Stable Rate Increases	2019	2019	Not achieved by 2025	2019
Year Debt to Net Asset Ratio target is achieved	Not achieved by 2025; 75% in 2025	2025	Not achieved by 2025; 74% in 2025	2016 74% is the minimum in 2018

1. *Recommended as per 2016-2018 Business Plan*

This scenario is status quo as recommended in the 2016-2018 Business Plan. Updates include personnel complement, and operating or capital forecasts for significant items. The recommended scenario represents the anticipated operating and capital needs of the Utility while placing emphasis on the strategy to minimize rate increases, being cognizant of the cash position and overall financial health of the Utility.

With the approval of the Waste Management Fiscal Policy C558A on September 23, 2014, the financial indicators have been updated to include positive net income; target cash position to include pay as you go; stable, consistent rate increases and 50% to 70% debt-to-net assets ratio. In this scenario, Waste Management Services has prioritized low stable, consistent rates over cash position and debt to net asset ratio. The achievement of these targets is forecasted to be achieved in 2022 for meeting the cash target, and beyond 2025 for debt to net assets.

2. *Mirror Preliminary Tax Levy Forecast Increases*

This scenario illustrates the financial indicators if Waste Management Services increased its utility rate by the same percentage as tax levy. Due to the timing of when tax levy and utility rates are established, the preliminary tax levy forecast increases were used; these were presented to Council in June 2015 as part of the preliminary budget guideline report.

The preliminary forecast increases of 6.0% in 2016, 6.1% in 2017, and 5.9% in 2018 are higher than what is being recommended in scenario #1. These increases provide the Utility with significantly more cash than the minimum requirement, thus enabling the cash target to be achieved in 2018 and debt to net assets in 2025.

There are two primary reasons for not presenting this scenario as the recommended: (1) these are preliminary tax rate forecast increases only, the proposed tax levy increases will likely be lower as per Council direction; and (2) Waste Management Services' strategy places emphasis on keeping rate increases low and only charging rates for what is needed in a given budget year. This scenario results in charging the utility rate payer more than is required and therefore Scenario 1 is more in line with the current strategy of the Utility.

3. *Return on Rate Base Set to Zero*

This scenario assumption is a return on rate base of zero; Waste Management Services would generate enough rate revenue to cover its operating and capital needs; however there would be no adjustments made for low, stable and consistent rate increases.

The result would be fluctuating rate increases for the customer, and inability for the Utility to properly manage its financial health in the future.

4. Achieve Financial Indicator Targets by 2018

This scenario addresses a request made at June 25, 2015 Utility Committee to evaluate requirements for Waste Management Services to achieve all financial indicator targets by 2018. It is not possible for the Utility to achieve all of its targets in 2018. Due to the capital estimates for 2018, the minimum debt to net assets ratio that could be achieved in 2018 is 74%. Aside from 2018, debt to net assets is achieved in all other years, but requires a substantial rate increase (32.6% in 2016) for this to occur. Low, stable and consistent rate increases are not possible until 2019 in order to generate the cash necessary to fund future capital projects while decreasing debt.

Summary

This Rate Filing has been presented with scenarios for Committee and Council consideration. The recommended scenario is based on the desire of the Utility to only collect rates for what is required for operating and capital needs. This scenario focuses on the impacts to the rate paying customer, while still factoring in the long term financial sustainability of the Utility.

The majority of the following tables in this Rate Filing are based on the recommended scenario. The exception is Section 6.0 where the financial indicators are provided for all scenarios.

5.1 Financial Rate Impacts

The financial rate impacts of the 2016 - 2018 Proposed Waste Management Services Budget are presented in the following table. The resulting rate impacts reflect the services and processes needed to support the Utility's mission, values, and strategic initiatives.

The rate impacts have been grouped into three categories: Operating Impacts, Capital Impacts on Operating, and Other Impacts.

	2016 Proposed	2017 Proposed	2018 Proposed
Operating Impacts			
Operations and Maintenance	$ 1.24	$ 3.15	$ 3.45
Waste to Biofuels Facility	0.30	0.10	0.09
Subtotal	**$ 1.54**	**$ 3.25**	**$ 3.54**
Capital Impacts			
Anaerobic Digestion Facility*	$0.61	$0.01	$0.75
Pay as You Go Requirement	1.37	0.14	0.07
Amortization and Interest	0.30	0.68	0.62
Subtotal	**$ 2.28**	**$ 0.83**	**$ 1.44**
Other Impacts			
Rate stabilization	$ (0.56)	$ (0.66)	$ (0.95)
Recovery of tip fee revenue	(0.05)	(0.38)	(0.24)
Other non-rate revenue	(0.23)	(0.26)	(0.17)
City of Edmonton Short-Term Loans	(0.67)	(0.63)	(1.05)
Subtotal	**$ (1.51)**	**$ (1.92)**	**$ (2.42)**
Total	**$ 2.31**	**$ 2.16**	**$ 2.56**

*Note: Anaerobic Digestion Facility rate impacts include operating impacts, associated amortization and interest.

Operating Impacts

- For 2016, $0.71 of the increase in Operations and Maintenance is union settlements, step and merit increases. Changes in benefits for the existing personnel complement make up the balance.
- The commissioning of the Waste to Biofuels Facility, owned and operated by a third party, will have rate impacts as feedstock for the new facility must be generated.

Capital Impacts

- The Anaerobic Digestion Facility was originally anticipated to be commissioned in 2016; however the revised timeline is 2017. The resulting timing difference has caused rate impacts to shift.
- The approval of the revised Waste Management Utility Fiscal Policy C588A resulted in changes in the rate revenue calculation beginning in 2016. Pay as You Go Requirement is now included as part of the rate revenue calculation in order to ensure Waste Management Services has enough cash to meet both its operating and capital needs. This places greater emphasis on long-term planning and the financial sustainability of the Utility.
- The change in Amortization and Interest is a result of the revised Capital Plan as outlined in Section 12.0 of this Rate Filing. Increased net amortization is associated with a full year of amortization for the Kennedale Eco Station, as well as equipment and vehicles put into service. Interest expense has decreased in 2016 over the 2015 budget, due to changes in the timing of capital spending and therefore borrowing requirements.

Other Impacts

- Increased focus on cash management, along with approval of the revised Waste Management Utility Fiscal Policy C588A resulted in changes in the rate revenue calculation. Rate stabilization allows management the discretion to smooth rate increases while still keeping in mind the financial sustainability of the Utility.
- The challenges faced with private haulers and construction of the northeast leg of the Anthony Henday Drive has been well documented. With the completion of the Anthony Henday Drive construction anticipated in late 2016, tip fee revenue is expected to recover throughout 2016-2018. 2016 rate impact is expected to be a $0.05 savings due to recovery of tip fee revenue.
- Other contributions to non-rate revenue include construction and demolition revenue, commercial collection revenue, and Eco Station revenue, slightly offset by decreased revenue from commodity market decline on the sale of recyclable materials.
- The short-term loan from the City of Edmonton contribute to keeping the regulated rates lower, as losses from non-regulated programs cannot be covered by non-regulated revenue or rate revenue.

6.0 Financial Indicators

Waste Management Utility Fiscal Policy C558A was adopted by City Council on September 23, 2014. The updated policy focuses on generating a net income that meets the requirement of the Utility and achieving predictable, low and stable customer rate increases. Beyond generating sufficient net income to meet expenditures, predictable, low and stable increases for this scenario is of higher priority over Cash Position and Debt to Net Assets Ratio.

Scenario 1: Recommended as per 2016-2018 Business Plan

	Budget	Forecast	Proposed			Forecast						
	2015	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1 Rate Sufficient to Meet Expenditures and Cash Flow												
Net Income	(2,562)	(1,160)	954	1,963	871	1,422	3,186	6,875	11,350	14,315	16,703	18,316
Target: Positive Net Income	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
2 Cash Position												
Pay As You Go Requirement	5,354	5,954	5,081	5,589	5,848	9,047	8,604	11,361	11,713	19,237	22,879	22,524
Risk Allowance	2,700	2,700	2,100	1,700	1,300	1,250	1,250	1,250	1,250	1,250	1,250	1,250
Target Cash Position	*8,054*	*8,654*	*7,181*	*7,289*	*7,148*	*10,297*	*9,854*	*12,611*	*12,963*	*20,487*	*24,129*	*23,774*
Actual Cash Balance	1,317	2,153	760	1,222	2,447	3,060	3,701	8,335	14,158	20,965	21,816	21,009
Actual Cash ≥ Target	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*Yes*	*Yes*	*No*	*No*
3 Residential Customer Rate Impacts												
Single Family												
Monthly Billing Increase	$ 3.35	$ 3.35	$ 2.31	$ 2.16	$ 2.56	$ 1.55	$ 1.55	$ 1.55	$ 1.55	$ 1.25	$ 1.25	$ 1.25
Impact of Customer Rate	*9.0%*	*9.0%*	*5.7%*	*5.0%*	*5.7%*	*3.2%*	*3.2%*	*3.0%*	*3.0%*	*2.3%*	*2.3%*	*2.2%*
Monthly Unit Rate	$ 40.69	$ 40.69	$ 43.00	$ 45.16	$ 47.72	$ 49.27	$ 50.82	$ 52.37	$ 53.92	$ 55.17	$ 56.42	$ 57.67
Multi-Family												
Monthly Billing Increase	$ 2.18	$ 2.18	$ 1.50	$ 1.40	$ 1.66	$ 1.01	$ 1.01	$ 1.01	$ 1.01	$ 0.81	$ 0.81	$ 0.81
Impact of Customer Rate	*9.0%*	*9.0%*	*5.7%*	*5.0%*	*5.7%*	*3.2%*	*3.2%*	*3.0%*	*3.0%*	*2.3%*	*2.3%*	*2.2%*
Monthly Unit Rate	$ 26.45	$ 26.45	$ 27.95	$ 29.35	$ 31.01	$ 32.02	$ 33.03	$ 34.04	$ 35.05	$ 35.86	$ 36.67	$ 37.48
Target: Stable, consistent rate increases	*No*	*No*	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
4 Financing of Capital Investments												
Debt to Net Assets Ratio	83%	82%	82%	81%	80%	82%	83%	82%	82%	81%	78%	75%
Target: Between 50% - 70%; balancing cash availability, construction inflation, and interest				*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*

Scenario 2: Mirror Preliminary Tax Levy Forecast Increases

		Budget 2015	Forecast 2015	Proposed 2016	Proposed 2017	Proposed 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022	Forecast 2023	Forecast 2024	Forecast 2025
1	Rate Sufficient to Meet Expenditures and Cash Flow												
	Net Income	(2,562)	(1,160)	1,427	4,232	3,655	4,217	6,017	9,745	14,268	18,236	20,667	21,317
	Target: Positive Net Income	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
2	Cash Position												
	Pay As You Go Requirement	5,354	5,954	5,081	5,589	5,848	9,047	12,104	17,361	19,713	22,737	23,379	23,024
	Risk Allowance	2,700	2,700	2,100	1,700	1,300	1,250	1,250	1,250	1,250	1,250	1,250	1,250
	Target Cash Position	*8,054*	*8,654*	*7,181*	*7,289*	*7,148*	*10,297*	*13,354*	*18,611*	*20,963*	*23,987*	*24,629*	*24,274*
	Actual Cash Balance	1,317	2,216	1,295	4,027	8,036	11,445	14,916	18,920	21,661	24,390	25,705	27,399
	Actual Cash ≥ Target	*No*	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
3	Residential Customer Rate Impacts												
	Single Family												
	Monthly Billing Increase	$ 3.35	$ 3.35	$ 2.44	$ 2.64	$ 2.69	$ 1.55	$ 1.55	$ 1.55	$ 1.55	$ 1.50	$ 1.25	$ 1.00
	Impact of Customer Rate	*9.0%*	*9.0%*	*6.0%*	*6.1%*	*5.9%*	*3.2%*	*3.1%*	*3.0%*	*2.9%*	*2.7%*	*2.2%*	*1.7%*
	Monthly Unit Rate	$ 40.69	$ 40.69	$ 43.13	$ 45.77	$ 48.46	$ 50.00	$ 51.56	$ 53.10	$ 54.66	$ 56.15	$ 57.40	$ 58.40
	Multi-Family												
	Monthly Billing Increase	$ 2.18	$ 2.18	$ 1.59	$ 1.71	$ 1.75	$ 1.00	$ 1.01	$ 1.01	$ 1.01	$ 0.97	$ 0.81	$ 0.65
	Impact of Customer Rate	*9.0%*	*9.0%*	*6.0%*	*6.1%*	*5.9%*	*3.2%*	*3.1%*	*3.0%*	*2.9%*	*2.7%*	*2.2%*	*1.7%*
	Monthly Unit Rate	$ 26.45	$ 26.45	$ 28.04	$ 29.75	$ 31.50	$ 32.50	$ 33.51	$ 34.52	$ 35.53	$ 36.50	$ 37.31	$ 37.96
	Target: Stable, consistent rate increases	*No*	*No*	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
4	Financing of Capital Investments												
	Debt to Net Assets Ratio	83%	82%	82%	81%	80%	82%	83%	81%	79%	77%	73%	70%
	Target: Between 50% - 70%; balancing cash availability, construction inflation, and interest				*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*Yes*

Scenario 3: Return on Rate Base is set to Zero

	Budget 2015	Forecast 2015	Proposed 2016	Proposed 2017	Proposed 2018	Forecast 2019	Forecast 2020	Forecast 2021	Forecast 2022	Forecast 2023	Forecast 2024	Forecast 2025
1 Rate Sufficient to Meet Expenditures and Cash Flow												
Net Income	(2,562)	(1,160)	3,042	4,388	4,382	8,919	8,497	6,275	11,148	9,193	8,857	8,524
Target: Positive Net Income	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
2 Cash Position												
Pay As You Go Requirement	5,354	5,954	5,081	5,589	5,848	9,047	12,104	16,361	19,513	18,237	11,989	11,634
Risk Allowance	2,700	2,700	2,100	1,700	1,300	1,250	1,250	1,250	1,250	1,250	1,250	1,250
Target Cash Position	*8,054*	*8,654*	*7,181*	*7,289*	*7,148*	*10,297*	*13,354*	*17,611*	*20,763*	*19,487*	*13,239*	*12,884*
Actual Cash Balance	1,317	2,216	2,911	5,799	10,535	18,645	24,597	25,130	25,750	19,636	13,641	13,932
Actual Cash ≥ Target	*No*	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
3 Residential Customer Rate Impacts												
Single Family												
Monthly Billing Increase	$ 3.35	$ 3.35	$ 2.88	$ 2.24	$ 2.84	$ 2.59	$ 0.96	$ 0.01	$ 1.65	$ 0.02	$ 0.59	$ 0.80
Impact of Customer Rate	*9.0%*	*9.0%*	*7.1%*	*5.1%*	*6.2%*	*5.3%*	*1.9%*	*0.0%*	*3.2%*	*0.0%*	*1.1%*	*1.5%*
Monthly Unit Rate	$ 40.69	$ 40.69	$ 43.57	$ 45.81	$ 48.65	$ 51.24	$ 52.20	$ 52.21	$ 53.87	$ 53.88	$ 54.47	$ 55.26
Multi-Family												
Monthly Billing Increase	$ 2.18	$ 2.18	$ 1.87	$ 1.46	$ 1.85	$ 1.68	$ 0.63	$ 0.01	$ 1.08	$ 0.01	$ 0.38	$ 0.52
Impact of Customer Rate	*9.0%*	*9.0%*	*7.1%*	*5.1%*	*6.2%*	*5.3%*	*1.9%*	*0.0%*	*3.2%*	*0.0%*	*1.1%*	*1.5%*
Monthly Unit Rate	$ 26.45	$ 26.45	$ 28.32	$ 29.78	$ 31.62	$ 33.31	$ 33.93	$ 33.94	$ 35.01	$ 35.02	$ 35.40	$ 35.92
Target: Stable, consistent rate increases	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*
4 Financing of Capital Investments												
Debt to Net Assets Ratio	83%	82%	82%	81%	80%	82%	83%	81%	80%	77%	74%	74%
Target: Between 50% - 70%; balancing cash availability, construction inflation, and interest				*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*	*No*

Scenario 4: Achieve Targets by 2018

	Budget	Forecast	Proposed			Forecast						
	2015	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1 Rate Sufficient to Meet Expenditures and Cash Flow												
Net Income	(2,562)	(1,160)	41,199	61,847	75,798	72,260	69,830	69,253	69,341	69,000	68,025	66,180
Target: Positive Net Income	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
2 Cash Position												
Pay As You Go Requirement	5,354	45,954	42,081	28,589	75,848	59,047	8,604	6,361	11,213	9,237	8,879	19,524
Risk Allowance	2,700	2,700	2,100	1,700	1,300	1,250	1,250	1,250	1,250	1,250	1,250	1,250
Target Cash Position	*8,054*	*48,654*	*44,181*	*30,289*	*77,148*	*60,297*	*9,854*	*7,611*	*12,463*	*10,487*	*10,129*	*20,774*
Actual Cash Balance	1,317	2,153	1,005	24,352	77,504	78,956	96,240	163,252	232,066	294,058	356,231	417,288
Actual Cash ≥ Target	*No*	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
3 Residential Customer Rate Impacts												
Single Family												
Monthly Billing Increase	$ 3.35	$ 3.35	$ 13.27	$ 7.32	$ 6.38	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25	$ 0.25
Impact of Customer Rate	*9.0%*	*9.0%*	*32.6%*	*13.6%*	*10.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*
Monthly Unit Rate	$ 40.69	$ 40.69	$ 53.96	$ 61.28	$ 67.66	$ 67.91	$ 68.16	$ 68.41	$ 68.66	$ 68.91	$ 69.16	$ 69.41
Multi-Family												
Monthly Billing Increase	$ 2.18	$ 2.18	$ 8.62	$ 4.76	$ 4.15	$ 0.16	$ 0.16	$ 0.16	$ 0.16	$ 0.16	$ 0.16	$ 0.16
Impact of Customer Rate	*9.0%*	*9.0%*	*32.6%*	*13.6%*	*10.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*	*0.4%*
Monthly Unit Rate	$ 26.45	$ 26.45	$ 35.07	$ 39.83	$ 43.98	$ 44.14	$ 44.30	$ 44.47	$ 44.63	$ 44.79	$ 44.95	$ 45.12
Target: Stable, consistent rate increases	*No*	*No*	*No*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
4 Financing of Capital Investments												
Debt to Net Assets Ratio	83%	82%	69%	70%	74%	63%	51%	51%	52%	52%	53%	54%
Target: Between 50% - 70%; balancing cash availability, construction inflation, and interest				*Yes*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

General Comments for Financial Indicators

1. Rates Sufficient to Meet Expenditures

All scenarios meet the requirement of generating sufficient net income to cover operating expenses beginning in 2016.

2. Cash Position

Waste Management Services' cash balance is positive in all years, due in part to the short term loan from the City of Edmonton, which is being utilized in all scenarios. The three other scenarios all achieve target cash position in 2018, while the recommended scenario achieves cash target in 2022. The reason for the delay in the recommended scenario is the priority of low, stable rate increases over cash position.

3. Low, Stable and Consistent Rate Increases

Low, stable and consistent rate increases are achieved in 2019 for all scenarios except the Return on Rate Base Set to Zero scenarios. This scenario does not allow for adjustments to smooth the rate increases. While the other scenarios achieve stable rates in 2019, the monthly rate is lowest in the recommended scenario. Mirroring Preliminary Tax Levy Forecast and Achieving Targets by 2018 result in higher rate increases in 2016-2018 than the recommended scenario.

4. Debt to Net Assets Ratio

The Debt to Net Assets Ratio is forecasted to decline as improved cash position allows for a larger proportion of capital requirements to be funded through Pay As You Go. For the Recommended scenario, Return on Rate Base is set to Zero scenario and Achieve Targets by 2018 scenario, the target 70% debt to net assets ratio is not achieved by 2025. As scenario #2 charges higher rates than necessary, the debt to net assets ratio is achieved within the ten year forecast period; however this is at the cost of the rate payer.

5. Risk Allowance

Risk Exposures for the Waste Management Utility include consideration for pricing from the recyclable markets, residential waste volume, and contingency for new facilities upon commissioning where new technology is deployed, as outlined in Fiscal Policy C558A (2.1) Identified risk exposures include:

		2016	2017	2018
Revenue Risks				
	Recyclable Market	500	500	500
	GHG, landfill gas, 3rd party	750	750	750
Expenditure Risks				
	AERF (2013 opening)	75	50	-
	Refuse Derived Fuel Processing (2014 opening)	500	250	-
	Kennedale EcoStn (2015 opening)	200	100	50
	Equipment Storage Building (2015 opening)	75	50	-
		2,100	1,700	1,300

7.0 Utility Summary Schedule ($000's)

Line #		Reference	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
Expenses															
1	Operations and Maintenance	**Schedule 8.0**	131,901	141,496	156,127	156,552	170,439	13,887	8.9%	178,043	7,604	4.5%	184,716	6,674	3.7%
2	Net Amortization Expense	**Schedule 9.0**	17,074	17,466	20,205	19,471	21,762	2,291	11.8%	24,483	2,721	12.5%	27,272	2,789	11.4%
3	Debt Servicing	**Schedule 9.0 & 9.3**	10,104	9,852	10,400	9,933	10,302	369	3.7%	10,697	395	3.8%	10,850	153	1.4%
4	Intra-municipal Recoveries	**Schedule 8.8**	(11,649)	(11,501)	(14,872)	(14,412)	(15,505)	(1,093)	7.6%	(15,896)	(391)	2.5%	(16,377)	(481)	3.0%
5	Grants	**Schedule 8.0**	3,700	4,000	-	-	-	-	-	-	-	-	-	-	-
	Expense Subtotal		**151,130**	**161,313**	**171,860**	**171,543**	**186,998**	**15,454**	**9.0%**	**197,327**	**10,329**	**5.5%**	**206,461**	**9,134**	**4.6%**
Less: Non-Rate Revenue		**Schedule 10.0**	**26,538**	**28,379**	**23,125**	**23,710**	**30,013**	6,302	26.6%	**31,544**	1,531	5.1%	**28,084**	(3,460)	(11.0%)
Less: Rate Revenue Required		**Schedule 10.1**	**122,402**	**133,177**	**146,173**	**146,673**	**157,939**	11,266	7.7%	**167,745**	9,806	6.2%	**179,248**	11,502	6.9%
Net Income/(Loss)		**Schedule 11.1**	**(2,189)**	**243**	**(2,562)**	**(1,160)**	**954**	**2,114**	**(182.2%)**	**1,963**	**1,008**	**105.7%**	**871**	**(1,092)**	**(55.6%)**

Further analysis of proposed expenditures and revenues are provided in subsequent schedules.

8.0 Operations and Maintenance ($000's)

Line #		Reference	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Personnel	**Schedule 8.1**	36,719	38,311	43,391	43,391	48,001	4,609	10.6%	50,546	2,546	5.3%	52,446	1,900	3.8%
2	Materials, Goods & Supplies	**Schedule 8.2**	3,069	5,147	5,858	5,108	6,667	1,559	30.5%	8,252	1,585	23.8%	8,500	248	3.0%
3	External Services	**Schedule 8.3**	64,562	67,532	74,071	76,118	76,425	307	0.4%	78,719	2,294	3.0%	86,850	8,131	10.3%
4	Fleet Services	**Schedule 8.4**	15,444	16,594	15,584	14,984	15,800	817	5.4%	16,241	440	2.8%	16,689	448	2.8%
5	Shared Services	**Schedule 8.5**	6,426	7,441	9,719	9,719	10,051	332	3.4%	10,357	306	3.0%	10,669	312	3.0%
6	Intra-municipal Services	**Schedule 8.6**	1,214	1,413	1,226	1,304	1,570	266	20.4%	1,595	25	1.6%	1,607	12	0.8%
7	Utilities	**Schedule 8.7**	3,678	4,054	5,426	5,076	5,172	96	1.9%	6,407	1,235	23.9%	7,020	614	9.6%
8	Other Expenses		789	1,004	852	852	6,752	5,901	692.7%	5,927	(826)	(12.2%)	935	(4,991)	(84.2%)
	Subtotal O & M Expenses		**131,901**	**141,496**	**156,127**	**156,552**	**170,439**	**13,887**	**8.9%**	**178,043**	**7,604**	**4.5%**	**184,716**	**6,674**	**3.7%**
			-	-	-	-	-			-			-		
9	Intra-municipal Recoveries	**Schedule 8.8**	(11,649)	(11,501)	(14,872)	(14,412)	(15,505)	(1,093)	7.6%	(15,896)	(391)	2.5%	(16,377)	(481)	3.0%
	Recoveries		**(11,649)**	**(11,501)**	**(14,872)**	**(14,412)**	**(15,505)**	**(1,093)**	**7.6%**	**(15,896)**	**(391)**	**2.5%**	**(16,377)**	**(481)**	**3.0%**
			-	-	-	-	-			-			-		
10	Amortization	**Schedule 9.0**	17,074	17,466	20,205	19,471	21,762	2,291	11.8%	24,483	2,721	12.5%	27,272	2,789	11.4%
11	Debt Interest	**Schedule 9.0**	10,104	9,852	10,400	9,933	10,302	369	3.7%	10,697	395	3.8%	10,850	153	1.4%
	Expenses before One-Times		147,430	157,313	171,860	171,543	186,998	15,454	9.0%	197,327	10,329	5.5%	206,461	9,134	4.6%
12	Grants		3,700	4,000	-	-	-	-	-	-	-	-	-	-	-
	Net Expenses		**151,130**	**161,313**	**171,860**	**171,543**	**186,998**	**15,454**	**9.0%**	**197,327**	**10,329**	**5.5%**	**206,461**	**9,134**	**4.6%**

Line 8 - Other Expenses

Other expenses include insurance on the Utility's facilities, professional dues, and training costs. This line also includes the transfer of High Solids Anaerobic Digestion Facility capital grant revenue ($5.8 million in 2016 and $5.0 million in 2017) from operating to capital. The net operating impact of this capital grants is zero, see Schedule 10.0, Line 9 - Grant Revenue for offsetting capital grant revenue.

Line 12 - Grants

2013 and 2014 grants are flow through, received from Alberta Innovates Energy and Environment Solutions and disbursed to the owner of the Edmonton Waste to Biofuels and Chemicals Facility. The net operating impact of these grants is zero with the offset in grant revenue (Schedule 10.0).

8.1 Personnel Costs ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Wages	26,750	28,493	31,109	31,109	34,864	3,755	12.1%	36,767	1,903	5.5%	38,184	1,417	3.9%
2	Overtime	668	538	1,019	1,019	1,034	14	1.4%	1,047	13	1.3%	1,064	16	1.6%
3	Allowances and Benefits	9,301	9,280	11,263	11,263	12,103	840	7.5%	12,732	629	5.2%	13,199	467	3.7%
	Total Personnel	**36,719**	**38,311**	**43,391**	**43,391**	**48,001**	**4,609**	**10.6%**	**50,546**	**2,546**	**5.3%**	**52,446**	**1,900**	**3.8%**

Personnel Costs include Wages, Overtime, Employment Allowances, and Benefits. The Capital and Operating Budget System used by the City of Edmonton utilizes pass-offs from the City's payroll system as the base for the personnel budget for wages and benefits, thereby providing a reliable and consistent source of information. Vacant positions are set at mid-range with family benefits. Included in the 2016-2018 Proposed Budget is an assumption of a 3% vacancy discount for Collections operational staff and a 2% vacancy discount for all other positions.

Line 1 - Wages

Wages for 2016-2018 include union settlements and assumptions for management contracts in 2017 and 2018, which are not currently settled. Also included are wages for additional resources (FTEs), of which a summary is provided on the following page. Justifications for Additional Resources (FTEs) are included in the Appendix to this rate filing.

Line 2 - Overtime

Overtime is utilized to address extra material volume during peak seasonal periods, which are most effectively managed through the use of existing staff.

Line 3 - Allowances and Benefits

The change in Allowances and Benefits corresponds to the new positions being added in 2016-2018. This consists mainly of benefits such as LAP Plan, CPP, Major Medical and Dental Plan, Group Life Insurance and Health Care Spending Account.

Summary of Additional Resources (FTEs)

	2016 Service Needs (FTEs)	2016 Service Needs ($000s)	2017 Service Needs (FTEs)	2017 Service Needs ($000s)	2018 Service Needs (FTEs)	2018 Service Needs ($000s)	Appendix
Starting (Prior Year Budget)	**525.9**		**549.6**		**564.3**		
Collection Services	3.3	261	5.5	451	2.2	186	A1, A2, A3
EWMC Operators	6.8	508	6.2	310			A4, A5
Electrical Engineer	1.0	124					A6
Environmental Engineer			1.0	124			A7
Public Information Officer	1.0	98					A8
Public Service Representative	1.0	68					A9
Training Coordinator	1.0	84					A10
Reuse Program Assistant			1.0	66			A11
Reuse Operator					1.0	47	A12
Heavy Duty Mechanic	2.0	198					A13
Data Management Clerk	1.0	54					A14
Mechanical Maintenance Planner	2.0	208					A4
EWMC Laboratory Technician	1.0	73					A15
P&D Truck Driver	3.6	285					A4
BPCO Methods Analyst			1.0	99			A16
Total Additional Resources	**23.7**	**1,961**	**14.7**	**1,050**	**3.2**	**233**	
Total	**549.6**	**1,961**	**564.3**	**1,050**	**567.5**	**233**	

The Service Needs represents FTEs associated with budgeted dollars being requested for each year. The FTE count for EWMC Operators in 2016 is reduced by 2.25 for annualization as some positions are not required for the full year. As a result, 2.25 FTEs are added to the following year, in 2017, to budget a full year of operations.

8.2 Materials, Goods, Supplies ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Collection Services	591	869	1,039	1,039	1,071	33	3.1%	1,093	22	2.0%	1,115	22	2.0%
2	Materials Recovery Facility	-	45	-	-	-	-	-	-	-	-	-	-	-
3	Organics and Nutri-Gold Operations	55	74	607	607	645	38	6.3%	659	14	2.1%	674	15	2.3%
4	Integrated Processing & Transfer Operations	992	1,081	1,469	719	2,360	1,641	228.3%	3,860	1,500	63.5%	4,010	150	3.9%
5	Biofuels Facility	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Haul and Landfill Operations	18	21	18	18	18	-	-	18	-	-	18	-	-
7	Construction and Demolition Facility	468	525	482	482	508	26	5.4%	508	-	-	508	-	-
8	Other	945	2,532	2,243	2,243	2,063	(179)	(8.0%)	2,113	49	2.4%	2,174	62	2.9%
	Total Materials, Goods & Supplies	**3,069**	**5,147**	**5,858**	**5,108**	**6,667**	**1,559**	**30.5%**	**8,252**	**1,585**	**23.8%**	**8,500**	**248**	**3.0%**

Line 4 - Integrated Processing & Transfer Operations (IPTF)

In accordance with Waste Management Services' mandate to divert waste from landfill, the Utility will process a significant portion of non-recoverable waste from composting or recycling through the Waste to Biofuels program. This program is comprised of two key components – the preparation of waste materials into feedstock or refuses derived fuel (RDF) and the thermo-chemical conversion of feedstock into alcohol fuels. The preparation of the RDF is performed by Waste Management Services through the multi-purpose Integrated Processing and Transfer Facility (IPTF). The conversion to fuels is done in the Waste to Biofuels and Chemicals Facility, which is owned and operated by Enerkem, a third party technology developer.

The increase in direct material in 2016 and 2017 in the IPTF is for wear parts for the Refuse Derived Fuel facility. The increased requirement for wear parts is a result of the Refuse Derived Fuel facility being used to produce feedstock for the Waste to Biofuels and Chemicals Facility, which is not in production in 2015, but expected to be at 80% production in 2016 and full production in 2017. Although the Refuse Derived Fuel facility does not directly result in cost savings, the benefits realized are through increased diversion of wastes from landfill.

In 2015, Waste Management Services implemented a more streamlined purchasing process, whereby purchases are made directly by the Utility rather than through a contractor. This has mitigated some costs associated with increased usage of the Refuse Derived Fuel facility.

8.3 External Services ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Collection Services	18,064	19,115	22,955	22,455	23,202	747	3.3%	24,582	1,380	5.9%	30,004	5,422	22.1%
2	Materials Recovery Facility	6,551	6,494	5,022	7,022	6,272	(750)	(10.7%)	5,842	(430)	(6.9%)	5,882	40	0.7%
3	Organics and Nutri-Gold Operations	15,897	14,545	17,702	17,702	16,920	(782)	(4.4%)	18,194	1,274	7.5%	19,650	1,456	8.0%
4	Integrated Processing & Transfer Operations	4,876	4,036	3,992	3,992	4,592	601	15.0%	5,213	620	13.5%	5,415	202	3.9%
5	Biofuels Facility	3	-	2,220	420	3,786	3,367	802.4%	4,863	1,077	28.4%	4,816	(47)	(1.0%)
6	Haul and Landfill Operations	12,234	14,702	12,797	15,297	11,335	(3,962)	(25.9%)	9,661	(1,674)	(14.8%)	10,276	616	6.4%
7	Construction and Demolition Facility	1,510	1,460	1,510	1,510	1,910	400	26.5%	1,574	(336)	(17.6%)	1,608	34	2.2%
8	Customer Billing Services	4,410	4,020	4,037	3,885	3,807	(78)	(2.0%)	3,915	108	2.8%	4,372	458	11.7%
9	Other	1,017	3,160	3,836	3,836	4,601	765	19.9%	4,876	275	6.0%	4,826	(50)	(1.0%)
	Total External Services	**64,562**	**67,532**	**74,071**	**76,118**	**76,425**	**307**	**0.4%**	**78,719**	**2,294**	**3.0%**	**86,850**	**8,131**	**10.3%**

Line 1 – Collection Services

Collection Services external contracts include single and multi-family residential refuse and recycling collection as well as costs for contracted equipment, services at Eco Stations and other Collection Services programs.

Contract Work is anticipated to increase significantly in 2018 as contracts expire and need to be retendered. Potential increases are determined by assessing historical results, current market conditions and the impact of changes during the current contract period. For example, the increase in minimum wage by 51% from 2013 to 2018, industry competition and changes in service delivery may impact contract rates in 2018. Current contracts are adjusted annually using a cost index that includes CPI, fuel and labour to better reflect annual changes and mitigate risk premium in potential bids.

Line 2 - Materials Recovery Facility

In 2014, a new contractor was selected through a tendered process to manage and operate the Materials Recovery Facility. In addition, the Utility has retained an independent consultant to review the facility operations to gain process efficiency, enhance safety and improve product quality. These recommendations will result in higher standard of practice; therefore the 2015 forecast was increased to comply with these recommendations. Collaborative efforts continue to be made to find operational efficiencies and reduce costs.

Line 3 – Organics and Nutri-Gold Operations

External services for Organics and Nutri-Gold Operations are contract services for the operations and maintenance of the composter, along with contracts for disposal of some biosolids through agricultural application.

In 2017 the High Solids Anaerobic Digestion Facility will be commissioned, allowing for an additional 48,000 tonnes of organic material to be composted. Increased contracted services from the operation of this facility will be offset with recoveries from processing of biosolids.

Line 4 & 5 – IPTF Operations and Biofuels Contract

As described in Schedule 8.2, Line 4, feedstock for the Waste to Biofuels and Chemicals facility is prepared at the Refuse Derived Fuel facility, located within the IPTF. The increased production of feedstock results in higher contract costs for the IPTF in 2016 and 2017. Waste Management Services pays a contractually agreed upon fee to Enerkem for the conversion of feedstock into alcohol fuels at the Waste to Biofuels and Chemicals facility. This expense is reflected in Line 5 - Biofuels Facility. Most of the increased costs incurred by the IPTF Operations and Biofuels Facility contract will be offset by a reduction in the costs of hauling and landfill, as demonstrated in Line 6 - Haul and Landfill Operations.

Line 6 - Haul and Landfill Operations

Haul and Landfill Operations represents the contract hauling and landfill fees for all of Waste Management Services operations, which are affected by other factors in addition to the start up of the Waste to Biofuels and Chemicals Facility. This will be reduced with the commissioning of the High Solids Anaerobic Digestion Facility in 2017. Included in this line are additional costs associated with the recovery of tip fee revenues at the ITPF upon completion of the Anthony Henday Construction.

Line 7 – Construction and Demolition Facility (C&D)

The Construction & Demolition Facility is operated by City staff, with significant contracted services used including provision of labour and equipment maintenance services. Contracted services are also used to supplement the utility's operations in meeting peak demands in grinding and crushing of wood and aggregates. The wood grinding operation will require more extensive contract work to be utilized in 2016 in order to transition to a more cost-effective model in 2017, at which time the process will be completed in-house by City staff.

Line 8 - Customer Billing Services

Waste Management Services has a contract with EPCOR for the provision of customer billing and collection services. The 2016 and 2017 proposed rates are based on the current Service Level Agreement with EPCOR. The preliminary 2018 rate estimate as provided by EPCOR includes a 3% inflationary increase as well as $0.08 per invoice for replacement of the customer database (UIS) system.

Line 9 – Other

Other is comprised of internal costs which are allocated between programs. These include Community Relations and Program Management; administrative services; and other facilities such as Eco Stations, Edmonton Waste Management Centre Operations, Advanced Energy Research Facility, Marketing Compost Facility, Research & Development and Environmental.

8.4 Fleet Services ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Fleet Charges													
	- fixed	1,448	1,145	606	606	303	(303)	(50.1%)	160	(143)	(47.3%)	80	(80)	(49.8%)
	- variable	5,099	5,796	(0)	(0)	-	0	(100.0%)	-	-	-	-	-	-
2	Fuel	3,646	3,924	4,601	4,201	3,794	(407)	(9.7%)	3,954	160	4.2%	4,114	160	4.0%
3	Direct Charge & Repairs	5,251	5,729	10,378	10,178	11,704	1,527	15.0%	12,127	423	3.6%	12,495	368	3.0%
	Total Fleet	**15,444**	**16,594**	**15,584**	**14,984**	**15,800**	**817**	**5.4%**	**16,241**	**440**	**2.8%**	**16,689**	**448**	**2.8%**

In 2015, Fleet Services was repositioned to a tax supported area rather than a municipal enterprise. The primary reason for this change was that over 90% of Fleet activities are provided for City of Edmonton operations rather than external parties.

Fleet Services changed billing method from indirect to direct billing resulting in budget and actual charges for "Variable" moving to "Direct Charge & Repairs."

The variance in Fleet Charges - Fixed is due to reallocation of budget to Direct Charge & Repairs to better align with future expectation.

8.5 Shared Services ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Corporate Allocation (Central Management)	1,024	1,096	1,417	1,417	1,456	40	2.8%	1,500	44	3.0%	1,545	45	3.0%
2	Communications	260	316	448	448	450	2	0.5%	464	14	3.0%	478	14	3.0%
3	Financial Services	1,611	1,804	2,056	2,056	2,049	(7)	(0.3%)	2,111	62	3.0%	2,175	64	3.0%
4	Customer Information Services	419	453	481	481	525	44	9.2%	541	16	3.0%	557	16	3.0%
5	Human Resources	757	791	1,060	1,060	1,036	(24)	(2.3%)	1,067	31	3.0%	1,099	32	3.0%
6	Legal Services	146	162	244	244	264	20	8.2%	272	8	3.0%	280	8	3.0%
7	Corporate Procurement and Supply Services	247	271	410	410	420	10	2.3%	432	13	3.0%	445	13	3.0%
8	Information Technology	987	1,221	1,828	1,828	2,023	195	10.6%	2,084	61	3.0%	2,146	63	3.0%
9	Space Rent / Utilities	627	753	634	634	653	18	2.9%	676	23	3.5%	697	21	3.1%
10	Facility and Landscape Infrastructure	348	573	1,141	1,141	1,175	34	3.0%	1,210	35	3.0%	1,247	36	3.0%
	Total Shared Services	**6,426**	**7,441**	**9,719**	**9,719**	**10,051**	**332**	**3.4%**	**10,357**	**306**	**3.0%**	**10,669**	**312**	**3.0%**

The City of Edmonton employs a Shared Services model whereby support services required for the operations of all City businesses are provided through centralized areas of expertise. The rationale behind this approach is to take advantage of efficiencies gained through economies of scale as well as potential opportunities to provide more robust systems and services (e.g. particularly technology related services). The 2016-2018 Proposed Shared Services costs above are based on 2014 data as cost drivers.

Throughout 2014 and 2015, Administration presented a fair market evaluation of several of the shared services to the Utility Committee in order to better understand the nature of charges as well as ensure reasonableness in the charges. From the reports received, the Utility Committee determined proper due diligence is used in determining the shared services charges and thus will only request additional fair market reports as deemed necessary. The fair market evaluation reports that were presented to Utility Committee are available online.

2015 was the first year Waste Management Services paid 100% of all its shared service costs, as gradual implementation of shared service costs was used to prevent a sudden large increase in rates. Waste Management is paying its full proportionate share resulting in changes being more transparent.

For 2016-2018 there are no significant changes beyond inflation for shared services, with the exception of Information Technology.

Line 8 - Information Technology

Information Technology shared service costs are proposed to increase by $195 (10.6%) in 2016. Information Technology costs have increased due to inflationary measures and some additional software and staffing requirements within Information Technology, which accounts for the majority of the increases. Waste Management Services' utilization of Information Technology services has also increased, in particular in application use and the proportion of system users.

8.6 Intra-Municipal Services ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Communications	24	-	-	-	-	-	-	-	-	-	-	-	-
2	Financial Services	190	190	190	190	190	(0)	(0.0%)	196	6	3.2%	202	6	3.1%
3	Human Resources	157	206	36	114	185	71	62.4%	190	5	2.5%	195	6	3.0%
4	Legal Services	94	107	100	100	102	2	2.0%	104	2	2.0%	106	2	2.0%
5	Corporate Procurement and Supply Services	53	140	219	219	219	(1)	(0.3%)	224	5	2.5%	230	5	2.4%
6	Parking	70	69	68	68	64	(4)	(5.7%)	64	-	-	64	-	-
7	Facility and Landscape Infrastructure	402	589	449	449	625	176	39.1%	632	7	1.1%	625	(8)	(1.2%)
8	Other	224	112	163	163	185	22	13.3%	185	0	0.2%	185	0	0.2%
	Total Intra-municipal Services	**1,214**	**1,413**	**1,226**	**1,304**	**1,570**	**266**	**20.4%**	**1,595**	**25**	**1.6%**	**1,607**	**12**	**0.8%**

Intra-Municipal Services are charges for on-demand services from other areas of the City of Edmonton that are not included in shared services charges. These are direct charges for services including the Digital Print Centre for printing posters, Edmonton Transit Services for chartered bus, and Transportation Services for parking at City of Edmonton buildings.

Line 3 - Human Resources

Human Resource charges include staff support from the City of Edmonton labour pool. This labour pool is available to all areas of the City of Edmonton to utilize in order to fill short term, temporary vacancies, typically for administrative staff. The increase in Human Resources charges is to align budget with historical and actual usage of staff support.

Line 7 - Facility and Landscape Infrastructure

Facility and Landscape Infrastructure, formerly Building Services and Custodial, has increased as a result of additional facilities using City of Edmonton building maintenance and custodial services, including the Materials Recovery Facility located at the Edmonton Waste Management Centre, and the Kennedale Eco Station which opened in 2015. A portion of the increase is to align budget with actual.

8.7 Utilities ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Power	2,633	2,683	3,602	3,252	3,426	174	5.4%	4,167	741	21.6%	4,678	511	12.3%
2	Natural Gas	602	978	1,336	1,336	1,228	(108)	(8.1%)	1,706	478	38.9%	1,795	89	5.2%
3	Water	129	123	129	129	147	18	14.0%	154	7	4.6%	161	7	4.6%
4	Other	314	270	359	359	371	12	3.3%	379	9	2.4%	386	6	1.6%
	Total Utilities	**3,678**	**4,054**	**5,426**	**5,076**	**5,172**	**96**	**1.9%**	**6,407**	**1,235**	**23.9%**	**7,020**	**614**	**9.6%**

Power, natural gas, and water estimates are provided by Facility and Landscape Infrastructure, Office of Energy Management. Estimates are based on historical consumption and future forecasted rates for current service levels. Service level changes are applied to the estimates to determine the budget numbers for each utility.

Line 1 – Power

There is a significant increase in power costs in 2017 as a result of:

Commissioning of the High Solids Anaerobic Digestion Facility in 2017	445
Increase usage of the Refuse Derived Fuel Facility to produce feedstock for the Waste to Biofuels Facility	397
Price reductions based on corporately forecasted rate reductions	(101)
Total increase	741

The increase in power costs in 2018 is attributed to the High Solids Anaerobic Digestion Facility.

Line 2 - Natural Gas

The primary cause of the change to natural gas costs in 2017 is the increased usage of the Refuse Derived Fuel Facility to produce feedstock for the Waste to Biofuels Facility.

8.8 Recoveries ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Organics	(4,403)	(5,436)	(7,683)	(7,223)	(8,406)	(1,183)	16.4%	(9,027)	(621)	7.4%	(8,537)	490	(5.4%)
2	Nutri-Gold	(4,598)	(3,349)	(4,310)	(4,310)	(4,070)	240	(5.6%)	(3,780)	290	(7.1%)	(4,668)	(888)	23.5%
	Total Bio-solids Recovery	**(9,001)**	**(8,785)**	**(11,993)**	**(11,533)**	**(12,476)**	**(943)**	**8.2%**	**(12,807)**	**(331)**	**2.7%**	**(13,205)**	**(398)**	**3.1%**
3	Litter Collection Recovery	(1,940)	(1,980)	(1,984)	(1,984)	(2,044)	(59)	3.0%	(2,078)	(35)	1.7%	(2,136)	(58)	2.8%
4	Landfill disposal fees	(708)	(218)	(47)	(47)	(190)	(143)	302.1%	(195)	(5)	2.6%	(200)	(5)	2.6%
5	Charges to Capital	-	(518)	(848)	(848)	(796)	52	(6.2%)	(816)	(20)	2.5%	(836)	(20)	2.5%
	Total Intra-Municipal Recoveries	**(11,649)**	**(11,501)**	**(14,872)**	**(14,412)**	**(15,505)**	**(1,093)**	**7.6%**	**(15,896)**	**(391)**	**2.5%**	**(16,377)**	**(481)**	**3.0%**

Intra-Municipal Recoveries are billings for services Waste Management Services provides to other areas within the City of Edmonton. These include direct charges such as the processing of biosolids for Drainage Services, litter collection on behalf of Capital City Clean-Up and charges to other City of Edmonton areas for disposal of waste at the Edmonton Waste Management Centre.

Lines 1 and 2 - Organics and Nutri-Gold Operations

Organics and Nutri-Gold operations combined represent the total processing of bio-solids, an intra-municipal recovery from Drainage Services. The increase in 2016 proposed over the 2015 forecast is the result of a pipeline break in 2015 which adversely affects the amount of bio-solids that Waste Management Services will be able to process. Inflationary increases are included for each year for bio-solids processing. The corresponding schedule in the Drainage Rate Filing is Schedule 7.2.5.

Line 4 - Landfill Disposal Fees

Landfill disposal fees are charged to other City of Edmonton areas for disposal of waste at the Edmonton Waste Management Centre. The increase in 2016 is to align budget with historical and actual recoveries / usage.

9.0 Amortization and Interest Expense ($000's)

Line #		Reference	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Amortization of Non-Contributed Assets	**Schedule 9.1**	17,634	18,068	20,807	20,072	22,364	2,291	11.4%	25,350	2,987	13.4%	28,405	3,055	12.1%
2	Amortization (CIAC)	**Schedule 9.2**	(560)	(602)	(602)	(602)	(602)	-	-	(867)	(266)	44.2%	(1,133)	(266)	30.6%
	Net Amortization Expense		**17,074**	**17,466**	**20,205**	**19,471**	**21,762**	**2,291**	**11.8%**	**24,483**	**2,721**	**12.5%**	**27,272**	**2,789**	**11.4%**
3	Long-Term Interest	**Schedule 9.3**	10,104	9,852	10,362	9,894	10,230	336	3.4%	10,598	368	3.6%	10,706	108	1.0%
4	Short-Term Interest	**Schedule 9.4**			38	39	72	33	86.1%	99	27	37.9%	144	45	45.1%
	Interest Expense		**10,104**	**9,852**	**10,400**	**9,933**	**10,302**	**369**	**3.7%**	**10,697**	**395**	**3.8%**	**10,850**	**153**	**1.4%**
5	Long-Term Debt Principal Repayment	**Schedule 11.3**	14,396	15,421	17,530	17,130	19,622	2,492	14.5%	21,941	2,318	11.8%	23,029	1,089	5.0%
6	Short-Term Debt Principal Repayment	**Schedule 9.4**			239	240	510	269	112.0%	804	294	57.7%	1,307	503	62.5%
	Principal Repayments		**14,396**	**15,421**	**17,769**	**17,371**	**20,132**	**2,761**	**15.9%**	**22,745**	**2,613**	**13.0%**	**24,336**	**1,592**	**7.0%**

Line 1 - Amortization of Non-Contributed Assets

Amortization Expense represents the amount of asset life used up during a given operating period. The rate of amortization is dependent upon the different classes of assets, each with a pre-determined estimated useful life based upon historic experience. Waste Management Services' assets are divided into 41 different classes, with useful lives varying between 5 years and extending to 60 years.

Line 2 - Amortization of Contributed Assets

Amortization of Contributed Assets represents the amount of benefit from an assets which were received or funded by third parties. The amortization from contributed assets decreases the amount of total amortization expense for Waste Management Services.

Net amortization is increasing annually over the period of this budget. As the Utility takes ownership of all vehicles and equipment from Fleet Services amortization allowance will also transfer. The new facilities will be commissioned resulting in additional amortization costs. Existing assets will not reached the end of their useful life for several more years.

Line 3 and 4 - Interest Expense

Interest expense includes both interest for debentures related to capital projects, as well as interest on short term loans from the City of Edmonton. The 2015 forecast reduction in Interest Expense over the 2014 Budget was the result of actual interest rates being lower than originally anticipated combined with less debenture draws due to delays in capital projects. Refer to Schedule 9.4 for additional details regarding the loans from City of Edmonton.

Line 5 and 6 - Principal Repayments

Principal repayment as shown on Line 5 represents the principal portion of long term debt repayment (Schedule 11.3). Line 6 illustrates the principal repayments for the short term loans from the City of Edmonton (Schedule 9.4).

9.1 Amortization Expense ($000's)

Line #		Expected Useful Life in Years	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Major Building Structure	60	724	760	36	5.0%	833	73	9.7%	906	73	8.8%
2	Major Building Shell	20	559	692	132	23.7%	879	188	27.1%	1,029	150	17.1%
3	Major Building Interior	15	714	1,060	346	48.5%	1,154	94	8.9%	1,270	116	10.0%
4	Major Building Services	20	1,712	1,780	68	3.9%	1,806	26	1.5%	1,834	27	1.5%
5	Major Building Equipment	25	204	241	37	18.3%	299	58	24.1%	355	56	18.7%
6	Minor Building	50	77	77	-	-	77	-	-	77	-	-
7	Major Building Temporary	25	28	28	-	-	28	-	-	28	-	-
8	Composter Tipping Floor Building	30	204	204	-	-	204	-	-	204	-	-
9	Composter Mixing Drums	10	343	343	-	-	343	-	-	254	(89)	(26.0%)
10	Bio-Solids De-watering Building	30	36	36	-	-	36	-	-	36	-	-
11	Bio-Solids De-watering Plant	12	235	235	-	-	235	-	-	235	-	-
12	Composter Aeration Building	30	856	856	-	-	856	-	-	856	-	-
13	Composter Primary Download	12	76	76	-	-	76	-	-	76	-	-
14	Composter Aeration System	12	4	8	4	100.0%	29	21	250.0%	50	21	71.4%
15	Composter Finishing Circuits	12	48	48	-	-	48	-	-	48	-	-
16	Composter Wet Air System	12	73	73	-	-	73	-	-	73	-	-
17	Composter Electrical	20	267	267	-	-	267	-	-	267	-	-
18	Composter HVAC	15	370	187	(183)	(49.5%)	3	(183)	(98.1%)	3	-	-
19	Landfill	35	82	82	0	0.1%	82	-	-	82	-	-
20	Landfill Pump house #1	40	4	4	-	-	2	(2)	(50.0%)	-	(2)	(100.0%)
21	Landfill Pump house #2	40	4	2	(2)	(50.0%)	-	(2)	(100.0%)	-	-	-
22	Leachate Collection System	40	71	45	(26)	(36.1%)	45	-	-	45	-	-
23	Groundwater Collection System	40	30	14	(16)	(53.0%)	14	-	-	23	9	59.9%
24	Material Recovery Facility	30	240	248	8	3.5%	256	8	3.4%	256	(0)	(0.0%)
25	Material Recovery Equipment	20	281	325	44	15.7%	370	44	13.6%	370	-	-
26	Cure Site	30	247	247	-	-	247	-	-	247	-	-
27	EWMC Roads & Utilities	35	365	402	37	10.2%	435	33	8.2%	477	42	9.7%
28	Leachate Treatment Plant	30	127	127	-	-	127	-	-	127	-	-
29	IPTF Tipping Floor	15	144	144	-	-	144	-	-	144	-	-
30	Site Improvements	25	806	941	135	16.8%	1,099	158	16.8%	1,231	132	12.0%
31	Major Building Site Work	25	815	936	121	14.9%	976	40	4.3%	1,147	171	17.5%
32	Waste Management Equipment	15	1,300	1,360	60	4.6%	1,391	31	2.3%	1,469	79	5.7%
33	IPTF Process Equipment	20	2,535	2,900	365	14.4%	3,629	729	25.1%	4,465	835	23.0%
34	IPTF Electrical Equipment	10	696	802	106	15.3%	1,202	400	49.9%	1,565	363	30.2%
35	Aeration System Biofilters	3	75	37	(37)	(50.0%)	-	(37)	(100.0%)	-	-	-
36	Furniture	20	98	98	-	-	98	-	-	98	-	-
37	Office Equipment	5	94	139	45	47.3%	134	(5)	(3.4%)	121	(13)	(9.9%)
38	General Equipment	3 / 5/ 8/ 15	474	465	(9)	(2.0%)	435	(30)	(6.4%)	380	(55)	(12.7%)
39	Vehicles - 5 Year	5	365	694	329	89.9%	1,019	325	46.8%	1,485	467	45.8%
40	Vehicles - 8 Year	8	4,137	4,836	699	16.9%	5,853	1,017	21.0%	6,527	674	11.5%
41	Vehicles - 12 Year	12	551	544	(8)	(1.4%)	544	-	-	544	-	-
	Total Amortization		**20,072**	**22,364**	**2,291**	**11.4%**	**25,350**	**2,987**	**13.4%**	**28,405**	**3,055**	**12.1%**

9.2 Amortization of Contributed Assets ($000's)

Line #		Expected Useful Life in Years	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Major Building Structure	60	(24)	(24)	-	-	(28)	(5)	19.3%	(33)	(5)	16.2%
2	Major Building Shell	20	(34)	(34)	-	-	(34)	-	-	(34)	-	-
3	Major Building Interior	15	(32)	(32)	-	-	(32)	-	-	(32)	-	-
4	Major Building Services	20	(18)	(18)	-	-	(18)	-	-	(18)	-	-
5	Major Building Equipment	25	(68)	(68)	-	-	(68)	-	-	(68)	-	-
6	Major Building Site Work	25	(7)	(7)	-	-	(22)	(15)	220.5%	(38)	(15)	68.8%
7	Furniture	20	(2)	(2)	-	-	(2)	-	-	(2)	-	-
8	Co-Composter-Tip Floor Bldg.	30	-	-	-	-	(9)	(9)	-	(18)	(9)	100.0%
9	Equipment - Processing	20	(262)	(262)	-	-	(475)	(213)	81.5%	(688)	(213)	44.9%
10	Equipment - Electrical	10	(154)	(154)	-	-	(170)	(17)	10.7%	(187)	(17)	9.7%
11	Waste Vehicles 8 years	8	-	-	-	-	(7)	(7)	-	(14)	(7)	100.0%
Total Amortization of Contributed Assets			**(602)**	**(602)**	**-**	-	**(867)**	**(266)**	**44.2%**	**(1,133)**	**(266)**	**30.6%**

Amortization of Contributed Assets is for assets which were funded through an infrastructure for the Advanced Energy Research Facility grant. 2017 includes the commissioning of the Anaerobic Digestion Facility.

9.3 Debt Servicing Costs ($000's)

Line #	Description	Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs. 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs. 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs. 2017 Proposed	% Variance
Debt Servicing - Interest															
1	Compost Facility	Bylaw# 12604	4,471	4,255	4,025	4,025	3,781	(244)	(6.1%)	3,521	(260)	(6.9%)	3,244	(277)	(7.9%)
2	Compost Plant Enhancements	Bylaw# 13610	62	35	17	17	4	(13)	(74.0%)	0	(4)	(94.0%)	-	(0)	(100.0%)
3	Southwest Eco Station	Bylaw# 14230/15110	259	221	178	178	132	(46)	(25.7%)	86	(46)	(34.8%)	49	(37)	(43.0%)
4	Waste Management Centre Expansion - Land	Bylaw# 14232A	59	48	36	35	23	(13)	(35.5%)	10	(13)	(57.7%)	-	(10)	(100.0%)
5	Organics Management System	Bylaw# 14232B	162	129	94	93	58	(36)	(38.2%)	27	(30)	(52.8%)	8	(19)	(69.5%)
6	Processing and Transfer Facility	Bylaw# 14482	671	561	446	446	326	(120)	(26.8%)	202	(125)	(38.2%)	73	(129)	(63.7%)
7	Kennedale Expansion-Land	Bylaw# 14942	28	24	19	19	14	(5)	(25.6%)	9	(5)	(35.8%)	4	(5)	(57.9%)
8	Processing and Transfer Facility	Bylaw# 15111	2,446	2,378	2,349	2,308	2,253	(55)	(2.4%)	2,175	(78)	(3.5%)	2,094	(82)	(3.7%)
9	Waste Containers	Bylaw# 15213-1	22	18	19	15	12	(3)	(21.1%)	9	(3)	(27.7%)	5	(3)	(39.8%)
10	Waste Mgmt. Centre Infrastructure	Bylaw# 15213-2	546	481	413	437	367	(70)	(16.1%)	295	(72)	(19.7%)	220	(75)	(25.3%)
11	Waste Mgmt. Branch Equipment - P&D	Bylaw# 15213-3	112	177	223	179	155	(24)	(13.5%)	128	(27)	(17.2%)	101	(27)	(21.4%)
12	Kennedale Facilities Expansion	Bylaw# 15214	439	444	438	431	421	(10)	(2.2%)	407	(14)	(3.4%)	392	(15)	(3.6%)
13	Equipment Storage & Maintenance Building	Bylaw# 15249	196	184	172	172	159	(13)	(7.6%)	145	(14)	(8.5%)	131	(14)	(9.7%)
14	Contruction & Demolition Operation	Bylaw# 15344	155	151	146	146	142	(5)	(3.1%)	137	(5)	(3.4%)	132	(5)	(3.6%)
15	Northeast Eco Station	Bylaw# 15705-1	118	234	549	413	422	9	2.1%	410	(11)	(2.7%)	397	(13)	(3.2%)
16	Eco Station Facilities Upgrade	Bylaw# 15705-2			59	5	51	46	1,007.0%	49	(1)	(2.9%)	48	(1)	(3.0%)
17	Waste Mgmt. Centre Infrastructure	Bylaw# 16114	197	271	384	311	303	(8)	(2.7%)	293	(9)	(3.1%)	283	(10)	(3.3%)
18	Waste Mgmt. Branch Equipment-Collection	Bylaw# 16115	14	13	41	21	36	15	69.7%	32	(4)	(11.0%)	28	(4)	(12.6%)
19	Waste Management Facility Upgrade	Bylaw# 16117-1	147	220	433	300	302	2	0.8%	282	(20)	(6.7%)	261	(21)	(7.4%)
20	Material Recovery Facility Renewal	Bylaw# 16117-2		4	38	24	51	26	109.0%	63	13	24.8%	59	(4)	(6.2%)
21	Anaerobic Digestion Facility	Bylaw# 16642		2	63	130	373	243	186.5%	675	302	80.9%	765	91	13.4%
22	Equipment Storage & Mtce Expansion	Bylaw# 16723		1	37	38	75	37	98.0%	52	(23)	(30.6%)	51	(1)	(1.0%)
23	Northwest Eco Station	Bylaw# 17079			33	2	44	42	2,146.7%	117	74	169.4%	168	51	43.5%
24	Refuse Derived Fuel Dryer	Bylaw# 17080			53	2	167	166	10,139.6%	265	98	58.7%	250	(16)	(5.8%)
25	Waste Mgmt. Centre Infrastructure	Bylaw# 17081				35	92	57	164.8%	153	61	66.3%	261	108	70.2%
26	Waste Containers	Bylaw# 17082				2	66	65	3,747.6%	124	58	86.9%	147	23	18.3%
27	Waste Management Facilities	Bylaw# 17083			30	81	211	130	161.6%	310	99	47.1%	399	89	28.7%
28	Collection Facilities and Infrastructure	Bylaw# 17084			4	3	10	7	275.9%	45	35	340.9%	66	21	46.3%
29	Cure Site Land Use & Development	Pending Bylaw			57	-	52	52	-	145	93	179.0%	242	96	66.1%
30	Arterial Roadway Assessment (ARA)	Pending Bylaw			9	6	19	13	198.4%	33	14	72.5%	47	14	43.2%
31	Waste Mgmt. Branch Equipment - P&D	Pending Bylaw				20	75	54	269.8%	131	56	75.0%	214	83	63.6%
32	Processing & Transfer Facility Expansion	Pending Bylaw				-	35	35	-	267	232	655.1%	566	299	112.1%
		Total Debt Servicing	**10,104**	**9,852**	**10,362**	**9,894**	**10,230**	**336**	**3.4%**	**10,598**	**368**	**3.6%**	**10,706**	**108**	**1.0%**
Average Cost of Debt			4.6%	4.4%	4.3%	4.2%	4.0%			3.9%			3.9%		

Short-Term Interest is paid on two loans from the City of Edmonton and not included in this schedule. Refer to Schedule 9.4 for additional details.

9.4 Short-Term Loans from the City of Edmonton ($000's)

Line #		2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed	2019 Forecast	2020 Forecast	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast
To Cover Non-Regulated Program Losses and Maintain Cash Flow													
1	Beginning Balance	-	-	2,334	4,364	5,977	8,264	6,937	5,591	4,224	2,837	1,429	-
2	Additions	2,562	2,574	2,540	2,418	3,593	-	-	-	-	-	-	-
3	Principal Payments	239	240	510	804	1,307	1,327	1,346	1,367	1,387	1,408	1,429	-
4	Interest Payments	38	39	72	99	144	124	104	84	63	43	21	-
5	Ending Balance	2,323	2,334	4,364	5,977	8,264	6,937	5,591	4,224	2,837	1,429	-	-
To Purchase Equipment from Third Party Operating at Edmonton Waste Management Centre (EWMC)													
6	Beginning Balance	1,000	1,000	1,000	1,000	1,000	1,000	800	600	400	200	-	-
7	Additions	-	-	-	-	-	-	-	-	-	-	-	-
8	Principal Payments	-	-	-	-	-	200	200	200	200	200	-	-
9	Interest Payments	-	-	-	-	-	-	-	-	-	-	-	-
10	Ending Balance	1,000	1,000	1,000	1,000	1,000	800	600	400	200	-	-	-

Lines 1-5 - Loan to Cover Non-Regulated Program Losses and Maintain Cash Flow

In order to address the non-regulated program losses and to achieve target cash balances, Waste Management Services will draw a short-term loan from the City of Edmonton, as approved in the 2015 Operating Budget process. At the time of preparation of the 2016 - 2018 Rate File, the loan has not been accessed although the Utility anticipates a draw later in 2015. The numbers presented in the 2016-2018 budget include the loan from The City of Edmonton. The loan from the City of Edmonton helps to reduce rate increases and address negative cash balances as opposed through additional non-regulated rate increases. Principal and Interest (1.5%) are paid annually starting with the first draw, anticipated to be in 2015. Interest payments are reflected entirely under non-regulated programs expenses.

As part of the year-end financial reporting process, Waste Management Services will determine the amount of the borrowing requirement in order to offset non-regulated program losses and cover the loan repayments. Once year end results are known Waste Management Services will be able to better determine the amount of loan required although this document does include a forecast draw based on best estimates.

Lines 6-10 - Loan To Purchase Equipment from Third-Party Operating at Edmonton Waste Management Centre

In 2014, Waste Management Services received a $1 million loan from the City of Edmonton for the purchase of equipment from a third-party operating at the Edmonton Waste Management Centre. This interest-free loan will be repaid in annual installments of $200,000 per year beginning in 2019.

10.0 Non-Rate Revenue ($000's)

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Program Revenues - Tip Fees	4,770	4,232	3,600	3,600	3,800	200	5.6%	5,200	1,400	36.8%	6,100	900	17.3%
2	Program Revenues - C&D Waste	3,089	3,454	3,623	3,623	4,161	538	14.8%	4,186	25	0.6%	4,240	54	1.3%
3	Program Revenues - Materials Recovery Facility	3,152	3,009	3,585	3,585	2,949	(636)	(17.7%)	3,083	134	4.5%	3,227	145	4.7%
4	Program Revenues - Commercial Collection	3,931	5,139	4,600	5,185	5,012	(173)	(3.3%)	5,582	570	11.4%	5,914	331	5.9%
5	Program Revenues - Eco Stations	2,614	2,785	2,592	2,592	2,959	368	14.2%	2,997	38	1.3%	3,185	188	6.3%
6	Program Revenues - Other	4,799	5,286	4,719	4,719	4,882	163	3.5%	5,089	207	4.2%	5,011	(79)	(1.5%)
7	Late Payment Penalty	385	398	357	357	357	-	-	357	-	-	357	-	-
8	Investment Earnings	97	76	50	50	50	-	-	50	-	-	50	-	-
9	Grants	3,701	4,000	-	-	5,843	5,843	-	5,000	(843)	(14.4%)	-	(5,000)	(100.0%)
	Total Non-Rate Revenues	**26,538**	**28,379**	**23,125**	**23,710**	**30,013**	**6,302**	**26.6%**	**31,544**	**1,531**	**5.1%**	**28,084**	**(3,460)**	**(11.0%)**

Non-rate revenues are fees charged to a customer per actual use of service rather than a standard monthly charge.

Line 1 – Tip Fees Revenues

Tip Fees Revenues are generated from private haulers who dispose their collected waste materials at the Edmonton Waste Management Centre. Tip fee revenue has declined in recent years as result of two major factors: site access issues resulting from construction of the Anthony Henday Drive, and increased competition from private haulers and transfer stations. With expected completion of the Anthony Henday Drive in 2016, coupled with Waste Management Services' marketing plan, tip fee revenue is anticipated to recover throughout 2017 and 2018.

Line 2 – Construction and Demolition Waste Revenues

With the opening of the Construction and Demolition Waste Facility in 2011, tip fees collected for source segregated and mix construction wastes are coded directly to revenues from this facility.

Source segregated waste are priced at between $25/tonne and $60/tonne while mixed construction and demolition wastes are $67/tonne. These, compared to the regular commercial disposal rate of $90/tonne provide a significant incentive to customers to recycle construction and demolition materials. An analysis of construction and demolition tip fees has been conducted and the new proposed fees are factored into the 2016 - 2018 budget.

Line 3 - Materials Recovery Facility Revenues

Revenues from the sale of recyclable materials from the Materials Recovery Facility fluctuate with the commodities market and are also highly influenced by the US exchange rate. The 2016 budget anticipates softening in the recyclable market.

Line 5 - Eco Stations Revenues

Eco Stations revenue is anticipated to increase in 2016 over 2015 as the Kennedale Eco Station will have a full year of operation in 2016 compared to the partial year of revenues in 2015.

Line 6 - Other Program Revenues

Other Program Revenues include revenues generated from third parties operating at the Edmonton Waste Management Centre based on agreements, which may include the sharing of third party sales revenues. Also included in this category is revenues generated from environmental initiatives such as the Sale of Landfill Gas and greenhouse gas (GHG) credits.

In 2018, $900 in landfill gas revenue will be lost due to the contract ending. This is mostly offset by an increase in greenhouse gas credits by $807 as a result of the High Solids Anaerobic Digestion Facility.

Line 9 - Grant Revenue

The $5.0 million grant in 2016 and 2017 are provincial capital grants for the High Solids Anaerobic Digestion Facility. There is also $0.8 million of partnership funding provided by the University of Alberta for this project. As these grants relate to capital, the grant revenue is transferred to capital and has no net impact on the operating budget, as indicated on Line 8 of Schedule 8.0.

10.1 Revenue Requirement ($000's)

Line #		Reference	2013 Actual	2014 Actual	2015 Budget	2016 Proposed	2017 Proposed	2018 Proposed
1	Operations and Maintenance	**Schedule 8.0**	135,601	145,496	156,127	170,439	178,043	184,716
2	Intra-municipal Recoveries	**Schedule 8.8**	(11,649)	(11,501)	(14,872)	(15,505)	(15,896)	(16,377)
3	Net Amortization Expense	**Schedule 9.0**	17,074	17,466	20,205	21,762	24,483	27,272
4	Debt Servicing - Long-Term Interest	**Schedule 9.3**	10,104	9,852	10,400	10,230	10,598	10,706
5	Pay as You Go Requirement	**Schedule 12.2**				5,081	5,589	5,848
6	Rate Stabilization		(2,190)	243		(2,088)	(2,425)	(3,512)
	Total Revenue Requirement		**148,940**	**161,556**	**171,860**	**189,919**	**200,391**	**208,653**
7	Less Non-Rate Revenues	**Schedule 10.0**	26,538	28,379	23,125	30,013	31,544	28,084
8	Less Losses from Non-Regulated Programs	**Schedule 13.1**			2,562	1,967	1,102	1,322
	Total Rate Revenue Required		**122,402**	**133,177**	**146,173**	**157,939**	**167,745**	**179,248**

Waste Management Utility Fiscal Policy C558A was adopted by City Council on September 23, 2014. As per this policy, "At a minimum, the projected total revenue generated will be equal to the projected expenses for the year, including sufficient cash to meet the cash flow requirements of the Utility." For the 2016 - 2018 operating budget calculations of the revenue requirement were changed to factor in cash for Pay as You Go requirements. This ensures the Utility retains enough cash to cover both operating and capital expenses. This is seen by the addition of line 5 - Pay as You Go Requirement to the total revenue requirement calculation.

Line 1 is the sum of Schedule 8.0's Subtotal Operating & Maintenance Expenses plus Line 12 Grants.

Line 6 - Rate Stabilization

Rate stabilization represents the amount required to decrease regulated rate revenue in order to achieve the Financial Indicator target of "low, stable, consistent rate increases". To smooth rate fluctuations for customers, Waste Management Services has placed priority on stable and consistent rate increases above cash position and debt to net assets ratio. Although rates are high priority, Waste Management Services considers all of the financial indicators when setting the rate stabilization in order to strive towards overall financial sustainability for the Utility.

Line 8 - Losses from Non-Regulated Programs

As per the Fiscal Policy, Utility Advisor, Utility Committee, and Council direction, revenue from regulated rates cannot be used to subsidize non-regulated program losses. Therefore losses from non-regulated programs are excluded from the rate revenue requirement beginning in 2015.

11.0 Calculation of Rate Base ($000's)

	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
1 Investments in Tangible Capital Assets							
Gross Book Value - Non Contributed	418,001	445,083	485,033	480,391	527,813	577,131	613,002
Gross Book Value - Contributed	11,753	11,753	14,993	11,753	17,596	22,596	22,596
Gross Book Value - All Assets	429,754	456,836	500,026	492,144	545,409	599,727	635,598
Accumulated Depreciation - Non Contributed	(158,647)	(176,122)	(196,777)	(195,593)	(217,355)	(241,838)	(269,110)
Accumulated Depreciation - Contributed	(1,171)	(1,773)	(2,374)	(2,374)	(2,976)	(3,843)	(4,976)
Accumulated Depreciation - All Assets	(159,818)	(177,895)	(199,151)	(197,967)	(220,331)	(245,681)	(274,086)
Net Book Value - Non Contributed	259,354	268,961	288,256	284,798	310,458	335,293	343,892
Net Book Value - Contributed	10,582	9,980	12,619	9,379	14,620	18,753	17,620
Net Book Value - All Assets	269,936	278,941	300,875	294,177	325,078	354,046	361,511
Mid-Year Non-Contributed Assets	**267,668**	**264,157**	**282,021**	**276,879**	**297,628**	**322,875**	**339,592**
2 Cash Flow Requirement							
One Month Operations	11,694	13,412	14,099	14,096	15,405	16,232	16,852
Rate Base at Mid-Year	**279,362**	**277,569**	**296,119**	**290,976**	**313,033**	**339,107**	**356,444**

11.1 Return on Rate Base ($000's)

Line #		Reference	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2017 Proposed	2018 Proposed
1	Mid-Year Rate Base	**Schedule 11.0**	279,362	277,569	296,119	290,976	313,033	339,107	356,444
2	Net Income/(Loss)		(2,189)	243	(2,562)	(1,160)	954	1,963	871
	Return on Rate Base %		**(0.8%)**	**0.1%**	**(0.9%)**	**(0.4%)**	**0.3%**	**0.6%**	**0.2%**

Return on rate base is the net income/(loss) as a percentage of the mid-year rate base.

The net loss of non-regulated programs in 2013 and 2014 prompted a short-term loan from the City of Edmonton beginning in 2015 in order to ensure that regulated programs were not subsidizing non-regulated programs, as well as to maintain a positive cash position for the Utility. The positive return on rate base in 2016-2018 is indicative of Waste Management Services' increased focus on working towards financial sustainability of the Utility.

11.2 Long Term Debt ($000's)

Line #		Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
Outstanding Long Term Debt - Existing															
1	Compost Facility	Bylaw# 12604	68,087	64,567	60,823	60,823	56,840	(3,983)	(6.5%)	52,603	(4,237)	(7.5%)	48,096	(4,507)	(8.6%)
2	Compost Plant Enhancements	Bylaw# 13610	952	478	182	182	30	(152)	(83.3%)	-	(30)	(100.0%)	-	-	-
3	Southwest Eco Station	Bylaw# 14230/15110	6,475	5,354	4,190	4,190	2,980	(1,210)	(28.9%)	1,846	(1,133)	(38.0%)	1,101	(745)	(40.4%)
4	Waste Management Centre Expansion - Land	Bylaw# 14232A	1,135	870	593	593	303	(290)	(48.9%)	-	(303)	(100.0%)	-	-	-
5	Organics Management System	Bylaw# 14232B	3,260	2,471	1,647	1,647	882	(765)	(46.5%)	306	(576)	(65.3%)	-	(306)	(100.0%)
6	Processing and Transfer Facility	Bylaw# 14482	15,272	12,471	9,556	9,556	6,523	(3,034)	(31.7%)	3,365	(3,157)	(48.4%)	373	(2,992)	(88.9%)
7	Kennedale Expansion-Land	Bylaw# 14942	621	507	387	387	263	(124)	(32.0%)	134	(129)	(49.0%)	-	(134)	(100.0%)
8	Processing and Transfer Facility	Bylaw# 15111	55,873	54,248	52,553	52,553	50,783	(1,769)	(3.4%)	48,937	(1,846)	(3.6%)	47,010	(1,927)	(3.9%)
9	Waste Containers	Bylaw# 15213-1	577	489	398	398	303	(94)	(23.7%)	206	(98)	(32.2%)	105	(101)	(49.1%)
10	Waste Mgmt. Centre Infrastructure	Bylaw# 15213-2	17,083	15,661	12,550	13,339	10,947	(2,392)	(17.9%)	8,483	(2,464)	(22.5%)	5,944	(2,539)	(29.9%)
11	Waste Mgmt. Branch Equipment - P&D	Bylaw# 15213-3	5,675	6,487	4,277	5,643	4,773	(870)	(15.4%)	3,878	(896)	(18.8%)	2,954	(923)	(23.8%)
12	Kennedale Facilities Expansion	Bylaw# 15214	13,353	12,965	12,801	12,565	12,151	(414)	(3.3%)	11,723	(428)	(3.5%)	11,280	(442)	(3.8%)
13	Equipment Storage & Maintenance Building	Bylaw# 15249	5,127	4,789	4,437	4,437	4,072	(365)	(8.2%)	3,694	(378)	(9.3%)	3,302	(392)	(10.6%)
14	Contruction & Demolition Operation	Bylaw# 15344	4,038	3,922	3,802	3,802	3,676	(125)	(3.3%)	3,547	(130)	(3.5%)	3,412	(135)	(3.8%)
15	Northeast Eco Station	Bylaw# 15705-1	5,688	12,733	5,373	12,381	12,017	(364)	(2.9%)	11,641	(376)	(3.1%)	11,252	(388)	(3.3%)
16	Eco Station Facilities Upgrade	Bylaw# 15705-2	-	75	-	73	71	(2)	(2.9%)	69	(2)	(3.0%)	67	(2)	(3.2%)
17	Waste Mgmt. Centre Infrastructure	Bylaw# 16114	7,980	9,561	7,536	9,288	9,005	(283)	(3.0%)	8,712	(292)	(3.2%)	8,410	(302)	(3.5%)
18	Waste Mgmt. Branch Equipment-Collection	Bylaw# 16115	598	937	475	839	738	(100)	(12.0%)	636	(103)	(13.9%)	531	(105)	(16.5%)
19	Waste Management Centre Facility Upgrade	Bylaw# 16117-1	7,333	9,912	6,479	9,315	8,701	(614)	(6.6%)	8,070	(631)	(7.3%)	7,420	(649)	(8.0%)
20	Material Recovery Facility Renewal	Bylaw# 16117-2	100	495	89	467	439	(28)	(6.0%)	410	(29)	(6.6%)	380	(30)	(7.3%)
21	Anaerobic Digestion Facility	Bylaw# 16642		1,600	-	1,540	1,479	(61)	(4.0%)	1,416	(63)	(4.3%)	1,350	(65)	(4.6%)
22	Equipment Storage & Mtce Facility Expansion	Bylaw# 16723		1,000	-	963	924	(38)	(4.0%)	885	(40)	(4.3%)	844	(41)	(4.6%)
		Total Outstanding	**219,227**	**221,593**	**188,147**	**204,979**	**187,901**	**(17,078)**	**(8.3%)**	**170,559**	**(17,342)**	**(9.2%)**	**153,832**	**(16,726)**	**(9.8%)**
New 2015 Capital Funded by Debt															
23	Processing and Transfer Facility	Bylaw# 15111			1,205	748	727	(21)	(2.8%)	705	(22)	(3.0%)	683	(22)	(3.2%)
24	Waste Mgmt. Branch Equipment - P&D	Bylaw# 15213-3			-	84	76	(8)	(9.2%)	68	(8)	(10.3%)	60	(8)	(11.7%)
25	Kennedale Facilities Expansion	Bylaw# 15214			-	150	146	(4)	(2.8%)	141	(4)	(3.0%)	137	(4)	(3.2%)
26	Northeast Eco Station	Bylaw# 15705-1			11,273	829	806	(23)	(2.8%)	782	(24)	(3.0%)	757	(25)	(3.2%)
27	Eco Station Facilities Upgrade	Bylaw# 15705-2			1,693	1,760	1,710	(50)	(2.8%)	1,659	(51)	(3.0%)	1,607	(52)	(3.2%)
28	Waste Mgmt. Centre Infrastructure	Bylaw# 16114			-	51	50	(1)	(2.9%)	48	(2)	(3.1%)	47	(2)	(3.3%)
29	Waste Mgmt. Branch Equipment-Collection	Bylaw# 16115			1,232	947	860	(87)	(9.2%)	772	(88)	(10.3%)	682	(90)	(11.7%)
30	Waste Management Centre Facility Upgrade	Bylaw# 16117-1			1,523	1,983	1,866	(116)	(5.9%)	1,747	(119)	(6.4%)	1,626	(122)	(7.0%)
31	Material Recovery Facility Renewal	Bylaw# 16117-2			1,525	809	1,949	1,141	141.1%	1,834	(116)	(5.9%)	1,715	(119)	(6.5%)
32	Anaerobic Digestion Facility	Bylaw# 16642			2,696	5,757	16,031	10,274	178.4%	24,615	8,584	53.5%	23,594	(1,020)	(4.1%)
33	Equipment Storage & Mtce Facility Expansion	Bylaw# 16723			1,405	595	572	(24)	(4.0%)	547	(24)	(4.3%)	522	(25)	(4.6%)
34	Northwest Eco Station	Bylaw# 17079			1,482	1,500	2,958	1,458	97.2%	4,356	1,398	47.3%	5,713	1,357	31.2%
35	Refuse Derived Fuel Dryer	Bylaw# 17080			2,922	1,500	9,638	8,138	542.6%	9,087	(551)	(5.7%)	8,521	(566)	(6.2%)
36	Waste Mgmt. Centre Infrastructure	Bylaw# 17081			4,567	2,263	3,851	1,588	70.2%	5,760	1,909	49.6%	9,430	3,670	63.7%
37	Waste Containers	Bylaw# 17082			2,650	1,915	4,023	2,108	110.1%	6,269	2,246	55.8%	8,502	2,233	35.6%
38	Waste Management Centre Facilities	Bylaw# 17083			9,765	6,155	10,114	3,959	64.3%	12,648	2,534	25.1%	15,173	2,525	20.0%
39	Collection Facilities and Infrastructure	Bylaw# 17084			400	400	1,227	827	206.9%	1,864	637	51.9%	3,104	1,240	66.5%
40	Cure Site Land Use & Development	Pending Bylaw			2,948	-	3,043	3,043	-	5,776	2,732	89.8%	8,499	2,723	47.1%
41	Arterial Roadway Assessment	Pending Bylaw			487	486	944	458	94.2%	1,374	430	45.6%	1,776	402	29.2%
42	Waste Mgmt. Branch Equipment - P&D	Pending Bylaw			3,629	1,833	4,661	2,829	154.4%	6,289	1,627	34.9%	10,018	3,729	59.3%
43	Processing and Transfer Facility	Pending Bylaw			-	-	2,190	2,190	-	13,749	11,560	528.0%	20,787	7,037	51.2%
		Total New Debt Issued/to be Issued	**-**	**-**	**51,400**	**29,764**	**67,443**	**37,679**	**126.6%**	**100,092**	**32,649**	**48.4%**	**122,952**	**22,860**	**22.8%**
Total Long-Term Debt			**219,227**	**221,593**	**239,547**	**234,744**	**255,344**	**20,601**	**8.8%**	**270,651**	**15,306**	**6.0%**	**276,784**	**6,134**	**2.3%**
Mid-Year Long Term Debt					**234,623**	**224,910**	**252,971**			**267,813**			**272,413**		

11.3 Long-Term Debt Principal Repayment ($000's)

Line #		Debenture #	2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Compost Facility	Bylaw# 12604	3,309	3,520	3,744	3,744	3,983	239	6.4%	4,237	254	6.4%	4,507	270	6.4%
2	Compost Plant Enhancements	Bylaw# 13610	568	473	296	296	152	(144)	(48.7%)	30	(121)	(80.0%)	-	(30)	(100.0%)
3	Southwest Eco Station	Bylaw# 14230/15110	1,064	1,121	1,165	1,165	1,210	45	3.9%	1,133	(77)	(6.4%)	745	(388)	(34.2%)
4	Waste Management Ctre Expansion - Land	Bylaw# 14232A	254	265	277	277	290	13	4.5%	303	13	4.5%	-	(303)	(100.0%)
5	Organics Management System	Bylaw# 14232B	756	789	824	824	765	(59)	(7.1%)	576	(189)	(24.7%)	306	(271)	(47.0%)
6	Processing and Transfer Facility	Bylaw# 14482	2,692	2,801	2,915	2,915	3,034	119	4.1%	3,157	123	4.1%	2,992	(165)	(5.2%)
7	Kennedale Expansion-Land	Bylaw# 14942	110	115	119	119	124	5	4.1%	129	5	4.1%	134	5	4.1%
8	Processing and Transfer Facility	Bylaw# 15111	1,557	1,625	1,728	1,696	1,790	95	5.6%	1,868	78	4.3%	1,949	81	4.3%
9	Waste Containers	Bylaw# 15213-1	85	88	91	91	94	3	3.5%	98	3	3.5%	101	3	3.5%
10	Waste Mgmt. Centre Infrastructure	Bylaw# 15213-2	2,161	2,233	2,300	2,322	2,392	70	3.0%	2,464	72	3.0%	2,539	74	3.0%
11	Waste Mgmt. Branch Equipment-P&D	Bylaw# 15213-3	435	688	980	844	877	33	3.9%	904	27	3.0%	931	27	3.0%
12	Kennedale Facilities Expansion	Bylaw# 15214	361	387	407	400	418	18	4.4%	432	14	3.4%	447	15	3.4%
13	Equipment Storage & Maintenance Building	Bylaw# 15249	327	339	352	352	365	13	3.7%	378	14	3.7%	392	14	3.7%
14	Contruction & Demolition Operation	Bylaw# 15344	112	116	121	121	125	5	3.8%	130	5	3.8%	135	5	3.8%
15	Northeast Eco Station	Bylaw# 15705-1	101	155	431	353	387	35	9.9%	400	13	3.3%	413	13	3.3%
16	Eco Station Facilities Upgrade	Bylaw# 15705-2	-	-	47	2	52	50	2,451.9%	53	1	2.8%	55	1	2.8%
17	Waste Mgmt. Centre Infrastructure	Bylaw# 16114	161	218	316	275	284	10	3.6%	294	9	3.3%	303	10	3.3%
18	Waste Mgmt. Branch Equipment-Collection	Bylaw# 16115	59	61	170	98	187	89	90.6%	191	4	2.1%	195	4	2.1%
19	Waste Management Centre Facility Upgrade	Bylaw# 16117-1	284	421	863	654	730	76	11.6%	750	20	2.8%	771	21	2.8%
20	Material REcovery Facility Renewal	Bylaw# 16117-2	-	5	64	51	108	58	113.8%	145	36	33.3%	149	4	2.7%
21	Anaerobic Digestion Facility	Bylaw# 16642	-	-	64	172	487	314	182.3%	866	379	77.9%	1,085	219	25.3%
22	Equipment Storage & Mtce Expansion	Bylaw# 16723	-	-	68	49	62	13	27.0%	64	2	2.8%	66	2	2.8%
23	Northwest Eco Station	Bylaw# 17079	-	-	18	-	42	42	-	102	60	141.5%	143	41	40.0%
24	Refuse Derived Fuel Dryer	Bylaw# 17080	-	-	78	-	312	312	-	551	239	76.7%	566	16	2.8%
25	Waste Mgmt. Centre Infrastructure	Bylaw# 17081			-	32	88	55	172.6%	138	51	58.0%	216	78	56.5%
26	Waste Containers	Bylaw# 17082	-	-	-	-	282	282	-	518	236	83.6%	653	135	26.1%
27	Waste Management Centre Facilities	Bylaw# 17083			27	177	481	303	170.8%	699	218	45.4%	892	193	27.7%
28	Collection Facilities and Infrastructure	Bylaw# 17084	-	-	-	-	23	23	-	88	66	291.3%	110	22	24.8%
29	Cure Site Land Use & Development	Pending Bylaw	-	-	52	-	57	57	-	168	111	195.7%	277	110	65.5%
30	Arterial Roadway Assessment	Pending Bylaw	-	-	13	14	42	28	199.5%	70	28	66.5%	98	28	40.4%
31	Waste Mgmt. Branch Equipment-P&D	Pending Bylaw				87	318	231	263.5%	564	246	77.2%	875	311	55.2%
32	Processing and Transfer Facility Expansion	Pending Bylaw	-	-	-	-	60	60	-	440	380	627.5%	983	542	123.3%
		Total Principal Repaid	**14,396**	**15,421**	**17,530**	**17,130**	**19,622**	**2,492**	14.5%	**21,941**	**2,318**	11.8%	**23,029**	**1,089**	5.0%

Short-term principal repayment is paid on the loans from the City of Edmonton and not included in this schedule. Refer to Schedule 9.4 for additional details.

12.0 Capital Budget and Forecast Plan

12.1 Capital Project Summary ($000's)

Capital Projects	Approved Capital Budget 2015	2016	2017	2018	Total 2015-2018	Requested Capital Budget Adjustment 2015	2016	2017	2018	Total Change 2015-2018	4 Year Capital Budget 2015	2016	2017	2018	Total 2015-2018	Forecast 2019	2020	2021	2022	2023	2024	2025	Remaining Plan 2019-2025	Revised Budget and Plan 2015-2025
Collection Services Facilities																								
Northeast Eco Station	829	-	-	-	**829**	-	-	-	-	**-**	829	-	-	-	**829**	-	-	-	-	-	-	-	-	**829**
Northwest Eco Station	1,500	1,500	1,500	1,500	**6,000**	-	-	-	-	**-**	1,500	1,500	1,500	1,500	**6,000**	5,000	8,800	-	-	-	-	-	13,800	**19,800**
Kennedale Facility	150	-	-	-	**150**	-	-	-	-	**-**	150	-	-	-	**150**	-	-	-	-	-	-	-	-	**150**
Eco Stations Facilities Upgrade	1,760	-	-	-	**1,760**	-	-	-	-	**-**	1,760	-	-	-	**1,760**	-	-	-	-	-	-	-	-	**1,760**
Southeast Eco Station	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	6,000	9,000	10,000	-	25,000	**25,000**
	4,239	**1,500**	**1,500**	**1,500**	8,739	**-**	**-**	**-**	**-**	**-**	**4,239**	**1,500**	**1,500**	**1,500**	8,739	**5,000**	**8,800**	**-**	**6,000**	**9,000**	**10,000**	**-**	**38,800**	**47,539**
Processing & Disposal Facilities					**-**																			
Integrated Processing & Transfer Facility	748	2,770	12,000	7,500	**23,018**	-	(520)	-	520	**-**	748	2,250	12,000	8,020	**23,018**	-	-	-	-	-	-	-	-	**23,018**
Anaerobic Digestion Facility	5,870	15,000	9,763	-	**30,633**	-	1,542	4,624	-	**6,166**	5,870	16,542	14,387	-	**36,799**	-	-	-	12,668	9,786	10,079	-	32,533	**69,332**
Material Recovery Facility Renewal	1,043	1,010	-	-	**2,053**	(211)	211	-	-	**-**	832	1,221	-	-	**2,053**	1,739	1,791	-	127	1,783	1,957	-	7,397	**9,450**
Equipment Storage & Maintenance Facility Expansion	607	-	-	-	**607**	-	-	-	-	**-**	607	-	-	-	**607**	-	-	-	-	-	-	-	-	**607**
Cure Site Land Use and Development	3,000	3,000	3,000	-	**9,000**	(3,000)	100	(100)	3,000	**-**	-	3,100	2,900	3,000	**9,000**	-	-	-	-	-	-	-	-	**9,000**
Landfill Capping and Revegetation	1,535	1,519	958	1,392	**5,404**	(585)	-	-	-	**(585)**	950	1,519	958	1,392	**4,819**	1,673	233	1,679	585	-	-	-	4,170	**8,989**
Refuse Derived Fuel Dryer	3,000	6,950	-	-	**9,950**	(1,500)	1,500	-	-	**-**	1,500	8,450	-	-	**9,950**	-	-	-	-	-	-	-	-	**9,950**
Arterial Roadway Assessment	500	500	500	500	**2,000**	-	-	-	-	**-**	500	500	500	500	**2,000**	580	597	615	633	652	672	1,384	5,134	**7,134**
Construction & Demolition Facility	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	1,313	1,384	-	-	-	-	-	2,697	**2,697**
Bio-solids Dewatering Capacity Increase Asset Purchase	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	9,000	-	-	-	-	-	-	9,000	**9,000**
Composting Facility Centrifuges Replacement	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	1,783	-	2,024	-	-	-	-	3,807	**3,807**
Changes to Accommodate Source Separated Organics	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	580	1,194						1,774	**1,774**
Solar Cells on Facilities Roof	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**		1,493						1,493	**1,493**
	16,303	**30,749**	**26,221**	**9,392**	82,665	**(5,296)**	**2,833**	**4,524**	**3,520**	**5,581**	**11,007**	**33,582**	**30,745**	**12,912**	88,246	**16,667**	**6,692**	**4,318**	**14,013**	**12,221**	**12,708**	**1,384**	**68,003**	**156,249**
Collection Services and Processing & Disposal Infrastructure																								
Collection Facilities & Infrastructure	400	850	725	1,350	**3,325**	-	-	-	-	**-**	400	850	725	1,350	**3,325**	4,600	2,500	500	500	1,000	1,000	500	10,600	**13,925**
Waste Management Centre Facilities	8,372	4,440	3,233	3,417	**19,462**	-	-	-	-	**-**	8,372	4,440	3,233	3,417	**19,462**	9,788	8,705	8,096	6,510	6,096	6,553	6,315	52,063	**71,525**
Waste Management Centre Site Infrastructure	2,347	1,676	2,047	3,886	**9,956**	-	-	-	-	**-**	2,347	1,676	2,047	3,886	**9,956**	5,765	3,911	3,358	2,606	2,487	2,436	2,486	23,049	**33,005**
Southwest Waste Management Centre	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	-	**-**	-	-	-	-	-	-	34,606	34,606	**34,606**
	11,119	**6,966**	**6,005**	**8,653**	32,743	**-**	**-**	**-**	**-**	**-**	**11,119**	**6,966**	**6,005**	**8,653**	32,743	**20,153**	**15,116**	**11,954**	**9,616**	**9,583**	**9,989**	**43,907**	**120,318**	**153,061**
Vehicles and Equipment																								
Waste Containers	2,667	2,200	2,450	2,655	**9,972**	(735)	190	314	231	**-**	**1,932**	2,390	2,764	2,886	**9,972**	**1,911**	2,008	2,000	2,100	2,200	2,300	2,400	14,919	**24,891**
Equipment and Vehicles (Collections)	4,848	2,428	4,123	4,197	**15,596**	(2,007)	2,007	-	-	**-**	**2,841**	4,435	4,123	4,197	**15,596**	**4,175**	8,814	6,925	5,776	11,213	9,237	8,879	55,019	**70,615**
Equipment and Vehicles (P&D)	2,785	3,147	2,191	4,604	**12,727**	-	-	-	-	**-**	**2,785**	3,147	2,191	4,604	**12,727**	**5,672**	6,371	2,144	4,075	839	4,437	1,709	25,247	**37,974**
	10,300	**7,775**	**8,764**	**11,456**	38,295	**(2,742)**	**2,197**	**314**	**231**	**-**	**7,558**	**9,972**	**9,078**	**11,687**	38,295	**11,758**	**17,193**	**11,069**	**11,951**	**14,252**	**15,974**	**12,988**	**95,185**	**133,480**
Total	**41,961**	**46,990**	**42,490**	**31,001**	162,442	**(8,038)**	**5,030**	**4,838**	**3,751**	**5,581**	**33,923**	**52,020**	**47,328**	**34,752**	168,023	**53,578**	**47,801**	**27,341**	**41,580**	**45,056**	**48,671**	**58,279**	**322,306**	**490,329**

Table 12.1 illustrates the 2015 - 2018 Approved Capital Budget and 2019 - 2025 Forecast Capital Plan. City Council approved the 2015-2018 Capital Budget in 2014.

12.2 Capital Project Financing Summary ($000's)

			4 Year Capital Budget					Remaining Plan								
Line#	Source of Financing	Reference	2015	2016	2017	2018	2015-2018 Total	2019	2020	2021	2022	2023	2024	2025	2019-2025 Total	2015-2025 Total
1	Self Liquidating Debentures	Schedule 9.3	30,281	40,223	37,247	29,163	**136,914**	47,730	38,754	18,737	30,219	33,343	29,434	35,400	**233,617**	**370,531**
2	Pay As You Go Requirement	Section 6.0	3,642	5,954	5,081	5,589	**20,266**	5,848	9,047	8,604	11,361	11,713	19,237	22,879	**88,689**	**108,955**
3	Other Grants - Provincial	Schedule 10.0	-	5,000	5,000	-	**10,000**	-	-	-	-	-	-	-	**-**	**10,000**
4	Partnership Funding	Schedule 10.0	-	843	-	-	**843**	-	-	-	-	-	-	-	**-**	**843**
	Total Capital Project Financing		**33,923**	**52,020**	**47,328**	**34,752**	**168,023**	**53,578**	**47,801**	**27,341**	**41,580**	**45,056**	**48,671**	**58,279**	**322,306**	**490,329**

Line 1 - Self Liquidating Debentures

Self Liquidating Debentures are coordinated through the City of Edmonton and drawn from the Alberta Capital Financing Authority. The term and cost of debt vary according to economic conditions, details on debt servicing costs are provided in Schedule 9.3.

Line 2 - Pay As You Go Requirement

With the approval of Fiscal Policy C558A on September 23, 2014 Pay As You Go figures are now incorporated into the Financial Indicators calculation of Target Cash Position as illustrated in Section 6.0 Financial Indicators. This term is used to identify the portion of a given capital project which is funded by cash. Pay As You Go Requirement for the succeeding year is used in calculating a given year's target cash position.

13.0 Segmented Reporting

13.1 Program Revenues and Expenses ($000's)

Collection Services

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Personnel	20,249	21,201	24,050	24,050	26,216	2,166	9.0%	27,449	1,233	4.7%	28,571	1,123	4.1%
2	Materials, Goods & Supplies	1,081	1,188	1,463	1,463	1,552	89	6.1%	1,596	44	2.8%	1,645	49	3.1%
3	External Services	20,416	21,125	25,104	24,540	25,335	795	3.2%	26,768	1,433	5.7%	32,374	5,606	20.9%
4	Fleet Services	9,052	9,612	9,191	8,591	8,744	153	1.8%	9,062	317	3.6%	9,363	301	3.3%
5	Shared Services	3,800	4,234	5,639	5,639	5,763	124	2.2%	5,934	171	3.0%	6,110	176	3.0%
6	Intra-municipal Services	472	427	463	463	470	6	1.3%	480	10	2.2%	484	4	0.8%
7	Utilities	527	493	927	927	888	(39)	(4.2%)	928	41	4.6%	955	26	2.9%
8	Other Expenses	445	426	527	527	547	21	3.9%	558	11	1.9%	564	6	1.1%
	Subtotal	56,042	58,706	67,363	66,199	69,516	3,316	5.0%	72,775	3,259	4.7%	80,066	7,291	10.0%
9	Intra-municipal Recoveries	(1,940)	(1,978)	(1,984)	(1,984)	(2,044)	(59)	3.0%	(2,078)	(35)	1.7%	(2,136)	(58)	2.8%
	O & M Expenses	54,102	56,728	65,379	64,215	67,472	3,257	5.1%	70,697	3,225	4.8%	77,930	7,233	10.2%
10	Amortization	6,161	6,878	5,869	5,743	6,663	920	16.0%	7,664	1,002	15.0%	8,425	760	9.9%
11	Debt Interest	1,493	1,534	1,339	1,088	1,208	120	11.0%	1,289	81	6.7%	1,304	16	1.2%
	Expenses before One-Time	61,756	65,140	72,586	71,046	75,342	4,296	6.0%	79,650	4,307	5.7%	87,659	8,009	10.1%
12	Grant Payment	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Grant Revenue	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Program Revenues	(7,284)	(7,173)	(6,773)	(7,358)	(7,553)	(194)	2.6%	(8,161)	(608)	8.1%	(8,680)	(519)	6.4%
15	Rate Revenues	(54,472)	(57,967)	(65,813)	(63,688)	(67,790)	(4,102)	6.4%	(71,489)	(3,699)	5.5%	(78,978)	(7,490)	10.5%
	Net Income / (Net Loss)	-	-	-	-	-	-	-	-	-	-	-	-	-

Processing and Disposal Services

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Personnel	16,470	17,110	19,342	19,342	21,784	2,443	12.6%	23,097	1,313	6.0%	23,875	778	3.4%
2	Materials, Goods & Supplies	1,988	3,959	4,395	3,645	5,115	1,470	40.3%	6,656	1,541	30.1%	6,855	199	3.0%
3	External Services	44,146	46,407	48,967	51,579	51,090	(489)	(0.9%)	51,951	861	1.7%	54,475	2,524	4.9%
4	Fleet Services	6,392	6,982	6,393	6,393	7,056	663	10.4%	7,179	123	1.7%	7,326	147	2.1%
5	Shared Services	2,626	3,207	4,081	4,081	4,288	208	5.1%	4,423	134	3.1%	4,559	136	3.1%
6	Intra-municipal Services	742	986	762	840	1,100	260	30.9%	1,115	15	1.4%	1,124	8	0.8%
7	Utilities	3,151	3,561	4,499	4,149	4,285	135	3.3%	5,478	1,194	27.9%	6,065	587	10.7%
8	Other Expenses	344	578	325	325	6,205	5,880	1,808.1%	5,369	(836)	(13.5%)	371	(4,998)	(93.1%)
	Subtotal	75,859	82,790	88,763	90,353	100,923	10,570	11.7%	105,268	4,345	4.3%	104,650	(618)	(0.6%)
9	Intra-municipal Recoveries	(9,710)	(9,523)	(12,887)	(12,427)	(13,462)	(1,035)	8.3%	(13,818)	(356)	2.6%	(14,241)	(423)	3.1%
	O & M Expenses	66,149	73,267	75,876	77,926	87,462	9,536	12.2%	91,450	3,988	4.6%	90,409	(1,041)	(1.1%)
10	Amortization	10,913	10,588	14,336	13,727	15,099	1,372	10.0%	16,819	1,719	11.4%	18,847	2,029	12.1%
11	Debt Interest	8,611	8,318	9,061	8,844	9,094	250	2.8%	9,408	314	3.5%	9,546	137	1.5%
	Expenses before One-Time	85,673	92,173	99,274	100,497	111,655	11,159	11.1%	117,677	6,022	5.4%	118,802	1,125	1.0%
12	Grant Payment	3,700	4,000	-	-	-	-	-	-	-	-	-	-	-
13	Grant Revenue	(3,701)	(4,000)	-	-	(5,843)	(5,843)	-	(5,000)	843	(14.4%)	-	5,000	(100.0%)
14	Program Revenues	(15,552)	(17,206)	(16,352)	(16,352)	(16,617)	(265)	1.6%	(18,383)	(1,766)	10.6%	(19,403)	(1,020)	5.6%
15	Rate Revenues	(67,931)	(75,210)	(80,359)	(82,985)	(90,149)	(7,164)	8.6%	(96,256)	(6,107)	6.8%	(100,269)	(4,013)	4.2%
	Net Income / (Net Loss)	**(2,189)**	**243**	**(2,562)**	**(1,160)**	**954**	**2,114**	**-182.3%**	**1,963**	**1,008**	**105.7%**	**871**	**(1,092)**	**(55.6%)**

13.2 Revenues and Expenses by Regulated and Non-Regulated Program ($000's)

Regulated Programs

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Personnel	30,526	31,567	36,467	36,336	40,293	3,958	10.9%	42,444	2,150	5.3%	44,053	1,610	3.8%
2	Materials, Goods & Supplies	2,326	4,226	4,825	4,131	5,494	1,363	33.0%	6,944	1,450	26.4%	7,164	220	3.2%
3	External Services	57,190	61,430	67,202	68,009	68,078	68	0.1%	70,278	2,200	3.2%	77,438	7,160	10.2%
4	Fleet Services	12,889	13,377	13,009	12,047	12,824	778	6.5%	13,013	188	1.5%	13,352	340	2.6%
5	Shared Services	6,410	7,441	9,719	9,719	10,051	332	3.4%	10,357	306	3.0%	10,669	312	3.0%
6	Intra-municipal Services	1,073	1,301	1,131	1,151	1,435	284	24.6%	1,464	29	2.0%	1,484	20	1.3%
7	Utilities & Other Expenses	4,095	4,438	5,805	5,462	11,004	5,543	101.5%	11,380	375	3.4%	7,357	(4,023)	(35.4%)
	Subtotal	114,508	123,779	138,158	136,855	149,180	12,325	9.0%	155,879	6,699	4.5%	161,518	5,639	3.6%
8	Intra-municipal Recoveries	(8,175)	(8,029)	(10,856)	(10,777)	(8,912)	1,865	(17.3%)	(9,341)	(429)	4.8%	(9,602)	(261)	2.8%
	O & M Expenses	106,333	115,751	127,303	126,078	140,268	14,190	11.3%	146,538	6,270	4.5%	151,916	5,378	3.7%
9	Amortization	17,074	17,466	19,467	18,733	20,652	1,919	10.2%	23,203	2,550	12.3%	25,934	2,731	11.8%
10	Debt Interest	10,104	9,852	10,362	9,895	10,230	335	3.4%	10,598	368	3.6%	10,706	108	1.0%
	Expenses before One-Time	133,512	143,069	157,131	154,706	171,150	16,445	10.6%	180,339	9,189	5.4%	188,556	8,217	4.6%
11	Grant Payment	(3,424)	(3,641)	-	-		-	-		-	-	-	-	-
12	Grant Revenue	3,424	3,641	-	-	5,378	5,378	-	4,596	(782)	(14.5%)	-	(4,596)	(100.0%)
13	Program Revenues	10,530	11,201	10,959	8,058	10,755	2,697	33.5%	11,063	309	2.9%	11,501	437	4.0%
14	Rate Revenues	122,403	133,178	146,173	146,673	157,939	11,266	7.7%	167,745	9,806	6.2%	179,248	11,502	6.9%
	Net Income / (Net Loss)	**(579)**	**1,310**	**0**	**25**	**2,922**	**2,897**	**11593.5%**	**3,065**	**144**	**4.9%**	**2,192**	**(873)**	**(28.5%)**

Non-Regulated Programs

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Personnel	6,193	6,743	6,924	7,056	7,707	652	9.2%	8,103	395	5.1%	8,393	290	3.6%
2	Materials, Goods & Supplies	743	921	1,033	977	1,173	196	20.1%	1,307	135	11.5%	1,335	28	2.1%
3	External Services	7,372	6,102	6,869	8,109	8,348	238	2.9%	8,441	94	1.1%	9,412	971	11.5%
4	Fleet Services	2,555	3,218	2,575	2,937	2,976	39	1.3%	3,228	252	8.5%	3,336	108	3.4%
5	Shared Services	16	-	-	-	-	-	-	-	-	-	-	-	-
6	Intra-municipal Services	141	112	95	152	135	(18)	(11.5%)	131	(4)	(3.1%)	124	(7)	(5.4%)
7	Utilities & Other Expenses	372	620	473	466	920	454	97.5%	954	34	3.6%	599	(355)	(37.2%)
	Subtotal	17,392	17,717	17,968	19,697	21,259	1,561	7.9%	22,163	905	4.3%	23,198	1,035	4.7%
8	Intra-municipal Recoveries	(3,474)	(3,472)	(4,016)	(3,636)	(6,593)	(2,957)	81.3%	(6,555)	38	(0.6%)	(6,775)	(220)	3.4%
	O & M Expenses	13,918	14,244	13,952	16,062	14,666	(1,396)	(8.7%)	15,608	942	6.4%	16,423	815	5.2%
9	Amortization			738	738	1,110	372	50.4%	1,280	170	15.4%	1,338	58	4.5%
10	Debt Interest			38	38	72	34	89.5%	99	27	37.5%	144	45	45.5%
	Expenses before One-Time	13,918	14,244	14,728	16,837	15,847	(990)	(5.9%)	16,987	1,140	7.2%	17,905	918	5.4%
11	Grant Payment	(276)	(359)	-	-		-	-		-	-	-	-	-
12	Grant Revenue	276	359	-	-	465	465	-	404	(61)	(13.0%)		(404)	(100.0%)
13	Program Revenues	12,308	13,178	12,166	15,653	13,415	(2,237)	(14.3%)	15,481	2,066	15.4%	16,583	1,103	7.1%
14	Rate Revenues	-	-	-	-	-	-	-		-	-	0	0	-
	Net Income / (Net Loss)	**(1,610)**	**(1,067)**	**(2,562)**	**(1,185)**	**(1,967)**	**(782)**	**66.0%**	**(1,102)**	**865**	**(44.0%)**	**(1,322)**	**(219)**	**19.9%**

14.0 Related Parties Transaction

Line #		2013 Actual	2014 Actual	2015 Budget	2015 Forecast	2016 Proposed	2016 Proposed vs 2015 Forecast	% Variance	2017 Proposed	2017 Proposed vs 2016 Proposed	% Variance	2018 Proposed	2018 Proposed vs 2017 Proposed	% Variance
1	Shared Services	6,426	7,441	9,719	9,719	10,051	332	3.4%	10,357	306	3.0%	10,669	312	3.0%
2	Customer Billing Services	4,410	4,020	4,037	3,885	3,807	(78)	(2.0%)	3,915	108	2.8%	4,372	458	11.7%
3	Intra-municipal Services	1,214	1,413	1,226	1,304	1,570	266	20.4%	1,595	25	1.6%	1,607	12	0.8%
4	Intra-municipal Recoveries	(11,649)	(11,501)	(14,872)	(14,412)	(15,505)	(1,093)	7.6%	(15,896)	(391)	2.5%	(16,377)	(481)	3.0%
5	Fleet Services	15,444	16,594	15,584	14,984	15,800	817	5.4%	16,241	440	2.8%	16,689	448	2.8%
	Total	**15,845**	**17,967**	**15,694**	**15,479**	**15,723**	**244**	**1.6%**	**16,211**	**488**	**3.1%**	**16,960**	**749**	**4.6%**

Line 1, 3, 4, 5 - Various Services and Recoveries

These Related Parties Transactions are charges and recoveries from other City of Edmonton departments.

Line 2 - Customer Billing Services

Customer Billing Services are charges from EPCOR for processing customer invoices including collection and payment application as per the Service Level Agreement.

15.0 Historical Trends ($000's)

Line #		Reference	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Forecast
Expenses							
1	Operations and Maintenance	**Schedule 8.0**	113,966	121,371	131,901	141,496	156,552
2	Net Amortization Expense	**Schedule 9.0**	15,232	16,099	17,074	17,466	19,471
3	Debt Servicing	**Schedule 9.3**	9,511	10,124	10,104	9,852	9,933
4	Intra-municipal Recoveries	**Schedule 8.8**	(7,670)	(8,806)	(11,649)	(11,501)	(14,412)
5	Grants	**Schedule 8.0**	-	3,700	3,700	4,000	-
	Expense Subtotal		**131,039**	**142,488**	**151,130**	**161,313**	**171,543**
Less: Non-Rate Revenue		**Schedule 10.0**	**24,894**	**25,394**	**26,538**	**28,379**	**23,710**
Less: Rate Revenue Required		**Schedule 10.1**	**104,566**	**113,325**	**122,403**	**133,177**	**146,673**
Net Income/(Loss)		**Schedule 11.1**	**(1,579)**	**(3,769)**	**(2,189)**	**243**	**(1,160)**

16.0 Justification for Additional Resources (FTEs)

Attached to this Rate Filing are a number of justification forms for new full time equivalents requested. The following is a summary of these attachments:

	Appendix
Collection Services (growth)	A1, A2, A3
EWMC Operators	A4, A5
Electrical Engineer	A6
Environmental Engineer	A7
Public Information Officer	A8
Public Service Representative	A9
Training Coordinator	A10
Reuse Program Assistant	A11
Reuse Operator	A12
Heavy Duty Mechanic	A13
Data Management Clerk	A14
Mechanical Maintenance Planner	A4
EWMC Laboratory Technician	A15
P&D Truck Driver	A4
BPCO Methods Analyst	A16

Justification for Additional Resources (FTEs)
Commercial Collection Services
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Trent Tompkins**		**09/10/2015**

1. Recommendation

The Waste Management Utility is recommending that the addition of 4.4 FTE's be approved for funding in the 2016-2018 Waste Management Utility Operating Budget for a total increase of $350,957 (based on full year operational requirement). The following is a description of the positions requested:

a) 2016 - 3.3 FTE Collector III, Refuse Collector – $261,347
b) 2017 - 1.1 FTE Collector III, Commercial Waste Collection – $89,610

2. Position(s) Scope:

- The front-line positions requested will be utilized in the commercial waste and recycling collection program in accordance with the vehicle class specifications.
- These positions will be hired in the first quarter of the year the FTE is requested

3. Justification

3.1 Why the position is required

The positions are required to address increased service demands related to growth in the commercial waste collection program.

3.2 Risk/Implications of NOT hiring

If the positions are not approved the non-regulated collection program will not continue to grow and attract new customers. This would limit the potential to generate revenue for the Waste Management Utility.

3.3 Alignment with The Ways

The request for the additional FTE's is in alignment with the City's Strategic Plan and The Ways through specific support for The Way We Prosper and The Way we Green. Commercial Collection Services provides non-rate revenue to the to help offset the residential rate charged to Single and Multifamily residents while staying focused on efficient service, environmental improvement and waste diversion for commercial enterprises.

3.4 Comparable Reference Data (if available)

The recommended positions address expansion of existing account services and 150 anticipated new accounts through 2016-2018 as forecasted in Financial Services and Utilities report CR_1262 submitted to Utility Committee July 3, 2014. Current productivity guidelines have been established and are consistent with the existing internal multifamily and commercial operations.

4. Funding Source / Financing Alternatives

The Commercial Collection Services programs recover costs through rates charged directly to commercial users. No increase in regulated rates is required for the requested positions.

Justification for Additional Resources (FTEs)
Curbside Collection
Financial Services and Utilities Department
Waste Management Services
2016 – 2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Trent Tompkins**		**09/10/2015**

1. Recommendation

The Waste Management Utility is recommending that the addition of 2.2 FTE (s) be approved for funding in the 2016 – 2018 Waste Management Utility Operating Budget for a total budget increase of $182,520 (based on full year operational requirement). The following is a description of the positions requested:

a) 2017 - 1.1 FTE for Collector IV, Curbside waste collection - $92,910
b) 2017 - 1.1 FTE for Collector III, Curbside recycle collection - $89,610

2. Position(s) Scope:

- The front-line positions requested will provide direct public service within the curbside Residential Waste Collection program in accordance with the vehicle class specifications.
- These positions will be hired in the first quarter of 2017 if funded.

3. Justification

3.1 Why the position is required

The positions are required to provide for increased service demands related to the additional growth in residential units in the areas serviced directly by City staff.

3.2 Risk/Implications of NOT hiring

If the positions are not approved the Utility may not be able to complete scheduled service, incur additional unplanned overtime costs and face increased public complaints, risk of collector injury, lost time incidents, risk of vehicle accidents due to fatigue and decreased efficiency.

3.3 Alignment with The Ways

The request for the additional FTE's is in alignment with the City's Strategic Plan and The Ways through specific support for The Way We Live and The Way we Green. Curbside collection helps the keep the City clean and vibrant by providing dependable waste and recycling collection while focused on efficient service, environmental improvement and waste diversion for residents.

3.4 Comparable Reference Data (if available)

The recommended positions address the 2016 - 2018 projected service demand increase as determined by an average 1.9% annual population increase over the time period and operational efficiencies. The productivity guideline for Collector FTE's is 2,000 homes per week.

4. Funding Source / Financing Alternatives

These positions are funded by the Waste Management Utility regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Multi-Family Collection
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Trent Tompkins**		**09/10/2015**

1. Recommendation

The Waste Management Utility is recommending that the addition of 4.4 FTE (s) be approved for funding in the 2016-2018 Waste Management Utility Operating Budget for a total budget increase of $365,105 (based on full year operational requirement). The following is a description of the positions requested:

a) 2017 - 2.2 FTE for Collector III, Multifamily Waste Collection (1 crew) – $179,219
b) 2018- 2.2 FTE for Collector III, Multifamily Waste Collection (1 crew) – $185,886

2. Position(s) Scope:

- The front-line positions requested will provide direct public service within the Multi-family waste collection program in accordance with the vehicle class specifications.
- This position will be hired in the first quarter of 2017 and 2018 if funded.

3. Justification

3.1 Why the position is required

The positions are required to provide for increased service demands related to the additional growth and occupancy in residential units in the areas serviced directly by City staff.

3.2 Risk/Implications of NOT hiring

If the positions are not approved the Utility may not be able to complete scheduled collection service, incur additional unplanned overtime costs and face increased public complaints, risk of collector injury, lost time incidents, risk of vehicle accidents due to fatigue and decreased efficiency.

3.3 Alignment with The Ways

The request for the additional FTE's is in alignment with the City's Strategic Plan and The Ways through specific support for The Way We Live and The Way we Green. Multifamily collection helps the keep the City clean and vibrant by providing dependable waste and recycling collection while focused on efficient service, environmental improvement and waste diversion for residents.

3.4 Comparable Reference Data

The recommended positions address the anticipated increase in service demand from population growth of 1.9% in 2017 and 2.1% in 2018 and occupancy of residential buildings currently under construction. The additional units are expected to generate 2,700 cubic yards per week in waste and recycling material. Multifamily collector crew productivity of 1,300 cubic yards serviced per week has been established within the existing multifamily operations.

4. Funding Source / Financing Alternatives

These positions are funded by the Waste Management Utility regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Edmonton Waste Management Centre
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Bud Latta**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 14.6 FTEs be approved for funding in the 2016 Utility Operating Budget for a total budget increase of $1,170,460 (based on full year operational requirement). The following is a description of the positions requested:

a) 9 FTE EWMC Operators (total salary and benefits $677,323).
b) 2 FTE Mechanical Maintenance Planners (total salary and benefits $208,030).
c) 3.6 FTE Truck Driver V (total salary of and benefits $285,106).

2. Positions Scope:

- Nine front-line positions requested will be used to support Refuse Derived Fuel (RDF) operations at the Integrated Process and Transfer Facility.
- Two Mechanical Maintenance Planner positions requested will be used to plan work for the Maintenance contractors at EWMC and they will also create L order purchase orders.
- 3.6 truck driver positions to fulfill the landfill hauling and external cure site hauling requirements.
- These positions will be hired in the first quarter of 2016 if funded.

3. Justification

3.1 Why the positions are required

- Projections for volume requirements from Enerkem in 2016 indicate there will be a need to operate two shifts, 5 days a week in the Refuse Derived Facility (RDF). The positions are required to provide equipment operators to feed the plant during operation as well as perform routine maintenance and cleaning in the RDF Facility.
- SAP Plant Maintenance software module is being implemented site wide at EWMC. Two planning positions will improve the productivity of the contracted workforce, improve the quality of the data being collected, which also enhances the opportunities for lowering costs through better analysis of maintenance history.
- An external cure site at Ryley is being planned and it will take at least one additional Truck Driver to haul uncured compost to this site. We anticipate a total hauling requirement of up to 20,000 tonnes to the external cure site. The latest projections from our Waste Flow model indicate that we need two more temps during our busy periods to keep up with volumes of waste that need to be hauled to Ryley.

3.2 Risk/Implications of NOT hiring

- The implication of not hiring the 9 front line positions in the Refuse Derived Fuel Facility would be the inability to operate the facility as necessary to provide the source material for the Waste to Biofuels Facility.
- The implication of not hiring the two maintenance planners for the EWMC facility would be not realizing the potential productivity improvements with our maintenance contractor, as well as not being able to take advantage of the analysis tools available in SAP, because of poor data management.
- The implications of not hiring the 1 permanent and the two 0.8 Temporary Truck Drivers is that we would have to increase external contract hauling which is more expensive than using COE in-house staff.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

- The successful operation of the RDF system and the Enerkem Biofuels facility is critical to meeting the EWMC's 90% residential waste diversion target. These positions are necessary to operate the RDF system as production at the Enerkem facility is expected to approach full capacity during 2016. This operation contributes to the Utilities alignment with the way we green.

- Optimizing the SAP Plant Maintenance module, by ensuring that high quality and quantity of data is entered, contributes to the way we finance, because it will improve productivity of the maintenance work force as well as making it easier to work on the right things to reduce costs.
- Hauling uncured compost and additional refuse with COE Truck Drivers costs less than hiring contractors and we find that COE drivers take more ownership and care with our tractors and long haul trailers. Hauling as much as we can with our own people, contributes to the way we prosper.

3.4 Comparable Reference Data (if available)

- The new Enerkem facility will have its feed capacity doubled by the fall of 2015. They will also be debugging their plant with lessons they have learned during commissioning and startup of the plant. Enerkem anticipates operating near full capacity in 2016 and that will require the RDF facility to operate three shifts, at least 5 days a week to keep up with their demand. The RDF process is designed to feed MSW manually, with an operator running a loader, a second operator is required to monitor the process on the Distributed Control System and a third person is required to manage the bins (metals, heavies and dust collector barrels) with the forklift, as well as keeping up with housekeeping using the sweeper and the forklift.
- Industry publications indicate the wrench time for maintenance technicians for an average company not using planning and scheduling, is 35%. With proper maintenance planning and scheduling a company can increase wrench time from 35% to 65%. Implementing the planning and scheduling functions at the EWMC will allow us to have better maintained equipment, which will require less expensive long term maintenance and provide more uptime.

4. Funding Source / Financing Alternatives

These positions are funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Edmonton Waste Management Centre
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Bud Latta**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 4 FTEs be approved for funding in the 2017 Utility Operating Budget at a total budget increase of $309,692 (based on full year operational requirement). The following is a description of the positions requested:

a) 4 FTE EWMC Operators

2. Position(s) Scope:

- The positions requested will be used to operate a cure site external to the Edmonton Waste Management Centre for curing compost and preparing it for distribution.
- These positions will be hired in the first quarter of 2017 if funded.

3. Justification

3.1 Why the positions are required?

WMS has capital projects to add an anaerobic digestion facility to the Edmonton Composting Facility (ECF) and procure a site external to the EWMC for curing compost. There is an insufficient footprint at the current site to cure and prepare for distribution all the projected increased quantities of material that will be produced. Operating staff will be required for an external cure site.

3.2 Risk/Implications of NOT hiring

We will be unable to complete the processing of organic material coming out of the ECF and anaerobic digestion facility.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

These positions align with the social/environmental goals of The Ways by increasing waste diversion from landfill.

3.4 Comparable Reference Data (if available)

Currently, 50,000 tonnes (approximately) of Municipal Solid Waste (MSW) compost is cured annually at our onsite cure site. We will compost up to an additional 50,000 tonnes of MSW compost at an external cure site, which requires the addition of these requested FTEs.

4. Funding Source / Financing Alternatives

These positions are funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Edmonton Waste Management Centre
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Bud Latta**		**09/10/2015**

1. Recommendation

The Waste Management Services Utility is recommending that the addition of 1 FTE be approved for funding in the 2016 Waste Management Services Utility Operating Budget for a total budget increase of $ 123,861 (based on full year operational requirement). The following is a description of the position requested:

a) 1 FTE Electrical Engineer (PE1)

2. Position(s) Scope:

- The position requested will be used to manage the electrical infrastructure of the EWMC, reviewing the electrical aspects (both power and controls) of projects through the design, procurement, and construction phases of assigned capital projects. This entails engaging and managing consultants and contractors to develop conceptual designs; engaging and managing consultants and contractors to design and build capital projects meeting the requirements of Operations and Maintenance stakeholders, the public and other clients; and providing commissioning and start-up support. This position also provides technical support to Operations, assisting in researching and solving electrical issues, writing PSA's or RFP's for

operations consultants and/or contractors, and providing technical expertise and input into operating reports for regulatory agencies.

- A position description for the position will be developed this fall, and the position will be posted early in the year, this position will be hired in the first quarter of 2016 if funded.

3. Justification

3.1 Why the positions are required

- There is currently no electrical engineer at the Edmonton Waste Management Centre (EWMC). There are four major operating facilities (Integrated Processing Transfer Facility, Edmonton Composting Facility, Materials Recovery Facility, and Construction & Demolition) within the EWMC, each of which has at least one 25 kV electrical feed and 550V power distribution. Processing and Disposal operates seven other buildings and a number of smaller facilities. The Materials Recovery Facility and Edmonton Composting Facility are operated by a contractor, who also does not employ an electrical engineer.
- Modern power distribution systems in industrial process facilities need to consider protection coordination, power factor monitoring and control, and adherence to best practices from the Canadian Electrical Code. Part of the Anaerobic Digestion Facility project includes generation of power from biogas. These generators must be installed and operated to synchronize electrical frequency between themselves and to the rest of the Edmonton Composting Facility electrical distribution in order to be a reliable source of power.
- Until this time, Processing & Disposal has relied on the knowledge and experience of the General Supervisor of Engineering and Technical Services (Chemical Engineer) and consultants for electrical design matters. The EWMC has attained the size and complexity to justify a full-time Electrical Engineer. It has become apparent that some of the local consultants do not have the required expertise for the mix of electrical components in use at the EWMC.

3.2 Risk/Implications of NOT hiring

The main risk of not hiring is that electrical issues may arise that are outside the knowledge of existing personnel. This may mean delayed resolution of operational problems, and/or unreliable waste processing facilities.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

WMS projects are varied, but most contribute to The Way We Green.

3.4 Comparable Reference Data (if available)

The Edmonton Waste Management Centre has eleven major facilities, for a total capital investment of $450 million; each of which house advanced electrical systems. It is typical in industrial facilities of this size to have an electrical engineer on staff to ensure that electrical equipment design is reviewed and that required maintenance of power and distribution occurs. An overall coordination of power protection devices and systems is required at each facility.

4. Funding Source / Financing Alternatives

This position is funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Edmonton Waste Management Centre
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Bud Latta**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 1 FTE Environmental Engineer Level I be approved for funding in the 2017 Waste Management Services Operating Budget at a total budget increase of $123,994 (based on full year operational requirement).

a) 1 FTE for Environmental Engineer Level I

2. Position Scope

The position requested will manage the City's closed landfill gas and groundwater monitoring system, maintain Clover Bar landfill infrastructure such as groundwater diversion system, and pump stations, and develop and monitor environmental performance indicators for the Utility. The position will also support the Environmental Manager in transitioning the Utility's Enviso System to the new ISO 14001: 2015 standard. This position will be hired in the first quarter of 2017 if funded.

3. Justification

3.1 Why is the position required

Aging infrastructure, corresponding risks, and higher degree of corporate due diligence and regulatory requirements drive the need for this position. The Utility will need to deal with enhanced requirements by Alberta Environment and Parks to monitor and report on

groundwater quality and diversion system operation including outfall issues, leading to potential remediation activities. In addition an aging Clover Bar landfill will be transitioning into regulatory required closure and post closure phase, ensuring proper environmental monitoring is conducted. The Utility's goal to continue to be certified to the ISO 14001 standard also requires technical support during the transition to the next iteration (2015) of the standard and its maintenance for the years to come. Lastly an enhanced detailed effort of the Utility to track and report on environmental outcomes is required.

We expect the additional workload for these outlined tasks to require one FTE with the hours approximately distributed between:

- 40% per year for environmental engineering tasks around the EWMC,
- 30% for transition and maintenance support for ISO 14001:2015 Enviso transition, and
- 30% for work on developing and maintaining environmental performance indicators.

3.2 Risk/Implications of NOT hiring

The risks/ implications of not hiring are higher capital cost potential if landfill infrastructure (such as pump stations, groundwater wells and piping, and storm water culverts) is not properly maintained and replacement would be needed. Costs and reputational risks could also include potential regulatory violations due to outfall contamination. This position will also support the ongoing Utility's objective to stay ISO 14001 certified which supports City Policy C505, Edmonton's Environmental Management System.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

This position is aligned with the Utility's goal to maintain 100% compliance to regulatory requirements and to conduct corporate due diligence to minimize the environmental impact of existing infrastructure.

3.4 Comparable Reference Data

The EWMC environmental engineering group currently consists of two staff members. Both are only partially dedicated to the environmental engineering work, as they do have specific Enviso related tasks, especially the Senior Environmental Engineer as WMS Environmental Manager. The current staff is fully burdened with their current existing workload around groundwater, storm water, landfill gas monitoring work at the EWMC and the existing City landfills. In order to fulfill all of the Utility's regulatory requirements, the existing staff is relying heavily on

external consultants and contractors. Both positions are approximately spending 45% and 65% of their time on their existing environmental engineering tasks at the EWMC and the old landfills for a total of approximately 2,288 hours per year. The existing staff cannot handle the additional workload of the tasks outlined in section 3.1.

The potential costs and consequences for remediation or any environmental release and regulatory non-compliance would outweigh the investment for this new position. Urgent environmental risks exist with managing of groundwater outfall contamination and the need to properly release the Clover Bar landfill into closure and post-closure period prescribed by Alberta Environment and Parks.

Without adding this position, we will have to meet this increased workload with a combination of overtime and contracted outside services, which would require higher costs than the proposed position request.

4. Funding Source / Financing Alternatives

This position is funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Community Relations
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Connie Boyce**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 1 FTE Public Information Officer II be approved for funding in the 2016 Utility Operating Budget at a total budget increase of $98,000 (based on full year operational requirement). The following is a description of the position requested:

a) 1 FTE Public Information Officer II

2. Position(s) Scope:

- The position requested will provide communications support to the Waste Management Services
- This position will be hired in the first quarter of 2016 if funded.

3. Justification

3.1 Why the position is required

The Utility currently has two Public Information Officer positions seconded to it. These positions provide the full range of communications support, including media relations, communications planning, issues management, print and video production, advertising, website support and social media. The Utility delivers extensive public engagement, education and social marketing programming that requires communications support. As new programs are added and existing

programs grow due to population growth, these also require communications support. The volume of work requiring communications support in the Waste Management Services exceeds the current capacity.

3.2 Risk/Implications of NOT hiring

Not hiring this position would mean the communications components of the Utility's programs would be severely reduced. This would result in a less engaged public, reduced public support for the Utility and reduced participation in the Utility's programs and services. Citizen participation in our programs is critical to the overall success of the Utility and its ability to meet its business objectives: "Engage and facilitate residents' participation in waste reduction, reuse and recycling."

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

This request is in alignment with *The Way we Green* and specifically, solid waste objective 8.1: "The amount of waste generated by Edmontonians on a per capita basis is continually decreasing."

3.4 Comparable Reference Data (if available)

- In 2014, the Utility had three major communications and advertising campaigns: grasscycling, waste-less holidays and collector safety awareness, requiring communications support for their planning, execution, and successful media coverage. These campaigns were in addition to several media events such as the opening of the Waste-to-Biofuels facility and other secondary campaigns like composting, reuse and recycling.
- In 2016, the Utility is delivering six major campaigns: Eco Stations, grasscycling, waste-less holidays, multifamily recycling, collector safety and a public engagement campaign. This is in addition to providing support for ongoing social marketing programs.

4. Funding Source / Financing Alternatives

Funding for the FTE would be from the Waste Management Services fees charged monthly to single and multi-family residences.

All communications work helps to avoid costs. For example,

- Support for the Eco Station and Big Bin Events, which saw 249,590 users in 2014 and is targeted to expand to 310,000 users over the next five years (leads to increased revenues).

Support for recycling increases participation (92% in 2014) and reduces contamination, leading to increased efficiencies at the Materials Recovery Facility.

Justification for Additional Resources (FTEs)
Community Relations
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Connie Boyce**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending the addition of 1 FTE Public Service Representative I be approved for funding in the 2016 Utility Operating Budget at a total budget increase of $67,945 (based on full year operational requirement). The following is a description of the position requested:

a) 1 FTE Public Service Representative I

2. Position Scope

- The position requested will work in the Waste Management Services's Customer Support Centre. This 5-person unit takes calls transferred from 311, as well as calls directly from the public and from the Utility's commercial customers. The Centre supports the Collection Services area by initiating requests for additional service from the Utility's customers.
- This position will be hired in the first quarter of 2016 if funded.

3. Justification

3.1 Why the position is required

The Customer Support Centre has been experiencing growth in the number of calls and requests for service due to growth in the City's population and growth in the commercial collection

program. For example, from 2013 to 2104, the unit had a 42% increase in field orders created (for service requests); a 62% increase in new account set-ups; a 13% increase in internet enquiries; and a 142% increase in commercial bin service requests. Similar increases are being experienced in 2015 to date. The increased demands are being managed with overtime and temporary staff.

3.2 Risk/Implications of NOT hiring

Not hiring this position would mean the Utility would not be able to meet its commitment to customer service. Residents would find it increasingly difficult to speak to a public service representative and would be put on hold more often. Currently 90% of calls are answered. This would be reduced to about 85%. Collections Services would see a decline in support for their work, reducing their ability to provide service in response to complaints. Satisfaction with our services, among residents and commercial customers, would decline.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

This request for an additional FTE is in alignment with the City's *The Way we Green* Plan by educating residents to reduce waste and divert waste from landfill. The position also supports the City's commitment to providing high levels of customer service and the leadership principle "We are proud to serve the public."

3.4 Comparable Reference Data (if available)

- The increase in demand (referred to in 3.1) is based on: 6,698 completed field orders in 2013 vs 9,510 in 2014; 3,939 new accounts created in 2013 vs 6,382 in 2014; 3,248 internet enquiries in 2013 vs 3,687 in 2014; and 1,821 commercial bin service requests in 2013 vs 4,409 in 2014.
- Standard performance measures for call centres, such as cost per call or average total time to handle a call, do not apply to this Customer Support Centre because the calls transferred from 311 are the more complex calls that require investigation, problem solving, and after-call service.

4. Funding Source / Financing Alternatives

This position is funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Community Relations
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Connie Boyce**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending the addition of 1 FTE Training and Information Coordinator be approved for funding in the 2016 Utility Operating Budget at a total budget increase of $83,805 (based on full year operational requirement). The following is a description of the position requested:

a) 1 FTE Training and Information Coordinator

2. Position Scope

- The position requested will develop employee training, orientation and engagement programs for Waste Management Services employees.
- This position will be hired in the first quarter of 2016 if funded.

3. Justification

3.1 Why the position is required

In 2016, the Waste Management Services will have close to 550 FTEs. As the Utility grows and becomes an increasingly complex organization, highly engaged, well trained and well informed employees are essential to our success. This position develops internal training programs for staff in the areas of job instruction, occupational health & safety, the environmental management system and staff orientation. Resources including online training and workshops are developed to

deliver the training. As well, this position implements the Utility's culture action plan as it relates to employee engagement and information sharing. The Utility currently has one position doing this work but a second position is needed to meet the information sharing and training requirements of more than 500 employees located at various locations.

3.2 Risk/Implications of NOT hiring

Not hiring this position would mean the Utility would not be able to meet its commitments to its Culture Action Plan, as stated in the Utility Business Plan: "1. Employees are aware of the importance of their work and how it contributes to the overall strategic goals., and 2. A workplace that continues to succeed through collaboration and teamwork." Employee engagement leads to higher levels of collaboration and productivity, which would be diminished without this position. As well, the training programs would need to be outsourced and costs would be significantly higher without this position

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

This request is in alignment with the City's Corporate Culture vision, which defines "how" we will achieve *The Way Ahead* goals. The work aligns with Phase II and Phase III of the cultural transformation, which includes key focus areas of Engage, Align, Communicate and Be One City, followed by Sustain, which is about continuing improvements that support the Culture Vision. The position also aligns with *The Way we Live* 3.4.3 "Provides trained and supported staff prepared to meet the diverse needs of Edmontonians". It also supports the City's commitment to maintaining environmental management systems and its commitment to Occupational Health and Safety.

3.4 Comparable Reference Data (if available)

Various City departments have training specialists, delivering training in a wide variety of areas. These in-house training positions exist because of the efficiencies achieved by having in-house personnel develop and deliver customized training and because of the ongoing need for training. As an example, the First Aid Training provided by this position would cost the Utility $11,000 if outsourced.

4. Funding Source / Financing Alternatives

This position is funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residents.

Justification for Additional Resources (FTEs)
Community Relations
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Connie Boyce**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 1 FTE Reuse Program Assistant be approved for funding in the 2017 Waste Management Services Operating Budget at a total budget increase of $66,250 (based on full year operational requirement). The following is a description of the position requested:

a) 1 FTE Reuse Programs Assistant

2. Position Scope

- The requested position will assist the existing Reuse Centre Program Coordinator with administration and coordination of new educational programs and the volunteer program. The position will: coordinate new educational reuse-focused programs (to be introduced in 2016 and 2017); coordinate new and existing program volunteer opportunities; and assist with program bookings.
- The Reuse Centre currently has 1 FTE responsible for coordination of volunteer programs. This new position is required to provide sufficient volunteer coordination as the volunteer program continues to expand.
- In 2014, 380 volunteers contributed 3,400 hours for the facility as sorters, tour guides, and workshop facilitators. In 2017, it is projected that the Reuse Centre will have nearly double the number of volunteers (741 individuals).

- This position will be hired in the first quarter of 2017 if funded.

3. Justification

3.1 Why the position is required

The increase in volunteers and requests to volunteer since the facility moved is a clear indication that the volunteer program is growing and requires additional support to ensure its success. This position is needed to coordinate volunteer recruitment, training, scheduling and supervision. This position will also be needed to provide administrative support for new programs bookings (to be introduced in 2016-17) and coordinating volunteer opportunities associated with the new programs. Numbers of volunteers and volunteer hours are expected to increase annually, due to positive volunteer feedback, increased accessibility of new location, population growth, increased awareness among residents, and new volunteer opportunities.

3.2 Risk/Implications of NOT hiring

- Not hiring this position would mean the Centre would not be able to keep up with the growing demand from the community for volunteer opportunities. New educational programs would also not have sufficient support to ensure their success.
- According to the 2012 Reuse Centre customer satisfaction survey, respondents wanted to see the Centre offer educational programs and workshops in the future as part of enhancing the level of service delivery. In accordance with best practices for customer service and building relationships within the community, the facility has a responsibility to follow through on customer feedback and implement popular suggestions when possible and feasible.
- Customer and volunteer satisfaction, as well as community relationships, would be negatively impacted if the facility was unable to implement some of the primary customer recommendations, and if there was insufficient administrative support for the volunteer program. If we are unable to effectively manage the volunteer program and the educational programs, we would likely see a decline over time, both with our numbers of volunteers and volunteer hours, and in the number of program bookings.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

- The request for an additional FTE is in alignment with the City's Strategic Plan by diverting waste from landfill and educating residents to reduce waste. Specifically, it

aligns with The Way We Green solid waste objective 8.1.1: "Uses incentives, education and partnerships to increase Edmontonians' participation in waste reduction through grasscycling, composting, reuse, and consumption habits."

- Additionally, there is alignment with The Way We Live (Goal 3: Edmonton is a Caring, Inclusive, and Affordable Community). The goal recommends provision of affordable and inclusive programs and services to residents, so that all residents feel a sense of belonging. Specifically, the following objectives apply: 3.1.2 "Provides its people services so that they are accessible and available to Edmontonians"; 3.1.3 "Provides information to Edmontonians to encourage participation in City programs and encourage Edmontonians to access City services; 3.1.4 "Delivers programs and services in response to changing needs and best practices"; 3.1.9 "Promotes volunteerism as a means of enhancing a caring community"; 3.3.4 "Provides affordable access to its public libraries, recreation, parks, leisure and social programs"; and 3.4.1 "Provides programs and services to the highest standards of citizen satisfaction".

3.4 Comparable Reference Data (if available)

One FTE is currently responsible for coordinating 380 volunteers, which is projected to increase to 741 volunteers by the end of 2017. From 2014-2015, the number of volunteers and volunteer hours have increased by 36% and 20%, respectively (Jan – June comparison). The numbers of volunteers and volunteer hours for 2017 are projected to increase to 741 individuals (25% annual increase) and 5,825 hours (20% annual increase), respectively.

4. Funding Source / Financing Alternatives

- The Reuse Centre is funded by the Waste Management Services fees charged monthly to the single- and multi-family residences. This is offset slightly by the user fees (currently $5/per visit for single purchases up to 50 kg) charged to the customers who purchase materials.
- New educational programs, pre-registered workshops, and rentals available for booking at the Reuse Centre will be introduced in 2016-17. Programs and rentals will have an associated per-person or per-group cost to offset some operational and staffing costs associated with program administration. Any generated revenues will support the continued operations and growth of these programs.

Justification for Additional Resources (FTEs)
Community Relations
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Connie Boyce**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 1.0 FTE Reuse Operator be approved for funding in the 2018 Waste Management Services Operating Budget at a total budget increase of $47,377 (based on full year operational requirement). The following is a description of the position requested:

a) 1 FTE Reuse Operator for Reuse Centre

2. Position Scope:

- The position requested will be used to meet the increased customer service demands and increased volumes of donated materials at the new Reuse Centre location. The facility has experienced significant increases in the number of customers and amount of donated materials since it moved to the new location in July 2014.
- By 2018, customers and donated materials may increase to 70,300 visitors (projected based on modest 25% annual increase) and 686 tonnes (projected based on 40% annual increase), respectively.
- This position will be hired in the first quarter of 2018 if funded.

3. Justification

3.1 Why the positions are required

This position is needed to meet the daily operational and customer service demands of the facility, which include managing the inflow of donated material, customer interactions, stocking shelves, and cash handling transactions. The number of customers and donated materials are projected to continue to increase annually, due to positive customer feedback, increased accessibility of the new location, expanded list of accepted items, population growth, increased awareness among residents, and the introduction of new educational programs in 2016-17. Following are actual increases since moving to the new location in June 2014:

- 53% increase in customers (Jan – June 2015, vs. 2014)
- 71% increase in donated materials (Jan – June 2015 vs. 2014)

3.2 Risk/Implications of NOT hiring

Not hiring this position would mean the Centre would not be able to keep up with the growing inflow of material and would potentially need to dispose of or begin limiting the amount of accepted donations. Customer satisfaction and community relationships would be negatively impacted by insufficient staff.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

- The request for an additional FTE is in alignment with the City's Strategic Plan by diverting waste from landfill and educating residents to reduce waste. Specifically, it aligns with *The Way We Green* solid waste objective 8.1.1: "Uses incentives, education and partnerships to increase Edmontonians' participation in waste reduction through grasscycling, composting, reuse, and consumption habits."
- Additionally, there is alignment with *The Way We Live* (Goal 3: Edmonton is a Caring, Inclusive, and Affordable Community). This includes offering affordable and inclusive programs and services to residents, so that all residents feel a sense of belonging. Specifically, the following objectives: 3.1.2 "Provides its people services so that they are accessible and available to Edmontonians"; 3.3.4 "Provides affordable access to its public libraries, recreation, parks, leisure and social programs"; 3.4.3 "Provides trained and supported staff prepared to meet the diverse needs of Edmontonians".

3.4 Comparable Reference Data (if available)

The Reuse Centre currently has 4 permanent FTE and 4 temporary (2 part-time, 2 full-time) Reuse Centre Operators. The facility operates with one full-time employee for every 3,500 annual customer visits, which is projected to increase to 5,000 annual customer visits per

employee by the end of 2015. By 2018, the number of customers is projected to be nearly double the projected customers for 2015.

4. Funding Source / Financing Alternatives

This position is funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Edmonton Waste Management Centre
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Bud Latta**		**09/10/2015**

1. Recommendation

The Waste Management Services's Processing and Disposal Section has recently completed a review of the equipment related work process and FTE requirements at the Edmonton Waste Management Centre (EWMC). As a result, EWMC is recommending the addition of 2 FTEs to meet the demand in the business area. These FTEs are currently funded through reallocation of existing budget including Fleet Services, vendor costs and over time. The Waste Management Services is recommending that the addition of 2 FTEs be approved for funding in the 2016 Utility Operating Budget for a total cost of $198,348. The following is a description of the positions requested:

a) 2 FTE Heavy Duty Mechanic I

2. Position(s) Scope:

- The positions requested will be used to provide on-site maintenance services that are out of scope for Fleet Services.

- These positions will be hired in the first quarter of 2016 if funded.

3. Justification

3.1 Why the positions are required

- EWMC has changed the business model and will be utilizing these two positions to ensure less downtime for our complex processing equipment.
- Two (2) full time permanent maintenance positions are essential to the ongoing efforts of the developing proactive operator/maintenance program and long term sustainable solution to processing equipment availability.
- Based on the forecasted growth of our operation, we will continue to add to our complex processing equipment fleet.

3.2 Risk/Implications of NOT hiring

- The operation has been reviewed in terms of efficiency and scope of work. Waste Management P&D has determined downtime and fleet availability are directly related to abnormal wear and falls in a category of maintenance out of scope for our Fleet Services support staff. Preliminary 2015 data indicates our newly implemented program to develop long-term fleet availability will increase availability of specialty critical equipment by approximately 30%. Downtime is a primary factor related to costs and efficiencies in these critical operations.
- The tracking and related reports are key requirements in the decision making process both for the EWMC and Fleet as we effectively align our maintenance partnership.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

- Optimizing the maintenance of our fleet will ensure a high level of fleet availability at an optimal cost, thus contributing to the way we finance
- Improved availability will support the continuing program of diversion which supports the Way we Green.

3.4 Comparable Reference Data (if available)

- Our current mobile equipment mechanic regiment includes seven Fleet Services mechanics and two Waste Management Services mechanics. Under the current staffing level we are able to provide a good level of service for the preventative maintenance program. However, this program still results in excessive equipment downtime in the event of a catastrophic failure, specifically to our complex processing equipment fleet. Adding two staff will help us to further our goals of implementing preventative

maintenance that will drastically reduce the number of incidents and severity of catastrophic failure, and significant increase vehicle availability.

- Under the new staffing regime we will be able to provide one Waste Management Services mechanic per critical site at the EWMC. This will allow technical support for equipment start up and provide the infrastructure for technicians to advise when equipment operation should cease in order to avoid catastrophic and costly equipment failure. Such equipment failures lead to increased downtime and diminished availability.
- In 2014 the overall fleet availability was 87%. Included in this number is a substantially lower figure for the complex processing equipment fleet of 73%. Adding these positions will allow us to fully implement a program to increase the availability of this specialized fleet.

4. Funding Source / Financing Alternatives

These positions are funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Edmonton Waste Management Centre
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Bud Latta**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 1 FTE be approved for funding in the 2016 Waste Management Services Operating Budget at a total budget increase of $54,076 (based on full year operational requirement). The following is a description of the position requested:

a) 1 FTE Data Management Clerk II

2. Position Scope:

A full time Data Management Clerk II is needed at the Edmonton Waste Management Centre to handle all aspects of data management, including monitoring and auditing of waste loads and types.

This position will be hired in the first quarter of 2016 if funded.

3. Justification

3.1 Why the positions are required

- The waste processing stream at the Edmonton Waste Management Centre (EWMC) is complex, and is tracked in a locally housed database system. The Administration of this system includes creating and managing complex data tables, reviewing transactions,

auditing transactions, and correcting the transactions associated with the processing of more than 1,800,000 tonnes of garbage, segregated materials, recyclables and compost.

- Accuracy of this data is critical as it impacts over $3 million in customer (cash) revenue, over $5 million from invoicing customers and over $12 million in yearly payments to offsite landfills. In fact, the data generated through this system is used to inform all business decisions at the EWMC. The volume and complexity of the workload continues to overburden the current team, resulting in excess overtime and delayed reporting of information. This position will also eliminate the need for Staff Support for vacation coverage.

3.2 Risk/Implications of NOT hiring

The workload is continuing to expand in both volume and complexity. Not adding a new position will perpetuate the cycle of excess overtime required and delaying information reporting.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

This position will contribute to the Waste Management Services' financial position through increased capacity for data management which informs customer invoicing. This contributes to the Utility's alignment with The Way We Prosper.

3.4 Comparable Reference Data (if available)

Our data management team is responsible for monitoring, auditing and correcting all waste loads at the EWMC. This includes incoming, outgoing and inter-facility loads. New facilities coming on stream, an ever-changing customer list, and dynamic material types and rates lead to increased complexity and volumes. The current volume of transactions taxes the current staff regiment. In this budget cycle, two major facilities will be added to the site – the Waste-to-Biofuels facility and the Anaerobic Digestion Facility. We anticipate these operational changes will add 400,000 tonnes, an increase of 25%, of waste transfer per year with all associated data transactions, auditing and reporting requirements.

4. Funding Source / Financing Alternatives

This position is funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTEs)
Edmonton Waste Management Centre
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Bud Latta**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 1 FTE Laboratory Technician be approved for funding in the 2016 Waste Management Services Operating Budget at a total budget increase of $72,548 (based on full year operational requirement).

a) 1 FTE Laboratory Technician

2. Position(s) Scope:

The position requested will be used to support the Research and Development (R&D) laboratory, the refuse derived fuel (RDF), composting and future anaerobic digestion operation and various environmental monitoring sampling activities at the Edmonton Waste Management Center (EWMC).

This position will be hired in the first quarter of 2016 if funded.

3. Justification

3.1 Why is the position required

- This position is required to satisfy the need for increasing analytical laboratory services at the EWMC for operational support and to meet regulatory requirements. The reason for this increase includes waste feedstock and product testing and process monitoring for RDF operation and the future anaerobic digestion facility and external cure site operation.

RDF operation will be producing about 100,000 dry tonnes of RDF, and the new anaerobic digestion facility will process 48,000 tonnes and will generate about 24,4000 tonnes of compost to be further stabilized at the cure site. In addition there will be increased requirements for environmental monitoring services, as the storm water and landfill gas systems at the EWMC will continue to grow. This position will also support the ongoing R&D and Innovation program.

- There will be about an additional 380 samples per year for analysis generated starting in from 2016. This will consist of 210 for the continuous RDF process, 100 from the external cure site operation, and the remaining 70 from the AD testing and operation, environmental monitoring, and R&D program. To put things into perspective currently two staff members are working on 720 samples (details below) which results into about 360 samples per staff member. The additional sample number of 380 is comparable and will require the requested additional position.

3.2 Risk/Implications of NOT hiring

The Waste Management Services would lose the ability to provide satisfactory internal laboratory needs for ongoing operational and regulatory needs. This can lead to delayed operational decision making and inefficiencies in operation and reporting.

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

This position is aligned with the Utility's goal in "The Way We Green" to support operations at the EWMC to increase waste diversion processes of residential and commercial waste. It also supports and ensures ongoing the Utility's 100% regulatory compliance goal.

3.4 Comparable Reference Data

The EWMC laboratory staff currently consists of two staff members. The staff is fully burdened with their current workload, which concentrates on research and development, the environmental monitoring program, and the composting operation but now also includes RDF testing. The two current staff members are analyzing about 720 samples per year, consisting of 320, 250 and 150 from composting and cure site operation, RDF testing, and summed together samples for AD testing, the environmental monitoring program and R&D activities.

Without adding this position, we will have to meet this increased workload with a combination of overtime and contracted services.

4. Funding Source / Financing Alternatives

This position is funded by the Waste Management Services regulated rates charged monthly to the single and multifamily residences.

Justification for Additional Resources (FTE)
Business Planning and Central Operations
Financial Services and Utilities Department
Waste Management Services
2016-2018 Operating Budget

Approval	Name	Signature	Date
Branch Manager	**Leo Girard**		**09/10/2015**
Director	**Chris Fowler**		**09/10/2015**

1. Recommendation

The Waste Management Services is recommending that the addition of 1 FTE Methods Analyst I be approved for funding in the 2017 Waste Management Services Operating Budget for a total budget increase of $98,593 (based on full year operational requirement). The following is a description of the position(s) requested:

a) 1 FTE for Methods Analyst I

2. Position Scope:

A full time Methods Analyst I is needed in the Business Planning and Central Operations Section to strengthen financial performance measurement, benchmarking, forecasting and the research of business opportunities. The Section conducts this work on behalf of the Utility.

This position will be hired in the first quarter of 2017 if funded.

3. Justification

3.1 Why the position is required

The Waste Management Services continues to develop as a Utility that is focused on meeting the evolving needs of residents, preservation of natural resources while being cost effective. To achieve this goal the Utility must focus on the continual improvement process, the steps of

continuous improvement include plan, do, check, act. The requested position is justified by its contributions to the "planning" phase (forecasts of residential growth, benchmarking of measures from private/municipal organizations and the research of business opportunities that improve efficiency or effectiveness). This position will also strengthen the "checking" phase which consists of the internal reporting of financial and non-financial performance measures. The Business Planning and Central Operations Section conducts this work on behalf of the entire Utility.

3.2 Risk/Implications of NOT hiring

Performance measurement, forecasts, benchmarking and assessment of business opportunities have grown in volume and complexity. Under servicing may result in delayed decision-making and less available information to measure successes and guide future action. Ultimately under servicing negatively impact the Branch's ability to continually improve and achieve its three pillars (environmental sustainability, customer-focused services and cost effectiveness).

3.3 Alignment with The Ways (Social/Environmental/Safety/Economic)

Projects being undertaken by Section are so varied, but mostly they are tied with The Way We Green and The Way We Finance. This position will contribute to the Branch's goal of achieving its three pillars: environmental sustainability, customer-focused services and cost effectiveness by way of looking for ways to deliver more efficient and effective services.

3.4 Comparable Reference Data (if available)

City of Calgary's similar business unit operates with 4 FTEs dedicated to performance measurement, benchmarking and reporting of operational performance.

4. Funding Source / Financing Alternatives

This position is proposed to be funded by Waste Management Services regulated rates charged to single family and multi-family residences.