



**EPCOR**  
**WATER & DRAINAGE SERVICES**  
**2021 ANNUAL OPERATIONAL PLAN**

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## INTRODUCTION

This document presents the 2021 Operational Plan for the Water Treatment and Distribution and Wastewater Treatment (collectively referred to as “Water Services) and the Drainage Services business units of EPCOR Water Services Inc. (EWSI). The purpose of this document is to provide Edmonton City Council, Utility Committee and stakeholders an overview of the various operational initiatives planned for the 2021 calendar year for both business units.

The overarching goal of Water Services is to provide customers with safe and reliable water and wastewater services while meeting or exceeding all environmental requirements, delivering value and achieving a fair return. This goal will be accomplished by a team of safe and accountable employees who are engaged in the operation of EPCOR Water Services.

Drainage Services’ overarching goal is to provide safe and reliable stormwater and wastewater collection services to customers within the City of Edmonton. Drainage Services’ vision is to be an industry leader valued by our customers and shareholder as environmental stewards who keep the public safe and the river healthy. This will be accomplished through effectively planning business requirements, focusing on excellence in engineering, managing our capital projects well, and pursuing proactive operational practices informed by a rigorous stakeholder engagement process.

The format of this document is the same as initiated in 2020. While Water Services and Drainage Services are separate businesses units with EWSI, a significant number of initiatives are common to both. These initiatives are intended to drive synergies, gain efficiencies and to align the businesses operationally. As a result, this report is structured in three major sections: 1) Common Initiatives that are being pursued by Water Services and Drainage Services together, 2) Water Services’ specific initiatives and 3) Drainage Services’ specific initiatives.

A large number of initiatives in this 2021 plan have been carried over from last year’s plan. The impact of the COVID pandemic delayed the original timelines for these initiatives resulting in them continuing in 2021. Where this has occurred, the descriptions have been updated with completed activities and new timelines and deliverables outlined.

All initiatives are presented within a common strategic framework comprised on six focus areas:

- Customer Service
- Public Health and the Environment
- Employee and Public Safety
- Employee Development
- Operational Performance
- Growth and Financial Performance

# PART ONE: WATER AND DRAINAGE SERVICES – COMMON INITIATIVES

## 1. OVERVIEW

The strategic initiatives common to both Water and Drainage Services for 2021 are summarized below. Many of these initiatives are extensive in scope and cover a number of years and as a result may have been discussed in previous reports (and will likely be discussed in future reports).

### Customer Service

- Implement the Service Optimization Assessment Project (SOAP) and use as a means to improve customer service.
- Review developer funding mechanisms in order to align approaches across all business units.

### Public Health and the Environment

- Enhance the Climate Change Adaptation/River Flooding resiliency plan to include drought, water quality and freeze/thaw cycles. Make the program more public.
- Execute Green Energy Purchase Agreement.
- Improve understanding of the environmental impact of residuals on the North Saskatchewan River.
- Develop an Integrated Watershed Management Strategy for Edmonton.

### Employee and Public Safety

- Develop and implement company-wide standard operating procedures for all high-hazard activities.
- Implement contractor management and incident response procedures.

### Employee Development

- Improve employee engagement and build a respectful, inclusive, diverse, collaborative and safe work culture.
- Develop and implement company-wide competency-based training for high-hazard activities.
- Develop our employees for the future.

### Operational Performance

- Implement a standardized process improvement methodology. Develop external benchmarks to support the identification of process improvement opportunities.
- Implement the Organizational Project Management Office (OPM) initiative across all sites.
- Develop and implement strategies for realizing synergies between Water Canada and Drainage Services.

### Growth and Financial Performance

- Contribute to the “Utility of the Future” initiative.

- One Water – Continue the alignment of the integrated resource planning activities between the water and drainage utilities.
- Submit and defend the Edmonton 2022-2026 Water PBR, 2022-2024 Drainage PBR and 2022-2024 Wastewater PBR.

## 1. CUSTOMER SERVICE

### 1.1 Implement SOAP as a means to improve customer service

Customer Service touches every aspect of EPCOR’s mission to provide clean water and safe, reliable electricity. EPCOR provides customer service to approximately 600,000 regulated and contract electricity customers in Alberta, energy distribution to 379,000 customers in Edmonton, and water and drainage services to over 1 million customers across Western Canada.

In 2018, after a decline in the transactional customer service survey results, Water Distribution and Transmission (Water D&T) developed a plan to review the results and identify root causes of the decline. Through this review, the need to create a customer service culture with a focus on quality reviews and coaching was identified. A consultant was sourced to draft a plan on how to improve the customer experience. Based on this plan, the EPCOR Service Optimization Assessment Project (SOAP) was established to determine how EPCOR could support and implement a more optimized Customer Service model. The initial phase of this project will focus specifically on the Emergency and Trouble customer service groups within EPCOR Distribution and Transmission and EWSI Water and Drainage. This assessment analyzed the current state of operations to determine if there are any resource or system optimization opportunities within these groups that can be implemented as an initial step.

Some of these changes have already been implemented and improvements in the survey results have since been observed. In 2019, Water D&T worked with the Drainage and Power teams to streamline processes and implement system improvements. Improving the customer experience led to implementation of an improved call answering process where simpler calls are handled by a centralized team who are trained to handle power, water and drainage calls. A second team handles more complex or technical calls. A new phone system with an updated menu was implemented allowing for improved up front customer messaging and functionality. EPCOR also moved all emergency related calls to a single point of contact. EPCOR continues to focus on improving the customer experience through procedure reviews within the Dispatch and other teams within Water D&T.

The next phases of the project will be to do a comparison between how customer service is measured across EPCOR to current practice in EWSI and an assessment of how EPCOR’s website can be further

optimized from a customer perspective. In 2021, Water D&T will cross train and amalgamate existing water customer service groups. The other primary focus in 2021 will be optimizing the recently implemented billing system and ensuring staff are trained and able to provide a positive customer experience. Water will continue to engage with EPCOR's other customer facing groups to identify other areas of improvement.

## 1.2 Review developer funding mechanisms to align approaches across all business units

Capital investments required to support new development across the city are allocated between developers and ratepayers differently across EPCOR's various lines of business. For water infrastructure, costs are generally shared between developers and ratepayers with ratepayers paying for "backbone" assets such as treatment and transmission infrastructure as well as reservoirs. Developers are responsible for distribution level infrastructure that is generally added to real estate lot prices. For drainage assets, developers cover the majority of costs for new infrastructure. Conversely, ratepayers cover the majority of costs for electricity infrastructure.

EWSI is working with developers to understand the historic rationale for these differences as well as the challenges that the disparity in approaches causes. From that basis, alternative approaches are being employed with the goal of establishing guiding principles to develop a more consistent framework for allocating costs of new development between developers and ratepayers. Specifically, EWSI is drafting a white paper to establish cost minimization, cost allocation and regulatory principles to be applied in its approach to funding water and drainage infrastructure required to support growth. The common municipal goal of "growth pays for growth" must be balanced against the principle, commonly applied in utility settings, that utility rates must be non-discriminatory.

As an over-riding principle, any approach selected must result in long run cost minimization. Design standards must be appropriate to meet safety, reliability, etc. and be reviewed periodically for changes due to technology. The funding programs should also be transparent, predictable, stable and simple to administer. A jurisdictional review was completed and the approaches utilized in other jurisdictions were assessed based on the established principles. The review indicated that a number of both utility and developer funded approaches that can achieve the principles. Ultimately, rates, developer costs and taxes must each remain competitive with other municipalities.

EWSI continues to hold ongoing discussions with UDI to advance the development of a principles-based approach that appropriately mitigates rate increases, supports growth in Edmonton and aligns to the City of Edmonton's long-term growth objectives. Once a position has been finalized with UDI, which is anticipated for end of year 2021, the plan will be presented to Utility Committee for discussion. The implementation of any changes would then coincide with the next PBR application.

## 2. PUBLIC HEALTH AND THE ENVIRONMENT

### 2.1 Enhance the Climate Change/River Flooding resiliency plan to include drought, water quality, and freeze/thaw cycles. Make the program more public.

In 2018, Water Services developed a Climate Change Adaptation action plan that identified 15 key risks for the Edmonton water treatment plants (WTP), water transmission and distribution systems and the Gold Bar Wastewater Treatment Plant (WWTP) that will be significantly affected by climate change. Initial risk mitigation strategies and specific actions were developed for each of these risks. River flooding was identified as the greatest of the sudden onset risks for the Edmonton facilities. Severe river flooding has the potential to impact both the Rosedale and E.L. Smith WTPs, causing damage to critical components and potentially preventing production of treated drinking water to 1.3 million people Edmonton and the Capital Region. The Gold Bar WWTP would also be impacted by river flooding, potentially resulting in a significant environmental release. Consequently, River Flood Resiliency Plans aimed at reducing the flood risk to an acceptable level have been developed for the Edmonton WTPs and the Gold Bar WWTP. These plans include the Edmonton WTP Flood Protection capital program that involves critical asset protection or relocation, installation of backflow prevention devices, and construction of landscaped embankments that will take place over three phases between 2021 and 2027.

Another objective for 2021 is to review all of the risks associated with climate change on the Edmonton water and wastewater system operations and determine the appropriate risk ranking. Additional climate related risks to be considered include low water flow and availability in the river (water scarcity), localized drought, significant changes to water quality, major wildfire in the river basin that impacts water quality, changing ecology of the river with increased temperature and the risk of increased mainbreaks, especially transmission mainbreaks, due to more freeze thaw cycles.

So far, the Climate Change Adaptation Plan has been maintained as an internal Water Services document. Another objective in 2021 is to produce an outward looking document that can be shared with key stakeholders such as the City of Edmonton Council and Administration, Alberta Environment and Parks, and others who are interested in the EWS Climate Change Adaption Plan. It will be critical to ensure that the risks and the plans align with the City of Edmonton Climate Change Adaptation Plan that was finalized in 2018 and with EPCOR's overall Climate Change strategy and Environmental and Social Government reporting initiative.

### 2.2 Execute green energy purchase agreement.

The largest source of greenhouse gas emissions within Water Services operations is from the consumption of electricity which is used in both water and wastewater treatment operations as well as

in pumping water to final consumers. Water Services currently buys electricity sourced from the Alberta grid through competitive procurement. As part of Water Services' commitment to reducing its environmental footprint, the company is moving towards utilizing 100% of its electricity consumption within Edmonton from a portfolio of renewable sources. The portfolio approach aligns with the City of Edmonton's Climate Change Adaptation and Resilience Strategy, which sets targets for sourcing renewable electricity from new local sources, and for reducing Edmonton's overall greenhouse gas footprint.

Water Services is implementing this approach through two projects:

- i) Development of new, local renewable generation through the E.L. Smith Solar Project;
- ii) Wind energy procurement - EPCOR Utilities Inc. has signed an agreement with Renewable Energy Systems Canada ("RES") to develop and construct a new wind farm in southern Alberta. EPCOR will acquire the Renewable Electricity Certificates ("RECs") from the project for a 20 year term. The combination of this offtake agreement and the E.L. Smith Solar Farm will result in EPCOR Water utilizing 100% green electricity for all its operations within the City of Edmonton. Permitting activities are currently underway and the wind farm is expected to be constructed in summer 2022 with commercial operations commencing in Q4 2022.

### 2.3 Improve understanding of the environmental impact of residuals on the North Saskatchewan River

The water treatment processes results in the generation of a waste stream often referred to as "residuals." Residuals are both the solid materials removed from the river water and the alum added to the water as part of the treatment processes. These solids, as well as treated drinking water that does not meet water quality standards, have been historically released back to the river.

Currently, solids produced during treatment processes are reduced through the adoption of direct filtration in the fall and winter months. During this period, the raw water quality of the North Saskatchewan River improves which requires less chemicals, specifically alum, during the treatment process. The switch to direct filtration reduces the amount of solids from the treatment process that is released to the river. The primary objective of direct filtration is to achieve environmental benefits (reducing solids loading to the river) without compromising the quality of the drinking water.

In order to continue to ensure environmental responsibility and to prepare for the potential of increased regulation limiting the level of residuals that can be returned to the river, a Residuals Strategy has been developed and proposed to Alberta Environment and Parks in the 2021-2031 operating approval renewal application. In 2020, a Sustainable Return-On-Investment (SROI) study was completed with multiple stakeholders, including AEP, the CoE and the NSWA. The SROI study examined options for construction of facilities at the water treatment plant that would treat the



residuals on site and divert to dewatered residuals to landfill for disposal. Based on a Triple Bottom (TBL) assessment, EPCOR has concluded that the costs (financial, environmental and social) of on-site treatment strategies far outweigh the environmental benefits. Further, financial resources would be better invested in other strategies for reducing solids loading to the river such as implementation of green infrastructure and low impact development to reduced storm water discharges.

The SROI study also revealed that information on the environmental impact of the discharges on the river was incomplete. EPCOR's proposed residuals strategy for the next 10-year operating approval period is to conduct a more detail evaluation of the residual discharges to fill in knowledge gaps. This will involve carrying out detailed measurements on flows and solids loads in the plant discharge streams during different seasons and under different operation conditions, modeling of discharge mixing in the river and comparison to environmental guidelines. This may lead to alternate and much less costly management strategies such as modifying how residuals are discharged and improving dispersion in the river.

### 3.1 Develop an integrated watershed management strategy for Edmonton.

With the transition of Drainage Services to EPCOR in 2017, all four components of the water utility cycle (water treatment, water distribution and transmission, wastewater and stormwater collection and treatment) are delivered by EPCOR. Until 2020, however, watershed management was done separately within Water Canada and Drainage Services. The objective of the Integrated Watershed Management Strategy (IWMS) is to manage total loadings to the NSR from all EPCOR discharges in Edmonton and to ensure drinking water security and source water protection for the Edmonton water supply in one unified watershed management program. As the one water utility provider to the citizens of Edmonton, it is key that EPCOR ensures alignment of the IWMS with broader watershed policy objectives that are integrated in the Canadian Council of Ministers of the Environment (CCME) Watershed Management definitions, Alberta Environment and Parks *Water for Life* program and the Water Management Framework for the Capital Region and Industrial Heartland. Most importantly, the IWMS must meet the City of Edmonton's *Connect Edmonton* policy goals to:

- Ensure the safety and security of Edmonton's water supply, food systems and natural ecosystems to support long term resilience to flooding, droughts and extreme weather events;
- Manage storm water runoff and improve water quality by ensuring a high standard of design at the area, neighborhood and site level;
- Improve community flood resilience through ongoing risk management, infrastructure planning and operation, financial analysis and stakeholder engagement; and
- Manage and protect the watershed and water supply to maintain the quality of Edmonton's drinking water supply.

The key objectives of EPCOR's Integrated Watershed Management Strategy are:

- alignment, optimization and enhancement of monitoring the NSR and its tributaries in Edmonton;
- alignment of regulatory reporting;
- alignment and prioritization of research, education and awareness partnership funding;
- coordination of emergency response for spills/unauthorized releases to the NSR; and
- enhancements to source control program to deter the release of sediment to Edmonton's storm system from urban development and/or construction activities through increased awareness, monitoring and, if necessary, punitive corrective action.
- leveraging the partnership with the North Saskatchewan Watershed Alliance to facilitate discussion with regional municipalities, counties, and First Nations on regional watershed issues that impact Edmonton, such as urban creek erosion. Influence these interested parties to implement best management practice, design and construction standards to reduce storm water impacts on Edmonton's urban tributaries;
- completion of effluent characterization programs for wastewater and water discharges in 2020 and as per the AEP Water Management Framework requirements;
- adoption of the One Water approach for communications on the state of the Edmonton Watershed, including, revamping the River for Life strategy document, revisiting the strategy's expected outcomes and KPI's and consolidating source water protection plans, climate adaptation plans, and WTP residuals management objectives into an overall IWM strategy document for Edmonton. The intent of this document is to share it with external interested parties to demonstrate EPCOR's commitment to environmental stewardship and water resource management and overall enhance the EPCOR brand as a leader in the community; and
- initiation of high level discussion with AEP on integrated watershed management and total loadings planning and start setting the strategic objectives and upfront requirements for the 2025 renewal of the Edmonton wastewater system approval.

In 2020, a joint Drainage and Water Canada committee and working group were established to explore, define and potentially implement these opportunities in the development of an IWM. The committee produced a strategy document and detailed implementation plan at end of 2020. Activities in 2021 will focus on implementation of the plan.

### 3. EMPLOYEE AND PUBLIC SAFETY

#### 3.1 Develop and implement company-wide standard operating procedures for all high-hazard activities.

EWSI will develop and implement company-wide assessments for six of the lifesaving rules as well as chemicals to review existing procedures to ensure conformance to the EPCOR Standards and provincial legislative requirements. This review will increase the layers of protection for our people and assets. These conformance reviews will also assist in forming the foundation for the implementation of competency-based training as outlined below. The six lifesaving rules reviews will include Confined Space, Work from Heights, Hazardous Energy Isolation, Lift Plans/Suspended Loads, Limits of Approach, Ground Disturbance and the addition of Chemicals.

Reviewing EWSI's existing standard operating procedures across Operations has significant benefits as it ensures hazards have been identified, controls have been implemented and reduces the organizational risk exposure for the Operational areas. The emphasis is on personal safety, process safety and worker competency to enhance a capable workforce and support the health and safety of employees, contractors and the public.

#### 3.2 Implement contractor management and incident response procedures.

Contractors are required to adhere to the same safety standards as EPCOR employees. This initiative will review processes and procedures to advance that objective. Specifically, this initiative will include the implementation of contractor management procedures that define roles and responsibilities. It will also extend to the development of standardized HSE evaluation criteria for contractor awards and ensure the performance of annual self-audits on previous incident investigations to confirm actions completed.

### 4. EMPLOYEE DEVELOPMENT

#### 4.1 Improve employee engagement and build a respectful, inclusive, diverse, collaborative and safe work culture.

This strategic initiative is comprised of efforts to develop both employee engagement and diversity and inclusion at EPCOR.

##### i) Employee Engagement

The employee engagement survey is one of the primary ways EPCOR solicits feedback from employees to determine where we can improve and where we need to focus our efforts on our quest to ensure

EPCOR is a great place to work. The Human Resources team will deliver the engagement surveys and work with leaders across our Business Unit to review and interpret the survey results and implement action plans. Action plans will address the top key drivers and opportunities identified in the engagement survey results. Quantifiable measurements will be used to ensure engagement action plans are successful within the business. These measurements include action planning completion rates and engagement scores and could include additional measurements depending on the action planning item.

This initiative includes the following actions:

- Create an understanding of how work fits into the Water Services and Drainage Services Operational Plans as well as EPCOR as a whole.
- Communicate the results of our Engagement Survey when they become available. Establish cross-functional teams to develop and implement action plans on the top engagement drivers determined from the survey.
- Deploy the necessary technology to ensure system connectivity for all field staff.

#### ii) Employee Diversity and Inclusion

Great places to work are where people feel respected, valued and part of a team. Not only is it important to our employees, it's seen as critically important to EPCOR's leadership team and Board of Directors. In 2018 a Diversity Council was formed and their first task was to create a Diversity & Inclusion Framework, to guide our approach to this important area. In 2019, the Council, in concert with leaders across our Business Units, pursued a variety of activities and initiatives to drive this focus such as increasing awareness of diversity and inclusion at EPCOR and supporting employee resource groups (e.g. HerStory). In 2021, the focus will be further development of a culture of inclusion, diversity and respect. Human Resources will support the business units by the implementation of training related to inclusive leadership, selection and unconscious bias, continuing the promotion of events and employee resource groups as well as recommending changes to policies and practices where barriers to inclusion are apparent.

#### 4.2 Develop and implement company-wide competency based training for all high hazard activities.

EWSI will develop and implement company-wide assessments for six of the lifesaving rules and chemicals to effectively review existing procedures to ensure conformance to the EPCOR Standards and provincial legislative requirements. This review will increase the layers of protection for our people and assets. These conformance reviews will also assist in forming the foundation for the implementation of competency-based training (as outlined below). The six lifesaving rules reviews will include Confined Space, Work from Heights, Hazardous Energy Isolation, Lift Plans/Suspended Loads, Limits of Approach, Ground Disturbance and the addition of Chemicals.

Reviewing EWSI's existing standard operating procedures across Operations has significant benefits as it ensures hazards have been identified, controls have been implemented and reduces the organizational risk exposure for the Operational areas. The emphasis is on personal safety, process safety and worker competency to enhance a capable workforce and support the health and safety of employees, contractors and the public.

### 4.3 Develop our employees for the future

In 2019, EPCOR organized the Water/Drainage career fair which highlighted a variety of careers in both the Water and Drainage business units. "A Day in the Life Of" documents were created to give a realistic job preview as well as outline what type of knowledge, skills and education would be required to be successful in those roles. A repository of those documents will be created so employees will have a resource to access going forward. The Human Resources team will develop company-wide behaviours/competencies for front line workers and evaluate the results of the pilot program and rollout professional growth for individual contributors company wide. The Human Resources team will engage with business leaders and provide tools to assist with identifying suitable candidates for job-to-job or project-to-project opportunities through facilitated discussions during the Talent Development process.

In addition, EPCOR intends to leverage relief postings for succession planning, cross functional skill development and knowledge development for in-scope positions. This gives staff the opportunity to take on new roles, demonstrate their ability, diversify their experience, and develop their career. Another objective is to identify immediate knowledge transfer needs and document practices for knowledge transfer.

In 2016, EPCOR began the Professional Growth Initiative to support employee development and succession planning to ensure a strong pool of talent, now and in the future. This was cascaded to Stratum 3's across the company in 2017 and Stratum 2 managers in 2018. To date, our focus has been on people leaders and we look forward to building on this solid foundation in order to support our frontline employees and individual contributors with their professional development. In 2019, all managers have completed the Professional Growth Initiative assessment and have development plans in place. 2021 will focus on continued work on the development plans and the completion of the PGI assessments for new staff.

EWSI wants to provide employees with meaningful opportunities to take their careers where they want to go – whether it's moving up, laterally or otherwise expanding skills, knowledge and abilities in a particular area. While EWSI acknowledges that employees are principally responsible for their careers, we want to be intentional in our approach to supporting professional development.

The Human Resources team will create tools and resources for leaders to support and engage their employees in their development process which may include job-to-job or project-to-project opportunities.

## 5. OPERATIONAL PERFORMANCE

### 5.1 Implement a standardized process improvement methodology. Develop external benchmarks to support and identification of process improvement opportunities.

In order to decrease costs, maintain reasonable rate increases and offset the impact of the PBR efficiency factor, it is necessary to ensure that EWSI maintains and increases productivity over time. Process improvement is currently done across the organization, but generally under a number of different approaches with varying degrees of success. The vision of this initiative is to develop a standardized process or continuous improvement program to support productivity increases and service quality improvements across all of Water and Drainage. The program would encompass methods, techniques and tools and be used to design, control and analyze both business and operational processes. It is critical that any approach chosen involves the people aspect of the process and integrates processes and systems.

There are several standardized approaches that will be explored as part of the development of this initiative, including Six Sigma, Lean and Shingo. Potentially, several different approaches could be selected depending upon the specific processes under discussion. This initiative is seen as an extension of, and building upon, the innovation strategy developed over the past several years and is directed towards building a “tool kit” for all to use, rather than a specific department focused on process improvement. The long-term objective of this strategy will be to become an organization where process improvements occur systematically and in a sustainable manner.

### 5.2 Implement the organizational project management (OPM) initiative across all sites.

In order to improve efficiency and effectiveness of our project management, EWSI is standardizing the way project managers across Water and Drainage plan, execute and monitor their projects and programs. This initiative involves creation of one Project Management Methodology along with several processes, tools and templates. Currently, although we have skilled project managers and key project governance processes are in place, the underlying framework to ensure that projects are handled consistently across EWSI is missing in some cases. In addition to the creation of an overarching Project Management Standard, we will undergo a review and re-development of processes, procedures, templates, tools and systems which are currently in use to ensure the use of best practices and consistency for all users.

This initiative will be completed in conjunction with similar Project Management initiatives taking place across the rest of EPCOR. The EPCOR perspective is focused primarily on financial governance while the business units expand that perspective to include more tactical project planning, scheduling and other project execution requirements. The benefits of this initiative include consistency, efficiency and higher engagement, as well as potential cost savings through better project execution. The Success Measures for this initiative will be a consistent Project Management Methodology that allows for effective and efficient execution of projects across EWSI.

### 5.3 Develop and implement strategies for realizing synergies between Water Services and Drainage Services.

Over the majority of their history, Water and Drainage Services worked closely together as departments of the City and leveraged many of the natural operational synergies that existed between them. With the transfer of Drainage to EPCOR, these synergies can be redeveloped to realize operating and capital efficiencies realized in both business units.

The exploration and analysis of potential opportunities to gain synergies between water and drainage began with the transfer of drainage and will continue to build momentum over the next several years. The initial focus post transfer was on integrating Drainage into EPCOR processes and ensuring appropriate change management practices were utilized to minimize operational disruption. More recent activities have focused on cross functional teams of Senior Leaders from across EPCOR meeting to identify and prioritize efficiency opportunities in the areas of planning, capital and operations. Much of this analysis has been focused on the alignment of common functions and processes.

EWSI is taking a staged approach to the implementation of the opportunities identified for synergies between Water and Drainage. The current focus is on:

1. Achieving organizational efficiencies within existing operations and the elimination of duplication.
2. Merging Shared Services organizations where applicable and where efficiency gains can be realized.
4. Implementation of IT strategies intended to merge to common systems – in particular GIS.
5. Implementation of a Real Estate Strategy to consolidate disparate locations.
6. Alignment with the “One Water” concept - see discussion below.
7. Achieving consistent management of environmental risk across Drainage and Water including:
  - Unified approach to managing the working relationship with regulators (AEP, AHS, ECCC);
  - Consistent reporting of environmental incidents to Leadership, EPCOR board and regulators;
  - Independent internal oversight of operations to ensure environmental performance; and

- Concentrated core of subject matter experts to support emergency management systems leveraged across operational areas.
8. Other initiatives as described in this plan.

A wide range of additional opportunities have been identified as having potential for greater efficiency across water and drainage. These are more tactical in nature, and will be explored over the coming planning period in order to assess the impact and potential efficiency gains. The opportunities identified to date are listed below under the following five functional categories: operations; planning engineering and project management; maintenance; quality assurance and environment and finance. In 2021 the focus will be reviewing potential to harmonize common work functions through co-location at the Aurum service centre in 2022.

### **Operations**

- Optimized preventative maintenance
- Common trouble response team
- Common customer service team
- One approach to surface repair
- Improved asset management
- Common platform for system monitoring
- Tool Repair managed by procurement
- One common shop for fabrication
- One group for analyzer support
- Coordinated specialized inspections
- Coordinated system operations

### **Planning**

- Creation of One Water Planning in 2020 has brought together the common strategic planning functions of Water and Drainage. Similarly development coordination was combined at the same time. The combined unit addresses the following functions:
  - Coordinated planning
  - Growth coordination
  - Common hydraulic modelling and design standards

### **Engineering and Project Management**

- Consistent approach to asset management
- Consistent approach to project management
- Coordinated neighbourhood renewal



- Coordinated survey and inspections
- Coordinated design and engineering
- Common approach to drafting

#### **Maintenance**

- Common job pooling
- Common hotshot service

#### **Quality Assurance and Environment**

- Watershed team from Drainage combined with Watershed team from Water Canada as part of Integrated Watershed Management Strategy

#### **Finance**

- Review/combine water and drainage reporting to support unified/synergist decisions
- Consolidation of metrics internal and external reporting
- Review time charging across Oracle BU and IVARA work orders
- Harmonization of capital reporting

## **6. GROWTH AND FINANCIAL PERFORMANCE**

### **6.1 Contribute to the “Utility of the Future” initiative.**

The Utility of the Future is an ambitious path to modernize operations and reduce long term operating costs (OPEX) by leveraging technology and processes used and refined by leading water utilities around the world. This Corporate initiative will provide a roadmap and framework identifying potential opportunities to implement emerging technology solutions and processes in the existing utilities operated by EPCOR, and the prioritization of those opportunities based on the highest potential return on investment (ROI). This will take a 10-year view of technology trends and O&M practices in the water and related industries and the current digital and operational maturity of EPCOR in relation to leading utilities. The review is focused on six key areas of potential optimization: Asset Optimization; Customer Engagement; Sustainability; Procurement, Partnerships and Supply Management; Advance Notification of Events; and Rate Pressure/Freeze.

The EPCOR Utility of the Future initiative commenced in 2020. In 2021, focus will be on summarizing feedback, determining benefit analysis, scoring solutions, preparing and presenting a digital utility of the future framework and prioritized roadmap. Depending on findings and recommendations, an implementation plan will follow.

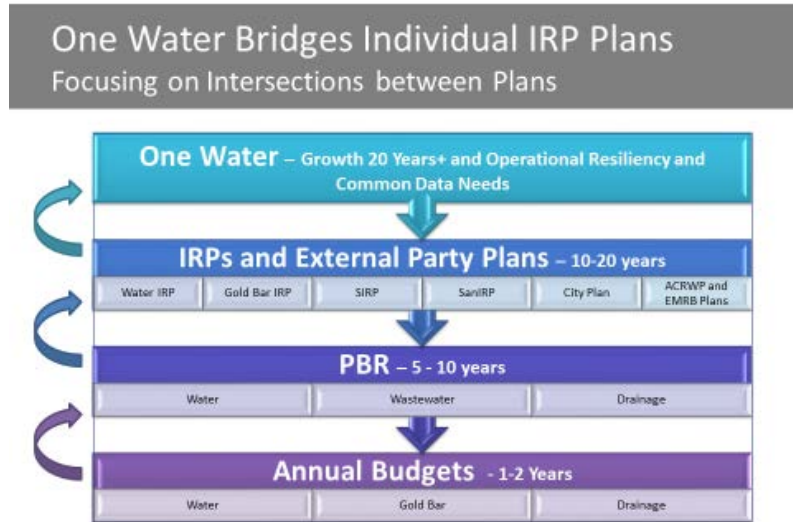
## 6.2 One water – Continue the alignment of the integrated resource planning activities between the water and drainage utilities.

Water and Wastewater utilities around the world are enhancing their strategic planning by moving to a “One Water” approach to managing the entire Water cycle in their community. The One Water approach has been defined as a holistic approach to sustainable water management that breaks down the traditional silos within the water utility sector and encourages collaboration between water utilities and other sectors.

With the integration of Drainage Services, EPCOR has taken the opportunity to leverage the One Water techniques to enhance the integrated resource plans that are in place in the different business units within EWSI. In addition, the recent approval of the City of Edmonton City Plan, the Edmonton Regional Municipal Board long range development plans, and the active Climate Change Adaptation initiatives, also support the movement towards a holistic integration of these strategies.

EWSI has traditionally been progressive in its approaches to long range planning through the development of the Integrated Resource Planning (IRP) approach for the Water and Gold Bar operations. Most recently the development of the Stormwater Integrated Resource Plan (SIRP) has been well received across the industry and is seen as a leading approach to adapt for the changing climate conditions expected in the future. With the initiation of the development of the Sanitary IRP in Drainage and the recent update of the Water IRP, there is an opportunity to align both teams to work jointly on the One Water aspects that intersect across the IRPs. The One Water initiative will further support the ongoing Water/Drainage synergies initiatives that have been underway since the transfer of the Drainage utility.

The following graphic illustrates how a One Water initiative in EWSI has been scoped to link these various plans with a focus on the information requirements and inputs that are common across the plans.



The One Water initiative started in 2020 with the formation of the One Water Planning group within EPCOR, with the following seven focus areas have been prioritized. It is expected that 2021 will continue to focus on the first six priority items, with the final priority around water reuse moving forward on an opportunistic basis should a development require this focus in 2021.

- i) **Consumption Patterns** – The One Water team will continue to assess the impacts of changing water consumption patterns and sewerage characteristics on water treatment and distribution, sanitary collection and wastewater treatment for planning and forecasting models. This will consider the implications of a Low Impact Development (LID) strategy on outdoor water use and surface runoff at the parcel level that contribute to the flows in the storm and sanitary pipes in addition to the water consumption. Analyses will be completed by second quarter of 2021 and will also include the completion of the Water Consumption BI tool to store this information for use across the business units in EPCOR.
  
- ii) **Situational Awareness** - Improve situational awareness of changing EPCOR Board, customer and City of Edmonton (regulator) expectations around EPCOR systems and ability to respond in real time to changes using tools such as dashboards, radar, sensors, the Internet of Things. 2021 will see the implementation of the SIRP dashboard with initial focus on providing a tool that provides a single view to the business user of the various monitoring trends captured in the Drainage SCADA and WISKI/SODA systems, the Water Transmission SCADA and the radar

system used by Drainage. Water quality data in the distribution and collection system captured in the LIMS system will also be available via the dashboard.

- iii) **SanIRP/ SSSF/ Future Wastewater Plants Expansions** – One Water Planning will focus in 2021 on the development of the first draft of the SanIRP. This document will assess where EWSI should expand in addition to integrating the SSSF growth plans, the EPCOR risk approach to asset rehabilitation, and the CORE strategy to manage odour and corrosion and include a focus on Inflow/Infiltration reduction to limit the number of CSO's from the sanitary and combined system.
- iv) **Growth Strategies for City and Region** – Plan Edmonton is targeting an additional 1 million population by 2065 with 1/3 to be through infill development. One Water Planning, in conjunction with Water D&T and EDTI, is collaborating with the City of Edmonton planning groups as they implement City Plan, update their infill strategies and update the zoning bylaws of the City. These City led initiatives provide an opportunity for EPCOR to focus water and sewer main upgrades to provide increased capacity in the targeted growth nodes and corridors. The infill strategy allows for coordination of the LID and water efficiency targets for the utility as the City includes development guidelines for infill building forms. The zoning bylaw changes provides an opportunity to review fire protection standards based on building usage expected under each zoning type.
- v) **Integrated Watershed Management Systems** – Working closely with the Water Quality Assurance group to bring together the water source protection strategies and the Drainage Total Loadings Strategy into one overall watershed program, including how growth and climate change impacts our North Saskatchewan River allocations for water withdrawals.
- vi) **Climate Change** – One Water planning will complete the review of the impacts of wildfire and ice storms on the drainage assets in 2021 using a similar risk based approach as used in the developed of the SIRP strategy to mitigate flooding risks. EPCOR will need to do similar assessments for other climate events expected in Edmonton including drought, heat waves, and high winds; and look at the carbon footprint as considered in the City's Energy Transition Strategy. One Water is currently supporting the climate change team as they explore the use of sewer heat recovery for energy efficiency throughout the City and in particular in Blatchford.
- vii) **Water/Sanitary and Stormwater Reuse in Industrial Areas** – Consider how water reuse impacts development plans particularly in south annexation area north of the international airport.

The end objective of One Water is to align the long range planning initiatives across all of the water related business units within EPCOR and ensure that decisions are based on data that is consistent and validated within each of the individual IRP plans. The development of consistent planning data sets for customer information will also enhance our overall revenue forecasting and hydraulic modelling efforts across both business units.

The priority items for 2021 have an extra focus on the sanitary aspects of the operations due to the Sanitary IRP being in a less developed state than the Water, Stormwater and Gold Bar IRP's. The increased public scrutiny on the decision for long term routing of the sanitary trunk lines to either Gold Bar or the Alberta Capital Region Wastewater plant are also placing an emphasis on this focus area. EWSI will also be able to confirm that the IRP's in all areas are in alignment with the growth and development plans for the City and the Region in terms of population numbers and locations of growth nodes.

### 6.3 [Submit and defend the Edmonton 2022-2026 Water PBR, 2022-2024 Drainage PBR and 2022-2024 Wastewater PBR](#)

Water Services and Drainage Services are regulated by the City of Edmonton through a form of Performance Based Regulation (PBR). Rates are currently set for the 2017-2021 PBR term for Water and Wastewater Treatment Services (Gold Bar) and for 2018-2021 for Drainage Services with all rates set to expire March 31, 2022. As a result, Performance Based Rate applications are required to be filed with the City of Edmonton in early 2021 for all three utilities (Water, Gold Bar and Drainage) in order to establish rates and operational terms and conditions for the period commencing April 1, 2022.

PBR applications are normally filed mid-year of the year immediately preceding rate expiration with completion expected in October or November of that year. For these upcoming applications, the initial filing is planned for Q1 of 2021 with expected completion mid-year in order to ensure the regulatory process is completed prior to the commencement of the City's election cycle.

The majority of the application development was completed in 2020, with only final review planned for 2021 prior to submission to the City of Edmonton. Three separate applications have been developed, one each for water, wastewater and drainage along with business cases for the majority of the capital spending. Common appendices are also included to address issues and requirements that cross all three utilities.

Activities in 2021 will be focused on first answering information requests from City Administration, City Council and external parties; in order to provide additional clarity and background information where

required. The approval process then culminates in a public hearing where Water Canada will defend the prudence of the application and seek formal approval from City Council.

## PART TWO: WATER SERVICES- SPECIFIC INITIATIVES

### 7. OVERVIEW

The Water Services strategic initiatives for 2021 are summarized below. Initiatives common to Water Services and Drainage Services are highlighted in green and are discussed in detail in a previous section.

#### Customer Service

- Implement SOAP and use as a means to improve customer service.
- Improve development processes and communication with City of Edmonton, UDI and IDEA.
- Review developer funding mechanisms in order to align approaches across all business units.
- Improve operational coordination with the Regional Water Customer Group (RWCG) customers.
- Develop a strategy for additional communications around water main breaks and outages.

#### Public Health and the Environment

- Enhance the Climate Change Adaptation/River Flooding resiliency plan to include drought, water quality and freeze/thaw cycles. Make the program more public.
- Execute the Enhanced Lead Mitigation Strategy in Edmonton and rollout to other communities.
- Complete the E.L. Smith Solar Project and Smart Grid System.
- Execute Green Energy Purchase Agreement.
- Improve understanding of the environmental impact of residuals on the North Saskatchewan River.
- Conform to ISO 14001 standards across all Water Canada sites.
- Develop an Integrated Watershed Management Strategy for Edmonton.

#### Employee and Public Safety

- Develop and implement company-wide standard operating procedures for all high-hazard activities.
- Conform to ISO 45001 standards across all Water Canada sites.
- Review effectiveness of safe work planning across all Water Canada sites.
- Implement contractor management and incident response procedures.

#### Employee Development

- Improve employee engagement and build a respectful, inclusive, diverse, collaborative and safe work culture.
- Develop and implement company-wide competency-based training for high-hazard activities.
- Develop our employees for the future.

## Operational Performance

- Implement a standardized process improvement methodology. Develop external benchmarks to support the identification of process improvement opportunities.
- Conduct an energy review across all areas to reduce costs and increase efficiency.
- Develop a standardized approach to asset management across Water Services by conforming to ISO 55000.
- Implement the Organizational Project Management Office (OPM) initiative across all sites.
- Conduct a review of engineering and project management services.
- Develop and implement strategies for realizing synergies between Water Canada and Drainage Services.
- Optimize meter reading function through introduction of AMI.
- Develop and implement a bio-solids strategy.

## Growth and Financial Performance

- Contribute to the “Utility of the Future” initiative.
- One Water – Continue the alignment of the integrated resource planning activities between the water and drainage utilities.
- Submit and defend the Edmonton 2022-2026 Water PBR, 2022-2024 Drainage PBR and 2022-2024 Wastewater PBR.

## 9. CUSTOMER SERVICE

### 9.1 Improve development processes and communication with City of Edmonton, UDI and IDEA.

Water D&T works closely with developers and City of Edmonton planners to address developers’ needs and concerns. Infill development is represented by the Infill Development in Edmonton Association (IDEA). Greenfield development is represented by the Urban Development Institute (UDI). Continued coordination with the City of Edmonton and these developer groups therefore provides Water Services the opportunity to serve its customers better through improved planning of work, management of construction impacts and realization of cost efficiencies. Water D&T has established various touchpoints with developer’s vis-a-vis development processes, including pre-application meetings, land development applications, biweekly meetings with development engineering consultants, Servicing Agreements, and water servicing. At any point in the development process, developers may contact Water D&T for information on water infrastructure requirements to meet the needs of their development.

In particular, Water Services is focusing on coordination efforts with the City of Edmonton Roadways department to ensure construction and maintenance activities have as minimal an impact to traffic



flow as possible, to reopen affected areas in a timely manner, and realize road paving synergies in neighborhood rehabilitation and alley paving programs. EPCOR Utilities (water, power, and drainage) is also working with the City of Edmonton LRT group to discuss scope and schedule requirements for utility relocations needed for the upcoming Valley Line West and Metro North West Line route realignments.

In 2021 and beyond, Water D&T will continue to work to:

- Maintain positive and collaborative interactions with the City of Edmonton regarding surface restoration, traffic disruptions and development permitting processes;
- Continue / implement regular meetings with the City of Edmonton, UDI and IDEA to:
  - develop solutions to ongoing development-related challenges;
  - communicate results of the Infill Cost Share pilot project so that funding for PBR5 can be finalized in the upcoming PBR application;
  - Continue to engage UDI senior leadership through the development of a white paper that reviews regulatory information; infrastructure investment principles, and current / alternative funding approaches; and
- Improve overall processes and ensure proactive and timely communication with all interested parties.

## 9.2 Improve operational coordination with the Regional Water Customer Group (RWCG) customers.

The Edmonton water system operated by EPCOR and the water system in the surrounding region, which is operated by seven regional water service commissions (represented by the Regional Water Customer Group (RWCG)), is intended to operate as an integrated network. Decisions and changes made in one part of the network may result in an effect in another part of the network. Various events have occurred in the recent past that could have been either prevented or minimized if there was a more proactive approach to understanding each other's operational and system needs. This strategic initiative will improve communication, planning and coordination of operational activities, and unplanned events, to ensure an effective and coordinated response to planned or unplanned events.

Water Services has had success coordinating communication strategies for emergency demand measures that can be instituted when plant shutdowns or main breaks interrupt service to regional water customers. A similar approach will now be taken when coordinating operational information between WTP Operations, Water D&T and the RWCG. A secure ftp site has been set up where information such as reservoir levels, pressure data and other important operational information can be shared between all parties, which will improve Water Services' ability to service the regional customers while providing more up to date information of the status of both systems. Continued

coordination with the RWCG provides opportunities to plan work, manage emergent work, and realize cost efficiencies for both parties.

### 9.3 Develop a strategy for additional communications for water main breaks and outages.

Currently planned outages are communicated by project managers or contractors in advance of an outage. Notice is typically hand delivered to each property. In the case of an unplanned outage, notice is provided where possible in person or by leaving a notification at the customer's premise. Outage information is also available on epcor.com on an outage map.

To further improve outage communication, Water D&T will review the process for updating the outage map on epcor.com. This map will be updated to provide more real time information to customers. Water D&T and PGA will also evaluate additional means to notify customers of unplanned outages and updates.

## 10. PUBLIC HEALTH AND THE ENVIRONMENT

### 10.1 Execute the Enhanced Lead mitigation strategy in Edmonton and rollout to other communities.

In March 2019, Health Canada revised the Canadian Drinking Water Quality Guideline for lead in drinking water. The Maximum Acceptable Concentration (MAC) for lead in drinking water was lowered from 10 µg/L to 5 µg/L and the point of compliance was moved to the tap. In late August 2019, Alberta Environment and Parks (AEP) released guidance that requires municipal drinking water systems in Alberta to develop lead management plans within 5 years. Lead is usually found in drinking water as a result of leaching from either a lead-containing water service line (LSL) or from in-premise plumbing system components containing lead. About 1.6% of homes in Edmonton, mainly built prior to 1960, still have a water service line that is lead. The LSL line is comprised of two sections; the utility-owned section that runs from the main to the property line and the privately-owned section that runs from the property line to the meter within the building. To be effective, both sections of the service line must be replaced from "main to meter".

On July 16, 2019, Water Services received approval from the City of Edmonton for a non-routine adjustment to initiate an Enhanced Lead Mitigation Strategy. The broad goals of this new program are to reduce public health risk due to exposure to lead in drinking water at the tap, proactively meet the intent of the proposed new Health Canada Guideline and be prepared for further AEP lead regulations in 5 years. The goals of the Lead Mitigation Strategy will be achieved by:

- Addition of orthophosphate to the Edmonton drinking water at both WTPs to reduce lead from all sources (LSLs and plumbing);

- Accelerated replacement of high priority lead service lines where the lead concentration are expected to exceed the new guideline after orthophosphate addition; and
- Elimination of the practice partial lead service line replacements (i.e. utility-owned section only) by full utility funding of private portion replacements. This will apply to all LSL replacements including high priority replacements and replacements during water main renewal work and emergency repairs.
- An enhanced customer care program that will provide an interim solution for lead exposure for customers with lead service lines until the corrosion control is implemented at the WTP's or the lead service line is replaced.

Design of the orthophosphate dosing systems at Rosedale and E.L. Smith WTPs continued in 2020. Construction will be complete and addition of orthophosphate will begin in mid to late 2022. AEP provided formal approval to add orthophosphate to the Edmonton water in early 2020 after receiving an environmental impact assessment from EPCOR. Broader communication plans and messaging related to the implementation of orthophosphate for our customers, specifically: residential; institutional, commercial, and industrial (ICI), as well as the Regional Water Customer Group (RWCG) will happen in mid-2021. A long-term monitoring program starting in 2021 will be developed to optimize and ensure the effectiveness of orthophosphate dosing across Edmonton.

After initial delays due to the impact of COVID-19 in early 2020, the program for full LSL replacements (from “main to meter”) started in mid-2020 for high priority LSLs and those LSLs associated with water main renewal projects. The target is to complete 85 high priority and 45 water main renewals full LSLs replacements in 2020. The goals for 2021 is to complete another 100 high priority LSLs, and the overall object is to eliminate the high priority LSLs by end of 2024.

The focus in 2020 at our Regional sites was on developing a LSL inventory and designing a lead monitoring program to meet the new AEP requirements. The goal in 2021 will be to execute the monitoring plans at these sites and to develop management plans if necessary.

## 10.2 Complete the E.L. Smith Solar project and Smart grid system.

In the 2017-2021 Performance Based Rate Application, Water Services included a Green Power Initiative which commits Water Services to obtaining approximately 10 per cent of its energy consumption from locally produced renewable sources starting in 2018. The inclusion of this initiative was to ensure alignment with the City of Edmonton's goals to become a sustainable and resilient city, to reduce Edmonton's greenhouse gas emissions through the development of new renewable energy projects in the Edmonton Region.

Based on the results of analyses of potential alternatives for achieving this green power initiative, Water Services determined that a solar project on the E.L. Smith site is the optimal approach. The E.L. Smith Solar Project is planned as a 12 MW solar farm that will provide the majority of its output directly to WTP operations. This project received final approval in October 2020 after considerable public and stakeholder consultation. Construction will commence in 2021 and be completed between Q4 2021 and Q2 2022.

In conjunction with the E.L. Smith Solar project, an opportunity was identified to develop a Smart Grid System which combines the solar power generation with a 4 MW / 9 MWh battery energy storage and intelligent management controls with a primary objective of reducing greenhouse gas emissions. The intelligent management controls are implemented on a “behind the meter” micro grid system at the E.L. Smith water treatment plant site. The system is also key to exploring the potential of smart grids for increasing hosting capacity of renewables such as solar, stacked applications of storage, and the integration of a behind the meter microgrid into the EDTI electric distribution system with full visibility. This project has received Natural Resources Canada (NRCAN) funding contributions based on the entire scope of the solar farm, battery and smart grid project. The Smart Grid System includes three main components which will be implemented as separate capital projects within EPCOR. The solar and battery projects will be EWSI assets while the Distributed Energy Resource Management System (DERMS) will be an EDTI asset when implemented.

### 10.3 Conform to ISO 14001 across all Water Canada sites.

As part of its environmental regulatory requirements, EPCOR has obtained registration to the internationally recognized ISO 14001 environmental management system standard in its core Edmonton operations, including the Rosedale and E.L. Smith WTPs, Water D&T and the Gold Bar WWTP. As part of the contractual requirements of the Regina and Evan Thomas P3 partnerships, ISO 14001 registration has also been obtained at the Evan-Thomas WTP/WWTP and the Regina WWTP. More recently, the Britannia Mine WTP has achieved ISO 14001 as a commitment to the client to improve environmental performance.

There are several key benefits to an organization obtaining registration to ISO 14001, these include:

- Registration demonstrates to our customers, clients and regulators that EPCOR manages its environmental risks and seizes opportunities for improvement in environmental performance;
- Registration also provides assurances to EPCOR operations that our environmental systems are sound;
- Registration provides a level of due diligence to our regulators when environmental incidents do occur;

- Registration may offer a competitive advantage to the organization when seeking new business opportunities; and
- Once registration is obtained for one management system, effort is reduced to obtain registration for other internationally recognized standards, such as ISO 45001, for Health and Safety Management Systems as existing frameworks and tools can be leveraged for an integrated Management System (iMS) implementation approach.

Work progressed in 2020 focused on developing plans for implementing ISO14001 at EPCOR regional sites that were not registered and to begin the process of implementing management systems at these sites. Specifically, for 2021 the objectives are to:

- Maintain existing ISO 14001 registrations including the Edmonton, Regina, Evan-Thomas (Kananaskis), Britannia and Strathmore operations,
- Complete registrations at Canmore, Chestermere, Red Deer County and French Creek operations.
- Based on outputs from Management Reviews and Audits, work with the EWC Health and Safety Team and the site Management System Representatives to identify risks and opportunities to the business in standardizing iMS processes across EWC.
- In consultation with Corporate HSE and Internal Audit, develop a comprehensive audit resource plan to sustain EWC iMS registrations with the benefit of supporting management system internal audit requirements across the corporation.

## 11. EMPLOYEE AND PUBLIC SAFETY

### 11.1 Conform to ISO 45001 standards across all Water Canada sites.

Management systems require good document management, procedures and internal and external communication plans that set clear objectives, targets, programs and plans. Having this methodology consistent across Water Services has the benefit of improved health and safety performance.

For its core Edmonton operations, Water Services has implemented and obtained registration to the OHSAS 18001 safety management system and is progressing to convert to the updated ISO 45001 safety management system to support continued safety performance improvement. EWC operations outside of Edmonton will be evaluated throughout 2021 to establish baseline requirements for conformance to the ISO 45001 standard.

There are several key benefits to an organization obtaining conformance to ISO 45001, these include:

- i) Demonstrates to our customers, clients and regulators that Water Services manages its health and safety risks and seizes opportunities for improvement in health and safety performance;

- ii) Provides assurances to Water Services operations that our health and safety systems are sound;
- iii) Provides a level of due diligence to our regulators when health and safety incidents do occur; and
- iv) May offer a competitive advantage to the organization when seeking new business opportunities.

## 11.2 Review effectiveness of safe work planning across all Water Services sites.

Safe work planning includes implementing a field level hazard assessment that effectively identifies hazards and implements controls to prevent potential injury to employees, contractors and the public. EWC will review safe work planning for all Water Canada operating locations to strengthen hazard assessment and control and reinforce safety integration into routine and non-routine tasks. This will be accomplished by providing leaders with the information to effectively review safe work plans and ability to coach employees on the process. In addition, EWC will increase communications and focus meaningful efforts on complete and thorough hazard assessments.

## 12. OPERATIONAL PERFORMANCE

### 12.1 Conduct an energy efficiency review across all areas to reduce costs and increase efficiency.

Treating and delivering water to customers in Edmonton consumes a large amount of energy. While the water treatment process tends to be energy intensive, the most significant amount of energy is used in the delivery processes, including pumping water from the treatment plants to the consumers. EWSI has historically implemented a number of energy efficiency initiatives which focus on improving pumping efficiency at the water treatment plants, the field reservoirs, and the booster stations. The City of Edmonton has also defined energy goals and EWSI needs to ensure alignment.

This initiative will review energy utilization across all areas of the business with the intent of reducing overall energy use through increased efficiency.

### 12.2 Develop a standardized approach to asset management across Water Services by conforming to ISO 55000.

The Asset Management Framework outlines the approach, processes and tools required to ensure Water Services has accurate and comprehensive information about our assets to meet our goals. The framework aims to provide consistent mechanisms to identify the costs and risks associated with operating and maintaining assets, in addition to standardizing the approach to investing in our assets to manage both cost and risk. This Framework includes processes around:

- Asset Hierarchy Configuration;
- Criticality Assessments;
- Condition Assessments;

- Review of Asset Deterioration Patterns and Replacement Frequencies;
- Reliability-Centered Maintenance Assessments;
- Level of Service Requirements;
- Review of Operation, Maintenance and Replacement Costs; and
- Development of Asset Management Plans.

The Asset Management Methods Office has expanded and adapted the current Asset Management Framework to allow greater consistency in how it is applied across various Business Units of Water Services by aligning with the international standard for asset management, ISO 55000. This included the creation of a Strategic Asset Management Plan for all of Water Services that outlines how Asset Management is to be approached across the business. The benefits of this alignment include more efficient and effective implementation of Asset Management across Water Services, which enhances asset reliability as well as risk management, allowing us to provide reliable service in the most cost-effective manner. The focus for 2021 will be on overseeing completion of Asset Management Plans across the business to ensure accurate and complete life-cycle planning for the next PBR period.

### 12.3 Conduct a review of engineering and project management services to ensure processes are optimized.

Through the Organization Project Management initiative, EWSI is standardizing the way project managers across Water execute and monitor their projects and programs, creating one Project Management Methodology. This initiative takes a specific look at how project management and engineering services are delivered within Water Canada and if there are any further potential efficiencies to be gained by considering alternative approaches.

In 2021, we will complete an assessment of the engineering and project management organization structure and identify opportunities to drive efficiencies. This will create recommendations and a work plan for future implementation.

### 12.4 Optimize meter reading function through introduction of AMI.

Over the planning cycle, Water Services will seek to optimize the meter reading function through an analysis of current routing as well as the implementation of meter reading technologies to determine if they are viable from a cost, benefit perspective. This technology, referred to as either Automatic Meter Reading (AMR) or Advance Metering Infrastructure (AMI) automatically collects consumption, diagnostic and status data from water meters and transfers that data to a central database for billing, troubleshooting and other uses. AMI extends beyond AMR into remote utility management. AMI meters can collect data based on programmed logic and are often referred to as smart meters.

The advantage of AMR/AMI technology is it allows more sophisticated system monitoring in addition to saving the expense of trips to physically read meters. The analysis of these technologies will determine the benefits of their introduction in comparison to the potential costs savings to determine if they should be introduced. EPCOR Water has prepared a business case for submission as part of the 2022 to 2026 PBR for the implementation of an AMI network in Edmonton utilizing the existing EDTI communications background. If approved within the PBR, this will be implemented between 2022 and 2024. Planning and design work will commence in 2021.

#### 12.5 Develop and implement a bio-solids strategy.

Over 25,000 dry tonnes of digested biosolids are produced by the Gold Bar and Alberta Capital Region wastewater treatment facilities annually. Since the 1970's, biosolids have been sent to the Clover Bar lagoons for additional processing and disposal, mostly through composting, landfilling and agricultural land application. Over time, the inventory of biosolids in the lagoons have increased as disposal has not met production, to where there is more than 6 years of inventory stored in the lagoons. Additionally, the City of Edmonton made a decision to close down composting operations, due to the integrity of the facility. EPCOR contracts with the city to dewater a portion of the biosolids in a facility that is tied into the composting facility. It is anticipated that the dewatering facility only has approximately 4 years of life remaining.

In late 2019, the development of a biosolids management program was started, which builds upon past strategies. The objectives of the program are to continue to find ways to beneficially dispose of biosolids, in a financially and environmentally sustainable manner, while reducing the inventory of biosolids in the Clover Bar lagoons. The strategy will be further refined in the planning period, including developing options for the replacement of the city's dewatering services.

## 13. GROWTH and FINANCIAL PERFORMANCE

All initiatives are discussed in the "Water and Drainage Services – Common Initiatives" Section.



## PART THREE: DRAINAGE SERVICES – SPECIFIC INITIATIVES

### 14. OVERVIEW

The Drainage Services strategic initiatives for 2020 are summarized below. Initiatives common to Water Services and Drainage Services are highlighted in green and are covered in detail in a previous section.

#### Customer Service

- Implement SOAP and use as means to improve customer service.
- Build relationships with stakeholders to create trust and understanding.
- Review develop funding mechanisms in order to align approaches across all business units.
- Build systems, processes and training to provide consistently good service that feels seamless to the customer.
- Execute the Corrosion and Odour Mitigation Strategy (CORE).
- Execute the Stormwater Integrated Resource Plan (SIRP).
- Complete Drainage LRT Relocations.

#### Public Health and Environment

- Optimize the impact of our operations on the environment and the impact of the environment on our operations.
- Improve understanding of residuals on the North Saskatchewan River.
- Develop an Integrated Watershed Management Strategy for Edmonton.

#### Employee and Public Safety

- Develop and implement company-wide assessment to review standard operating procedures for all high hazard activities.
- Reduce tolerance towards safety related risks.
- Cultivate a culture of safety leadership.
- Encourage ownership of safety at all levels.
- Implement contractor management and incident response procedures.
- Train staff for competency and confidence.

#### Employee Development

- Improve employee engagement and build a respectful, inclusive, diverse, collaborative and safe work culture.

- Develop and implement company-wide competency-based training for high hazard activities.
- Develop our employees for the future.
- Develop great leaders who embody EPCOR's values and make timely and sound business decisions.

### Operational Performance

- Implement a standardized process improvement methodology. Develop external benchmarks to support the identification of process improvement opportunities.
- Develop and optimize end-to-end processes within Drainage.
- Implement the organizational project management (OPM) initiative across all sites.
- Develop and implement strategies for realizing synergies between Water Canada and Drainage Services.
- Identify and manage emerging risks.

### Growth and Financial Performance

- Contribute to the Utility of the Future Initiative
- Continue to develop and refine an integrated planning and implementation approach to manage finite water resources (One Water) encompassing all the master plans and IRPs for all owned EWSI assets.
- Submit and define the 2022-2024/2026 Edmonton PBR application.
- Correct the revenue leakage that is occurring.

## 15. CUSTOMER SERVICE

Drainage Services' customers and stakeholders include residents of Edmonton, business owners, City Council, and different areas of government. Our services, programs and projects directly or indirectly impact these stakeholders. We want to ensure open lines of communication and mutual understanding of our programs and projects. We want to demonstrate how we add value to our customers and stakeholders through five initiatives as follows:

### 15.1 Build relationships with stakeholders to create trust and understanding.

Constructive stakeholder relations are the foundation for trust and cooperative understanding. The following objectives will help to build our stakeholder relations:

- Build a stakeholder engagement plan that is aligned with the capital plan. This will include conducting a stakeholder evaluation for all major capital projects and defining when and how to engage with stakeholders.

- Ensure ACRWC is included in all decisions impacting their plant.

## 15.2 Build systems, processes and training to provide consistently good service that feels seamless to the customer.

We strive for a good public reputation and want our customers to have a good experience when dealing with Drainage Services. To that end, we will be focusing on the following primary initiatives in 2021:

- Ensure no increase in customer escalations through 2021 while continuing to manage the change in process due to the 311 transition.
- Ensure 80% of customer calls are resolved within 72 hours.

## 15.3 Execute the Corrosion and Odour Mitigation Strategy (COrE).

Over the past decade, residents of Edmonton have reported over 10,000 instances of odours related to the sanitary and combined sewer network. To develop a robust strategy to address odour issues, Drainage Services has conducted public consultation, engaged with community members across the City, conducted advanced sewer air monitoring campaigns and expanded its sewer asset inspections. Drainage Services has produced a Corrosion and Odour Reduction (COrE) Strategy that focuses on preventing the formation of H<sub>2</sub>S gas, which will reduce community odour impacts and lengthen the life of sewer network assets.

The COrE Strategy was presented to Utility Committee on June 24, 2019. The Strategy was developed using similar principles and approaches to EPCOR's Stormwater Integrated Resource Plan (SIRP) to determine an optimized mix of operational and capital solutions to reduce corrosion and odour. The COrE Strategy includes a combination of \$199.2M capital and \$18.1M operational interventions totaling \$217.3M in early action items over the period of 2019 to 2026.

The capital projects and operating activities included in the strategy address three focus areas:

- Prevent the formation of H<sub>2</sub>S gas in the sewer system** - Odour reports are a leading indicator of asset-related issues. H<sub>2</sub>S gas is causing premature asset degradation and failures due to corrosion. Capital and operating changes to reduce H<sub>2</sub>S formation will deliver lower-cost and faster solutions to community odour issues, and do a better job of protecting assets from corrosion as compared to investments that focus only on controlling and treating sewer gas releases. Preventing the formation of H<sub>2</sub>S in the system can be accomplished by keeping the wastewater moving, adding chemical treatment, and expanding inspections and cleaning.

- ii) **Control the release of air from the sewer system** - Odours are pushed out of the sewers when the air inside the sewer is pressurized and there is an opening to the atmosphere. Odours can be controlled by reducing air pressure in the sewers, adding containment structures, and providing controlled release points in areas with lower community impact.
  
- iii) **Adapt the system using real-time monitoring technologies and improved inspection data** - Sewer trunks are 30 – 40 meters underground, and those built before 1990 generally do not meet current standards for access. Approximately 80km of trunk lines are currently beyond the reach of inspection technologies and do not allow inspections to identify whether H<sub>2</sub>S is forming and causing corrosion and odour issues, or whether the line contains sags or deposits of sediment/fat that require cleaning and may cause odour or operational issues in the future. Adapting the system can be accomplished by expanding inspection and reporting data, developing real-time monitoring capability, and advancing modelling and mitigation research.

The capital and operational costs required to implement CORE are recovered through a non-routine adjustment (NRA) to the Drainage rates for expenditures during the current PBR term. In December 2019, the City Manager approved the NRA to Drainage rates effective January 1, 2020. These NRAs provide rate increases to drainage customers to reflect the revenue requirement impacts associated with the implementation of CORE for the period January 1, 2020 to March 31, 2022. The capital and operational programs proposed through CORE have been classified into the following four themes of investment: (i) PREVENT; (ii) OPTIMIZE; (iii) MONITOR; and (iv) CONTROL.

- **Prevent:** We prevent the formation of H<sub>2</sub>S gas in the sewer system through the construction of bypass tunnels, and the provision of improved access points for both inspection and cleaning purposes, by eliminating obstacles to flow and significant deposits of sediment and fats; we also prevent the collapse of sewer trunk lines through the rehabilitation of pipes impacted by H<sub>2</sub>S gases;
- **Optimize:** We optimize the pumping operations in the system to keep wastewater moving and eliminate the opportunity of H<sub>2</sub>S gas formation, and by adding chemical treatment to the system;
- **Monitor:** We monitor the system by using real-time monitoring technologies and improved inspection data, to identify and understand present and future problem areas along with the effectiveness of the remediation measures; and
- **Control:** We control the release of air from the sewer system by reducing air pressure in the sewers, adding containment structures, and providing controlled release points in areas with lower community impact.

The Prevent category is expanded to include the rehabilitation projects required due to H<sub>2</sub>S induced corrosion. The high number of odour reports and direct measurements of sewer gas surrounding certain assets is an indicator that sewer corrosion is a major risk factor in many trunk lines. Rehabilitating these assets can reduce the number of odour reports from the area because the same solids build-up in the area which promoted the formation of H<sub>2</sub>S and corroded the trunk lines is being addressed while the trunk lines are fixed. One example is the rehabilitation work in West Jasper Place where odour concerns led to an inspection that revealed an asset failure. In fixing the corroded assets in West Jasper Place, many components of the CORE Strategy such as cleaning out the debris, adding access points, and modifying the drop structures were implemented. Therefore, adding the rehabilitation projects to CORE Strategy is consistent with the objectives of the strategy

In 2021, Drainage Services is undertaking a number of activities under the CORE Strategy including:

- In the Prevent theme – Continue the design and construction process on the Duggan bypass tunnel with detailed design to be completed in early 2021, followed by procurement with an anticipated construction start in fall 2021.
- In the Prevent theme – Continue to construct access manholes and implement trunk inspection and cleaning activities in Strathcona, Jasper Park, Westmount and Glenora.
- In the Prevent theme – Continue to implement rehabilitation projects in emerging locations including 109 Street and 61 Avenue, Trestle #7 and Mill Creek.
- In the Optimize theme – Implement the improvements to pump stations at Kaskitayo, Blackburne and Twin Brooks with chemical treatment capability.
- In the Monitor theme – Continue to purchase additional odour monitoring equipment and explore additional synergies with SIRP Predict theme.
- In the Control theme - Continue to modify existing drop structures in Garneau, Queen Alexandria, Allendale and Pleasantview.

#### 15.4 Execute the Stormwater Integrated Resource Plan (SIRP).

The Stormwater Integrated Resource Plan (SIRP), presented to the City of Edmonton Utility Committee and City Council in 2019, is a \$1.6 billion system wide integrated approach over the next 20 to 30 years to mitigate flood risk by reducing the health and safety, financial and social risks of flooding with lower overall capital investment than compared to traditional engineering approaches, through the incorporation of green infrastructure and operational programs that support building community resiliency and leveraging advanced technologies to better manage storm water volumes during storm events. The \$1.6 billion capital program proposed through the SIRP can be classified into the following five themes of investment: (i) SLOW; (ii) MOVE; (iii) SECURE; (iv) PREDICT; and (v) RESPOND.

- **Slow:** We slow the entry of stormwater into the drainage network by absorbing it in green infrastructure such as Low Impact Development (LID) features and holding it in ponds, creating space in the collection system during storm events;
- **Move:** We move excess water away from areas at risk, quickly and efficiently;
- **Secure:** We help secure individual properties in higher risk areas against sewer backups, inflow infiltration (I/I) and overland flooding and river flooding;
- **Predict:** We predict and manage the movement of stormwater through smart sensors and technologies that integrate into the collection system; and
- **Respond:** We respond through fast rollout of flood barriers, traffic diversions, and public communications to protect life, safety and property.

In 2021, Drainage Services is undertaking a number of activities under the SIRP Strategy including:

- In the SLOW theme – Continue to engage with the City of Edmonton on Phase 2 of the review process for each dry pond with completed conceptual design including Parkdale and Lauderdale in conjunction with the local community consultation activities that occur during this phase of the project. Design and construction activities will continue for the dry pond locations at Kenilworth, Malcolm Tweddle and Edith Rogers while dry pond construction will wrapped up in Steinhauer and Erminskein.
- In the SLOW theme - Implementation of LID in conjunction with planned roadway construction as part of the 105<sup>th</sup> Avenue Streetscaping and Building Great Neighbourhoods initiatives planned for 4 neighbourhoods in 2021. This implementation also encompasses sites for LID on privately-owned properties including the commercial industrial areas north of 30<sup>th</sup> Avenue in Calgary Trail South and the associated communications with customers.
- In the MOVE Theme – Incorporation of the piping modifications required to accommodate the approved dry ponds identified in the SLOW theme including Kenilworth, Malcolm Tweddle and Edith Rogers. Sewer separation work will also be implemented in specific locations in Kinnaird.
- In the SECURE Theme – Continue the implementation of the maintenance program for Inflow/Infiltration reduction through sealing of sanitary/combined sewer lines and manholes in the vicinity of topographical sag locations throughout the City. Develop the overall impacts and implementation plan for automatic gates in river valley outfalls in the Rossdale neighbourhood. Implementation of the containment tower to reduce the risk of surcharge at Calgary Trail South and the associated collaboration effort with all stakeholders.
- In the SECURE Theme – Implementation of the Enhanced Flood Proofing Program and targeted outreach to the higher risk properties to promote backwater valve installations and additional on premise flood proofing activities.
- In the PREDICT Theme – Continue the implementation of the SIRP Dashboard project to enable improved situational awareness during flooding events through the consolidation in one

interface the various monitoring systems used within the Drainage utility. Implementation of automatic gates in stormwater management facilities within storm basins in Mill Woods and incorporation to the SIRP Dashboard for real time control capability.

- In the RESPOND Theme – Continue to support emergency response improvements in the higher risk areas, including working with property owners and the City of Edmonton to update emergency response plans for impacted areas.

### 15.5 Complete Drainage LRT relocations.

In 2018, Drainage Services received notifications from the City of Edmonton requesting Drainage Services to start sewer facility relocation for several LRT projects. The notifications indicated that the Valley Line West (VLW) and the Metro Line Northwest (NW) Phase 1 are the City's next two LRT priorities. Since receiving the City's notifications, Drainage Services has been diligently working on the LRT Drainage Relocation Projects. Drainage Services has undertaken corresponding investigations, planning and design works for the VLW LRT project. Detailed design of sewer relocation on 87 Avenue, 104 Avenue, Stony Plain Road, and Meadowlark Road has been completed and is in circulation for the City's approval. Request for proposal on the construction of sewer relocation on 104 Avenue between 109 Street and 136 Street has been issued. Sewer relocation on 87 Avenue between 165 Street and 170 Street has been completed. Drainage Services has also coordinated with the City's LRT team on the Metro Line NW project. To accommodate the City's schedule for Metro Line NW LRT Phase 1, Drainage Services has started the sewer relocation design in 2019 and plans to complete the construction by the end of 2020.

In June 2019, Drainage Services presented its Drainage LRT Relocations business case to Utility Committee. Historically drainage relocations, including the current Valley Line construction, were funded by the city LRT program and therefore they were not included in the drainage rates approved for the current 2018-2021 Performance Based Regulation. The capital and operational costs required to implement Drainage LRT relocations are material and, as such, are recovered through a non-routine adjustment (NRA) to the Drainage rates for expenditures during the current PBR term. In December 2019, the City Manager approved the NRA to Drainage rates effective January 1, 2020. These NRAs provide rate increases to drainage customers to reflect the revenue requirement impacts associated with the relocation of drainage infrastructure in conflict with the proposed LRT routes for the period January 1, 2020 to March 31, 2022. The relocation of this infrastructure is underway and will continue throughout 2021.

## 16. PUBLIC HEALTH and the ENVIRONMENT

Drainage Services is an environmental company that protects the watershed and contributes to a healthy river. Environmental challenges include the impacts of flooding, responding to releases, monitoring the quality of the river water, and ensuring compliance, reporting and adherence to international ISO standards. Drainage Services has defined three strategies to realize this commitment:

### 16.1 Optimize the impact of our operations on the environment and the impact of the environment on our operations.

As an environmental steward in Edmonton, Drainage Services will minimize our environmental impact in all aspects of our operations. Drainage Services has been working with the City of Edmonton on the climate change initiative through the work on the Stormwater Integrated Resource Plan (SIRP). The purpose of this plan is to identify work that needs to be accomplished to reduce the impact of stormwater flow on Edmonton residents and businesses. Drainage Services is also participating in the Flood Hazard Identification Program with Alberta Environment and Parks.

In 2021, Drainage Services will work towards ensuring that all environmental work is aligned with projects in Planning and Engineering so that all projects reflect considerations arising from the SIRP, our Corrosion and Odour Mitigation (CORe) Strategy, and our goals to reduce flow to the river.

## 17. EMPLOYEE and PUBLIC SAFETY

EPCOR puts safety first in everything we do and Drainage Services has emphasized this approach across its operations. We will ensure that employees and contractors have the required training and support to ensure safety of everyone on the team. We will focus on providing strong safety leadership and improving our awareness of hazards and risks. In order to achieve our safety objective, we are focusing on four strategies.

### 17.1 Reduce tolerance towards safety related risks.

In order to reduce our tolerance towards safety related risks, Drainage Services is committed to developing appropriate plans and programs in order to shift our attitude about safety and the achievability of zero injuries. In order to achieve this, we have established the following objectives:

- develop customized safe work plans for each unique work area;
- implement a new Contractor Management Program including a framework and guidelines for managing prime contractor accountabilities;
- develop hygiene procedures and practices;



- develop, roll out and practice emergency response procedures; and
- Contact all high risk properties identified in Stormwater Integrated Resource Plan.

## 17.2 Cultivate a culture of safety leadership

A culture of safety leadership is required to ensure frontline employees will continue to have a strong focus on safety. Our leadership team will demonstrate employee support by ensuring that incidents are reported accurately within our Event Reporting System (ERS), investigations are completed in a timely manner, and learnings are shared with all employees. The main objective is to improve incident reporting throughout all of Drainage Services. Another objective is to have all senior managers and above completing safety training.

## 17.3 Encourage ownership of safety at all levels.

In addition to safety leadership, we will encourage employee ownership and involvement at all levels. A foundational piece of this will be to ensure that all staff have the skills to identify workplace hazards and implement controls to eliminate them. We will give staff a voice through field involvement in safety initiatives. Key objectives include:

- Continue to focus on hazard recognition and near miss reporting. Near miss reporting is a leading indicator of safety involvement. Reporting provides information and trends and it directly involves employees in the identification of work place hazards.
- Train all people leaders to lead an incident investigation. This includes analyzing root causes and determining the appropriate corrective action.
- Develop an observation program to identify workplace hazards and recommend controls.
- Roll out driver report cards based on telematics information.
- Implement workplace inspections across Drainage Services.
- Inspections completed with numbers by stratum as per corporate standard.

## 17.4 Train staff for competency and confidence.

Ensuring employees have the knowledge, skills and competence to perform their job safely. Through appropriate training, skill development and on-the-job experience, Drainage Services will ensure employees have the knowledge, skills and competence to perform their job safely. We will do this by applying the appropriate level of training relative to the risk and complexity of the task. Drainage Services plans to ensure that compliance and conformance training is maintained at >85%.

In order to achieve this, Drainage Services will:

- develop and implement company-wide competency based assessments for high hazard activities;

- support the development of training to ensure front line leaders understand our business, are effective at managing people issues, and create safe work environments;
- conduct a comprehensive gap analysis to identify procedural, training and competency gaps and build a plan to address these gaps;
- support operations to ensure staff have the requisite language skills to perform their job;
- build a centralized document library to provide staff easy access to Training, Environment and Safety procedures;
- bring training outside the classroom by providing onsite training specific to the work of the employee; and
- support operations in developing and maintaining Wastewater Operators.

## 18. EMPLOYEE DEVELOPMENT

### 18.1 Develop great leaders who embody EPCOR's values and make timely and sound decisions

In order to make sound business decisions, leaders must understand their accountabilities and their specific role in delivering the Water Services and Drainage Services Operational Plans. Key objectives to create this environment include:

- Facilitate an understanding of accountabilities and authorities at all levels of leadership. This includes ensuring that 100% of people leaders have a complete Position Description that outlines their role and accountabilities.
- Create functional area business plans for outlining two year objectives that align with the goals and strategies of the Operational Plan. This will create a deeper understanding of the business plan and alignment across all work units by directly involving leaders in the development of their section's business plan. Ensure the business plans are presented and explained to all employees.
- Ensure competency assessments are completed to assess technical skill gaps and results are built into development plans.

Job rotation is an important aspect of this. The Human Resources team will engage with business leaders and provide tools to assist with identifying suitable candidates for job-to-job or project-to-project opportunities. Human Resources will also support all aspects of the transition including initial preparations, execution and any subsequent evaluation of outcomes.

## 19. OPERATIONAL PERFORMANCE

Drainage Services is focusing on the review and improvement of our processes. Continual review of processes, systems and tools will drive efficiencies and optimization. Key strategies include:

### 19.1 Develop and optimize end-to-end processes within Drainage Services.

Drainage Services will be reviewing all processes to determine opportunities for efficiency and optimization. Process improvement projects may utilize project management, reporting, metrics and change management to monitor success and ensure sustainment. Key objectives are highlighted below:

- Identify projects that either define or optimize cross-functional processes for Drainage end-to-end process (plan → design → construct → operate → maintain). Complete process improvement projects that achieve measurable results along this overarching process.
- Utilize technology and common platforms to achieve a paperless pay system.
- Formally evaluate in-house versus contracted work using a business case methodology for each category of work.

### 19.2 Identify and manage emerging risks.

Through this and previous planning processes, Drainage Services identifies business risks and then formulates/optimizes appropriate mitigation strategies. The on-going objectives include:

- Implement a knowledge transfer program to mitigate the risk of losing technical expertise related to drainage. In 2021, we will focus on continuing to document existing practices for knowledge transfer and implementing a “lunch and learn” program for staff to present on industry knowledge.
- Rationalize inventory classification to ensure the appropriate mix of stock, free issue and Vendor Managed Inventory. We also want to implement a low cost approach to dispensing Low Value Inventory.
- Define an approach to prioritize capital projects within our Performance Based Regulation envelope.
- Implement recommendations arising from the Construction Services internal EPCOR Audit.
- Develop a plan to optimize crew and equipment utilization. Our focus is to review industry practices and evaluate our current work to determine the human resources requirements (e.g.

working hours, shifts, competencies and cross training) and the most efficient way to use the equipment necessary to complete all work.

- Develop and Implement Preventative Maintenance Programs based on benchmarking and best practices across the wastewater industry, customer complaints, asset management condition assessment, health and safety requirements, risk, regulatory requirements, operational considerations, and maintainability. Finally, they will also be developed with optimization and efficiency as the end goal.
- Initiate the Sanitary Integrated Resource Plan (SanIRP) to establish a risk based plan to address various system issues such as flooding, odour, asset condition and operational issues. This will also consider increased flow due to developments in both green field and infill areas and associated potential system expansion options.
- Develop an approach to look for areas of solids build up in the system.

## 20. GROWTH AND FINANCIAL PERFORMANCE

Drainage Services is pursuing efficiencies through process improvement, the implementation of telematics, the development of a construction strategy and the identification of operational synergies with the Water business unit. In addition to these four primary strategies to improve our financial performance, we are also pursuing the following initiatives:

### 20.1 Correct the revenue leakage that is occurring

In 2019, Drainage Services began an audit of the Stormwater Utility. Through the initial analysis, the stormwater team found multiple discrepancies in the billing system due to a number of factors including lack of auditing since system inception in 2003, lack of written standards, information system limitations and billing system limitations. As such, a revenue leakage project was initiated, in line with focusing on the reduction of rate increases for our ratepayers.

The project has a large focus to develop a standard and consistent approach of the stormwater utility charge. This approach, to ensure equity and fairness across all stormwater utility ratepayers, is managed through a set of guiding principles:

- All parcels of land in Edmonton contribute the storm and snowmelt run-off into the stormwater system, and are therefore responsible for paying a stormwater utility fee.
- Parcels are billed based on their land use zone.
- Stormwater are billed to the account holder for a parcel unless there is written agreement from the property owner / property manager / lessee.

- Wherever reasonable, parcels are divided based on equivalent percentage of surface area in the event of multiple accounts on one parcel.
- All non-residential customers have the opportunity to apply for a rebate through our Stormwater Utility Credit Program if they have a stormwater management system on site.

Overall, the Stormwater Rates team estimates a city-wide revenue leakage in excess of \$7 million annually.