

## **WATER INFRASTRUCTURE INVESTMENT PLAN (WIIP)**

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### **EXECUTIVE SUMMARY**

The 2015-2024 Water Infrastructure Investment Plan (WIIP) is a strategic, long range capital planning document that underpins the delivery of water, wastewater and drainage services. Capital investments are needed to: maintain assets, meet increasingly stringent regulatory requirements, provide reliable and high quality services, and keep pace with growth. The WIIP identifies the infrastructure investments needed to address these four investment drivers and will guide the development of the 2015-2018 capital budget. The WIIP contains a total investment requirement of \$3.5 billion, averaging \$350 million per year.

### **ADMINISTRATION RECOMMENDATION(S)**

That Council Direct administration to incorporate the Water Infrastructure Investment Plan into the 2015-2018 Action Plan.

### **PREVIOUS COUNCIL DIRECTION / POLICY**

None

### **BACKGROUND**

The Utilities manage and operate infrastructure valued at approximately \$38 billion across three lines of service: water, wastewater and drainage. This infrastructure is vital to the delivery of high quality drinking water, the collection and treatment of wastewater, and the management of stormwater. A capital investment plan is needed to ensure that capital expenditures optimize the value of services, minimize the risks to this capital-intensive business, and remain affordable to utility rate payers.

The Water Infrastructure Investment Plan (WIIP) provides a prioritized perspective for long-term strategic investments in infrastructure. The plan balances the needs of citizens with business risks and the financial capacity of the Utilities. The result is a plan that provides a logical sequence of capital expenditures over the next ten years.

### **INVESTIGATION: ALTERNATIVES AND ANALYSIS**

Over the next ten years, additional investments in water, wastewater and drainage infrastructure will be required to address the following:

- Aging infrastructure, which impacts the ability to operate efficiently and effectively without service interruptions;
- Changes to regulatory and environmental requirements, which necessitate infrastructure upgrades or the construction of additional infrastructure;
- The need to maintain and enhance service levels in order to continue to provide reliable and trusted water, waste water and drainage;
- Continued population growth, which triggers capacity upgrades and expansions.

The Water and Wastewater Utilities and the Drainage line of service require a strategic, long range plan to address these pressures and continue to deliver high quality services.

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### ***Investment Drivers***

In order to provide a more holistic, transparent and outcome-based Water Infrastructure Investment Plan (WIIP), the Utilities have identified four key investment drivers. Each driver addresses one of the factors identified as placing additional strain on the infrastructure.

INVESTMENT DRIVER	EXPLANATION
Maintain assets	Maintaining, protecting and extending the life of infrastructure investments.
Regulatory & Environmental Protection	Continuing to meet increasingly stringent regulatory and environmental protection requirements.
Services	Continuing to provide reliable and high quality services to meet the needs of citizens.
Growth	Providing infrastructure to meet the needs of a growing Calgary.

The investment drivers provide insights into the rationale for the proposed capital expenditures and the desired outcomes over the investment period.

The proposed 2015-2024 WIIP (Attachment 1) provides context and an overview of the capital investments proposed within each of the four investment drivers.

### ***Investment Programs***

The WIIP investment programs are categorized along utility/line of service divisions, plus a category for common facilities and equipment:

1. Water Treatment Plants
2. Water Network
3. Wastewater Treatment Plants
4. Wastewater Network
5. Drainage Facilities and Network
6. Facilities & Equipment

Investments in these six infrastructure programs are necessary in the ten-year horizon (2015-2024). These investments are prioritized according to asset management principles that are the cornerstone of good Utilities management. This rigorous approach aligns goals, needs and priorities using a quantitative and qualitative decision making process for prioritizing investments.

Investments need to be sequenced with consideration of the Utilities' financial capacity and delivery capability. The financial capacity of this capital-intensive business informs the preparation of a sequenced investment plan that remains affordable to its customers. The

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ability to deliver the WIIP must be assessed to ensure required resources are available to deliver the projects. A strategy has been developed that addresses the factors that impact the delivery of a capital program. This delivery strategy will require additional resources and some ramp up time within the 2015-2018 budget cycle. The approach positions the Utilities to align the financial and resource plans necessary to deliver on the proposed capital projects.

The proposed Water Infrastructure Investment Plan (WIIP) will deliver infrastructure upgrades, new infrastructure and capital maintenance programs valued at \$3.5 billion, averaging \$350 million per year for the next ten years.

### **Stakeholder Engagement, Research and Communication**

The preparation of the proposed WIIP adheres to the Corporate Project Management Framework (CPMF). This framework requires formal project chartering, including the preparation and implementation of a stakeholder engagement and communication plan. Reports to Council, through the SPC on Utilities and Corporate Services, will continue to be scheduled at key milestones. Individual capital projects will also follow the CPMF.

### **Strategic Alignment**

The proposed 2015-2024 WIIP aligns with the Council's Fiscal Plan for Calgary, The City of Calgary's Municipal Development Plan (MDP), the Triple Bottom Line (TBL) Framework and the 2020 Sustainability direction, as well as Council policies. They reflect needs and requirements outlined in corporate, departmental and business unit strategies and business plans.

### **Social, Environmental, Economic (External)**

The proposed 2015-2024 WIIP ensures that the projected population growth of 200,000 people in the next ten years can be serviced. The WIIP will underpin the continued delivery of high quality services that are vital to the social, environmental and economic goals of Calgarians. Investments will also be made to ensure continued regulatory compliance and the renewal of the Utilities' Approval-to-Operate by 2018.

### **Financial Capacity**

#### **Current and Future Operating Budget:**

The proposed investments of \$3.5 billion in the WIIP will require future annual operating budget of up to \$5 million per year incorporated into the 2015-2018 operating budget. The delivery of the expanded capital program will require additional resources that will also be incorporated into the operating budget.

#### **Current and Future Capital Budget:**

The proposed 2015-2024 WIIP priorities identify lifecycle, maintenance and new growth requirements over the next ten years. Investments in existing facilities will improve efficiency and effectiveness of facilities and programs. The WIIP requires capital investments averaging \$350 million per year that will be incorporated into the 2015-2018 capital budget.

### **Risk Assessment**

The pressures of a growing Calgary have a significant impact on the Water Infrastructure Investment Plan, and present many challenges and risks over the 10 year horizon. There are

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significant pressures facing the Utilities to replace and upgrade existing infrastructure in the developed areas, to upgrade treatment capacity to service a growing population and to add new infrastructure to service suburban growth areas. These investments must be balanced within smart asset management practices to keep existing infrastructure operating as intended, and the investments required to maintain regulatory compliance. The investment decisions must be made while remaining fiscally responsible.

There is a base level of investment that is required for both asset maintenance and regulatory compliance. These investments are considered essential to meet service levels and protect public health and the environment. Reductions in these areas could result in (a) the Utilities being unable to renew the Approval-to-Operate, (b) significant service disruptions impacting citizen confidence in the Utilities, (c) rising health and safety risks, and (d) significant environmental impacts. Any reductions in infrastructure investments could also negatively impact the Utilities' financial position due to potential fines and larger overall costs for emergency repairs and replacements.

As a result of the increasing pressures on the Utility, a significant increase in capital investments is required. It is anticipated that the investments required over the 2015-2024 timeframe will be approximately \$3.5 billion, or \$350 million per year. Over the past three years, the Utility has spent approximately \$200 million per year. This represents more than a 50% increase in investments that will strain deliverability and potentially result in issues with Contractor availability for design and construction. A delivery strategy has been developed in order to address the growing capital delivery needs and ensure appropriate risks are addressed.

The Utilities recognize that the balancing of investment needs, financial capacity and delivery capability will result in some level of outstanding risk. Because the prioritization and sequencing of the investments within the 2014-2024 WIIP have not been finalized, uncertainty remains in the level of risk remaining.

### **REASON(S) FOR RECOMMENDATION(S):**

Administration has identified infrastructure priorities over the next 10 years (2015-2024). This report provides Council with information on these priorities and challenges facing the Utilities. The next step is the development of indicative rates and the 2015-2024 Action Plan. It is recommended that Council direct administration to incorporate the Water Infrastructure Investment Plan into the 2015-2024 Action Plan.

### **ATTACHMENT(S)**

Water Infrastructure Investment Plan