

# Report to Council



**Date:** November 16, 2020

**To:** Council

**From:** City Manager

**Subject:** Area Based Water Management Plan Update

**Department:** Infrastructure Engineering

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## **Recommendation:**

THAT Council receives for information, the report from Infrastructure Engineering dated November 16<sup>th</sup>, 2020, with regard to the Kelowna Area Based Water Management Plan update.

## **Purpose:**

To update Council on the Kelowna Integrated Water Supply Plan and to comment on progress to date in area-based water resource management.

## **Background:**

In 2017, a team of senior water supply planning specialists assisted the City on long-term water supply through a Value Planning Review. The team recommended the integration of the many existing independent water purveyors into a single city-wide system and provided a vision of what it would look like. The vision was later adopted by City Council in 2019 along with Policy #378, Water Systems Integration Policy. Since 2019, staff have been in the process of developing the Kelowna Water Integration Plan (KWIP), a fully funded long term implementation plan that provides the framework for integration of the many independent water systems within the City, and meets the requirements for uniform water quality meeting Canadian Drinking Water Quality Guidelines, improved resiliency, better transparency and meeting the growth expectations of the community.

On August 10, 2020, Council was presented with the '20 Year Servicing Plan – Utilities Update', which incorporated many elements of the KWIP vision. The reality, however, is achieving the goals of the full KWIP will take longer than twenty years, and depends on significant efforts to obtain outside agencies' involvement, including the provincial government and the individual water purveyors. The Level of Service anticipated in 2040 for the Kelowna Water Utility is described in the following customer Service Level Statement:

***Residents and customers in the City are provided a safe, resilient and sustainable supply of high-quality drinking water and a reliable supply of water for agriculture. Water quality will be consistent with a multi-barrier approach (source control, treatment & distribution). Non-potable irrigation water will be gravity supplied from upland watersheds.***

This Level of Service goal is achievable by the utility and water purveyors by focusing on strategies to improve resiliency, interconnections and a consistent water quality to all customers.

The KWIP relies heavily on the City's ability to sustain a filtration deferral over an extended period (beyond 40 years). For the KWIP to be successful, the Province needs to formally accept it and approve a fiscal strategy that includes funding.

### **Lessons learned from the Kelowna Water Integration Plan - Stage 1**

Since the adoption of Policy #378, the South East Kelowna Irrigation District assets and operations have been absorbed into the City Water Utility. The Stage 1 plan included new infrastructure and coordinated capacity improvements within the City Utility to expand the City's potable water supply into southeast Kelowna and create a new non-potable water system. There have been 'lessons learned' from the Stage 1 project to use in future planning and implementation of the KWIP plan into the future. One important lesson is that the City needs to be better prepared and informed of the condition of the system being integrated.

The oversight of the independent water systems falls to the provincial government. Therefore, support from the Province in many forms is vital going forward. Staff believe it's also in the Province's interest to work proactively with the City to stage these integrations in a way that minimizes negative impacts to the City over time. Staff are therefore need the assistance of the Province in the development and staging of the KWIP.

The other lesson is that the City must align its many resources, including staff and funding, to include practices and needs outside the City Boundary. This includes the need to better understand our own practices, and how they impact Okanagan Lake, our main water source. Out of this coordination, the City can work to develop policies and processes in line with local, regional, provincial and federal best management practices. In working with the Okanagan Basin Water Board and Regional District, staff have discovered several gaps and opportunities to improve stewardship and better define the language that different groups use to define water and local practices.

### **Area Based Water Management Planning (ABWMP)**

One of the recommendations from the 2017 Value Planning Review of the Water Supply in Kelowna was for the City to look at broader water resource planning and management. Water management and its governance are critically important for local governments. Clean reliable water supply is required by residents, agriculture and business to meet both their existing and future needs. Cities must also manage the water resource to avoid flooding while maintaining riparian values to maintain a sustainable ecosystem.

The Province regulates water and has made access to new water licenses more complex as demand for it grows. The Water Sustainability Act, the legal framework for water licensing, includes the need of addressing environmental (or critical low flow) needs in channels as part of a new or modified license

application. Licenses are required for all water extractions, diversion, storage and consumptive use from any watercourse or lake in the Province. Kelowna has experienced events that have demonstrated the need for strategic multi-agency planning to apply best management practices to its local water resource.

The ABWMP is a three-stage strategic planning initiative being prepared in collaboration with regional and provincial agencies. Stage 1 is ongoing and assesses current management practices to identify areas where water management improvements are needed. This initial work sets up Stage 2, best management practice reviews which would be researched for application in the Kelowna watershed.

The ABWMP has been broken into different but inter-related management sectors that form part of the water cycle: Water supply, Source Water Protection, Environmental and Critical Flow Needs, Storm water, Wastewater and Natural Assets.

The ABWMP is being prepared concurrently and consistent with the 2040 Official Community Plan to reflect existing Council policy and to provide input to the drafting of new policy. Other engineering plans are underway to address the need to integrate the many independent water utilities operating within the City and to mitigate flooding. These initiatives inform and guide the development of the ABWMP.

Direct collaboration is taking place with the Regional District of Central Okanagan and the Okanagan Basin Water Board. In addition, the Provincial government has been engaged through a Provincial Liaison Team (representing three Ministries) and with staff from Interior Health.

### **Stage 1 Status Update**

A significant amount of effort was placed on understanding the background of the City's base operations, resources and regulatory challenges within each of the management sectors. For example, a concise draft background document was produced for the Wastewater sector, briefly outlining its operations, practices and resources of the City, and the relationship of that Sector with Okanagan Lake. The document was reviewed internally, and other sector leads to better understand that sector's challenges, as well as the perceived concerns from other areas, such as Source Water Protection, or Environmental Flow Needs. Workshops and online sessions were conducted for each sector led by different sector leads, along with regional or provincial guests providing feedback.

### **Risk Analysis**

Each sector group identified potential risks within their sector. The risks varied from operational to situational, were then assessed on a grading scale of low, medium, high, very high and extreme risks. A final review tallied risks with high to extreme grades for further review in future stages of this plan. Risks graded as medium or low will be compiled and addressed through internal City operational plans. It is noted that there were no "extreme" risks identified in the City at this time.

### **Strategy Development**

Using the results of an assessment of Strengths, Weaknesses, Opportunities and Threats (SWOT), risk and gap analyses, a broad list of strategies were developed. These strategies, currently under review, demonstrate the breadth of work and shared responsibilities between agencies required to achieve such broader goals as flood resiliency, safe water to all citizens, shared environmental flow management and better stewardship of our natural assets. It becomes very clear that the road to an

Area Based Water Management Plan requires participation and resources from all levels of government and industry.

A key next step will be to secure Provincial participation in developing various strategies and areas for best management practices review in Stage 2. This could include participation by a number of Ministries. Once the level of participation by the Province is confirmed staff will complete Stage 1 and initiate Stage 2 in consultation with the participants.

### **Key Considerations**

This initiative is considered relevant and important to the Province as it overlaps with many of their stated goals, current practices and past issues. The Province has responded to our invitation to participate by providing staff liaison representing three Ministries, and there is a need moving forward to participate in Stage 2.

### **Summary and Next Steps**

Stage 1 of the Area Based Management plan is nearing completion. Tasks are underway to formally complete the various documents, strategies and assessment along with a thorough review. The Kelowna Water Integration Plan is being developed concurrently, with policies found in the ABWMP driving some of the activities in the next few years.

Staff is investigating the following steps as part of a scope of work to proceed. A scope of work needs to be vetted through the Partnership and Investments Division for priority discussion with the Province and brought to Council in the near future.

1. Examine provincial support options and assistance in the staging of the proposed Kelowna Water Integration Plan. This would include determining a long-term funding model and financing strategy that includes City customer funding along with a consistent approach to provincial and federal supports. This would also include the development of an interim governance plan, and appropriate legislation to address funding interjurisdictional projects.
2. Create a Management Plan for both Mission Creek and Mill Creek. These creeks and supporting watersheds are critical natural features that both supply and impact City residents. The Province should lead a coordinated effort to help address Flood Protection, water quality and agricultural water supply, as these will shape the long term water supply and protection needs into the future.
3. To undertake a review of existing multi-agency roles in protecting Okanagan Lake water quality and to work with these agencies to develop a twenty-year best management plan for the lake. Maintaining Okanagan Water Quality is the City's highest priority in the water portfolio. Stewardship of the Lake is a Provincial responsibility, however regional entities have resources that can provide significant stewardship and enforcement opportunities.

### **Internal Circulation:**

Community Communications Manager  
Infrastructure Engineering Manager  
Utility Services Manager  
Water Operations Manager

**Considerations not applicable to this report:**

Alternate Recommendation

Communications Comments

Existing Policy

Financial/Budgetary Considerations

Legal/Statutory Authority:

Legal/Statutory Procedural Requirements

Personnel Implication

Submitted by:

Rod MacLean, P.Eng., Utility Planning Manager

**Approved for inclusion:**



Alan Newcombe, Divisional Director, Infrastructure

Attachment: Presentation to Council

cc: Divisional Director, Civic Operations, Deputy City Manager  
Divisional Director, Corporate Strategic Services  
Divisional Director, Financial Services  
Divisional Director, Infrastructure  
Community Communications Manager  
City Clerk