

Report to Council



Date: August 12, 2019
File: 0600-20
To: Council
From: City Manager
Subject: Subdivision, Development and Servicing Bylaw 7900 - Schedule 4 and 5 Update - Stormwater

Recommendation:

THAT Council receives, for information, the report from the Infrastructure Engineering Manager dated August 12, 2019, with respect to amending the Subdivision, Development and Servicing Bylaw 7900;

AND THAT Bylaw No. 11913, being Amendment No. 20 to Subdivision, Development and Servicing Bylaw No. 7900 be forwarded for reading consideration.

Purpose:

To amend the Subdivision, Development and Servicing Bylaw 7900 Design so it aligns with industry best practice and ensure construction of quality and long-lasting infrastructure.

Background:

Schedules 4 and 5 of Bylaw 7900 Subdivision, Development & Servicing Bylaw set the minimum standards and specifications for works and services in connection with developing and servicing lands within the City boundaries. Schedule 4 outlines the design standards and Schedule 5 outlines the construction standards for municipal infrastructure like water distribution, sanitary sewer, drainage, roads, sidewalks, traffic signals, street lighting and landscaping. Staff's goal is to maintain Bylaw 7900 as a living document

The City periodically updates these standards and provide regular updates to assure that the infrastructure installed is high quality, long lasting and supports service delivery expectations from our community. These standards are also reviewed against industry best practice and practices in other communities to ensure the City is obtaining best value.

A working committee was formed with representation from various internal groups, including Infrastructure Engineering and Delivery, Development Engineering and Civic Operations. The working

group meets regularly to review sections of the Bylaw, engage with internal and external stakeholders (like the Urban Development Institute) and decide on changes to bring forward to Council. The changes identified below form part of the major components as part of this revision.

Summary of changes to Schedule 4 of Bylaw 7900 – Design Standards include:

Chapter 0 - General

1. Minor grammatical changes.
2. Change to chapter 3 – Stormwater Management in title.

Chapter 1 - Water

1. Section 1.5 – Fire Flows
 - This change to on-site Fire Flow requirements was required to address building fire flow requirements at the building permit approvals stage. Off-site infrastructure sizing will remain based on area zoning. On-site fire flow requirements at the Building Permit stage are now consistent with Section 3.2.5.7 of the BC Building Code. This modification is significant for those buildings with automated sprinkler systems constructed to NFPA 13 criteria. The calculated value must be confirmed to the City by an experienced professional. The Owner or Developer must report to the City that the calculated fire flow does not exceed the minimum requirements for that zoned area.

Chapter 3 – Stormwater Management

1. The old Chapter 4 – Drainage in previous version has been replaced and revised.
2. The new Chapter 3 is now called Stormwater Management. The section is formatted for consistency with the Master Municipal Construction Documents (MMCD) Design Guidelines.
3. Climate change is now incorporated into the standard. Stormwater quantities will include a rainfall intensity increase of 15% in the calculations. This will confirm the capacity of critical structures and assure that minimum standard sizing is adequate for such items as mainlines, structures or culverts.
4. Stormwater quality has more emphasis with measures connected to health of Okanagan Lake, our main City water supply. Some of the important features include:
 - a. No permanent pumping of groundwater will be permitted into the City sewer system. Where permanent pumping cannot be avoided, water licensing and separate private works will require approval from both the City and the Province.
 - b. Water quality will be measured against Provincial recreational water quality guidelines.
 - c. No construction will be permitted below the proven high-water table.
5. Hillside or Hazardous Area infrastructure requirements have been changed to focus on safe conveyance of stormwater. This includes
 - a. Eliminating infiltration to ground in most instances.
 - b. All roof leaders and site drainage must connect to the City storm system.
 - c. Reliance on hydrogeologists has been reduced to special applications.
 - d. A new map has been added to identify areas of allowable infiltration to ground.
6. All stormwater design must clearly demonstrate a path that does not impact downstream properties.
7. Erosion and Sediment Control Guidelines have been strengthened to assure that responsibilities on construction sites is clearly defined.
8. Stormwater infrastructure details have been updated. This includes, but not limited to:

- a. Minor Systems: manholes, catch basins, service connections, mainline sizing, roof leaders, curved sewers, modelling requirements,
- b. Detention Controls: parking lot storage, underground storage, detention ponds, outlet Controls, etc.

Summary of changes to Schedule 5 of Bylaw 7900 – Construction Standards include:

- SS-S50 - Catch Basin Lead Sizing – Chart adjusted for minimum 200 mm leads.
- SS-S56 - IDF Curves – City of Kelowna at Kelowna International Airport (YLW) - Revised intensity duration curves from Environment Canada (generated from 2014 data).
- SS-S58 - Groundwater Recharge Suitability Map

The working group continues to work closely to align other service areas like roads, traffic signals, landscaping, agricultural irrigation and wastewater with MMCD where practical. Updates on this work will be brought forward to Council at a later date.

Internal Circulation:

City Clerk
Community Engagement Manager
Development Engineering Manager
Infrastructure Delivery Department Manager
Infrastructure Operations Department Manager
Legislative Coordinator
Project Manager - Water Integration Project
Utility Planning Manager

Legal/Statutory Authority:

Community Charter section 8.

Considerations not applicable to this report:

Legal/Statutory Procedural Requirements
Existing Policy
Financial/Budgetary Considerations
Personnel Implication
Communications Comments
Alternate Recommendation

Submitted by:

Joel Shaw, P.Eng., Infrastructure Engineering Manager

Approved for inclusion:



A. Newcombe, Division Director, Infrastructure

Attachment 1 – Amendment 20 – Revised Bylaw 7900

Attachment 2 – Bylaw 7900 – Schedule 4 and 5 Update Presentation

cc: City Clerk