

Staff Report to Council

Engineering

FILE: 11-5225-01/20

REPORT DATE: February 16, 2021 MEETING DATE: February 23, 2021
TO: Mayor and Council
FROM: Samantha Maki, Director of Engineering and Operations
SUBJECT: Drainage System Protection Amendment Bylaw No. 2875, 2021

CHIEF ADMINISTRATIVE OFFICER REVIEW/APPROVAL:



RECOMMENDATION: THAT Council:

- A. Grant first, second and third readings to Drainage System Protection Amendment Bylaw No. 2875, 2021; OR
- B. Other.

PURPOSE

Staff are proposing amendments to the Drainage System Protection Bylaw 2266 to allow for more than one culvert per parcel in select cases. The current bylaw permits only one driveway access and culvert per parcel. Multiple requests have been received from the public and developers to modify the requirements.

Information Report Decision Report Direction Report

DISCUSSION

Background:

Developments and changes of use of properties have resulted in an increase of requests for more than one culvert per parcel. The current Drainage System Protection Bylaw 2266 specifies under section 9.6 that *"Each parcel shall contain no more than one driveway access and culvert over a key ditch"*. Once a culvert is installed along a ditch within the City's drainage system, the culvert becomes a City asset and the City is

responsible for and conducts the necessary maintenance. Reasons for restricting the number of culverts include, but are not necessarily limited to:

- Minimizing the impact to the City's drainage system as culverts create a pinch point, increasing the risk of a blockage or potential failure;
- Maintaining achievable maintenance and inspection service levels and budget considerations;
- Reducing the number of conflict locations, which results from through traffic and vehicles entering or exiting from a parcel via a ditch crossing.

For context, the City current manages 775 culverts, varying from wood, corrugated steel, precast concrete and other materials. Wood and corrugated steel are not suitable materials for a culvert and are no longer used. The City has an annual culvert replacement program to replace failing culverts; however, it is a challenge to keep up with the rate of failure due to Drainage Reserve funding constraints that will continue for the next 12 years until the annual funding targets are achieved.

Note that some parcels already have more than one culvert, which were likely installed prior to the Drainage System Protection Bylaw No. 2266 adoption in 2008. The previous Drainage Regulation Bylaw No. 1385, 1990 did not limit the number of culverts.

Relevant Policy, Bylaw or Legislation:

City of Pitt Meadows Drainage System Protection Bylaw 2266, 2007

Analysis:

Some of the recent requests for additional driveway access and culverts seemed reasonable after considering various factors. In multiple cases, safety and maintaining farmland were the main reasons for additional culvert requests. It can be important to separate different types of users to and from a site and allowing access to different areas of a property can avoid adding an internal road. On agricultural properties, an internal road could take away from farmland, in particular when the developments are quite a distance from each other. The Pitt Meadows Airport has also requested additional crossings due to the considerable changes and growth to its land use with developments occurring amongst farmed areas. The current Drainage System Protection Bylaw does not provide for any variance or exemption to the number of culverts.

Staff then conducted background research and looked at the regulations and processes other municipalities had in place. Processes and bylaws from the City of Langley, City of Maple Ridge, City of Richmond and the City of Abbotsford were reviewed. For the majority of these municipalities, a second culvert can be considered with further review and where certain criteria are met such as a corner lot, minimal distance between access point, and/or minimum lot size. Maintenance responsibilities of the additional culvert(s)

varied: Maple Ridge and Abbotsford took ownership and Richmond outlined that the responsibility was with the homeowner fronting the watercourse.

With this information, staff looked at allowing more than one culvert on corner lots and establishing culvert limits for medium and large size properties. See the map outlined in Attachment B, which shows corner lots over 40,000m² and 175,000m² and the associated crossings. Amongst the corner lot properties between 40,000 and 175,000m², 8 properties have 1 culvert and 11 properties already have 2 or more culverts. Allowing two culverts per lot within this category could result in potentially 8 additional culvert requests. Corner lot properties over 175,000m² consist of 3 properties with 1 culvert and 9 properties with 2 or more culverts.

As outlined in the proposed bylaw amendment outlined in Attachment A, staff are recommending that requests for a second culvert on corner lot properties over 40,000m² be considered, as well as, two or more culverts on properties over 175,000m². Prior to approval of any requests by the Director, the following criteria will be considered and supporting reports may be required:

- Impact on the operation of the City's drainage system
- Impact and/or support of agricultural activities
- Environmental Impacts
- Road type, as the number of access points on an arterial road or truck route should be minimized
- Traffic flow and proximity to intersections or other access points to ensure safe operation
- Minimizing the number of crossings per property

Staff recommend that the owner of the property fronting the watercourse be responsible for the cost of maintenance and replacement. As with all culvert requests, the cost of installation would also be the responsibility of the owner. The City or their selected contractor would complete installation, maintenance and replacement work. This approach would ensure that there is sufficient maintenance budget for the culverts the City currently manages and it would alleviate the potential of an increased burden to the general taxpayers. It would also discourage unnecessary requests.

As the replacement or maintenance cost of culverts varies and the service life of a concrete culvert is expected to be 50-75 years, implementation of an upfront maintenance fee for a new culvert is not feasible. Staff recommend additional culverts be registered against the property with a restrictive covenant outlining that the property owner is responsible for all maintenance and replacement costs. This will notify new property owners of their responsibilities in relation to the additional culvert. These culverts would be tracked as a private asset in the City's system to ease administration efforts.

Housekeeping items have also been proposed in the amendment to reference the appropriate bylaws and clarify associated provincial approvals.

COUNCIL STRATEGIC PLAN ALIGNMENT

- Principled Governance Balanced Economic Prosperity Corporate Excellence
 Community Spirit & Wellbeing Transportation & Infrastructure Initiatives
 Not Applicable

FINANCIAL IMPLICATIONS

- None Budget Previously Approved Referral to Business Planning
 Other

The property owner/applicant would be responsible for the cost of installation, maintenance and replacement of such culvert(s) and any associated costs for registering the covenant.

For information, the City's annual capital budget for culvert replacement is approximately \$150,000 and the operating budget for ongoing maintenance and inspection of the culverts is \$62,900.

PUBLIC PARTICIPATION

- Inform Consult Involve Collaborate Empower

The public would be informed of this amendment and the website would be updated with the consolidated bylaw.

KATZIE FIRST NATION CONSIDERATIONS

Referral Yes No

SIGN-OFFS

Written by:

Katia Robichaud, Engineering
Technologist

Reviewed by:

Salia Ahrabian, Manager of Engineering &
Facilities

ATTACHMENTS:

- A. Drainage System Protection Bylaw Amendment No. 2875, 2021
- B. Pitt Meadows Corner Lot Culverts Map

CITY OF PITT MEADOWS
DRAINAGE SYSTEM PROTECTION AMENDMENT BYLAW
No. 2875, 2021

A bylaw to amend a portion of Drainage System Protection Bylaw
 No. 2266, 2007

WHEREAS it is deemed expedient to amend Drainage System Protection Bylaw No. 2266, 2007;

NOW THEREFORE the Council of the City of Pitt Meadows enacts as follows:

1. This Bylaw may be cited as the "Drainage System Protection Amendment Bylaw No. 2875, 2021".
2. The Drainage System Protection Bylaw No. 2266, 2007 is amended as follows:
 - a) Under Section 6.0 PERMITS, a new subsection 6.4 is added as follows:
 - 6.4 The owner requesting a watercourse crossing shall retain a Qualified Environmental Professional (QEP) to confirm applicable approvals from other government authorities and agencies and obtain such approvals prior to the Director's approval.
 - b) Under Section 9.0 CULVERTS, subsection 9.3 is deleted and replaced with the following:
 - 9.3 Every culvert installed, subsequent to adoption of this bylaw, shall be constructed and installed by the City, or its contractor, in accordance with the Subdivision & Development Servicing Bylaw No. 2589, as amended, and all associated installation costs shall be the responsibility of the property owner fronting the drainage system.
 - c) Under Section 9.0 CULVERTS, subsection 9.6 is deleted and replaced with the following:
 - 9.6 Number of Culverts
 - a. Each parcel shall contain no more than one driveway access and culvert over a key ditch.

- b. Despite Section 9.6(a), for parcels on a corner lot and greater than 40,000 square meters, a second culvert over a key ditch may be permitted by the Director, based on consideration of the following criteria and any supporting reports prepared by a qualified professional to support such assessments, which the Director may require:
 - i. Impact on the operation of the City's drainage system;
 - ii. Impact and/or support of agriculture activities;
 - iii. Environmental impacts;
 - iv. Road type, traffic flow and proximity to intersections, other culverts or access points.

 - c. Despite Section 9.6(a), for parcels on a corner lot and greater than 175,000 square meters, more than two culverts over a key ditch may be permitted by the Director, based on consideration of the following criteria and any supporting reports prepared by a qualified professional to support such assessments, which the Director may require:
 - i. Impact on the operation of the City's drainage system;
 - ii. Impact and/or support of agriculture activities;
 - iii. Environmental impacts;
 - iv. Road type, traffic flow and proximity to intersections, other culverts or access points.

 - d. Despite subsections 9.6(b) and 9.6(c), the number of culverts will be minimized, wherever possible.

 - e. The property owner fronting the drainage system shall be responsible for all maintenance and/or replacement costs for culverts permitted under subsections 9.6(b) and 9.6(c) and such maintenance and replacement requirements shall be determined by the City.
- d) Under Section 13.0 Sediment Control, a new subsection 13.2 is added as follows:
- 13.2 All construction shall adhere to best management practices as outlined in Section A.4.11, subsection iii of the Subdivision and Development Servicing Bylaw No. 2589.

READ a FIRST and SECOND time on [DATE].

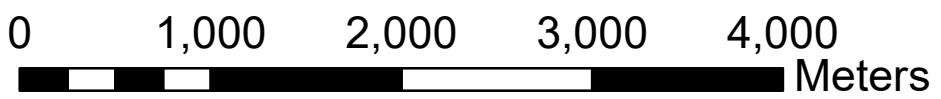
READ a THIRD time on [DATE].

ADOPTED on [DATE].

Bill Dingwall
Mayor

Kate Barchard
Corporate Officer

Pitt Meadows Corner Lot Culverts



Corner Lot Areas (sq m)	Corner Lot Culvert Count
 40,000 - 175,000 sq m	 1 Existing Culvert
 Larger than 175,000 sq m	 2 or More Existing Culverts

