

REPORT

Engineering Services

To: Mayor Johnstone and Members of Council
Date: November 27, 2023

From: Lisa Leblanc
Director, Engineering Services
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Item #: 2023-753

Subject: Pavement Restoration Policy

RECOMMENDATION

THAT Council endorses the Pavement Restoration Policy and;

THAT Council direct staff to incorporate the proposed standards in future updates to the Subdivision & Development Control Bylaw.

PURPOSE

To create a policy for the regulation and administration of pavement cuts by Third Party Utility Companies within the City of New Westminster (hereinafter called the “City”) road network.

SUMMARY

This report provides information to support updated pavement restoration standards and the accompanying collection of pavement degradation fees for pavement utility cuts. The updated pavement restoration standards align with best practices and are commonly used by numerous municipalities across the region. Pavement restoration standards ensure high quality and consistent repairs, while degradation fees contribute to offsetting road rehabilitation costs required to account for the reduced pavement useful life caused by the cuts.

BACKGROUND

Pavement useful life typically ranges between 15 and 35 years, depending on traffic volumes, vehicle loading, maintenance activities and pavement structure. The City, builders, developers, and private utility companies (e.g. BC Hydro, Fortis Gas, Telus, Shaw) all cut and repair pavement to install underground services. Utility cuts reduce pavement's useful life primarily due to the increased risk of water infiltrating into the joint, causing loss of pavement strength and failure (e.g. potholes). The pavement ride quality and appearance decrease as the number of patchwork instances increases.

Pavement restoration policies, including standards and degradation fees, are commonly used throughout the region to manage utility cuts. A pavement restoration standard sets minimum standards for temporary and permanent pavement restoration, which apply to anyone making a utility cut in the pavement. A pavement degradation fee compensates for performance loss with funds typically directed toward a road rehabilitation program.

In the past, the City has typically stipulated pavement restoration requirements in Municipal Access Agreements with each third party utility company. This practice has led to inconsistencies in pavement restoration practices, especially with outdated Municipal Access Agreements. Developing a Pavement Restoration Policy provides a consistent and best-practice approach to pavement restoration for all third-party utility cuts across the City. Current City practices follow the Master Municipal Construction Document (MMCD) minimum pavement restoration standard, which recommends restoring municipal roads by paving the trench width plus 200mm from the broken edge of the trench. However, the MMCD standard does not include important details such as the extent of paving required when the edges of the trench repair are located in a wheel path or the amount of asphalt needed to be orphaned on the edge of the road (e.g. small strips of pavement left adjacent to the curb or shoulder). An update to the current MMCD restoration standard used in the City is required to include these critical details.

DISCUSSION

Pavement cuts occur when utility pipes and conduits are installed or repaired by trench excavation in existing roads. Typically, utility upgrades are completed in advance of road upgrade works. However, some pavement cuts are inevitable when utility connections are required subsequent to the road upgrade works (e.g. as a result of redevelopment of adjacent land). This results in sections of the road with a patchwork of repairs.

To better coordinate road upgrade works and minimize pavement cuts, the City and external parties exchange information during the project planning stage. City staff make information on construction and road projects available to third parties at the earliest possible time during planning and design. The City's ongoing and planned projects are mapped on its Projects & Events map, which is available to staff and the public to facilitate coordination. The City's Capital Projects web page also provides information on approved projects' design and construction status. Additionally, staff contact external parties to schedule annual meetings to review upcoming projects.

Pavement Restoration

Pavement restoration standards apply to anyone making a road cut to ensure high quality and consistent repairs, minimizing road degradation. Degradation fees encourage the scheduling of utility cuts prior to paving works as well as the use of trenchless or other technologies that do not damage existing pavement structures.

Pavement failures can occur due to inadequate compaction of the trench backfill, insufficient paving extents or cracking at the pavement cut joints. The establishment of enhanced pavement restoration standards can address these issues and minimize pavement failures. Any pavement cut repair's success depends on adequate notification and inspection to ensure proper construction techniques are followed. As such, modifying the existing notification process and incorporating a basic level of inspection by City staff is proposed to support compliance.

Proposed Pavement Restoration Policy

The proposed policy includes additional details on paving standards and clear instructions on the restoration to be completed on third-party utility projects. The proposed standards would also be applied as best practice in pavement restoration works by all others who cut into pavements, including City forces and developers.

For a typical trench excavation, the proposed requirements for pavement restoration include but are not limited to:

- Permanent pavement restoration will be to a full lane width and minimum 2.0 meters in length in the direction of travel;
- Restoration of excavations that are within 4.0 meters of each other in the same lane shall be combined;
- The edge of all permanent restoration shall be at an intersecting lane line, centerline, painted line, or edge of pavement;
- Permanent restoration of small excavations that are within 2.0 meters of each other in the same lane shall be combined and restored as a standard excavation;
- Final restoration area of small excavations shall be at minimum a 1.2 meter by 1.2 meter square or diamond.

Pavement Degradation Fee

Improved pavement restoration standards will assist in restoring the road to good condition; however, they will not prevent long-term degradation of the road. Trench excavation disturbs the adjacent ground, which weakens the existing pavement support. Literature research by the American Public Works Association (Pavement Degradation –

How Other Cities are Dealing with It, September 2002) has found that utility cuts can reduce the life of pavement by 20 to 56 percent, with poorer pavement cut restoration techniques resulting in even shorter pavement life. Degradation fees compensate for the reduced pavement life and are currently charged by several Metro Vancouver municipalities, including Vancouver, Coquitlam, Surrey, Abbotsford, Burnaby and Langley.

The City currently collects pavement degradation fees from third-party utility companies; no new fees or changes are proposed. However, staff recommend that the internal processes for collecting the fees be improved and that the degradation fees be used to offset the cost of the pavement management program.

NEXT STEPS

Staff propose implementing the Pavement Restoration Policy for all pavement cuts following endorsement by Council. Furthermore, Staff will include the proposed pavement restoration standards in a future update to the Subdivision and Development Control Bylaw No. 7412, 2007.

SUSTAINABILITY IMPLICATIONS

The proposed pavement management policy supports Council's strategic priority for Asset Management and Infrastructure by maximizing infrastructure reliability to ensure long-term financial health.

FINANCIAL IMPLICATIONS

The City currently collects pavement degradation fees from third-party utility companies during the permit application process. No new fees or changes are proposed. However, pavement cut degradation fee revenue will be tracked and transferred to the General Fund Capital Reserve to help fund the Pavement Management Program.

Staff have identified opportunities to improve the internal inspection and collection process for degradation fees, which is expected to result in increased revenue to offset some of the costs required for pavement restoration.

INTERDEPARTMENTAL LIAISON

The preparation of this report includes liaison with the Finance department as well as input from the Operations, Design & Construction and Development Services sections of the Engineering Department.

OPTIONS

The following options are presented for Council's consideration:

1. THAT Council endorses the Pavement Restoration Policy and;
2. THAT Council direct staff to incorporate the proposed standards in future updates to the Subdivision & Development Control Bylaw
3. THAT Council provide Staff with alternative directions.

Staff recommend options #1 and #2.

CONCLUSION

Pavement rehabilitation standards ensure high quality and consistent repairs, while degradation fees assist in offsetting road rehabilitation costs for reduced pavement life. This approach encourages the scheduling of utility cuts prior to paving, or the use of trenchless technologies, to avoid incurring the additional costs associated with standards and fees. A Pavement Restoration Policy will allow for the regulation and administration of pavement cuts by Third Party Utility Companies within the City of New Westminster.

ATTACHMENTS

Attachment 1 - Pavement Restoration Policy

APPROVALS

This report was prepared by:
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This report was reviewed by:
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This report was approved by:
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