CITY OF VANCOUVER

POLICY REPORT
ENVIRONMENT

Report Date:	September 8, 2015
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TO: Standing Committee on City Finance and Services

FROM: The Manager of Environmental Planning in consultation with City Manager, the General Manager of Engineering Services, the General Manager of Real Estate and Facilities Management, and the General Manager of Community Services

SUBJECT: Environmental Standards for City Streets

RECOMMENDATION

A. THAT this policy supersede the 2001 *Soils Remediation on City Streets* (RTS No. 1580);

B. THAT contamination in City streets and laneways be remediated to Industrial Land Use Standards as defined in the BC *Contaminated Sites Regulation*, and that the top 1m of soil in boulevards and street medians be remediated to Residential Land Use Standards to protect soil quality for urban agriculture, with Industrial Land Use below the first 1m; and

C. THAT at the discretion of the City Manager or delegate, the City may accept a risk-based approach to remediation on City streets rather than physical remediation, provided the Ministry of Environment issues a risk-based Certificate of Compliance, the proponent enters into a Remediation Agreement with the City, and that the City is provided adequate financial security. The Remediation Agreement is to be on terms to the satisfaction of the Director of Legal Services, the Manager of Environmental Planning, and the General Manager of Engineering Services.

REPORT SUMMARY

The purpose of this report is to update the City's current policy (as detailed in the July 12, 2001 Policy Report (RTS No. 1580)) to reflect evolving Provincial Regulations and industry best practices. The 2001 Policy Report proposed remediation standards

specific to City streets which were more stringent than those required under the BC Ministry of Environment's *Contaminated Sites Regulation*. The intention of this difference in standards was to lower the City's cost for contaminated soil management and disposal as required during excavation work in City streets. However, this difference between the Provincial Regulation and the City standards has had unintended consequences, which include:

- a reluctance of private property owners to undertake remediation in a timely way due to the significant cost of achieving Residential Land Use standards in City streets;
- incidents where private property owners don't achieve the standard due to a lack of understanding of the City's policy;
- a potential risk to City infrastructure due to much more extensive excavation required to meet the standards;
- the limited use of risk management as an approach to mitigating environmental risk in City streets, which is inconsistent with evolving best practice in contamination management; and
- a lack of consistent evidence that the City is saving any money with the current standard.

A review of other BC municipalities confirmed that all other municipalities require the Provincial Standard (Industrial Land Use) for remediation of streets.

Staff reviewed other factors that need to be considered in recommending change to the policy. For example, and change in standard needs to reflect the increasing interest in urban agriculture activities on street boulevards and medians and potential impacts on human health. These factors have been taken into consideration and the proposed new standard reflects this.

Accordingly, City staff recommends amendment of the environmental standards applied to City streets/laneways to Industrial Land Use, and Residential Land Use standards for the top 1m of boulevards and street medians, to protect soil quality for urban agriculture, with Industrial Land Use below the first 1m.

This change will have a positive impact on the City's Greenest City Action Plan by reducing the volume of excavated soil being sent to landfills and greenhouse gas emissions associated with soil transportation. The change will reduce road closure disruptions to the public and the cost to industry associated with remediation activities required to meet the more stringent environmental standards. The current policy recommends approval by the City Manager of a risk-based approach to remediation in City streets and the new policy proposes that the authority to approve a risk-based approach for remediation of contamination in City streets be in the authority of the City Manager or delegate.

This policy supersedes the 2001 *Soils Remediation on City Streets* (RTS No. 1580).

COUNCIL AUTHORITY/PREVIOUS DECISIONS

In January 1990, Council adopted an interim policy for dealing with soil contamination issues pending the development of Provincial legislation and regulations.

In April 1997, after enactment of the Waste Management Act and its accompanying *Contaminated Sites Regulation*, and corresponding changes to the Vancouver Charter, Council directed staff to review its policies for contaminated sites for compliance with the legislation.

In July 2001, the Standing Committee on Planning & Environment approved the *Soils Remediation on City Streets* Policy (RTS No. 1580) which recommended:

- City streets be remediated to the Residential Land Use standard for the top 3m and to the Commercial Land Use standard below 3m, and at the discretion of the City Manager, the City may require the Residential standard throughout;
- at the discretion of the City Manager, the City may accept cash payment to offset future transportation and disposal costs of soil in City streets that meet the commercial standards below 3m; and
- at the discretion of the City Manager, the City may accept contamination on City streets that are risk assessed rather than physically remediated, provided the Risk Assessment/Management Plan has been approved by the Ministry of Environment and an Off-Site Soils Agreement remains on title. This agreement to be to the satisfaction of the Director of Legal Services, the General Manager of Engineering Services, and the City Manager.

In 2010, Council adopted the Greenest City Action Plan that includes goals to reduce solid waste, take action to contribute towards a lighter footprint, and support local food goals.

In January 2013, Council adopted the Vancouver Food Strategy that includes goals and targets to enable urban agriculture including urban farming and community gardening.

Council authority is required to amend City policy.

CITY MANAGER'S/GENERAL MANAGER'S COMMENTS

The General Manager of Engineering Services RECOMMENDS approval of the foregoing Recommendation.

REPORT

Background/Context

When environmental contamination migrates from one property onto another (including streets), the owner of the contamination source site is responsible to remediate all associated contamination, not just that on their property. The BC Contaminated Sites Regulation (CSR) stipulates environmental standards based on land use, including: Agricultural, Urban Park, Residential, Commercial, and Industrial.

Under the CSR, streets (including boulevards and street medians) are considered an Industrial land use, thus remediation in streets must be completed to the applicable standards.

In July 2001, the Standing Committee for Planning & Environment approved the *Soils Remediation on City Streets* Policy (RTS No. 1580) which recommended: City require specific remediation standards for its streets, which were more stringent than with those prescribed in the CSR; that City may accept cash payment to offset future contaminated soil disposal costs; and that City may accept risk assessment of contamination in City streets rather than physical remediation.

The City has allowed risk assessment of contamination in City streets in some instances, utilizing a formal application and review process to evaluate the risks to the City and feasibility associated with allowing risk assessment.

Strategic Analysis

The original issue (i.e., soil disposal costs) identified in the 2001 policy is being addressed through City practice of soil disposal at the Vancouver Landfill where City does not pay a tipping fee. Worker safety has been enhanced through policy, procedures, and training specifically related to contamination management in excavation areas. There is no documented proof that the more stringent standards protect subsurface infrastructure.

The Green Operations initiative for use of recycled backfill reduces the amount of soil/rubble waste sent to landfill and virgin soil required for backfill, as well as greenhouse gas emissions associated with soil transportation. Application of the current, more stringent standards to Engineering's practices would limit the City's ability to use recycled backfill, as the material does not meet those standards because it is comprised of recycled native soils, crushed concrete, and crushed asphalt. While the small pieces of concrete and asphalt do not represent mobile contamination, they are inherently measured in laboratory analysis, resulting in the overall quality of the recycled backfill exceeding Residential Land Use standards, but not Industrial Land Use standards.

Urban agriculture, specifically the installation of garden beds in boulevards, street medians, and traffic circles has become common in Vancouver and is a use permitted by the City in response to policy contained in the Greenest City Action Plan and the Vancouver Food Strategy. The City's *Boulevard Gardening* and *Growing Food on City Boulevards* guidelines stipulate garden beds are to be raised and to contain new, clean soil if used for food production.

The evidence indicates that 80-90% of plant roots are found in the top layer (60cm) of soil, and the vast majority (90-99%) of all tree (including fruit) roots occur in the top 1m. However, the uptake of contaminants and the uptake of contaminants in plants and trees is limited. Staff have concluded there is a negligible risk to the public given the minimal risk of contamination in the top 2-3m of soil in boulevards and street medians, particularly in residential areas where boulevard gardening is most common..

The BC Ministry of Environment, Vancouver Coastal Health and the Vancouver Food Policy Council have reviewed and are supportive of the proposed amendments to the environmental standards for City streets. They agree with Staff's conclusions and are not concerned with the proposed amendments from the perspective of food safety, food policy, or environmental health.

Changing the environmental standards for streets to Industrial Land Use will:

- more closely align with the BC *Contaminated Sites Regulation*;
- protect soil quality for urban agriculture in boulevards and street medians;
- reduce waste (soil) generation;
- reduce greenhouse gas emissions;
- reduce confusion in industry;
- align City Policy with operations; and
- provide potential to produce more recycled backfill and decrease City's cost for virgin backfill.

Risk assessment is a scientifically-accepted and best practice approach to remediation of environmental contamination. It involves the calculation of levels of risk to human, ecological, and environmental health if contaminants remain in place. It is one of two ways landowners/operators can manage contamination under the *Contaminated Sites Regulation* and is commonly used in industry. The practice is commonly approved by the BC Ministry of Environment for use on private land throughout the city. Risk assessments are site-specific, thus each is unique to the site for which it is prepared and takes into consideration the contaminant types, concentrations, potential human and ecological receptors, and potential exposure pathways. It is a cautious but practical model that acknowledges that the presence of a contaminant may not necessarily constitute a risk, or removing contaminants may not always be possible. Risk assessment, where feasible, is a more sustainable approach to remediation, in contrast to the classic excavation and disposal model as it results in little to no contaminated soil and/or groundwater being transported offsite for disposal.

The risk assessment approach to remediation creates a potential risk for the City as owner of City streets with respect to future contamination management or remediation costs, if necessary, associated with any contaminants allowed to remain in City streets.

The City is mitigating the risk associated with allowing contamination to remain in City streets through a formalized process to review and approve a proponent's requests to use a risk-based approach to remediation of their contamination in City streets. The process includes standard application requirements and submissions, a standardized review process, and a risk matrix utilized to determine the type(s) of financial or other security required by the City in order to allow risk assessment, if technically feasible and approved by the BC Ministry of Environment. Applications are submitted to the City's Contaminated Sites Technical Team and, if viable and acceptable to the Contaminated Sites Team, Legal Services, and Engineering, the applications are submitted to the City Manager for approval. The risk assessment approach gives the City the flexibility to approve rational and sustainable approaches to remediation in City streets, while protecting infrastructure and not exposing the City and its taxpayers to unreasonable levels of financial risk and liability. Extending approval

authority to a delegate of City Manager is a practical approach to manage capacity and risk, and to avoid delays in the approval process.

Under the current policy, only the City Manager has the authority to grant approval of a risk-based approach to remediation in City streets. Given the range of complexity and risk to the City, depending on the specific application, Staff recommend City Manager have the discretion to delegate approving authority of an application, if warranted.

Implications/Related Issues/Risk (if applicable)

Financial

Amending the environmental standard for City streets as proposed will align current practices with Policy. There is no financial implication to the recommended amendments but it should be noted that costs for the purchase and transportation of virgin backfill would increase if the policy were not amended and practices were aligned with the current Policy, as recycled backfill does not meet the more stringent, current environmental standards.

Environmental

The CSR contains conservative, science-based standards for physical remediation and risk assessment, developed to protect human health (including that of excavation workers) and the environment. There is no associated impact to human health or the environment by amending the environmental standard for City streets as proposed, to more closely align with the CSR, or with allowing risk assessment of contamination where feasible and approved by the BC Ministry of Environment. The proposed amendment to apply Residential land use standards to the top 1m of boulevards and street medians is more stringent than the standards applicable under environmental legislation and further protects soil quality for current and future urban agriculture. City staff, in conjunction with the BC Ministry of Environment, Vancouver Coastal Health, and the Vancouver Food Policy Council, have researched plant growth, contaminant uptake and bioaccumulation, and the process through which the CSR standards were developed, and are confident the proposed amendments provide adequate protection of environmental and human health, including urban agriculture in City boulevards and street medians as the proposed standards provide an added level of protection above current urban gardening guidelines.

CONCLUSION

In support of the 2012-2014 Corporate Business Plan's goal to "lead the way on green issues", staff have been revising and creating policies and procedures to ensure improved consistency and alignment of environmental practices. Accordingly, staff recommend the City amend its environmental standards such that contamination in City streets and laneways be remediated to Industrial Land Use standards, as defined in the BC *Contaminated Sites Regulation*, and that the top 1m of soil in boulevards and street medians be remediated to Residential Land Use standards to protect soil quality

for urban agriculture, with Industrial Land Use below the first 1m. Further, staff recommends that authority to approve risk assessment of contamination in City streets be extended to a delegate of City Manager, if warranted in the circumstances.

This policy supersedes the 2001 Soils Remediation on City Streets (RTS No. 1580, CC File No. 3759).

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