

## MILLSTREAM MEADOWS REMEDIATION PROJECT CURRENT STATUS AND NEXT STEPS

By advancing several investigations in parallel, significant progress has been made toward completing the detailed site investigation (DSI) and delineating contamination, which is a requirement of the BC Ministry of Environment and Climate Change Strategy (ENV).

The following summarizes the current status of required investigations:

- The extent of contamination in overburden (i.e., surficial) soil and shallow groundwater is well understood and delineated.
- Recent investigations confirmed that deep groundwater contamination extends northward onto neighbouring property and formal notification was provided pursuant to regulatory obligations.
- Staff have submitted an application for an approval under the Waste Discharge Regulation to ENV to facilitate the reuse of marginally contaminated stockpiled soil, in accordance with the Contaminated Sites Regulation. On-site reuse of this soil will eliminate the need for costly offsite disposal.
- Bedrock investigations completed since 2015 have greatly improved the understanding of complexities in bedrock hydrogeology and contaminant distribution at the site. In 2018, ENV suggested that the Capital Regional District (CRD) seek an exemption from the requirement to vertically delineate groundwater contamination to depths greater than 100 m above sea level. Once formalized, this exemption will eliminate additional costly vertical investigation.
- Groundwater contamination in bedrock extends further west than anticipated and additional investigations will be required to complete lateral delineation. Contamination has been successfully delineated to the north, east, and south.
- In bedrock groundwater, some elevated metals may require additional investigation to confirm that they are naturally occurring.

### **NEXT STEPS**

The table below summarizes the major project milestones, as presented in the 2016 project plan and the current schedule, as of Q1 2019. That plan anticipated DSI and risk assessment activities that would delineate groundwater contamination, evaluate the stability of the contaminated groundwater plume, and assess potential pathways to receptors. These are key requirements of a risk based remedial approach to obtain a Certificate of Compliance, and also serve to ensure that the CRD's potential liabilities are fully addressed. The 2016 plan projected that delineation would be complete in 2018. Site conditions (contamination) have proven to be more complex than anticipated, extending remedial investigations and activities into 2020. This is in part due to two additional tasks that are now required to meet certification requirements, stockpile reuse and capping.

<b>Milestones</b>	<b>Due Date (2016)</b>	<b>Due Date (Q1 2019)</b>	<b>Status</b>
Rezoning and planning support	2015-2020	2015-2020	in progress
Historic data review, data gaps and refining the conceptual site model	Q2 2016	2016	complete

<b>Milestones</b>	<b>Due Date (2016)</b>	<b>Due Date (Q1 2019)</b>	<b>Status</b>
Detailed site investigation	2016-2018	2016-2020	in progress
Remediation/risk assessment planning and estimating	2018	2018	complete
Remediation/human health and ecological risk assessment	2018-2020	2018-2020	not started
Stockpile reuse (including ENV approval)	n/a	2020	in progress
Capping mitigation	n/a	2020	in planning
Contaminated Sites Approved Professional review and submission services	2019-2020	2020	not started
Certificate of compliance	2019-2020	2020	not started

The next stages of work to be conducted in 2019 and 2020 include:

- Lateral delineation toward the west through deep bedrock drilling. Wells will be placed based upon information gathered to date and using methods consistent with the Science Advisory Board for Contaminated Sites in BC.
- Relocation and reuse of stockpiled contaminated soil onsite once ENV approval is received.
- Capping of select areas to prevent exposure to contaminants in shallow soil. This mitigation is necessary to demonstrate compliance with Contaminated Sites Regulation risk based standards and achieve a certificate of compliance.
- Consultant DSI reporting of investigations, and remediation to meet ENV requirements.
- Detailed human health and ecological risk assessment to support application for a risk-based certificate of compliance.