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February 28, 2017

Project: 134052

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ATTENTION: John Driedger, P.Eng.
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REFERENCE: **Performance Verification Plan,
Mall Management Area, including the Former Shell Lease Property,
4750 Rutherford Road, Nanaimo, BC, Location Code: C11493,
Site ID: 16848**

SNC-Lavalin Inc. (SNC-Lavalin) has prepared this Performance Verification Plan (PVP) in support of an application for a Certificate of Compliance (CofC) for the Mall Management Area, which includes the Former Shell Lease Property, located at 4750 Rutherford Road, Nanaimo, BC, BC Ministry of Environment (MoE) Site ID: 16848 (herein referred to as the "MA"). The MA is owned by 1854 Holdings Ltd. The PVP presents the principal risk controls that apply at the MA to ensure the CofC for the MA remains valid (i.e., the key risk controls of Schedule B of the CofC). The PVP was prepared in accordance with MoE Procedure 12: Procedures for preparing and issuing contaminated sites legal instruments (2015a) and Administrative Guidance 14: Performance Verification Plans, Contingency Plans and Operations and Maintenance Plans (2015b).

Principal Risk Controls

A Human Health and Ecological Risk Assessment (HHERA) was conducted for the MA, and the results are presented in the SNC-Lavalin report, *Human Health and Ecological Risk Assessment, Former Shell Lease Property, 4750 Rutherford Road, Nanaimo, BC and Adjacent Management Area, Location Code: C11493*, prepared by SNC-Lavalin, (SNC-Lavalin, 2017a). The HHERA was prepared based on the findings and conclusions presented in the SNC-Lavalin report, *Stage 1 & 2 Preliminary Site Investigation, Detailed Site Investigation, Decommissioning, and Remedial Program, Former Shell Lease Property, 4750 Rutherford Road, Nanaimo, BC and Adjacent Management Area* (SNC-Lavalin, 2017b).





The principal risk controls for the MA on which the SNC-Lavalin (2017a) risk assessment was based, as presented in Schedule B of the CofC, is as follows:

- › Groundwater from the MA¹ must not be used as a drinking water source.
- › Any future building constructed to a depth greater than 4 m bgs will include a perimeter drainage system to prevent groundwater contact with the slab of the building and any sumps associated with the perimeter drainage system will be vented to the exterior of the building.

Other assumptions have been made throughout the HHERA (SNC-Lavalin, 2017a), but are not considered risk controls. These assumptions include that land use/general grade at the MA will remain consistent with current. As these assumptions were used in the site assessment/investigation to determine the presence and absence of Contamination, these assumptions are not considered to be risk controls and are not further discussed in the PVP.

Determination of Procedure 12 Remediation Type

Based on the principal risk control for the MA (i.e., the use of an institutional control to mitigate/eliminate risks at the MA and lack of imminent risks in the event that the control was either not implemented or was rendered ineffective), the Remediation Type applicable at the MA is considered to be Type 2.

Under a Remediation Type 2 scenario, MoE (2015a; 2015b) indicates that a PVP is required.

Performance Verification Plan

A PVP is required to ensure that the principal risk control upon which the HHERA is based is being met at the MA.

This includes maintaining up-to-date records of performance verification actions and results for the MA being kept by the responsible person (or their agents). If requested by the Director, the responsible person (or their agents) will provide these records to the MoE. As well, if requested by the Director, responsible person(s) will provide a signed statement on whether conditions set out in this Schedule B are being met.

Performance verification actions for the MA include the following:

- › Communication with the owner/operator that Contaminated groundwater from the MA must not be used for drinking water purposes. The MA is currently comprised of paved and unpaved areas. The current and future uses of the MA are commercial and industrial² outdoor. Groundwater at the MA is not used for drinking water purposes (including bathing/showering, cooking, gardening, drinking, etc.) and is not anticipated to be used for these purposes in the future, with drinking

¹ The MoE documents (Certificate of Compliance and Summary of Site Condition) use 'site' vs. 'MA' in the risk control; however, for clarity and so as not to be confused with the Shell Site, MA has been used here.

² For access roadways.





water supplied to the area by a municipal water distribution system. It is considered unlikely that groundwater will be used for drinking water purposes in the future.

Based on the above, an advisory that groundwater at the MA must not be used for drinking water purposes is considered appropriate to meet this risk control. The listing of this risk control in Schedule B of the CofC meets this requirement. In summary, it is our opinion that an advisory in Schedule B of the CofC is sufficient for addressing this principal risk control at the MA.

- › Communication with the owner/operator that any future building constructed to a depth greater than 4 m bgs will include a perimeter drainage system to prevent groundwater contact with the slab of the building and any sumps associated with the perimeter drainage system will be vented to the exterior of the building. Development plans are unknown for the MA (although a CTC gas station is being considered per a March 14, 2016 letter) and currently buildings at the MA are limited to slab on grade construction. However, at the request of the property owner, the evaluation of buildings > 4 m bgs was conducted, in case such was constructed in the future. The HHERA concluded that risks would be acceptable, below CSR standards, if the foundation of the future building was not in contact with groundwater. It was assumed that the presence of a perimeter drainage system with sumps vented to the exterior would be expected to result in no groundwater contact with the building foundation and lack of preferential pathways to the building interior.

Based on the above, an advisory that any future building constructed to a depth greater than 4 m bgs will include a perimeter drainage system to prevent groundwater contact with the slab of the building and any sumps associated with the perimeter drainage system will be vented to the exterior of the building is considered appropriate to meet this risk control. The listing of this risk control in Schedule B of the CofC meets this requirement. In summary, it is our opinion that an advisory in Schedule B of the CofC is sufficient for addressing this principal risk control at the MA.

References

- MoE. 2015a. Procedure 12. Procedures for preparing and issuing contaminated sites legal instruments. BC Ministry of Environment, Victoria, BC, December, 2015.
- MoE. 2015b. Administrative Guidance 14: Performance Verification Plans, Contingency Plans and Operations and Maintenance Plans. BC Ministry of Environment, Victoria, BC, December, 2015.
- SNC-Lavalin. 2017a. *Human Health and Ecological Risk Assessment, Former Shell Lease Site, 4727 Rutherford Road, Nanaimo, BC, and Adjacent Management Area. Location Code: C11493*, prepared by SNC-Lavalin Inc., dated February 28, 2017.
- SNC-Lavalin. 2017b. *Stage 1 & 2 Preliminary Site Investigation, Detailed Site Investigation, Decommissioning, and Remedial Program, Former Shell Lease Site, 4727 Rutherford Road, Nanaimo, BC and Adjacent Management Area*. prepared by SNC-Lavalin Inc., Environment & Geoscience, dated February 22, 2017.





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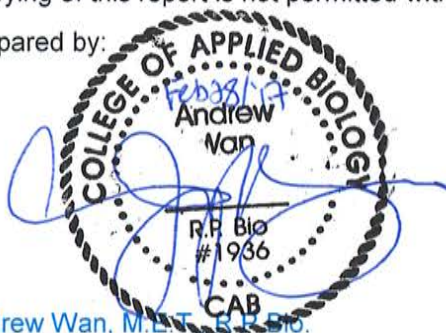
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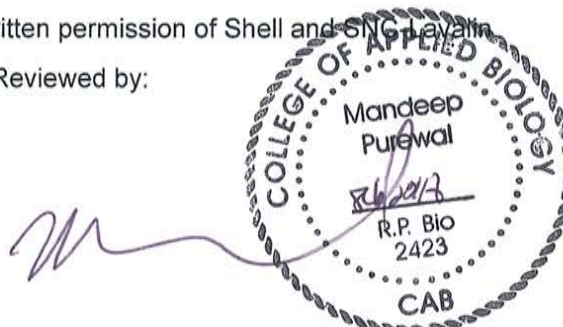
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