

THE CITY OF EDMONTON
PROJECT AGREEMENT
VALLEY LINE LRT – STAGE 1

Schedule 10

Environmental Performance Requirements

*Edmonton Valley Line LRT – Stage 1
Project Agreement – Execution Draft
Schedule 10 – Environmental Performance Requirements
Date: February 8, 2016*

SCHEDULE 10

ENVIRONMENTAL PERFORMANCE REQUIREMENTS

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Schedule 10

ENVIRONMENTAL OBLIGATIONS

1.1 ENVIRONMENTAL OBLIGATIONS - GENERAL

- (1) Unless otherwise expressly stated, the requirements in this Schedule apply to all aspects of the Project, Project Work, Infrastructure and Lands and to all activities of Project Co and the Project Co Persons under this Agreement and apply throughout the Term.
- (2) Project Co shall comply with, observe, satisfy and perform all obligations set out in this Schedule and all other environmental obligations arising under this Agreement, Environmental Laws and other Applicable Laws, and Environmental Permits and other Project Approvals with respect to the Project, Project Work, Infrastructure, Lands and all activities of Project Co and Project Co Persons under this Agreement, except only those obligations specifically identified in this Agreement as being the obligation of the City ("**Project Co's Environmental Obligations**"). This provision does not limit or affect Project Co's rights under Section 13 [*Relief Events*] of the Project Agreement and the allocation of costs with respect to Contamination and Hazardous Substances will be based on Section 1.12(9) [*Contaminated Sites*], Section 1.12(10) [*Contaminated Sites*] and Section 1.13(6) [*Hazardous Substances and Waste Management*] of this Schedule and Section 13 [*Relief Events*] of the Project Agreement.
- (3) Regardless of whether or not expressly so stated in any provision of this Agreement, Project Co shall cause all Project Co Persons to comply with Project Co's Environmental Obligations and Project Co shall be responsible for any failure by a Project Co Person to comply with any of Project Co's Environmental Obligations.
- (4) Notwithstanding that the responsibility for any environmental obligation, requirement, mitigation, offset or compensation may not specifically be identified in this Agreement as an obligation of Project Co, Project Co shall be responsible, at its own cost and risk, for complying with all environmental obligations and requirements and performing all environmental mitigation, offset and compensation arising out of, associated with, or that must be addressed with respect to the Project, Project Work, Infrastructure, Lands and all activities of Project Co and Project Co Persons under this Agreement, except only those environmental obligations, requirements, mitigation, offset or compensation requirements specifically identified in this Agreement as being the responsibility of the City. This provision does not limit or affect Project Co's rights under Section 13 [*Relief Events*] of the Project Agreement and the allocation of costs with respect to Contamination and Hazardous Substances will be based on Section 1.12(9) [*Contaminated Sites*], Section 1.12(10) [*Contaminated Sites*] and Section 1.13(6) [*Hazardous Substances and Waste Management*] of this Schedule and Section 13 [*Relief Events*] of the Project Agreement.
- (5) NOT USED.
- (6) Project Co agrees that the City owns all credits, offsets, allowances, certificates, units, or other rights or benefits of any kind whatsoever resulting from or related to the actual or assumed

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reduction, displacement or offset of GHGs, carbon emissions and any other similar environmental credits, allowances, entitlements, rights or benefits arising from or associated with the Project or the Project Work (the “**GHG and Environmental Benefits**”) and Project Co hereby transfers and assigns all GHG and Environmental Benefits to the City and waives any and all right, title and interest of Project Co in any GHG and Environmental Benefits. “**GHG**” means any gas that is a “specified gas” as defined under the Alberta *Climate Change and Emissions Management Act*.

1.2 ENVIRONMENTAL MANAGEMENT MANDATE

(1) The Project occurs within the boundaries of, or will otherwise have an impact on, the following areas (“**Sensitive Areas**”) that are highly valued by the City and the citizens of Edmonton for the biophysical resources they support and socio-economic amenities they provide:

- a) the NSRVS; and
- b) SE402.

Project Co shall ensure that all aspects of the Project and the Project Work and all activities of Project Co and the Project Co Persons are carried out in a manner that minimizes, to the maximum extent feasible, adverse impacts to the Sensitive Areas, areas adjacent to the Sensitive Areas and all biophysical and socio-economic resources in the Sensitive Areas and areas adjacent to the Sensitive Areas.

“Biophysical and socio-economic resources” include those resources defined as “Valued Ecosystem Components,” “Valued Socio-Economic Components” and “Valued Historic Components” in the EISA.

Project Co shall ensure that in the NSRVS, Project Co undertakes only those activities that are necessarily incidental to, and that are solely required for, Construction, Operation and Maintenance of the Infrastructure located in the NSRVS.

- (2) Outside the Sensitive Areas, the Lands contain a variety of environmental resources and sensitivities. Project Co shall ensure that, outside the Sensitive Areas, all aspects of the Project and the Project Work and all activities of Project Co and the Project Co Persons are carried out in a manner that minimizes, to the extent reasonable, adverse impacts to the Lands and to areas adjacent to the Lands and to the environment and environmental resources within the Lands and adjacent areas.
- (3) Project Co shall ensure that all aspects of the Project, Project Work and all activities of Project Co and the Project Co Persons under this Agreement are carried out in accordance with Environmental Best Management Practices and Project Co and the Project Co Persons will not do or permit to be done anything which is inconsistent with Environmental Best Management Practices.
- (4) Without limiting any of the other provisions of this Schedule, Project Co shall ensure that all aspects of the Project, Project Work and Infrastructure and all activities of Project Co and the

Project Co Persons under this Agreement comply with all Environmental Laws and Environmental Permits. In cases where any requirement in this Agreement conflicts with an Environmental Law, the Environmental Law shall prevail. Where requirements in this Agreement differ from, but do not conflict with, an Environmental Law, the more stringent requirement shall prevail. This Agreement does not conflict with an Environmental Law unless Project Co can demonstrate that it is not possible to comply with this Agreement without breaching the Environmental Law. All federal and provincial codes, policies, guidelines, and standards expressly referred to in this Schedule, including Alberta Transportation Special Provision SPE 20 and all guidelines and standards specified in that Special Provision SPE 20, are deemed to be “Applicable Laws” for all purposes of this Agreement.

- (5) Sections 1.2(1) to 1.2(4) of this Schedule comprise the “**Environmental Management Mandate**” for the Project.

1.3 ENVIRONMENTAL MANAGEMENT PERSONNEL

- (1) Project Co shall ensure that all activities undertaken by or on behalf of Project Co and any Project Co Person to comply with Project Co’s Environmental Obligations, including all environmental monitoring and development of all environmental mitigation measures and plans, are carried out by personnel with directly relevant and appropriate experience, training and expertise to complete the work in a way that ensures that the Environmental Management Mandate is met. Without limiting the foregoing, this applies to all employees and personnel working on Project Co’s behalf and all environmental managers, environmental specialists and all environmental sub-consultants engaged for specific environmental management, protection or monitoring tasks.
- (2) Project Co shall appoint an Environmental Manager and Project Co shall ensure that the Environmental Manager has responsibility and authority for: (i) ensuring that Project Co and all Project Co Persons comply with Project Co’s Environmental Obligations, (ii) overseeing and directing all aspects of Project Co’s environmental program for the Project, including the development and implementation of all plans and procedures required to ensure such compliance and to monitor and verify such compliance, (iii) overseeing the environmental auditing program as required under this Schedule and Schedule 9 *[Quality Management]*, (iv) for ensuring that all reports required under this Agreement with respect to compliance with Project Co’s Environmental Obligations are prepared and delivered as required, and (v) stopping any or all of the Project Work if any environmental monitoring, inspection or audit indicates that the Project Work does not comply with any of Project Co’s Environmental Obligations.
- (3) The Environmental Manager shall have the following qualifications, as a minimum:
- a) have a bachelor degree or a higher degree in an appropriate field, such as biology, ecology, environmental engineering or natural resources management;
 - b) a minimum of 10 years of experience in project management and environmental management, including two years of experience with major projects in urban settings;

- c) experience acting as an environmental manager or equivalent position on at least one infrastructure project in North America involving a public-private partnership structure and having an estimated capital cost of at least \$500 million; and
 - d) experience with ISO 140001 environmental management systems and environmental construction operations plans prepared under the ECO Plan Framework or equivalent tool.
- (4) The Environmental Manager shall be a Key Individual and shall be subject to the requirements of Schedule 26 *[Representatives and Key Individuals]*.
- (5) Project Co shall ensure that the Environmental Manager is present at all Sites a sufficient amount of time to demonstrate a working knowledge of the on-Site work, the status of the Project Work and all environmental issues and conditions associated with the Project, the Project Work, the Infrastructure and the Lands.
- (6) Project Co shall have available at all times during the Term, a multi-disciplinary team of qualified environmental specialists sufficient to ensure compliance by Project Co with Project Co's Environmental Obligations. Without limiting the foregoing, the environmental team must include those specialists specifically identified in this Schedule.

1.4 ENVIRONMENTAL ASSESSMENT REQUIREMENTS

- (1) Without limiting Project Co's general obligation to comply with Bylaw 7188, Project Co shall file a request for review pursuant to Bylaw 7188 for:
- a) any proposed modification to lands or facilities or any other proposed construction or disturbance of lands outside the boundaries of the Lands shown in Figures 1 and 2 attached at Appendix 10A *[Figures]* and within the boundaries of the area subject to Bylaw 7188; and
 - b) any eastward extension of the Project outside the Lands directly east of 75th Street where the Lands are adjacent to the area subject to Bylaw 7188,
- and shall comply with all requirements imposed pursuant to Bylaw 7188 in response to that request for review.
- (2) Without limiting Project Co's general obligation to comply with the City Environment Policy described in Section 1.5(2)(b) *[City Environmental Requirements]* of this Schedule, Project Co shall file an application for an environmental review in accordance with the City Environmental Policy described in Section 1.5(2)(b) *[City Environmental Requirements]* of this Schedule for any proposed modification to lands or facilities or any other proposed Construction or disturbance of lands within SE402 and outside the boundaries shown in Figure 2 *[Lands in Bylaw 7188 Area at Mill Creek, and at SE402 (Policy C531) Area]* attached at Appendix 10A *[Figures]* to this Schedule and Project Co shall comply with all requirements established pursuant to that environmental review.

1.5 CITY ENVIRONMENTAL REQUIREMENTS

- (1) Without limiting Project Co's obligation to comply with all Applicable Laws, Project Co shall ensure that all aspects of the Project, Project Work, Infrastructure and all activities of Project Co and the Project Co Persons under this Agreement comply in all respects with the following bylaws as amended, supplemented or replaced from time to time (the "**City Environmental Bylaws**"):
- a) North Saskatchewan Area Redevelopment Plan Bylaw 7188 ("**Bylaw 7188**");
 - b) Community Standards Bylaw 14600;
 - c) Drainage Bylaw 16200;
 - d) Parkland Bylaw 2202;
 - e) Vehicle Idle Control Directive A1477;
 - f) Waste Management Bylaw 13777;
 - g) any other City bylaw listed in any section of this Schedule; and
 - h) any other bylaw of the City relating in whole or in part to the protection of the Environment whether introduced before or after the Effective Date.
- (2) Without limiting Project Co's obligation to comply with all Applicable Laws, Project Co shall ensure that all aspects of the Project, Project Work, Infrastructure and all activities of Project Co and the Project Co Persons under this Agreement comply in all respects with the following policies and guidelines (the "**City Environmental Policies**"):
- a) the City's Environmental Management System known as "ENVISO", including the Contractor's Environmental Responsibilities Package;
 - b) Natural Area Systems Policy C531;
 - c) Environmental Policy C512;
 - d) Corporate Tree Management Policy C456A;
 - e) Development Setbacks from River Valley/Ravine Crests Policy C542;
 - f) Urban Traffic Noise Policy C506A;
 - g) Greenhouse Gas Emission Reduction Plan;
 - h) Sustainable Building Policy C532;
 - i) City of Edmonton Wildlife Passage Engineering Design Guidelines;

- j) Environmental Construction Operations (ECO) Plan Framework: Instructions for Preparing ECO Plans for Alberta Transportation, City of Calgary and City of Edmonton Construction Projects (“**ECO Plan Framework**”);
 - k) Sustainable Purchasing Policy C556;
 - l) City of Edmonton Erosion and Sedimentation Control Guidelines and Erosion and Sedimentation Control Field Manual;
 - m) Integrated Pest Management Policy C501; and
 - n) City of Edmonton Policy C409H Snow and Ice Control.
- (3) In case of any conflict among criteria, commitments or requirements among or between any of the City Environmental Bylaws and the City Environmental Policies, the more stringent criteria, commitment or requirement applies.
- (4) In cases where a City Environmental Policy is directed at the City or activities conducted by the City, for the purposes of this Agreement, Project Co is required to conduct the Project, Project Work and all activities of Project Co and Project Co Persons in the same manner as the City would have to conduct that activity in order to comply with the City Environmental Policy.
- (5) Subject to Section 13.6(d) [*Designated Change in Laws, Policies and Permits*] of the Project Agreement, Project Co’s obligation to comply with City Regulatory Policies includes an obligation to comply with the City Regulatory Policies as amended, replaced, extended or consolidated from time to time.

1.6 RESPONSIBILITY FOR FURTHER ENVIRONMENTAL STUDIES

- (1) In addition to the specific plans, studies and reports referred to in this Schedule, Project Co shall conduct all studies required to comply with Environmental Laws, to obtain or comply with an Environmental Permit or to otherwise ensure and to demonstrate that the Project, Project Work, Infrastructure and all activities of Project Co and Project Co Persons under this Agreement comply with Project Co’s Environmental Obligations and the Environmental Management Mandate.

1.7 ENVIRONMENTAL PERMITTING REQUIREMENTS

- (1) Project Co shall be responsible for obtaining all Environmental Permits and shall fully comply with all terms and conditions in all Environmental Permits.
- (2) Project Co shall comply with the requirements in Schedule 28 [*Project Approvals and URP Matters*] with respect to all Environmental Permits.
- (3) If there is any conflict between the requirements of this Schedule and the requirements in any Environmental Permit, the requirements in the Environmental Permit shall prevail. For the purposes of this Section 1.7(3) [*Environmental Permitting Requirements*], a conflict does not exist

unless Project Co can demonstrate that compliance with a requirement in this Schedule would result in a breach of an Environmental Permit.

1.8 ENVIRONMENTAL MANAGEMENT SYSTEM

1.8.1 General

- (1) Project Co shall develop an Environmental Management System (“EMS”) that:
 - a) complies with the requirements of the ISO 14001 standard for environmental management systems, all applicable Environmental Laws and other Applicable Laws, the City Environmental Bylaws and the City Environmental Policies;
 - b) covers all aspects of the Project and the Project Work, including all design, purchases, activities, products and services related to the Project and the Project Work, and all stages of the Project and the Project Work, specifically:
 - i. Design
 - ii. Construction
 - iii. Operation and Maintenance;
 - c) sets out policies, procedures, standards, methods and measures Project Co will implement that are sufficient to ensure compliance with all applicable Environmental Laws, Environmental Permits, City Environmental Policies, Project Co’s Environmental Obligations and the Environmental Management Mandate;
 - d) nominates at a minimum, an Environmental Monitor and contains detailed descriptions of the roles, responsibilities and authorities of all personnel performing activities related to Project Co’s Environmental Obligations and the required qualifications for all persons performing those activities, and the procedures for ensuring that all personnel possess those qualifications and perform those tasks in compliance with Project Co’s Environmental Obligations and the Environmental Management Mandate;
 - e) contains all Environmental Plans required under this Schedule; and
 - f) does not create any risk that the City will lose the ISO 14001 certification for the City’s environmental management system.
- (2) Project Co shall submit the EMS for the Design and Construction phase of the Project Work to the City concurrent with the submission of the Design Management Plan as required under Schedule 4 [*Design and Construction Protocols*]. Project Co shall submit the EMS for Operation and Maintenance as specified in Section 1.23(2) [*Environmental Matters Specific to Operating Period*] of this Schedule.

- (3) The initial submission of the EMS as required under Section 1.8.1(2) *[General]* of this Schedule may be limited to those elements of the EMS and those Environmental Plans that apply to any Project Work that is scheduled to commence within 120 days after the Effective Date.
- (4) Any elements of the EMS and any Environmental Plans that are not included in the initial submission under Section 1.8.1(2) *[General]* of this Schedule must be submitted to the City by the earlier of: (a) a date that is at least 30 days prior to the scheduled commencement date of the Project Work that will be addressed in, or subject to, the EMS or Environmental Plan; and (b) the date specified in Section 1.8.2(1) *[Environmental Plans]* of this Schedule for submission of an Environmental Plan with each Work Package.
- (5) Project Co shall not start any Project Work that involves any physical disturbance of the Lands (other than physical disturbance required for site investigations or testing where that testing complies with Section 1.10(1) *[Site Clearing, Demolition and Dust Control]* of this Schedule and where the total disturbance associated with that testing is less than 5% of the Lands and, in the case of testing in the NSRVS and SE402, is less than 5% of the Lands within the NSRVS and SE402) until all elements of the EMS and all Environmental Plans applicable to that Project Work have been submitted to the City as a Submittal under Schedule 2 *[Submittal Review Procedure]* and have been “Accepted” or deemed “Accepted” under Schedule 2 *[Submittal Review Procedure]*.
- (6) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with the EMS at all times during the Term.
- (7) Project Co shall promptly amend the EMS from time to time during the Term as required to ensure that the EMS is appropriate for the status and stage of the Project Work and complies with any amendments to the ISO 14001 standard for environmental management systems or any new ISO standard for environmental management systems that replaces the ISO 14001 standard, any amended or new Environmental Laws or Environmental Permits, any changes to the City Environmental Bylaws or the City Environmental Policies and any new policies or standards implemented by the City with respect to environmental protection, and in response to any breach of Project Co’s Environmental Obligations to minimize the risk of future breaches of Project Co’s Environmental Obligations.
- (8) Project Co shall submit each amendment to the EMS to the City and shall not commence any Project Work that is affected by the amendment until the amendment has been “Accepted” or deemed “Accepted” by the City under Schedule 2 *[Submittal Review Procedure]*.

1.8.2 Environmental Plans

- (1) Without limiting any of the other requirements of this Section 1.8 *[Environmental Management System]*, as part of the EMS, Project Co shall develop environmental plans required to address all environmental aspects, risks, objectives, targets, issues, and specifications identified in this Schedule and as otherwise required to ensure that Project Co, the Project, the Project Work, Infrastructure, and all activities of Project Co under this Agreement comply with Project Co’s Environmental Obligations and the Environmental Management Mandate, including the ECO Plan

and all other environmental plans required under or otherwise specifically identified in this Schedule (each an “**Environmental Plan**”). Without limiting any other provision of this Schedule, Project Co shall develop an Environmental Plan for each Work Package and shall submit that Environmental Plan to the City concurrent with the submission of that Work Package to the City in accordance with Schedule 4 [*Design and Construction Protocols*]. The Environmental Plan that accompanies a Work Package may cross-reference appropriate portions of the EMS, ECO Plan or other Environmental Plans prepared in accordance with this Schedule.

- (2) Project Co shall ensure that each Environmental Plan: (a) describes the potential environmental effects associated with the aspects of the Project, Project Work, Infrastructure, and the activities of Project Co that are the subject of the Environmental Plan, (b) clearly documents all measures that will be implemented and all actions that will be taken to mitigate those potential environmental effects, and (c) describes all inspections, testing, monitoring and reporting that will be conducted to ensure compliance with the Environmental Plan.
- (3) Project Co shall ensure that all Environmental Plans are updated regularly to address new environmental aspects, risks, objectives, targets, issues and specifications that arise during the Project and the Project Work and as required to ensure the Environmental Plans meet the requirements of Section 1.8.2(5) [*Environmental Plans*] of this Schedule and in response to any breach of Project Co’s Environmental Obligations to minimize the risk of future breaches of Project Co’s Environmental Obligations.
- (4) Without limiting Section 1.8.2(3) [*Environmental Plans*] of this Schedule, Project Co shall ensure that all Environmental Plans are reviewed at the ISO 14001 annual management review.
- (5) Project Co shall ensure that all Environmental Plans are contained within the EMS and that all Environmental Plans comply with, and contain policies, procedures, measures and monitoring requirements sufficient to ensure that the Project, the Project Work, Infrastructure, Lands and all activities conducted by Project Co and the Project Co Persons will comply with:
 - a) all Environmental Laws and Environmental Permits;
 - b) the City Environmental Bylaws and the City Environmental Policies;
 - c) Project Co’s Environmental Obligations;
 - d) the Environmental Management Mandate; and
 - e) the specific objectives and requirements specified in this Schedule for each Environmental Plan.
- (6) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with all Environmental Plans.
- (7) Project Co shall submit each amendment to the Environmental Plans to the City and shall not commence any Project Work that is affected by an amendment until the amendment has been “Accepted” or deemed “Accepted” by the City under Schedule 2 [*Submittal Review Procedure*].

1.8.3 Environmental Construction Operations Plan

- (1) Project Co shall develop, implement, maintain, monitor, update, manage and ensure compliance with an Environmental Construction Operations Plan (“**ECO Plan**”) in accordance with all requirements of the Environmental Construction Operations (“ECO”) Plan Framework – Alberta Transportation/The City of Calgary/The City of Edmonton – Current Edition and the requirements of this Schedule, including the requirements of Section 1.8.2 [*Environmental Plans*] of this Schedule.
- (2) The ECO Plan shall include written procedures and drawings identifying the environmental protection issues and impacts associated with Construction and measures, plans and procedures to avoid, minimize and mitigate environmental impacts of Construction and monitoring programs to verify compliance with those measures, plans and procedures. For each component of the ECO Plan, the level of detail in the ECO Plan shall be commensurate with the site sensitivities, complexities and issues, and the potential magnitude of impact that may result from Construction, including potential accidents or poor practices. Where there are material site sensitivities or material complexities associated with particular Construction activities or potential material impacts, discrete plans addressing particular resources, geographic locations or Project activities shall be provided in the form of ECO Plan chapters or appendices.
- (3) In addition to those matters specifically identified in the ECO Plan Framework, the ECO Plan shall also contain measures, procedures and plans to address the following specific Project aspects, issues, activities and site sensitivities:
 - a) the approvals and regulatory compliance section of the ECO Plan shall include measures to ensure compliance with Bylaw 7188 and the *Historical Resources Act*;
 - b) topsoil and excavated materials handling, including storage and replacement;
 - c) borrow pit excavations and reclamation;
 - d) tunnelling activities;
 - e) dust control;
 - f) vegetation clearing, establishment and management (including weed control);
 - g) wildlife conflict and movement management strategies;
 - h) potential impacts to water bodies and aquatic resources;
 - i) fire response procedures for natural areas and fire hazard abatement measures to minimize fire risk in natural areas;
 - j) removal, abandonment, relocation and installation of URP Infrastructure, including:
 - i. procedures for pipeline abandonment, relocation, removals and installations,

- ii. procedures for sewer abandonments, relocations, removals, and relocations,
- iii. procedures for removal, relocation and installation of electrical cables, panels, and other similar installations,

applicable to all Project-related URP Infrastructure removals, abandonments, relocations and installations occurring within and outside the boundaries of the Lands;

- k) water management, including surface water run-off management, groundwater management, wastewater management, Stormwater Management, and dewatering procedures and protocols;
 - l) procedures for snow and ice removal, storage and disposal;
 - m) waste management;
 - n) environmental emergency response and management procedures, including spill kit requirements and other emergency response equipment requirements; and
 - o) all other plans specified in this Schedule.
- (4) Project Co shall ensure that all plans listed or required under this Section 1.8.3 [*Environmental Construction Operations Plan*] of this Schedule comply with any specific requirements in this Schedule for the plan or the subject area covered by the plan and with the requirements specified in Section 1.8.2 [*Environmental Plans*] of this Schedule for Environmental Plans.
- (5) Project Co shall submit the ECO Plan to the City within 60 days after the Effective Date. Site-specific or hazard-specific Environmental Plans contained within the ECO Plan may be omitted from the initial submission of the ECO Plan in accordance with Section 1.8.1(3) [*General*] of this Schedule but must be submitted to the City within the time specified in Section 1.8.1(4) [*General*] of this Schedule.
- (6) Project Co shall ensure that the ECO Plan is updated regularly to address new Project Work activities or Construction areas and to address all new environmental aspects, risks, objectives, targets, issues and specifications that arise during the Project and the Project Work and as required to ensure the ECO Plan meets the requirements of Section 1.8.2 [*Environmental Plans*] of this Schedule and in response to any breach of Project Co's Environmental Obligations to minimize the risk of future breaches of Project Co's Environmental Obligations. Project Co shall submit each amendment to the ECO Plan to the City and shall not commence any Project Work that is affected by an amendment until the amendment has been "Accepted" or deemed "Accepted" by the City under Schedule 2 [*Submittal Review Procedure*].

1.8.4 Environmental Compliance Monitoring and Inspection Programs

- (1) Project Co shall appoint one or more Environmental Monitors and Project Co shall ensure that the Environmental Monitors have responsibility and authority for: (i) developing and implementing all environmental monitoring and inspection plans and programs as required under this Schedule

and Schedule 9 [*Quality Management*], (ii) implementing the environmental auditing program as required under this Schedule and Schedule 9 [*Quality Management*], (iii) ensuring that the results of all monitoring, inspection and audits are reported as required under Environmental Laws and to the City as required under this Agreement; and (iv) stopping any or all of the Project Work if any environmental monitoring, inspection or audit indicates that the Project Work does not comply with any of Project Co's Environmental Obligations.

- (2) Project Co shall ensure that the EMS, ECO Plan and all other Environmental Plans include detailed environmental monitoring and inspection programs that are sufficient to verify, at reasonable intervals (taking into account the sensitivity and complexity of the particular area and/or issue and applicable requirements under Environmental Laws, Environmental Permits, and City Environmental Policies), compliance with all of Project Co's Environmental Obligations, including all Environmental Plans. The documented programs shall include a description of:
- a) the scope of the monitoring and inspection programs, including site inspections by the Environmental Monitor;
 - b) proposed location of all monitoring, including the proposed location of all monitoring wells and other monitoring installations to be installed by Project Co. The conduct of any monitoring outside the City Lands, including installation of any monitoring well or other monitoring equipment, is subject to the provisions of Section 4.16.4 of the Project Agreement;
 - c) frequency of inspection and monitoring events and rationale for frequency, including a detailed plan and schedule for any proposed sampling by Project Co of any existing monitoring wells located on City Lands;
 - d) listing of applicable performance requirement criteria (including requirements under Environmental Laws, Environmental Permits, City Environmental Policies and Environmental Plans);
 - e) methodologies for monitoring, measurement, analysis and evaluation, including identification of all labs that will be used for testing purposes, all of which labs shall have all certifications and qualifications required under Environmental Laws and the Alberta *Laboratory Data Quality Assurance Policy* and *Alberta Environment Laboratory Data Quality Assurance Policy Procedures and Guidelines*, as amended from time to time;
 - f) reporting procedures;
 - g) responsibilities and requirements for conducting inspections, monitoring programs, reporting results and follow-up actions; and
 - h) procedures for addressing any breach of Project Co's Environmental Obligations, including any additional monitoring that would be undertaken following any such breach to mitigate the risk of a further breach of Project Co's Environmental Obligations.

- (3) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with the environmental monitoring and inspection programs in the EMS and all Environmental Plans.
- (4) Each Monday during the Construction Period or, where Monday is not a Business Day, the next Business Day thereafter, Project Co shall submit a report to the City describing the results of all monitoring and inspection completed during the immediately preceding 7 day period ending on Sunday, attaching copies of all raw field monitoring sheets and raw data, test results and analysis received during that 7 day period, describing any breaches of, or failures to comply with, any of Project Co's Environmental Obligations, including any Environmental Plan, and describing the measures taken by Project Co to address that breach or failure to comply, including any amendments made by Project Co to the EMS or any Environmental Plan to prevent a reoccurrence of the breach or failure to comply. From the Service Commencement Date to the Termination Date, Project Co shall submit a report to the City under this Section on the fifth day of each month, or where that day is not a Business Day, the first Business Day thereafter and each such report shall contain the information required under this Section for the immediately preceding calendar month.
- (5) Without limiting Section 1.8.4(4) [*Environmental Compliance Monitoring and Inspection Programs*] of this Schedule, Project Co shall within 12 hours after (i) Project Co or a Project Co Person knows of any breach of, or failure to comply with, any Environmental Law or Environmental Permit by Project Co or any Project Co Person, or (ii) receipt of any charge, order, investigation or notice of violation or non-compliance issued against Project Co or any Person Co Person under any Environmental Law or Environmental Permit, or (iii) Project Co or a Project Co Person knows of any notice, claim, action or other proceeding by any Person or Governmental Authority against Project Co or any Project Co Person alleging any liability under any Environmental Law, verbally notify the City describing the breach or failure to comply, or the charge, order, investigation or notice of violation or non-compliance, or the notice, claim, action or other proceeding and the measures taken by Project Co to address the situation and Project Co shall submit a written report to the City within 72 hours after any of the foregoing. Where any breach or failure to comply with an Environmental Law or Environmental Permit requires a written report to any Governmental Authority under any Environmental Law or other Applicable Law, Project Co shall be responsible for completing and filing that report and Project Co shall submit a copy of the proposed report to the City within 72 hours after the incident and Project Co shall not submit the report to the Governmental Authority before the earlier of (i) the date on which either the City has "Accepted" or is deemed to have "Accepted" the report under Schedule 2 [*Submittal Review Procedure*], provided that in this case, the time for the City's review under Schedule 2 [*Submittal Review Procedure*] is 72 hours, or (ii) the last date for filing the report with the Governmental Authority under the Environmental Law or other Applicable Law.
- (6) Where any breach of or failure to comply with any of Project Co's Environmental Obligations occurs, Project Co shall promptly review the EMS and Environmental Plans and amend the EMS and Environmental Plans as required to prevent the reoccurrence of the breach or failure to comply.

- (7) If Project Co encounters any monitoring wells in the Lands during Construction, then:
- (a) if completion of Construction requires excavation to the full depth of the well, Project Co may remove the well during excavation for Construction except as noted in Section 1.12(6)(b) [*Contaminated Sites*] of this Schedule with respect to monitoring wells described in that Section; or
 - (b) if completion of Construction does not require excavation to the full depth of the well, Project Co shall over drill the well with an auger size that is greater than 6 inches, remove the PVC casing and sand pack and the resulting hole shall then be filled with bentonite.

Project Co shall not remove, alter, damage or destroy any monitoring wells installed by or on behalf of the City in the Lands following the Service Commencement Date.

1.8.5 Internal EMS Audit

- (1) Project Co shall undertake internal EMS compliance audits in accordance with ISO 14001 at six month intervals after the Effective Date until the Service Commencement Date, with the first such audit to be completed by the date that is 180 days after the Effective Date and the second such audit to be completed by the first anniversary of the Effective Date and continuing thereafter at six month intervals until the Service Commencement Date. After the Service Commencement Date, Project Co shall undertake internal EMS compliance audits at 12 month intervals with each such audit to be completed within 30 days after the anniversary of the Service Commencement Date.
- (2) Project Co shall ensure that the auditor follows the Guidelines for Auditing Management Systems, ISO 19011, as amended or substituted from time to time.
- (3) Without limiting any other requirements of this Section 1.8.5, Project Co shall ensure that the audit assesses whether all input requirements have been adhered to, whether the EMS is implemented and in compliance with all requirements of this Schedule and whether Project Co and all Project Co Persons have complied with the EMS and shall document any failures to comply with any of the foregoing.
- (4) Without limiting or otherwise affecting the provisions of Schedule 9 with respect to Nonconformities and in addition to the requirements of that Schedule, all EMS Nonconformities and Deficiencies and opportunities for improvements identified by the internal EMS auditor during the audit shall be addressed and corrective measures implemented by Project Co within 30 days after the completion of the audit, or if correction cannot be completed within 30 days using best efforts, and provided that Project Co is diligently proceeding with corrective measures, within such longer period as is reasonably required to complete those corrective measures using best efforts.
- (5) Project Co shall ensure that an audit report is prepared for all internal audits and that the Environmental Manager signs each audit report to acknowledge the audit findings. Project Co shall submit each internal EMS audit report to the City with the Environmental Manager's signature on the report within seven days after completion of the audit.

- (6) Without limiting or otherwise affecting the provisions of Schedule 9 *[Quality Management]* with respect to Nonconformities and in addition to the requirements of that Schedule, Project Co shall submit evidence of the correction of any EMS Nonconformities and Deficiencies and opportunities for improvements identified in the audit to the City within 30 days after completion of the audit and at each 30 day interval thereafter until all Nonconformities and Deficiencies have been corrected and all opportunities for improvements implemented.

1.8.6 External EMS Audit

- (1) In addition to the internal audits required under Section 1.8.5 *[Internal EMS Audit]* of this Schedule, Project Co shall undertake external EMS compliance audits in accordance with ISO 14001. Project Co shall ensure that a full external EMS audit is completed in each year during the Term with the first external audit to be completed within 30 days after the date specified in Section 1.8.5(1) *[Internal EMS Audit]* of this Schedule for completion of the second internal audit after the Effective Date and thereafter within 30 days after every second internal audit until the Service Commencement Date. After the Service Commencement Date, Project Co shall undertake a full external EMS audit by the date that is 60 days after each anniversary of the Service Commencement Date.
- (2) Project Co shall ensure that all external audits are conducted by an EMS auditor certified by an accredited auditors' registration body. The auditor shall not be an employee of Project Co or any Project Co Person and shall not be an employee of an entity that has a material contract with Project Co or any Project Co Person or an entity that is affiliated with, or related to, any such entity. Project Co shall ensure that the auditor is qualified to conduct an audit of the full scope of the EMS.
- (3) Project Co shall ensure that the audit process follows the Guidelines for Auditing Management Systems ISO 19011, as amended or substituted from time to time.
- (4) Without limiting any other requirements of this Section, Project Co shall ensure that the audit assesses whether all input requirements have been adhered to, whether the EMS is implemented in compliance with all requirements of this Schedule and whether Project Co and all Project Co Persons have complied with the EMS and shall document any failures to comply with any of the foregoing.
- (5) Project Co shall ensure that an audit report is prepared for all external audits and that the Environmental Manager signs each audit report to acknowledge the audit findings. Project Co shall submit each external EMS audit report to the City with the Environmental Manager's signature on the report within seven days after completion of the audit.
- (6) Without limiting or otherwise affecting the provisions of Schedule 9 *[Quality Management]* with respect to Nonconformities and in addition to the requirements of that Schedule, all EMS Nonconformities, Deficiencies and opportunities for improvements identified by the external EMS auditor during the audit shall be addressed and corrective measures implemented by Project Co within 30 days of the completion of the audit, or if correction cannot be completed within 30 days using best efforts, and provided that Project Co is diligently proceeding with corrective measures,

within such longer period as is reasonably required to complete those corrective measures using best efforts.

- (7) Without limiting or otherwise affecting the provisions of Schedule 9 [*Quality Management*] with respect to Nonconformities and in addition to the requirements of that Schedule, Project Co shall submit evidence of the correction of any EMS Nonconformities and Deficiencies and implementation of the opportunities for improvements identified in the audit to the City within 30 days after completion of the audit and at each 30 day interval thereafter until all EMS Nonconformities and Deficiencies have been corrected and all opportunities for improvements implemented.

1.8.7 EMS Document Submissions

- (1) Project Co shall submit current copies of the following EMS documentation to the City on each anniversary of the Effective Date or the first Business Day thereafter: legal and other requirements registry; objectives, targets & programmes; operational control procedures; emergency procedures; aspect registry; system procedures; competency registry; scope statement and annual management review minutes and any other documentation required to be maintained under ISO 14001. Project Co shall ensure that all EMS documentation complies with the requirements of ISO 14001.

1.8.8 Third Party Agreements

- (1) Project Co shall ensure that Project Co and all Project Co Persons and the Project, Project Work, Lands, Infrastructure and all activities of Project Co and the Project Co Persons under this Agreement comply with all environmental obligations and requirements of the City in all third party agreements that Project Co is required to comply with under this Agreement, including the Railway Agreements, the Pipeline Agreements, the Utility Agreements and any other agreements entered into by the City that Project Co is required to comply with under this Agreement in each case to the extent included in the Disclosed Data prior to the Financial Submission Date. Following the Financial Submission Date, where the City has entered into an agreement that Project Co is required to comply with under this Agreement, this shall constitute a Change and Project Co shall perform all environmental obligations and requirements the City is required to perform under that third party agreement subject to the provisions of Schedule 13 [*Changes*]. Where the requirements and standards under a third party agreement differ from the requirements and standards under this Schedule 10, the more stringent requirement or standard will prevail. This provision does not limit or affect Project Co's obligation to comply with environmental obligations in third party agreements entered into by Project Co at any time during the Term.

1.9 TEMPORAL RESTRICTIONS ON CONSTRUCTION

1.9.1 Restricted Periods for Vegetation Clearing

- (1) Project Co shall not undertake any vegetation clearing of any kind, including clearing or removal of planted trees, during the period 20 April to 20 August, inclusive, unless:

- a) prior to commencement of clearing, a nest sweep has been completed for the area to be cleared by an avian wildlife biologist with sufficient qualifications to obtain an Alberta Government research permit and collection license and written assurance from the biologist has been submitted to the City confirming that active nests on or near the Lands will not be affected by the proposed vegetation clearing. Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to this Submittal; and
- b) no other breeding wildlife taxa covered by the *Migratory Birds Convention Act*, the *Wildlife Act* or the *Species at Risk Act* will be adversely affected by the proposed vegetation clearing.

Nest sweep results shall be valid for a period of 2-7 days following the sweep, with the specific period to be determined by the avian wildlife biologist based on the nature of the vegetation and the bird species potentially present in that vegetation. If clearing is delayed beyond the period for which the nest sweep is valid, a new nest sweep for the area to be cleared must be undertaken and further written assurance submitted to the City as specified in Section 1.9.1(1)(a) *[Restricted Periods for Vegetation Clearing]* of this Schedule.

- (2) For areas supporting mature woodland (i.e., areas naturally vegetated with trees or shrubs >3 m in height and offering complex vertical habitat), nest sweeps as a means of facilitating clearing during the restricted period described in Section 1.9.1(1) *[Restricted Periods for Vegetation Clearing]* of this Schedule are only permitted during the period between 20 April to 04 May, inclusive, after which nest sweeps will not be accepted and Project Co may not undertake any vegetation clearing of any kind for the remainder of the period described in Section 1.9.1(1) *[Restricted Periods for Vegetation Clearing]* of this Schedule. Areas of mature woodland are:
 - a) all forested areas in Henrietta Muir Edwards Park;
 - b) the slopes south of Connors Road;
 - c) the forest stands north of Connors Road; and
 - d) all areas within SE402.
- (3) During the period 15 February to 19 April, inclusive, Project Co shall not undertake any vegetation clearing in the areas of mature woodland listed in Section 1.9.1(2) *[Restricted Periods for Vegetation Clearing]* of this Schedule or of any other trees anywhere in the Lands unless an avian wildlife biologist with the qualifications described in Section 1.9.1(1)(a) *[Restricted Periods for Vegetation Clearing]* of this Schedule has confirmed in writing that the trees do not have potential to support bird of prey nests or a sweep for active bird of prey nests has been conducted by an avian wildlife biologist with the qualifications described in Section 1.9.1(1)(a) *[Restricted Periods for Vegetation Clearing]* of this Schedule prior to any such clearing and written assurance from the biologist has been submitted to the City prior to commencement of clearing confirming that active nests on or near the Lands to be cleared will not be directly or indirectly affected by clearing. The sweep shall be undertaken within four days prior to clearing. Section 2.2 *[No*

Implementation Prior to Acceptance] of Schedule 2 *[Submittal Review Procedure]* does not apply to this Submittal.

- (4) A Swainson's hawk pair has regularly nested at SE402 but, as of 2013, not within the Lands. To protect nesting Swainson's hawks in SE402 from indirect disturbance, Project Co shall not clear any vegetation of any kind within the boundaries of SE402 during the period between April 15 and May 04 inclusive or the period between August 21 to August 31 inclusive, unless an avian wildlife biologist with the qualifications described in Section 1.9.1(1)(a) *[Restricted Periods for Vegetation Clearing]* of this Schedule submits written confirmation to the City based on appropriate on-site inspections that the hawks are not present at SE402, an avian wildlife biologist with the qualifications described in Section 1.9.1(1)(a) *[Restricted Periods for Vegetation Clearing]* of this Schedule is present on-site at all times during clearing and monitors all clearing and clearing ceases when hawks are observed. As specified in Section 1.9.1(2) *[Restricted Periods for Vegetation Clearing]*, no clearing may occur in areas within SE402 between May 05 and August 20 inclusive. If an active Swainson's hawk nest is present at SE402, no clearing or other Construction activity shall occur within the boundaries of SE402 or within 100 m of the nest until the young are fully-fledged and independent of the nest area, as confirmed in writing by an avian wildlife biologist with the qualifications described in Section 1.9.1(1)(a) *[Restricted Periods for Vegetation Clearing]* of this Schedule and that confirmation has been submitted to the City. Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to this Submittal.
- (5) If nests are identified in the nest sweeps described in this Section, Project Co shall implement suitable spatial and temporal buffers that are adequate to protect the nest and Project Co shall ensure that no clearing occurs within the buffer. The duration and spatial extent of such buffers shall be determined in consultation with AEP and, if required by Environmental Law or other Applicable Law, also in consultation with the Canadian Wildlife Service and confirmation of such consultation together with a description of the resulting buffers shall be submitted to the City.
- (6) If at any time during Construction other breeding wildlife or other species protected under any Environmental Law or other Applicable Laws are found in or near Construction areas, Project Co shall implement suitable spatial and temporal buffers or other measures that are adequate to protect the wildlife or other species and Project Co shall ensure that no Construction occurs within the buffer or that the other identified measures are complied with. The duration and spatial extent of such buffers, or the implementation of alternative protective measures, shall be determined by a wildlife biologist with appropriate qualifications in consultation with AEP and, if the species is subject to federal legislation or regulation, also in consultation with the Canadian Wildlife Service. Confirmation of such consultation together with a description of the resulting buffers shall be submitted to the City. Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to this Submittal.

1.9.2 Restricted Period for Instream Works

- (1) The Restricted Activity Period, as defined in the Alberta *Code of Practice for Water Crossings*, for the NSR is 16 September to 31 July, inclusive. During the Restricted Activity Period, Project Co

shall not undertake any in-stream work in the NSR unless Project Co obtains and complies with all Project Approvals required under Environmental Laws and other Applicable Laws for that work and, in the case of work that is subject to the prohibition in Section 10(1) of the *Code of Practice for Watercourse Crossings* (as amended from time to time), Project Co has obtained a determination and written specifications and recommendations from a qualified aquatic environment specialist in accordance with Section 10(7) of the *Code of Practice for Watercourse Crossings* (as amended from time to time), Project Co submits a copy of that determination and specifications and recommendations to the City prior to commencing the in-stream work and Project Co complies with those specifications and recommendations. For the purposes of this Section 1.9.2(1), the term “qualified aquatic environment specialist” has the meaning in the *Code of Practice for Watercourse Crossings* (as amended from time to time).

1.9.3 Acknowledgment Regarding Project Co Knowledge

- (1) The agreement by Project Co to the foregoing provisions in this Section 1.9 shall not, in and of itself, constitute knowledge of Project Co of the presence on or around the City Lands of animal or plant species protected by Environmental Laws at the Financial Submission Date.

1.10 SITE CLEARING, DEMOLITION AND DUST CONTROL

- (1) Immediately upon commencement of any vegetation clearing, Project Co shall implement erosion and sedimentation control measures that comply with Project Co’s ESC Plan. Project Co may undertake limited site clearing for testing or investigation purposes prior to approval by the City of Project Co’s ESC Plan provided that the area of clearing does not exceed 5 square meters and provided that Project Co ensures that areas within 30 m of any water body or watercourse are cleared by hand or other method that prevents discharge of any soil, silt, sediment or other material to the water body.
- (2) In cases where vegetation clearing on slopes or on a floodplain occurs more than two days in advance of earthworks, vegetation shall be removed only to ground level and root networks shall be left intact until earthworks begin and ESC measures are in place. For the purposes of this provision “earthworks” means excavation, soil stripping, levelling, or fill placement that occurs on a continuous basis to prepare a Site for Construction.
- (3) Except for materials required for habitat enhancement in accordance with Section 1.18.5.3(3)(i) [*Nature Forest Restoration Plan*] of this Schedule, Project Co shall dispose of all vegetation cleared from the Lands in accordance with all Environmental Laws and other Applicable Laws.
- (4) Project Co shall not burn any waste, debris or any vegetation cleared from the Lands.
- (5) In addition to the requirements in Schedule 5 [*D&C Performance Requirements*], Section 1-8.4 [*Project Cleanliness*], Project Co shall ensure that all waste, cleared vegetation and demolition debris is removed from all Lands within the NSRVS within 48 hours after the waste, cleared vegetation or demolition debris is created and from all other Lands within seven days after the waste, cleared vegetation or demolition debris is created.

- (6) Without limiting the obligation to prepare a dust control plan that complies with the requirements of Section 1.8.3 [*Environmental Construction Operations Plan*] of this Schedule, Project Co shall:
- a) minimize dust by employing appropriate dust management measures such as, but not limited to, watering;
 - b) utilize wind fences;
 - c) install vehicle tire and equipment track washing or granular beds designed to remove mud from vehicle tire and equipment tracks at key Site exits as identified in the dust management plan;
 - d) remove mud clods from roadways within 4 hours to prevent sediment release into street catch basins and water courses;
 - e) ensure that any additives used in water for dust control do not contain chemicals with potential to adversely affect any surface water quality or to otherwise cause Contamination.
- (7) Project Co shall conduct all clearing in a manner that ensures there is no damage to, or other adverse impact on, any trees at the margins of, or adjacent to, the cleared areas.
- (8) No clearing shall occur in the Poplar-Manitoba Maple (“PMM”) community intersected by the Lands as shown on Figure 10 [*PMM and MM Plant Communities*] attached at Appendix 10A [*Figures*] of this Schedule. Clearing may occur in the Manitoba Maple (“MM”) community intersected by the Lands as shown on Figure 10 [*PMM and MM Plant Communities*] attached at Appendix 10A [*Figures*] of this Schedule only if Project Co submits a detailed report to the City that explains why clearing in the area is required and that report demonstrates to the satisfaction of the City, acting reasonably, that there is no suitable alternative that does not require clearing and the City, acting reasonably, consents to the proposed clearing. If the report is “Accepted” or deemed “Accepted” by the City, and the City consents to the proposed clearing and the clearing occurs, the cleared area will be considered a Native Forest Restoration Area and subject to all requirements under this Agreement applicable to Native Forest Restoration Areas.

1.11 EROSION AND SEDIMENTATION CONTROL

- (1) Project Co shall include in the ECO Plan an Erosion and Sedimentation Control Plan (“**ESC Plan**”) that applies to all aspects of the Project and the Project Work and that is prepared in accordance with and complies with the requirements of the City of Edmonton Erosion and Sedimentation Control Guidelines and the requirements of Section 1.8.2 [*Environmental Plans*] of this Schedule. The ESC Plan shall contain erosion and sedimentation control requirements, measures and procedures that apply throughout the Lands and shall contain a detailed description of all equipment and materials required for implementation of the ESC Plan.
- (2) As part of the general ESC Plan for the Lands required pursuant to Section 1.11(1) [*Erosion and Sediment Control*] of this Schedule Project Co shall develop site-specific erosion and

sedimentation control plans that comply with the requirements of this Section 1.11 [*Erosion and Sedimentation Control*] for the following areas:

- a) the NSRV north of the NSR and the full NSR channel;
 - b) the NSRV from the south limits of the NSR, including the south riverbank, to the top of the valley wall at Connors Hill, including the northernmost portions of Mill Creek Ravine that may intersect with the Lands;
 - c) Mill Creek Ravine Park, immediately west of 83 Street and north of Argyll Road; and
 - d) SE402 and adjacent parkland, with particular emphasis on the abandoned Mill Creek channel within SE402.
- (3) Project Co shall ensure that all ESC measures are monitored according to the requirements of the City of Edmonton Erosion and Sedimentation Guidelines and all Environmental Laws and other Applicable Laws, Environmental Permits and other Project Approvals and City Environmental Policies. Without limiting the foregoing, the ESC Plan shall include a turbidity monitoring program that complies with Section 1.15.2(2) [*Release of Sediment and Deleterious Substances into Water Bodies or Stormwater Infrastructure*] of this Schedule.
- (4) Project Co shall submit the ESC Plan (including all site-specific ESC plans specified in this Section) to the City in accordance with the requirements of Section 1.8.3 [*Environmental Construction Operations Plan*] of this Schedule.
- (5) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with the ESC Plan.

1.12 CONTAMINATED SITES

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- a) For all areas on the Lands where Project Co or a Project Co Person knows, or has reasonable grounds to suspect (including based on Project Co's investigations, observations or other activities), that subsurface soil or groundwater Contamination is or may be present, including the Known Contaminated Sites and the Possible Contaminated Sites, Project Co shall, before any ground disturbance begins in each of those areas, submit a site-specific plan ("**Contamination Management Plan**") to the City outlining the strategies Project Co will implement to identify and address known or suspected Contamination, including the procedures, measures, methods and actions Project Co will implement to comply with the requirements of Section 1.12(5) and 1.12(6) [*Contaminated Sites*] of this Schedule. Project Co shall not proceed with any ground disturbance in any of those areas until the Contamination Management Plan for the area has been "Accepted" or deemed "Accepted" by the City under Schedule 2 [*Submittal Review Procedure*]. All Contamination Management Plans must comply with the requirements of this Section 1.12 [*Contaminated Sites*] and the requirements of Section 1.8.2 [*Environmental Plans*] of this Schedule. Project Co shall implement all Contamination Management Plans and shall ensure that the Project, Project Work, Infrastructure and all activities of Project Co and Project Co Persons comply with the Contamination Management Plans as "Accepted" or deemed "Accepted" by the City under Schedule 2 [*Submittal Review Procedure*]. For greater certainty, Project Co is required to develop a Contamination Management Plan for the sites referred to in Section 1.12(6) [*Contaminated Sites*], but to the extent a different time for submission of the Contamination Management Plan is specified in Section 1.12(6) [*Contaminated Sites*] of this Schedule, the time specified in Section 1.12(6) [*Contaminated Sites*] of this Schedule shall prevail.

- b) Project Co shall excavate Contamination in soils on the Lands to the extent and only to the extent required to complete the Project Work, including as required to obtain any Project Approval for the Project Work, and Project Co shall manage, handle, and dispose of all Contamination as required to ensure that the Project Work complies with all Environmental Laws and all other Applicable Laws and in accordance with the Contamination Management Plans, the site-specific provisions in Section 1.12(6) *[Contaminated Sites]* of this Schedule and the following specific protocols:
- i. all soils shall be tested before and after excavation according to testing protocols set out in the Contamination Management Plan and such testing protocols shall be sufficient to identify soil that contains Contamination and soil that does not contain Contamination. All excavated soils containing Contamination that cannot be reused on the Lands based on the standards in Section 1.14.2(1)(iii) *[Fills/Backfills]* of this Schedule shall be disposed of at licensed disposal facilities in accordance with all Environmental Laws and all other Applicable Laws. Project Co shall keep a record of the nature and quantity of Contamination sent to each disposal location. No Contamination that exceeds the standards specified in Section 1.14.2(1)(iii) *[Fill/Backfills]* shall be disposed of on any lands owned or occupied by the City without the prior written consent of the City.
 - ii. where excavation of Contamination is conducted, Project Co shall, in accordance with Good Industry Practice, conduct a legal survey and undertake confirmatory sampling sufficient to establish the boundaries of the excavation of the Contamination and the survey results and sampling data shall be submitted to the City within 30 days after the date of completion of the excavation.
 - iii. Project Co shall ensure that professionals having the following qualifications direct, monitor and document all Contamination sampling, excavation, handling and disposal:
 - (I) a member in good standing of one of the following professional regulatory organizations: Alberta Institute of Agrologists (AIA), Alberta Society of Professional Biologists (ASPB), Association of the Chemical Profession of Alberta (ACPA), Association of Professional Engineers and Geoscientists of Alberta (APEGA), Association of Science and Engineering Technology Professionals in Alberta (ASET), College of Alberta Professional Foresters (CAPF), or the College of Alberta Professional Forest Technologists (CAPFT);
 - (II) a minimum of 5 years relevant experience in remediation based on the *Competencies for Reclamation and Remediation Advisory Committee's Recommendations Report (AENV 2006)*; and
 - (III) covered under the professional liability (errors and omissions) insurance described in Section C *[Professional Liability Insurance]* of Appendix 17A *[Project Co Construction Period Insurance]* or Appendix 17B *[Project Co Operating Period Insurance]* of Schedule 17 *[Insurance Requirements]*, as applicable, in respect of their services provided hereunder.

- iv. Project Co shall notify the City within 24 hours if Project Co or a Project Co Person knows or has reasonable grounds to suspect (based on visual, olfactory or any other grounds) that any location outside the boundaries of the Known Contaminated Sites contains Contamination or if a Possible Contaminated Site is confirmed as having Contamination or that any Contamination not previously identified in the reports listed in Section 1.12(3) of this Schedule is located within the boundaries of a Known Contaminated Site. If Project Co or a Project Co Person has such knowledge or reasonable grounds to suspect Contamination prior to ground disturbance occurring in a location, Project Co shall prepare a Contamination Management Plan for that location and submit that Contamination Management Plan to the City in accordance with Section 1.12(5)(a) *[Contaminated Sites]* of this Schedule. If Project Co or a Project Co Person first has knowledge or reasonable grounds to suspect that Contamination is present at a location after ground disturbance has commenced at that location, Project Co shall: (I) notify the City in accordance with this Section, (II) comply with Section 1.12(5)(b)(v) *[Contaminated Sites]* of this Schedule, (III) ensure that all material excavated from the location is segregated from all other excavated material until Project Co has conducted testing as described in this Section; (IV) as soon as reasonably possible, conduct testing in the location of the excavation and in all soil removed from the area of known or suspected Contamination according to testing protocols that are sufficient (taking into account the nature and location of the Contamination) to identify soil that contains Contamination and soil that does not contain Contamination, provided that the sampling protocol shall provide for samples to be taken at a frequency of not less than every 10 cubic metres of soil and submit the results of that testing to the City within 24 hours after Project Co receives the results of that testing; and (V) if the testing confirms that the location contains Contamination, comply with all requirements in this Section 1.12(5)(b) *[Contaminated Sites]* of this Schedule with respect to that Contamination.
- v. Project Co shall handle all material containing Contamination and all material that Project Co has reasonable grounds to suspect may contain Contamination in a manner sufficient to ensure that the material does not cause Contamination in any other location and shall not relocate any material that Project Co has reasonable grounds to suspect may contain Contamination outside the immediate vicinity of the excavation area or reuse any such material anywhere on the Lands until Project Co has complied with (I) the testing protocols in the Contamination Management Plan applicable to that material or the requirements of Section 1.12(5)(b)(iv) *[Contaminated Sites]* of this Schedule, and (II) Section 1.14.2 *[Fills/Backfills]* of this Schedule;
- vi. if surface or groundwater enters an excavation in an area of known or suspected soil Contamination, Section 1.12(6)(a)(v) *[Contaminated Sites]* of this Schedule applies;
- vii. if Contamination is identified in surface water, groundwater or soil, Project Co shall implement measures to prevent the Infrastructure from being damaged by Contamination and to prevent migration of Contamination due to the Project Work or the Infrastructure; and

- viii. within 30 days after completion of excavations within an area containing Contamination, Project Co shall submit to the City written documentation of all actions taken with respect to the Contamination, clearly detailing the extent and nature of the Contamination removed or other measures implemented, including the nature and quantity of Contamination, methods used, locations of material disposal (if applicable), analytical data and comparison with applicable standards for determining Contamination, and legal surveys showing the extent of excavations of Contamination.

(6) Site-specific issues shall be addressed as follows:

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- i. Project Co shall submit a Contamination Management Plan for each of these areas to the City by the date on which Project Co submits to the City the first Work Package for any Project Work in each of these areas and prior to commencement of any ground disturbance in each of these areas other than ground disturbance required solely for the purpose of conducting geotechnical or environmental testing. The Contamination Management Plan shall describe the Contamination in each of these areas and the procedures, measures, methods and actions Project Co will implement to manage Contamination in each of these areas in accordance with the requirements set out in Section 1.12(5) *[Contaminated Sites]* of this Schedule and Section 1.12(6) *[Contaminated Sites]* of this Schedule and shall include a detailed description of the measures Project Co will implement to prevent migration of Contamination caused by the Project Work or the Infrastructure. The Contamination Management Plans shall comply with the requirements of this Section 1.12 *[Contaminated Sites]* and the requirements of Section 1.8.2 *[Environmental Plans]* of this Schedule. Project Co shall implement the Contamination Management Plans as “Accepted” or deemed “Accepted” by the City under Schedule 2 *[Submittal Review Procedure]* and shall ensure that the Project, the Project Work, the Infrastructure and all activities of Project Co and the Project Co Persons comply with the Contamination Management Plans.
- ii. Project Co shall dispose of: (i) all excavated soil that contains visible landfill material, and (ii) all excavated soil in an excavated area that was encountered within a zone of 1 metre below any visible landfill material in that excavation. All such material shall be disposed of in accordance with the requirements of this Section 1.12 *[Contaminated Sites]* of this Schedule and shall be considered to be Contamination for all purposes of this Agreement.

- iii. Project Co shall include the following within the Contamination Management Plan for the Known Contaminated Site in s.25 (I) a plan for methane monitoring and management for all areas where excavation will occur; and (II) a plan to monitor and manage odour for all areas where excavation will occur.
- iv. Project Co shall ensure that confirmatory sampling is completed along the walls of all excavations in these areas and where applicable provincial or federal regulatory guidelines are exceeded at the excavation walls, a geocurtain or similarly effective device shall be placed along the excavation profile wall to prevent re-Contamination of the excavated area;
- v. if surface water or groundwater enters an excavation in these areas, it shall be tested. If those tests indicate that the water contains Contamination, the water shall be disposed of at a wastewater facility that has all required licenses and approvals to accept that water. If testing demonstrates that the water meets applicable guidelines under the Environmental Quality Guidelines for Alberta Surface Waters issued by AEP, as amended from time to time, it may be drained into the municipal storm sewer system in accordance with, and subject to, the requirements of the Drainage Bylaw (Bylaw 16200), the de-watering protocols established as required in Section 1.15.2(3) *[Release of Sediment and Deleterious Substances into Water Bodies or Stormwater Infrastructure]* of this Schedule and all other Applicable Laws.
- vi. within 30 days after completion of excavation and installation of any works required pursuant to Section 1.12(6)(a)(iv) *[Contaminated Sites]* of this Schedule, submit a report to the City that details the nature and extent of excavation that includes without limitation: material quantities, nature of Contamination, comparison to criteria or guidelines, analytical data, legal surveys showing the boundaries of the excavation of Contamination, a description of, and analytical results confirming, the environmental conditions at the excavation boundaries, and details of any works installed as required under Section 1.12(6)(a)(iv) *[Contaminated Sites]* of this Schedule and as required under Section 1.12(5)(b)(vii) *[Contaminated Sites]* of this Schedule. All sampling and analytical data shall be conducted in accordance with Good Industry Practice.

b) s.25

The following requirements apply to the s.25 in addition to the requirements in Section 1.12(5) *[Contaminated Sites]* of this Schedule:

- i. Project Co shall submit a Contamination Management Plan for the s.25 to the City by the date on which Project Co submits to the City the first Work Package for any Project Work on the s.25 and prior to commencement of any ground disturbance on the s.25 Site other than ground disturbance required solely for the purpose of conducting geotechnical or environmental testing. The Contamination Management Plan shall describe the procedures, measures, methods and actions Project Co will implement to manage Contamination on the s.25

in accordance with the requirements set out in Section 1.12(5) *[Contaminated Sites]* of this Schedule and shall include a detailed description of the measures Project Co will implement to prevent migration of Contamination caused by the Project Work or the Infrastructure and to prevent the Infrastructure from being damaged by the Contamination. The Contamination Management Plan shall comply with the requirements of this Section 1.12 *[Contaminated Sites]* and the requirements of Section 1.8.2 *[Environmental Plans]* of this Schedule. Project Co shall implement the Contamination Management Plan as “Accepted” or deemed “Accepted” by the City under Schedule 2 *[Submittal Review Procedure]* and shall ensure that the Project, the Project Work, the Infrastructure and all activities of Project Co and the Project Co Persons comply with the Contamination Management Plan.

s.25

c) Possible Contaminated Sites:

In addition to complying with the requirements of Section 1.12(5) *[Contaminated Sites]* of this Schedule, Project Co shall ensure that the Contamination Management Plan for the Possible Contaminated Sites includes the following provisions:

- (I) a sampling plan to be implemented by Project Co prior to ground disturbance on each Possible Contaminated Site that is sufficient to determine whether Contamination is present in areas where ground disturbance will occur during the Project Work, including sampling locations, methods and depths and parameters to be analyzed at each sample location;
- (II) no soil from a Possible Contaminated Site may be removed from the legal parcel from which the soil was excavated or reused on the legal parcel from which the soil was excavated until samples have been taken from every 10 cubic metres of that soil and the samples have been tested in accordance with the requirements specified in Section 1.14.2 *[Fills/Backfills]* of this Schedule to determine whether the soil contains Contamination, including testing for metals, petroleum hydrocarbons, and PAHs, and the results of the tests have been submitted to the City and have been “Accepted” or deemed “Accepted” by the City under Schedule 2 *[Submittal Review Procedure]*. No soil from a Possible Contaminated Site may be reused anywhere on the Lands unless the results of the testing required under this Section demonstrate that the soil complies with the standards in Section 1.14.2(1) *[Fills/Backfills]* of this Schedule;
- (III) in the case of both the Possible Contaminated Sites described in Section 1.12(4)(b) *[Contaminated Sites]* and Section 1.12(4)(c) *[Contaminated Sites]* of this Schedule, the

testing required under Section 1.12(6)(c)(I) and (II) [*Contaminated Sites*] of this Schedule shall include testing for chloride; and

- (IV) if dewatering is required during any Project Work on either of the Possible Contaminated Sites described in Section 1.12(4)(b) [*Contaminated Sites*] or Section 1.12(4)(c) [*Contaminated Sites*] of this Schedule, Project Co shall ensure that the water is discharged to the sanitary sewer system, provided that the water meets the applicable criteria for discharge to that system under Applicable Laws. Project Co shall comply with all Applicable Laws and the dewatering protocols established as required in Section 1.15.2(3) [*Release of Sediment and Deleterious Substances into Water Bodies or Stormwater Infrastructure*]. If the water does not meet the applicable criteria for discharge to the sanitary sewer system, Project Co shall ensure that the water is disposed of at a wastewater facility that has all required licenses and approvals to accept the water.
- (7) If any Contamination described in any of Sections 1.12(9)(b),(c) or (d) [*Contaminated Sites*] of this Schedule occurs, Project Co shall report that Contamination to the City within 24 hours after Project Co or a Project Co Person knows of the Contamination and shall remediate that Contamination so that the concentrations of all substances are reduced below the below the standards specified in the Alberta Tier 1 Guidelines. Within 7 days after the Contamination occurs and prior to commencing the remediation work, Project Co shall submit a remediation plan to the City that complies with the requirements of Sections 1.12(5) [*Contaminated Sites*] of this Schedule and the requirements of Section 1.8.2 [*Environmental Plans*] of this Schedule and that is sufficient to ensure that the full extent of the Contamination is remediated as required under this Section. Project Co shall undertake remediation in accordance with the plan that is “Accepted” or deemed “Accepted” by the City under Schedule 2 [*Submittal Review Procedure*] and shall commence the remediation work immediately following the date on which the plan is “Accepted” or deemed “Accepted” under Schedule 2 [*Submittal Review Procedure*] and shall carry out that work on a continuous basis until the remediation is complete. If any work is required on an urgent basis to prevent further migration of the Contamination or to comply with Environmental Laws or any other Applicable Laws, Project Co shall notify the City of the requirement and the work Project Co will undertake to remove the emergency or to comply with the Environmental Law or any other Applicable Law. Project Co shall submit a written report to the City every 14 days following notification to the City of Contamination that must be remediated under this Section that provides details regarding the status of development of the remediation plan, a description of remediation work that has been completed, a description of the work that remains to be completed and the expected date of completion of the work. Within 30 days after completion of remediation, Project Co shall submit a report to the City that complies with the requirements specified in Section 1.12(5)(b)(viii) [*Contaminated Sites*] of this Schedule.
- (8) Without limiting any other provision of this Section 1.12 [*Contaminated Sites*] of this Schedule, during any Deconstruction Work, Project Co shall test for Contamination in accordance with Good Industry Practice where there is visual or olfactory evidence that suggests Contamination may be present and where that testing demonstrates that Contamination is present, Project Co shall notify the City and shall excavate the soil in the area subject to the Deconstruction Work to the

extent necessary for the completion of the Deconstruction Work and as required for the Construction of the Infrastructure and Project Co shall comply with Section 1.12.5(b) *[Contaminated Sites]* of this Schedule, including the testing requirements in Section 1.12(5)(b)(iv) *[Contaminated Sites]* of this Schedule.

(9) Project Co is responsible for the following Contamination and all costs and risks associated with or arising out of the following:

- a) subject to Section 1.12(10) *[Contaminated Sites]* of this Schedule, any Contamination encountered within the boundaries of the Known Contaminated Sites if that Contamination is a substance identified in the documents listed in Section 1.12(3) *[Contaminated Sites]* of this Schedule as being present within the boundaries of the Known Contaminated Sites in concentrations above the applicable standards under Environmental Laws or other Applicable Laws or is a substance identified as being present within the boundaries of the Known Contaminated Sites in any testing conducted by, or at the request of, Project Co prior to the Financial Submission Date;
- b) any Contamination caused directly or indirectly by Project Co or a Project Co Person after the Effective Date;
- c) any Contamination caused directly or indirectly by any other Person to the extent that Contamination resulted directly or indirectly from a non-compliance or breach by Project Co or a Project Co Person of any of their obligations under this Agreement; and
- d) any aggravation, exacerbation, migration or other increase in the area or costs of dealing with any Contamination to the extent caused directly or indirectly by the Legal Fault of Project Co or a Project Co Person.

(10)

- a) *Excavation of Contamination in Soil during Construction Period:* In the case of Contamination in soil on any area of the Lands, payments to Project Co will be adjusted to reflect a Contaminated Soil Remittance Payment as set out in Section 16.3.6 *[Contaminated Soil Remittance Payments]* of Schedule 16 *[Payment Mechanism]*, provided that a Contaminated Soil Remittance Payment is payable only in respect of that volume of soil that is excavated during the Construction Period and that meets all of the following requirements as demonstrated by evidence submitted by Project Co to the City:
 - i. the soil contained Contamination as demonstrated by the results of testing conducted in accordance with the testing protocols in the applicable Contamination Management Plan or in accordance with the testing requirements specified in Section 1.12(5)(b)(iv)(IV) *[Contaminated Sites]* of this Schedule, as applicable;
 - ii. the soil had to be excavated in order to complete the Project Work as there was no reasonable alternative to excavation of the soil containing Contamination and Project Co

- exercised reasonable care and diligence to minimize the volume of soil containing Contamination that was excavated;
- iii. the soil could not be reused on the Lands either because the soil containing Contamination did not comply with the standards for reuse on the Lands as set out in Section 1.14.2 *[Fills/Backfills]* of this Schedule or because there was not sufficient capacity within the Lands for the placement of that soil containing Contamination in compliance with the Project Requirements;
 - iv. the soil was sent to a licensed disposal facility in compliance with Section 1.12(5)(b)(i) *[Contaminated Sites]* of this Schedule;
 - v. the soil contained no Contamination described in Section 1.12(9)(b), (c) or (d) *[Contaminated Sites]* of this Schedule and the soil contained no other substance introduced by Project Co or a Project Co Person that made the soil unsuitable for reuse on the Lands in accordance with the Project Requirements even if the soil contained no Contamination;
 - vi. in the case of soil containing Contamination described in Section 11.3 *[Contamination and Hazardous Substances]* of Schedule 28 – Part B *[Utility, Railway and Pipeline Matters]*, Project Co is entitled to claim a URP Work Relief Event in respect of that soil; and
 - vii. the requirement to excavate the soil or to dispose of the soil outside the Lands did not result from Project Co's failure to comply with any of its obligations under this Agreement.
- b) *Excavation of Contamination in Soil during Operating Period:* If during the Operating Period Project Co determines that excavation of soil containing Contamination is required for Project Co to perform Project Work in accordance with the Project Requirements, Project Co shall give the City not less than 30 days prior notice of the proposed excavation. The notice shall contain details of the nature, location and source of the Contamination, including copies of all test results and reports with respect to the Contamination, the rationale for the requirement to excavate the soil, including an explanation of why there is no reasonable alternative to excavation of soil containing Contamination, an estimate of the volume of soil containing Contamination that must be excavated, an explanation of why the excavated soil cannot be reused on the Lands, the proposed disposal facility for the soil containing Contamination, and details of the expected costs of transporting the soil containing Contamination from the Lands to the disposal facility and the expected costs of disposal of the soil containing Contamination at the disposal facility. Upon receipt of such notice, the City may, within 15 days after receipt of such notice, provide notice to Project Co that the City will, at the City's cost, arrange the transport of the soil containing Contamination from the Lands and the disposal of the soil containing Contamination. Upon receipt of such notice, Project Co shall cooperate with the City and shall coordinate the excavation of the soil containing Contamination with the City and otherwise use reasonable efforts to assist the City in conducting such transport and disposal in the most efficient and cost-effective manner reasonably possible. If the City does

not provide such notice: (A) Project Co shall be responsible for transport and disposal of the soil containing Contamination, (B) Project Co shall use reasonable efforts to minimize the costs of transporting the soil containing Contamination from the Lands to a licensed disposal facility that complies with Section 1.12(5)(b)(i) [*Contaminated Sites*] of this Schedule, and (C) the City shall within 30 days after receipt of an invoice from Project Co together with reasonable supporting documentation, reimburse Project Co for the costs of transporting and disposing of the soil containing Contamination, provided that the City shall only be required to make a payment to Project Co in respect of that volume of soil that is excavated during the Operating Period and that meets all of the requirements specified in Sections 1.12(10)(a)(i) to (vii) [*Contaminated Sites*] of this Schedule inclusive, as demonstrated by evidence submitted by Project Co to the City.

c) *Contamination in Groundwater*: In the case of Contamination in groundwater, Project Co is not responsible for the costs of investigating, remediating, monitoring, reporting or otherwise managing Contamination in groundwater, except as follows: (i) in the case of Contamination described in Section 1.12(9)(a) [*Contaminated Sites*] of this Schedule in the Known Contaminated Sites Project Co is responsible for all costs of conducting the Project Work in compliance with Sections 1.12(5) [*Contaminated Sites*] and 1.12(6) [*Contaminated Sites*] of this Schedule and the Contamination Management Plans developed in accordance with those Sections; (ii) in all cases, Project Co is responsible for the cost of any tests required to determine whether or not groundwater contains Contamination; and (iii) in all cases, Project Co is responsible for all costs with respect to Contamination described in Sections 1.12(9)(b), (c) and (d) [*Contaminated Sites*] of this Schedule. For clarification, the incursion by Project Co of (i) any of the foregoing costs which are stated not to be the responsibility of Project Co under this sub-paragraph (c), or (ii) any Direct Losses in relation to third party claims in respect of Contamination in groundwater which Contamination is not caused directly or indirectly from a non-compliance or breach by Project Co or a Project Co Person of any of their obligations under this Agreement are, in each of the foregoing cases, recoverable from the City by Project Co as a Relief Event claim pursuant and subject to either Section 13.2(f)(ii) or Section 13.3(d)(ii) of this Agreement and without application of the deductible principle as set out in Sections 13.2 [*Relief Event During Construction Period*] or 13.3 [*Relief Event During Operating Period*], as applicable.

d) *Contamination caused by URP Infrastructure*: The allocation of costs and risks for Contamination caused by URP Infrastructure is set out in Section 11.3 [*Contamination and Hazardous Substances*] of Schedule 28 – Part B [*Utility, Railway and Pipeline Matters*].

(11) Without limiting or otherwise affecting Project Co's obligations under Section 1.12(7) [*Contaminated Sites*] of this Schedule, prior to the end of the Term, Project Co shall ensure that all Contamination described in Section 1.12(9)(b), (c) and (d) [*Contaminated Sites*] of this Schedule has been removed from the Lands and any lands to which that Contamination has migrated or otherwise been Released.

(12) The City will conduct groundwater monitoring in accordance with the groundwater monitoring program described in the report prepared by AECOM dated June 4, 2015 titled "City of

Edmonton, Valley Line LRT, Baseline Groundwater Monitoring Program, Edmonton, Alberta” (the “**Groundwater Monitoring Plan**”). Project Co may on written notice delivered to the City not less than 14 days prior to any scheduled monitoring event pursuant to the Groundwater Monitoring Plan attend any monitoring event described in the Groundwater Monitoring Plan and may, during that monitoring event, take duplicate samples from any location where the City takes samples. The City will provide Project Co with a copy of the analytical data from each monitoring event conducted pursuant to the Groundwater Monitoring Plan within 30 days after receipt of that data by the City.

- (13) The provisions of Sections 1.12(5) and 1.12(6) of this Schedule do not limit or affect Project Co’s rights under Section 13 [*Relief Events*] of the Project Agreement and the allocation of costs for the work required under Section 1.12(5) [*Contaminated Sites*] and Section 1.12(6) [*Contaminated Sites*] of this Schedule will be based on Section 1.12(9) [*Contaminated Sites*], Section 1.12(10) [*Contaminated Sites*] and Section 1.13(6) [*Hazardous Substances and Waste Management*] of this Schedule and Section 13 [*Relief Event*] of the Project Agreement.

1.13 HAZARDOUS SUBSTANCES AND WASTE MANAGEMENT

- (1) Project Co shall develop, as part of the ECO Plan, a Hazardous Substances and Waste Management Plan that is consistent with the ECO Plan Framework, that complies with Section 1.8.2 [*Environmental Plans*] of this Schedule and that, in addition to those issues addressed in the ECO Plan Framework, specifies and ensures the following for all aspects of the Project, Project Work, Infrastructure and all activities of Project Co under this Agreement:
- a) all storage, handling, use, transport, disposal and other dealing of any kind with Hazardous Substances and all other solid and liquid waste occurs in compliance with all applicable Environmental Laws and other Applicable Laws, Environmental Permits and other Project Approvals, the Alberta *Guidelines for the Disposal of Asbestos Waste* (as amended from time to time), City Environmental Policies and Project Co’s Environmental Management Mandate and inspection and monitoring procedures and records development and management procedures;
 - b) site-specific handling practices for Hazardous Substances brought onto the Lands or used during Project Work or encountered on the Lands;
 - c) a strategy, measures and procedures for storing and disposing of all waste generated during the Project Work;
 - d) a strategy and procedures for identifying, removing, handling, managing and disposing of Hazardous Substances in any Structure, Infrastructure and existing infrastructure (including any URP Infrastructure) prior to and during any Project Work that will involve the disturbance or any other dealing with any Hazardous Substances, including any Deconstruction Work or other demolition, removal, relocation, abandonment or rehabilitation forming part of the Project Work, and that strategy shall include procedures for conducting a Hazardous Substance survey prior to commencement of any such work. Such surveys must be

conducted by a Canadian Registered Safety Professional or a Certified Industrial Hygienist who has a minimum of five years' experience in Hazardous Substance recognition and assessment. During the removal of Hazardous Substances from any Structure, Infrastructure, or existing infrastructure (including any URP Infrastructure), inspections must be completed by Project Co to confirm that Hazardous Substances are being handled in accordance with the Hazardous Substances and Waste Management Plan, the ECO Plan and the requirements of this Schedule. Following completion of any removal of Hazardous Substances from any Structure, Infrastructure, or existing infrastructure (including any URP Infrastructure), and prior to final demolition, removal, relocation or abandonment of the Structure, Infrastructure, or existing infrastructure (including URP Infrastructure), Project Co shall ensure that the Structure, Infrastructure, or existing infrastructure (including URP Infrastructure), is inspected in accordance with this Section to confirm that Hazardous Substances have been removed. Prior to demolition, removal, relocation or abandonment of a Structure, Infrastructure, or existing infrastructure (including URP Infrastructure), Project Co shall ensure that a document sealed by a Professional Engineer has been issued stating that Hazardous Substances have been removed from the Structure, Infrastructure, or existing infrastructure (including URP Infrastructure) and a copy of that document shall be submitted to the City prior to commencement of demolition, removal, relocation or abandonment. Project Co shall retain inspection and other records with respect to Hazardous Substances in accordance with the approved Hazardous Substances and Waste Management Plan and ECO Plan and shall forward copies of those records to the City upon request;

- e) hauling procedures for Hazardous Substances and other wastes generated during the Project Work and proposed disposal locations for Hazardous Substances and other wastes, including procedures to ensure that all hauling contractors and disposal locations have all required licenses and permits and tracking procedures to document the volume of Hazardous Substances sent for disposal and confirmation that all Hazardous Substances arrive at the specified disposal location;
- f) procedures to ensure that all personnel working with Hazardous Substances have the appropriate training;
- g) measures to prevent public exposure to Hazardous Substances, which measures shall include fencing, where fencing is appropriate based on the nature, location and risk associated with the Hazardous Substance;
- h) use of biodegradable hydraulic fluid for any Project Work that occurs within 6 metres of a river, stream or other water body or within 6 metres of a mature woodland (as defined in Section 1.9.1(2)) [*Restricted Periods for Vegetation Clearing*] of this Schedule;
- i) all fuel tanks (including waste fuel and waste oil) and related piping meet the requirements of the Alberta Fire Code (as amended from time to time), have automatic shut off valves and are placed on non-porous material that is maintained to ensure that the material remains non-porous for the period during which the tank remains in place;

- j) oil-water separators are installed at locations as required to ensure that there is no discharge of oil to sewers, storm sewers or other water course;
- k) no underground storage tanks are installed by Project Co on the Lands and no fuel (including waste fuel and waste oil) storage occurs in Mill Creek Ravine;
- l) fuels and other Hazardous Substances are stored:
 - (i) in a manner that will prevent discharge into any water course or water body and that will prevent any other discharge that is prohibited by any Environmental Law or other Applicable Law or Environmental Permit or other Project Approval, and
 - (ii) in protected, flat areas that have secondary containment and are a minimum of 100 metres from any water course or water body;
- m) re-fueling shall not occur within 30 metres of a water course or a water body except where there is no other feasible alternative. For those cases where there is no other feasible alternative and refueling must therefore occur within 30 metres of a water course or a water body, the Hazardous Substances and Waste Management Plan must describe how refuelling will occur in that circumstance and must include measures Project Co will implement to minimize environmental risks;
- n) all equipment shall be fitted with standard emission control devices appropriate to the equipment and in compliance with all applicable Environmental Laws and other Applicable Laws and City Environmental Policies;
- o) in addition to any restrictions in Schedule 5 [*D&C Performance Requirements*] on the use of Hazardous Substances, Project Co shall ensure that all Infrastructure does not contain any Hazardous Substances that may leach into the surrounding environment;
- p) equipment maintenance and repairs that may result in a discharge of any oil or other fluid shall not be undertaken in park lands or Sensitive Areas except where there is no other feasible alternative. For those cases where there is no other feasible alternative, the Hazardous Substances and Waste Management Plan must include procedures that will be followed and mitigation measures that will be implemented to minimize environmental risks;
- q) 90% (by weight) of all waste that is generated as a result of Construction, Deconstruction Work, construction during the Operating Period, Overhaul Maintenance, Preventative Maintenance or that is otherwise generated by Project Co or a Project Co Person during the Project Work is diverted from landfill, provided that the following waste will be excluded from the definition of “waste” solely for the purposes of this subsection:
 - (i) all soil containing Contamination that is removed during the Project Work and that is sent to a licensed disposal facility based on test results that demonstrate that the soil containing Contamination could not be reused on the Lands either because the soil containing Contamination did not comply with the standards for reuse on the Lands

as set out in Section 1.14.2 [*Fills/Backfills*] of this Schedule or because there was not sufficient capacity within the Lands for the placement of that soil containing Contamination within the Lands in compliance with the Project Requirements; and

- (ii) any Hazardous Substance removed during the Deconstruction Work where there is no alternative other than to send the Hazardous Substance for disposal at a landfill or other authorized disposal facility.

Project Co shall keep records, including weigh bills, of all such waste generated in each year of the Term and records, including weigh bills, of where all such waste is disposed of or diverted to during each year of the Term. Project Co shall also keep records of material that is excluded from the definition of “waste” as set out above, including records as required to demonstrate that the material complies with all requirements for the exclusion. Project Co shall within 30 days after each anniversary of the Effective Date submit a report to the City that includes a copy of all records required under this Section and that demonstrates compliance with this Section during the immediately preceding year; and

- r) potential spills of Hazardous Substances are captured and contained. For this purpose, Project Co shall, as part of the Hazardous Substances and Waste Management Plan, develop a spill containment strategy that identifies, describes, quantifies and estimates the likelihood of occurrence of spills that have the potential to occur during Construction and Operation and that describes the measures Project Co will implement in the stormwater management system and other locations where spills may occur to mitigate the risk of spills occurring and to contain and manage any spills that do occur.
- (2) Project Co shall submit the Hazardous Substances and Waste Management Plan to the City as part of the ECO Plan in accordance with the requirements of Section 1.8.3 [*Environmental Construction Operations Plan*] of this Schedule.
 - (3) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with the Hazardous Substances and Waste Management Plan as “Accepted” or deemed “Accepted” by the City under Schedule 2 [*Submittal Review Procedure*].
 - (4) Project Co shall remove all Hazardous Substances from all Structures, existing infrastructure (including URP Infrastructure), and Infrastructure, that will be demolished, abandoned, removed or relocated during any Project Work. Project Co shall remove all such Hazardous Substances from the Lands and shall dispose of all such Hazardous Substances and all other waste Hazardous Substances resulting from the Project Work and all waste resulting from the Project Work at provincially licensed facilities in accordance with all Environmental Laws and other Applicable Laws.
 - (5) In addition to the requirements of the Hazardous Substances and Waste Management Plan, Project Co shall ensure that:
 - a) no rubbish, waste or Hazardous Substance is buried except with the prior approval of the City; and

- b) no waste, Hazardous Substance, volatile material, mineral spirits, oil or paint thinner is disposed of in any water body, or storm or sanitary sewer.
- (6) Project Co is responsible for the following Hazardous Substances and all costs and risks associated with or arising out of the following:
- a) Hazardous Substances in existing infrastructure (excluding URP Infrastructure) that could have been ascertained by Project Co or Project Co Persons by the exercise of Standard Due Diligence prior to the Financial Submission Date;
 - b) subject to Sections 1.12(9)(a) [*Contaminated Sites*] and 1.12(10) [*Contaminated Sites*] of this Schedule and Section 13 [*Relief Events*] of the Project Agreement, Hazardous Substances in soil, soil vapour, sediment, groundwater, pore water and surface water that could have been ascertained by Project Co or Project Co Persons by the exercise of Standard Due Diligence prior to the Financial Submission Date;
 - c) any Hazardous Substance brought onto or created on the Lands by Project Co or any Project Co Person, including any such Hazardous Substance that is incorporated into any Infrastructure;
 - d) any Release of a Hazardous Substance caused directly or indirectly by Project Co or a Project Co Person;
 - e) any Release of a Hazardous Substance caused directly or indirectly by any other Person to the extent the Release of that Hazardous Substance resulted directly or indirectly from a breach by Project Co or a Project Co Person of any of their obligations under this Agreement or a failure by Project Co or a Project Co Person to comply with any of their obligations under this Agreement; and
 - f) any aggravation, exacerbation, migration or other increase in the area or costs of dealing with any Hazardous Substance to the extent caused directly or indirectly by the Legal Fault of Project Co or a Project Co Person.

The allocation of costs and risks for Hazardous Substances in URP Infrastructure is set out in Section 11.3 [*Contamination and Hazardous Substances*] of Schedule 28 – Part B [*Utility, Railway and Pipeline Matters*].

- (7) Where any spill or other Release of a Hazardous Substance occurs anywhere on the Lands whether caused by Project Co, a Project Co Person or any other Person, Project Co shall verbally notify the City within 24 hours after Project Co or a Project Co Person knows of the spill or other Release describing the spill or other Release and the measures taken by Project Co to address the spill or other Release. Where any such spill or other Release requires a written report to any Governmental Authority under any Environmental Law or other Applicable Law, Project Co shall be responsible for completing such report and shall submit a copy of the proposed report to the City within 72 hours after the incident and Project Co shall not submit the report to the Governmental Authority before the earlier of (i) the date on which either the City has “Accepted”

or is deemed to have “Accepted” the report under Schedule 2 *[Submittal Review Procedure]*, provided that in this case, the time for the City’s review under Schedule 2 *[Submittal Review Procedure]* is 72 hours, or (ii) the last date for filing the report with the Governmental Authority under the Environmental Law or other Applicable Law.

- (8) In the case of a spill or other Release of a Hazardous Substance for which Project Co is responsible as described in Section 1.13(6) *[Hazardous Substances and Waste Management]* of this Schedule, Project Co shall promptly take all steps required to clean-up the spill or Release, to repair all resulting damage to the Environment and to remediate any Contamination resulting from the spill or other Release such that any sample of material remaining in-situ at the location of the spill or Release and any location to which the spill or Release has migrated meets Alberta Tier I Guidelines. Project Co shall comply with the requirements of Section 1.12(7) *[Contaminated Sites]* of this Schedule with respect to remediation under this Section.
- (9) In the case of a spill or other Release of a Hazardous Substance for which Project Co is not responsible as described in Section 1.13(6) *[Hazardous Substances and Waste Management]* of this Schedule, Project Co shall notify the City as required under Section 1.13(7) *[Hazardous Substances and Waste Management]* of this Schedule and shall take such measures as are required for immediate containment and control of the spill or other Release or provide such assistance as may reasonably be required by any third party who is taking such measures. Project Co shall not undertake any work with respect to a spill or other Release of a Hazardous Substance for which Project Co is not responsible as described in Section 1.13(6) *[Hazardous Substances and Waste Management]* of this Schedule, other than those measures required for immediate containment and control of the spill or other Release, unless the City has instructed Project Co to proceed with the work. To the extent that Project Co is required to proceed with work under this Section 1.13(1), Project Co shall be entitled to a Change pursuant to and in accordance with Schedule 13 *[Changes]*.
- (10) Prior to the end of the Term, Project Co shall remove from the Lands all Hazardous Substances described in Section 1.13(6)(c), (d), (e) and (f) *[Hazardous Substances and Waste Management]* of this Schedule that are not required for on-going operation of the System after the end of the Term as identified by the City and Project Co shall remove all waste from the Lands.
- (11) Without limiting any other provision of Section 1.13 *[Hazardous Substances and Waste Management]* of this Schedule, Project Co shall prior to commencing any demolition, removal, relocation, abandonment or other disturbance of any existing infrastructure (including any URP Infrastructure) on the Davies Site, Project Co shall submit to the City the results of the survey required pursuant to Section 1.13(1)(d) *[Hazardous Substances and Waste Management]* of this Schedule and a detailed plan for the removal, handling, transport and disposal of any Hazardous Substances in existing infrastructure, including any URP Infrastructure, located on the Davies Site. Project Co shall ensure that the plan complies with all requirements for Environmental Plans under this Schedule 10 *[Environmental Performance Requirements]* and that the plan contains measures, procedures and disposal plans that reasonably mitigate the costs of removal, handling, transport and disposal of Hazardous Substances located on the Davies Site. Project Co shall comply with that plan as “Accepted” or deemed “Accepted” by the City and shall submit

weekly written reports to the City regarding the status of removal, and costs incurred with respect to the removal, of Hazardous Substances from existing infrastructure (including URP Infrastructure) on the Davies Site.

(12) The provisions of Section 1.13 [*Hazardous Substances and Waste Management*] of this Schedule do not limit or affect Project Co's rights under Section 13 [*Relief Events*] of the Project Agreement and the allocation of costs for the work required under Section 1.13 [*Hazardous Substances and Waste Management*] of this Schedule will be based on Section 1.13(6) [*Hazardous Substances and Waste Management*] of this Schedule and Section 13 [*Relief Events*] of the Project Agreement.

1.14 SOILS AND EXCAVATED MATERIALS MANAGEMENT

1.14.1 Soil Salvage and Stockpiling

- (1) All soils, including stripped and stockpiled soils, shall conform to the Valley Line LRT Landscape Design Standards, except as otherwise stated in this Schedule. (For the purposes of this Schedule, "Valley Line LRT Landscape Design Standards" refers to the Valley Line LRT Landscape Design Standards in the Disclosed Data.)
- (2) Project Co shall comply with the requirements in Section 1.18.5 [*Native Forest Restoration*] of this Schedule regarding reuse of native soils (soils underlying forested areas).
- (3) Project Co shall implement the following measures for all soils and excavated materials that are stockpiled at any time during the Project Work:
 - a) topsoils and subsoils shall remain separate at all times, and shall be stripped, stockpiled, handled and reapplied in a manner that prevents mixing of topsoils and subsoils;
 - b) stripping of soil shall not commence until all weeds, grasses, brush and other vegetation present on sites to be stripped have been cleared and removed from the site;
 - c) topsoil, subsoil and other excavated materials shall be stockpiled in a manner that ensures:
 - i. stockpiles do not create or contribute to erosion and/or sedimentation issues;
 - ii. the visual nuisance to the public, with particular reference to park land and residential neighbourhoods, is minimized to the maximum extent feasible;
 - iii. stockpiles are not located within any area of the Lands from which vegetation has not been cleared prior to placement of the stockpile, except that stockpiles may be located in turfed areas provided that a geotextile divider is installed under the stockpile. Any such divider shall be removed following removal of the stockpile;
 - iv. the air quality in nearby neighbourhoods is unaffected;
 - v. the stockpiles do not cause dust plumes that are visible from outside the Lands; and

- vi. no run-off of soil or sediment occurs outside the Lands.
 - d) topsoil stockpiles shall be sown with a cover crop within 90 days of stripping, or by 01 August of the year in which soil was stripped, whichever results in the shortest period between stripping and seeding. The cover crop shall be non-invasive and non-persistent species;
 - e) weeds shall be controlled on stockpiles in accordance with the plan developed pursuant to Section 1.18.4 [*Integrated Pest Management Plan*] of this Schedule and the requirements for weed control specified in Schedule 7 [*O&M Performance Requirements*];
 - f) topsoil to be reused on the Lands shall not be handled while in wet or frozen condition, or in any manner that has an adverse effect on soil structure;
 - g) topsoils shall be removed from stockpiles and reinstalled in their final location on the Lands or removed from the Lands within two growing seasons of first being placed in a stockpile; and
 - h) the maximum stockpile depth for native soils to be reused in Native Forest Restoration Areas shall be 1 metre, provided that this does not apply to any pile that is created on initial stripping and that does not remain in place for more than 24 hours.
- (4) Soils stripped from existing manicured areas shall not be reused in Native Forest Restoration Areas or Naturalization Areas.
- (5) If soils are relocated to agricultural areas for reuse rather than being reused on the Lands and if the soils have not first been tested for clubroot disease, Project Co shall provide the recipient of the soils with a written warning prior to transportation that the soil has not been tested for clubroot disease, which is regulated under *Agricultural Pests Act* (Alberta). A copy of all such warnings shall be submitted to the City concurrent with delivery to the recipient of the soil.
- (6) Project Co shall ensure that all soil or other excavated material that Project Co sends off the Lands to any location other than a licensed disposal facility does not contain any Contamination.
- (7) Without limiting Project Co's obligation under Section 1.14.1(6) [*Soil Salvage and Stockpiling*], of this Schedule Project Co shall ensure that all soil or other excavated material that is sent off the Lands to any location other than a licensed disposal facility has been subject to a visual inspection. No soil or other excavated material that contains any staining or other visual or olfactory suggestion that the soil or excavated material may contain Contamination shall be removed from the Lands to any location other than a disposal facility authorized to accept that material unless that material has been sampled and the samples have been analyzed and the results demonstrate that the soil meets the standards specified in Section 1.14.2(1) [*Fills/Backfills*] of this Schedule.

1.14.2 Fills/Backfills

- (1) Project Co shall ensure that all material used for fill or backfill, including any material excavated from the Lands and then reused on the Lands, complies with:

- (i) the Valley Line LRT Project Roadways Design and Construction Standards included in the Disclosed Data;
 - (ii) in the case of any material imported by Project Co to the Lands for use as fill, Alberta Tier 1 Guidelines for the applicable land use. In cases where two properties of two different land use categories abut, the guidelines for the more sensitive land use shall apply within 30 m of the boundary of the property with the more sensitive land use; and
 - (iii) in the case of soil excavated from the Lands and that will be reused on the Lands, the applicable standards in the Alberta Tier 2 Guidelines based on the area where the material will be reused on the Lands.
- (2) Project Co shall develop a visual inspection plan for fill and backfill loads. The plan shall detail parameters by which fill and backfill shall be deemed acceptable for use which shall be sufficient to ensure that the fill and backfill meets the requirements specified in this Schedule. Without limiting any other requirements for the visual inspection plan, Project Co shall ensure that the plan contains provisions for visually inspecting every load of soil brought onto the Lands before the soil is placed on the Lands and to visually inspect all soils excavated from the Lands to identify soil staining, visual and olfactory evidence of hydrocarbons, evidence of landfill debris and to provide that if such evidence is present the soil will be segregated and will not be placed on the Lands (except on an impervious surface) until additional testing has been completed to verify that the soil meets the requirements specified in Section 1.14.2 *[Fills/Backfills]* of this Schedule. Every load of soil coming onto the Lands and all soils excavated from the Lands must be inspected in accordance with the visual inspection plan. The visual inspection plan shall require that there is a written record of the visual inspection conducted on every load of soil to be deposited in the Lands and during excavation of any soil in the Lands. The visual inspection plan shall be included in the ECO Plan and is an Environmental Plan for the purposes of this Schedule and Project Co shall submit the plan to the City in accordance with Section 1.8.3 *[Environmental Construction Operations Plan]* of this Schedule.
- (3) Project Co shall ensure that all fill and backfill loads are inspected as follows:
- a) visual inspections to be conducted in accordance with the visual inspection plan developed by Project Co in accordance with Section 1.14.2(2) *[Fills/Backfills]* of this Schedule and “Accepted” or deemed “Accepted” by the City under Schedule 2 *[Submittal Review Procedure]*;
 - b) if the visual inspection indicates that there is potential that the soil in a fill or backfill load will not comply with the specifications set out in Section 1.14.2(1) *[Fills/Backfills]* of this Schedule, not less than 3 samples from that load will be submitted to a CALA accredited laboratory to be analyzed for the parameters specified in subsection (c) of this subsection below and for the parameters of concern identified in the visual inspection and the fill or backfill load shall be kept segregated on the Lands in a manner that will ensure the material does not contaminate the Lands until sample results have been received that demonstrate that the material meets the specifications in Section 1.14.2(1) *[Fills/Backfills]* of this Schedule and

those results have been submitted to the City and “Accepted” or deemed “Accepted” by the City under Schedule 2 *[Submittal Review Procedure]*; and

- c) a sample shall be submitted from every 2,000m³ of backfill material to a CALA accredited laboratory to be analyzed for general environmental conditions (petroleum hydrocarbons, metals specified in the Alberta Tier 1 Guidelines, and salinity). Sample results shall be submitted to the City. Soil from any load from which a sample required under this Section has been taken shall not be placed on the Lands until the time specified in Section 1.14.2(5) *[Fills/Backfills]* of this Schedule. If the sample indicates that the soil does not comply with the specifications in Section 1.14.2(1) *[Fills/Backfills]* of this Schedule, Project Co must within 7 days after receipt of the sample results submit evidence to the City that all other loads from the same source meet the requirements set out in Section 1.14.2(1) *[Fills/Backfills]* of this Schedule. If Project Co does not provide that evidence to the City within the time specified in this Section, Project Co shall remove from the Lands all soil that originated from the same source as the source of the sample that did not comply with the specifications in Section 1.14.2(1) *[Fills/Backfills]* of this Schedule and Project Co shall complete that excavation and removal within 30 days after receipt of the sample under this Section.
- (4) If any material excavated from the Lands contains evidence of the presence of coal, Project Co shall ensure that material is not reused anywhere on the Lands except the area of the Lands from which the material was excavated unless that material is tested as required pursuant to Section 1.14.2(3) *[Fills/Backfills]* of this Schedule and complies with the specifications in Section 1.14.2(1) *[Fills/Backfills]* of this Schedule. Material that contains evidence of coal may be reused in the areas from which the material was excavated without testing, provided that the material is otherwise acceptable in accordance with the visual inspection plan and testing requirements specified in Section 1.14.2(3) *[Fills/Backfills]* of this Schedule.
- (5) Project Co shall not place any fill or backfill material on the Lands, including any material that was originally excavated from the Lands and stockpiled for use as fill or backfill, until it has passed visual and chemical inspection as specified in this Section, and documentation showing that the material has passed inspection has been submitted to the City and has been “Accepted” or deemed “Accepted” by the City under Schedule 2 *[Submittal Review Procedure]*.

1.15 HYDROLOGY

1.15.1 NSR

- (1) Project Co shall conduct a bathymetric survey of the full width of the NSR in a reach extending 100 m upstream and 100 m downstream of the proposed location of the Tawatinâ Bridge. The survey shall achieve a vertical accuracy of +/-100 mm and a horizontal accuracy of +/- 250 mm. The survey shall be conducted no more than 90 days prior to the commencement of any Project Work in the NSR, and Project Co shall submit the survey results to the City not less than 30 days prior to commencing any Project Work in the NSR. Project Co shall conduct another bathymetric survey that complies with the requirements in this Section following completion of installation of all Infrastructure in the NSR and shall submit the results of that survey to the City within 30 days after completion of installation of all Infrastructure in the NSR.

- (2) Following completion of deconstruction and removal of the Existing Cloverdale Footbridge and completion of installation of the Tawatinâ Bridge, Project Co shall ensure that no materials used in, or resulting from, Construction or demolition remain in the NSR (other than deep foundations in accordance with the provisions of Schedule 5 [*D&C Performance Requirements*]) and Project Co shall restore the NSR to the condition it was in immediately prior to the commencement of Construction as demonstrated by the bathymetric survey conducted prior to Construction in accordance with Section 1.15.1(1) [*NSR*] of this Schedule.

1.15.2 Release of Sediment and Deleterious Substances into Water Bodies or Stormwater Infrastructure

- (1) In addition to the measures set out in the ESC Plan, Project Co shall comply with the following:
 - a) Project Co shall implement measures to prevent the Release of sediment and deleterious substances (as defined in the *Fisheries Act*) into water bodies or stormwater or sewer infrastructure except as authorized under the City Environmental Bylaws, Environmental Laws and other Applicable Laws and Environmental Permits and other Project Approvals;
 - b) machinery of any kind, other than boats, shall not be located in or operated in any water other than water that is isolated from the main water body by sheet piling or other similar enclosure; and
 - c) all municipal catch basins receiving water from within the Lands shall be hoarded or otherwise protected until all disturbed surfaces within the catchment support stabilizing vegetation or another permanent surface treatment.
- (2) Project Co shall as part of the ECO Plan develop and implement a turbidity and total suspended solids monitoring and management program for natural water bodies and watercourses. The program shall include monitoring, notification, management, compliance and corrective action measures that are consistent with those specified in the Alberta Transportation Special Provision SPE 20, a copy of which has been provided to Project Co as part of the Disclosed Data, and with all guidelines and standards specified in that Special Provision SPE 20, as that Special Provision SPE 20 and those guidelines and standards may be amended from time to time.
- (3) As part of the water management plan required under Section 1.8.3(3) [*Environmental Construction Operations Plan*] of this Schedule, Project Co shall develop a set of dewatering protocols that complies with the requirements of Section 1.8.2 [*Environmental Plans*] of this Schedule and that will ensure that water containing sediment or any other deleterious substance is not Released into the municipal storm sewer system or any natural water body or watercourse except in accordance with the City Environmental Bylaws, Environmental Laws and other Applicable Laws and Environmental Permits and other Project Approvals. The water management plan must also contain measures to manage surface drainage associated with the Primary Construction Access Route in a manner that will ensure that drainage does not cause any erosion and is otherwise managed in a manner that complies with all Applicable Laws and Environmental Best Management Practices. Project Co shall implement, update, maintain,

monitor, comply with and ensure that all Project Co Persons comply with the dewatering protocols.

1.15.3 Mill Creek Channel Between 98 Avenue and the NSR

- (1) Project Co shall not encroach on, use, disturb or otherwise affect in any way the Mill Creek channel between 98 Avenue and the NSR and shall not block, interrupt, or otherwise alter in any way flows from the channel into the NSR.

1.15.4 Abandoned Mill Creek Channel in SE402

- (1) Project Co shall comply with the following requirements that apply to the abandoned Mill Creek channel in SE402 and the Lands adjacent to that channel:
 - a) no permanent Infrastructure, other than a maintenance access route and associated culvert, shall be located within 7.5 m of the low point of the creek bed;
 - b) if Project Co installs or extends any Construction access route that crosses the creek bed and shores, the portion of the route that crosses the creek bed and shores shall be located along the alignment of the existing unpaved crossing over the creek bed;
 - c) Project Co may widen the existing crossing in this area to a maximum total width of 10 m to facilitate Construction;
 - d) following completion of Construction in this area and prior to Service Commencement, Project Co shall install a maintenance access route on the south side of the Davies Elevated Guideway for use by the City and City Persons. The route shall be installed as close as possible to the Davies Elevated Guideway. The route shall meet or exceed the quality of the existing crossing in this area at the Effective Date and must accommodate the geometric design requirements of a City SUP. If the route is not required for use by Project Co as specified in Section 1.15.4(1)(e) [*Abandoned Mill Creek Channel in SE402*] of this Schedule, the width of the maintenance access route shall be no more than the greater of the width of the existing crossing or the requirements of a City SUP. Prior to the Service Commencement Date, Project Co shall remove all portions of existing access roads or routes in this area, including the existing unpaved crossing over the creek bed, to the extent those existing roads, routes and crossing do not form part of the access route described in this Section 1.15.4(1)(d) and Project Co shall restore all areas where such removal occurs to pre-disturbance channel, slope and ground contours and shall complete naturalization and reforestation of this area in accordance with the following:
 - (i) the Lands under the Davies Elevated Guideway are a Naturalization Area as specified in Section 1.18.6.2(1)(e) [*Naturalization Objectives*] of this Schedule;
 - (ii) the Lands between the access road and the Davies Elevated Guideway are a Naturalization Area as specified in Section 1.18.6.2(1)(e) [*Naturalization Objectives*] of this Schedule; and

- (iii) all other Lands disturbed by the removal and not supporting Infrastructure are Native Forest Restoration Areas as specified in Section 1.18.5.1(2)(c) *[General Requirements]* of this Schedule;
- e) if Project Co requires an access route for the purposes of maintaining the Davies Elevated Guideway following completion of Construction, Project Co shall use the route described in Section 1.15.4(1)(d) *[Abandoned Mill Creek Channel in SE402]* of this Schedule for that purpose and Project Co may upgrade that route for Project Co's purposes, provided that the route shall not exceed 4 m in driving surface width, shall be sufficient for use by the City as a maintenance access route and shall accommodate the geometric design requirements of a City SUP;
- f) the creek bed and shore is the property of the Province of Alberta, and therefore no disturbance of the creek bed of any kind may occur without the written authorization of the Province of Alberta and all such disturbance shall comply with all requirements and conditions established by the Province of Alberta;
- g) any portion of the creek channel that is disturbed, with the exception of any areas occupied by a permanent maintenance access route that complies with the requirements of this Section 1.15.4 *[Abandoned Mill Creek Channel in SE402]*, must be restored in a timely manner to the pre-disturbance condition, to the satisfaction of the Province of Alberta and the City;
- h) during Construction, any downstream flows along the channel of Mill Creek within SE402 shall be maintained through provision of bypass flows;
- i) to ensure the continuation of existing drainage patterns in this portion of Mill Creek, promptly following completion of installation of Infrastructure in this area, existing contours shall be restored in disturbed areas of SE402 and surrounding park lands, with the exception of modifications that cannot be avoided in order to accommodate new permanent Infrastructure and to ensure proper drainage from guideway piers;
- j) water quality downstream of a Site shall not be negatively impacted by the Project, Project Work, Infrastructure or any activities of Project Co or Project Co Persons under this Agreement; and
- k) all provisions of this Schedule that contain restrictions or prohibitions with respect to water, or watercourses or water bodies will be deemed to include the abandoned Mill Creek channel, except Section 1.17(2) *[Fisheries]* of this Schedule.

1.15.5 Abandoned Mill Creek at Argyll Road and 83rd Street

- (1) To protect for future restoration of Mill Creek north of Argyll Road and west of 83rd Street, Project Co shall ensure that on lands that are located north of Argyll Road, west of 83rd Street and south of 69A Avenue:

- a) all disturbed Lands are reclaimed using the appropriate seed mix developed as part of the Naturalization Plan; and
 - b) native shrub species that comply with Section 2-14.22.6A [*General Plant Selection Requirements*] of Schedule 5 [*D&C Performance Requirements*] and that attain a maximum height of 1.5 m under natural conditions are planted at the base of the retaining walls.
- (2) All provisions of this Schedule that contain restrictions or prohibitions with respect to water, or watercourses or water bodies will be deemed to include the area of the abandoned Mill Creek north of Argyll Road and west of 83rd Street, except Section 1.17(2) [*Fisheries*] of this Schedule.

1.15.6 Floodplain Assessment and Mapping Requirements

- (1) Project Co shall conduct all studies, modelling and assessments and complete all submissions and reports with respect to the Project Work required by AEP pursuant to the Flood Hazard Identification Program.

1.16 RIVER NAVIGATION

- (1) Project Co shall develop a River Navigation Plan and submit the River Navigation Plan to the City prior to the commencement of any Project Work in the NSR and prior to filing any notice or application with Transport Canada under the *Navigation Protection Act*. Project Co shall ensure that the River Navigation Plan complies with Section 1.8.2 [*Environmental Plans*] of this Schedule and with the following requirements:
 - a) all Project Work must be conducted in a manner that minimizes the duration and severity of impacts on navigation to the maximum extent feasible and the River Navigation Plan must contain measures and procedures that are adequate to achieve this requirement;
 - b) the River Navigation Plan must contain measures and procedures for conducting consultations and providing notices to those parties identified in Section 1.16(4) [*River Navigation*] of this Schedule;
 - c) without limiting Section 1.16(1)(a) [*River Navigation*] of this Schedule, the River Navigation Plan must ensure that temporary NSR closures required for Project Work are timed to coincide to the maximum extent feasible with periods of low use of the NSR for boating purposes, such as winter or between one hour after sunset and one hour before sunrise. Project Co shall submit a temporary closure plan to the City not less than 20 days prior to any temporary NSR closure that will occur outside hours of low use of the NSR for boating purposes. The temporary closure plan shall explain the rationale for the closure, shall provide evidence that it is not feasible to conduct the closure during hours of low use of the NSR for boating purposes and shall describe the measures Project Co will implement to minimize the duration and impact of the closure; and

- d) the River Navigation Plan must address all environmental and social sensitivities and requirements of all Environmental Laws and other Applicable Laws associated with in-stream works in the NSR in accordance with Section 1.8.2 [*Environmental Plans*] of this Schedule.
- (2) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with the River Navigation Plan as “Accepted” or deemed “Accepted” by the City and with all measures described in a temporary closure plan submitted under Section 1.16(1)(c) [*River Navigation*] of this Schedule as “Accepted” or deemed “Accepted” by the City.
- (3) Project Co shall comply with all requirements of the *Navigation Protection Act*. Project Co shall submit to the City a copy of all notices, permit applications, and other materials provided by Project Co or any Project Co Person to Transport Canada concurrent with submission of each such document to Transport Canada.
- (4) Prior to commencing any Project Work that may affect navigation in the NSR, Project Co shall prepare and submit to the City a report that summarizes the following:
- a) results of consultation undertaken by Project Co with the operators of the Edmonton Queen Riverboat, which consultation shall be sufficient to ensure that Project Co understands the navigational requirements and safety concerns of the operators of the Edmonton Queen Riverboat,
 - b) results of consultation with all City recreational boating programmes, which consultation shall be sufficient to ensure that Project Co understands the navigation requirements and safety concerns of recreational boaters, and the timing, navigation requirements and safety concerns with respect to the special events described in Section 1-3.1.2 [*Festivals & Events*] of Schedule 5;
 - c) results of notifications to the communities of Devon and Fort Saskatchewan as well as Parkland County with respect to Project Work in or about the NSR; and
 - d) measures Project Co will implement to address stakeholder concerns identified during those consultations as required to comply with Section 1.16(1) [*River Navigation*] of this Schedule.
- (5) Project Co shall ensure that all measures described pursuant to Section 1.16(4)(d) [*River Navigation*] of this Schedule are implemented.

1.17 FISHERIES

- (1) Project Co shall ensure that the Project, Project Work, Infrastructure and all activities of Project Co and Project Co Persons complies with the *Fisheries Act*.
- (2) Prior to commencing any work in or about any water body or any water course, pursuant to subsection 35(2) of the *Fisheries Act*, Project Co shall submit a Request for Review to DFO with recommendations from a qualified aquatic environmental specialist for measures to avoid or

mitigate impacts to fish and fish habitat arising from the Project, Project Work, Infrastructure and any activities of Project Co and Project Co Persons together with all supporting information required by DFO. The Request for Review must address, at a minimum, both the deconstruction of the Existing Cloverdale Footbridge and the Construction of the Tawatinâ Bridge. Project Co shall provide the City with copies of all submissions to DFO concurrent with delivery of those submissions to DFO.

- (3) If DFO determines that no authorization is required pursuant to subsection 35(2) of the *Fisheries Act*, Project Co shall, at a minimum, implement all of the measures contained in the materials submitted to DFO with the Request for Review pursuant to Section 1.17(2) [*Fisheries*] of this Schedule, including the fisheries protection plan submitted with those materials.
- (4) If DFO determines that an authorization is required pursuant to subsection 35(2) of the *Fisheries Act*, Project Co shall be responsible for obtaining that authorization, including providing any compensation and associated security that may be required in order to obtain that approval and Project Co shall comply with the terms and conditions of that authorization and any associated habitat compensation agreement.
- (5) For all of the Project Work, Project Co shall comply with DFO's "Measures to Avoid Causing Harm to Fish and Fish Habitat" as amended from time to time, and with the *Freshwater Intake End-of-Pipe Fish Screen Guideline* issued by DFO, as amended from time to time.
- (6) Project Co shall ensure that any Project Work in the vicinity of the abandoned Mill Creek between 98 Avenue and the NSR is conducted in a manner that protects any fish habitat (as defined in the *Fisheries Act*) in that reach so that any such fish habitat is not altered or disrupted in any manner whatsoever.
- (7) The agreement by Project Co to the foregoing provisions in this Section 1.17 shall not, in and of itself, constitute knowledge of Project Co of the presence on or around the City Lands of animal species protected by Environmental Laws at the Financial Submission Date.

1.18 VEGETATION

1.18.1 General

- (1) Following completion of installation of the Infrastructure in each area of the Lands, Project Co shall revegetate the area in accordance with the specifications and requirements of Section 2-14 [*Landscape Architecture*] of Schedule 5 [*D&C Performance Requirements*], except for the Native Forest Restoration Areas where Project Co shall undertake the work specified in Section 1.18.5 [*Native Forest Restoration*] of this Schedule and the Naturalization Areas where Project Co shall undertake the work specified in Section 1.18.6 [*Naturalization Areas*] of this Schedule.
- (2) Project Co shall ensure that snow, soil and other materials are not pushed into, or stored in, naturally vegetated areas.

1.18.2 Rare Plants

- (1) If any Rare Plant (defined as species with conservation ranks of S1, S2 and S3 in the most current version of the ACIMS data) is encountered within the Lands and that plant is not specifically identified in that location in the EISA or NSA, Project Co shall submit a report concerning the identity and location of the plant to the City within 2 days after identifying the plant and Project Co, in that notice, shall advise the City how Project Co proposes to handle the plant to ensure there is no net loss of that species in the City, by transplanting the plant to another appropriate location on the Lands or by replanting another plant of the same species in an appropriate location on the Lands or by any other means sufficient to ensure that there is no net loss. Any proposed replanting or replacement planting on the Lands must be approved by the City prior to the planting. Within 7 days after the date of receipt of the City's approval Project Co shall submit evidence to the City demonstrating that it has taken the steps as approved by the City.

1.18.3 Weed and Exotic Species Management

- (1) For the purposes of this Schedule, "weeds" are those species listed as noxious or prohibited noxious in the Alberta *Weed Control Act*.
- (2) For the purposes of this Schedule, "exotic species" are plant species that are non-native to Alberta based on the most up-to-date ACIMS data. For the purposes of this Project, Manitoba Maple is also considered exotic.
- (3) Project Co shall monitor and manage weeds and exotic species in the Native Forest Restoration Areas and the Naturalization Areas from the Effective Date until the date on which Project Co's liability for such monitoring and management ends in accordance with Section 1.19(10) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule to the extent necessary to be compliant with the Alberta *Weed Control Act*, to exclude exotic species, to ensure that the long-term viability and integrity of plant communities both within and immediately outside and adjacent to the Lands are not compromised and as required to ensure that Project Co complies with Sections 1.18.5.4 *[Weeds and Exotic Species in Native Forest Restoration Areas]* and 1.18.6.4 *[Weeds and Exotic Species in Naturalization Areas]* of this Schedule and the requirements of Schedule 7 *[O&M Performance Requirements]*.
- (4) Project Co shall ensure that it prepares maintenance logs and other records as required to demonstrate compliance with the requirements of this Section and Sections 1.18.5.4 *[Weeds and Exotic Species in Native Forest Restoration Areas]* and 1.18.6.4 *[Weeds and Exotic Species in Naturalization Areas]* of this Schedule and Schedule 7 *[O&M Performance Requirements]* and shall provide copies of those logs and records to the City on request.

1.18.4 Integrated Pest Management Plan

- (1) Project Co shall develop an Integrated Pest Management Plan for the Project. Project Co shall submit the Integrated Pest Management Plan for the period prior to the Service Commencement Date to the City within 60 days after the Effective Date. Project Co shall submit the Integrated

Pest Management Plan for the period after the Service Commencement Date to the City not less than 90 days prior to the Service Commencement Date. The Integrated Pest Management Plan shall address pest management throughout the Term, except that the Integrated Pest Management Plan shall cease to apply to each area handed back to the City on the Vegetation Handback Date. The Integrated Pest Management Plan shall provide a description of the overall approach to pest management and shall address the following:

- a) measures for ensuring that Project Co complies with the requirements in Section 1.18.3 [*Weed & Exotic Species Management*] of this Schedule and other Sections referred to in that Section;
- b) measures for reducing the need for and use of chemical control measures;
- c) protocols for the use of chemical control near water bodies;
- d) specific sensitivities present within the Lands and areas immediately adjacent to the Lands that might be impacted by pest management (e.g., water bodies, residential areas) and specific procedures to be implemented in areas where such sensitivities are present;
- e) monitoring and inspection methods, timing and action levels;
- f) measures for public notification in advance of chemical treatment;
- g) management, control and preventative measures; and
- h) protocols for updates to the Integrated Pest Management Plan to reflect conditions noted during interim inspections undertaken at the times specified in the Integrated Pest Management Plan.

The term “pest” includes anything that is defined as a “pest” in the City of Edmonton Integrated Pest Management Policy or that has been designated as a “pest” under the Alberta *Agricultural Pest Act* where that designation applies to lands within the City of Edmonton.

- (2) The Integrated Pest Management Plan will be an Environmental Plan for the purposes of this Schedule. Project Co shall ensure that the Integrated Pest Management Plan complies with Section 1.8.2 [*Environmental Plans*] of this Schedule. The measures contained within the Integrated Pest Management Plan must be sufficient to ensure compliance with the requirements of the Alberta *Weed Control Act* and the requirements of the *Agricultural Pests Act* and must comply with the City’s Integrated Pest Management Policy, as amended from time to time and the Environmental Code of Practice for Pesticides issued by AEP, as amended from time to time.
- (3) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with the Integrated Pest Management Plan.

1.18.5 Native Forest Restoration

1.18.5.1 General Requirements

(1) Project Co shall restore Native Forest Restoration Areas in accordance with the requirements of the Valley Line LRT Landscape Design Standards and the provisions of this Schedule. Where the specifications in this Schedule for restoration of the Native Forest Restoration Areas conflict with the Valley Line LRT Landscape Design Standards, the provisions of this Schedule prevail.

(2) **“Native Forest Restoration Areas”** are:

- a) areas in Henrietta Muir Edwards Park shown on the River Valley Landscape Drawings and in Figure 6 *[Areas to be Restored and Naturalized in NSRV]* in Appendix 10A *[Figures]* of this Schedule as Native Forest Restoration Area to the extent those areas are disturbed by any Project Work;
- b) existing picnic shelter site in Henrietta Muir Edwards Park;
- c) Lands situated south of Connors Road within the NSRV to the extent those Lands are disturbed by any Project Work;
- d) areas of two native tree stands situated north of the existing Connors Road to the extent those tree stands are disturbed by any Project Work;
- e) any Lands in SE402 that are disturbed by the Project Work and that are situated between undisturbed forest and newly installed Infrastructure or access routes;
- f) areas of turf adjacent to SE402 as shown on Figure 7 *[Restoration Requirements at SE402 and Surrounding Park Lands]* in Appendix 10A *[Figures]* of this Schedule; and
- g) any areas described in Section 1.10(8) *[Site Clearing, Demolition and Dust Control]* of this Schedule that are cleared in accordance with that Section.

See Figures 6 *[Areas to be Naturalized and Restored in NSRV]* and 7 *[Restoration Requirements at SE402 and Surrounding Park Lands]* attached at Appendix 10A *[Figures]*, and River Valley Landscape Drawings for the location and extent of Native Forest Restoration Areas. In case of conflict between the location and extent of Native Forest Restoration Areas shown on the River Valley Landscape Drawings and Schedule 10, the River Valley Landscape Drawings shall prevail.

(3) Project Co shall ensure that all Native Forest Restoration Areas are restored in a manner that ensures that the plantings within each Native Forest Restoration Area are directly contiguous with the surrounding forest boundaries so that there is no visual break between the surrounding forest boundaries and the plantings within the Native Forest Restoration Area. Project Co shall ensure that restoration does not cause or result in any adverse impact to existing native trees and their root systems.

- (4) Project Co shall design and Construct grading in the Native Forest Restoration Areas to smoothly transition and tie-in the Native Forest Restoration Areas to the surrounding Lands and other lands and to ensure Positive Drainage of all Native Forest Restoration Areas without adversely affecting adjacent lands (whether inside or outside the boundary of the Lands).
- (5) Prior to commencement of restoration efforts north of SE402, Project Co shall remove an existing stand of non-native trees from the area indicated in Figure 7 [*Restoration Requirements at SE402 and Surrounding Park Lands*] in Appendix 10A [*Figures*] of this Schedule together with all subsurface root materials and soils underlying that stand.

1.18.5.2 Native Forest Restoration Objectives

- (1) Restoration of Native Forest Restoration Areas shall result in the establishment of a native plant community and Project Co shall ensure that by the Vegetation Handback Date the Native Forest Restoration Areas are on a trajectory towards developing into a structurally and biologically diverse native forest appropriate to site conditions in accordance with the specifications in this Section 1.18.5 [*Native Forest Restoration*] of this Schedule, benchmarks defined in the Native Forest Restoration Plan and the Vegetation Handback Requirements applicable to the Native Forest Restoration Areas.
- (2) The required plant community for Henrietta Muir Edwards Park is a native balsam poplar-dominated riparian forest, similar to the forest in adjacent areas on the NSR south bank.
- (3) The required plant community for Connors Hill, including both the forested slopes south of the road and the tree stands north of the road, is either a native deciduous forest or a native deciduous-dominated mixed wood forest. Restored communities shall be similar to forests in adjacent areas on Connors Road, with the exception of the Manitoba maple-dominated forest at the east end of Connors Road, which is not acceptable in the Native Forest Restoration Areas.
- (4) The required plant community for SE402, as well as the restoration lands in the existing park lands (turf) to the north, is a native deciduous (balsam poplar and/or trembling aspen-dominated) forest, similar to adjacent native forest communities. In this area, passive reclamation measures, such as suckering, can be used, provided that non-native (exotic) species are excluded.
- (5) Manitoba maple (*Acer negundo*) is common to some areas to be restored. This species is not considered to be a desirable or native component of NSRVS forests, and as such, Manitoba maple shall not be re-established in Native Forest Restoration Areas.
- (6) Project Co shall ensure that in the Native Forest Restoration Areas the following native vascular plant species richness levels are present:
 - a) 40 native species for the forest in Henrietta Muir Edwards Park;
 - b) 14 native species for the forest on the slopes south of Connors Road;
 - c) 29 native species for the tree stands north of Connors Road; and

- d) 20 native species for the forest at SE402.

1.18.5.3 Native Forest Restoration Plan

- (1) Project Co shall develop and implement a Native Forest Restoration Plan that includes strategies, procedures and methodologies that will be used to achieve the restoration objectives specified in Section 1.18.5.2 [*Native Forest Restoration Objectives*] of this Schedule and the Vegetation Handback Requirements applicable to the Native Forest Restoration Areas. The Native Forest Restoration Plan shall be submitted to the City no less than 45 days prior to the scheduled commencement of restoration efforts. The Native Forest Restoration Plan must contain measures and procedures sufficient to ensure that the requirements of Section 1.18.5 [*Native Forest Restoration*] of this Schedule are complied with and that the Vegetation Handback Requirements will be complied with on the Vegetation Handback Date.
- (2) Project Co shall ensure that the Native Forest Restoration Plan is developed by a Restoration Specialist supported by a team that includes an AALA certified landscape architect. The Restoration Specialist must have the following expertise and qualifications:
 - a) academic background in ecological restoration and/or land reclamation;
 - b) registration with, or eligibility for membership in the Alberta Society of Professional Biologists and the Alberta Society of Agrologists, and designation, or eligibility for designation, as a Professional Biologist (P.Biol.) and Professional Agrologist (P.Ag.), or their equivalents;
 - c) demonstrated expertise with forest restoration, and relevant experience within the last 10 years; and
 - d) demonstrated expertise with restoration in urban environments, and relevant experience within the last ten years.
- (3) The Native Forest Restoration Plan must include the following:
 - a) a plan to conduct a survey (using randomized sampling) of existing native tree density in each Native Forest Restoration Area during a period appropriate for the conduct of such sampling. Results of the survey for each Native Forest Restoration Area shall be submitted to the City not less than 30 days prior to any disturbance of any vegetation in each Native Forest Restoration Area. Sampling methods shall be adequate to quantify native tree density and shall comply with Environmental Best Management Practices. Project Co shall submit a description of the proposed sampling methods and timing to the City not less than 15 days prior to commencement of the proposed sampling. Native tree density sampling must exclude areas where non-native trees are dominant or abundant relative to native species. For the Native Forest Restoration Area described in Section 1.18.5.1(2)(f) [*General Requirements*] of this Schedule, the survey shall be undertaken in the forested area immediately adjacent to the area described in Section 1.18.5.1(2)(f) [*General Requirements*] of this Schedule;

- b) clearly defined benchmarks to be achieved by Project Co at intervals specified in the plan. Both the benchmarks and the intervals must be adequate to assess whether restored communities are on a suitable successional trajectory to achieve the restoration objectives specified in Section 1.18.5.2 [*Native Forest Restoration Objectives*]. If those benchmarks are not met Project Co shall take such remedial action as required to ensure that the benchmarks are met. Without limitation, benchmarks shall be established for each of the following parameters:
 - i. Canopy composition;
 - ii. Canopy closure;
 - iii. Vertical stratification;
 - iv. Native species richness;
 - v. Avian, and small and medium mammalian wildlife habitat value;
 - vi. Tree density;
 - vii. weeds and exotic species; and
 - viii. Composition of the shrub and herb layer;
- c) a list of proposed plant species listed by scientific and common names to be used in restoration;
- d) the size of material at the time of installation;
- e) growing condition (i.e. potted, bare-root, cutting);
- f) a plan showing plant spacing and density that complies with the requirements of Section 1.18.5.3(3)(n) [*Native Forest Restoration Plan*] of this Schedule;
- g) a description of seed mixes, if used, using common and scientific names and proportions for each species;
- h) a description of how and where plant material will be sourced, and where it will be grown or propagated (if applicable);
- i) a minimum of two measures sufficient to provide enhanced wildlife habitat must be installed in each Native Forest Restoration Area and the measures must be sufficient to offset impacts of temporal loss of habitat resulting from clearing. Examples of such measures include:
 - i. installation of downed woody debris; and
 - ii. installation of snags to function as wildlife trees;

- j) measures for effectively integrating the wildlife passage bench on the riverbank to the surrounding environment within the Lands. Refer to the requirements listed in Section 1.20.2.3 [*Permanent Accommodation of Wildlife Movement*] of this Schedule;
- k) temporary erosion and sedimentation control measures appropriate for the Native Forest Restoration Areas and the restoration work;
- l) a detailed description of maintenance strategies and practices for the Native Forest Restoration Areas, which shall focus on ecologically sound practices, including:
 - i. integrated pest management;
 - ii. use of organic or environmentally-friendly weed control products and methods that produce vigorous and healthy plant material;
 - iii. the frequency of maintenance inspections which shall be sufficient to ensure all requirements of this Section 1.18.5 [*Native Forest Restoration*] are complied with and that the Vegetation Handback Requirements are met;
 - iv. a requirement that where plant performance results are not satisfactory, soils shall be tested to identify soil remediation requirements and Project Co shall undertake any soil replacement, replenishment or other remediation as required to ensure plant performance achieves the requirements of this Section 1.18.5 [*Native Forest Restoration*] and the Vegetation Handback Requirements; and
 - v. recommended long-term maintenance strategies and practices to be implemented by the City following Vegetation Handback and continuing to anticipated forest maturity date and which are designed to ensure long-term reforestation success;
- m) requirements that the following protocols be adhered to:
 - i. only native species, as defined per the most up-to-date ACIMS data, shall be used in restoration;
 - ii. with the exception of trees and shrubs, all plant stock or propagules, including but not limited to seedlings, seeds, stem or root cuttings, root crowns and rhizomes, must be sourced from wild, local stock collected from the NSRVS in the greater Edmonton area. The use of cultivars, non-local stock or horticultural stock is not permitted;
 - iii. trees and shrubs to be used in restoration must be native species. The use of cultivars is not permitted;
 - iv. except as noted in subsection v. immediately below, upon recommendation by the Restoration Specialist, native topsoils (i.e., topsoils underlying forested areas) shall be stockpiled and reused;

- v. existing soils in the Native Forest Restoration Area north of SE402 described in Section 1.18.5.1(2)(f) [*General Requirements*] of this Schedule cannot be reused in restoration and only clean, imported soils meeting the soil standards for landscaped areas as specified in this Agreement may be used in that area;
 - vi. upon recommendation of the Restoration Specialist, soils may be imported as required;
 - vii. any imported fill/soils shall be weed free, shall conform to Alberta Tier 1 Guidelines for the applicable land use and shall be of the type, structure and quality specified by the Restoration Specialist in the Native Forest Restoration Plan;
 - viii. Project Co shall maintain receipts and other records sufficient to demonstrate compliance with the requirements in (i) to (vii) above and shall provide those receipts and records to the City on request;
 - ix. at least three (3) high bush cranberry plants (*Viburnum opulus*) shall be planted in the Native Forest Restoration Area at SE402. At least 40 high bush cranberry plants shall be planted in the Native Forest Restoration Area south of Connors Road, and at least 10 high bush cranberry plants shall be planted in the Native Forest Restoration Areas in Henrietta Muir Edwards Park. The high bush cranberry plants planted in the Native Forest Restoration Areas must be derived from native, local and wild source material obtained from the SE402 or from the NSRVS in the greater Edmonton region;
 - x. measures to ensure that the wildlife underpass (including bench, as appropriate) under the south end of the Tawatinâ Bridge SUP extends into the adjacent Native Forest Restoration Areas to tie gradually into the existing grade at the boundary of the Lands; and
 - xi. restoration along the wildlife underpass (including bench) under the south end of the Tawatinâ Bridge SUP in compliance with Section 1.20.2.3(2)(b) [*Permanent Accommodation of Wildlife Movement*] of this Schedule and the River Valley Landscape Drawings;
- n) a drawing for each Native Forest Restoration Area, at a scale of 1:1000 and that otherwise complies with the specifications for landscape drawings in the Valley Line LRT Landscape Design Standards, which shows the following:
- i. soils to be placed in all areas of the Native Forest Restoration Area, soil types, soil stockpile locations within the NSRV and any notes regarding soil handling protocols and restrictions;
 - ii. the planting plan for the Native Forest Restoration Area, including densities and layout (if applicable);

- iii. erosion and sediment control measures, indicating those measures that will be in place during Construction, including conduct of the restoration work, and those measures that will be in place at the Vegetation Handback Date;
 - iv. tree, shrub and forb palettes, using both scientific and common species names, seed mixes (showing both common and scientific names and proportions for each species), and a description of how and where plant material will be sourced, and where it will be grown or propagated (if applicable); and
 - v. measures to enhance wildlife habitat.
- (4) The Native Forest Restoration Plan is an Environmental Plan for the purposes of this Schedule. Project Co shall ensure that the Native Forest Restoration Plan complies with Section 1.8.2 [*Environmental Plans*] of this Schedule.
- (5) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with the Native Forest Restoration Plan.

1.18.5.4 Weeds and Exotic Species in Native Forest Restoration Areas

- (1) Subject to Section 1.23(15) [*Environmental Matters Specific to Operating Period*] of this Schedule, all Native Forest Restoration Areas shall be maintained in accordance with the Alberta *Weed Control Act* and shall be kept free of exotic species, with weed and exotic species control activities occurring a minimum of 10 times per growing season.

1.18.5.5 Other Matters

- (1) Trees and other woody material removed from the Lands during clearing for Construction may be used in restoration for the purpose of habitat and/or microsite creation.
- (2) Project Co shall install fencing around Native Forest Restoration Areas in accordance with the requirements of Section 1.21 [*Fencing Requirements*] of this Schedule.
- (3) Project Co shall provide a written notice to the City not less than 90 days prior to the date on which Project Co expects to complete initial planting in each Native Forest Restoration Area.
- (4) Project Co shall install a sign regarding each Native Forest Restoration Area on a post installed by Project Co in a location specified by the City. The signpost shall comply with the Edmonton River Valley Signage and Wayfinding Guidelines in effect as of the Effective Date and be suitable for the specific signs provided by the City. The City will provide the sign to Project Co for installation and Project Co shall install the sign within 30 days after the City provides the sign to Project Co. Project Co shall inspect each sign at regular intervals and shall provide notice to the City of any damage to any such sign.

1.18.6 Naturalization Areas

1.18.6.1 General Requirements

- (1) Project Co shall complete Naturalization of the Naturalization Areas in accordance with the requirements of the Valley Line LRT Landscape Design Standards and the provisions of this Schedule. Where the specifications in this Schedule for Naturalization of the Naturalization Areas conflict with the Valley Line LRT Landscape Design Standards, the provisions of this Schedule prevail.

1.18.6.2 Naturalization Objectives

- (1) Project Co shall undertake Naturalization in the following areas (the “**Naturalization Areas**”) to establish the following communities:
 - a) on lands downslope of the east-west SUP (TransCanada Trail) in Louise McKinney Riverfront Park in the locations shown on the River Valley Landscape Drawings, a tree/shrub/grass community such that at maturity, trees and shrubs shall comprise 40-60% cover in this area;
 - b) on lands upslope of the east-west SUP (TransCanada Trail) in Louise McKinney Riverfront Park in the location shown on the River Valley Landscape Drawings, a grass-shrub community such that at maturity, shrubs shall comprise 60%-80% cover in this area;
 - c) in Henrietta Muir Edwards Park, a grass-dominated community with occasional planted trees and shrubs in the location shown on the River Valley Landscape Drawings such that at maturity, trees and shrubs shall comprise 40-60% cover in this area; and
 - d) at the following locations in the vicinity of Connors Road, to the extent the locations are disturbed by Project Work:
 - i. along the north side of Connors Road from the Kâhasinîskâk Bridge to the Muttart Service Road, a Naturalization Area in the Back of Trackway Landscape Area. This area shall be a minimum of 15 m wide and a maximum of 30 m wide with a total area of 6500 sq. m and the boundaries of the Naturalization Area shall be irregular so that the shape of the area appears natural. This area shall be Naturalized to a tree/shrub/grass community such that it provides 60-70% woody cover;
 - ii. along the north side of Connors Road from the Kâhasinîskâk Bridge to the Muttart Service Road, a Naturalization Area in the Trackway Boulevard Landscape Area. This area shall be a minimum of 10 m wide and a maximum of 20 m wide with a total area of 2110 sq. m. and the boundaries of the Naturalization Area shall be irregular so that the shape of the area appears natural. This area shall be Naturalized to a tree/shrub/grass community such that it provides 60-70% woody cover; and
 - iii. along the north side of Connors Road east of the Kâhasinîskâk Bridge between the trackway and pedestrian pathways, a Naturalization Area, having a total area of 440

sq. me. This area shall be Naturalized to a tree/shrub/grass community such that it provides 60-70% woody cover; and

e) underneath the Davies Elevated Guideway in Wagner Park, as shown in Figure 7 [*Restoration Requirements at SE402 and Surrounding Park Lands*] of Appendix 10A [*Figures*], and extending south to the north edge of the maintenance access lane, a grass-shrub community such that at maturity, shrubs shall comprise 20-30% cover in this area.

(2) Project Co shall design and Construct grading in the Naturalization Areas to smoothly transition and tie-in the Naturalization Areas to the surrounding Lands and other lands (provided no grading will extend beyond the boundaries of the Lands) and to ensure Positive Drainage of all areas without adversely affecting adjacent lands (whether inside or outside the boundary of the Lands).

1.18.6.3 Naturalization Plan

(1) Project Co shall develop and implement a Naturalization Plan that is developed by a Restoration Specialist together with a team that includes an AALA certified landscape architect. Project Co shall submit the Naturalization Plan to the City not less than 30 days prior to commencement of any Naturalization work. The Naturalization Plan must contain adequate measures to ensure that the Naturalization objectives in this Section 1.18.6 [*Naturalization Areas*] of this Schedule are achieved and must include:

- a) a list of species to be planted, seeded or otherwise installed at each Naturalization Area, listed by scientific and common names;
- b) the size of plant material at the time of installation;
- c) a description of the growing condition of plant material (i.e. potted, bare-root, cutting);
- d) a description of the minimum and maximum plant spacing and density;
- e) seed mixes for all seeded species, including proportions by species;
- f) plans for shrub and tree plantings, showing the location of each plant by species, which plans must comply with Section 1.18.6.3(1)(i) [*Naturalization Plan*] of this Schedule;
- g) a detailed description of maintenance strategies and practices for the Naturalization Areas, which shall focus on ecologically sound practices, including:
 - i. integrated pest management;
 - ii. use of organic or environmentally-friendly weed control products and methods that produce vigorous and healthy plant material; and
 - iii. the frequency of maintenance inspections which shall be sufficient to ensure all requirements of this Section 1.18.6 [*Naturalization Areas*] of this Schedule are complied with and that the Vegetation Handback Requirements are met;

- h) a requirement that where plant performance results are not satisfactory, soils shall be tested to identify soil remediation requirements and Project Co shall undertake any soil replacement, replenishment or other remediation as required to ensure plant performance achieves the requirements of this Section 1.18.6 [*Naturalization Areas*] of this Schedule and the Vegetation Handback Requirements; and
- i) a drawing for each Naturalization Area, at a scale of 1:1000 and that otherwise complies with the specifications for landscape drawings in the Valley Line LRT Landscape Design Standards, which shows the following:
 - vi. soils to be placed in all areas of the Naturalization Area, soil types, soil stockpile locations within the NSRV and any notes regarding soil handling protocols and restrictions;
 - vii. the planting plan for the Naturalization Area, including densities and layout (if applicable);
 - viii. erosion and sediment control measures, indicating those measures that will be in place during Construction, including conduct of the Naturalization work, and those measures that will be in place at the Vegetation Handback Date; and
 - ix. tree, shrub and forb palettes, using both scientific and common species names, seed mixes (showing both common and scientific names and proportions for each species), and a description of how and where plant material will be sourced, and where it will be grown or propagated (if applicable).

(2) The Naturalization Plan must include the following protocols:

- a) only native species of wild provenance shall be seeded, planted or otherwise installed in Naturalization Areas. Native cultivars are acceptable for grasses only;
- b) at least three species of native prairie forbs shall be incorporated in Naturalization plantings at each of the four Naturalization Areas and shall be installed at a density that will result in all three species being abundant in each mature community in numbers that would be ranked as occasional in a community-wide vegetation survey;
- c) a minimum of twelve species shall be incorporated into the seed mixes and planting palettes developed for each Naturalization Area, with up to half represented in the seed mix;
- d) a minimum of 50% of trees shall have a minimum caliper of 50 mm;
- e) the minimum height for coniferous trees shall be 2.5 m;
- f) the minimum size for shrubs shall be 1 gallon containers, as per CNLA standards;

- g) the use of mulch is not permitted in Naturalization Areas except when used to cover tree wells of 50 mm or greater caliper trees. In all other areas, alternate weed suppression methods such as a seed mix, shall be used in lieu of mulch;
 - h) shrub and tree plantings shall be irregularly spaced, and groupings, if used, shall have irregular, ill-defined boundaries. Plantings are meant to appear natural, not horticultural;
 - i) soil specifications for perennial and shrub planting bed soil as set out in the landscaping requirements in Schedule 5 [*D&C Performance Requirements*], shall be applied in Naturalization Areas;
 - j) mowing of Naturalization Areas shall only be permitted for the first five years after planting. Mowing shall not damage shrubs or trees;
 - k) coniferous trees shall be setback a minimum of 2 m from the edge of mature tree canopy to pedestrian areas and paths;
 - l) Naturalization plantings shall consist of species that are drought tolerant and appropriate to site conditions. Naturalized areas shall serve to anchor and stabilize soil in such a way that controls erosion and that prevents introduction of sediments into watercourses or the municipal stormwater system;
 - m) measures to ensure that the wildlife underpass (including bench, as appropriate) under the north end of the Tawatinâ Bridge SUP extends into the adjacent Naturalization Areas to tie gradually into the existing grade at the boundary of the Lands;
 - n) restoration along the wildlife underpass (including bench) under the north end of the Tawatinâ Bridge SUP in compliance with Section 1.20.2.3(2)(b) [*Permanent Accommodation of Wildlife Movement*] of this Schedule and the River Valley Landscape Drawings;
 - o) temporary erosion and sedimentation control measures appropriate for the Naturalization Areas and the Naturalization work; and
 - p) recommended long-term maintenance strategies and practices to be implemented by the City following Vegetation Handback and continuing to anticipated community maturity date and which are designed to ensure long-term naturalization success;
- (3) The Naturalization Plan is an Environmental Plan for the purposes of this Schedule. Project Co shall ensure that the Naturalization Plan complies with Section 1.8.2 [*Environmental Plans*] of this Schedule.
- (4) Project Co shall implement, update, maintain, monitor, comply with and ensure that all Project Co Persons comply with the Naturalization Plan.

1.18.6.4 Weeds and Exotic Species in Naturalization Areas

- (1) Subject to Section 1.23(15) *[Environmental Matters Specific to Operating Period]* of this Schedule, all Naturalization Areas shall be maintained in accordance with the *Alberta Weed Control Act* and shall be kept free of exotic species, with weed and exotic species control activities occurring a minimum of 10 times per growing season.

1.18.6.5 Other Matters

- (1) Project Co shall install fencing around Naturalization Areas in accordance with the requirements of Section 1.21 *[Fencing Requirements]* of this Schedule.
- (2) Project Co shall provide a written notice to the City not less than 90 days prior to the date on which Project Co expects to complete initial planting in each Naturalization Area.
- (3) Project Co shall install a sign regarding each Naturalization Area on a post installed by Project Co in a location specified by the City. The City will provide the sign to Project Co for installation and Project Co shall install the sign within 30 days after the City provides the sign to Project Co. The signpost shall comply with the Edmonton River Valley Parks Signage and Wayfinding Guidelines in effect as of the Effective Date for the specific signs provided by the City. Project Co shall inspect each sign at regular intervals and shall provide notice to the City of any damage to any such sign.

1.18.7 Acknowledgment Regarding Project Co Knowledge

- (1) The agreement by Project Co to the foregoing provisions in this Section 1.18 shall not, in and of itself, constitute knowledge of Project Co of the presence on or around the City Lands of plant species protected by Environmental Laws at the Financial Submission Date.

1.19 COMPLETION AND HANDBACK OF LANDSCAPING, NATIVE FOREST RESTORATION AND NATURALIZATION

- (1) Project Co shall ensure that, except as specified in Section 1.19(3) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule, by not later than the Service Commencement Date, all Project Work described in Section 2-14 *[Landscape Architecture]* of Schedule 5 *[D&C Performance Requirements]* is complete in accordance with the requirements of that Section.
- (2) For the Native Forest Restoration Areas and Naturalization Areas, Project Co shall ensure that, except as specified in Section 1.19(3) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalisation]*, by not later than the Service Commencement Date, all seeding, planting, installations and other work required to establish ground cover and initiate longer-term ecological processes and all other work required under Section 1.18.5 *[Native Forest Restoration]* of this Schedule is complete in accordance with the requirements of this Schedule, the Native Forest Restoration Plan and the Naturalization Plan, all fencing is installed as required pursuant to Section 1.21 *[Fencing Requirements]* of this Schedule and signage is

installed as required under Sections 1.18.5.5(4) *[Other Matters]* and 1.18.6.5(3) *[Other Matters]* of this Schedule.

- (3) In the NSRV, Project Co shall ensure that for each NSRV Segment, all the work described in Sections 1.19(1) and 1.19(2) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule that is to be conducted in that NSRV Segment is completed and that the End of Active Reclamation is achieved within the number of days specified for the applicable NSRV Segment in Column E of Table 3 *[NSRV Landscaping Adjustment]* in Schedule 16 *[Payment Mechanism]*, Appendix 1 *[Payment and Payment Adjustment Inputs]*, measured from the Commencement of Disruptive Activities for the applicable NSRV Segment, as such periods may be adjusted in accordance with Section 12.1 *[Force Majeure]* or Section 13.1 *[Relief Events]* of the Project Agreement or in accordance with the terms of a Change Order Confirmation.
- (4) (a) *Advance Notice of Completion:* Project Co acknowledges that the Independent Certifier will need sufficient time to complete any inspections, and consult with the City and Project Co, and accordingly Project Co shall:
 - i. at least 10 days (but no more than 14 days) before the anticipated date for End of Active Reclamation in an NSRV Segment, deliver to the Independent Certifier and the City's Representative a notice setting out:
 - (A) a description of all outstanding work to be completed by Project Co to achieve End of Active Reclamation in that NSRV Segment; and
 - (B) a list of all Deficiencies with respect to the work described in Sections 1.19(1) and 1.19(2) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule that is to be conducted in that NSRV Segment that Project Co is aware of at the time of the notice; and
 - ii. assist the Independent Certifier to make any advance inspections requested by the Independent Certifier.
- (b) *Notice of Completion:* When Project Co considers that it has met the requirements for End of Active Reclamation in an NSRV Segment, Project Co may submit a notice to the City and the Independent Certifier identifying the NSRV Segment and stating that the requirements for End of Active Reclamation in that NSRV Segment have been satisfied.
- (c) *Inspection for Completion:* No later than 10 Business Days after Project Co delivers:
 - i. a notice pursuant to Section 1.19(4)(b) *[Notice of Completion]* of this Schedule, and
 - ii. all Certificates required under this Agreement together with any additional supporting documentation as the City may reasonably require to confirm that conditions precedent to End of Active Reclamation have been achieved and the Certificates and supporting documentation are acceptable to the City, acting reasonably

the City and Project Co shall require the Independent Certifier to, in cooperation with Project Co's Representative and the City's Representative:

- iii. review all relevant Certificates and supporting documentation submitted pursuant to Section 1.19(4)(c)(ii) [*Inspection for Completion*] of this Schedule; and
- iv. commence performing an inspection of the NSRV Segment to determine whether the End of Active Reclamation has occurred and shall instruct the Independent Certifier to complete such inspection in a diligent and timely manner taking into account the size of the NSRV Segment.

(d) *Report by Independent Certifier:* The City and Project Co shall require the Independent Certifier, within 5 Business Days after completion of the inspection under Section 1.19(4)(c)(iv) [*Inspection for Completion*] of this Schedule, to either:

- i. issue a report to each of Project Co and the City stating that the requirements for End of Active Reclamation have been satisfied and listing the Deficiencies for that NSRV Segment with respect to the work described in Sections 1.19(1) and 1.19(2) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule with the Independent Certifier's estimate of the cost to correct each of those Deficiencies; or
- ii. issue a report to each of Project Co and the City stating that the requirements for End of Active Reclamation have not been satisfied, including the reasons in detail for that decision, a list of the Deficiencies for that NSRV Segment with respect to the work described in Sections 1.19(1) and 1.19(2) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule and the Independent Certifier's estimate of the cost to correct each of those Deficiencies.

(5) (a) *Completion of Further Work for End of Active Reclamation:* In the event of delivery of a report by the Independent Certifier under Section 1.19(4)(d)(ii) [*Report by Independent Certifier*] of this Schedule, Project Co shall issue to the Independent Certifier and the City a notice not less than 5 Business Days but no more than 15 Business Days prior to the date upon which Project Co expects to complete such further work or other measures necessary or appropriate to remedy or remove the cause of the Independent Certifier's refusal to issue a report under Section 1.19(4)(d)(i) [*Report by Independent Certifier*] of this Schedule in respect of the NSRV Segment and the provisions of Section 1.19(4)(a) [*Advance Notice of Completion*] shall apply to such notice. When Project Co considers that it has completed such further work or other measures necessary or appropriate to remedy or remove the cause of the Independent Certifier's refusal to issue a report under Section 1.19(4)(d)(i) [*Report by Independent Certifier*] of this Schedule in respect of the NSRV Segment, Project Co may submit a notice to the City and the Independent Certifier identifying the NSRV Segment and stating that the requirements for End of Active Reclamation in that NSRV Segment have been satisfied. Upon Project Co notifying the Independent Certifier and the City that such further work or measures necessary or appropriate have been completed, the provisions of Sections 1.19(4)(c) and (d) and 1.19(5)(c) of this Schedule shall thereafter apply to such notice *mutatis mutandis*.

(b) Correction of Deficiencies: If the Independent Certifier issues a report pursuant to Section 1.19(4)(d)(i) [*Report of Independent Certifier*] for an NSRV Segment, Project Co shall proceed expeditiously to correct each Deficiency listed in the report by the date that is 30 days after the date on which the End of Active Reclamation occurred for the relevant NSRV Segment, or such later date as may be reasonably required to provide sufficient time to correct the Deficiencies identified in that report and that is agreed by the City, acting reasonably, provided that all such Deficiencies shall be corrected prior to the Service Commencement Date. Each Deficiency listed in the report delivered pursuant to Section 1.19(4)(d)(i) shall have its own deadline for completion (each a “**Reclamation Deficiency Deadline**”). Nothing in this Section 1.19 of this Schedule limits Project Co’s responsibilities for correction of Deficiencies that are identified after delivery of a report by the Independent Certifier pursuant to Section 1.19(4)(d) [*Report by Independent Certifier*] of this Schedule.

(c) Submission by the City’s Representative: The City may, at any time, following receipt of notice given by Project Co pursuant to Section 1.19(4)(a) [*Advance Notice of Completion*] or Section 1.19(4)(b) [*Notice of Completion*] or 1.19(5)(a) [*Completion of Further Work for End of Active Reclamation*] of this Schedule, and prior to the Independent Certifier issuing a report under Section 1.19(4)(d) [*Report by Independent Certifier*], provide the Independent Certifier and Project Co with the City’s submissions as to whether the End of Active Reclamation has occurred for a particular NSRV Segment and, if applicable, any reasons as to why the City considers that a report under Section 1.19(4)(d)(i) [*Report by Independent Certifier*] of this Schedule should not be issued for that NSRV Segment. The Independent Certifier shall consider such submissions in preparing the report referred to in Section 1.19(4)(d) [*Report by Independent Certifier*] of this Schedule.

(d) No Limitation: The issuance of a report under Section 1.19(4)(d) [*Report by Independent Certifier*] of this Schedule shall be without prejudice to and shall not in any way limit the rights and obligations of the parties under and in accordance with this Agreement.

(6) Project Co shall maintain, water, repair, weed, replant and conduct other work as required in accordance with the requirements of this Schedule, the Native Forest Restoration Plan, the Naturalization Plan, Schedule 7 [*O&M Performance Requirements*] and the Landscape Maintenance Plans and as otherwise required to ensure that at the Vegetation Handback Date each area described below meets the requirements for that area described below (collectively, the “**Vegetation Handback Requirements**”):

a) for all areas of the Lands required to be landscaped in accordance with Schedule 5 [*D&C Performance Requirements*]:

- i. 100% of all plant materials required under Section 2-14 [*Landscape Architecture*] of Schedule 5 [*D&C Performance Requirements*], are in place and in good horticultural condition;
- ii. all installations and measures required under Section 2-14 [*Landscape Architecture*] of Schedule 5 [*D&C Performance Requirements*], including pathways, reinstallation

of park fixtures, and installation of hardscape areas, are in place and meet the Design and Construction Requirements; and

- iii. all areas meet the landscape maintenance outcomes specified in Schedule 7 [*O&M Performance Requirements*] and in the applicable requirements set out in Section 2-14 [*Landscape Architecture*] of Schedule 5 [*D&C Performance Requirements*].

The Vegetation Handback Requirements do not apply to the Excluded Areas and Project Co will remain responsible for the Excluded Areas in accordance with the requirements of this Schedule and Schedule 7 [*O&M Performance Requirements*] for the full Term. The “**Excluded Areas**” are:

- A. the landscaped areas at each of: (I) the Gerry Wright OMF Site, (II) the Davies Site, and (III) the Utility Complexes,
 - B. landscaped walls steeper than 1 vertical to 3 horizontal,
 - C. the landscape screening along the North River Bank Tunnel Approach Access Road retaining walls, and
 - D. Back of Trackway Landscape Area along 66 Street between Whitemud Drive and 34 Avenue.
- b) for each Native Forest Restoration Area:
- i. the Native Forest Restoration Area is clean and free of debris and refuse;
 - ii. the Native Forest Restoration Area has a natural, vigorous aesthetic. The assessment of whether a Native Forest Restoration Area has a natural aesthetic will be made with reference to the requirements in Section 1.18.5.2(1) [*Native Forest Restoration Objectives*] and Section 1.18.5.4(1) [*Weeds and Exotic Species in Native Forest Restoration Areas*] of this Schedule;
 - iii. all plant material required to be planted in the Native Forest Restoration Area under the Native Forest Restoration Plan has been planted and is in good horticultural condition, free from disease and damage;
 - iv. all restoration objectives specified in Section 1.18.5.2 [*Native Forest Restoration Objectives*] of this Schedule have been achieved in the Native Forest Restoration Area;
 - v. the Native Forest Restoration Area supports a total native tree density that is at least 110% of the total native tree density recorded in the pre-disturbance tree density surveys undertaken pursuant to Section 1.18.5.3(3)(a) [*Native Forest Restoration Plan*] of this Schedule for the Native Forest Restoration Area with no one location in the Native Forest Restoration Area measuring greater than 3 square meters having less than 90% of the total pre-disturbance sampled density;

- vi. native species richness levels specified in Section 1.18.5.2 [*Native Forest Restoration Objectives*] of this Schedule are achieved in the Native Forest Restoration Area, with at least 50% of total native species represented by at least 10 healthy plants of each species;
 - vii. all high bush cranberry plants required under this Schedule to be installed at the Native Forest Restoration Area are in good horticultural condition;
 - viii. the Native Forest Restoration Area contains at least two types of installed wildlife habitat features that are demonstrably functional at a community level;
 - ix. all vegetation installed to tie wildlife underpasses and crossing structures into adjacent plant communities is in good horticultural condition;
 - x. the Native Forest Restoration Area meets all applicable requirements set out in the Valley Line LRT Landscape Design Standards for the Native Forest Restoration Area; and
 - xi. all fencing required under Section 1.21 [*Fencing Requirements*] of this Schedule for the Native Forest Restoration Area remains in place and in the condition specified in Section 1.21 [*Fencing Requirements*] of this Schedule.
- c) for each Naturalization Area:
- i. the Naturalization Area is clean and free of debris and refuse;
 - ii. the Naturalization Area has a natural, vigorous aesthetic. The assessment of whether a Naturalization Area has a natural aesthetic will be made with reference to the requirements in Sections 1.18.6.3(2)(a), 1.18.6.3(2)(b) and 1.18.6.3(2)(h) [*Naturalization Plan*] and 1.18.6.4(1) [*Weeds and Exotic Species in Native Forest Restoration Areas*] of this Schedule;
 - iii. all plant material required to be planted in the Naturalization Area under the Naturalization Plan has been planted and is in good horticultural condition, free from disease and damage;
 - iv. the Naturalization Area, with the exception of Lands in Louise McKinney Riverfront Park upslope of the SUP and the area under and near the Elevated Guideway at SE402, supports at least two species of trees contributing at least 10% of the woody cover at the Vegetation Handback Date;
 - v. the Naturalization Area has:
 - (l) at least 100% of the total tree and shrub density specified for the Naturalization Area in the Naturalization Plan;

- (II) a ground vegetation stratum, with a minimum of 90% organic ground cover, consisting of at least 50% grass cover and there are no bare patches greater than 0.5 m²; and
 - (III) a community composition and cover that indicates a trajectory toward the final communities set out in the Naturalization objectives in Section 1.18.6.2 *[Naturalization Objectives]* of this Schedule;
- vi. the Naturalization Area meets all applicable requirements set out in the Valley Line LRT Landscape Design Standards for the Naturalization Area; and
 - vii. all fencing required under Section 1.21 *[Fencing Requirements]* of this Schedule for the Naturalization Area remains in place and in the condition specified in Section 1.21 *[Fencing Requirements]* of this Schedule.
- (7) Project Co shall inspect all of the Lands described in Section 1.19(6) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule in each April, July and September from and after the date on which the work described in Section 1.19(1) and 1.19(2) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule commences to the Vegetation Handback Date and shall submit a written report to the City within 10 days after completion of each such inspection. That report must describe the inspection including the date on which the inspection was conducted, the person conducting the inspection, the weather conditions at the time of inspection and must provide a detailed report concerning the condition of the landscaping, Native Forest Restoration Areas and the Naturalization Areas at the time of inspection, noting any plants that have failed to germinate, or that have died or that are showing any signs of disease or stress, describing any other adverse conditions in those areas, and containing a detailed assessment of the ability of those areas to meet the Vegetation Handback Requirements by the Vegetation Handback Date and describing any mitigation or other measures Project Co will implement to correct any Deficiencies in the condition of those areas and to ensure that those areas will meet the Vegetation Handback Requirements by the Vegetation Handback Date.
- (8) Project Co shall promptly reseed, replant, reinstall, or otherwise repair any plantings or other installations in the areas described in Section 1.19(6) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule as required to ensure those areas remain in good condition and in accordance with the specifications for the initial plantings and installations in those areas as specified in this Schedule, Schedule 5 *[D&C Performance Requirements]*, the Naturalization Plan, the Native Forest Restoration Plan, the Valley Line LRT Landscape Design Standards and as required to meet the Vegetation Handback Requirements by the Vegetation Handback Date.
- (9) On the Vegetation Handback Date, Project Co and the City shall arrange for an inspection by the Independent Certifier of all the Lands described in Section 1.19(6) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule and shall instruct the Independent Certifier to issue a report to Project Co and the City within 30 days after the

Vegetation Handback Date stating whether the areas of the Lands described in that Section comply with the Vegetation Handback Requirements. For each area that does not comply with the Vegetation Handback Requirements, the report must also identify the specific Deficiencies that must be corrected for the area to meet the Vegetation Handback Requirements, estimate the cost to correct the identified Deficiencies and estimate the total value of the landscaping, Naturalization or Native Forest Restoration in the area if the area had complied with all Vegetation Handback Requirements applicable to the area. The City may provide the Independent Certifier and Project Co with submissions regarding all matters to be included in the Independent Certifier's report. The Independent Certifier shall consider such submissions in preparing the report referred to in this Section. The issuance of a report under this Section shall be without prejudice to and shall not in any way limit the rights and obligations of the parties under and in accordance with this Agreement.

(10) If the Independent Certifier's report described in Section 1.19(9) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule:

- a) states that all Vegetation Handback Requirements have been met for an area described in Section 1.19(6) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*], all obligations and liabilities of Project Co under this Agreement with respect to vegetation maintenance, pest management and fencing in that area cease effective as of the Vegetation Handback Date;
- b) states that the Vegetation Handback Requirements have not been met for an area described in Section 1.19(6) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule, but the estimated cost as set out in the Independent Certifier's report to correct the Deficiencies identified in the Independent Certifier's report is less than 5% of the total value (as estimated in the Independent Certifier's report) of the landscaping, Naturalization or Native Forest Restoration in the area if the area had complied with all Vegetation Handback Requirements applicable to that area, all obligations and liabilities of Project Co under this Agreement with respect to vegetation maintenance, pest management and fencing in those areas cease effective as of the Vegetation Handback Date and payments to Project Co will be adjusted based on that estimate as set out in Section 16.5.5 [*Vegetation Handback Adjustment*] of Schedule 16 [*Payment Mechanism*]; or
- c) states that the Vegetation Handback Requirements have not been met for an area described in Section 1.19(6) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule and the estimated cost as set out in the Independent Certifier's report to correct the Deficiencies identified in the Independent Certifier's report is 5% or more of the total value (as estimated in the Independent Certifier's report) of the landscaping, Naturalization or Native Forest Restoration in the area if the area had complied with all Vegetation Handback Requirements applicable to that area, then Project Co shall promptly undertake all work identified in the Independent Certifier's report as required to meet the Vegetation Handback Requirement for that area. In this case, Project Co shall remain responsible for the area and shall continue to

conduct all maintenance and monitoring of the area as required under this Agreement and the Vegetation Handback Date for that area shall be extended to the first July 31 that is at least two years (730 days) after the original Vegetation Handback Date, subject to further extension in accordance with Section 12 [*Force Majeure*] or Section 13 [*Relief Events*] of the Project Agreement. At that date, the provisions of Sections 1.19(9) and 1.19(10) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule shall apply again as at the original Vegetation Handback Date and the process under those Sections shall continue every two years until a report under Section 1.19(10)(a) or Section 1.19(10)(b) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule has been delivered for all areas described in Section 1.19(6) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule.

For greater certainty, for the purposes of Sections 1.19(9) and 1.19(10) of this Schedule, all areas of the Lands required to be landscaped in accordance with Schedule 5 will be treated as a single area (but excluding the Excluded Areas) and each Native Forest Restoration Area and each Naturalization Area will be treated as a separate area.

1.20 WILDLIFE

1.20.1 General

- (1) Project Co shall ensure that material adverse impacts on wildlife and wildlife habitat located outside the Lands caused by the Project, Project Work or any activities of Project Co or any Project Co Person under this Agreement are minimized to the extent reasonably feasible employing Environmental Best Management Practices.
- (2) Wildlife proof garbage disposal containers shall be provided on the Lands during Construction for all food scraps, lunchroom waste and other wastes that might attract wildlife.
- (3) Feeding of wildlife, including, but not limited, to birds and small mammals, shall not be permitted by Project Co or any Project Co Person.
- (2) Project Co shall ensure that all persons conducting any Project Work are educated about the potential for wildlife/worker conflict and appropriate procedures to follow to avoid and manage such conflicts.
- (3) Project Co shall develop, implement, comply with and ensure that all Project Co Persons comply with procedures for addressing wildlife moving onto the Lands which procedures must be sufficient to avoid worker/wildlife conflicts. Where such conflicts occur, Project Co shall assess the incident and correct procedures as required to minimize the risk of future conflicts.

1.20.2 Habitat Connectivity/Wildlife Movement

1.20.2.1 Accommodation during Construction Period In Vicinity of NSRV

- (1) During Construction in the NSRV, Project Co shall comply with the construction phase best management practices described in City of Edmonton Wildlife Passage Engineering Design Guidelines.
- (2) Project Co shall provide wildlife movement corridors at all times during Construction in the vicinity of the key locations shown in Figure 8 [*Key Locations to be Accessible for Wildlife Passage in NSRV during Construction Stage*] attached at Appendix 10A [*Figures*], sufficient to permit wildlife to move through the Lands and between upstream and downstream lands in the NSRV. The corridors shall provide for small, medium and large-bodied terrestrial wildlife movement through the NSRV, at key locations during all months of the year. If required for safety, environmental protection or other similar reasons, passages created to facilitate movement may be temporarily blocked during daylight hours to allow for Construction activity, provided that the passages are reopened one hour prior to sunset and kept open until one hour after sunrise.
- (3) Fencing installed in the NSRV during Construction must accommodate wildlife movement to the maximum extent feasible while complying with the requirements of this Agreement with respect to tree protection and public safety.
- (4) Project Co shall ensure that road culverts located within the NSRV at the Effective Date remain open at all times to permit wildlife movement unless Project Co submits a notice of a proposed culvert closures to the City and that Submittal demonstrates that the culvert(s) described in the notice must be closed in order to allow Project Work to proceed and that there is no reasonable alternative to closure of the culvert(s). Project Co shall ensure that any culvert that is closed in accordance with this Section is reopened as soon as reasonably practicable and in any event by not later than 10 days after completion of the Project Work that required closure of the culvert.

1.20.2.2 Accommodation during Construction Period In Vicinity of SE402:

- (1) Project Co shall obtain an opinion from a wildlife biologist with appropriate qualifications regarding the requirement for the installation of temporary fencing during Construction to ensure effective and safe movement of wildlife through the area between Davies Road and the CP Rail track parallel to Coronet Road, and to prevent wildlife/worker conflicts and if the biologist recommends the installation of such fencing, Project Co shall install and maintain the recommended fencing. Fencing shall be removed once Construction in SE402 is complete, or in accordance with the schedule required by the Tree Retention, Relocation, Removal and Protection Plan.
- (2) During Construction in SE402 and the vicinity of SE402, Project Co shall comply with the construction phase best management measures established in City of Edmonton Wildlife Passage Engineering Design Guidelines.

1.20.2.3 Permanent Accommodation of Wildlife Movement

- (1) Project Co shall ensure that all Infrastructure designs and landscaping, Naturalization and reforestation of Native Forest Restoration Areas in the NSRV and at SE402 comply with City of Edmonton Wildlife Passage Engineering Design Guidelines and shall accordingly demonstrate that Project Co has made suitable and effective provision for wildlife movement through those areas.
- (2) At the NSRV and at SE402, Project Co shall:
 - a) provide at least one wildlife underpass having minimum clearance dimensions of 3.1 m (height) and 3.1 m (width) at the following locations:
 - i) beneath the Tawatinâ Bridge SUP on the north end;
 - ii) beneath the Tawatinâ Bridge SUP on the south end; and
 - iii) under the Davies Elevated Guideway between the CP Rail right of way and the south boundary of SE402.
 - b) in the NSRV, provide wildlife underpasses as shown in the River Valley Landscape Drawings. Each wildlife underpass shall include a bench that has a 2% slope toward the NSR, with an additional contiguous downslope area that has a maximum slope as specified in the River Valley Landscape Drawings and shall have stable, organic surfaces that comply with Wildlife Passage Engineering Design Guidelines for passage of large animals and that continue into adjacent Native Forest Restoration or Naturalization Areas and that tie seamlessly into existing undisturbed slopes and vegetation at either edge of the installed corridor;
 - c) provide effective small animal security cover features such as logs and small boulders within wildlife underpasses and adjacent to underpass entrances; and
 - d) ensure that the design of all wildlife underpasses is integrated with the Native Forest Restoration Plan and the Naturalization Plan so that the underpasses are considered as an integral feature during the design of those Plans; and
 - e) ensure that the maintenance access through SE402 is not illuminated in or within 10m of SE402, including the Native Forest Restoration Areas.
- (3) INTENTIONALLY OMITTED.
- (4) In the NSRV, Project Co shall ensure that restoration of the Native Forest Restoration Areas and Naturalization of the Naturalization Areas achieves the following:
 - a) immediately adjacent to the Tawatinâ Bridge SUP and the guideway south of that, plant native shrubs that, at maturity, will achieve a maximum height no higher than the underside of the Tawatinâ Bridge SUP and the guideway south of that and form security cover such that

- there is less than 45 m distance between concentrations of trees/shrubs located on opposite sides of the Tawatinâ Bridge SUP and guideway;
- b) on the north bank of the NSR, riprap the lower slopes of the bank to match rip rap in place at the Effective Date or as required for slope stability or to prevent slope toe erosion; and
 - c) on the south bank of the NSR, install vegetation downslope of the wildlife bench to the lowest elevation of existing vegetation in place on the Effective Date using bio-engineering techniques as required to permanently establish vegetation. Provide additional protection at the toe of the slope as required to prevent erosion, including erosion due to ice and wave action.
- (5) A Wildlife Underpass Structure shall be installed at Connors Hill under Connors Road and the adjacent Trackway to promote wildlife passage between Mill Creek Ravine and Cloverdale Ravine. The Wildlife Underpass Structure shall be designed in accordance with the specifications of the City of Edmonton Wildlife Passage Engineering Design Guidelines for provision of dry passage for the Medium Terrestrial Wildlife Design Group and Schedule 5 [*D&C Performance Requirements*]. The “Optimal Passage Openness” requirement in the City of Edmonton Wildlife Passage Engineering Design Guidelines will not apply provided the “passage openness” of the Wildlife Underpass Structure is optimized by providing minimum underpass structure inside dimensions of 1.5 m high by 2.2 m wide and by minimizing the length of the Wildlife Underpass Structure. The north end of the Wildlife Underpass Structure shall terminate in the west portion of the Native Forest Restoration Area in this area (see Figure 6 [*Areas to be Restored and Naturalized in NSRV*] in Appendix 10A [*Figures*] to this Schedule) and shall daylight into terrain that is contoured in a manner that ensures a gentle, smooth transition to the topography at the edge of the Lands without steep drops or other abrupt changes in height. Project Co shall ensure that native trees are established at the north end that visually screen the underpass structure and tie seamlessly into the Native Forest Restoration Area. The south end of the Wildlife Underpass Structure shall terminate at the south road edge and shall integrate into the slope, providing for a culvert approach that is functional for animals in the Medium Terrestrial Wildlife Design Group. The location of the Wildlife Underpass Structure must be coordinated with the location and design of any retaining walls required along the Connors Road corridor so that the Wildlife Underpass Structure and the retaining walls facilitate wildlife passage between the Wildlife Underpass Structure and the north end of the Mill Creek Ravine between Scona Road and Connors Road. At the south end of the Wildlife Underpass Structure, upslope of any retaining wall installed to provide for an appropriate approach to the Wildlife Underpass Structure, Native Forest Restoration efforts shall ensure that at least some of the area behind any railing installed on top of the retaining wall supports coniferous trees to allow the railing to blend into the trees in all seasons. Project Co shall ensure that directional fencing is installed along the south margin of Connors Road. Project Co shall ensure that a wildlife biologist with appropriate qualifications is involved in the design of the Wildlife Underpass Structure, retaining walls, approach and fencing in this area to assess the design to ensure that it meets the requirements of this Schedule. Project Co shall submit to the City, concurrent with submission to the City of the Final Design for each of the Wildlife Underpass Structure, the retaining walls, approach and fencing in this area, a written report prepared by that wildlife biologist confirming that the design of the Wildlife

Underpass Structure, retaining walls, approach and fencing meets the requirements of this Schedule.

- (6) A culvert sufficient to ensure unobstructed flow of Mill Creek for a 1:100 storm event shall replace the current culvert in SE402 at Wagner Park, under the existing access lane crossing the ravine. The culvert shall be designed for road traffic loads and shall support the safe passage of a 3.5 m wide CL-800 vehicle, as defined in CAN/CSA S6, and the grades shall not exceed 5%. The culvert shall also comply with the City of Edmonton Wildlife Passage Engineering Design Guidelines for passage of the Medium Terrestrial Wildlife Design Group but does not need to provide for both dry and wet passage. Integrating vegetative security cover shall be installed and maintained at the margins of the reconstructed channel adjacent to both ends of the structure and that cover shall be of a type and height and density to provide sufficient cover to entice wildlife to use the structure but shall not block the culvert opening. In the area disturbed by the Project Work, the grades to the north and south of the culvert shall not exceed 5% and shall then feather back into the existing grades.

1.20.3 Acknowledgment Regarding Project Co Knowledge

- (1) The agreement by Project Co to the foregoing provisions in this Section 1.20 shall not, in and of itself, constitute knowledge of Project Co of the presence on or around the City Lands of animal species protected by Environmental Laws at the Financial Submission Date.

1.21 FENCING REQUIREMENTS

- (1) Project Co shall install fencing that fully encloses each Native Forest Restoration Area and each Naturalization Area and that complies with the following requirements:
 - i. compatible in visual appearance (including with respect to colour, material and texture) with the aesthetics of the Native Forest Restoration Areas and Naturalization Areas and constructed of a material that minimizes the visual impact of the fencing;
 - ii. sufficient height to discourage public access to the Native Forest Restoration Areas and the Naturalization Areas, but not so tall that the fence does not comply with subsection (i) of this Section 1.21(1) above;
 - iii. does not preclude wildlife movement through the NSRV at key locations shown in Figure 8 *[Key Locations to be Accessible for Wildlife Passage in NSRV during Construction Stage]* attached at Appendix 10A *[Figures]* to this Schedule; and
 - iv. complies with the requirements in Section 1-8.3 *[Temporary Barriers and Enclosures]* in Schedule 5 *[D&C Performance Requirements]*.
- (2) Project Co shall install the fencing required under Section 1.21(1) *[Fencing Requirements]* around each Native Forest Restoration Area and each Naturalization Area by not later than 14 days after completion of seeding and planting in the Native Forest Restoration Area or Naturalization Area, as applicable. Prior to commencing installation of any fencing around any Native Forest

Restoration Area or Naturalization Area, Project Co shall submit to the City a plan that shows the proposed fencing location, material, and height and Project Co shall not install any fencing until the plan has been “Accepted” or deemed “Accepted” by the City.

- (3) Project Co shall maintain the fencing around each Native Restoration Area and each Naturalization Area in good repair and condition until the date on which Project Co’s liability to maintain the Native Forest Restoration Area or the Naturalization Area ends in accordance with Section 1.19(10) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule.

1.22 HISTORIC RESOURCES

- (1) Project Co shall comply with the *Historical Resources Act* (Alberta) and all conditions of any Clearance Letter issued for the Project.
- (2) Project Co shall develop and implement a historical and palaeontological monitoring plan (the “**Historical and Palaeontological Monitoring Plan**”). The portion of the Historical and Palaeontological Monitoring Plan that addresses palaeontological monitoring shall include monitoring at the sites described in Sections 1.22(5)(a), (b), (c) and (d) [*Historic Resources*] of this Schedule. The portion of the Historical and Palaeontological Monitoring Plan that addresses historical monitoring shall include monitoring in the area of archaeological site FjPi-166 in the area shown on Figure 9 [*NSRV Historical Resources Monitoring*] of Appendix 10A [*Figures*] of this Schedule and in any other location or area required to be monitored under any Clearance Letter issued for the Project. The Historical and Palaeontological Monitoring Plan is an Environmental Plan and Project Co shall ensure that the Historical and Palaeontological Monitoring Plan complies with any Clearance Letter issued for the Project and with Section 1.8.2 [*Environmental Plans*] of this Schedule. Project Co shall submit the Historical and Palaeontological Monitoring Plan to the City at the time specified in Section 1.8.1(3) or (4) [*General*] of this Schedule as applicable.
- (3) Project Co shall submit a copy of each monitoring report prepared pursuant to the Historical and Palaeontological Monitoring Plan to the City within 72 hours after each such monitoring report is drafted.
- (4) Project Co shall promptly advise the City of any notice or report filed under any Clearance Letter for the Project and provide the City with a copy of any such notice and report. Project Co shall promptly advise the City of any communication received by Project Co from the Province of Alberta pursuant to any Clearance Letter.
- (5) Project Co shall retain a palaeontologist qualified to hold a “Permit to Excavate Palaeontological Resources (Mitigative)” under the *Historical Resources Act* (Alberta) to review the Final Design for all Project Work in the locations described in Sections 1.22(5)(a), (b), (c) and (d) [*Historic Resources*] of this Schedule and the construction methods for subsurface structures in all those areas and to prepare a written report addressed and submitted to both the City and Project Co advising whether further palaeontological review by the Province of Alberta is required to remain compliant with the *Historical Resources Act*. If the report determines that further review is

required Project Co shall undertake the steps required to complete that review. No excavation may commence in the following areas until Project Co has complied with this Section and with the requirements of the *Historical Resources Act*:

- a) southern portion of the Quarters Tunnel and associated development of North River Bank Tunnel Approach and north valley slope around tunnel portal in the area shown on Figure 9 [*NSRV Historical Resources Monitoring*] of Appendix 10 of this Schedule;
 - b) North Saskatchewan River bridge abutments and piers in the area shown on Figure 9 [*NSRV Historical Resources Monitoring*] of Appendix 10 of this Schedule;
 - c) middle slope of Connors Road in the area shown on Figure 9 [*NSRV Historical Resources Monitoring*] of Appendix 10 of this Schedule; and
 - d) any area where a palaeontological monitoring program is required pursuant to any Clearance Letter issued for the Project.
- (6) The agreement by Project Co to the foregoing provisions of this Section 1.22 shall not, in and of itself, constitute knowledge of Project Co of the presence in, under or on the City Lands of Historical Resources at the Financial Submission Date.

1.23 ENVIRONMENTAL MATTERS SPECIFIC TO OPERATING PERIOD

- (1) During the Operating Period, Project Co shall continue to comply with, and shall ensure that all Project Co Persons comply with all Sections in this Schedule except to the extent any Section is expressly stated in this Section as not applying during the Operating Period. Any provision in this Section 1.23 [*Environmental Matters Specific to Operating Period*] that expressly requires Project Co to comply with specific Sections in this Schedule does not limit or affect Project Co's obligations under the immediately preceding sentence. Any references to "Construction" in any Sections and Subsections shall be read as referring to any construction undertaken by Project Co during the Operating Period as part of the Project Work and any Maintenance that involves any ground disturbance or vegetation clearing. The following Sections of this Schedule do not apply during the Operating Period: Sections 1.4, 1.10(2), 1.10(5), 1.15.1, 1.16(1), 1.16(2), 1.20.2.1(1) – (3) inclusive, 1.20.2.2 and 1.22(2) – (6) inclusive.
- (2) Project Co shall develop an EMS for the Operating Period (the "**Operating Period EMS**") that complies with the requirements of Section 1.8.1 [*General*] of this Schedule, Section 1.8.4(2) [*Environmental Compliance Monitoring and Inspection Programs*] of this Schedule and the requirements of Sections 1.23(3) [*Environmental Matters Specific to Operating Period*] of this Schedule, 1.23(8) [*Environmental Matters Specific to Operating Period*] of this Schedule and shall submit the Operating Period EMS to the City not less than 90 days prior to the Target Service Commencement Date. Project Co shall comply with subsections 1.8.1(6), (7) and (8) and all of Sections 1.8.4 [*Environmental Compliance Monitoring and Inspection Programs*] of this Schedule, 1.8.5 [*Internal EMS Audit*] of this Schedule, 1.8.6 [*External EMS Audit*] of this Schedule, and 1.8.7 [*EMS Document Submissions*] of this Schedule with respect to the Operating Period EMS.

- (3) Project Co shall include within the Operating Period EMS all environmental plans (the “**Operating Period Environmental Plans**”) required to address all environmental aspects, risks, objectives, targets and specifications as required to ensure that Project Co complies with Project Co’s Environmental Obligations and the Environmental Management Mandate during the Operating Period. Project Co shall ensure that all Operating Period Environmental Plans comply with Subsections 1.8.2(1), (2) and (5) [*Environmental Plans*] of this Schedule and Project Co shall comply with Subsections 1.8.2 (3), (4), (6) and (7) [*Environmental Plans*] of this Schedule with respect to all Operating Period Environmental Plans.
- (4) Section 1.8.3 [*Environmental Construction Operations Plan*] of this Schedule applies during the Operating Period only to the extent specified in this Section. If Project Co is required to undertake any construction during the Operating Period or any Maintenance that involves any ground disturbance or vegetation clearing, Project Co shall develop an ECO Plan that complies with the requirements of Subsections 1.8.3(1), (2) and (4) [*Environmental Construction Operations Plan*] of this Schedule and contains those measures, procedures and plans described in Subsection 1.8.3(3) [*Environmental Construction Operations Plan*] of this Schedule that are relevant to the proposed construction or Maintenance. The ECO Plan shall also include a dust control plan that includes the provisions in Section 1.10(6) [*Site Clearing, Demolition and Dust Control*] of this Schedule and that otherwise complies with Section 1.8.2 [*Environmental Plans*] of this Schedule. Project Co shall submit the ECO Plan to the City not less than 60 days prior to commencing the proposed construction or Maintenance and shall not undertake any work associated with the construction or Maintenance that involves any physical disturbance of the Lands or any vegetation clearing until the City has “Accepted” or is deemed to have “Accepted” the ECO Plan in accordance with Schedule 2 [*Submittal Review Procedure*]. Project Co shall comply with Section 1.8.3(6) [*Environmental Construction Operations Plan*] of this Schedule with respect to any ECO Plan prepared under this Section and Project Co shall ensure that Project Co and all Project Co Persons comply with any ECO Plan developed under this Section.
- (5) Section 1.4 [*Environmental Assessment Requirements*] of this Schedule does not apply during the Operating Period. Project Co acknowledges that the EISA applies only to Construction of the Project. Project Co shall comply with Bylaw 7188 and the City’s Natural Area Systems Policy C531 to the extent that bylaw or policy applies to any Project Work during the Operating Period.
- (6) If Project Co is required to undertake any earthworks during the Operating Period, Project Co shall ensure that vegetation clearing required for the earthworks does not commence more than two weeks in advance of earthworks and “earthworks” shall have the meaning given in Section 1.10(2) [*Site Clearing, Demolition and Dust Control*] of this Schedule.
- (7) Project Co shall ensure that all soil and subsoil erosion caused by the Infrastructure or the Project Work and all soil and subsoil erosion on the Lands that causes any risk to the Infrastructure is addressed in a manner that complies with the requirements of the City of Edmonton Erosion and Sedimentation Control Guidelines and all Environmental Laws and other Applicable Laws and Environmental Permits and other Project Approvals and in a manner that ensures that the erosion will not cause any risk to the Infrastructure. If Project Co is required to undertake any activity that may give rise to erosion or sediment issues that require monitoring or management to ensure

compliance with City of Edmonton Erosion and Sedimentation Control Guidelines, Environmental Laws, other Applicable Laws, Environmental Permits or other Project Approvals, including any construction during the Operating Period, or any Maintenance that involves any ground disturbance or vegetation clearing, Project Co shall prepare an Erosion and Sedimentation Control Plan that complies with the requirements of Section 1.11 [*Erosion and Sedimentation Control*] of this Schedule. Project Co shall submit the Erosion and Sedimentation Control Plan to the City and no disturbance of the Lands or vegetation clearing shall commence until the City has “Accepted” or is deemed to have “Accepted” the Erosion and Sedimentation Control Plan. Project Co shall comply with Sections 1.11(3) and (5) [*Erosion and Sedimentation Control*] of this Schedule with respect to the Erosion and Sedimentation Control Plan.

- (8) Project Co shall ensure that the EMS includes a Hazardous Substances and Waste Management Plan that addresses Hazardous Substance and waste management by Project Co during the Operating Period. The plan shall comply with Section 1.8.2 [*Environmental Plans*] and with the requirements of Section 1.13 [*Hazardous Substances and Waste Management*] (including Section 1.13(1)(q)) and Section 1.23(9) of this Schedule. Project Co shall comply with Section 1.13(3) [*Hazardous Substances and Waste Management*] with respect to the Hazardous Substances and Waste Management Plan.
- (9) Project Co shall remove all waste resulting from the Project Work from the Lands within 48 hours after the waste is created in accordance with the Hazardous Substances and Waste Management Plan described in Section 1.23(8) [*Environmental Matters Specific to Operating Period*] of this Schedule, except for waste that is typically collected by municipal waste collection which shall be removed from the Lands in accordance with that waste collection schedule and the provisions of Schedule 7 [*O&M Performance Requirements*].
- (10) Project Co shall develop, implement, manage and update a set of dewatering protocols for the Operating Period sufficient to ensure compliance with all Environmental Laws and other Applicable Laws and Environmental Permits and other Project Approvals.
- (11) Project Co shall monitor SE402 and the area in the vicinity of SE402 in accordance with the Overall Maintenance Strategy to determine whether there has been any erosion or damage to vegetation caused by drainage from the Davies Elevated Guideway. Monitoring shall be conducted:
 - a. at the earlier of
 - i. the last week in April; and
 - ii. within 7 days following the last day of the spring freshet; and
 - b. in the last week of each of May, June, July, August and September.

If there is any such erosion or damage, Project Co shall prepare a remediation plan that contains measures sufficient to prevent future erosion and damage and to stabilize and restore any areas that have been subject to erosion and to replant and restore areas where vegetation has been

damaged. Project Co shall submit that plan to the City within 14 days after identification of any erosion or damage to vegetation in this area. Project Co shall carry out the measures set out in the plan commencing by the later of: (a) 48 hours after the plan has been “Accepted” or deemed “Accepted” by the City, and (ii) the date scheduled in the plan for the commencement of the work in such “Accepted” or deemed “Accepted” plan. The date scheduled in the plan for the commencement of the work shall be the earliest date on which such work can reasonably commence. Project Co shall diligently and continuously proceed with the work until it is completed in accordance with the approved plan.

- (12) If Project Co conducts any Project Work that involves ground disturbance during the Operating Period, and Project Co or a Project Co Person knows, or has reasonable grounds to suspect, that subsurface soil or groundwater Contamination is or may be present in that area, Project Co shall comply with Section 1.12(5) [*Contaminated Sites*] of this Schedule.
- (13) If Project Co conducts any excavation or otherwise disturbs the surface of the Lands or clears any vegetation during the Operating Period, Project Co shall within 30 days after completion of the work for which the area was cleared, restore the area in accordance with the requirements specified in this Agreement for landscaping, restoration and/or Naturalization of that area prior to the Service Commencement Date. If the excavation or disturbance occurs when the ground is frozen, the restoration required under this Section shall not commence until June 1 and shall be completed by not later than June 30.
- (14) Project Co shall report any ALRVCS occurring during the Operating Period, to the City, providing the locations, dates, and animal species involved in the ALRVC, within one week of occurrence. Project Co shall be responsible for removing all debris resulting from any ALRVC within 24 hours after the ALRVC.
- (15) Project Co shall be responsible for maintaining the Native Forest Restoration Areas, the Naturalization Areas and all landscaped areas in accordance with the requirements of all of Section 1.18 [*Vegetation*] of this Schedule, the Native Forest Restoration Plan, the Naturalization Plan, the Integrated Pest Management Plan, and the requirements of Schedule 7 [*O&M Performance Requirements*] and the Landscape Maintenance Plans until Project Co’s liability for such maintenance ends in accordance with Section 1.19(10) [*Completion and Handback of Landscaping, Native Forest Restoration and Naturalization*] of this Schedule. Project Co will remain responsible for the Excluded Areas in accordance with the requirements of this Schedule and Schedule 7 [*O&M Performance Requirements*] for the full Term.
- (16) If any Project Work during the Operating Period could reasonably be expected to block wildlife movement, or to have any other adverse impact on wildlife movement, in any of the key river valley corridors shown on Figure 11 [*Key River Valley Corridors*] of Appendix 10A [*Figures*] of this Schedule and the cumulative duration of that blockage or other adverse impact can reasonably be expected to exceed 48 hours, Project Co shall, prior to commencing that Project Work, submit a plan to the City which describes the proposed Project Work, the potential impacts on wildlife movement and the measures Project Co will implement to mitigate the adverse impacts on wildlife movement. The proposed measures must be sufficient to reduce the adverse impacts of




the proposed Project Work to the maximum extent feasible taking into account the nature and urgency of the proposed Project Work and the plan must otherwise comply with Section 1.8.2 *[Environmental Plans]* of this Schedule. Project Co shall implement the plan as “Accepted” or deemed “Accepted” by the City.

(17) For the purposes of Section 1.3(6) *[Environmental Management Personnel]* of this Schedule, Project Co is only required to include the Restoration Specialist on Project Co’s team of qualified environmental specialists until the date on which a report under Section 1.19(10)(a) or Section 1.19(10)(b) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule has been delivered for all areas described in Section 1.19(6) *[Completion and Handback of Landscaping, Native Forest Restoration and Naturalization]* of this Schedule.

APPENDIX 10A

FIGURES



- Legend**
-  Lands
 -  Bylaw 7188 Boundary
 -  Area to be treated as Bylaw 7188 lands

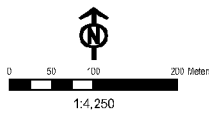
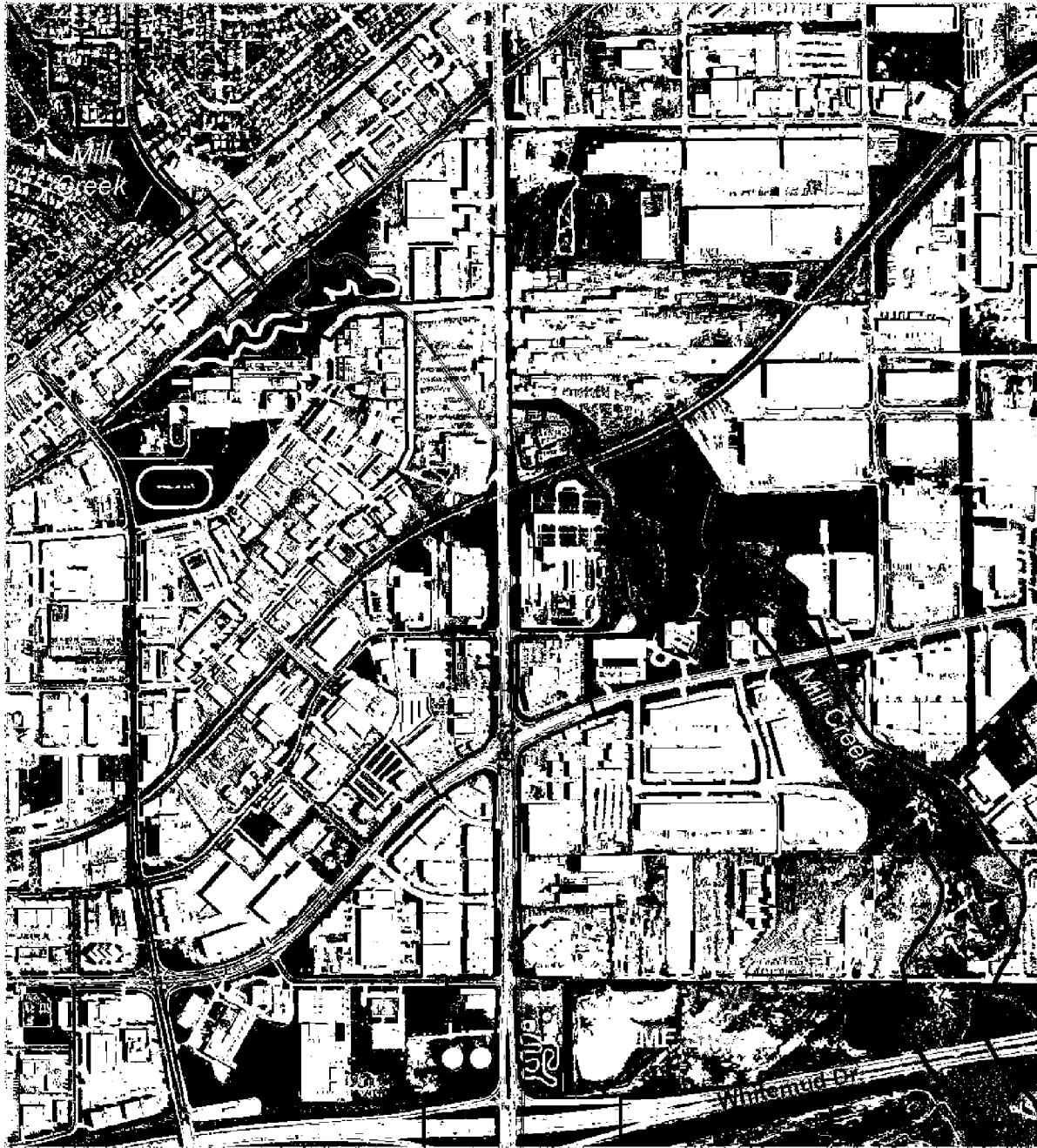


Figure 1. Lands in Bylaw 7188 Area at NSRV

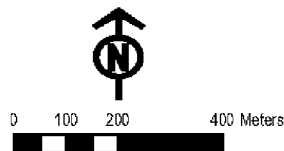
Schedule 10

Aerial Photograph Date: May 2012
Date Map Created: 26 June 2015



Legend

- SE 402 (subject to Policy C531)
- Valley Line Alignment
- Bylaw 7188 Boundary (Approx.)
- Lands



⁴Track alignment indicative

Figure 2. Lands in Bylaw 7188 Area at Mill Creek, and at SE 402 (Policy C531) Area




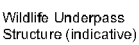
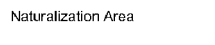
Schedule 10

Aerial Photograph Date: May 2012
Date Map Created: 26 June 2015

s.25



Legend

- | | |
|---|--|
|  Lands | Re-Vegetation Strategies* |
|  Bylaw 7188 Boundary |  Native Forest Restoration Area |
|  Wildlife Underpass Structure (indicative) |  Naturalization Area |

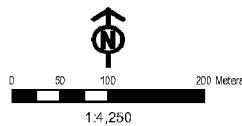


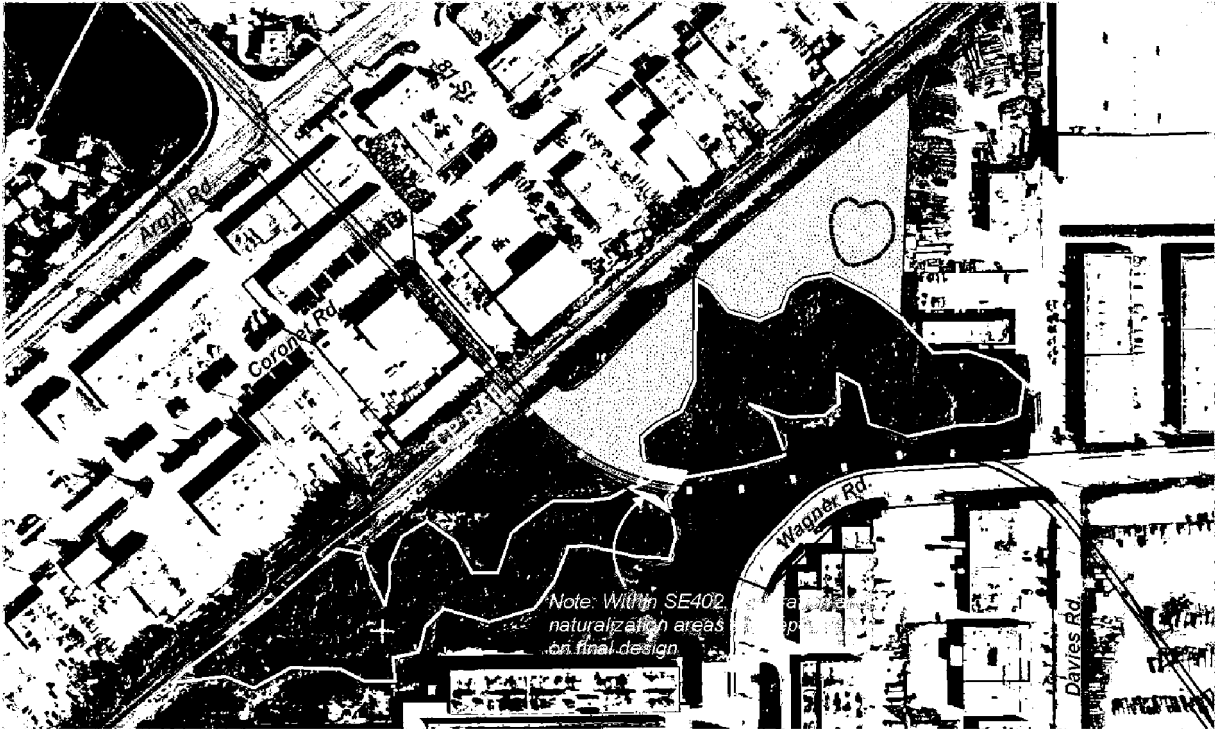
Figure 6. Areas to be Restored and Naturalized in NSRV

Schedule 10






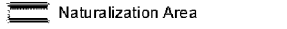
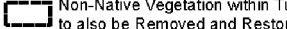
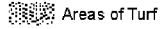
*Boundaries are indicative only. Refer to River Valley Landscape Drawings in Disclosed Data.

Aerial Photograph Date: May 2012
Date Map Created: 26 June 2015

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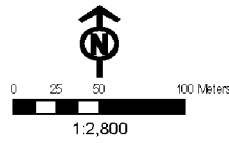
Legend

-  Tufted Loosestrife Population
-  Valley Line Alignment
-  Lands
-  Pier
-  Native Forest Restoration Area
-  Naturalization Area
-  Non-Native Vegetation within Turf Area to also be Removed and Restored to Forest SE 402 Natural Area
-  Areas of Turf

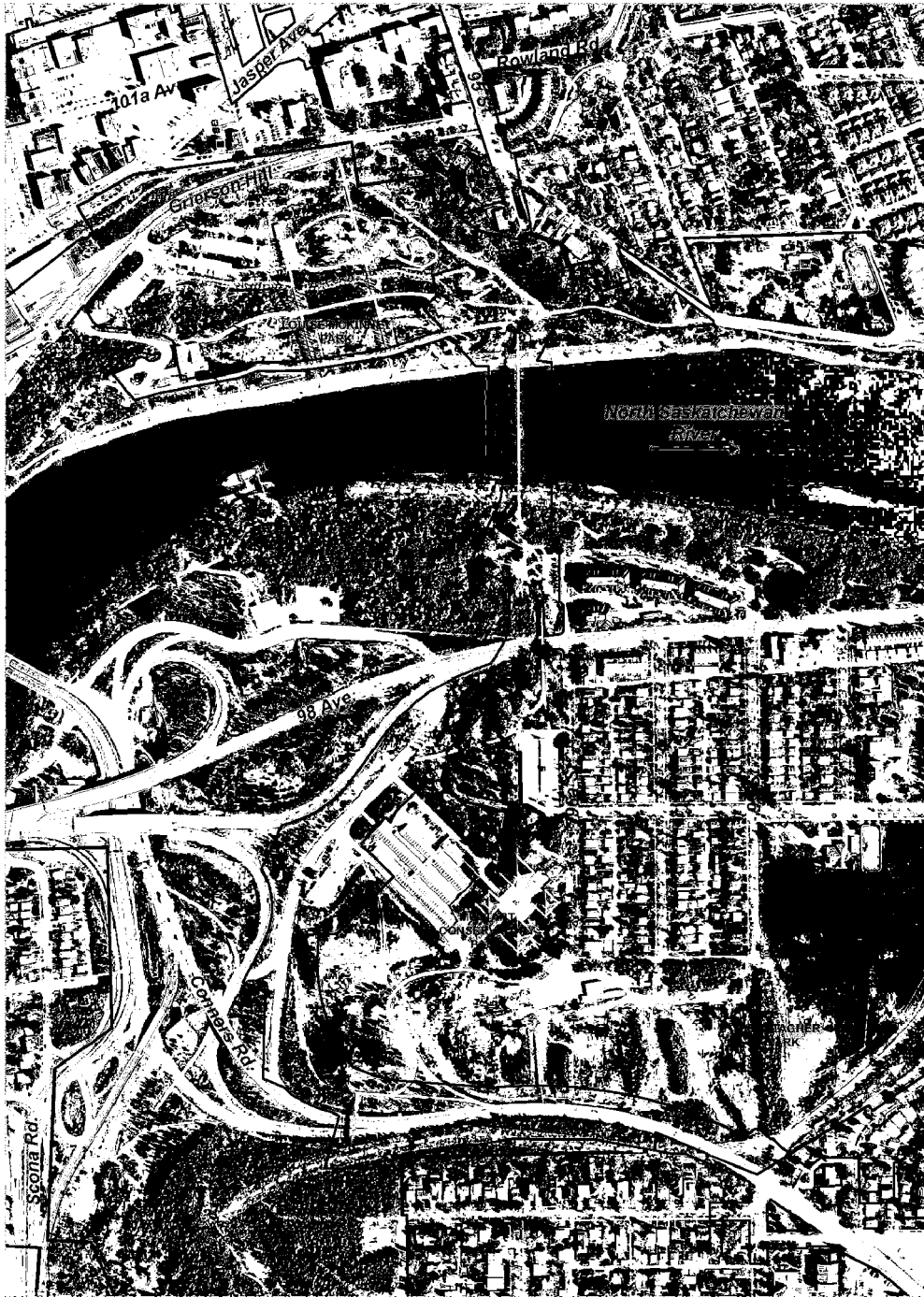
**Track alignment indicative; pier size and location indicative*

Figure 7. Restoration Requirements at SE 402 and Surrounding Park Lands



Schedule 10



Aerial Photograph Date: May 2012
Date Map Created: 26 June 2015



Legend

- Indicative Key Locations for Wildlife Passage
-  Lands
-  Bylaw 7188 Boundary

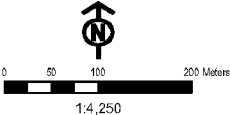
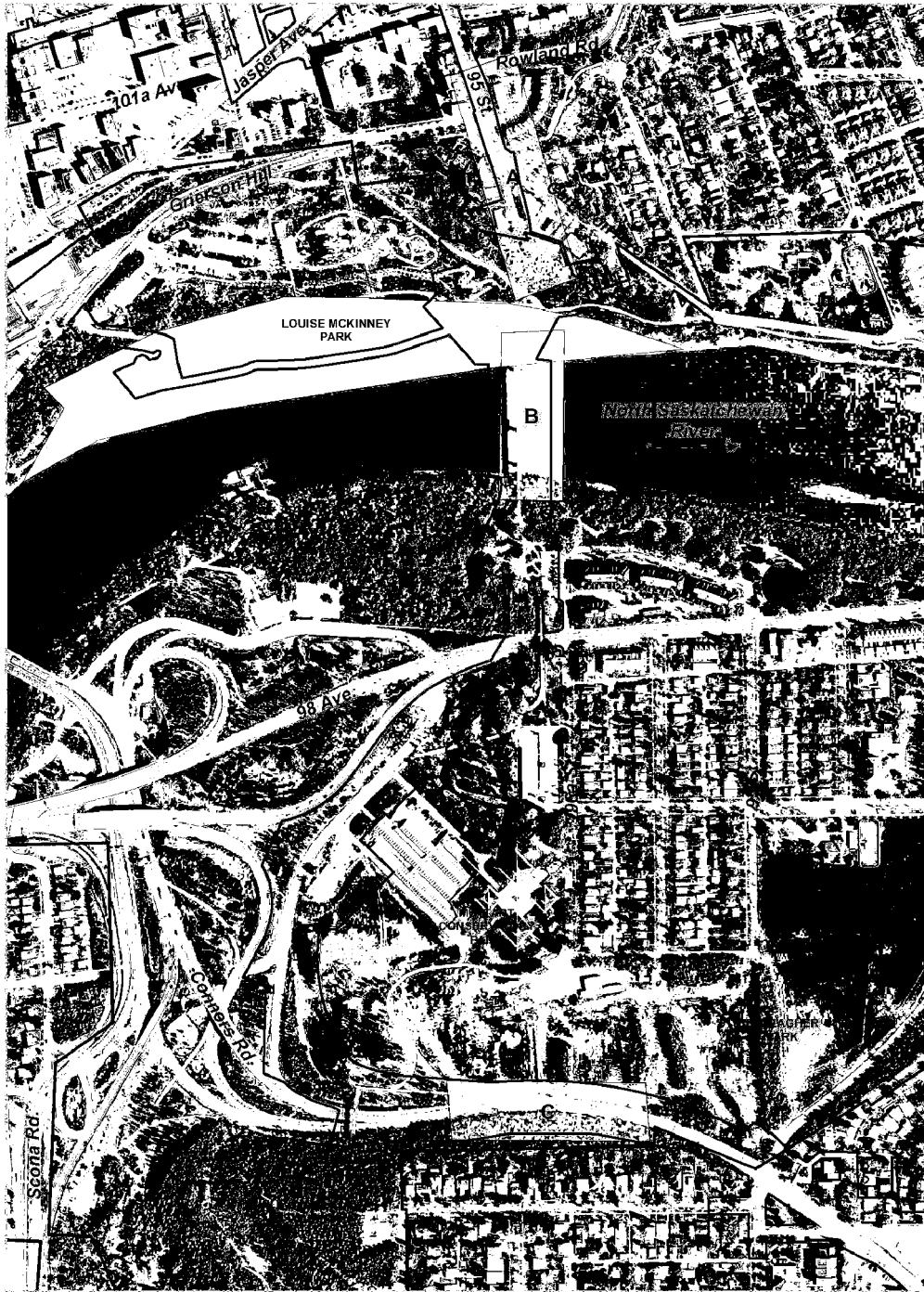


Figure 8. Key Locations to be Accessible for Wildlife Passage in NSRV during Construction Stage

Schedule 10

Aerial Photograph Date: May 2012
Date Map Created: 26 June 2015



- Legend**
- FjPi-166* Boundaries - Historical Resources Monitoring
 - Paleontological Monitoring Areas
 - Lands
 - Bylaw 7188 Boundary

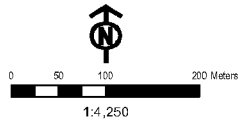
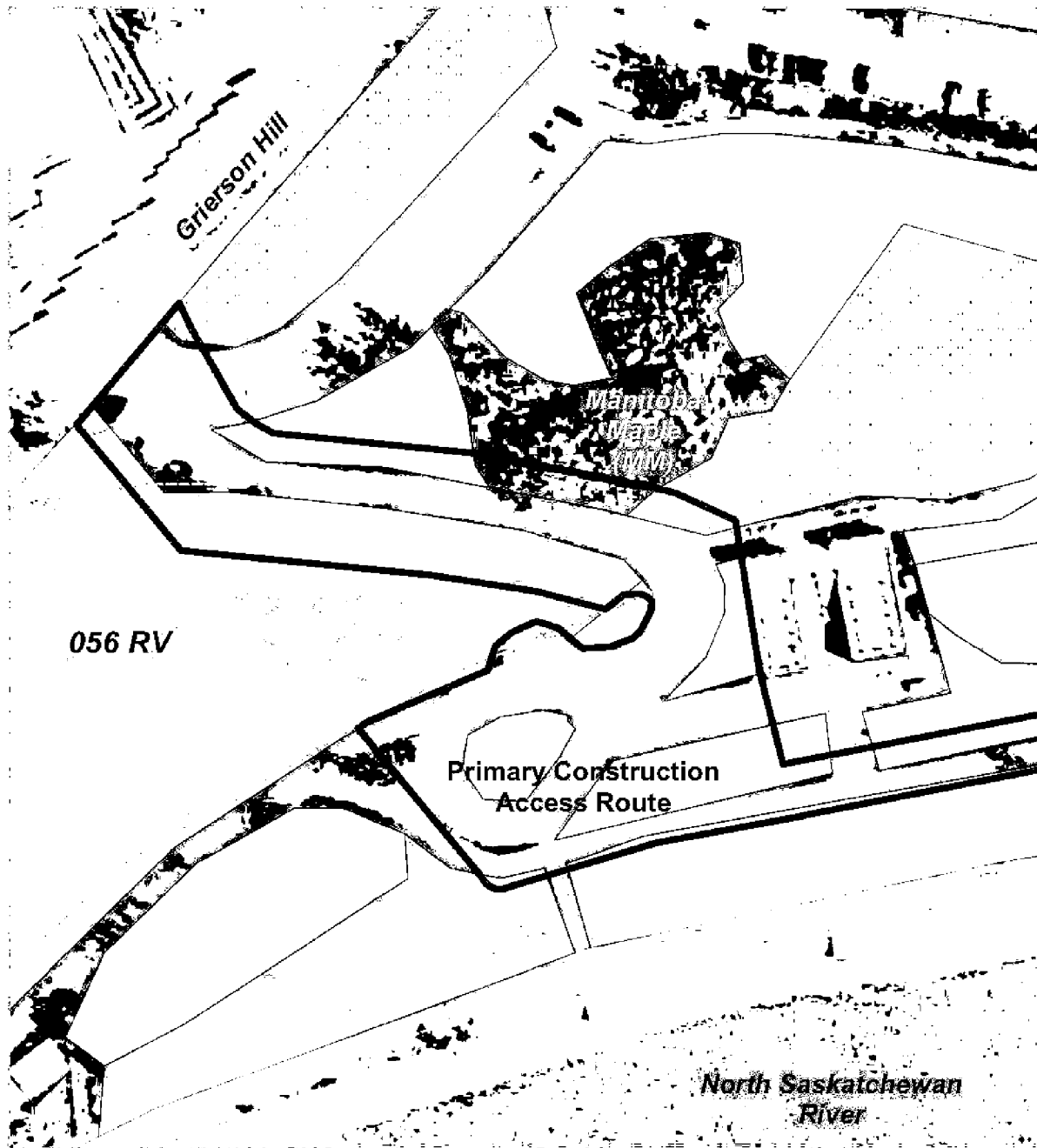


Figure 9. NSRV Historical Resources Monitoring

Schedule 10

*Boundaries indicative

Aerial Photograph Date: May 2012
Date Map Created: 26 June 2015



Legend

-  Lands
-  City of Edmonton River Valley Natural Areas (2010)

Natural Communities



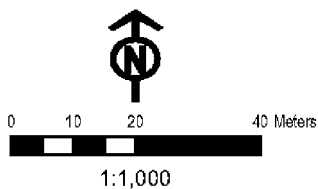
-  Balsam Poplar/Manitoba Maple (PMM)
-  Manitoba Maple (MM)

Figure 10. PMM and MM Plant Communities

Schedule 10



Aerial Photograph Date: May 2012
Date Map Created: 26 June 2015



Legend

- Key River Valley Wildlife Corridors
- Lands
- Bylaw 7188 Boundary

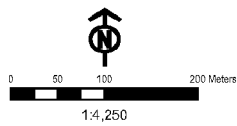


Figure 11. Key River Valley Corridors

Schedule 10

Aerial Photograph Date: May 2012
Date Map Created: 26 June 2015

APPENDIX 10B

NOT USED