

**THE CITY OF EDMONTON**  
**PROJECT AGREEMENT**  
**VALLEY LINE WEST LRT**

***Schedule 10***  
***Environmental Performance Requirements***

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## SCHEDULE 10

### ENVIRONMENTAL PERFORMANCE REQUIREMENTS

#### 1. ENVIRONMENTAL OBLIGATIONS – GENERAL

- (a) Except as expressly set out in this Agreement, the requirements and obligations set out in this Schedule 10 [*Environmental Performance Requirements*] shall apply to all aspects of the Project, the Project Work, the Infrastructure and the Lands and to all activities of Project Co and all Project Co Persons under this Agreement, and shall apply throughout the Term.
- (b) Project Co shall, and shall cause all Project Co Persons to, comply with, observe, satisfy and perform (collectively, “**Project Co’s Environmental Obligations**”):
- (i) all requirements and obligations set out in this Schedule 10 [*Environmental Performance Requirements*], including the requirements and obligations described in the Environmental Management Mandate; and
  - (ii) all other environmental requirements and obligations arising under or as a result of this Agreement, Applicable Law, the Environmental Permits and Project Approvals,
- except only those environmental obligations specifically identified in this Agreement as being the obligation of the City (the “**City’s Environmental Obligations**”).
- (c) Subject to Section 15.5 of this Schedule 10 [*Environmental Performance Requirements*], if this Agreement and any Applicable Law contain more than one requirement that is applicable to Project Co’s Environmental Obligations, then the more stringent of the requirements shall prevail.
- (d) Project Co shall be responsible for any failure by a Project Co Person to comply with any of Project Co’s Environmental Obligations.
- (e) Without limiting Section 1(b) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall, as part of Project Co’s Environmental Obligations, be responsible, at its own cost and risk, for designing and performing all environmental mitigation, replacement, in-lieu payments and offset measures required as a result of or arising out of the performance of the Project Work, except only the City’s Environmental Obligations.
- (f) For certainty, and other than as expressly set out in Section 15.6(d) of this Schedule 10 [*Environmental Performance Requirements*], Project Co’s responsibility and entitlements as such relates to Contamination, Excess Soil, Unusable Soil and Hazardous Substances are fully and completely set out in this Schedule 10 [*Environmental Performance Requirements*].
- (g) Project Co agrees that the City shall own all credits, offsets, allowances, certificates, units, and all other rights or benefits of any kind or nature whatsoever resulting from or relating to the actual or assumed 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 and the Project Work (collectively, the “**GHG and Environmental Benefits**”). Project Co hereby transfers and assigns all GHG and Environmental Benefits to the City and waives for itself and for and on behalf of each Project Co Person any and all right, title and interest in and to any GHG and

Environmental Benefits. "GHG" means any gas that is a "specified gas" as defined under the Climate Change and Emissions Management Act (Alberta).

## 2. ENVIRONMENTAL MANAGEMENT MANDATE

(a) Section 2 [*Environmental Management Mandate*] of this Schedule 10 [*Environmental Performance Requirements*] sets out the environmental management mandate for the Project (the "**Environmental Management Mandate**").

(b) The Parties acknowledge that the Project Work will be undertaken within the boundaries of, and in proximity to, the following areas, as shown in Figure 1 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*] (collectively, the "**Sensitive Areas**"):

- (i) Groat Ravine;
- (ii) MacKinnon Ravine;
- (iii) Muskakosi Natural Area or MNA; and
- (iv) Mill Creek Ravine.

Each Sensitive Area is highly valued by the City and the citizens of Edmonton for the biophysical resources and socio-economic amenities each such Sensitive Area supports and provides.

(c) The Parties acknowledge that the MNA contains wetland communities that come into physical contact with the Lands. In some locations the wetlands may extend beyond the MNA and into the Lands. Project Co shall not disturb or cross the wetland ecological boundaries within the Lands or perform any Project Work that could disturb or cross these boundaries, unless Project Co first obtains all necessary Water Act (Alberta) approvals or authorizations to disturb such wetlands. Project Co shall provide copies of all correspondence and queries related to the need for such approvals or authorizations to the City. Project Co shall ensure that if it applies for a Water Act (Alberta) approval or authorization, Project Co shall, concurrently with submitting the applicable approval or application package, provide the complete package with all supporting information to the City and shall provide to the City copies of all correspondence and queries relating to such application.

(d) Project Co shall ensure that all aspects of the Project and the Project Work and that all activities of Project Co and all Project Co Persons under this Agreement are carried out:

- (i) in a manner that minimizes, with respect to the Sensitive Areas and areas adjacent to the Sensitive Areas, to the maximum extent feasible, adverse impacts to such areas and to the biophysical resources and socio-economic amenities in such areas. For the purposes of this Section 2(d)(i) of this Schedule 10 [*Environmental Performance Requirements*], "biophysical resources" include those resources defined as "Valued Ecosystem Components" in the EIAs;
- (ii) in a manner that minimizes, with respect to all other areas of the Lands, to the extent reasonable, adverse impacts to such areas and adjacent areas and to the environment and environmental resources within such areas; and
- (iii) in accordance with Environmental Best Management Practices.

- (e) Project Co shall not do nor permit to be done anything which is inconsistent with Environmental Best Management Practices.

### 3. CITY OF EDMONTON ENVIRONMENTAL REQUIREMENTS

- (a) Without limiting Project Co's obligation to comply with Applicable Law, Project Co shall ensure that all aspects of the Project, the Project Work and the Infrastructure and that all activities of Project Co and all Project Co Persons under this Agreement comply in all respects with:

- (i) the following City of Edmonton bylaws and directives, as each may be amended, supplemented or replaced from time to time:

- (1) North Saskatchewan River Valley Area Redevelopment Plan Bylaw 7188 ("**Bylaw 7188**");
- (2) Community Standards Bylaw 14600;
- (3) Drainage Bylaw 18093;
- (4) Bylaw 18100 EPCOR Drainage Services Bylaw;
- (5) Parkland Bylaw 2202;
- (6) Vehicle Idle Control Directive A1477;
- (7) Waste Management Bylaw 13777;
- (8) any other City of Edmonton bylaw identified in this Schedule 10 [*Environmental Performance Requirements*]; and
- (9) any other City of Edmonton bylaw relating in whole or in part to the protection of the Environment, whether introduced before or after the Effective Date;

- (ii) the following City of Edmonton policies, guidelines, plans or strategies, as each may be amended, supplemented or replaced from time to time:

- (1) ENVISO;
- (2) Natural Area Systems Policy C531;
- (3) Environmental Policy C512;
- (4) Corporate Tree Management Policy C456B;
- (5) Development Setbacks from River Valley/Ravine Crests Policy C542;
- (6) Urban Traffic Noise Policy C506A;
- (7) Greenhouse Gas Management Plan;
- (8) Sustainable Building Policy C532;
- (9) City of Edmonton Wildlife Passage Engineering Design Guidelines;

- (10) Environmental Construction Operations (ECO) Plan Framework: Instructions for Preparing ECO Plans for Alberta Transportation, City of Calgary and City of Edmonton Construction Projects (the “**ECO Plan Framework**”);
  - (11) Sustainable Purchasing Policy C556;
  - (12) City of Edmonton Erosion and Sedimentation Control Guidelines and Erosion and Sedimentation Control Field Manual;
  - (13) Integrated Pest Management Policy C501A; and
  - (14) City of Edmonton Policy C409J Snow and Ice Control.
- (b) In cases where an Applicable Law is directed at the City of Edmonton or activities conducted by the City of Edmonton, then, for the purposes of this Agreement, Project Co shall, and shall cause all Project Co Persons to, conduct the relevant Project Work in the same manner as the City of Edmonton would be required to conduct its own work in order to comply with Applicable Law.
- (c) Project Co acknowledges that ENVISO is subject to internal and external audits. Project Co shall, and shall cause all Project Co Persons to, review and comply with all requirements set out in the ENVISO contractor’s environmental responsibility package. Project Co shall review all ENVISO bulletins and monitoring forms to identify those applicable to the Project and the Project Work, and Project Co shall ensure compliance with such bulletins and monitoring forms throughout the Term.

**4. ENVIRONMENTAL ASSESSMENT REQUIREMENTS**

- (a) Without limiting Project Co’s obligation to comply with Bylaw 7188 and all associated requirements, Project Co shall file a request for review pursuant to Bylaw 7188 for any proposed:
- (i) modification to lands or facilities; and
  - (ii) construction on or disturbance of lands,
- which are outside the boundaries of the Lands shown in Figures 2, 3 and 4 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*] but which are within the boundaries of the area subject to Bylaw 7188. Project Co shall comply with all requirements established pursuant to such request for review.
- (b) Without limiting Project Co’s obligation to comply with the City of Edmonton’s Environment Policy Natural Area Systems Policy C531, Project Co shall file an application for an environmental review pursuant to such policy for any proposed:
- (i) modification to lands or facilities; and
  - (ii) construction on or disturbance of lands,
- that requires encroachment into the MNA shown in Figure 5 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*]. Project Co shall comply with all requirements established pursuant to such environmental review.

**5. ENVIRONMENTAL PERMITTING REQUIREMENTS**

- (a) Requirements for obtaining Environmental Permits are described in Part 1 [*Project Approvals*] of Schedule 28 [*Project Approvals and Utility Matters*].

**6. RESPONSIBILITY FOR FURTHER ENVIRONMENTAL STUDIES**

- (a) In addition to the specific plans, studies and reports referred to in this Schedule 10 [*Environmental Performance Requirements*], Project Co shall conduct all studies required to comply with Applicable Law, to obtain, comply with and maintain all Environmental Permits and to otherwise ensure and to demonstrate that the Project, the Project Work and the Infrastructure and that all activities of Project Co and all Project Co Persons under this Agreement comply with Project Co's Environmental Obligations, including the Environmental Management Mandate.

**7. ENVIRONMENTAL MANAGEMENT PERSONNEL**

- (a) Project Co shall cause all of Project Co's Environmental Obligations, including all environmental monitoring and the development of all environmental mitigation measures and plans, to be performed by personnel with directly relevant and appropriate experience, training and expertise to complete such work in a way that ensures that the Environmental Management Mandate is achieved. Without limiting the generality of the foregoing, this requirement shall apply to all environmental managers, environmental monitors and environmental specialists and all environmental Subcontractors engaged for specific environmental management, protection or monitoring tasks.
- (b) Project Co shall retain an Environmental Manager that meets the requirements for such position as set out in Appendix 26A of Schedule 26 [*Representatives and Key Individuals*].
- (c) Project Co shall appoint one or more Environmental Monitors and shall ensure that the Environmental Monitors have the responsibility and authority for:
  - (i) developing and implementing all environmental monitoring and inspection programs as required under Schedule 9 [*Quality Management*] and this Schedule 10 [*Environmental Performance Requirements*];
  - (ii) implementing the environmental auditing program as required under Schedule 9 [*Quality Management*] and this Schedule 10 [*Environmental Performance Requirements*];
  - (iii) ensuring that the results of all monitoring, inspection and audits are reported as required under Applicable Law 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.
- (d) Each Environmental Monitor shall have the following minimum qualifications:
  - (i) registered or eligible to be registered in a related professional association in Alberta (e.g. Alberta Society of Professional Biologists, Alberta Institute of Agrologists, Eco Canada), or certified as a Certified Professional in Erosion and



Sediment Control by the Erosion and Sediment Control Association of Canada;  
and

- (ii) two years' experience in construction monitoring and environmental compliance.
- (e) Project Co shall have available at all times during the Construction Period a multi-disciplinary team of qualified environmental specialists, including those specialists specifically identified in this Schedule 10 [*Environmental Performance Requirements*], sufficient to ensure Project Co's compliance with Project Co's Environmental Obligations. Without limiting the generality of the foregoing, and in addition to the Environmental Manager and the Environmental Monitor(s), Project Co shall also engage qualified environmental specialists to address certain aspects of Project Co's Environmental Obligations, including:
  - (i) a wildlife biologist;
  - (ii) a Certified Professional in Erosion and Sediment Control (CPESC);
  - (iii) a Contamination specialist;
  - (iv) a Canadian Registered Safety Professional or Certified Industrial Hygienist; and
  - (v) a Forest Reclamation/Restoration Specialist.

## **8. ENVIRONMENTAL MANAGEMENT SYSTEM**

### **8.1 Environmental Management System**

- (a) Project Co shall develop, implement, update, monitor and comply with an Environmental Management System or EMS that:
  - (i) complies with the requirements of the ISO 14001 standard for environmental management systems and contains detailed documented information addressing all elements of the ISO 14001 standard;
  - (ii) covers all aspects of the Project and the Project Work, including all design and construction activities, products and services related to the Project and the Project Work, and all stages of the Project and the Project Work;
  - (iii) sets out policies, procedures, standards, methods and measures Project Co will implement to ensure compliance with Applicable Law, the Environmental Permits, and Project Co's Environmental Obligations, including the Environmental Management Mandate; and
  - (iv) contains all the Environmental Plans required by this Schedule 10 [*Environmental Performance Requirements*], including those Environmental Plans identified in Section 9.1 [*Environmental Plans*] of this Schedule 10 [*Environmental Performance Requirements*].
- (b) Project Co shall not commence any Project Work that involves any physical disturbance of the Lands until the EMS and all Environmental Plans applicable to such Project Work have been submitted to, and Accepted by, the City. Notwithstanding the foregoing, Project Co shall be permitted to conduct site investigations and testing that requires physical disturbance of the Lands prior to the EMS being Accepted by the City, provided

that prior to undertaking such site investigations and testing, Project Co submits to the City a specific environmental protection plan for such work describing in detail:

- (i) the description of the proposed work;
- (ii) the location of the proposed work, including showing the proposed work on a drawing; and
- (iii) the specific environmental protection measures to be implemented for that site, commensurate with the activity proposed,

and which complies with the requirements of Section 9.1(b) of this Schedule 10 [*Environmental Performance Obligations*], and which is Accepted by the City. Project Co recognizes and agrees that the City, in its review of such environmental protection plan pursuant to Schedule 2 – Submittal Review Procedure, may impose certain conditions on such work to address drilling in sensitive areas, such as in Groat Ravine, and to address the potential for high volumes of drilling to generate dust, noise and other annoyances for businesses and neighbours in the vicinity of the proposed work.

## **8.2 Compliance with Environmental Management System**

- (a) Project Co shall implement, update, monitor and comply with, and shall cause all Project Co Persons to comply with, the Accepted EMS, and any subsequent amendments to the EMS, which have been Accepted by the City.

## **8.3 Review and Amendment of Environmental Management System**

- (a) Project Co shall promptly amend the EMS from time to time during the Construction Period as required to ensure that the EMS, at all times:
  - (i) is appropriate for the status and stage of the Project Work;
  - (ii) is in compliance with the requirements of Section 8.1(a) of this Schedule 10 [*Environmental Performance Obligations*];
  - (iii) is in compliance with:
    - (1) 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;
    - (2) any amended or new Applicable Law or Environmental Permits; and
    - (3) any new policies or standards implemented by the City of Edmonton with respect to environmental protection; and
  - (iv) addresses breaches of Project Co's Environmental Obligations in such a manner so as to minimize the risk of future breaches of Project Co's Environmental Obligations.
- (b) In addition to the requirements of Section 8.3(a) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall submit to the City an updated EMS on each anniversary of the Effective Date. Project Co shall revise and resubmit to the City the EMS as required in order to achieve an Accepted EMS within 45 days of the initial submittal.

## 9. ENVIRONMENTAL PLANS - GENERAL

### 9.1 Environmental Plans

- (a) Project Co shall, as part of the EMS, prepare and submit to the City environmental plans which address all environmental aspects, risks, objectives, targets, issues and specifications identified in this Schedule 10 [*Environmental Performance Requirements*] and which are otherwise required by Good Industry Practice or Regulatory Approvals (each, an “**Environmental Plan**”) to ensure that the Project, the Project Work and the Infrastructure and all activities of Project Co and all Project Co Persons under this Agreement comply with Project Co’s Environmental Obligations, including the Environmental Management Mandate. Without limiting the generality of the foregoing, Project Co shall prepare and submit the following Environmental Plans:
- (i) the ECO Plan, in accordance with Section 10 [*Environmental Construction Operations Plan*] and Section 15.7(e) of this Schedule 10 [*Environmental Performance Requirements*];
  - (ii) the ESC Plan and site-specific erosion and sedimentation control plans, in accordance with Section 11 [*Erosion and Sedimentation Control Plan*] of this Schedule 10 [*Environmental Performance Requirements*];
  - (iii) the Integrated Pest Management Plan, in accordance with Section 12 [*Integrated Pest Management Plan*] of this Schedule 10 [*Environmental Performance Requirements*];
  - (iv) the Contamination Management Plan, in accordance with Section 15.1 [*Contamination Management Plan*] of this Schedule 10 [*Environmental Performance Requirements*];
  - (v) the Hazardous Substances and Waste Management Plan, in accordance with Section 15.7 [*Hazardous Substances and Waste*] of this Schedule 10 [*Environmental Performance Requirements*];
  - (vi) the Bat Mitigation Plan, in accordance with Section 16.2 [*Restricted Activities for Bat Mitigation Measures*] of this Schedule 10 [*Environmental Performance Requirements*];
  - (vii) the Dust Control Plan, in accordance with Section 17 [*Site Clearing, Demolition and Dust Control*] of this Schedule 10 [*Environmental Performance Requirements*];
  - (viii) the Native Forest Reclamation Plan, in accordance with Section 20 [*Native Forest Reclamation*] of this Schedule 10 [*Environmental Performance Requirements*]; and
  - (ix) the Naturalization Plan, in accordance with Section 21 [*Naturalization Areas*] of this Schedule 10 [*Environmental Performance Requirements*].
- (b) Each Environmental Plan shall:
- (i) be in compliance with Good Industry Practice;
  - (ii) describe the potential environmental effects associated with the aspects of the Project, the Project Work and the Infrastructure and the activities of Project Co

and all Project Co Persons under this Agreement that are the subject of the Environmental Plan;

- (iii) clearly document all measures that shall be implemented and all actions that shall be taken to mitigate such potential environmental effects;
- (iv) contain a detailed environmental monitoring and inspection program in accordance with the requirements of Section 13 [*Environmental Compliance Monitoring and Inspection Programs*] of this Schedule 10 [*Environmental Performance Requirements*]; and
- (v) contain policies, procedures, measures and monitoring requirements sufficient to ensure that the Project, the Project Work, the Infrastructure and the Lands and all activities of Project Co and all Project Co Persons under this Agreement comply with:
  - (1) Applicable Law and the Environmental Permits;
  - (2) Project Co's Environmental Obligations, including the Environmental Management Mandate; and
  - (3) the specific objectives and requirements specified in this Schedule 10 [*Environmental Performance Requirements*] for each Environmental Plan.

## **9.2 Compliance with Environmental Plans**

- (a) Project Co shall not commence any Project Work which is the subject of an Environmental Plan until the applicable Environmental Plan has been submitted to, and Accepted by, the City.
- (b) Project Co shall implement, maintain, monitor and comply with, and shall cause all Project Co Persons to comply with, each of the Accepted Environmental Plans, and any subsequent amendments to the Environmental Plans, which have been Accepted by the City.

## **9.3 Review and Amendment of Environmental Plans**

- (a) Project Co shall regularly review and amend each of the Environmental Plans as required to ensure that each Environmental Plan, at all times:
  - (i) addresses new environmental aspects, risks, objectives, targets, issues and specifications that arise during the Project and the Project Work;
  - (ii) is in compliance with the requirements of Section 9.1 [*Environmental Plans*] of this Schedule 10 [*Environmental Performance Requirements*]; and
  - (iii) addresses breaches of Project Co's Environmental Obligations in such a manner so as to minimize the risk of future breaches of Project Co's Environmental Obligations.
- (b) In addition to the requirements of Section 9.3(a) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall submit to the City updates for each Environmental Plan on each anniversary of the Effective Date. Project Co shall revise

and resubmit to the City any applicable Environmental Plans as required in order to achieve Accepted Environmental Plans within 45 days of the initial submittal.

- (c) Without limiting Section 9.3(a) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall ensure that all Environmental Plans are reviewed at the Project Co ISO 14001 EMS annual management review.
- (d) Prior to commencing any Project Work not covered by an Accepted Environmental Plan and prior to commencing any Project Work that is affected by a proposed amendment to an Accepted Environmental Plan, Project Co shall submit to the City a new Environmental Plan or the proposed amendments covering such Project Work, as the case may be.

## 10. ENVIRONMENTAL CONSTRUCTION OPERATIONS PLAN

- (a) Project Co shall develop an environmental construction operations plan (the “**ECO 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 ECO Plan Framework and the requirements of this Schedule 10 [*Environmental Performance Requirements*], including Section 9 [*Environmental Plans – General*] of this Schedule 10 [*Environmental Performance Requirements*], and shall:
  - (i) contain measures, procedures and plans to address the following specific Project aspects, issues, activities and site sensitivities:
    - (1) vegetation clearing, establishment and management (including weed control);
    - (2) equipment cleaning as a means of weed control in sensitive areas;
    - (3) wildlife conflict and movement management strategies;
    - (4) potential impacts to water bodies and aquatic resources;
    - (5) fire response procedures for natural areas and fire hazard abatement measures to minimize fire risk in natural areas;
    - (6) laydown activities near sensitive slopes at Groat Ravine and MacKinnon Ravine as shown on Figures 6 and 8, respectively, of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*]. At Groat Ravine, the laydown area shall not extend beyond manicured areas and slopes shall not be altered. At MacKinnon Ravine, the laydown area shall not extend beyond the outside limits of the paved existing bus turnaround;
    - (7) removal, abandonment, relocation and installation of Utility Infrastructure, to be undertaken by Project Co, including:
      - A. procedures for pipeline abandonment, relocation, removals and installations;
      - B. procedures for sewer and water abandonments, relocations and removals; and

C. procedures for removal, relocation and installation of telecommunications and electrical cables, panels, conduits and other similar installations,

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

- (8) water management, including surface water run-off management, groundwater management, wastewater management, Stormwater Management, and dewatering procedures and protocols;
  - (9) procedures for snow and ice removal, storage and disposal; and
  - (10) upkeep and maintenance of all laydown areas, and components thereof, throughout the Construction Period.
- (b) Without limiting Section 9.3 *[Review and Amendment of Environmental Plans]* of this Schedule 10 *[Environmental Performance Requirements]*, Project Co shall regularly review and amend the ECO Plan to address new Project Work activities, construction areas and laydown areas.

## 11. EROSION AND SEDIMENTATION CONTROL PLAN

- (a) Project Co shall develop an erosion and sedimentation control plan (the “**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 this Schedule 10 *[Environmental Performance Requirements]*, including Section 9 *[Environmental Plans – General]* of this Schedule 10 *[Environmental Performance Requirements]*, and shall:
- (i) contain erosion and sedimentation control requirements, measures and procedures that apply throughout the Lands; and
  - (ii) contain a detailed description of all equipment and materials required for implementation of the ESC Plan.
- (b) Project Co shall also develop site-specific erosion and sedimentation control plans for the following areas:
- (i) Groat Ravine;
  - (ii) MacKinnon Ravine;
  - (iii) MNA vicinity; and
  - (iv) Potter Greens East Stormwater Management Facility vicinity.
- (c) The ESC Plan and all site-specific erosion and sedimentation control plans shall be developed, signed and stamped by a Certified Professional in Erosion and Sediment Control (CPESC). Project Co shall implement, update, maintain and monitor such plans.
- (d) Immediately upon commencement of any vegetation clearing, Project Co shall implement erosion and sedimentation control measures that comply with the Accepted ESC Plans.

- (e) In cases where vegetation clearing on slopes occurs more than two days in advance of earthworks or other activity, Project Co shall only remove vegetation to ground level and shall leave root networks intact until earthworks begin and erosion and sediment control measures are in place. For the purposes of this Section 11(e) of this Schedule 10 [*Environmental Performance Requirements*], “earthworks” means excavation, soil stripping, levelling, or fill placement that occurs on a continuous basis to prepare a site for construction activities.
- (f) All municipal catch basins receiving water from within the Lands shall be hoarded or otherwise protected from sediment deposition until all disturbed surfaces within the catchment support stabilizing vegetation or another permanent surface treatment.
- (g) For clarity, all permanent ESC measures must also be shown on the relevant detailed design packages for review and acceptance by the City. The review and acceptance of permanent ESC measures in detailed design packages supersedes any permanent ESC measures contained in any accepted ESC Plans.

## 12. INTEGRATED PEST MANAGEMENT PLAN

- (a) Project Co shall develop an integrated pest management plan (the “**Integrated Pest Management 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 this Schedule 10 [*Environmental Performance Requirements*], including Section 9 [*Environmental Plans – General*] of this Schedule 10 [*Environmental Performance Requirements*]. The Integrated Pest Management Plan shall:
  - (i) address pest management throughout the Construction Period;
  - (ii) provide a description of the overall approach to pest management;
  - (iii) address:
    - (1) measures for ensuring that Project Co complies with the requirements described in Section 19.3 [*Weed and Exotic Species Management*] of this Schedule 10 [*Environmental Performance Requirements*] and the other provisions of this Schedule 10 [*Environmental Performance Requirements*] referred to therein;
    - (2) measures for reducing the need for and use of chemical control measures;
    - (3) protocols for the use of chemical control near water bodies;
    - (4) specific sensitivities present within the Lands and areas immediately adjacent to the Lands that might be impacted by pest management, such as water bodies, natural areas, residential areas, and specific procedures to be implemented in areas where such sensitivities are present;
    - (5) monitoring and inspection methods, timing and action levels;
    - (6) measures for public notification in advance of chemical treatment;
    - (7) management, control and preventative measures; and

- (8) 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; and
- (iv) comply with the Environmental Code of Practice for Pesticides issued by AEP, as amended from time to time.
- (b) The term “pest” includes anything that is defined as a “pest” in the City of Edmonton Integrated Pest Management Policy C501, or that has been designated as a “pest” under the *Agricultural Pests Act* (Alberta) where that designation applies to lands within the City of Edmonton.
- (c) Project Co shall ensure that the measures contained within the Integrated Pest Management Plan are sufficient to ensure compliance with the requirements of the *Weed Control Act* (Alberta) and the *Agricultural Pests Act* (Alberta).

### 13. ENVIRONMENTAL COMPLIANCE MONITORING AND INSPECTION PROGRAMS

- (a) Project Co shall ensure that the EMS and all 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 Applicable Law and the Environmental Permits), Project Co’s and all Project Co Person’s compliance with all of Project Co’s Environmental Obligations, including compliance with the EMS and all Environmental Plans. Such monitoring and inspection programs shall include:
  - (i) the scope of the monitoring and inspection program, including the scope of site inspections to be conducted by the Environmental Monitor;
  - (ii) a listing of applicable performance requirement criteria, including requirements under Applicable Law, the Environmental Permits and the Environmental Plans;
  - (iii) methodologies for monitoring, measurement, analysis and evaluation, including identification of all laboratories that will be used for testing purposes, all of which laboratories shall have all certifications and qualifications required under Applicable Law and by the Province of Alberta, as amended from time to time;
  - (iv) reporting procedures;
  - (v) responsibilities and requirements for conducting inspections, monitoring programs, reporting results and follow-up actions; and
  - (vi) procedures for addressing any breach of Project Co’s Environmental Obligations, including any additional monitoring that will be undertaken following any such breach to mitigate the risk of a further breach of Project Co’s Environmental Obligations.
- (b) Each Monday until the end of the Construction Period, Project Co shall submit to the City a report:
  - (i) describing the results of all monitoring and inspections completed during the immediately preceding 7 day period ending on Sunday;
  - (ii) attaching photographs, copies of all raw field monitoring sheets and raw data, test results and analysis received during such 7 day period; and



- (iii) 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 such breach or failure to comply, including any amendments made or to be made by Project Co to the EMS or any Environmental Plan to prevent a reoccurrence of such breach or failure to comply.
- (c) Project Co shall implement a system to effectively track progress in resolving any breach or failure to comply with any of Project Co's Environmental Obligations and opportunities for improvements.
- (d) Without limiting the generality of Section 13(b) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall, within 24 hours:
  - (i) after Project Co or a Project Co Person becoming aware of any breach of, or failure to comply with, any Applicable Law or any Environmental Permit by Project Co or any Project Co Person; or
  - (ii) after receipt of any charge, order, investigation or notice of violation or non-compliance issued against Project Co or any Person Co Person under any Applicable Law or any Environmental Permit; or
  - (iii) after Project Co or a Project Co Person becoming aware 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 Applicable 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. Project Co shall submit to the City a written report containing such information and any additional relevant information within 72 hours after providing the verbal notification.

- (e) Where any breach or failure to comply with an Applicable Law or Environmental Permit requires a written report to any Governmental Authority, Project Co shall be responsible for completing and filing that report, provided that:
  - (i) prior to filing such report, Project Co shall submit to the City a copy of the proposed report within 72 hours after the breach or failure to comply; and
  - (ii) Project Co shall not submit the report to the Governmental Authority before the earlier of:
    - (1) the date on which the City has Accepted the report, provided that in this case, the time for the City's review under Schedule 2 [*Submittal Review Procedure*] will be 72 hours; and
    - (2) the last date for filing the report with the Governmental Authority under Applicable Law.

## 14. EMS AUDITS

### 14.1 Internal EMS Audits

- (a) Project Co shall undertake internal audits of all elements of the EMS in accordance with ISO 19011 until the end of the Construction Period, with the first such audit to be completed no later than 120 days after the Effective Date and continuing thereafter at six-month intervals.
- (b) Project Co shall ensure that all internal EMS auditors have the following minimum qualifications:
  - (i) experience in auditing complex linear transportation projects with design and construction activities completed by the contractor; and
  - (ii) familiarity with federal, provincial and municipal compliance obligations of the Project.
- (c) 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.
- (d) Without limiting any other requirements of Section 14.1 [*Internal EMS Audit*] of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall ensure:
  - (i) that the audit assesses whether:
    - (1) all input requirements have been adhered to;
    - (2) the EMS is implemented and in compliance with all requirements of this Schedule 10 [*Environmental Performance Requirements*]; and
    - (3) Project Co and all Project Co Persons have complied with the EMS; and
  - (ii) that the audit report documents any failures to comply with any of the foregoing.
- (e) Project Co shall ensure that an audit report is prepared for all internal EMS audits and that the Environmental Manager signs each audit report to acknowledge the audit findings. Project Co shall submit to the City each internal EMS audit report, with the Environmental Manager's signature on the report, within 7 days after completion of the audit.
- (f) Without limiting or otherwise affecting the provisions of Schedule 9 [*Quality Management*] with respect to Nonconformities, and in addition to the requirements of Schedule 9 [*Quality Management*], Project Co shall:
  - (i) using its best efforts, complete all Corrective Actions and Preventive Actions in respect of all Nonconformities and Deficiencies and opportunities for improvements which are identified by the internal EMS auditor within 30 days after the completion of the audit; and
  - (ii) submit evidence, including auditor acceptance, of the completion of all Corrective Actions and Preventive Actions in respect of all Nonconformities and Deficiencies and opportunities for improvements which are identified by the internal EMS auditor within 45 days after completion of the audit.

## 14.2 External EMS Audits

- (a) Project Co shall undertake external EMS compliance audits in accordance with ISO 19011. Project Co shall ensure that a full external EMS audit is completed in each year until the end of the Construction Period. Project Co shall ensure that external EMS audits are scheduled no earlier than 45 days after the completion of an internal audit.
- (b) Project Co shall ensure that all external EMS auditors are:
  - (i) certified by an accredited auditors' registration body;
  - (ii) not employees of Project Co, a Project Co Person, 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;
  - (iii) qualified to conduct an audit of the full scope of the EMS;
  - (iv) experienced in auditing similar type of projects; and
  - (v) familiar with the federal, provincial and municipal compliance obligations of the Project.
- (c) 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.
- (d) Without limiting any other requirements of Section 14.2 [*External EMS Audit*] of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall ensure:
  - (i) that the audit assesses whether:
    - (1) all input requirements have been adhered to;
    - (2) the EMS is implemented in compliance with all requirements of this Schedule 10 [*Environmental Performance Requirements*]; and
    - (3) Project Co and all Project Co Persons have complied with the EMS; and
  - (ii) that the audit report documents any failures to comply with any of the foregoing.
- (e) Project Co shall ensure that an audit report is prepared for all external EMS audits and that the Environmental Manager signs each audit report to acknowledge the audit findings. Project Co shall submit to the City each external EMS audit report, with the Environmental Manager's signature on the report, within 7 days after completion of the audit.
- (f) Without limiting or otherwise affecting the provisions of Schedule 9 [*Quality Management*] with respect to Nonconformities, and in addition to the requirements of Schedule 9 [*Quality Management*], Project Co shall:
  - (i) using its best efforts, complete all Corrective Actions and Preventive Actions in respect of all Nonconformities and Deficiencies and opportunities for improvements which are identified by the external EMS auditor within 30 days after the completion of the audit; and

- (ii) submit evidence, including auditor acceptance, of the completion of all Corrective Actions and Preventive Actions in respect of all Nonconformities and Deficiencies and opportunities for improvements which are identified by the external EMS auditor within 45 days after completion of the audit.

## 15. CONTAMINATION, HAZARDOUS SUBSTANCES AND WASTE

### 15.1 Contamination Management Plan

- (a) Project Co shall, prior to commencing any ground disturbance activity, submit to the City a contamination management plan (the “**Contamination Management Plan**”), which shall:
  - (i) outline the strategy, including any planned testing, Project Co will implement to address identified Contamination at Known Contaminated Locations as well as potential encounters with unknown Contamination;
  - (ii) include mitigation measures for any water encountered within an excavation or which enters an excavation (such as stormwater) at a Known Contaminated Location or unknown contaminated site and the protection Project Co will implement to prevent erosion of excavations;
  - (iii) include the procedures, measures, methods and actions Project Co shall implement to comply with the requirements of this Schedule 10 [*Environmental Performance Requirements*];
  - (iv) include the parameters Project Co will test for and the location from which samples will be collected in the event of an encounter with unknown Contamination;
  - (v) identify records that will be provided to the City for any testing for Contamination;
  - (vi) identify the location(s) from which and the frequency that boundary samples will be collected at the limits of excavations at a Known Contaminated Location or when unknown Contamination is encountered and it is determined that excavation of such material is required;
  - (vii) identify the strategy Project Co will implement to mitigate impacts to the Construction Schedule as a result of encountering Contamination; and
  - (viii) for Known Contaminated Locations where the Contamination consists of petroleum hydrocarbons, detail the installation of an oil resistant geomembrane along the boundary of the relevant excavation.
- (b) Project Co shall cause a professional meeting the requirements set out in Section 15.3(b) of this Schedule 10 [*Environmental Performance Requirements*] to prepare and sign the Contamination Management Plan.
- (c) Notwithstanding Section 15.1(a) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall be permitted to conduct site investigations and testing that requires ground disturbance activity prior to the Contamination Management Plan being Accepted by the City, provided that as part of the environmental protection plan described in Section 8.1(b) of this Schedule 10 [*Environmental Performance Obligations*] Project Co includes a specific contamination management plan for such work that

complies with the requirements of Sections 15.1(a)(i) through to and including Section 15.1(a)(viii) of this Schedule 10 [*Environmental Performance Obligations*].

## 15.2 Responsibility for Contamination

- (a) The City shall be responsible for Contamination on, in or under, or migrating to or from, the Lands, except for any such Contamination:
  - (i) that was described in, or was properly inferable, readily apparent or readily discoverable from the Valley Line West Light Rail Transit Supplemental Phase II Environmental Site Assessment;
  - (ii) the responsibility for which is expressly allocated to Project Co pursuant to Section 15 of this Schedule 10 [*Environmental Performance Requirements*]; or
  - (iii) that is caused by Project Co or any Project Co Person,

with such Contamination described in Sections 15.2(a)(i), 15.2(a)(ii), and 15.2(a)(iii) of this Schedule 10 [*Environmental Performance Requirements*] being, for clarity, Contamination for which Project Co is responsible.

- (b) As of the Effective Date, the Valley Line LRT Stage 1 contractor occupies Gerry Wright OMF Parcel B and Gerry Wright OMF Parcel C. These two parcels are being used as soil storage areas for soil excavated from the Valley Line LRT Stage 1 alignment. The City cannot verify the soil quality at these locations prior to handover to Project Co. The City has developed a remedial action strategy for the protection of Mill Creek. This strategy does not require Project Co to address Contamination unless Contamination is suspected through visual and olfactory observation. The provisions of Section 15.6 of this Schedule 10 [*Environmental Performance Requirements*] will apply to Contamination discovered (including Contamination suspected through visual and olfactory observation) at Gerry Wright OMF Parcel B and Gerry Wright OMF Parcel C. For clarity, Contamination discovered at such locations is Contamination for which the City is responsible pursuant to Section 15.2(a) of this Schedule 10 [*Environmental Performance Requirements*], provided that, and notwithstanding the foregoing, Project Co shall remain responsible for Contamination that is caused by Project Co or any Project Co Person.

## 15.3 Testing for and Disposal of Contamination

- (a) If Project Co undertakes testing of soils or groundwater for Contamination or deicing compounds, then Project Co shall submit to the City the results of such testing, together with a drawing showing the location of the samples, as well as information on the depth the samples were collected, the methodology of the sample collection and the guidelines applied and comparison of the results to such guidelines. Notwithstanding anything to the contrary in this Agreement, under no circumstances will Project Co be entitled to be reimbursed for the cost of any testing of soils or groundwater for Contamination or deicing compounds.
- (b) Any testing and disposal of Contamination shall be directed, monitored and documented by professionals:
  - (i) who are members 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 of Alberta (ASET), College of Alberta Professional Foresters (CAPF), or the College of Alberta Professional Forest Technologists (CAPFT);

- (ii) who have 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) who are covered under the professional liability (errors and omissions) insurance described in Appendix 17A [*Insurance Requirements*] of Schedule 17 [*Insurance and Performance Security Requirements*].

#### 15.4 Known Contamination

- (a) The City has identified Contamination at the locations within the Lands generally shown in Figures 10 and 11a to 11n of Appendix 10A to this Schedule 10 [*Environmental Performance Requirements*] (the "**Known Contaminated Locations**") and as described in the Valley Line West Light Rail Transit Supplemental Phase II Environmental Site Assessment.
- (b) Project Co shall be fully responsible for all management, excavation, removal and abatement of all Contamination identified by the City at the Known Contaminated Locations and for Contamination which was described in, or was properly inferable, readily apparent or readily discoverable from the Valley Line West Light Rail Transit Supplemental Phase II Environmental Site Assessment, but only to the extent of the Project Work undertaken within the Known Contaminated Locations, and shall be fully responsible for obtaining any required backfill. Project Co shall dispose of all excavated Contamination at licensed disposal facilities. Project Co shall be fully responsible for all costs and risks associated with or arising out of the foregoing obligations.
- (c) If Project Co excavates Contamination at a Known Contaminated Location, then it shall do so only to the extent required to complete the Project Work.

#### 15.5 Soils Impacted by Deicing Compounds

- (a) It is known that there are soil impacts associated with the use of deicing compounds applied to Roadways. Soils impacted by deicing compounds, except such soils which contain Contamination (the "**Soils Impacted by Deicing Compounds**") shall be reused by Project Co within the Lands to the extent possible to minimize backfill sourcing from off-Lands sources, except that Soils Impacted by Deicing Compounds must not be moved into the TUC from the Lands outside the TUC. Soils Impacted by Deicing Compounds must not be removed from the Lands unless consented to by the City. The City will obtain all required approvals or permissions associated with such reuse and will direct Project Co as necessary to ensure compliance with such approvals or permissions.
- (b) If, after Project Co has reused as much of the Soils Impacted by Deicing Compounds as possible in accordance with Section 15.5(a) of this Schedule 10 [*Environmental Performance Requirements*], Project Co has an excess amount of such soils (the "**Excess Soil**") or if such soils cannot be used by Project Co, including due to such soils being geotechnically unsuitable for reuse (the "**Unusable Soil**"), the City will direct Project Co where the Excess Soil and/or Unusable Soil is to be placed.
  - (i) If the City directs Project Co to dispose of the Excess Soil and/or Unusable Soil at a City-owned facility, and:

- (1) such facility is located within the City of Edmonton's city limits, Project Co shall be fully responsible for all management, excavation, removal and abatement of such soil, shall be fully responsible for obtaining any required backfill and shall be fully responsible for all costs and risks associated with or arising out of the foregoing obligations; or
  - (2) such facility is located outside the City of Edmonton's city limits, Project Co shall be fully responsible for all management, excavation, removal and abatement of such soil and shall be fully responsible for obtaining any required backfill. Project Co shall be reimbursed by the City for Project Co's substantiated increased cost of haulage for the distance travelled between the city limits and the facility's location. Notwithstanding anything to the contrary in this Agreement, Project Co shall not be entitled to any other relief in connection with such obligations and shall not be reimbursed for any required backfill to replace such Excess Soil or Unusable Soil.
- (ii) If the City directs Project Co to dispose of the Excess Soil and/or Unusable Soil at a third party-owned facility, and:
- (1) such facility is located within the City of Edmonton's city limits, Project Co shall be fully responsible for all management, excavation, removal and abatement of such soil and shall be fully responsible for obtaining any required backfill. Project Co shall be reimbursed by the City for any substantiated tipping fees paid by Project Co in order to dispose of such soil. Notwithstanding anything to the contrary in this Agreement, Project Co shall not be entitled to any other relief in connection with such obligations and shall not be reimbursed for any required backfill to replace such Excess Soil or Unusable Soil; or
  - (2) such facility is located outside the City of Edmonton's city limits, Project Co shall be fully responsible for all management, excavation, removal and abatement of such soil and shall be fully responsible for obtaining any required backfill. Project Co shall be reimbursed by the City for:
    - A. Project Co's substantiated increased cost of haulage for the distance travelled between the city limits and the facility's location; and
    - B. any substantiated tipping fees paid by Project Co in order to dispose of such soil.

Notwithstanding anything to the contrary in this Agreement, Project Co shall not be entitled to any other relief in connection with such obligations and shall not be reimbursed for any required backfill to replace such Excess Soil or Unusable Soil.

For clarity, if Project Co determines that Unusable Soil is geotechnically unsuitable for reuse, then Project Co shall submit the geotechnical test results to the City showing that such soil is geotechnically unsuitable for reuse.

## 15.6 Unknown Contamination

- (a) Upon the discovery of any Contamination (including Contamination suspected through visual and olfactory observation), Project Co shall immediately inform the City Representative (and in any event, no later than 1 Business Day after such discovery or suspicion) and shall comply, and ensure compliance by all Project Co Persons, with this Schedule 10 *[Environmental Performance Requirements]* in respect thereof:
  - (i) at the City's cost pursuant to Section 15.6(d) of this Schedule 10 *[Environmental Performance Requirements]*, in respect of Contamination for which the City is responsible pursuant to Section 15.2(a) of this Schedule 10 *[Environmental Performance Requirements]*; and
  - (ii) at Project Co's own cost in respect of Contamination for which Project Co is responsible pursuant to Section 15.2(a) of this Schedule 10 *[Environmental Performance Requirements]*.
- (b) Except to the extent required to prevent or mitigate an Emergency, Project Co shall not undertake any significant work pursuant to Section 15.6(a) of this Schedule 10 *[Environmental Performance Requirements]* in respect of Contamination for which the City is responsible pursuant to Section 15.2(a) of this Schedule 10 *[Environmental Performance Requirements]* until the City Representative has been given a reasonable opportunity to review the nature and extent of the Contamination and has instructed Project Co to proceed with such work.
- (c) In the event that the City wishes Project Co to perform actions in respect of any Contamination which are in addition to any work required pursuant to Section 15.6(a) of this Schedule 10 *[Environmental Performance Requirements]*, then the City shall issue an instruction to Project Co specifying what action the City requires Project Co to take and Project Co shall promptly and diligently comply with all such instructions at the City's cost pursuant to Section 15.6(d) of this Schedule 10 *[Environmental Performance Requirements]*.
- (d) If Sections 15.6(a) or 15.6(c) of this Schedule 10 *[Environmental Performance Requirements]* require Project Co to perform any alteration, addition, demolition, extension or variation in the Project Work as a result of Contamination for which the City is responsible pursuant to Section 15.2(a) of this Schedule 10 *[Environmental Performance Requirements]* or as a result of any instructions given by the City pursuant to Section 15.6(c) of this Schedule 10 *[Environmental Performance Requirements]* and which would not otherwise be required under this Agreement, then any such alteration, addition, demolition, extension or variation shall, subject to and in accordance with Section 11 of this Agreement, be treated as a Relief Event.
- (e) If Project Co excavates soil pursuant to Section 15.6 of this Schedule 10 *[Environmental Performance Requirements]*, then it shall do so only to the extent required to complete the Project Work.

## 15.7 Hazardous Substances and Waste

- (a) The City shall be responsible for Hazardous Substances and Releases of Hazard Substances on, in or under, or migrating to or from, the Lands, except for any such Hazardous Substances and Releases of Hazard Substances the responsibility for which is expressly allocated to Project Co pursuant to Section 15 of this Schedule 10 *[Environmental Performance Requirements]*.



- (b) Project Co is fully responsible for the following Hazardous Substances and Releases of Hazard Substances and all costs and risks associated with or arising out of the following:
- (i) Hazardous Substances in Existing Infrastructure that could have been ascertained by Project Co or a Project Co Person by the exercise of Standard Due Diligence prior to the Financial Submission Date;
  - (ii) 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 the Infrastructure or component thereof;
  - (iii) any Release of a Hazardous Substance caused by Project Co or a Project Co Person;
  - (iv) 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 Project Co's obligations under this Agreement or a failure by Project Co or a Project Co Person to comply with any of Project Co's obligations under this Agreement; and
  - (v) 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.
- (c) Project Co shall remove all Hazardous Substances from all Existing Infrastructure and any Infrastructure to the extent that Project Co demolishes, abandons, removes or relocates such Existing Infrastructure or Infrastructure during any Project Work. Project Co shall remove all such Hazardous Substances from the Lands and shall dispose of all such Hazardous Substances at provincially licensed facilities. If Project Co demolishes, abandons, removes or relocates Existing Infrastructure, then it shall do so only to the extent required to complete the Project Work.
- (d) For the activities described in Section 15.7(c) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall develop a Hazardous Substances and Waste Management Plan which shall include:
- (i) strategies and procedures for identifying, removing, handling, managing and disposing of Hazardous Substances in any Infrastructure and Existing 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, which strategy shall include procedures for conducting a Hazardous Substance survey prior to commencement of any such work. Such surveys shall 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;
  - (ii) hauling procedures for Hazardous Substances and proposed disposal locations for Hazardous Substances, 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; and

- (iii) 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.
- (e) Project Co shall, as part of the ECO Plan, address the following items related to Project Co's use of Hazardous Substances and generation of Hazardous Substances and waste during all aspects of Project Work:
  - (i) use of biodegradable hydraulic fluid for any Project Work that occurs within 6 meters of a water body;
  - (ii) all fuel tanks, including waste fuel and waste oil, and related piping meet the requirements of the National Fire Code Alberta Edition, 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;
  - (iii) oil-water separators are installed at locations as required to ensure that there is no discharge of oil to sewers, storm sewers or other watercourse;
  - (iv) no underground storage tanks are installed by Project Co on the Lands and no fuel, including waste fuel and waste oil, storage occurs in Groat Ravine, MacKinnon Ravine, and within 100m of the MNA boundary;
  - (v) fuels and other Hazardous Substances are stored:
    - (1) 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 Applicable Law or Project Approval; and
    - (2) in protected, flat areas that have secondary containment and are a minimum of 100 meters from any water course or water body;
  - (vi) re-fueling shall not occur within 30 meters of a watercourse 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 meters of a water course or a water body, the Hazardous Substances and Waste Management Plan shall describe how refuelling will occur in that circumstance and must include measures Project Co shall implement to minimize environmental risks;
  - (vii) all equipment shall be fitted with standard emission control devices appropriate to the equipment and in compliance with Applicable Law;
  - (viii) 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;
  - (ix) 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 shall include procedures that shall be followed and mitigation measures that shall be implemented to minimize environmental risks;

(x) 90% (by weight) of all waste that is generated by Project Co or a Project Co Person during the Project Work is diverted from landfill, provided that the following materials will be excluded from the definition of “waste” solely for the purposes of this Section 15.7(e)(x) of this Schedule 10 [*Environmental Performance Requirements*]:

(1) all soils; and

(2) 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:

(3) records, including weigh bills, of all such waste generated in each year of the Construction Period;

(4) records, including weigh bills, of where all such waste is disposed of or diverted to during each year of the Construction Period; and

(5) 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 to the City a report containing sufficient supporting data to demonstrate compliance with this Section 15.7(e)(x) of this Schedule 10 [*Environmental Performance Requirements*] during the immediate preceding year. Project Co shall revise and resubmit to the City such report as required in order to achieve an Accepted report within 30 days of the initial submittal; and

(xi) potential spills of Hazardous Substances are captured and contained. For this purpose, Project Co shall, as part of the ECO 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 that describes the measures Project Co shall 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.

(f) During the removal of Hazardous Substances from any Infrastructure or Existing Infrastructure, Project Co shall complete inspections to confirm that Hazardous Substances are being handled in accordance with the Hazardous Substances and Waste Management Plan and the requirements of this Schedule 10 [*Environmental Performance Requirements*]. Following the completion of any removal of Hazardous Substances from any Infrastructure or Existing Infrastructure, and prior to the final demolition, removal, relocation or abandonment of the Infrastructure or Existing Infrastructure, Project Co shall ensure that such Infrastructure and Existing Infrastructure is inspected to confirm that all Hazardous Substances have been removed. Prior to the commencement of demolition, removal, relocation or abandonment of a piece of Infrastructure or Existing Infrastructure, Project Co shall ensure that a document signed by an APEGA registered Professional has been issued and submitted to the City, which states that Hazardous Substances have been removed from the Infrastructure or Existing Infrastructure. Project Co shall retain inspection and other records with respect to Hazardous Substances in accordance with the Accepted Hazardous Substances and Waste Management Plan and shall forward copies of those records to the City upon request.

- (g) Project Co shall ensure that:
  - (i) no waste or Hazardous Substance is buried except with the prior approval of the City; and
  - (ii) no waste, Hazardous Substance, volatile material, mineral spirits, oil or paint thinner is disposed of in any water body, or storm or sanitary sewer.
- (h) 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 becomes aware 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. Project Co shall submit to the City a written report containing such information and any additional relevant information within 72 hours after providing the verbal notification.
- (i) Where any such spill or other Release for which Project Co is responsible requires a written report to any Governmental Authority, Project Co shall be responsible for completing and filing that report, provided that:
  - (i) prior to filing such report, Project Co shall submit to the City, a copy of the proposed report within 72 hours after the spill or other Release; and
  - (ii) Project Co shall not submit the report to the Governmental Authority before the earlier of:
    - (1) the date on which the City has Accepted the report, provided that in this case, the time for the City's review under Schedule 2 *[Submittal Review Procedure]* is 72 hours; and
    - (2) the last date for filing the report with the Governmental Authority under Applicable Law.
- (j) In the case of a spill or other Release of a Hazardous Substance for which Project Co is responsible as described in Section 15.7(b) of this Schedule 10 *[Environmental Performance Requirements]*, Project Co shall promptly take all steps required to:
  - (i) clean-up the spill or Release;
  - (ii) repair all resulting damage to the Environment; and
  - (iii) remediate any impact 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 in soil and groundwater. Project Co shall comply with the requirements of Section 15.4 *[Known Contamination]* of this Schedule 10 *[Environmental Performance Requirements]* with respect to remediation under this Section 15.7(j) of this Schedule 10 *[Environmental Performance Requirements]*. For the purposes of this 15.7(j) of this Schedule 10 *[Environmental Performance Requirements]*, such location(s) of the spill or Release shall be deemed to be a Known Contaminated Location.
- (k) If:

- (i) Project Co encounters Hazardous Substances for which the City is responsible pursuant to Section 15.7(a) of this Schedule 10 *[Environmental Performance Requirements]*, Project Co shall immediately inform the City Representative and shall comply, and ensure compliance by all Project Co Persons, with this Schedule 10 *[Environmental Performance Requirements]* in respect thereof at the City's cost pursuant to Section 15.7(n) of this Schedule 10 *[Environmental Performance Requirements]*; or
  - (ii) there is a spill or other Release of a Hazardous Substance for which Project Co is not responsible, Project Co shall notify the City as required under Section 15.7(j) of this Schedule 10 *[Environmental Performance Requirements]* and shall take such measures as are required for immediate containment and control of such spill or other Release and provide such assistance as may reasonably be required by any third party who is taking such measures. Notwithstanding anything to the contrary contained in the Agreement or in this Schedule 10 *[Environmental Performance Requirements]*, to the extent that Project Co takes such measures and provides such assistance, Project Co shall be entitled to a Change with respect thereto pursuant to and in accordance with Schedule 13 *[Changes]*. Project Co shall not undertake any other work with respect to such spill or other Release of a Hazardous Substance for which Project Co is not responsible, 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 such additional work.
- (l) Except to the extent required to prevent or mitigate an Emergency, Project Co shall not undertake any significant work pursuant to Section 15.7(k) of this Schedule 10 *[Environmental Performance Requirements]* until the City Representative has been given a reasonable opportunity to review the nature and extent of the Hazardous Substances or spill or other Release of a Hazardous Substance for which Project Co is not responsible, as applicable, and has instructed Project Co to proceed with such work.
- (m) In the event that the City wishes Project Co to perform actions in respect of any Hazardous Substances or spill or other Release of a Hazardous Substance for which Project Co is not responsible which are in addition to any work required pursuant to Section 15.7(k) of this Schedule 10 *[Environmental Performance Requirements]*, then the City shall issue an instruction to Project Co specifying what action the City requires Project Co to take and Project Co shall promptly and diligently comply with all such instructions at the City's cost pursuant to Section 15.7(n) of this Schedule 10 *[Environmental Performance Requirements]*.
- (n) If Sections 15.7(k) or 15.7(m) of this Schedule 10 *[Environmental Performance Requirements]* require Project Co to perform any alteration, addition, demolition, extension or variation in the Project Work as a result of Hazardous Substances for which the City is responsible pursuant to Section 15.7(a) of this Schedule 10 *[Environmental Performance Requirements]* or as a result of any instructions given by the City pursuant to Section 15.7(m) of this Schedule 10 *[Environmental Performance Requirements]* and which would not otherwise be required under this Agreement, then any such alteration, addition, demolition, extension or variation shall, subject to and in accordance with Section 11 of this Agreement, be treated as a Relief Event.
- (o) Prior to the end of the Construction Period, Project Co shall remove from the Lands:
- (i) all Hazardous Substances described in Section 15.7 of this Schedule 10 *[Environmental Performance Requirements]* for which Project Co is responsible that are not required for the on-going operation of the Infrastructure as identified by the City; and

- (ii) all waste.

## 15.8 Limited Relief

- (a) The provisions of Section 15 [*Contamination, Hazardous Substances and Waste*] of this Schedule 10 [*Environmental Performance Requirements*] limit Project Co's rights under Section 11 [*Relief Events*] of this Agreement. The allocation of costs and any entitlement to Direct Losses or for schedule relief, or both, in respect of the work contemplated by Section 15 [*Contamination, Hazardous Substances and Waste*] of this Schedule 10 [*Environmental Performance Requirements*] is exclusively set out in Section 15 [*Contamination, Hazardous Substances and Waste*] of this Schedule 10 [*Environmental Performance Requirements*].

## 16. TEMPORAL RESTRICTIONS ON CONSTRUCTION

### 16.1 Restricted Periods for Vegetation Clearing

- (a) 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, in each year, unless, prior to commencing vegetation clearing, Project Co:
  - (i) causes a nest sweep to be completed for the area to be cleared by an avian wildlife biologist, qualified to be the named permittee on an Alberta Environment and Parks Research Permit and Collection License, and having two seasons of forest nest sweep experience in western Canada;
  - (ii) submits to the City a written assurance from the avian wildlife biologist confirming that active nests on or near the Lands to be cleared will not be directly or indirectly affected by the proposed vegetation clearing; and
  - (iii) submits to the City a written assurance from the avian wildlife biologist confirming that no other breeding wildlife taxa covered by the *Migratory Birds Convention Act* (Canada), the *Alberta Wildlife Act* or the *Species at Risk Act* (Canada) will be adversely affected by the proposed vegetation clearing.

For certainty, Section 2.2 [*No Implementation Prior to Acceptance*] of Schedule 2 [*Submittal Review Procedure*] does not apply to these Submittals.

- (b) If Project Co will demolish the existing Stony Plain Road Bridge between 20 April to 20 August, inclusive, then Project Co shall, prior to such demolition, cause a nest sweep to be completed by an avian wildlife biologist and the provisions of Section 16.1(a) of this Schedule 10 [*Environmental Performance Requirements*] shall apply to such demolition, mutatis mutandis.
- (c) During the period 15 February to 19 April, inclusive, in each year, Project Co shall not undertake any vegetation clearing involving mature trees or removal of any other mature trees anywhere on the Lands, unless, prior to commencing such vegetation clearing:
  - (i) an avian wildlife biologist with the qualifications described in Section 16.1(a)(i) of this Schedule 10 [*Environmental Performance Requirements*] has confirmed in writing that the trees do not have the potential to support bird of prey nests, and Project Co has submitted to the City such letter or other writing from the biologist; or

- (ii) a nest sweep for active bird of prey nests has been conducted by an avian wildlife biologist with the qualifications described in Section 16.1(a)(i) of this Schedule 10 *[Environmental Performance Requirements]* and Project Co has submitted to the City a written assurance from the biologist confirming that active nests on or near the Lands to be cleared will not be directly or indirectly affected by the proposed vegetation clearing. Any such nest sweep shall be undertaken no earlier than four days prior to the proposed vegetation clearing.

For certainty, Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to the Submittal described in this Section 16.1(c) of this Schedule 10 *[Environmental Performance Requirements]*.

- (d) All nest sweep results shall be valid for a period of 2 to 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 or demolition is delayed beyond the period for which the nest sweep is valid, then Project Co shall cause a new nest sweep for the area to be cleared or which is subject to demolition to be undertaken and further written assurance submitted to the City as described in Sections 16.1(a), 16.2(b) or 16.2(c) of this Schedule 10 *[Environmental Performance Requirements]*, as applicable.
- (e) If nests are identified in the nest sweeps described in Section 16.1 *[Restricted Periods for Vegetation Clearing]*, Project Co shall implement suitable spatial and temporal buffers that are adequate to protect the nest. Project Co shall ensure that no clearing occurs within those buffers. The duration and spatial extent of such buffers shall be determined by an avian wildlife biologist with appropriate qualifications and, if required, in consultation with the Canadian Wildlife Service. Project Co shall submit to the City confirmation of such consultation together with a description of the resulting buffers within 48 hours of concluding such consultations. For certainty, Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to this Submittal.
- (f) If, at any time during the performance of the Project Work, other breeding wildlife or other species protected under Applicable Law are found in or near construction areas, Project Co shall implement suitable spatial and temporal buffers or alternative protective measures that are adequate to protect such wildlife or other species. Project Co shall ensure that no construction activity occurs within those buffers and, if alternative protective measures are implemented, that those 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, in consultation with the Canadian Wildlife Service. Project Co shall submit to the City confirmation of such consultation together with a description of the resulting buffers or alternative protective measures, or both, within three Business Days of concluding such consultations. For certainty, Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to this Submittal.

## **16.2 Restricted Activities for Bat Mitigation Measures**

- (a) At Groat Ravine, to protect resident bat species, Project Co shall not undertake the demolition of the Stony Plain Road Bridge or vegetation clearing in the area shown in Figure 3 of Appendix 10A of this Schedule 10 *[Environmental Performance Requirements]*, during the period 01 May to 30 September, inclusive, in each year, unless, prior to commencing such demolition or clearing, Project Co:

- (i) causes a bat maternity roost survey to be conducted by a wildlife biologist qualified to be the named permittee on an Alberta Environment and Parks Research Permit and Collection License, using Good Industry Practice, including appropriate survey timing;
- (ii) submits to the City a written assurance from the wildlife biologist confirming that active maternity roosts on or near the affected Lands will not be directly or indirectly affected by the proposed demolition or clearing activities; and
- (iii) submits to the City a written assurance from the wildlife biologist confirming that no other breeding wildlife taxa covered by the *Migratory Birds Convention Act* (Canada), the *Alberta Wildlife Act* or the *Species at Risk Act* (Canada) will be adversely affected by the proposed demolition or clearing.

For certainty, Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to these Submittals.

If Project Co chooses to mitigate the risk of disturbance of bat maternity roosts by scheduling demolition and clearing for the period 16 September to 30 April, inclusive, then Project Co shall prepare and submit to the City, 30 days in advance of any proposed demolition and clearing, a bat roost mitigation statement to that effect, signed by a wildlife biologist with the qualifications described in Section 16.2(a)(i) of this Schedule 10 *[Environmental Performance Requirements]*.

- (b) If the bat maternity roost survey is conducted:
  - (i) before 01 July, the period for which the survey is valid and the justification for that period, shall be specified by the surveying biologist; and
  - (ii) on or after 01 July, the survey results shall be valid for the remainder of the growing season or within the specific period to be determined by the surveying biologist.
- (c) If bat maternity roosts are found, Project Co shall:
  - (i) consult with AEP and Environment and Climate Change Canada regarding appropriate protection measures, and shall provide to the City copies of all correspondence with these agencies, including the resulting agency recommendations, promptly after receipt of such correspondence from the agencies; and
  - (ii) cause the biologist to prepare a Bat Mitigation Plan that addresses:
    - (1) the correspondence with such government agencies; and
    - (2) if the City has not installed artificial bat houses/maternity chambers at Groat Ravine, the installation of chambers/houses suitable for use as maternity bat roosts, in numbers commensurate with the bat maternity roost survey results, at appropriate locations. The bat mitigation plan shall require that such structures be installed within two months of the onset of the next breeding season,

and Project Co shall submit to the City the Bat Mitigation Plan at least 60 days prior to proceeding with implementation of any mitigation activities other than postponing clearing or demolition activities.



## 17. SITE CLEARING, DEMOLITION AND DUST CONTROL

- (a) Project Co shall develop a Dust Control Plan that applies to all aspects of the Project and the Project Work. The Dust Control Plan shall contain measures and procedures to control dust that apply throughout the Lands and shall contain a detailed description of all equipment and materials required for implementation of the Dust Control Plan. The Dust Control Plan shall describe measures to minimize dust, including:
  - (i) watering;
  - (ii) utilizing wind fences;
  - (iii) installing vehicle tire and equipment track washing or granular beds designed to remove mud from vehicle tires and equipment tracks at key Site exits as identified in the Dust Control Plan;
  - (iv) removing mud clods from roadways within 4 hours to prevent sediment release into street catch basins and water courses; and
  - (v) ensuring that any additives used in water for dust control do not contain chemicals with the potential to adversely affect any surface water quality or to otherwise cause harm to the environment.
- (b) Project Co shall, and shall cause all Project Co Persons to, conduct all vegetation 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.
- (c) In addition to the requirements in Section 1-8.4 [*Project Cleanliness*] of Schedule 5 [*D&C Performance Requirements*], Project Co shall ensure that all waste, cleared vegetation and demolition debris is removed from:
  - (i) all Lands within Groat Ravine and MacKinnon Ravine within 48 hours after the waste, cleared vegetation or demolition debris is created; and
  - (ii) all other Lands within seven days after the waste, cleared vegetation or demolition debris is created.
- (d) Except for materials required for habitat enhancement in accordance with Section 20.3(a)(ix) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall dispose of all waste, cleared vegetation and demolition debris that is removed from the Lands in accordance with Applicable Law.
- (e) Notwithstanding Section 17(d) of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall not burn, and shall not permit the burning of, any waste, cleared vegetation or demolition debris on the Lands.

## 18. STOCKPILES AND IMPORTED FILL

### 18.1 Weed Control in Stockpiles

- (a) Project Co shall control weeds in stockpiles in accordance with the Integrated Pest Management Plan.

## 18.2 Imported Fill

- (a) Project Co shall ensure that all imported fill material complies with:
  - (i) the Valley Line West LRT Project Roadways Design and Construction Standards, a copy of which is included in the Disclosed Data; and
  - (ii) Alberta Tier 1 Guidelines for metals, hydrocarbons, halogenated aliphatics and chlorinated aromatics 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 to all land of the other property that is within 30 m of the boundary of the property with the more sensitive land use.
- (b) Project Co shall submit a sample from every 2,000 m<sup>3</sup> of imported fill material to a CALA accredited laboratory to be analyzed for the chemical parameters specified in Section 18.2(a)(ii) of this Schedule 10 [*Environmental Performance Requirements*].
- (c) Project Co shall not place any imported fill material onto the Lands until Project Co has submitted to the City the test results received from the laboratory described in Section 18.2(b) of this Schedule 10 [*Environmental Performance Requirements*], and such test results have been Accepted.
- (d) Project Co shall develop a visual inspection plan for imported fill material as part of the soil management plan required pursuant to Schedule 4 [*Design and Construction Protocols*]. This visual inspection plan shall:
  - (i) detail parameters by which fill shall be deemed acceptable for use, which parameters shall be sufficient to ensure that the fill meets the requirements specified in this Schedule 10 [*Environmental Performance Requirements*]; and
  - (ii) require that there is a written record of the visual inspection conducted on every load of soil to be deposited onto the Lands.
- (e) Project Co shall inspect every load of soil coming onto the Lands in accordance with the visual inspection plan.

## 19. VEGETATION

### 19.1 General

- (a) Except in respect of:
  - (i) the Native Forest Reclamation Areas in which Project Co shall undertake the work described in Section 20 [*Native Forest Reclamation*] of this Schedule 10 [*Environmental Performance Requirements*]; and
  - (ii) the Naturalization Areas in which Project Co shall undertake the work described in Section 21 [*Naturalization Areas*] of this Schedule 10 [*Environmental Performance Requirements*],

Project Co shall, following the completion of construction activities in each area of the Lands, revegetate the area in accordance with the specifications and requirements of Section 2-14 [*Landscape Architecture*] of Schedule 5 [*D&C Performance Requirements*]. All backslopes at the Lewis Farms Park and Ride that border the MNA shall be reclaimed to a grassland and scattered willow community. Grasses shall be native to the Edmonton

area and willow species shall be suited to the hydrology of the location and the sloped environment.

- (b) Project Co shall ensure that snow, soil and other materials are not pushed into, or stored in, naturally vegetated areas.

## 19.2 Rare Plants

- (a) 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, Project Co shall prepare and submit to the City a report containing the identity and location of the Rare Plant within 2 days after identifying the Rare Plant. Project Co shall include in such report a description of how Project Co proposes to handle the Rare Plant to ensure there is no net loss of that species in the City of Edmonton. Any proposed replanting or replacement planting on the Lands must be Accepted by the City prior to the replanting or replacement planting. Within 7 days after the date of receipt of the City's Acceptance to such replanting or replacement planting, Project Co shall submit to the City evidence demonstrating that Project Co has taken the steps as Accepted by the City.

## 19.3 Weed and Exotic Species Management

- (a) For the purposes of this Schedule 10 [Environmental Performance Requirements]:
  - (i) "weeds" are those species listed as noxious or prohibited noxious in the *Weed Control Act* (Alberta); and
  - (ii) "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 (*Acer negundo*) is also considered an exotic species.
- (b) Project Co shall monitor and manage weeds and exotic species on the Lands from the Effective Date until the end of the Construction Period to the extent necessary to:
  - (i) ensure compliance with the *Weed Control Act* (Alberta);
  - (ii) ensure compliance with Applicable Law;
  - (iii) exclude exotic species;
  - (iv) 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
  - (v) ensure compliance with Sections 20.4 [Weeds and Exotic Species in Native Forest Reclamation Areas] and 21.4 [Weeds and Exotic Species in Naturalization Areas] of this Schedule 10 [Environmental Performance Requirements].
- (c) Project Co shall prepare maintenance logs and other records to demonstrate compliance with the requirements of Section 19.3(b) and Sections 20.4 [*Weeds and Exotic Species in Native Forest Reclamation Areas*] and 21.4 [*Weeds and Exotic Species in Naturalization Areas*] of this Schedule 10 [Environmental Performance Requirements]. Project Co shall provide copies of such logs and records to the City upon request.

## 20. NATIVE FOREST RECLAMATION

### 20.1 General Requirements

- (a) Project Co shall reclaim Native Forest Reclamation Areas in accordance with the requirements of the Valley Line West LRT Project Landscape Design and Construction Standards and the provisions of this Schedule 10 [*Environmental Performance Requirements*]. Where the specifications in this Schedule 10 [*Environmental Performance Requirements*] for reclamation of the Native Forest Reclamation Areas conflict with the Valley Line West LRT Project Landscape Design and Construction Standards, the provisions of this Schedule 10 [*Environmental Performance Requirements*] shall prevail.
- (b) The “**Native Forest Reclamation Areas**” are the four areas in Groat Ravine shown in Figure 6 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*] as Native Forest Reclamation Areas NFRA-A, NFRA-B, NFRA-C and NFRA-D, to the extent those areas are disturbed by any Project Work.
- (c) Project Co shall ensure:
  - (i) that all Native Forest Reclamation Areas are reclaimed in a manner that ensures that the plantings within each Native Forest Reclamation 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 Reclamation Area; and
  - (ii) that reclamation does not cause or result in any adverse impact to existing native trees and their root systems.
- (d) Project Co shall design and construct grading in the Native Forest Reclamation Areas to smoothly transition and tie-in the Native Forest Reclamation Areas to the surrounding Lands and other lands and to ensure Positive Drainage of all Native Forest Reclamation Areas without adversely affecting adjacent lands (whether inside or outside the boundary of the Lands).

### 20.2 Native Forest Reclamation Objectives

- (a) Project Co shall:
  - (i) undertake the reclamation work in the Native Forest Reclamation Areas to ensure the establishment of a native plant community; and
  - (ii) ensure that by the Landscape and Vegetation Handback Date each Native Forest Reclamation Area is on a trajectory towards developing into a structurally and biologically diverse native forest appropriate to the site conditions, and is in accordance with the specifications in Section 20 [*Native Forest Reclamation*] of this Schedule 10 [*Environmental Performance Requirements*] and the Vegetation Handback Requirements applicable to the Native Forest Reclamation Areas.
- (b) The required plant community for each of the Native Forest Reclamation Areas is a native, deciduous-leading mixed forest community containing at least ten of the native tree and shrub species currently present in lower Groat Ravine. Each of the Native Forest Reclamation Areas shall support the same community type.

- (c) Manitoba Maple (*Acer negundo*) is common to some areas to be reclaimed. This species is not considered to be a desirable or native component of NSRVS forests, and as such, Manitoba Maple (*Acer negundo*) shall not be re-established in any of the Native Forest Reclamation Areas.
- (d) Project Co shall:
  - (i) ensure that each of the Native Forest Reclamation Areas support at least 25 native vascular plant species, comprising at least 3 tree species, 8 shrub species, 6 forb species and 3 graminoids species;
  - (ii) install shrubs at a density that will result in at least eight species being present in each mature community in numbers that would be ranked as comprising a relative abundance of 'occasional' in a Native Forest Reclamation Area-wide vegetation survey; and
  - (iii) as of the Landscape and Vegetation Handback Date, ensure that each of the Native Forest Reclamation Areas supports a tree density between 38 and 42 trees/100 m<sup>2</sup> and includes at least 3 deciduous trees having a 50 mm diameter at 1.4 m height (measured on flat ground).

### 20.3 Native Forest Reclamation Plan

- (a) Project Co shall prepare the Native Forest Reclamation Plan, which shall include:
  - (i) strategies, procedures and methodologies that will be used to achieve the reclamation objectives specified in Section 20.2 [*Native Forest Reclamation Objectives*] of this Schedule 10 [*Environmental Performance Requirements*] and the Vegetation Handback Requirements applicable to the Native Forest Reclamation Areas;
  - (ii) an overall strategy, supported by citation of successful precedents and published research to ensure that what is installed will mature into a robust, structurally and biologically diverse, native forest community appropriate to the ravine conditions, and comprising high quality habitat for native avian and mammalian species. The overall strategy shall expressly address the following parameters:
    - (1) canopy composition;
    - (2) canopy closure;
    - (3) vertical stratification;
    - (4) native species richness;
    - (5) avian, and small and medium mammalian wildlife habitat value;
    - (6) tree density;
    - (7) weeds and exotic species; and
    - (8) composition of the shrub and herb layer;
  - (iii) a list of proposed plant species to be used in reclamation, listed by scientific and common names;

- (iv) the size of plant material at the time of installation;
- (v) the growing condition of the plant material, such as potted, bare-root, cutting;
- (vi) a descriptive plan showing plant spacing and density that complies with the requirements of Section 20.2(d)(ii) of this Schedule 10 [*Environmental Performance Requirements*];
- (vii) a description of the seed mixes, if used, using common and scientific species names and including proportions by species;
- (viii) a description of how and where plant material will be sourced, and where it will be grown or propagated (if applicable);
- (ix) a minimum of two measures sufficient to provide enhanced wildlife habitat which will be installed in each Native Forest Reclamation Area, and which measures shall be sufficient to offset impacts of temporal loss of habitat resulting from clearing, for example:
  - (1) the installation of downed woody debris; and
  - (2) the installation of snags to function as wildlife trees;
- (x) a strategy for successful reclamation on steep slopes and specifications for temporary erosion and sedimentation control measures appropriate for the Native Forest Reclamation Areas and the reclamation work;
- (xi) a detailed description of maintenance strategies and practices for the Native Forest Reclamation Areas, which shall focus on ecologically sound practices, to be implemented immediately upon completion of reclamation activities and shall continue to the Landscape and Vegetation Handback Date, including:
  - (1) integrated pest management;
  - (2) use of organic or environmentally-friendly weed control products and methods that produce vigorous and healthy plant material;
  - (3) the frequency of maintenance inspections which shall be sufficient to ensure all requirements of Section 20 [*Native Forest Reclamation*] of this Schedule 10 [*Environmental Performance Requirements*] are complied with and that the Vegetation Handback Requirements are met;
  - (4) 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 Section 20 [*Native Forest Reclamation*] of this Schedule 10 [*Environmental Performance Requirements*] and the Vegetation Handback Requirements; and
  - (5) recommended long-term maintenance strategies and practices to be implemented by the City following Vegetation Handback and continuing to the anticipated forest maturity date and which are designed to ensure long-term reclamation success;

- (xii) requirements that the following protocols be adhered to:
- (1) only native species, as defined per the most up-to-date ACIMS data, shall be used in reclamation;
  - (2) with the exception of trees and shrubs, all plant stock or propagules, including 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, as shown in Figure 7 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*]. The use of cultivars, non-local stock or horticultural stock is not permitted;
  - (3) trees and shrubs to be used in reclamation must be species native to the NSRVS. The use of cultivars is not permitted;
  - (4) existing soils in the Native Forest Reclamation Areas cannot be reused in the reclamation;
  - (5) only clean, imported soils that have been approved by the Forest Reclamation/Restoration Specialist and which meet the soil standards for landscaped areas as specified in the Valley Line West LRT Project Landscape Design and Construction Standards may be used in that area;
  - (6) reclamation of all Native Forest Reclamation Areas shall include removing all topsoils and all subsoils to the extent necessary to remove all subsurface propagules, including roots, underlying that area, and that all soil excavation plans are consistent with slope stabilization requirements set out in Section 4-3.2.6 [*Geotechnical*] of Schedule 5 [*D&C Performance Requirements*];
  - (7) all imported fill/soils to be used for reclamation shall be weed free, shall conform to the requirements of Section 18.2 of this Schedule 10 [*Environmental Performance Requirements*] for the applicable land use and shall be of the type, structure and quality specified by the Forest Reclamation/Restoration Specialist in the Native Forest Reclamation Plan;
  - (8) Project Co shall maintain receipts and other records sufficient to demonstrate compliance with the requirements in (1) to (7) and shall provide those receipts and records to the City on request; and
  - (9) measures to ensure that the forest reclamation efforts extend to the outside margins of the replacement bridge abutments and specifically includes shrubby security cover at all outside margins of the two Wildlife Crossing Benches; and
- (xiii) a drawing for each Native Forest Reclamation Area, at a scale of 1:1000, and that otherwise complies with the specifications for landscape drawings in the Valley Line West LRT Project Landscape Design and Construction Standards, which shows the following:
- (1) soils to be placed in all areas of the Native Forest Reclamation Area, soil types, and any notes regarding soil handling protocols and restrictions;

- (2) the planting plan for the Native Forest Reclamation Area, including densities and layout (if applicable);
  - (3) erosion and sediment control measures, indicating those measures that will be in place during Construction, including conduct of the reclamation work, and those measures that will be in place at the Landscape and Vegetation Handback Date;
  - (4) 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);
  - (5) a description of measures to enhance wildlife habitat value, their intended locations and densities; and
  - (6) the drawings shall be submitted as an integral part of the Native Forest Reclamation Plan submission.
- (b) Project Co shall cause a Forest Reclamation/Restoration Specialist supported by a team that includes an AALA certified landscape architect to prepare the Native Forest Reclamation Plan. The Forest Reclamation/Restoration Specialist shall have the following expertise and qualifications:
- (i) an academic background in ecological restoration and/or land reclamation;
  - (ii) 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; and
  - (iii) demonstrated expertise with forest reclamation/restoration, and relevant experience within the last 10 years; and
  - (iv) demonstrated expertise with reclamation/restoration in urban environments, and relevant experience within the last ten years.
- (c) Project Co shall submit to the City the Native Forest Reclamation Plan no less than 120 days prior to the scheduled commencement of reclamation efforts.
- (d) Notwithstanding anything to the contrary in Section 20 [*Native Forest Reclamation*] in this Schedule 10 [*Environmental Performance Requirements*], or elsewhere in this Agreement, Project Co shall not use, nor permit to be used, in any Native Forest Reclamation Area, any soils that are sourced from areas that have supported invasive, non-native plant species.

#### **20.4 Weeds and Exotic Species in Native Forest Reclamation Areas**

- (a) All Native Forest Reclamation Areas shall be maintained in accordance with the *Weed Control Act* (Alberta) and Applicable Law and shall be kept free of exotic species, with weed and exotic species control activities occurring a minimum of 10 times per growing season.



- (b) The use of an annual (non-native) cover crop is permissible during the first growing season following soil placement in a Native Forest Reclamation Area only, as a method of weed control and/or an ESC measure. At the beginning of the second growing season, Section 20.4(a) of this Schedule 10 *[Environmental Performance Requirements]* shall apply to the cover crop species. Project Co shall ensure that all cover crop species are non-viable in the second season. Project Co shall ensure that the use of a cover crop does not interfere with achieving reclamation objectives specified in Section 20.2 *[Native Forest Reclamation Objectives]* of this Schedule 10 *[Environmental Performance Requirements]*. The intended use of a cover crop and associated protocols must be described in the Native Forest Reclamation Plan.

## 20.5 Other Matters

- (a) Project Co may use native species trees and other native woody material removed from the Lands during clearing for construction activities in its reclamation work for the purpose of habitat and/or microsite creation.
- (b) Project Co shall install fencing around Native Forest Reclamation Areas in accordance with the requirements of Sections 22.2 and 23 of this Schedule 10 *[Environmental Performance Requirements]*.
- (c) For each Native Forest Reclamation Area, 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 initiate planting/installing any materials in the Native Forest Reclamation Area.
- (d) Project Co shall install a sign regarding each Native Forest Reclamation Area on a post supplied and 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 signs to Project Co and Project Co shall install each of the signs within 30 days after receipt of the signs. Project Co shall inspect each sign at regular intervals and shall provide notice to the City of any damage to any such sign.

## 21. NATURALIZATION AREAS

### 21.1 General Requirements

- (a) Project Co shall complete Naturalization of the Naturalization Areas in accordance with the requirements of the Valley Line West LRT Project Landscape Design and Construction Standards and the provisions of this Schedule 10 *[Environmental Performance Requirements]*. Where the specifications in this Schedule 10 *[Environmental Performance Requirements]* for Naturalization of the Naturalization Areas conflict with the Valley Line West LRT Project Landscape Design and Construction Standards, the provisions of this Schedule 10 *[Environmental Performance Requirements]* shall prevail.
- (b) The “**Naturalization Areas**” are as follows:
  - (i) Naturalization Area NA-1: a parcel situated west of the Lewis Farms Site and bounded to the north, west and southeast by the wooded margin of the MNA.
  - (ii) Naturalization Area NA-2: at MacKinnon Ravine, east of 149 Street, a strip of land between the MacKinnon Ravine Retaining Wall and the south Lands boundary.

- (iii) Naturalization Area NA-3: at MacKinnon Ravine, east of 149 Street, in the vicinity of the existing bus turn around.
- (iv) Naturalization Area NA-4: at the west slope of Groat Ravine, north of Stony Plain Road.
- (v) Naturalization Area NA -5: at the east slope of Groat Ravine, north of Stony Plain Road.
- (vi) Naturalization Area NA-6: at the east slope of Groat Ravine, south of Stony Plain Road.

See Figures 6, 8 and 9 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*] for the locations and indicative extent of the Naturalization Areas.

## 21.2 Naturalization Objectives

- (a) Project Co shall undertake Naturalization of the Naturalization Areas to establish the following communities:
  - (i) at Naturalization Area NA-1: a native grassland community, here defined as a plant community dominated by native species of grasses, herbs and forbs, that supports scattered shrub groupings with shrubs comprising 20% of the total plant cover at the Landscape and Vegetation Handback Date. This area shall be contoured such that the area drains to the MNA. Naturalization efforts shall retain all native trees, currently present in this area.
  - (ii) at Naturalization Area NA-2: a mix of native grassland and native shrubs comprising species that are tolerant of the local microclimate created by the retaining wall and such that shrubs are spread evenly throughout and provide 30% of total plant cover at the Landscape and Vegetation Handback Date.
  - (iii) at Naturalization Area NA-3: a native shrub-grassland community, where shrubs comprise 70% of total vegetation cover at the Landscape and Vegetation Handback Date. Shrubs shall be native species with a proven capacity to successfully compete against invasive exotic species of shrubs.
  - (iv) at Naturalization Areas NA-4, NA-5 and NA-6: a native tree-shrub community where trees comprise at least 40% cover of the total Naturalization Area, shrubs provide at least 30% cover of the Naturalization Area and native grasses, forbs and natural and functional organic matter comprise at least 30% of the ground cover, at the Landscape and Vegetation Handback Date. Shrubs, grasses and forbs shall be native species that have a proven capacity to successfully compete against invasive exotic species.
- (b) With respect to Naturalization Areas NA-3, NA-4, NA-5 and NA-6, Project Co shall:
  - (i) make the boundaries of such Naturalization Areas irregular so that the shape of the area appears natural; and
  - (ii) feather such Naturalization Areas into the adjacent natural or reclaimed forested areas. At NA-3, Project Co shall not clear native trees present beyond the downslope limits of the Naturalization Area and shall feather Naturalization efforts into the forest present in that area.

- (c) 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 that no grading shall 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. For NA-1, overall final grades shall be similar in elevation and aesthetic to the pre-disturbance condition.

### **21.3 Naturalization Plan**

- (a) Project Co shall prepare the Naturalization Plan, which shall include:
  - (i) adequate measures to ensure that the Naturalization objectives specified in Section 21.2 [*Naturalization Objectives*] of this Schedule 10 [*Environmental Performance Requirements*] and Section 2-14 [*Landscape Architecture*] of Schedule 5 [*D&C Performance Requirements*] are achieved;
  - (ii) a list of proposed plant species to be planted, seeded or otherwise installed at each Naturalization Area, listed by scientific and common names;
  - (iii) the size of plant material at the time of installation;
  - (iv) the growing condition of the plant material, such as potted, bare-root, cutting;
  - (v) a description of the minimum and maximum plant spacing and density;
  - (vi) a description of the seed mixes, using common and scientific species names and including proportions by species;
  - (vii) plans for shrub and tree plantings showing the location of each plant by species, which plans shall comply with Section 21.3(a)(x) of this Schedule 10 [*Environmental Performance Requirements*];
  - (viii) a detailed description of maintenance strategies and practices for the Naturalization Areas, which shall focus on ecologically sound practices, to be implemented immediately upon completion of reclamation activities and to continue to the Landscape and Vegetation Handback Date, including:
    - (1) integrated pest management;
    - (2) use of organic or environmentally-friendly weed control products and methods that produce vigorous and healthy plant material; and
    - (3) the frequency of maintenance inspections which shall be sufficient to ensure all requirements of Section 21 [*Naturalization Areas*] of this Schedule 10 [*Environmental Performance Requirements*] are complied with and that the Vegetation Handback Requirements are met;
    - (4) 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 Section 21 [*Naturalization Areas*] of this Schedule 10 [*Environmental Performance Requirements*] and the Vegetation Handback Requirements; and

- (5) recommended long-term maintenance strategies and practices to be implemented by the City following Vegetation Handback and continuing to the anticipated community maturity date and which are designed to ensure long-term naturalization success;
- (ix) requirements that the following protocols be adhered to:
- (1) only native species of wild provenance shall be seeded, planted or otherwise installed in the Naturalization Areas. Native cultivars are acceptable for grasses only;
  - (2) 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, at least three species shall be shrubs, at least one shrub shall be a species that achieves at least 2.0 m in height at maturity, and at least two species shall be trees;
  - (3) a minimum of 50% of trees shall have a maximum caliper of 50 mm;
  - (4) the maximum height for coniferous trees shall be 2.0 m and the minimum height shall be 1.0 m, and there shall be an equal distribution of tree ages and an equal number of trees at the minimum and maximum heights;
  - (5) the minimum size for shrubs shall be #1 pot size as per CNLA standards;
  - (6) the use of mulch is permitted in the Naturalization Areas directly after planting but mulch shall be limited to one application;
  - (7) 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;
  - (8) Naturalization of lands at MacKinnon Ravine and Naturalization Areas NA-2 and NA-3, as shown in Figure 8 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*], shall include removing all topsoils and all subsoils to the extent necessary to remove all subsurface propagules, including roots, underlying that area, and that all soil excavation plans are consistent with slope stabilization requirements set out in Section 4-3.2.6 [*Geotechnical*] of Schedule 5 [*D&C Performance Requirements*] or an alternative measure proposed and submitted to the City;
  - (9) soil specifications for perennial and shrub planting bed soil shall be as set out in the landscaping requirements in Schedule 5 [*D&C Performance Requirements*] and shall be applied in the Naturalization Areas;
  - (10) mowing of the Naturalization Areas shall only be permitted during the first two growing seasons following planting, shall be limited to twice per season, shall be timed to occur before invasive species seed set and shall not occur after 15 September;
  - (11) coniferous trees shall be setback a minimum of 2 m from the edge of mature tree canopy to pedestrian areas and paths;

- (12) 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; and
- (13) temporary erosion and sedimentation control measures appropriate to each Naturalization Area and the Naturalization work; and
- (x) 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 West LRT Project Landscape Design and Construction Standards, which shows the following:
  - (1) soils to be placed in all areas of the Naturalization Areas, soil types, soil stockpile locations within the NSRVS and any notes regarding soil handling protocols and restrictions;
  - (2) the planting plan for the Naturalization Areas, including densities and layout (if applicable);
  - (3) 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 Landscape and Vegetation Handback Date;
  - (4) 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
  - (5) the drawings shall be submitted as an integral part of the Naturalization Plan submission.
- (b) Project Co shall cause a Forest Reclamation/Restoration Specialist supported by a team that includes an AALA certified landscape architect to prepare the Naturalization Plan.
- (c) Project Co shall submit to the City the Naturalization Plan no less than 120 days prior to commencement of any Naturalization work.
- (d) Notwithstanding anything to the contrary in Section 21 [*Naturalization Areas*] in this Schedule 10 [*Environmental Performance Requirements*], or elsewhere in this Agreement, Project Co shall not use, nor permit to be used, in any Naturalization Area any soils that are sourced from areas that have supported invasive, non-native plant species.

#### **21.4 Weeds and Exotic Species in Naturalization Areas**

- (a) All Naturalization Areas shall be maintained in accordance with the *Weed Control Act* (Alberta) and Applicable Law and shall be kept free of exotic species, with weed and exotic species control activities occurring a minimum of 10 times per growing season.

## **21.5 Other Matters**

- (a) Project Co shall install fencing around the Naturalization Areas in accordance with the requirements of Section 23 [*Fencing Requirements*] of this Schedule 10 [*Environmental Performance Requirements*].
- (b) For each Naturalization Area, 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 initiate planting/installing any materials in the Naturalization Area.

## **22. WILDLIFE**

### **22.1 General**

- (a) Project Co shall ensure that material adverse impacts on wildlife and wildlife habitat located outside the Lands caused by the Project, the Project Work or any activities of Project Co or any Project Co Person under this Agreement are minimized to the extent reasonably feasible by employing Environmental Best Management Practices.
- (b) Project Co shall ensure that lighting installed at Lewis Farms Park and Ride, as required pursuant to Section 3-7.3.4 [*Lewis Farms Park and Ride*] and Section 2-6.4 [*WEM Transit Centre and Lewis Farms Park and Ride Lighting*] of Schedule 5 [*D&C Performance Requirements*], shall be designed and located so as to prevent trespass lighting into the MNA.
- (c) Project Co shall:
  - (i) provide wildlife proof garbage disposal containers on the Lands during Construction for all food scraps, lunchroom waste and other waste that might attract wildlife;
  - (ii) not permit the feeding of wildlife, including birds and small mammals;
  - (iii) ensure that all persons engaged in the Project Work are educated about the potential for wildlife/worker conflict and the appropriate procedures to follow to avoid and manage such conflicts; and
  - (iv) develop, implement, comply with, and ensure that all Project Co Persons comply with, procedures for addressing wildlife moving onto the Lands. Such procedures shall be sufficient to avoid worker/wildlife conflicts. Where such conflicts occur, Project Co shall assess the incident and implement correct procedures to minimize the risk of future conflicts.

### **22.2 Construction Period Wildlife Accommodation in Vicinity of Groat Ravine**

- (a) During Construction on or about Groat Ravine, Project Co shall:
  - (i) comply with the construction phase best management practices described in the City of Edmonton Wildlife Passage Engineering Design Guidelines; and
  - (ii) provide wildlife movement corridors in the vicinity of Groat Ravine sufficient to permit wildlife to move through the Lands on both Groat Ravine slopes during the period one hour prior to sunset and one hour after sunrise. Such corridors shall provide for small, medium and large-bodied terrestrial wildlife movement as described in the City of Edmonton Wildlife Passage Engineering Design

Guidelines during all months of the year. Such corridors shall reflect the input of a wildlife biologist with appropriate qualifications.

- (b) Project Co shall ensure that all fencing installed in Groat Ravine accommodates wildlife movement to the maximum extent feasible while complying with the requirements of this Agreement with respect to tree protection, adjacent natural area protection and public safety.

### **22.3 Permanent Accommodation of Wildlife Movement**

- (a) Project Co shall ensure that all landscaping, reclamation work and Naturalization in or about Groat Ravine complies with the City of Edmonton Wildlife Passage Engineering Design Guidelines, and Project Co shall accordingly demonstrate to the City that Project Co has made suitable and effective provision for wildlife movement through those areas.
- (b) With respect to Groat Ravine, Project Co shall:
  - (i) install one Wildlife Crossing Bench on each abutment slope of the Stony Plain Road replacement bridge, each to be placed roughly mid-slope on the abutment slope and each having a minimum height clearance of 3.1 m (height) and a width of 1.5 m, as measured from top of headslope to the face of the retaining wall;
  - (ii) provide effective small animal security cover features as specified in Section 2-14.9 of Schedule 5 [*D&C Performance Requirements*];
  - (iii) ensure that the design of all wildlife crossing structures is integrated with the Native Forest Reclamation Plan, so that the crossing structures are considered an integral feature during the development of the Native Forest Reclamation Plan; and
  - (iv) refer to Part 4 [Transportation and Building Structures] of Schedule 5 [D&C Performance Requirements] for additional design requirements.

### **23. FENCING REQUIREMENTS**

- (a) Immediately upon occupation of the areas shown in Figures 2, 3 and 5 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*], at MacKinnon Ravine, Groat Ravine and Lewis Farms Site, Project Co shall install temporary fencing marking the limits of the Lands where that boundary is within 5 m of areas vegetated with trees and shrubs in accordance with Section 1-8.3 of Schedule 5 [*D&C Performance Requirements*] to restrict incidental access and afford protection to the adjacent vegetated areas. These fence locations shall be adjusted as required to reflect any vegetation clearing. Temporary fencing shall be removed before Construction Completion.
- (b) Project Co shall install fencing that fully encloses each Native Forest Reclamation Area and each Naturalization Area, and which shall:
  - (i) be compatible in visual appearance, including with respect to colour, material and texture, with the aesthetics of the Native Forest Reclamation Areas and the Naturalization Areas, and constructed of a material that minimizes the visual impact of the fencing;
  - (ii) be of sufficient height to discourage public access to the Native Forest Reclamation Areas and the Naturalization Areas, but not so tall that the fence

does not comply with Section 23(b)(i) of this Schedule 10 [*Environmental Performance Requirements*];

- (iii) not preclude wildlife movement through Groat Ravine at key locations shown in Figure 6 of Appendix 10A to this Schedule 10 [*Environmental Performance Requirements*]; and
  - (iv) comply with the requirements set out in Section 1-8 [Project Identification, Access and Miscellaneous Requirements] of Schedule 5 [D&C Performance Requirements].
- (c) Project Co shall install such fencing not later than 14 days after completion of seeding and planting in each Native Forest Reclamation Area and Naturalization Area. Prior to commencing installation of any fencing around any Native Forest Reclamation Area or Naturalization Area, Project Co shall submit to the City a plan that shows the proposed fencing location, material, and height.
- (d) Project Co shall maintain the fencing around each Native Forest Reclamation Area and each Naturalization Area in good repair and condition until the date on which Project Co's liability to maintain the Native Forest Reclamation Area or the Naturalization Area, as applicable, ends in accordance with Section 25 [*Establishment of Native Forest Reclamation Areas and Naturalization Areas*] of this Schedule 10 [*Environmental Performance Requirements*].
- (e) Immediately upon occupation of Gerry Wright OMF Parcel C, shown in Figure 12 of Appendix 10A of this Schedule 10 [*Environmental Performance Requirements*], Project Co shall install temporary fencing marking the limits of such Lands in accordance with Section 1-8.3 of Schedule 5 [*D&C Performance Requirements*] to restrict incidental access and afford protection to the adjacent lands. Temporary fencing shall be removed before Construction Completion.

#### **24. HISTORICAL RESOURCES**

- (a) Project Co shall comply with the Historical Resources Act and all conditions of any Clearance Letter issued for the Project, a copy of the Clearance Letter is included in the Disclosed Data.
- (b) Project Co shall promptly advise the City, and provide to the City a copy of:
  - (i) any notice or report filed under any Clearance Letter for the Project; and
  - (ii) any communication received by Project Co from the Province of Alberta pursuant to any Clearance Letter.

#### **25. ESTABLISHMENT OF NATIVE FOREST RECLAMATION AREAS AND NATURALIZATION AREAS**

- (a) Project Co shall ensure that all Project Work specified in this Schedule 10 [*Environmental Performance Requirements*] in respect of each Native Forest Reclamation Area and each Naturalization Area is complete in accordance with the requirements specified herein, by not later than the Construction Completion Date.
- (b) Project Co shall maintain, water, repair, weed, reseed, replant, reinstall, and conduct other work in accordance with the requirements of this Schedule 10 [*Environmental Performance Requirements*], the Accepted Native Forest Reclamation Plan, the



Accepted Naturalization Plan and as otherwise required, to ensure that at the Landscape and Vegetation Handback Date each Native Forest Reclamation Area and each Naturalization Area meets the requirements for that area described below (collectively, the “**Vegetation Handback Requirements**”):

- (i) for each Native Forest Reclamation Area:
  - (1) the area is clean and free of debris and refuse;
  - (2) the area has a natural, vigorous aesthetic. The assessment of whether an area has a natural aesthetic will be made with reference to the requirements set out in Sections 20.2 [*Native Forest Reclamation Objectives*] and 20.4 [*Weeds and Exotic Species in Native Forest Reclamation Areas*] of this Schedule 10 [*Environmental Performance Requirements*];
  - (3) all plant material required to be planted in the area as described in the Accepted Native Forest Reclamation Plan has been planted and is in good horticultural condition, free from disease and damage;
  - (4) all reclamation objectives specified in Section 20.2 [*Native Forest Reclamation Objectives*] of this Schedule 10 [*Environmental Performance Requirements*] have been achieved in the Native Forest Reclamation Area;
  - (5) the area supports the required total native tree density specified in Section 20.3 [*Native Forest Reclamation Plan*] of this Schedule 10 [*Environmental Performance Requirements*] with no one location in any Native Forest Reclamation Area measuring greater than 3 m<sup>2</sup> with less than the required density;
  - (6) the native species richness levels specified in Section 20.2 [*Native Forest Reclamation Objectives*] of this Schedule 10 [*Environmental Performance Requirements*] have been achieved, with at least 80% of total native species represented by at least 10 healthy plants of each species;
  - (7) there are at least two types of installed wildlife habitat features that are demonstrably functional at a community level;
  - (8) all vegetation installed to tie Wildlife Crossing Benches into adjacent plant communities is in good horticultural condition;
  - (9) the area meets all applicable requirements set out in the Valley Line West LRT Project Landscape Design and Construction Standards (to the extent of any conflict between the requirements of this Section 25(b)(i)(9) and Section 25(b)(i)(4), the requirements of Section 25(b)(i)(4) shall prevail); and
  - (10) all required fencing remains in place and in the condition specified in Section 23 [*Fencing Requirements*] of this Schedule 10 [*Environmental Performance Requirements*].
- (ii) for each Naturalization Area:

- (1) the area is clean and free of debris and refuse;
- (2) the area has a natural, vigorous aesthetic. The assessment of whether an area has a natural aesthetic will be made with reference to the requirements in Sections 21.2 *[Naturalization Objectives]* and 21.4 *[Weeds and Exotic Species in Naturalization Areas]* of this Schedule 10 *[Environmental Performance Requirements]*;
- (3) all plant material required to be planted in the area as described in the Accepted Naturalization Plan has been planted and is in good horticultural condition, free from disease and damage;
- (4) all Naturalization objectives specified in Section 21.2 *[Naturalization Objectives]* of this Schedule 10 *[Environmental Performance Requirements]* have been achieved in the Naturalization Area;
- (5) the area has at least 100% of the total tree and shrub density specified for the area in the Naturalization Plan;
- (6) for Naturalization Areas NA-1 and NA-2, each area has a ground vegetation stratum, with a minimum of 90% organic ground cover, consisting of at least 80% grass cover and there are no bare patches greater than 0.5 m<sup>2</sup>;
- (7) for all areas except Naturalization Areas NA-1 and NA-2, the area has a ground vegetation stratum, with a minimum of 90% organic ground cover, consisting of at least 40% grass cover and there are no bare patches greater than 0.5 m<sup>2</sup>;
- (8) the community composition and cover is as set out in Section 21.2 *[Naturalization Objectives]* of this Schedule 10 *[Environmental Performance Requirements]*;
- (9) the area meets all applicable requirements set out in the Valley Line West LRT Project Landscape Design and Construction Standards for the Naturalization Area (to the extent of any conflict between the requirements of this Section 25(b)(ii)(9) and Section 25(b)(ii)(4), the requirements of Section 25(b)(ii)(4) shall prevail); and
- (10) all required fencing remains in place and in the condition specified in Section 23 *[Fencing Requirements]* of this Schedule 10 *[Environmental Performance Requirements]*.

## **26. NON-PERFORMANCE EVENTS**

### **26.1 Non-Performance Events**

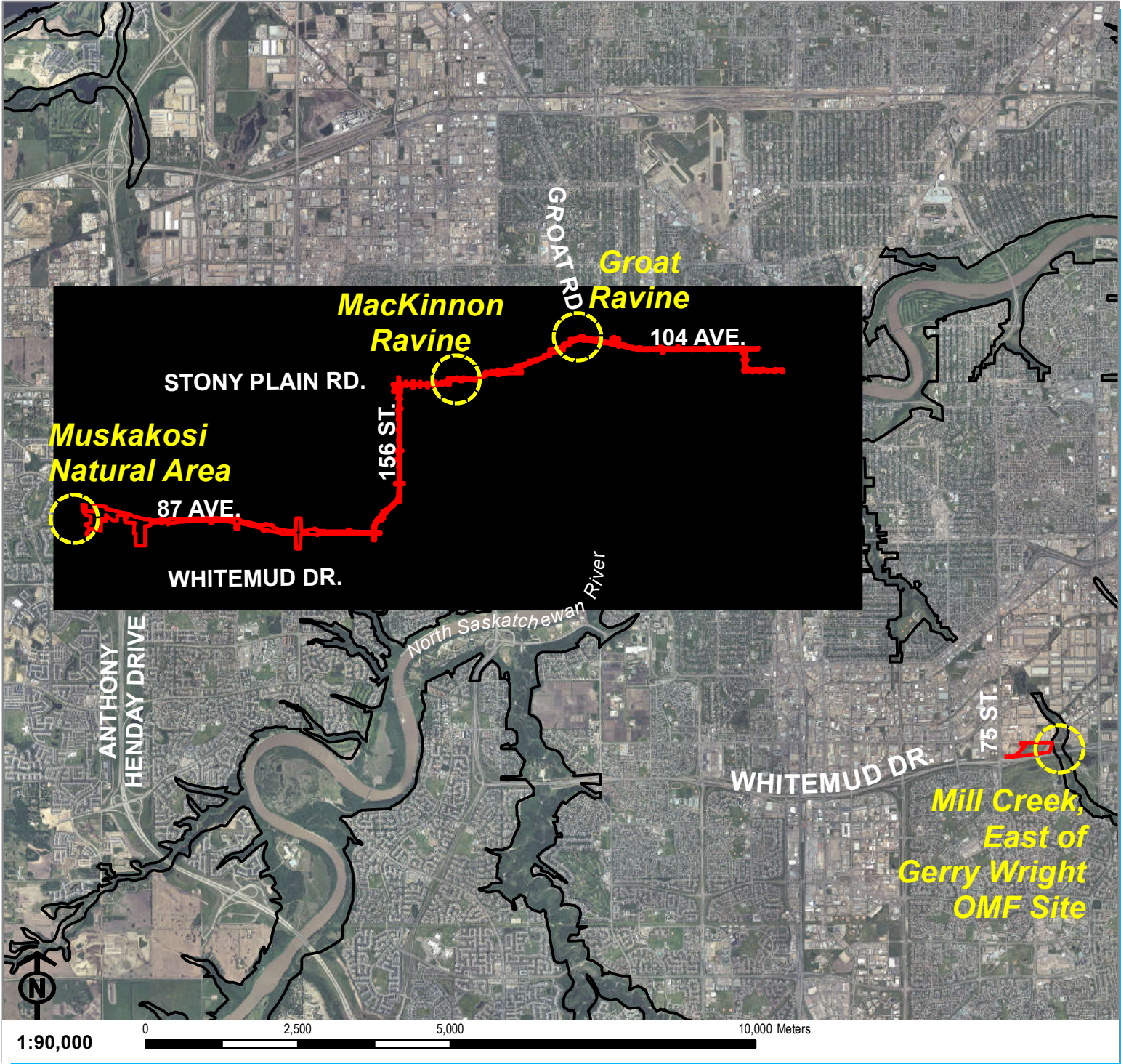
- (a) Failure by Project Co to comply with the obligations set forth in this Schedule 10 *[Environmental Performance Requirements]* may constitute Non-Performance Events and may result in adjustments to the Payments, as more particularly provided in Schedule 16 *[Payment Mechanism]*.

**APPENDIX 10A  
FIGURES**

**(see attached)**

42194447.2

**Figure 1.**  
**Overview Map -**  
**Environmentally**  
**Sensitive Areas**  
*Schedule 10*



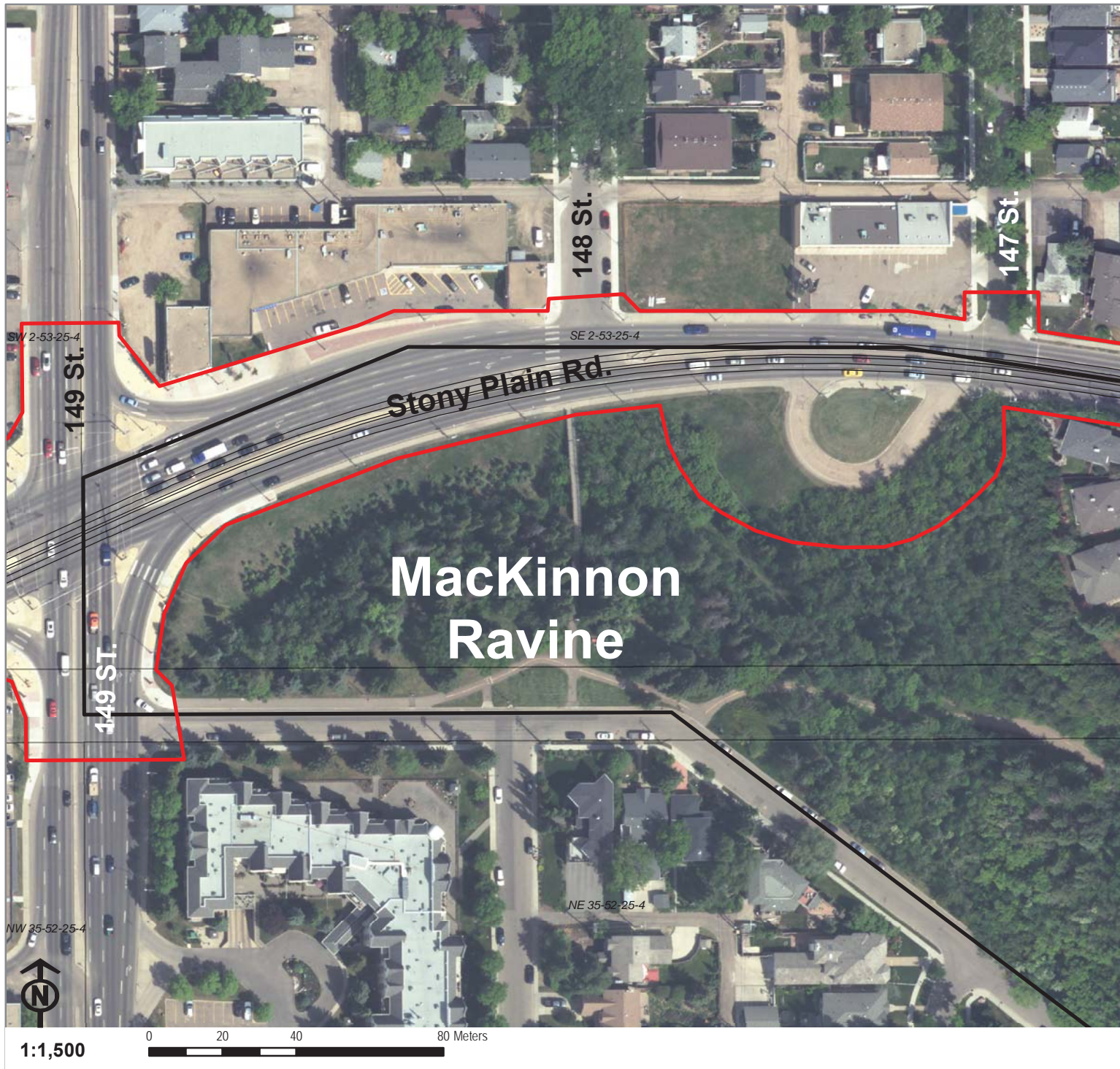
**Legend**

- Lands
- Bylaw 7188 Boundary

Map Date: 29 July 2020  
 Imagery Date: May 2017

1:90,000

**Figure 2.**  
**Lands in**  
**Bylaw 7188 Area at**  
**MacKinnon Ravine**  
*Schedule 10*

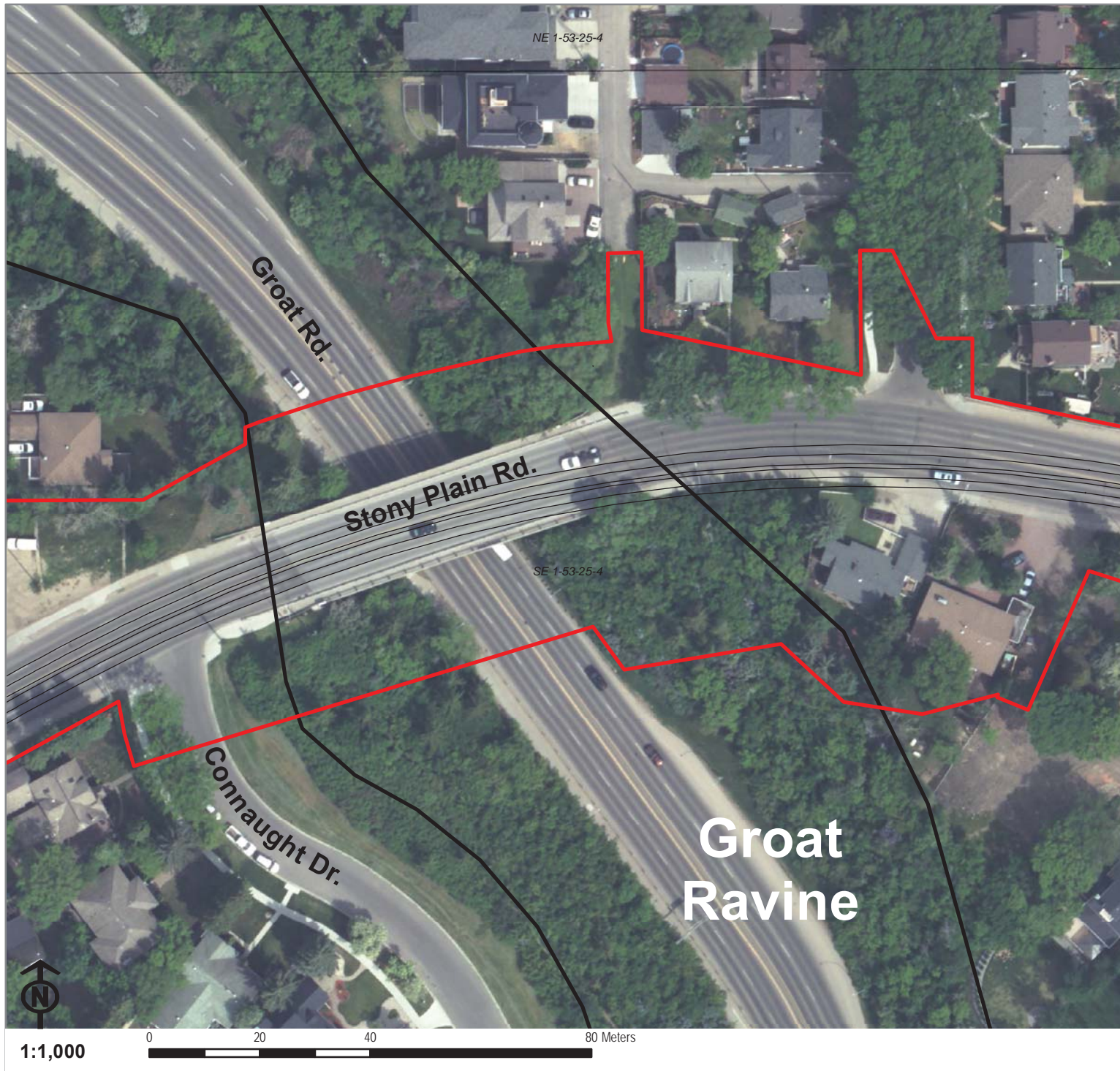


**Legend**

- Lands
- ▭ Bylaw 7188 Boundary

Map Date: 27 January 2020  
Imagery Date: May 2017

**Figure 3.**  
**Lands in**  
**Bylaw 7188 Area at**  
**Groat Ravine**  
*Schedule 10*

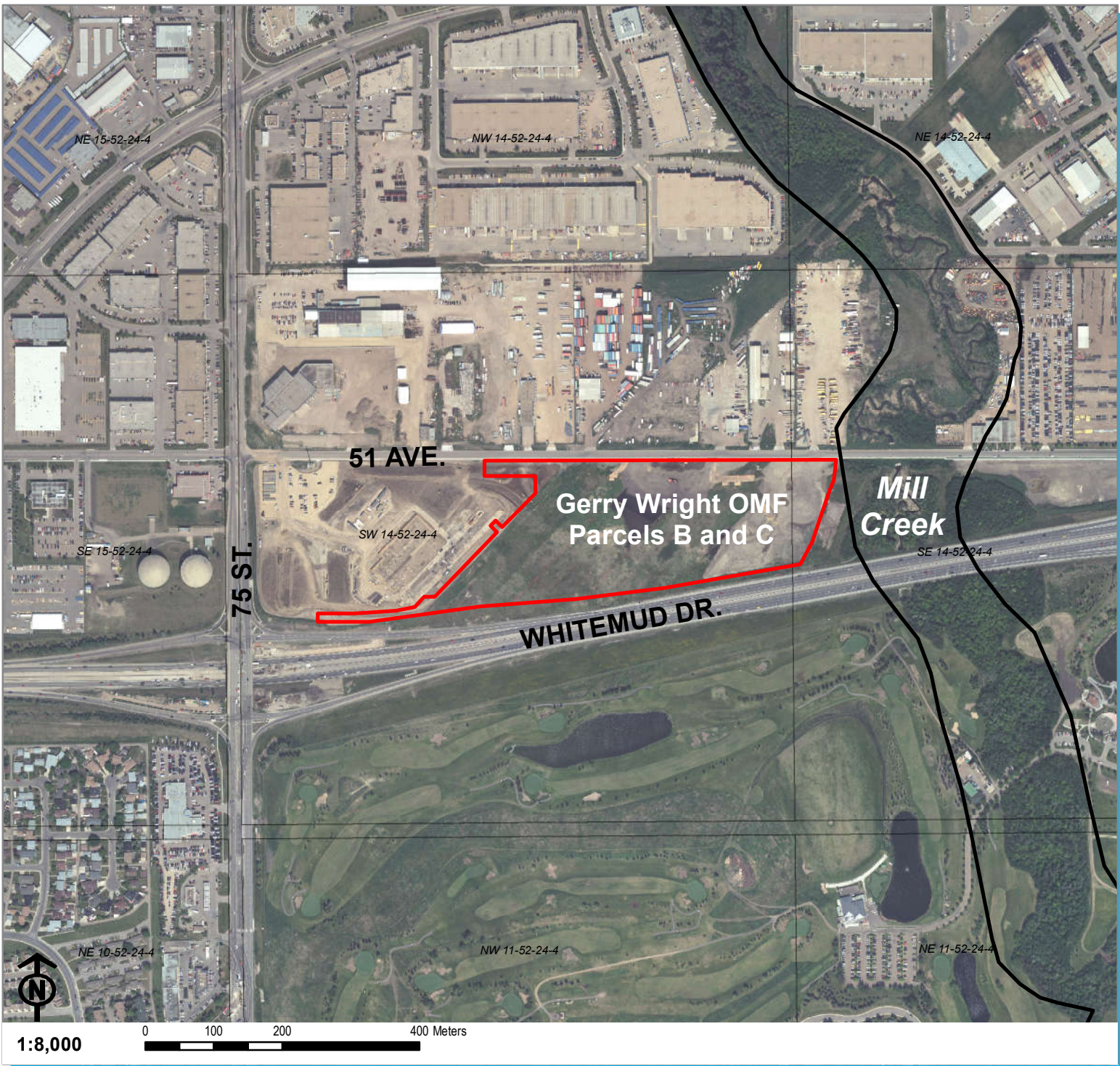


**Legend**



- Lands
- Bylaw 7188 Boundary

Map Date: 27 January 2020  
Imagery Date: May 2017

**Figure 4.**  
**Lands near**  
**Bylaw 7188 Area at**  
**Mill Creek**  
**Schedule 10**

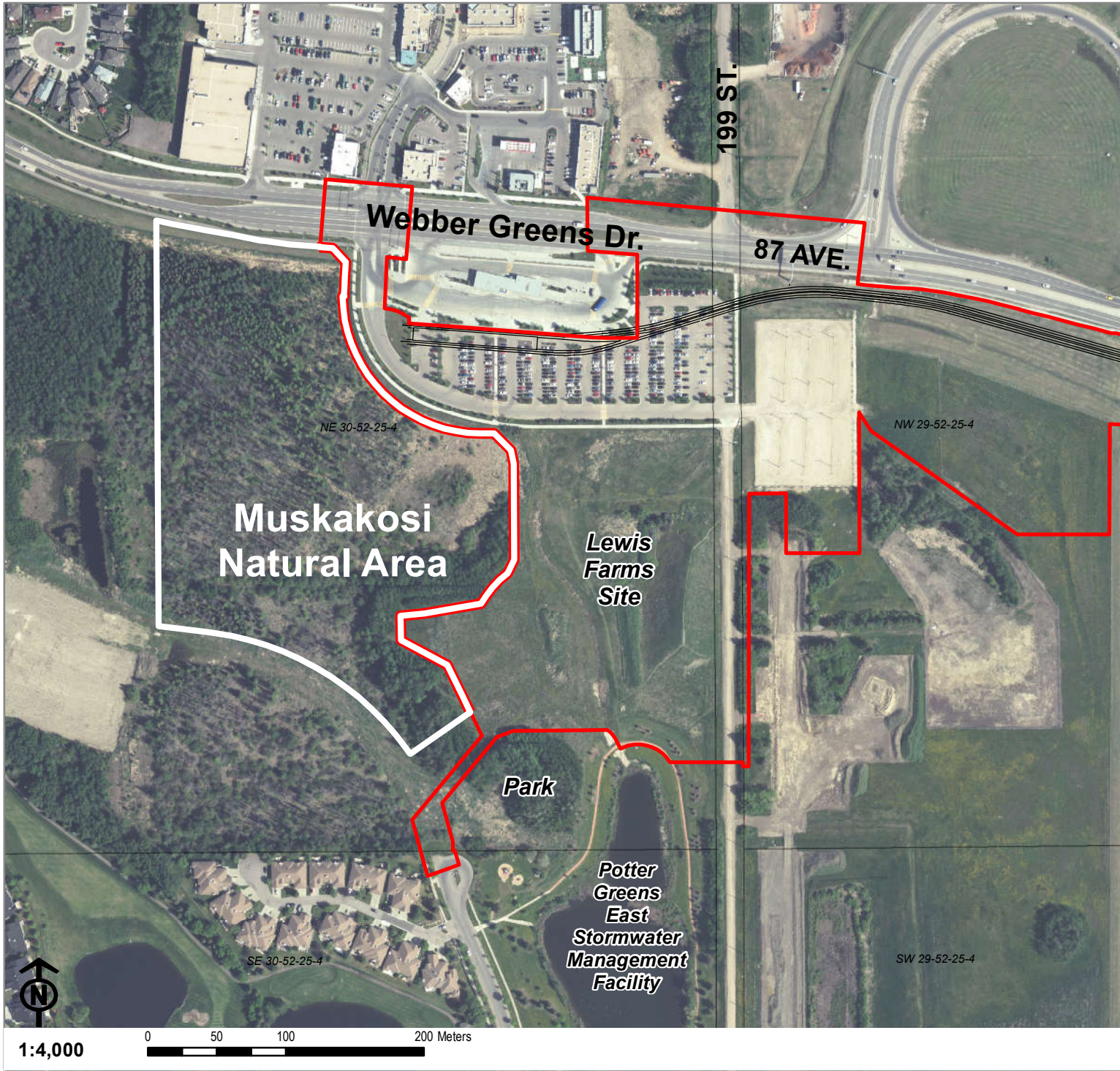


**Legend**

-  Lands
-  Bylaw 7188 Boundary

Map Date: 29 July 2020  
Imagery Date: May 2017

**Figure 5.**  
**Lands near**  
**Muskakosi Natural Area**  
**(NW7009)**  
*Schedule 10*

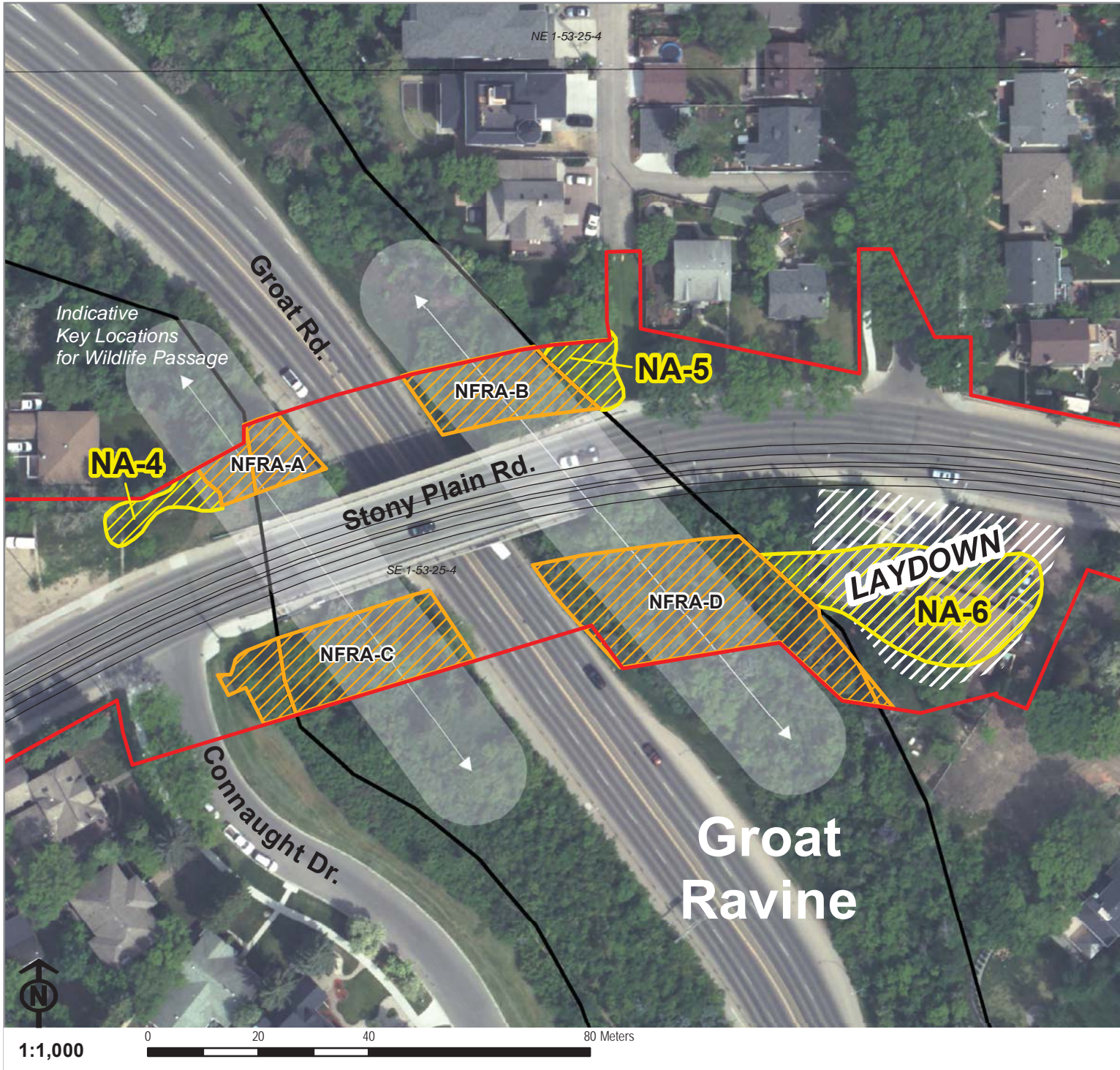


**Legend**

-  Lands
-  Muskakosi NA Boundary



**Figure 6.**  
**Laydown Area,**  
**Native Forest**  
**Reclamation Areas,**  
**Key Wildlife Corridors**  
**in Groat Ravine**  
*Schedule 10*



**Legend**

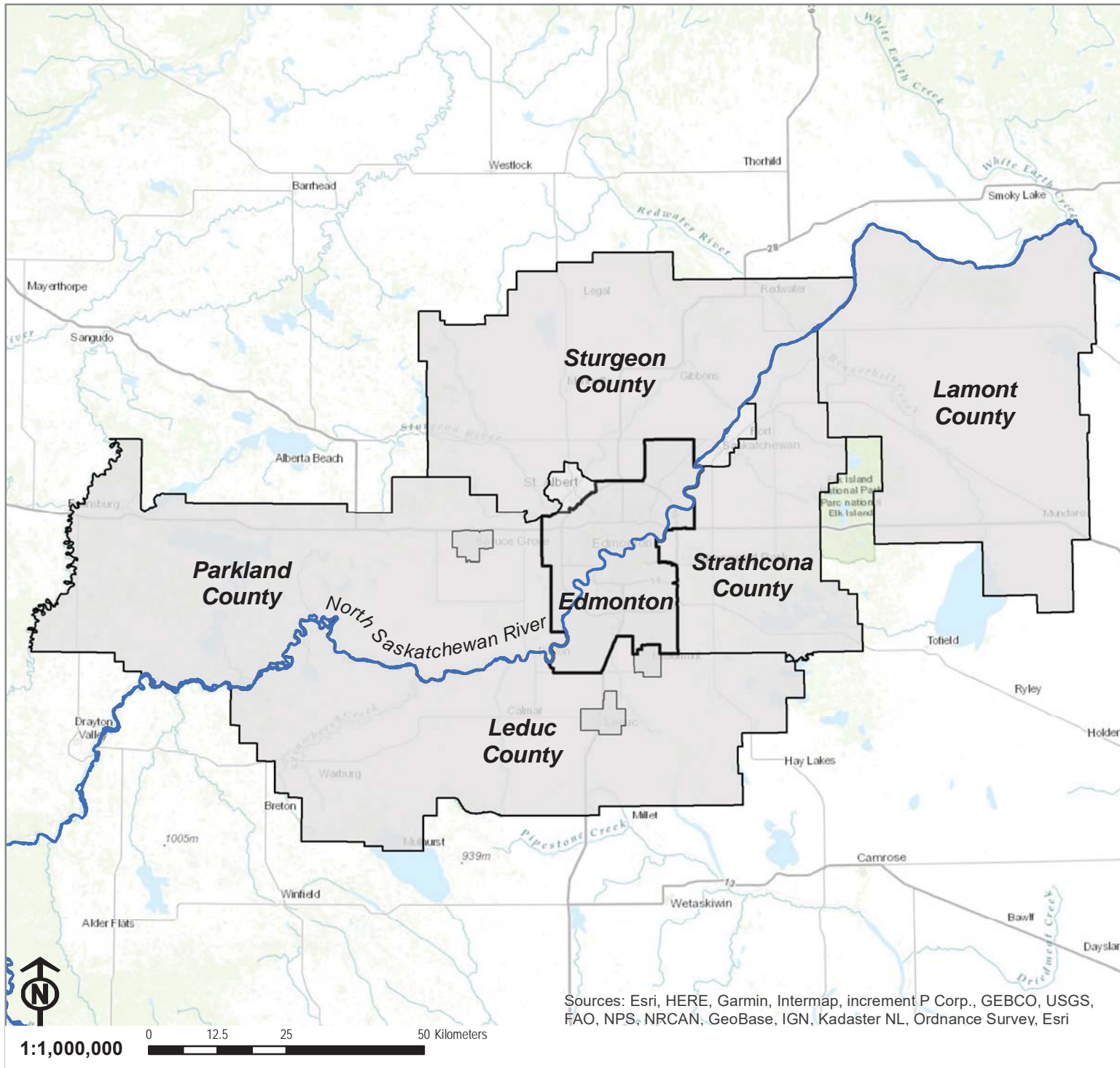
- Lands
- Naturalization Area
- Native Forest Reclamation Area
- Bylaw 7188 Boundary

Map Date: 27 January 2020  
 Imagery Date: May 2017

1:1,000

0 20 40 80 Meters

**Figure 7.**  
**Overview Map -**  
**North Saskatchewan**  
**River Valley System**  
*Schedule 10*



**Legend**

- North Saskatchewan River Valley System
- Greater Edmonton Metropolitan Region

**Note:**

Acceptable area for local plant stock collection limited to within the North Saskatchewan River Valley System, which includes tributaries (not shown), within the greater Edmonton Metropolitan Region.

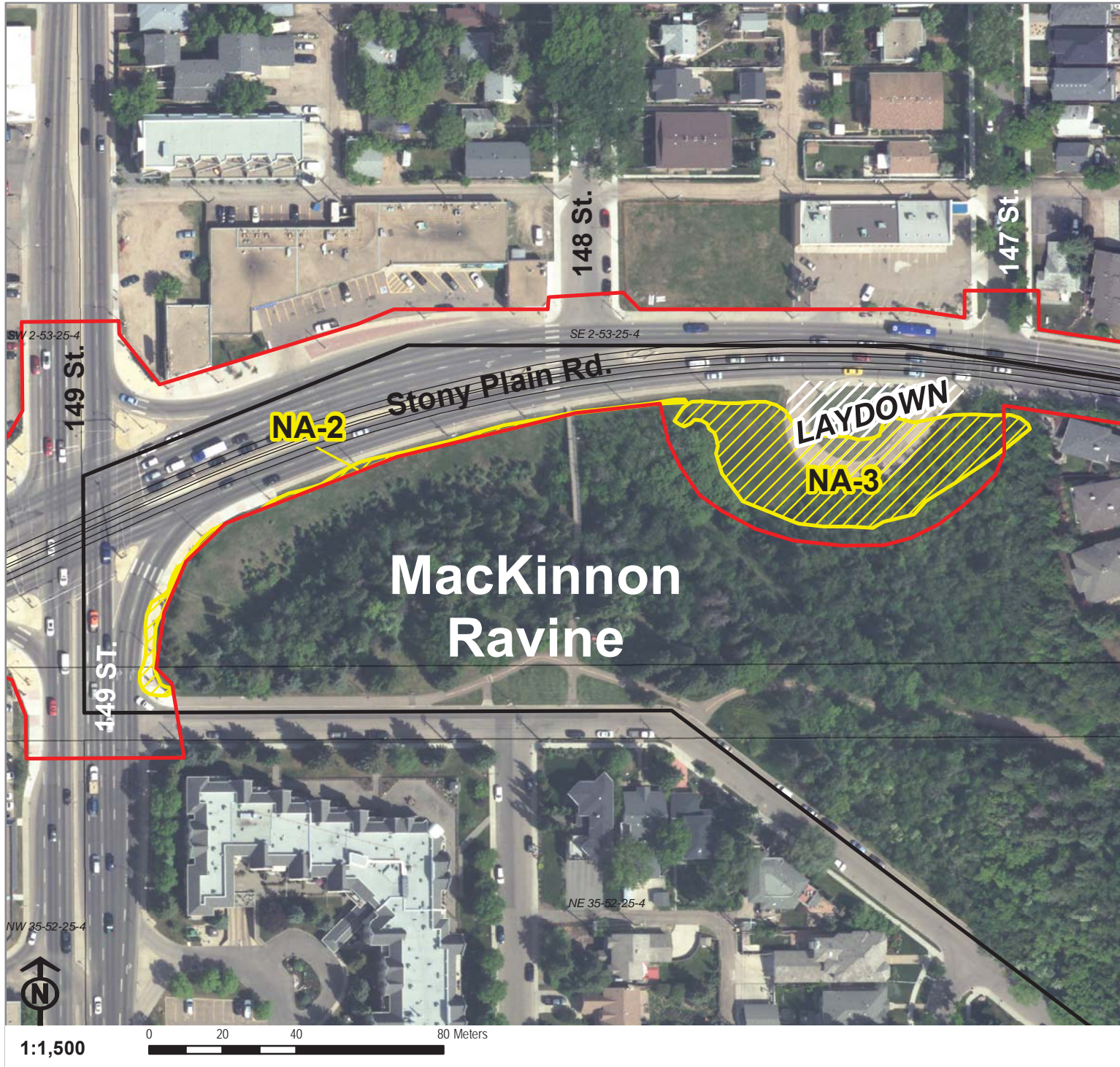
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

Map Date: 27 January 2020






\*Source: Edmonton Metropolitan Region Board (2019).

**Figure 8.**  
**Laydown Area,**  
**Naturalization Areas in**  
**MacKinnon Ravine**  
*Schedule 10*

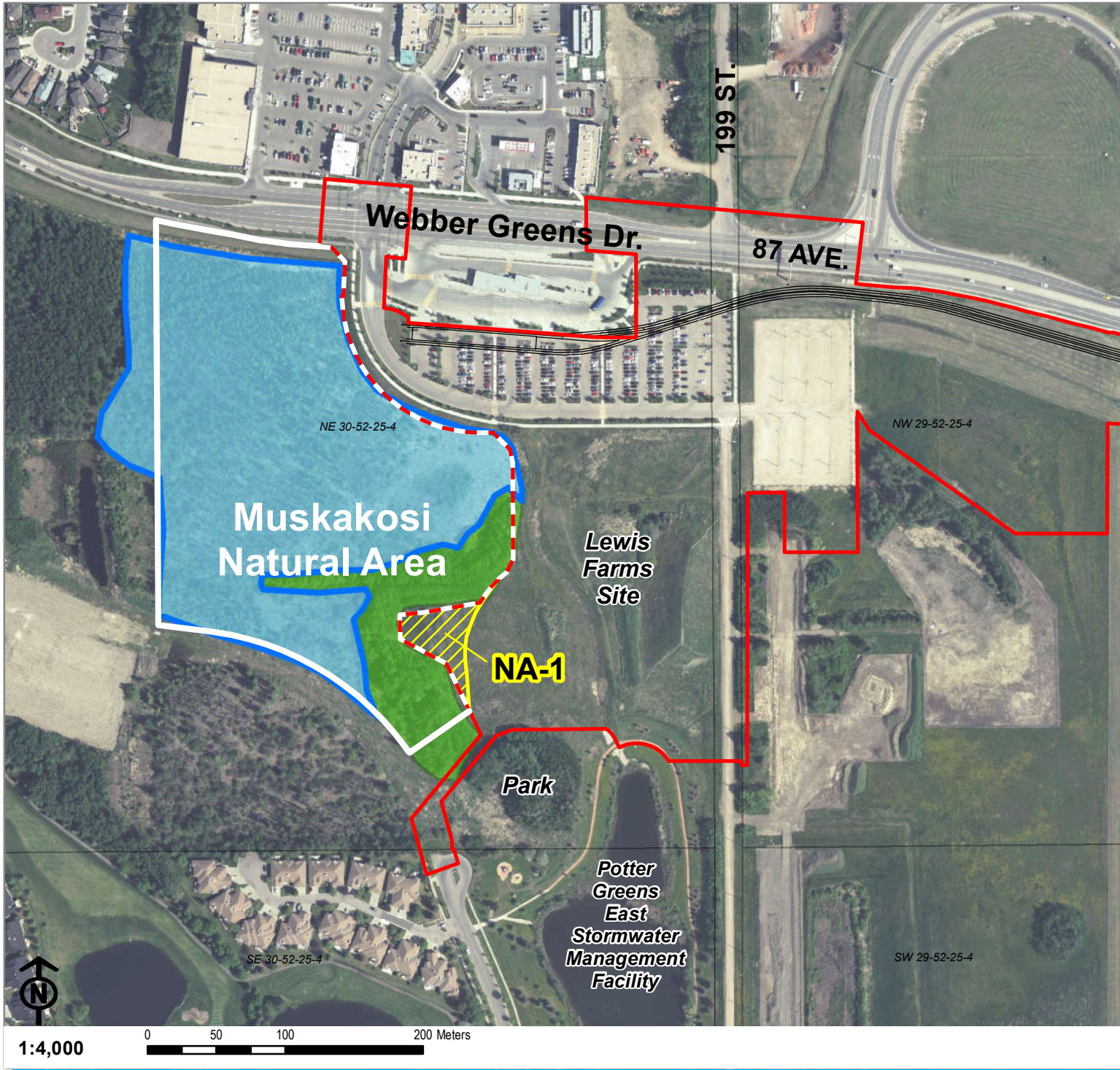


**Legend**

-  Lands
-  Naturalization Area
-  Bylaw 7188 Boundary

Map Date: 27 January 2020  
 Imagery Date: May 2017

**Figure 9.**  
**Naturalization Area at**  
**Muskakosi Natural Area**  
**(NW7009)**  
*Schedule 10*



**Legend**

- Lands
- Naturalization Area
- Muskakosi NA Boundary
- Wetland
- Upland

Map Date: 29 July 2020  
 Imagery Date: May 2017

**Figure 10.**  
**Overview Map –**  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*

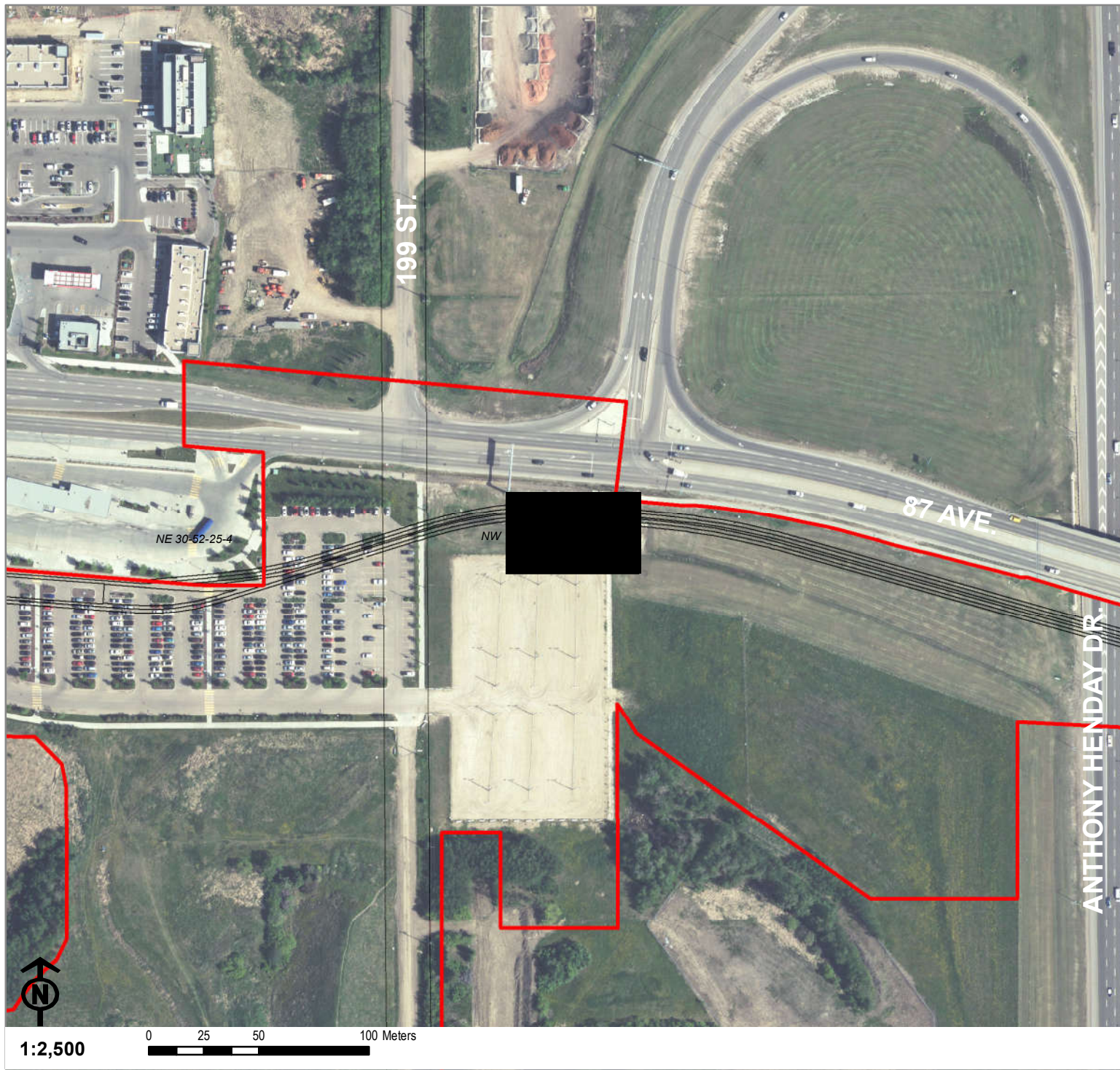


**Legend**

-  [Redacted]
-  Lands
-  Bylaw 7188 Boundary

Map Date: 29 July 2020  
Imagery Date: May 2017

Figure 11a.  
Location 1  
Known  
Contaminated  
Locations  
Schedule 10

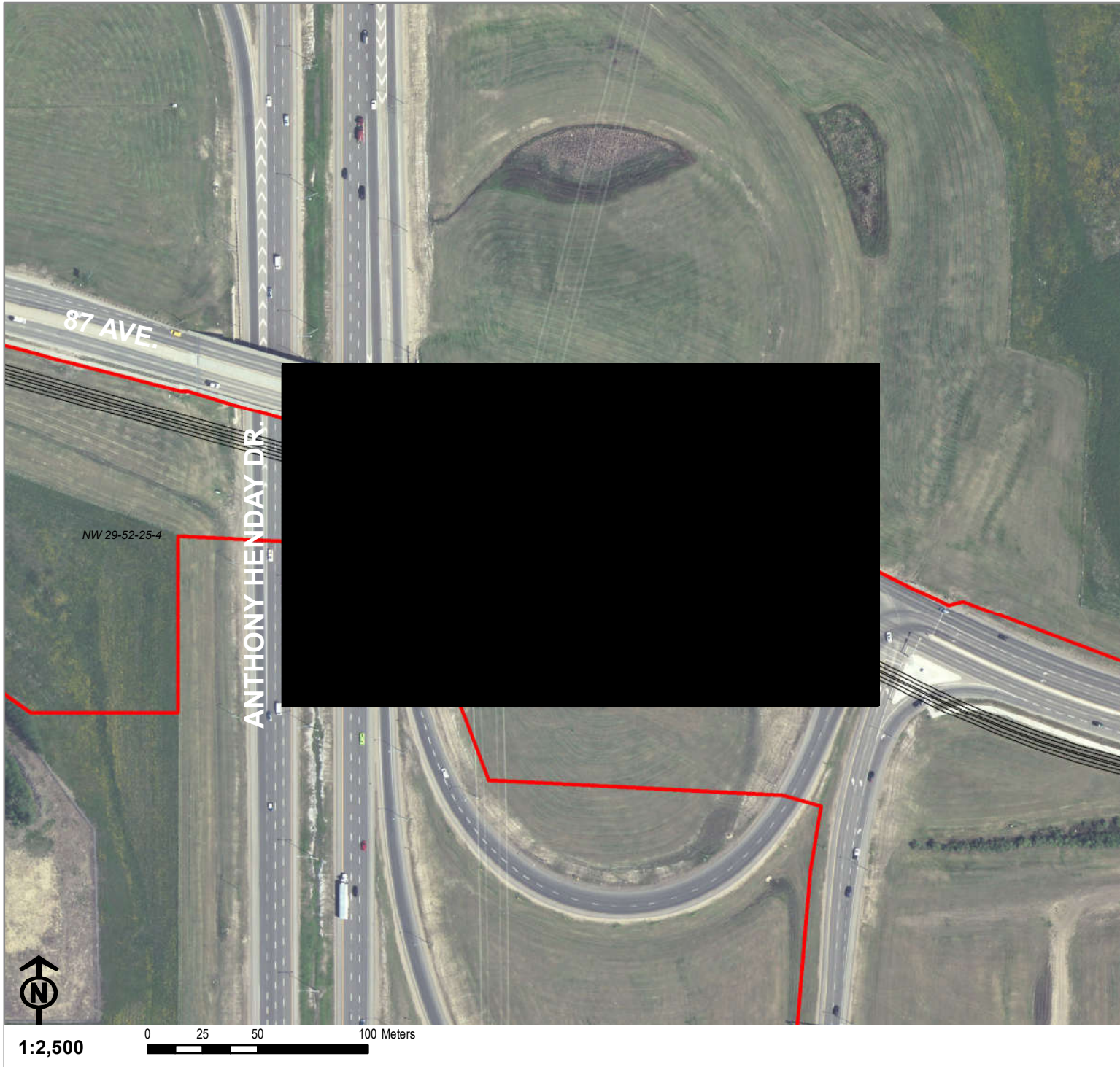


**Legend**

-  [Redacted]
-  Lands

Map Date: 29 July 2020  
Imagery Date: May 2017

**Figure 11b.**  
**Location 2**  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*



**Legend**

-  [Redacted]
-  Lands

Map Date: 29 July 2020  
Imagery Date: May 2017

1:2,500

0 25 50 100 Meters

**Figure 11c.**  
Locations 3, 4, 5 & 6  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*



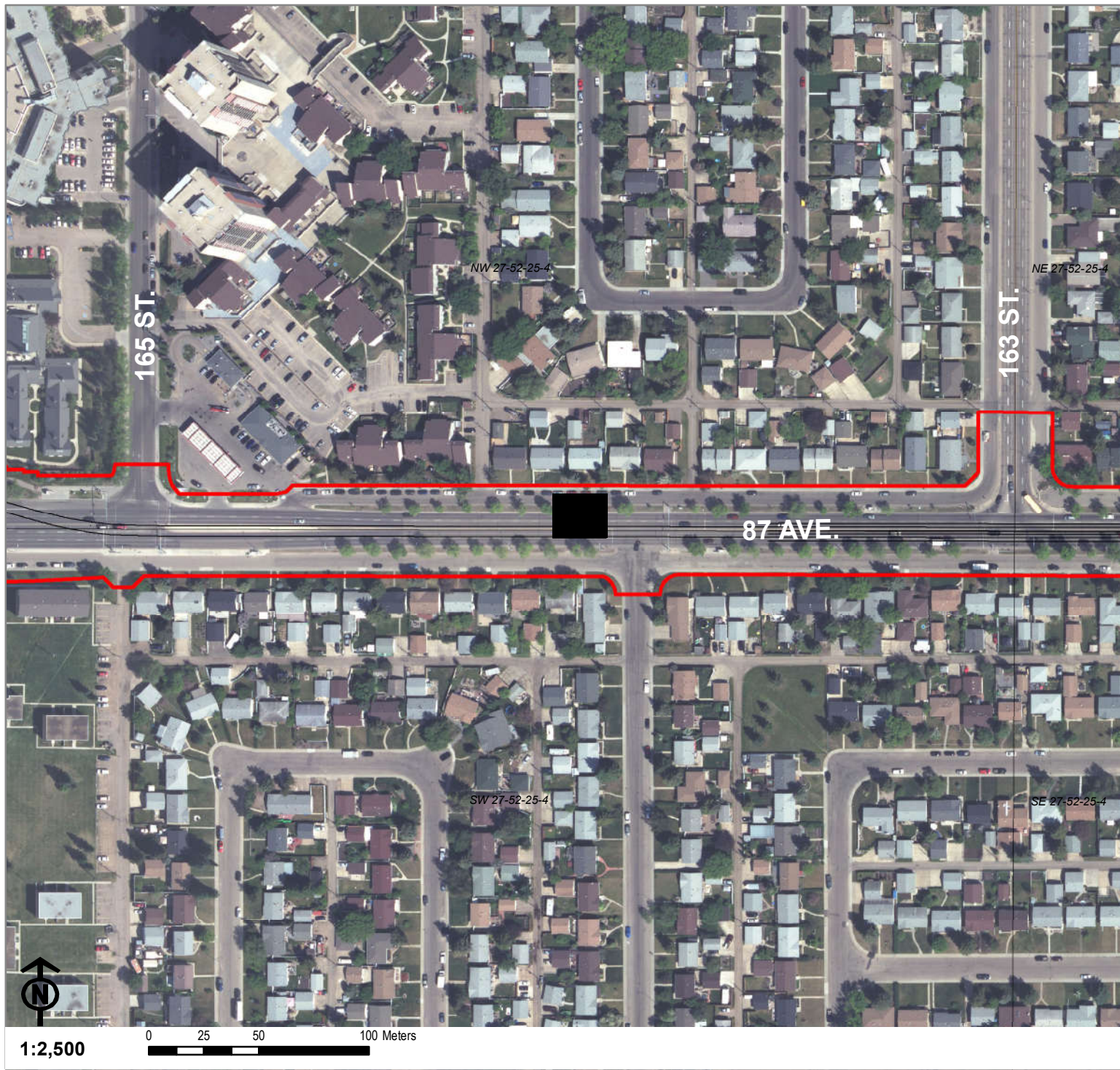
**Legend**

-  [Redacted]
-  Lands

Map Date: 29 July 2020  
Imagery Date: May 2017



Figure 11d.  
Location 7  
Known  
Contaminated  
Locations  
Schedule 10



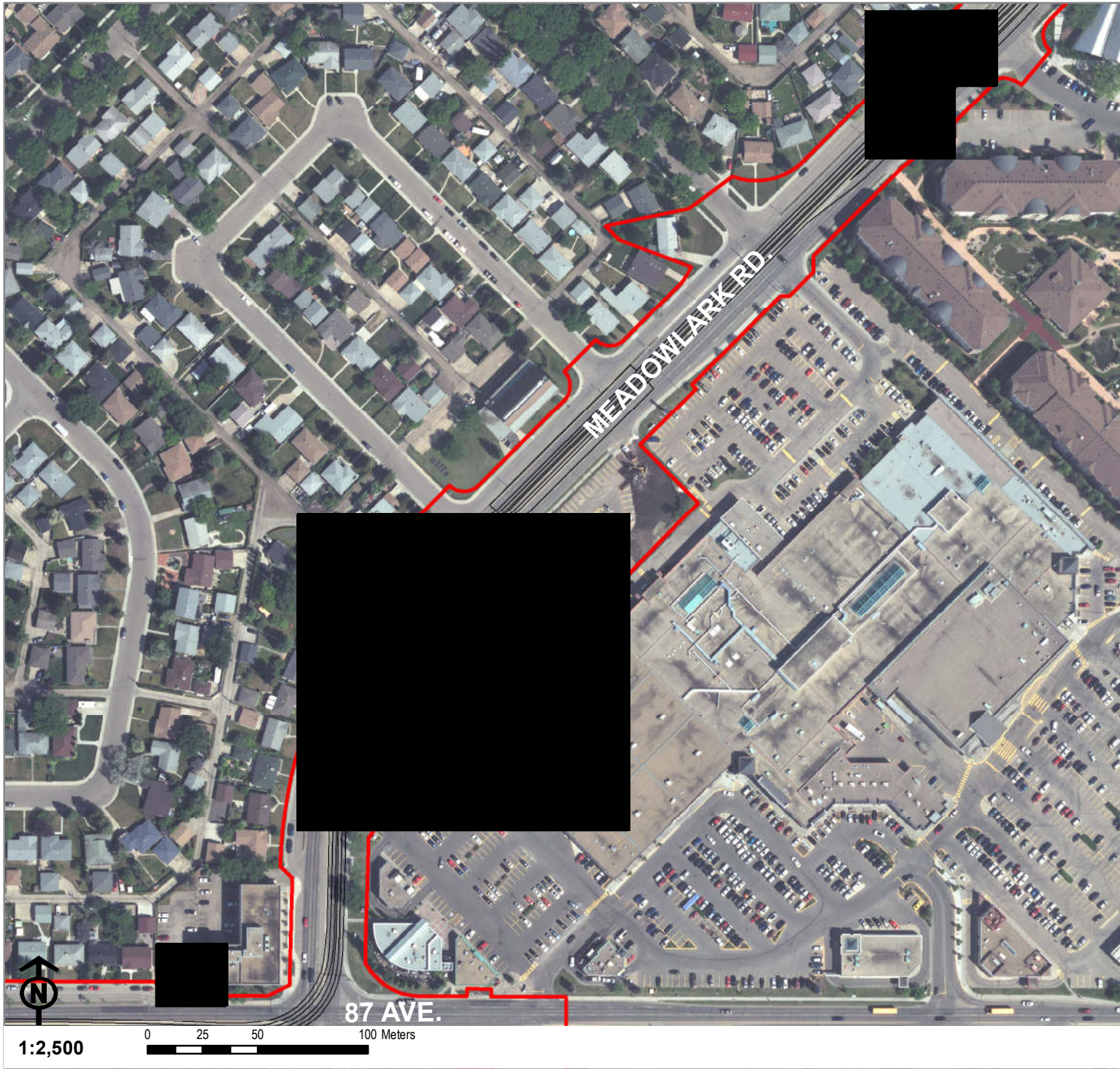
Legend

-  [Redacted]
-  Lands

Map Date: 29 July 2020  
Imagery Date: May 2017

1:2,500

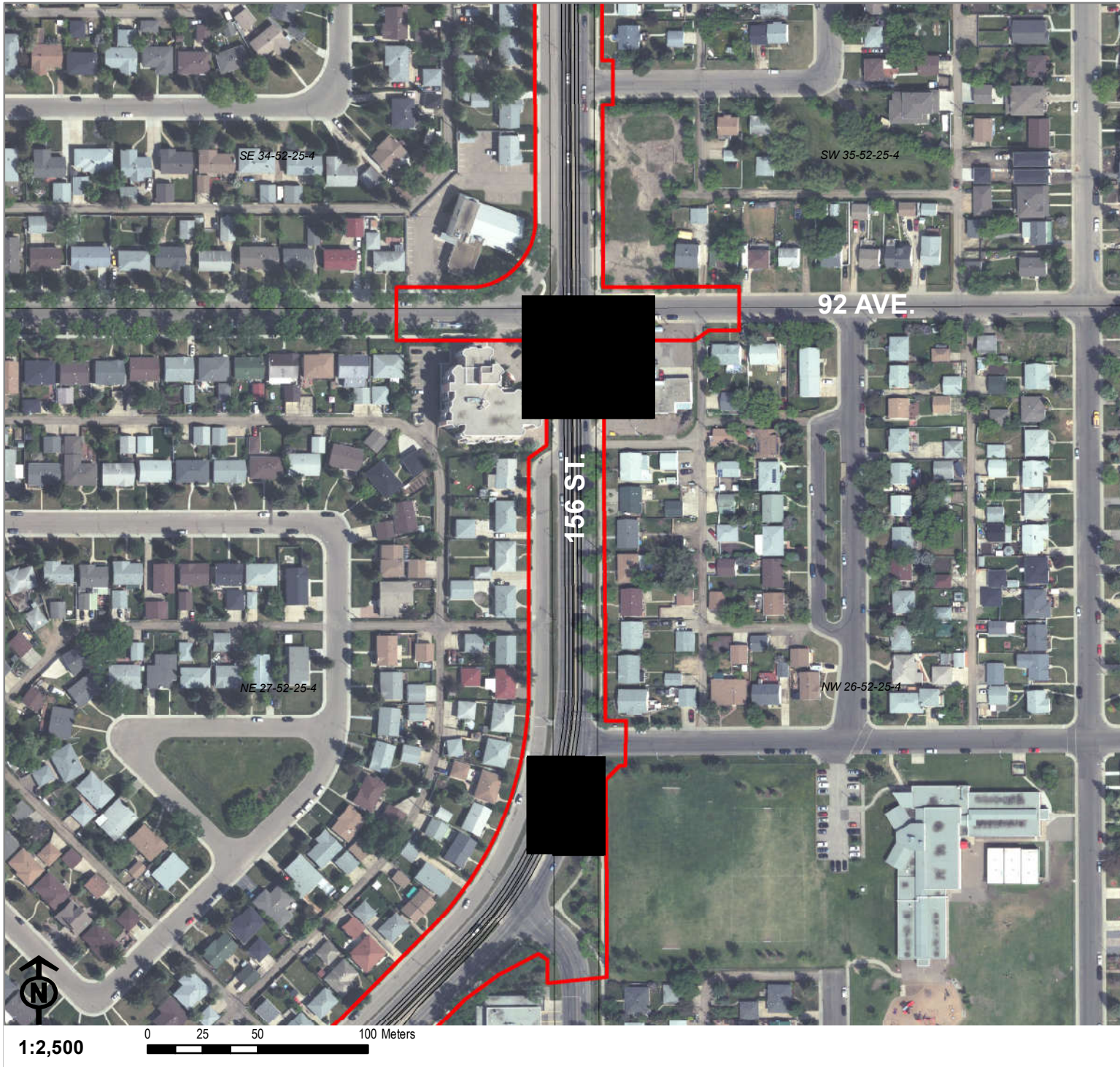
**Figure 11e.**  
Locations 8, 9 & 10  
**Known  
Contaminated  
Locations**  
*Schedule 10*



**Legend**

-  [Redacted]
-  Lands

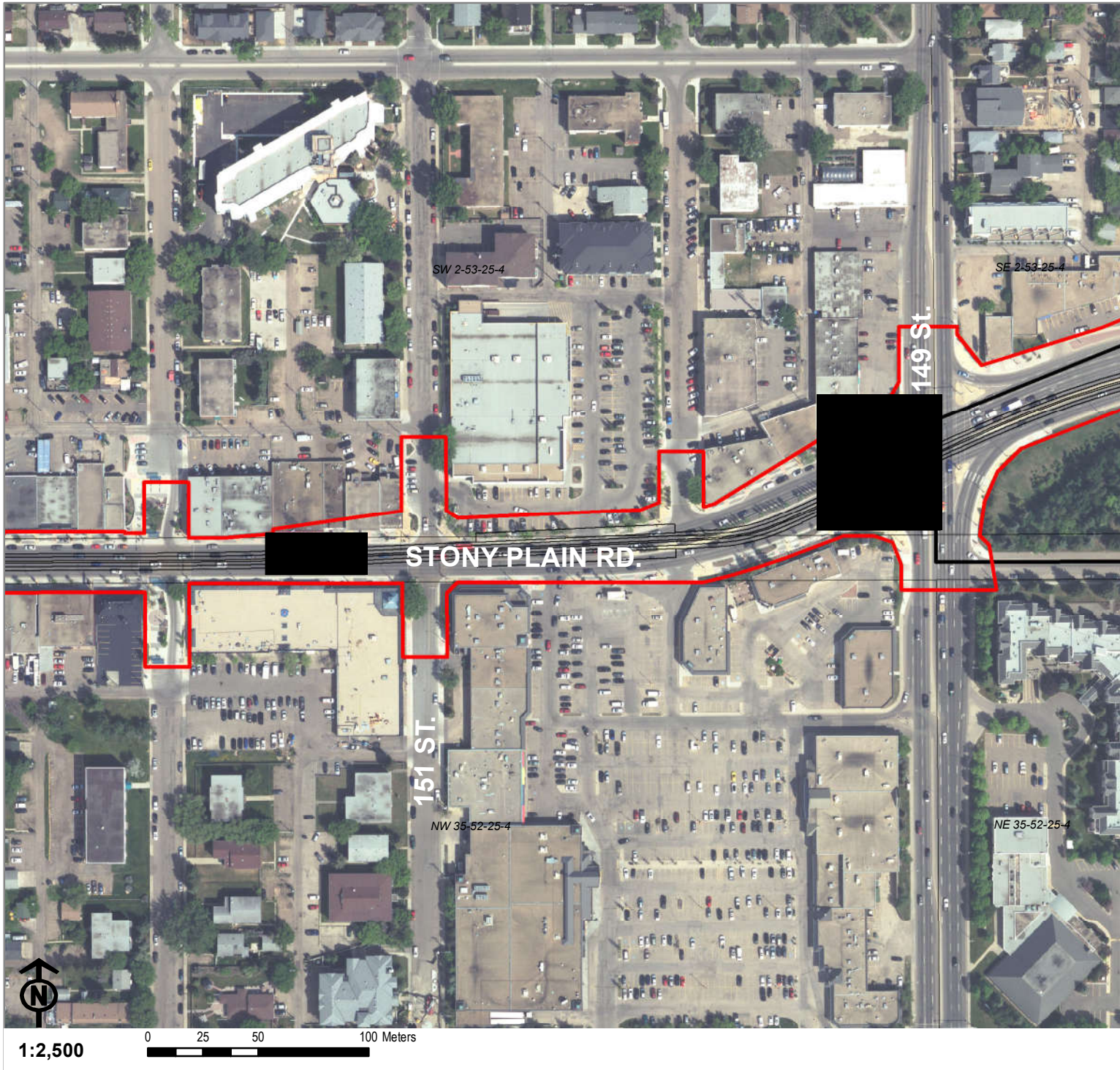
**Figure 11f.**  
Locations 11, 12 & 13  
Known  
Contaminated  
Locations  
Schedule 10



**Legend**

-  [Redacted]
-  Lands

**Figure 11g.**  
**Locations 14 & 15**  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*

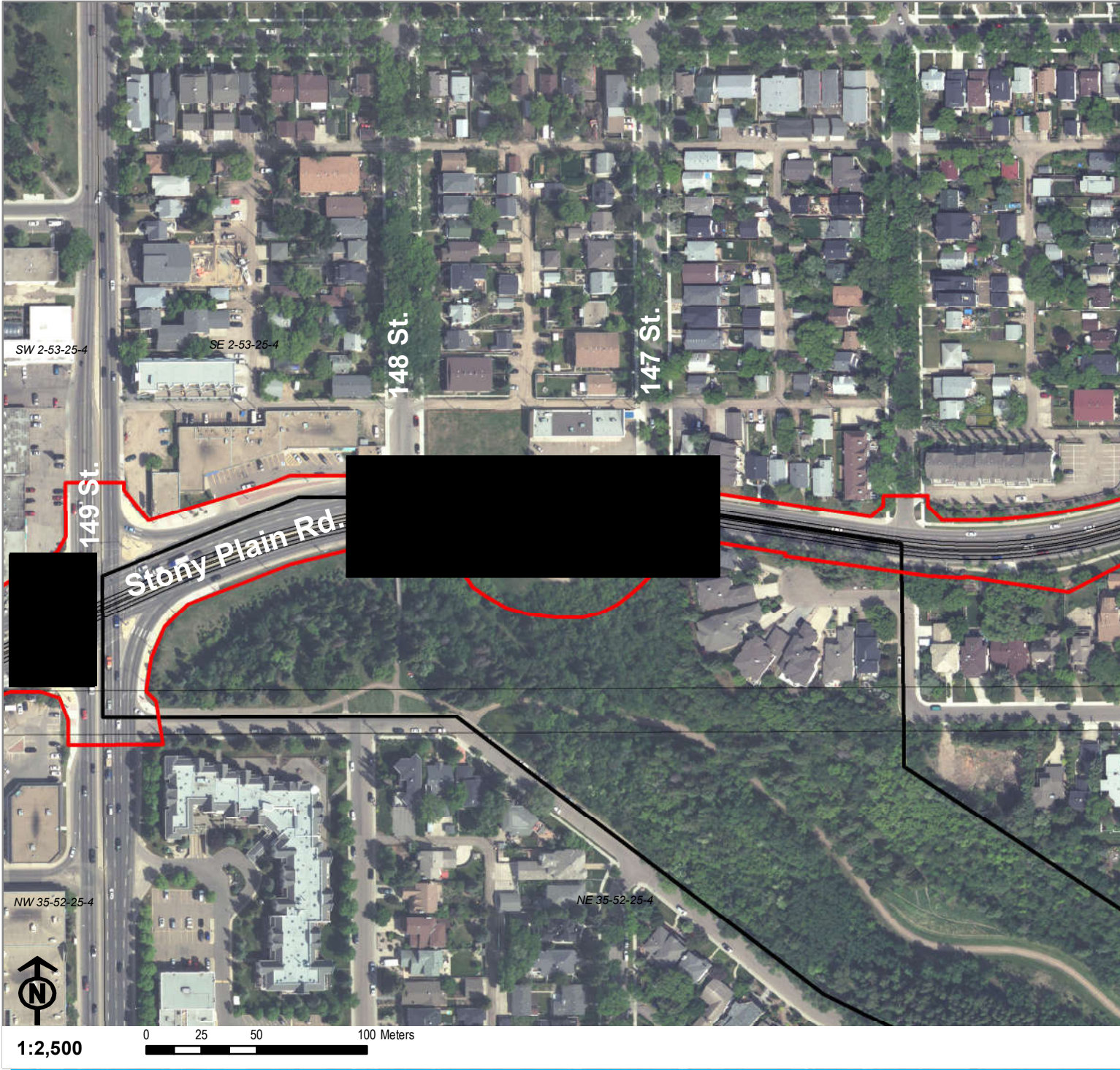


**Legend**

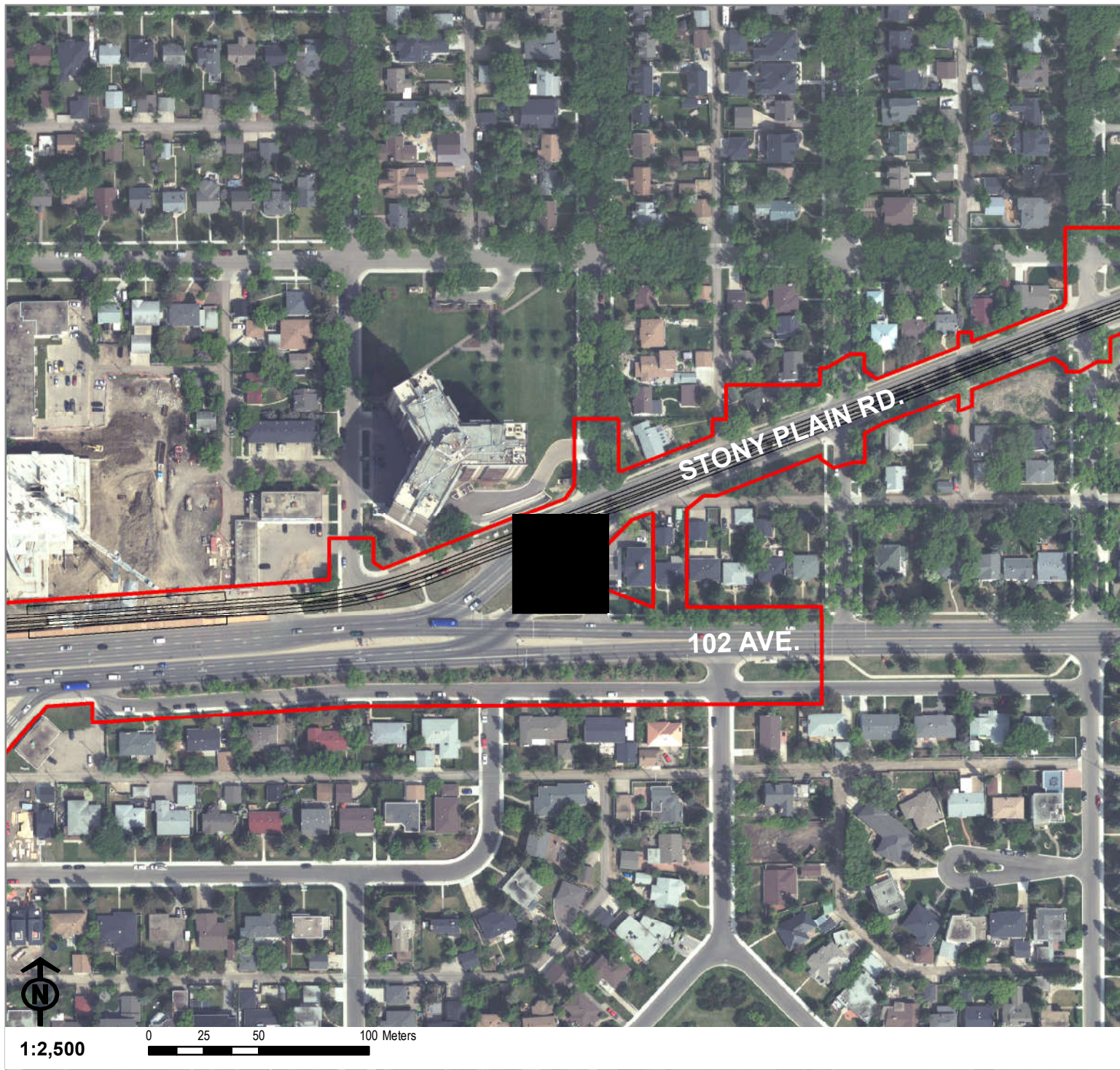
-  [Redacted]
-  Lands

**Figure 11h.**  
Locations 15, 16, 17 & 18  
**Known  
Contaminated  
Locations**  
*Schedule 10*

**Legend**



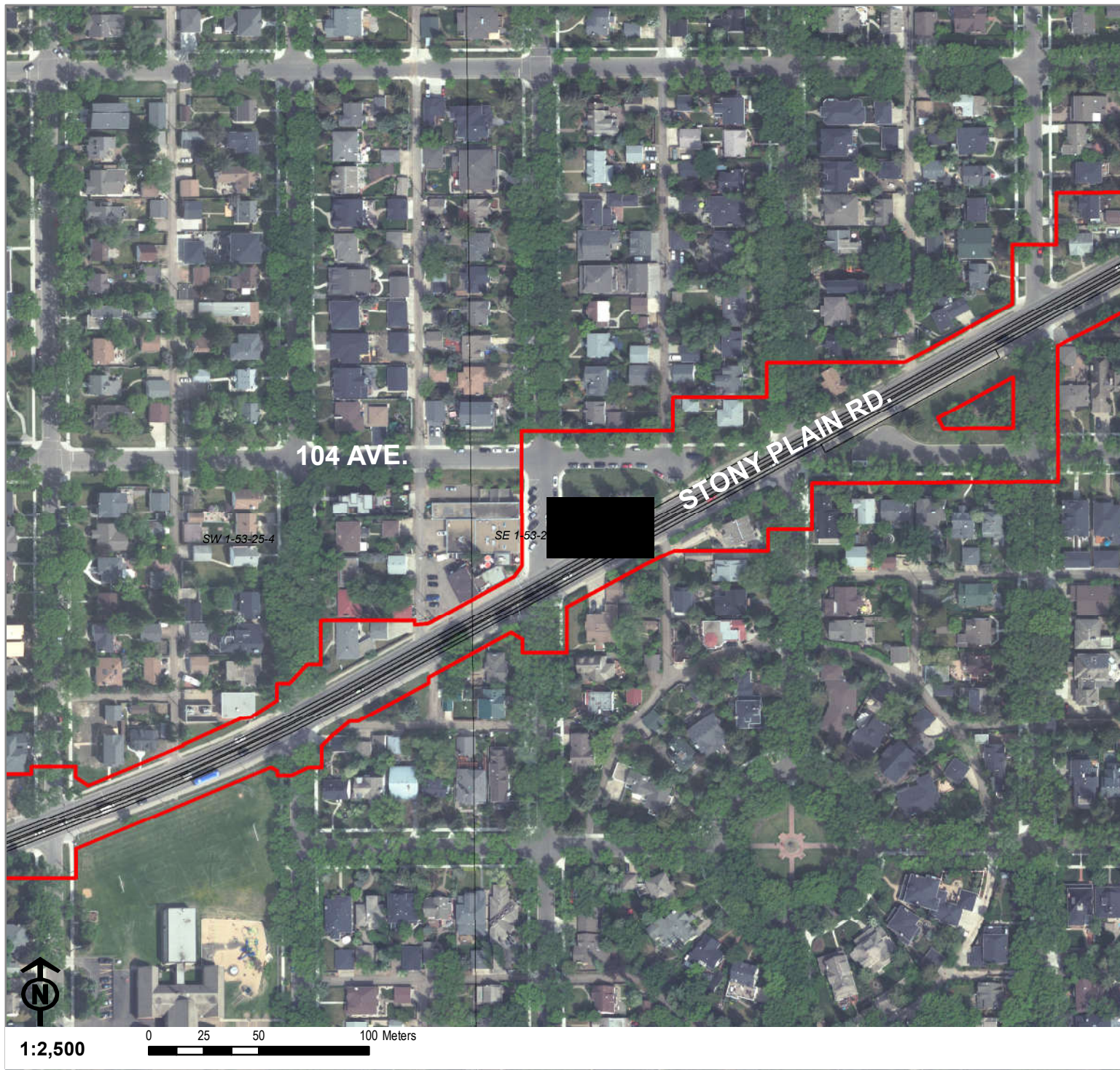
**Figure 11i.**  
Location 19  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*



**Legend**

-  
-  Lands

**Figure 11j.**  
Location 20  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*



**Legend**

-  [Redacted]
-  Lands

**Figure 11k.**  
Locations 21 & 22  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*

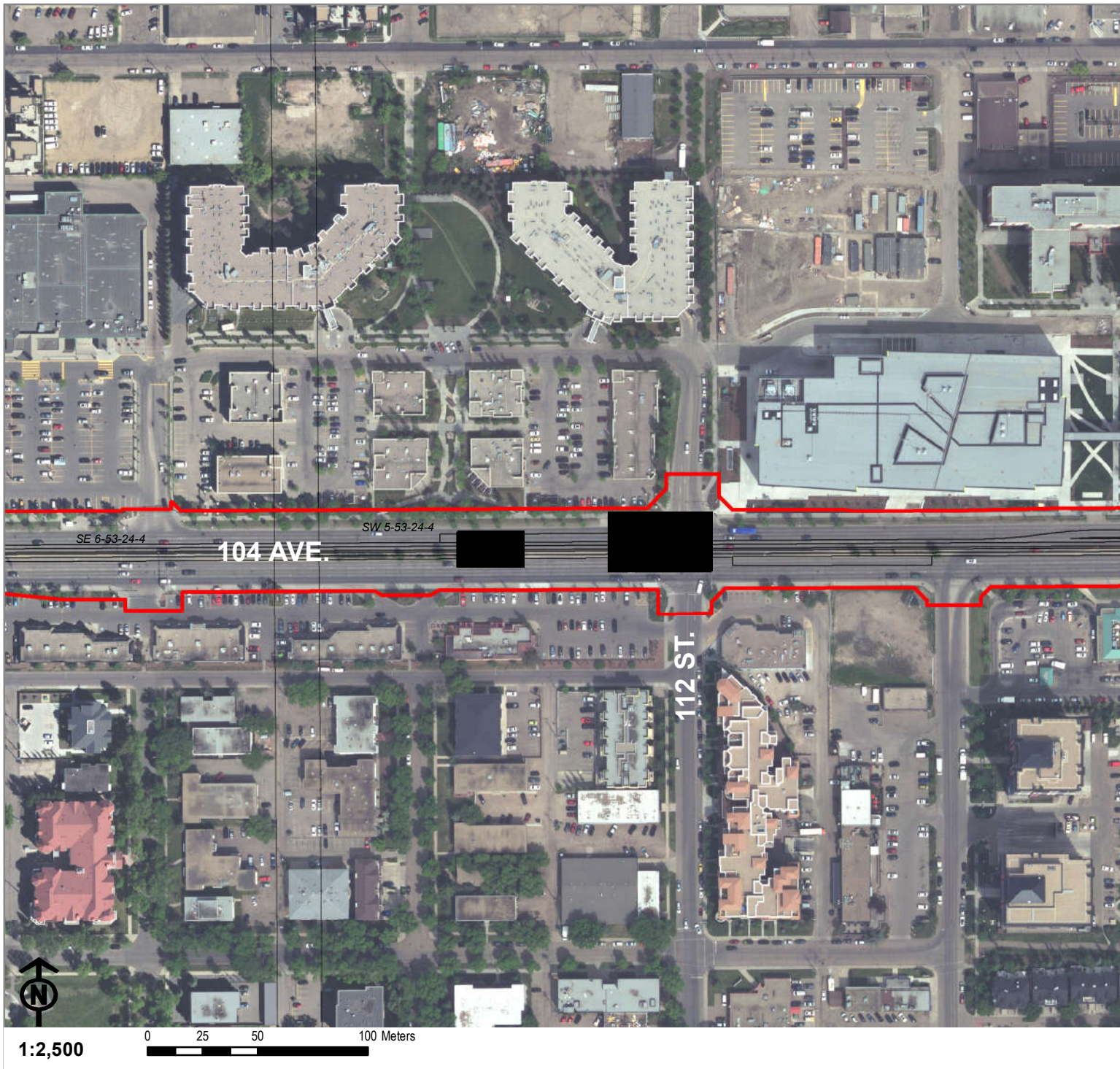


**Legend**

-  [Redacted]
-  Lands



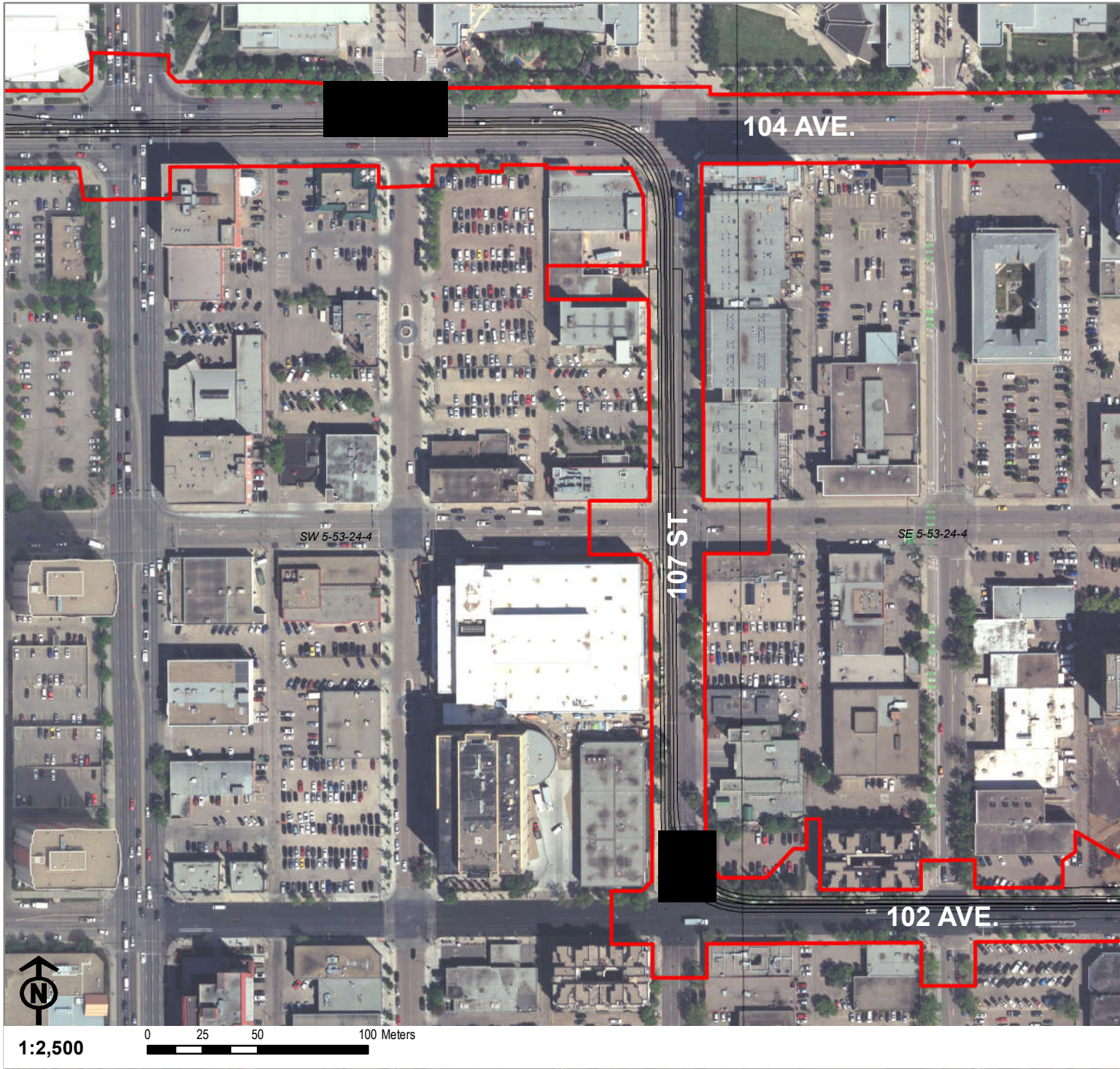
**Figure 11l.**  
Locations 23 & 24  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*



**Legend**

-  [Redacted]
-  Lands

**Figure 11m.**  
Locations 25 & 26  
Known  
Contaminated  
Locations  
Schedule 10



**Legend**

-  [Redacted]
-  Lands

**Figure 11n.**  
Location 27  
**Known**  
**Contaminated**  
**Locations**  
*Schedule 10*

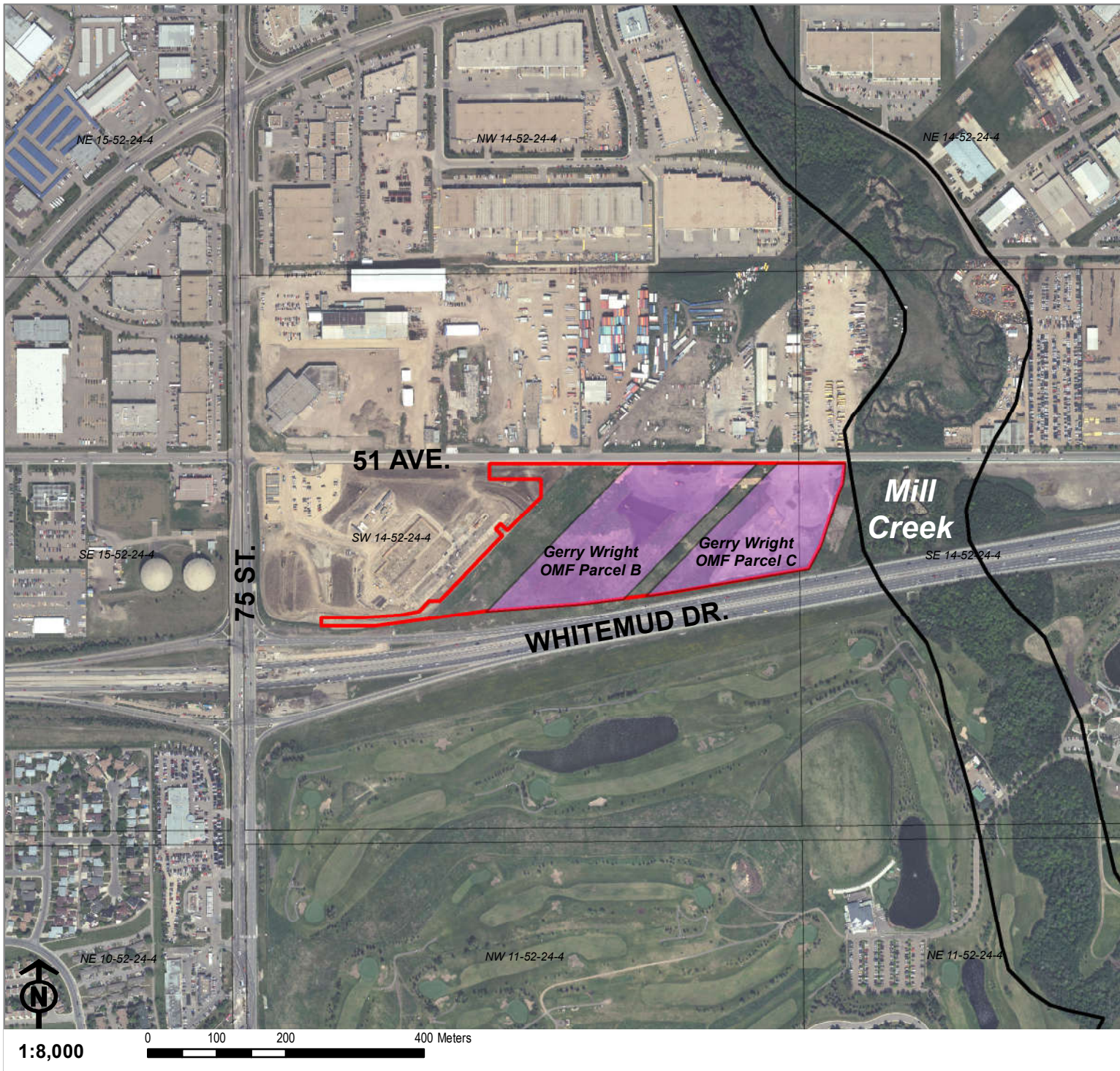


**Legend**



-  [Redacted]
-  Lands

Map Date: 29 July 2020  
Imagery Date: May 2017

**Figure 12.**  
**Gerry Wright OMF**  
**Parcels B and C**  
*Schedule 10*



**Legend**

-  Lands
-  Bylaw 7188 Boundary

Map Date: 29 July 2020  
Imagery Date: May 2017