The City of St. Albert Environmental Construction Operations (ECO) Plan Framework

January 2024

Table of Contents

CONTRACTOR ENVIRONMENTAL PERFORMANCE 2

ECO PLAN OBJECTIVES 2

CONTRACTOR ROLES AND RESPONSIBILITIES 3

INSTRUCTIONS 4

ECO Plan Updates 4

PART 1 PROJECT DESCRIPTION & SITE ACTIVITIES 5

1.1 Project Description 5

1.2 Site Activities 5

PART 2 PROJECT TIMELINE & SITE DRAWING(S) 6

2.1 Project Timeline and Milestones 6

2.2 Site Drawing(s) 6

PART 3 POTENTIAL ENVIRONMENTAL IMPACTS & CONTROLS 8

3.1 Regulatory Compliance 8

3.2 Permits, Approvals, Authorizations & Notifications 10

3.3 Potential Environmental Impacts & Mitigation Strategies 11

3.4 Erosion and Sediment Control 13

3.5 Tree Protection 13

PART 4 WASTE MANAGEMENT & HAZARDOUS MATERIALS 15

4.1 Waste Management 15

4.2 Hazardous Materials 15

PART 5 ENVIRONMENTAL EMERGENCY RESPONSE 17

5.1 Emergency Contact List 17

5.2 Release Response and Reporting Procedure 17

PART 6 ECO PLAN IMPLEMENTATION 18

6.1 On-Site Representative 18

6.2 Training and Communication 18

6.3 Monitoring and Reporting 18

6.4 Documentation 19

CONTRACTOR ENVIRONMENTAL PERFORMANCE

As a City of St. Albert (the City) contractor, your performance during all contractual obligations is critical to the City's commitment to protect the environment, ensure compliance with all environmental legislation, and continually improve our environmental performance.

To assist contractors with this requirement, the City has produced two documents:

1. **Contractors Environmental Responsibilities Package (CERP) Manual:** For all City contractors, this manual outlines our expectations for environmental performance. All Contractors must acknowledge the requirements contained in the manual.
2. **Environmental Construction Operations (ECO) Plan Framework**: Outlines the requirements of an ECO Plan for Contractors engaged in activities that have a more significant potential environmental impact. This requirement will be listed as part of the tender process. An ECO Plan is a site-specific contractor's guide for the identification and mitigation of potential environmental impacts that may occur throughout the course of their work activities.

This template closely follows the ECO Plan Framework developed by Alberta Transportation, the City of Calgary and the City of Edmonton. Adopting this template was deliberate as Contractors are familiar with this format and the requirements contained within the Framework. However, as the City is a separate authority, it has been modified to meet City-specific conditions and requirements.

ECO PLAN OBJECTIVES

The objectives of an ECO Plan are to understand environmental risks, regulatory requirements, and prevent and/or control environmental impacts associated with each project.

An ECO Plan consists of site-specific written procedures and site drawings addressing potential environmental impacts, site-specific mitigation and control measures associated with the construction activities being performed.

Proper implementation and monitoring of this ECO Plan program will support:

- Compliance with the City's Environmental Sustainability Policy (C EUS 01) and applicable regulatory requirements, bylaws and guidelines;
- Inclusion of environmental considerations in decision-making processes; and
- Commitment to the environment protection by all parties involved, both in writing and in action, to stakeholders and the public.

CONTRACTOR ROLES AND RESPONSIBILITIES

The contractor is responsible, either through their own actions or through subcontractors, for providing the resources needed to develop and implement an ECO Plan. The Contractor is responsible for ensuring their employees and subcontractors understand their roles and responsibilities and operate in compliance with the ECO Plan.

Contractors must refer to the terms and conditions contained in the CERP Manual, contracts, agreements, permits, and approvals to be fully aware of their responsibilities. In general, contractors must:

- Prepare and update the ECO Plan in accordance with the ECO Plan Framework, the Contractors Environmental Responsibilities Package Checklist and the ECO Plan Acknowledgement Form **prior to** initiating work;
- Take immediate action when it is recognized that an impact to the environment may occur or has already occurred;
- Revise the ECO Plan as required if the scope of work changes; and
- Sufficiently monitor the work site to ensure that the ECO Plan is effective for all conditions, including inclement weather and shut-down periods.

Contractors should review all available environmental information and reports to gain an understanding and assess the project site and surrounding area for environmental sensitivities and concerns. Recommended sources to review for site-specific environmental sensitivity information include, but are not limited to, the following:

- Biological Assessments (e.g., wildlife, wetland, vegetation, etc.);
- Environmental Site Assessments (e.g., Phase 1, Phase 2, etc.);
- Risk Management Plans (City specific, site-specific etc.);
- Remediation Plans; and
- Tank Decommissioning/Excavation/Sampling Plans.

INSTRUCTIONS

The development of the ECO Plan must follow this Framework. First, the CERP Checklist and ECO Plan Acknowledgement Form will be provided to contractors. The "Checklist" portion of the form is used as a reference when developing the ECO Plan to ensure all required components of the ECO Plan Framework are addressed. The ECO Plan Acknowledgement Form must also be completed, signed, dated and returned to the City with the ECO Plan submission prior to mobilization.

Upon receipt of the ECO Plan from the contractor, it will be reviewed for completeness by the City with the following two possible outcomes:

- **Accepted**
  - The Contractor will be advised in writing if the ECO Plan is accepted by the City.
- **Deficient**
  - If any of the required information is not included, or the City has questions about the content, the ECO Plan will be considered deficient and will be returned to the contractor for revision.
  - The contractor is required to modify and complete the ECO Plan to the mutual satisfaction of all parties. No work may begin until all parties have agreed to the ECO Plan.

ECO Plan Updates

ECO Plans must be updated when the project, its site conditions and/or its activities change in a way not previously identified. ECO Plans must also be reviewed for multi-year projects in advance of freeze-up in the fall and melt in the spring; revisions must include procedures and environmental protection measures required for shut-down periods.

ECO Plans must be submitted for review and accepted prior to the start of construction. Bolded items in the Framework are required for the ECO Plan. ECO Plan submissions must include a completed and signed ECO Plan Checklist and Acknowledgement Form.

The following is a list of instructions for the development of an ECO Plan. Each ECO Plan should reflect the six parts as outlined.

PART 1 PROJECT DESCRIPTION & SITE ACTIVITIES

1.1 Project Description

The project should be described in enough detail to provide City reviewers with a basic understanding of the construction project.

The ECO Plan must include:

a. **Type of project (e.g., road works, utility upgrades, playground and park rehabilitation, etc.); and**
b. **Site location (e.g., lot/block/plan, legal land description, or municipal address).**

1.2 Site Activities

The ECO Plan must include:

a. **A table or list of all project-specific activities that may result in environmental impacts; include all construction and demolition activities (e.g., earthworks, surfacing, saw cutting, stream crossings); and**
b. **If the contractor or which subcontractor(s) is/are responsible for completing each activity.**

PART 2 PROJECT TIMELINE & SITE DRAWING(S)

2.1 Project Timeline and Milestones

The ECO Plan must include:

a. **Expected project start and end dates with a list of milestone activities.**

b. **Any time-sensitive environmental considerations, including scheduled shutdowns and restricted activity periods if applicable. For example, in-stream or bed and shore work may be restricted to the times outlined with approvals or authorizations issued by federal and/or provincial regulatory bodies.**

2.2 Site Drawing(s)

The ECO Plan must include:

a. **Site drawing(s) of appropriate scale showing site specific features including the following categories:**

   i. **Site set up and laydown area;**
   ii. **Environmental sensitivities; and**
   iii. **Controls/mitigation measures.**

b. **Identify site specific features from table 1 in the site drawing(s) where applicable. This table should be used as an example, not an exhaustive list.**

More than one site drawing may be required to illustrate all the required features and details. Annotated photographs can also be included in this section.

Site drawings(s) may require updates throughout the project; these changes must be communicated through the submission of revised drawing(s).

Table 1: Features to identify on Site Drawing(s)

Site Set-Up and Laydown	Controls/Mitigation Measures
• Access/egress points • Borrow areas • Dewatering locations (source/discharge point) • Project boundaries • Staging areas • Stockpile locations • Temporary parking • Washrooms/on-site septic tanks • Waste and hazardous materials storage • Work/storage sheds Offices/trailers	• Erosion and sediment controls (specific locations and specific controls to be used) • Refueling and fuel storage areas (minimum 100 m from waterbody and 30 m from catch basins) • Tree protection measures (specific locations and methods) • Other control measures as identified in the "Potential Environmental Impacts & Mitigation Strategies" of the ECO Plan • Trees to be removed

*Significant environmental concerns should also be identified.

Significant environmental concerns can change during the year and applicable legislation must be followed. Contractors must be aware of the relationship between the timing of certain activities and when an environmental concern is a consideration.

PART 3 POTENTIAL ENVIRONMENTAL IMPACTS & CONTROLS

3.1 Regulatory Compliance

The contractor must understand the current environmental legislation, including federal and provincial laws, and city bylaws. Contractors are responsible for ensuring that their staff and subcontractors are familiar with these requirements.

The ECO Plan must include:

a. A table or list of all applicable environmental laws, regulatory requirements, and bylaws[1] specific to the activities being conducted. The table should include at a minimum the following as applicable:

- **i. City of St. Albert Idle Free Bylaw**
- **ii. City of St. Albert Dutch Elm Disease Bylaw**
- **iii. City of St. Albert Utilities Bylaw**
- **iv. Alberta Capital Region Wastewater Commission Bylaw**
- ***v. Weed Act***
- ***vi. Water Act***
- ***vii. Public Lands Act***
- ***viii. Wildlife Act***
- ***ix. Migratory Birds Convention Act***
- **x. *Fisheries Act***
- **xi. *Environmental Protection and Enhancement Act***
- **xii. Waste Control Regulation**

Table 2 illustrates an example for organizing the applicable laws and regulations. This table should be used as an example, not an exhaustive list. Do not include laws that do not apply to your project.

[1] All City bylaws are available on the City's website, www.stalbert.ca, search "Bylaw".

Table 2: Regulatory Compliance – example ONLY

Name of Legislation	Construction Activity	Environmental Conditions
Federal		
Fisheries Act	Riprap installation	This Act and its regulations support and promote the conservation and protection of all fish and the prevention of harmful alteration, disruption or destruction of fish habitat including by preventing pollution. Specify all requirements and conditions as outlined in approvals and licenses in ECO Plan as applicable.
Provincial		
Environmental Protection & Enhancement Act (EPEA)	All	This Act and its regulations support and promote the protection, enhancement and wise use of the environment. All aspects of construction, (landscaping and road construction) will respect the terms of this Act, including proper disposal of construction material while avoiding contamination.
Waste Control Regulation	All	This Regulation requires the proper removal, transport and disposal of any hazardous material (if required).
Water Act	De-watering activities (surface or groundwater), removal or alteration of wetlands, or temporary diversion/use of surface water	This Act supports and promotes the conservation and management of surface and groundwater through the allocation of water in Alberta, addresses rights to divert water, and describes the priority of water rights among users. The Act describes the types of instruments available for diversion and use of water (temporary or permanent) and the associated processes for decision-making; and the range of enforcement measures available to ensure the goals of the Act are met. Depending on dewatering source(s) and quality other requirements under *EPEA* and/or *Public Lands Act*s may also be required. Specify all requirements and conditions as outlined in approvals and licenses in ECO Plan as applicable.
Municipal – City of St. Albert		
Idle Free Bylaw 16/2007	All	When the ambient temperature is below 30°C or above -20°C, no person shall cause or allow a vehicle that is not a Mass Transportation Vehicle to idle for more than 3 minutes at any time.

Dutch Elm Disease Bylaw 5/98	Tree Removal and pruning	Where an inspector is of the opinion that an elm tree is a hazard tree or an infected tree, they may issue a notice. A person on whom a copy of the notice is served shall carry out the directions and activities (ex. inspection, removal, transportation, etc.) contained in the notice in accordance with the Bylaw. Elm trees may only be pruned during certain time periods, and branches disposed of in certain locations. Please see the bylaw for full details.
Storm Sewer Bylaw 6/2003	Water discharge	It is unlawful to release or permit the release of any liquid other than storm water from foundation, rooftop, or yard drainage into the City's storm sewer system. Testing and permission are required prior to discharging any water into the City's storm sewer system, including groundwater.
ARROW Utilities (Bylaw No. 8: Quality of Wastewater Bylaw)	Water discharge	A discharge application is required for any organization that proposes to discharge wastewater, surface water or groundwater into the ARROW Utilities system.

3.2 Permits, Approvals, Authorizations & Notifications

Contractors are responsible for acquiring necessary permits, approvals and/or notifications applicable to the project as specified in the contract documents and/or tender package. Contractors are also responsible for ensuring all workers and subcontractors are familiar with and meet the requirements and conditions.

The ECO Plan must include:

b. **A table or list of all required environmental permits, approvals and notifications. Include the file number and environmental conditions and/or restrictions prescribed by regulatory agencies in those documents.**

c. **Append copies of all project permits, approvals and notification (as well as the associated permit applications, when relevant) to the ECO Plan.**

d. **Copies must be retained on site though the entirety of the project.**

Environmental legislation continues to evolve and change. Contractors must be familiar with the current legislation, regulations and guidelines. Furthermore, Contractors must have all required approvals and permits to conduct the work.

3.3 Potential Environmental Impacts & Mitigation Strategies

Contractors are responsible for understanding the potential impacts that may result from the work activities and for communicating these potential impacts to all staff and subcontractors so proper controls can be put in place.

Based on this understanding, Contractors must plan appropriate control measures that manage the environmental risks and meet and comply with all regulatory requirements.

The ECO Plan must include:

a. **A table that identifies all the construction activities, associated potential environmental impacts, and the site-specific mitigation/control measures that will be implemented. This table should include but not be limited to (as applicable);**
   i. **Dust control: Confirm de-chlorination will be utilized;**
   ii. **Soil/excavated materials: Confirm erosion and sedimentation controls for stockpiled materials;**
   iii. **Fueling: Confirm that fueling will not occur within 100 m of waterbody or 30 m from catch basins, and secondary containment will be used when fueling is taking place;**
   iv. **Heavy equipment storage: Confirm secondary containment will be in place when equipment is not in use or parked over night;**
   v. **Spill kits: Confirm where spill kits will be stored on site;**
   vi. **Weed management: Confirm equipment cleaning processes to ensure that weeds are not transported on equipment used in other sites; confirm management processes for weeds establishing in exposed soils; and**
   vii. **Earthworks: Confirm stripping and grading process (i.e., phased approach to minimize of exposed soils).**

Table 3 illustrates an example for organizing construction activities, potential impacts/risks and control/mitigation measures and regulatory requirements. This table should be used as a reference for how to develop this section of the ECO Plan. The contents of the table are not an exhaustive list and may require more detail.

Table 3: Activities, Potential Impacts and Mitigation Measures – example ONLY

Construction Activity	Potential Environmental Impact/Risk	Control/Mitigation Measures and Regulatory Requirements
Earthworks/Ground Disturbance	Erosion and compaction of soils	Phased stripping and grading work to minimize the area of exposed soil.
	Transport of exposed sediment and associated contaminants by wind and rain	Implement suitable temporary or permanent soil stabilization measures based on phased stripping.
	Sedimentation in infrastructure and waterbodies	Implement, inspect and maintain erosion and sediment control socks and donuts placed at catch basins (identified on site drawing).
	Impact/damage to trees/habitat outside the area of earthworks	Direct traffic along pre-determined routes and within confines of working area Use spotters in heavily treed areas.
		Place fencing around root zones of trees to protect them from moving equipment (identified on site drawing)
	Unexpected discovery of historic contamination	Train workers to recognize the signs of contamination (e.g., drums and containers, stained or discolored soil/rocks/materials odors, sheen on standing water) and immediately stop work and report to site Representative.
	Stockpiling of excavated materials	Tarp and berm the stockpile.
Refueling and servicing of equipment	Hydrocarbon spills/releases	Provide spill kits (available in equipment and at laydown when possible) and train workers on proper use. Restock as supplies are used.
		Designated refueling area is a minimum of 100 m from waterbodies and 30 m from catch basins.
		Secondary containment (drip pans) in place while fueling and when equipment is parked, particularly in environmentally sensitive areas.
		Routine servicing of equipment will not be done on site. If required equipment will be removed from site and repaired at Contractor facility.
Instream activity	Disturbance to aquatic vegetation/sediment (river bed)	Qualified aquatic monitors will be used to measure water turbidity. Will stop or modify work if exceedances are observed. QAES report/care of water plan to be followed.
	Disturbance to spawning habitat	Instream work will be conducted outside of the restricted activity period (refer to Project Timeline and Milestones). QAES advice must be followed.
	Hydrocarbon spills/releases	Equipment used for in-stream use will only use vegetable-based hydraulic oil.

3.4 Erosion and Sediment Control

The City requires project-specific erosion and sediment control measures on all construction projects.

The ECO Plan must include:

a. **The identification of all areas of erosion potential and where sediment may collect and/or cause environmental impairment. Specific controls to prevent erosion must be identified and used in environmentally sensitive areas.**

b. **Site-specific erosion and sediment control measures that will be used and where they will be implemented (the location of controls must be identified on the site drawing).**

Contractors must ensure erosion and sediment control measures are implemented, inspected and maintained during the contract term. Monitoring of erosion and sediment controls must be documented and available for review.

Stormwater management facilities and drains are connected directly to the Sturgeon River. Contractors must take care to ensure that sediment/debris are not released into the stormwater drainage system.

3.5 Tree Protection

A sizable portion of a tree's roots are found within one meter of the soil surface. Processes like moving heavy equipment near trees, paving, breaking branches, scraping bark and excavating in the root zone can damage and even kill trees.

Tree protection measures outline how construction work will be accomplished while protecting the trees. Tree protection measures are required for any project where there are trees within the work site.

The ECO Plan must include:

a. **A table or list of the following of tree protection details:**

   i. **How trees will be marked/identified for protection;**
   ii. **How trees will be marked/identified for removal (if applicable);**
   iii. **Type of protection that will be in place (e.g., snow fence); and**
   iv. **Monitoring and inspection frequency.**

b. Contractors must ensure that the protection measures are in place, effective, maintained, and inspected during the term of the contract. Tree protection controls must be identified on the site drawing(s).

Refer to the City's Municipal Engineering Standards, *Appendix E-Tree Preservation* for protection measures and requirements. The priority is to prevent loss or damage of trees. However, if loss or damage is incurred, contractors may be required to replace trees using appropriate species and caliper size as determined by the City.

PART 4 WASTE MANAGEMENT & HAZARDOUS MATERIALS

4.1 Waste Management

Project activities generate various waste materials that may have the potential to impact the environment. Waste materials may include but are not limited to: waste generated as part of the contract deliverables (e.g., demolition waste), and waste generated by the contractor's activities (e.g., plastic, carboard, etc.).

The ECO Plan must include:

a. **Identification of the waste expected to be generated and/or stored on site.**
b. **A table or list describing the following waste management procedures for each type of waste material:**
    i. **Handling**
    ii. **Containment**
    iii. **Storage**
    iv. **Transportation (i.e., where waste will be disposed of after removed from the work site)**
    v. **Disposal/removal frequency**
c. **A site drawing that identifies where the waste materials will be stored on site, if applicable.**

Waste disposal receipts, waste manifests, bills of lading, etc., must be retained and available for verification.

4.2 Hazardous Materials

Project activities may require hazardous materials and/or result in hazardous waste generation. Hazardous materials may include but are not limited to: hazardous materials expected to be used and/or stored on site during construction (e.g., pesticides, paint, fuel, etc.), and those generated by the contractor's activities (e.g., oil filters, oils, solvents, used absorbent materials, sewage, etc.).

The ECO Plan must include:

a. **Identification of the project-specific hazardous materials and hazardous waste expected to be used, stored and/or generated on site.**
b. **A table or list that describes the following waste management procedures for each type of hazardous material:**
    i. **Handling**
    ii. **Containment**
    iii. **Storage[2]**
    iv. **Transportation**
    v. **Disposal/removal frequency**
c. **A site drawing that identifies where the hazardous materials will be stored on site, if applicable.**
d. **Identification of how/where safety data sheets (SDS) for hazardous materials will be available on site.**
e. **Identification of how appropriate spill response materials will be kept in hazardous material storage location.**

The City expects that contractors and subcontractors are fully compliant with Transportation of Dangerous Goods (TDG) and Workplace Hazardous Materials Information System (WHMIS).

[2] Hazardous materials and hazardous waste must be stored a minimum of 100 m from waterbodies and 30 m from storm/sanitary sewers.

PART 5 ENVIRONMENTAL EMERGENCY RESPONSE

5.1 Emergency Contact List

The ECO Plan must include:

a. **A current emergency contact list that must, at minimum, include names and contact information for the following:**
   i. **Site Representative(s) - Contractor and Subcontractor(s)**
   ii. **City Project Manager**
   iii. **Local Emergency Response**
   iv. **Applicable Regulatory Agencies**

b. **Where the Emergency Contact List will be posted on site or how it will be made available and easily accessible to all workers.**

5.2 Release Response and Reporting Procedure

Contractors are responsible for preventing or controlling and reporting releases that are caused and/or discovered.

The ECO Plan must include:

a. **A Release Response and Reporting Procedure that contains the following details:**

   i. **Training/communication provisions to ensure contractor staff and subcontractors are aware of their responsibilities;**
   ii. **A list of equipment and materials that will be available on site for responding to releases; including the specific location they will stored;**
   iii. **Detailed outline of the immediate steps to be taken and equipment to be used to respond to a release of any volume (provide company specific release response document);**
   iv. **Identification of reporting requirements; include specific individuals of staff, City representatives and required regulators/authorities, specifically Alberta Environment and Protected Areas, that will be contacted; and**
   v. **Detailed outline of the post-incident review, follow-up and improvement of procedures as needed.**

Legislation states that employers must have emergency response procedures appropriate to the work being done and that all workers are properly trained. The immediate reporting of environmental releases is a requirement of the City and of provincial and federal environmental legislation.

PART 6 ECO PLAN IMPLEMENTATION

6.1 On-Site Representative

The ECO Plan must include:

a. **The identification of an on-site representative(s) that is responsible for maintaining the environmental controls and addressing any environmental issues or questions that arise.**

b. **The name(s) and full contact details for the on-site representative(s). If the on- site representative is away from the site, a designated representative must be appointed and identified in the ECO Plan.**

6.2 Training and Communication

ECO Plans must be included as a topic in crew changes, site-orientations, pre-construction meetings and regular site meetings. Minutes of these meetings must be retained and available upon request.

The ECO Plan must include:

a. **How staff and subcontractors will be trained/informed about the ECO Plan and where these training records are kept.**

6.3 Monitoring and Reporting

Contractors are responsible for developing appropriate monitoring methods and frequencies to ensure compliance with their ECO Plan, consistent with the contract terms, regulatory requirements, site characteristics, work activities and potential environmental risks associated with the work being performed.

The ECO Plan must include:

a. **A table or list identifying the following site-specific monitoring and inspection information:**

   i. **Locations and items to be inspected;**
   ii. **Monitoring frequency during general operations;**
   iii. **Monitoring documentation method (i.e., paper copies or digital) and how the records will be made available;**
   iv. **Monitoring during scheduled shutdowns; and**
   v. **Reporting requirements related to permits, approvals, and notifications.**

b. **Deficiencies identified during monitoring activities that will be documented and addressed immediately.**

6.4 Documentation

Contractors must manage documentation and records associated with the project and the site activities. Contractors are responsible for ensuring that their staff and subcontractors are familiar with these requirements.

The ECO Plan must include:

a. A table or list of the applicable documentation and records that will be maintained and how they will be made available to staff, subcontractors and City personnel.

Table 4 provides a list of required records that, when applicable, must be retained and made available for review. Examples of record retention formats have been identified for the required documents; ensure that this is updated to be project specific. This table should be used as an example, not as an exhaustive list.

Table 4: Required Documents and Examples of Retention

Record Type	**Record Retention** (format and access)
Current copy of accepted ECO Plan - *must be available to all Contractors and subcontractors on site*	Hardcopy posted in Site Trailer
Regulatory Permits, Approvals, Authorizations and/or Notification - *must be hardcopy on site*	Hardcopy posted in Site Trailer
Record of Environmental Incidents (e.g., spill and release records)	Digital Records maintained through Incident Reporting Application
Site Inspection and Monitoring Records	Digital Records maintained on Inspection Application
Waste Records (manifest, bill of lading, receipts, etc.)	Hardcopy stored in Site Trailer
Site Orientation, Tailgate Meetings and Project Progress Minutes	Hardcopy stored in Site Trailer OR through jobsite software
Construction Equipment Inspection logs	Hardcopy stored in Site Trailer OR through jobsite software
Fueling logs	Hardcopy stored in Site Trailer OR through jobsite software