

CarbonFree Kynoch Project Design and Operations Report

H376108-0000-840-066-0005

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Table of Concordance

The following concordance table cross-references the contents of this Design and Operations Report with each requirement identified in O. Reg. 359/09 so that the required information can be easily found within this report.

Requirements	Report Section
<p>1. Set out a site plan of the project location at which the renewable energy project will be engaged in, including,</p> <ul style="list-style-type: none"> i. one or more maps or diagrams of, <ul style="list-style-type: none"> A. all buildings, structures, roads, utility corridors, rights of way and easements required in respect of the renewable energy generation facility and situated within 300 metres of the facility, B. any ground water and surface water supplies used at the facility, C. any things from which contaminants are discharged into the air, D. any works for the collection, transmission, treatment and disposal of sewage, E. any areas where waste, biomass, source separated organics and farm material are stored, handled, processed or disposed of, F. the project location in relation to any of the following within 125 metres: properties described in Column 1 of the Table to section 19, heritage resources, archaeological resources, the portion of the Oak Ridges Moraine Conservation Plan Area that is subject to the Oak Ridges Moraine Conservation Plan, the area of the Niagara Escarpment Plan, the Protected Countryside, the Lake Simcoe watershed, and G. any noise receptors or odour receptors that may be negatively affected by the use or operation of the facility, ii. a description of each item diagrammed under subparagraph i, and iii. one or more maps or diagrams of land contours, surface water drainage and any of the following, if they have been identified in complying with this Regulation: properties described in Column 1 of the Table to section 19, heritage resources, archaeological resources, water bodies, significant or provincially significant natural features and any other natural features identified in the Protected Countryside or in the portion of the Oak Ridges Moraine Conservation Plan Area that is subject to the Oak Ridges Moraine Plan. 	<p>Section 2 and Appendix A</p>
<p>2. Set out conceptual plans, specifications and descriptions related to the design of the renewable energy generation facility, including a description of,</p> <ul style="list-style-type: none"> i. any works for the collection, transmission, treatment and disposal of sewage, including details of any sediment control features and storm water management facilities, ii. any things from which contaminants are discharged into the air, and iii. any systems, facilities and equipment for receiving, handling, storing and processing any waste, biomass, source separated organics, farm material and biogas. 	<p>Table 2-1</p>

Requirements	Report Section
<p>3. Set out conceptual plans, specifications and descriptions related to the operation of the renewable energy generation facility, including,</p> <ul style="list-style-type: none"> i. in respect of any water takings, <ul style="list-style-type: none"> A. a description of the time period and duration of water takings expected to be associated with the operation of the facility, B. a description of the expected water takings, including rates, amounts and an assessment of the availability of water to meet the expected demand, and C. an assessment of and documentation showing the potential for the facility to interfere with existing uses of the water expected to be taken, ii. a description of the expected quantity of sewage produced and the expected quality of that sewage at the project location and the manner in which it will be disposed of, including details of any sediment control features and storm water management facilities, iii. a description of any expected concentration of air contaminants discharged from the facility, iv. in respect of any biomass, source separated organics and farm material at the facility, <ul style="list-style-type: none"> A. the maximum daily quantity that will be accepted, B. the estimated annual average quantity that will be accepted, C. the estimated average time that it will remain at the facility, and D. the estimated average rate at which it will be used, and v. in respect of any waste generated as a result of processes at the project location, the management and disposal of such waste, including <ul style="list-style-type: none"> A. the expected types of waste to be generated, B. the estimated maximum daily quantity of waste to be generated, by type, C. processes for the storage of waste, and D. processes for final disposal of waste. 	<p>Sections 3 to 5</p>
<p>4. Include an environmental effects monitoring plan in respect of any negative environmental effects that may result from engaging in the renewable energy project, setting out,</p> <ul style="list-style-type: none"> i. performance objectives in respect of the negative environmental effects, ii. mitigation measures to assist in achieving the performance objectives mentioned in subparagraph i, iii. a program for monitoring negative environmental effects for the duration of the time that the project is engaged in, including a contingency plan to be implemented if any mitigation measures fail. 	<p>Section 5</p>

Requirements	Report Section
<p>5. Include a response plan setting out a description of the actions to be taken while engaging in the renewable energy project to inform the public, aboriginal communities and municipalities, local roads boards and Local Services Boards with respect to the project, including,</p> <ul style="list-style-type: none"> i. measures to provide information regarding the activities occurring at the project location, including emergencies, ii. means by which persons responsible for engaging in the project may be contacted, and iii. means by which correspondence directed to the persons responsible for engaging in the project will be recorded and addressed. 	Section 6
<p>6. If the project location is in the Lake Simcoe watershed, a description of whether the project requires alteration of the shore of Lake Simcoe, the shore of a fresh water estuary of a stream connected to Lake Simcoe or other lakes or any permanent or intermittent stream and,</p> <ul style="list-style-type: none"> i. how the project may impact any shoreline, including the ecological functions of the shoreline, and ii. how the project will be engaged in to, <ul style="list-style-type: none"> A. maintain the natural contour of the shoreline through the implementation of natural shoreline treatments, such as planting of natural vegetation and bioengineering, and B. use a vegetative riparian area, unless the project location is used for agricultural purposes and will continue to be used for such purposes. 	Not Applicable
<p>7. If it is determined that the project location is not on a property described in Column 1 of the Table to section 19, provide a summary of the matters addressed in making the determination.</p>	Not Applicable
<p>8. If section 20 applies in respect of the project and it is determined that the project location does not meet one of the descriptions set out in subsection 20 (2) or that the project location is not in an area described in subsection 20 (3), provide a summary of the matters addressed in making the determination.</p>	Not Applicable
<p>9. If subsection 21 (3) or 23 (2) applies, provide a summary of the matters addressed in making the determination,</p> <ul style="list-style-type: none"> i. under subsection 21 (3) or clause 23 (2) (a), as the case may be, including a copy of the document completed under the applicable provision, and ii. under clause 23 (3) (b), if applicable. 	Not Applicable

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Table of Acronyms

AC	Alternating Current
ANSI	Areas of Natural and Scientific Interest
cSWH	Candidate Significant Wildlife Habitat
DC	Direct Current
ESC	Erosion and Sediment Control
H&S	Health and Safety
HONI	Hydro One Networks Inc.
kg	Kilogram
km	Kilometre
kV	Kilovolt
kW	Kilowatt
m	Metre
MECP	Ministry of the Environment, Conservation and Parks
mm	Millimetre
MVA	Megavolt-ampere
MW	Megawatt
NHA	Natural Heritage Assessment
O. Reg.	Ontario Regulation
PCS	Power Conversion System
PDR	Project Description Report
PV	Photovoltaic
REA	Renewable Energy Approval
ROW	Right-of-Way
SAC	Spills Action Centre
SCADA	Supervisory Control and Data Acquisition
SoCC	Species of Conservation Concern
SWH	Significant Wildlife Habitat
W	Watt

1. Introduction

1.1 Background

CarbonFree Kynoch Ltd. (CarbonFree or the Proponent) is proposing to develop a 185 megawatt (MW) Class 3 solar photovoltaic (PV) project adjacent to Highway 554 in the unincorporated District of Algoma.

The proposed CarbonFree Kynoch Project (the Project) is a renewable energy generation facility which will use solar PV technology to generate electricity. Electricity generated by solar PV panels will be converted from direct current (DC) to alternating current (AC) by inverters and then stepped-up (via pad-mounted inverters, medium-voltage transformers and a main substation transformer) to 230 kilovolts (kV) prior to being connected to the existing Hydro One Networks Inc. (HONI) transmission line.

The Proponent intends to incorporate elements of agrivoltaics design into the Project to support and maintain the rural and agricultural economic character of the region.

The Project aims to contribute to the Government of Ontario's goal of accelerating new electricity generation from renewable sources to support the province's growing energy needs. Accordingly, CarbonFree intends to enter into an agreement for the sale or supply of electricity, the quantity of which will be commensurate with the nameplate capacity of the facility.

1.2 Renewable Energy Approval Legislative Requirements

Ontario Regulation (O. Reg.) 359/09 – Renewable Energy Approvals Under Part V.0.1 of the Act, (herein referred to as the REA Regulation), came into force on September 24, 2009, and establishes the Renewable Energy Approval (REA) requirements for renewable energy generation facilities in Ontario. In accordance with REA Regulation (Part II, Section 4), ground-mounted solar facilities with a nameplate capacity greater than 10 kilowatts (kW) are classified as Class 3 solar facilities and require a REA.

Section 13 of the REA Regulation further requires proponents of Class 3 solar facilities to complete a Design and Operations Report, which includes the site plan, facility design, operational details, and measures for monitoring and mitigating environmental effects. For more information, the Table of Concordance provides a summary of these requirements and cross-references where each item is addressed in this report.

1.3 Purpose of Report

The Design and Operations Report is a key component of the REA application and serves as the principal document outlining the details of the Project. It builds on the Project Description Report (PDR) by defining:

- The site plan.
- The design of the facility and the equipment to be used.

- How the facility will be operated.
- How environmental effects will be monitored and mitigated.
- How emergencies and communications will be managed.

Additionally, the Design and Operations Report acts as a tool for public, and Indigenous consultation.

2. Site Plan

A detailed site plan of the proposed project facilities referenced throughout this report are provided in Appendix A (Figure A1). Additional details regarding the site plan are presented in Table 2-1 below.

2.1 Site Plan Components and Additional Information

The site plan components and additional information is provided in Table 2-1.

Table 2-1: Site Plan Components and Additional Information

Components	Additional Information and Site Plan Reference
Facility Components	
Buildings or Structures	<p>The following are shown in Figure A1 (Appendix A):</p> <ul style="list-style-type: none"> • Approximately 297,596 solar PV modules, each 625 watts (W) and weighing about 33 kilograms (kg), with approximate dimensions of 2,382 millimetres (mm) long by 1,134 mm wide by 30 mm thick. • Substation and substation yard. • Transformers. • Communication tower.
Access Roads and Fencing	<p>The following are shown in Figure A1 (Appendix A):</p> <ul style="list-style-type: none"> • Fence line (as displayed by the property line). • Permanent and temporary access roads.
Electrical Equipment	<p>The following are shown in Figure A1 (Appendix A):</p> <ul style="list-style-type: none"> • Solar PV Modules: 297,596 units, each 625 W, approximately 33 kg, dimensions 2,382 mm x 1,134 mm x 30 mm. • Inverters: 4.4 MW AC units converting DC from PV modules to AC. • Transformers: Thirty-six pad-mounted 4.4 megavolt-ampere (MVA), 3-phase, liquid-filled units stepping voltage to 34.5 kV; each paired with one inverter and a single 4.4 MVA pad-mounted transformer. • Substation Yard: Gravel yard housing 172 MVA transformer (34.5 kV to 230 kV), switchgear, control/monitoring equipment, and communication tower. <p>Underground and overhead medium-voltage transmission lines, DC cabling, and AC cabling are not shown in the figures.</p>

Components	Additional Information and Site Plan Reference
Utility Corridors, Rights-of-Way (ROWs), or Easements	<p>The Project is proposed to be constructed on privately owned land, with some transmission lines running along Highway 554. It is also expected that a high-voltage line to the point of connection with the existing transmission network will go through public lands under provincial jurisdiction. It is expected that the development will occur across seven separate parcels of land to facilitate the installation of solar panels and the transmission infrastructure required to connect to the existing grid. The private properties are expected to be leased by a CarbonFree-related entity from the landowners and subleased to the Proponent. The northernmost properties will be utilized for connecting to the existing HONI transmission network (as shown in Figure A1, Appendix A).</p> <p>Easements are expected to be required to support medium-voltage electrical connections over or adjacent to Highway 554 to connect various sections of the Project together.</p> <p>Ongoing consultation is being completed with the private landowners, Ministry of Transportation, HONI, Ministry of Natural Resources and Forestry, and Northern Municipal Services Office to determine the siting of easements and specific requirements to facilitate the Project.</p> <p>No utility corridors or ROWs are required for this Project.</p>
Laydown Area	A construction laydown area will occur on the Project Location, adjacent to where the solar PV arrays are installed.
Other Facility Components (Process Features)	
Water Supply Facilities: Ground Water and Surface Water	The Project does not require any on-site facilities to supply groundwater (wells) or surface water (ponds, watercourses) for operation of the Project. However, on-site wells may be considered for agricultural (livestock) needs.
Wastewater (Sewage) Facilities	The Project will not generate any wastewater (sewage) or discharge any liquid effluent from its operation, nor does the Project require any on-site facilities for the collection, transmission, treatment or disposal of wastewater for operation of the Project; however, secondary containment for the transformer substation will be incorporated into the substation design.
Stormwater Management	<p>A stormwater management design has been prepared to minimize any potential negative environmental effects to the existing drainage conditions (e.g., increased runoff, erosion and sedimentation) such that they do not occur as a result of the Project.</p> <p>Existing drainage patterns within the Project Location will be maintained to the extent possible and/or as required to maintain the common law drainage rights of upstream or downstream riparian landowners.</p> <p>Following construction, the entire Project Location, with the exception of the access roads, will be re-vegetated with native grass or other suitable ground cover to promote surface water infiltration, filter storm water runoff and to prevent erosion.</p> <p>A more detailed analysis of findings is discussed in the Stormwater Management Plan (Appendix B).</p>
Drainage	<p>Alterations to land topography will be limited to minor grading as required. Surface runoff will be directed to existing drainage systems (e.g., roadside ditches).</p> <p>Accordingly, alterations to the existing surface drainage patterns are not expected as part of the construction and of the Project. This will ensure productivity of the agricultural land is maintained.</p> <p>A more detailed analysis of findings is discussed in the Stormwater Management Plan (Appendix B).</p>

Components	Additional Information and Site Plan Reference
Discharge of Contaminants to Air	The Project has no facilities or equipment that will discharge contaminants or pollutants to the air during normal operations of the Project.
Waste Management Equipment	No waste management equipment or facilities are required for the Project. Trash, debris, and equipment parts replaced during maintenance and repair activities will be collected and properly stored in waste disposal bins. All waste collected during operation of the Project will be removed in accordance with provincial and local requirements.
Existing Features within 300 metres (m) of the Project Location	
Buildings or Structures	Buildings are primarily residential and agricultural, located along Highway 554 and Highway 546.
Municipal Roads	Public roads are shown in Figure A1 (Appendix A). These roads include: <ul style="list-style-type: none"> ● Highway 554. ● Highway 546.
Utility Corridors, Rights-of-Way (ROWs), and Easements	The following are shown in Figure A1 (Appendix A): <ul style="list-style-type: none"> ● Easements. ● HONI transmission line.
Groundwater Wells	Groundwater wells are not required for the operation of the Project; however, on-site wells may be considered for agricultural (livestock) needs. See Figure A1 (Appendix A).
Topographical Land Contours	Land contours are shown in Figure A1 (Appendix A).
Surface Water Drainage	Drainage features are shown in Figure A1 (Appendix A) and further discussed in the Water Body Assessment Report (H376108-0000-840-066-0003) and Stormwater Management Report (Appendix B).
Natural Heritage Features	<p>The Project Location is primarily on pasture, agricultural lands, and forest habitats. The Project Location is generally characterized as having an abundance of forested habitat with additional grassland, meadow, and prairie habitat that are utilized as pasturelands for cattle, hay production, and annual row crops. The Natural Heritage Assessment (NHA) identified wetlands and Candidate Significant Wildlife Habitat (cSWH) that have prescribed setbacks for protection. Features are displayed in Figure A1 (Appendix A).</p> <p>Overall, the Project has been sited to avoid sensitive natural features, where possible, particularly wetlands and watercourses, which exist on the edges of the Project boundaries. Mitigation efforts have been planned for the construction phasing.</p> <p>A more detailed analysis of findings is discussed in the Natural Heritage Assessment (H376108-0000-840-066-0002).</p>
Land Use	<p>The primary existing land use within the Project location is agricultural and pasture, with some forested areas. Surrounding land uses found within 300 m of the Project Location include mainly undeveloped forested area but also include a recreational vehicle trail and agricultural (primarily hay/crop) operations as well at the Little River Provincial Park.</p> <p>A small area of Crown Land is expected to be required to facilitate transmission line connection to the existing HONI transmission line located north of the main portions of the Project, and a Crown Land Patent is expected to be acquired.</p>
Provincial Policy Areas	The Project is not located within 300 m of the Oak Ridges Moraine Conservation Plan Area, Niagara Escarpment Plan Area, Greenbelt Plan Area, the Protected Countryside, or Lake Simcoe Watershed.

Components	Additional Information and Site Plan Reference
Noise Considerations	
Noise Receptors	Noise receptors are shown in Figure A1 (Appendix A). More information regarding the noise receptors can be found in the Acoustic Assessment Report (H376108-0000-846-066-0001).
Inverters, Inverter Step-Up Transformer and Main Power, and Transformer	<p>The dominant noise sources for the Project are as follows:</p> <ul style="list-style-type: none"> ● Panel Arrays: 0.04 kWh per tracker motor and considered insignificant community noise emission sources. ● Inverter: 4.4 MW AC inverters convert the DC supplied by the PV modules to AC. A 4.4 MVA, 3-phase, liquid-filled transformer will then 'step up' the voltage to 34.5 kV. Each installation will consist of a Sungrow Power Supply SC4400 or equivalent power conversion system (PCS) that combines the inverter and medium-voltage transformer in single container skid. ● Noise from the PCS inverter comes from its air-cooling fans while noise from its medium-voltage transformer is largely from the magnetostriction hum. ● Switchgear: Switchgear control panel cooling fans are small and are located indoors. Therefore, the switchgears are considered insignificant community noise emission sources. ● Substation Transformer: One large 172 MVA transformer that will 'step up' the voltage from 34.5 kV to 230 kV. The substation transformer noise has a magnetostriction hum.
Demonstration of Compliance with Setbacks	
Project Location Boundary	The outer limit of all Project components, including temporary laydown areas during construction works, is shown in Figure A1 (Appendix A).
Protected Properties, Built Heritage, and Cultural Heritage Landscapes	No protected properties or built heritage resources have been documented on or within 300 m of the Project.
Archaeological Resources	<p>Based on the results of the Stage 1 background research and property inspection and the Stage 2 property survey:</p> <ul style="list-style-type: none"> ● No further archaeological assessment is required for parcels C, D, and E (Figure A1, Appendix A). ● Parcels A and B require test pit survey for the lands within 150 m of the relic riverbank. <ul style="list-style-type: none"> - Partial clearance is recommended for these parcels. - Land within 150 m of the relic riverbank, plus an additional 20 m buffer, cannot be impacted by the development until test pit survey has been completed. - Land beyond 150 m of the relic riverbank, plus an additional 20 m buffer, does not hold archaeological potential. Therefore, no further archaeological assessment is required for these lands. <p>Should there be any alteration to the plans of this development as it is represented in the Stage 1 and 2 Archaeological Assessment, an additional archaeological assessment may be required based on the presence of archaeological potential as outlined in the 2011 Standards and Guidelines for Consulting Archaeologists Section 1.3.1 (MCM, 2011).</p>

Components	Additional Information and Site Plan Reference
Waterbodies	<p>Three waterbodies, as identified below, were located within 300 m of the project area (Figure A1, Appendix A):</p> <ul style="list-style-type: none"> The Little White River is a permanent sinuous watercourse flowing parallel to and within the east portion of the Study Area from north to south. The Project Location has been set back at least 30 m from the Little White River. Kynoch Creek is a permanent watercourse flowing parallel to and within the west portion of the Study Area from north to south. The majority of the Project has been set back at least 30 m from Kynoch Creek; however, there are access and transmission infrastructure that will have to cross this creek. Watercourse A is a tributary to the Little White River, associated with an area of wetland and several ponds. The Project Location has been set back at least 30 m from Watercourse A. <p>In addition to setbacks, erosion and sediment controls and spill prevention and response measures will be implemented to mitigate potential impacts to watercourses.</p> <p>More information can be found in the Water Body Assessment Report (H376108-0000-840-066-0003).</p>
Significant or Provincially Significant Natural Features	<p>There are several identified confirmed cSWH and generalized cSWH in and/or within 50 m of the Project Location. These features include:</p> <ul style="list-style-type: none"> Unevaluated Wetlands. Amphibian Breeding Habitat (Woodland). Broad-Winged Hawk Nesting Habitat. Bat Maternity Roost Habitat (generalized). Species of Conservation Concern (SoCC) Habitats (generalized). <p>To mitigate potential impacts, the Project Location will be set back a minimum of 30 m from all wetlands, as displayed in Figure A1 (Appendix A). Where the Project Location extends within 50 m of one of these features, sediment and erosion controls will be put in place to minimize impacts to the wetland. In addition, potential impacts of the Project on the listed species can largely be avoided through seasonal timing windows associated with clearing during the construction phase.</p> <p>More information regarding the confirmed and generalized cSWH can be found in the Natural Heritage Assessment (H376108-0000-840-066-0002).</p>

2.2 Supporting Reports

This report references supporting documents noted in Table 2-2 below, which are available on the Project website: [CarbonFree Kynoch](#).

Table 2-2: General Reference Documents

Document Title
Acoustic Assessment Report
Construction Plan Report
Cultural Heritage Evaluation
Decommissioning Plan Report
Natural Heritage Assessment
Project Description Report
Sediment and Erosion Control Plan

Document Title
Stage 1 and Stage 2 Archaeological Assessment
Stormwater Management Plan
Water Body Assessment Report

3. Facility Design Plan

The following section describes the principal facility components that will be used during the operation of the Project. At this stage in the Project, the specific make, model and dimensions of the various electrical equipment have not been finalized. Where applicable, typical sizes and descriptions of how the various components operate have been provided.

Information describing how these components will be constructed and installed in the Project, and the potential related environment effects and mitigation measures is provided in the Construction Plan Report (H376108-0000-840-066-0008).

3.1 Facility Components Overview

The Project is located adjacent to Highway 554 in the unincorporated District of Algoma (see Appendix A). The Project is designed to operate 24 hours a day, 7 days a week.

No equipment in the facility design relates to groundwater and surface water supplies, air discharges, and/or water and biomass management.

3.1.1 Access Roads

Approximately six permanent access roads will be constructed, with entrances from Highway 554. Roads will be approximately 6 m wide and constructed of crushed gravel. Ditches and culverts will be constructed, if necessary, to maintain site drainage.

In addition to these permanent primary access roads, there will be several internal access roads. These roads will be 3 to 5 m in width and will follow property lines or field boundaries to the extent possible.

3.1.2 Fencing and Security

The Project Location will be gated and fenced to prevent unauthorized access. The fence design includes a 17,825 m chain-link fence, approximately 2 m high, and topped with barbed wire. Signage will be posted identifying the facility as a solar project on private land. Additional security measures may be installed such as task or motion-sensor lighting, and/or security cameras.

3.1.3 Laydown Area

One construction laydown area will be developed on the property. The laydown area will be cleared of vegetation and topsoil may be removed and stockpiled for later reuse during site restoration. The area will then be laid with compacted gravel.

The laydown area will be used as a truck unloading and loading area and to temporarily store various machinery, equipment and materials needed for construction. It will also include fuel and waste storage areas, and modular office and washroom trailers.

3.1.4 ***Inverter Building and Electrical Equipment Foundations***

Foundations will be required beneath transformers and inverters. Foundation construction for electrical equipment comprises of excavation and removal of surface materials (topsoil will be stockpiled for later reuse during site restoration), placement of granular material, formwork, reinforcing steel, grounding, and placement of cast-in-place concrete pads.

3.1.5 ***PV Module Structural Support***

The PV modules will be mounted on single axis trackers. The trackers will be supported by steel posts which are founded in either concrete slab-on-grade, or foundations buried in the ground to a depth below the frost line.

3.1.6 ***Surface Drainage System***

Alterations to land topography will be limited to minor grading as required. Surface runoff will be directed to existing drainage systems (e.g., roadside ditches). Accordingly, alterations to the existing surface drainage patterns are not expected as part of the construction of the Project. This will ensure productivity of the agricultural land is maintained throughout construction and operations.

3.1.7 ***Electrical Equipment***

3.1.7.1 ***Solar PV Modules***

The Project will include approximately 297,600 solar PV modules. The panels are routed into 3536 SunGrow SG4400, 4.4-MVA inverter/transformer PCS modules. Each switchgear feeds the proposed high-voltage substation located at the north end of the Facility. The solar PV modules will be mounted on tracking structures. Each tracker is comprised of a long steel torque tube (approximately 50 to 100 m long) mounted on steel piles driven or screwed into the ground.



Figure 3-1: Typical View of PV, Tracker Setup¹

¹ Example Image sourced from Hatch.

3.1.7.2 *Electrical System Installation and Interconnection Point*

A network of underground DC cabling will be required from the termination point of each PV array at combiner boxes to the inverters and medium-voltage transformers. The inverters convert the DC electricity to AC and the transformers step up the voltage to 34.5 kV. A network of overhead and underground AC cables will be required to transmit the AC current to the main transformer situated in the substation yard and will then flow through overhead electrical lines to the existing HONI transmission system.

Electrical cables will be buried below grad, in accordance with Ontario Electrical Safety Code. A simple trenching device will be used to install the underground cables, whereby a slot is opened, the cable laid with sand above and below, and the excavated soil replaced. Where necessary, and as approved by the electrical safety code, conduits will be used to house and protect the electrical cabling.

3.1.7.3 *Substation*

The main substation transformer will be located at the north end of the Facility (presented in Figure A1, Appendix A). The 185 MVA transformer that will 'step up' the voltage from 34.5 kV to 230 kV prior to connecting to the existing HONI 230 kV transmission line. The substation transformer containment system will be an oil-retention pit type consisting of reinforced concrete raft foundation with crushed stone on top of slab designed to absorb the oil in the event of oil spill.

Transformers will use mineral oils or FR3 oils, which are non-toxic, non-bioaccumulating and readily biodegradable in the environment. All transformers will be routinely inspected and any faulty equipment that could result in an oil leak will be repaired. Secondary containment for the transformer substation has been incorporated into the substation design.

3.1.7.4 *Noise Generating Equipment*

Noise generating equipment during the operation of the Project is expected to be limited to inverters and transformers adjacent to the solar PV arrays and within the substation. Minor noise may be generated by tracker motors at intervals throughout the day. The Acoustic Assessment Report (H376108-0000-846-066-0001) reviews proposed locations of noise emitting equipment to confirm the applicable Ministry of the Environment, Conservation and Parks (MECP) and NPC-300 noise levels will not be exceeded during operation.

3.1.8 ***Stormwater Management/Erosion and Sediment Control***

3.1.8.1 *Stormwater Management*

A preliminary stormwater management plan has been prepared to minimize the potential for negative effects to the existing drainage conditions. The stormwater management plan also includes erosion and sediment control (ESC) measures to prevent downstream sedimentation. The proposed minimum ESCs to be installed are detailed in Appendix B and can be summarized as follows:

- **Short-Term (Construction) Measures**
 - ◆ Silt fence and flow-control barriers.
 - ◆ Stabilized construction entrance.
 - ◆ Stockpile covering/stabilization.
 - ◆ Temporary berms and erosion blankets.
 - ◆ Limit equipment to work zones.
 - ◆ Daily inspections of control measures and quick repairs as needed.
- **Long-Term (Post-Construction) Measures**
 - ◆ Permanent vegetation establishment.
 - ◆ Maintain vegetated buffers.
 - ◆ One-year post-construction review.
 - ◆ Replanting or regrading if erosion persists.

3.1.9 **Water Supply Facilities**

The Project does not require any on-site facilities to supply groundwater (wells) or surface water (ponds, watercourses) for operation of the Project. However, on-site wells may be considered for agricultural (livestock) needs. It is anticipated that water from rain and snow will be sufficient for cleaning the solar PV modules and maintaining vegetative cover on-site; if not, the proponent will contract local suppliers to provide water in tankers from off-site sources for this purpose. No chemicals will be used in the cleaning of the PV modules.

3.1.10 **Wastewater (Sewage) Facilities**

The Project will not generate any wastewater (sewage) or discharge any liquid effluent from its operation, nor does the Project require any on-site facilities for the collection, transmission, treatment or disposal of wastewater for operation of the Project; however, secondary containment for the transformer substation will be incorporated into the substation design.

During operation, sanitary facilities (e.g., permanent washrooms with a septic disposal system) are not required. If sanitary facilities are determined to be required, portable toilets, provided and serviced by a local sanitation company, will be used.

3.1.11 **Waste Disposal Facilities**

The Project will not generate significant quantities of waste from its operation. A small waste disposal bin(s) will be provided on-site to collect any trash, debris or equipment parts replaced during routine maintenance of the Project during its operation. Periodically, when required, the Proponent will arrange for a licensed waste disposal company to empty the bins and haul the waste to a registered waste disposal facility off-site.

3.1.12 Exhaust Equipment

The Project has no facilities or equipment that will discharge contaminants or pollutants to the air during normal operations of the Project.

4. Facility Operations Plan**4.1 Operations**

The Project will operate year-round and generate electricity during daylight hours. The amount of power generated will depend on daily weather conditions and sufficient solar irradiation. The Project will be operated remotely. A permanent workforce is not expected to be required on-site with the exception of maintenance and inspection staff or security personnel (as needed). To ensure the safety and integrity of the Project, access will be limited to Project personnel and unauthorized public access will be prevented by fences, gates and security procedures.

Operationally, there are no significant hazards involved in the operation of the Project, nor are hazardous materials stored on-site or created by the Project during its operation. The Project will not generate significant quantities of waste from its operation.

4.2 Site Maintenance and Inspection**4.2.1 Planned Maintenance****4.2.1.1 Solar PV Modules**

The Project solar PV modules, inverters and transformers and other electrical equipment, wiring and electrical connections will be routinely inspected, typically on a monthly basis. Any broken or malfunctioning PV modules, electrical cabling or components will be repaired or replaced by facility staff. Trash, debris and equipment parts replaced during maintenance and repair activities will be collected and properly stored in waste disposal bins. All waste collected during operation of the Project will be removed in accordance with provincial and municipal requirements.

The need to clean the solar PV modules will be determined according to local weather conditions, such as the quantity and frequency of rain and snow at the Project Location. At the very most, it is expected that the modules will require cleaning quarterly, but it is possible that cleaning the modules will not be necessary at all. If required, water trucks will bring water to supply the water required. No chemicals will be used for the cleaning of the modules.

4.2.1.2 Vegetation

Vegetative ground cover, drainage systems and trees will be routinely monitored and maintained, with inspection frequency varying seasonally. In general, monthly inspections from approximately April through October are anticipated, with more limited winter inspections due to potential access constraints from snow cover.

Since suitable ground cover will be established under the PV modules, some form of vegetation abatement such as grass cutting may be required several times throughout the summer months and may extend outside of the fenced project area to maintain the fence line of the Project. No hazardous chemicals are expected to be used for regular maintenance or vegetation abatement activities and will only be considered for management of invasive species, where present. Limited and targeted use of herbicides will be applied by a licensed exterminator in accordance with the Pesticides Act, R.S.O. 1990, c. P.11 and O. Reg. 63/09 and will be used in accordance with the approved label for the product, along with standard mitigation measures for the herbicide.

4.2.1.3 *Drainage*

The Project Location, including any drainage features (e.g., grassed swales, culverts) and any sediment and erosion control measures (e.g., riprap protection, rock flow checks) will be visually inspected for any signs of erosion or sedimentation and recorded. Regular maintenance such as the cleanout of accumulated sediment and/or the removal of any debris blockage would be conducted at that time. If required, remedial works (e.g., stabilizing and/or reseeded of identified erosion areas) and repairs to any drainage features or sediment and erosion control measures will be implemented to minimize environmental impacts.

4.2.1.4 *Transformers*

The transformers will be visually inspected on a quarterly basis and their status recorded. Any faulty equipment that could result in an oil leak will be repaired and any observed leaks will be cleaned up immediately by maintenance personnel. Secondary containment will be integrated into the design of the substation and will have the capacity to hold 110% of the mineral oil utilized in the transformer system. Transformer stations will be connected to a supervisory control and data acquisition (SCADA) system that logs and communicates alarms in real time. Transformers will be monitored for oil levels, oil pressure, oil temperature, and gas accumulations to alert operators to faults so as identify potential issues or leaks. Spill response equipment will be left on-site or in the maintenance trucks should leaks be observed.

4.2.1.5 *Winter Maintenance*

During winter, primary access roads will be ploughed to clear snow to maintain access of personnel to Project facilities. Under most winter conditions, snow is expected to melt due to the module heating and the tilt of the modules. Under some conditions, manual snow removal may be performed by maintenance personnel who will clear the snow using a brush attached to a long pole.

4.2.2 ***Unplanned Maintenance***

In addition to scheduled maintenance activities, CarbonFree is prepared to address any unplanned maintenance that may be required for the Project. The following outlines CarbonFree's approach:

- Unplanned maintenance activities will be conducted on an as-needed basis, determined by the severity of the issue and the urgency of required repairs.
- Unplanned maintenance may occur at any time throughout the year.
- All work will be performed by qualified personnel following applicable safety standards, procedures, and regulatory requirements.
- Activities may include the repair or replacement of equipment, with the specific scope dependent on the nature and extent of the issue.
- CarbonFree will maintain an inventory of spare parts in a secure location to minimize repair timelines associated with unplanned issues.
- CarbonFree's strategy is to mitigate unplanned maintenance needs by applying sound engineering and construction practices, selecting high-quality and proven equipment, and implementing effective monitoring and preventive maintenance programs.

5. Environmental Effects Monitoring Plan

This section provides an overview of the anticipated environmental effects associated with the Project's operation and outlines the mitigation and monitoring measures designed to prevent, mitigate, or manage those effects.

5.1 Environmental Effects and Mitigation Measures

A summary of each potential effect, proposed mitigation, and an assessment of the potential residual effects are summarized below in Table 5-2, using criteria outlined in Table 5-1.

5.2 Monitoring Plan

Table 5-3 presents the environmental effects monitoring plan for the Project operation, which includes the following information:

- The potential negative environmental effects, carried forward from Table 5-2, that have an ongoing risk of occurrence during Project operation.
- The performance objectives and mitigation strategies to address those effects.
- Monitoring protocols to confirm that performance objectives are being met.
- Contingency measures in the event that objectives are not met, i.e., if monitoring reveals that negative effects are continuing to occur.

For additional information, monitoring will occur as outlined in the relevant reports (e.g., Natural Heritage Assessment, Water Body Assessment Report, Construction Plan Report).

Table 5-1: Environmental Effects Analysis Criteria

Criteria	Description of Threshold Ratings
Magnitude	<ul style="list-style-type: none"> • Negligible (0): No detectable change from baseline conditions. • Low (1): Differs from the average value for baseline conditions but remains within the range of natural variation and below a guideline or threshold value. • Medium (2): Differs substantially from the average value for baseline conditions and approaches the limits of natural variation, but equal to or slightly above a guideline or threshold value. • High (3): Differs substantially from baseline conditions and is significantly beyond a guideline or threshold value, resulting in a detectable change beyond the range of natural variation.
Geographical Extent (Biophysical)	<ul style="list-style-type: none"> • Project Location (1): Impact is limited to the Project Location. • Study Area (within 50 m of Project Location) (2): Effect occurs throughout the Study Area. • Beyond Study Area (3): Effect extends beyond the Study Area.
Duration	<ul style="list-style-type: none"> • Short Term (1): Impact lasts less than 2 years (e.g., during the Construction Phase of the Project). • Medium Term (2): Impact lasts from 2 to 50 years (i.e., encompassing construction and operation phases). • Long Term (3): Impact lasts from 50 to 53 years (i.e., impact lasts into the decommissioning and post-closure phase).
Frequency	<ul style="list-style-type: none"> • One Time (1): Impact is confined to one discrete event. • Sporadic (2): Impact occurs rarely and at sporadic intervals. • Regular (3): Impact occurs on a regular basis. • Continuous (4): Impact occurs constantly.
Reversibility	<ul style="list-style-type: none"> • Reversible (1): Impact can be reversed. • Partially Reversible (2): Impact can be partially reversed. • Permanent (3): Impact cannot be reversed, is of permanent duration.
Ecological and Socio-Economic Context	<ul style="list-style-type: none"> • High (1): The receiving environment or population has a high natural resilience to imposed stresses, and can respond and adapt to the impact. • Neutral (2): The receiving environment or population has a neutral resilience to imposed stresses and may be able to respond and adapt to the impact. • Low (3): The receiving environment or population has a low resilience to imposed stresses, and will not easily adapt to the impact.
Certainty of Knowledge	<ul style="list-style-type: none"> • High (1): There is a good understanding of the cause-effect relationship and all necessary data are available for the Project. The effectiveness of the mitigation measures is well known. There is a low degree of uncertainty, and variation from the predicted effect is expected to be low. • Moderate (2): The cause-effect relationships are not fully understood, there are a number of unknown external variables, or data for the Project are incomplete. The effectiveness of mitigation measures is moderately well understood. There is a moderate degree of uncertainty; while results may vary, predictions are relatively confident. • Low (3): The cause-effect relationships are poorly understood, there are a number of unknown external variables, and data for the Project are incomplete. The effectiveness of the mitigation measures may not yet be proven. High degree of uncertainty and final results may vary considerably.

Table 5-2: Summary of Potential Negative Effects and Proposed Mitigation – Operation Phase

Environmental Component	Sources of Negative Effect	Potential Negative Effect	Mitigation and Contingency Measures	Residual Environmental Effects Analysis						
				Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Ecological and Socio-Economic Context	Certainty of Knowledge
Natural Environment Components										
Soils	<ul style="list-style-type: none"> Ongoing road use by project vehicles. 	<ul style="list-style-type: none"> Erosion. Fuel spills. 	<ul style="list-style-type: none"> Erosion and sediment controls. Spill prevention and response planning. 	2	2	2	2	1	2	1
Vegetation	<ul style="list-style-type: none"> Ongoing road use by project vehicles. 	<ul style="list-style-type: none"> Fugitive dust. Spills (e.g., fuel). Sedimentation. Introduction of invasive species. 	<ul style="list-style-type: none"> Erosion and sediment controls. Spill prevention and response planning. Continued road maintenance. 	2	1	3	1	1	2	1
Wetlands	<ul style="list-style-type: none"> Ongoing road use by project vehicles. 	<ul style="list-style-type: none"> Soil compaction. Changes in moisture regime. Fugitive dust. Spills (e.g., fuel). Sedimentation. Introduction of invasive species. 	<ul style="list-style-type: none"> Set back Project components and fencing 50 m from features. Create and implement a sediment and erosion control plan to minimize sedimentation where Project activities are located within 50 m of a wetland or 120 m of a water body. Create and implement a spills management procedure including the requirement that refuelling, and fuel storage occur more than 50 m away from the natural feature. Grading and civil design will consider existing drainage patterns to minimize impacts to wetland moisture regime. 	2	2	2	3	2	2	2
Groundwater	<ul style="list-style-type: none"> Ongoing road use by project vehicles. Presence of new impervious Project Components (e.g., access roads, perimeter fencing, solar panels, underground cables). 	<ul style="list-style-type: none"> Spills. 	<ul style="list-style-type: none"> Spill prevention measures will be implemented and a response plan prepared. 	1	1	2	2	3	2	2
Surface Water	<ul style="list-style-type: none"> Ongoing road use by project vehicles. Presence of new impervious Project Components (e.g., access roads, foundations, solar panels and other infrastructure). Washing of solar panels during maintenance activities. Wind and/or water erosion of soils within the Project Location. 	<ul style="list-style-type: none"> Reduction in water quality or quantity (e.g., fuel spills, increased runoff, sedimentation). 	<ul style="list-style-type: none"> No project components will be installed within 30 m of a water body/watercourse. Erosion and sediment controls will be installed. Spill prevention measures will be implemented and a response plan prepared. 	1	1	2	2	2	2	2

Environmental Component	Sources of Negative Effect	Potential Negative Effect	Mitigation and Contingency Measures	Residual Environmental Effects Analysis						
				Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Ecological and Socio-Economic Context	Certainty of Knowledge
Aquatic Habitat	<ul style="list-style-type: none"> Ongoing road use by project vehicles. Presence of new impervious Project Components (e.g., access roads, foundations, solar panels and other infrastructure). Washing of solar panels during maintenance activities. Wind and/or water erosion of soils within the Project Location. 	<ul style="list-style-type: none"> Limited (e.g., fuel spills). Project components are outside of buffers surrounding watercourses. 	<ul style="list-style-type: none"> Set back Project components and fencing 30 m from features. Spill prevention measures will be implemented and a response plan prepared. 	1	2	2	2	2	2	2
Areas of Natural and Scientific Interest (ANSI)	<ul style="list-style-type: none"> N/A. 	<ul style="list-style-type: none"> No ANSIs were identified within 300 m of the Project Location. 	<ul style="list-style-type: none"> None required. 	0	0	0	0	0	0	0
Socio-Economic Environment Components										
Air Quality, Odour, and Dust	<ul style="list-style-type: none"> Emissions from Project operations and maintenance vehicles. 	<ul style="list-style-type: none"> Project operation will not discharge any pollutants into the air and emissions from maintenance vehicles or equipment will be negligible. 	<ul style="list-style-type: none"> Mitigation measures will include standard best management practices. 	1	2	2	2	1	3	1
Noise	<ul style="list-style-type: none"> Presence of new Project Components (e.g., solar panels, transformers, inverters). Emissions from Project operations and maintenance vehicles. 	<ul style="list-style-type: none"> Disturbances to nearby sensitive receptors (i.e., houses and institutions) due to noise emissions. 	<ul style="list-style-type: none"> A notice will be sent to neighbouring residents advising of how they can report complaints related to noise. Inquiries can also be made online at the project website. 	1	2	2	4	1	2	1
Public and Facility Safety	<ul style="list-style-type: none"> Facility equipment malfunction, fire or accidents resulting in injury to public or maintenance personnel. 	<ul style="list-style-type: none"> Personal injury to the public if trespassing on-site or to facility maintenance personnel due to accidents, fire or equipment malfunction. 	<ul style="list-style-type: none"> Public access to the site will be prevented by fences, gates, and security procedures. Proper health and safety (H&S) procedures for on-site maintenance personnel will be implemented as per provincial and federal regulations. Mitigation will reduce risk to public and facility safety, but some risk to maintenance personnel will remain throughout Project operation. 	1	1	2	2	1	3	1
Traffic and Municipal Roadways	<ul style="list-style-type: none"> Facility operation and maintenance personnel travelling to and from the Project. 	<ul style="list-style-type: none"> None. The number and frequency of facility personnel travelling to the Project is negligible. 	<ul style="list-style-type: none"> None required. 	1	3	2	2	1	3	1
Visual Landscape	<ul style="list-style-type: none"> Presence of new Project Components (e.g., solar panels, transformers, inverters). 	<ul style="list-style-type: none"> Changes to local landscape/viewscape. Potential visual disturbance to adjacent observers for short periods of time under site-specific conditions and viewing angles between March and September due to reflectivity of the PV modules. 	<ul style="list-style-type: none"> A "green screen" of trees and shrubs will be installed in selected areas around the perimeter of the Project Location. 	1	1	2	4	1	2	1

Environmental Component	Sources of Negative Effect	Potential Negative Effect	Mitigation and Contingency Measures	Residual Environmental Effects Analysis						
				Magnitude	Geographic Extent	Duration	Frequency	Reversibility	Ecological and Socio-Economic Context	Certainty of Knowledge
Property Values	<ul style="list-style-type: none"> Presence of new Project Components (e.g., solar panels, transformers, inverters). 	<ul style="list-style-type: none"> Installation of the facility has the potential, though unproven, to result in a change in the value of nearby properties based on aesthetic preference of potential landowners. Though subjective, the potential change in property values for the purpose of this assessment is considered as a potential negative effect. 	<ul style="list-style-type: none"> Mitigation measures to minimize visibility from neighbouring properties as well as noise emissions. 	1	3	2	2	1	2	3
Protected Areas	<ul style="list-style-type: none"> N/A. 	<ul style="list-style-type: none"> None. There are no protected areas within 300 m of the Project Location. 	<ul style="list-style-type: none"> None required. 	0	0	0	0	0	0	0
Aggregate Resources	<ul style="list-style-type: none"> Presence of new Project Components (e.g., solar panels, transformers, inverters). 	<ul style="list-style-type: none"> The Project will not influence the availability of aggregate resources in the area. Any aggregate resources available within the Project Location will remain in place throughout the construction, operation and decommissioning of the Project. 	<ul style="list-style-type: none"> None required. 	0	0	0	0	0	0	0
Land Use	<ul style="list-style-type: none"> The Project is proposed to be located on privately owned land which is currently utilized for agricultural activities or is currently vacant and covered by woodland and successional vegetation. Presence of new Project Components (e.g., solar panels, transformers, inverters). 	<ul style="list-style-type: none"> Loss of agriculture. 	<ul style="list-style-type: none"> An agrivoltaics program will be implemented throughout the Project lifecycle, promoting a dual use of solar energy and agriculture. Site restoration will restore the ability to use the area under, beneath and immediately surrounding the solar PV panels for agriculture (e.g., sheep grazing). 	1	1	2	4	1	2	1
Archaeological Resources	<ul style="list-style-type: none"> None. 	<ul style="list-style-type: none"> None. No archaeological resources are known to be present. 	<ul style="list-style-type: none"> None required. 	0	0	0	0	0	0	0
Protected Properties, Built Heritage and Cultural Heritage Landscapes	<ul style="list-style-type: none"> N/A. 	<ul style="list-style-type: none"> None. No protected properties, built heritage or cultural heritage landscapes have been identified within 300 m of the Project Location. 	<ul style="list-style-type: none"> None required. 	0	0	0	0	0	0	0
Airports, Aerodromes, and Air Traffic	<ul style="list-style-type: none"> Presence of new Project Components (e.g., solar panels, transformers, inverters). 	<ul style="list-style-type: none"> The closest airport/aerodrome is over 5 kilometres (km) away from the Project Location. No disruption to local air traffic is anticipated during construction/installation. 	<ul style="list-style-type: none"> None required. 	1	3	2	0	1	3	2

Table 5-3: Environmental Effects Monitoring Plan – Operation Phase

Negative Effect	Mitigation Strategy	Performance Objective	Monitoring Plan				Contingency Measures	
			Methodology	Monitoring Locations	Frequency	Rationale		Reporting Requirements
Erosion and Sedimentation Resulting in Increased Turbidity in Site Runoff	A sediment and erosion control plan expected to include vegetation retention where possible. Vegetated setbacks of Project components to sensitive features. Erosion and sedimentation controls (e.g., silt fences, rock check dams, straw bales, erosion control blankets) near ditches, on steep slopes. Sediment and erosion controls will be installed and maintained between the Project Location and wetlands or watercourses where work is required within 50 m of wetlands or 120 m of water features.	No long-term erosion from site over and above existing conditions.	Visual monitoring of vegetated areas and drainage features that convey runoff to identify areas of erosion (e.g., rills, gullies). Visual monitoring of ESC measures to ensure they remain effective throughout operations.	Throughout Project Location.	During regular site inspection throughout construction and operation.	Visual monitoring of erosion would identify potential areas of concern.	Maintenance and improvement requirements actioned as needed and reported internally throughout monthly operations monitoring reports. Ongoing status of permanent features reported internally within annual operations report.	Erosion remediated as necessary to ensure no long-term erosion issues.
Adverse Effects to Surface Water, Groundwater, Wetlands, and Soil Quality Due to Accidental Spills	Standard mitigation to prevent spills and minimize magnitude of spills if they occur. For example, refuelling at least 50 m from wetlands and 120 m from water features.	No long-term environmental effects due to spills.	Visual monitoring where hazardous liquids may be stored, at transformer locations, where refuelling may occur, and in parking areas. Monitoring of spill prevention measures, with spill reporting procedure in place.	Throughout Project Location.	During regular site inspections.	Visual monitoring would identify potential areas of concern and ensure that spill prevention and control measures are functioning as designed and protocols are being implemented as specified in plans to meet performance objectives.	All spills and remediation efforts to be reported to the Contractor's environmental site inspector and reported throughout monthly operations monitoring reports. Reportable spills in water or spills on land >100 litres must be documented and reported immediately to the Ontario Spills Action Centre.	Spill contingency measures implemented as necessary in the event of a spill. Following spill event, response will be reviewed to determine if additional or altered response protocols are necessary to meet performance objectives.
Increases in Surface Water Runoff from Project Location and Changes in Drainage/ Hydrological Conditions	Maintain existing drainage patterns as much as possible. Stormwater management measures may include enhanced vegetated swales, ditch flow controls and filter strips.	No impacts on water quantity/drainage patterns. Minimize changes to surface water runoff conditions to receiving waterbodies.	Visual monitoring of vegetated areas and drainage features that convey runoff to identify areas of erosion (e.g., rills, gullies). As well, visual assessment of structural stability of mitigation measures and identification of unintended impacts.	Throughout Project Location.	During regular site inspections.	Visual monitoring will confirm that stormwater management measures remain as designed and allow identification of deficiencies.	Reported internally within annual operations report.	Stormwater management measures will be remediated as necessary to ensure that they are functioning as designed. With erosion remediated as necessary to ensure no long-term erosion issues.

Negative Effect	Mitigation Strategy	Performance Objective	Monitoring Plan				Contingency Measures	
			Methodology	Monitoring Locations	Frequency	Rationale		Reporting Requirements
Incidental Take of Wildlife	Speeds to be limited on Project Location and maintenance workforce to be made aware of potential for wildlife on the Project Location.	No occurrences of incidental take.	Visual monitoring of access roads and other site areas will be conducted by workers on foot, and occasions of incidental take reported as they are identified.	Throughout Project Location.	Infrequently during operations/maintenance.	Incidental take will be reported by workers to personnel responsible for environmental protection if incidents occur.	Any incidental takes on wildlife will be documented internally and reported within monthly operations monitoring reports. Unless the incidental takes of species is a soCC in which case reporting will be immediate to the MECP/Environment Canada.	If incidental take of soCC are recorded, work will be ceased until such time as a trained biologist can state that no other individuals of the species is present in the work area. Injured wildlife, specifically reptiles, will be taken to a wildlife rehabilitation center.
Dust Generation and Off-Site Transport	Minimizing vehicle speeds on unpaved roads. Stabilizing stockpiles. Spraying unpaved roads with water during dry periods.	Minimize fugitive dust from the operations and maintenance on-site.	Visual monitoring of visible dust plumes during operations. In winter, visual monitoring of snowbanks for dust fall. Complaint system in place in case neighbours have an issue.	Throughout operations of the site.	Periodically during operations.	Visual monitoring would identify areas of concern, and complaint system would further indicate the extent and magnitude of the problem.	Reported in monthly operations monitoring report.	More frequent watering of roads may be implemented, or use of a chemical dust suppressant may be considered if watering is not sufficient.
Noise Levels Disturbing Nearby Noise Receptors	Maintenance activities typically limited to daylight hours. Ensure mufflers are in good working order on vehicles/machinery. Limit vehicle idling. Implement noise barriers around receptors.	To minimize excessive noise emissions at nearby noise receptors.	Ongoing dialogue with adjacent noise receptors and follow-up response to noise complaints.	Throughout the site with emphasis at the closest sensitive noise receptors.	Continually throughout operations.	Complaint system would indicate the extent and magnitude of the problem.	Reported in monthly operations monitoring report.	If Project components are not meeting performance objectives with respect to noise emissions, the Proponent will work with affected noise receptors to reduce disturbance to the extent possible.
Personal Injury to Public if Trespassing On-Site	Fencing, gates, lighting, signage and/or cameras to be used to limit unauthorized access.	Zero project-related injuries.	Site security monitoring.	Throughout the Project Location and facility perimeter.	Sporadic throughout operations.	Cameras will show any unauthorized access.	Incidents of trespassing or vandalism will be reported to local authorities.	Additional security measures will be implemented as required.
Increase in Traffic and Impacts to Local Roads	Use highway as main access road during maintenance to the extent possible.	Minimal disturbance to road condition and to public use of the roads.	Visual monitoring of road conditions. Public complaint system in place.	Along any local access roads that may be used for maintenance and operations.	Periodically throughout operations.	Visual monitoring can detect issues like potholes or washouts. Complaint system will also indicate if there is a problem.	Reported in monthly operations monitoring report.	Maintenance and operations traffic could be re-scheduled or rerouted if necessary.

6. Emergency Response and Communications Plan

The following describes the implementation of the Project Emergency Response and Communications Plan as it pertains to the construction and operation phases of the Project. A similar plan is provided for the decommissioning phase of the Project in the Decommissioning Plan Report.

6.1 Emergency Response

The purpose of the Project Emergency Response Plan is to establish and maintain emergency procedures required for effectively responding to accidents and other emergency situations, and for minimizing associated losses. Potential emergency scenarios which could occur during the construction and operation phases include fire, personal injury, and spills incidents. The following provides the emergency response and communications procedures to be used in response to these scenarios. All Project personnel will receive training in these procedures.

6.1.1 *Fire*

Fire extinguishers will be located in strategic locations such as Project vehicles. During construction and operation, a sign will be erected near the front gate of the facility. The sign will include instructions to call 911 and to call a Project phone number should a passerby notice an emergency.

If a fire occurs, Project personnel will attempt to extinguish it, only if it is safe to do so. If there is any risk of personal injury, extinguishing the fire will not be attempted. If a fire cannot be extinguished using the hand-held extinguishers, the Project area will be evacuated and Project personnel will immediately call 911 to summon the local fire department (and ambulance if required). All staff on-site during the life of the Project will be trained in the procedure to deal with a fire and the use of an extinguisher.

All incidents will be documented and kept on file. Documentation will include date of incident, date of reporting, name of reporter, description of the incident, cause of the incident, actions taken, communications to outside groups, and internal personnel and follow-up required.

6.1.2 *Personal Injury*

During the construction phase, the work will be completed by Contractors, who will establish their own Health and Safety (H&S) program in accordance with the Ontario Occupational Health and Safety Act. During operations, the Proponent will similarly establish their own H&S program to be followed by facility personnel.

Should a personal injury occur on-site that does not require an ambulance, the injured person will be treated on-site and, if necessary, transported to the hospital depending on the extent of the injury. If the injury is more severe, Project personnel will call 911 and assist the injured person until emergency personnel arrive.

In all cases of personal injury, the Project construction manager and the Project facility manager will be notified immediately. All incidents will be documented and kept on file. Documentation will include date of incident, date of reporting, name of reporter, name of injured, description of the incident, cause of the incident, actions taken, communications to outside groups and internal personnel and follow-up required, as required by H&S regulations.

6.1.3 Spills

Spills and the types of spills that require reporting are defined in the Ontario Environmental Protection Act and O. Reg. 675/98 Classification and Exemption of Spills and Reporting of Discharges.

Spills are the unintended release/discharge of material to air, land or water. The most likely spill scenarios could include a fuel or oil leak from a vehicle or a spill from improper handling, or a hazardous material leak from a container or a spill from improper handling. Spill prevention tactics include the following:

- All potentially hazardous materials, fuels and lubricants must be stored in the laydown area, in a protected/bermed area and at least 50 m from watercourses.
- All refuelling and equipment maintenance activities will be conducted at least 50 m from wetlands or water features.
- Vehicles and machinery are to be monitored to ensure they are well maintained and free of leaks.
- Portable toilets will be located no closer than 50 m from a watercourse/drain and will be pumped by an MECP-approved hauler to an approved facility.

In the event of an accidental spill, the response plan includes:

- Evaluating the scene for risks to human health and safety.
- If there is immediate danger to human health, contact 911 for assistance and notify anyone who may be directly impacted or is in harm's way.
- Notify the Project Manager of the incident.
- Contain and clean up the spill using on-site spill kit, if it is safe to do so.
- If required, contact outside spill response contractor for assistance.
- Report the spill to the provincial Spills Action Centre (SAC), as required.

A spill kit will be available on-site during the construction, operation and decommissioning phases and will contain equipment necessary for spills response. This will include absorbent pads, absorbent boom, polyethylene bags, neoprene gloves, protective goggles, plastic bins or metal drums, and multipurpose granular sorbents.

Spills that could potentially occur during the life of the Project, and may need to be reported include:

- Non-approved releases/discharges (including those to land, air, and water).
- Discharge of fluids greater than 100 litres from a vehicle.
- Mineral oil releases greater than 100 litres from an electrical transformer.
- Discharges (including sediment) to waterbodies.

The MECP SAC phone number (1-800-268-6060) will be posted on-site.

Documentation for all spill incidents will be kept on file and sent to the MECP, as required. Documentation will include date of incident, date of reporting, name of reporter, description of the incident, cause of the incident, type and amount spilled, actions taken, disposal of contaminated material, communications to outside groups and internal personnel and follow-up required. A designated Site Environmental Inspector will be appointed by the contractor to ensure compliance with these plans and will be responsible for ensuring all site workers know what to do in the event of a spill.

6.2 Non-Emergency Communications

During all phases of the Project, including operations, a sign will be posted at the facility gate with a Project phone number for public questions, inquiries, or complaints. All inquiries will be directed to the Proponent Project Representative, who will respond accordingly.

All questions, inquiries, and complaints will be logged electronically with the following information: date, name, phone number, email address, response, date of response, and any follow up actions. Complaints will additionally be logged in a Complaint Response Document.

Efforts will be made to address identified concerns and implement any necessary corrective actions as soon as reasonably possible. The steps taken to resolve the issue, along with any planned measures to prevent similar complaints from arising in the future, will also be documented in the Complaint Response Document.

If at any time public notification is required (e.g., Project changes), the public will be notified through newspaper and direct or general mail-outs, if needed. Should agencies such as the local municipality or the MECP require notification, they will be sent the information directly by email, mail, or telephone conversation. All communications will be documented and kept on file by the Proponent.

As noted previously, additional information or inquiries can be directed to the project website, [CarbonFree Kynoch](#).

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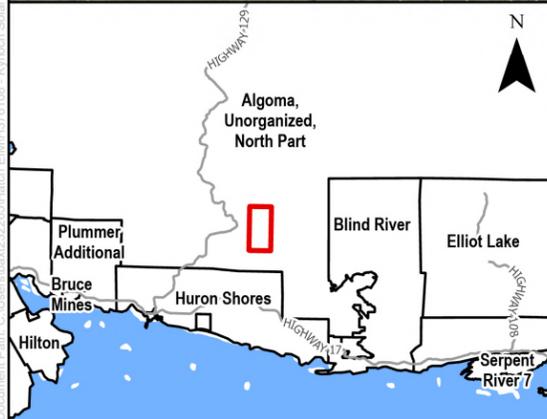
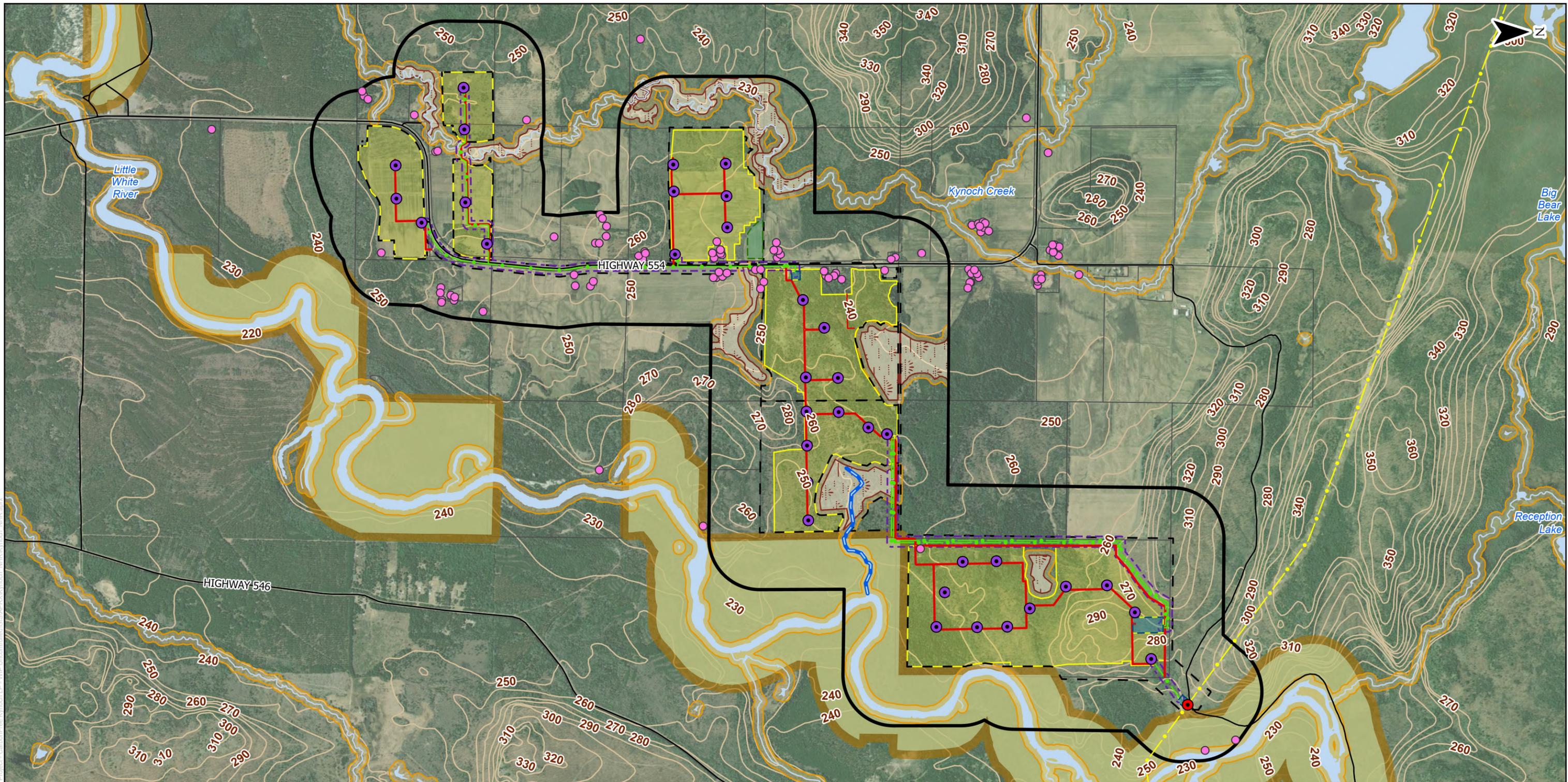
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Appendix A

Site Layout



LEGEND

- Noise Receptor
- Inverter
- Point of Connection
- Access Road
- Contour
- Road
- Proposed Transmission Line
- Transmission Line
- Field Identified Watercourse
- Watercourse
- Transmission Infrastructure
- Project Location
- Study Area (300m Buffer)
- Property Boundary
- Provincial Park
- Provincial Park (50m Buffer)
- Offices/Laydown Area
- Solar Array
- Substation/Switching Station
- Waterbody
- Wetland
- Riparian Buffer

NOTES:

- Produced by Hatch, contains information licensed under the Open Government License – Ontario
- Spatial referencing: NAD 1983 UTM Zone 17N

0 250 500 1,000
1:22,000 m

PROJECT: CarbonFree Kynoch Project – Design and Operations Report				
FIGURE TITLE: Site Layout				
CLIENT: CarbonFree Kynoch LTD				
DWG BY: V. BAXTER	CHK BY: C. SEHL	FIG NO.: A1	REV NO.: 1	HATCH
DATE: 10/03/26	PAGE: 1			

Appendix B

Stormwater Management Plan

Report

CarbonFree Kynoch Project
Stormwater Management Report

H376108-0000-220-066-0001

						
2026-03-20	0	Approved for Use	F. Sargordi	M. Basiq, D. Stanger	J. Mohammad	
DATE	REV.	STATUS	PREPARED BY	CHECKED BY	APPROVED BY	APPROVED BY
				Discipline Lead	Functional Manager	Client

H376108-0000-220-066-0001, Rev. 0,

IMPORTANT NOTICE TO READER

This report has been prepared by Hatch Ltd. (Hatch) for the sole and exclusive use of CarbonFree Kynoch Ltd. (the "Client") for the purpose of assisting the Client in making decisions with respect to the development of a proposed solar photovoltaic project and shall not be (a) used for any other purpose, or (b) provided to, relied upon or used by any third party.

This report contains opinions, conclusions and recommendations made by Hatch, using its professional judgment and reasonable care. Any use of or reliance upon this report by the Client is subject to the following conditions:

1. This report to be read in the context of and subject to the terms of the agreement between Hatch and the Client including any methodologies, procedures, techniques, assumptions and other relevant terms or conditions that were specified or agreed therein;
2. This report to be read as a whole, with sections or parts hereof read or relied upon in context;
3. The conditions of the Project Location may change over time (or may have already changed) due to natural forces or human intervention, and Hatch takes no responsibility for the impact that such changes may have on the accuracy or validity of the observations, conclusions and recommendations set out in this report; and
4. The report is based on information made available to Hatch by the Client or by certain third parties; and unless stated otherwise in the Agreement, Hatch has not verified the accuracy, completeness or validity of such information, makes no representation regarding its accuracy and hereby disclaims any liability in connection therewith.

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Appendix B	Overall Site Plan
Appendix C	Grading and Drainage Plan
Appendix D	Erosion and Sediment Control Plan

1. Introduction

CarbonFree Kynoch Ltd. (CarbonFree) is proposing to develop a 154 megawatt (MW) Class 3 solar photovoltaic (PV) (“the Project”) project adjacent to Highway 554 in the unincorporated District of Algoma, within the unincorporated geographic townships of Parkinson and Grasett, approximately 18 km north of Iron Bridge, Ontario (Figure 1-1).

Ontario Regulation (O. Reg.) 359/09 identifies the Renewable Energy Approval (REA) requirements for renewable energy generation facilities in Ontario. This regulation requires the development of a design and operations report for the proposed project, including the preparation of a stormwater management report and the incorporation of erosion and sediment control (ESC) features and stormwater management facilities.

This report evaluates baseline drainage conditions and assesses potential project impacts based on the proposed design of the Project. Where needed, the report prescribes mitigation measures with the goal of preventing adverse effects on sensitive environmental features, or neighboring properties in line with the requirements of the REA.

1.1 Study Approach

The methodology adopted for this assessment comprises the following key elements:

- Conduct a quantitative analysis to determine the existing hydrologic conditions for the project location.
- Examine the proposed development activities, with particular attention to evaluating potential implications arising from modifications to project location hydrology.
- Finalize the design of stormwater management infrastructure intended to regulate surface runoff in accordance with the standards and guidelines prescribed by the Ministry of the Environment, Conservation and Parks (MECP).
- Formulate a comprehensive ESC program that defines the strategies and best management practices to mitigate construction-related impacts to downstream watercourses and receiving aquatic systems.

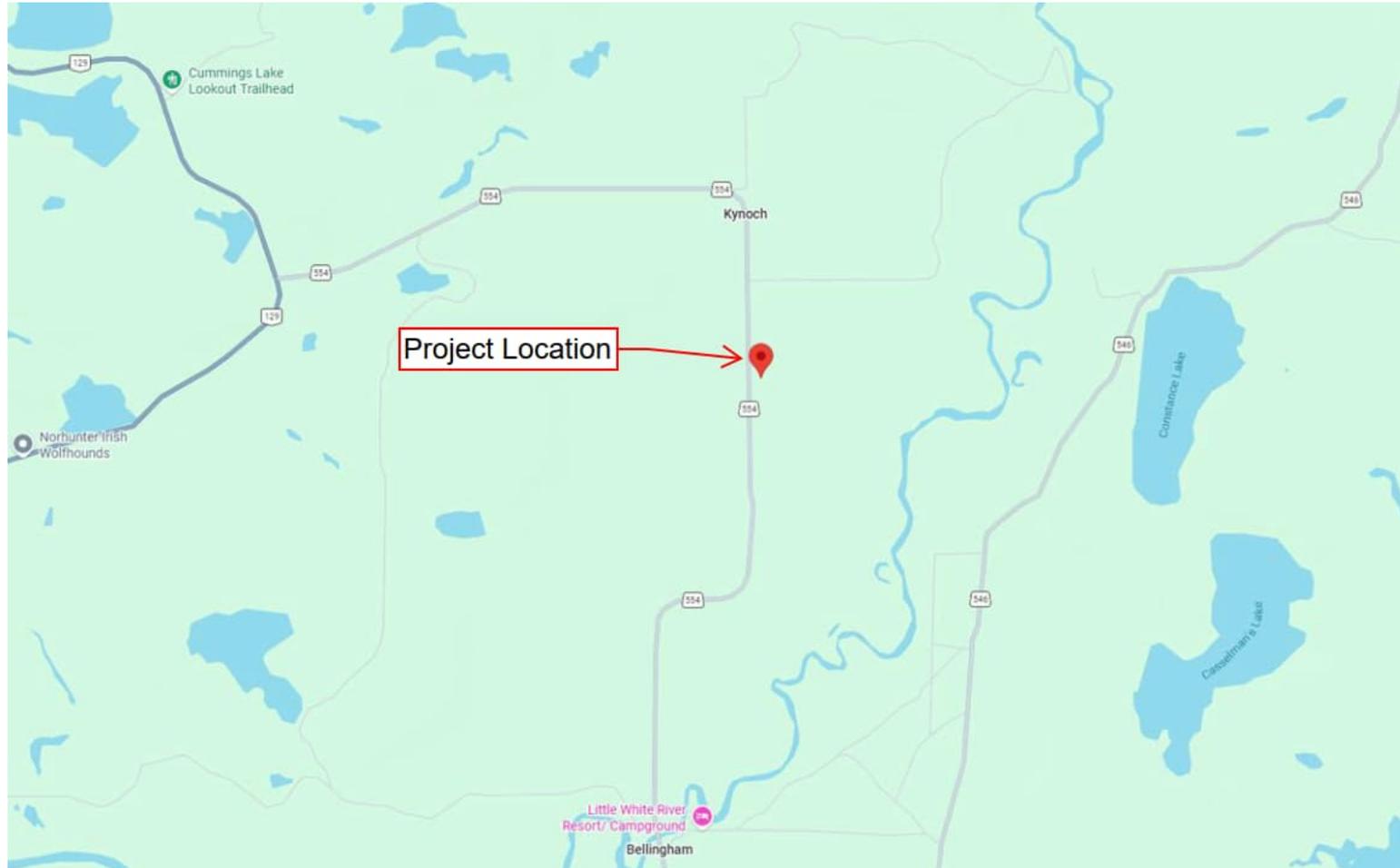


Figure 1-1: Kynoch Project Location

2. Existing Conditions

2.1 Wetlands and Vegetation

The Kynoch Project Location includes mixed forest, meadow, and regenerating habitats shaped by historic land use. The Kynoch Project Location contains six wetlands within 50 m of the project location. These wetlands provide important ecological functions such as water quality protection, flood attenuation, and erosion control. The Project Location has been set back at least 30 m from these wetlands (Figure 2-1). The Project's Natural Heritage Assessment Report (H376108-0000-840-066-0002) contains further details regarding wetlands, potential impacts and associated mitigation measures.

2.2 Waterbodies

The Project's Water Body Assessment Report prepared by Hatch (H376108-0000-840-066-0003) confirms that the Kynoch Project Location is not within 120 m of any lake, but it is within 120 m of mapped watercourses, specifically the Little White River (within Little White River Provincial Park) and Kynoch Creek, both confirmed permanent streams. The layout avoids encroachment by maintaining ≥ 30 m from the Little White River. Project components such as solar panels, inverters and transformers will be located more than 30 m away from Kynoch Creek as well, but an access road and transmission infrastructure will be required to pass overtop of Kynoch Creek to facilitate site access and electrical connectivity throughout the Project Location. Best management practices for erosion, sediment control, and stormwater management will be implemented. Overall, while the creek necessitates careful planning and monitoring, its impact on the project is considered manageable with standard mitigation strategies. Stormwater design emphasizes maintaining pre-development drainage patterns and ensuring that post-development runoff from the site does not adversely affect downstream intermittent systems.

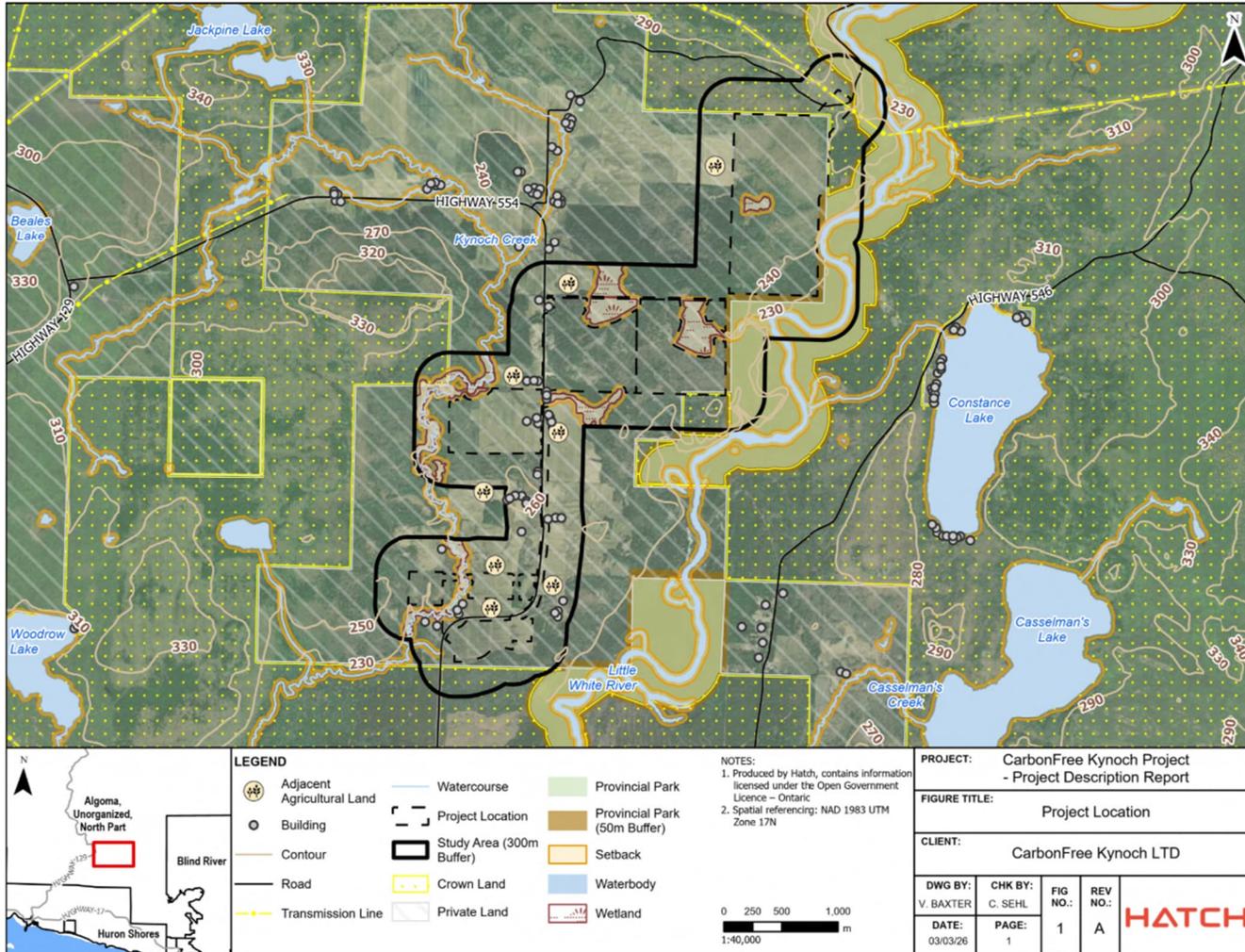


Figure 2-1: Natural Features, Waterbodies and Land Uses

2.3 Geotechnical Information

TBT Engineering Limited (TBTE) carried out a Preliminary Geotechnical Investigation for the CarbonFree Kynoch Solar Project (2026). The summary presented below reflects TBTE's original findings and interpretations.

The Project Location is overlain by approximately 0.1 to 0.5 m of organic topsoil and previously tilled surficial material, underlain by two distinct native soil regimes across the project footprint. In the northern portion, the subsurface profile is dominated by cohesionless soils consisting of gravelly sand to sand and silt, typically damp and light brown to reddish brown, with localized areas of trace gravel and thin permeable seams. In contrast, the southern portion is characterized by predominantly cohesive deposits, comprising silty clay, clayey silt, and sandy silt of variable consistency ranging from stiff to soft. These cohesive units commonly exhibit rust-colored oxidation, intermittent thin sand lenses, and sensitivity to disturbance, with strength reductions observed where soils became wet or remolded.

Bedrock was not directly cored, and no refusal depths were recorded in the boreholes; however, the refusal at TP26-25 suggests isolated areas of very shallow bedrock or large boulders. Elsewhere, the full excavator reach (typically 3.5 to 4.5 m) was achieved without refusal, indicating that bedrock is generally deeper than the explored range, except in the localized refusal zone.

The frost penetration depth for the Project Location is estimated at 2.3 m in native soils, increasing to 2.9 m where foundations are backfilled with granular material. Foundations and slabs require either equivalent soil cover or a suitable insulation-based frost protection system.

Figure 2-2 illustrates the borehole, test pit and monitoring well test locations completed across the Kynoch Solar Project location. It overlays these geotechnical investigation points on the proposed solar array layout and site boundary, showing ground surface elevations at each test location.

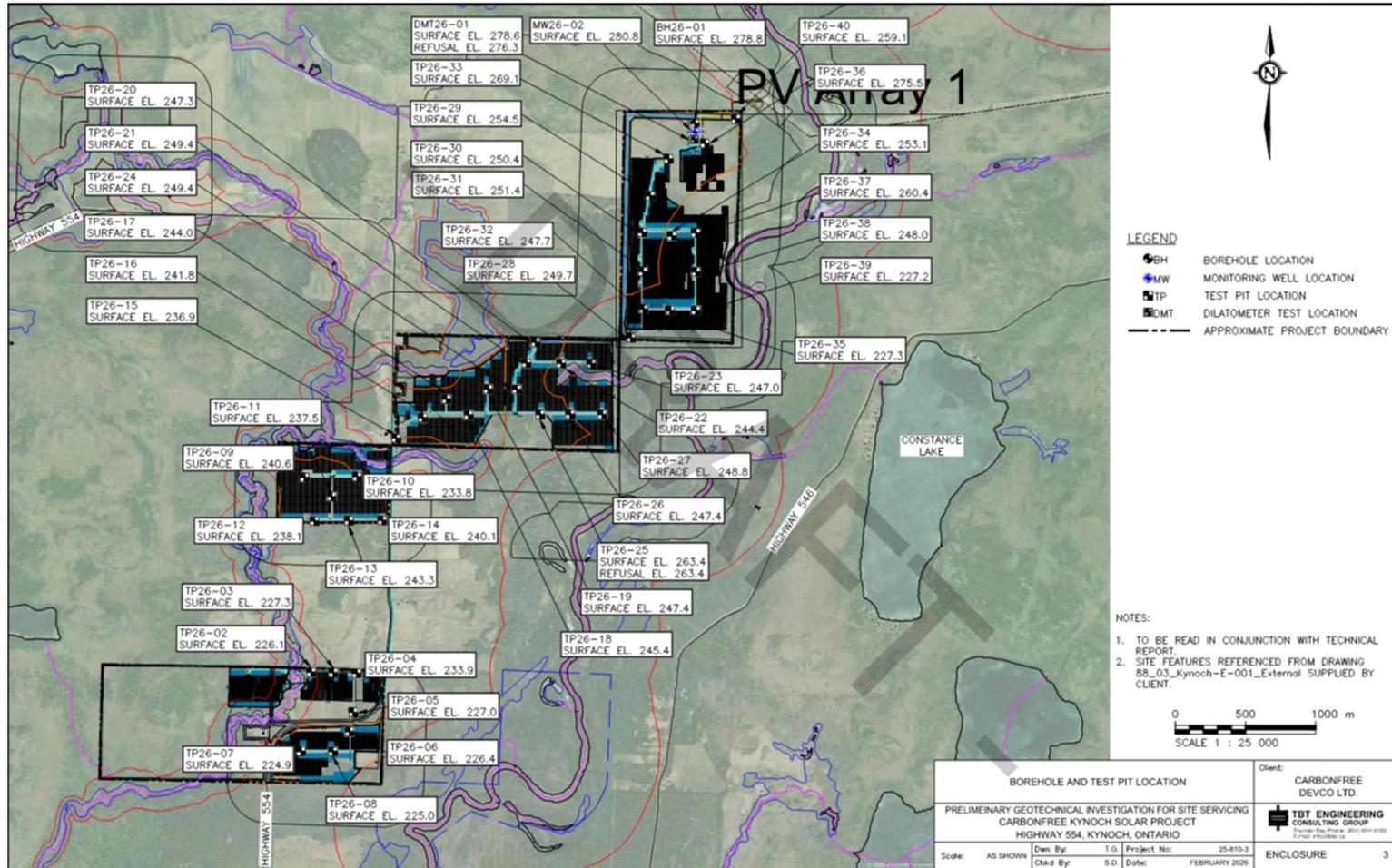


Figure 2-2: Test Locations Across the Kynoch Area

2.4 Hydrogeological Information

The Preliminary Geotechnical Investigation for the CarbonFree Kynoch Solar Project (2026) prepared by TBTE includes the Project Location hydrogeological information and is detailed in this section.

The subsurface profile of low permeability soils consisting of a thin surficial organic layer overlying predominantly stiff to very stiff cohesive soils (silt to silty clay and clay), with localized sandier seams and occasional sand or gravelly sand zones. Isolated test pit refusal on assumed bedrock or large boulders, including refusal at ground surface at TP26-25, indicates variable and locally shallow bedrock conditions.

The groundwater conditions varied across the project location but were found to be shallow. Groundwater elevations observed varied between 0.5 to 3.5 m. Groundwater levels are expected to fluctuate seasonally, reaching their highest levels during spring snowmelt and periods of sustained rainfall, consistent with regional behavior of glaciolacustrine clay deposits.

Construction excavations, especially those extending toward the soil-bedrock interface or below seasonal groundwater levels, may encounter seepage and groundwater inflow. Temporary construction dewatering measures, such as sump pumping, should therefore be anticipated to maintain dry and stable working conditions during deeper excavations.

2.5 Topography and Surface Drainage

Project Location indicates ground elevations ranging from 220 m to 305 m, producing a predominantly radial drainage pattern flowing south, southeast, and southwest toward a series of natural depressions and wetland features. Surface runoff follows these natural grades as indicated by flow arrows in Figure 2-3.

The drainage system is subdivided into 12 internal catchments, ranging from CA-1 (9.93 ha), the smallest, to CA-3 (68.93 ha), the largest, along with five contributing external catchments ranging from 5.5 ha to 51.54 ha which are draining to the project location. Total site catchment area was 547.24 ha. Flow arrows shown in Figure 2-3 along with delineation shown serves as a foundational reference for applications including runoff estimation, stormwater infrastructure design, and environmental planning, ensuring effective catchment management and sustainable land-use strategies. The pre-development drainage catchments are shown in Figure 2-3.

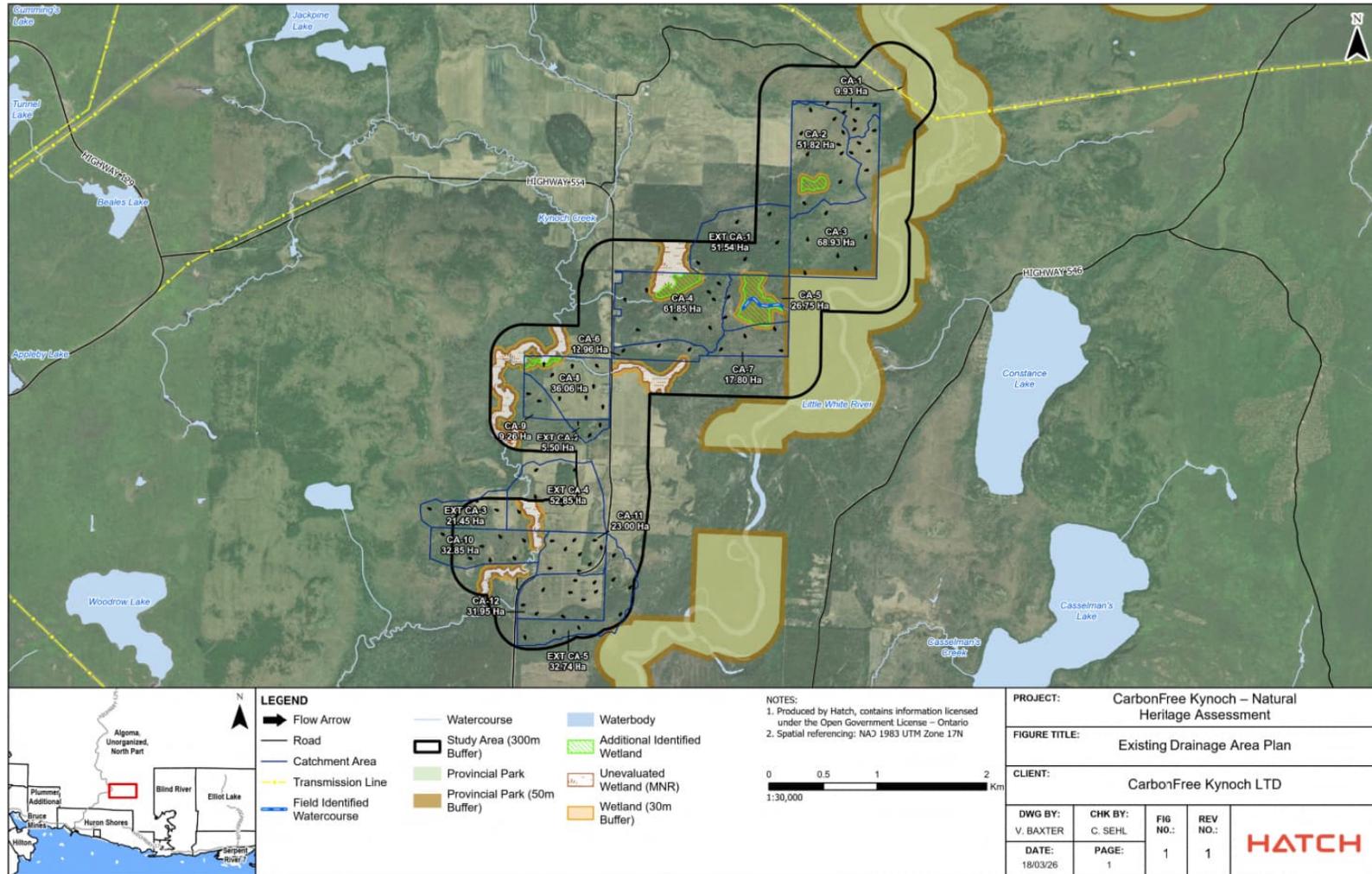


Figure 2-3: Existing Drainage Area Plan

3. Proposed Conditions

The proposed layout introduces significant engineered features within the existing catchment framework, shifting from predominantly natural conditions to a mixed-use configuration. The primary modifications consist of new gravel access roads, inverter pads (concrete/impervious), gravel high-voltage substation area (see H376108-0000-230-260-0001), and perimeter/internal fencing, all of which introduce localized increases in imperviousness, reduce infiltration and slightly elevate runoff potential.

The proposed condition introduces 7.31 ha of semi-pervious gravel surfaces (roads and substation) and 3.14 ha of impervious concrete areas associated with the inverter pads, while the remaining land stays as native cover. The impervious areas represent only a very small fraction of the total catchment areas. While portions of the existing tree-covered zones remain, their overall hydrologic influence is slightly reduced due to the introduction of new infrastructure. Note that substation and inverters footprints will be finalized during the detailed design engineering.

Figure 3-1 is demonstrating the catchment areas in the proposed condition.

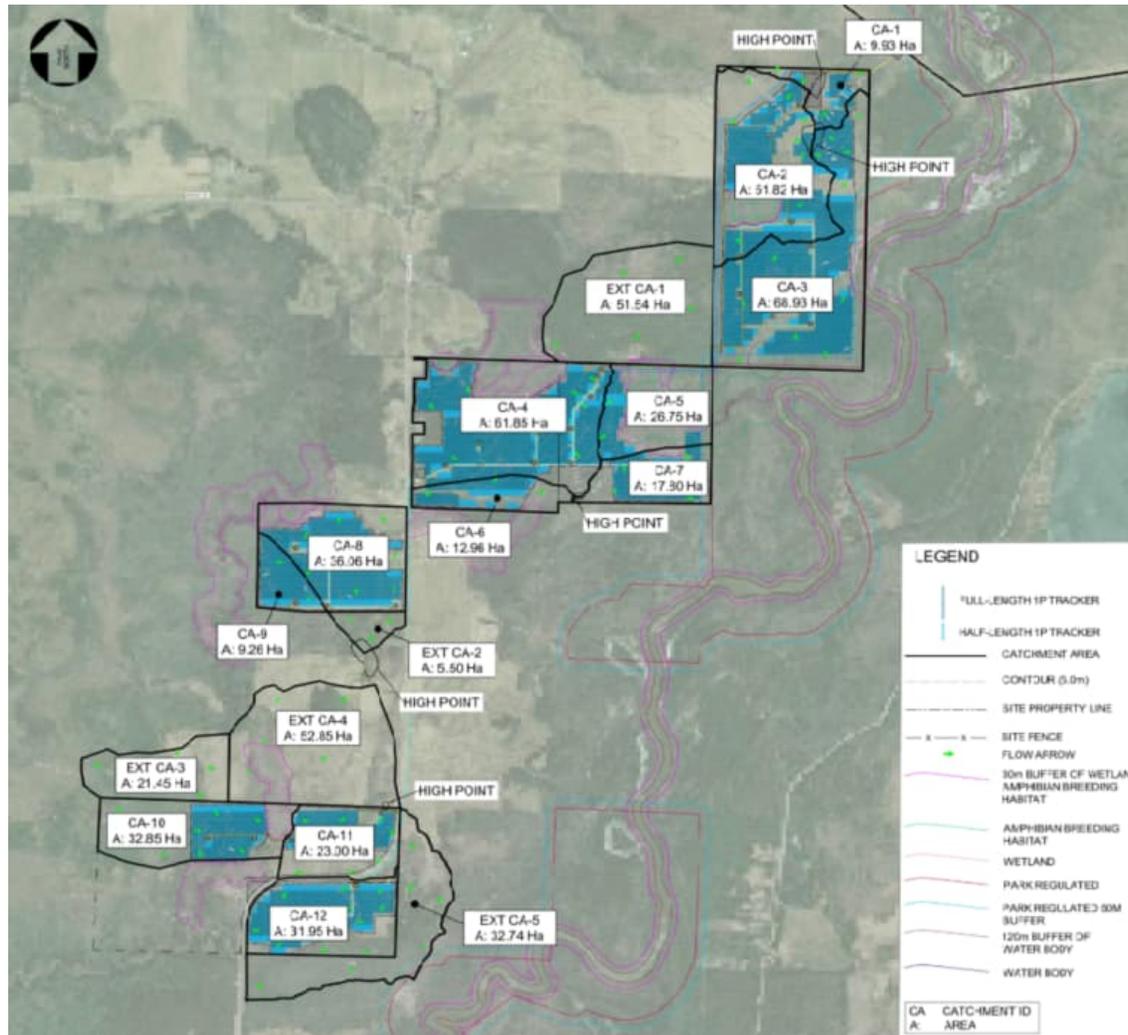


Figure 3-1: Catchment Area for the Proposed Condition

Table 3-1 provides a breakdown of land use within the catchment areas of the project location under the proposed development conditions:

Table 3-1: Catchment Characteristics in Proposed Condition

Catchment	Area (ha)	Impervious (ha)	Semi-Pervious (ha)	Impervious Area (%)
1	9.93	0.04	2.01	0.40
2	51.82	0.2	3.47	0.39
3	68.93	0.2	1.81	0.29
4	61.85	0.57	1.23	0.92
5	26.75	0	0.00	0.00
6	12.96	0	0.00	0.00
7	17.8	0.12	0.25	0.67
8	36.06	0.2	1.41	0.55
9	9.26	0.04	0.12	0.43
10	32.85	0.08	0.21	0.24
11	23	1.32	2.70	5.74
12	31.95	0.37	1.55	1.16
Ext-1	51.54	0	0.00	0.00
Ext-2	5.5	0	0.00	0.00
Ext-3	21.45	0	0.00	0.00
Ext-4	52.85	0	0.00	0.00
Ext-5	32.74	0	2.74	0.00
Total	547.24	3.14	7.31	

4. Stormwater Management Design

Following the Ministry of the Environment and Climate Change (MECP) guidelines, the stormwater management plan for the Kynoch Solar Project was designed to manage site runoff during and after construction.

4.1 Stormwater Management During Construction

Vegetation removal and soil compaction caused by construction traffic during solar facility development can increase peak runoff rates and volumes compared to post-construction conditions following site stabilization. Full establishment of stabilization vegetation often requires multiple growing seasons before the site's hydrologic response aligns with the assumptions in the proposed stormwater management plan. To address the temporary increase in runoff during the construction phase, an interim stormwater management strategy should be implemented. The interim stormwater management plan must be developed during the later phases of the project as part of construction management plan, in close collaboration with the Contractor, to ensure it fully aligns with the planned construction sequencing, staging, and on-site operational constraints.

This strategy may incorporate the following measures:

- Soil management practices to minimize runoff and enhance infiltration.
- Site water management.
- Stormwater detention facilities to reduce peak discharge rates.
- Vegetated buffer zones to improve water quality treatment of site runoff.

4.2 Stormwater Management Post-Construction

4.2.1 *Assessment of Impacts*

The potential changes in impervious surface coverage and their corresponding effects on stormwater runoff rates were evaluated using the Rational Method for both existing and proposed site conditions. A comparative analysis was conducted to identify any variations in runoff characteristics resulting from the revised imperviousness within the project location.

As highlighted in Hydrologic Response of Solar Farms (Cook and McCuen; Journal of Hydrologic Engineering, May 2013), solar panels mounted on racks above vegetated ground do not significantly increase site imperviousness. Consequently, they have negligible impact on runoff volumes, peak discharge rates, or time to peak for solar farm developments. This finding supports the assumption that the hydrologic response of such installations remains largely similar to pre-development conditions.

Under the existing condition, the site remains undeveloped, and based on land-use characteristics, an existing area-weighted runoff coefficient (C) of 0.398 was calculated for the entire site, reflecting its predominantly pervious nature. Table 4-1 provides a breakdown of land use within the catchment areas of the project location under the pre-development conditions.

Table 4-1: Pre-Development Land Use and Runoff Coefficient

Component	Runoff Coefficient	Area (ha)
Woodland	0.35	413.48
Agriculture	0.55	127.79
Semi-Pervious	0.60	4.52
Impervious	0.95	1.45
Area Weighted Runoff Coefficient	0.398	

For the proposed condition, the addition of impervious surfaces, such as inverter pads, associated structures, the gravel access road/substation, is anticipated to slightly increase the overall runoff coefficient, which could influence peak discharge rates. However, the calculated runoff coefficient would be 0.405, indicating that the change is minimal and does not result in a significant difference compared to existing conditions. The runoff coefficient was calculated using a weighted average, accounting for the added impervious areas. This approach ensures that each land-use type such as pasture, woodland, gravel road, and structural areas contributes to the overall coefficient based on its respective area and hydrologic characteristics.

Table 4-2 provides a breakdown of land use within the catchment areas of the project site under the proposed development scenario.

Table 4-2: Post-Development Land Use and Runoff Coefficient

Component	Runoff Coefficient	Area (ha)
Impervious Area	0.95	3.14
Semi-Pervious Area	0.60	7.31
Native Vegetation (Beneath Panels)	0.40	536.6
Area Weighted Runoff Coefficient	0.405	

Table 4-2 shows the baseline values for the proposed conditions, which were adjusted to account for higher storm events in the peak runoff calculations, following the guidelines of the Ontario Ministry of Transportation (MTO) Drainage Design Manual (1997).

4.2.2 Design Storms

Runoff calculations for the Kynoch project location were performed by modeling both the existing conditions and the proposed development scenario under a 100-yr design storm event. These simulations aimed to quantify peak flows, runoff volumes, and evaluate the effectiveness of stormwater management measures to ensure compliance with regulatory requirements and long-term site stability.

Considering that the project is expected to operate for approximately 35 years, the selection of rainfall inputs for hydrologic modeling was aligned with both current and future climate conditions. Runoff for the existing (pre-development) condition was calculated using the 2026 inflow design flood (IDF) curves, and for the post-development condition, the 2061 IDF curves were applied to incorporate anticipated increases in rainfall intensity associated with climate change.

Appendix A presents the IDF information for the project location, derived from the MTO's data for the years 2026 and 2061. Also, according to the Table 1 in Appendix A, the rainfall intensities for a 100-yr return period with the times of concentrations for each catchment are shown for the pre-development and post-development conditions, respectively.

4.2.3 Hydrologic Analysis

A hydrologic analysis was carried out to characterize peak flows and runoff volumes under existing site conditions and proposed, to assess stormwater management strategies.

Using the Rational Method, the estimated peak runoff from the project catchments under both existing and proposed conditions has been calculated and summarized in Table 4-3.

This comparison provides insight into how land-use changes influence peak discharge rates. The analysis was based on several key parameters, including runoff coefficients, rainfall intensity (for the 100-yr return period), and drainage area, which collectively determine the hydrologic response of the project location:

- Rainfall intensity based on IDF data at Kynoch, Ontario (46°25'15"N, 83°16'14"W (46.420833,-83.270833)).
- Time of concentration = varies based on Bransby-Williams Equation (see Appendix A).

The hydrologic analysis indicates that the most notable change in peak discharge occurs within Catchment 1, where post-development modeling shows an approximate 16.4% increase in peak flow relative to existing conditions; however, Catchment 1 amounts to only 1.81% of the overall project catchment area. When evaluated on a weighted average percent change across the entire project location the change is post-development runoff relative to existing is 2.91%. It means that the increase remains low and does not result in any meaningful change to the overall hydrologic response or downstream conveyance system.

Table 4-3: Peak Flows and Changes

Catchment	Area, A (ha)	Intensity (Pre-Development) (mm/h)	Intensity (Post-Development) (mm/h)	Runoff Coefficient (Existing), C	Runoff Coefficient (Proposed), C	Peak Flow (Existing) (m ³ /s)	Peak Flow (Proposed) (m ³ /s)	Percent Change
1	9.93	151.0	153.3	0.350	0.401	1.46	1.70	16.4
2	51.82	74.9	76.3	0.350	0.359	3.78	3.94	4.3
3	68.93	62.0	63.1	0.353	0.355	4.19	4.30	2.5
4	61.85	72.9	74.3	0.350	0.356	4.39	4.54	3.6
5	26.75	84.4	85.8	0.350	0.350	2.20	2.23	1.8
6	12.96	87.6	89.1	0.350	0.350	1.10	1.12	1.7
7	17.80	100.5	102.2	0.350	0.354	1.74	1.79	2.9
8	36.06	110.2	112.0	0.504	0.510	5.57	5.72	2.7
9	9.26	126.3	128.3	0.376	0.379	1.22	1.25	2.3
10	32.85	68.9	70.2	0.350	0.350	2.20	2.24	1.7
11	23.70	94.0	95.6	0.551	0.574	3.41	3.61	5.9
12	31.06	72.9	74.3	0.510	0.515	3.21	3.30	2.9
Ext-1	51.54	63.0	64.2	0.350	0.350	3.16	3.22	1.9
Ext-2	4.70	230.2	233.1	0.350	0.350	1.05	1.07	1.3
Ext-3	21.45	81.1	82.6	0.412	0.412	2.00	2.03	1.8
Ext-4	52.85	97.3	98.9	0.535	0.535	7.65	7.78	1.7
Ext-5	32.74	167.6	170.0	0.371	0.390	5.66	6.04	6.7

Catchment 11 exhibits a peak flow increase of 5.9%; however, when combined with the contributions from Catchments 10 and 11, as well as External Catchments 3, 4, and 5, the resulting weighted average change is approximately 1.0%. Although External Catchment 5 independently reflects a peak variation of 6.7%, this effect is substantially moderated once the entire contributing drainage area is evaluated cumulatively.

Overall, while certain catchments demonstrate measurable localized increases in peak discharge, the cumulative hydrologic impact across each receiving drainage area remains low to negligible, indicating that the proposed site modifications do not materially alter the post-development stormwater response at the watershed scale.

However, ongoing monitoring and verification during detailed design are recommended to ensure compliance with regulatory standards and to address any future changes in site conditions.

4.2.4 Stabilization Vegetation

All disturbed areas will be stabilized using a permanent restoration seed mix in accordance with Ontario Provincial Standard Specification (OPSS) 803, which governs the application of vegetative cover and requires certified seed mixes with verified composition, purity, and germination. Seeding will occur on properly prepared final grades under suitable weather conditions following OPSS 802 requirements. Application rates will follow OPSS 803 Table 5, and vegetation establishment will be confirmed after 60 days, requiring uniform ground cover with no more than 10% bare areas.

Based on recent solar project experience, full establishment of restoration vegetation typically requires several growing seasons. Until adequate stabilization is achieved, temporary ESC measures will remain in place. Once vegetation is sufficiently established to provide long-term stabilization, these temporary measures will be removed and disposed of off-site.

4.2.5 Water Quality Control

Although the Project Location is not expected to generate significant changes to concentrations of total suspended solids (TSS) or other pollutants, a transformer oil containment strategy for the substation will be implemented to prevent oil migration in case of a leak.

The containment system will be designed to accommodate total oil volume stored at the substation. Primary containment will be provided by an enclosure installed on a concrete pad, sized and designed to safely retain the anticipated oil volume. The need for additional secondary containment measures, if any, will be evaluated during the detailed design phase based on risk, regulatory requirements, and final equipment configuration.

Additionally, an oil grit separator will be implemented on-site to enhance water quality by removing sediments and hydrocarbons from stormwater runoff. Detailed specifications for the spill containment system will be finalized during the detailed design phase.

Medium-voltage transformers at the inverter stations may utilize non-toxic, biodegradable transformer oil - primarily natural or synthetic ester organic vegetable-based oils, when possible.

5. Stormwater Management Maintenance and Monitoring

The proposed stormwater management approach emphasizes passive, low-maintenance practices designed to align with straightforward operational requirements. The Owner's responsibilities for inspection, operation, and maintenance will generally include:

- **Annual Site Inspections:** Conduct walking inspections annually to identify areas of bare soil or erosion. Corrective measures may involve regrading affected areas and re-establishing vegetation using sod or an appropriate seed mix, supplemented with fertilizer and irrigation as needed to ensure germination and stabilization.
- **Sediment Accumulation Review:** During inspections, visually assess areas where sediment has accumulated. Persistent, non-vegetated sediment deposits pose a risk of re-suspension and downstream transport. If such conditions are observed, remove excess sediment and restore stabilization.
- **Downstream Perimeter Assessment:** Inspect the entire downstream project location boundary for signs of erosion or concentrated stormwater discharge. Any observed impacts will require the development and implementation of a remediation plan.
- **Vegetation Health Monitoring:** Evaluate the density and vigor of vegetation within grassed waterways during inspections. Poor growth or inadequate coverage may indicate unsuitable species or poor establishment, requiring replanting to achieve sufficient vegetative density.

6. Erosion and Sediment Control Plan

6.1 Site Erosion Potential

An evaluation of the construction area's erosion potential should be conducted in accordance with the methodology outlined in the ESC Guideline (GGHCA, 2006). This assessment considers three key factors – slope gradient, slope length, and soil texture (erodibility) – to classify the site as having “low,” “medium,” or “high” erosion potential. The determined erosion risk, combined with the sensitivity of downstream receptors, will influence the level of detail required in the design, monitoring, and maintenance of the ESC system.

6.2 Erosion and Sediment Control Measures

Construction of the Kynoch Solar Project will involve activities such as topsoil redistribution, minor grading, and general construction traffic. Without appropriate mitigation, these activities could lead to surface soil disturbance, erosion, and potential sediment transport to off-site areas. Erosion control will be primarily achieved through:

- Implementing soil conservation practices to minimize runoff and sediment transport during construction.
- Installing barriers to filter runoff before discharge.

ESC measures will be in place prior to any grading or servicing activities and will include, but are not limited to, the following:

- **Perimeter Protection:** A light-duty silt fence will be installed along the downstream side of the work limits, concurrent with the construction of the site's chain-link fence, and secured on the upstream side of the permanent fence.
- **Vegetated Buffers:** A 5 m wide vegetated buffer will be maintained downstream of disturbed areas where project location boundaries allow. Existing native vegetation will remain undisturbed, and sparse areas will be reseeded.
- **Construction Entrance:** A stabilized entrance (mud mat) will be provided to minimize sediment tracking by construction vehicles.
- **Stockpile Stabilization:** Topsoil stockpiles left in place for more than 30 days will be stabilized using vegetative cover (e.g., hydroseeding) or erosion control blankets during unfavorable growing conditions.
- **Access Restrictions:** Equipment will not be permitted beyond designated work limits.
- **Concrete Washout Area:** A lined, contained washout area will be provided at least 30 m (approximately 98 ft) from storm drains, open channels/ditches, wetlands, and waterbodies, with no required setbacks from buildings, solar panels, roads, or stormwater management facilities. Regular maintenance and clean-out will be performed to prevent runoff.

- **Material Management:** Temporarily stockpiled fine materials ($D_{50} < 4.75$ mm) will be covered with erosion control products if stored for more than 30 days. Coarser materials ($D_{50} \geq 4.75$ mm) may remain uncovered but will be surrounded by a double light-duty silt fence for added protection.
- **Revegetation:** Disturbed areas anticipated to remain inactive for more than 60 days shall be stabilized. Where permanent revegetation is feasible, areas shall be restored with a minimum 50 mm of topsoil and hydroseeding in accordance with OPSS 804. Where revegetation cannot be completed due to seasonal constraints, construction phasing, or site conditions, temporary non-vegetative stabilization measures (e.g., erosion control blankets or equivalent) shall be implemented and maintained until permanent revegetation can occur.
- **Temporary Berms:** If required, perimeter berms constructed from excavated material will provide temporary stormwater detention and sediment settling.
- **Weather Contingency Measures:** In adverse conditions, best practices such as temporary rig mats will be used to prevent soil and vegetation disturbance by construction equipment.

ESC measures will be maintained in good condition throughout construction and removed only after contributing drainage areas are stabilized. Removal will occur upon confirmation by a qualified ESC inspector that the risk of surface water and environmental impacts is negligible. All inspections, performance evaluations, and any repairs or modifications will be documented in on-site logbooks.

6.3 Erosion and Sediment Control Monitoring Program

To maintain the effectiveness of ESC measures, a structured inspection during construction period and maintenance program should be implemented. This program will include regular inspections and additional checks following any significant rainfall event, with immediate repair of critical deficiencies. Post-construction monitoring frequency should align with Section 5 above. Non-urgent repairs, those posing no immediate risk of sediment discharge, must be completed within 48 hours of identification or prior to the next forecasted rainfall, whichever occurs first. The program will involve the following activities:

- **Visual Inspection:** Assess ESC measures to confirm that discharged flows are generally free of sediment and turbidity.
- **Condition Review:** Inspect vegetation protection, erosion control blankets, and silt fencing to ensure they remain in good repair.
- **Debris Removal:** Clear any accumulated construction debris that may obstruct ESC performance.

- **Remedial Actions:** Implement corrective measures as needed, including erosion stabilization, repair or replacement of damaged controls, and any additional remediation required to maintain compliance.

6.4 Construction Phase Measures

To protect the quality of receiving waters during construction, an ESC plan will be implemented. The plan will include, but is not limited to, the following measures:

- **Flow Interception:** Install straw bale barriers and/or filter cloth barriers, including light-duty silt fences, within existing swales, drains, or at critical downstream flow points to capture suspended solids and prevent direct runoff into downstream watercourses.
- **Minimized Disturbance:** Strip topsoil only in areas required for solar panel installation, utility servicing, and road construction.
- **Grading Practices:** Apply appropriate grading techniques to maintain positive drainage and reduce the potential for increased runoff.

A detailed construction-stage ESC plan will be prepared in later phases of the project in close coordination with the selected contractor. This plan will refine the preliminary measures outlined in this report and ensure that ESC practices are appropriately tailored to the contractor's methods, construction sequencing, and site-specific conditions.

7. Conclusion and Recommendations

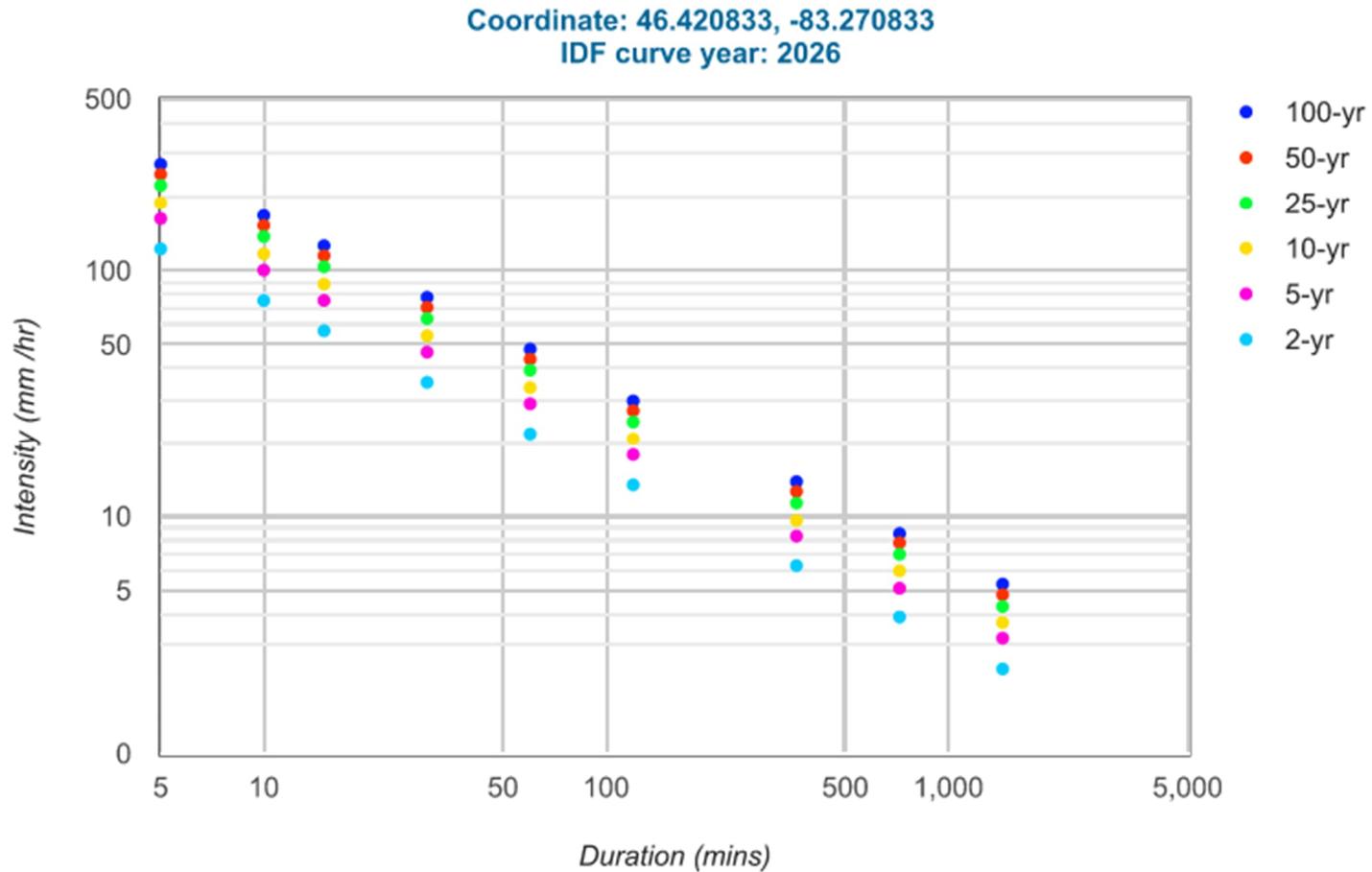
A preliminary stormwater management approach has been outlined for the proposed CarbonFree Kynoch Project to guide future design and ensure appropriate runoff control during construction and eventual operations. Based on the anticipated project location layout and the minimal change in impervious area between existing and post-development conditions, no formal structural stormwater management measures are expected to be required at this stage. The stormwater measures implemented during the construction period will minimize the potential erosion, and water quality impacts during site preparation and construction activities. The post-construction strategy incorporates the use of vegetated buffers and site-wide stabilization plantings to promote infiltration, minimize erosion, and maintain stable drainage patterns. Based on the present development conditions, no formal structural stormwater management measures are expected to be required at this stage. The project has also consistently implemented a standard 30 m setback between construction activities and adjacent sensitive environmental features, including wetlands and watercourses. This setback strategy enhances the protection of environmentally significant areas and is aligned with best management practices applied throughout the project.

The following recommendations are provided to guide further design phases and project execution:

- The stormwater management considerations described in this draft report should be implemented during detailed design and constructed once finalized.
- All ESC practices identified herein should be applied throughout construction to protect downstream systems.
- A stormwater monitoring and maintenance program should be carried out during construction and continued through early operations to ensure long-term performance.

Appendix A

IDF Table for Kynoch



Coefficient summary

IDF Curve: 46° 25' 15" N, 83° 16' 14" W (46.420833,-83.270833)

Retrieved: Mon, 23 Feb 2026 05:09:06 GMT

Data year: 2010

IDF curve year: 2026

Statistics

Rainfall intensity (mm hr⁻¹)

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	122.5	75.6	57.0	35.2	21.7	13.4	6.3	3.9	2.4
5-yr	162.8	100.4	75.7	46.7	28.8	17.8	8.3	5.1	3.2
10-yr	189.5	116.9	88.1	54.4	33.5	20.7	9.6	6.0	3.7
25-yr	223.0	137.5	103.7	63.9	39.4	24.3	11.3	7.0	4.3
50-yr	247.5	152.6	115.0	70.9	43.7	27.0	12.6	7.8	4.8
100-yr	271.9	167.6	126.3	77.9	48.0	29.6	13.8	8.5	5.3

Rainfall depth (mm)

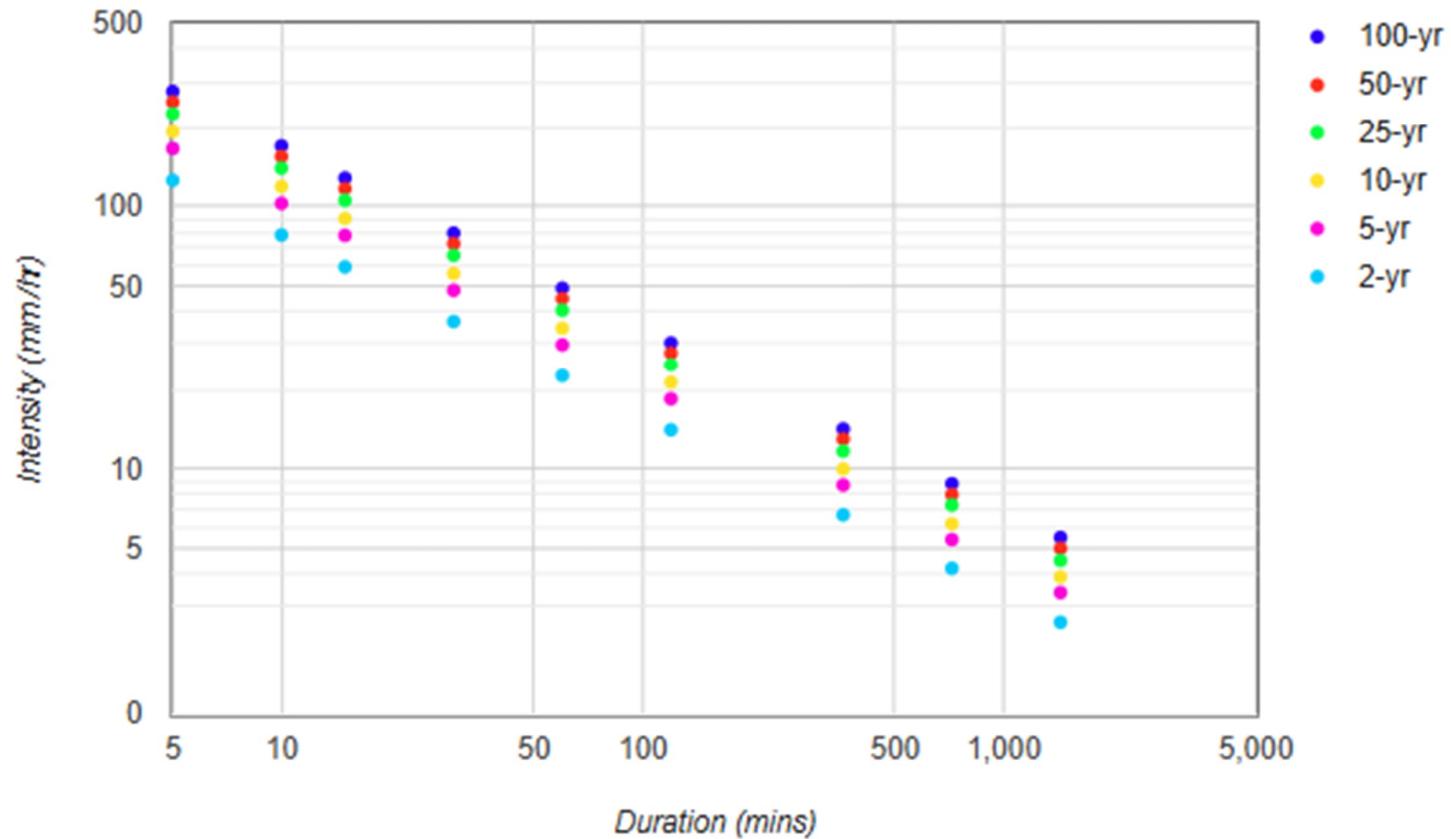
Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	10.2	12.6	14.3	17.6	21.7	26.8	37.8	46.8	57.6
5-yr	13.6	16.7	18.9	23.4	28.8	35.6	49.8	61.2	76.8
10-yr	15.8	19.5	22.0	27.2	33.5	41.4	57.6	72.0	88.8
25-yr	18.6	22.9	25.9	31.9	39.4	48.6	67.8	84.0	103.2
50-yr	20.6	25.4	28.8	35.5	43.7	54.0	75.6	93.6	115.2
100-yr	22.7	27.9	31.6	39.0	48.0	59.2	82.8	102.0	127.2

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Last Modified: September 2016

Coordinate: 46.420833, -83.270833
IDF curve year: 2061



Coefficient summary

Data year: 2010
IDF curve year: 2061

Click a return period in the table header for more detail.

Statistics

Rainfall intensity (mm hr⁻¹)

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	125.8	78.0	59.0	36.6	22.7	14.1	6.7	4.2	2.6
5-yr	166.2	102.8	77.7	48.1	29.8	18.5	8.7	5.4	3.4
10-yr	192.9	119.3	90.1	55.7	34.5	21.4	10.0	6.2	3.9
25-yr	226.4	139.9	105.6	65.3	40.4	25.0	11.7	7.3	4.5
50-yr	250.8	154.9	116.9	72.3	44.7	27.7	13.0	8.0	5.0
100-yr	275.2	170.0	128.3	79.3	49.0	30.3	14.2	8.8	5.5

Rainfall depth (mm)

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
2-yr	10.5	13.0	14.8	18.3	22.7	28.2	40.2	50.4	62.4
5-yr	13.8	17.1	19.4	24.1	29.8	37.0	52.2	64.8	81.6
10-yr	16.1	19.9	22.5	27.9	34.5	42.8	60.0	74.4	93.6
25-yr	18.9	23.3	26.4	32.6	40.4	50.0	70.2	87.6	108.0
50-yr	20.9	25.8	29.2	36.1	44.7	55.4	78.0	96.0	120.0
100-yr	22.9	28.3	32.1	39.6	49.0	60.6	85.2	105.6	132.0

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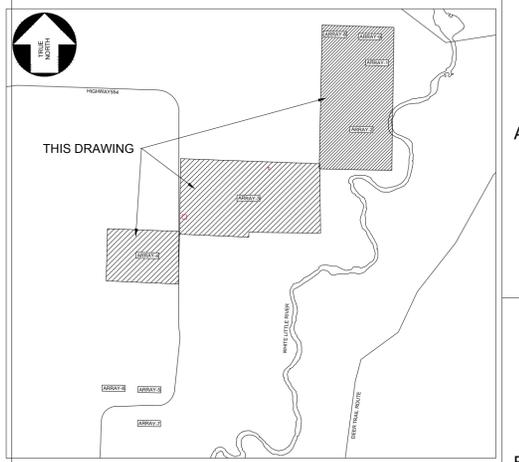
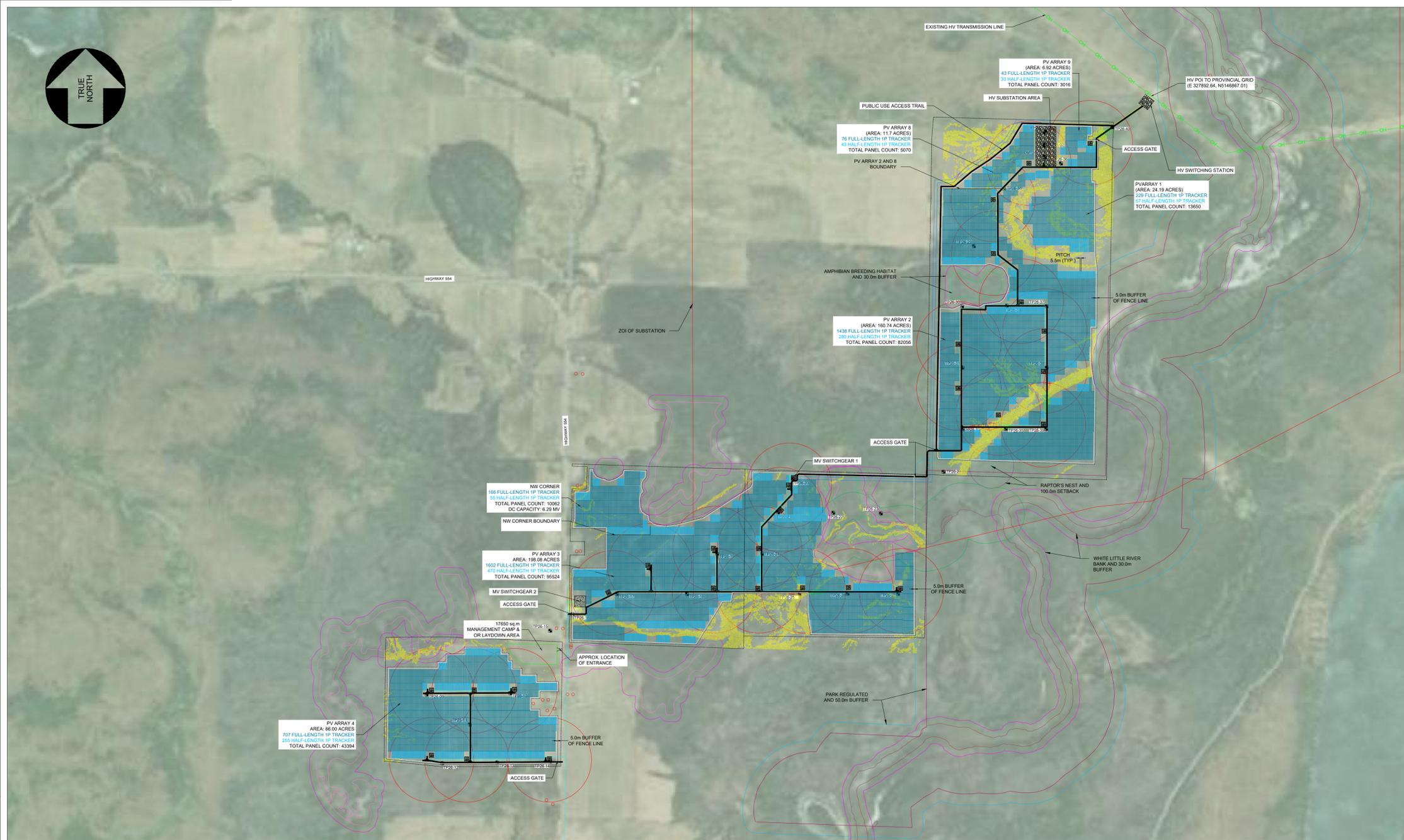
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Last Modified: September 2016

Table 1

Catchment	L(m)	S	Area (ha)	Tc(min)	Tc(Final)	Intensity_year 2026(mm/hr)	Intensity_year 2061(mm/hr)
1	410	9.7	9.93	11.79	12	151.0	153.3
2	1055	2.7	51.82	33.22	33	74.9	76.3
3	1504	2.6	68.93	46.38	46	62.0	63.1
4	1166	3.3	61.85	34.65	35	72.9	74.3
5	780	2.1	26.75	27.59	28	84.4	85.8
6	873	5.5	12.96	27.39	27	87.6	89.1
7	750	5.2	17.8	23.05	23	100.5	102.2
8	580	2.2	36.06	19.73	20	110.2	112.0
9	405	2.5	9.26	15.38	15	126.3	128.3
10	1165	2.4	32.85	39.31	39	68.9	70.2
11	756	3.2	23.7	24.88	25	94.0	95.6
12	941	1.5	31.06	35.08	35	72.9	74.3
Ext-1	1010	0.5	51.54	44.58	45	63.0	64.2
Ext-2	224	9.8	4.7	6.93	7	230.2	233.1
Ext-3	818	2.3	21.45	29.05	29	81.1	82.6
Ext-4	838	4	52.85	24.34	24	97.3	98.9
Ext-5	347	5.4	32.74	9.96	10	167.6	170.0

Appendix B

Overall Site Plan



KEY PLAN
N.T.S

LEGEND

- FULL-LENGTH 1P TRACKER
- HALF-LENGTH 1P TRACKER
- 30m BUFFER OF WETLAND/ AMPHIBIAN BREEDING HABITAT/RIVER
- AMPHIBIAN BREEDING HABITAT
- WETLAND
- PARK REGULATED
- PARK REGULATED 50M BUFFER
- 120m BUFFER OF WATER BODY
- WATER BODY
- SITE PROPERTY LINE
- EXISTING HV TRANSMISSION LINE
- MV-2
- MV-4
- PROPOSED ATV TRAIL
- 5.0m BUFFER OF FENCE LINE
- ZOI OF SUBSTATION (425m)
- ZOI OF TRANSFORMER/INVERTER (189m)
- 10m RADIUS FROM CENTRE OF RECEPTOR LOCATION
- FENCE LINE
- AREA WITH SLOPE >20%
- 2:1 FILL SLOPE
- 2:1 CUT SLOPE
- TP25-01 TEST PIT
- BH25-01 BOREHOLE
- MW25-01 MONITORING WELL
- PROPOSED ACCESS GATE
- PROPOSED HV SUBSTATION PAD
- PROPOSED INVERTER PAD

- NOTES:**
- ALL DIMENSIONS SHOWN HERE ARE IN METRES UNLESS MENTIONED OTHERWISE.
 - COORDINATE SYSTEM SHOWN HERE IS NAD83 (CSRS) ZONE 17N.
 - TOPOGRAPHIC DATA SHOWN IS BASED ON THE DATA FILE "1m LIDAR CONTOURS" DOWNLOADED FROM GEOHUB ONTARIO.
 - EXISTING BARBED WIRE FENCE TO BE REMOVED WHERE IT CONFLICTS WITH PROPOSED FEATURES.
 - PERIMETER CHAIN-LINK FENCE TO BE 2.0m HIGH WITH 3 STRING BARBED WIRE FOR SECURITY.

TRACKER ARRANGEMENT	KYNOC	
	FULL LENGTH	HALF LENGTH
TRACKER (1P)	5003	1473
PANEL COUNT	260156	38298
TOTAL PANELS COUNT	298454	
POWER RATING OF PANELS	625 W	
DC CAPACITY	186.53 MV	
NO OF INVERTERS	36	
AC CAPACITY	158.4 MW	
PITCH	5.5m (TYP.)	

SITE PLAN
SCALE: 1:10000



NOT FOR CONSTRUCTION

<p>THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF [CARBONFREE KYNOC] (CLIENT) AND IS ISSUED PURSUANT TO [SERVICE ORDER 2025-27] BETWEEN CLIENT AND [HATCH LTD.] (HATCH). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.</p>							
DRAFTSPERSON	R. POKHAREL	NR	2025/12/08				
DESIGNER	J. SUN	NR	2025/12/08				
CHECKER	J. MOHAMMAD		2026/03/13				
DESIGN COORD.	M. BASIQ		2026/03/13				
RESP. ENG.	M. BASIQ		2026/03/13				
LEAD DISC. ENG.	M. BASIQ		2026/03/13				
ENG. MANAGER	J. MOHAMMAD		2026/03/13				
PROJ. MANAGER	S. THOMPSON		2026/03/13				
CLIENT NAME							
ROLE	NAME	SIGNATURE	DATE				
DRAWING APPROVAL STATUS:				Issued for Permitting			

CARBONFREE KYNOC LTD
SOLAR PROJECT
GENERAL SITE WIDE
CIVIL
OVERALL SITE PLAN SHEET 1 OF 2

SCALE: 1:10000
 DWG. No. **H376108-0000-220-271-0001**
 REV **0**

SHEET SIZE: A1

Appendix C

Grading and Drainage Plan

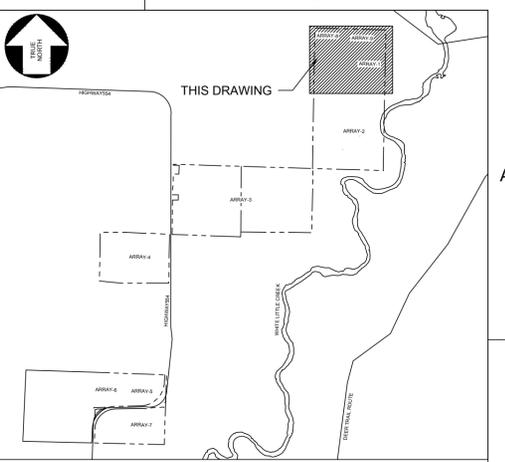


PROPOSED GRADING & DRAINAGE PLAN-1
SCALE 1:2,500

PROP. GRADING SETTING OUT POINT			
POINT	NORTHING	EASTING	ELEVATION
F1	5146675.30	327282.44	FG 283.39
F2	5146655.53	327310.43	FG 278.99
F3	5146631.54	327310.45	FG 275.87
F4	5146607.62	327349.88	FG 277.14
F5	5146529.90	327318.14	FG 276.89
F6	5146411.04	327293.50	FG 276.36
F7	5146410.80	327223.40	FG 266.34
F8	5146288.58	327223.80	FG 262.06
F9	5146374.40	327011.86	FG 258.13
F10	5146390.02	327021.33	FG 260.90
F11	5146388.38	327089.14	FG 262.85
F12	5146551.94	327180.54	FG 275.16
F13	5146595.39	327238.50	FG 277.00
F14	5146559.53	327390.56	FG 279.73
F15	5146573.62	327425.18	FG 276.99
F16	5146592.46	327425.58	FG 278.26
F17	5146655.19	327464.52	FG 281.00
F18	5146734.55	327482.56	FG 279.77
F19	5146734.68	327509.82	FG 272.69
F20	5146595.67	327504.50	FG 273.00
F21	5146549.21	327537.73	FG 275.16
F22	5146549.11	327390.69	FG 281.02
F23	5146538.30	327622.47	FG 275.47
F24	5146479.84	327622.49	FG 279.09
F25	5146479.87	327634.36	FG 279.00
F26	5146380.31	327635.01	FG 272.68
F27	5146381.02	327607.57	FG 276.18
F28	5146401.01	327506.27	FG 285.55
F29	5146430.51	327513.75	FG 287.29
F30	5146441.81	327602.42	FG 282.46
F31	5146499.63	327584.91	FG 281.00
F32	5146451.34	327521.27	FG 287.79
F33	5146481.00	327455.56	FG 288.93
F34	5146481.00	327436.34	FG 287.53
F35	5146498.74	327436.22	FG 285.25
F36	5146499.25	327456.25	FG 285.98
F37	5146405.59	327460.42	FG 292.02
F38	5146402.99	327496.74	FG 286.53
F39	5146337.10	327517.12	FG 279.99
F40	5146319.36	327541.23	FG 277.12
F41	5146300.18	327552.16	FG 275.01
F42	5146297.04	327595.12	FG 272.63
F43	5146272.51	327603.61	FG 269.17
F44	5146266.63	327633.72	FG 268.03
F45	5146164.25	327634.26	FG 264.67
F46	5146164.75	327525.20	FG 274.65
F47	5146232.80	327525.12	FG 278.50
F48	5146232.62	327493.13	FG 281.36
F49	5146308.59	327406.06	FG 290.01
F115	5146538.47	327455.64	FG 280.63

NOTE: FG ELEVATION SHOWN IN THE TABLE MATCH EXISTING.

CHAIN-LINK FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
1	5146731.89	327372.82	SUBSTATION
2	5146729.59	327464.04	SUBSTATION
3	5146551.37	327464.12	SUBSTATION
4	5146551.37	327372.82	SUBSTATION
5	5145917.84	326939.98	FENCE
6	5145912.94	327000.14	FENCE
7	5145934.04	327046.99	FENCE
8	5145922.61	327120.77	FENCE
9	5145933.87	327137.82	FENCE
10	5145943.56	327210.31	FENCE
11	5146011.36	327249.97	FENCE
12	5146056.81	327245.42	FENCE
13	5146081.23	327233.93	FENCE
14	5146094.05	327221.47	FENCE
15	5146110.63	327163.73	FENCE
16	5146105.40	327147.93	FENCE
17	5146105.26	326943.36	FENCE
18	5146457.10	326949.60	FENCE
19	5146457.87	327006.55	FENCE
20	5146524.72	327085.05	FENCE
21	5146580.83	327169.97	FENCE
22	5146552.23	327258.68	FENCE
23	5146742.24	327313.38	FENCE
24	5146734.44	327628.86	FENCE
25	5146687.84	327628.84	FENCE
26	5146687.83	327609.49	FENCE
27	5146670.29	327609.49	FENCE
28	5146670.29	327654.49	FENCE
29	5146537.50	327654.45	FENCE
30	5146537.50	327628.42	FENCE
31	5146485.75	327628.42	FENCE
32	5146485.75	327640.98	FENCE
33	5146162.11	327640.89	FENCE
34	5146091.29	327649.70	FENCE



KEY PLAN
N.T.S.

NOTES:

- ALL DIMENSIONS SHOWN HERE ARE IN METRES UNLESS MENTIONED OTHERWISE.
- COORDINATE SYSTEM SHOWN HERE IS UTM WITH NAD83 DATUM, ZONE 17N.
- TOPOGRAPHIC DATA SHOWN IN BASED ON THE DATA "1m LIDAR CONTOURS" DOWNLOADED FROM GEOHUB ONTARIO.
- GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010. ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
- PERIMETER CHAIN-LINK FENCE TO BE 2.0m HIGH WITH 3 STRING BARBED WIRE FOR SECURITY.

LEGEND:

- FULL-LENGTH 1P TRACKER
- HALF-LENGTH 1P TRACKER
- EXISTING CONTOUR LINE
- SITE PROPERTY LINE
- PROPOSED CHAINLINK FENCE
- 5m BUFFER OF PROPOSED FENCELINE
- PROPOSED MV-2 CABLE
- PROPOSED MV-4 CABLE
- PROPOSED ATV TRAIL
- DRAINAGE FLOW DIRECTION
- 30m BUFFER OF WETLAND/AMPHIBIAN BREEDING HABITAT
- EXISTING SLOPE
- PROPOSED FENCE SETTING OUT POINT
- PROPOSED GRADING SETTING OUT POINT
- INVERTER PAD
- SUBSTATION/SWITCHGEAR PAD
- AREA TO BE LOCALLY GRADED NO STEEPER THAN 20% SLOPE

NOT FOR CONSTRUCTION

0 25 50 75 100 125
1:2,500 SCALE IN METRES

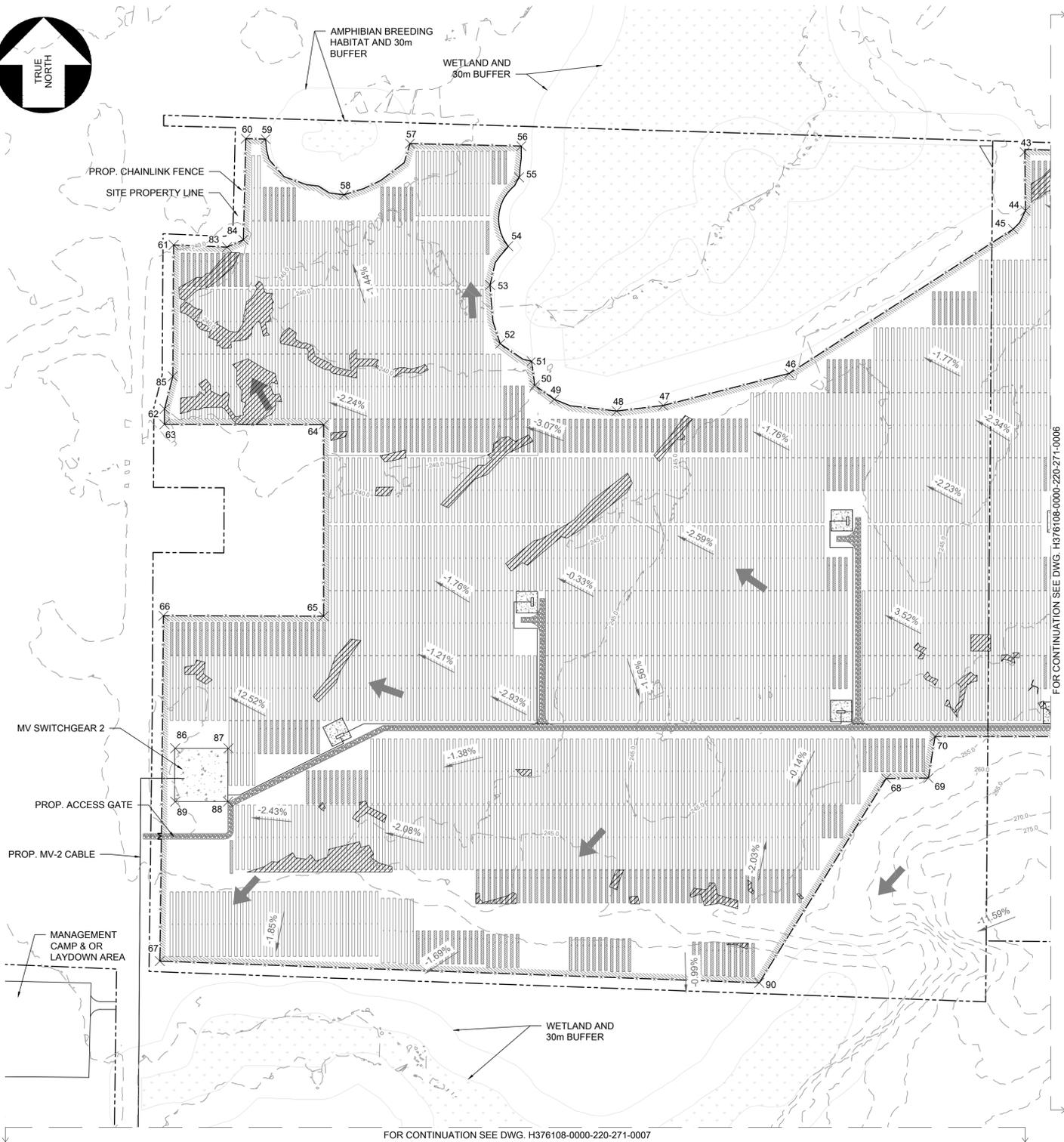
<p>H376108-0000-220-271-0008 GRADING AND DRAINAGE PLAN-6</p> <p>H376108-0000-220-271-0007 GRADING AND DRAINAGE PLAN-5</p> <p>H376108-0000-220-271-0006 GRADING AND DRAINAGE PLAN-4</p> <p>H376108-0000-220-271-0005 GRADING AND DRAINAGE PLAN-3</p> <p>H376108-0000-220-271-0004 GRADING AND DRAINAGE PLAN-2</p> <p>H376108-0000-220-271-0002 OVERALL SITE PLAN SHEET 2 OF 2</p> <p>H376108-0000-220-271-0001 OVERALL SITE PLAN SHEET 1 OF 2</p>		<p>0 ISSUED FOR PERMITTING</p>		<p>J.S J.M 2026/03/13</p>		<p>BY CHK'D DATE</p>		<p>CLIENT NAME</p>		<p>ROLE NAME SIGNATURE DATE</p>		<p>SCALE DWG. No. REV</p>			
<p>DRAWING No. NA</p>		<p>REG. PROFESSIONAL</p>		<p>DESCRIPTION REVISIONS</p>		<p>DRAWING APPROVAL STATUS: Issued for Permitting</p>		<p>DRAFTSPERSON R. POKHAREL NR 2026/01/21</p> <p>DESIGNER J. SUN NR 2026/01/21</p> <p>CHECKER J. MOHAMMAD 2026/03/13</p> <p>DESIGN COORD. M. BASIQ 2026/03/13</p> <p>RESP. ENG. M. BASIQ 2026/03/13</p> <p>LEAD DISC. ENG. M. BASIQ 2026/03/13</p> <p>ENG. MANAGER J. MOHAMMAD 2026/03/13</p> <p>PROJ. MANAGER S. THOMPSON 2026/03/13</p>		<p>SCALE 1:2500</p>		<p>DWG. No. H376108-0000-220-271-0003</p>		<p>REV 0</p>	
<p>1</p>		<p>2</p>		<p>3</p>		<p>4</p>		<p>5</p>		<p>6</p>		<p>7</p>			
<p>1</p>		<p>2</p>		<p>3</p>		<p>4</p>		<p>5</p>		<p>6</p>		<p>7</p>			

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF [CARBONFREE KYNOCHE] (CLIENT) AND IS ISSUED PURSUANT TO [SERVICE ORDER 2025-27] BETWEEN CLIENT AND [HATCH LTD.] (HATCH). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.



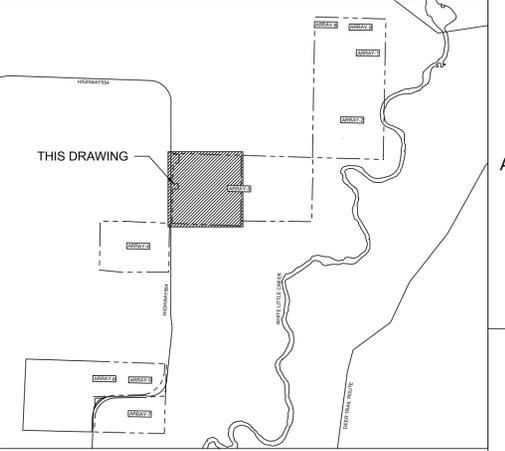
CARBONFREE KYNOCHE LTD
SOLAR PROJECT

GENERAL SITE WIDE
CIVIL
GRADING AND DRAINAGE PLAN-1



PROPOSED GRADING & DRAINAGE PLAN-3
 SCALE 1:2,500

CHAIN-LINK FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
43	5145179.99	326095.09	FENCE
44	5145125.03	326095.86	FENCE
45	5145107.83	326084.37	FENCE
46	5144972.63	325874.26	FENCE
47	5144942.66	325756.09	FENCE
48	5144937.54	325712.53	FENCE
49	5144948.54	325653.88	FENCE
50	5144961.53	325635.60	FENCE
51	5144984.14	325632.67	FENCE
52	5145000.53	325603.27	FENCE
53	5145055.46	325593.69	FENCE
54	5145091.91	325610.76	FENCE
55	5145156.27	325620.86	FENCE
56	5145185.58	325622.96	FENCE
57	5145187.94	325518.61	FENCE
58	5145140.00	325456.75	FENCE
59	5145192.18	325393.09	FENCE
60	5145192.59	325364.58	FENCE
61	5145093.03	325296.83	FENCE
62	5144939.56	325288.33	FENCE
63	5144925.06	325288.25	FENCE
64	5144924.68	325437.59	FENCE
65	5144745.41	325437.55	FENCE
66	5144745.87	325287.27	FENCE
67	5144422.43	325283.92	FENCE
68	5144593.42	325965.29	FENCE
69	5144593.84	326004.94	FENCE
70	5144632.78	326011.13	FENCE
83	5145091.02	325346.96	FENCE
84	5145097.87	325362.32	FENCE
85	5144969.99	325296.12	FENCE
86	5144621.75	325298.37	SWITCHGEAR
87	5144621.75	325348.37	SWITCHGEAR
88	5144571.75	325347.87	SWITCHGEAR
89	5144571.75	325298.37	SWITCHGEAR
90	5144402.14	325846.28	FENCE

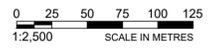


KEY PLAN
 N.T.S.

- NOTES:**
- ALL DIMENSIONS SHOWN HERE ARE IN METRES UNLESS MENTIONED OTHERWISE.
 - COORDINATE SYSTEM SHOWN HERE IS UTM WITH NAD83 DATUM, ZONE 17N.
 - TOPOGRAPHIC DATA SHOWN IN BASED ON THE DATA "1m LIDAR CONTOURS" DOWNLOADED FROM GEOHUB ONTARIO.
 - GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
 - ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
 - PERIMETER CHAIN-LINK FENCE TO BE 2.0m HIGH WITH 3 STRING BARBED WIRE FOR SECURITY.

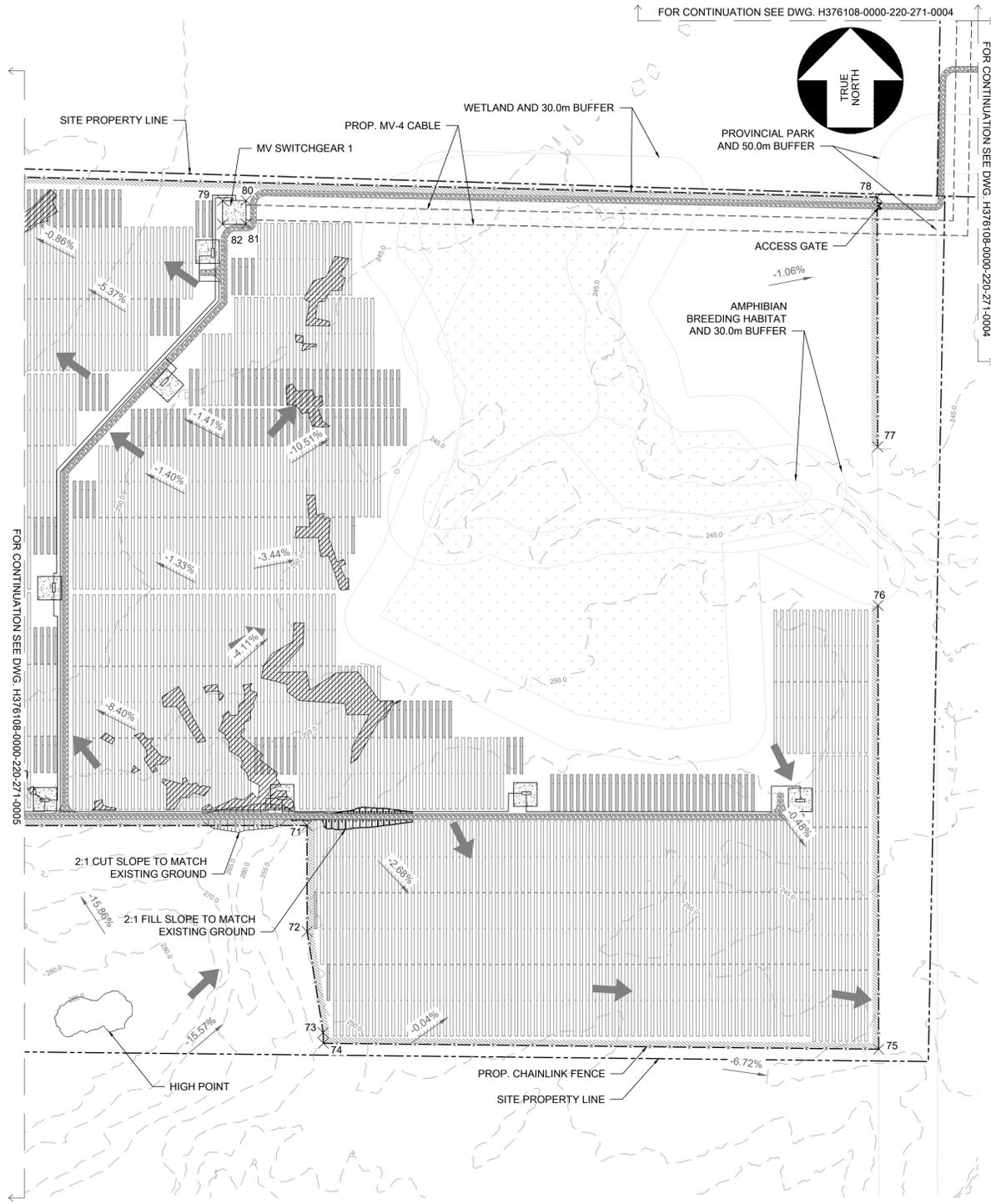
- LEGEND:**
- FULL-LENGTH 1P TRACKER
 - HALF-LENGTH 1P TRACKER
 - EXISTING CONTOUR LINE
 - SITE PROPERTY LINE
 - PROPOSED CHAINLINK FENCE
 - 5m BUFFER OF PROPOSED FENCELINE
 - PROPOSED MV-2 CABLE
 - PROPOSED MV-4 CABLE
 - PROPOSED ATV TRAIL
 - DRAINAGE FLOW DIRECTION
 - 30m BUFFER OF WETLAND/AMPHIBIAN BREEDING HABITAT
 - EXISTING SLOPE
 - PROPOSED FENCE SETTING OUT POINT
 - PROPOSED GRADING SETTING OUT POINT
 - INVERTER PAD
 - SUBSTATION/SWITCHGEAR PAD
 - AREA TO BE LOCALLY GRADED NO STEEPER THAN 20% SLOPE

NOT FOR CONSTRUCTION



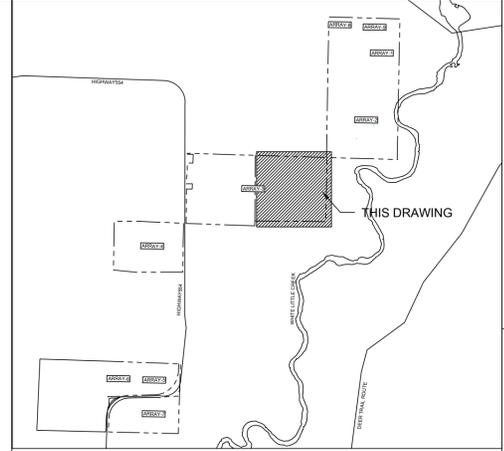
<p>THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF CARBONFREE KYNOCH (CLIENT) AND IS ISSUED PURSUANT TO SERVICE ORDER 2023-27 BETWEEN CLIENT AND HATCH LTD. (HATCH). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.</p>											
				<p>DRAFTSPERSON R. POKHAREL NR 2026/01/21</p> <p>DESIGNER J. SUN NR 2026/01/21</p> <p>CHECKER J. MOHAMMAD 2026/03/13</p> <p>DESIGN COORD. M. BASIQ 2026/03/13</p> <p>RESP. ENG. M. BASIQ 2026/03/13</p> <p>LEAD DISC. ENG. M. BASIQ 2026/03/13</p> <p>ENG. MANAGER J. MOHAMMAD 2026/03/13</p> <p>PROJ. MANAGER S. THOMPSON 2026/03/13</p>				<p>CARBONFREE KYNOCH LTD SOLAR PROJECT</p>			
				<p>CLIENT NAME</p>				<p>GENERAL SITE WIDE CIVIL GRADING AND DRAINAGE PLAN-3</p>			
<p>0 ISSUED FOR PERMITTING</p>				<p>J.S J.M 2026/03/13</p>				<p>SCALE 1:2500 DWG. No. H376108-0000-220-271-0005 REV 0</p>			
<p>DRAWING No. DRAWING TITLE</p>				<p>REG. PROFESSIONAL DESCRIPTION REVISIONS</p>				<p>DRAWING APPROVAL STATUS: Issued for Permitting</p>			
<p>REFERENCE DRAWINGS NA</p>								<p>SHEET SIZE: A1</p>			

H376108-0000-220-271-0008	GRADING AND DRAINAGE PLAN-6
H376108-0000-220-271-0007	GRADING AND DRAINAGE PLAN-5
H376108-0000-220-271-0006	GRADING AND DRAINAGE PLAN-4
H376108-0000-220-271-0004	GRADING AND DRAINAGE PLAN-2
H376108-0000-220-271-0003	GRADING AND DRAINAGE PLAN-1
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2



PROPOSED GRADING & DRAINAGE PLAN-4
SCALE 1:2,500

CHAIN-LINK FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
71	5144632.78	326345.02	FENCE
72	5144542.87	326345.15	FENCE
73	5144457.21	326358.74	FENCE
74	5144448.19	326358.99	FENCE
75	5144443.20	326830.53	FENCE
76	5144819.35	326829.88	FENCE
77	5144953.85	326829.64	FENCE
78	5145165.34	326829.28	FENCE
79	5145162.39	326273.34	SWITCHGEAR
80	5145162.39	326293.34	SWITCHGEAR
81	5145142.39	326293.34	SWITCHGEAR
82	5145142.39	326273.34	SEITCHGEAR



KEY PLAN
N.T.S

NOTES:

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- COORDINATE SYSTEM SHOWN HERE IS UTM WITH NAD83 DATUM, ZONE 17N.
- TOPOGRAPHIC DATA SHOWN IN BASED ON THE DATA "1m LIDAR CONTOURS" DOWNLOADED FROM GEOHUB ONTARIO.
- GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
- ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
- PERIMETER CHAIN-LINK FENCE TO BE 2.0m HIGH WITH 3 STRING BARBED WIRE FOR SECURITY.

LEGEND:

- FULL-LENGTH 1P TRACKER
- HALF-LENGTH 1P TRACKER
- EXISTING CONTOUR LINE
- SITE PROPERTY LINE
- PROPOSED CHAINLINK FENCE
- 5m BUFFER OF PROPOSED FENCELINE
- PROPOSED MV-2 CABLE
- PROPOSED MV-4 CABLE
- PROPOSED ATV TRAIL
- DRAINAGE FLOW DIRECTION
- 30m BUFFER OF WETLAND/AMPHIBIAN BREEDING HABITAT
- EXISTING SLOPE
- PROPOSED FENCE SETTING OUT POINT
- PROPOSED GRADING SETTING OUT POINT
- INVERTER PAD
- SUBSTATION/SWITCHGEAR PAD
- AREA TO BE LOCALLY GRADED NO STEEPER THAN 20% SLOPE

NOT FOR CONSTRUCTION



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**CARBONFREE KYNOCH LTD
SOLAR PROJECT**

**GENERAL SITE WIDE
CIVIL
GRADING AND DRAINAGE PLAN-4**

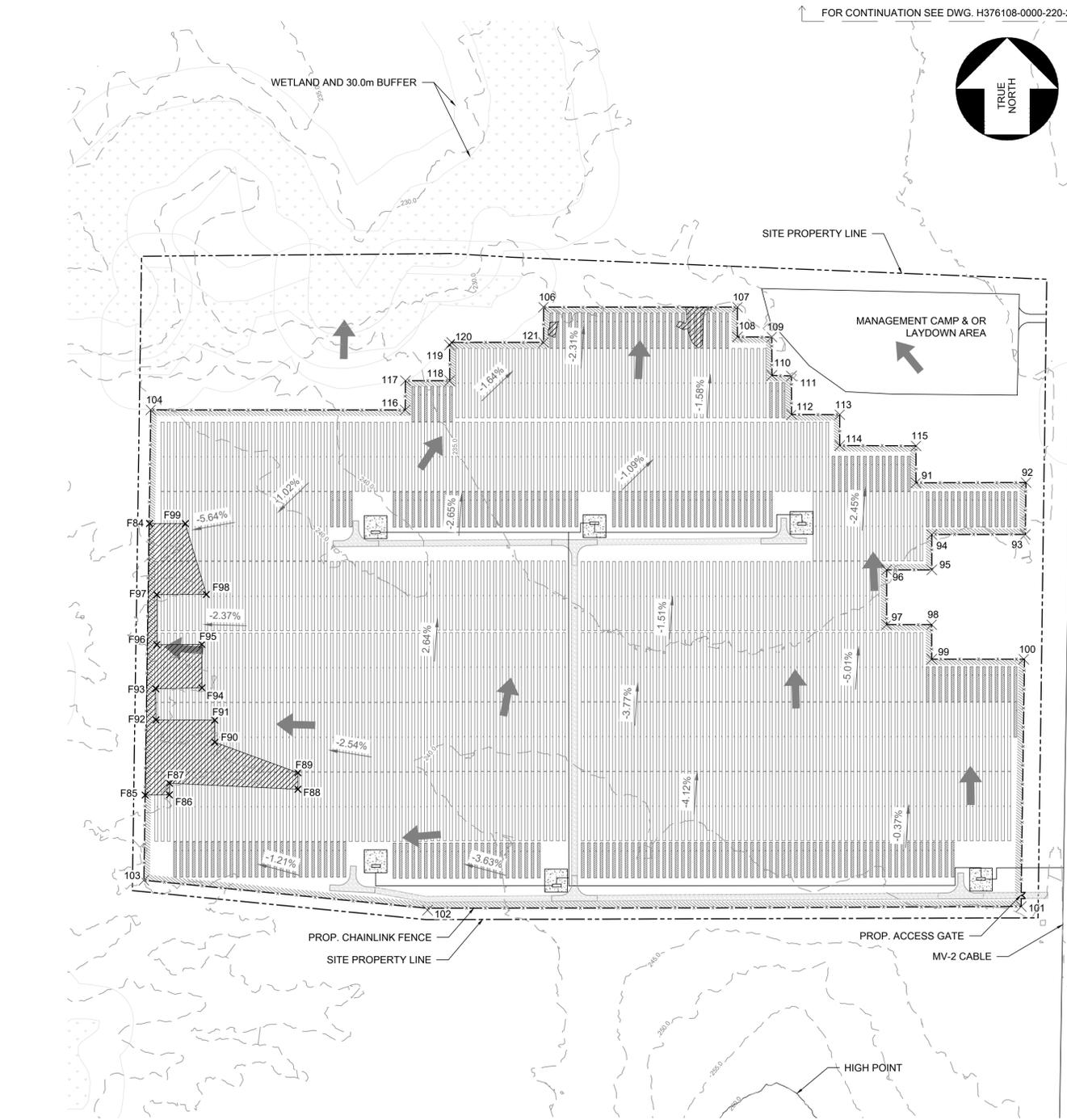
DRAWING No.	DRAWING TITLE	REG. PROFESSIONAL	DESCRIPTION	BY	CHK'D	DATE	ROLE	NAME	SIGNATURE	DATE
0	ISSUED FOR PERMITTING			J.S	J.M	2026/03/13				
DRAWING APPROVAL STATUS: Issued for Permitting										

DRAWING No.	DRAWING TITLE
H376108-0000-220-271-0008	GRADING AND DRAINAGE PLAN-6
H376108-0000-220-271-0007	GRADING AND DRAINAGE PLAN-5
H376108-0000-220-271-0005	GRADING AND DRAINAGE PLAN-3
H376108-0000-220-271-0004	GRADING AND DRAINAGE PLAN-2
H376108-0000-220-271-0003	GRADING AND DRAINAGE PLAN-1
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2

SCALE 1:2500	DWG. No. H376108-0000-220-271-0006	REV 0
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A
B
C
D
E

FOR CONTINUATION SEE DWG. H376108-0000-220-271-0005

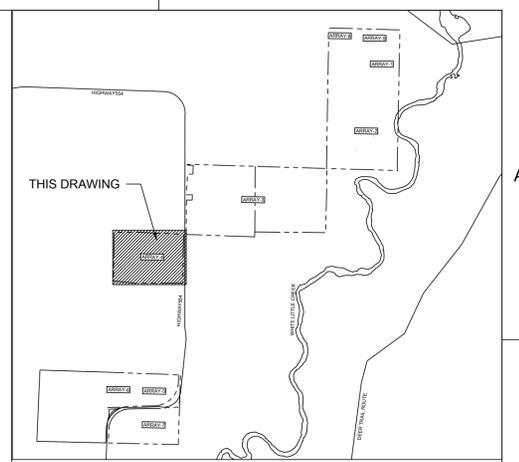


PROPOSED GRADING & DRAINAGE PLAN-5
SCALE 1:2,500

PROP. GRADING SETTING OUT POINT				
POINT	NORTHING	EASTING	DESCRIPTION	ELEVATION
F84	5144201.24	324456.52	FG	236.04
F85	5143963.58	324452.69	FG	234.01
F86	5143963.79	324473.94	FG	235.00
F87	5143973.97	324474.02	FG	233.99
F88	5143968.64	324586.67	FG	236.00
F89	5143983.19	324586.66	FG	236.06
F90	5144009.82	324513.80	FG	235.01
F91	5144029.22	324513.72	FG	235.12
F92	5144029.41	324462.16	FG	234.27
F93	5144056.57	324462.04	FG	233.05
F94	5144057.46	324502.56	FG	234.52
F95	5144095.48	324502.40	FG	235.39
F96	5144095.21	324462.89	FG	235.17
F97	5144138.94	324462.94	FG	233.55
F98	5144139.14	324506.32	FG	235.43
F99	5144201.22	324487.95	FG	236.35

NOTE: FG ELEVATION SHOWN IN THE TABLE MATCH EXISTING.

CHAIN-LINK FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
91	5144236.94	325128.72	FENCE
92	5144237.18	325225.14	FENCE
93	5144191.59	325224.55	FENCE
94	5144191.59	325142.57	FENCE
95	5144160.67	325142.57	FENCE
96	5144160.67	325102.99	FENCE
97	5144112.77	325102.99	FENCE
98	5144112.77	325142.46	FENCE
99	5144082.55	325142.46	FENCE
100	5144082.55	325223.21	FENCE
101	5143866.11	325221.02	FENCE
102	5143862.81	324700.37	FENCE
103	5143889.06	324451.58	FENCE
104	5144300.78	324457.58	FENCE
106	5144390.66	324802.09	FENCE
107	5144390.66	324972.13	FENCE
108	5144364.59	324972.13	FENCE
109	5144364.49	325002.22	FENCE
110	5144330.89	325002.36	FENCE
111	5144330.34	325019.49	FENCE
112	5144296.61	325019.58	FENCE
113	5144296.56	325061.80	FENCE
114	5144269.51	325061.85	FENCE
115	5144269.22	325128.70	FENCE
116	5144300.60	324680.74	FENCE
117	5144326.21	324680.99	FENCE
118	5144326.21	324719.75	FENCE
119	5144357.46	324719.70	FENCE
120	5144359.76	324721.45	FENCE
121	5144359.78	324802.09	FENCE



KEY PLAN
N.T.S

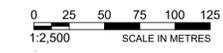
NOTES:

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- ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
- PERIMETER CHAIN-LINK FENCE TO BE 2.0m HIGH WITH 3 STRING BARBED WIRE FOR SECURITY.

LEGEND:

- FULL-LENGTH 1P TRACKER
- HALF-LENGTH 1P TRACKER
- EXISTING CONTOUR LINE
- SITE PROPERTY LINE
- PROPOSED CHAINLINK FENCE
- 5m BUFFER OF PROPOSED FENCELINE
- PROPOSED MV-2 CABLE
- PROPOSED MV-4 CABLE
- PROPOSED ATV TRAIL
- DRAINAGE FLOW DIRECTION
- 30m BUFFER OF WETLAND/AMPHIBIAN BREEDING HABITAT
- EXISTING SLOPE
- PROPOSED FENCE SETTING OUT POINT
- PROPOSED GRADING SETTING OUT POINT
- INVERTER PAD
- SUBSTATION/SWITCHGEAR PAD
- AREA TO BE LOCALLY GRADED NO STEEPER THAN 20% SLOPE

NOT FOR CONSTRUCTION



DRAWING No.	DRAWING TITLE	REG. PROFESSIONAL	DESCRIPTION	REVISIONS
H376108-0000-220-271-0008	GRADING AND DRAINAGE PLAN-6			
H376108-0000-220-271-0006	GRADING AND DRAINAGE PLAN-4			
H376108-0000-220-271-0005	GRADING AND DRAINAGE PLAN-3			
H376108-0000-220-271-0004	GRADING AND DRAINAGE PLAN-2			
H376108-0000-220-271-0003	GRADING AND DRAINAGE PLAN-1			
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2			
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2			
0	ISSUED FOR PERMITTING		J.S J.M 2026/03/13	

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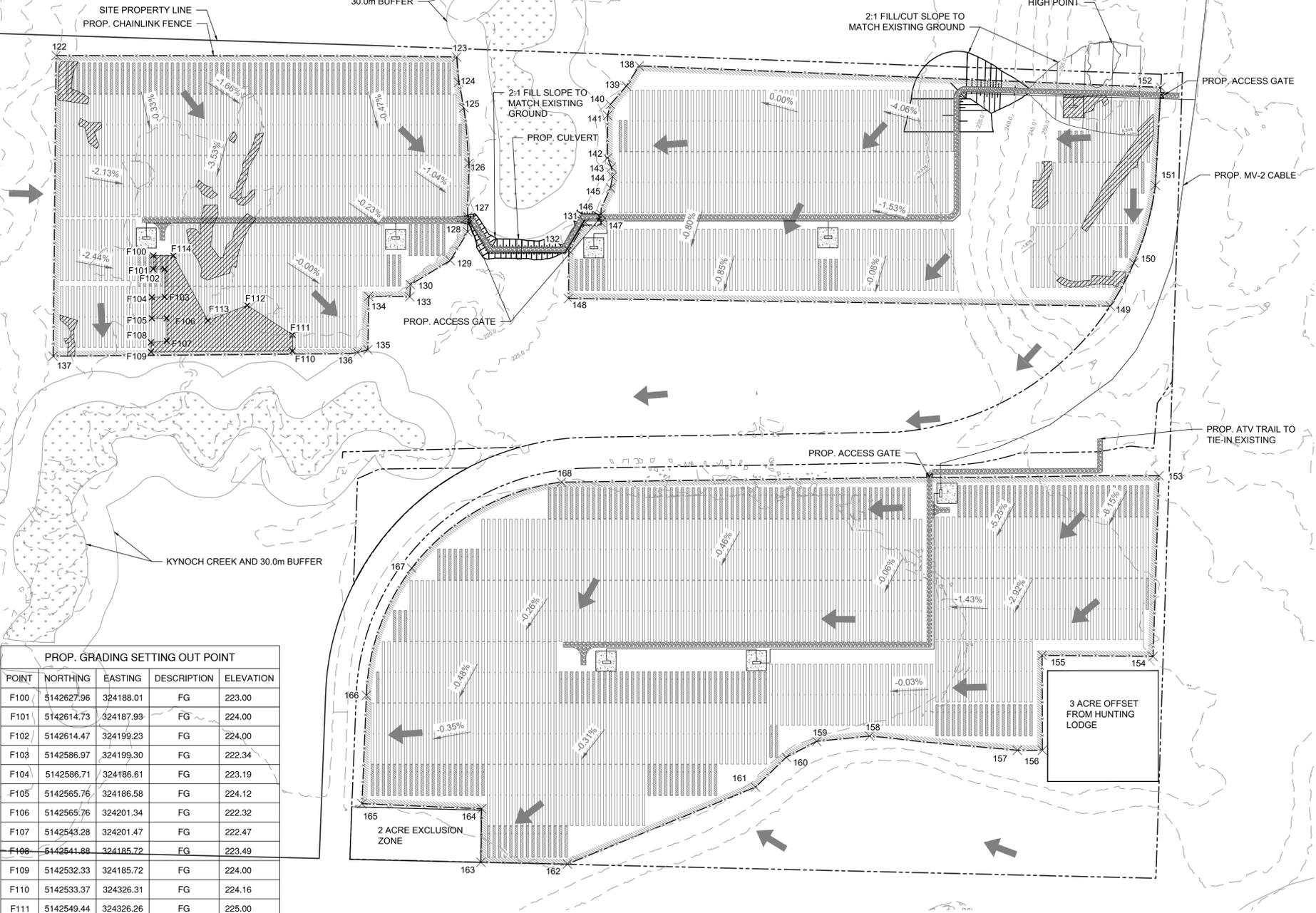


DRAFTSPERSON	R. POKHAREL	NR	2026/01/21
DESIGNER	J. SUN	NR	2026/01/21
CHECKER	J. MOHAMMAD		2026/03/13
DESIGN COORD.	M. BASIQ		2026/03/13
RESP. ENG.	M. BASIQ		2026/03/13
LEAD DISC. ENG.	M. BASIQ		2026/03/13
ENG. MANAGER	J. MOHAMMAD		2026/03/13
PROJ. MANAGER	S. THOMPSON		2026/03/13
CLIENT NAME			
ROLE	NAME	SIGNATURE	DATE

CARBONFREE KYNOCH LTD
SOLAR PROJECT

GENERAL SITE WIDE
CIVIL
GRADING AND DRAINAGE PLAN-5

SCALE	1:2500	DWG. No.	H376108-0000-220-271-0007	REV	0
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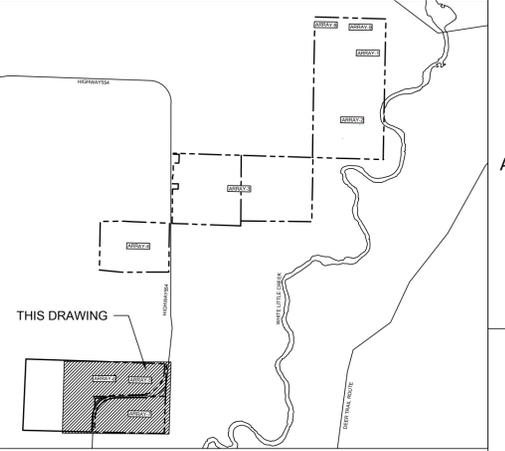


PROP. GRADING SETTING OUT POINT				
POINT	NORTHING	EASTING	DESCRIPTION	ELEVATION
F100	5142627.96	324188.01	FG	223.00
F101	5142614.73	324187.93	FG	224.00
F102	5142614.47	324199.23	FG	224.00
F103	5142586.97	324199.30	FG	222.34
F104	5142586.71	324186.61	FG	223.19
F105	5142565.76	324186.58	FG	224.12
F106	5142565.76	324201.34	FG	222.32
F107	5142543.28	324201.47	FG	222.47
F108	5142541.88	324185.72	FG	223.49
F109	5142532.33	324185.72	FG	224.00
F110	5142533.37	324326.31	FG	224.16
F111	5142549.44	324326.26	FG	225.00
F112	5142578.58	324281.55	FG	225.00
F113	5142563.45	324242.26	FG	224.87
F114	5142627.96	324208.01	FG	223.00
F115	5146538.47	327455.64	FG	280.63

NOTE: FG ELEVATION SHOWN IN THE TABLE MATCH EXISTING.

PROPOSED GRADING & DRAINAGE PLAN-6
 SCALE 1:2,500

CHAIN-LINK FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
122	5142826.44	324091.44	FENCE
123	5142825.11	324489.50	FENCE
124	5142799.89	324491.42	FENCE
125	5142774.68	324496.58	FENCE
126	5142719.65	324501.73	FENCE
127	5142666.54	324500.44	FENCE
128	5142651.45	324500.44	FENCE
129	5142623.06	324483.09	FENCE
130	5142599.15	324443.54	FENCE
131	5142660.74	324617.51	FENCE
132	5142633.17	324600.80	FENCE
133	5142587.14	324442.86	FENCE
134	5142587.47	324402.12	FENCE
135	5142534.58	324401.23	FENCE
136	5142531.74	324390.79	FENCE
137	5142528.14	324088.55	FENCE
138	5142816.21	324670.90	FENCE
139	5142796.25	324658.19	FENCE
140	5142777.87	324642.19	FENCE
141	5142767.06	324639.45	FENCE
142	5142724.73	324639.33	FENCE
143	5142715.56	324643.25	FENCE
144	5142706.32	324644.26	FENCE
145	5142695.03	324642.34	FENCE
146	5142668.88	324632.97	FENCE
147	5142660.89	324632.92	FENCE
148	5142585.44	324600.65	FENCE
149	5142577.92	325139.03	FENCE
150	5142620.60	325162.35	FENCE
151	5142697.65	325183.74	FENCE
152	5142794.82	325189.14	FENCE
153	5142409.52	325187.35	FENCE
154	5142230.27	325181.46	FENCE
155	5142231.33	325071.19	FENCE
156	5142137.12	325071.52	FENCE
157	5142137.12	325046.52	FENCE
158	5142151.22	324899.80	FENCE
159	5142146.04	324847.26	FENCE
160	5142130.12	324816.91	FENCE
161	5142100.58	324786.41	FENCE
162	5142024.23	324599.50	FENCE
163	5142026.06	324513.63	FENCE
164	5142079.12	324514.31	FENCE
165	5142084.18	324395.39	FENCE
166	5142191.60	324399.72	FENCE
167	5142317.79	324444.78	FENCE
168	5142403.21	324593.60	FENCE



KEY PLAN
 N.T.S.

- NOTES:**
- ALL DIMENSIONS SHOWN HERE ARE IN METRES UNLESS MENTIONED OTHERWISE.
 - COORDINATE SYSTEM SHOWN HERE IS UTM WITH NAD83 DATUM, ZONE 17N.
 - TOPOGRAPHIC DATA SHOWN IN BASED ON THE DATA "1m LIDAR CONTOURS" DOWNLOADED FROM GEOHUB ONTARIO.
 - GRADING TO BE COMPLETED IN ACCORDANCE WITH OPSS 206. GRANULAR MATERIAL TO BE USED IN ACCORDANCE WITH OPSS 1010.
 - ALL SEEDING TO BE COMPLETED IN ACCORDANCE WITH OPSS 804.
 - PERIMETER CHAIN-LINK FENCE TO BE 2.0m HIGH WITH 3 STRING BARBED WIRE FOR SECURITY.

LEGEND:

- FULL-LENGTH 1P TRACKER
- HALF-LENGTH 1P TRACKER
- EXISTING CONTOUR LINE
- SITE PROPERTY LINE
- PROPOSED CHAINLINK FENCE
- 5m BUFFER OF PROPOSED FENCELINE
- PROPOSED MV-2 CABLE
- PROPOSED MV-4 CABLE
- PROPOSED ATV TRAIL
- DRAINAGE FLOW DIRECTION
- 30m BUFFER OF WETLAND/AMPHIBIAN BREEDING HABITAT
- EXISTING SLOPE
- PROPOSED FENCE SETTING OUT POINT
- PROPOSED GRADING SETTING OUT POINT
- INVERTER PAD
- SUBSTATION/SWITCHGEAR PAD
- AREA TO BE LOCALLY GRADED NO STEEPER THAN 20% SLOPE

NOT FOR CONSTRUCTION



DRAWING No.	DRAWING TITLE	REG. PROFESSIONAL	DESCRIPTION	BY	CHK'D	DATE
0	ISSUED FOR PERMITTING			J.S	J.M	2026/03/13

DRAWING No.	DRAWING TITLE
H376108-0000-220-271-0007	GRADING AND DRAINAGE PLAN-5
H376108-0000-220-271-0006	GRADING AND DRAINAGE PLAN-4
H376108-0000-220-271-0005	GRADING AND DRAINAGE PLAN-3
H376108-0000-220-271-0004	GRADING AND DRAINAGE PLAN-2
H376108-0000-220-271-0003	GRADING AND DRAINAGE PLAN-1
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2

THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF CARBONFREE KYNOCHE (CLIENT) AND IS ISSUED PURSUANT TO SERVICE ORDER 2023-27 BETWEEN CLIENT AND HATCH LTD. (HATCH). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.



DRAFTSPERSON	R. POKHAREL	NR	2026/01/21
DESIGNER	J. SUN	NR	2026/01/21
CHECKER	J. MOHAMMAD		2026/03/13
DESIGN COORD.	M. BASIQ		2026/03/13
RESP. ENG.	M. BASIQ		2026/03/13
LEAD DISC. ENG.	M. BASIQ		2026/03/13
ENG. MANAGER	J. MOHAMMAD		2026/03/13
PROJ. MANAGER	S. THOMPSON		2026/03/13

**CARBONFREE KYNOCHE LTD
 SOLAR PROJECT**

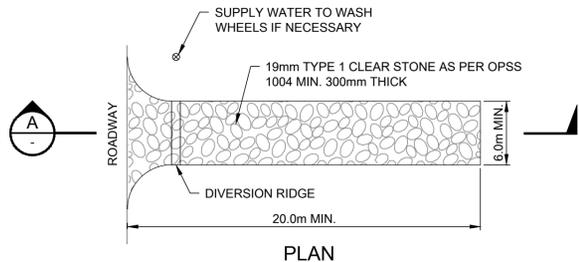
**GENERAL SITE WIDE
 CIVIL
 GRADING AND DRAINAGE PLAN-6**

SCALE	DWG. No.	REV
1:2500	H376108-0000-220-271-0008	0

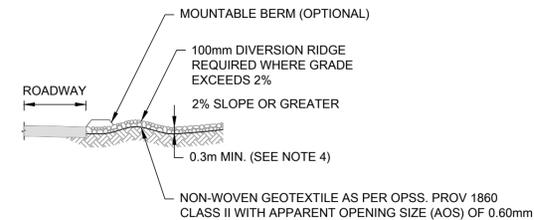
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Appendix D

Erosion and Sediment Control Plan

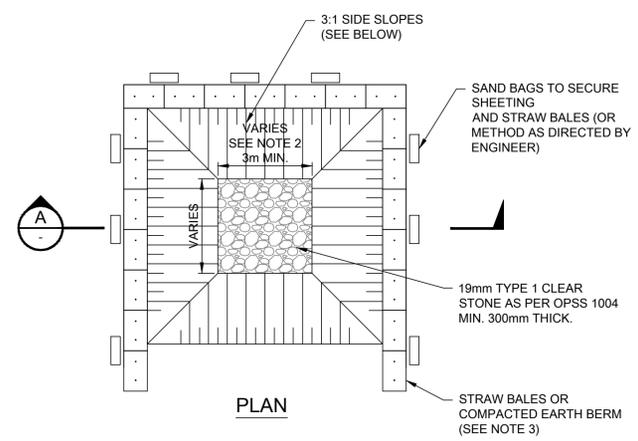


PLAN

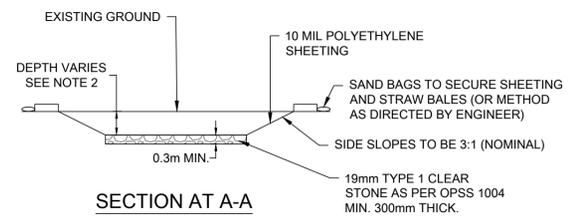


SECTION AT A-A

1 CONSTRUCTION ACCESS
SCALE: NTS



PLAN



SECTION AT A-A

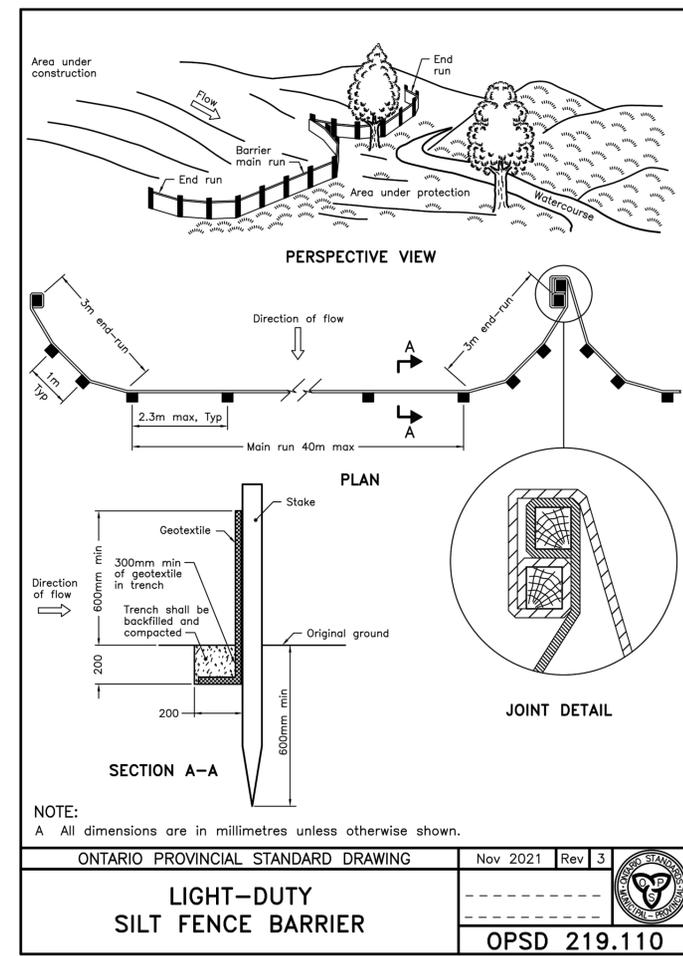
2 CONCRETE WASHOUT AREAS
SCALE: NTS

CONSTRUCTION ACCESS NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING AND SEDIMENT LEAVING THE CONSTRUCTION SITE. THIS MAY REQUIRE TOP DRESSING, REPAIR AND / OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO EXITING THE CONSTRUCTION ZONE.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A STABILIZED SURFACE THAT DRAINS INTO AN APPROVED SEDIMENT CONTAINMENT SYSTEM.
4. STONE SIZE - USE 19mm TYPE 1 CLEAR STONE AS PER OPSS 1004, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT, FOR CONSTRUCTION ENTRANCE.
 - SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
 - MAINTENANCE - THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED OUTSIDE OF THE CONSTRUCTION ZONE MUST BE CONTAINED AND REMOVED.
5. TEMPORARY "TRUCK ENTRANCE" SIGNS (TC-31) SHALL BE INSTALLED ON THE SHOULDER, 150m IN ADVANCE OF THE CONSTRUCTION ACCESS. THE APPLICANT WILL BE RESPONSIBLE FOR THE COST OF OBTAINING, ERECTING, AND MAINTAINING THESE SIGNS.
6. THE TEMPORARY CONSTRUCTION ACCESS SHALL BE REMOVED FROM THE ROAD ALLOWANCE WHEN ITS USE IS FINISHED AND ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
7. ENTRANCES SHALL BE PROVIDED WITH A CULVERT IF REQUIRED FOR ROADSIDE SURFACE DRAINAGE.

CONCRETE WASHOUT AREAS NOTES:

1. CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE. THE CONCRETE WASHOUT AREA SHALL BE ENTIRELY SELF-CONTAINED. ACTUAL LAYOUT SIZE TO BE FIELD DETERMINED.
2. LOCATION AND SIZING OF THE CONCRETE WASHOUT AREA(S) TO BE CONSISTENT WITH THE REQUIREMENTS BELOW.
 - LOCATION: WASHOUT AREA(S) ARE TO BE LOCATED AT LEAST 30m FROM ANY STREAM, WETLAND, STORM DRAINS, OR OTHER SENSITIVE RESOURCE.
 - SIZE: THE WASHOUT MUST HAVE SUFFICIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS INCLUDING, BUT NOT LIMITED TO, OPERATIONS ASSOCIATED WITH GROUT AND MORTAR.
3. SURFACE DISCHARGE IS UNACCEPTABLE. THEREFORE, STRAW BALES OR OTHER CONTROL MEASURES, AS APPROVED BY THE ENGINEER, SHOULD BE USED AROUND THE PERIMETER OF THE CONCRETE WASHOUT AREA FOR CONTAINMENT.
4. SIGNS SHOULD BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CONCRETE AREA(S) AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS. WASHOUT AREA(S) SHOULD BE FLAGGED WITH SAFETY FENCING OR OTHER APPROVED METHOD.
5. WASHOUT AREA(S) ARE TO BE INSPECTED AT LEAST ONCE A WEEK FOR STRUCTURAL INTEGRITY, ADEQUATE HOLDING CAPACITY AND CHECKED FOR LEAKS, TEARS, OR OVERFLOWS. WASHOUT AREA(S) SHOULD BE CHECKED AFTER HEAVY RAINS.
6. HARDENED CONCRETE WASTE SHOULD BE REMOVED AND DISPOSED OF WHEN THE WASTE HAS ACCUMULATED TO HALF OF THE CONCRETE WASHOUT'S HEIGHT. ALL CONCRETE WASTE SHALL BE DISPOSED OF IN A MANNER CONSISTENT WITH ALL APPLICABLE LAWS, REGULATIONS, AND GUIDELINES.



3 OPSD 219.110 - LIGHT-DUTY SILTY FENCE BARRIER
SCALE: NTS

EROSION AND SEDIMENT CONTROL (CONSTRUCTION PHASE) NOTES:

1. CONTRACTOR SHALL IMPLEMENT FILTER FABRIC BARRIER ALONG ROAD AND SIDE DITCHES AT LOCATIONS SHOWN ON EROSION AND SEDIMENT CONTROL PLAN TO KEEP SILT AND/OR EXCAVATED MATERIALS FROM ENTERING INTO THE STORM WATER DITCHES.
2. DURING THE EXCAVATION PHASE OF THE PROJECT, CONTRACTOR SHALL SCHEDULE THE WORK IN SHORT SEGMENTS SO THAT EXCAVATED MATERIAL CAN BE QUICKLY HAUL AWAY FROM THE SITE.
3. CONTRACTOR SHALL CLEAN UP ALL ENTRANCES TO THE SITE DAILY.
4. CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING THE CONSTRUCTION OF THE PROJECT, ALWAYS CLEANING UP DIRT AND LOOSE MATERIAL AS CONSTRUCTION PROGRESSES.
5. INSTALL ALL ESC MEASURES PRIOR TO CONSTRUCTION AND MAINTAIN THEM THROUGHOUT THE WORK TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE.
6. PERFORM DAILY ESC INSPECTIONS AND ADDITIONAL INSPECTIONS AFTER SIGNIFICANT RAINFALL. REPAIR ALL DAMAGED OR INEFFECTIVE MEASURES IMMEDIATELY.
7. ESC MEASURES SHALL ONLY BE REMOVED AFTER FINAL SITE STABILIZATION AND APPROVAL BY A QUALIFIED ESC INSPECTOR. STABILIZE ALL DISTURBED SLOPES AND DITCHES WITH SEED OR EROSION CONTROL BLANKETS AS REQUIRED.
8. RESTORE DISTURBED AREAS INACTIVE FOR MORE THAN 30 DAYS WITH 50 mm TOPSOIL AND HYDROSEED (PER OPSS 804), OR APPLY TEMPORARY NON-VEGETATIVE STABILIZATION IF OUT OF SEASON.
9. CONTRACTOR SHALL MONITOR WEATHER FORECASTS AND REINFORCE ESC MEASURES PRIOR TO RAINFALL EVENTS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM ESC MEASURES TO MAINTAIN PERFORMANCE.
11. STRIP TOPSOIL ONLY WITHIN AREAS REQUIRED FOR SOLAR PANEL INSTALLATION AND SERVICING.
12. INSTALL SILT FENCE, STRAW BALES, CHECK DAMS, AND SEDIMENT BAGS IN ACCORDANCE WITH OPSD DETAILS (E.G., OPSD 219.110, 219.180, 219.210).
13. UNTIL ADEQUATE STABILIZATION IS ACHIEVED, TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL REMAIN IN PLACE.

NOT FOR CONSTRUCTION

<p>Hatch 1000-260-000-220-271-001</p>		<p>THIS DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF [CARBONFREE KYNOCHE LTD] (CLIENT) AND IS ISSUED PURSUANT TO [SERVICE ORDER 2023-27] BETWEEN CLIENT AND [HATCH LTD.] (HATCH). UNLESS OTHERWISE AGREED IN WRITING WITH CLIENT OR SPECIFIED ON THIS DRAWING, (A) HATCH DOES NOT ACCEPT AND DISCLAIMS ANY AND ALL LIABILITY OR RESPONSIBILITY ARISING FROM ANY USE OF OR RELIANCE ON THIS DRAWING BY ANY THIRD PARTY OR ANY MODIFICATION OR MISUSE OF THIS DRAWING BY CLIENT, AND (B) THIS DRAWING IS CONFIDENTIAL AND ALL INTELLECTUAL PROPERTY RIGHTS EMBODIED OR REFERENCED IN THIS DRAWING REMAIN THE PROPERTY OF HATCH.</p>		<p>HATCH</p>		<p>CarbonFree KYNOCHE LTD</p>	
<p>DRAFTSPERSON R. POKHAREL NR 2026/02/13</p>		<p>DESIGNER J. SUN NR 2026/02/13</p>		<p>CHECKER J. MOHAMMAD 2026/03/13</p>		<p>DESIGN COORD. M. BASIQ 2026/03/13</p>	
<p>RESP. ENG. M. BASIQ 2026/03/13</p>		<p>LEAD DISC. ENG. M. BASIQ 2026/03/13</p>		<p>ENG. MANAGER J. MOHAMMAD 2026/03/13</p>		<p>PROJ. MANAGER S. THOMPSON 2026/03/13</p>	
<p>0 ISSUED FOR PERMITTING</p>		<p>J.S J.M 2026/03/13</p>		<p>CLIENT NAME</p>		<p>SCALE N.T.S</p>	
<p>REG. PROFESSIONAL</p>		<p>DESCRIPTION</p>		<p>ROLE NAME SIGNATURE DATE</p>		<p>DWG. No. H376108-0000-220-260-0001</p>	
<p>REVISIONS</p>		<p>DATE</p>		<p>DRAWING APPROVAL STATUS: Issued for Permitting</p>		<p>REV 0</p>	
<p>DRAWING No.</p>		<p>DRAWING TITLE</p>		<p>SCALE</p>		<p>REV</p>	
<p>REFERENCE DRAWINGS NA</p>		<p>REG. PROFESSIONAL</p>		<p>DRAWING APPROVAL STATUS: Issued for Permitting</p>		<p>SHEET SIZE: A1</p>	

H375916-0000-220-271-0014	EROSION & SEDIMENT CONTROL PLAN-6
H375916-0000-220-271-0013	EROSION & SEDIMENT CONTROL PLAN-5
H375916-0000-220-271-0012	EROSION & SEDIMENT CONTROL PLAN-4
H375916-0000-220-271-0011	EROSION & SEDIMENT CONTROL PLAN-3
H375916-0000-220-271-0010	EROSION & SEDIMENT CONTROL PLAN-2
H375916-0000-220-271-0009	EROSION & SEDIMENT CONTROL PLAN-1
H375916-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2



A
B
C
D
E

SITE PROPERTY LINE

PROP. MV-4 CABLE

HV SUBSTATION AREA

HV POI TO PROVINCIAL GRID
 (E 327892.64, N5146867.01)

HV SWITCHING STATION

ACCESS GATE

PROP. CONSTRUCTION ACCESS SEE DETAIL 1
 ON DWG. H376108-0000-221-260-0001

PROP. CONCRETE WASHOUT AREA SEE DETAIL 2
 ON DWG. H376108-0000-221-260-0001

PROP. SILT FENCE SEE DETAIL 3
 ON DWG. H376108-0000-221-260-0001

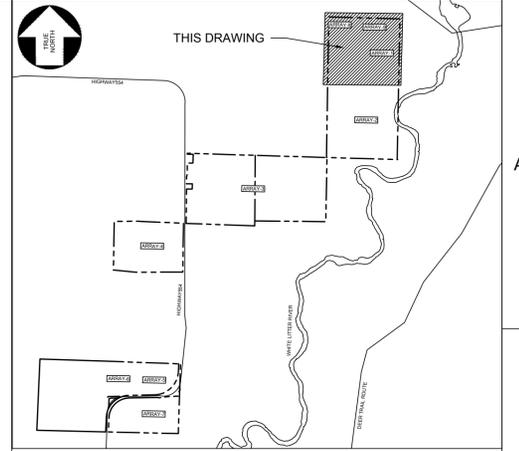
WETLAND AND
 30m BUFFER

PROVINCIAL PARK
 AND 50m BUFFER

FOR CONTINUATION SEE DWG. H376108-0000-220-271-0010

EROSION & SEDIMENT CONTROL PLAN-1
 SCALE 1:2,500

SILT FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
1	5145917.84	326939.98	SILT FENCE
2	5145912.94	327000.14	SILT FENCE
3	5145934.04	327046.99	SILT FENCE
4	5145922.61	327120.77	SILT FENCE
5	5145933.87	327137.82	SILT FENCE
6	5145943.56	327210.31	SILT FENCE
7	5146011.36	327249.97	SILT FENCE
8	5146056.81	327245.42	SILT FENCE
9	5146081.23	327233.93	SILT FENCE
10	5146094.05	327221.47	SILT FENCE
11	5146110.63	327163.73	SILT FENCE
12	5146105.40	327147.93	SILT FENCE
13	5146105.26	326943.36	SILT FENCE
14	5146457.10	326949.60	SILT FENCE
15	5146457.87	327006.55	SILT FENCE
16	5146524.72	327085.05	SILT FENCE
17	5146580.83	327169.97	SILT FENCE
18	5146652.23	327258.68	SILT FENCE
19	5146742.24	327313.38	SILT FENCE
20	5146734.44	327628.86	SILT FENCE
21	5146687.84	327628.84	SILT FENCE
22	5146687.83	327609.49	SILT FENCE
23	5146670.29	327609.49	SILT FENCE
24	5146670.29	327654.49	SILT FENCE
25	5146537.50	327654.45	SILT FENCE
26	5146537.50	327628.42	SILT FENCE
27	5146485.75	327628.42	SILT FENCE
28	5146485.75	327640.98	SILT FENCE
29	5146162.11	327640.89	SILT FENCE
30	5146091.29	327649.70	SILT FENCE
201	5146670.29	327638.95	SILT FENCE



KEY PLAN
 N.T.S

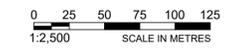
NOTES:

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- CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND MODIFICATION OF ESC MEASURES AS REQUIRED BY THE CONSTRUCTION PHASING/SEQUENCING.

LEGEND:

- FULL-LENGTH 1P TRACKER
- HALF-LENGTH 1P TRACKER
- SITE PROPERTY LINE
- PROPOSED CHAINLINK FENCE
- 5m BUFFER OF PROPOSED FENCELINE
- EXISTING WETLAND/AMPHIBIAN BREEDING HABITAT WITH 30m BUFFER
- PROPOSED MV-2 CABLE
- PROPOSED MV-4 CABLE
- PROPOSED ATV TRAIL
- PROPOSED INVERTER PAD
- PROPOSED SUBSTATION PAD
- PROPOSED SILT FENCE
- PROPOSED CONSTRUCTION ACCESS
- PROPOSED CONCRETE WASHOUT AREA

NOT FOR CONSTRUCTION



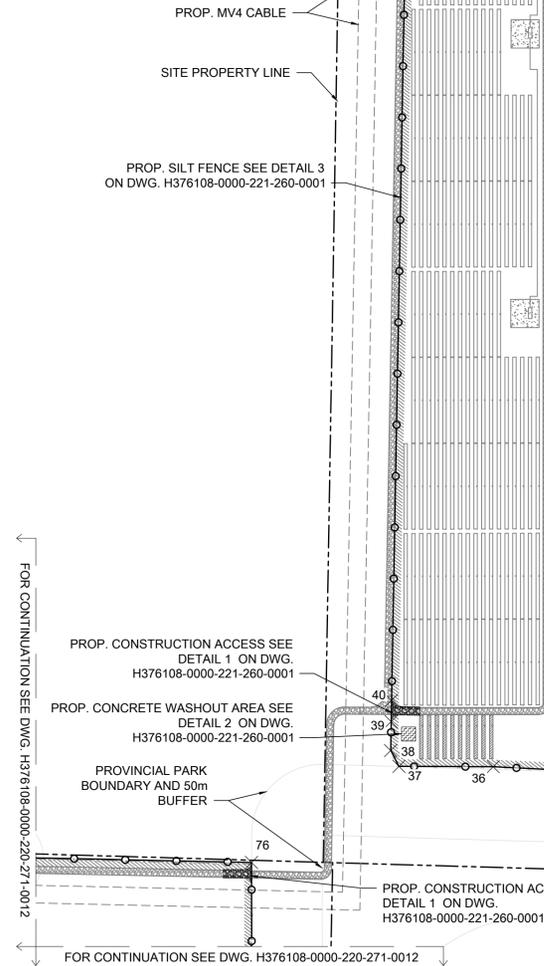
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0 ISSUED FOR PERMITTING	J.S J.M 2026/03/13
No.	DESCRIPTION
REG. PROFESSIONAL	REVISIONS

HATCH			
DRAFTSPERSON	R. POKHAREL	NR	2026/01/21
DESIGNER	J. SUN	NR	2026/01/21
CHECKER	J. MOHAMMAD		2026/03/13
DESIGN COORD.	M. BASIQ		2026/03/13
RESP. ENG.	M. BASIQ		2026/03/13
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ENG. MANAGER	J. MOHAMMAD		2026/03/13
PROJ. MANAGER	S. THOMPSON		2026/03/13
CLIENT NAME			
ROLE	NAME	SIGNATURE	DATE
DRAWING APPROVAL STATUS: Issued for Permitting			

CARBONFREE KYNOCH LTD SOLAR PROJECT	
GENERAL SITE WIDE CIVIL EROSION & SEDIMENT CONTROL PLAN-1	
SCALE 1:2500	DWG. No. H376108-0000-220-271-0009
REV 0	SHEET SIZE: A1

DRAWING No.	DRAWING TITLE
H376108-0000-220-271-0014	EROSION & SEDIMENT CONTROL PLAN-6
H376108-0000-220-271-0013	EROSION & SEDIMENT CONTROL PLAN-5
H376108-0000-220-271-0012	EROSION & SEDIMENT CONTROL PLAN-4
H376108-0000-220-271-0011	EROSION & SEDIMENT CONTROL PLAN-3
H376108-0000-220-271-0010	EROSION & SEDIMENT CONTROL PLAN-2
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2

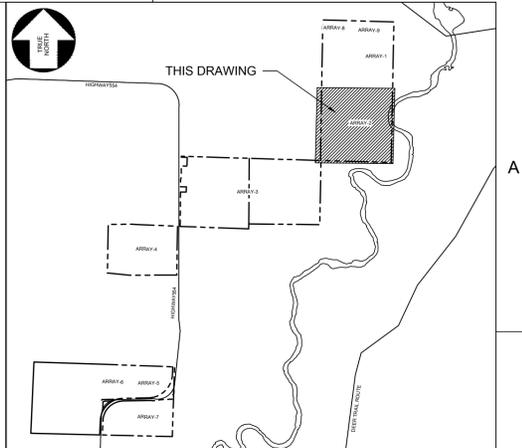
FOR CONTINUATION SEE DWG. H376108-0000-220-271-0009



EROSION & SEDIMENT CONTROL PLAN-2

SCALE 1:2,500

SILT FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
31	5145824.73	327647.52	SILT FENCE
32	5145824.73	327623.69	SILT FENCE
33	5145673.45	327623.69	SILT FENCE
34	5145599.57	327643.27	SILT FENCE
35	5145212.75	327638.03	SILT FENCE
36	5145234.05	327000.45	SILT FENCE
37	5145234.30	326933.67	SILT FENCE
38	5145245.44	326927.81	SILT FENCE
39	5145265.94	326928.13	SILT FENCE
40	5145280.95	326928.45	SILT FENCE



KEY PLAN
N.T.S

NOTES:

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LEGEND:

- FULL-LENGTH 1P TRACKER
- HALF-LENGTH 1P TRACKER
- SITE PROPERTY LINE
- PROPOSED CHAINLINK FENCE
- 5m BUFFER OF PROPOSED FENCELINE
- EXISTING WETLAND/AMPHIBIAN BREEDING HABITAT WITH 30m BUFFER
- PROPOSED MV-2 CABLE
- PROPOSED MV-4 CABLE
- PROPOSED ATV TRAIL
- PROPOSED INVERTER PAD
- PROPOSED SUBSTATION PAD
- PROPOSED SILT FENCE
- PROPOSED CONSTRUCTION ACCESS
- PROPOSED CONCRETE WASHOUT AREA



NOT FOR CONSTRUCTION

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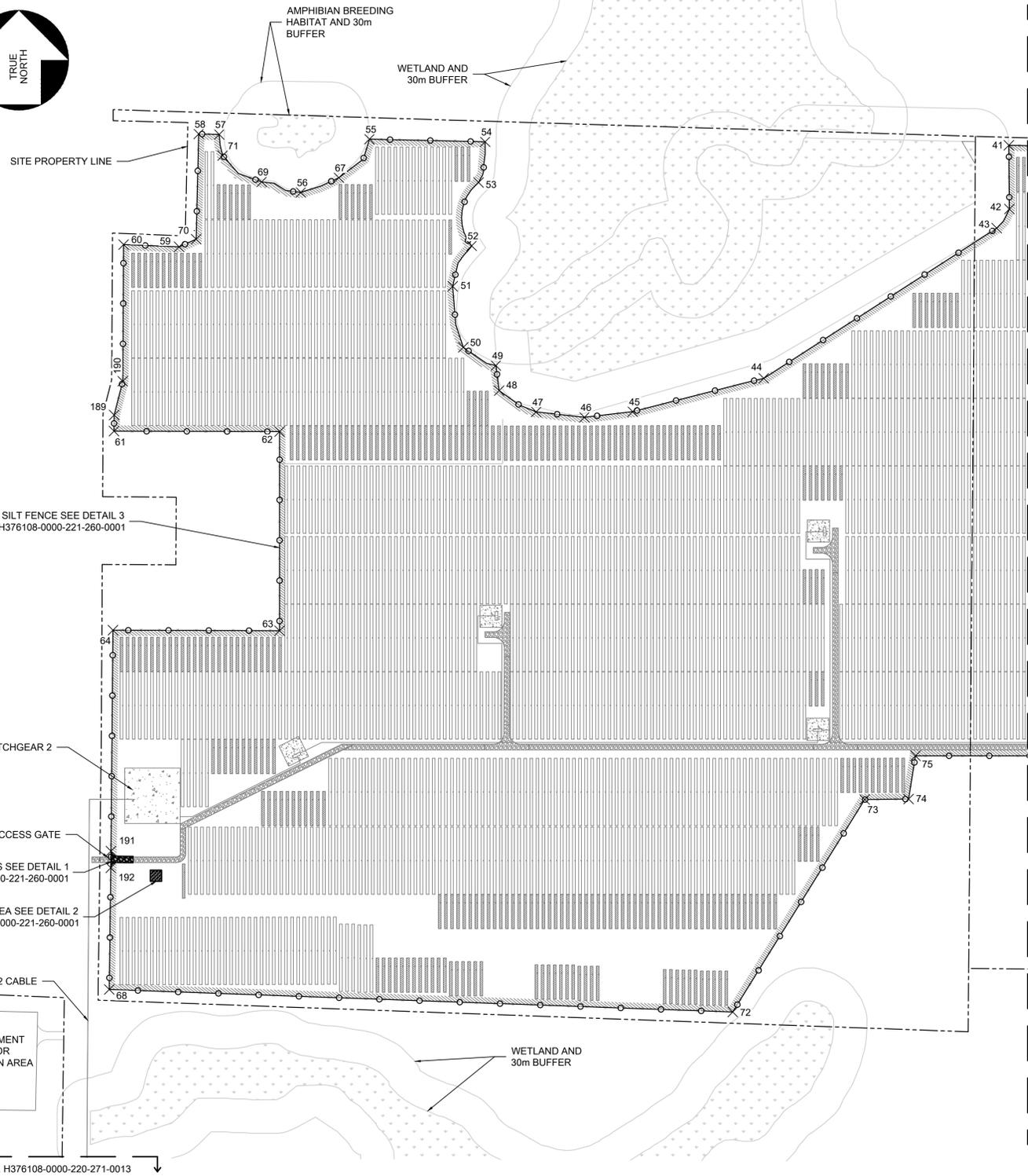
**CARBONFREE KYNOCH LTD
SOLAR PROJECT**

**GENERAL SITE WIDE
CIVIL
EROSION & SEDIMENT CONTROL PLAN-2**

DRAWING No.	DRAWING TITLE	REG. PROFESSIONAL	DESCRIPTION	BY	CHK'D	DATE	ROLE	NAME	SIGNATURE	DATE
H376108-0000-220-271-00014	EROSION & SEDIMENT CONTROL PLAN-6									
H376108-0000-220-271-00013	EROSION & SEDIMENT CONTROL PLAN-5									
H376108-0000-220-271-00012	EROSION & SEDIMENT CONTROL PLAN-4									
H376108-0000-220-271-00011	EROSION & SEDIMENT CONTROL PLAN-3									
H376108-0000-220-271-0009	EROSION & SEDIMENT CONTROL PLAN-1									
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2									
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2									
0	ISSUED FOR PERMITTING			J.S	J.M	2026/03/13				

DRAFTSPERSON	DESIGNER	CHECKER	DESIGN COORD.	RESP. ENG.	LEAD DISC. ENG.	ENG. MANAGER	PROJ. MANAGER
R. POKHAREL	J. SUN	J. MOHAMMAD	M. BASIQ	M. BASIQ	M. BASIQ	J. MOHAMMAD	S. THOMPSON
NR	NR						
2026/01/21	2026/01/21	2026/03/13	2026/03/13	2026/03/13	2026/03/13	2026/03/13	2026/03/13

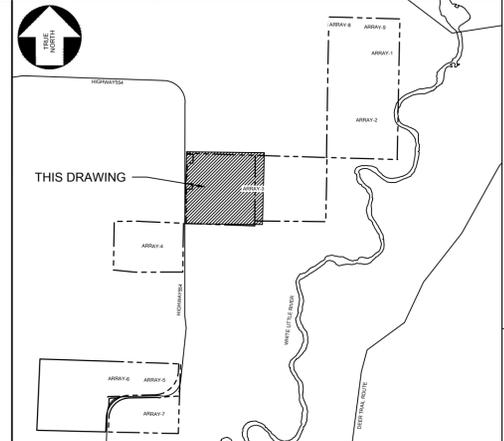
SCALE 1:2500	DWG. No. H376108-0000-220-271-0010	REV 0
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EROSION & SEDIMENT CONTROL PLAN-3

SCALE 1:2,500

SILT FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
41	5145182.45	326095.35	SILT FENCE
42	5145125.03	326095.86	SILT FENCE
43	5145107.83	326084.37	SILT FENCE
44	5144972.63	325874.26	SILT FENCE
45	5144942.66	325756.09	SILT FENCE
46	5144937.54	325712.53	SILT FENCE
47	5144942.42	325668.98	SILT FENCE
48	5144961.53	325635.60	SILT FENCE
49	5144984.14	325632.67	SILT FENCE
50	5145000.53	325603.27	SILT FENCE
51	5145055.46	325593.69	SILT FENCE
52	5145091.91	325610.76	SILT FENCE
53	5145148.90	325617.03	SILT FENCE
54	5145185.58	325622.96	SILT FENCE
55	5145187.94	325518.61	SILT FENCE
56	5145140.00	325456.75	SILT FENCE
57	5145192.18	325383.09	SILT FENCE
58	5145192.59	325364.58	SILT FENCE
59	5145091.02	325346.96	SILT FENCE
60	5145093.03	325296.83	SILT FENCE
61	5144925.06	325288.25	SILT FENCE
62	5144924.68	325437.59	SILT FENCE
63	5144745.41	325437.55	SILT FENCE
64	5144745.87	325287.27	SILT FENCE
67	5145153.26	325491.00	SILT FENCE
68	5144422.43	325283.92	SILT FENCE
69	5145149.47	325421.38	SILT FENCE
70	5145097.87	325362.32	SILT FENCE
71	5145173.20	325386.24	SILT FENCE
72	5144402.14	325846.28	SILT FENCE
73	5144593.42	325965.29	SILT FENCE
74	5144593.84	326004.94	SILT FENCE
75	5144632.78	326011.13	SILT FENCE



KEY PLAN
N.T.S

- NOTES:**
- ALL DIMENSIONS SHOWN HERE ARE IN METRES UNLESS MENTIONED OTHERWISE.
 - COORDINATE SYSTEM SHOWN HERE IS UTM WITH NAD83 DATUM, ZONE 15, CENTRAL MERIDIAN 93D W.
 - REFERENCE TO THE DETAILS DRAWING H376108-0000-220-260-0001 FOR FURTHER DETAILS.
 - CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND MODIFICATION OF ESC MEASURES AS REQUIRED BY THE CONSTRUCTION PHASING/SEQUENCING.

LEGEND:

	FULL-LENGTH 1P TRACKER
	HALF-LENGTH 1P TRACKER
	SITE PROPERTY LINE
	PROPOSED CHAINLINK FENCE
	5m BUFFER OF PROPOSED FENCELINE
	EXISTING WETLAND/AMPHIBIAN BREEDING HABITAT WITH 30m BUFFER
	PROPOSED MV-2 CABLE
	PROPOSED MV-4 CABLE
	PROPOSED ATV TRAIL
	PROPOSED INVERTER PAD
	PROPOSED SUBSTATION PAD
	PROPOSED SILT FENCE
	PROPOSED CONSTRUCTION ACCESS
	PROPOSED CONCRETE WASHOUT AREA

NOT FOR CONSTRUCTION



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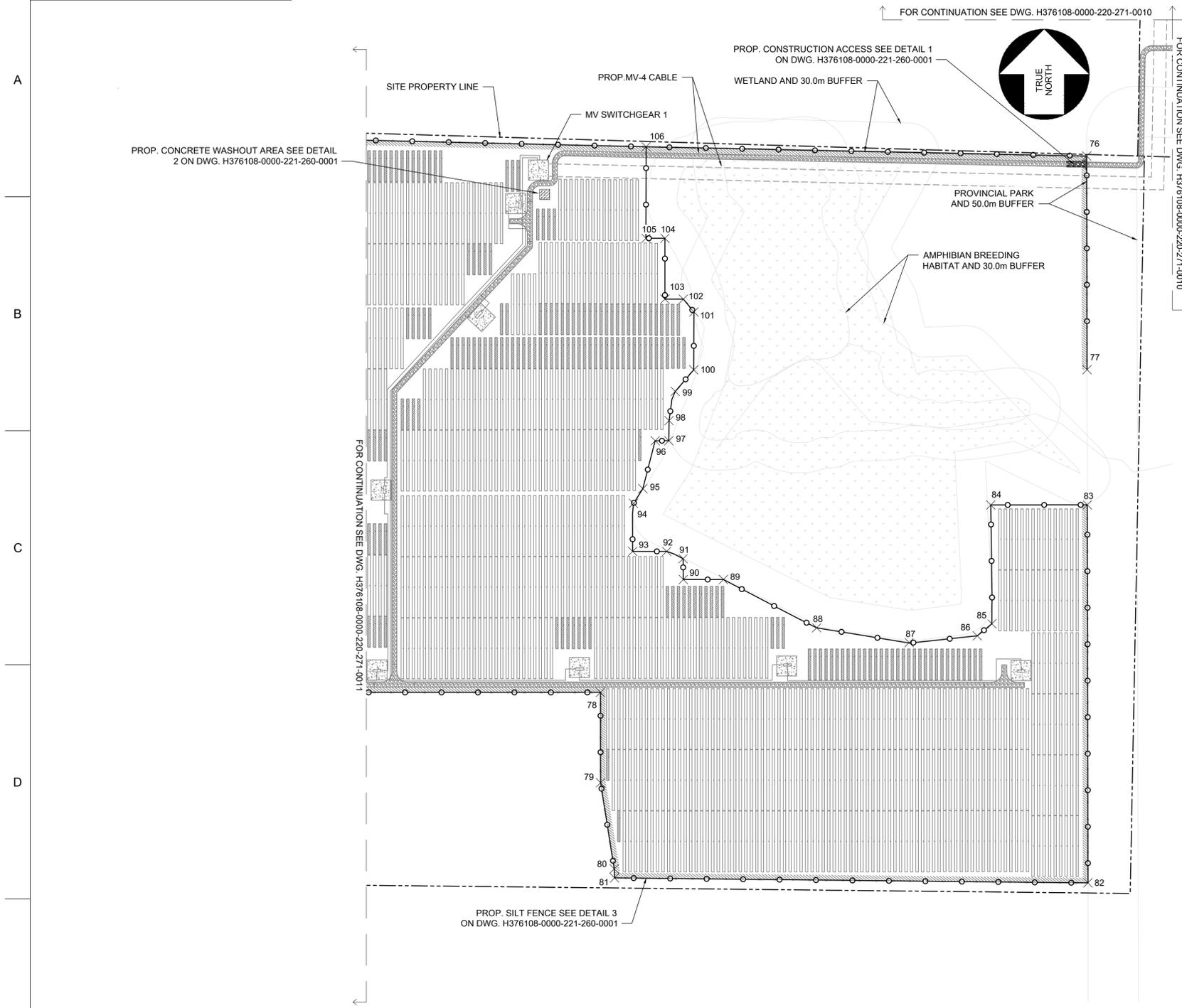


CARBONFREE KYNOCH LTD
SOLAR PROJECT

GENERAL SITE WIDE
CIVIL
EROSION & SEDIMENT CONTROL PLAN-3

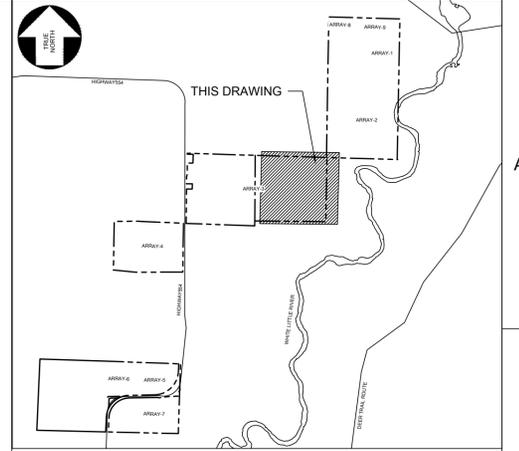
DRAWING No.	DRAWING TITLE	REG. PROFESSIONAL	DESCRIPTION	BY	CHK'D	DATE	CLIENT NAME	ROLE	NAME	SIGNATURE	DATE
H376108-0000-220-271-0014	EROSION AND SEDIMENT CONTROL PLAN- 6										
H376108-0000-220-271-0013	EROSION AND SEDIMENT CONTROL PLAN- 5										
H376108-0000-220-271-0012	EROSION AND SEDIMENT CONTROL PLAN- 4										
H376108-0000-220-271-0010	EROSION AND SEDIMENT CONTROL PLAN- 2										
H376108-0000-220-271-0009	EROSION AND SEDIMENT CONTROL PLAN- 1										
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2										
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2										
0	ISSUED FOR PERMITTING			J.S	J.M	2026/03/13					

SCALE 1:2500
DWG. No. H376108-0000-220-271-0011
REV 0
SHEET SIZE: A1



EROSION & SEDIMENT CONTROL PLAN-4
SCALE 1:2,500

SILT FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
76	5145166.37	326829.28	SILT FENCE
77	5144953.85	326829.64	SILT FENCE
78	5144632.78	326345.02	SILT FENCE
79	5144542.87	326345.15	SILT FENCE
80	5144457.21	326358.74	SILT FENCE
81	5144448.19	326358.99	SILT FENCE
82	5144443.20	326830.53	SILT FENCE
83	5144819.35	326829.88	SILT FENCE
84	5144819.22	326733.74	SILT FENCE
85	5144701.04	326734.86	SILT FENCE
86	5144689.04	326720.27	SILT FENCE
87	5144682.36	326652.50	SILT FENCE
88	5144697.04	326560.29	SILT FENCE
89	5144745.04	326467.47	SILT FENCE
90	5144745.07	326427.54	SILT FENCE
91	5144765.76	326427.28	SILT FENCE
92	5144773.03	326410.94	SILT FENCE
93	5144773.03	326377.01	SILT FENCE
94	5144820.79	326377.95	SILT FENCE
95	5144835.44	326387.20	SILT FENCE
96	5144883.09	326399.51	SILT FENCE
97	5144883.13	326413.12	SILT FENCE
98	5144903.09	326413.35	SILT FENCE
99	5144932.20	326419.48	SILT FENCE
100	5144953.67	326437.88	SILT FENCE
101	5145011.31	326438.07	SILT FENCE
102	5145023.98	326427.55	SILT FENCE
103	5145023.98	326409.21	SILT FENCE
104	5145084.58	326409.21	SILT FENCE
105	5145084.58	326390.29	SILT FENCE
106	5145175.57	326390.48	SILT FENCE

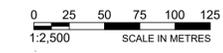


KEY PLAN
N.T.S

- NOTES:**
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 - COORDINATE SYSTEM SHOWN HERE IS UTM WITH NAD83 DATUM, ZONE 15, CENTRAL MERIDIAN 93D W.
 - REFERENCE TO THE DETAILS DRAWING H376108-0000-220-260-0001 FOR FURTHER DETAILS.
 - CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND MODIFICATION OF ESC MEASURES AS REQUIRED BY THE CONSTRUCTION PHASING/SEQUENCING.

- LEGEND:**
- FULL-LENGTH 1P TRACKER
 - HALF-LENGTH 1P TRACKER
 - SITE PROPERTY LINE
 - PROPOSED CHAINLINK FENCE
 - 5m BUFFER OF PROPOSED FENCELINE
 - EXISTING WETLAND/AMPHIBIAN BREEDING HABITAT WITH 30m BUFFER
 - PROPOSED MV-2 CABLE
 - PROPOSED MV-4 CABLE
 - PROPOSED ATV TRAIL
 - PROPOSED INVERTER PAD
 - PROPOSED SUBSTATION PAD
 - PROPOSED SILT FENCE
 - PROPOSED CONSTRUCTION ACCESS
 - PROPOSED CONCRETE WASHOUT AREA

NOT FOR CONSTRUCTION



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**CARBONFREE KYNOCH LTD
SOLAR PROJECT**

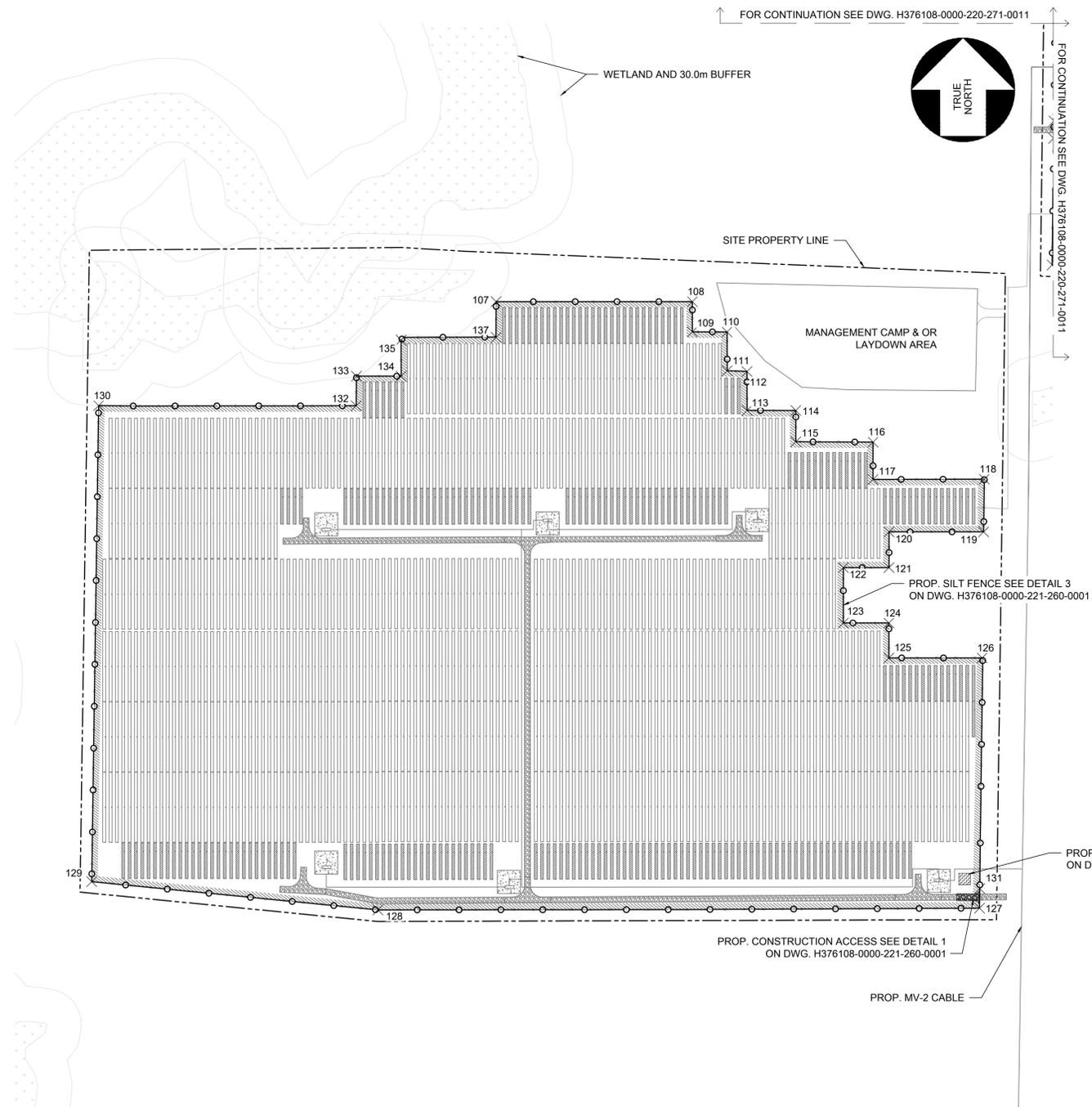
**GENERAL SITE WIDE
CIVIL
EROSION & SEDIMENT CONTROL PLAN-4**

DRAFTSPERSON	R. POKHAREL	NR	2026/01/21
DESIGNER	J. SUN	NR	2026/01/21
CHECKER	J. MOHAMMAD		2026/03/13
DESIGN COORD.	M. BASIQ		2026/03/13
RESP. ENG.	M. BASIQ		2026/03/13
LEAD DISC. ENG.	M. BASIQ		2026/03/13
ENG. MANAGER	J. MOHAMMAD		2026/03/13
PROJ. MANAGER	S. THOMPSON		2026/03/13
CLIENT NAME			
ROLE	NAME	SIGNATURE	DATE
DRAWING APPROVAL STATUS: Issued for Permitting			

H376108-0000-220-271-0014	EROSION & SEDIMENT CONTROL PLAN-6
H376108-0000-220-271-0013	EROSION & SEDIMENT CONTROL PLAN-5
H376108-0000-220-271-0011	EROSION & SEDIMENT CONTROL PLAN-3
H376108-0000-220-271-0010	EROSION & SEDIMENT CONTROL PLAN-2
H376108-0000-220-271-0009	EROSION & SEDIMENT CONTROL PLAN-1
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2

DRAWING No.	DRAWING TITLE	REG. PROFESSIONAL	DESCRIPTION	BY	CHK'D	DATE	SCALE	DWG. No.	REV
	REFERENCE DRAWINGS	NA	REVISIONS				1:2500	H376108-0000-220-271-0012	0

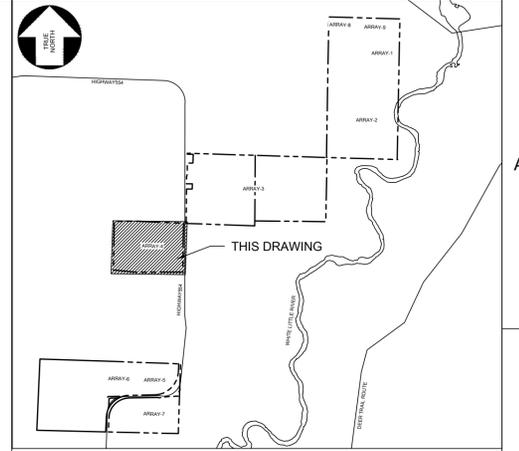
A
B
C
D
E



FOR CONTINUATION SEE DWG. H376108-0000-220-271-0011

FOR CONTINUATION SEE DWG. H376108-0000-220-271-0011

SILT FENCE SETTING OUT POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
107	5144390.66	324802.09	SILT FENCE
108	5144390.66	324972.13	SILT FENCE
109	5144364.59	324972.13	SILT FENCE
110	5144364.49	325002.22	SILT FENCE
111	5144330.89	325002.36	SILT FENCE
112	5144330.34	325019.49	SILT FENCE
113	5144296.61	325019.58	SILT FENCE
114	5144296.56	325061.80	SILT FENCE
115	5144269.51	325061.85	SILT FENCE
116	5144269.22	325128.70	SILT FENCE
117	5144236.94	325128.72	SILT FENCE
118	5144237.18	325225.14	SILT FENCE
119	5144191.59	325224.55	SILT FENCE
120	5144191.59	325142.57	SILT FENCE
121	5144160.67	325142.57	SILT FENCE
122	5144160.67	325102.99	SILT FENCE
123	5144112.77	325102.99	SILT FENCE
124	5144112.77	325142.46	SILT FENCE
125	5144082.55	325142.46	SILT FENCE
126	5144082.55	325223.21	SILT FENCE
127	5143866.11	325221.02	SILT FENCE
128	5143864.59	324699.59	SILT FENCE
129	5143889.06	324451.58	SILT FENCE
130	5144300.78	324457.58	SILT FENCE
131	5143883.00	325221.21	SILT FENCE
132	5144300.60	324680.74	SILT FENCE
133	5144326.21	324680.99	SILT FENCE
134	5144326.21	324719.75	SILT FENCE
135	5144357.46	324719.70	SILT FENCE
136	5144359.76	324721.45	SILT FENCE
137	5144359.78	324802.09	SILT FENCE



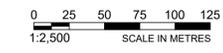
KEY PLAN
N.T.S

- NOTES:**
- ALL DIMENSIONS SHOWN HERE ARE IN METRES UNLESS MENTIONED OTHERWISE.
 - COORDINATE SYSTEM SHOWN HERE IS UTM WITH NAD83 DATUM, ZONE 15, CENTRAL MERIDIAN 93D W.
 - REFERENCE TO THE DETAILS DRAWING H376108-0000-220-260-0001 FOR FURTHER DETAILS.
 - CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND MODIFICATION OF ESC MEASURES AS REQUIRED BY THE CONSTRUCTION PHASING/SEQUENCING.

LEGEND:

	FULL-LENGTH 1P TRACKER
	HALF-LENGTH 1P TRACKER
	SITE PROPERTY LINE
	PROPOSED CHAINLINK FENCE
	5m BUFFER OF PROPOSED FENCELINE
	EXISTING WETLAND/AMPHIBIAN BREEDING HABITAT WITH 30m BUFFER
	PROPOSED MV-2 CABLE
	PROPOSED MV-4 CABLE
	PROPOSED ATV TRAIL
	PROPOSED INVERTER PAD
	PROPOSED SUBSTATION PAD
	PROPOSED SILT FENCE
	PROPOSED CONSTRUCTION ACCESS
	PROPOSED CONCRETE WASHOUT AREA

EROSION & SEDIMENT CONTROL PLAN-5
SCALE 1:2,500



NOT FOR CONSTRUCTION

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**CARBONFREE KYNOCH LTD
SOLAR PROJECT**

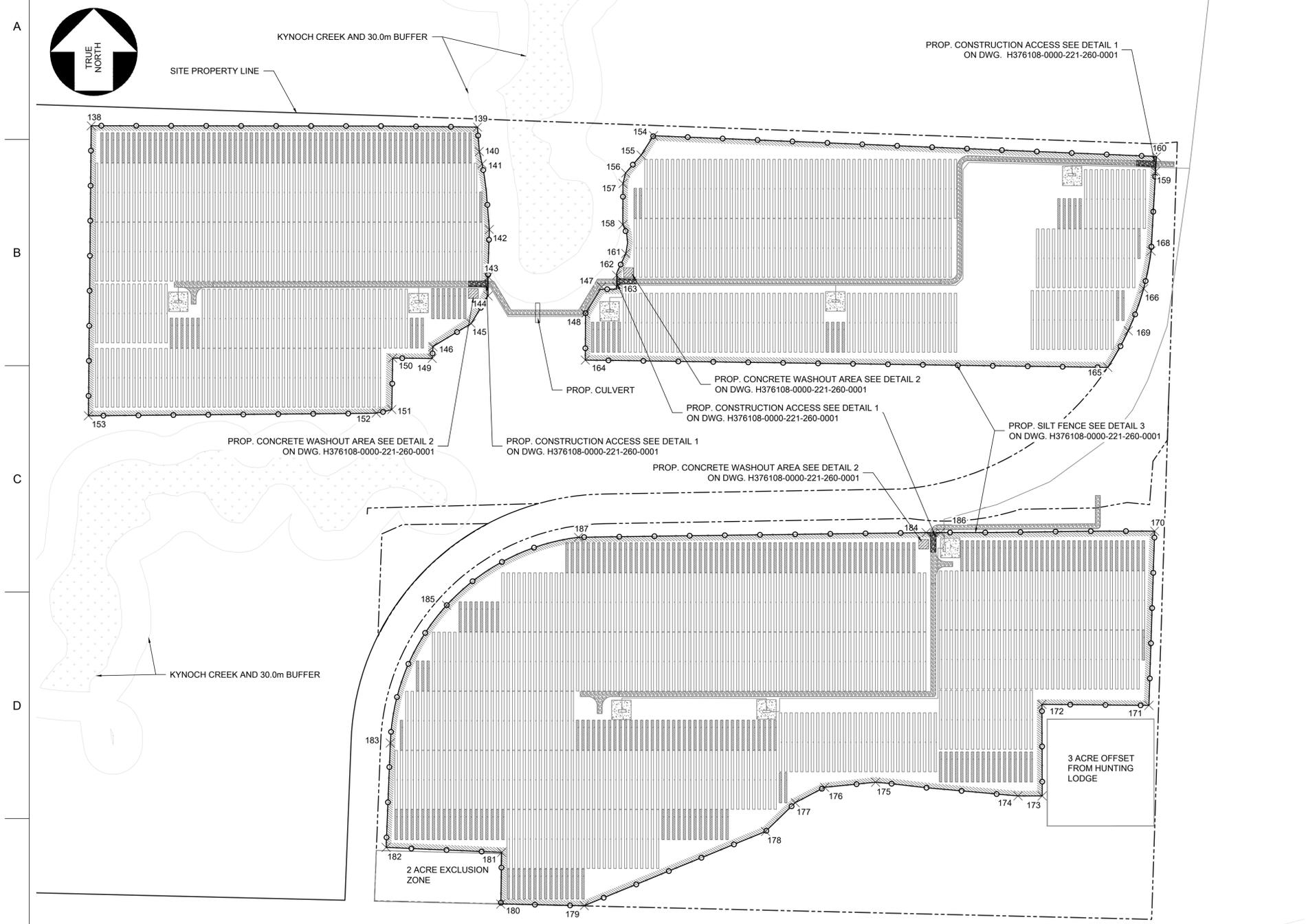
**GENERAL SITE WIDE
CIVIL
EROSION & SEDIMENT CONTROL PLAN-5**

DRAWING No.	DRAWING TITLE	REG. PROFESSIONAL	DESCRIPTION	BY	CHK'D	DATE	CLIENT NAME	ROLE	NAME	SIGNATURE	DATE
H376108-0000-220-271-0014	EROSION & SEDIMENT CONTROL PLAN-6										
H376108-0000-220-271-0012	EROSION & SEDIMENT CONTROL PLAN-4										
H376108-0000-220-271-0011	EROSION & SEDIMENT CONTROL PLAN-3										
H376108-0000-220-271-0010	EROSION & SEDIMENT CONTROL PLAN-2										
H376108-0000-220-271-0009	EROSION & SEDIMENT CONTROL PLAN-1										
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2										
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2										
0	ISSUED FOR PERMITTING			J.S	J.M	2026/03/13					

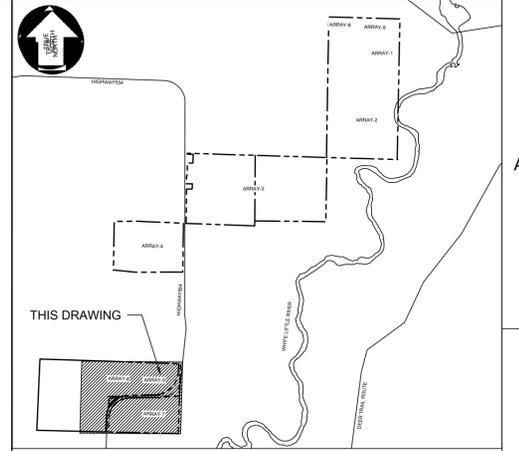
DRAFTSPERSON	DESIGNER	CHECKER	DESIGN COORD.	RESP. ENG.	LEAD DISC. ENG.	ENG. MANAGER	PROJ. MANAGER
R. POKHAREL	J. SUN	J. MOHAMMAD	M. BASIQ	M. BASIQ	M. BASIQ	J. MOHAMMAD	S. THOMPSON
NR	NR						
2026/01/21	2026/01/21	2026/03/13	2026/03/13	2026/03/13	2026/03/13	2026/03/13	2026/03/13

SCALE 1:2500
DWG. No. H376108-0000-220-271-0013
REV 0
SHEET SIZE: A1

FOR CONTINUATION SEE DWG. H376108-0000-220-271-0007



POINT	NORTHING	EASTING	DESCRIPTION
146	5142599.15	324443.54	SILT FENCE
147	5142660.74	324617.51	SILT FENCE
148	5142633.17	324600.80	SILT FENCE
149	5142587.14	324442.86	SILT FENCE
150	5142587.47	324402.12	SILT FENCE
151	5142534.58	324401.23	SILT FENCE
152	5142530.95	324385.21	SILT FENCE
153	5142528.14	324088.55	SILT FENCE
154	5142816.21	324670.90	SILT FENCE
155	5142796.25	324658.19	SILT FENCE
156	5142777.87	324642.19	SILT FENCE
157	5142767.06	324639.45	SILT FENCE
158	5142724.73	324639.33	SILT FENCE
159	5142779.50	325188.32	SILT FENCE
160	5142794.48	325189.15	SILT FENCE
161	5142695.03	324642.34	SILT FENCE
162	5142672.63	324633.00	SILT FENCE
163	5142660.89	324632.92	SILT FENCE
164	5142585.44	324600.65	SILT FENCE
165	5142577.92	325138.99	SILT FENCE
166	5142658.83	325175.98	SILT FENCE
168	5142697.65	325183.74	SILT FENCE
169	5142615.56	325160.16	SILT FENCE
170	5142409.52	325187.35	SILT FENCE
171	5142230.27	325181.46	SILT FENCE
172	5142231.33	325071.19	SILT FENCE
173	5142137.12	325071.52	SILT FENCE
174	5142137.12	325046.52	SILT FENCE
175	5142151.22	324899.80	SILT FENCE
176	5142146.04	324847.26	SILT FENCE
177	5142130.12	324816.91	SILT FENCE
178	5142100.58	324786.41	SILT FENCE
179	5142024.23	324599.50	SILT FENCE
180	5142025.90	324513.54	SILT FENCE
181	5142079.05	324514.47	SILT FENCE
182	5142084.18	324395.39	SILT FENCE
183	5142191.60	324399.72	SILT FENCE
184	5142408.00	324951.84	SILT FENCE
185	5142333.16	324457.64	SILT FENCE
186	5142408.03	324966.85	SILT FENCE
187	5142403.21	324593.60	SILT FENCE
189	5144939.56	325288.33	SWITCHGEAR
190	5144969.99	325296.12	SWITCHGEAR
191	5144546.99	325285.49	SWITCHGEAR
192	5144531.98	325285.30	SWITCHGEAR



KEY PLAN
N.T.S

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 - CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND MODIFICATION OF ESC MEASURES AS REQUIRED BY THE CONSTRUCTION PHASING/SEQUENCING.

LEGEND:

	FULL-LENGTH 1P TRACKER
	HALF-LENGTH 1P TRACKER
	SITE PROPERTY LINE
	PROPOSED CHAINLINK FENCE
	5m BUFFER OF PROPOSED FENCELINE
	EXISTING WETLAND/AMPHIBIAN BREEDING HABITAT WITH 30m BUFFER
	PROPOSED MV-2 CABLE
	PROPOSED MV-4 CABLE
	PROPOSED ATV TRAIL
	PROPOSED INVERTER PAD
	PROPOSED SUBSTATION PAD
	PROPOSED SILT FENCE
	PROPOSED CONSTRUCTION ACCESS
	PROPOSED CONCRETE WASHOUT AREA

EROSION & SEDIMENT CONTROL PLAN-6
SCALE 1:2,500



NOT FOR CONSTRUCTION

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CARBONFREE KYNOCH LTD
SOLAR PROJECT

GENERAL SITE WIDE
CIVIL
EROSION & SEDIMENT CONTROL PLAN-6

DRAWING No.	DRAWING TITLE	REG. PROFESSIONAL	DESCRIPTION	BY	CHK'D	DATE	CLIENT NAME	ROLE	NAME	SIGNATURE	DATE
H376108-0000-220-271-0013	EROSION & SEDIMENT CONTROL PLAN-5										
H376108-0000-220-271-0012	EROSION & SEDIMENT CONTROL PLAN-4										
H376108-0000-220-271-0011	EROSION & SEDIMENT CONTROL PLAN-3										
H376108-0000-220-271-0010	EROSION & SEDIMENT CONTROL PLAN-2										
H376108-0000-220-271-0009	EROSION & SEDIMENT CONTROL PLAN-1										
H376108-0000-220-271-0002	OVERALL SITE PLAN SHEET 2 OF 2										
H376108-0000-220-271-0001	OVERALL SITE PLAN SHEET 1 OF 2										
0	ISSUED FOR PERMITTING			J.S	J.M	2026/03/13					

DRAFTSPERSON	R. POKHAREL	NR	2026/01/21
DESIGNER	J. SUN	NR	2026/01/21
CHECKER	J. MOHAMMAD		2026/03/13
DESIGN COORD.	M. BASIQ		2026/03/13
RESP. ENG.	M. BASIQ		2026/03/13
LEAD DISC. ENG.	M. BASIQ		2026/03/13
ENG. MANAGER	J. MOHAMMAD		2026/03/13
PROJ. MANAGER	S. THOMPSON		2026/03/13

SCALE 1:2500
DWG. No. H376108-0000-220-271-0014
REV 0

DRAWING APPROVAL STATUS: Issued for Permitting