Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

ENVIRONMENTAL DETERMINATION
CANADIAN ENVIRONMENTAL ASSESSMENT ACT (CEAA 2012)

CONTACT AND PROJECT INFORMATION

Project Title
Greenhouse/ Header house Construction, Morden Research Station, Morden Manitoba.

Project No./File No.

Contact Name

Michael Driedger
Facility Manager
101 Route 100
Morden Manitoba
R6M 1Y5

Describe Project Location
The Morden Research Station is located at 101 route 100, Morden, Manitoba, approximately at GPS coordinates
N: 5448951.314
E: 566464.208
The property consists of a section of land used for various farm research activities as well as an office laboratory building and supporting buildings.

Project Description
Construction of a new greenhouse (approximately 330 sq metres) and headerhouse (approximate 630 sq metres) similar to recently constructed works for AAFC. The new structure will be a stand-alone structure located on an unused available green space, a short distance from the main lab complex . Some electrical, natural gas, communication lines connecting the main lab/office complex will be relocated to accommodate location. There will be a new generator with fuel storage tank and Transformer installed a few meters west of new building.

REQUIREMENT FOR ENVIRONMENTAL ASSESSMENT

☐ Yes ☒ No The project is likely to be a designated project as defined project under CEAA 2012
☒ Yes ☐ No Is the project on Federal land
☒ Yes ☐ No Is it a project as defined under CEAA 2012 (*At least one phase of the project require construction, operation, installation, modification, abandonment, or decommissioning in relation to a man-made, built structure in a fixed location*)

PROJECT DESCRIPTION

Scope of Project
Demolition of existing transformer serving building 72
Excavation and relocation of utilities and communication connections from main lab/office building to outbuildings away from construction area.
Test drilling for geotechnical information.
Excavation of grassed area between main building complex and workshop building 73 for purpose of creating foundation for building as well as for passing the utilities and installing generator, fuel storage tank and transformer
Construction on top of foundation of greenhouse and header house building with standalone heating and cooling.
Installation of growth chambers, fume hoods, autoclave, chemical mixing rooms, dew chambers, soil mixers , storage tank and generator, etc.
Commissioning to owner of building and all equipment and the Operation of the facility after commissioning

Project Description

The Morden Research Station is approximately 120 km south west of Winnipeg, Manitoba in the Rural Municipality of Stanley directly adjacent and east of the town of Morden. The Projected building construction will occur directly between the main lab and office complex (Building 72 and the workshop building 73. Excavation and disturbance to soil and vegetation is delineated by the two buildings east to west and the two roads (north and south as per the site plan attached. Electrical, gas, communication conduits, etc will be installed underground. Between building 72 and the new building.

ENVIRONMENT DESCRIPTION

Identify and describe relevant environmental factors

The terrain in the Morden area is generally flat, with relief less than 1 m. An unnamed creek flows south-easterly across the subject property, into the drainage system located on the south-west end of the property, and eventually into the Red River. Local surface drainage across the property is towards the unnamed creek and numerous drainage ditches located along the gravel roads on-site

The soils in the vicinity of the subject property are typically black chernozemic, The bedrock geology in the vicinity of the subject property is composed of the Cretaceous carbonaceous and calcareous shales of the Vermillion River formation. Groundwater flow direction in the vicinity of Morden is presumably west toward Lake Minnewasta, which is located approximately 3 km west of the subject property.

There are no potable groundwater wells on-site. There is a series of observation wells for the tile groundwater drainage system, and two (2) lift stations, one (1) at the south end of the property and one (1) at the north end. Potable water used at the subject property is obtained from the Town of Morden municipal distribution system.

Surrounding Environment:

The surrounding area drains to the east into ditches surrounding the section and a natural drain passes through the property about 1/3 of a mile south of the proposed building site. The land directly to the north and south have tile drainage below the surface. This tile drainage flows to the same direction as the natural surface drainage and collects together at the south east corner of the property. The closest water body to the construction site is ---?The dead Horse Creek passes 1km. to the west traveling northwest

The project does not pose any anticipated adverse effects to any surrounding environment for people or wildlife or landscape etc. The closest neighboring property is approximately 5km from the construction site, employees working on site are aware of the project. The site at the location of construction is not expected to be contaminated as per an earlier Phase I and II Environmental Site Assessment completed for Morden.

The special boundaries will be kept in such a way that the function of the research facility and farm activities will remain throughout the scope of the work and so the surrounding environment should also not be effected.

The construction will not affect the town of Morden as the movement of material and equipment will be done on provincial roads and none need enter the town except on route 100 for aprox. 1 block south of Highway 3 at the east side of Morden. The work site is well removed from the residential area of town, thus creating a distance reducing noise pollution for surrounding town population. Work will be conducted from 7am to 7 pm.

Operations on site after construction and commissioning will be similar to the existing operation of other greenhouses at Morden as well as at AAFC greenhouses across the country.

Trees and vegetation: 4 Manchurian Ash and one spruce tree to the west of building 73 will be removed and 5 Manchurian Ash and 4 rock pine at the south portion of the grassed area adjacent to the east wall of building 72.

Species at Risk:

No species at risk are expected to be present or have a habitat at this site or its surrounding.

ENVIRONMENTAL EFFECTS

Reduction in soil quality:

- Construction activities and machineries has the potential to negatively impact the soil on site due to spills or leaks
- Storage of waste material on site can potentially impact the soil at the construction site
- The usage of improper fill material can contaminate the site
- Generation of waste during the operation of the greenhouses

Reduction in groundwater or surface water quality:

- Excavation and other construction activities at the project site has the potential to negatively impact groundwater quality through the introduction of sediments or contaminants to ground waters or seepage into underlying aquifers, and exposed water table during construction
- The usage of improper fill material can impact the surface water
- Drainage and wash water from concrete production can degrade water quality.

Reduction in air quality:

- Construction related activities could result in an increase in noise and dust on the project site and surrounding area

Destruction of vegetation:

- Site development and disposal of construction wastes could result in disturbance or destruction of native vegetation, highly productive agricultural lands, or plant material.

- Health and Safety concern: Presence of equipment during construction, as well as load/equipment loss during construction may expose workers to potentially hazardous materials and working conditions.

MALFUNCTIONS AND ACCIDENTS

Malfunctions and accidents could happen on site during construction. However, the use of standard construction techniques will reduce the risk of it happening. And with a good health and safety plan and an emergency plan completed, accidents could be corrected quickly and properly .

MITIGATION MEASURES

Effect	Mitigation
Reduction in soil quality	• Careful maintenance and monitoring of all equipment must be carried out to minimize the risk of spills or leaks of petroleum based products. • Equipment refueling operations will take place at least 30 metres from any watercourse and the refueling will be conducted on a prepared impermeable surface with a collection system. • Contractors are to have an emergency response plan for fuel leaks and petroleum contamination and are to maintain appropriate spill response equipment in a readily accessible location with the knowledge and ability to respond to spills. • In case of a spill, the contractor has to advise PWGSC and AAFC project Managers, clean the site immediately and has to report the spill to the spill action center. • Any construction or demolition debris will be disposed of in a Provincially approved manner (Either a permit or receipts for tippage must be submitted by the contractor to verify that the material was disposed of in a provincially approved manner). • All pesticides and related products must be used according to Health Canada's Pest Control Products Regulations. • Maintenance must be carried out on a regular basis. • Excavated soil, if suspected to be contaminated, should be sampled prior to disposal
Reduction in groundwater and surface water quality.	• Work should be scheduled to avoid periods of heavy precipitation. • Fill material used in construction must be from an approved site. • Remove any accidental release of concrete on site prior to solidification. • Ensure concrete trucks are clean and will not release any material during transport to the site. • Do not discharge residual or rejected concrete on site. Do not wash and clean concrete vehicles on site. Carryout all dumping and cleaning operations at the concrete plant according to all provincially approved practices/regulations. All pesticides and related products must be used according to Health Canada's Pest Control Products Regulations. • Any exposed soil area must be minimized by limiting the area that is exposed at one time and by limiting the time that any one area is exposed. All stockpiled material must be stored on an impermeable surface and covered and/or dyked to prevent erosion or silty runoff

	from leaving the site. Wherever possible, exposed soil should be replanted or sodded to ensure soil stabilization. • Any construction, soil or demolition debris will be disposed of in a Provincially approved manner (Either a permit or receipts for tippage must be submitted by the contractor to verify that the material was disposed of in a provincially approved manner). • The construction material must be clean and non-toxic (free of fuel, oil, grease, and/or any contaminants). • Aboveground storage tanks must be installed and maintained in accordance with the Storage Tank System for Petroleum Product and Allied Petroleum Products Regulations as well as the CCME Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum Products and Allied Petroleum Products.
Reduction in air quality	• All construction equipment must be fitted with standard and well-maintained noise suppression devices. Construction activities must respect appropriate time restriction and use smaller, less disturbing equipment where possible. • Appropriate dust suppression methods are to be employed when required. The construction manager shall determine locations where water is to be applied, the amount of water to be applied, and the times at which it shall be applied. Waste oil is not to be used for dust control under any circumstances.
Destruction of vegetation	• Avoid disturbance of vegetation and natural features where possible. • Restore disturbed areas as close as possible to natural conditions. Backfill excavation, grade and contour soil, replace topsoil, fertilize and reseed with local, native plants as appropriate with growing season. • Any construction or demolition debris will be disposed of in a Provincially approved manner (Either a permit or receipts for tippage must be submitted by the contractor to verify that the material was disposed of in a provincially approved manner). • All work to be conducted in accordance with the Migratory Birds Convention Act. • Trees cutting will be limited to a minimum, trees will be protected as much as possible during construction
Health and safety concerns.	• Employees must be trained in health and safety protocols (e.g. safe work practices, emergency response). • Project activities to comply with the provincial Occupational Health and Safety Act Regulatory requirements. • Proper safety procedures must be followed during the duration of the project as per applicable municipal, provincial and federal regulations.

SIGNIFICANCE OF RESIDUAL ENVIRONMENTAL EFFECTS	Significance of Residual Environmental Effects
Effect	
Reduction in surface and ground water quality.	Insignificant
Reduction in soil quality	Insignificant
Reduction in air quality	Insignificant
Destruction of vegetation	Insignificant
health and safety concerns.	Insignificant

FOLLOW-UP

Follow-up Program Required or Recommended

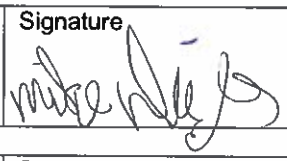
☐ Yes ☒ No

If Yes, describe Follow-up

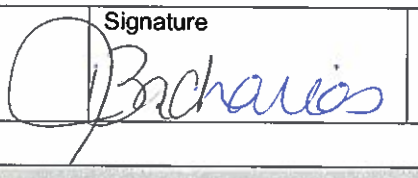
DEPARTMENTAL DECISION – Check One Only

☒ CEAA 2012 applies, AAFC concludes that the project is not likely to cause significant adverse environmental effects → no further action required.

☐ CEAA 2012 applies, further Environmental Effects Evaluation considered → Environmental Effects Evaluation is required

Completed By:	Title	Signature	Date (yyyy/mm/dd)
Name Michael Driedger	Facility Manager		2012/10/09

Reviewed by:	Title	Signature	Date (yyyy/mm/dd)
Name Lina Salem-Masri	Environmental Engineer		2012/10/16

Approved by:	Title	Signature	Date (yyyy/mm/dd)
Name Deb Zacharias	ISM		12/10/12

REFERENCES (check and list as required)

☒ Project Plans and Drawings

☐ Photographs

☐ Maps

☐ Correspondence

☐ Literature Cited

☐ Personal Communications

☐ Permits and Authorizations

☐ Related Environmental and Project Studies

Harrington Greenhouse construction Project

☐ Other