

APPENDIX 3

Mitigation Measures Checklist

Port Stanley Harbour, Municipality of Central Elgin, ON

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	Mitigation Item to be Implemented during R/RM as per EEE Report	Compliance Y/N	If NO, Reason for Non - Compliance
15	If any debris/material, (e.g., plastic, food scraps, etc.) enter the aquatic environments they must be removed immediately and disposed of in a provincially approved manner.		
16	Work must be scheduled to avoid periods of heavy precipitation.		
17	Monitor the equipment, the Site and erosion prevention features built on the Site.		
18	Remedial activities must be conducted by a qualified contractor to meet regulations, per the Project-specific Health and Safety Plan.		
19	Workers who may come in contact with hazards must be provided with and use appropriate personal protective equipment. In addition, workers must follow the Project-specific Health and Safety Plan, the Provincial Occupational Health and Safety Act and any other appropriate legislation, regulations, guidelines, or best-management practices.		
20	Site access must be restricted to authorized workers only, and fencing installed around the Site must be regularly inspected to prevent inadvertent access by persons or wildlife.		
21	Dust suppression measures must be applied to prevent fugitive dust. The plan should consider different meteorological conditions, with application of water or a dust control agent (approved at the provincial and federal level).		
23	Ensure that food scraps and garbage are not left at the Project Site.		
24	Vehicles to be in good working order and not be left idling on Site. Movement over exposed soil to be minimized.		
25	Restrict the movement of vehicles and machinery to the work areas and designated access points.		
26	Monitor the integrity of the fence, the implementation of Project-Specific Health and Safety Plan and R/RMs; and visual on-Site monitoring for dust.		
27	Wells to be decommissioned per applicable guidelines and regulations during site preparation activities ahead of remedial activities.		
28	Regularly inspect and maintain the existing erosion prevention features and equipment		
29	Visual inspections must be conducted daily in order to determine if terrestrial wildlife or bird species are on the Site.		
30	The Ontario Ministry of Natural Resources and Forestry (MNRF) and/or Environment Canada should be contacted if a migratory bird or SAR is observed within the Site during Project activities.		
33	Erosion control structures (temporary silt fencing, silt curtains, geotextile filter fabric) are to be used, as appropriate, to prevent erosion and release of sediments and/or sediment laden water during the construction phase and inspected daily.		

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A summary of the Mitigation Measures as outlined Environmental Effects Determination is provided below:

To protect the environment, with respect to the remediation activities to take place within the project site(s), the following mitigation measures are recommended during construction activities:

Air Quality:

- Vehicles, machinery and equipment used for construction and maintenance activities must be kept in good condition to reduce air emissions that contribute to climate change (e.g. carbon dioxide) and particulate matter that contributes to smog;
- Limit long-term idling;
- Standard best management earth moving practices must be exercised; Construction activities are to comply with requirements of any municipal air quality by-laws;
- If the soils are prone to becoming airborne, particularly when windy, or if observed to become airborne, cover or wet down soil materials to prevent dust or sediments from becoming airborne;
- Limit construction activities during high wind events if the above measures to prevent dust or sediments from becoming airborne are not effective;
- Vehicle loads will be sealed and covered for transport;
- Waste material will be removed and appropriately disposed of off-site, according to all applicable laws and regulations; and
- Monitor noise and air quality complaints and take appropriate action as required.

General Spills and Accidents:

- Re-fuelling of equipment and vehicles should be conducted off-site where possible;
- Machinery is to arrive on site in a clean condition and is to be maintained free of fluid leaks;
- Where on-site re-fuelling is required, a designated re-fueling depot would minimize the potential for extensive impacts at the site due to accidental releases of substances;
- Wash, refuel and service machinery and store fuel & other materials for the machinery away from water to prevent deleterious substances from entering the water;
- Use drip trays on equipment;
- Proper spill management equipment (e.g. spill kit) should be located on site at all times;
- In the event of a spill, immediately contain and clean up in accordance with provincial regulatory requirements;
- All spills are to be reported to the Ontario Spills Action Centre (1-800-268-6060); and
- All materials and equipment used for the purpose of site operation shall be operated and stored in a manner that prevents any deleterious substance (e.g. petroleum products, silt, etc.) from contaminating soils or sediments.
- Trucks hauling saturated soils (with potential to drain during transport) will require liners to prevent leakage along the transport route.

Soil and Sediment Quality:

- Soil from excavated areas intended for subsequent re-application, backfill purposes, or site restoration should be appropriately stored on-site;
- All debris should be removed and disposed of at an appropriate waste disposal site to prevent it from washing downstream; and,
- Ensure materials are disposed according to applicable legislation.

Terrain and Topography - Sedimentation and Erosion Control:

- Effective mitigation techniques for erosion and sediment control shall be in place prior to the removal of vegetative cover and remain effective at all times;

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- Daily inspections of sediment and erosion control systems should be carried out and deficiencies addressed promptly. If the systems become compromised, associated project work should cease until the problems have been addressed;
- Retain as much natural vegetation cover as possible during excavation;
- Maintain a buffer zone between sensitive areas (e.g. stream banks, steep slopes) and construction activities; and
- Disturbed areas should be stabilized upon project completion (e.g., replacement of surface organic mat layer), and sediment fencing should be left in place, if and where necessary, to ensure that erosion and sediment is appropriately controlled post-remediation.

General Water Quality:

- “Sandbags” used during construction should consist of only clean material free of fine particulate matter;
- All materials and equipment used for the purpose of site preparation and project completion should be operated and stored in a manner as to prevent the release of silt, sediment or sediment-laden water or any other deleterious substances (e.g. construction waste materials, petroleum products, sediments) into any water body;
- Operate machinery on land (above the high water mark) or in a manner that minimizes disturbances to the bed and banks of the water body (i.e. from a barge or from the ice);
- Provisions should be made to ensure contaminants do not enter water during operation and maintenance of structures ;
- Where applicable, follow the steps outlined in the “Projects Near Water” fact sheets available at the DFO website: <http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>;
- Sediment and erosion control measures should be installed prior to project start up and be maintained during the work phase and until the site has been stabilized to prevent entry of soil, sediment or sediment laden water into the watercourse;
- Minimize the extent and footprint of the construction, operation and decommissioning activities; and,
- Placement of Concrete or Asphalt:
 - Asphalt and concrete work should be done primarily during the summer (dry) months in order to reduce contaminated runoff from freshly laid surfaces from entering watercourses;
 - Water used to wash concrete should not be allowed to enter directly into water bodies;
 - Wash-down material or run-off from exposed cast-in-place concrete should be trapped on-site (e.g. using interceptor dikes, settling ponds, storage lagoons, etc.);
 - Prior to the pouring of concrete, all concrete forms shall be thoroughly inspected to ensure that formwork is fully secured and sealed to prevent the release of concrete or concrete contaminated water into water bodies;
 - Where necessary, freshly placed concrete shall be covered with an appropriate material (e.g. plastic sheeting) as required (e.g. risk of precipitation) to seal the concrete from the environment until significantly cured; and
 - Asphalt and concrete should be disposed of at approved sites, and under no circumstances should it be disposed of along roadsides or in water bodies.

Ground Water Quality:

- Temporary drainage should be designed to minimize the run-off from precipitation and increase percolation and the recharge of groundwater;

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- Boreholes, test holes, dewatering wells and water wells drilled and installed shall be done so with regard for the subsurface environment, protection of groundwater resources from surface contamination and prevention of aquifer cross connection; and
- All boreholes, test holes and dewatering wells that are no longer in use, are no longer needed due to location in the right-of-way, or no longer needed for water supply shall be properly decommissioned. In practical terms, all boreholes, test holes and dewatering wells shall be effectively sealed at surface and at depth as appropriate.

Vegetation and Wildlife:

- Minimize disturbance of forested areas;
- Clearing of vegetation should be limited to meet construction and safety requirements;
- Extra care should be taken to minimize potential disturbance to shoreline vegetation;
- Standard tree protection measures should be implemented as necessary (e.g. tree protection fencing and maintaining existing drainage);
- Avoid obstructing wildlife migration and movement;
- Construction scheduling should account for any timing restrictions to reduce impacts on wildlife;
- Visual surveys for nests and nesting activity should be carried out prior to commencement of work. If nesting activity is identified, the area should be avoided and work carried out carefully around it. If this is not possible, PWGSC should be contacted to discuss management options;
- Although SAR have not been identified on the site, should SAR or its critical habitat be encountered, measures are to be implemented to avoid destruction, injury or interference with the species, its residence and/or its habitat (e.g. timing or design changes). If the foregoing cannot be avoided the proponent should cease work and contact the Natural Heritage Information Centre - Ontario Ministry of Natural Resources and Forestry, located at 300 Water St., 2nd Floor North Tower, Peterborough, ON K9J 3C7 by email (NHICrequests@ontario.ca) or phone (705-755-2159) to discuss management options to minimize, reduce or control adverse effects or compensatory mitigation and environmental effects monitoring. PWGSC and Transport Canada should also be advised of occurrence.

Archaeological and Cultural Resources:

- In the event that archaeological deposits are discovered in the course of excavation or construction, activities should cease immediately until the situation can be investigated more fully; and
- In the event that archaeological deposits are discovered, the Ontario Ministry of Culture, should be contacted immediately - (416) 314-7123.

Public and Worker Safety:

- The contractor must apply adequate safety barriers and signage for the safety of workers and public, including the placement of no trespassing signs for the public;
- All workers involved in decommissioning, construction and maintenance activities must wear appropriate protective equipment (e.g. safety boots, hard hats, protective eye wear, as required); and
- Health and safety measures must be taken according to the *Occupational Health and Safety Act* during decommissioning, construction and maintenance activities.
- No excavations are to be left unsupervised unless adequate barriers have been installed with the project manager's/engineer's consent