

Project Overview

Type of application: **New**

Proponent name:	Jean-Philippe Cloutier-Dussault
Company:	Environment Canada

Schedule:

Start Date:	2021-07-01
End Date:	2024-10-31
Operation Type:	Annual

Project Description:

Building Demolition The Building Demolition includes the demolition of various structures and infrastructure, including the Former Main Complex, Red Quonset, Building 12, Abandoned Reefer, Carpentry/Plumbing Shop, Former Plumbing Building water storage tank (building burnt down in 2019), original Quonset/Storage Shed, Storage Shed, Greenhouse, Old Transient Barracks, former Bunk House and abandoned electrical poles. It is anticipated that all clean, uncontaminated wood waste will be burned on site and all remaining non-hazardous building demolition waste will be stored and disposed on site in a non-hazardous disposal facility. Hazardous waste (polychlorinated biphenyls [PCBs], mercury, household hazardous waste, etc.) will be appropriately containerized and shipped offsite. The non-hazardous disposal facility is currently in the design stage with details to be submitted in early 2021 as part of a separate application. A request has been placed with the Nunavut Water Board (NWB) to amend the existing Water Licence for the burning of the clean, uncontaminated wood waste and is attached to this application. Per communication with NWB, requests for open burning is considered on a case by case basis and is reviewed by board members at NWB. The following plans will be prepared prior to construction start: Environmental Protection Plan, Health and Safety Plan, Emergency Response Plan, Erosion, Sediment and Drainage Control Plan, Spill Contingency Plan, Fire Safety Plan, Worker Orientation Seminar, Building Deconstruction/Decontamination Plan, and Waste Management Plan. The Wildlife and Wildlife Habitat Management Plan that has been developed for Eureka HAWS (SLR, 2018) will also be followed by all onsite personnel. This plan is attached to this application. Temporary Camp A Temporary Camp for approximately twenty (20) demolition staff will be required for the works. This camp will be installed in a way that will minimize impacts to the environment and will be removed upon completion of the demolition work. Camp facilities will include power generators, fuel storage facilities, garbage disposal containers, heating and cooling units, and necessary appliances and furniture. Amendment/Extension of Water Licence As part of this application, an Amendment and Extension of the current Water Licence No. 8B-EUR1621 (Water Licence) is required. An amendment is requested to include water and waste activities associated with the Building Demolition and Temporary Camp. The Water Licence is due to expire August 10, 2021 and so also requires an extension so that current water and waste activities can continue at Eureka HAWS. Extension of Quarry Permit Quarrying Permit 2018QP0001 is due to expire on June 17, 2021 and requires an extension so that current quarrying activities can continue at Eureka HAWS. It is also projected that additional aggregate to the authorized amount will be required. The details will be provided as part of a separate application, when engineering and siting location information has been finalized.

Personnel:

Persons:	20
Days:	429

Project Map

List of all project geometries:

ID	Geometry	Location Name
6975	polygon	New project geometry

Planning Regions:

Kivalliq

Affected Areas and Land Types

Settlement Area

North Baffin Planning Region

Project Land Use and Authorizations

Project Land Use

Permanent Structures

Airport

All-Weather Road Access

Permanent Structures

Pits and quarries

Scientific Research

Temporary Structures

Winter Access

Licensing Agencies

INAC: Class A Land Use Permit

INAC: Class A Land Use Permit

INAC: Quarry Permit

NWB: Type B Licence

NWB: Type B Licence

Other Licensing Requirements

No data found.

Material Use**Equipment**

Type	Quantity	Size	Use
Pick Up Truck	tbd	various	Crew Transportation
Excavator	tbd	various	Removal and transportation of demolition debris
Dump Truck	tbd	various	Transportation of demolition debris
Bulldozer	tbd	various	Removal and transportation of debris
Small Loader	tbd	various	Excavate demolition material
Till Handler	tbd	various	Removal of demolition material
Bobcat	tbd	various	Transportation of demolition debris
Generator	tbd	various	Temporary camp operations
ATV	tbd	various	Crew Transportation
Side by Sides	tbd	various	Crew Transportation
Tractor and Trailer	tbd	various	Movement of equipment

Fuel Use

Type	Container(s)	Capacity	UOM	Use
Gasoline	7	200	Liters	Fuel for equipment

Diesel	3	60000	Liters	Temporary Camp Use
Gasoline	52	5000	Liters	Demolition equipment

Hazardous Material and Chemical Use

Type	Container(s)	Capacity	UOM	Use
No records found.				

Water Consumption

Daily Amount (m ³)	Retrieval Method	Retrieval Location
0	Pumping from Station Creek	Station Creek

Waste and Impacts

Environmental Impacts

Air quality Interactions: Demolition activities have the potential to temporarily increase ambient air concentrations of dust (i.e., particulate) and greenhouse gas emissions. **Effects:** During demolition, there will be an increase in local airborne particulate (dust) and tailpipe (fuel combustion) emissions from heavy-duty construction equipment operation and construction activities. The tailpipe emissions will include greenhouse gas emissions and therefore have the potential to contribute to climate change. **Mitigation:** •Optimize fuel consumption and minimize dust production resulting from vehicle/equipment travel: Employ standard operating procedures for equipment/machinery and ensure that regular maintenance is performed in accordance with good engineering practices or as recommended by suppliers such that the equipment is kept in good operating condition. Other activity-specific mitigation measures will include the use of appropriate exhaust emissions controls such as catalytic converters and diesel particulate filters to mitigate fuel combustion emissions from heavy equipment and vehicles. Additionally, the number of equipment/vehicle movements and travel distances will be optimized to reduce fuel consumption and minimize dust and greenhouse gas emissions. Lowering vehicle speeds on unpaved road surfaces, applying water as well as implementing good road maintenance practices will minimize the potential for road dust emissions. Demolition work will be completed by methods that minimize dust generation from operations, in accordance with the Environmental Protection Plan. •Reduce dust resulting from demolition activities: Execute work using methods to minimize raising dust from decontamination operations. Implement and maintain dust and particulate control measures as determined necessary by applicable regulations and standards during demolition work and in accordance with applicable authorities. The use of oil for dust control is prohibited. Prevent dust from spreading to beyond the immediate work area. Departmental Representative or designate may stop work at any time when Contractor's control of dusts and particulates is inadequate for worker exposure relative to indoor conditions, or when air quality monitoring indicates that release of fugitive dusts and particulates into the work area equals or exceeds specified levels. If Contractor's dust and particulate control is not sufficient for controlling dusts and particulates into atmosphere, stop work. Contractor must discuss procedures that Contractor proposes to resolve problem. Make all necessary changes to operations prior to resuming work that may cause release of dusts or particulates. Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures. Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

Noise Interactions: Demolition activities have the potential to temporarily increase ambient noise. **Effects:** During demolition clean up, there will be an increase in noise emissions from heavy-duty construction equipment operation and construction activities. These effects are typical of a construction site, localized, and of a temporary nature. The physiological and ecological impacts of noise on wildlife needs to be considered, acutely loud noises can cause hearing loss in wildlife. Behavior patterns of wildlife may differ from their natural suite of behaviors. **Mitigation:** •The Project will employ standard operating procedures for equipment/machinery and ensure that regular maintenance is performed. As well, personnel will adhere to conditions outlined in all permits, authorizations and/or approvals.

Sediment and soil quality Interactions: Demolition activities have the potential to affect the soil include removal of buildings, infrastructure, material handling (loading and dumping); and the refueling of vehicles/equipment. **Effects:** During demolition soil quality is most likely affected as a result of fuel spills and leaks from equipment refueling efforts or otherwise, and from compounds located inside the structures materials. Conduct a complete on-site evaluation of the area to determine exact measures to be taken to protect permafrost. **Mitigation:** •Prevention of fuel spills/leaks: Refueling of vehicles and equipment to occur in designated areas following all applicable regulations. •Sediment, erosion and drainage control: Effective sediment and erosion control measures will be installed prior to starting work to prevent entry of sediment into watercourses and waterbodies. These measures will be inspected daily and repaired

if damaged by construction, precipitation or snowmelt. Sufficient supplies for erosion, sediment and drainage control will be available on site to keep in compliance with federal and territorial fisheries and environmental protection legislation. Aquatic environment Interactions: Demolition activities have the potential to affect the hydrology and water and sediment quality of the site. These activities include, removal of buildings, infrastructure, material handling (loading and dumping); and the refueling of vehicles/equipment. Effects: surface water contamination could potentially occur due to leaks/spills that may occur during the re-fuelling of vehicles and construction machinery on site. Debris from demolition efforts may end up into the hydrological system. Mitigation: •Suitable erosion and sediment suppression measures will be implemented to prevent sediment from entering Black Top Creek, Station Creek or other water bodies. Erosion control structures (temporary matting, geotextile silt control filter (curtains) fabric, etc.) are to be used. Vehicles/machinery are to be checked for leakage of lubricants or fuel and are maintained in good working order. Re-fueling should occur in designated areas only. Basic petroleum spill clean-up equipment will be kept on-site. Barriers will be required during extraction of contaminated soils to prevent material from entering surface water, Station Creek or the reservoir. Aquatic Community Interactions: The demolition work does not involve direct disturbance of the water bodies, Work projects are isolated from the water bodies, although movement of heavy equipment may increase sediment transport during the summer construction period. Effects: Concerns about sediment loading in nearby water bodies are important to address. Mitigation: •Best practice is to mirror aquatic environment mitigations. Should water pulling from Station Creek be required during the demolition period the most appropriate time of year to do so would be during the freshet period. Vegetation Communities and Species Interactions: Physical damage to vegetation during construction and changes in the soil surface layer, leading to potential soil and permafrost erosion, changes in surface water hydrology and thermokarst. Fugitive dust may also suppress plant growth within a zone around construction zones. Effects: The damage to the vegetation will be equal to the footprint of the demolition, storage and the dust footprint. Mitigation: •Due to the extreme conditions at Eureka, construction will be conducted during the brief summer months. Damage can be reduced by covering the ground, possibly using matting, prior to construction to reduce physical disruption of the soil. Fugitive dust can be suppressed at its source. Additionally, vehicles will remain on pre-established roads/trails. Workers are to be advised of sensitivity of environment and limits of equipment travel will be determined. Wildlife Communities and Species Interactions: Demolition activities will occur during the summer, the time that nesting and denning occur for many bird and mammal species. For birds and mammals, the interactions include behavioral changes such as avoidance and/or attraction to the site and changes in the dominant species in areas adjacent to the site. Effects: Effects are unlikely as demolition activities will keep to areas of existing building and established roads. However, minimization of impacts is important as the area in general as the potential for sensitive species migration. Mitigation: •The Wildlife and Wildlife Habitat Management Plan (SLR, 2018) will be followed. •Temporary workers will be informed of station protocols for the control and disposal of food and refuse to ensure that local wildlife is not attracted to the site. •Temporary workers involved with demolition activities will be trained to avoid contact with all wildlife and their nests (particularly with species at risk) and to report sightings to a central authority (i.e., supervisors) immediately. Movements of workers in off-hours should also be restricted to ensure nesting sites and denning areas are not disturbed. •To ensure minimal disturbance to birds and mammals, a qualified person should be present before and during important phases of construction to facilitate protection of wildlife. This person should conduct a survey prior to commencement of construction to identify important areas and sensitive species that might be affected. Site personnel will use trained wildlife monitors prior to, and during construction to ensure a coordinated, appropriate response to wildlife sightings and to ensure protection of local species during construction. •In the event that SARA listed birds or mammals are located in the area, construction crews will be prepared to modify, or delay, activity that might harm the protected species. For example, if nests with eggs are located for a protected species, activity in the area might be delayed until after hatching.

Waste Management

Waste Type	Quantity Generated	Treatment Method	Disposal Method
Combustible wastes	613m ³	Ash disposed in non-hazardous waste facility on-site	uncontaminated wood waste burned on-site
Non-Combustible wastes	81m ³	Should hazardous waste be attached, it will be	Sheet metal siding disposed on-site in non-hazardous waste facility

Non-Combustible wastes	71m3	removed and disposed of appropriately. Should hazardous waste be attached, it will be removed and disposed of appropriately.	Mixed metals disposed on-site in non-hazardous waste facility
Non-Combustible wastes	282m3	Should hazardous waste be attached, it will be removed and disposed of appropriately.	Spray applied insulation disposed on-site in non-hazardous waste facility
Non-Combustible wastes	920m3	Should hazardous waste be attached, it will be removed and disposed of appropriately.	General rubble disposed on-site in non-hazardous waste facility.
Hazardous waste	84 m3	Hazardous waste will be containerized and shipped off-site.	Asbestos disposed off-site at appropriate facility.
Hazardous waste	~95m3	Hazardous waste will be containerized and shipped off-site.	Lead (paint, lead amended paint and lead containing materials) will be disposed off-site at appropriate facility.
Hazardous waste	<3m3	Hazardous waste will be containerized and shipped off-site.	Mercury, Radioactive and ODS items disposed off-site at appropriate facility.

Hazardous waste	5.5m3	Hazardous waste will be containerized and shipped off-site.	PCB items disposed off-site at appropriate facility.
Hazardous waste	1 m3	Hazardous waste will be containerized and shipped off-site.	Petroleum/Cleaning products will be disposed off-site at appropriate facility.
Non-Combustible wastes	12 tonnes	no additional treatment procedures	Creosote treated timbers will be stored on-site for future use.
Non-Combustible wastes	tbd	No additional treatment procedures.	Non-hazardous solid waste related to the Temporary Camp will be disposed on-site in non-hazardous waste facility.
Greywater	tbd	No additional treatment procedures.	Greywater associated with the Temporary Camp will be treated within existing treatment facility.
Overburden (organic soil, waste material, tailings)	tbd	No additional treatment procedures.	Food and paper waste associated with the Temporary Camp will be incinerated.