

# **Arlington Asbestos Waste Disposal Facility Expansion Summary of Project Description**

**Submitted under:  
Canadian Environmental Assessment Act, 2012**

**Proponent  
Arlington Heights C&D Limited**

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**Project Description Prepared by:**



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## 1.0 General Information

The name of the designated project is the Arlington Asbestos Waste Disposal Facility Expansion. The proponent information is as follows:

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Arlington Heights C&D Limited (the Proponent) has operated an asbestos disposal facility operations at Arlington Road West, Annapolis County, Nova Scotia since 2012. The Arlington Asbestos Waste Disposal site is one of a limited number of approved locations for the safe disposal of asbestos waste in Nova Scotia. So as to allow for the continued operation of the facility and the safe disposal of asbestos waste, the Proponent is seeking consent to expand the facility to provide capacity for an additional 12 year's operations.

The Project Area is situated on the north-facing slope of the Annapolis Valley's North Mountain, on lands owned by the Proponent. The Project Area is situated in an existing industrial setting, adjacent to a construction demolition and debris disposal facility, in a rural setting of Annapolis County. The proposed expansion site consists of fallow fields, mixed-wood forest, and abandoned farmland habitats that together total 4.19 ha.

The proposed project consists of the receiving and disposal of bagged asbestos waste, followed by progressive reclamation of filled disposal cells. The disposal rate is anticipated to remain approximately constant at the current rate of 375 truckloads per year. The progressive reclamation over the life of the project will limit the disturbed operational area to approximately one hectare at any point in time.

There have been no regional studies carried out in the area of the designated project, as confirmed with the Canadian Environmental Assessment Agency (CEAA).

The Proponent has sought to undertake consultations with Aboriginal groups in Nova Scotia, members of the public and various government agencies during the development of the plans for the expansion of the Arlington Asbestos Waste Disposal Facility. Representatives met with the Native Council of Nova Scotia in January 2017 to discuss off-reserve native resources rights and the protection of surface and groundwater resources. No other comments or responses have been received from the other Aboriginal Groups consulted.

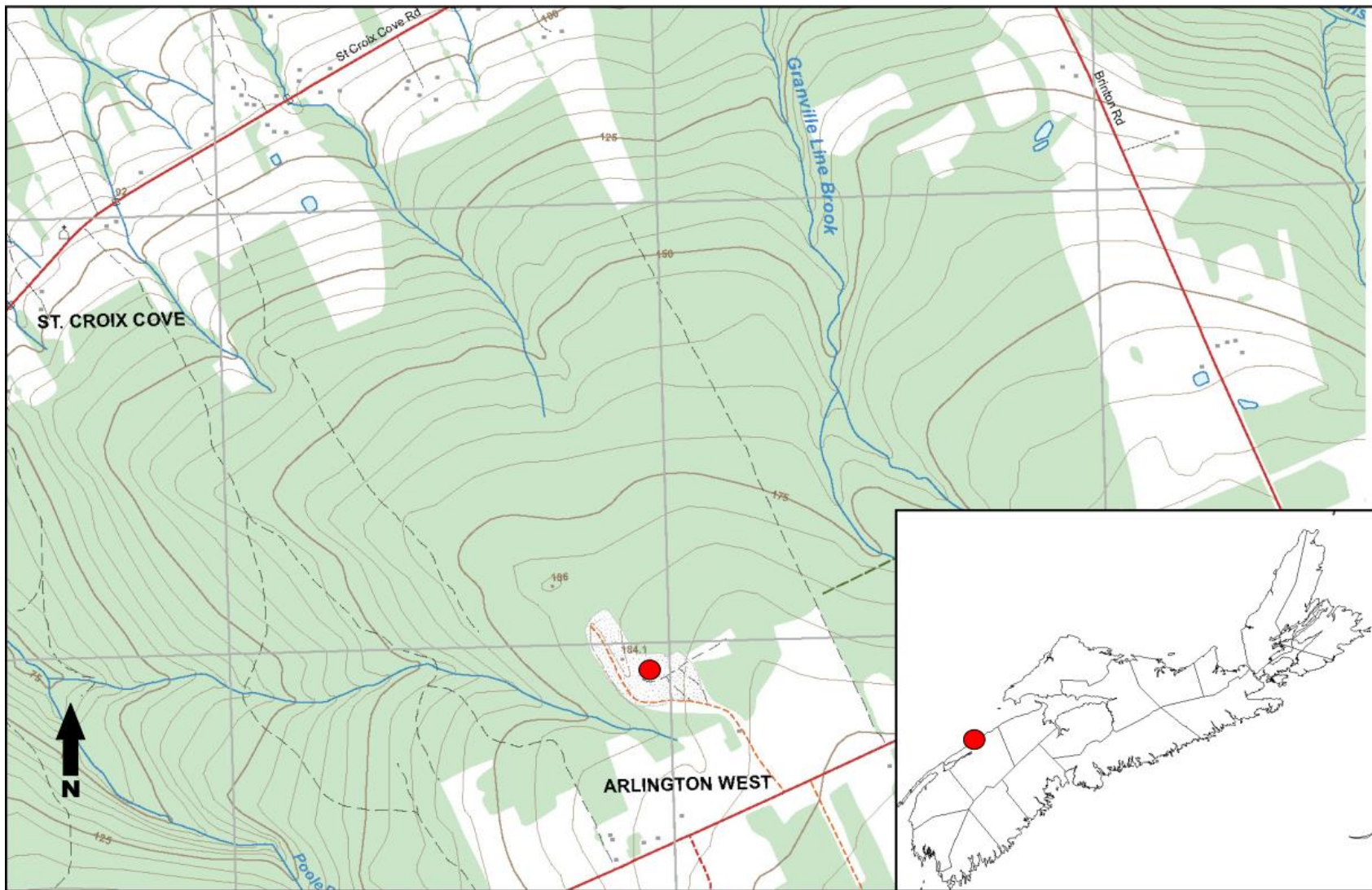
The proposed expansion of the facility was recently the subject of a provincial Environmental Assessment review, with approval received from the Minister of Environment on July 24, 2017. As part of the provincial review, government departments and members of the public were consulted. As part of the provincial Environmental Assessment review, ten written comments were received from provincial agencies and four from federal agencies. The proponent is currently working to address comments brought forward by government agencies. No public comments on the proposed expansion were received during the provincial environmental assessment review.

## **2.0 Project Information**

### **2.1 Project Location**

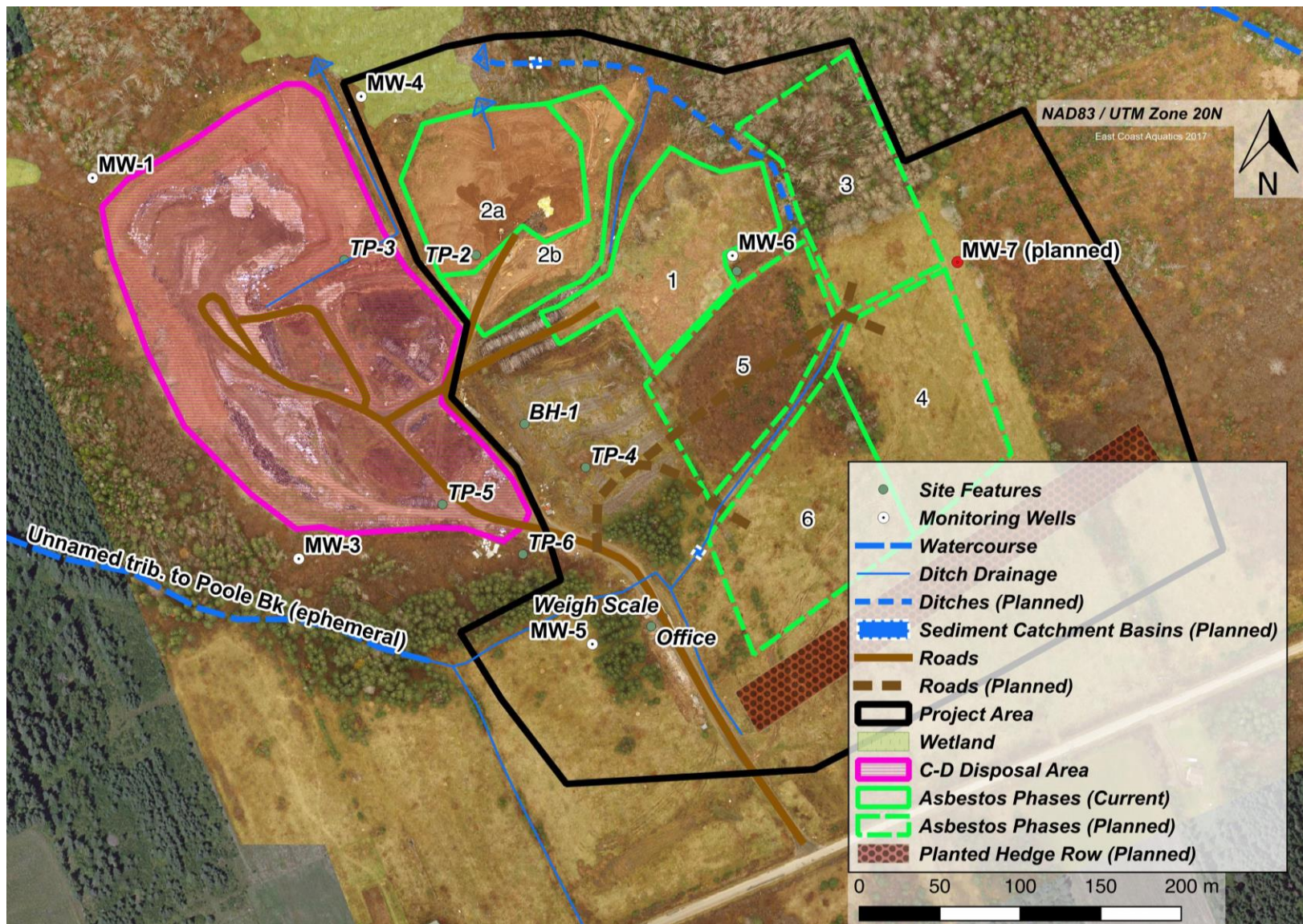
The Project Area is approximately 8 km north of the Town of Bridgetown within the community of Arlington West, Annapolis County (Figure 1), Nova Scotia. The currently operating asbestos disposal facility is immediately adjacent to the proponent's existing construction and demolition debris disposal site (Figure 2). The asbestos disposal facility is proposed to progressively expand into adjacent Mixed Wood forest and old farm field habitats (Figures 3 and 4). The site is located at: 1481 Arlington Road, at UTM 20T 319602 4975656 (NAD83).

No permanent, seasonal or temporary residences occur within 250 m of the proposed project. A total of five permanent residences occur between 250 m and 1000 m of the project site. An additional 34 permanent residences occur within 2000 m of the site, with the majority (76%) occurring >1500 m from the site. A total of 23 seasonal residences, cluster at Rumsey Lake, occur between 1500 m and 1750 m from the site.



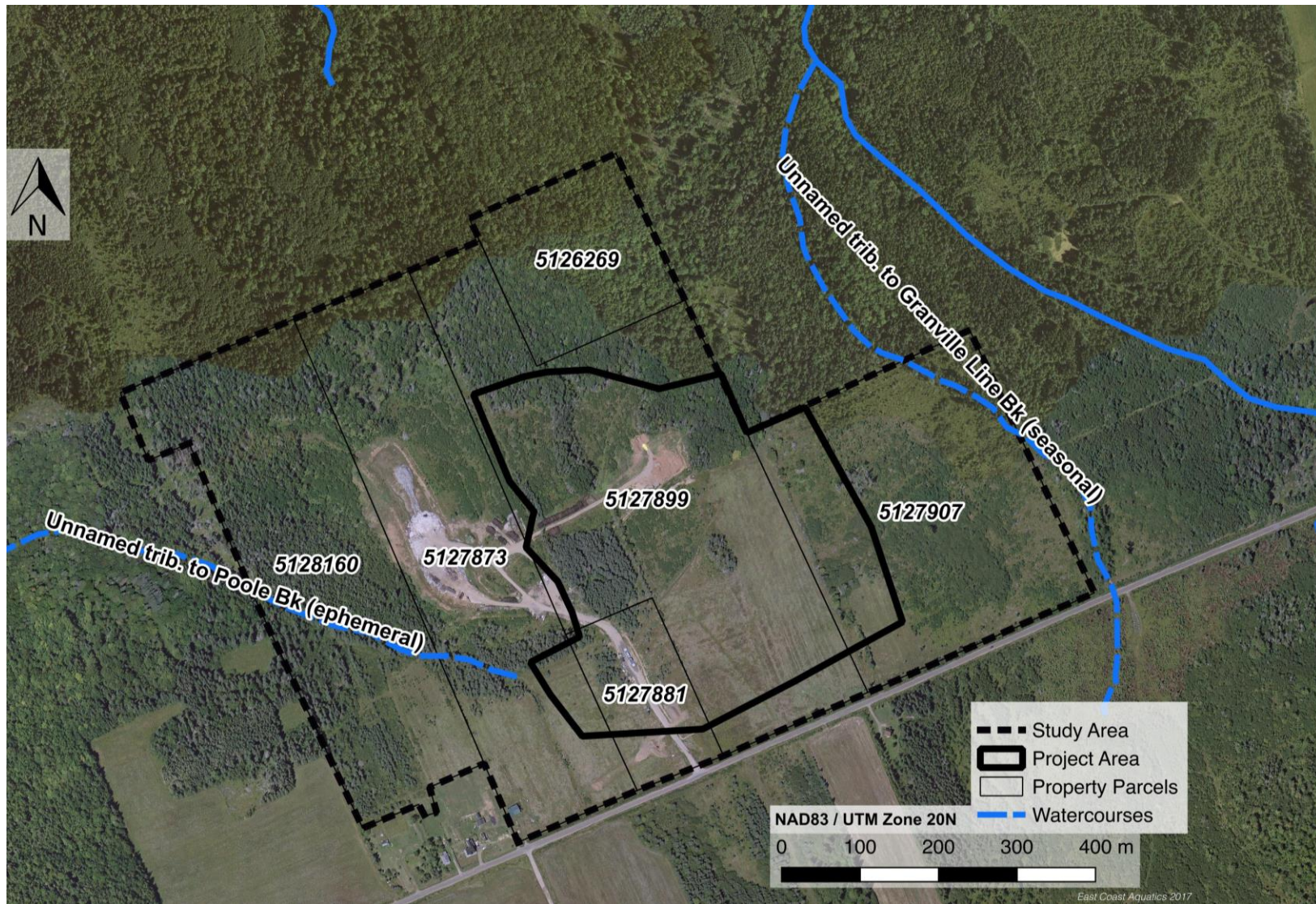
**Figure 1:** Location of the proposed Arlington Asbestos Waste Disposal Facility, located in Arlington West, Annapolis County, Nova Scotia and indicated by the red dot.





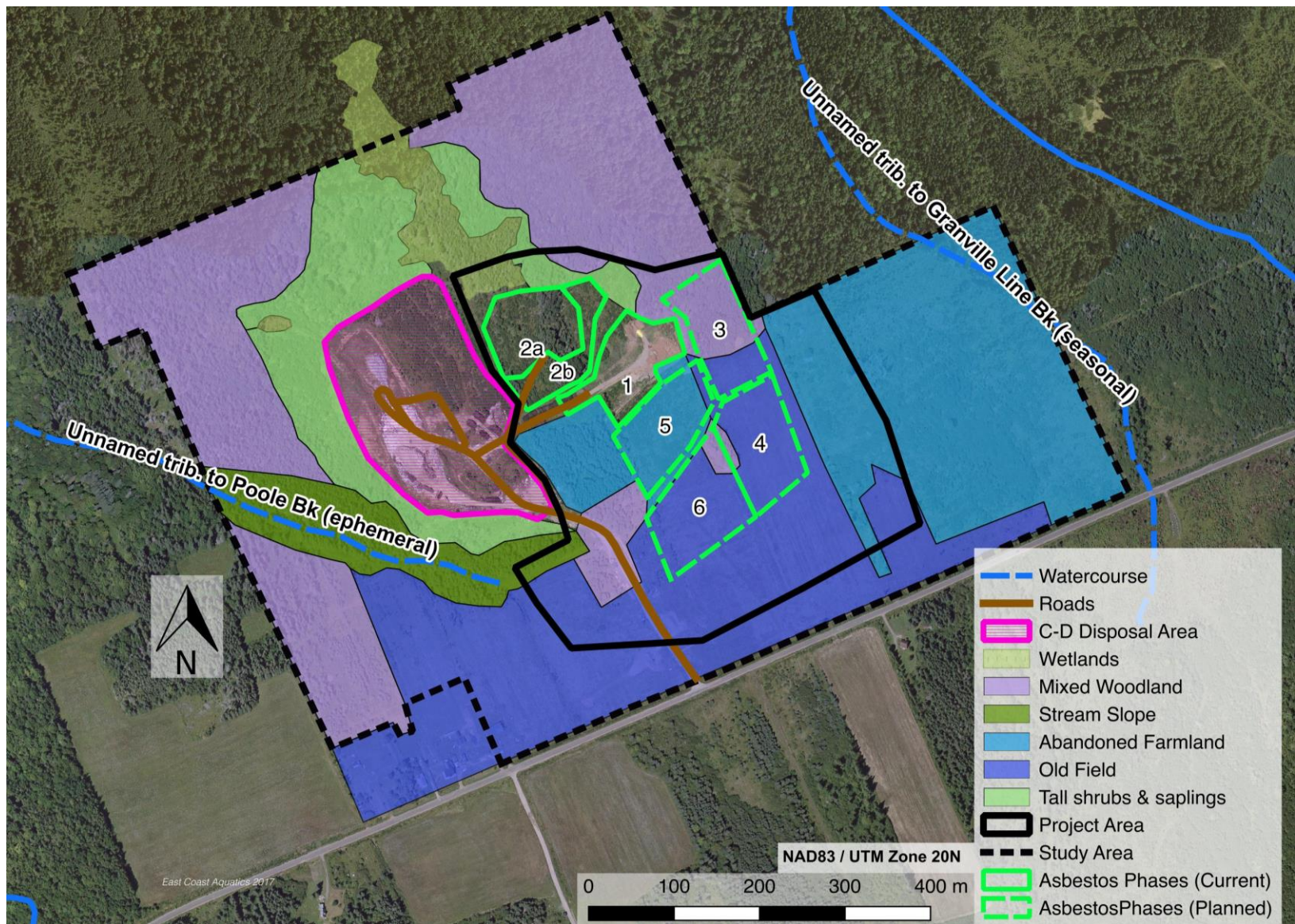
**Figure 2:** Site overview based on 2017 drone imagery shows the Project Area, including current and planned asbestos disposal cells, and overall boundary of asbestos disposal operations.





**Figure 3:** Arlington Heights asbestos disposal facility Study Area, study area properties and PID numbers, and the asbestos disposal Project Area footprint. Figure based on 2012 imagery when the C&D site was relatively new and the existing asbestos disposal area was being established.





**Figure 4:** Study Area habitat map indicating primary vegetation communities and watercourses relative to current and proposed operational areas.



The two closest Aboriginal peoples reserves to the project site are: Bear River First Nations, Bear River (Reserve located 48 km to the southwest) and the Annapolis Valley First Nations, Cambridge Station (Reserve located 45 km to the east). The project site is located in the traditional territory of the Mi'kmaq, which encompasses virtually all of the current province of Nova Scotia. Significant federal lands in the vicinity of the project site include Department of National Defense Greenwood air base (29 km to the northeast) and Kejimikujik National Park and National Historic Site (51 km to the south).

There are no documented recent utilization by Aboriginal Peoples of natural resources at the project site, nor interactions in terms of cultural heritage, socio-economic conditions or historic significance, based on consultations held with regional and provincial Aboriginal Peoples agencies and archaeological investigations. There are no anticipated effects on Aboriginal Peoples resulting from the proposed expansion.

The proponent will be establishing a Community Liaison Committee (CLC) to serve as a dialogue forum for the proposed project. The CLC will seek membership from First Nations, neighbouring property owners, local businesses, elected officials and community groups.

The proposed project will take place entirely on private land owned by the Proponent, with no federal financial support anticipated. No federal lands will be used for the project and no federal permits, licenses or authorizations are required.

## **2.2 Project Details**

The existing approved asbestos disposal area at the site has an area of 2.06 ha, with the proposed expansion having an area of 4.19 ha, representing an increase of 103%. The proposed expansion of the asbestos disposal facility is subject to Section 30 of the federal *Regulations Designating Physical Activities*, specifically an increase in waste input capacity of 50% or more.

The Designated Project consists of the continued construction, operation, expansion, reclamation and decommissioning of an asbestos disposal facility. The physical components of the Project include:

- Primary access road from Arlington Road, with lockable steel closure gate,
- Site office,
- Weigh scale,
- Secondary access road(s) to individual proposed cells to allow trucks to unload waste asbestos at the active disposal cell,
- Constructed site drainage system and sediment catches to direct surface water around individual cells and minimize the potential of sediment transport from the site,
- Phased constructed, capped, and reclaimed cells as the Undertaking proceeds,
- Groundwater monitoring wells,

- Active and completed asbestos disposal area signage, and
- Proposed berm and hedgerow to establish a visible, sound, and dust barrier to Arlington Road.

The proposed activities to be undertaken at the site include, but are not limited to:

- i. Installing earthen sedimentation traps covered in geotextiles, and stabilized with clean stone and seeding,
- ii. Constructing drainage ditches to move surface water from the project site into the sedimentation traps, and along preferred drainage paths,
- iii. Grubbing of some or all of an individual Phase cell surface area, and placing grubbing's either in an area for future reclamation use or over the surface of a cap completed previous Phase cell as part of the progressive reclamation,
- iv. Excavation of an area of immediate need within an individual Phase cell to an approximate depth of 4-5m, and placing spoils adjacent to the excavation to be available for immediate cover of disposed asbestos waste,
- v. Receiving, weighing and placing approved asbestos abatement waste material into the recently excavated area of need,
- vi. Covering the waste material within twenty-four hours with a minimum of 25 cm of soil.
- vii. Completing an area of immediate disposal when a height of 2-3m above grade has been reached through the process outlined in v and vi above,
- viii. Completing progressive reclamation of part or all of one Phase cell by placing mineral soil and a topping of salvaged grubbing's across the surface until a total cover not less than 125 cm is achieved, and immediately mulching and seeding the reclaimed surface,
- ix. Completing progressive reclamation of part or all of one Phase cell such that no more than 10,000 m<sup>2</sup> (1 ha) of completed area (as described in vii above) exists across the entire operation at one time. This equates to the average surface area of one Phase cell for the proposed operation, and
- x. Decommissioning of all infrastructure associated with the project once reclamation is completed and all operations have ceased.

Industrial development projects typically involve distinct construction, operation, decommissioning and abandonment phases. Due to the variable demand for asbestos disposal and the environment benefits of having only a limited area of disposal cell open at any one time, the Arlington Heights Asbestos Waste Disposal Facility will implement the construction, operation, decommissioning and abandonment phases on a continuous basis. Disposal cells will be prepared, opened, filled and closed in a sequential manner matching the demand for asbestos disposal services.

Site preparation and construction will involve the removal and stock piling of surface vegetation and grubblings for later remediation use. Erosion and sedimentation controls will be established at this stage and prior to the excavation of the disposal cells. In order to minimize sight lines between Arlington Road and the proposed future asbestos disposal



cells, a berm and hedgerow will be established south of Phase 6 cell. The berm will be constructed of native soils and grubbing's, and will be planted with spruce seedlings and/or tree transplants from the developed Project Area. Early establishment of the hedgerow will maximize the visual barrier to Arlington Road, provide future reduction in sound and dust propagation from the site, and provide additional edge and mixed wood habitat for birds and mammals.

The operational phase will involve the delivery to the site by truck of waste asbestos, with prior notification of arrival. The truck will be weighed in at the scale, with the site manager confirming the acceptance of the asbestos waste. The truck transports the waste to the edge of the active cell for disposal, and is then weighed empty out of the facility at the scale. As AHCD staff are aware of arriving waste, a portion of the active cell is prepped prior to arrival. This preparation involves excavation of an area of need to a depth of about 4.5 m into the clay area. Delivered waste is placed in the cell with an excavator. The asbestos waste is then covered with the previously excavated clay material within 24 hours of reception, to a depth of not less than 25 cm. The site is inspected daily to ensure that all material is covered within the specified time. Material continues to be received, placed, and covered in the active area until a height of 3 m above the original grade is achieved and the cell is fully utilized.

As was noted above, a progressive decommissioning and abandonment approach will be used at the site. A "spent" cell is one that is fully utilized, or filled to the specified height and covered with the minimum 25 cm of mineral soil as described in the preceding section. As an area of discontinued use, part or all of a Phase cell will be reclaimed with a layer of mineral soils and a topping of salvaged grubbing's/topsoil atop the cell surface until a total cover not less than 125 cm is achieved. The surface will then be immediately seeded and mulched with hay. The asbestos disposal facility Project Area will be fully reclaimed within 12 months of abandonment. The site will be marked permanently with a sign indicating it is an Asbestos Disposal Site, and monitored as specified in the Industrial Approval to ensure the final cover remains intact.

### **3.0 Environmental Effects**

#### **3.1 Physical and Biological Setting**

The Project Area is located on the north-facing slope of the Annapolis Valley's North mountain within the Fundy Shore Ecoregion and North Mountain Eco district within Annapolis County. The Project Area lies in a rural area with the community of Hampton 4.8 km west and the community of Port Lorne 3.8 km northeast of the site.

The footprint of the disposal cells is a relatively flat peneplain located on a ridge at the junction of three small watersheds. As shown in Figures 2 and 3, the unnamed seasonal tributary to Granville Line Brook is approximately 235 m northeast of proposed Phase 3 cell. The unnamed ephemeral tributary to Poole Brook, the closest flowing watercourse, is located 185 m west of proposed Phase 6 cell. A treed bog wetland, mapped as part of this

EA process, is located to the north of the completed portion of the Phase 2 cell. The Study Area is underlain by bedrock of vertical columnar basalt that is typically topped with 4 to 10 m of silty clay. The ground surface is a root mat/topsoil of approximately 30 cm.

The Study Area vegetation was categorized as seven separate communities: tall shrub/sapling, stream slope, abandoned farmland, mixed woods, operational areas, wet ditches/excavated drainages, and old field. Much of the Project Area over which the proposed asbestos disposal cells are to be constructed is former agricultural land with a small portion occurring within mixed wood forest.

Eighty-eight (88) plant species were inventoried over the Study Area. No Species At Risk, or species of conservation concern were encountered. Twenty exotic species were identified, of which 19 were found in the old field and abandoned farmland habitats. All other species had an "S5" ranking by the Atlantic Canada Conservation Data Center, which is defined as... "Demonstrably widespread, abundant, and secure throughout its range in the province, and essentially ineradicable under present conditions".

## **3.2 Potential Environmental Effects**

### **3.2.1 Airborne Emissions**

Air emissions from between one and three heavy equipment diesel engines (excavators, bull dozers etc) will be generated through the proposed expansion. These emissions will be managed through the regular servicing and maintenance of the equipment. The potential risk for airborne asbestos waste associated with the operations will be managed by ensuring that trucks arriving at the site are inspected upon arrival to ensure that all asbestos waste is appropriately contained. Asbestos waste will be covered with soil within 24 hours of disposal. There is the potential for airborne dust emissions to originate from exposed soils at the site. These will be managed by limiting the area of exposed soils and rapid stabilization and reclamation of completed asbestos disposal cells.

Any changes to the environment resulting from the proposed expansion are anticipated to be confined to the boundaries of the project site, with no off-site impacts to federal lands or transboundary impacts to other provinces anticipated. The only conceivable exception would be greenhouse gas emissions, in the form of emissions from mobile diesel engines used. These emissions are estimated to total 388 tonnes of CO<sub>2</sub> equivalent over the 12 year lifespan of the proposed expansion. These emissions represent a minute fraction ( $2.13 \times 10^{-4}$  %) of Nova Scotia's anticipated GHG emissions target for 2020.

### **3.2.2 Liquid Emissions**

The sole type of liquid discharges from the site are surface water, draining into several unnamed, intermittent drainages flowing to the north and eventually the Bay of Fundy. As waste asbestos will be covered within 24 hours of placement to ensure containment, the primary potential contaminant in the surface water would be suspended sediments. A



number of measures will be employed to minimize the amount of surface water entering the site, and limit the mobilization of sediments. Industry-standard sediment and erosion control measures will be employed, including sediment traps at the downslope end of constructed drainages and upslope of any receiving watercourse.

### **3.2.3 Fish and Fish Habitat**

No watercourses travel through the proposed Project Area although three small watersheds originate in the study area and flow northward to the Bay of Fundy. Fish habitat within the study area is extremely limited, and no visual observations of fish were made during field studies of the available habitat.

The potential effects of the Designated Project on fish and fish habitat is low due to the limited number of water courses and area fish habitat within the Study Area, and the vegetated distance between Project Area drainage features and these watercourses. Fish habitat in the closest watercourses is predicted to be minimal to non-existent given the ephemeral and seasonal nature of flows, and steep gradients connecting the watercourses to known fish bearing reaches.

The potential effects of the Designated Project on fish and fish habitat are therefore associated with transport of contaminants or sediments from the project site to downslope watercourses. The likelihood of these impacts is low due the active sediment control measures utilized at the site and the spatial separation between the asbestos disposal facility and downslope fish habitat. It is unlikely that there will be any significant adverse environmental effects arising from the Designated Project on fish and fish habitat.

### **3.2.4 Marine Plants**

The Designated Project is located approximately 2.3 km from salt water and the shore of the Bay of Fundy. The project and its components will have no direct effects on marine plants due to the physical separation. The potential effects of the Designated Project on marine plants are therefore associated with transport of contaminants or sediments through drainage pathways on site to the watercourses and subsequently the shore of the Bay of Fundy. Potential sources of sedimentation are the exposed mineral surfaces of the operation. Potential sources of surface water contamination are operational equipment, and trucks bringing disposal materials to the site.

As was noted above, a range of mitigation approaches will be utilized at the Designated Project to control the mobilization and offsite transport of sediments and contaminants. Through the implementation of these measures, it is unlikely that there will be any significant adverse environmental effects arising from the Designated Project on marine plants. It is acknowledged that climate change could lead to more severe rain events that would increase the risk associated with transport of sediment and contaminants. However, daily on site management and adaptability to a severe weather related risks are anticipated to negate any potential increase in risk of an adverse environmental effect to surface water

resources for the proposed Undertaking. The significance of impacts should they occur are believed to be small, short term, direct, local, and reversible.

### **3.2.5 Migratory Birds**

A total of fifty-two (52) individual species were identified during the two avian surveys at the study area surrounding the proposed Arlington Asbestos Waste Disposal Site. An estimate of 690+ and 480 individual birds were surveyed on September 17<sup>th</sup> and 30<sup>th</sup> 2016 respectively. The most abundant group of birds observed in the study area were 10 species of warblers, dominated by a migratory movement of Palm, Magnolia, Common Yellowthroat, Black-throated Green, and Yellow-rumped warblers. Sparrows were also abundant later in September with 117 individuals of 9 species being observed on the last day of the month. Blue Jays, Black-capped Chickadees, and American Goldfinch were noted to be abundant resident species. The sparrow abundance and diversity found within the Operational Area and the surrounding fields was as high. The area is expected to be important for seed eating birds between late-September and January.

Overall, 45 species identified by the Migratory Birds Convention, 1994, were recorded through the September 2016 field surveys. One Species at Risk (Savannah Sparrow - SARA (Special Concern)) was observed during the field surveys. Two other Species at Risk (Bobolink - NSESA (Vulnerable) SARA (Threatened); Common Nighthawk (NSESA (Vulnerable) SARA (Threatened) were suspected of occurring in the project area but not observed during the field surveys.

The habitat provided by the disturbed ground in the disposal site itself and the surrounding fallow fields is not as common in the region as the forested areas. Few fields are left fallow and allowed to go to seed in the area (most are in crops or hayed multiple times during the season). This provides a valuable resource for seed-eating birds like sparrows during the fall migration.

The major impact of the proposed expansion to avian fauna is through the direct loss of habitat, and conversion to new habitat types. The importance of this has to be considered not only for the absolute loss but as a part of the cumulative impact of many small developments and clear-cuts reducing the available habitats of the region. The seriousness of such losses will depend on several factors, including a) the regional scarcity of the habitats in question, b) its importance to bird species present, c) the extent to which habitat can regenerate following asbestos disposal operations, and d) the successional stage of the ecosystem. These losses, of course, need to be weighed against the value to birds of new habitats created by the proposed project.

The removal of Mixed Wood forest, Old Field, and subsequent stripping of soil cover will have the most direct negative impact on bird species using these habitats for feeding or breeding/nesting. Conversion of Mixed Wood habitat is predicted to have a smaller impact on avian species than conversion of the Old Field habitat as the latter is a relatively more limited habitat type. Old Field habitat was observed to be a well used fall migration forage area, is predicted to be an important breeding and nesting habitat for grassland species, and



was observed or predicted to support a number of bird Species at Risk and Species of Conservation Concern.

As proposed operations are the same as existing operations that have occurred for more than a decade, incremental impact to avian species from sound and human presence are predicted to be short term, site specific, and negligible. These impacts are also temporary to the life of the operation, and as such are reversible.

Several operational efforts will be made to minimize and mitigate alteration of avian habitat that could impact species observed or predicted to be using Mixed Wood and Old Field habitats.

- First, timing habitat disturbance to avoid the breeding season of most birds observed at the site (late May to late July) will minimize the direct impacts on nesting birds, nearly all of which are protected by the Migratory Birds Convention Act. Therefore, grubbing and clearing of all expansion areas will occur outside of the breeding season (May 1 to August 31).
- Second, although the direct impacts of habitat loss can not be fully mitigated, long-term recovery through progressive site reclamation and natural regeneration will help replace altered Mixed Wood and Old Field habitats. Ensuring the progressive reclamation of areas where asbestos disposal operations have been concluded will mitigate impacts by shortening the timeframe between alteration and replacement of grassland habitat of the Old Field, and will establish a net gain in area of fallow grass over the life of the Undertaking. Adjacent Abandoned Farmland and Tall Shrub/Sapling habitats will be allowed to undergo natural succession toward mature Mixed Wood habitat. A proposed berm and hedgerow will have transplanted tree species that will replace a portion of the abundant Mixed Wood habitat lost to expansion.
- The Old Field habitat that is part of the operational properties but not part of the proposed asbestos disposal facility will not be mowed during the nesting season, or any time other than periodically to limit the establishment of woody vegetation.

Although noise and human presence are long term operational impacts that have existed for more than a decade which will not change, proposed expansion and on site transportation routing changes have the potential to change dust related impacts within the site specific geographic extent of the Project Area. Therefore, attention will be given to dust abatement to minimize this impact, especially during June and early July, when most young birds are in the nest.

Based on the avian assessment and implementation of the above mitigation measures, impacts on avian species are predicted to be negligible, short term, direct, site specific, and reversible. Therefore, it is not anticipated that the proposed development will result in any significant adverse environment impacts to observed avian fauna species.

As a condition of the recent provincial Environmental Assessment approval for the Designated Project, the proponent will be undertaking additional breeding bird surveys in the spring and early summer 2018. These surveys will be completed based on input and guidance from Nova Scotia Department of Natural Resources (Wildlife Division).

### **3.2.6 Species at Risk and Species of Conservation Concern**

A data report for the Project Area was prepared by the Atlantic Canada Conservation Data Center (ACCDC), which documented historical records of Species at Risk (SAR) and Species of Conservation Concern in the vicinity of the project. The 2016 field surveys were undertaken to both characterize the physical and biological features within the Study Area and ascertain the presence, or likelihood of presence, of Species at Risk and species of conservation concern at the Study Area. SAR are those which are protected by either Federal or Provincial legislation because of their rarity. Species of conservation concern are those that are known or believed to be rare or uncommon at a Provincial scale, and therefore ranked as S1-S3 by the ACCDC.

The ACCDC data search indicated records of nine species at risk within 5 km of the project site, however none were detected during the 2016 field surveys of the Study Area. Of those nine species, the Mixed Wood and Abandoned Farm habitats of the Study area might be expected to support the Bobolink, and Eastern Wood Pewee. The Canada Warbler, Peregrine Falcon, and Rusty Blackbird might be occasionally observed, but would be less dependent on the immediately available habitats. The remaining four species (Prototype Quillwort, Eastern White Cedar, Bank and Barn Swallows) have specific habitat requirements that are not found in the Study Area. As was noted above, one additional species at risk (Savannah Sparrow) (COSEWIC-Special Concern) (SARA-Special Concern) was observed during the field surveys, likely as an autumn migrant.

### **3.2.7 Terrestrial Fauna**

Incidental observations of four terrestrial fauna species were made during the field surveys of the Study Area: Raccoon (*Procyon lotor*), Snowshoe Hare (*Lepus americanus*), White Tailed Deer (*Odocoileus virginianus*) and Eastern Coyote (*Canis latrans*). Given the natural habitats present, it is expected that additional mammal species, including Bobcat (*Lynx rufus*), Black Bear (*Ursus americanus*), Red Squirrel (*Tamiasciurus hudsonicus*) and Red Fox (*Vulpes vulpes*), could be present in and around the Study Area. While small scale and localized shifts in mammalian habitat use may occur with operational expansion and reclamation activities, no long-term adverse impacts to mammalian species are anticipated from the proposed expansion.