

Department of Natural Resources

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ENVIRONMENTAL ASSESSMENT REGISTRATION DOCUMENT

**Proposed Expansion of the Harbour Arterial Mineral
Workings Area (HAMWA)**

**Prepared by:
Department of Natural Resources
January 25, 2013**

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1. NAME OF UNDERTAKING:

Harbour Arterial Mineral Area Workings Expansion, St. John's

2. PROPONENT:

Department of Natural Resources
P.O. Box 8700
St. John's, NL
A1B 4J6

Minister:

Hon. Tom Marshall, Q.C.
Department of Natural Resources
P.O. Box 8700
St. John's, NL
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Principal Contact Person for purposes of environmental assessment:

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3. THE UNDERTAKING:

(a) Nature of the undertaking:

Aggregate is a major requirement of most construction projects. Due to its high hydraulic conductivity, aggregate is widely used in drainage applications. It is also a primary component of many composite materials used in construction, such as concrete and asphalt. The proposed project involves the expansion of the largest bedrock aggregate quarry site (Figure 1) within the greater St. John's area to provide aggregate to satisfy growing demands for aggregate for construction purposes. The Harbour Arterial Mineral Workings Area (HAMWA) is the only area in St. John's which is zoned principally for the extraction of aggregate. The volume of material available at the current site will be insufficient to supply aggregate to the greater St. John's area within the next several years at the current rate of extraction. Demand is not expected to slow in the coming years.

(b) Purpose/Rationale/Need for the Undertaking:

Several companies have expressed interest in acquiring rights to rock quarries in the northeast Avalon. Quarry rights confer a strong competitive advantage in the construction business providing a low cost source of crushed stone aggregate, an essential component in all construction activities. The location of any rock quarry is extremely important; most of the costs associated with aggregate relate to transportation of material. A source close to St. John's is desired in order to prevent rapid and colossal cost escalation.

Aggregate sources are relatively scarce in the Northeast Avalon. Adequate material must be identified and is becoming increasingly difficult to find in areas where there are no land-use conflicts. The HAMWA is the only area in St. John's that is zoned principally for the extraction of aggregate. The area was zoned as mineral workings by the City of St. John's in the 1970s and is now divided entirely into about 20 quarry leases with about 16 different operators (Figure 1). As a result, the area is a hodgepodge of individual lots/leases being exploited at variable rates. Some of the larger operators have very little minable material remaining, while other smaller operators have sufficient material to sustain their efforts at the current extraction rate for many years to come (F. Kirby, Manager of Quarry Materials, DNR, 2012, pers. comm.). Due to the differential rates of production, reclamation work will likely be a long, protracted and costly endeavour.

The demand for additional quarry materials is high due, in part, to aggressive housing developments in response to increased demand for new homes driven by large new construction activities, primarily within the resource sector (CHMC, November 5, 2012). Examples of some of the construction activities currently underway in the city include new offices and hotels, expansion of the St. John's International airport, a new long-term care facility in the Pleasantville area, and expansion of the St. John's Convention Centre among others. In September, the provincial government announced an investment of almost \$16.8 million in support of new municipal infrastructure in St. John's (Municipal Affairs press release, September 10, 2012). The funding will support street rehabilitation, public works depot renovations, sidewalk replacement, retaining wall rehabilitation, bridge rehabilitation, a new community centre in Southlands, and non-profit housing. Overall, investment in the St John's area in 2012 is expected to reach \$650 million and the population is expected to see a further 6% growth (Re/Max Housing Market Outlook 2013).

These new projects will all require a source of aggregate and the only area currently zoned for the extraction of aggregate (the HAMWA) has limited material left for exploitation as the larger producers are rapidly exhausting their reserves. Expansion of the HAMWA appears to be the most effective way to address current and impending supply shortages.

4. DESCRIPTION OF THE UNDERTAKING:

a) Geographical Location:

The area considered for expansion extends approximately 800 metres south of the current HAMWA toward Paddy's Pond and tapers from approximately 750 metres wide

to approximately 400 metres wide at the southern limit (Figure 2). The total area is 72 hectares minus the area of the Arboretum (Figure 3), which must be excluded from the proposed HAMWA expansion.

No direct access to the area of expansion is currently available but the area could be accessed by extending existing roads from the current workings. A bypass road has been proposed for the Paddy's Pond area (Figure 3) and, while future access could potentially be gained from this new road, its construction is likely five to ten years away (John Morrissey, Manager of Highway Design & Traffic Engineering, pers. comm., 2013).

The expansion area is located on a hill and will be visible from the TCH and likely from the Foxtrap Access Road as well. Innovative ideas to reduce visibility impact should be sought. In addition, the proposed expansion area lies within the MUN Forest Reserve Area (Paddy's Pond) and the Land Management Division of the Department of Environment and Conservation (DE&C) is currently amending the Crown Land Reserve in the area to allow for quarry activity (Peter Hearn, Manager of Resource Evaluation and Policy Integration, DE&C. pers. comm., 2013). Additionally, re-zoning by the City of St. John's will also be required.

b) Physical Features:

The area is located within the Maritime Barrens Ecoregion and plant species in the area are typical of boreal forest species of this ecoregion. Most of the area is tree-covered, with several boggy areas, some intermittent streams and minor rock outcrops. Paddy's Pond, located south of the proposed expansion, contains several species of fish. The area is home to moose, lynx, hares, ducks and a variety of other bird species and other small animals.

Major physical features of the undertaking will include open pit aggregate operations (Figure 4), laydown areas, garages, crushers and asphalt plants.

c) Construction:

Aggregate operations are usually developed in stages but at a rapid pace. Generally boundary surveys are completed first followed by 1) the submission of an application for a quarry lease complete with development plans and financial assurance, 2) the issuance of a quarry lease, 3) site development (stripping, stockpiling of organics for rehabilitation and development of laydown areas, 4) the development of open pit quarry operations, 5) crushing of material and 6) transportation of the product to market– (crushed stone, cement and/or asphalt.)

During construction, there is potential for noise, site drainage and dust pollution. As well, if blasting is required, fly rock could potentially be hazardous to fisherfolk, float plane operators and other users of the Paddy's Pond area.

d) Operation:

It is estimated that the area could be divided into 2-5 new quarry leases. Each operation will consist of the blasting of rock with subsequent transport of the material using a combination of trucks and front end loaders. Each operation will also have an on-site crusher and may have an asphalt plant.

Potential pollutants during the operation would include site drainage, noise, airborne emissions (dust and fly rock), and possible fuel or oil leaks. Site runoff will be directed to vegetated areas and barriers may be installed (as required) to prevent siltation of water bodies or streams. Any domestic waste generated will be collected and disposed of as per the Waste Material Disposal Act. All equipment will be equipped with appropriate emission controls. All vehicles will follow a designated route and will be properly maintained to minimize noise and exhaust and muffler systems will be inspected regularly to ensure effective operation. Petroleum products will be handled and stored as per Storage and Handling of Gasoline and Associated Products Regulations, under the Environmental Protection Act. The proposed site is located greater than three km from residential areas.

e) Life Expectancy of Operation and Rehabilitation Plan

The proposed area is expected to provide aggregate for the greater St. John's area and much of the northeast Avalon for roughly 50 years. Operation plans and rehabilitation plans will be designed by professional geotechnical engineering consultants and will comply with the Quarry Materials Act and Regulations. Operations will be conducted in a logical, staged sequence to streamline and minimize the cost of ultimate rehabilitation design and implementation. Financial assurance for rehabilitation purposes is required for quarries in Newfoundland and Labrador.

f) Occupations:

It is estimated that each operation will at a minimum employ the following: 2 equipment operators (front end loaders), 6 truck drivers, 1 or 2 crusher operators, 2 asphalt plant operators, 1 heavy duty mechanic, 2 air track drill operators and 1 operations manager.

g) Alternative Site:

The Gear Pond Aggregate Source (Figure 5) area was identified as an area that is removed from current housing developments, is underlain by rocks with good potential for use as aggregate for construction, and is characterized by relatively flat topography and dense trees to keep operations out of sight for maximum aesthetic value.

The Gear Pond Aggregate Source area is located south of the Trans Canada Highway at Paddy's Pond. Access can be gained from the TCH by exiting at Paddy's Pond: cross the

overpass to the east side of the TCH, drive parallel to the highway and turn left onto North Pond Road and head south toward Gear Pond (Figure 2). Note that this road is quite rough and likely not maintained. A four wheel drive pick-up truck is recommended.

The area is now designated for Agricultural use, though there is only one farm in the immediate area. Approval of the Gear Pond Aggregate Source will require agreement for this use by Crown Lands and will require re-zoning by the City of St. John's.

Alternate areas were also evaluated in 2002. These included:

1) Bay Bulls Road across from Bay Bulls Big Pond – rejected due to issues associated with the East Coast Trail 2) Trans Canada Highway – Cochrane Pond area – now rejected due to the pending housing and commercial development and 3) Trans Canada Highway/Kenmount Road – now rejected due to ongoing housing developments in this area.

h) Project Related Documents:

-attached maps showing the location of the Gear Pond Aggregate Source area.

-Municipal Affairs news release dated September 10, 2012 -

<http://www.releases.gov.nl.ca/releases/2012/ma/0910n01.htm>

- Re/Max Housing Market Outlook 2013 -

<http://www.remax.ca/miscellaneous/REMAX%20MEDIA%20REPORTS/OUTLOOK%202013/REMAXHousingMarketOutlookRpt2013.FNL.pdf>

-CMHC News Release dated November 5, 2012 –

<http://www.marketwire.com/press-release/st-johns-housing-market-to-remain-stable-1721482.htm>

5. APPROVAL OF THE UNDERTAKING:

Permits that are required include;

Permits

Quarry Lease

Heavy Equipment Operator License

Certificate of Approval for the Operation of an Asphalt Plant

Fuel Storage Permit

Water Use License

Permit to Operate

Department

Natural Resources

Service NL

Service NL

Service NL

Environment and Conservation

City of St. John's

6. SCHEDULE:

The earliest projected start date would be about Fall 2014. Approval of the Undertaking by the City of St. John's would require re-zoning and this process commonly takes about 18 months. It is hoped that the need for aggregate and paucity of available resources will provide sufficient basis for the necessary reviews to be conducted in support of this project.

7. FUNDING:

The Department's intention is to first reserve out the entire proposed HAMWA Expansion Area from quarry activity as per Regulation 5 (1) of the Quarry Materials Regulations. Under this Regulation, the minister may determine areas which will not be available for the issuance of quarry permits or exploration licences. The Department would then publish a Request for Proposals (RFP). Proponents will be required to submit a detailed proposal outlining timing and nature of construction and operations, details of contracts with identified buyers, approximate annual production rates and methods of rehabilitation. Successful proponents would then be granted quarry rights, as per the Quarry Materials Act. Quarry Inspectors from the Department of Natural Resources would conduct periodic site inspections to ensure compliance with the Quarry Materials Act and Regulations. Rehabilitation will occur once an individual quarry has been exhausted of usable material.

8. SUBMISSION

Respectfully submitted:

Date

Signature of Chief Executive Officer

Appendix 1: Maps and Figures

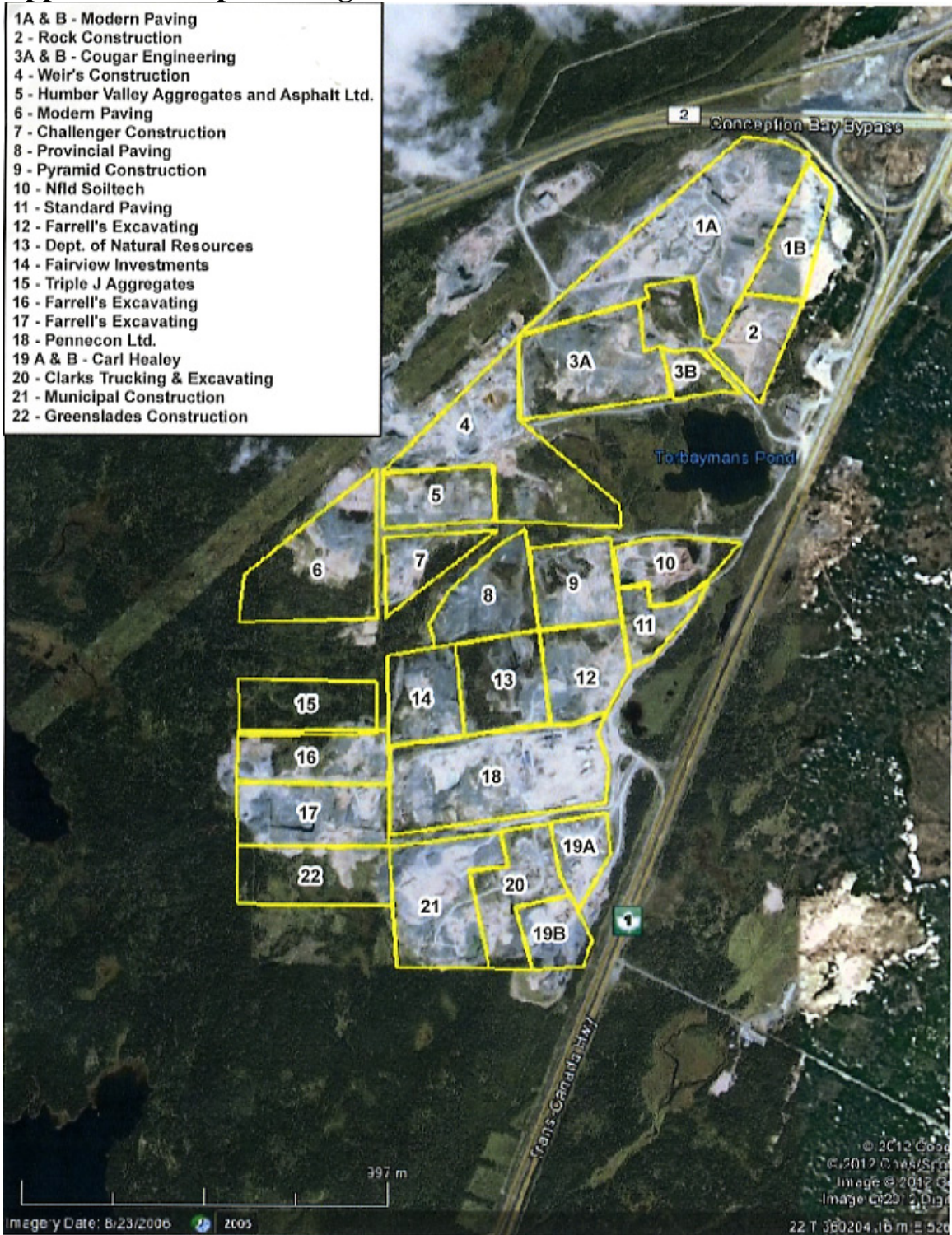


Figure 1: Harbour Arterial Mineral Workings Area (HAMWA) showing the location of current quarry leases and their operators.



Figure 2: Location of the existing HAMWA quarry leases (yellow) and the proposed expansion site (red).

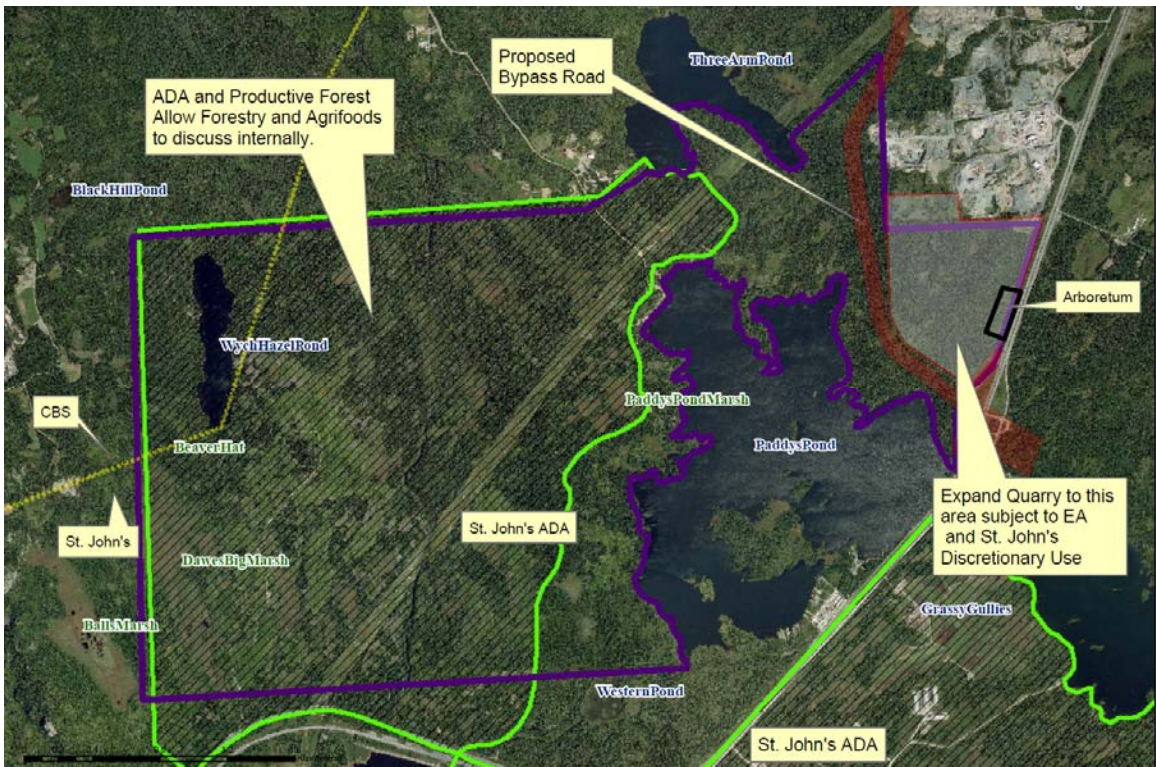


Figure 3: Location of Arboretum (black) relative to proposed expansion area.



Figure 4: Active quarry operation, ~1.5 km north of the proposed Gear Pond alternative aggregate source area.



Figure 5: The alternative source for aggregate at Gear Pond (outlined in red) will require a significant lead-time, as a result of multiple land-use issues that will require re-zoning.