

PROJECT INFORMATION

PENNECON MARINE BASE LTD.
PROPOSED WHARF AND LAYDOWN AREA
RIVERHEAD, NEWFOUNDLAND

Submitted by:

Dhiraj KC
Pennecon Marine Base Ltd.
650 Water Street
P.O Box 1083
St. John's, NL
A1C 5M5

July 2021

1.0 NAME OF UNDERTAKING	Riverhead Commercial Wharf
2.0 PROPONENT	Pennecon Marine Base Ltd.
2.1 Address	650 Water Street P.O Box 1083 St. John's, NL A1C 5M5
2.2 Principal Contact Person	Dhiraj KC, P. Eng General Manager

3.0 THE UNDERTAKING

3.1 Nature of the Undertaking

The proponent proposes to develop the area as a commercial wharf, laydown, and quarry area as per attached Figure 2. Pennecon Marine Base has acquired quarry permits with the Department of Natural Resources and plan to construct access roads to the quarry and from quarry to the wharf, allowing the loadout of processed aggregate materials onto vessels.

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Geographic Location

The project is located at St. Mary's Bay, near Graven Bank in the Town of Riverhead, Newfoundland, and Labrador. Please refer to Figure 1. Location of Town of Riverhead, and Figure 2. Proposed wharf development, Riverhead, NL.

Please refer to Figure 3. which indicates the nearby home. There are no recreational uses in this area. Some people cut wood in the area to heat their homes. Others might take a leisurely walk along the shore line. There are now commercial uses in the area.

The nearest human receptor is 1.2 km away from the quarry and 2.3 km away from the proposed wharf location, please refer to Figure 3. Nearby Human Receptor.

There are no recreational, commercial, or industrial users of this embayment, including tour boat operators and fish harvesters.

The area across the water from the proposed development has a fisherman's wharf where boats fishing crab come in to unload their produce. Boats tie up there during fishing season and are lifted out in the fall to spend winter on land. Occasionally a pleasure boat may come up and down the arm.

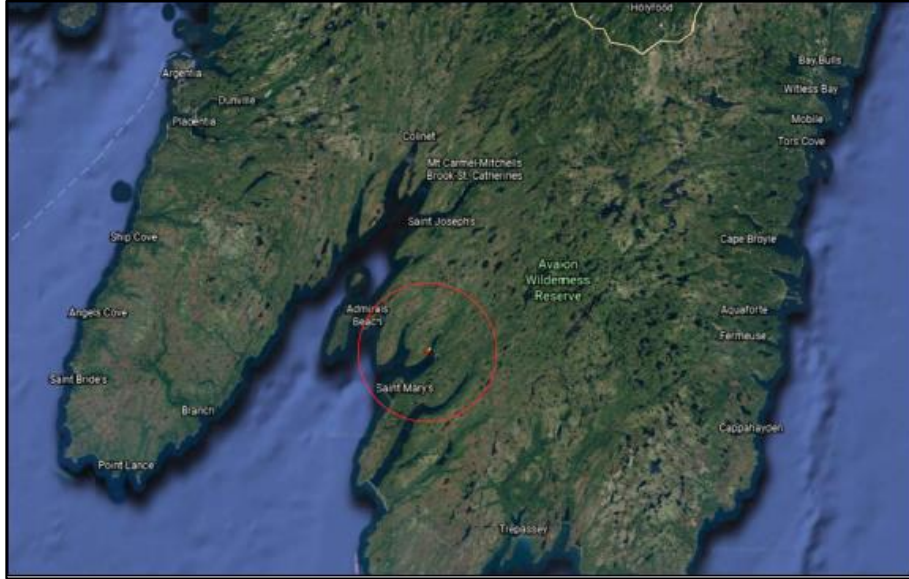


Figure 1. Location of Town of Riverhead

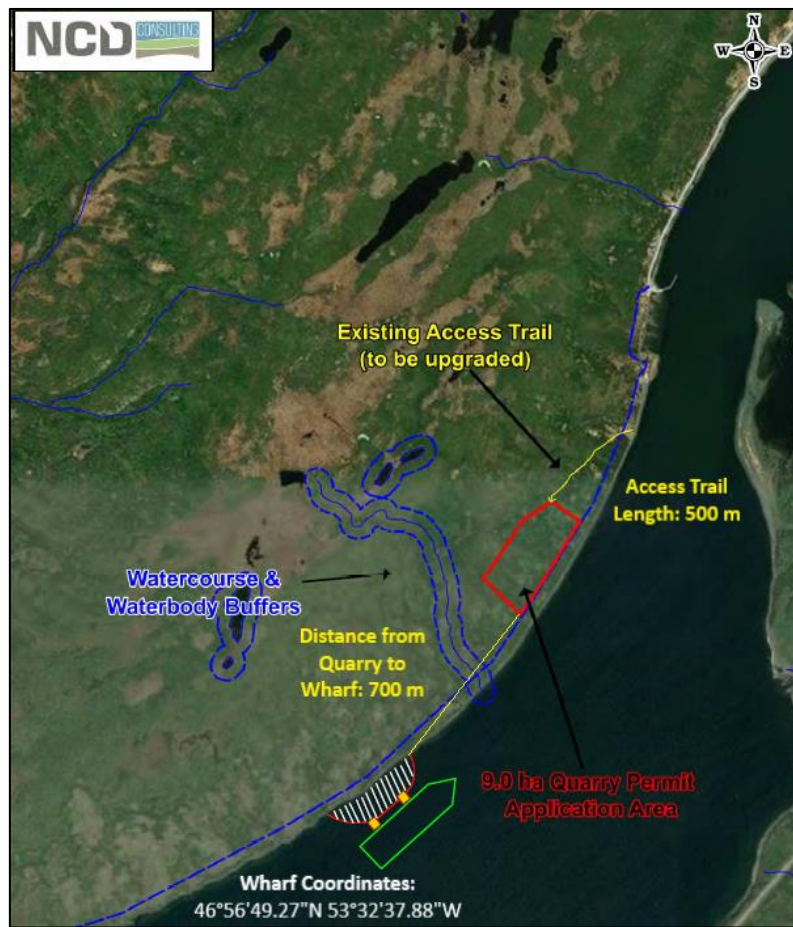


Figure 2. Proposed Wharf Development



Figure 3. Nearby Human Receptors

4.3 CONSTRUCTION

The construction phase of site development will consist of the following main components:

- Access road development
- Commercial wharf construction
- Quarry Development

4.3.1 Access Road Development

Access to the site will be from an existing access road, which will be upgraded as required and extended approximately 500 m. The access road will be used to transport equipment necessary for the construction of the commercial wharf.

Residents rarely use the existing access trail for leisure walks or, ATV rides along the shore line. The existing trail will be upgraded to provide access to the quarry site while the propose 700 m access road will be used to transport the finished rock products to the marine terminal & further load the material onto bulk carries, or rock placement vessels. The following steps outline the upgrade of the existing access trail and the new 700 m access road connecting quarry to the wharf/laydown location.

- The first step would be to construct “Tote road”. A “tote road” is a rough access road following the route of the permanent road used as an access from which to construct the permanent structure. The tote road will be constructed mainly out of rock-fill or, oversize material from the quarry operations.
- The second stage involves the gradual improvement of the tote road. This stage involves the widening of the tote road. Cut and fill operations will continue along the route until final limits are established.
- The third & the last stage of access road construction involves preparation of driving surface using reject or, unsuitable material. During this stage, reject material (finer material) will be hauled and compacted along the whole access road.

4.3.2 Wharf Development

The Rock Loading Wharf is designed to handle vessels less than 20,000 DWT; the marine footprint will be approximately 10,000 m². It will consist of two (2) wooden cribs, approximately 12 x 12 m² and 12.3 deep filled with blast rock (refer to Figure 4. Concept drawing of rock loading wharf). Cribs will be constructed on a sloped rock fill launch pad to a height of approximately 3 m. Timber cribs will be constructed 250 mm x 250 mm x 12.2 m long timber. They will then be launched, towed to the final location, and sunk in position with ballast rock. When cribs are firmly seated on the bottom, they will be built-up to the final elevation, leveled if necessary, and filled with ballast rock. Ballast rock will range from 250 mm – 500 mm and will be placed by an excavator from a barge.

The construction of the rock loading wharf will take approximately five (5) months. The approximate location of wharf is (46°56'49.27"N, 53°32'37.88"W) in WGS84 Map Datum.

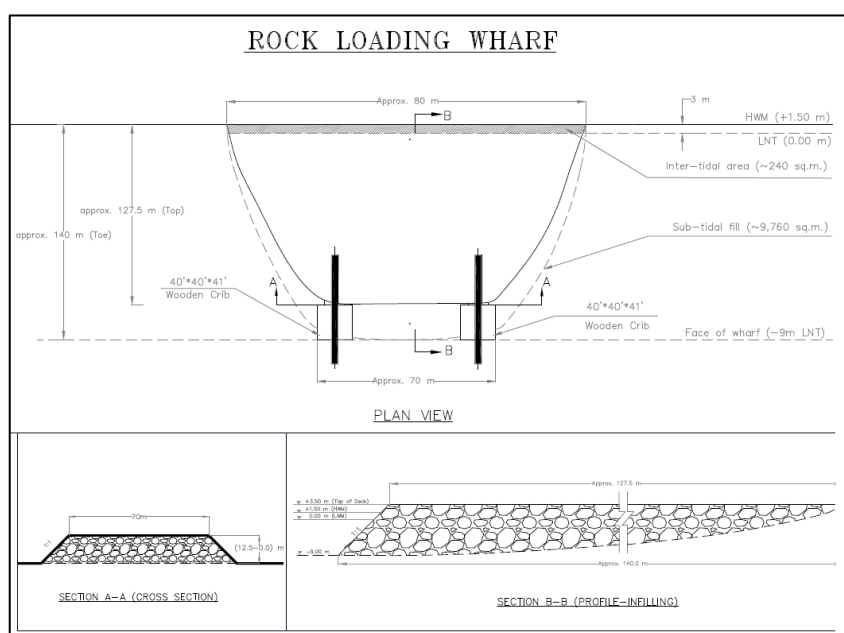


Figure 4. Concept Drawing of the Rock Loading Wharf

4.3.3 Quarry Development

The quarry will be developed from two different processes. Drilling & blasting and crushing. 10-meter benches will be created by a drilling and blasting operation. The blasted rock will then be sorted. Any oversized rock will be compiled where it will be broken into smaller pieces by a hydraulic breaker attachment on an excavator. The appropriately sized rock will then be put through a crushing spread where it will then be processed into the final product. The final product will be stored in stockpile where it will eventually be hauled to the wharf to be loaded on ships.

4.4 PROJECT DOCUMENTS

Applications have been submitted to Crown Lands for the laydown area, wharf, access road, and quarry, as well as to Transport Canada for the Navigation Protection Program.

DOCUMENT TITLE	APPENDIX
Municipal Recommendation Form for Crown Land Applications for Grant of Land Under Section 36 of the Lands Act	Appendix A
Quarry Permit	Appendix B
Viewshed Analysis	Appendix C
Quarry Site Plan	Appendix D
Development Phases	Appendix E
Additional Information	Appendix F
Transport Canada Approval	Appendix G

5.0 APPROVAL OF THE UNDERTAKING

The following is a list of the likely permits, licenses and approvals required for this project, some of which are already in progress, as noted in Section 4.4.

The quarry did not go through EA review but were referred to various governmental authorities prior to approving our quarry permit, refer to Figure 5. Referral E-mail.

APPROVALS/CERTIFICATE/PERMITS	REGULATORY AUTHORITY
Permit to Alter a Body of Water	NL Department of Environment and Conservation, Water Resources Division
Lease / Permit to Occupy Crown Land	NL Department of Environment and Conservation, Crown Lands Division
Navigation Protection Program	Transport Canada
Municipal Recommendation	Town of Riverhead
Request for Review	Department of Fisheries and Ocean
Quarry Lease	NL Department of Industry, Energy, & Technology

6.0 VIEWSHED MANAGEMENT

Pennecon is committed to completing the development of the Riverhead Quarry in a safe and environmentally responsible manner that will meet the regulatory requirements, including development that reduces visibility in key landscapes. As part of the ongoing development and EA commitments, Pennecon has analyzed viewshed from different locations along Salmonier Line, throughout the town of Riverhead.

To reduce the visibility of the project, Pennecon will utilize existing tree screens and topography in multiple areas. A 50-meter non-development buffer will be maintained between the quarry development and St Mary's Harbor. A non-development buffer means that there will be no work with this area and will remain fully treed. Additionally, development of the quarry will progress in the opposing direction of the key landscapes as an additional measure to prevent visibility. Finally, Pennecon will utilize the already established access road in order to prevent any further disturbance and to maintain the current view-scape.

The viewshed analysis can be found in Appendix C. The analysis shows viewpoints from 5 different locations throughout Riverhead. Sightlines 1, 3, and 5 illustrate how the quarry will not be visible from these locations. Sightlines 2 and 4 are from 2,450 meters and 1,700 meters away from the quarry, respectively. From these locations it is possible that the quarry may be visible. However, due to the large distance from the quarry to these viewpoints, along with the natural tree screen along Salmonier Road and at the quarry, it is believed that the impact of the quarry's visibility from these locations would be minimal.

Pennecon believes that with these described measures in place, visibility from any one of these key vantage points will be protected from the public. Care will be taken when developing the quarry to maintain the proposed natural tree buffers along the quarry's boundaries. Pennecon is open to ongoing communication with the regulatory bodies to ensure all parties are satisfied with the development of the quarry and to allow for long term sustainable development in this area.

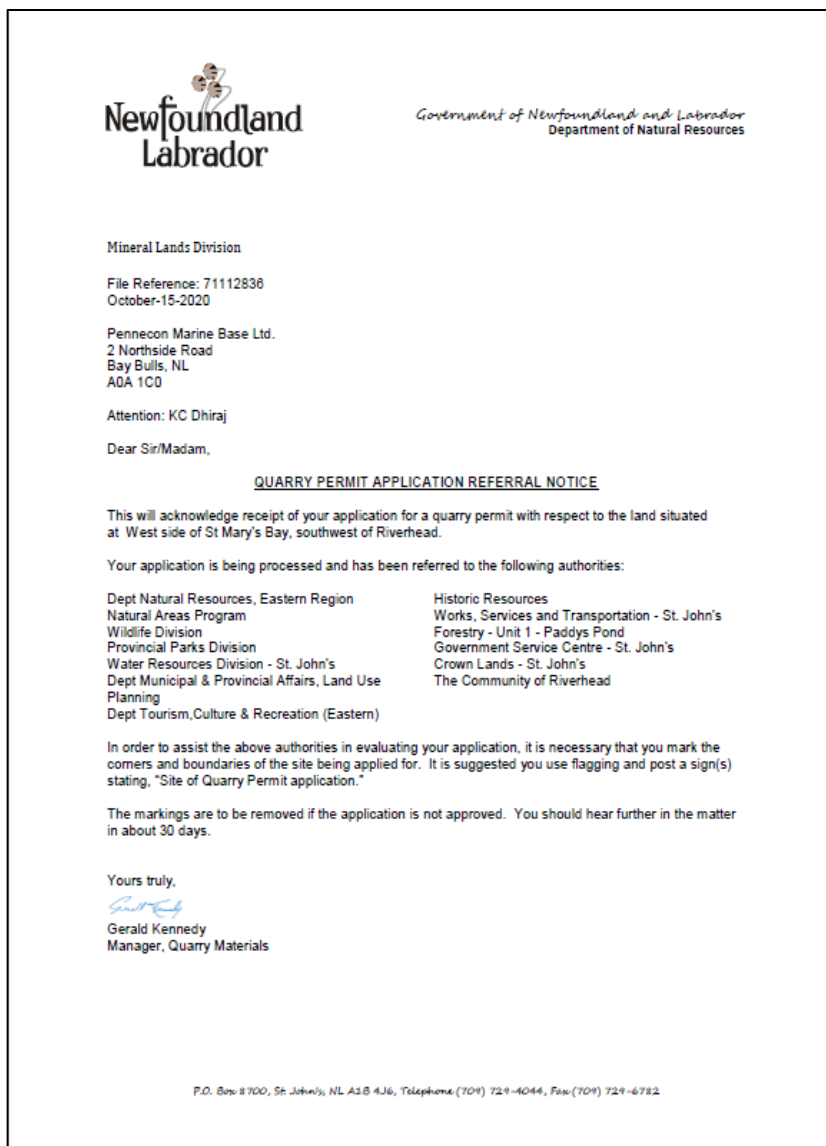


Figure 5. Referral E-mail

Appendix A - MUNICIPAL RECOMMENDATION



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
Department of Environment and Conservation

**MUNICIPAL RECOMMENDATION FORM FOR
CROWN LAND APPLICATIONS WITHIN
MUNICIPAL AND PLANNING AREA BOUNDARIES**

TO BE COMPLETED BY APPLICANT - Part A

NAME OF APPLICANT Pennecon Marine Base Ltd.		DATE OF APPLICATION 12/29/2020	
MAILING ADDRESS 650 Water St.			
CITY/TOWN St. John's		PROVINCE NL	POSTAL CODE A1C 5M5
HOME TELEPHONE (709) 697-3463	BUSINESS TELEPHONE (709) 334-2820	FACSIMILE	
LAND TO BE USED FOR Commercial grade wharf to support approved quarry activities in Riverhead.			
LOCATION OF LAND Graven Bank, Riverhead, NL		DIMENSIONS OF LAND FRONTAGE 488m DEPTH 47.5m	

TO BE COMPLETED BY MUNICIPAL COUNCIL - Part B

Please see Attachments.

DOES YOUR COMMUNITY HAVE		<input type="checkbox"/> AN APPROVED MUNICIPAL PLAN	<input checked="" type="checkbox"/> CONCEPT PLAN	<input type="checkbox"/> NEITHER
ACCORDING TO THE DEVELOPMENT REGULATIONS THE AREA APPLIED FOR IS ZONED AS:				
IS THE PROPOSED USE A				
<input checked="" type="checkbox"/> PERMITTED USE		<input type="checkbox"/> DISCRETIONARY USE	<input type="checkbox"/> A USE NOT INCLUDED IN THE DEVELOPMENT REGULATIONS <small>(attach copy of zoning map showing location of site)</small>	
DOES THE PROPOSED USE CONFORM TO THE STANDARDS AND CONDITIONS SET OUT IN THE DEVELOPMENT REGULATIONS?				
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
DESCRIBE THE LAND USE IN THE SURROUNDING AREA				
<input type="checkbox"/> RESIDENTIAL		<input checked="" type="checkbox"/> COMMERCIAL	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> UNUSED <input type="checkbox"/> OTHER
NORTH SIDE _____		EAST SIDE _____		
SOUTH SIDE _____		WEST SIDE _____		
IF THE PROPOSED USE WILL CONFLICT WITH EXISTING LAND USE IN THE GENERAL AREA, PLEASE EXPLAIN				
<i>No Conflict</i>				
INDICATE WHICH OF THE FOLLOWING MUNICIPAL SERVICES ARE AVAILABLE AT THE SITE				
<input type="checkbox"/> WATER & SEWER		<input type="checkbox"/> WATER ONLY	<input type="checkbox"/> SEWER ONLY	<input checked="" type="checkbox"/> NO SERVICES
DESCRIBE TYPE AND CONDITION OF THE ROAD TO THE SITE				
IS THE ROAD PRESENTLY MAINTAINED YEAR ROUND				
<input type="checkbox"/> YES		<input checked="" type="checkbox"/> NO	BY WHOM	
<input type="checkbox"/> COUNCIL		<input type="checkbox"/> WORKS SERVICES & TRANSPORTATION	<input type="checkbox"/> APPLICANT	
WILL ROAD EXTENSION OR IMPROVEMENTS BE NEEDED IF THE APPLICATION IS APPROVED				
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
IN THE OPINION OF THE COUNCIL THE LAND APPLIED FOR IS				
<input checked="" type="checkbox"/> CROWN		<input type="checkbox"/> PRIVATE	<input type="checkbox"/> OWNERSHIP UNCLEAR	
IF PRIVATE OR OWNERSHIP UNCLEAR, EXPLAIN IN COMMENTS BELOW				
IF SITE IS PRESENTLY OCCUPIED, PLEASE GIVE DETAILS				
<i>To the best of our knowledge it is Crown land</i>				

CONTINUED ON PAGE 2

THE COUNCIL OF Rosehill, Sors TELEPHONE NUMBER 525-2600

APPLICATION IS APPROVED REFUSED (GIVE REASONS) APPROVED SUBJECT TO THE FOLLOWING CONDITIONS DEFERRED (GIVE REASONS)

COMMENTS
The development proposed by Pennecon Marine Base Ltd will create employment and great spin off for our community. We fully support this development.

S. Healy Jan 17 2021
 SIGNED DATE

Mayor
 TITLE

INSTRUCTIONS

A. APPLICANT:

1. THIS IS NOT A CROWN LANDS APPLICATION FORM
2. This form provides Council's recommendation only. Final approval decision on your application is the responsibility of this Department and no occupation or development of the site is permitted until a formal title document has been issued by the Department.
3. Complete part A of this form and include an accurate sketch of the area requested or attach a map.
4. Submit this form to the office of the Council in which the Crown land you would like to obtain is located.
5. When the Council has completed its recommendation you may submit your application along with this approval form to the appropriate Government Service Centre or Regional Lands Office.
6. This form provides Council's recommendation only. Final approval decision on your application is the responsibility of this Department can accept your Crown Lands Application Form.

B. MUNICIPAL COUNCIL:

1. Please complete this form and return it to the applicant. A copy may be taken for your records.
2. This form must be completed for all requests for Crown land within your Municipal planning area boundary.
3. If you have any questions on the proposed development, please contact the applicant directly.
4. Questions pertaining to the processing of applications may be made to the nearest Regional Lands Office.
5. The Department reserves the right to accept an application without an approved Municipal Recommendation Form, when, in the opinion of the Department, the Recommendation Form had not been processed by Council in a timely manner. In such cases, the Regional Lands Office will proceed with referrals in the normal manner, including a referral to the Municipality.

GOVERNMENT SERVICE CENTRES/REGIONAL LANDS OFFICES

Department of Government Services
 Governmental Service Centre
 5 Mews Place, P. O. Box 8700
 St. John's, NL, A1B 4J6
 Telephone: (709) 729-2655
 Facsimile: (709) 729-2071

Department of Government Services
 Governmental Service Centre
 McCurdy Complex, P. O. Box 2222
 Gander, NL, A1V 2A9
 Telephone: (709) 256-1120
 Facsimile: (709) 256-1438

Department of Government Services and Lands
 Government Service Centre
 The Nolan Building, P. O. Box 2006
 Corner Brook, NL, A2H 6J8
 Telephone: (709) 637-2387
 Facsimile: (709) 637-2905

Department of Government Services
 Government Service Centre
 The Thomas Building, P. O. Box 3014, Stn. "B"
 13 Churchill Street
 Happy Valley-Goose Bay, NL, A0P 1E0
 Telephone: (709) 896-2561
 Facsimile: (709) 896-4340

Department of Environment and Conservation
 Eastern Regional Lands Office
 5 Mews Place, P. O. Box 8700
 St. John's, NL, A1B 4J6
 Telephone: (709) 729-2654
 Facsimile: (709) 729-0728

Department of Environment and Conservation
 Central Regional Lands Office
 McCurdy Complex, P. O. Box 2222
 Gander, NL, A1V 2A9
 Telephone: (709) 256-1400
 Facsimile: (709) 256-1096

Department of Environment and Conservation
 Western Regional Lands Office
 The Nolan Building, P. O. Box 2006
 Corner Brook, NL, A2H 6J8
 Telephone: (709) 637-2382
 Facsimile: (709) 637-2905

Department of Environment and Conservation
 Labrador Regional Lands Office
 The Thomas Building, P. O. Box 3014, Stn. "B"
 13 Churchill Street
 Happy Valley-Goose Bay, NL, A0P 1E0
 Telephone: (709) 896-2488
 Facsimile: (709) 896-9566

Department of Government Services
 Government Service Centre
 2 Masonic Terrace, P. O. Box 148
 Clarendon, NL, A0E 1J0
 Telephone: (709) 406-4060
 Facsimile: (709) 406-4070

Department of Government Services
 Government Service Centre
 9 Queenway
 Grand Falls-Windsor, NL, A2B 1J2
 Telephone: (709) 282-4206
 Facsimile: (709) 282-4528

Appendix B - QUARRY PERMIT

Mineral Lands Division

QUARRY PERMIT NUMBER: 143673

This quarry permit, issued under the provisions of The Quarry Materials Act, 1998 entitles: Pennecon Marine Base Ltd. of Bay Bulls, NL .

to dig for, excavate, remove, and dispose of Armour Stone, Borrow Material, Rock, by Crushing, Drilling & Blasting, Pit Run Removal, Ripping, Screening,

for an area comprising approximately 9 hectare(s) located in the district of: Placentia - St. Mary's

and being more particularly indicated on a map under File Number 71112836 in the Department of Industry, Energy and Technology and generally described and shown as indicated on the attached map at: West side of St Mary's Bay, southwest of Riverhead .

Removal of topsoil is not allowed under this permit.

This permit is non-transferrable and expires on: **13-Dec-2021**

Subject to the following terms and conditions:

Definitions

“the Act” means the *Quarry Materials Act, 1998*.

“angle of repose” means the steepest angle of descent or dip relative to the horizontal plane to which a material can be excavated or stockpiled without slumping. The angle of repose can range from 0° to 90° or be described as a ratio of horizontal and vertical distances (e.g. 2:1 means 2 horizontal units of measure for 1 vertical unit of measure).

“blaster” means a person who holds a valid blaster's certificate granted by the Department of Advanced Education, Skills and Labour.

“Crown” means any department of the Province of Newfoundland and Labrador.

“Department” means the Department of Natural Resources.

“designated blast area” includes the danger area, which is the zone in which there exists a possibility of hazard to a person or property from fly rock, fume, air blast or ground vibrations, and is the area where the blaster has made arrangements to evacuate all persons whose safety might be threatened by the blasting operation.

“final rehabilitation” means rehabilitation carried out upon exhaustion/depletion of a part or all of the Quarry Permit area in accordance with the Act, the Regulations, and terms and conditions of the Quarry Permit and is supplemental to any progressive rehabilitation that has been completed.

“flyrock” means rock that becomes airborne as a direct result of a blast.

“grubbing” means the stumps, organic material and topsoil that are stripped to access quarry materials.

“inert” means material that is deemed acceptable for disposal at a location other than at an approved waste disposal facility in accordance with the Department of Environment and Climate Change’s legislation and regulations.

“Minister” means the Minister of Natural Resources.

“overburden” means any unconsolidated materials located between the grubbing and bedrock.

“peak particle velocity (PPV)” means the maximum component velocity in millimetres per second that ground particles move as a result of energy released from explosive detonations.

“permittee” means the person or company to which a Quarry Permit has been issued. Where applicable, permittee means the person or company to which a Subordinate Quarry Permit has been issued.

“pre-blast survey” means a detailed record, accompanied by film or video, as necessary, of the condition of private or public property prior to the commencement of blasting operations.

“progressive rehabilitation” means rehabilitation done sequentially during the term of the Quarry Permit, within a reasonable time following individual quarry operations, in accordance with the Act, the Regulations, and terms and conditions of the Quarry Permit.

“quarry material” is defined under Section 2(1)(j) of the Act.

“the Regulations” means the *Quarry Materials Regulations, 1996*.

“rehabilitate” means to treat land from which quarry materials have been excavated so that the use or condition of the land is:

- a) restored to its former use or condition; or
- b) changed to another use or condition that is or will be compatible with the use of adjacent land.

“sensitive receptor” means a place of residence or commercial place of business, where people normally occupy at any given time.

A - General

1) This Quarry Permit does not relieve the permittee from:

- a) adhering to other Provincial and Federal legislation or regulations; and
- b) obtaining all other permits and authorizations that may be required for the quarry operation (e.g. municipal development permits, development control permits, crown land access and highway access permits, forestry cutting and operating permits, environmental permits for asphalt plants, stream crossing, etc.).

2) A rental fee of \$120.00 per hectare and an annual quarry permit application fee of \$100 are payable in advance.

3) A royalty of \$0.75 per cubic metre for quarry material removed is payable within two months from the expiration of this Quarry Permit.

4) The permittee shall retain any existing tree screens between quarrying and adjacent roads, highways, waterbodies (including wetlands), or other land uses.

5) Where no tree screens exist, earth berms and/or other measures approved by the Department shall be implemented to screen the operation from the general public on adjacent roads, highways, or other land uses.

6) The Crown reserves the right to quarry and remove from the Quarry Permit, at any time, any required quarry materials free of charge without obligation to compensate the permittee in any way.

7) A copy of this Quarry Permit shall be at the quarry site and available for inspection at all times during operations.

8) Any person authorized by the Minister may at any time enter upon the Quarry Permit for Departmental purposes in order to inspect, map or examine the quarry operation.

9) This Quarry Permit may be cancelled by the Minister without notice if operations fail to comply with any of the terms and conditions of this Quarry Permit, the Act, or Regulations.

10) Any Subordinate Quarry Permit issued for this site is subject to all applicable terms and conditions of the Quarry Permit.

B - Restrictions

- 1) There shall be no quarrying within:
 - a) 300 metres of a sensitive receptor without permission in writing from the Minister;
 - b) 15 metres of private property without the written permission of the private property owner(s) Land title documentation shall be provided to the Department for verification;
 - c) 90 metres of the road centerline of a protected roadway as designated under the Protected Road Zoning Regulations;
 - d) the building control line of a protected roadway without a development permit issued under the Protected Road Zoning Regulations. As set out in the Protected Road Zoning Regulations, building control lines are located at the following distances measured perpendicular from the road centreline:
 - i. 100 metres within a municipal boundary;
 - ii. 150 metres within a municipal planning area but outside of a municipal boundary;
 - iii. 400 metres within an unincorporated community or outside of a settled area;
 - e) 50 metres of a road not specified in subsections (a), (b), (c), and (d); and
 - f) 50 metres of any waterbody or 30 metres of wetlands and ephemeral watercourses.
- 2) Removal of grubbing (e.g. topsoil) is prohibited, unless otherwise stated.
- 3) The permittee shall prevent unauthorized access to the Quarry Permit area.
- 4) The permittee shall neither pollute nor permit the pollution of any pond, brook, river or other waters, including wetlands.
- 5) The Fisheries Act requires that projects avoid causing serious harm to fish unless authorized by the Minister of Fisheries and Oceans Canada. This applies to work being conducted in or near waterbodies that support fish that are part of or that support a commercial, recreational or Aboriginal fishery. If quarrying related activities (e.g. access road construction) are to take place in or near a waterbody, please complete the Department of Fisheries and Oceans (DFO) Self-Assessment at: <http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>.
 - a) As per Section 38(5) of the Fisheries Act, every person has a duty to notify DFO of an occurrence that results in serious harm to fish, or the deposit of a deleterious substance in water frequented by fish. Should such an occurrence take place, the Proponent shall contact DFO at 709-772-4140 or FPP-NL@dfo-mpo.gc.ca.
- 6) Except with the consent in writing by the Minister of Environment and Conservation, the permittee shall not interfere with any pond, brook, river or other waters, including wetlands.
- 7) All access roads to the Quarry Permit that traverse watercourses (e.g. streams, creeks, rivers) shall be constructed in accordance with the Department of Environment and Climate Change's regulations and policies.
- 8) Except with the written permission from the Minister, quarrying is not permitted to result in excavation below the water table and cause the accumulation or ponding of water. Creation of settling ponds for quarry production purposes requires both the written permission of the Minister and the Department of Environment and Climate Change.
- 9) Buildings or structures shall only be erected in the Quarry Permit area with written permission from the Minister. Any erected buildings, structures and equipment approved for this permit shall be temporary in nature and kept in good repair and working order.

- 10) The Quarry Permit area shall be kept free of scrap materials including, but not limited to refuse and abandoned or derelict vehicles, equipment, and buildings.

C - Site Preparation

- 1) The permittee, prior to commencing operations, shall establish suitable corner posts or rock cairns at least one-metre high and carry out suitable blazing of trees, placement of flagging, erection of fencing, or other appropriate methods to outline the area under Quarry Permit.
- 2) All boundary markings shall be maintained during the term of the Quarry Permit.
- 3) The area to be excavated shall be cleared of all vegetation prior to the removal of any quarry materials. Unless otherwise approved by the Minister, only an area necessary for the term of the Quarry Permit shall be cleared. The nearest Forestry Management office must be contacted to obtain any necessary wood cutting permits and instructions regarding the salvage of wood.

D - Quarry Operations

- 1) The permittee shall conduct quarry operations in an efficient manner.
- 2) All trees must be removed and grubbing carried out within five metres of the active quarry and stockpile areas; these activities shall remain within the boundaries of the quarry permit. Prior to stockpiling the grubbing material, any topsoil shall be separated and stockpiled separately. The permittee shall ensure that the quality of the topsoil is not affected by dilution with other materials.
- 3) Quarrying shall be conducted in a systematic manner taking in to account the life expectancy of the operation, the eventual slopes upon completion, the potential after-use of the site, and the various potential end-product uses of quarry materials available at the site.
- 4) Where mobile crushing and/or screening equipment is used to process quarry materials, Section 414 of the Occupational Health and Safety Regulations require, as applicable, equipment to have dust controls, adequate mechanical exhaust system(s), and adequate water spray system(s).
- 5) Noise and dust shall be mitigated on site if a sensitive receptor is within 500 metres from the Quarry Permit operation and/or for environmental reasons and in accordance with applicable industrial and environmental standards, regulations, and guidelines.
- 6) If blasting is required, it shall be performed under the direct supervision of a blaster who is present at the project and who holds a valid blaster's certificate which authorizes the performance of the particular type of work that the blaster is to conduct or supervise.
- 7) If blasting is required, the permittee and/or blaster must notify, in writing, all sensitive receptors within 500 m of the blast site.
- 8) If blasting is required, a drill and blast design plan shall be prepared by a qualified individual and monitoring for ground vibration and overpressure shall be carried out by the blaster to ensure compliance with appropriate guidelines. The drill and blast design plan shall include, as a minimum, the following:
 - a) PPV and design peak sound pressure level at 300 m radius from the area of the blast or to nearest utility, residence, structure, or facility;
 - b) Number, pattern, orientation, spacing, size, and depth of drill holes;
 - c) Collar and toe load, number and time of delays, and mass and type of charge per delay;
 - d) Setback distances to affected fish habitat;
 - e) The explosive products to be used; and

f) The designated blast area.

The drill and blast design plan shall be kept on site at all times.

- 9) If blasting is required, a pre-blast survey shall be prepared for all buildings, utilities, structures, water wells, sewage disposal systems, and other facilities likely to be affected by the blast. The standard inspection procedure shall include the provision of an explanatory letter to the owner or occupant with a formal request for permission to carry out an inspection and to obtain any necessary water samples for analysis and flow testing. The pre-blast survey shall include, as a minimum, the following information:
- a) Type of structure, including type of construction and if possible, the date when built;
 - b) Identification and description of existing differential settlements, including visible cracks in walls, floors, and ceilings, including a diagram, if applicable, room-by-room. All other apparent structural and cosmetic damage or defect shall also be noted. Defects shall be described, including dimensions, wherever possible; and
 - c) Digital photographs or digital video or both, as necessary, to record areas of significant concern.

Photographs and videos shall be clear and shall accurately represent the condition of the property. Each photograph or video shall be clearly labelled with the location and date taken.

A copy of the pre-blast survey, including copies of any photographs or videos that may form part of the report shall be provided to the owner of that residence or property, upon request.

- 10) If blasting is required, it shall only be carried out during daylight hours and at a time when atmospheric conditions provide clear observation of the blast from a minimum distance of 500 metres.
- 11) If blasting is required, it shall not be carried out on a holiday or between the hours of 6 PM on any day and 8 AM the following day. These time constraints do not apply if it can be demonstrated that a sensitive receptor does not exist within 1000 metres of the Quarry Permit.
- 12) If blasting is required, all fly rock shall be contained within the Quarry Permit via the use of blast mats, adjustment of drill and blast plan, or other appropriate operational measures.
- 13) Benching or other operational processes may be necessary to allow for the extraction of specific types of quarry materials or to prevent the contamination of relatively high quality materials by low quality materials. High quality materials shall not be used when lower quality would be adequate (e.g. materials suitable for hot-mix asphalt applications shall not be used for fill or road subgrade applications), unless contract requirements specify otherwise.
- 14) Without written permission of the Minister, quarry faces and bench heights shall be maintained in accordance with Section 409(2) of the Occupational Health and Safety Regulations. Specifically,
- a) the bench/face height quarries developed in unconsolidated material shall not exceed five metres and not be higher than can be reached safely with the equipment in use;
 - b) the bench/face height of quarries developed in consolidated (bedrock) shall not exceed ten metres and not be higher than can be reached safely with the equipment in use;
 - c) where there are two or more benches, berms shall be constructed on the second and higher benches to prevent material from falling to a lower bench;
- 15) Progressive rehabilitation is required for all operations throughout the term of the Quarry Permit.

E - Termination of Operations and Rehabilitation

- 1) Not less than thirty days prior to removing equipment from the Quarry Permit, the permittee shall notify the Department to arrange for an inspection of the site.
- 2) Prior to progressive or final rehabilitation of any part of the site, the site shall be inspected for waste materials (e.g. petroleum

products, garbage, plastics, metal, and waste equipment). Any waste materials shall be removed from the site and taken to an approved waste disposal facility.

- 3) Upon completion of the operation or during extended periods of shutdown, where the quarry haul road accesses directly onto a provincial road/highway, municipal road, or publicly accessible road, the quarry haul road shall be barricaded (e.g. ditch/berm, gate) to the satisfaction of the Department.
- 4) The Department may require the permittee to perform maintenance on the portion of the quarry haul road that accesses directly onto a provincially maintained road/highway, municipal road, or publicly accessible road. Any maintenance to be performed on the quarry haul road or access from the road shall be at the expense of the permittee.
- 5) For final rehabilitation, quarries developed in unconsolidated material (sand and gravel) shall be sloped at 3:1; and quarries developed in consolidated (bedrock) sloped at 2:1. If approved by the Department, the slopes may conform to that which existed prior to quarrying and/or be left at a safe angle of repose. Surplus overburden may also be used to attain proper slopes; grubbing shall then be spread uniformly over the slopes.
- 6) If approved by the Department, if there is insufficient overburden available on site, clean inert fill may be imported for the purposes of carrying out final rehabilitation described in Paragraph E(5).
- 7) If approved by the Department, if there is insufficient grubbing to completely re-cover the site after sloping is complete, an additional organic substitute material shall be used to complete the process, provided that no invasive species are introduced. Acceptable substitute materials are straw, hay, trees having been cut in other parts of the quarry area, or ground vegetation produced by seeding.
- 8) If approved by the Department, final rehabilitation of the quarry site as outlined in Condition E(5) may not be required, where the Department confirms that the excavated portion(s) of the Quarry Permit contains sufficient reserves of quarry materials for future use. In this case, final rehabilitation may be required only for depleted areas of the site. Sloping and seeding of remaining topsoil and overburden stockpiles may be required.
- 9) Upon surrender, cancellation or expiration of the Quarry Permit, the permittee shall, within thirty days after the surrender, cancellation or expiration, remove from the permit area any buildings, machinery, chattels, personal property and quarry material which have been extracted. In default of doing so, the Minister may sell or otherwise dispose of the said buildings, machinery, chattels, personal property and quarry material under such terms and conditions as is considered appropriate. In the event that the cost of disposing of the said buildings, machinery, chattels, personal property and quarry material exceeds the amount recovered by the Minister, the permittee shall pay to the Minister any deficiency.
- 10) A complete report, on the form available from the Department, stating the actual quantity and type of material removed under this permit shall be filed with the royalty payment referred to in Condition A(3) of this Quarry Permit.

"Special Terms" additional to the above terms and conditions:

Copies of all required permits or other authorizations must be submitted to this office prior to commencing any work. Failure to abide by this condition will result in cancellation of the quarry permit.

Permit to be issued for one year only. For operations beyond the one year issuance, a Quarry Lease under Section 8(9) of the quarry materials Act will be required. It is recommended that you initiate the preparation of lease plans as soon as possible so that the lease is ready for authorization before or upon expiry of the quarry permit.

Under Section 15 of the Quarry Materials Act, SNL1998, a Quarry Materials Compliance Officer can complete a site inspection at any time. Upon completion of an inspection, you will receive a Quarry Compliance Assessment Report that will identify any non-compliance issues and any observations made at the time of inspection. A blank copy of this report is attached for your reference and can be found online at www.gov.nl.ca/iet/mines/quarries. It is recommended that you read the attached inspection report and familiarize yourself with the requirements of operating a quarry.

Site must be operated in a systematic manner taking into account the life expectancy of the operation and the eventual slopes upon completion. Progressive rehabilitation is required throughout the life expectancy of the operation.

All quarry related activities (e.g. equipment, stockpiles etc.) must remain within the approved quarry permit boundaries.

By holding a permit on this site, Pennecon Marine Base Ltd. is inheriting the responsibility for remediation of all existing and future disturbances (e.g., draining water, final rehabilitation, etc.).

As per condition D(2) of the quarry permit standard terms and conditions, all trees and grubbing must be removed within 5 metres of the active quarry and stockpile area. Prior to stockpiling the grubbing material, any topsoil must be separated and stockpiled separately. These materials must remain on site for final rehabilitation of the quarry site. Prior to commencing operations, the department requires that you provide an outline of where stripped grubbing and topsoil will be stockpiled within the permit boundary.

The location of topsoil and grubbing material can be outlined on a map (i.e. a Google Earth map that shows the site boundary) with the location of these materials clearly indicated where they will be stored and stockpiled within the quarry permit boundary.

When scheduling blasting activities, the proponent shall provide the coordinates and time of blasting to NAV CANADA so that it may be issued in a Notice to Airmen (NOTAM). This would also serve as a notice to other low flying aircraft (ie. helicopters, off-shore aircraft, etc.) to avoid these areas at specified times.

In the event blasting is required, ensure that the Blasting Requirements of Part XIX of the NL OHS Regulations are followed.

Must notify NAV CANADA at least 10 business days prior to the start of any blasting activities.

All on-site fuel storage must be registered with the Department of Digital Government and Service NL.

At no time are fuel tanks to be located such that refueling is conducted by gravity flow.

Spills in excess of 70 litres and all leaks must be reported immediately to the 24-hour spill-report number (call 709-772-2083) or 1-800-563-9089.

All spills and leaks, regardless of volume, must be cleaned up immediately and the affected area inspected and given clearance by the Department of Digital Government and Service NL.

Access must be restricted at the boundary of the quarry to prevent unauthorized access.

A commercial cutting permit is required prior to any clearing at the site and, during the declared fire season (usually May 1st to October 15th), an operating permit also is required.

There is a trail located towards the northwest of the proposed boundary - see attached Google Image. Proponent is required to revise the boundary to account for this trail and provide a 15 metre setback prior to issuance of this permit.

The Wildlife Division advises the applicant to operate under the established regulations and guidelines with respect to mitigating disturbance of wildlife and its habitat (e.g., nesting birds, caribou, waterfowl, wetlands, inland fish, rare plants, riparian species) - see Section 106 of the Wildlife Regulations to the Wildlife Act (O.C. 96-809): www.env.gov.nl.ca/env/wildlife/index.html).

Pursuant to Section 106 of the Wild Life Regulations: A person shall not operate an aircraft, motor vehicle, vessel, snow machine or all-terrain vehicle in a manner that will harass any wildlife.

Habitat disturbance and noise impact the wildlife (birds and animals) and should be kept to a minimum, especially during the nesting, breeding and brood-rearing season (approximately May to mid-July) and, in order to reduce negative impacts on any species, vegetation clearing and excessive noise should only occur outside of this most critical period. Where vegetation clearing cannot be avoided and an active nest is found during the breeding season, the nest and surrounding vegetation are to be left undisturbed and construction activities minimized in the immediate vicinity of the nest until the young have fledged and left the area.

The Wildlife Division recommends no activity within 30 metres of waterbodies and wetland areas to protect sensitive riparian and aquatic species and their habitat.

No vegetation clearing is to occur within 800 metres of a bald eagle or osprey nest during the nesting season (March 15 to July 31) and 200 metres during the remainder of the year. The 200m buffer also applies to all other raptor nests (e.g. Northern Goshawk, Sharp-shinned Hawk, Merlin, American Kestrel, Great-horned Owl, Boreal Owl, Northern Saw-whet Owl). The location of any raptor nest site must be reported to the Wildlife Division.

The Migratory Birds Convention Act, 1994, Migratory Bird Regulations, Wild Life Act and Wild Life Regulations protect birds and prohibit the disturbance or destruction of bird nests and eggs in Canada. Proponents are advised to develop and implement appropriate preventative and mitigation measures to avoid incidental taking of birds, nests and eggs.

Certain species of migratory birds (e.g. Bank Swallows) may nest in large piles of soil left unattended-unvegetated or quarry excavation faces during the most critical period of the breeding season (April 15th through August 15th). To discourage this activity, the proponent must consider preventative measures such as sloping of excavation faces and stockpiles to prevent migratory birds (e.g. bank swallows) from establishing nests in excavation faces/stockpiles.

Should migratory birds occupy stockpiles or excavation faces, any industrial activities (including hydro seeding) will cause disturbance to these migratory birds and inadvertently cause the destruction of nests and eggs. Alternate measures will then need to be taken to reduce potential for erosion, and to ensure that nests are protected until chicks have fledged and left the area.

For species such as Bank Swallows, the period when the nests would be considered active would include not only the time when birds are incubating eggs or taking care of flightless chicks, but also a period of time after chicks have learned to fly, because Bank Swallows return to their colony to roost.

There is no open season for any wildlife species that is not named in the annual hunting and trapping orders. The proponent must follow appropriate hunting and trapping protocols as set in the annual Hunting and Trapping Guide. Proponents are advised to develop and implement appropriate preventative and mitigation measures to avoid incidental take of wildlife species.

The proponent must, generally, ensure that activities associated with the Quarry Operations are conducted in compliance with the Occupational Health & Safety Act and its Regulations. This includes the responsibility for ensuring that contractors hired to perform the work also comply with this regulation, as per OHS Act s.10.

A Permit is required under the Water Resources Act, 2002, specifically Section 48 <http://assembly.nl.ca/Legislation/sr/statutes/w04-01.htm> for any work in any body of water (including wetland) including but not limited to culverts, bridges, diversion channels, etc. Contact: Manager, Water Rights, Investigations and Modelling Section - (709)729-2295 or waterinvestigations@gov.nl.ca.

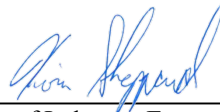
Effluent or runoff leaving a site must conform to the Environmental Control Water and Sewage Regulations, NLR 65/03. (<http://assembly.nl.ca/Legislation/sr/regulations/rc030065.htm>). This will include, but may not be limited to water removed from the quarry, aggregate wash water, surface runoff and groundwater.

Infilling within 15 metres of Bodies of Water: The proponent must apply for and obtain a permit under the Water Resources Act, 2002, specifically Section 48 <http://assembly.nl.ca/legislation/sr/statutes/w04-01.htm> for any infilling work within fifteen (15) metres of a body of water prior to the start of infilling. Also, any proposed infilling within fifteen (15) metres of a body of water must comply with the Department of Municipal Affairs and Environment's Policy for Infilling Bodies of Water: http://www.mae.gov.nl.ca/waterres/regulations/policies/bodies_of_water.html

The proponent must apply for and obtain a permit under the Water Resources Act, 2002, specifically Section 48 <http://assembly.nl.ca/Legislation/sr/statutes/w04-01.htm> for any work in Shore Water Zones prior to the start of construction. Also, any work in the Shore

Water Zones must comply with this Department's Policy for Development in Shore Water
Zones: http://www.mae.gov.nl.ca/waterres/regulations/policies/shore_water.html .

See Town for applicable permits.



For Minister of Industry, Energy and Technology

Date: 14-Dec-2020



Pennecon Marine Base Ltd.

File #: 71112836

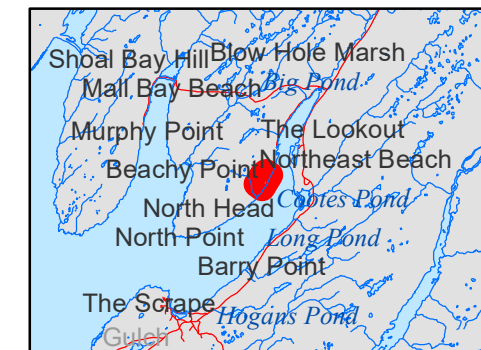
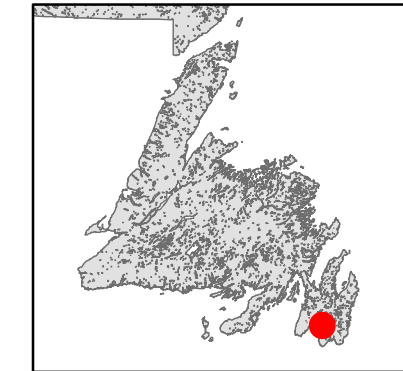
Area (ha): 9.0

Quarry operations to occur:

- Drilling & Blasting
- Pit run removal
- Ripping
- Screening

Types of material to be removed:

- Armour stone
- Borrow material
- Rock



The information on this map was compiled from the land surveys registered in the Crown Lands Registry.

Since the Registry does not contain information on all land ownership within the province, the information depicted cannot be considered complete.

The boundary lines shown are intended to be used as an index to land titles issued by the Crown.

Note: All symbols and classifications may not occur on this map.

LEGEND

- 71112836 - Pennecon Marine Base Ltd.
- Approved quarry applications
- Title Details**
- Applications for Crown Title
- Crown Titles
- Aboriginal Affairs
- Environment
- Responsible Agency**
- Provincial Archaeology Office
- Provincial Parks
- Tourism Product Marketing
- DFO
- Department of National Defense
- Misc Federal
- Public Works and Government Services Canada
- Fisheries
- Land Management Division
- Natural Areas
- Municipal Affairs
- Other/NL Hydro
- Forestry Services Branch
- Land Resources Stewardship
- Wildlife
- Protected Road Zones**
- Buffer
- Cottage
- Highway Commercial
- Highway Service Center
- Mixed
- Other
- Protected roads with no plans
- Residential
- Restricted
- Rural Conservation
- Primary Roads**
- Other Roads
- Trans Canada Highway
- Secondary Roads
- Power transmission line

Quarry Compliance Assessment Report

Introduction

This Quarry Compliance Assessment Report has been prepared by a Quarry Materials Compliance Officer based on a site inspection completed to determine compliance with the **Quarry Materials Act** and the **Quarry Materials Regulations**.

Part 1. Background Information

Permit/Lease Holder:		
File Number:	Area of site (hectares):	Municipality:
Materials approved for quarrying:		Inspector:
Type of Operations:		Date of Inspection:
Status of quarry at time of inspection:		

Part 2. Observations

Note: For any item identified as requiring Remedial Action; details are outlined in Part 3

Operating Standards	Standard Terms Reference	In compliance?			Remedial Action	
		Yes	No	N/A	Deadline Date	Date Completed
1. Boundaries						
A: Boundary Markings	Section C; 1,2					
B: Disturbed Hectarage	Section C; 1,2					
2. Entrances and Exits						
A: Location	Section A; 1B, B; 7					
B: Entrance(s) Restricted	Section B; 3					
3. Site Visibility						
A: Screening (trees/berms)	Section A; 4, 5					
4. Setbacks/Buffers						
A: Wetlands (30m) / Waterbodies(50m)	Section B; 1F, 6					
B: Roads (50m, 90m or other)	Section B; 1C, 1E					
C: Private Property (15m)	Section B; 1B					
D: Other:						
5. Stripping of Vegetation & Overburden						
A: Stripped 5m back from excavation face	Section B; 2, C; 3, D; 2					
B: Stockpile(s)	Section D; 2					

Operating Standards	Standard Terms Reference	In compliance?			Remedial Action	
		Yes	No	N/A	Deadline Date	Date Completed
6. Topsoil						
A: Screened	Section B; 2, D; 2					
B: Stockpile(s)	Section B; 2, D; 2					
7. Excavation Face Height & Stability						
A: Consolidated (bedrock)	Section D; 13, 14B					
B: Unconsolidated (sand, gravel)	Section D; 13, 14A					
C: Other:						
8. Stockpile Height & Stability						
A: Height	Section D; 14A					
B: Stability/Other:						
9. Equipment on Site						
A: Good Repair and Working Order	Section B; 9					
10. Scrap Material						
A: Free of scrap and/or refuse materials	Section B; 10					
11. Imported Material						
A: Asphalt	Section B; 10 GD-PPD-008.2					
B: Concrete	Section B; 10 GD-PPD-045.2					
C: Other:	Section B; 10					
12. Surface Water & Drainage						
A: Surface Water Accumulation	Section B; 8					
B: Drainage	Section B; 6, 8					
13. Sedimentation Controls						
A: Sediment Screen(s)	Section B; 4, 6					
14. Internal Roads						
A: Condition of Internal Roads	OH&S Regulation 655					
B: Berms/Protective curbs	OH&S Regulation 655					
C: Access to Excavation Face Restricted	OH&S Regulation 655					
15. Buildings/Scales						
A: Approval(s) & Condition of Structure(s)	Section B; 9					
16. Orderly Conditions						
A: Tidy & Organized Operations	Section D; 1, 3					
17. Settling Ponds						
A: Required Approval(s)	Section B; 8					

Operating Standards	Standard Terms Reference	In compliance?			Remedial Action	
		Yes	No	N/A	Deadline Date	Date Completed
18. Onsite Fuel Storage						
A: Fuel Storage (Registration with Service NL)	Special Terms & Conditions					
B: Spills (Remediation & Reporting to Service NL)	Special Terms & Conditions					
19. Blasting						
A: Approval for Blasting	Section D; 6-12					
20. Dust Suppression						
A: Dust Control Measures	Section D; 5					
21. Progressive/ Final Rehabilitation						
A: Progressive Rehabilitation	Section D;15					
B: Final Rehabilitation	Section E					
Special Terms & Conditions & other required approvals						
24.						
25.						
26.						
27.						
28.						
29.						
30.						
31.						
32.						
33.						

Other Required Permits	Issuing Department/Agency	Copy Submitted to DNR

General Comments

Part 3. Remedial Actions

Please review the actions below regarding the necessary remedial actions required for deficiencies outlined in Part 2. To extend the remedial action deadline date, you must obtain written approval from the issuing Quarry Materials Compliance Officer prior to the deadline date.

Operating Standard	Remedial Action Required	Deadline Date

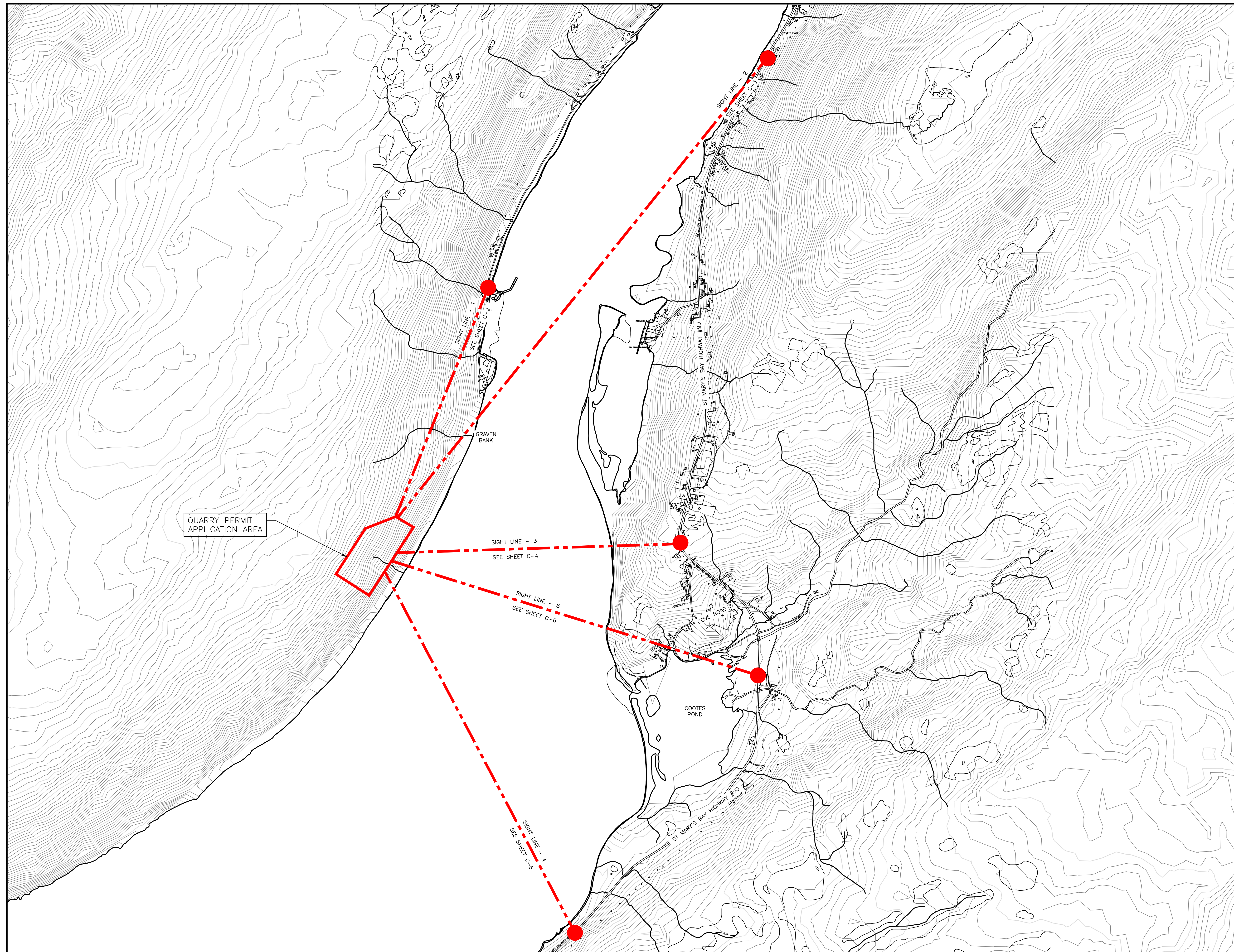
Part 4. Inspector Signature & Contact Information

Inspector Signature:

Date:

Inspector Contact Information:

Appendix C - VIEWSHED ANALYSIS



KEY PLAN
SCALE: 1=7500

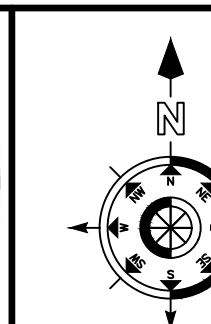
1
C-1 C-1

NOTES

1.	ISSUED FOR REVIEW	KN	09/06/21
No.	DESCRIPTION	BY	DD/MM/YY

REVISIONS

PROVINCE OF NEWFOUNDLAND AND LABRADOR
Engineering
 PERMIT F0249
MAE DESIGN LIMITED
 MIRC NO: 02778
 Signature or Member Number
 (Member-In-Responsible Charge)



PRIME CONSULTANT

CIVIL CONSULTANT



TEL (709) 834-1554 FAX (709) 834-1558

DRAWN BY: K. NORMAN

CHECKED BY: R. SUMMERS

APPROVED BY: R. SUMMERS

SCALE AS NOTED

A	DETAIL NO.
B	DRAWING NO. WHERE DETAIL REQUIRED
C	DRAWING NO. WHERE DETAILED

PROJECT
 QUARRY DEVELOPMENT
 RIVERHEAD
 ST. MARY'S BAY, NL

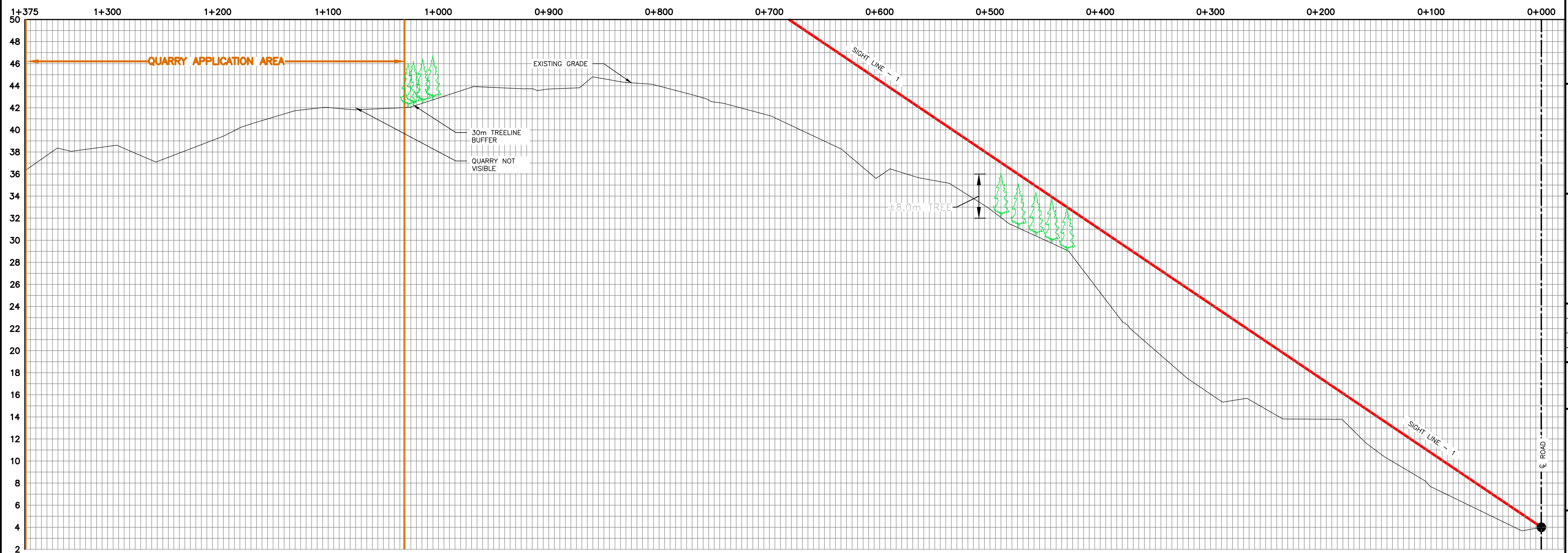
DRAWING TITLE
 OVERVIEW OF AREA

PROJECT No.	2021.080	DRAWING No.	C-1
DRAWING FILE No.	MC-21080-001-210530		SHEET 1 OF 6



SIGHT LINE - 1 (TAKEN FROM GOOGLE STREET VIEW)
SCALE: N.T.S.

1
C-1 | C-2



PROFILE-SIGHT LINE - 1
SCALE: 1=2000

2
C-1 | C-2

NOTES

1.	ISSUED FOR REVIEW	KN	09/06/21
No.	DESCRIPTION	BY	DD/MM/YY

REVISIONS

PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT F0249
MAE DESIGN LIMITED
MIRC NO: 02778
Signature or Member Number
(Member-In-Responsible Charge)

STAMP
PROFESSIONAL ENGINEER
ROBIN SUMMERS
SIGNATURE
JUNE 09, 2021
DATE
PROVINCE OF NEWFOUNDLAND

PRIME CONSULTANT

CIVIL CONSULTANT

MAE Design Limited
CONSULTING ENGINEERS
TEL (709) 834-1554 FAX (709) 834-1558

DRAWN BY: K. NORMAN

CHECKED BY: R. SUMMERS

APPROVED BY: R. SUMMERS

SCALE AS NOTED

A	DETAIL NO.
B	DRAWING NO. WHERE DETAIL REQUIRED
C	DRAWING NO. WHERE DETAILED

PROJECT
QUARRY DEVELOPMENT
RIVERHEAD
ST. MARY'S BAY, NL

DRAWING TITLE
SIGHT LINE - 1

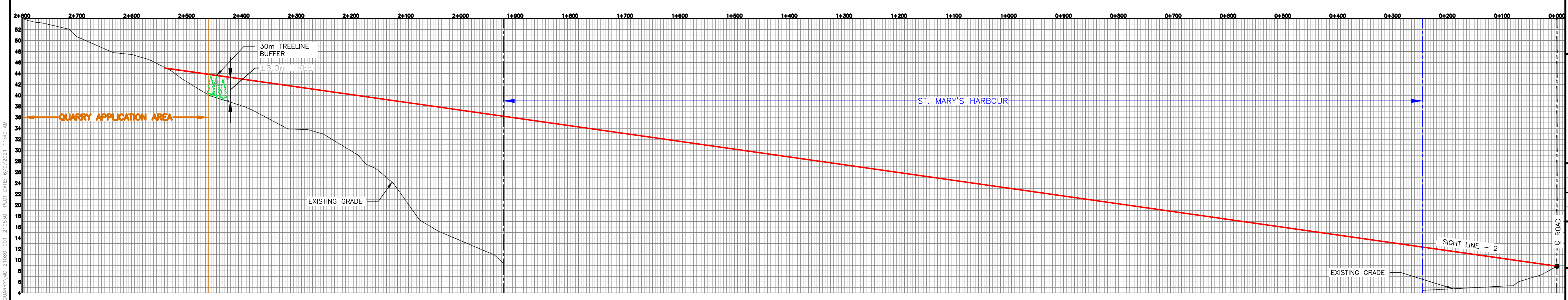
PROJECT No.	2021.080	DRAWING No.	C-2
DRAWING FILE No.	MC-21080-001-210530	SHEET 2 OF 6	

FILE: \\MAE-C:\USERS\K.NORMAN\DESIGN\2021\080-QUARRY-001-210530 - PLAN DATE: 09/06/2021 11:29 AM



SIGHT LINE - 2 (TAKEN FROM GOOGLE STREET VIEW)
SCALE: N.T.S.

1
C-1 | C-3



PROFILE-SIGHT LINE - 2
SCALE: 1=4000

2
C-1 | C-3

NOTES

1.	ISSUED FOR REVIEW	KN	09/06/21
No.	DESCRIPTION	BY	DD/MM/YY

REVISIONS

PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT F0249
MAE DESIGN LIMITED
MIRC NO: 02778
Signature or Member Number
(Member-In-Responsible Charge)

STAMP
ROBIN SUMMERS
SIGNATURE
JUNE 09, 2021
DATE
PROVINCE OF NEWFOUNDLAND

PRIME CONSULTANT

CIVIL CONSULTANT
MAE Design Limited
CONSULTING ENGINEERS
TEL (709) 834-1554 FAX (709) 834-1558

DRAWN BY: K. NORMAN
CHECKED BY: R. SUMMERS
APPROVED BY: R. SUMMERS
SCALE AS NOTED

A B C	DETAIL NO.
	DRAWING NO. WHERE DETAIL REQUIRED
	DRAWING NO. WHERE DETAILED

PROJECT
QUARRY DEVELOPMENT
RIVERHEAD
ST. MARY'S BAY, NL

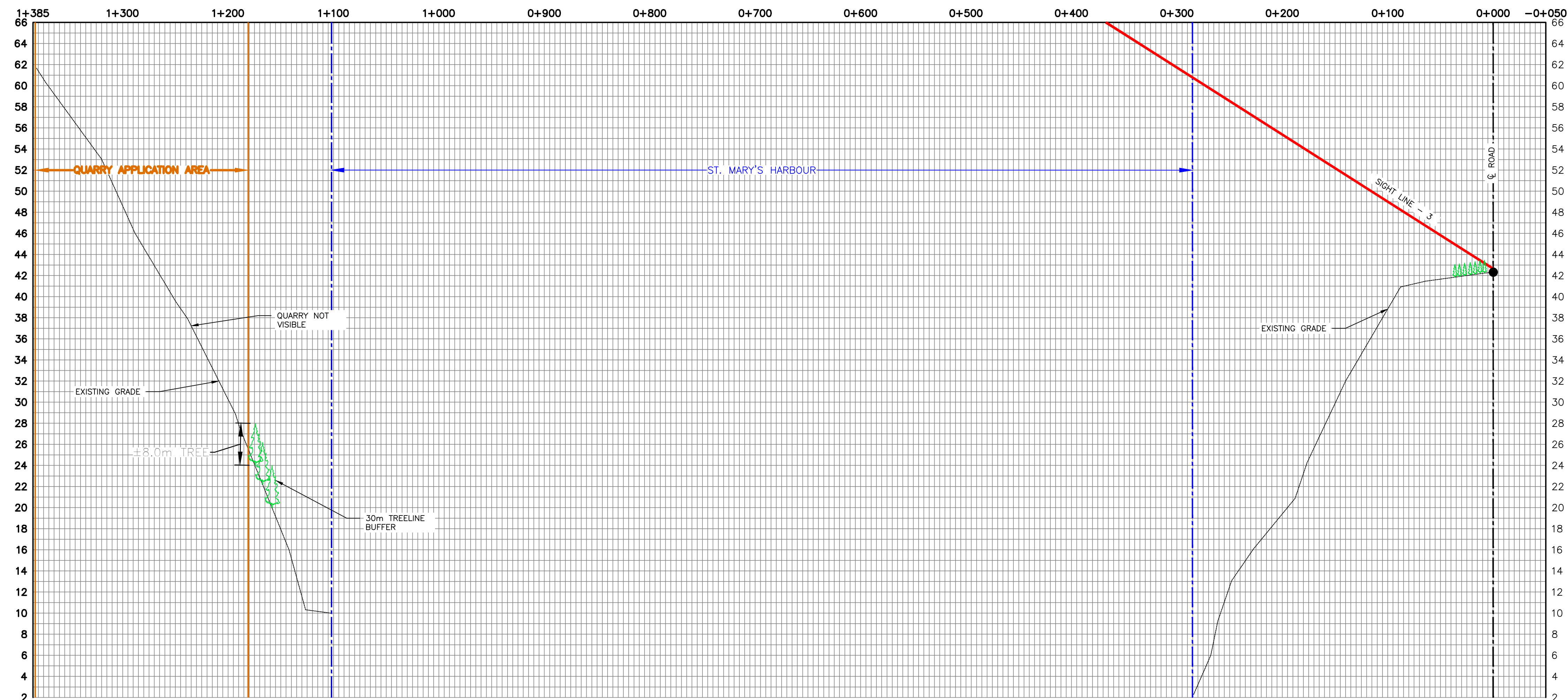
DRAWING TITLE
SIGHT LINE - 2

PROJECT No. 2021.080	DRAWING No. C-3
DRAWING FILE No. MC-21080-001-210530	SHEET 3 OF 6



SIGHT LINE - 3 (TAKEN FROM GOOGLE STREET VIEW)
SCALE: N.T.S.

1
C-1 | C-4



PROFILE-SIGHT LINE - 3
SCALE: 1=2500

2
C-1 | C-4

NOTES

1.	ISSUED FOR REVIEW	KN	09/06/21
No.	DESCRIPTION	BY	DD/MM/YY

REVISIONS

PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT F0249
MAE DESIGN LIMITED
MIRC NO: 02778
Signature or Member Number
(Member-In-Responsible Charge)

STAMP
PROFESSIONAL ENGINEER
ROBIN SUMMERS
SIGNATURE
JUNE 09, 2021
DATE
PROVINCE OF NEWFOUNDLAND

PRIME CONSULTANT

CIVIL CONSULTANT
MAE Design Limited
CONSULTING ENGINEERS
TEL (709) 834-1554 FAX (709) 834-1558

DRAWN BY: K. NORMAN
CHECKED BY: R. SUMMERS
APPROVED BY: R. SUMMERS
SCALE AS NOTED

A	DETAIL NO.
B	DRAWING NO. WHERE DETAIL REQUIRED
C	DRAWING NO. WHERE DETAILED

PROJECT
QUARRY DEVELOPMENT
RIVERHEAD
ST. MARY'S BAY, NL

DRAWING TITLE
SIGHT LINE - 3

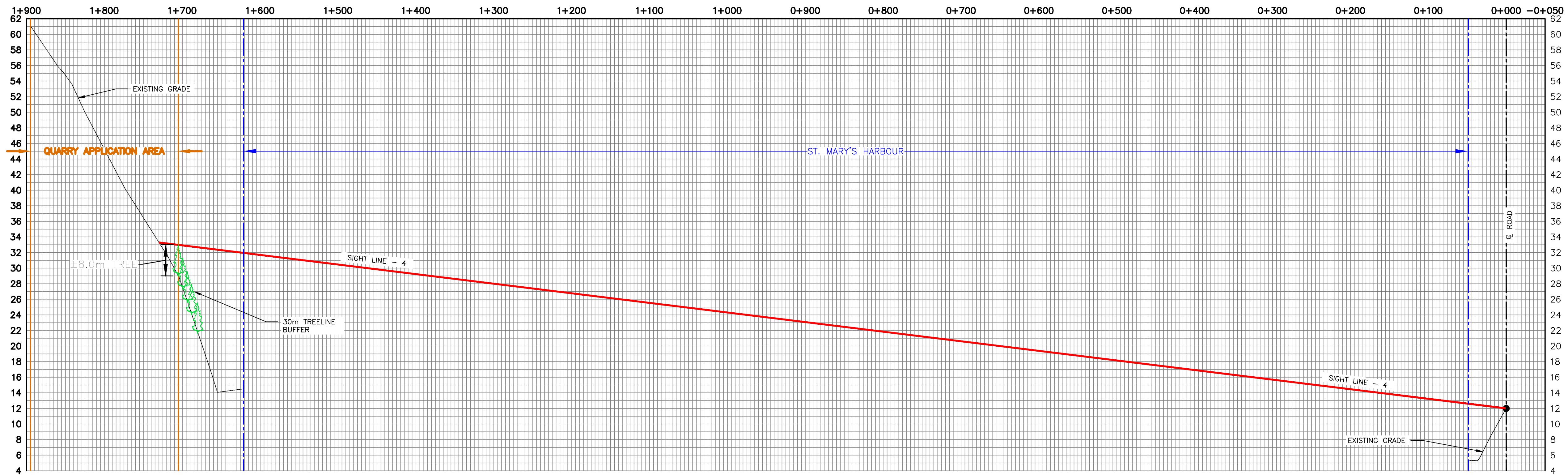
PROJECT No.	2021.080	DRAWING No.	C-4
DRAWING FILE No.	MC-21080-001-210530	SHEET	4 OF 6

FILE NAME: C:\USERS\KORNMANN\Desktop\2021\080-001-210530 - QUARRY - QUARRY.MXD PLOT DATE: 6/9/2021 11:41 AM



SIGHT LINE - 4 (TAKEN FROM GOOGLE STREET VIEW)
SCALE: N.T.S.

1
C-1 | C-5



PROFILE-SIGHT LINE - 4
SCALE: 1=3000

2
C-1 | C-5

NOTES

1.	ISSUED FOR REVIEW	KN	09/06/21
No.	DESCRIPTION	BY	DD/MM/YY

REVISIONS

PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT F0249
MAE DESIGN LIMITED
MIRC NO: 02778
Signature or Member Number
(Member-In-Responsible Charge)



PRIME CONSULTANT

CIVIL CONSULTANT



TEL (709) 834-1554 FAX (709) 834-1558

DRAWN BY: K. NORMAN

CHECKED BY: R. SUMMERS

APPROVED BY: R. SUMMERS

SCALE AS NOTED

A B C	DETAIL NO.
	WHERE DETAIL REQUIRED
	WHERE DETAILED

PROJECT
QUARRY DEVELOPMENT
RIVERHEAD
ST. MARY'S BAY, NL

DRAWING TITLE
SIGHT LINE - 4

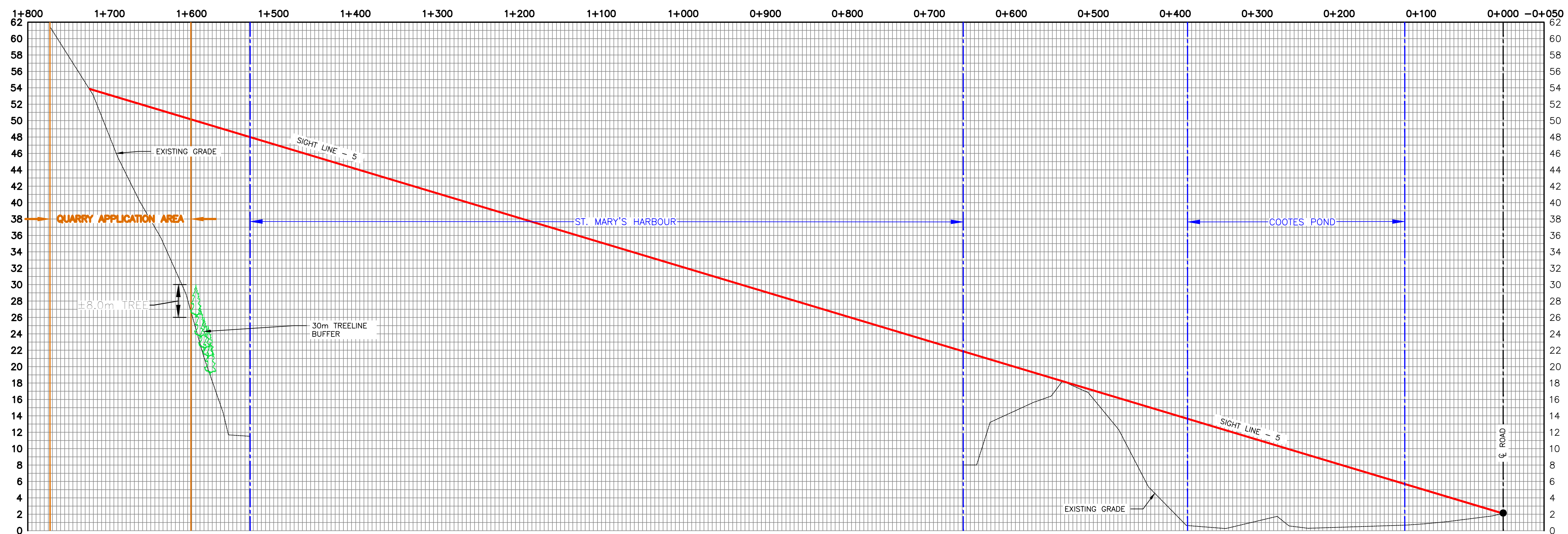
PROJECT No.	2021.080	DRAWING No.	C-5
DRAWING FILE No.	MC-21080-001-210530	SHEET	5 OF 6

FILE: \\MAE-EN\USERS\KORNMANN\WORKSPACE\2021\080-001-210530 - QUARRY - 210530 - 09/06/2021 11:41 AM



SIGHT LINE - 5 (TAKEN FROM GOOGLE STREET VIEW)
SCALE: N.T.S.

1
C-1 | C-6



PROFILE-SIGHT LINE - 5
SCALE: 1=3000

2
C-1 | C-6

NOTES

1.	ISSUED FOR REVIEW	KN	09/06/21
No.	DESCRIPTION	BY	DD/MM/YY

REVISIONS

PROVINCE OF NEWFOUNDLAND AND LABRADOR
ENGINEERING PERMIT F0249
MAE DESIGN LIMITED
MIRC NO: 02778
Signature or Member Number
(Member-In-Responsible Charge)

STAMP
ROBIN SUMMERS
SIGNATURE
JUNE 09, 2021
DATE
PROVINCE OF NEWFOUNDLAND

PRIME CONSULTANT

CIVIL CONSULTANT

MAE Design Limited
CONSULTING ENGINEERS
TEL (709) 834-1554 FAX (709) 834-1558

DRAWN BY: K. NORMAN
CHECKED BY: R. SUMMERS
APPROVED BY: R. SUMMERS
SCALE AS NOTED

A	DETAIL NO.
B	DRAWING NO. WHERE DETAIL REQUIRED
C	DRAWING NO. WHERE DETAILED

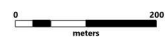
PROJECT
QUARRY DEVELOPMENT
RIVERHEAD
ST. MARY'S BAY, NL

DRAWING TITLE
SIGHT LINE - 5

PROJECT No. 2021.080	DRAWING No. C-6
DRAWING FILE No. MC-21080-001-210530	SHEET 6 OF 6

FILE: \\MAE-C:\USERS\KORNMANN\DESIGN\2021\080-001-210530 - QUARRY - NL - 09/06/2021 11:41 AM

Appendix D - QUARRY SITE PLAN





Overburden and Grubbed Ground
Vegetation storage area. (For
future restoration)

Muck Pile (Blasted Rock)

Crusher and Product
Stockpiles

Tree Screen

10 meter bench

Byproduct
Stockpile

Overburden and Grubbed Ground
Vegetation storage area. (For
future restoration)

Quarry Floor -
Elevation +5.0

Lunch Trail, Quality Lab,
and Retention Pond

9.0 ha Quarry Permit Area



Haul Road

Culvert

Tree Screen

Conveyor Belts

Proposed Wharf Area

Aggregate Stockpiles

Appendix E - DEVELOPEMENT PHASES

Phase 1 - Clearing of Site Progressing east to west.

Overburden and Grubbed Ground
Vegetation storage area. (For
future restoration)

Phase 1 clearing of site.

Tree Screen





Phase 2 - Clearing of west end of Site. Quarry advancing east to west.

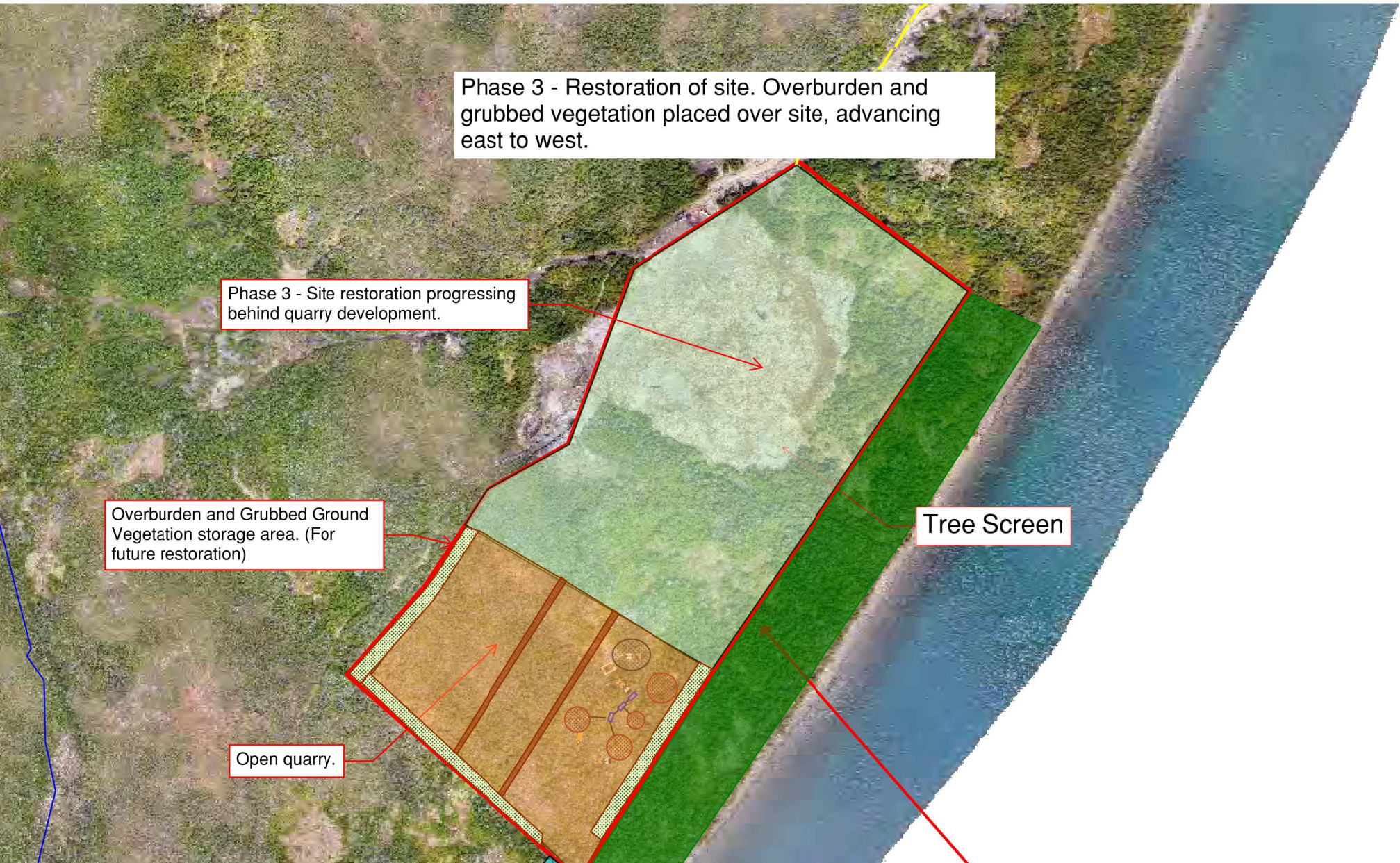
Overburden and Grubbed Ground Vegetation storage area. (For future restoration)

Quarry advancing from east to west in lifts.

Phase 1 clearing of site.

Tree Screen

Phase 2 clearing of site.



Phase 3 - Restoration of site. Overburden and grubbed vegetation placed over site, advancing east to west.

Phase 3 - Site restoration progressing behind quarry development.

Overburden and Grubbed Ground Vegetation storage area. (For future restoration)

Open quarry.

Tree Screen

Appendix F - ADDITIONAL INFORMATION

- It is now a standard requirement of the quarry permitting process that a basic site plan be provided indicated the planned location of site infrastructure, any buffers required (e.g., for screening, for separation from waterbodies), and stockpile areas, including where grubbing's (i.e., topsoil and grubbed ground vegetation) will be stored for eventual rehabilitation.
 - Included in Appendix E
- A description of the various operations that will be involved (e.g., screening, crushing, blasting).
 - The main objective of the quarry will be to produce varies sizes of aggregate products, for the purpose of loading it on ships at a wharf that will be constructed near the quarry. The development of the site will commence with the construction of a wharf. The wharf will be constructed with either timber cribs or sheet piling. Site development will also include the construction of an access road and haul road.
 - Quarry operations will include grubbing and clearing of the site, removal and stockpiling of overburden, drilling & blasting, hydraulic busting of oversized rock, crushing, screening, stockpiling of aggregate, hauling/stockpiling material at the wharf, and loading rock onto ships.
- The planned phases of quarry development and planned phases of progressive rehabilitation. These should be depicted on the site plan map.
 - Included in Appendix F
- Measures that will be taken to control noise and dust. Dust control should not only be addressed for the quarry operation but also in relation to the associated access roads.
 - Dust will be a concern along the haul road between the quarry and wharf, as well as at the crushing operation. The crusher will be equipped with a dust suppression system that will provide pressurized water to strategic locations around the crusher to keep the rock wet which will in return minimize the amount of dust created. For the haul road, a water truck will be utilized to minimize the dust produced from the heavy equipment.
 - The greatest sources of noise in the quarry will be the drilling and blasting operation, as well as the crushing. During blasts, blasting matts will be used on top of the blast, which will reduce the noise of the blast as well as reduce the amount of fly rock. To reduce the noise of the crushing operation, the crusher will be equipped with rubberized mats at locations of high impact. This is proven to significantly reduce the noise of the operation, as well as wear and tear of the equipment. The nearest resident to the quarry is approximately 1,300 meters away, therefore it is not anticipated that noise pollution will be an issue to the local population.

The frequency of blasting and any other pertinent details regarding blasting and its potential effects on the nearby community or nearby land users.

- It is anticipated that blasting would be conducted at a frequency of 30 days.
- Fly rock is always a concern during blasting. The nearest residents to the quarry are approximately 1,300 meters away. Therefore, fly rock will not be a concern that would have potential effects on nearby community or nearby land users. Additionally, preventative measures will be in place to reduce the risk of fly rock, as well to ensure no one is in vicinity of the blasting operations. These measures include, the use of blasting mats, properly prepared and reviewed blast designs, as well limiting access to the area and ensuring no one is in the vicinity of the quarry before each blast.

- Vibrations are normally a concern during blasting operations. Due to the location of the quarry, and its distance away from residents in the community, it is not anticipated that vibrations will have any potential harmful effects on the nearby community and its land users. However, measure will be taken to ensure that this will not be an issue. First, prior to any blasting, a pre-blast survey will be completed of all houses/structures within a 1-kilometer vicinity. Secondly, vibrations, or peak particle velocity (PPV), can be predicted through calculations based on the blast design. Therefore, after each blast is designed, the predicted PPV can be checked to ensure that it is acceptable.
- Additional measures will be taken to ensure the safety of the public in the area. Prior to each blast, the public will be notified in advance of the time of the blast. This will ensure that no residents are surprised by the blast if they happen to be in an area where they can hear it.
- The lifespan of the quarry operation, the annual production rate, the number of ship loadings per year, the level of traffic associated with the operation on nearby public roads, and any other pertinent details of this nature.
 - The lifespan of the quarry operation is unknown at this point in time. However, it is estimated that the quarry has potential for a lifespan of at least 10 years.
 - The peak estimated annual production rate would be 300,000 MT per year, or 25,000 MT per month.
 - Peak production in the quarry would be based on 12 ships per year.
 - It is not predicted that there would be a significant impact on traffic levels to the community, as all exported aggregate is intended to leave by ship. There would be a slight increase in traffic along the north beach road, due to the creation of full time jobs at the quarry.
- Address whether the level of site activity and the operations undertaken will vary throughout the year on a seasonal basis.
 - It is anticipated that the site operations and level of activity will be steady for periods of 18-24 months at a time.
- It is a standard requirement for all quarries permitted under the Quarry Materials Act, 1998, that the operation be substantially screened from the public in adjacent areas. Accordingly, the proponent should provide a visibility management plan that meets the follow requirements: [Visibility Management Plan can be found in Appendix C](#)
 - In producing the visibility management plan, the proponent is directed to consider how the quarry operation can be planned so that it is least visible to the public, including from communities, highways and any other locations of known or potential concern. In particular, the proponent shall consider how existing tree screens and topography may be used for screening, and - if these would be inadequate to fully

screen the operation - where berms could be constructed to achieve further screening. Where portions of the operation cannot be screened by the above measures, the proponent shall consider whether changes to the site plan, site footprint, or planned phases of site development could decrease the visibility of the operation.

- The visibility management plan must clearly illustrate the extent to which the quarry operation will be screened from the public and must make use of topographic sections (i.e., topographic profiles) with sightlines depicted for representative locations of concern.
- Each topographic section must show a complete cross-section of the proposed quarry, including a depiction of the ground that will eventually be excavated (i.e., a depiction of the current surface and the expected final surface).
- Topographic sections with sightlines were submitted to satisfy the same requirement for other proposed quarries and the proponent is directed to use the examples contained in the documents linked below for guidance:
 - https://www.gov.nl.ca/eccm/files/env_assessment_y2020_1964_Viewscope_management_plan.pdf
 - https://www.gov.nl.ca/eccm/files/env_assessment_y2021_2101-viewsscape_management_plan.pdf
- Measures proposed for screening the quarry operation must be fully described and depicted on a plan map of the site and their screening effects depicted on the topographic sections. For tree screens, the width or thickness of the treed buffer must be specified as well as the average height of the trees. For berms, the height, width, and composition of the berm must be specified.
- Should a quarry lease be required for the operation, then the development and reclamation plan that will be required as part of the quarry lease must include the visibility management plan (updated from an earlier version of the visibility management plan if necessary) and each update of the development and reclamation plan must include an updated visibility management plan.

Mandville, Adam

From: KC, Dhiraj
Sent: Wednesday, April 7, 2021 12:49 PM
To: 'Watton, Eric'
Subject: RE: Reg 2126 Question from Water Resources

Hi Eric,

No, there won't be any water supply at the wharf location.

Thanks,
KC

From: Watton, Eric <ericwatton@gov.nl.ca>
Sent: Tuesday, April 6, 2021 9:13 AM
To: KC, Dhiraj <Dhiraj.KC@pennecon.com>
Subject: Reg 2126 Question from Water Resources

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi KC,

Question: Will there be any water supply available at the proposed wharf?

Thank you,
Eric



www.gov.nl.ca

 @MAE_GovNL

Eric Watton, B.Sc., M.Sc.
Environmental Scientist (EA)
Environmental Assessment Division

Department of Environment,
Climate Change, and
Municipalities
P.O. Box 8700
St. John's, NL Canada A1B 4J6

t 709.729.0834

???This email and any attached files are intended for the sole use of the primary and copied addressee(s) and may contain privileged and/or confidential information. Any distribution, use or copying by any means of this information is strictly prohibited. If you received this email in error, please delete it immediately and notify the sender.???

Mandville, Adam

From: Warren, Karen <karenwarren@gov.nl.ca>
Sent: Wednesday, April 7, 2021 2:07 PM
To: KC, Dhiraj
Subject: RE: Riverhead Access Road, Laydown Area and Wharf (EA #2126)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Thank you for your prompt reply, KC.

Take care,
Karen

Karen Warren
Departmental Program Coordinator, Strategic Initiatives

Workforce Development Secretariat
Department of Immigration, Skills and Labour
P.O. Box 8700
St. John's, NL A1B 4J6

t. 709.729.0226
f. 709.729.5712
e. karenwarren@gov.nl.ca

From: KC, Dhiraj <Dhiraj.KC@pennecon.com>
Sent: Wednesday, April 07, 2021 12:48 PM
To: Warren, Karen <karenwarren@gov.nl.ca>
Subject: RE: Riverhead Access Road, Laydown Area and Wharf (EA #2126)

Hi Karen,

Please see below our responses in [green](#).

Thanks,
KC

Dhiraj KC, P. Eng, PMP

General Manager
Office: 709-334-2820 | Cell: 709-697-3463 | Fax: 709-334-2123
Email: Dhiraj.KC@pennecon.com | Web: www.pennecon.com



From: Warren, Karen <karenwarren@gov.nl.ca>
Sent: Monday, April 5, 2021 8:02 AM
To: Watton, Eric <ericwatton@gov.nl.ca>
Subject: RE: Riverhead Access Road, Laydown Area and Wharf (EA #2126)

Good day Eric,

We have now reviewed the registration document for the **Riverhead Access Road, Laydown Area and Wharf** project (EA Registration #2126) and have additional questions we would like to ask to gain a better understanding of the employment requirements associated with the project. Specifically, our questions are as follows:

- Clarification on the number of occupations that will be employed during the projects construction and operations phases along with the National Occupational Classification codes (NOC 2016) for each occupation;
 1. **Equipment Operators : NOC 2016 – 7521, approximately 15 to 20 during construction / operations**
 2. **Administration : NOC 2016 – 1241/1221, approximately 3 to 5 during operations / operations.**
 3. **Labourers : NOC 2016 – 7611, approximately 10 to 15 during construction / operations.**
- Clarification on whether or not the occupations will be full-time or part-time (where “full-time” is defined as working 30 or more hours a week); **Full time**
- Clarification on the hiring arrangements for all occupations associated with the project (i.e. which ones will be filled by existing company staff, which will be new and direct hires to the company, which will be contracted out or some other form of hiring arrangement). **Hiring will be a combination of existing company personnel and new hires to support the operations/constructions. There will be subcontracting work involved too liked drilling and blasting, transportation, etc.**

These inquires would not necessitate holding up release of the environmental assessment.

If there are any questions regarding our inquiry, please let me know.

Thanks,
Karen

Karen Warren
Departmental Program Coordinator, Strategic Initiatives

Workforce Development Secretariat
Immigration, Skills and Labour
P.O. Box 8700
St. John's, NL A1B 4J6

t. 709.729.0226

f. 709.729.5712

e. karenwarren@gov.nl.ca

???This email and any attached files are intended for the sole use of the primary and copied addressee(s) and may contain privileged and/or confidential information. Any distribution, use or copying by any means of this information is strictly prohibited. If you received this email in error, please delete it immediately and notify the sender.???

“This email and any attached files are intended for the sole use of the primary and copied addressee(s) and may contain privileged and/or confidential information. Any distribution, use or copying by any means of this information is strictly prohibited. If you received this email in error, please delete it immediately and notify the sender.”

Mandville, Adam

From: KC, Dhiraj
Sent: Monday, March 15, 2021 2:20 PM
To: 'Watton, Eric'
Subject: RE: Riverhead commercial wharf project
Attachments: Riverhead Wharf (Human Receptor) .png; 71112836 - Quarry Referral Notice - Pennecon Marine Base Ltd..pdf

Hi Eric,

Please see below our responses prepared to the best of our knowledge as in **green texts**.

Thanks,
KC

From: Watton, Eric <ericwatton@gov.nl.ca>
Sent: Thursday, February 25, 2021 7:35 AM
To: KC, Dhiraj <Dhiraj.KC@pennecon.com>
Subject: Riverhead commercial wharf project

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Dear KC,

I have been assigned your proposed project and have completed a cursory review prior to registration. I have the following suggestions to be considered prior to registration:

1. Please include a map showing the regional area with a frame reference to include nearby human receptors, other recreational and commercial uses, and adjacent land use zones. The map should show the other side of the embayment.

PMB (15-Mar-2021) : Please see attached map which indicates the nearby home. There are no recreational uses in this area. Some people cut wood in the area to heat their homes. Others might take a leisurely walk along the shore line. There are no commercial uses in the area.

2. Indicate how far away for nearest permanent human receptor such as home, etc.

PMB (15-Mar-2021) : The nearest human receptor is 1.2 km away from the quarry and 2.3 km away from the proposed wharf location (see attached picture).

3. Did the quarry go through EA review?

PMB (15-Mar-2021) : No, the quarry did not go through EA review but were referred to various governmental authorities prior to approving our quarry permit (see attached referral e-mail).

4. Please provide further details regarding the upgrade of the "Existing Access Trail" (what is its current use and purpose) and the construction of the straight 700 m access from the quarry to the laydown/wharf location.

PMB (15-Mar-2021) : Residents rarely use this existing access trail for leisure walks or, ATV rides along the shore line. The existing trail will be upgraded to provide access to the quarry site while the propose 700m access road will be used to transport the finished rock products to the marine terminal & further load the material onto bulk

carriers or, rock placement vessels. The following steps outline the upgrade of the existing access trail and the new 700m access road connecting quarry to the wharf/laydown location.

- The first step would be to construct “Tote road”. A “tote road” is a rough access road following the route of the permanent road used as an access from which to construct the permanent structure. The tote road will be constructed mainly out of rock-fill or, oversize material from the quarry operations.
- The second stage involves the gradual improvement of the tote road. This stage involves the widening of the tote road. Cut and fill operations will continue along the route until final limits are established.
- The third & the last stage of access road construction involves the preparation of driving surface using reject or, unsuitable material. During this stage, reject material (finer material) will be hauled and compacted along the whole access Road.

5. Do you know of any other recreational, commercial or industrial users of this embayment such as tour operators, fish harvesters, other?

PMB (15-Mar-2021) : There are no recreational, commercial or industrial users of this embayment, including tour boat operators and fish harvesters.

Thank you,
Eric

Eric Watton, MSc.
Environmental Scientist
Government of Newfoundland and Labrador
Department of Environment, Climate Change and Municipalities
Environmental Assessment Division
West Block, Confederation Building Complex
St. John’s NL

Tel. 709-729-0834 (Not Monitored Due To COVID-19)

???This email and any attached files are intended for the sole use of the primary and copied addressee(s) and may contain privileged and/or confidential information. Any distribution, use or copying by any means of this information is strictly prohibited. If you received this email in error, please delete it immediately and notify the sender.???

Appendix G - TRANSPORT CANADA APPROVAL



Navigation Protection Program (NPP)
95 Foundry Street, 6th Floor
P.O. Box 42
Moncton NB
E1C 8K6

APPROVAL

OWNER: Pennecon Marine Base Ltd.
650 Water Street
St. John's NL
A1C 5M5

WORK:

- Wharf

SITE LOCATION: Located in, on, over, under, through or across St. Mary's Bay, near Graven Bank in Riverhead, located at approximately 46° 56' 42.30" N, 053° 32' 50.51" W, in the Province of Newfoundland and Labrador.

As per the application (detailed above) to the Minister of Transport, submitted pursuant to the *Canadian Navigable Waters Act*, for an approval of the work per the attached plans and described in the attached documents, the Minister hereby approves the work pursuant to subsection 7(6) for the construction of the above mentioned work, in accordance with the following terms and conditions:

1. The project is to be constructed in accordance with the approved plans.
2. All vessels navigating the waterway must be allowed access through or around the work site at all times during construction and must be assisted as necessary.
3. The proponent must notify the Canadian Coast Guard Vessel Traffic Centre Noteship desk at (709) 695-2168 / 1-800-563-9089 or NAVWARN.MCTSPortAuxBasques@innav.gc.ca at least 24 hours in advance of commencement and upon completion of the project.
4. Construction material and debris are not to become waterborne. During removal and construction activities all floating debris must be contained in the immediate area and removed from the water in a timely manner. Any rocks or debris in the vicinity of the proposed work resulting from any construction activity are to be cleared so as to provide a clear approach for vessels navigating in the area.
5. If a debris containment device is placed in the water it must be marked at 40-meter intervals with 0.4 meter yellow spar buoys fitted with yellow flashing lights having a Flash characteristic of FI 0.5 sec; Ecl 3.5 sec.
6. A green flashing light is to be placed on the seaward edge of the work. The fixed structure must be capable of supporting a green lantern with a minimum intensity of 36.0 cd. with flash characteristics of FI 1s Ec 3s. The light shall be displayed and maintained year round.

SIGNED ON June 16, 2021
at the NPP regional office of Newfoundland and Labrador

Marina Carbonell
NPP Officer
Programs Group
Transport Canada
Atlantic Region
For the Minister of Transport



Wharf Coordinate:
46°56'49.27"N 53°32'37.88"W

**Existing Access Trail
(to be upgraded)**

**Watercourse &
Waterbody Buffers**

**9.0 ha Quarry Permit
Application Area**

ROCK LOADING WHARF

