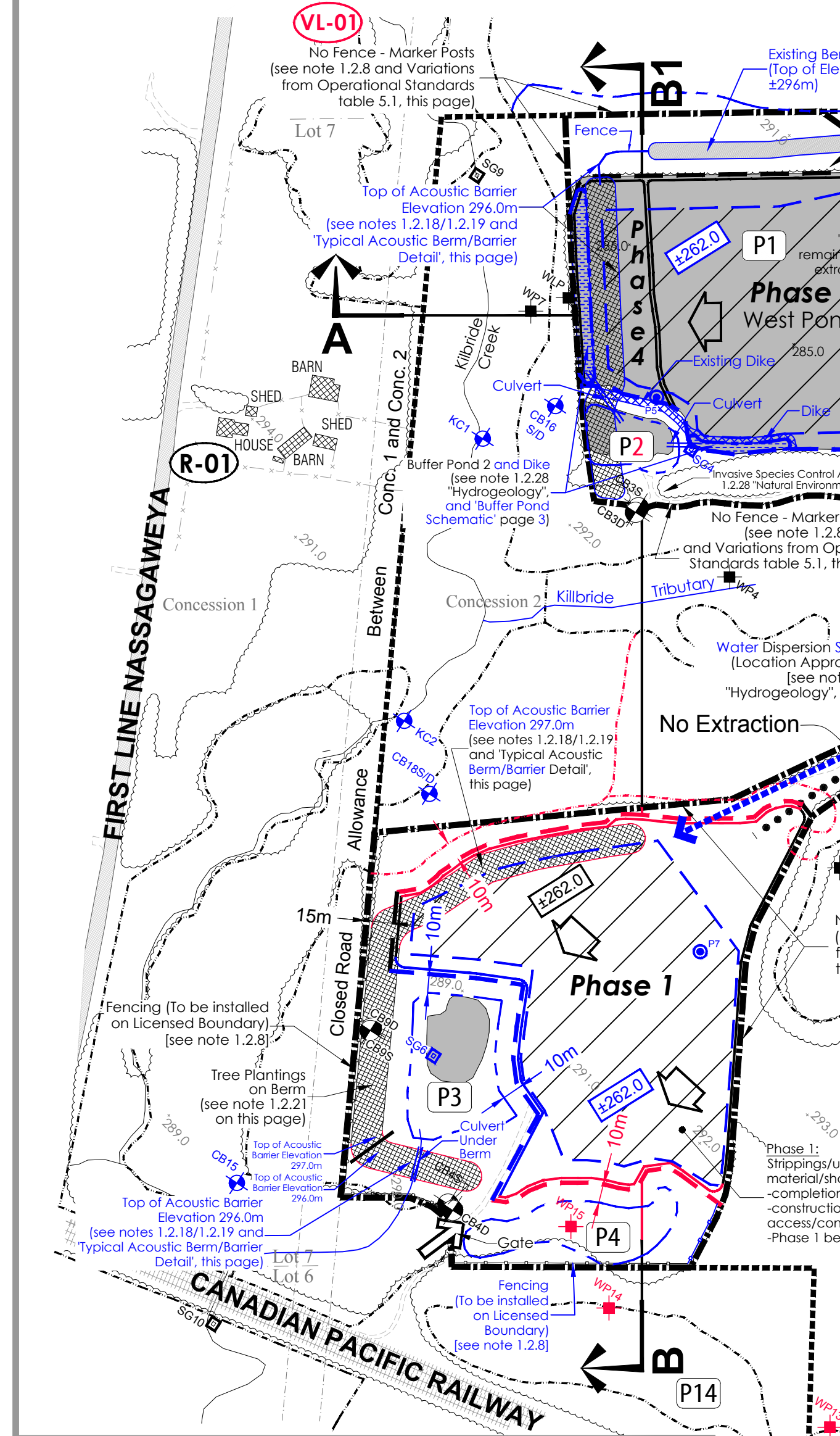


No.	Description	Standard
1	NO FENCING ON LICENSED BOUNDARY WHERE THE BOUNDARY COINCIDES WITH NATURAL FEATURES	5.1
2	IN SOME AREAS THE TREE LINE IS COINCIDENT WITH THE LIMIT OF EXTRACTION/EXCAVATION FACE AND WILL REMAIN SETBACK REDUCED TO 0m ALONG BOUNDARY OF AREA TO BE LICENSED IN VARIOUS PLACES WHERE BOUNDARY IS COINCIDENT WITH EXISTING POND	5.5
3	THE BERM ALONG THE WEST SIDE OF PHASE 2 MAY BE BUILT CLOSER THAN 3m FROM THE LICENSED BOUNDARY.	5.10,2.3
4	THE QUARRY WILL HAVE VERTICAL SIDE SLOPES FOR AREAS WHERE BELOW WATER EXTRACTION IS TAKING PLACE.	5.15
5	NO SIGN AT TWISS ROAD ENTRANCES NOT ON LICENSED BOUNDARY (SIGNAGE MAY BE PERMITTED ON LICENSED BOUNDARY BESIDE HWY #401)	5.22



**NUMERING SCHEME USED FOR OPERATIONAL NOTES REFERS TO AGGREGATE RESOURCES OF ONTARIO PROVINCIAL STANDARDS (AROPS) FOR A CATEGORY 2 - CLASS 'A' QUARRY BELOW WATER**

**1.2.1 - Sequence and Direction**  
This plan depicts a schematic operations sequence for the property based on the best information available at the time of preparation. Extraction, shipping and rehabilitation areas shown are schematic and may vary. Phases do not represent any specific or exact time period. Any major deviation from the operations sequence shown will require prior written approval from MNRF.

The direction of extraction will generally be in accordance with the Sequence of Operations shown on this page. Notwithstanding the operational notes, demand for certain products or blending of materials or the implementation of the Hydrogeology Contingency measures (see note 4H on page 4) may require a minor deviation in the extraction and rehabilitation sequence. Progressive and final rehabilitation will be completed in direct correlation to the development of the quarry as the extraction limits are reached and enough area is available to ensure that rehabilitation activities will not interfere with the production, stockpiling and processing of aggregate materials.

Phases will proceed in sequence 1-5 with limited overlap permitted so that the active extraction area can be relocated if necessary to maintain minimum water levels for Environmental Protection Areas (see page 4). The permitted overlaps are:  
 • During Phase 1, extraction may also occur in Phase 2 or 3 (but not more than 2 areas at the same time).  
 • During Phase 2, extraction may also occur in Phase 1 or 3 (but not more than 2 areas at the same time).  
 • During Phase 3, extraction may also occur in Phase 2. Final rehabilitation of Phase 1 will be completed during Phase 3.  
 • During Phase 4, extraction may also occur in Phase 3. Final rehabilitation of Phase 2 will be completed during Phase 4.  
 • During Phase 5, extraction may also occur in Phase 4.

**1.2.2 and 1.2.10 - Topsoil and Overburden Shipping and Stockpiling**  
Most of the site has been stripped of soils/overburden as a result of previous extraction on the property. As a result, there is minimal topsoil/overburden material on-site. The topsoil and overburden available on-site (primarily in Phases 1 and 2) will be shipped and stored on-site. All topsoil and overburden available from the site will be used for progressive and final rehabilitation of the area that will remain above the established water table (surface of the pond in the final rehabilitation of the property).

**1.2.3 - Lifts**  
Dolomite extraction will occur in a lift of approximately 30m in height to the base of the dolomite layer. Extraction will occur in one lift for underwater blasting except where substantial rock remains above the water table (dry and wet lift). Varying depths may occur as required due to operational constraints and rehabilitation objectives. Any remaining sand and gravel deposits are shallow and can be removed in one lift (see Sequence of Operations drawing on this page).

**1.2.4 - Main Internal Haul Roads**  
The existing access/road from Twiss Road will be utilized as the main haul road to and from the site. This road continues westerly across the Guelph Junction Railway and into the Phases on the west side of the rail line. On the west side of the Guelph Junction Railway, the haul road that crosses the land bridge to Phase 1 area, will remain for the duration of extraction activities. Aggregate will also be conveyed in a tunnel under the railway line.

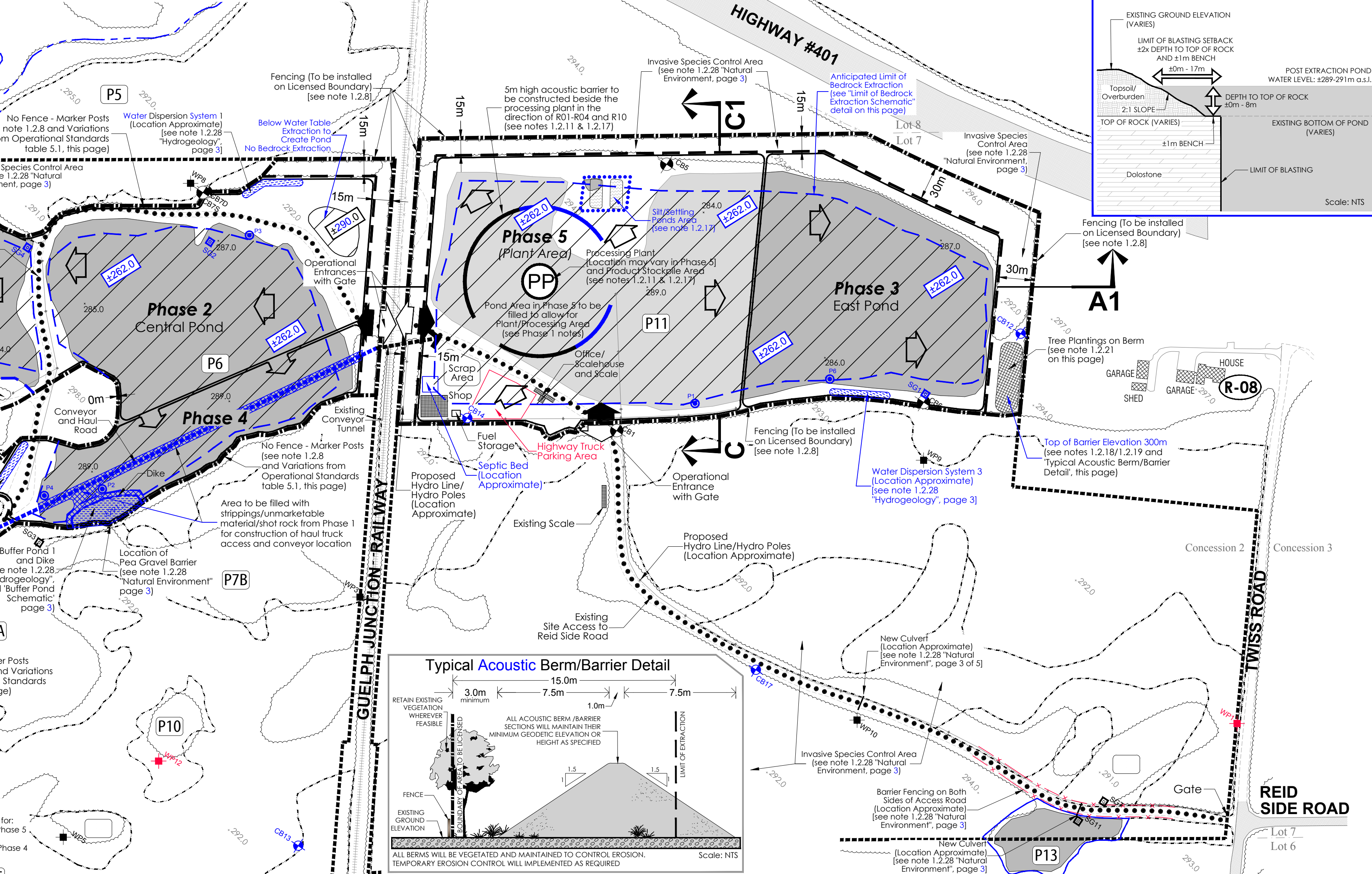
**1.2.5 - Proposed Entrance and Exit**  
The main entrance/exit to and from the site will be through a gated entrance/exit onto Twiss Road. There will also be gated entrances/exits at locations along the Guelph Junction Railway as shown on the Sequence of Operations drawing. That will be mitigated on site. Only water will be used as a dust suppressant and will be applied to internal haul roads as often as required to mitigate dust.

No queuing or staging of trucks will be permitted on Twiss Road or Reid Side Road at anytime. If required, truck staging will be located on the internal driveway and a highway truck parking area will be located adjacent to office/scale house area.

Any work undertaken along the existing driveway (e.g. culvert installation or replacement) outside of the Licensee Boundary may be subject to a Conservation Authority permit where applicable.

**1.2.6 - Groundwater Table**  
The water table occurs at ~288.0 m.a.s.l. in the southwest portion (Phase 1) of the site to ~292.0 m.a.s.l. in the northeast portion (Phase 5) of the site (Figure 4.8 from Hydrogeology Report). See also Hydrogeology and Natural Environment Monitoring and Contingencies (Page 4) for specific groundwater monitoring and contingency plans.

# Sequence of Operations



**1.2.15 - Excavation and Blasting Setbacks**  
As per Operational Standards (as applicable), setbacks are as shown on the Sequence of Operations diagram (this page). Areas within the setbacks will be accessed as necessary to perform general site servicing, maintenance (berming, fencing etc.) and progressive rehabilitation. The construction of noise berms, installation of water management systems (e.g. dispersion trenches), and ecological enhancements will be permitted in the setbacks areas. Also see Note 1.2.25, this page.

**1.2.16 - Extraction Elevations**  
The proposed maximum extraction elevation is approximately 262 m.a.s.l. corresponding with the bottom of the Amabel limestone formation. The depth of extraction is approximately 30m across the site.

**1.2.17 - Proposed Processing Equipment**  
Processing plants will be by a main processing plant (crushing, screening and washing) located within Phase 5. The main processing plant/processing area shall be limited to the Phase 5 area. A portable crusher may also be located in Phases 1 to 4. All processing equipment, including water taking and settling ponds, are subject to applicable permitting under MOE Environmental Compliance Approvals and Ontario Water Resources Act where water use requires water taking and/or discharge. That will be mitigated on site. Water or another Provincially approved dust suppressant will be applied to processing areas as often as required to mitigate dust. If required, a Certificate of Approval will be obtained for processing equipment to be used on site. Processing equipment will not be located within 30m of the licensed boundary, where possible and subject to Ministry of Labour regulations. The use of broad band technology for truck use lights will be utilized for the on-site equipment. See also Note 1.2.28, "Noise" (page 3) for specific noise mitigation requirements.

The wash plant and settling ponds will be located adjacent to the processing plant area in Phase 5 and will utilize a closed-loop system. Where water use requires water taking and/or discharge applicable permitting under MOE Environmental Compliance Approvals and Ontario Water Resources Act will be obtained.

**1.2.18 and 1.2.19 - Proposed Berms/Acoustic Barriers**  
Locations and heights for all berms/acoustic barriers are provided on the Sequence of Operations diagram, this page. The berm detail on this page, provides additional details on location and heights for the proposed berms. Berms in Phases 1 and Phase 3 will be constructed in accordance with the "Typical Acoustic Berm/Barrier Detail" on this page, and will be vegetated and maintained to control erosion. Berms in Phases 2 and 4 will be constructed in accordance with the "Typical Acoustic Berm/Barrier Detail" on this page, and will be vegetated and maintained to control erosion. See also Note 1.2.28, "Noise" (page 3) for additional details.

Imported material is required for the construction of the acoustic berms in Phases 1, 2 and 3. The material to be imported from an outside source for the construction of the berms will be clean and free of contaminants. The fill will occur as outlined in the MNR Aurora District Off-Site Fill Acceptance Protocol or similar approved MOECP protocol.

**1.2.20 - Equipment**  
Main equipment on site will be comprised of: 1 Rock drill, 1 Excavator or 1 Dragger, 1 Extraction loader, 1 Primary Crusher, 1 Portable Conveyor, 1 Processing Plant, 2 Shipment loaders, Off-Highway trucks and Shipment trucks. See Note 1.2.28 "Noise" (page 3). Also, equipment used for construction of the perimeter berms/barriers, overburden stripping, rehabilitation, as well as other construction projects will be utilized on site.

**1.2.21 - Proposed Tree Screen**  
Existing natural tree buffers in the setbacks will be maintained where feasible subject to acoustic berm requirements. Tree planting will occur on the berm within the setback in Phase 1 and Phase 3 as shown on page 5.

**1.2.22 - Hours of Operation**  
The proposed quarry will have the following hours of operation:  
 • Drilling: extraction, processing, Monday - Saturday 7:00 am - 7:00 pm  
 • Shipping: Monday - Saturday 6:00 am - 6:00 pm  
 No operations, except for equipment maintenance, on Sundays or holidays as defined in the Equipment Standards Act. A response to emergencies is not limited by the hours of operations shown on this plan.

**1.2.23 - Tree and Stump Disposal**  
Timber resources (if any) will be salvaged for use as saw logs, fence posts and fuel wood where appropriate. Stumps and slash cleared during site preparation will be burned (subject to any necessary local regulations) or mulched for use in the progressive rehabilitation of the site. Where practical, wood stumps and rock debris will be utilized strategically as part of the progressive and final rehabilitation of the quarry. No trees or stumps will be imported for mulch except for immediate use for rehabilitation. Refer to the rehabilitation plan (page 3) for more details.

**1.2.24 - Area to be Extracted**  
The area to be extracted is 23.4 ha. [±57.8 ac.]. [Anticipated Limit of Bedrock Extraction Area = ±16.5 ha [±40.7 ac.]. Other Extraction Area = ±6.9 ha [±17.1 ac.]

**1.2.24 - Cross Sections**  
Location of sections are as shown. Cross Sections are provided on Page 6.

**1.2.25 - Variations from Operational Standards**  
Regulatory Operational Standards (Section 5.0 of ARA Provincial Standards) will be varied by this site plan as shown in the Variations from Operational Standards table (this page).

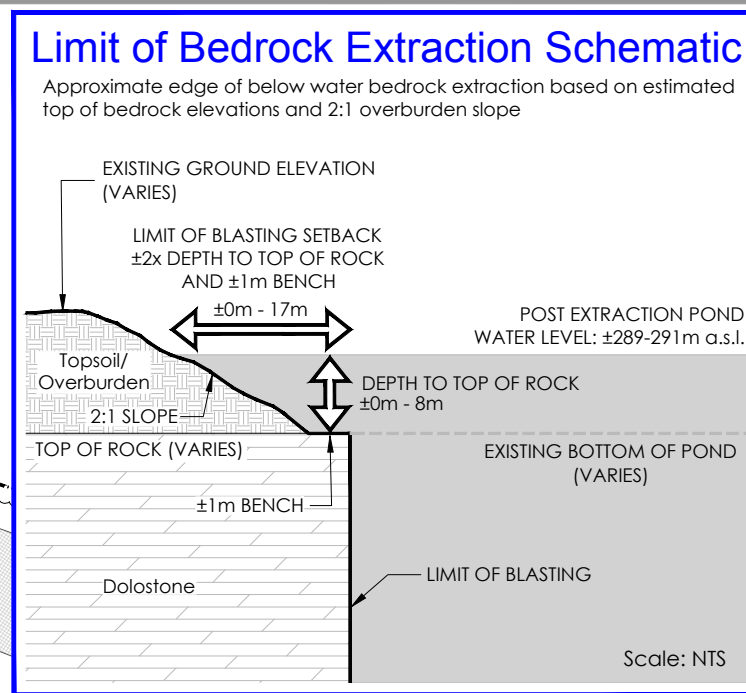
**1.2.26 - Frequency/Timing of Blast**  
All blast monitoring reports must be retained by the licensee and made available upon request by the Ministry of Natural Resources and Forestry (MNR) for audit purposes. See also Note 1.2.28 "Blasting" (page 3) for additional details.

**1.2.27 - Tonnage Limit**  
The maximum amount of aggregate to be removed from this site in any calendar year is 990,000 tonnes.

**Phase Notes:**  
Generally, loose sand and gravel deposits will be excavated exposing the bedrock underneath. In some areas, the bedrock is already exposed. Dry exposures of the top of bedrock will be drilled from the top of rock for blasting. Where the top of rock is below water table, a pad of shot rock will be placed on top of bedrock to create a dry drilling platform. The shot rock pad will be comprised of large angular rock that has a stable angle of repose sourced from on-site materials. The stability of the pad will comply with all applicable Ministry of Labour requirements. Blast holes will be advanced through the shot rock pad and into the bedrock to the prescribed depth. Holes will be lined with blast hole casing to prevent shot rock from entering the hole. Waterproof emulsions and/or packaged products will be used as blasting agents (see Blasting notes on Page 3). Once the blast is complete, rock will be removed using a dragline or excavator. Material will be transferred to the processing plant for further processing and stockpiling. The extraction area will not be dewatered so as extraction progresses a deep pond is created, at a similar water level to the final rehabilitated feature.

**Pre-Production Phase**  
The following list of activities and tasks will take place prior to any blasting/extraction occurring below the water table for the production of material for commercial sales.  
 1. Establish baseline ecological monitoring, per Page 4 of the Site Plans;  
 2. Install all new water monitors (C8125/D, C8135/D, C814, C815, C816, C817), and ensure all monitoring programs are underway and required water management components are in place;  
 3. A pre-blast survey will be conducted at interested local residences or businesses;  
 4. Install tunnel conveyor in the existing concrete culvert under railway;  
 5. Prior to any blasting/extraction occurring below the water table for the purposes of creating and shipping marketable products, the Operator will inform MNR that all of the pre-production activities and requirements listed above and detailed in the Implementation Guide have been completed.  
 6. Prior to adding any fill to the Western, Eastern or Central Pond, a visual inspection will be undertaken to determine if any snags/trunks are present. Snags to be filled should be examined for 30 minutes to confirm its absence prior to any fill being added to the pond. In the event that a snaggling turtle is present, filling should either be delayed until the turtle moves out of harm's way or it should be captured and moved to a safe location.

**Phase 1**  
1. Site preparation to include: establishing fencing along the licensed boundary prior to extraction (subject to overrides); removal of vegetation where necessary; construct berms/acoustic barriers prior to extraction, as shown; and the establishment of operational entrances/exits. Construction of pumping infrastructure as required for supplementary water pumping.  
 2. Begin operations (above and below water) at the location shown and in the direction and to the elevations as shown.  
 3. Primary crushing with product being transferred to the production plant in Phase 5 plant area via conveyor. Some of the extracted aggregate and/or overburden may be used for the construction of the processing plant area in Phase 5 and for the water management components (e.g. buffer ponds). No imported material will be used to construct the Buffer Ponds, Couseway or Processing Area. Establish field conveyor system connecting Phases 1, 4 and 5.  
 4. Build scale and scale house/office (and shop as required).  
 5. Side slope and disturbed areas will be rehabilitated progressively as extraction operations occur.  
 6. Commence site preparation in Phase 2.



**Legal Description**  
Part of Lot 7, Concession 2 (former Geographic Township of Nassagaweya) Town of Milton, Regional Municipality of Halton

**Legend**

- Boundary of Area to be Licensed
- Additional Lands Owned by Applicant
- Existing Spot Elevation (Above Water)
- Existing Spot Elevation (Bottom of Pond)
- Existing Tree Cover
- Access Points
- Monitoring Well
- Staff Gauge
- Wetland Piezometer
- Pump
- Ponds and Other Wetlands
- Provincially Significant Wetlands
- Pond Identifier
- Existing Site Access
- Open Water
- Limit of Extraction
- Anticipated Limit of Bedrock Extraction
- Proposed Acoustic Berm/Barrier
- Proposed Fence
- Proposed Spot Elevation
- General Direction of Excavation
- Noise Receptor
- Conveyor/Conveyor Tunnel
- Operational Entrance
- Proposed Hydro Line
- Buffer Pond/Water Dispersion System
- Barrier Fencing
- Cross Sections

**Site Plan Amendments**

No.	Date	Description	By

**MNRF Approval Stamp**

**Stamp**

**Applicant**  
**JAMES DICK CONSTRUCTION LIMITED**  
READY MIX CONCRETE AND AGGREGATE SUPPLIERS  
P.O. Box 470 14442 Highway 50 Bolton, Ontario L7E 5T4  
Tel: (905) 857-3500

**Applicant's Signature**  
Greg Sweetnam  
James Dick Construction Limited (JDCL)  
Executive Vice-President

**PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE**  
MHC ARCHITECTURE  
200-540 BINGEMANS CENTRE DR. KITCHENER, ON. N2B 3X9 | P: 519.576.3650 F: 519.576.0211 | WWW.MHCPLAN.COM

**Project**  
**Reid Road Reservoir Quarry**  
Part of Lot 7, Concession 2 (former Geographic Township of Nassagaweya) Town of Milton, Regional Municipality of Halton

**MNRF Licence Reference No.**

**Pre-approval review:**  
For submitted to MNRF - Jun. 27, 2018  
 ARS Complete - Jul. 16, 2018  
 Revs. per MNRF and MOECP comments - Jan. 31, 2019  
 Revs. per Agency review comments and Addendum - Nov. 17, 2019  
 Revs. per MNRF comments - Jun. 17, 2019  
 Revs. per Agency review comments and Addendum - November 2020

**Plan Scale 1:2500 (Arch D)**  
SCALE 50 0 METRES 50 100  
 Plot Scale 1:2.5 [1mm = 2.5 units] MODEL  
 Drawn By D.S. File No. 9633L  
 Checked By J.P.

**OPERATIONAL PLAN**  
2 OF 6