

Phase 1A - Subphases i) - iii)

Soils Management Plan: Prior to any site activity, refer to General Note 33.

a) **Archaeology:** Sheet 2 of 10 identifies archaeological sites within this sub-phase. The Licensee shall follow the Archaeological Recommendations (Sheet 4 of 10) which specifies pre-extraction actions to protect the site(s) and undertaking of further field assessments as required.

b) **Site Stripping:** Prior to stripping any agricultural fields or other vegetation, refer to NEL 1 - 2 note 2 re: breeding bird habitat. The area to be stripped in advance of extraction will reflect approximately 2-3 years of anticipated extraction. The stripped topsoil and subsoil will be placed within the quarry setbacks to be used for perimeter berms and future rehabilitation of the quarry side slopes. During extraction of sub-phase i), Berm C, Berm D and Berm E (surrounding the eastern-tab) do not need to be constructed subject to a temporary 2.0m high berm being constructed to link Berm B and Berm F, and as shown on the Plan.

c) **Extraction:** Extraction will commence eastward from the Pit 3 face (Licence 4444) and extend to the eastern setback limit. Specifically:

- **Sub-phase i)**

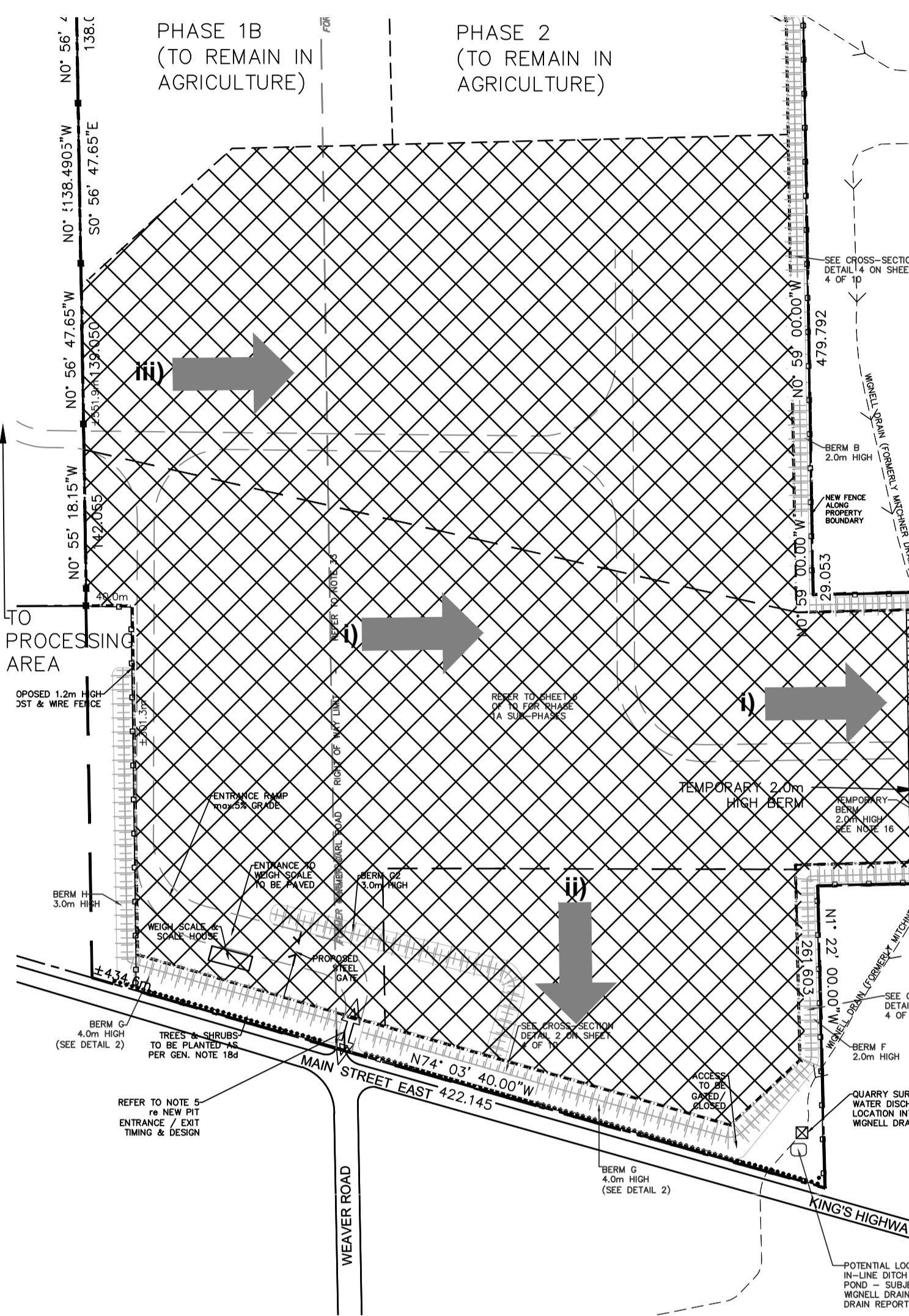
i) Extraction will initially start from the Pit 3 eastern face and move in an east direction approximately 450m into the site. Extraction will then move in a south-east direction toward the proposed Highway 3 entrance / exit so that the final ramp down to the final quarry floor can be created as soon as possible to ensure that haul trucks transition immediately to the same relative elevation as the new processing plant (to be sited within Pit 3 - Licence 4444). This will augment noise and dust mitigation impacts. Extraction will also initially extend to within 15.0 m of the west side of the Wignell Drain where it traverses the eastern tab lands.

ii) **Berm Construction:** All berms will be constructed prior to any active extraction at the site, subject to General Operational Note 33. All berms will be constructed with a core of onsite clay overburden and be covered with a veneer of on-site subsoil and topsoil. Berm heights are noted on Sheet 3 of 10 and berm design detail sketches are shown on Sheet 5 of 10.

iii) **Berm Vegetation:** All perimeter berms constructed shall be vegetated as per General Operational Note 18 and NEL Note 7 (iii) to augment fugitive dust and noise and to support grassland bird habitat.

iv) **Processing Equipment:** Although the majority of the processing equipment will be located off-site, any in-quarry portable processing equipment must be located on the lowest quarry floor or at a minimum elevation of 171.10 masl, whichever is lowest.

v) **Shipping off-site:** Aggregate from Phase 1A will be initially hauled westward to the Port Colborne



Quarries Inc. - Pit 1 for processing via an intra-pit road network through their Pit 2 and Pit 3 lands. Once processed, (crushed, screened, blended, washed and stockpiled), the material will be shipped to the market via Second Concession Road to Highway 140. Eventually that processing plant is planned to be relocated / rebuilt within the Port Colborne Quarries Inc. - Pit 3 lands, (Licence 4444), subject to MNRF approval. Once that occurs, aggregate from Phase 1A will be processed within Phase 3 then shipped to the market via a new entrance/exit onto Highway 3. To accommodate this, an access road from the quarry floor to the 'at grade' portion of Phase 1A will be constructed.

vi) **Progressive Rehabilitation:** As full extraction is progressively completed of portions of Phase 1A, the creation of sides slopes will begin. Side slopes will range from the steepest permitted by the ARA being 2(v) : 1(h) to a shallower slope of 4(v) : 1(h) and will be designed generally as shown on the Final Rehabilitation Plan but subject to site conditions. To create the side slopes, the Licensee shall use:

- o Angled blasting,
- o Broken shale,
- o On-site overburden,

vii) **Side slopes:** Once the sideslopes are created, on-site subsoil and topsoil will be reapplied and vegetated as per General Operational Note 18 and additional vegetation planted as per NEL Note 7(vii), and as shown on the Final Rehabilitation Plan.

- **Sub-Phase ii)**

i) **Extraction:** Extraction will continue to move southward to remove the balance of the stone towards Highway 3.

ii) **Shipping off-site:** Aggregate from Phase 1A ii) will be processed within Phase 3 (Licence 4444) then shipped to the market via the entrance/exit onto Highway 3.

iii) **Progressive Rehabilitation:** As full extraction is progressively completed, the creation of sides slopes will begin. Side slopes will range from the steepest permitted by the ARA being 2(v) : 1(h) to a shallower slope of 4(v) : 1(h) and will be designed generally as shown on the Final Rehabilitation Plan but subject to site conditions. To create the side slopes, the Licensee shall use:

- o Angled blasting,
- o Broken shale,
- o On-site overburden,

iv) **Side slopes:** Once the sideslopes are created, on-site subsoil and topsoil will be reapplied and vegetated as per General Operational Note 18 and additional vegetation planted as per NEL Note 7(vii), and as shown on the Final Rehabilitation Plan.

- **Sub-phase iii)**

i) **Extraction:** The balance (northern portion) of Phase 1A will be extracted. As this extraction occurs, ongoing rehabilitation efforts will continue to create side slopes from the quarry floor up to the existing grade using backfilled material from on-site and PCQ contiguous lands including overburden, waste rock, clay, and/or clean-out material from the wash ponds.

ii) **Extraction Depth:** The extraction depth will vary from 162.0 to 166.0 masl generally following the resource which is deepest in the southwest portion of the site. Extraction occur primarily in two lifts / benches each not exceeding 8.0 metres in depth. A third partial lift may be required in the deepest portions of the quarry.

iii) As detailed in Archaeological Note 1 and 2, portions of Phase 1A include 'no-go zone' buffers which require Stage 3 assessments to be completed in order to clear the identified archaeological sites to permit extraction.

iv) **Shipping off-site:** Aggregate from Phase 1A ii) will be processed within Phase 3 (Licence 4444) then shipped to the market via the entrance/exit onto Highway 3.

v) **Progressive Rehabilitation:** As full extraction is progressively completed, the creation of sides slopes will begin. Side slopes will range from the steepest permitted by the ARA being 2(v) : 1(h) to a shallower slope of 4(v) : 1(h) and will be designed generally as shown on the Final Rehabilitation Plan but subject to site conditions. To create the side slopes, the Licensee shall use:

- o Angled blasting,
- o Broken shale,
- o On-site overburden

vi) **Side slopes:** Once the sideslopes are created, on-site subsoil and topsoil will be reapplied and vegetated as per General Operational Note 18 and additional vegetation planted as per NEL Note 7(vii), and as shown on the Final Rehabilitation Plan.

Phase 2

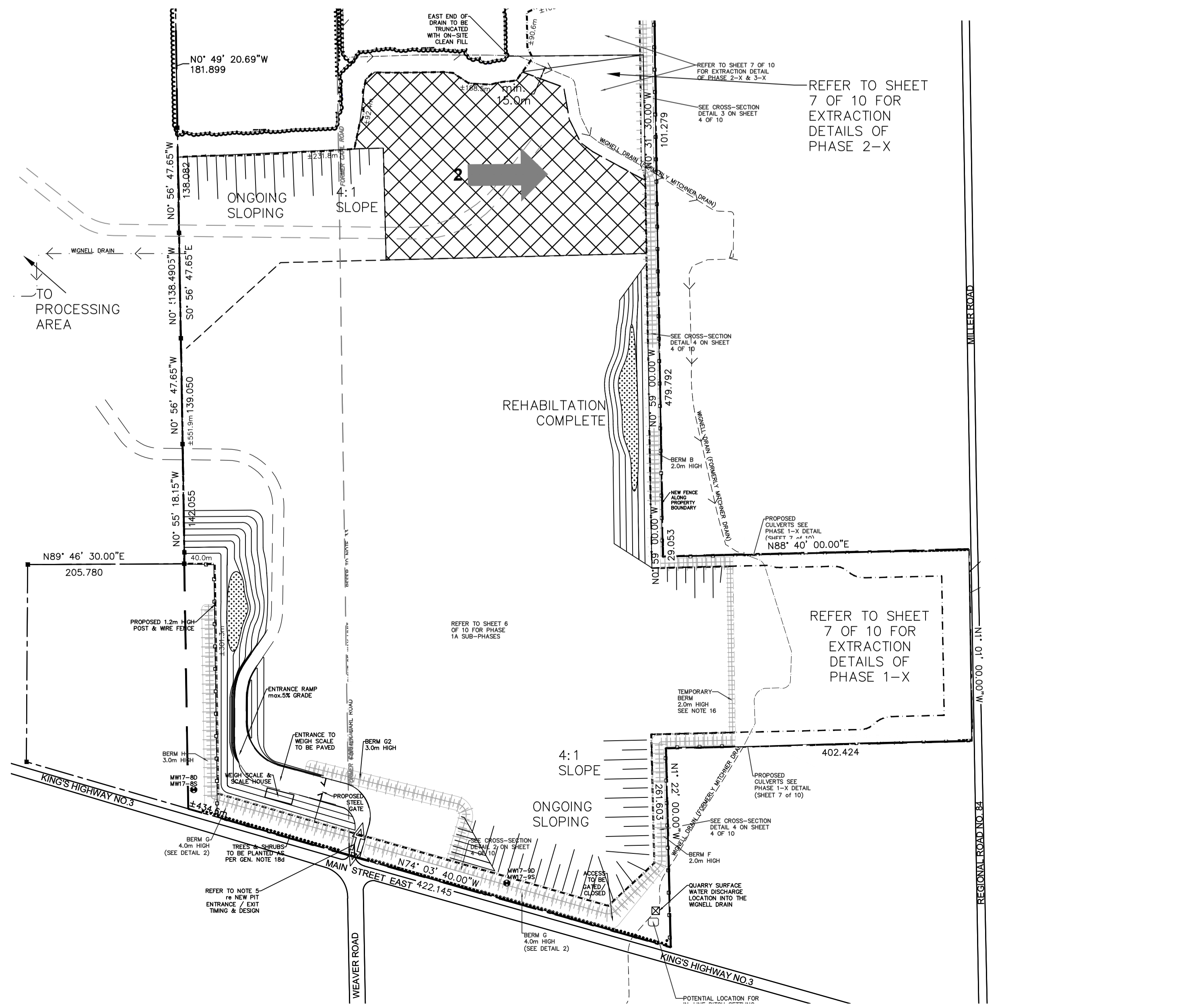
a) **Archaeology:** Sheet 2 of 10 identifies archaeological sites within this sub-phase. The Licensee shall follow the Archaeological Recommendations (Sheet 4 of 10) which specifies pre-extraction actions to protect the site(s) and undertaking of further field assessments as required.

b) **Site Stripping:** Prior to stripping any agricultural fields or other vegetation, refer to NEL note 2 re: breeding bird habitat. The area to be stripped in advance of extraction will reflect approximately 2-3 years of anticipated extraction. The stripped topsoil and subsoil will be used immediately for progressive rehabilitation of the quarry side slopes.

c) **Extraction:** Extraction will commence eastward from Phase 1B and extend east to the eastern setback limit. The extraction depth will extend to 166.0 masl and generally following the resource depth and occur in two lifts / benches each not exceeding 8.0 metres in depth.

d) **Processing Equipment:** Although most of the processing equipment will be located off-site, any in-quarry portable processing equipment must be located on the lowest quarry floor or at a minimum elevation of 171.10 masl, whichever is lowest.

e) **Shipping off-site:** Aggregate from Phase 2 will be processed within Pit 3 then shipped to the market via the entrance/exit onto Highway 3.



Phase 1B

a) **Archaeology:** Sheet 2 of 10 identifies archaeological sites within this sub-phase. The Licensee shall follow the Archaeological Recommendations (Sheet 4 of 10) which specifies pre-extraction actions to protect the site(s) and undertaking of further field assessments as required.

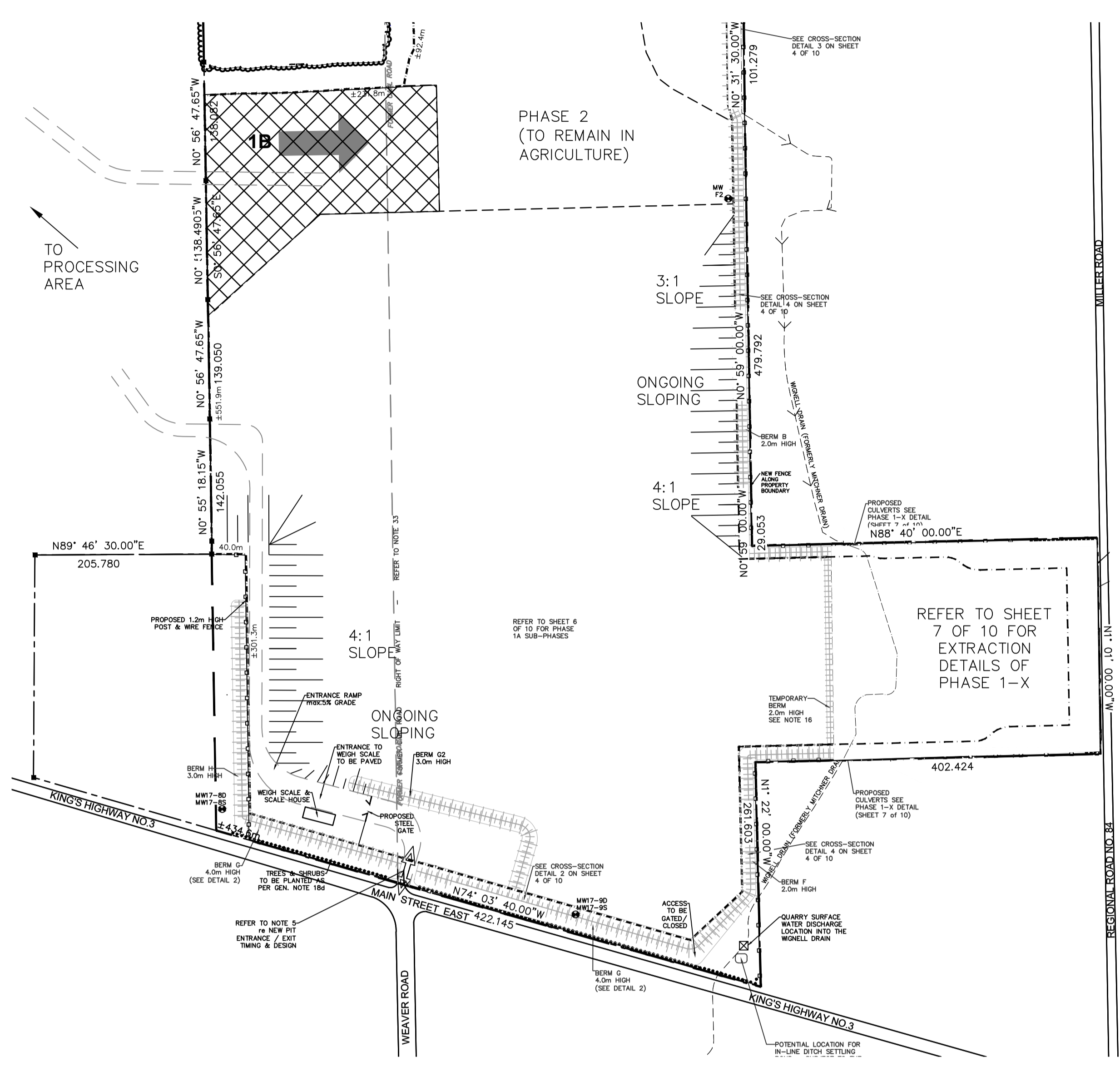
b) **Stripping:** Prior to stripping any agricultural fields or other vegetation, refer to NEL 2 re: breeding bird habitat. The area to be stripped in advance of extraction will reflect approximately 2-3 years of anticipated extraction. The stripped topsoil and subsoil will be used immediately for progressive rehabilitation of the quarry side slopes.

c) **Extraction:** Extraction will commence eastward from the existing Pit 3 (Licence 4444) face and extend eastward to the limit of Phase 2. The extraction depth will extend to 166.0 masl and generally following the resource depth and occur in two lifts / benches, each not exceeding 8.0 metres in depth.

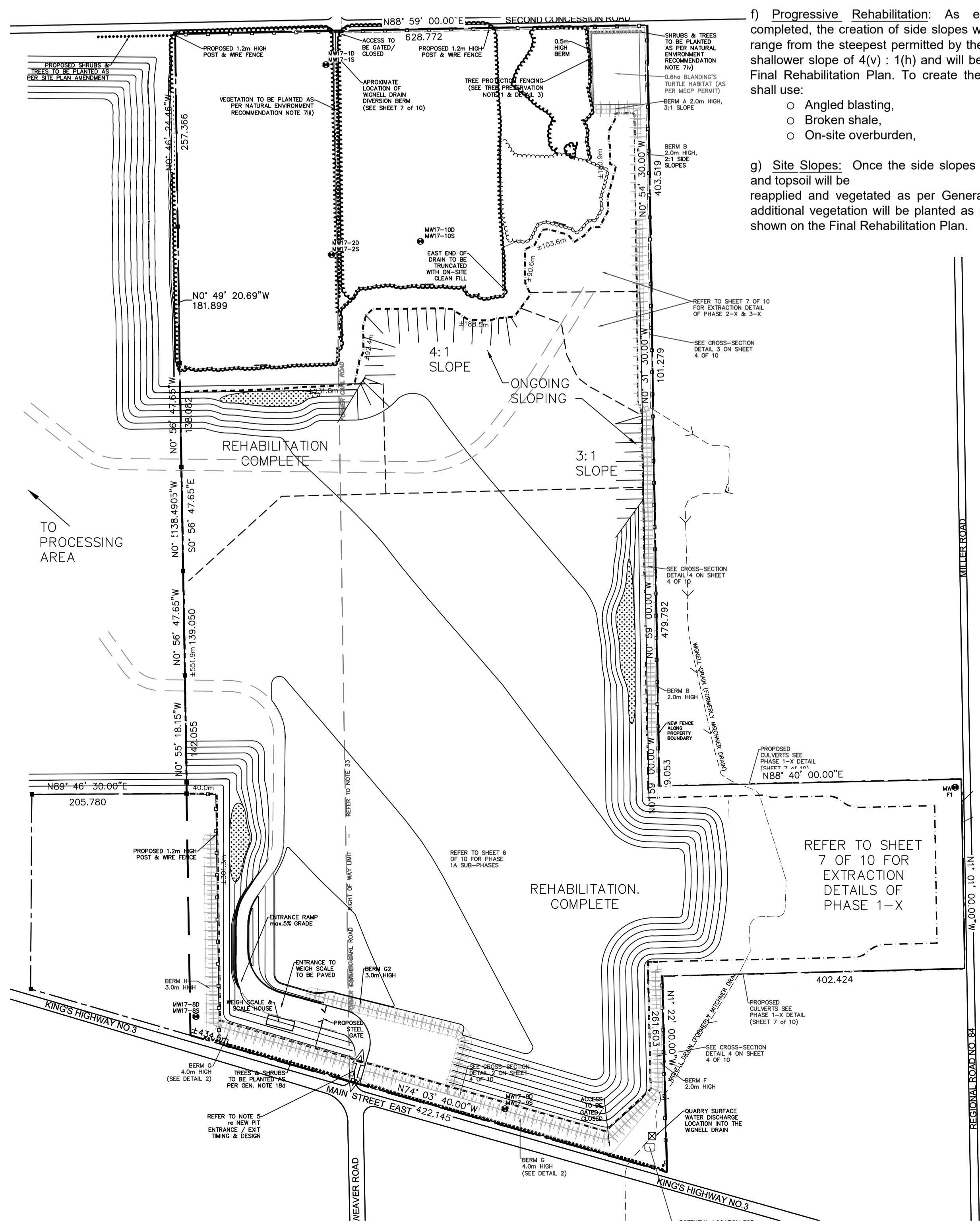
d) **Processing Equipment:** Although most of the processing equipment will be located off-site, any in-quarry portable processing equipment must be located on the lowest quarry floor or at a minimum elevation of 171.10 masl, whichever is lowest.

e) **Shipping off-site:** Aggregate from Phase 1B will be processed within Pit 3 then shipped to the market via the entrance/exit directly onto Highway 3.

f) **Progressive Rehabilitation:** As progressive extraction is completed, the creation of side slopes will continue. Side slopes will range from the steepest permitted by the ARA being 2(v) : 1(h) to a shallower slope of 4(v) : 1(h) and will be generally as shown on the Final Rehabilitation Plan.



Phase 2 - Progressive Rehabilitation



**PIT 3 EXTENSION
PROGRESSIVE EXTRACTION &
REHABILITATION DETAILS
PLAN FOR PHASE 1 & 2
SHEET 6 OF 10**



To create the side slopes, the Licensee shall use:

- o Angled blasting,
- o Broken shale,
- o On-site overburden,

g) Once the side slopes are created, on-site subsoil and topsoil will be reapplied and vegetated as per General Operational Note 18 and NEL Note 7 (vii), and as shown on the Final Rehabilitation Plan

APPLICANT
PORT COLBORNE QUARRIES INC.

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KEY MAP - N.T.S.

Part of Lots 17, 18 & 19 Concession 2 and R/P 20R-16702 Part of Road Allowance between Lot 18 & 19 Concession 2, in former Township of Humberstone, the City of Port Colborne, Region of Niagara

LEGEND

- LOT & CONCESSION
- LICENSED BOUNDARY
- LIMIT OF EXTRACTION
- EXISTING POST & WIRE FENCE
- MUNICIPAL DRAIN
- MONITORING WELL - EXISTING
- MONITORING WELL - TO BE DRILLED PRIOR TO QUARRYING
- EXISTING ACCESS
- PROPOSED ACCESS
- EXISTING TREE LINE
- EXISTING BUILDING / STRUCTURE - OFF-SITE
- EXISTING BUILDING / STRUCTURE - ON-SITE
- PHASING BOUNDARY
- PHASING SEQUENCE
- INTERNAL HAUL ROUTE
- DIRECTION OF EXTRACTION
- EXISTING ELEVATION NUMBER OF LIFTS FINAL EXTRACTED ELEVATION
- PROGRESSIVE ACTIVE EXTRACTION AREA
- PHASED BACK FILL
- FINAL REHABILITATION CONTOUR
- FUTURE AQUATIC HABITAT
- QUARRY SURFACE WATER DISCHARGE LOCATION INTO THE WIGNELL DRAIN

SITE PLAN AMENDMENTS

#	DATE	BY	DESCRIPTION

REVISIONS PRIOR TO APPROVAL

#	DATE	BY	REVISIONS
1	2021.02.09	JAS	AS PER MNRF PRELIMINARY REVIEW COMMENTS
2	2021.11.15	JAS	REVISED LICENSED LIMIT & JART COMMENTS
3	2022.07.28	JAS	REVISED SUB-PHASE NUMBERING FOLLOWING COMMENTS BY NIAGARA REGION
4	2022.12.15	JAS	REVISED FOR 2nd JART SUBMISSION
5	2023.02.03	JAS	REVISIONS AS PER NIAGARA REGION, CITY OF PORT COLBORNE
6	2023.04.06	JAS	REVISIONS FOLLOWING REGIONAL PERMITTER REVIEW
7	2023.04.27	JAS	REVISIONS FOLLOWING REGIONAL COMMENTS
8	2023.07.31	JAS	REVISIONS RE COMMENTS FROM MNRF JUNE 29, 2023 & JART JUNE 12, 2023
9	2023.09.11	JAS	TOTAL LAND PARCEL AREA TO EXCLUDE #1252 & #1326 MAIN STREET EAST

SITE DATA

AREA TO BE LICENSED	± 100.2 ha
AREA TO BE EXTRACTED	± 68.7 ha
EX. DISTURBED AREA	Nil
TOTAL LAND PARCEL	± 100.2 ha

THESE SITE PLANS HAVE BEEN PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS LICENSE, CATEGORY 2. THEY HAVE BEEN PREPARED BY THE UNDERSIGNED BY THE AUTHORITY OF MINISTRIAL APPROVAL AS SPECIFIED IN THE AREA SECTION 8 (4).

DATE: July 31, 2023

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PORT COLBORNE QUARRIES INC. PIT 3 EXTENSION

SCALE: 1:4,000

PROJECT NO: 115774	CHECKED BY: D.R.S.
DRAWN BY: D.R.S.	APPROVED BY: D.R.S.

SHEET TITLE
PROGRESSIVE EXTRACTION & REHABILITATION DETAILS

SHEET NUMBER
PLAN 6 of 10

ISSUE

File Location: J:\115774_PortColborne\3-Drawings\PHASE 3-EXTNS\SHETS\15774_PIT3_Bk.dwg Last Saved: August 2, 2023, by: mmmalibery - PlotDate: Monday, September 11, 2023 3:42:42 PM by Emma Theory