

EXISTING FEATURES NOTES

GENERAL SITE PLAN INFORMATION

1. THIS SITE PLAN CONSISTS OF 4 DRAWINGS AND MUST BE READ COLLECTIVELY.
 2. ALL MEASUREMENTS SHOWN ON THIS SITE PLAN ARE IN METRES.

LICENCE INFORMATION

3. THIS SITE PLAN IS PREPARED FOR SUBMISSION TO THE MINISTRY OF NORTHERN DEVELOPMENT, MINES, NATURAL RESOURCES AND FORESTRY UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS 'A' LICENCE, PIT BELOW THE WATER TABLE.
 4. APPLICANT: ST MARYS CEMENT INC. (CANADA) 55 INDUSTRIAL STREET TORONTO, ONTARIO M4G 3W9

BASE INFORMATION

5. TOTAL AREA TO BE LICENCED: 35.2 ha
 TOTAL AREA TO BE EXTRACTED: 22.4 ha
 TOTAL AREA TO BE REHABILITATED: 22.4 ha

6. TOPOGRAPHIC INFORMATION FOR LOT 8 & 9, CONCESSION 2 WAS OBTAINED FROM FIRST BASE SOLUTIONS APRIL 25, 2019. ALL ELEVATIONS ARE GEOCENTRIC AND ABOVE SEA LEVEL (ASL).
 THE SITE WAS FIELD CHECKED BY HARRINGTON MCANAVAN LTD. JUNE 3, 2019.

7. ZONING INFORMATION OBTAINED FROM SCHEDULE A, TOWNSHIP OF BROCK, ZONING BY-LAW NO. 278-75/PL, PLATE 'A', DATED MARCH 2019. MAJORITY OF PROPOSED LICENCE IS PRESENTLY ZONED RU (RURAL) AND EP (ENV. PROTECTION). A ZBA WILL BE APPLIED FOR TO CHANGE RU TO M4 (EXTRACTIVE INDUSTRIAL).

HYDROGEOLOGICAL INFORMATION

8. HYDROGEOLOGICAL INFORMATION INCLUDING GROUNDWATER ELEVATION WAS OBTAINED FROM REPORT BY GOLDER DATED JULY 2021.
 9. THE GROUNDWATER ELEVATION BODIES ACROSS THE SITE AND RANGES FROM 270-293m ABOVE SEA LEVEL (A.S.L.) BASED ON GOLDER REPORT.

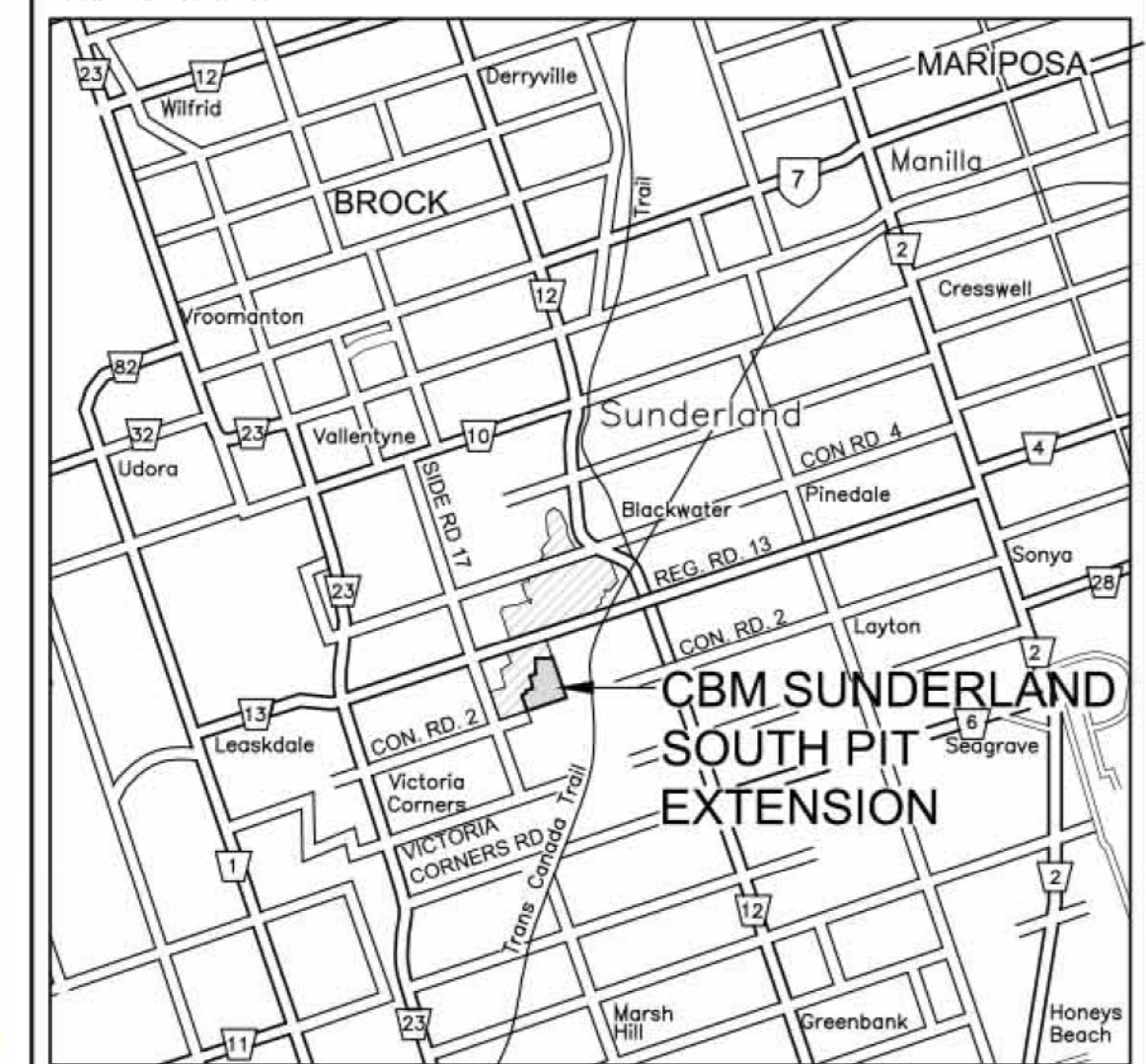
10. THE SITE IS LOCATED WITHIN THE LAKE SIMCOE SOURCE PROTECTION REGION. SOURCE WATER PROTECTION POLICIES DO NOT APPLY TO THIS SITE. REFER TO HYDROGEOLOGICAL REPORT. NO MITIGATION IS REQUIRED.

TECHNICAL REPORTS

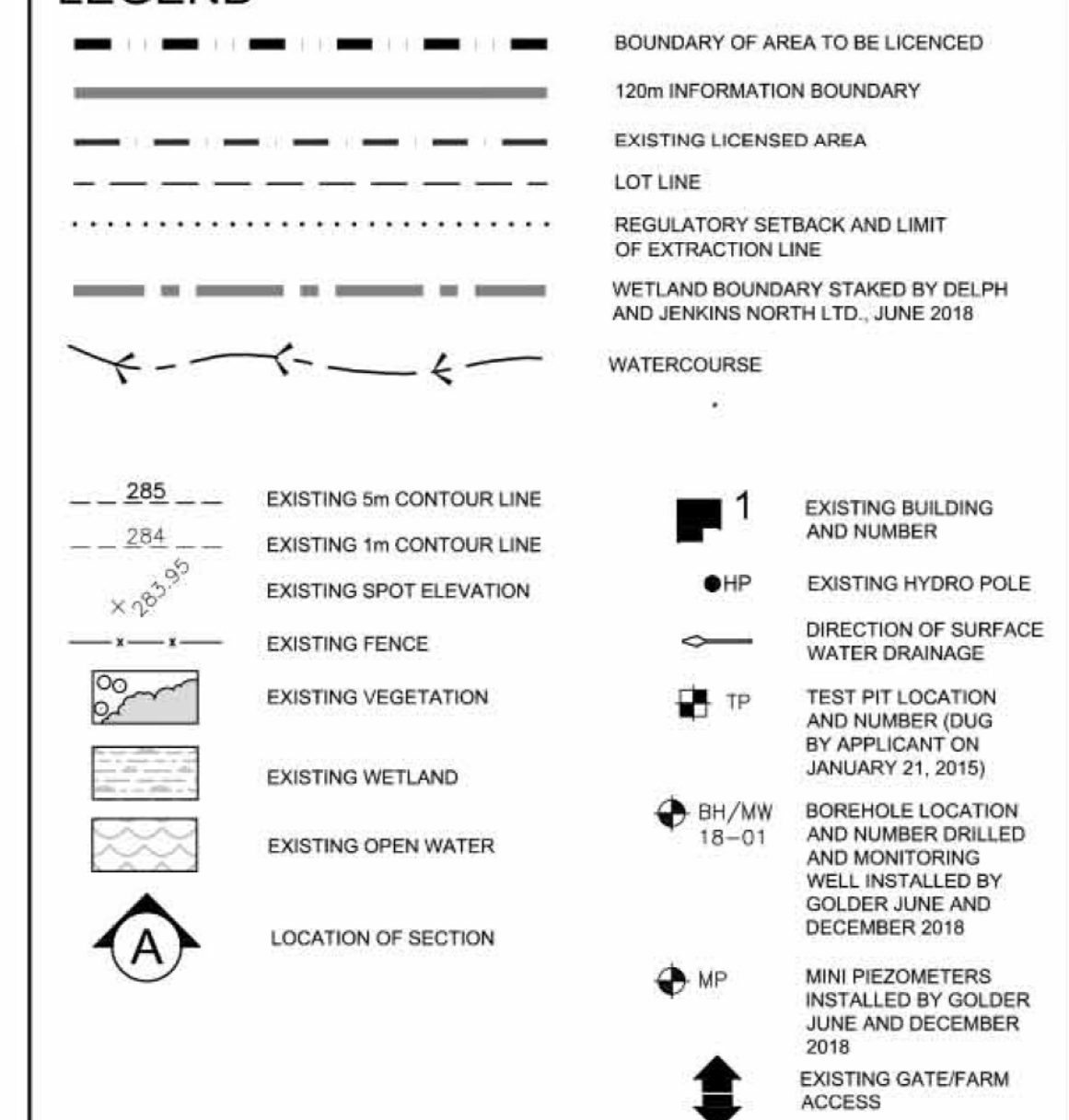
11. HYDROGEOLOGICAL INFORMATION WAS OBTAINED FROM REPORT BY GOLDER DATED JULY 2021 (REFER TO SHEET 2 FOR TECHNICAL RECOMMENDATIONS).
 12. NATURAL ENVIRONMENT INFORMATION WAS OBTAINED FROM REPORT BY GOLDER DATED JULY 2021 (REFER TO SHEET 2 FOR TECHNICAL RECOMMENDATIONS).

13. ARCHAEOLOGICAL INFORMATION WAS OBTAINED FROM REPORT BY GOLDER DATED MARCH 31, 2020 (REFER TO SHEET 2 FOR TECHNICAL RECOMMENDATIONS).
 14. ACoustical INFORMATION WAS OBTAINED FROM NOISE REPORT BY GOLDER DATED JULY 2021 (REFER TO SHEET 2 FOR TECHNICAL RECOMMENDATIONS).

KEY MAP



LEGEND



BUILDING LIST

No.	Description
1.	GARAGE
2.	HOUSE
3.	GARAGE
4.	HOUSE
5.	SHED

No.	Date	Revised/By	Checked/By	Drawn/By
2	DEC 2022	PER NDMNRF COMMENTS		
1	JUNE 2022	PER NDMNRF COMMENTS		

Pre Licence Review | Site Plan Amendments

41 Main Street, Unit 102
 Unionville, Ontario L3R 2E5
 Tel: 905-204-6232 Fax: 905-204-7023
 www.harringtonmcanavan.com

Project Name

CBM Sunderland South Pit Expansion

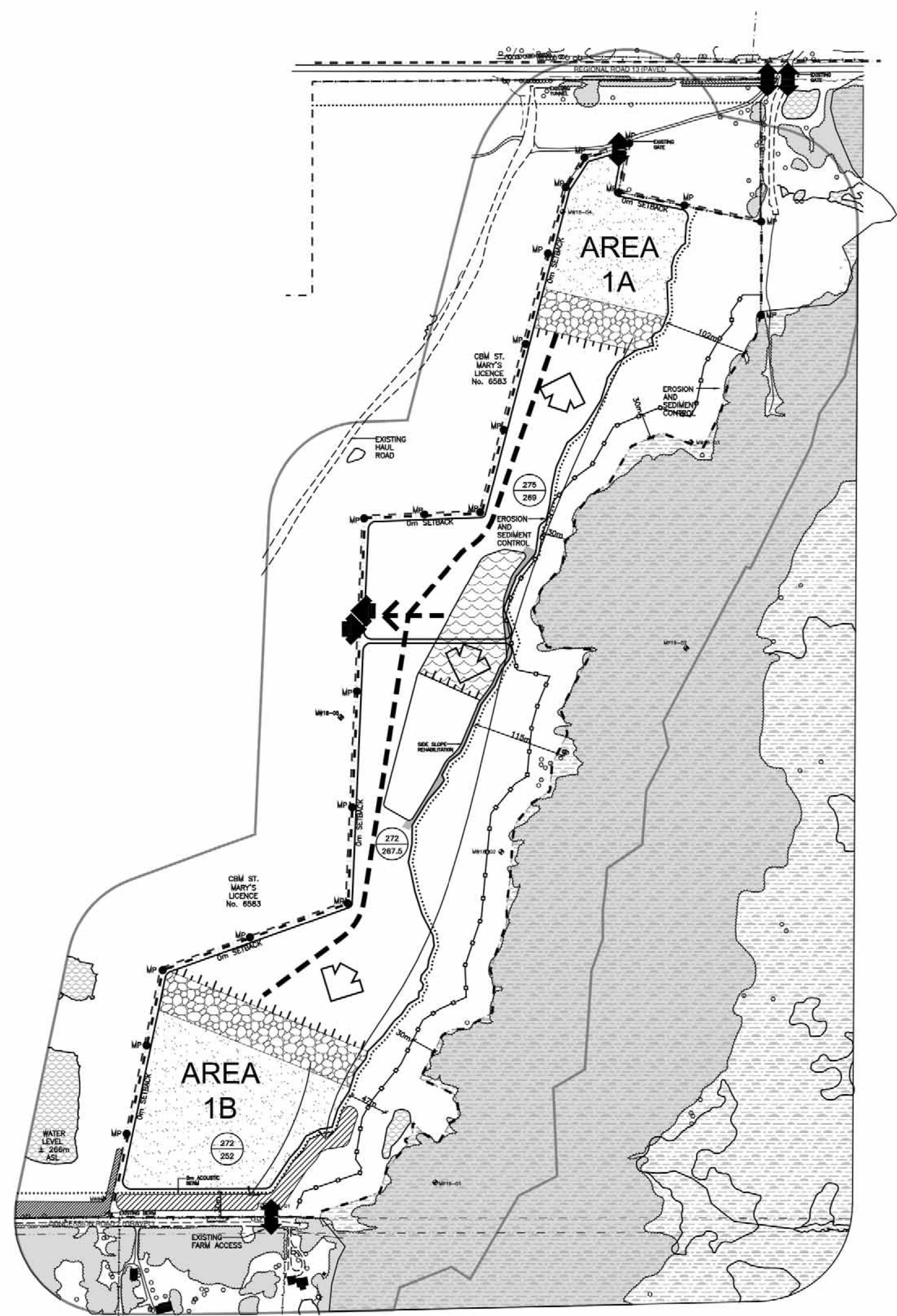
APPLICANT SIGNATURE: _____
 LICENCE No. _____
 PART LOT 7 AND 8, CONCESSION 2
 TOWNSHIP OF BROCK, REGION OF DURHAM

Scale 1:2000 | North | Stamp

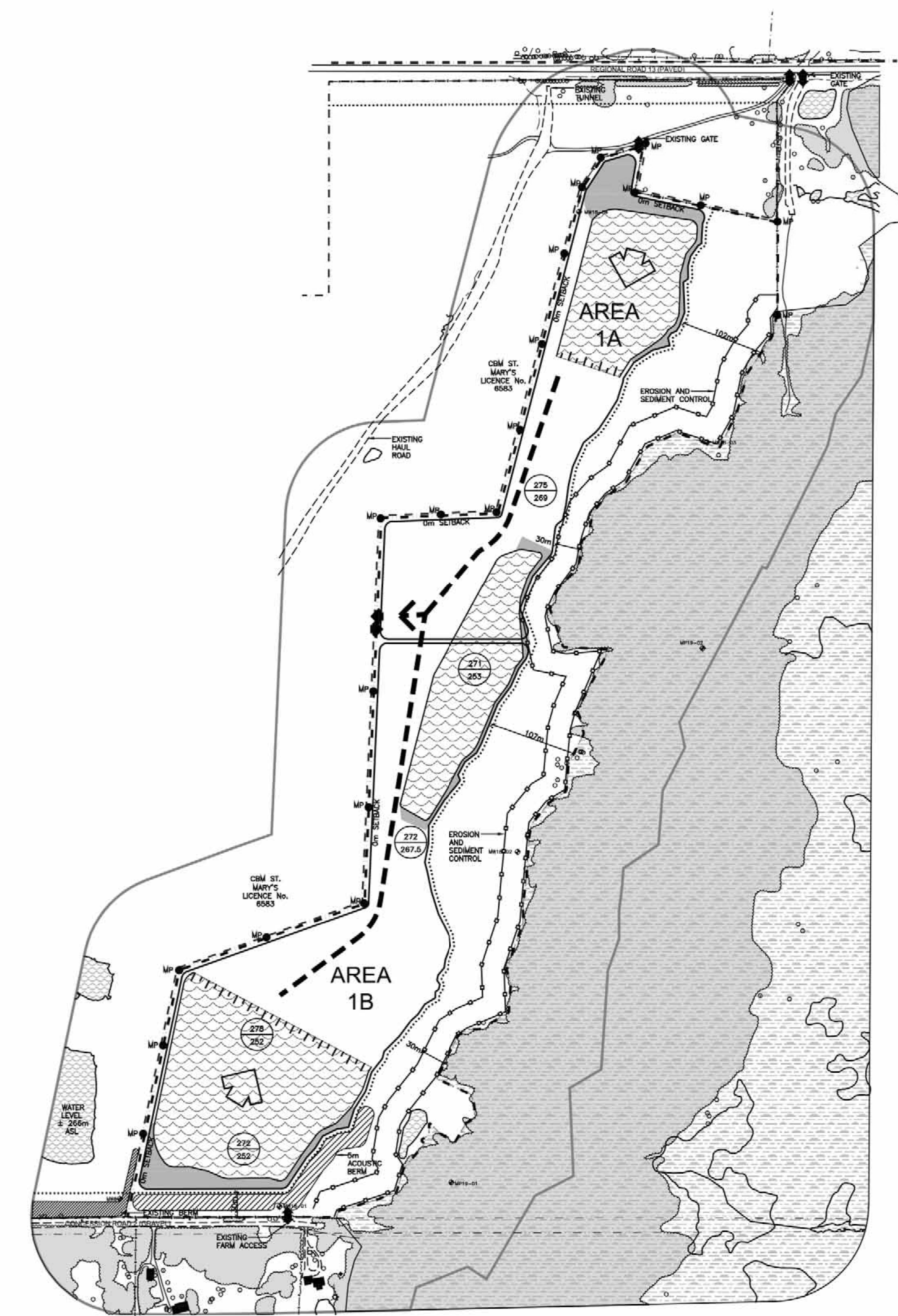
Drawing Status: SUBMITTED FOR NDMNRF APPROVAL

Drawn SB	Checked RM	Issue Date DEC 2022
Drawing Title	Project Number	18-44
EXISTING FEATURES PLAN	Drawing Number	1 OF 4

FILE NAME: 18-44/COMP/7844-1.DWG
 PLOT DATE: 11/19/2022



- ### PHASE B PHASE B NOTES
- CONTINUE PLANTING WHITE PINE TREE SCREEN IN EASTERN SETBACK AND CONTINUE ABOVE WATER EXTRACTION IN DIRECTIONS SHOWN.
 - PRIOR TO BELOW WATER EXTRACTION IN AREA 1A AND 1B, STAKE BELOW WATER LIMITS AND BEGIN PROGRESSIVE REHABILITATION OF EASTERN SLOPES OF CENTRAL POND AREA USING TOPSOIL STRIPPED FROM AREAS 1A AND 1B.
 - PRIOR TO BELOW WATER EXTRACTION IN AREA 1B, INCREASE HEIGHT OF ACOUSTIC BERM TO 5m USING TOPSOIL AND OVERBURDEN STRIPPED FROM AREAS 1A AND 1B.
 - PROGRESSIVE REHABILITATION OF SLOPES IN AREA 1A AND 1B WILL BEGIN ABOVE AND BELOW WATER EXTRACTION IN DIRECTIONS SHOWN. COMMON BOUNDARY SLOPES SHALL BE REHABILITATED AS OPERATIONS ALONG THESE BOUNDARIES CEASE.
 - ABOVE AND BELOW WATER EXTRACTION MAY OCCUR SIMULTANEOUSLY ACCORDING TO MARKET DEMAND AND FOR BLENDING.
 - BELOW WATER EXTRACTION IN DIRECTIONS SHOWN. MATERIAL EXTRACTED FROM BELOW WATER WILL BE PLACED IN WINDROWS ON THE PIT FLOOR TO DRAIN BEFORE BEING TRANSPORTED FOR PROCESSING.
 - UNDISTURBED PORTIONS OF AREAS 1A AND 1B REMAIN AGRICULTURAL USE.
 - MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS GROWING CONDITION.

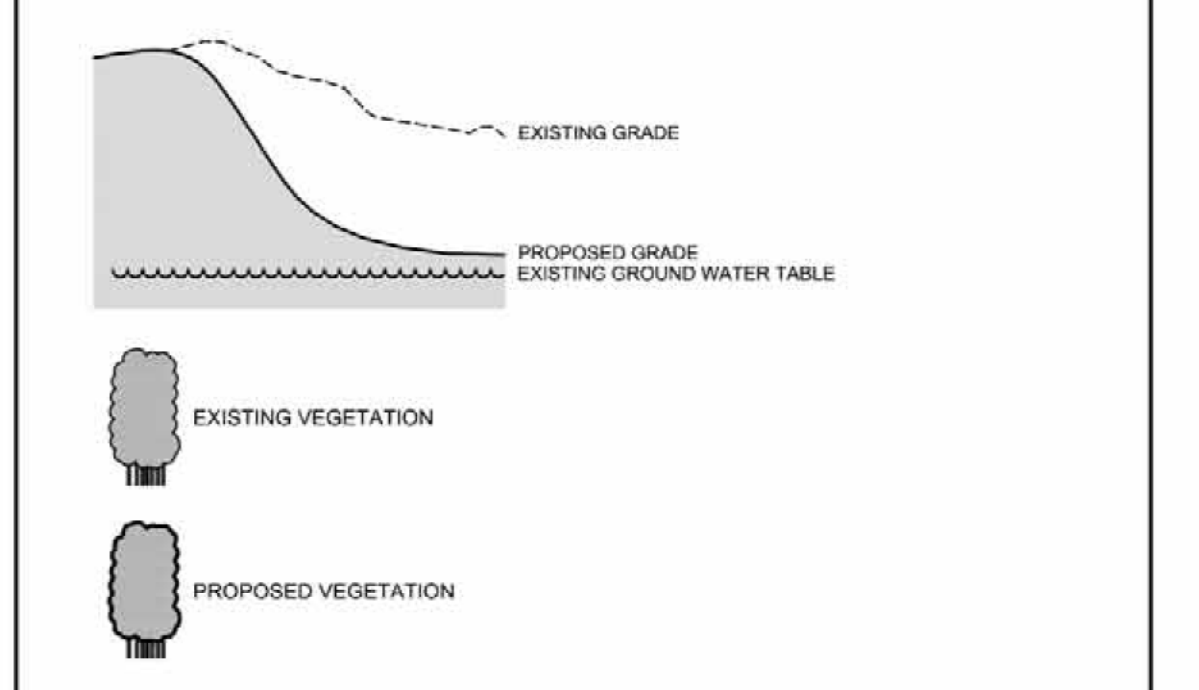


- ### PHASE C PHASE C NOTES
- COMPLETE PLANTING TREE SCREEN IN EASTERN SETBACK AND COMPLETE ABOVE WATER EXTRACTION IN AREAS 1A AND 1B.
 - ABOVE AND BELOW WATER EXTRACTION MAY OCCUR SIMULTANEOUSLY ACCORDING TO MARKET DEMAND AND FOR BLENDING.
 - CONTINUE BELOW WATER EXTRACTION IN AREAS 1A AND 1B. MATERIAL EXTRACTED FROM BELOW WATER WILL BE PLACED IN WINDROWS ON THE PIT FLOOR TO DRAIN BEFORE BEING TRANSPORTED FOR PROCESSING.
 - COMPLETE ALL SLOPE SLOPE REHABILITATION EXCEPT WHERE COMMON BOUNDARY OPERATIONS ARE STILL OCCURRING. BEGIN SHORELINE REHABILITATION OF EASTERN SHORELINE OF NORTH POND AND EAST/SOUTH SHORELINE OF SOUTH POND USING TOPSOIL AND OVERBURDEN STOCKPILED ON THE PIT FLOOR.

- ### PHASE D (NOT SHOWN) PHASE D NOTES
- COMPLETE BELOW WATER EXTRACTION IN AREAS 1A AND 1B.
 - CONTINUE REHABILITATION OF ALL SHORELINES AND SIDE SLOPES USING MATERIAL FROM ACOUSTIC BERM.
 - REMOVE ALL SCRAP AND EQUIPMENT AND COMPLETE REHABILITATION OF AREA 1A AND 1B.
 - COMPLETE REHABILITATION OF ALL REMAINING AREAS INCLUDING ALL INTERNAL HALL ROADS USING STOCKPILED TOPSOIL AND OVERBURDEN AND MATERIAL FROM REMAINING BERM.
 - RETURN SITE TO NATURAL AREAS.

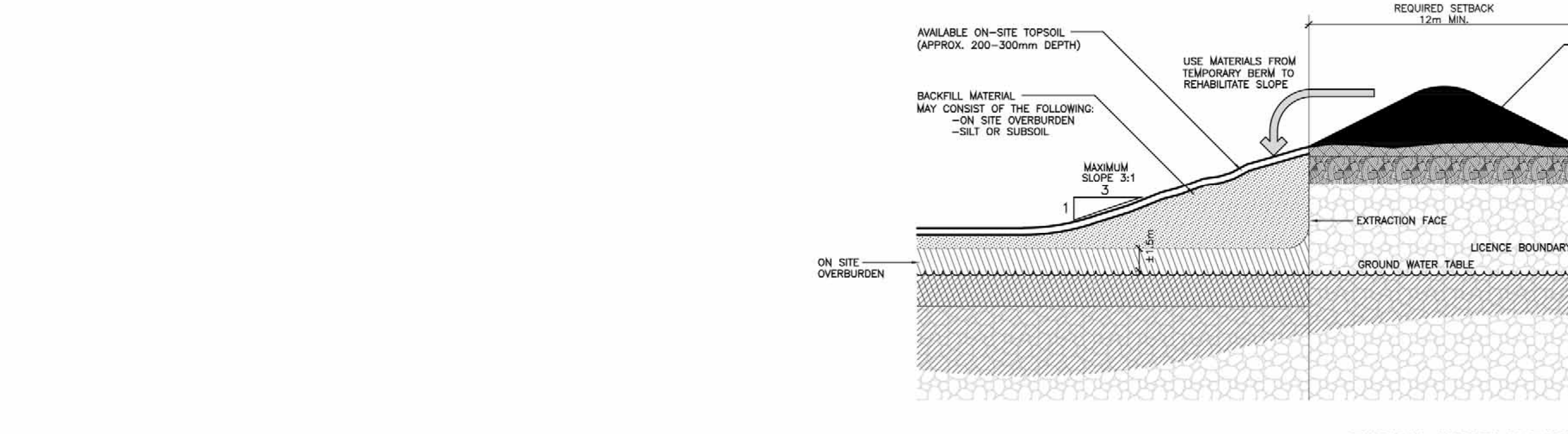
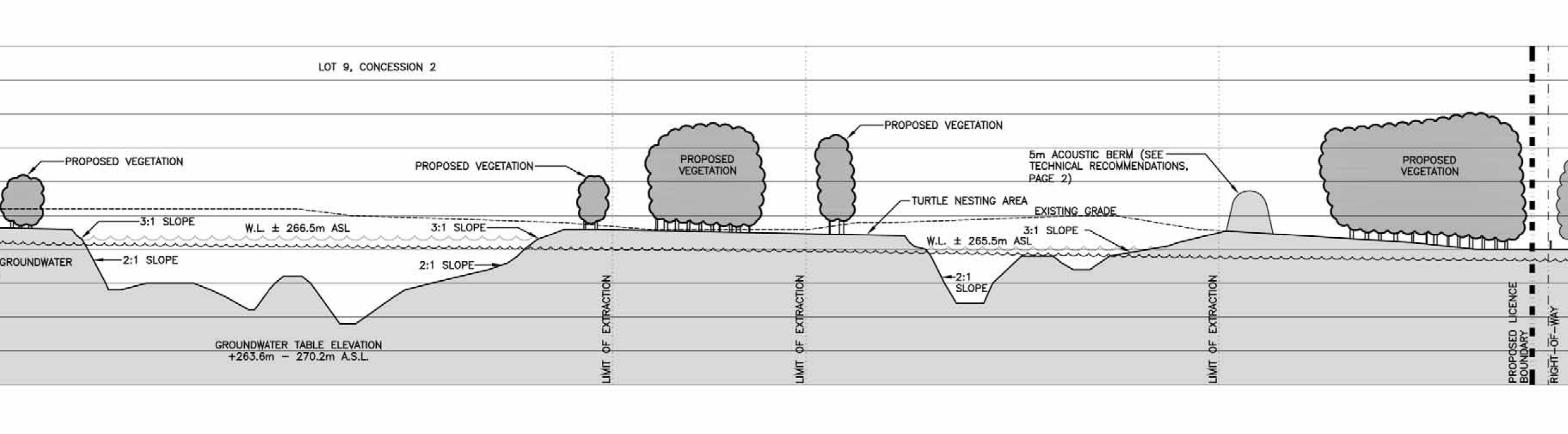
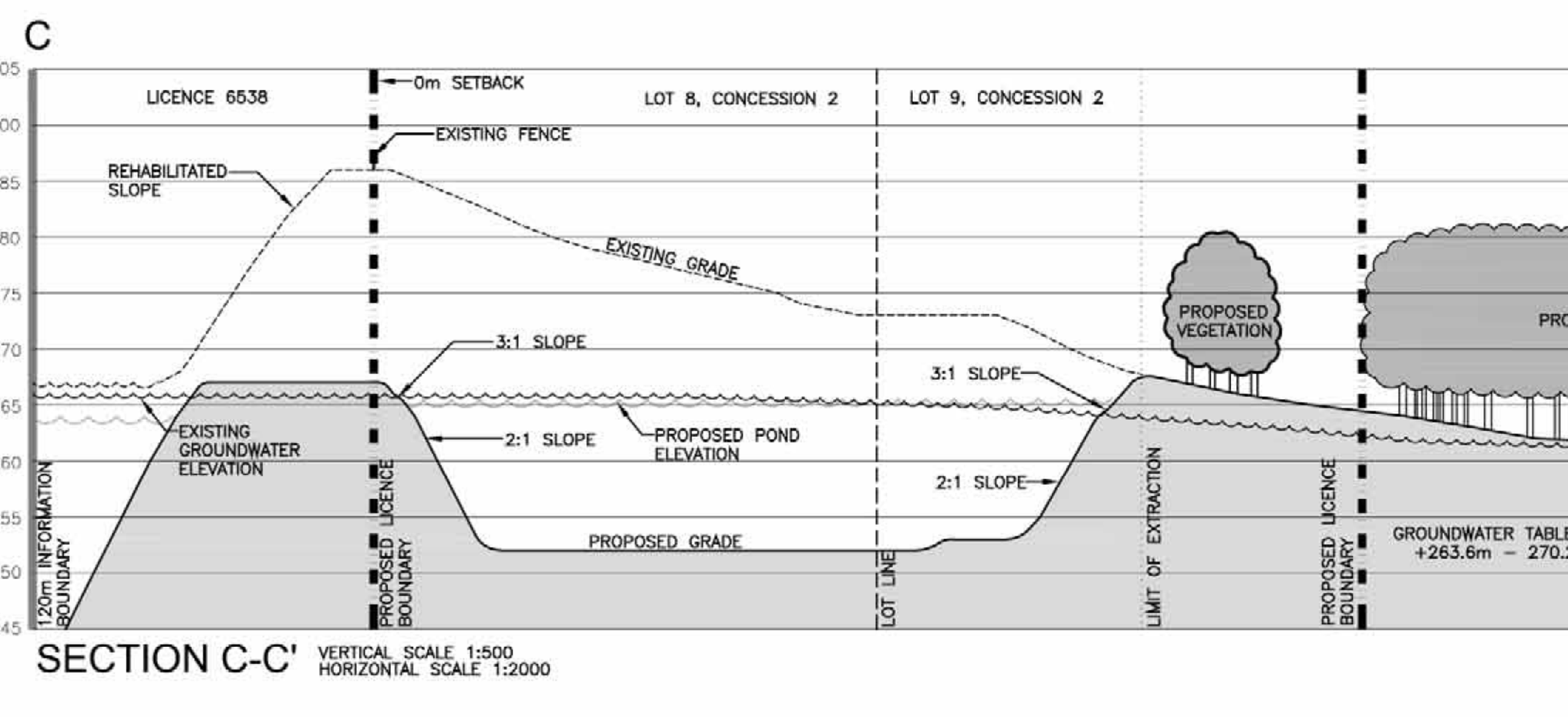
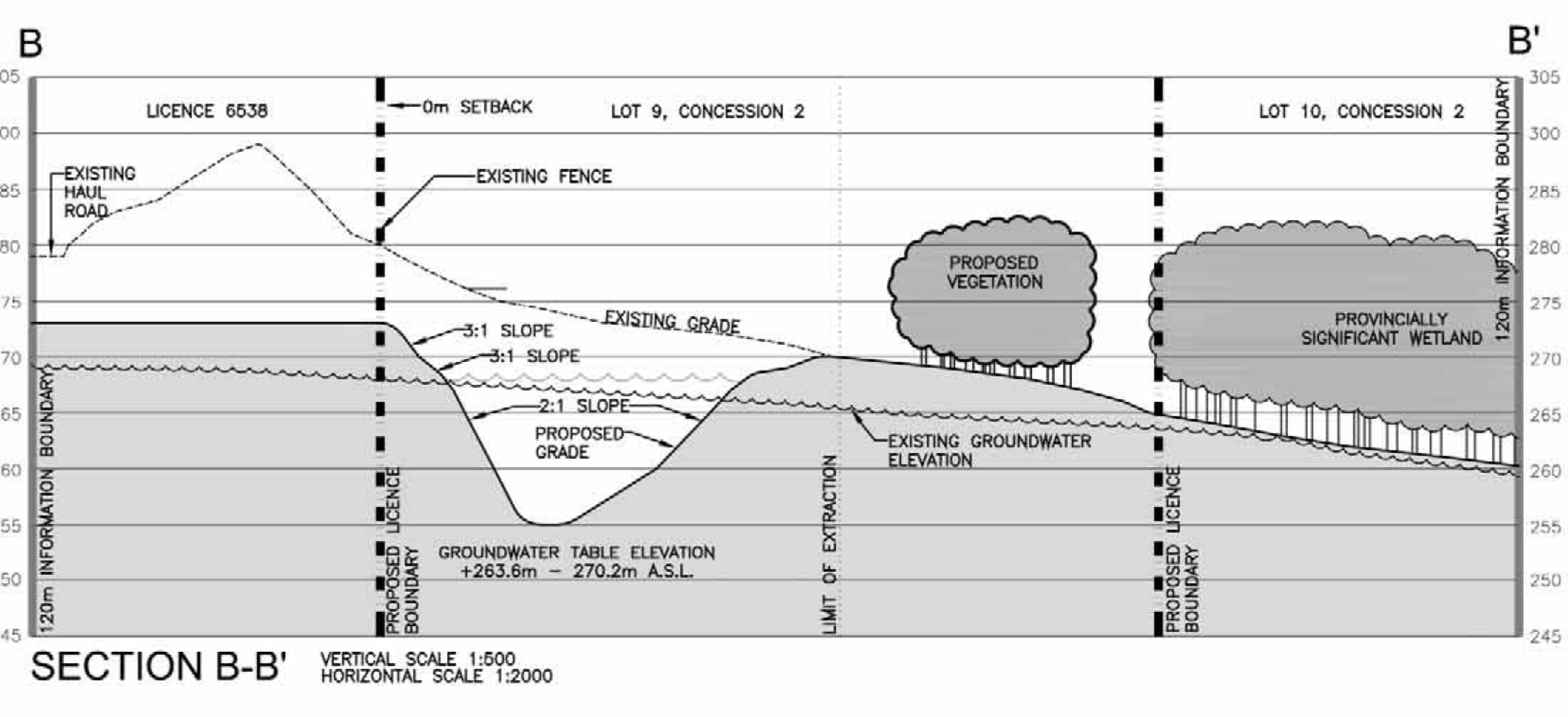
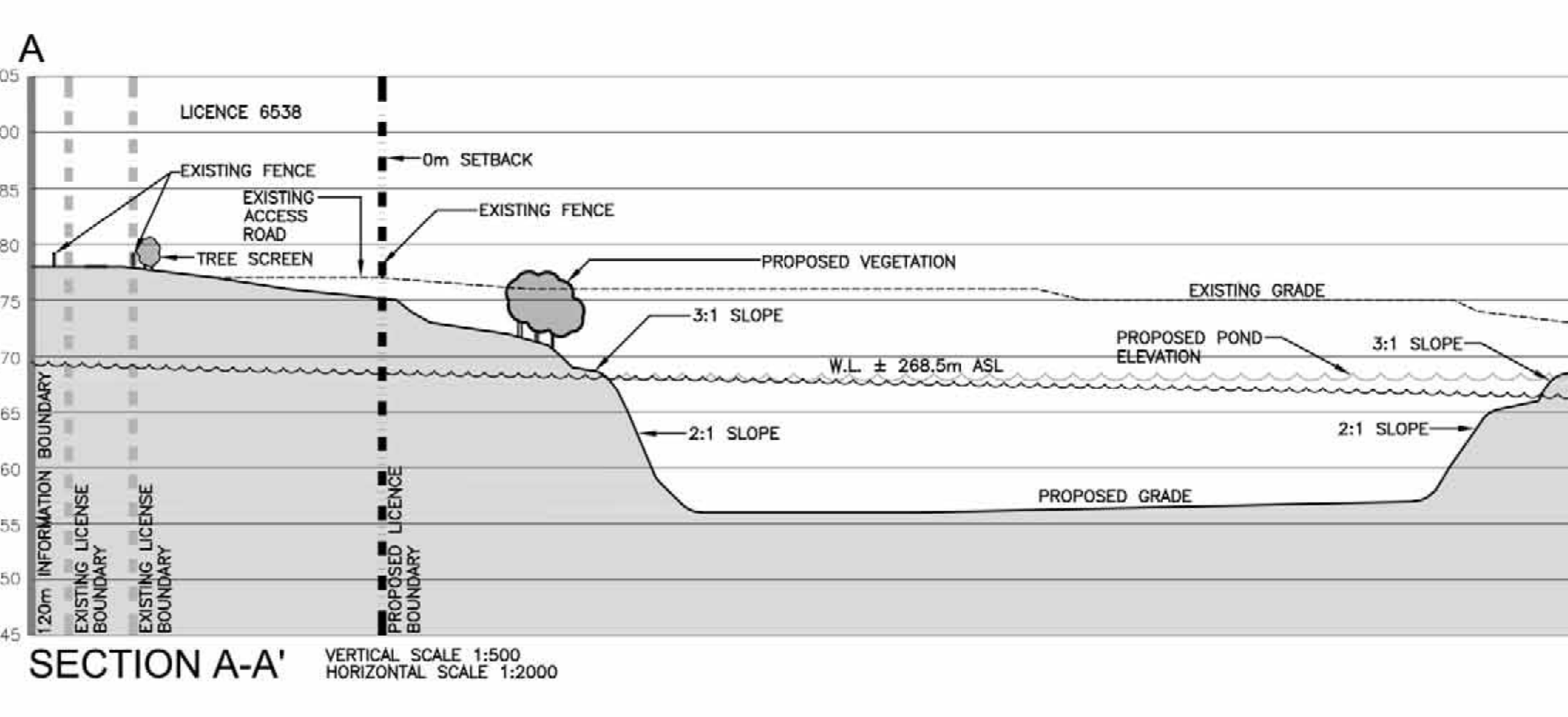
LEGEND

	BOUNDARY OF AREA TO BE LICENCED		120m INFORMATION BOUNDARY
	EXISTING LICENCED AREA		LOT LINE
	REGULATORY SETBACK AND LIMIT OF EXTRACTION LINE		EXISTING BUILDING
	WATERCOURSE		EXISTING HYDRO HOLE
	EXISTING FENCE		EXISTING GATE/FARM ACCESS
	EXISTING VEGETATION		BOREHOLE LOCATION AND NUMBER DRILLED AND MONITORING WELLS INSTALLED BY GOLDER
	EXISTING WETLAND		MINI PIEZOMETERS INSTALLED BY GOLDER
	AREA STRIPPED OF TOPSOIL AND OVERBURDEN		ENTRANCE EXIT
	BELOW WATER EXTRACTION		DIRECTION OF EXTRACTION
	PROGRESSIVE REHABILITATION		DIRECTION OF TOPSOIL AND OVERBURDEN MOVEMENT
	EXTRACTION FACE		PRODUCT TRANSPORTATION VIA HAUL ROAD
	BERM (MIN. HEIGHT AS SHOWN)		LOCATION OF NOISE RECEPTOR
	UNDISTURBED AREA		EXISTING ELEVATION
	SILT EXCLUSION FENCE		PROPOSED ELEVATION
	PROPOSED MARKER POST		



SECTION NOTES GENERAL INFORMATION

- SECTION LINES ARE INDICATED ON DRAWINGS 1, 2 AND 4.



5 DEC 2022	PER NOMNRF COMMENTS				
2 JUNE 2022	PER NOMNRF COMMENTS				
1 NOV 2021	PER PUBLIC AND NOMNRF COMMENTS				

Pre Licence Review Site Plan Amendments

Harrington M. Avon Ltd.
41 Main Street, Unit 102
Unionville, Ontario L3R 2E5
Tel: 905-204-8252 Fax: 905-204-7623
www.harringtonmavon.com

Project Name
St. Marys Cement Inc. (Canada)
55 Industrial Street
Toronto, Ontario
M4G 3W9
(416) 423-1300

ST MARYS
CBM Sunderland South Pit Expansion

APPLICANT SIGNATURE:
LICENCE No.
PART LOT 7 AND 8, CONCESSION 2
TOWNSHIP OF BROCK, REGION OF DURHAM

Scale 1:4000 North

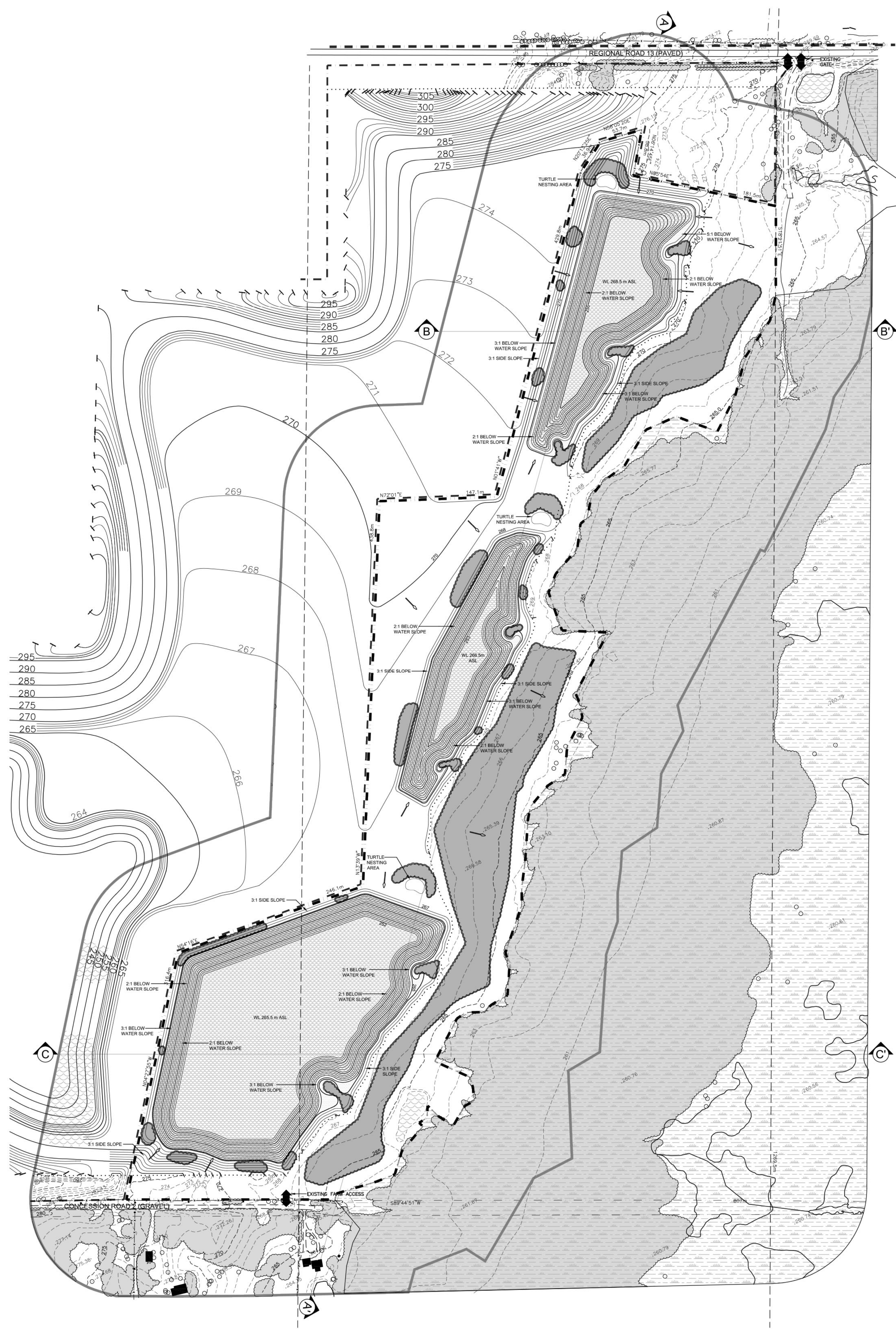
Drawing Status SUBMITTED FOR NOMNRF APPROVAL

Drawn SB Checked RM Issue Date DEC 2022

Drawing Title OPERATIONAL PLAN PHASES B-D, AND SECTIONS

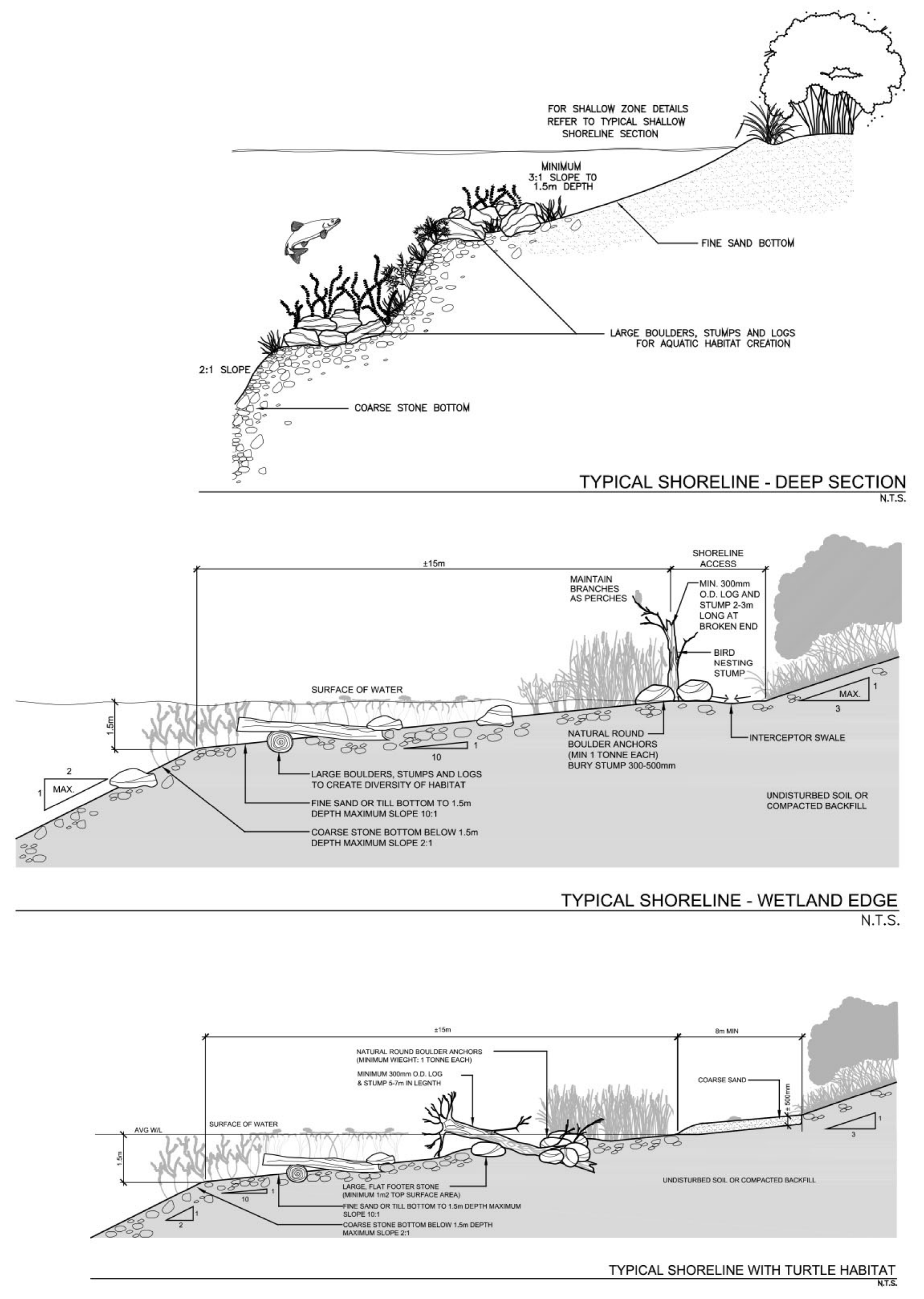
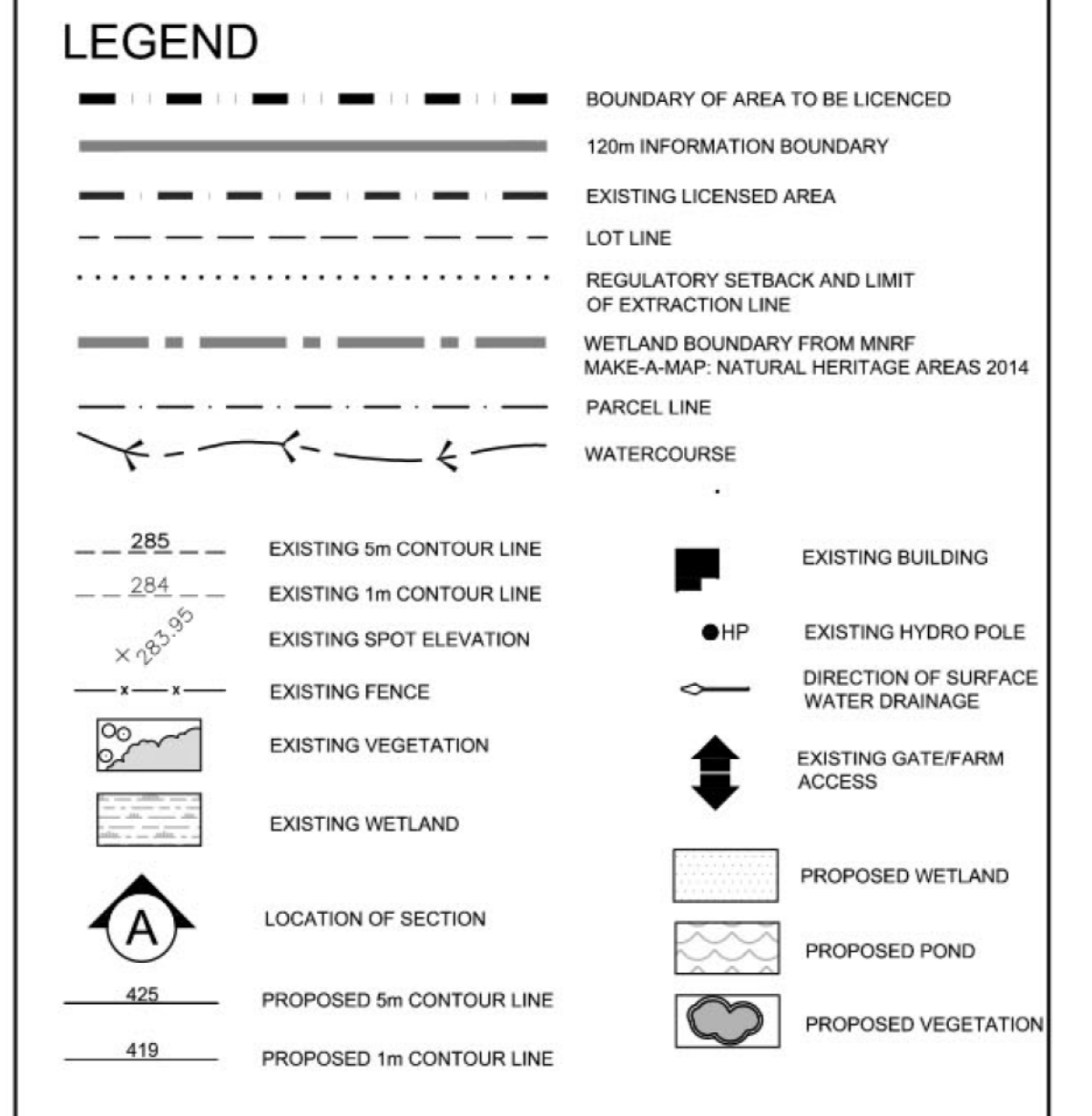
Project Number 18-44

Drawing Number 3 OF 4



REHABILITATION NOTES

- GENERAL INFORMATION**
1. REFER TO SHEET 3 OF 4 FOR SECTIONS, SHEET 2 AND 3 OF 4 FOR OPERATIONS AND PHASING DIAGRAMS AND NOTES AND SHEET 4 OF 4 FOR FINAL REHABILITATION AND NOTES.
2. PROPERTY SHALL BE REHABILITATED TO:
- | | |
|-----------------|-----------------|
| OPEN WATER POND | 13.80 HA |
| WETLAND | 0.84 HA |
| MEADOW | 7.84 HA |
| REFORESTATION | 1.10 HA |
| TOTAL | 23.58 HA |
- REFORESTATION OUTSIDE THE EXTRACTION AREA: 6.30 HA
- HYDROGEOLOGICAL INFORMATION**
3. IT IS ANTICIPATED THAT THE GROUNDWATER ELEVATION SLOPES ACROSS THE SITE AND WILL REMAIN RELATIVELY UNCHANGED AT 270 TO 285m A.S.L. (REFER TO HYDROGEOLOGICAL REPORT).
4. ALL SURFACE DRAINAGE WILL BE DIRECTED TO THE PONDS. THERE WILL BE NO SURFACE DRAINAGE OFF SITE.
- SLOPE/MEADOW REHABILITATION INFORMATION**
- GRADING INFORMATION**
5. REHABILITATED SLOPES WITHIN THE LICENCED AREA WILL BE CONSTRUCTED AS SHOWN ON THE CROSS SECTIONS. REHABILITATION OF ABOVE WATER SLOPES SHALL BE BY BACKFILLING MINIMUM 31 AND CUT AND FILL METHOD USING AVAILABLE ON-SITE OVERBURDEN AND TOPSOIL FROM WITHIN THE LICENCED AREA. BELOW WATER SLOPES SHALL BE FORMED USING AVAILABLE ON-SITE OVERBURDEN AND TOPSOIL ONLY.
- AVAILABLE OVERBURDEN REPLACED WILL BE APPROXIMATELY 200mm THICK.
- REFER TO DRAWING 3 OF 4, SECTIONS, FOR MORE INFORMATION ON BACKFILLING AND CREATION OF REHABILITATED SLOPES.
- TOPSOIL INFORMATION**
6. ALL AVAILABLE TOPSOIL ON THE SITE WILL REMAIN TO BE USED FOR REHABILITATION OF THIS SITE. AVAILABLE TOPSOIL REPLACED WILL BE APPROXIMATELY 200-300mm THICK.
- VEGETATION INFORMATION**
7. TOPSOIL SHALL BE SEEDED WITH A LOCALLY AVAILABLE NATIVE, NON-INVASIVE SEED MIX THAT INCLUDES MAINTENANCE AND A NATIVE COVER CROP, BOTH AT RATES OF 300g/m².
- OPEN WATER POND REHABILITATION INFORMATION**
8. THE AVERAGE WATER LEVEL IN THE POST-EXTRACTION PONDS IS ESTIMATED TO BE 285.5m, 286.5m, AND 285.5 m A.S.L. (BASED ON GOLDER REPORT, JULY 2021).
9. THE SHAPE AND GRADING OF THE PROPOSED POND IS APPROXIMATE, BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF LICENSING. ACTUAL EXTRACTION WILL FOLLOW THE BELOW WATER SUPPORT AND REHABILITATION SHALL FOLLOW THE CONCEPT ILLUSTRATED.
- WETLAND REHABILITATION INFORMATION**
10. AREAS SHALL BE REHABILITATED TO WETLAND HABITAT AS FOLLOWS:
- UNDERWATER SLOPES WILL BE FORMED WITH ON-SITE FILL
 - UNDERWATER SLOPES SHALL BE A MAXIMUM OF 2:1
11. RESTORATION OF THE NEARSHORE, SHALLOW WETLAND ZONE AS SHOWN ON THE TYPICAL SHALLOW SHORELINE SECTION, SHEET 3 OF 4 WILL GENERALLY BE ACCOMPLISHED AS FOLLOWS:
- EXTRACTION AND ROUGH GRADING WILL CREATE A NEARSHORE SHORELINE AREA AT A SLOPE OF 10:1
 - FINAL SLOPING OF THE SHORELINE TO CREATE PHYSICAL DIVERSITY BY SCALLOPING THE SHORELINE AND ADDING STRUCTURES.
 - WOODY DEBRIS BRANCHES, TREE TRUNKS, STUMPS, ETC. CLIPPED IN THE EXTRACTION PROCESS WILL BE SALVAGED WHERE POSSIBLE FOR USE IN SHORELINE RESTORATION AND HABITAT ENHANCEMENT/UNDERWATER HABITAT ENHANCEMENT.
 - STUMPS, LOGS, BRUSH BUNDLES, ETC. SHALL BE INSTALLED 150m O.C. ALONG THE SHORELINE IN THE SHALLOW ZONE TO CREATE PHYSICAL DIVERSITY.
 - OVERSIZE ROCKS NOT UTILIZED IN THE AGGREGATE OPERATIONS WILL ALSO BE PLACED IN THE SHALLOW ZONE TO CREATE PHYSICAL DIVERSITY.
 - THE INITIAL SHORELINE RESTORATION AREA WILL BE SPORADICALLY PLANTED WITH **LOCALLY NATIVE, NON-INVASIVE** TREES AND SHRUBS WHICH MAY INCLUDE: RED OBER DOGWOOD AND SLENDER WILLOW.
12. INITIAL SHORELINE WETLAND AREAS SHALL BE PLANTED WITH CLUMPS OF EMERGENT AND SUBMERGENT NATIVE WETLAND PLANTS IN CLUSTERS OF 4 AT APPROPRIATE DEPTHS TO INITIATE COLONIZATION OF THE SITE AS NUTRIENT LEVELS INCREASE TO SUPPORT THEM **LOCALLY NATIVE, NON-INVASIVE** SPECIES MAY INCLUDE:
- | | | |
|----------------|------------------|----------------|
| LAKE SEDGE | SWAMP MILKWEED | COMMON CATTAIL |
| WATER PLANTAIN | SOFTSTEM BULRUSH | |
- REFORESTATION REHABILITATION INFORMATION**
13. MONITORING, TENDING AND REPLANTING SHALL OCCUR AS REQUIRED TO ENSURE ALL VEGETATION PLANTED DURING THE LICENSE WILL BE MAINTAINED IN A HEALTHY, PROGRESSIVE GROWING CONDITION.
14. UPLAND AREAS SHALL BE REFORESTED, WHERE SHOWN **LOCALLY NATIVE, NON-INVASIVE** SPECIES MAY INCLUDE:
- | | | |
|--------------|--------------------|----------------------------|
| WHITE PINE | BALSAMIC | WHITE BIRCH |
| WHITE SPRUCE | TREMBLING ASPEN | ALTERNATIVE-LEAVED DOGWOOD |
| CHOKE CHERRY | HIGHBUSH CRANBERRY | SERVICEBERRY |
| NANNYBERRY | | |
15. LOWLAND AREAS ALONG THE EASTERN REHABILITATION AREA AND SETBACK SHALL BE REFORESTED, WHERE SHOWN:
- | | | |
|-----------------|-----------------|--------------|
| WHITE CEDAR | EASTERN HEMLOCK | RED MAPLE |
| TREMBLING ASPEN | AMERICAN ELM | CHOKE CHERRY |
| NANNYBERRY | GREY DOGWOOD | |
| SLIVERBERRY | | |



2 DEC 2022	PER MNRNF COMMENTS		
1 JUNE 2022	PER MNRNF COMMENTS		
REV	REVISIONS	CHG'D BY	DATE

Pre Licence Review: Site Plan Amendments

Harrington M. Avan Ltd
41 Main Street, Unit 102
Uxbridge, Ontario L3R 2E8
Tel: 905-294-8282 Fax: 905-294-7023
www.harringtonmavan.com

Project Name

St. Marys Cement Inc. (Canada)
55 Industrial Street
Toronto, Ontario
M4C 3W9
(416) 423-1300

CBM Sunderland South Pit Expansion

APPLICANT SIGNATURE: _____

LICENCE No. _____
PART LOT 7 AND 8, CONCESSION 2
TOWNSHIP OF BROCK, REGION OF DURHAM

Scale: 1:2000 North

Drawing Status: SUBMITTED FOR APPROVAL

Drawn: SB Checked: RM Issue Date: DEC 2022

Drawing Title: **REHABILITATION PLAN**

Project Number: 18-44
Drawing Number: 4 OF 4

Stamp:

FILE NAME: 18-44/CBM/SUL/SK4-EXP.DWG
PLOT DATE: 18-DEC-2022 10:30:15 AM