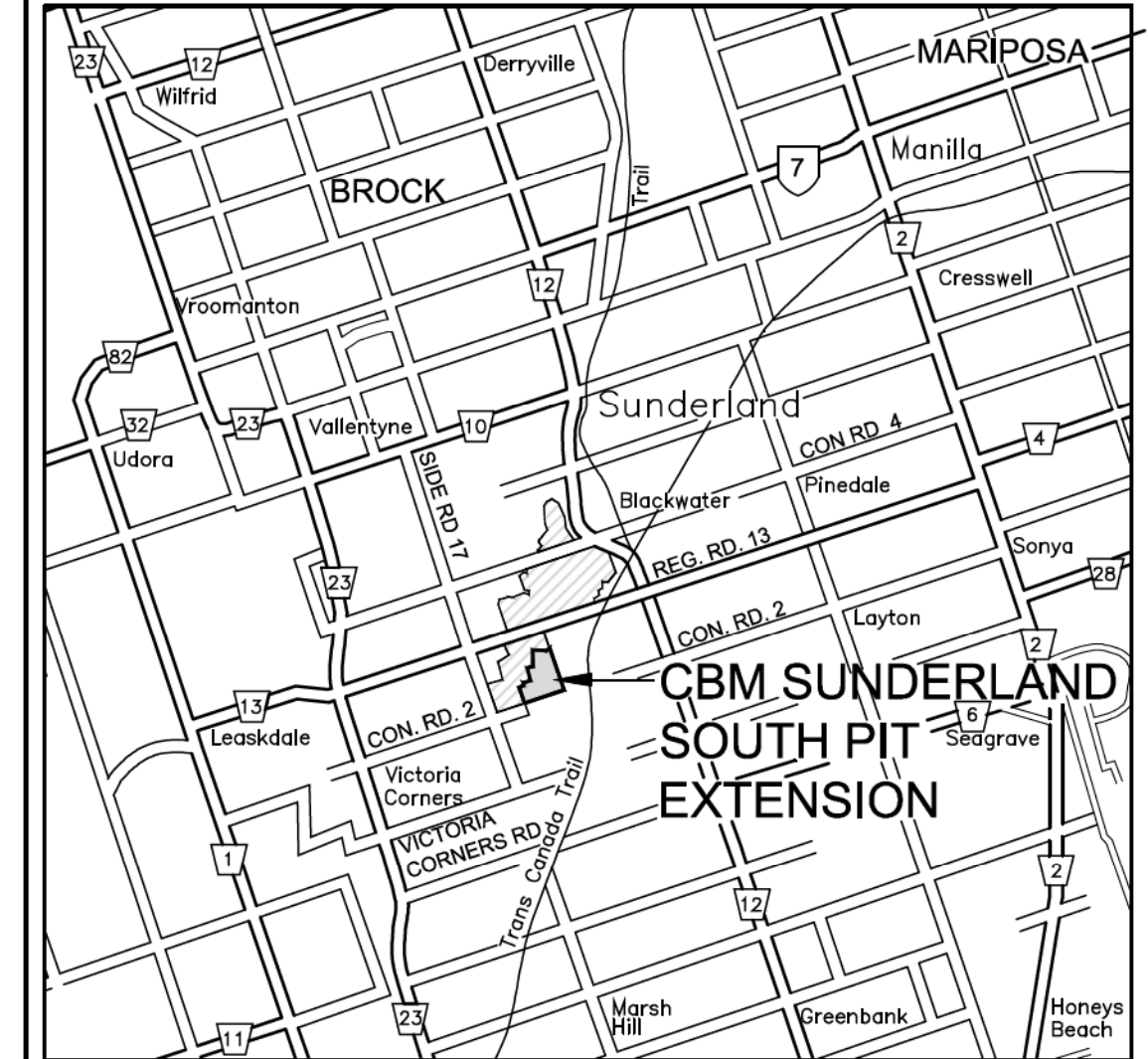


EXISTING FEATURES NOTES

- 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, PTF BELOW THE WATER TABLE.
 4. APPLICANT: ST. MARYS CEMENT INC. (CANADA) 55 INDUSTRIAL STREET TORONTO, ONTARIO M4G 3W9
 5. TOTAL AREA TO BE LICENCED: 38.2 ha
TOTAL AREA TO BE EXTRACTED: 22.4 ha
TOTAL AREA TO BE REHABILITATED: 22.4 ha
- BASE INFORMATION**
6. TOPOGRAPHIC INFORMATION FOR LOT 8 & CONCESSION 2 WAS OBTAINED FROM FIRST BASE SOLUTIONS, APRIL 25, 2019. ALL ELEVATIONS ARE GEODETIC AND ABOVE SEA LEVEL (ASL).
 7. ZONING INFORMATION OBTAINED FROM SCHEDULE A, TOWNSHIP OF BROCK ZONING BY-LAW NO. 279-78(P), 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).
 8. HYDROGEOLOGICAL INFORMATION INCLUDING GROUNDWATER ELEVATION WAS OBTAINED FROM REPORT BY GOLDER DATED JULY 2021.
 9. THE GROUNDWATER ELEVATION VALUES ACROSS THE SITE AND RANGES FROM 270-293m ABOVE SEA LEVEL (A.S.L.) BASED ON GOLDER REPORT.
 10. SOURCE WATER PROTECTION POLICIES DO NOT APPLY TO THIS SITE (REFER TO HYDROGEOLOGICAL REPORT).
- 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. ACQUISITION INFORMATION WAS OBTAINED FROM REPORT BY GOLDER DATED JULY 2021 (REFER TO SHEET 2 FOR TECHNICAL RECOMMENDATIONS).

KEY MAP



LEGEND

- 120m INFORMATION BOUNDARY
- - - - EXISTING LICENCED AREA
- LOT LINE
- - - - REGULATORY SETBACK AND LIMIT OF EXTRACTION LINE
- - - - WETLAND BOUNDARY STAKED BY DELPHI AND JENKINS NORTH LTD., JUNE 2018
- WATERCOURSE
- 285 --- EXISTING 5m CONTOUR LINE
- 284 --- EXISTING 1m CONTOUR LINE
- EXISTING SPOT ELEVATION
- EXISTING FENCE
- EXISTING VEGETATION
- EXISTING WETLAND
- EXISTING OPEN WATER
- LOCATION OF SECTION
- 1 --- EXISTING BUILDING AND NUMBER
- HP --- EXISTING HYDRO POLE
- DIRECTION OF SURFACE WATER DRAINAGE
- TP --- TEST PIT LOCATION AND NUMBER (DUG BY APPLICANT ON JANUARY 21, 2019)
- B1/M1 --- BOREHOLE LOCATION AND NUMBER DRILLED AND MONITORING WELL INSTALLED BY GOLDER JUNE AND DECEMBER 2018
- MP --- MINI REZOMETERS INSTALLED BY GOLDER JUNE AND DECEMBER 2018
- EXISTING GATE/FARM ACCESS

BUILDING LIST

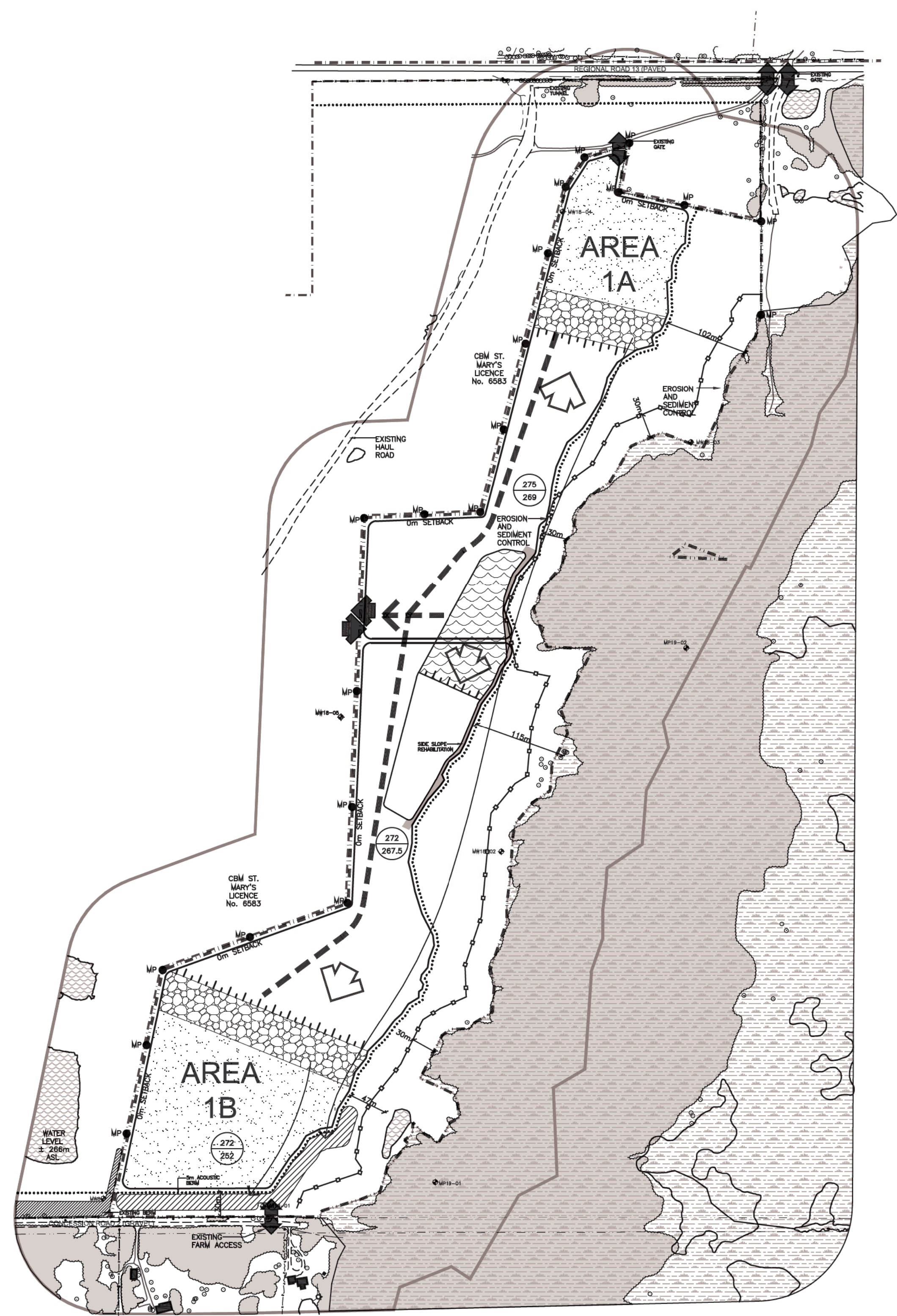
No.	Description
1.	GARAGE
2.	HOUSE
3.	GARAGE
4.	HOUSE
5.	SHED

No.	Date	Author	Checked	Scale
1	JUNE PER NDMNRF 2022			

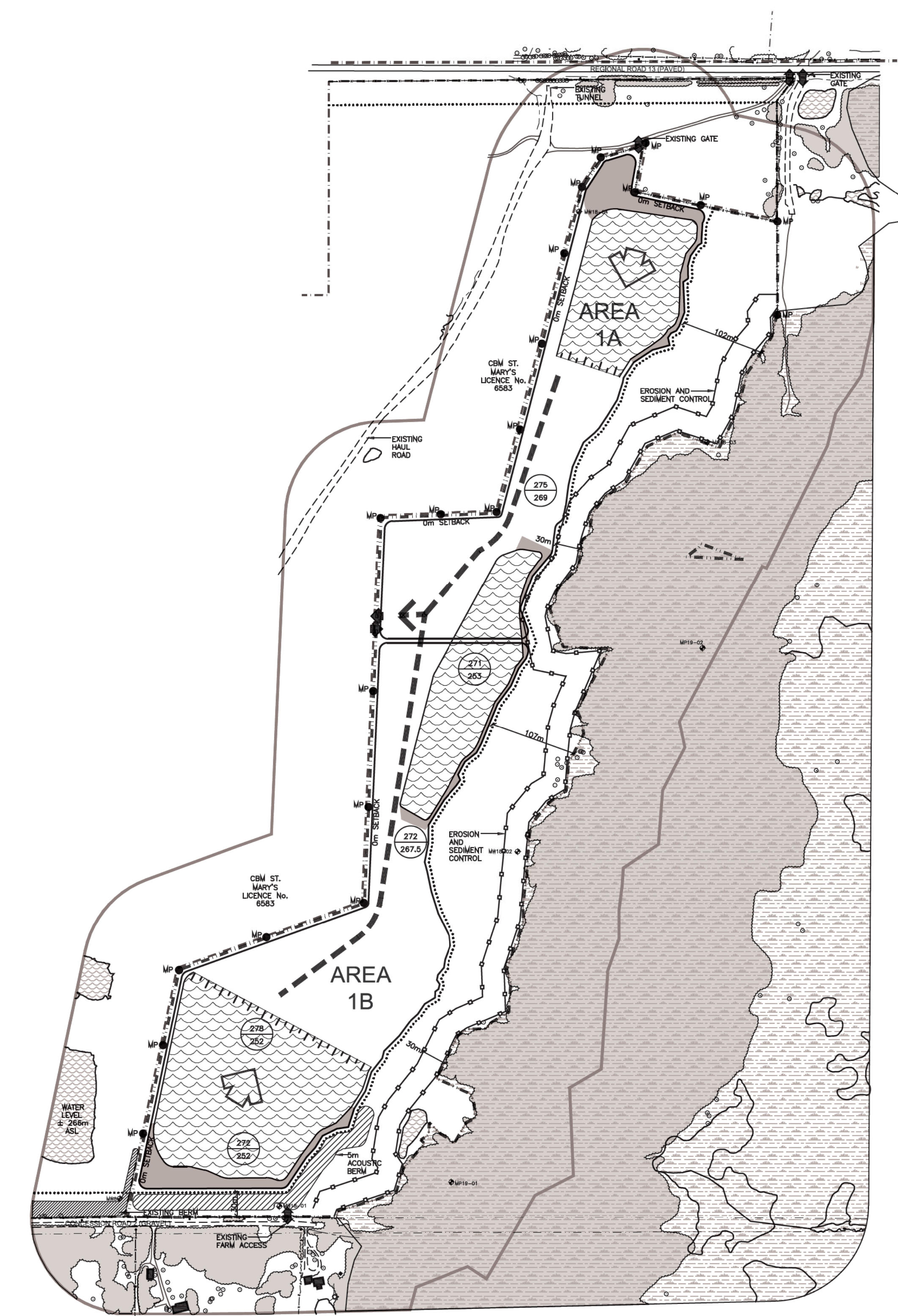
Harrington M. Avon Ltd.
 41 Main Street, Unit 102
 Unionville, Ontario L3R 2E5
 Tel: 905-504-6232 Fax: 905-504-7623
 www.harringtonmavon.com

Project Name
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 1:2000	North	Stamp
0 10 20 30m		
Drawing Status SUBMITTED FOR NDMNRF APPROVAL	Drawn SB	Checked RM
Drawing Title EXISTING FEATURES PLAN	Project Number 18-44	Issue Date JULY 2022
	Drawing Number 1	Page 4



- ### PHASE B PHASE B NOTES
1. CONTINUE PLANTING WHITE PINE TREE SCREEN IN EASTERN SETBACK AND CONTINUE ABOVE WATER EXTRACTION IN DIRECTIONS SHOWN.
 2. PRIOR TO BELOW WATER EXTRACTION IN AREA 1A AND 1B, STAKE BELOW WATER LIMITS AND COMPLETE REHABILITATION OF EASTERN SLOPE OF CENTRAL POND AREA USING TOPSOIL, STRIPPED FROM AREAS 1A AND 1B. PRIOR TO BELOW WATER EXTRACTION IN AREA 1B, INCREASE HEIGHT OF ACROUSTIC BERM TO 3m USING TOPSOIL AND OVERBURDEN STRIPPED FROM AREA 1A AND 1B. ABOVE AND BELOW WATER EXTRACTION MAY OCCUR SIMULTANEOUSLY ACCORDING TO MARKET DEMAND AND FOR BLENDING.
 3. BEGIN 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.
 4. UNDISTURBED PORTIONS OF AREAS 1A AND 1B REMAIN IN AGRICULTURAL USE.
 5. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS GROWING CONDITION.

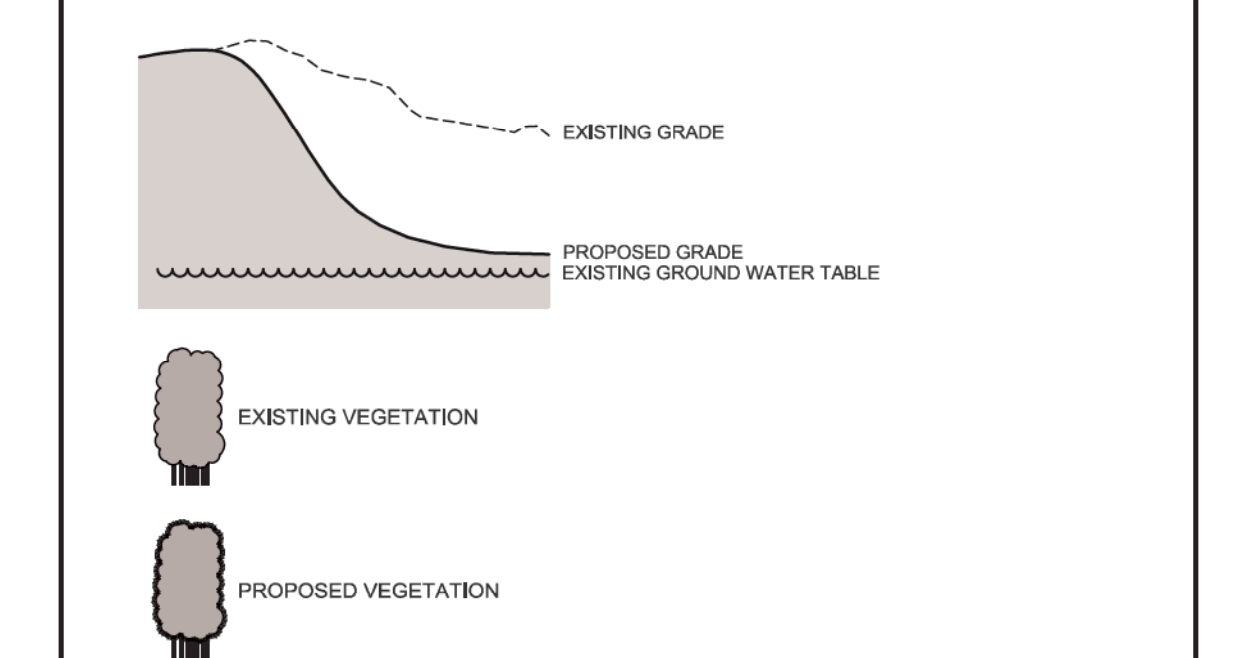


- ### PHASE C PHASE C NOTES
1. COMPLETE PLANTING TREE SCREEN IN EASTERN SETBACK AND COMPLETE ABOVE WATER EXTRACTION IN AREAS 1A AND 1B. ABOVE AND BELOW WATER EXTRACTION MAY OCCUR SIMULTANEOUSLY ACCORDING TO MARKET DEMAND AND FOR BLENDING.
 2. CONTINUE BELOW WATER EXTRACTION IN AREAS 1A AND 1B. MATERIAL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

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

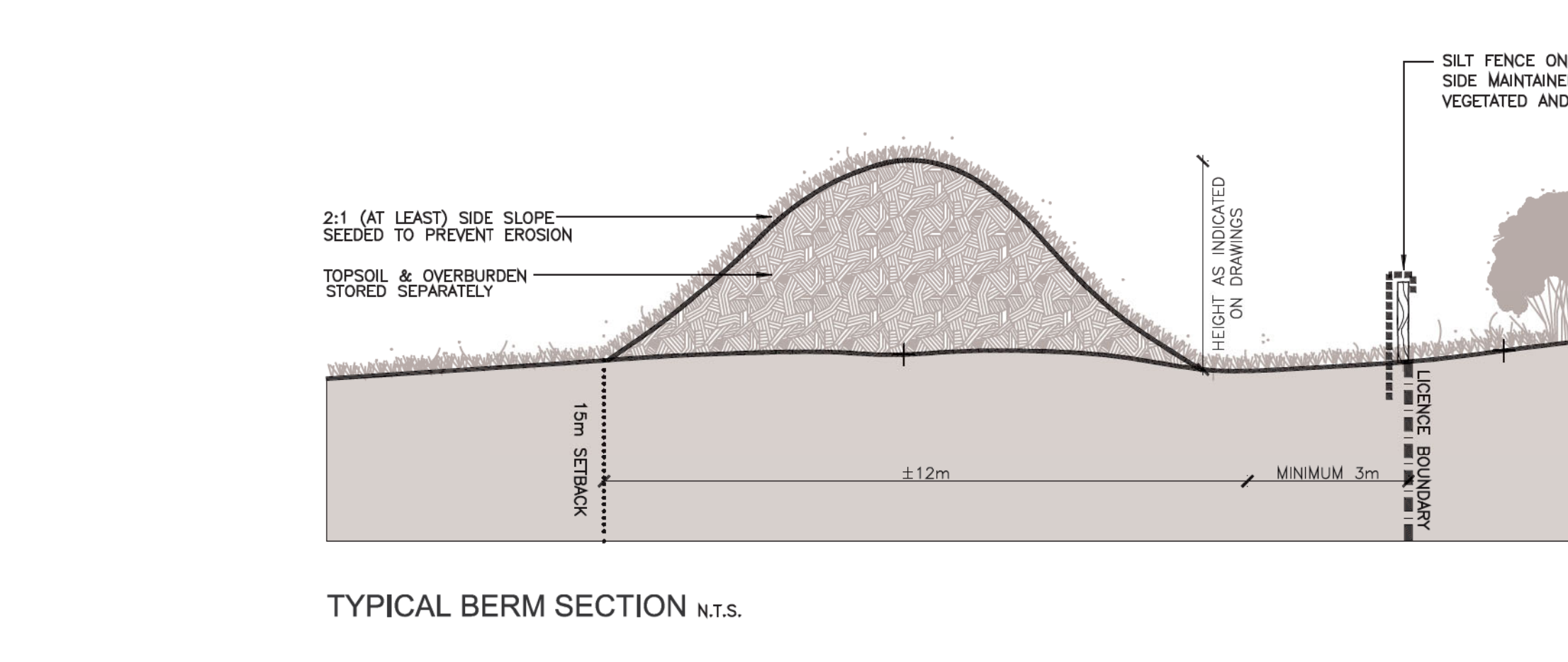
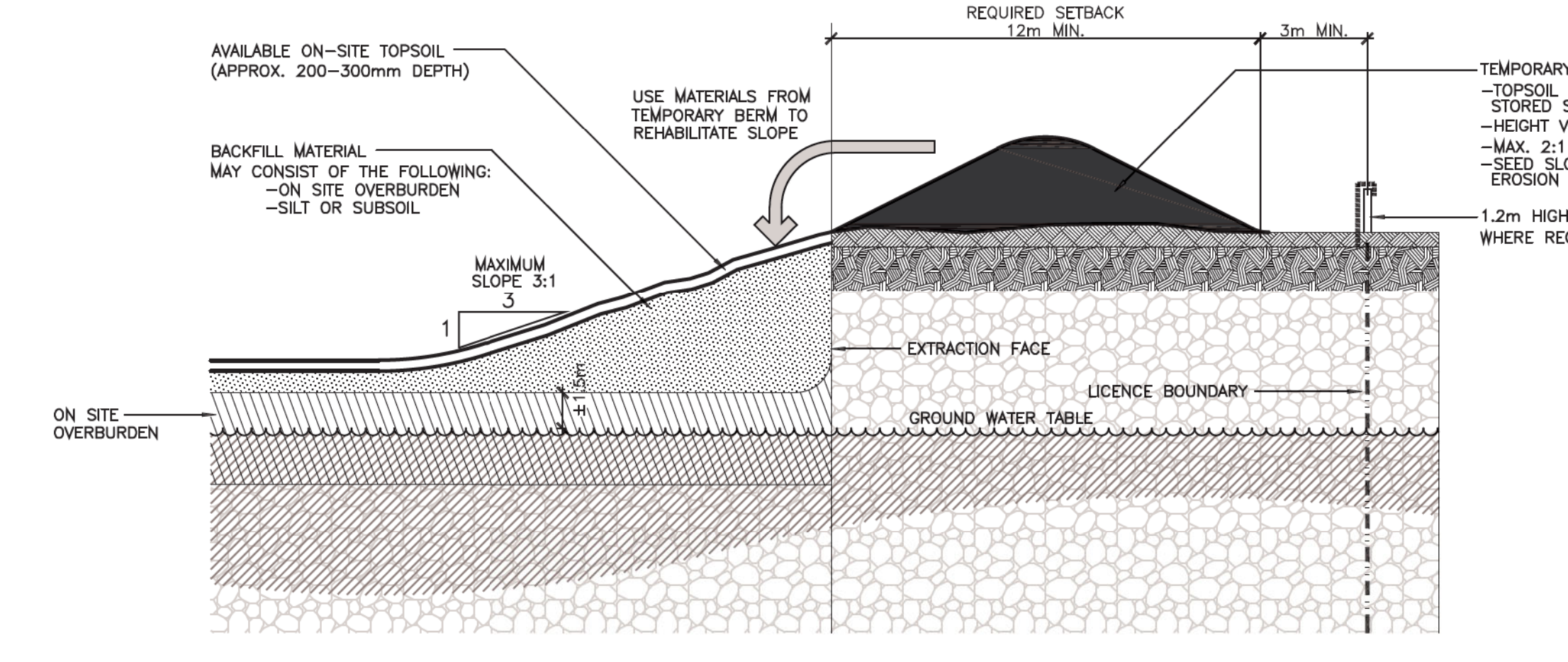
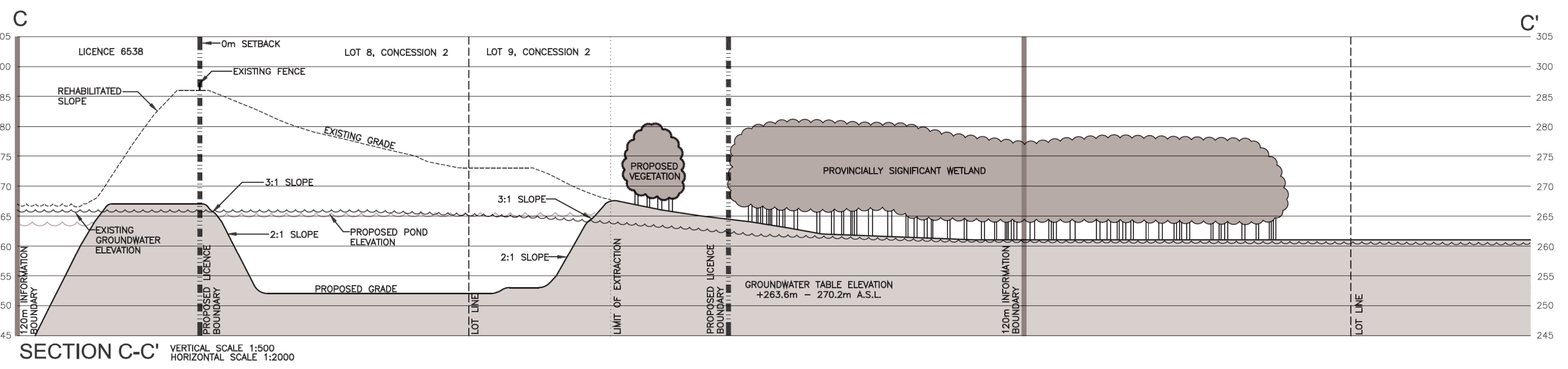
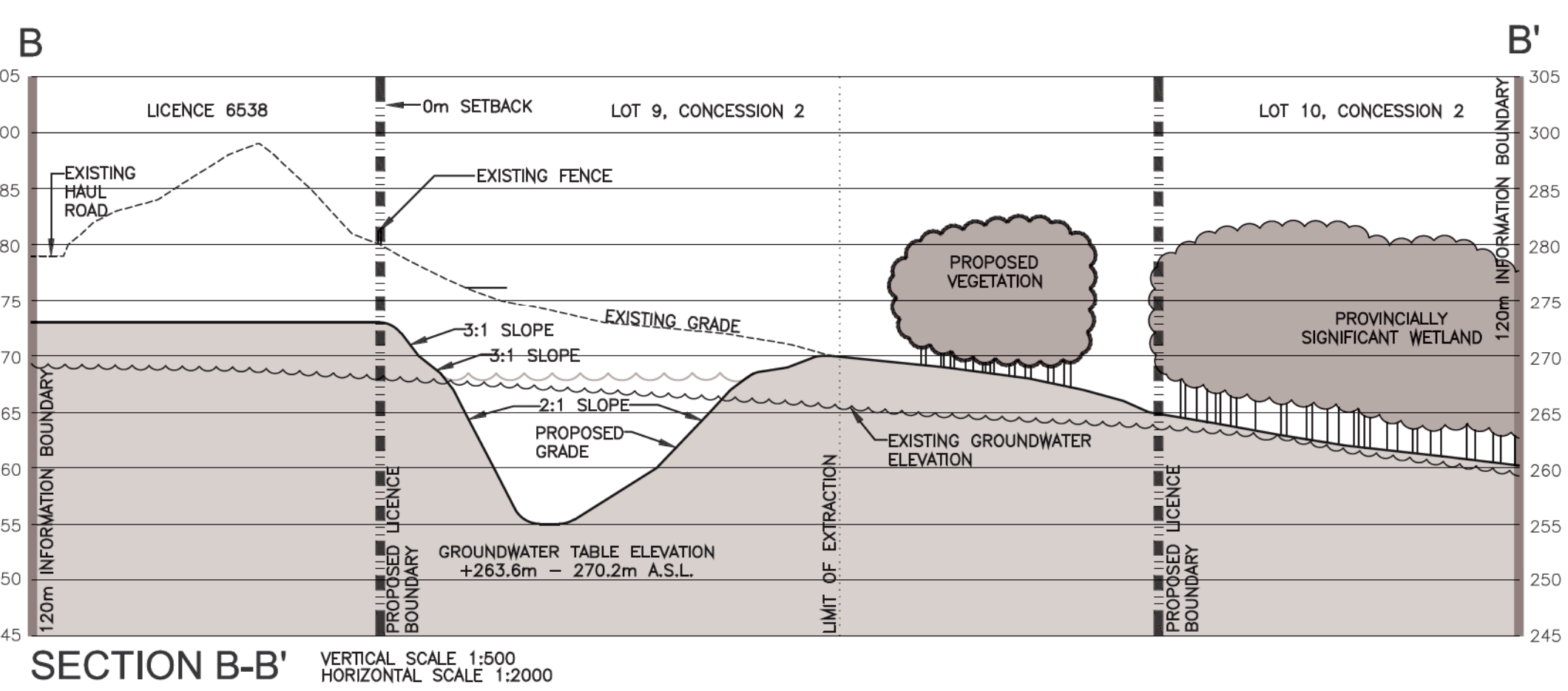
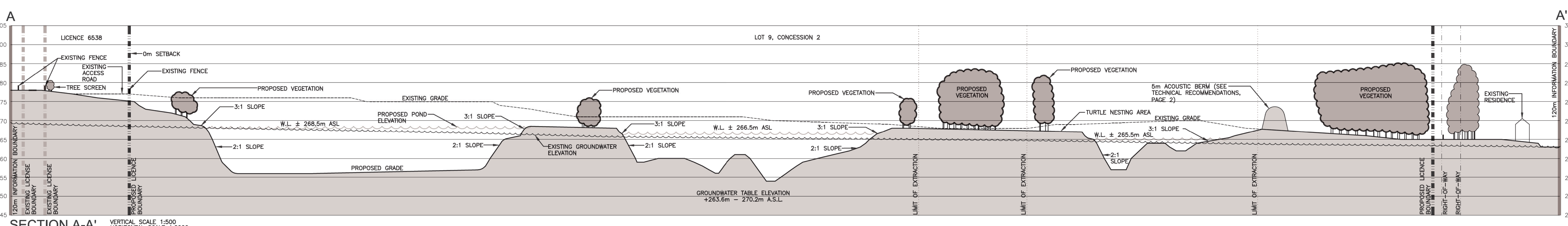
LEGEND

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



SECTION NOTES GENERAL INFORMATION

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



2	JUNE 2022	PER NDMNRF COMMENTS			
1	NOV 2021	PER PUBLIC AND NDMNRF COMMENTS			

Pre Licence Review Site Plan Amendments

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55 Industrial Street
Toronto, Ontario
M4G 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 1:4000 North

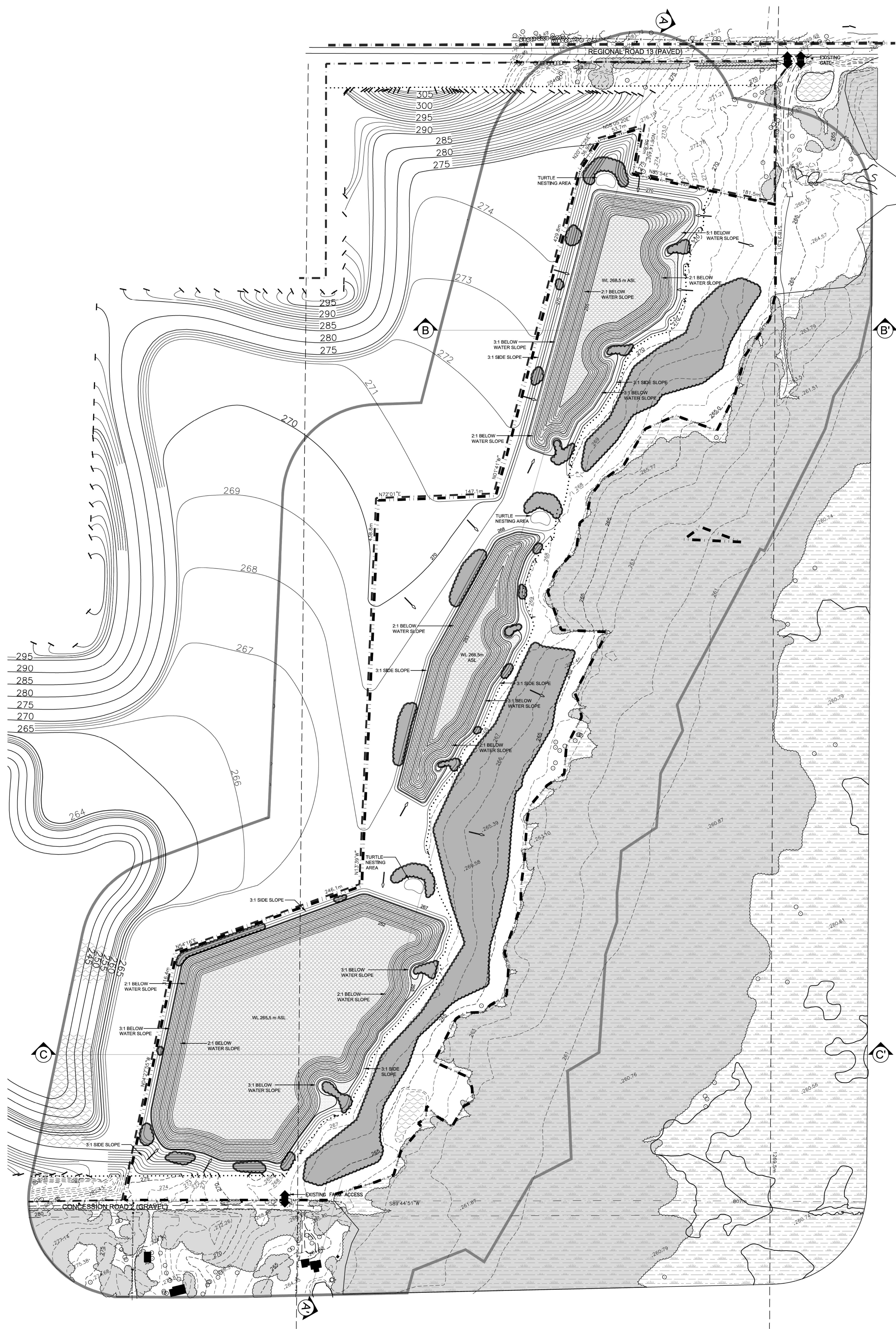
Drawing Status SUBMITTED FOR NDMNRF APPROVAL

Drawn SB Checked RM Issue Date JULY 2022

Drawing Title OPERATIONAL PLAN PHASES B-D, AND SECTIONS

Project Number 18-44

Drawing Number 3 OF 4



REHABILITATION NOTES

GENERAL INFORMATION

- 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.
- PROPERTY SHALL BE REHABILITATED TO:
 - OPEN WATER POND 13.80 HA
 - WETLAND 0.38 HA
 - MEADOW 7.46 HA
 - REFORESTATION 1.30 HA
 - FOR A TOTAL OF 22.4 HECTARES
- REFORESTATION OUTSIDE THE EXTRACTION AREA 6.30 HA

HYDROGEOLOGICAL INFORMATION

- IT IS ANTICIPATED THAT THE GROUNDWATER ELEVATION SLOPES ACROSS THE SITE AND WILL REMAIN RELATIVELY UNCHANGED AT 2% TO 3% IN RELATION TO HYDROGEOLOGICAL REPORTS.
- ALL SURFACE DRAINAGE WILL BE DIRECTED TO THE PONDS, THERE WILL BE NO SURFACE DISCHARGE OFF SITE.

SIDESLOPE/MEADOW REHABILITATION INFORMATION

- GRAZING INFORMATION:**
- 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 2:1) AND/OR CUT AND FILL METHOD USING AVAILABLE CHASTE 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.

- TOPSOILING INFORMATION:**
- ALL AVAILABLE TOPSOIL ON THE SITE WILL REMAIN TO BE USED FOR REHABILITATION OF THE SITE. AVAILABLE TOPSOIL REPLACES WILL BE APPROXIMATELY 2000mm THICK.

OPEN WATER POND REHABILITATION INFORMATION

- TOPSOIL SHALL BE SEEDING WITH A LOCALLY AVAILABLE NATIVE SEED MIX THAT INCLUDES MAINTAIN AND A NATIVE COVER CROP, BOTH AT RATES OF 300G/HA.
- THE AVERAGE WATER LEVEL IN THE POST-EXTRACTION PONDS IS ESTIMATED TO BE 268.5m, 266.5m, AND 265.5 ASL (BASED ON COLLIER REPORT, JULY 2021).
- 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 DEPOSIT AND REHABILITATION SHALL FOLLOW THE CONCEPT ILLUSTRATED.

WETLAND REHABILITATION INFORMATION

- AREAS SHALL BE REHABILITATED TO WETLAND HABITAT AS FOLLOWS:
 - UNDERWATER SLOPES WILL BE FORMED WITH CHASTE FILL.
 - UNDERWATER SLOPES SHALL BE A MAXIMUM OF 2:1.
- RESTORATION OF THE NEARSHORE, SHALLOW WETLAND ZONE AS SHOWN ON THE TYPICAL SHALLOW SHORELINE SECTION, SHEET 5 OF 5 WILL GENERALLY BE ACCOMPLISHED AS FOLLOWS:
 - EXTRACTION AND ROUGH GRADING WILL CREATE A NEARSHORE SHORELINE AREA AT A SLOPE OF 1:1.
 - FINAL SLOPING OF THE SHORELINE TO CREATE PHYSICAL DIVERSITY BY SCALLOPING THE SHORELINE AND ADDING STRUCTURES.
 - WOODY DEBRIS, BRANCHES, TREE TRUNKS, STUMPS, ETC. CLEARED IN THE EXTRACTION PROCESS WILL BE SALVAGED WHERE POSSIBLE FOR USE IN SHORELINE RESTORATION AND HABITAT ENHANCEMENT/UNDERWATER HABITAT ENHANCEMENT.
 - STUMPS, LOGS, BRUSH RUNDLES, ETC. SHALL BE INSTALLED 30m 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 SPOT-DIRECTLY PLANTED WITH TREES AND SHRUBS WHICH MAY INCLUDE: RED-OBER DOGWOOD AND SLENDER WILLOW.
- INITIAL SHORELINE WETLAND AREAS SHALL BE PLANTED WITH CLUMPS OF EMERGENT AND SUBMERGENT NATIVE WETLAND PLANTS IN CLUSTERS OF AT APPROPRIATE DEPTHS TO INITIATE COLONIZATION OF THE SITE AS NUTRIENT LEVELS INCREASE TO SUPPORT THEM. SPECIES MAY INCLUDE:
 - LAKE SEDGE
 - SWAMP MILKWEED
 - COMMON CATTAIL
 - WATER PLANTAIN
 - SOFTSTEM BULRUSH

REFORESTATION REHABILITATION INFORMATION

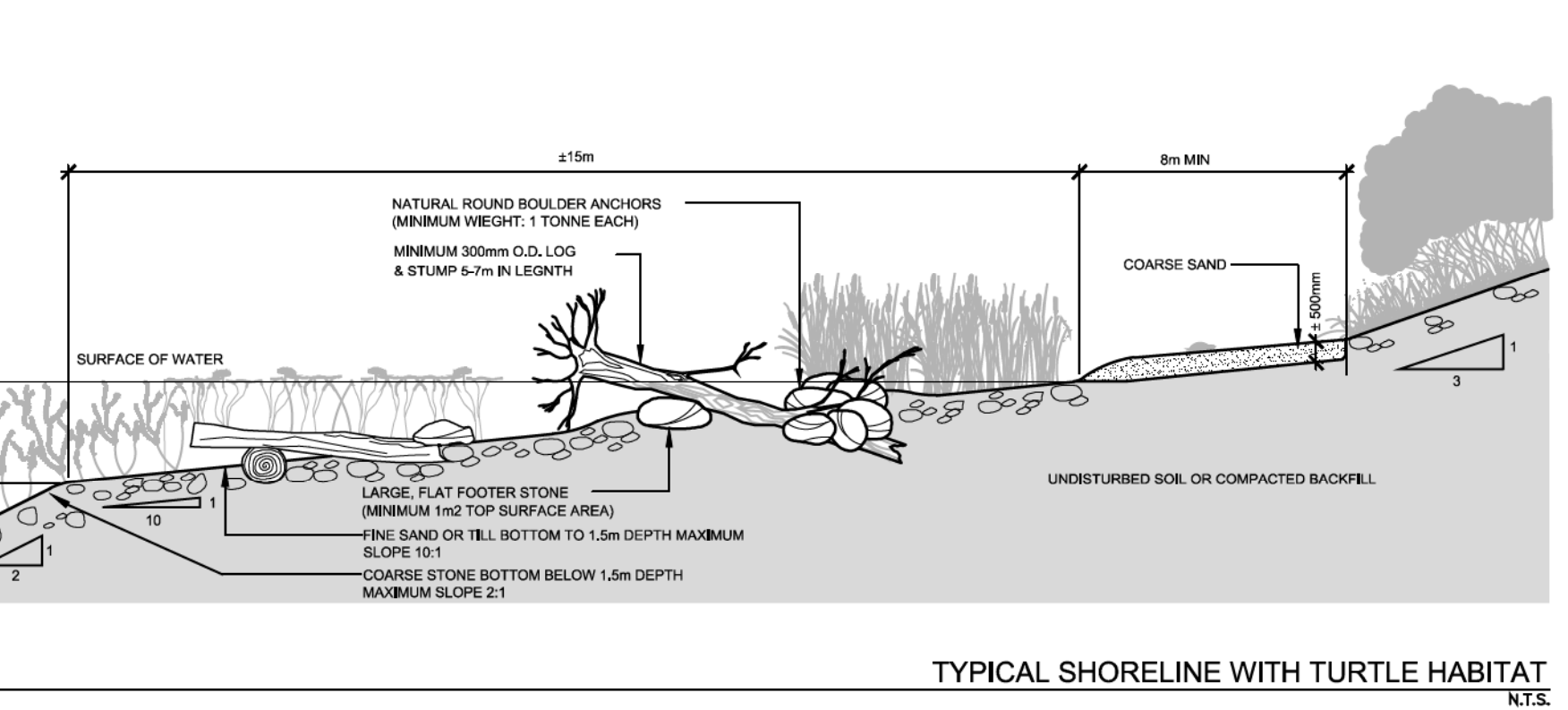
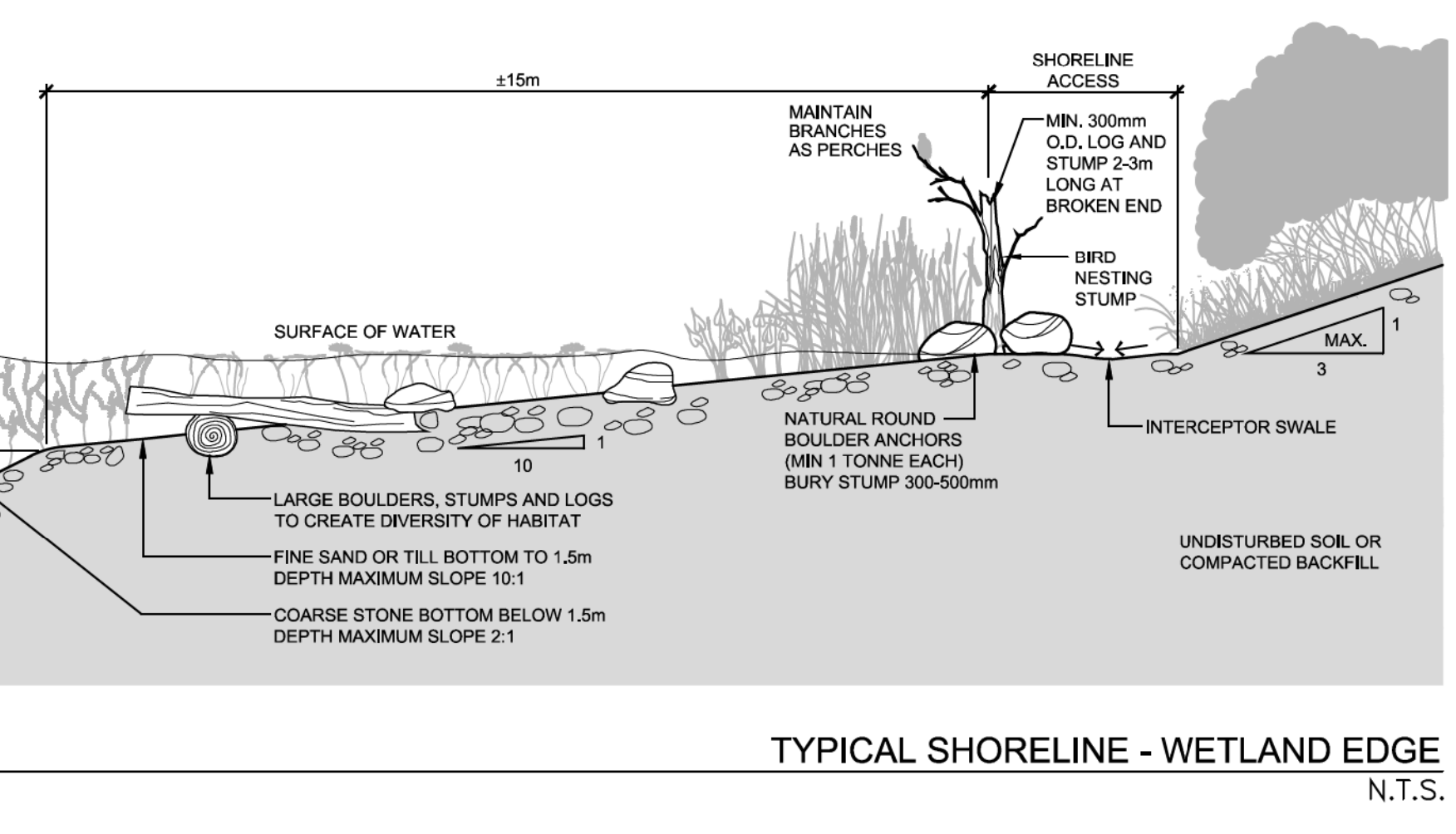
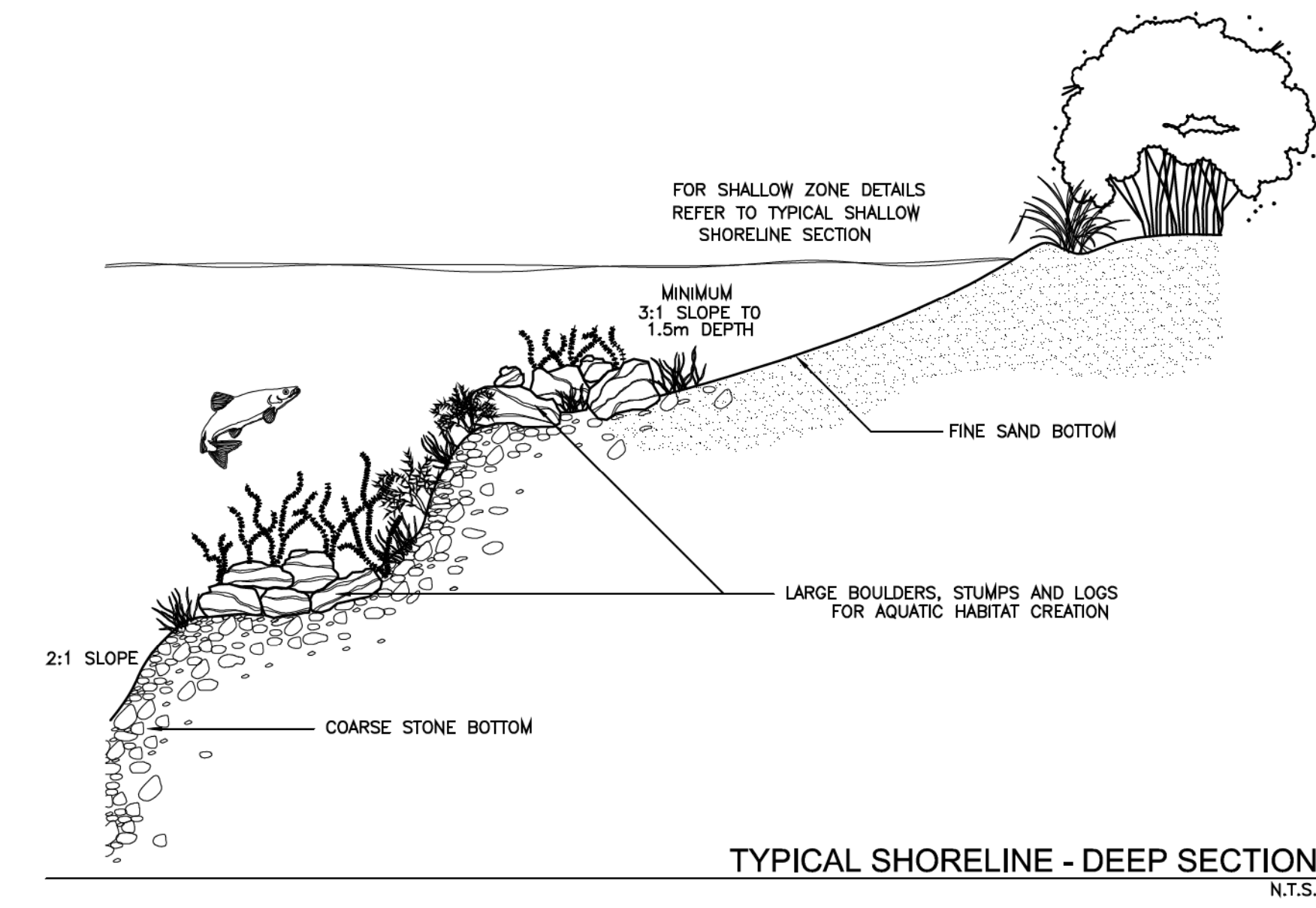
- MONITORING, TENDING AND REPLANTING SHALL OCCUR AS REQUIRED TO ENSURE ALL VEGETATION PLANTED DURING THE LICENSE WILL BE MAINTAINED IN A HEALTHY, VIGOROUS GROWING CONDITION.
- UPLAND AREAS SHALL BE REFORESTED, WHERE SHOWN. SPECIES MAY INCLUDE:
 - WHITE PINE
 - BALDWIN
 - SUGAR MAPLE
 - WHITE SPRUCE
 - TREMULING ASPEN
 - WHITE BIRCH
 - CHERRY CHERRY
 - HEARSHORN CHERRYBERRY
 - ALTERNATIVE-LEAVED DOGWOOD
 - NANNYBERRY
 - SERVICEBERRY
- LOWLAND AREAS ALONG THE EASTERN REHABILITATION AREA AND SETBACK SHALL BE REFORESTED, WHERE SHOWN.

SETBACK REHABILITATION INFORMATION

- AFTER SIDESLOPES ARE CREATED AND REQUIRED BERMS ARE REMOVED FROM SETBACKS THESE AREAS WILL BE IMMEDIATELY STABILIZED WITH A SUITABLE GROUND COVER.

LEGEND

- BOUNDARY OF AREA TO BE LICENCED
- 100% INFORMATION BOUNDARY
- EXISTING LICENCED AREA
- LOT LINE
- REGULATORY SETBACK AND LIMIT OF EXTRACTION LINE
- WETLAND BOUNDARY FROM MNRF MARCHMAY NATURAL HERITAGE AREAS 2014
- PARCEL LINE
- WATERCOURSE
- EXISTING 5m CONTOUR LINE
- EXISTING 1m CONTOUR LINE
- EXISTING SPOT ELEVATION
- EXISTING FENCE
- EXISTING VEGETATION
- EXISTING WETLAND
- LOCATION OF SECTION
- PROPOSED 5m CONTOUR LINE
- PROPOSED 1m CONTOUR LINE
- EXISTING BUILDING
- EXISTING HYDRO POLE
- DIRECTION OF SURFACE WATER DRAINAGE
- EXISTING GATE/FARM ACCESS
- PROPOSED WETLAND
- PROPOSED POND
- PROPOSED VEGETATION



1	JUNE 2022	PER NDNANRF COMMENTS					
2							

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Scale 1:2000

North

Stamp

Drawing Status
SUBMITTED FOR APPROVAL

Drawn SB Checked RM Issue Date JULY 2022

Drawing Title
REHABILITATION PLAN

Project Number
18-44

Drawing Number
4 OF 4

FILE NAME: 18-44/COM/7844-LS.DWG
PLOT DATE: 11/19/2022