

- 1. BEGIN SEQUENTIAL CLEARING AND GRUBBING OF AREA 2. SALVAGE LARGER STUMPS AND TREES FOR HABITAT CREATION AND STORE IN WOODY DEBRIS STORAGE AREA IN AREA 3.
- 2. STRIP TOPSOIL AND OVERBURDEN SEPARATELY FROM AREA 2 AND USE MATERIALS TO CONTINUE CONSTRUCTION OF ACOUSTIC
- BERM ALONG HEART LAKE ROAD AND ADJACENT TO THE PROPERTY LINE OF RESIDENCE R5, AS SHOWN. BEGIN ABOVE WATER EXTRACTION IN AREA 2 IN DIRECTION SHOWN.
- 4. BEGIN CONSTRUCTION OF HYDRAULIC BARRIER AS PER STUDY RECOMMENDATIONS (SEE HYDROGEOLOGICAL TECHNICAL
- RECOMMENDATION, THIS PAGE).
- BEGIN BELOW WATER EXTRACTION IN AREA 1 IN DIRECTION SHOWN. 6. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION. AREAS 3 (EXCEPT WOODY DEBRIS STORAGE) AND 4 (EXCEPT
- BERM) TO REMAIN UNDISTURBED.



- CONTINUE EXTRACTION OF AREA 4 IN DIRECTION SHOWN.
- 2. COMPLETE BELOW WATER EXTRACTION AND PROGRESSIVE REHABILITATION OF SIDESLOPES AND SHORELINE IN AREA 3 . BEGIN PROGRESSIVE REHABILITATION OF SIDESLOPES AND SHORELINE IN AREA 4.
- 3. COMPLETE ABOVE WATER EXTRACTION IN AREA 4 AND BEGIN BELOW WATER EXTRACTION IN DIRECTION SHOWN. 4. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION.



### PHASE C

- 1. BEGIN CLEARING AND GRUBBING OF AREA 3 SEQUENTIALLY. SALVAGE LARGER STUMPS AND TREES FOR HABITAT CREATION. REMOVE BUILDINGS LOCATED IN AREA 3 AND DISPOSE OF IN AN ACCEPTABLE MANNER.
- 2. STRIP TOPSOIL AND OVERBURDEN SEPARATELY FROM AREA 3 AND USE MATERIALS TO BEGIN PROGRESSIVE REHABILITATION OF SOUTH SIDE SLOPES AND SHORELINE IN AREA 1 AND 2.
- 3. COMPLETE ABOVE WATER EXTRACTION IN AREA 2 AND BEGIN BELOW WATER EXTRACTION IN DIRECTION SHOWN.
- 4. BEGIN ABOVE WATER EXTRACTION IN AREA 3 IN DIRECTION SHOWN. 5. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION. AREA 4 (EXCEPT BERM) TO REMAIN UNDISTURBED.

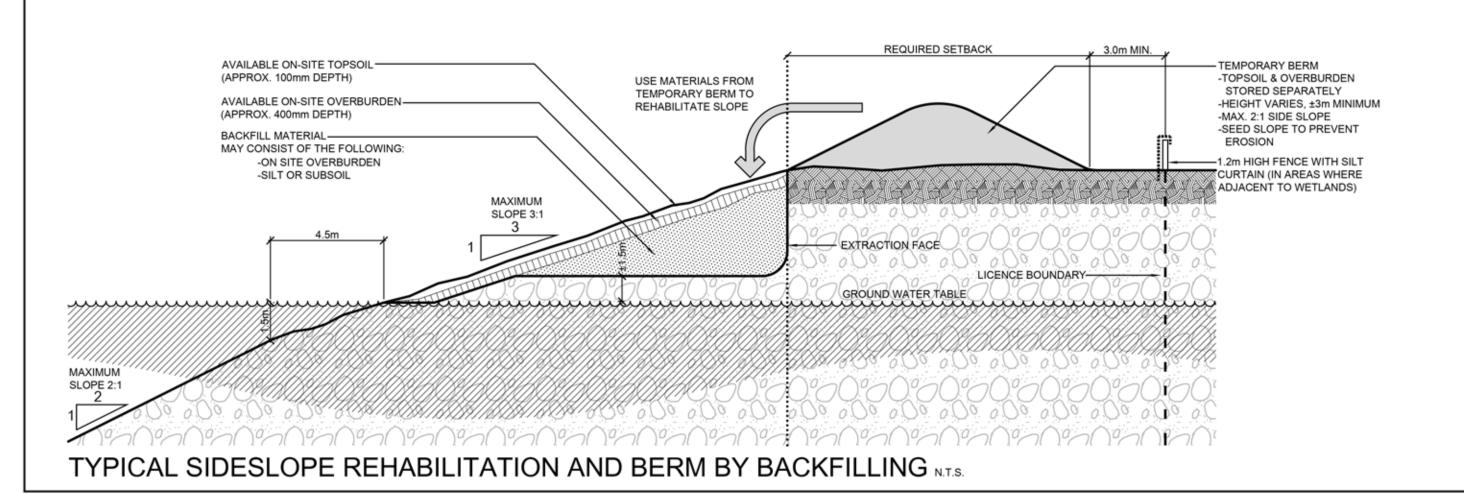


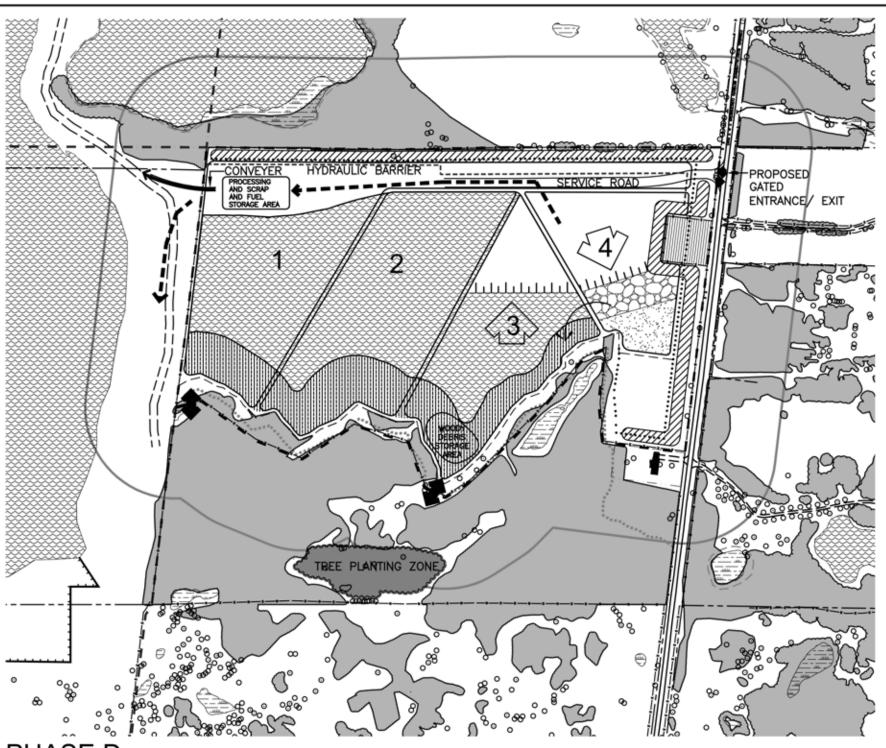
# PHASE F

- 1. COMPLETE BELOW WATER EXTRACTION IN AREA 4. CONTINUE BELOW WATER EXTRACTION OF PROCESSING AREA IN DIRECTION
- 2. COMPLETE PROGRESSIVE REHABILITATION OF SIDESLOPES AND SHORELINE IN AREA 4 WITH ON SITE TOPSOIL AND OVERBURDEN (ALL ACOUSTICAL BERMS SHALL REMAIN UNTIL EXTRACTION OF ENTIRE PIT HAS COMPLETED).
- 3. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION.

# PHASE G (NOT SHOWN

- COMPLETE BELOW WATER EXTRACTION AND CONTINUE PROGRESSIVE REHABILITATION OF SIDESLOPES AND SHORELINE IN AREA 1 USING TOPSOIL AND OVERBURDEN STOCKPILED IN THE ACOUSTICAL BERMS.
- 2. UPON COMPLETION OF EXTRACTION, REMOVE ALL EQUIPMENT, STRUCTURES, SCRAP AND MACHINERY FROM THE SITE
- 3. THE SITE WILL BE REHABILITATED TO A POND (REFER TO REHABILITATION PLAN ON DRAWING 5).





### PHASE D

1. PRIOR TO EXTRACTION IN AREA 4, THE ACOUSTIC BERM ALONG HEART LAKE ROAD AND THE SOUTH SIDE OF AREA 4 MUST BE COMPLETE. BEGIN CLEARING AND GRUBBING OF AREA 4. SALVAGE LARGER STUMPS AND TREES FOR HABITAT CREATION AND STORE

- STRIP TOPSOIL AND OVERBURDEN SEPARATELY FROM AREA 4 AND USE TO CONTINUE PROGRESSIVE REHABILITATION OF SIDE SLOPES AND SHORELINE IN AREA 2.
- COMPLETE BELOW WATER EXTRACTION IN AREA 2.
- 4. BEGIN BELOW WATER EXTRACTION IN AREA 3 IN DIRECTION SHOWN AND BEGIN PROGRESSIVE REHABILITATION OF SIDESLOPES AND
- 5. BEGIN ABOVE WATER EXTRACTION IN AREA 4 IN DIRECTION SHOWN.

TECHNICAL RECOMMENDATIONS (CONTINUED)

NATURAL ENVIRONMENT (SAVANTA - SEPTEMBER 2017)

THE EXTRACTION LIMIT SHALL MAINTAIN A MINIMUM SETBACK DISTANCE OF 15 M FROM THE IDENTIFIED

PRIOR TO ADVERSELY ALTERING ANY SURFACE WATER INPUT TO WETLAND 4 (PSW #4) EXISTING CATCHMENT AREA, AS DELINEATED ON FIGURE 4 OF GROUNDWATER SCIENCE CORP 2017 TECHNICAL REPORT, APPROPRIATE OPERATIONAL MEASURES SHALL BE PUT IN PLACE TO MAINTAIN A SURFACE

WATER CATCHMENT AREA TO WETLAND 4 THAT SHALL NOT DECREASE CATCHMENT SIZE BY MORE THAN

THE AGGREGATE EXTRACTION DESIGN SHALL REFLECT THE INTENT OF THE IDENTIFIED EXTRACTION

GROUNDWATER SCIENCE CORP. (2017) SUPPORTING TECHNICAL REPORT WITH THE PRE AND POST

INFILTRATION INTO THE SHALLOW GROUNDWATER. NO DISCHARGE OF PUMPED WATER FROM THE SITE

OCCUR THAT HAS NATURAL TREE/SHRUB COVER (LANDS OTHER THAN ACTIVE CASH CROP FIELDS) FROM

APRIL 1 TO SEPTEMBER 30 IN ANY GIVEN YEAR. THIS WILL PROVIDE SUFFICIENT PROTECTION FOR ANY

ACTIVE BIRD NESTS OR BAT ROOSTING AND IS IN ACCORDANCE WITH THE FEDERAL MIGRATORY BIRDS

CONVENTION ACT REQUIREMENTS. ANY ADDITIONAL SPECIFIC TIMING CONSTRAINTS IDENTIFIED BY THE

4. ALL SURFACE WATER RUNOFF (IF ANY) DURING THE PIT OPERATIONAL PERIODS MUST BE COLLECTED

WITHIN THE 'EXTRACTION ZONE' AND BE MAINTAINED WITHIN SETTLING BASINS FOR GRADUAL

5. NO SITE OR SEQUENTIAL COMPARTMENT VEGETATION CLEARING OR OVERBURDEN STRIPPING SHALL

6. WOODLANDS RETAINED WITHIN THE EXTRACTION FOOTPRINT WILL PROVIDE ONGOING ROTATIONAL

7. THE REHABILITATION PLAN SHALL INCORPORATE AT A MINIMUM THE FOLLOWING ASPECTS FOR

A SHALLOW WATER MARSH ENVIRONMENT AROUND THE EXCAVATED POND PERIMETER, HAVING A

TO BE PLANTED WITH EMERGENT AQUATIC PLANT SPECIES NATIVE TO THE LOCAL LANDSCAPE;

AN EXTENDED TREE PLANTING ZONE HAVING AN OVERALL FINAL MINIMUM CORRIDOR WIDTH OF 30m

PROVIDE ROOSTING HABITAT FOR BATS. THE EXTRACTION WILL BE PHASED SUCH THAT WOODLAND

PATCHES OUTSIDE THE ACTIVE EXTRACTION AREA WILL BE RETAINED UNTIL EACH PHASE HAS BEEN

MINIMUM 3:1 SIDE SLOPE AND STREWN WITH SCATTERED BOULDERS AND EMBEDDED WOODY DEBRIS

THAT HAVE PORTIONS ABOVE SURFACE TO ALLOW FOR TURTLE BASKING. SHALLOW WATER AREAS ARE

A REFORESTATION ZONE ALONG THE NORTHERLY TIP AREA OF WETLAND 4 (PSW #4) WHICH EXTENDS TO HE EXCAVATION POND PERIMETER AND PROVIDES LINKAGE HABITAT AT LEAST 30 M IN WIDTH; AND

REMAINDER OF THE SHORELINE ENVIRONMENT TO BE IRREGULARLY NATURALIZED THROUGH PLANTING

OF NATIVE TREES AND SHRUB SEEDLINGS WITH HABITAT FEATURES THAT INCLUDE TURTLE NESTING

RELOCATION WORK SHALL BE UNDERTAKEN ACCORDING TO A TRANSPLANTATION PLAN AND WILL BE IMPLEMENTED IN THE MONTH OF JUNE (IMMEDIATELY FOLLOWING PLANT FRUITING AND SEED HARVEST

AS SUPPLEMENTAL MITIGATION). BY QUALIFIED AND EXPERIENCED PERSONNEL, WITH MONITORING

MONITORING OF THE RARE FLORA COLONY TRANSPLANTATION/PROPAGATION (THIN-LEAF SEDGE), INSTALLED

WILDLIFE HABITAT FEATURES, AND REFORESTATION SHALL BE UNDERTAKEN AFTER EACH STAGE OF

REHABILITATION SITE WORKS HAS BEEN COMPLETED. THE DURATION AND FREQUENCY OF MONITORING IS CONDITIONAL ON THE TYPE OF MONITORING REQUIRED. AS OUTLINED BELOW, ALL MONITORING IS TO BE

COMPLETED BY A QUALIFIED ENVIRONMENTAL PROFESSIONAL. FINDINGS ARE TO BE SUMMARIZED IN A

DETERMINED BY QUALIFIED PROFESSIONAL AND WILL CONTINUE FOR DURATIONS INDICATED. ANY VISIBLE

VISUAL INSPECTION OF THE REFORESTATION AREA IS TO TAKE PLACE IN YEARS 1, 3, 5, AND 10 AFTER

15% CUMULATIVE OVER THE FIRST FIVE YEARS. MONITORING IS TO INCLUDE PHOTOGRAPHIC

OF TRANSPLANTED RARE FLORA COLONY SHOULD OCCUR ONCE ANNUALLY FOR 3 YEARS

ANNUAL VISUAL INSPECTION BY A QUALIFIED ENVIRONMENTAL PROFESSIONAL OF WILDLIFE HABITAT

ANNUAL VISUAL INSPECTION BY A QUALIFIED ENVIRONMENTAL PROFESSIONAL OF THE

PLANTING BY A QUALIFIED ENVIRONMENTAL PROFESSIONAL. REFORESTED AREAS ARE TO BE ASSESSED

FOR CHANGE IN CANOPY COVERAGE AND SURVIVAL PERCENTAGE. ASSESSMENT SHOULD INCLUDE

WHERE 'IN-FILLING' IS WARRANTED SHOULD PLANTING MORTALITIES EXCEED 10% ANY GIVEN YEAR OR

TRANSPLANTED/PROPAGATED LOCALLY RARE THIN-LEAF SEDGE COLONY FOR GENERAL HEALTH AND

SURVIVORSHIP, WITH PHOTOGRAPHIC DOCUMENTATION. INSPECTION SHOULD OCCUR AT A SEASONALLY

FEATURES (TURTLE NESTING MOUNDS AND BAT BOXES) FOR INSTALLATION STABILITY, SIGNS OF USE BY

TARGET OR OTHER WILDLIFE SPECIES, AND PHOTOGRAPHIC DOCUMENTATION. INSPECTIONS ARE TO

MONITORING OF HABITAT FEATURE SHOULD OCCUR ONCE ANNUALLY FOR 3 YEARS POST-INSTALLATION

PARTICULARLY FOR THE SITE MAIN ENTRANCE ROAD, WHICH SHALL BE PAVED OR HARD SURFACED WITH

TAKE PLACE DURING SEASONALLY APPROPRIATE TIMES TO BEST DETECT USE BY TARGET SPECIES.

APPROPRIATE TIME OF YEAR TO ASSESS HEALTH AND SURVIVORSHIP OF PLANT SPECIMENS. MONITORING

NEGATIVE IMPACTS ASSOCIATED WITH THE PIT OPERATIONS WITHIN THE MONITORING ZONES SHALL BE

ASSESSED, AND RECOMMENDED REMEDIAL ACTION WORKS AND CONTINGENCY PLANNING ARE TO BE

MONITORING INSPECTIONS SHALL BE UNDERTAKEN DURING SEASONALLY APPROPRIATE TIMES AS

REPORT SUBMITTED TO THE MNRF IN THE YEAR SUCH MONITORING HAS OCCURRED.

8. THE COLONY OF CAREX CEPHALOIDES (THIN-LEAF SEDGE) IDENTIFIED WITHIN ELC COMMUNITY FOD5-7, SHALL BE RELOCATED TO SUITABLE HABITAT WITHIN THE INTERIOR OF ELC COMMUNITY FOD5-2, PRIOR

TO ANY SITE ALTERATIONS OR VEGETATION REMOVAL OF ELC COMMUNITY FOD5-7. THIS PLANT

PROPOSED EXTRACTION LIMITS FOR THIS CONSTRAINT ZONE AREA CAN BE FOUND WITHIN THE

'CONSTRAINT AREA' SHOWN ON THE NETR FIGURE 10 FOR SURFACE WATER INPUT MAINTENANCE TO

AND SURVEYED 'OPERATIONAL LIMIT', AS SHOWN ON (FIGURE 10, APPENDIX A).

EXTRACTION CATCHMENT AREA FOR WETLAND 4, CONSISTENT WITH MITIGATION.

MNRF RELATED TO EASTERN SMALL-FOOTED MYOTIS WILL BE RESPECTED.

ALONG THE SUBJECT PROPERTY SOUTHWESTERLY PROPERTY BOUNDARY;

WOODLAND AND WILDLIFE HABITAT ENHANCEMENT

MOUNDS, RAPTOR PERCHES, AND BAT BOXES...

INCLUDED IN ANNUAL REPORTING.

POST-TRANSPLANTATION.

REQUIREMENTS AS OUTLINED UNDER NETR SECTION 11.

'OPERATIONAL LIMIT' LINE.

HAS BEEN PROPOSED

10% OVER PRE-EXTRACTION CONDITIONS.

NO SITE ALTERATIONS ASSOCIATED WITH THE PIT OPERATIONS SHALL OCCUR BEYOND THE

MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION

## HYDROGEOLOGICAL ASSESSMENT GROUNDWATER SCIENCE CORP. - OCTOBER 2017 THE FOLLOWING ARE THE RECOMMENDATIONS OF THIS ASSESSMENT:

WATER WELL INTERFERENCE COMPLAINT RESPONSE
WHERE THE MINISTRY OF NATURAL RESOURCES AND FORESTRY WITH THE ASSISTANCE OF THE MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE HAS DETERMINED THAT THE OPERATION OF THE PIT HAS CAUSED ANY WELL WATER TO BE ADVERSELY AFFECTED, THE LICENSEE SHALL, AT THE LICENSEE'S EXPENSE, EITHER DEEPEN THE WELL OR REPLACE THE WELL TO ENSURE THAT HISTORIC WATER PRODUCTION QUALITY STANDARDS ARE MAINTAINED FOR THAT WELL. IF THIS PIT OPERATION HAS CAUSED A WATER SUPPLY PROBLEM, THE LICENSEE SHALL, AT THEIR EXPENSE, ENSURE A CONTINUOUS SUPPLY OF POTABLE WATER TO THE AFFECTED

HYDRAULIC BARRIER STUDY
A DETAILED ASSESSMENT, THAT SHALL INCLUDE A COMPUTER GROUNDWATER MODELING STUDY IF NEEDED, SHALL BE COMPLETED IN ORDER TO REFINE THE DESIGN AND LOCATION OF THE HYDRAULIC BARRIER WALL AND ENSURE THE SEASONAL WATER AVAILABILITY AND HYDROPERIOD AT THE CALEDON CREEK/WETLAND 11 AND WARNOCK LAKE/WETLAND 1 NATURAL ENVIRONMENT SYSTEM IS MAINTAINED. THE STUDY SHALL INCORPORATE ANY AGENCY REVIEW COMMENTS AND TECHNICAL INPUT PROVIDED AND AVAILABLE THROUGH THE ARA APPLICATION PROCESS BY THE MINISTRY OF NATURAL RESOURCES AND FORESTRY, THE MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE, CREDIT VALLEY CONSERVATION, THE REGION OF PEEL AND THE TOWN OF

DURING REHABILITATION AND AREA REGRADING, THE SUBSOIL WITHIN THE NEW DRAINAGE AREA NORTH OF WETLAND 4 SHOULD BE AMENDED OR REPLACED WITH FINE GRAINED MATERIAL FROM ON-SITE, SUCH AS TILL.

MONITORING PROGRAM

1. PRIOR TO EXTRACTION ACTIVITIES A PRIVATE WATER WELL SURVEY SHALL BE COMPLETED FOR ALL RESIDENCES WITHIN 500 M OF THE LICENCE BOUNDARY. THE SURVEY SHALL OBTAIN WATER LEVEL

MEASUREMENTS AND WATER QUALITY SAMPLES (ANIONS AND METALS) TO SERVE AS A BASELINE DATA SET AT ALL RESIDENCES FOR WHICH ACCESS IS PROVIDED BY THE HOMEOWNER AND RESIDENT AT THE TIME OF THE SURVEY GROUNDWATER LEVEL MONITORING SHALL BE COMPLETED AT MONITORS BH1, BH2R, BH3, BH4, BH5, BH6

AT WARNOCK LAKE PRIOR TO EXTRACTION ACTIVITIES AT THE SITE, MONITORING SHALL BE COMPLETED

PRIOR TO THE COMMENCEMENT OF BELOW GROUNDWATER TABLE EXTRACTION, WATER LEVEL TRIGGER

AND MP-1B. MONITORING SHALL INCLUDE SEMI-CONTINUOUS MEASUREMENTS USING WATER LEVEL DATALOGGERS INSTALLED AT EACH LOCATION AND RECORDING ON AN HOURLY BASIS. MANUAL QUARTERLY MEASUREMENTS AND DATA DOWNLOAD SHALL ALSO BE COMPLETED. IF ACCESS IS AVAILABLE, A STAFF GAUGE AND WATER LEVEL MONITORING STATION SHALL BE ESTABLISHED

THE HYDRAULIC BARRIER SHALL BE COMPLETED PRIOR TO BELOW GROUNDWATER TABLE EXTRACTION AT THE SITE. THE BARRIER DESIGN SHALL BE FINALIZED THROUGH THE COMPUTER MODELLING STUDY AND CONSTRUCTION SHALL BE OVERSEEN BY A QUALIFIED ENGINEER. ROOSTING HABITAT FOR BATS, WOODLAND PATCHES WILL MATURE TO SUFFICIENT DECAY CLASSES TO

> LEVELS SHALL BE IDENTIFIED FOR BH1, BH2R, BH3 AND BH4. THE TRIGGER LEVELS SHALL INCORPORATE BOTH SEASONAL BASELINE DATA FOR EACH LOCATION ESTABLISHED THROUGH THE MONITORING PROGRAM AND THE RESULTS OF THE COMPUTER MODELLING STUDY

UPON COMMENCEMENT OF BELOW GROUNDWATER TABLE EXTRACTION AT THE SITE A QUALIFIED GEOSCIENTIST SHALL REVIEW THE GROUNDWATER MONITORING DATA AND PREPARE AN ANNUAL REPORT ON THE FOLLOWING:

A SUMMARY OF THE MONITORING DATA FROM THE CURRENT YEAR AND PREVIOUS YEARS; A RECOMMENDATION REGARDING THE ADEQUACY OF THE MONITORING PROGRAM, AND ANY AMENDMENTS THAT MAY BE REQUIRED; AND,

THE NEED TO IMPLEMENT THE CONTINGENCY PLAN, IF NECESSARY AND WARRANTED.

THE ANNUAL MONITORING REPORT SHALL BE PROVIDED TO THE MINISTRY OF NATURAL RESOURCES AND FORESTRY, THE MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE, CREDIT VALLEY CONSERVATION, THE REGION OF PEEL AND THE TOWN OF CALEDON.

TRIGGER MECHANISMS FOR CONTINGENCY RESPONSE
THE CONTINGENCY PLAN SHALL BE IMPLEMENTED IF ANY OF THE FOLLOWING CONDITIONS OCCUR:

GROUNDWATER LEVELS IN THE MONITORS ARE REDUCED BELOW THE TRIGGER LEVELS, AS DETERMINED PRIOR TO BELOW WATER EXTRACTION AT THE SITE; OR

THE ECOLOGICAL INSPECTION IDENTIFIES UNUSUAL STRESS RESPONSE ADJACENT TO THE PIT AREA THAT IS NOT PRESENT ELSEWHERE IN THE VICINITY; OR

A WATER WELL COMPLAINT IS SUBSTANTIATED BY THE INVESTIGATION TO HAVE RESULTED FROM THE OPERATION OF THE PIT.

RESOURCES AND FORESTRY; AND,

IN THE EVENT THAT THE CONTINGENCY PLAN IS TRIGGERED, THE FOLLOWING ACTIONS SHALL BE IMPLEMENTED:

THE OPERATOR SHALL CEASE ANY BELOW-WATER EXTRACTION OPERATIONS; THE DISTRICT OFFICE OF THE MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE AND THE MINISTRY OF NATURAL RESOURCES AND FORESTRY SHALL BE INFORMED OF THE TRIGGER, AND THE

IMPLEMENTATION OF THE CONTINGENCY PLAN; GROUNDWATER LEVEL MONITORING SHALL CONTINUE TO BE COLLECTED AND DATA DOWNLOADED DURING THE PERIOD WHEN THE IMPACT PERSISTS

THE MONITORING DATA AND OTHER RELEVANT INFORMATION SHALL BE REVIEWED BY A QUALIFIED BIOLOGIST AND/OR GEOSCIENTIST (DEPENDING ON THE ISSUE) WHO SHALL, AS SOON AS REASONABLY POSSIBLE, PREPARE A MITIGATION PLAN SPECIFIC TO THE ISSUE, DOCUMENTING: THE NATURE, EXTENT AND SIGNIFICANCE OF THE TRIGGER, A RECOMMENDATION REGARDING ITS MITIGATION. RECOMMENDATIONS REGARDING ANY ADDITIONAL MONITORING REQUIREMENTS, AND RECOMMENDATIONS REGARDING THE RESUMPTION OF OPERATIONS. THE REPORT SHALL BE CIRCULATED TO THE DISTRICT OFFICE OF THE MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE AND THE MINISTRY OF NATURAL

SUBJECT TO APPROVAL BY THE DISTRICT OFFICE OF THE MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE AND THE MINISTRY OF NATURAL RESOURCES AND FORESTRY, THE OPERATOR SHALL IMPLEMENT

THE MITIGATION PLAN. ARCHAEOLOGICAL ASSESSMENT (STAGE 1, 2 AND 3) (ARCHAEOLOGIX INC., MARCH 2004, STANTEC -TECHNICAL RECOMMENDATIONS UPDATED NOVEMBER 2017)

THE STAGE 3 ASSESSMENT OF LOCATION 1 RESULTED IN THE RECOVERY OF A SIGNIFICANT QUANTITY OF MID-19TH CENTURY ARTIFACTS. CONSISTENT WITH THE PRESENCE OF A DOMESTIC STRUCTURE AND ASSOCIATED ACTIVITY AREAS. DUE TO THE RELATIVE RARITY AND HIGH SIGNIFICANCE OF A SHORT TERM, MID-19TH CENTURY, OCCUPATION, IT IS RECOMMENDED THAT LOCATION 1 BE SUBJECT TO A STAGE 4

ASSESSMENT IN ADVANCE OF ANY EXTRACTION ACTIVITIES IN THIS AREA.

SHOULD PREVIOUSLY UNDOCUMENTED ARCHAEOLOGICAL RESOURCES BE DISCOVERED, THEY MAY BE A NEW ARCHAEOLOGICAL SITE AND THERFORE SUBECT TO SECTION 48 (1) OF THE ONTARIO HERITAGE ACT. THE PROPONENT OR PERSON DISCOVERING THE ARCHAEOLOGICAL RESOURCES MUST CEASE ALTERATION OF THE SITE IMEDIATELY AND ENGAGE A LICENSED CONSULTANT ARCHAEOLOGIST TO CARRY OUT ARCHAEOLOGICAL FIELDWORK, IN COMPLIANCE WITH SECTOIN 48 (1) OF THE ONTARIO HERITAGE ACT. THE FUNERAL, BURIAL AND CREMATION SERVICES ACT, 2002, S.O. 2002, C.33 REQUIRES THAT ANY PERSON DISCOVERING HUMAN REMAINS MUST NOTIFY THE POLICE OR CORONER AND THE REGISTRAR OF CEMETERIES AT THE MINISTRY OF GOVERNMENT AND CONSUMER SERVICES.

THE SOUND EMISSIONS OF ALL CONSTRUCTION EQUIPMENT INVOLVED IN SITE PREPARATION AND HABILITATION ACTIVITIES SHALL COMPLY WITH THE SOUND LEVEL LIMITS SPECIFIED IN MOECC PUBLICATION NPC-115 "CONSTRUCTION EQUIPMENT"

THE FOLLOWING TECHNICAL RECOMMENDATIONS SHALL BE IMPLEMENTED AT THE McCORMICK SITE.

THE FOLLOWING ARE THE TECHNICAL RECOMMENDATIONS FROM ALL OF THE EXPERTS' REPORTS AS OF DECEMBER 2012. ADDITIONAL RECOMMENDATIONS MAY BE INCLUDED AS A RESULT OF THE PRE-LICENCE REVIEW

BOUNDARY OF AREA TO BE LICENCED BOUNDARY OF LICENCED AREA

HYDRAULIC BARRIER

---- LIMIT OF EXTRACTION

------

EXISTING VEGETATION

EXISTING WETLAND

PROPOSED TREE SCREEN

BERM (MINIMUM HEIGH)

UNDISTURBED AREA

AREA STRIPPED OF TOPSOIL

AREA UNDER REHABILITATION

BELOW WATER EXTRACTION

AS SHOWN)

REGULATORY SETBACK LINE

PROVINCIALLY SIGNIFICANT WETLAND (MNRF

DIRECTION OF EXTRACTION

DIRECTION OF TOPSOIL

PROPOSED PIT ENTRANCE/

PRODUCT TRANSPORTATION

ARCHAEOLOGICAL SITE

A1Gx-25 (REFER TO ARCHAEOLOGICAL REPORT) COMPLETED REHABILITATION

EXTRACTION FACE

MOVEMENT

EXIT (GATED)

VIA HAUL ROAD

EXISTING FENCE

120m BOUNDARY LINE

EXCEPT WHERE FURTHER RESTRICTIONS APPLY AS OUTLINED BELOW, THE EXTRACTION AND EQUIPMENT OPERATING IN THE PIT SHALL BE LIMITED TO TWO EXTRACTION LOADERS, ONE DRAG LINE OR EXCAVATOR, TWO ROCK TRUCKS, AND THE CONVEYORS REQUIRED TO TRANSPORT MATERIAL FROM THE EXTRACTION AREA(S) TO THE PROCESSING PLANT TO THE WEST OF THE SITE.

THE REFERENCE SOUND EMISSION LEVELS OF THE EQUIPMENT SHALL NOT EXCEED: REFERENCE SOUND LEVEL EQUIPMENT ONE HOUR L EQ@ 30 METRES) CRUSHERS AND CONVEYERS TRACTION LOADER (EACH ROCK TRUCK (EACH)

DRAG LINE OR EXCAVATOR

NOISE ASSESSMENT (AERCOUSTICS ENGINEERING LIMITED, OCTOBER 2017)

LEGEND

EXTRACTION OPERATIONS SHALL BE RESTRICTED TO THE TIME PERIOD 07:00-19:00. SITE PREPARATION AND REHABILITATION OPERATIONS SHALL BE RESTRICTED TO WEEKDAYS 07:00- 19:00 AND SATURDAYS FROM ONCE EXTRACTION IS TAKING PLACE IN PHASE1:

THE CRUSHER SHALL BE LOCATED AT A MINIMUM DISTANCE OF 160m FROM THE NORTH EXTRACTION LIMIT AND 30m FROM THE WEST EXTRACTION LIMIT. THE PLANT SHALL REMAIN IN THIS LOCATION FOR THE A 4m HIGH LOCAL ACOUSTIC BARRIER SHALL BE LOCATED WITHIN 50m OF THE CRUSHER, BETWEEN THE

PLANT AND RECEPTORS R01 TO R06 AS SEEN IN FIGURE 2. PERIMETER ACOUSTICAL BERMS SHALL BE CONSTRUCTED AS INDICATED ON THE SITE PLANS. THE MINIMUM REQUIRED TOP-OF-BERM HEIGHTS ARE SPECIFIED. THE PHASING OF BERM CONSTRUCTION SHALL BE AS INDICATED ON THE SITE PLANS.

PRIOR TO PHASE 1, A BERM SHOULD BE CONSTRUCTED ALONG THE ENTIRE NORTH PERIMETER, SUCH THAT THE BERM HEIGHT IS AT LEAST 4m. PRIOR TO PHASE 4, A BERM SHOULD BE CONSTRUCTION ALONG THE ENTIRE SOUTH EDGE OF PHASE 4, AT AN

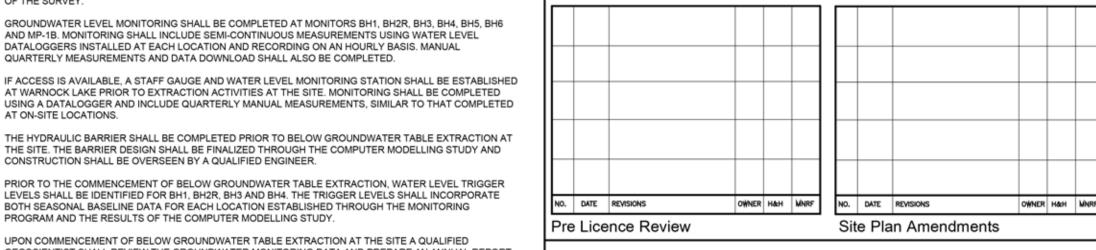
PRIOR TO PHASE 4, A BERM SHOULD BE CONSTRUCTED ALONG THE EAST PERIMETER, SUCH THAT THE BERM THE PHASING AND DIRECTION OF EXTRACTION SHALL BE AS INDICATED ON THE SITE PLANS.

WITHIN PHASE 2, DUE TO THE TOPOGRAPHY OF THE LAND, THE EXTRACTION EQUIPMENT SHOULD OPERATE WITHIN 30m OF THE FACE SUCH THAT THE EQUIPMENT IS SHIELDED BY THE EXTRACTION FACE ON BOTH THE NORTH AND EAST SIDE AT ALL TIMES.

WITHIN PHASE 3, DUE TO THE TOPOGRAPHY OF THE LAND, THE EXTRACTION EQUIPMENT SHOULD OPERATE WITHIN 30m OF THE FACE SUCH THAT THE EQUIPMENT IS SHIELDED BY THE EXTRACTION FACE ON BOTH THE NORTH AND EAST SIDE AT ALL TIMES. WITHIN PHASE 4, DUE TO THE TOPOGRAPHY OF THE LAND, THE EXTRACTION EQUIPMENT SHOULD OPERATE WITHIN 30m OF THE FACE SUCH THAT THE EQUIPMENT IS SHIELDED BY THE EXTRACTION FACE ON THE

SOUTH SIDE AT ALL TIMES. THE DEPTH OF EACH LIFT SHALL WHERE POSSIBLE BE A MINIMUM OF 7 METRES. IF THIS REQUIREMENT CANNOT BE MET FOR THE 2ND (OR 3RD) LIFT, THE LIFTS SHALL BE EXTRACTED IN CLOSE SUCCESSION SUCH HAT THE COMBINED FACE HEIGHT IS A MINIMUM OF 7m.

ANY PROPOSED CHANGES TO THE ASPECTS OF THE EXTRACTION AND PROCESSING OPERATIONS DEALT WITH ABOVE AS RELATING TO NOISE CONTROL SHALL BE REVIEWED BY A QUALIFIED ACOUSTICAL CONSULTANT FOR COMPLIANCE WITH THE RELEVANT NOISE CRITERIA.



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# McCORMICK PIT

PART OF LOT 12, CONCESSION 2 EHS TOWN OF CALEDON, PEEL REGION

APPLICANT SIGNATURE

Scale 1:5000 North Drawing Status SUBMITTED TO MNRI FOR REVIEW

S.B.

Drawn

Drawing Title

Checked G.D.H./ M.H. Issue Date JAN 2018 Project Number

Stamp

**OPERATIONS** PHASES B-G

02-48 Drawing Number

2. ANY ON-SITE ROADS THAT ARE PAVED TO REDUCE DUST EMISSIONS SHALL BE KEPT CLEAN AND FREE OF DUST THROUGH WATER FLUSHING, AS APPROPRIATE; 3. VEHICLE SPEEDS ON ALL ON-SITE HAUL ROADS SHALL REMAIN AT 20 KM/H OR LESS.

AIR QUALITY ASSESSMENT (ARCADIS - OCTOBER 2017)

1. DUST MITIGATION ACTIVITIES ON SITE SHALL MEET OR EXCEED THOSE USED IN THIS ASSESSMENT,