



**PHASE A**

1. ESTABLISH SERVICE ENTRANCE/EXIT AT HEART LAKE ROAD ACCORDING TO MUNICIPAL STANDARDS WHERE SHOWN ON THE SITE PLAN. ESTABLISH INTERNAL HAUL ROUTE FROM AREA 1 TO LICENCE 19073 ON PIT FLOOR AS SOON AS POSSIBLE.
2. PRIOR TO EXTRACTION COMMENCING IN AREA 1, CONSTRUCT OR UPGRADE THE FENCING ON THE LICENCED BOUNDARIES OF THE SITE TO THE STANDARDS OF THE AGGREGATE RESOURCES ACT, AS REQUIRED. EXCEPT WHERE SITE PLAN OVERRIDES ARE NOTED (REFER TO EXISTING FEATURES NOTE 7 REGARDING ARCHAEOLOGICAL SITE AND SITE PLAN OVERRIDE #3 REGARDING THE WEST BOUNDARY). ALL FENCES SHALL BE MAINTAINED.
3. PRIOR TO EXTRACTION, TREES WILL BE PLANTED WITHIN SOUTHWEST TREE PLANTING ZONE SEE NATURAL ENVIRONMENT REPORT TECHNICAL RECOMMENDATIONS PAGE 3 OF 4 AND REHABILITATION NOTES, PAGE 5 OF 5.
4. PRIOR TO EXTRACTION IN AREA 1 COMPLETE THE ANALYSIS OF THE HYDRAULIC BARRIER (SEE NOTE # 12 BELOW).
5. PREPARE SITE WITHIN AREA 1 BY REMOVING EXISTING TREES AND SCRUB VEGETATION LOCATED IN THE AREA TO BE EXTRACTED. SALVAGE LARGER STUMPS AND TREES FOR HABITAT CREATION DURING PROGRESSIVE REHABILITATION (SEE NOTE #10 BELOW).
6. STRIP TOPSOIL AND OVERBURDEN SEPARATELY FROM AREA 1 AND USE THE MATERIALS TO CONSTRUCT ACOUSTIC BERM ALONG THE NORTH PERIMETER OF AREA 1 (BERM MUST BE CONSTRUCTED PRIOR TO EXTRACTION COMMENCING ON SITE). EXCESS MATERIAL MAY BE USED TO BEGIN CONSTRUCTION ON THE ACOUSTIC BERM ALONG THE EAST PERIMETER OF AREA 4, AS SHOWN.
7. BEGIN ABOVE WATER EXTRACTION IN AREA 1 IN DIRECTION SHOWN. MATERIAL WILL BE STOCKPILED AND TRANSPORTED VIA CONVEYER OR ROCK TRUCK TO LICENCE 19073 FOR PROCESSING.
8. AREAS 2, 3 AND 4 REMAIN UNDISTURBED.

**OPERATIONAL NOTES (CONTINUED)**

**NOISE MITIGATION INFORMATION**

13. HOURS OF OPERATION:
- SITE PREPARATION AND REHABILITATION: 07:00-19:00 WEEKDAYS; 07:00-15:00 SATURDAYS
  - EXCAVATION AND PROCESSING: 07:00-19:00 WEEKDAYS
  - SHIPPING: 06:00-19:00 WEEKDAYS; 06:00-15:00 SATURDAYS

**AIR QUALITY INFORMATION**

14. WATER OR CALCIUM CHLORIDE WILL BE APPLIED TO INTERNAL HAUL ROADS AND PROCESSING AREAS AS OFTEN AS REQUIRED TO MITIGATE DUST.
- A BEST MANAGEMENT PLAN FOR FUGITIVE DUST WILL BE PREPARED FOR THE SITE.

**SITE MANAGEMENT INFORMATION**

15. MAINTENANCE/PROTECTION OF VEGETATION INFORMATION
15. EXISTING VEGETATION WITHIN THE LICENCED AREA SHALL BE MAINTAINED IN A HEALTHY, VIGOROUS GROWING CONDITION UNTIL SEQUENTIAL STRIPPING BEGINS OR UNTIL THE REHABILITATION IS COMPLETE. ANY VEGETATION PLANTED AS PART OF SITE IMPROVEMENTS OR PROGRESSIVE AND FINAL REHABILITATION WILL ALSO BE MAINTAINED IN A HEALTHY, VIGOROUS GROWING CONDITION.

**FENCING INFORMATION**

16. BOUNDARIES OF THE AREA TO BE LICENCED THAT ARE PRESENTLY FENCED ARE SHOWN ON DRAWING 1 OF 5, EXISTING FEATURES. PRIOR TO ANY STRIPPING OR PREPARATION, FENCING ON THE LICENCED BOUNDARIES WILL BE UPGRADED TO COMPLY WITH THE AGGREGATE RESOURCES ACT WHERE REQUIRED (REFER TO PHASING NOTES). ALL FENCING SHALL BE MAINTAINED.

**TOPSOIL/SUBSOIL/OVERBURDEN STORAGE INFORMATION**

17. TOPSOIL AND OVERBURDEN SHALL BE STRIPPED AND STORED SEPARATELY IN BERMS OR STOCKPILES. BERMS AND STOCKPILES OF TOPSOIL SHALL BE GRADED TO STABLE SLOPES AND VEGETATED TO PREVENT EROSION AND MINIMIZE DUST.

**BERM INFORMATION**

18. BERMS SHALL CREATE AN EFFECTIVE VISUAL OR ACOUSTICAL BARRIER TO A MINIMUM OF 2.1 METRES ABOVE THE EXISTING GRADE, OR AS PER NOISE ASSESSMENT OR AIR QUALITY ASSESSMENT TECHNICAL RECOMMENDATIONS HAVE SHOWN ON PHASE DIAGRAMS (THIS PAGE). BERMS SHALL HAVE A 2:1 (H:V) SLOPE. REFER TO BERM DETAIL ON DRAWING 3. ALL BERMS SHALL BE SCAFFOLDED TO INCLUDE VARIATIONS IN SLOPE AND ELEVATION IN ORDER TO SIMULATE HUMMOCKY TOPOGRAPHY AND REDUCE VISUAL IMPACT. BERMS WILL BE SEEDED IMMEDIATELY UPON COMPLETION. VEGETATION SHALL BE MAINTAINED TO MINIMIZE NOISE, DUST AND EROSION.

19. ON COMPLETION OF THE BERMS, EXCESS ON-SITE OVERBURDEN WILL BE USED TO PROGRESSIVELY BACKFILL AND REHABILITATE THE SITE. TOPSOIL CAN BE TEMPORARILY STOCKPILED ON THE PIT FLOOR.

**SCRAP STORAGE INFORMATION**

20. ALL SCRAP AND USED MACHINERY GENERATED THROUGH THE OPERATIONS WITHIN THIS LICENCE WILL BE STORED IN THE PROCESSING AREA AS SHOWN. A MINIMUM OF 30m FROM THE BOUNDARY OF THE LICENCE AND BE DISPOSED OF ON AN ONGOING BASIS. TREES TO BE REMOVED WITHIN THE EXTRACTION AREA WILL BE UTILIZED FOR FIREWOOD OR THEIR BEST USE. STUMPS, LOGS AND OVERSIZED ROCK WILL REMAIN ON SITE FOR FUTURE PROGRESSIVE REHABILITATION. THE SALVAGED MATERIAL TO BE USED FOR PROGRESSIVE REHABILITATION WILL BE STORED IN THE STORAGE AREA SOUTH OF AREA 3 UNTIL THIS AREA IS REHABILITATED, WHEREUPON IT WILL BE MOVED TO AREA 1 EAST OF THE PROCESSING AREA. UPON COMPLETION OF EXTRACTION, ALL SCRAP EQUIPMENT AND USED MACHINERY SHALL BE REMOVED.

**PETROLEUM STORAGE INFORMATION**

21. FUEL, OIL, RADIATOR AND HYDRAULIC FLUID, AND OTHER CHEMICALS NEEDED FOR THE MAINTENANCE AND FUNCTIONING OF ON-SITE AGGREGATE PROCESSING EQUIPMENT SHALL BE APPROPRIATELY STORED IN ABOVE-GROUND CONTAINERS. FUEL TANKS SHALL BE DOUBLE WALLED AND SHALL MEET THE REQUIREMENTS OF THE TSSA LIQUID FUEL HANDLING CODE AS AMENDED BY THE TECHNICAL STANDARDS AND SAFETY ACT (TSSA) AND GASOLINE HANDLING ACT, AS AMENDED AND IN ACCORDANCE WITH THE MINISTRY OF THE ENVIRONMENT AND CLIMATE CHANGE'S CHEMICAL STORAGE GUIDELINES. ALL REFUELLING SHALL BE WITHIN A CONTAINMENT PAD. ALL SPILLS TO THE ENVIRONMENT MUST BE REPORTED TO THE SPILLS ACTION CENTRE OF MIOCCC. ANY SPILL SHOULD BE REMOVED AND DISPOSED OF AT AN APPROPRIATE MIOCCC APPROVED FACILITY.

FOR TECHNICAL RECOMMENDATIONS SEE PAGE 3 OF 5

**LEGEND**

- BOUNDARY OF AREA TO BE LICENCED
- BOUNDARY OF LICENCED AREA
- REGULATORY SETBACK LINE
- 120m BOUNDARY LINE
- LOT/CONCESSION LINE
- PROVINCIAL SIGNIFICANT WETLAND (MNRFP MAPING - 2003)
- LIMIT OF EXTRACTION
- SURVEYED NATURAL ENVIRONMENT OPERATIONAL HYDRAULIC BARRIER
- EXISTING VEGETATION
- EXISTING SURFACE WATER
- EXISTING WETLAND
- BERM (MINIMUM HEIGHT AS SHOWN)
- AREA STRIPPED OF TOPSOIL
- UNDISTURBED AREA
- EXISTING FENCE
- SMALL STREAM, AGRICULTURAL DITCH/SWALE
- DIRECTION OF EXTRACTION
- EXTRACTION FACE
- DIRECTION OF TOPSOIL MOVEMENT
- PROPOSED PIT ENTRANCE/EXIT (GATED)
- PRODUCT TRANSPORTATION VIA HAUL ROAD
- EXISTING ELEVATION
- PROPOSED ELEVATION
- LOCATION OF NOISE RECEPTOR
- ARCHAEOLOGICAL SITE A10x-25 (REFER TO ARCHAEOLOGICAL REPORT)

**OPERATIONAL NOTES**

**GENERAL INFORMATION**

1. THIS PLAN DEPICTS A SCHEMATIC OPERATIONS AND REHABILITATION SEQUENCE FOR THIS PROPERTY BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION. PHASES SHOWN ARE SCHEMATIC AND MAY VARY WITH MATERIAL QUANTITY, SITE HYDROLOGY AND HYDROGEOLOGY OR MARKET DEMAND. ACTUAL EXTRACTION AND REHABILITATION SHALL FOLLOW THE DEPOSIT UNLESS SPECIFICALLY PROHIBITED BY THESE PLANS. PHASES DO NOT REPRESENT ANY SPECIFIC OR EQUAL TIME PERIOD.
- EXTRACTION SHALL GENERALLY FOLLOW THE SEQUENCE SHOWN. WHEN PARTIAL REHABILITATION OF A PHASE IS POSSIBLE IT SHALL BE CARRIED OUT NOT WITHSTANDING THE EXTRACTION AND REHABILITATION PROCESS ABOVE. DEMAND FOR CERTAIN PRODUCTS OR BLENDING OF MATERIALS MAY REQUIRE SOME DEVIATION IN THE EXTRACTION AND REHABILITATION PHASING. ANY MAJOR DEVIATIONS FROM THE OPERATIONS SEQUENCE SHOWN WILL BE REPORTED TO MNRFP.
2. REFER TO DRAWING 1 OF 5, EXISTING FEATURES, FOR A DESCRIPTION OF EXISTING VEGETATION AND BUILDINGS WITHIN THE 120 METRE BOUNDARY AND ON SITE.
3. SITE PLAN OVERRIDES ARE LISTED IN THE SITE PLAN OVERRIDE TABLE SHOWN ON THIS PAGE.

**RESOURCE INFORMATION**

4. RESOURCE INFORMATION IS OBTAINED FROM ARIP MAPPING, GEOLOGICAL MAPPING AND TEST PITS DUG BY THE APPLICANT IN NOVEMBER 2002 AND BOREHOLES DRILLED IN SEPTEMBER 2003.

**EXTRACTION/PROCESSING/HAULING INFORMATION**

5. TOTAL AREA TO BE EXTRACTION IS 20.75 HECTARES.
6. MAXIMUM NUMBER OF TONNES OF AGGREGATE TO BE REMOVED FROM THE SITE IN ANY CALENDAR YEAR IS 700,000 TONNES.
7. EXTRACTION OF SAND AND GRAVEL ABOVE WATER TABLE WILL TAKE PLACE IN A SERIES OF BENCHES WITH, WHERE POSSIBLE, A MINIMUM HEIGHT OF 7 METRES OR 15m ABOVE THE MAXIMUM REACH OF THE EXTRACTION EQUIPMENT (MAXIMUM 5 METRES ABOVE WATER). UNDERWATER EXTRACTION WILL BE BY DRAGLINE OR EXCAVATOR TO A MAXIMUM DEPTH OF 384.0m ASL. EXTRACTION WILL INCLUDE EXTRACTION BELOW THE WATER TABLE ON THE EXTENT OF THE BERM. THE GROUNDWATER TABLE IS ESTIMATED TO BE BETWEEN 4.68m & 4.12m ASL. (SEE HYDROGEOLOGICAL REPORT). EXTRACTION WILL INCLUDE EXTRACTION AND LOADING WITH FRONT END LOADERS AND TRANSPORTING BY CONVEYOR OR ROCK TRUCK TO LICENCE 19073 FOR FURTHER PROCESSING. REFER TO SECTIONS ON DRAWING 4 FOR FURTHER DETAILS AND REHABILITATION PLAN ON DRAWING 5.
- EQUIPMENT TO BE USED IN THE OPERATION OF THE PIT MAY INCLUDE TRUCKS, LOADERS, DRAGLINES, EXCAVATOR, BULLDOZERS, SCRAPERS, CRUSHERS, CONVEYORS AND OTHER RELATED EQUIPMENT. TEMPORARY STOCKPILES MAY BE LOCATED NEAR THE PIT FACE. PROCESSING EQUIPMENT, STACKERS AND PRODUCT STOCKPILES WILL NOT EXCEED 15 METRES IN HEIGHT AND WILL BE LOCATED IN THE PROCESSING AREA.
8. BELOW-WATER EXTRACTION WILL CEASE IMMEDIATELY IF THERE ARE ANY EARLY WARNING SIGNS OF IMPACT TO SURROUNDING GROUNDWATER USERS THAT IS ATTRIBUTED TO BELOW WATER OPERATIONS UNTIL INVESTIGATION REFERENCED IN WATER WELL COMPLAINT RESPONSE IS COMPLETED AND ALL TRIGGER LEVELS REFERENCED IN MONITORING PROGRAM NOTE 5 HAVE RECOVERED.
9. ALL BUILDINGS, EQUIPMENT, SCRAP AND MACHINERY ASSOCIATED WITH THE EXTRACTION OPERATIONS WILL BE REMOVED UPON COMPLETION OF EXTRACTION.

**HYDROGEOLOGICAL INFORMATION**

10. THE WATER TABLE ELEVATION WITHIN THIS PROPERTY IS ESTIMATED TO BE AT 440.8 - 410m ABOVE SEA LEVEL (A.S.L.) BASED ON THE HYDROGEOLOGICAL REPORT (SEE HYDROGEOLOGICAL REPORT).
11. SURFACE DRAINAGE ON THE PIT FLOOR WILL BE DIRECTED TO LOW AREAS FOR WATER TO INFILTRATE INTO THE GRANULAR MATERIALS ON THE PIT FLOOR. THERE SHALL BE NO OFF-SITE DISCHARGE OF PROCESSING WATER AND THERE ARE NO PROPOSED WATER OVERSPILLS OR POINTS OF DISCHARGE TO SURFACE WATER. THERE WILL BE NO OFFSITE DITCHING OR DISCHARGE TO CALEDON CREEK OR WARNOCK LAKE.
- HYDRAULIC BARRIER
12. FURTHER ANALYSIS IS REQUIRED TO DESIGN AN EFFECTIVE BARRIER SIMILAR TO THE BARRIER USED ON LICENCE #19073. THIS ANALYSIS WILL BE COMPLETED AS A CONDITION OF APPROVAL AND PRIOR TO ANY EXTRACTION ON SITE (SEE TECHNICAL RECOMMENDATIONS, PAGE 3 OF 5).

NO.	DATE	REVISIONS	OWNER	HAH	HAFT	NO.	DATE	REVISIONS	OWNER	HAH	HAFT
1	MAY 15 2018	AMENDED NOTE 21									

**SITE PLAN OVERRIDE**

THE FOLLOWING CONDITIONS ILLUSTRATED ON THESE PLANS VARY FROM THE REQUIREMENTS OF THE PROVINCIAL OPERATIONAL STANDARDS MADE UNDER THE AGGREGATE RESOURCES ACT, FOR LICENCES.

ITEM	SECTION
1. REGULATORY SETBACK REDUCED FROM 15m TO 0m WEST OF RESIDENCE ALONG SOUTH BOUNDARY. AS LANDS ARE UNDER SAME OWNERSHIP (REFER TO LIMIT OF EXTRACTION FROM NATURAL HERITAGE FEATURES BOUNDARY).	5.10.1
2. TO ALLOW FOR VARYING 2:1 TO 3:1 SLOPES BELOW WATER TABLE TO MAXIMIZE RESOURCE EXTRACTION AND PROVIDE AQUATIC HABITAT.	5.19.1
3. REGULATORY SETBACK REDUCED FROM 15m TO 0m ALONG THE WEST PORTION OF THE LICENCE BOUNDARY. AS PER AGREEMENT WITH ADJACENT LICENCES, EXISTING 1.2m HIGH FENCE WILL BE REMOVED TO ALLOW MOVEMENT OF MATERIAL AND VEHICLES BETWEEN THE TWO LICENCES.	5.10.1 5.10.1

Pre Licence Review

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Project Name  
**McCORMICK PIT**  
PART OF LOT 12, CONCESSION 2 EHS  
TOWN OF CALEDON, PEEL REGION  
LICENCE No. \_\_\_\_\_  
APPLICANT SIGNATURE \_\_\_\_\_

Scale 1:2000 North  
0 10 50 80m

Drawing Status  
SUBMITTED TO MNRFP FOR REVIEW

Drawn S.B. Checked G.D.H./M.H. Issue Date JAN 2018

Drawing Title  
**OPERATIONS PLAN PHASE A**

Project Number  
02-48

Drawing Number  
**2 OF 5**