

OPERATIONAL NOTES:

PROPOSED REHABILITATION

1. EXTRACTION AND REHABILITATION OF THE QUARRY WILL RETURN THE SITE TO PRODUCTIVE AGRICULTURE WITH ECOLOGICAL ENHANCEMENTS COMPATIBLE WITH THE SURROUNDING LANDS SUCH AS OPEN FIELD MEADOWS WETLAND AND FOREST CORRIDORS.

MAXIMUM AREA TO BE EXTRACTED

2. THE MAXIMUM AREA TO BE EXTRACTED WILL BE 118.5 HA. THE AREA TO BE LICENSED WILL BE 138 HA.

MAXIMUM TONNAGE LIMIT

3. THE AMOUNT OF AGGREGATE TO BE REMOVED FROM THE SITE WILL NOT EXCEED 500,000 TONNES IN ANY CALENDAR YEAR.

HOURS OF OPERATION

4. LOADING AND SHIPPING - 6:00 AM TO 6:00 PM MONDAY TO FRIDAY, 6:00 AM TO 12:00 PM ON SATURDAYS. AFTER HOURS LOADING AND SHIPPING MAY OCCUR AT THE REQUEST OF THE PROVINCE OF ONTARIO.

5. PROCESSING - CRUSHING, SCREENING AND WASHING - 7:00 AM TO 6:00 PM MONDAY TO FRIDAY, 7:00 AM TO 12:00 PM ON SATURDAYS.

6. BLASTING - 8:00 AM TO 6:00 PM MONDAY TO FRIDAY.

7. CONSTRUCTION ACTIVITIES INCLUDING STRIPPING AND REHABILITATION - 7:00 AM TO 7:00 PM MONDAY TO FRIDAY.

8. NO OPERATIONS ARE PERMITTED ON PUBLIC HOLIDAYS AS DEFINED BY THE EMPLOYMENT STANDARDS ACT.

EXTRACTION SEQUENCE

9. EXTRACTION OF THE SITE WILL BE DONE IN NINE PHASES AND WILL OCCUR SEQUENTIALLY TO MINIMIZE THE DISTURBED AREA. SEE STAGES OF OPERATIONS (SHEETS 6, 7 AND 8) FOR A DESCRIPTION OF THE ACTIVITIES PROPOSED FOR EACH PHASE AND FINAL REHABILITATION.

PROCESSING/SHIPPING/RECYCLING AREA

10. PHASE 1A (THE PROCESSING/SHIPPING/RECYCLING AREA) WILL BE DESIGNATED AS THE MAIN AREA FOR CRUSHING, SCREENING AND WASHING OF AGGREGATE. PRIMARY CRUSHING OPERATIONS MAY ALSO OCCUR IN AREAS UNDERGOING EXTRACTION PENDING APPROVAL OF APPROPRIATE NOISE MITIGATION MEASURES (SEE NOISE RECOMMENDATIONS ON SHEET 3 OF 8).

11. THIS AREA WILL ALSO BE THE MAIN AREA FOR THE STORAGE OF FUEL SCRAP, AND AGGREGATE RECYCLING. THE SHOP AND SCALE HOUSE WILL ALSO BE LOCATED IN THIS AREA.

DEPTH OF EXTRACTION AND EXTRACTION LIFTS

12. PHASE 1A WILL BE EXTRACTED DOWN TO 224 MASL MAKING THE DEPTH OF EXTRACTION RANGE FROM 3 METERS TO 18 METERS.

13. THE ELEVATION OF THE QUARRY FLOOR IN PHASES 2 THROUGH 4D WILL RANGE FROM 216.0 M TO 217.0 MASL, 216.4 MASL ON AVERAGE. THE HIGHEST GROUND ELEVATION ON THE SITE IS 242.5 MASL WHICH OCCURS IN THE NORTHWEST CORNER OF THE SITE. THE MAXIMUM DEPTH OF EXTRACTION WILL BE 25.5 METERS, WHICH WILL BE EXTRACTED IN TWO LIFTS OF APPROXIMATELY 13 METERS EACH (SEE DETAIL A ON SHEET 4 OF 8). TWO LIFTS WILL BE USED ALONG THE WEST BOUNDARY AND THE NORTH BOUNDARY. ONCE THE UPPER LIFT HAS BEEN REMOVED ALONG THESE TWO BOUNDARIES, THE LOWER LIFT WILL BE EXTRACTED DOWN TO FULL DEPTH (SEE DETAIL B). FOR THE REMAINDER OF THE SITE, ONE LIFT WILL BE USED AND THE DEPTH OF EXTRACTION WILL VARY FROM 7 METERS TO 18 METERS. THE MAXIMUM HEIGHT OF EACH LIFT WILL NOT EXCEED MINISTRY OF LABOUR REQUIREMENTS.

14. THE AVERAGE ELEVATION OF THE SHALLOW GROUNDWATER IN THE NORTHWEST PORTION OF THE SITE IS 238.59 MASL (AT MW5 07) AND 214.97 MASL IN THE SOUTHEAST PORTION (AT MW14-12) (SEE TABLE 1 ON SHEET 1 OF 8). AT ITS LOWEST POINT, THE QUARRY FLOOR WILL BE 216.0 MASL, SO THAT IT WILL REMAIN ABOVE THE ELEVATION OF THE WATER IN THE PSW AND ENSURE FLOW CONTINUES TO THIS WET AND POST EXTRACTION.

15. THE ELEVATION OF THE QUARRY FLOOR MAY VARY AS IT FOLLOWS THE ELEVATION OF THE SHADOW LAKE FORMATION, WHERE THE QUALITY OF MATERIAL DOES NOT MEET THE OPERATOR'S MARKET REQUIREMENTS, THE DEPTH OF EXTRACTION MAY BE REDUCED.

16. AS THE LIMIT OF EXTRACTION IS REACHED, THE OPERATOR WILL UTILIZE ONE OF THE LIFT EXTRACTION OPTIONS AS OUTLINED IN DETAIL A ON SHEET 4 OF 8. ALL EXCAVATION FACES WILL BE STABILIZED TO PREVENT EROSION INTO THE SETBACK AREA.

17. CROSS-SECTIONS SHOWING THE EXISTING GROUND ELEVATION, THE SHALLOW GROUNDWATER ELEVATION AND THE FINAL FLOOR ELEVATION ARE SHOWN ON SHEET 3 OF 8.

AGGREGATE STOCKPILING

18. STOCKPILES OF AGGREGATE WILL BE LOCATED IN THE PROCESSING/SHIPPING/RECYCLING AREA OR IN THE OPERATING PHASE. THE MAXIMUM HEIGHT OF AGGREGATE STOCKPILES WILL BE 20 METERS. AGGREGATE STOCKPILES IN THE OPERATING PHASE WILL REMAIN NO CLOSER THAN 30 METERS FROM THE LICENSED BOUNDARY. A VARIANCE IS REQUIRED SO THAT STOCKPILES STORED IN THE PROCESSING/SHIPPING/RECYCLING AREA CAN BE LOCATED CLOSER THAN 30 METERS FROM THE LICENSED BOUNDARY (TABLE 4).

FENCING

19. 1.2 METER HIGH POST AND WIRE FENCING OF THE LICENSED BOUNDARY WILL BE COMPLETED WITHIN 1 YEAR OF THE DATE OF THE LICENSE AND WILL BE MAINTAINED FOR THE LIFE OF THE QUARRY. EXCEPTIONS TO THE FENCING REQUIREMENTS ARE NOTED ON TABLE 4. 1.2 M MARKER POSTS WILL BE INSTALLED ALONG UNFENCED LICENSED BOUNDARIES SO THAT POSTS CAN BE SEEN FROM ONE POST TO THE NEXT WITH A MAXIMUM SEPARATION OF 30 M. MARKER POSTS WILL BE INSTALLED WITHIN 1 YEAR OF LICENCING.

SETBACKS AND BUFFERS

20. APPROPRIATE SETBACKS SHALL BE MAINTAINED AS SHOWN ON THE SITE PLANS: A 15 METER SETBACK ALONG THE EAST BOUNDARY (ON LOT 14), A 30 METER SETBACK ALONG THE SOUTHEAST BOUNDARY ADJACENT TO THE PSW, AND A 15 METER SETBACK ALONG THE SOUTH BOUNDARY.

21. A VARIANCE (0 METER SETBACK) IS REQUIRED ALONG THE NORTH BOUNDARY, EAST BOUNDARY (ON LOT 13), AND ALONG THE WEST BOUNDARY AS DETAILED IN TABLE 4.

22. IN LIEU OF A 15 METER SETBACK ALONG THE NORTH BOUNDARY, A 90 METER BUFFER WILL BE MAINTAINED TO ALLOW FOR THE CONSTRUCTION OF A TREE NURSERY AND A FISH HABITAT LINKAGE CONNECTING THE NORTH OUTLET TO THE NEW DRAINAGE CHANNEL (SEE DETAIL D, SHEET 4 OF 8).

SITE PREPARATION, TOPSOIL AND OVERBURDEN STRIPPING

23. CLEARING OF VEGETATION IS TO OCCUR OUTSIDE THE PEAK BREEDING BIRD SEASON (APRIL 15TH - AUGUST 15TH). IF CLEARING MUST BE CONDUCTED DURING THIS TIME, A QUALIFIED BIRD BIOLOGIST MUST CONDUCT A NEST SEARCH FOR ANY EVIDENCE OF ACTIVE NESTS WITHIN THE AREA TO BE CLEARED.

24. TREE STUMPS AND BRUSH COLLECTED WHILE CLEARING TREES DURING SITE PREPARATION WILL BE STORED IN THE EXTRACTION AREA OF THE SITE UNTIL THEY ARE BURNED OR CHIPPED FOR REHABILITATION PURPOSES.

25. NO TOPSOIL WILL BE REMOVED FROM THE SITE. TOPSOIL AND OVERBURDEN FROM PHASE 1A WILL BE STRIPPED AND USED FOR CONSTRUCTING NOISE ATTENUATION BARRIERS (I.E. BERMS) AROUND THE PROCESSING/SHIPPING/RECYCLING AREA OR STOCKPILED FOR USE DURING THE REHABILITATION OF PHASE 1B. TOPSOIL AND OVERBURDEN FROM SUBSEQUENT PHASES WILL BE USED FOR PROGRESSIVE REHABILITATION OR TEMPORARILY STOCKPILED WITHIN THE DISTURBED AREA BUT NOT WITHIN 30 METERS OF THE LICENSE BOUNDARY. A VARIANCE IS REQUIRED TO ALLOW TOPSOIL AND OVERBURDEN TO BE STORED CLOSER THAN 30 METER TO THE LICENSED BOUNDARY IN THE PROCESSING/SHIPPING/RECYCLING AREA (SEE TABLE 4).

NOISE ATTENUATION BARRIERS

26. NOISE ATTENUATION BARRIERS WILL BE CONSTRUCTED AROUND THE PROCESSING/SHIPPING/RECYCLING AREA USING TOPSOIL AND OVERBURDEN FROM PHASE 1A AS PER NOISE CONTROL RECOMMENDATIONS BY VALCOUSTICS CANADA LTD (SEE NOISE RECOMMENDATIONS ON SHEET 3 OF 8). WHEN THIS TOPSOIL/OVERBURDEN IS REQUIRED FOR REHABILITATION IN PHASE 1B, IT WILL BE REPLACED WITH AN APPROPRIATE ALTERNATIVE NOISE BARRIER (SEE DETAIL C ON SHEET 4 OF 8). THE OTHER REQUIRED NOISE ATTENUATION BARRIERS WILL BE CONSTRUCTED IN STAGES AS PER DETAIL C ON SHEET 4 OF 8.

SLOPES AND GRADING

27. NOISE ATTENUATION BARRIERS THAT ARE MADE USING TOPSOIL/OVERBURDEN AND/OR UNMARKETABLE LIMESTONE AND/OR IMPORTED CLEAN INERT FILL WILL BE GRADED TO A MINIMUM 2:1 SLOPE.

28. PERIMETERS WILL BE REHABILITATED AS THE LIMITS OF EXTRACTION ARE REACHED. ANY SLOPES CONSTRUCTED WILL BE ESTABLISHED AS OUTLINED IN DETAIL B ON SHEET 4 OF 8 BY BACKFILLING WITH OVERBURDEN, IMPORTED CLEAN INERT FILL, AND/OR UNMARKETABLE LIMESTONE. PERIMETER SLOPES WILL BE GRADED PRIOR TO THE PLACEMENT OF TOPSOIL, 300 METERS OF PHASE 3B ONLY WILL BE REHABILITATED AS A VERTICAL FACE (SEE DETAIL B ON SHEET 4 OF 8).

29. ALL AVAILABLE OVERBURDEN, TOPSOIL AND ORGANIC MATERIAL WILL BE APPLIED TO THE SLOPES AND QUARRY FLOOR, WHERE THERE IS A DEFICIT OF OVERBURDEN FOR REHABILITATION PURPOSES. CLEAN INERT FILL WILL BE IMPORTED AS PER NOTE 40. TOPSOIL, OVERBURDEN AND ORGANIC MATERIAL, AND IMPORTED CLEAN INERT FILL WILL BE SPREAD AT VARIABLE DEPTHS IN AREAS TO BE FORESTED TO CREATE THE NECESSARY SOIL DEPTH FOR TREE GROWTH AND WHERE WETLANDS ARE PROPOSED.

30. THE QUARRY FLOOR WILL FOLLOW THE SHADOW LAKE FORMATION AND BE GRADED AS REQUIRED BY THE REHABILITATION PLAN FOR EACH PHASE. PHASES 1 AND A PORTION OF PHASE 2 WILL BE GRADED SUCH THAT DRAINAGE IS TOWARDS THE SOUTH, WHILE THE BALANCE OF PHASE 2 PLUS PHASES 3 AND 4 ARE TO BE GRADED TOWARDS THE NEW DRAINAGE CHANNEL BUILT IN EACH PHASE. WHERE SAID GRADING IS NOT POSSIBLE DUE TO UNDULATIONS IN THE SHADOW LAKE FORMATION, THEN GRADING WILL BE DONE IN CONSULTATION WITH THE MNRF AND A QUALIFIED ENVIRONMENTAL BIOLOGIST AND/OR ENGINEER SO THAT HABITATS ARE RECREATED IN A WAY THAT IS SUITABLE TO EACH PHASE.

SEEDING AND PLANTING

31. EXISTING TREES AND SHRUBS WITHIN THE SETBACK ALONG THE EAST LICENSED BOUNDARY IN LOT 14 WILL BE MAINTAINED AS SCREENS.

32. ANY NOISE ATTENUATION BARRIERS THAT ARE MADE USING TOPSOIL AND OVERBURDEN, AS WELL AS ANY STOCKPILES OF TOPSOIL AND OVERBURDEN WILL BE SEEDED WITH A NATIVE GRASS SEED MIX. VEGETATION SHALL BE MAINTAINED TO CONTROL EROSION.

33. ANY PERIMETER SLOPES MADE USING TOPSOIL AND OVERBURDEN WILL BE SEEDED WITH A NATIVE GRASS SEED MIX TO CONTROL EROSION.

34. NATIVE TREE AND SHRUB SPECIES INDIGENOUS TO THE ORILLIA/WASHAGO AREA WILL BE PLANTED IN AREAS SLATED FOR REHABILITATION TO FOREST. PLANT MATERIALS WILL BE OBTAINED FROM LOCAL NURSERIES, THE ON-SITE NURSERY, OR TRANSPLANTED FROM AREAS THAT ARE TO BE PREPARED FOR EXTRACTION.

35. FORESTED AREAS WILL BE COMPRISED OF SUGAR MAPLE, EASTERN WHITE PINE, EASTERN HEMLOCK, EASTERN WHITE CEDAR, WHITE BIRCH, RED OAK AND RED MAPLE. IT IS RECOMMENDED THAT 70% OF THE SPECIES WITHIN EACH FOREST POCKET BE CONIFEROUS AND 30% DECIDUOUS TO RE-ESTABLISH WHAT EXISTED PRIOR TO CLEARING.

36. AREAS OF THE SITE TO BE REHABILITATED TO AGRICULTURE WILL BE SEEDED WITH A SUITABLE CROP TYPE.

37. AREAS OF THE SITE TO BE REHABILITATED TO OPEN FIELD MEADOW WILL BE SEEDED WITH A NATIVE GRASS SEED MIX.

38. THERE ARE FOUR CATEGORY 2 BUTTERNUT TREES FOUND ON THE SITE. A NOTICE OF ACTIVITY UNDER THE ENDANGERED SPECIES ACT WILL BE REQUIRED FROM THE MNRF TO ENSURE PROPER REPLACEMENT/COMPENSATION FOR THE REMOVAL OF THESE TREES.

39. THERE ARE EIGHT REGIONALLY RARE VEGETATION SPECIES IN THE PROPOSED LICENSED AREA. A PROFESSIONAL BIOLOGIST WILL DEVELOP A VEGETATION SALVAGE PLAN TO TRANSPLANT AND RELOCATE ANY RARE VEGETATION SPECIES. THE VEGETATION SALVAGE PLAN WILL BE APPROVED BY MNRF BEFORE EXTRACTION PROCEEDS.

IMPORTATION OF MATERIAL FOR REHABILITATION

40. TOPSOIL AND CLEAN INERT FILL MAY BE BROUGHT ON SITE FOR REHABILITATION AS PER AN POLICY 6.00.3. TOPSOIL AND CLEAN INERT FILL WILL BE STOCKPILED SEPARATELY FROM NATIVE MATERIAL, IF NOT USED IMMEDIATELY FOR REHABILITATION. THE LICENSEE MUST ENSURE THAT THE MATERIAL IS TESTED AT SOURCE BEFORE IT IS DEPOSITED ON SITE TO ENSURE THAT THE MATERIAL MEETS THE MOECC'S CRITERIA UNDER TABLE 1 OF THE MOECC'S SOILS, GROUNDWATER AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT. SAMPLING RESULTS WILL BE PROVIDED TO THE MNRF UPON REQUEST.

EQUIPMENT

41. EQUIPMENT USED ON SITE WILL VARY DEPENDANT ON OPERATIONS. EQUIPMENT SHALL OPERATE IN ACCORDANCE WITH THE NOISE IMPACT ANALYSIS RECOMMENDATIONS FOUND ON SHEET 3 OF 8. IF REQUIRED, AN MOECC ENVIRONMENTAL COMPLIANCE APPROVAL WILL BE OBTAINED FOR PROCESSING EQUIPMENT TO BE USED ON-SITE.

42. EQUIPMENT USED FOR STRIPPING AND REHABILITATION WILL INCLUDE SCRAPERS, EXCAVATORS, LOADERS, BULLDOZERS AND TRUCKS. PROCESSING OPERATIONS WILL USE PORTABLE CRUSHING AND SCREENING PLANTS, WASH PLANTS, CONVEYORS, STACKERS, FEED BINS, TOOL TRAILERS, ROCK SAWS, AND WOOD GRINDERS. ADDITIONAL EQUIPMENT MAY BE PERMITTED ON-SITE WITH WRITTEN APPROVAL FROM MNRF.

43. ELECTRIC POWER WILL BE PROVIDED USING PORTABLE POWER PLANTS OR AN EXISTING HYDROELECTRIC LINE.

44. FARM EQUIPMENT MAY BE USED IN UNDISTURBED AREAS WHILE EXTRACTION PROCEEDS AND FOR PROGRESSIVE AND FINAL REHABILITATION PURPOSES.

45. PORTABLE EQUIPMENT WILL MOVE THROUGHOUT THE SITE IN PROXIMITY TO THE EXTRACTION FACE OR IN THE PROCESSING/SHIPPING/RECYCLING AREA. IF REQUIRED, AN ENVIRONMENTAL COMPLIANCE APPROVAL WILL BE OBTAINED FOR PROCESSING EQUIPMENT TO BE USED ON SITE.

FUEL STORAGE AND EQUIPMENT MAINTENANCE

46. FUEL STORAGE WILL BE IN ABOVE GROUND TANKS CERTIFIED IN ACCORDANCE WITH APPROVED STANDARDS. REFUELLING BY A FUEL TRUCK IS ALSO PERMITTED. FUEL STORAGE WILL BE LOCATED IN THE PROCESSING/SHIPPING/RECYCLING AREA. THE OPERATOR SHALL MAINTAIN A RECORD OF FUEL DELIVERIES NOTING THE QUANTITY AND DATE OF EACH TRANSFER.

47. MINOR SERVICING OF MOBILE EQUIPMENT WILL OCCUR ON SITE. MAJOR SERVICING OF MOBILE EQUIPMENT MAY OCCUR IN THE SHOP WHEN CONSTRUCTED. STATIONARY EQUIPMENT WILL BE SERVICED ON SITE.

48. ALL PETROLEUM WASTE PRODUCTS WILL BE COLLECTED AND DISPOSED OF BY AN MOECC APPROVED AGENT.

49. A SPILLS CONTINGENCY PLAN WILL BE IN PLACE PRIOR TO SITE PREPARATION.

BUILDINGS AND STRUCTURES

50. A SCALE AND SCALE HOUSE, SHOP AND FUEL STORAGE FACILITIES MAY BE INSTALLED IN THE LOCATIONS IDENTIFIED ON THE SITE SUBJECT TO APPLICABLE PERMITS AND APPROVALS.

HAUL ROUTE

51. THE HAUL ROUTE FOR ALL SHIPPING, EXCEPT LOCAL DELIVERIES, WILL BE SOUTH FROM THE SITE ENTRANCES/EXITS ON THE DESIGNATED HAUL ROUTE KNOWN AS NICHOL'S LINE, WHICH PROVIDES ACCESS TO HIGHWAY 11 SOUTH.

52. THE RECONSTRUCTION AND DESIGN OF THE UNOPENED PORTION OF NICHOL'S LINE LEADING TO THE SITE ENTRANCE WILL REQUIRE APPROVAL BY THE TOWNSHIP OF SEVERN VIA AN AGREEMENT, AND THEN CONSTRUCTED TO SERVICE THE SITE. THIS HAUL ROAD SHALL BE CONSTRUCTED TO MUNICIPAL STANDARDS FOR YEAR ROUND USE BY THE REGISTERED LANDOWNER AND LICENSEE AT NO COST TO THE MUNICIPALITY.

ENTRANCE AND EXIT AND GATES:

53. TRUCK TRAFFIC WILL ENTER AND LEAVE THE SITE ONTO NICHOL'S LINE THROUGH THE PROCESSING/SHIPPING/RECYCLING AREA. THE ENTRANCE AND EXIST WILL BE GATED AND LOCKED WHEN THE QUARRY IS NOT IN USE.

INTERNAL HAUL ROADS

54. AGGREGATE WILL BE TRANSPORTED BY TRUCKS FROM THE ACTIVE QUARRY FACE OR PROCESSED STOCKPILES USING AN INTERNAL HAUL ROAD TO BE ESTABLISHED ON THE QUARRY FLOOR. THE INTERNAL HAUL ROAD IS TEMPORARY AND THE ACTUAL LOCATION WILL VARY AS THE OPERATION PROGRESSES.

55. EQUIPMENT CROSSINGS WILL BE CONSTRUCTED ACROSS THE NEW DRAINAGE CHANNEL TO ALLOW ACCESS TO CERTAIN PHASES. DETAIL DESIGNS FOR EQUIPMENT CROSSINGS WILL BE APPROVED BY A PROFESSIONAL ENGINEER AND PROVIDED TO MNRF PRIOR TO EXTRACTION IN PHASES 3A, 3B, 4A THROUGH 4D.

AGGREGATE WASHING

56. A WASH PLANT WILL BE ESTABLISHED IN THE PROCESSING/SHIPPING/RECYCLING AREA. A PERMIT TO TAKE WATER WILL BE OBTAINED FROM MOECC FOR UTILIZING GROUND AND/OR SURFACE WATER.

57. WATER WILL BE PUMPED FROM THE CLEAN WATER POND TO BE LOCATED IN PHASE 1B. WASH WATER WILL BE DISCHARGED INTO SETTLING POND 1 WHERE FINE MATERIAL WILL SETTLE OUT SO THAT CLEAN WATER CAN BE REUSED IN THE WASHING PROCESS. THE WASH PLANT SYSTEM WILL FUNCTION AS A CLOSED LOOP SYSTEM WHICH RECYCLES ALMOST ALL WATER.

AGGREGATE RECYCLING

58. RECYCLING OF ASPHALT, CONCRETE, AND MASONRY MATERIALS WILL BE STOCKPILED IN THE PROCESSING/SHIPPING/RECYCLING AREA FOR THE PURPOSE OF RESALE AND/OR BLENDING WITH ON SITE PRODUCTS. RECYCLED AGGREGATE WILL BE REMOVED ON AN ON-GOING BASIS. RECYCLED ASPHALT WILL NOT BE STOCKPILED WITHIN 30 METERS OF ANY WATER BODY OR MANMADE POND, OR TWO METERS OF THE SURFACE OF THE WATER TABLE. A VARIANCE IS REQUIRED TO PERMIT STOCKPILES OF RECYCLED AGGREGATE CLOSER THAN 30 METERS TO THE LICENSED BOUNDARY (SEE TABLE 4).

59. ANY REBAR AND OTHER METAL WILL BE REMOVED FROM THE RECYCLED AGGREGATE AND PLACED IN A DESIGNATED SCRAP BIN ON SITE WHICH WILL BE REMOVED ON AN ON-GOING BASIS. ALL RECYCLED AGGREGATE WILL BE REMOVED FROM THE PROPERTY PRIOR TO FINAL REHABILITATION OF THE SITE.

SCRAP

60. ONCE THE AGGREGATE ON SITE HAS BEEN DEPLETED, NO FURTHER IMPORTS WILL BE PERMITTED. ONCE FINAL REHABILITATION HAS BEEN COMPLETED AND APPROVED IN ACCORDANCE WITH THE SITE PLAN, ALL RECYCLING OPERATIONS SHALL CEASE.

61. ANY SCRAP SUCH AS DISCARDED MACHINERY, EQUIPMENT, MOTOR VEHICLES, AND TIRES WILL BE COLLECTED AND TEMPORARILY STORED WITHIN THE CURRENT OPERATING PHASE IN ONE LOCATION, OR STORED IN THE PROCESSING/SHIPPING/RECYCLING AREA AND WILL BE REMOVED ON AN ONGOING BASIS. NO SCRAP WILL BE LOCATED WITHIN 30 METERS OF ANY BODY OF WATER. SCRAP STORED WITHIN THE CURRENT OPERATING PHASE WILL REMAIN 30 METERS FROM THE LICENSED BOUNDARY. A VARIANCE IS REQUIRED TO PERMIT SCRAP STORAGE CLOSER THAN 30 METERS OF THE LICENSED BOUNDARY IN THE PROCESSING/SHIPPING/RECYCLING AREA (SEE TABLE 4).

DRAINAGE CONTROLS

62. DURING EXTRACTION, WATER WILL DRAIN ACROSS THE SITE PASSIVELY VIA GRAVITY SO AS TO MIMIC EXISTING CONDITIONS AND ENSURE FLOW CONTINUES TO THE PSW DURING EXTRACTION.

63. CURRENTLY, THERE ARE TWO SURFACE WATER FEATURES THAT DRAIN THE SITE. WATERCOURSE 1 DRAINS THE NORTHERN AND CENTRAL PORTIONS, WHILE WATERCOURSE 2 DRAINS THE SOUTHERN PORTION. SEE EXISTING FEATURES (SHEET 1 OF 8). THE ELEVATION OF THE INLET OF WATERCOURSE 1 ALONG THE NORTH BOUNDARY IS 232 MASL AND THE ELEVATION OF THE OUTLET ALONG THE EAST BOUNDARY IS 217 MASL. SURFACE WATER IN WATERCOURSE 1 MIXES WITH GROUNDWATER EMANATING FROM A SPRING AT SW5 (ELEVATION 215.5 MASL), APPROXIMATELY 40 M DOWNSTREAM OF THE OUTLET.

64. TO MIMIC EXISTING CONDITIONS, THE QUARRY FLOOR WILL BE GRADED TO CONVEY WATER TO A NEW DRAINAGE CHANNEL 10 M ALONG PARALLEL TO WATERCOURSE 1. THE SLOPING OF THE NEW DRAINAGE CHANNEL IS SHOWN ON THE STAGES OF OPERATION PLAN (SHEETS 6, 7, AND 8). THE NEW DRAINAGE CHANNEL WILL ALSO RECEIVE AND CONVEY WATER FROM THE SEVERN PINES QUARRY.

65. THE NEW DRAINAGE CHANNEL WILL CONNECT TO THE NORTH INLET AT THE SAME ELEVATION AS WATERCOURSE 1 AND OUTLET AT SW5 SO THAT SURFACE WATER AND GROUNDWATER COLLECTED ON-SITE WILL BE DISCHARGED AT A SIMILAR LOCATION POST-EXTRACTION AND MIMIC EXISTING CONDITIONS.

66. THE NEW DRAINAGE CHANNEL WILL CONNECT TO THE NORTH INLET USING A HABITAT LINKAGE SEE DETAIL D ON SHEET 4 OF 8. FINAL DESIGN DETAILS FOR THE HABITAT LINKAGE WILL BE PROVIDED TO MNRF BEFORE EXTRACTION COMMENCES IN PHASE 3B.

67. WHEN MAKING THE SWITCH FROM WATERCOURSE 1 TO THE NEW DRAINAGE CHANNEL, FISH WILL NEED TO BE SALVAGED AND TRANSFERRED TO THE NEW DRAINAGE CHANNEL. SEE FISH SALVAGE PLAN ON SHEET 5 OF 8.

68. THE QUANTITY AND QUALITY OF THE WATER LEAVING THE SITE AND ENTERING THE PSW WILL BE CONTROLLED USING SETTLING PONDS WITH ENGINEERED OUTLETS. SEE THIS SHEET FOR THE LOCATION OF SETTLING POND 1 AND SETTLING POND 2.

69. SETTLING POND 1 WILL BE DESIGNED PRIOR TO EXTRACTION IN PHASE 1B AND LOCATED ALONG THE SOUTHERN EXTRACTION BOUNDARY. SETTLING POND 1 WILL OUTLET TO WATERCOURSE 2. AN MOECC ENVIRONMENTAL COMPLIANCE APPROVAL FOR PERIODIC DISCHARGE OF WATER WILL BE REQUIRED. CONCEPTUAL DETAILS FOR THIS POND ARE SHOWN ON DETAIL F (SHEET 4 OF 8).

70. SETTLING POND 2 WILL BE DESIGNED PRIOR TO EXTRACTION IN PHASE 2 AND LOCATED AT THE OUTLET OF THE NEW DRAINAGE CHANNEL. AN MOECC ENVIRONMENTAL COMPLIANCE APPROVAL FOR PERIODIC DISCHARGE OF WATER WILL BE REQUIRED. CONCEPTUAL DETAILS FOR THIS POND ARE SHOWN ON DETAIL G (SHEET 4 OF 8). THE CONSTRUCTION OF SETTLING POND 2 WILL REQUIRE EXCAVATION IN THE 30 METER RESIDENTIAL SETBACK FOR THE INSTALLATION OF A CULVERT. A VARIANCE IS REQUIRED TO PERMIT EXCAVATION IN THIS AREA (SEE TABLE 4).

71. TEMPORARY MINOR DRAINAGE DITCHES WILL BE CREATED AS NECESSARY TO CATCH PRECIPITATION AND GROUNDWATER AND DIRECTED TOWARDS SETTLING POND 1 OR THE NEW DRAINAGE CHANNEL.

72. TO ASSIST WITH DRAINAGE CONTROL, WETLANDS ARE PROPOSED FOR CONSTRUCTION ON THE QUARRY FLOOR IN PHASES 2, 3A, AND 4A ADJACENT TO THE NEW DRAINAGE CHANNEL (SEE SHEET 5 OF 8). FINAL DESIGN DETAILS FOR THE CONSTRUCTED WETLAND WILL BE PROVIDED TO MNRF BEFORE EXTRACTION PROCEEDS IN PHASE 3A.

EROSION AND SEDIMENTATION CONTROLS

73. A SEDIMENT AND EROSION CONTROL PLAN WILL BE DESIGNED AND IMPLEMENTED PRIOR TO SITE PREPARATION OF EACH STAGE SHOWN ON SHEETS 6, 7, AND 8.

DUST CONTROLS

74. DUST WILL BE MITIGATED ON SITE. WATER OR OTHER PROVINCIAALLY APPROVED DUST SUPPRESSANT WILL BE APPLIED TO INTERNAL HAUL ROADS AND PROCESSING AREAS AS OFTEN AS REQUIRED TO MITIGATE DUST. PROCESSING EQUIPMENT WILL BE EQUIPPED WITH DUST SUPPRESSING OR COLLECTING DEVICES WHERE THE EQUIPMENT CREATES DUST AND IS BEING OPERATED WITHIN 30 METERS OF A SENSITIVE RECEPTOR.

BLASTING CONTROLS

75. A BLASTING ATTENUATION STUDY WILL BE CARRIED OUT DURING THE FIRST 12 MONTHS OF OPERATION TO DESIGN FUTURE BLASTS.

76. ALL BLASTS WILL BE MONITORED AS PER THE BLASTING RECOMMENDATIONS (SEE SHEET 3 OF 8). ALL BLASTS WILL BE MONITORED FOR GROUND VIBRATION AND BLAST OVERPRESSURE TO ENSURE COMPLIANCE WITH CURRENT PROVINCIAL GUIDELINES. BLAST MONITORING REPORTS WILL BE AVAILABLE UPON REQUEST BY THE MNRF FOR AUDIT PURPOSES.

TABLE 4: VARIATION OF OPERATIONAL STANDARDS

NO.	VARIANCE	STANDARD
1.0	STOCKPILES OF AGGREGATE AND/OR TOPSOIL AND/OR OVERBURDEN WILL BE LOCATED CLOSER THAN 30 METERS FROM THE LICENSED BOUNDARY IN THE PROCESSING/SHIPPING/RECYCLING AREA.	AGGREGATE STOCKPILES (5.13)
2.0	THE LIMIT OF EXTRACTION ADJACENT TO THE PSW IN THE SOUTHEAST CORNER OF THE SITE SHALL NOT BE FENCED, INSTEAD IT WILL BE DELINEATED WITH MARKER POSTS AND SILTATION CONTROLS. THE NORTH AND NORTH EAST LICENSED BOUNDARIES WILL NOT BE FENCED BUT WILL BE DEMARCATED WITH MARKER POSTS. THE ADJACENT LANDS ARE VACANT, HEAVILY WOODED, OR AN EXISTING QUARRY.	FENCING (5.1)
3.0	THE EXCAVATION SETBACK AREA ADJACENT TO THE BEAMIS/OULF/FERRIS SEYLER PIT QUARRY MAY BE ELIMINATED IF A COMMON BOUNDARY AGREEMENT WITH THE APPLICABLE LICENSE HOLDER IS FILED WITH THE MNRF.	SETBACKS (5.10)
	THE SETBACK ALONG THE WEST SITE BOUNDARY ABUTS AN UNOPENED AND UNTRAVELED ROAD ALLOWANCE PATENTED TO THE TOWNSHIP OF SEVERN. THE EXCAVATION OF THE SETBACK AREA MAY BE ELIMINATED IF A BOUNDARY AGREEMENT BETWEEN THE TWO PARTIES IS FILED WITH THE MNRF TO REDUCE THE SETBACK TO 0 METERS.	
	IN LIEU OF THE 15 M SETBACK ALONG THE NORTH BOUNDARY, A 90 M BUFFER IS INCLUDED TO ALLOW FOR THE CONSTRUCTION OF A TREE NURSERY AND A FISH HABITAT LINKAGE CONNECTING THE NORTH INLET FROM COUNTY OWNED LANDS TO THE NEW WATER CHANNEL.	
4.0	SCRAP WILL BE STORED CLOSER THAN 30 METERS TO THE LICENSED BOUNDARY IN THE PROCESSING/SHIPPING/RECYCLING AREA.	SCRAP (5.6)
5.0	EXCAVATION IN THE 30 METER RESIDENTIAL SETBACK ALONG THE EAST BOUNDARY WILL BE REQUIRED TO PROPERLY CONSTRUCT SETTLING POND 2 SO THAT ITS OUTLET IS AN ELEVATION BELOW 216 MASL.	EXCAVATION WITHIN SETBACK (5.11)
6.0	VERTICAL FACES WILL BE INCLUDED IN THE FINAL REHABILITATION OF THE WEST BOUNDARY OF PHASE 3B ONLY (SEE DETAIL B ON SHEET 4 OF 8).	SLOPING OF EXCAVATION FACES (5.15)



LEGEND	
---	LICENCED BOUNDARY / PROPERTY BOUNDARY
---	LIMIT OF EXTRACTION
---	PHASE BOUNDARY
---	SILT FENCE
■	BARN
---	POST & PAGE WIRE FENCE (UNLESS OTHERWISE NOTED)
---	INTERNAL ROAD
---	NEW WATER CHANNEL
---	INTERMITTENT WATER COURSE
---	OFFSITE WATER COURSE
---	CONTOURS ELEVATION (masl)
---	QUARRY ENTRANCE/EXIT
---	DIRECTION/SEQUENCE OF EXTRACTION
---	GATE
---	EQUIPMENT CROSSING
---	PROVINCIAALLY SIGNIFICANT WETLAND
---	NEA WETLAND BOUNDARY
---	CROSS - SECTION ARROWS
---	BENCHMARK WITH ELEVATION (masl)
---	TREE NURSERY PLANTING AREA
---	HABITATE LINKAGE

SITE PLAN AMENDMENTS

NO.	REVISION	BY	DATE

www.mte85.com

David W. Kennedy

LICENSED PROFESSIONAL ENGINEER
V.E. ROWE
04/20/18
PROVINCE OF ONTARIO

DECLARATION OF PURPOSE THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS 'A' LICENCE, CATEGORY 2.	
PROJECT CUMBERLAND QUARRY LICENSEE: SEVERN AGGREGATES LIMITED 151 WHITWALL DRIVE, MARKHAM, ONTARIO L3R 9T1	
DRAWING OPERATIONAL PLAN WEST HALF LOTS 12, 13 AND 14, CONCESSION 11 GEOGRAPHIC TOWNSHIP OF ORILLIA, NORTH DIVISION TOWNSHIP OF SEVERN, COUNTY OF SIMCOE	
Project Manager J. Flanagan	Project No. 33876-300
Design By	Checked By
Drawn By K.X.M.	Checked By
Surveyed By	Sheet No.
Date April 24, 2018	2
Scale 1:4000	Sheet 2 of 8

