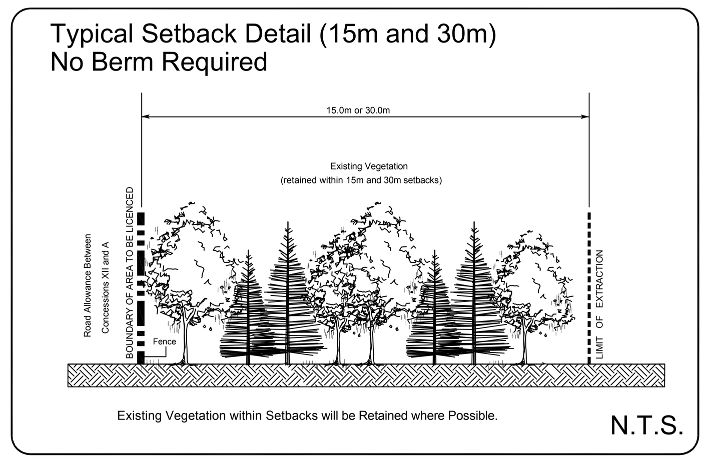

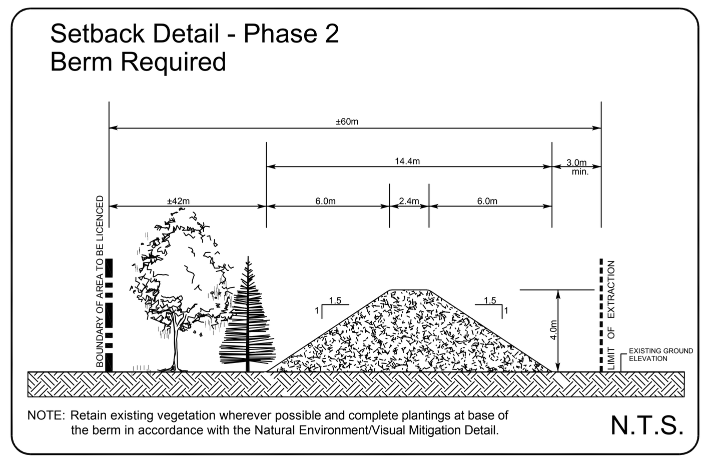

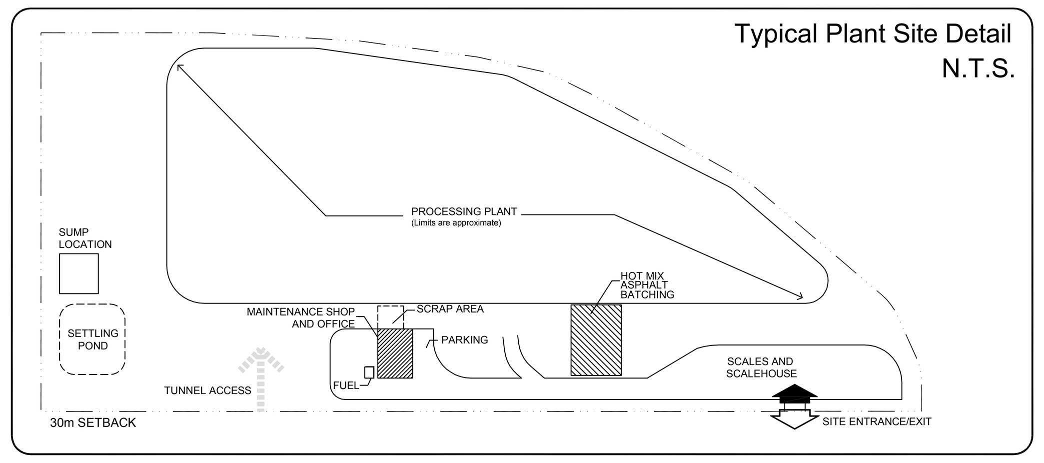

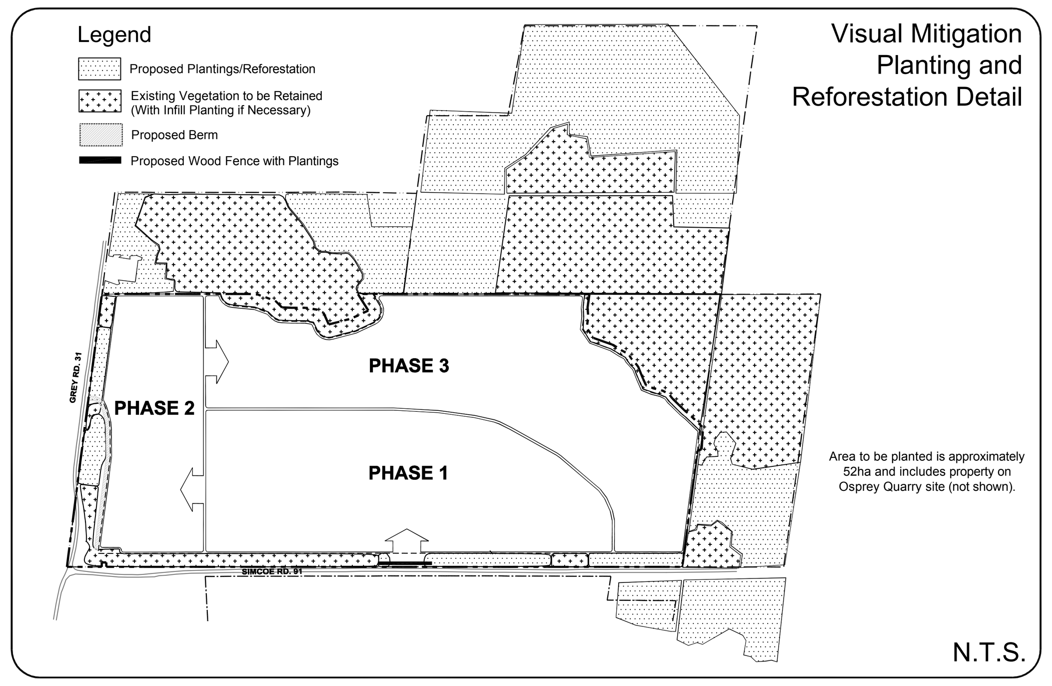

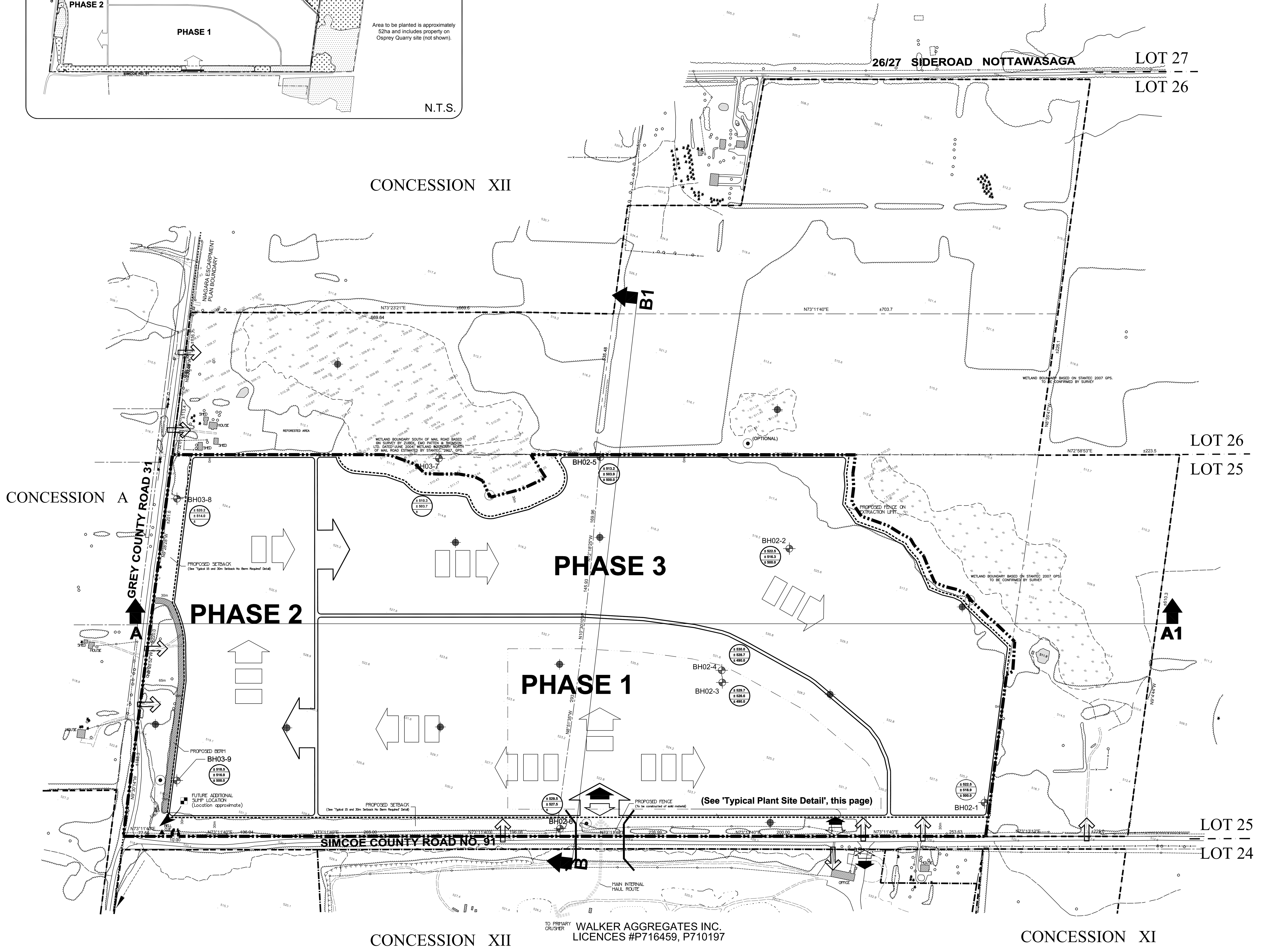

Operational Plan

2 of 4

Legend

- Proposed Licenced Boundary
- Existing Licenced Boundary — EXISTING DUNTROON QUARRY LICENCED REFERENCE #P710197, #P716459
- Limit of Extraction — ALL SETBACKS DRAWN TO SCALE EXCEPT 0m SETBACKS AND SHOW LABELLED DISTANCES
- Walker Aggregates Inc. Lands
- Wetland Boundary (Surveyed & Estimated)
- Plant Site — SEE PLANT SITE DETAIL THIS PAGE
- Existing Spot Elevation (520.6)
- Building/Structure — LOCATION AND USE FOR BUILDINGS ON SITE AND WITHIN 120m ARE SHOWN ON THIS PLAN
- Field/Service Entrance — MAINTAINED AND REGULATED BY A GATE WHICH WILL BE CLOSED AT ALL TIMES THE QUARRY IS NOT IN OPERATION UNLESS OTHERWISE NOTED ON THIS PLAN.
- Existing Vegetation
- Entrance/Exit (OPERATIONAL) — MAINTAINED AND REGULATED BY A GATE WHICH WILL BE CLOSED AT ALL TIMES THE QUARRY IS NOT IN OPERATION UNLESS OTHERWISE NOTED ON THIS PLAN.
- Existing Fence — POST AND WIRE FARM FENCE UNLESS OTHERWISE NOTED
- Direction of Excavation
- Proposed Berms
- Excavation Face — SEE GENERAL NOTE 1 PAGE 2 OF 4 FOR DETAILED DESCRIPTION.
- Proposed Fence — POST AND WIRE FARM FENCE UNLESS OTHERWISE NOTED
- Main Internal Haul Road
- Proposed Elevations (in metres) — ± 531.0 EXISTING ELEVATION; ± 529.7 TOP OF ROCK; ± 490.0 MAXIMUM DEPTH OF EXTRACTION
- BH02-6 Existing Well Monitor Location — (INFORMATION FROM GEOLOGICAL REPORT AND LEVEL 2 HYDROGEOLOGICAL ASSESSMENT BY JAGGER HIMS, SEPT. 2005)
- Proposed Additional Well Monitor Location
- Quarrying Dewatering Discharge Locations — WITHIN LICENCE BUT NO EXTRACTION PERMITTED

GENERAL NOTES:

1. EXTRACTION WITHIN LOT 25, CON.12 WILL COMMENCE PRIOR TO COMPLETION OF QUARRYING AND FINAL REHABILITATION WITHIN EXISTING QUARRY IN LOT 24, CON. 12 (LICENCES P716459 AND P710197). OPERATIONS WILL PROCEED SIMULTANEOUSLY IN BOTH THE EXISTING AND EXPANSION AREAS.
2. THE LICENCE AREA IS 76.69 HA AND THE EXTRACTION AREA IS 68.31 HA.
3. THE SITE PLANS DEPICT A SCHEMATIC SEQUENCE FOR DEVELOPMENT OF THE SITE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION. EXTRACTION ELEVATIONS ARE APPROXIMATE. LIMITED VARIATIONS DURING OPERATIONS AND REHABILITATION OF THE SITE WILL BE PERMITTED IN ORDER TO ADJUST TO ANY VARIABLE RESOURCE AND MARKET CONDITIONS OR HYDROLOGIC REQUIREMENTS. ANY MAJOR VARIATION OR DEVIATION FROM THE SITE PLANS WILL ONLY BE PERMITTED BY AMENDMENT.
4. SETBACK LIMIT FROM ALL MUNICIPAL ROAD ALLOWANCES IS A MINIMUM OF 30 METRES. AREAS ALONG SETBACKS WILL BE BACKFILLED WITH OVERBURDEN AND REHABILITATED NO STEEPER THAN 2:1, EXCEPT FOR AREAS OF EXPOSED VERTICAL FACES AS SHOWN ON PAGE 3 OF 4. SLOPES WILL BE SEEDED AS SOON AS POSSIBLE AFTER FINAL GRADING TO CONTROL WIND BLOWN DUST AND EROSION.
5. NO ROADS SHALL BE CONSTRUCTED WITHIN THE SETBACK AREAS EXCEPT AS A FARM ACCESS AND / OR A TEMPORARY ACCESS FOR STRIPPING OF EXTRACTION AREAS, REHABILITATION OR BERMING PURPOSES. A MINOR ACCESS ROAD WILL ALSO BE PERMITTED IN THE SETBACK AREA TO ACCESS MITIGATION AND MONITORING STATIONS.
6. TOPSOIL, SUBSOIL, OVERBURDEN AND AGGREGATE STOCKPILES SHALL BE LOCATED WITHIN THE EXTRACTION AREA AND NOT WITHIN 30 METRES OF THE LICENCE BOUNDARY. THE HEIGHT OF STOCKPILES SHALL NOT EXCEED 20 METRES IN HEIGHT.
7. TOPSOIL SUBSOIL AND OVERBURDEN WILL BE STRIPPED, STORED AND REPLACED SEPARATELY WHEREVER THERE ARE DISTINGUISHABLE LAYERS AND SUFFICIENT THICKNESS TO ALLOW HANDLING IN THIS MANNER. IF REQUIRED, TOPSOIL SUBSOIL AND OVERBURDEN MAY BE TRANSPORTED TO THE LICENCES P716459 AND P710197 AND USED IMMEDIATELY FOR REHABILITATION.
8. QUARRYING OF THE AMABEL FORMATION WILL BE UNDERTAKEN IN UP TO THREE LIFTS TO A MAXIMUM DEPTH OF 39 METRES.
9. FENCING WILL BE COMPLETED PRIOR TO ANY DISTURBANCE ASSOCIATED WITH THE SITE PREPARATION. FENCING WILL BE COMPLETED IN ACCORDANCE WITH THE OPERATIONAL DIAGRAM AS SHOWN ON THIS PAGE. EXISTING RESIDENCES AND BUILDINGS WILL BE DEMOLISHED PRIOR TO EXTRACTION WITHIN PHASE WHERE THEY ARE LOCATED.
10. PRIOR TO AND DURING INITIAL PHASES OF EXTRACTION, ADDITIONAL TREE PLANTING / TRANSPLANTING WILL BE UNDERTAKEN WITHIN THE SETBACKS WHERE THERE IS NO EXISTING VEGETATION AS SHOWN AND DESCRIBED ON THE NATURAL ENVIRONMENTAL / VISUAL MITIGATION DETAIL.
11. 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 SITE AND WILL BE DISPOSED OF ON AN ONGOING BASIS. TIMBER RESOURCES AND STUMPS REMOVED DURING SITE PREPARATION WILL BE SALVAGED AS SAW LOGS/POSTS AND/OR FUEL WOOD, MULCHED FOR ONSITE USE IN REHABILITATION OR RETAINED FOR USE IN REHABILITATED HABITAT STRUCTURES WHERE POSSIBLE.
12. AS SOON AS IS PRACTICAL FOLLOWING BERM CONSTRUCTION, BERMS WILL BE SEEDED WITH APPROPRIATE GRASS / LEGUME MIXTURE TO CONTROL WIND BLOWN DUST AND EROSION FROM OCCURRING.
13. DURING THE INITIAL STAGE OF DEVELOPING PHASE 1, AN UNDERPASS WILL BE CREATED UNDERNEATH SIMCOE ROAD 91, SUBJECT TO DESIGN APPROVAL BY THE COUNTY OF SIMCOE. THIS UNDERPASS WILL PERMIT TRANSPORT OF EXTRACTED MATERIAL FROM THE PHASE 1 AREA TO THE EXISTING PROCESSING PLANT WITHIN LICENCES P716459 AND P710197, AND WILL PERMIT THE TRANSPORT OF EXTRACTED MATERIAL FROM LOT 24 TO THE RELOCATED PROCESSING PLANT IN PHASE 1. UPON RELOCATION OF THE PLANT AND SCALES / SCALE HOUSE FROM LOT 24 TO PHASE 1, A NEW ENTRANCE WILL BE ESTABLISHED OPPOSITE THE EXISTING LIGHT VEHICLE ENTRANCE AS SHOWN ON THIS PLAN. UPON CREATION OF THE NEW ENTRANCE AND COMPLETION OF EXTRACTION, LOT 24 THE TUNNEL WILL BE FILLED.
14. WHEN SUFFICIENT AREA EXISTS, THE LICENCEE WILL RELOCATE ALL OR A PORTION OF THE PROCESSING PLANT AND STOCKPILE AREAS FROM THE EXISTING QUARRY (LOT 24, CON. 12) SOUTH OF SIMCOE ROAD 91 (LICENCE P716459 AND P710197) TO A PHASE 1 AREA AT THE LOCATION SHOWN ON PAGE 2 OF 4. SEE TYPICAL PLANT SITE DETAIL (THIS PAGE). IN ADDITION, A PORTABLE CRUSHING / SCREEN PLANT MAY BE LOCATED ADJACENT TO THE ACTIVE PHASE WITHIN PHASES 1, 2 AND 3 INCLUSIVE. THE PLANT SHALL BE LOCATED ON THE QUARRY FLOOR. IN ADDITION A HOT MIX ASPHALT PLANT WILL BE ESTABLISHED AT THIS GENERAL LOCATION TOGETHER WITH STOCKPILES OF RECYCLABLE CONCRETE AND ASPHALT FOR PROCESSING ON SITE.
15. ONCE THE OVERBURDEN IS STRIPPED AND STORED IN THE BERM SHOWN, OR STOCKPILED FOR FUTURE USE, EXTRACTION WILL TAKE PLACE IN PHASE 1, IN A NORTHERLY, EASTERLY AND WESTERLY DIRECTION. DEWATERING WILL TAKE PLACE TO CREATE A DRY WORKING FLOOR. WATER WILL BE PUMPED FROM THE QUARRY FLOOR AND DISCHARGED IN ACCORDANCE WITH THE PERMIT TO TAKE WATER.
16. STRIPPING OF TOPSOIL AND OVERBURDEN WITHIN PHASE 2 WILL BE INITIATED WHILE EXTRACTION IS PROGRESSING IN PHASE 1.
17. PHASE 2 WILL PROGRESS IN A WESTERLY AND NORTHERLY DIRECTION.
18. WHEN THE QUARRY FLOOR REACHES THE WESTERLY LIMIT OF PHASE 2, A SUMP WILL BE CREATED IN THE AREA SHOWN ON THE PLAN. WATER WILL BE DISCHARGED AT THE LOCATIONS IDENTIFIED AS QUARRY DEWATERING DISCHARGE LOCATIONS.
19. PRIOR TO COMPLETION OF PHASE 2 STRIPPING OF TOPSOIL AND OVERBURDEN WITHIN PHASE 3 WILL COMMENCE. THESE MATERIALS WILL BE STOCKPILED OR USED FOR PROGRESSIVE REHABILITATION.
20. EXTRACTION IN PHASE 3 WILL TAKE PLACE FIRST IN AN EASTERLY DIRECTION AND THEN IN A SOUTHERLY DIRECTION.
21. AS PHASE 3 IS NEARING COMPLETION A FURTHER LIFT IN PHASE 1 WILL BE INITIATED TO A DEPTH OF 490 METRES ASL. WHEN NECESSARY, THE PERMANENT PLANT WILL BE DISASSEMBLED AND MOVED OFF SITE. PROCESSING WILL CONTINUE WITH USE OF A PORTABLE PROCESSING PLANT. PROGRESSIVE REHABILITATION OF PHASE 3 WILL CONTINUE.
22. UPON COMPLETION OF EXTRACTION TO A DEPTH OF 490 METRES ASL IN PHASE 1, REHABILITATION OF THE SITE IS TO BE COMPLETED AND DEWATERING WILL CEASE. OVERFLOW SILLS AND CHANNELS AND, IF NECESSARY, OUTLET CONTROL STRUCTURES WILL BE CREATED TO ALLOW POSITIVE DRAINAGE FROM THE LAKE TO THE WETLANDS TO THE NORTH. UNTIL THE LAKE IS FULL, IT MAY BE NECESSARY TO CONTINUE TO DISCHARGE WATER TOWARDS THE WETLANDS AND THIS WILL BE DETERMINED THROUGH THE ADAPTIVE MANAGEMENT PLAN WHICH SHALL REMAIN OPERATIONAL UNTIL THE LAKE HAS FILLED.
23. ON SITE MOBILE EQUIPMENT TO BE USED WITHIN THE LICENCE AREA WILL INCLUDE, BUT IS NOT LIMITED TO, LOADERS, HAUL TRUCKS, SCRAPERS, BULLDOZERS, BACKHOES, DRILLS, AND A PORTABLE AND PERMANENT PROCESSING PLANT.
24. THE HOURS OF OPERATION ARE:
    i) MONDAY TO FRIDAY
    - STRIPPING: 7:00 AM TO 5:00 PM
    - DRILLING: 7:00 AM TO 7:00 PM
    - ASPHALT PLANT OPERATION: 7:00 AM TO 7:00 PM
    - ASPHALT PLANT SHIPPING: 5:00 AM TO 5:00 PM
    - BLASTING: 8:00 AM TO 6:00 PM
    - OPERATIONS INCLUDING PROCESSING: 6:00 AM TO MIDNIGHT (WHEN PLANT IS RELOCATED TO NORTH OF COUNTY ROAD 91, WILL ENCLOSE ALL CRUSHERS AND SCREENS)
    - SHIPPING: 5:00 AM TO 5:00 PM
    - MAINTENANCE: 24 HOURS A DAY

GENERAL NOTES (cont'd):

24. (cont.)
    ii) SATURDAY
    - STRIPPING, DRILLING, ASPHALT PLANT OPERATION BLASTING, OPERATIONS: 7:00 AM TO 3:00 PM
    - SHIPPING: 6:00 AM TO 3:00 PM
    - MAINTENANCE 24 HOURS A DAY

    iii) SUNDAY
    - CLOSED EXCEPT FOR MAINTENANCE

    OUTSIDE THESE HOURS, ANY ACTIVITY CAN ONLY TAKE PLACE ON AN EMERGENCY BASIS OR AT THE REQUEST OF THE MINISTRY OF TRANSPORTATION, THE COUNTY OF SIMCOE OR THE TOWNSHIP OF CLEARVIEW.
25. NO OPERATIONS MAY OCCUR ON STATUTORY HOLIDAYS AS DEFINED IN ACCORDANCE WITH THE EMPLOYMENT STANDARDS ACT EXCEPT THAT CANADA DAY CAN BE TAKEN AS AN ALTERNATIVE DAY. MAINTENANCE MAY OCCUR ON HOLIDAYS.
26. BLASTING COULD OCCUR DAILY IN ACCORDANCE WITH PROVINCIAL STANDARDS.
27. THE MAXIMUM TONNAGE TO BE REMOVED ANNUALLY FROM THIS SITE IS 3 MILLION TONNES, IN COMBINATION WITH LICENCES P716459 AND P710197.
28. REHABILITATION WILL BE PROGRESSIVE DURING QUARRY OPERATIONS AS SUFFICIENT AREAS BECOME AVAILABLE. OVERBURDEN FROM PHASE 1 MAY ALSO BE USED FOR THE CONSTRUCTION OF THE BERM AT THE WEST SIDE OF PHASE 2.
29. OFF SITE AGGREGATE MATERIAL REQUIRED FOR BLENDING PURPOSES MAY BE IMPORTED AND STOCKPILED IN THE PERMANENT PROCESSING PLANT AREA. STOCKPILES OF IMPORTED MATERIAL WILL NOT EXCEED 20 METRES.
30. FOR DETAILS ON PROGRESSIVE AND FINAL REHABILITATION REFER TO PLAN 3 OF 4 ENTITLED "PROGRESSIVE REHABILITATION AND FINAL REHABILITATION PLAN".

TECHNICAL REPORTS (REPORTS PREPARED IN SUPPORT OF THE CLASS A LICENCE APPLICATION CATEGORY 2).

1. GEOLOGICAL REPORT AND LEVEL 2 HYDROGEOLOGICAL ASSESSMENT, DUNTROON QUARRY EXPANSION, SEPTEMBER 2005, JAGGER HIMS LIMITED
2. LEVEL 2 HYDROGEOLOGICAL ASSESSMENT ADDENDUM AND CUMULATIVE IMPACT ASSESSMENT, OCTOBER 2007, JAGGER HIMS LIMITED
3. GROUNDWATER AND SURFACE WATER MONITORING PROGRAM ADDENDUM, OCTOBER 2007, JAGGER HIMS LIMITED
4. ESCARPMENT BROW INTERPRETATION, MAY 2007, JAGGER HIMS LIMITED
5. NATURAL ENVIRONMENT LEVEL 2 DUNTROON QUARRY EXPANSION, SEPTEMBER 2005, STANTEC CONSULTING LIMITED
6. LEVEL 2 NATURAL ENVIRONMENT REPORT TECHNICAL REPORT ADDENDUM: RESPONSE TO AGENCY COMMENTS AND CUMULATIVE EFFECTS ASSESSMENT, OCTOBER 2007, STANTEC CONSULTING LIMITED
7. AGRICULTURAL IMPACT ANALYSIS, SEPTEMBER 27, 2007, STANTEC CONSULTING LIMITED
8. VISUAL IMPACT ASSESSMENT FOR DUNTROON QUARRY EXPANSION, SEPTEMBER 2005, STANTEC CONSULTING LIMITED
9. VISUAL IMPACT ASSESSMENT REPORT ADDENDUM, SEPTEMBER 2007, STANTEC CONSULTING LIMITED
10. SOUND IMPACT ANALYSIS, DUNTROON QUARRY EXPANSION, OCTOBER 3, 2007, VALCOUSTICS CANADA LIMITED
11. BLASTING IMPACT ASSESSMENT, DUNTROON QUARRY EXPANSION, SEPTEMBER 2005, GOLDER ASSOCIATES
12. ADDENDUM TO BLASTING IMPACT ASSESSMENT, SEPTEMBER 23, 2007, GOLDER ASSOCIATES
13. ARCHAEOLOGICAL RESOURCE ASSESSMENT, DUNTROON QUARRY EXPANSION, SEPTEMBER 2005, ARCHAEOLOGICAL ASSESSMENTS LIMITED
14. CUMULATIVE IMPACT ASSESSMENT, APRIL 10, 2007, AND STAGE 2 ARCHAEOLOGICAL ASSESSMENT OF OUTSTANDING SECTION, MAY 2007, ARCHAEOLOGICAL ASSESSMENTS LTD.
15. CULTURAL HERITAGE CUMULATIVE IMPACT ASSESSMENT FOR DUNTROON, APRIL 10, 2007, UNTERMAN MCPHAIL ASSOCIATES
16. TRAFFIC IMPACT ASSESSMENT, DUNTROON QUARRY EXPANSION, OCTOBER 2007, ITRANS CONSULTING

CONSULTANTS RECOMMENDATIONS (NOT INCLUDED IN PREVIOUS NOTES OR SITE PLAN)

HYDROGEOLOGY

1. PUMPING OF WATER THAT ACCUMULATES IN THE EXCAVATION AS A RESULT OF DIRECT PRECIPITATION, SURFACE WATER RUNOFF, AS WELL AS SOME GROUNDWATER INFLOW, WILL BE REQUIRED IN ORDER TO MAINTAIN DRY WORKING CONDITIONS ACROSS THE QUARRY FLOOR.
2. WATER THAT ACCUMULATES ON THE QUARRY FLOOR WILL BE CHANNELED INTO THE MAIN SUMP FOR RE-USE. EXCESS WATER WILL BE REMOVED BY PUMPING. PRIOR TO PUMPING OFF-SITE THE OWNER SHALL OBTAIN A DISCHARGE PERMIT PERSUANT TO THE OWRA WHICH SHALL ENSURE APPROPRIATE WATER QUALITY DISCHARGE STANDARDS.
3. WATER ACCUMULATED IN THE AREAS NOTED ABOVE WILL BE USED FOR AGGREGATE PROCESSING OPERATIONS, DUST CONTROL, ROAD CLEANING, IRRIGATION OF LANDSCAPED AREAS AND TO MITIGATE OFF SITE IMPACTS.
4. AGGREGATE PROCESS WATER WILL BE DIRECTED TO A SETTLING POND SYSTEM FOR REMOVAL OF FINES AND CLEAN WATER WILL BE RETURNED TO THE SUMP OR OTHER SOURCE WATER PONDS FOR REUSE.
5. THE SUMP IS TO BE LOCATED WITHIN THE PHASE 1 EXTRACTION AREA (SEE PLANT SITE DETAIL) ONCE THE QUARRY FLOOR HAS REACHED A 500 METRE ELEVATION AND WILL REMAIN IN THAT GENERAL LOCATION THROUGH THE LIFE OF THE QUARRY. THE SUMP IS TO BE SIZED TO PROVIDE SUFFICIENT STORAGE OF WATER PRODUCED IN WASHING OPERATIONS FOR THE LIFE OF THE QUARRY. (I.E. APPROXIMATELY 50 METRES BY 50 METRES AT THE MINIMUM DEPTH OF 5 METRES). THE SUMP WILL BE DEEPENED AND ENLARGED AS NECESSARY TO ACCOMMODATE THE FINAL EXTRACTION (DOWN TO ELEVATION 490 METRES ASL) NEAR THE PHASE 1 AREA.
6. IMPLEMENT THE GROUNDWATER AND SURFACE WATER MONITORING PROGRAM AS DESCRIBED IN THE GEOLOGICAL REPORT AND LEVEL 2 HYDROGEOLOGICAL ASSESSMENT. PROPOSED ADDITIONAL WELL MONITORS ARE TO BE INSTALLED PRIOR TO EXTRACTION.
7. IMPLEMENT MITIGATION MEASURES TO PROTECT OFF SITE FEATURES AS FOLLOWS:
    A) DISCHARGE OF EXCESS WATER FROM THE QUARRY INTO THE SURFACE WATER SYSTEM AT THE FOLLOWING LOCATIONS AS GENERALLY SHOWN ON THIS PAGE AS REQUIRED TO MAINTAIN SEASONAL CONDITIONS:
        i) THE SURFACE WATER COURSE IN THE SOUTHWEST CORNER OF THE EXPANSION AREA. A SECONDARY SUMP OR STORAGE POND MAY BE DEVELOPED ON THE QUARRY FLOOR IN THE SOUTHWEST CORNER TO FACILITATE DISCHARGE AT THIS LOCATION;
        ii) THE WETLAND AREA ADJACENT TO THE NORTHWEST CORNER OF THE EXTRACTION AREA;
        iii) THE WETLAND AND ASSOCIATED SURFACE WATER SYSTEM ADJACENT TO THE NORTHEAST CORNER OF THE EXTRACTION AREA IN ORDER TO PROMOTE INFILTRATION RECHARGE INTO THE ROCK.

        THE QUARRY DEWATERING DISCHARGE LOCATIONS ARE SHOWN CONCEPTUALLY ON THIS PAGE AND ARE CONSIDERED TO BE WITHIN THE LICENCE AREA. NO EXTRACTION IS PERMITTED BEYOND THE LIMITS OF THE LICENCE BOUNDARY ILLUSTRATED ON THIS PAGE.
    B) IF REQUIRED, GROUNDWATER RECHARGE WELLS SHALL BE INCORPORATED IN THE SETBACK ALONG THE WESTERN PERIMETER, AND IN THE BUFFER LANDS ADJACENT TO THE NORTHERN AND EASTERN LIMITS OF EXTRACTION (WITHIN LICENCE AREA). THE RECHARGE WELLS WILL PROVIDE GROUNDWATER RECHARGE INTO THE ROCK MASS AROUND THE PERIMETER OF THE QUARRY, AND THEREBY MAINTAIN SEASONAL GROUNDWATER LEVELS AND SURFACE WATER FLOW CONDITIONS. THE ACTUAL NUMBER AND LOCATION OF THE RECHARGE WELLS AND THE RECHARGE PUMPING RATE, WILL BE DETERMINED AT THE TIME OF INSTALLATION AND WILL DEPEND ON LOCAL CONDITIONS, BASED ON ONGOING MONITORING.

        GROUNDWATER RECHARGE WELLS ARE ALSO CONSIDERED TO BE WITHIN THE LICENCE AREA BEYOND THE LIMITS SHOWN ON THIS PLAN. NO EXTRACTION SHALL BE PERMITTED WITHIN THE LICENCE AREA BEYOND THE LIMITS SHOWN ON THIS PLAN.
    C) THE NEED FOR AND TIMING OF IMPLEMENTATION OF ONE OR MORE OF THE ABOVE NOTED MITIGATION MEASURES WILL BE DETERMINED BASED ON THE MAGNITUDE AND LATERAL EXTENT OF DEWATERING INFLUENCE ZONE OF THE QUARRY THAT DEVELOPS AS EXTRACTION PROCEEDS THROUGH THE VARIOUS PHASES OF EXTRACTION AS CONFIRMED THROUGH ON-SITE MONITORING.
8. PRIOR TO EXTRACTION OF PHASE 1, LONG-TERM ADAPTIVE MONITORING PLANS WILL BE DEVELOPED FOR BOTH WATER AND ADJACENT NATURAL FEATURES WITH INTEGRATION BETWEEN THE PROGRAMS AS REQUIRED, IN CONSULTATION WITH REVIEW AGENCIES.

NATURAL ENVIRONMENT

1. PRIOR TO COMPLETION OF LAKE FILLING, A BEAVER RIVER FISH HABITAT ENHANCEMENT PROGRAM WILL BE DEVELOPED AND IMPLEMENTED.
2. PRIOR TO AND DURING EXTRACTION OF PHASE 1, UNDERTAKE WOODLAND ENHANCEMENT IN ACCORDANCE WITH VISUAL MITIGATION PLANTING AND REFORESTATION DETAIL. THE ECOLOGICALLY-BASED REFORESTATION PROGRAM SHOULD FORM A PART OF THE ADAPTIVE MANAGEMENT PLAN, INCORPORATING THE MOST EFFECTIVE METHODS OF QUICKLY RE-ESTABLISHING FUNCTIONAL FOREST ATTRIBUTES SUCH AS CANOPY COVER AND HORIZONTAL AND VERTICAL DIVERSITY.
3. PRIOR TO AND DURING EXTRACTION OF PHASE 1, COMPLETE AN ENHANCEMENT PROGRAM FOR HARTS TONGUE FERN AND BUTTERNUT TREE SPECIES ON LANDS ADJACENT TO THE PROPOSED EXTRACTION AREA.
4. PRIOR TO EXTRACTION OF PHASE 1, LONG-TERM ADAPTIVE MANAGEMENT PLAN WILL BE DEVELOPED, FOR BOTH WATER AND FOR ADJACENT NATURAL FEATURES WITH INTEGRATION BETWEEN THE PROGRAMS AS REQUIRED, IN CONSULTATION WITH REVIEW AGENCIES. THE ADAPTIVE MANAGEMENT PLAN WILL INCLUDE SPECIFICS ON WATER QUALITY, QUANTITY, TEMPERATURE AND MONITORING TO ENSURE THE ECOLOGICAL FUNCTION OF WETLANDS, SPRINGS AND STREAMS ARE MAINTAINED.
5. NO EXTRACTION WILL TAKE PLACE UNTIL THE MINISTRY OF NATURAL RESOURCES HAS CONFIRMED THAT IT IS SATISFIED WITH THE AMP. THIS SHALL NOT PREVENT SITE PREPARATION PRIOR TO THE MNR BEING SATISFIED WITH THE AMP.
6. IN THE EVENT ONE OR MORE OF THE MONITORED PARAMETER VALUES OF THE AMP REACHES THE YELLOW ZONE (THE SEASONAL EARLY WARNING VALUE), THE LICENCEE SHALL NOTIFY THE MINISTRY OF NATURAL RESOURCES (MNR) WITHIN 72 HOURS OF THE LICENCEE'S KNOWLEDGE THAT THE YELLOW ZONE HAS BEEN REACHED AND WILL PROMPTLY:
    A) INVESTIGATE AND ASSESS EXISTING CIRCUMSTANCES;
    B) DETERMINE THE CAUSE FOR THE YELLOW ZONE OCCURRENCE;
    C) PROVIDE A RECOMMENDED ACTION PLAN;
    D) IF THE CAUSE IS QUARRY RELATED, TAKE APPROPRIATE ACTION TO ADDRESS THE CAUSE; AND,
    E) NOTIFY THE MINISTRY OF NATURAL RESOURCES AS TO THE RESULTS OF THE CORRECTIVE ACTION.
7. IN THE EVENT ONE OR MORE OF THE MONITORED PARAMETER VALUES OF THE AMP REACHES THE RED ZONE (SEASONAL ACTION THRESHOLD TRIGGER VALUE), THE LICENCEE SHALL NOTIFY MNR WITHIN 24 HOURS OF THE LICENCEE'S KNOWLEDGE THAT THE RED ZONE HAS BEEN REACHED AND WILL PROMPTLY:
    A) INVESTIGATE AND ASSESS EXISTING CIRCUMSTANCES;
    B) DETERMINE THE CAUSE FOR THE RED ZONE OCCURRENCE;
    C) PROVIDE A FURTHER RECOMMENDED ACTION PLAN;
    D) IF THE CAUSE IS QUARRY RELATED, TAKE APPROPRIATE ACTION TO ADDRESS THE CAUSE; AND,
    E) NOTIFY THE MINISTRY OF NATURAL RESOURCES AS TO THE RESULTS OF THE CORRECTIVE ACTION.
8. IN THE EVENT A SEASONAL ACTION THRESHOLD VALUE AS IDENTIFIED IN THE AMP REMAINS IN THE RED ZONE FOR A PERIOD OF ONE WEEK FROM THE NOTIFICATION OF MNR, THE LICENCEE SHALL FURTHER NOTIFY MNR AND PROVIDE A DESCRIPTION AS TO HOW OPERATIONS HAVE BEEN ADAPTED (OR SUSPENDED AS THE CASE MAY BE) TO ADDRESS THE ISSUE.
9. OPERATIONS CAN ONLY RESUME IN THE AREA WHICH EXPERIENCED RED ZONE CONDITIONS AS DEFINED IN THE AMP WHEN ALL MEASURED PARAMETERS HAVE RETURNED TO THE YELLOW ZONE, FOR A MINIMUM PERIOD OF ONE WEEK AND EVIDENCE OF YELLOW ZONE CONDITIONS IS PROVIDED TO THE MINISTRY OF NATURAL RESOURCES.
10. MAINTAIN SETBACKS FROM WETLANDS (MINIMUM 30m) AS SHOWN ON THE OPERATIONAL PLAN AND IMPLEMENT HYDROGEOLOGICAL MITIGATION MEASURES AS REQUIRED TO MAINTAIN SEASONAL WATER LEVELS AND AS DETERMINED THROUGH ON-SITE MONITORING. WETLAND BUFFER SHOULD CONSIST OF NATURALIZED VEGETATION AND ONLY DISTURBANCES TO BE PERMITTED ARE THE CREATION, OPERATION AND MAINTENANCE OF WATER BALANCE MITIGATION MEASURES.
11. WITHIN 3 YEARS OF PLANTING THE TEST PLOTS, THE DATA WILL BE USED TO MODIFY THE FOREST RESTORATION PLAN FOR THE DUNTROON QUARRY TO MAKE USE OF THE MOST SUCCESSFUL AND EFFICIENT MEANS OF RESTORING HARDWOOD FOREST ALONG WITH THE MAJOR ECOLOGICAL FUNCTIONS OF A MATURE FOREST.

NOISE

1. NO EXTRACTION WILL TAKE PLACE WITHIN 150 METRES OF THE RECEPTORS LOCATED AT 794518 GREY ROAD 31.
2. ROCK DRILLING OPERATIONS AND ASPHALT PLANT OPERATIONS SHALL BE LIMITED TO THE HOURS OF OPERATION SET OUT IN GENERAL NOTE 24.
3. UTILIZE AN ALTERNATIVE ROCK DRILL IN PHASE 2. TO MEET M.O.E. NOISE GUIDELINE LIMITS, THE ROCK DRILL SHALL HAVE A SOUND EMISSION LEVEL OF NO GREATER THAN 80dBA AT A 15m DISTANCE. ALTERNATIVELY, INTERIM AND/OR PORTABLE SOUND BARRIERS CAN BE USED TO REDUCE OFF-SITE SOUND EXPOSURE FROM THE ROCK DRILL. THE PORTABLE OR INTERIM BARRIER SHOULD BE 4.5m IN HEIGHT AND NO MORE THAN 10m FROM THE DRILL.
4. CONSTRUCT A 4 METRE PERIMETER BERM WEST OF PHASE 2 AS SHOWN PRIOR TO EXTRACTION IN PHASE 1 WEST OF TUNNEL.

BLASTING

1. MONITOR ALL BLASTS TO ENSURE COMPLIANCE WITH M.O.E. GUIDELINES.
2. WHEN BLASTING WITHIN 350 METRES OF A RECEPTOR, THE MAXIMUM EXPLOSIVE WEIGHT DETONATED PER DELAY MAY BE ADJUSTED BY ONE OF THE FOLLOWING THREE OPTIONS TO ENSURE COMPLIANCE WITH MINISTRY OF ENVIRONMENT GUIDELINE:
    A) REDUCING THE BORE HOLE DIAMETER WITH A CORRESPONDING REDUCTION IN THE DRILL PATTERN.
    B) INTRODUCE DECK CHARGES WITHIN EACH BORE HOLE.
    C) REDUCE THE BORE HOLE LENGTH (DEPTH) BY REDUCING THE BENCH HEIGHT.

ARCHAEOLOGICAL/CULTURAL HERITAGE

1. THAT THE FORMER MILLAR BARN LOCATED ON SITE BE DOCUMENTED AND PHOTOGRAPHED PRIOR TO REMOVAL TO MEET MINISTRY OF CULTURE GUIDELINES AND PROVIDED TO THE COUNTY OF SIMCOE.
2. IN THE EVENT THAT DEEPLY BURIED ARCHEOLOGICAL DEPOSITS ARE DISCOVERED IN THE COURSE OF ACTIVITY, THE OFFICE OF THE REGIONAL ARCHAEOLOGIST, CULTURAL PROGRAMS BRANCH, MINISTRY OF CITIZENSHIP, CULTURE AND RECREATION WILL BE CONTACTED IMMEDIATELY (416) 314-7080.
3. IN THE EVENT THAT HUMAN REMAINS ARE ENCOUNTERED, THE LICENCEE WILL IMMEDIATELY CONTACT BOTH THE REGIONAL ARCHAEOLOGIST, CULTURAL PROGRAMS BRANCH, MINISTRY OF CITIZENSHIP, CULTURE AND RECREATION (416) 314-7080 AND THE REGISTRAR OR DEPUTY REGISTRAR OF THE CEMETERIES REGULATION UNIT OF THE MINISTRY OF CONSUMER AND COMMERCIAL RELATIONS (416) 326-8392, AS WELL AS THE APPROPRIATE MUNICIPAL POLICE AND THE LOCAL MEDICAL OFFICER OF HEALTH.

TRAFFIC

1. CONSTRUCT MAIN ENTRANCE/EXIT AT LOCATION SHOWN ON OPERATIONS PLAN.

VISUAL

1. COMPLETE PLANTINGS IN ACCORDANCE WITH VISUAL MITIGATION PLANTING AND REFORESTATION DETAIL.
2. WOOD FENCING WITH PLANTINGS SHOULD BE INSTALLED ABOVE THE PROPOSED TUNNEL WHERE THERE IS INSUFFICIENT SPACE FOR BERMING/PLANTING FOR SCREENING PURPOSES. ALL FENCING SHALL BE CONSTRUCTED OF NATURAL MATERIALS AND FINISHED IN NATURAL COLOURS TO BLEND INTO THE SURROUNDING LANDSCAPE.
3. ANY PLANTINGS NOTED ON THIS PLAN TO MITIGATE VISUAL IMPACT WILL BE INSTALLED AS EARLY AS POSSIBLE TO ENSURE SUFFICIENT TIME FOR OPTIMUM PLANT GROWTH AND ESTABLISHMENT AND SHALL BE COMMENCED PRIOR TO EXTRACTION OF ADJACENT LANDS.

VARIATIONS TO OPERATIONAL STANDARDS

AS PROVIDED BY SECTION 1.2.25 THE FOLLOWING STANDARDS HAVE BEEN VARIED:

5.2 NO GATE WILL BE REQUIRED AT THE ENTRANCE AND EXIT ASSOCIATED WITH THE TUNNEL AS SHOWN ON THE SEQUENCE OF OPERATIONS DIAGRAM.

5.10 EXCAVATION WILL BE ALLOWED WITHIN 30 METRES OF A WATERBODY AS FOLLOWS AND AS SHOWN ON THIS PLAN: THE WETLAND NORTH OF PHASE 3 AND THE SURFACE WATER FEATURE ADJACENT TO PHASE 2.

5.10 EXCAVATION WILL BE ALLOWED WITHIN THE 30 METRE REGULATORY SETBACK ALONG SIMCOE ROAD 91 FOR PURPOSES OF THE TUNNEL TO THE EXISTING OPERATION. OVERBURDEN REMOVAL MAY ALSO OCCUR ALONG THE NORTHERN, WESTERN AND EASTERN LIMITS IN ASSOCIATION WITH THE INSTALLATION OF THE RECHARGE SYSTEM IF REQUIRED. IN ADDITION, THERE SHALL BE A 0M SETBACK FROM THE EASTERN LICENCE LIMIT AND THE NORTHERN LICENCE LIMIT WHERE SETBACK IS NOT REQUIRED FROM ANSI AND WETLANDS. THIS IS IN RECOGNITION OF WALKER AGGREGATE INC.'S OWNERSHIP OF THE LANDS TO THE EAST AND THE NORTH ACQUIRED FOR BUFFER PURPOSES.

5.16 EXCESS TOPSOIL AND OVERBURDEN MAY BE REMOVED FROM THIS SITE AND TRANSPORTED TO THE ADJACENT LICENCE P716459 AND P710197.

5.19 PORTIONS OF THE FINAL EXCAVATION PHASE WILL BE PERMITTED TO A VERTICAL FACE FOR AESTHETIC PURPOSES AS SHOWN ON PAGE 3 OF 4 OF THESE PLANS.

5.20 LIMITED AMOUNTS OF AGGREGATE AND / OR OVERBURDEN MAY BE REMOVED FROM THE SETBACKS TO FACILITATE THE CONSTRUCTION OF THE RECHARGE MITIGATION SYSTEM. THE ONLY REMOVAL OF AGGREGATE WITHIN THE SETBACK IS THAT WHICH IS REQUIRED FOR THE RECHARGE MITIGATION AND NOTHING FURTHER.

PRESCRIBED CONDITIONS

3.1 DUST WILL BE MITIGATED ON SITE.

3.2 WATER OR ANOTHER PROVINCIALLY APPROVED DUST SUPPRESSANT WILL BE APPLIED TO INTERNAL HAUL ROADS AND PROCESSING AREAS AS OFTEN AS REQUIRED TO MITIGATE DUST.

3.3 PROCESSING EQUIPMENT WILL BE EQUIPPED WITH DUST SUPPRESSANT OR COLLECTION DEVICES, WHERE THE EQUIPMENT CREATES DUST AND IS BEING OPERATED WITHIN 300 METRES OF THE RECEPTOR.

3.4 ANY RECOMMENDATIONS AND / OR RECOMMENDED MONITORING PROGRAM IDENTIFIED IN THE TECHNICAL REPORT WILL BE DESCRIBED ON THE SITE PLAN AND ALL RECORDS WILL BE RETAINED BY THE LICENCEE AND MADE AVAILABLE UPON REQUEST BY THE MINISTRY OF NATURAL RESOURCES FOR AUDIT PURPOSES.

3.5 A SPILLS CONTINGENCY PROGRAM WILL BE DEVELOPED PRIOR TO SITE PREPARATION.

3.6 FUEL STORAGE TANKS WILL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE GASOLINE HANDLING ACT.

3.7 IF REQUIRED, A CERTIFICATE OF APPROVAL WILL BE OBTAINED FOR THE DISCHARGE SYSTEM SHOULD WATER BE DISCHARGED OFF SITE.

3.8 IF REQUIRED, A CERTIFICATE OF APPROVAL WILL BE OBTAINED FOR PROCESSING EQUIPMENT TO BE USED ON SITE.

3.9 IF REQUIRED, A PERMIT TO TAKE WATER WILL BE OBTAINED FOR UTILIZING GROUND AND / OR SURFACE WATER.

3.10 THE LICENCEE WILL MONITOR ALL BLASTS, GROUND VIBRATIONS AND BLASTS OVERPRESSURE AND WILL OPERATE TO ENSURE COMPLIANCE WITH CURRENT PROVINCIAL GUIDELINES.

3.11 BLASTING WILL NOT OCCUR ON A HOLIDAY OR BETWEEN THE HOURS OF 6:00 PM ON ANY DAY AND 8:00 AM ON THE FOLLOWING DAY.

3.12 ALL BLAST MONITORING REPORTS MUST BE RETAINED BY THE LICENCEE AND MADE AVAILABLE UPON REQUEST BY THE MINISTRY OF NATURAL RESOURCES FOR AUDIT PURPOSES.

Scale 1:3000

0 25 50 100 250 metres

NORTH

BRENT CLARKSON IS AUTHORIZED BY THE MINISTRY OF NATURAL RESOURCES PURSUANT TO SEC. 8(4) OF THE AGGREGATE RESOURCES ACT TO PREPARE AND CERTIFY SITE PLANS.

DRAFT REVISIONS
MARCH 28, 2008
OCT. 11, 2007
OCT. 5, 2007
MAY 31, 2007
SEPT. 05, 2006
OCT. 03, 2005

APPROVED LICENCED SITE PLAN AMENDMENTS	
DATE:	DESCRIPTION

MHBC
MacNaughton Hermsen Britton Clarkson Planning Limited
REGIONAL & URBAN PLANNING & RESOURCE DEVELOPMENT
7050 Weston Road, Suite #230, Woodbridge, Ontario L4L 8G7
Telephone (905) 761-5588 FAX (905) 761-5589 e-mail clarkson@mhbcplan.com

PROJECT NAME:

Duntroon Quarry Expansion

Job No.	9811 'S' GEOR CLEAR SIMC *OPERPLAN*		
Dwn. By:	D.S., J.F.D.	Chkd. By:	B.C.

Lot 25 and Part Lot 26,
Concession XII and
Part Lot 25, Concession XI
Clearview Township
Simcoe County

Walker Aggregates Inc.
walker industries holdings limited
aggregates and construction group
P.O. Box 100 Thorold Ontario
L2V 3Y8