



- AREA 1 PHASE 1**
- Construct 1.2m high post and wire fencing, along the south boundary; along the west boundary; along a line 30 metres north of the northern limit of extraction, and along the boundary adjacent to the northeast corner (Ferguson Property). Install demarcation posts along the limits of the licenced area.
  - Remove existing 1.2m post and wire fence along the east boundary adjacent to Lic #5349, as shown on the drawing.
  - Commence removal of trees and place in piles to dry. When sufficiently dry, the trees will be burned in compliance with the local fire department. As an alternative, and if an interested party can be found, the trees stumps, and brush will be shredded using a tree shredder or chipper, and the material will be removed from the site, and used as fuel in a greenhouse operation.
  - Commence sequential stripping of topsoil and overburden and utilize in the construction of acoustic berms as shown on the drawing. Surplus topsoil shall be stockpiled in the form of a temporary berm along the west and south boundary setback area.
  - Extract aggregate to the elevations indicated, in one or two lifts; in the direction noted on the drawing.
  - Depending on market requests, dry screening may be carried out on site. A portable screening plant on an as needed basis would be located a minimum of 150 metres from any sensitive receptor and temporary product stockpiles would be located between the sensitive receptor and the plant, and at least 90 metres from the north, west, and south licence limits.

- AREA 1 PHASE 2**
- Complete rehabilitation of the slope adjacent to the south licence boundary.
  - Commence under water extraction of aggregate in two or three lifts, to the elevation shown; and in the direction indicated on the drawing.
  - As extraction proceeds and setbacks are reached, backfill portions of area underwater using any silty clay fill found on site.
  - Utilize topsoil and overburden to backfill, grade, and rehabilitate any remaining disturbed areas above water.
  - Spread and grade topsoil on all remaining disturbed areas above water and seed with the grass/legume mixture noted on drawing #3 of 4.
  - Depending on the final use of the property, after extraction operations are completed, the acoustic berm along the north side of the site may be removed.

SCALE 1:2500 (METRIC)



"METRIC" DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

**LEGEND**

DECIDUOUS TREE	CROSS-SECTIONS
CONIFEROUS TREE	FINAL EXTRACTION ELEVATION
PROPERTY LINES	OPERATION PHASE DIRECTION
BOUNDARY OF LICENCED AREA	ENTRANCE / EXIT
REGULATORY SETBACKS	FARM RELATED ENTRANCE/EXIT
EXTRACTION LIMIT	
DWELLING (HOUSE)	
EXISTING OR PROPOSED FENCE	

**SITE PLAN OVERRIDE OF OPERATIONAL STANDARDS**

No.	Description	Section
1	Elimination of fencing, gates extraction and product setback requirements along the east boundary abutting the adjacent licenced pit, Ref # 5249 operated by the licensee; in accordance with an agreement between the parties.	5.1, 5.2, 5.10.1, 5.13.1
2	Because much of the entire area except for the setbacks will be excavated below water some of the topsoil and/or overburden may be stockpiled on the adjacent unlicensed land to the north east, which is owned by Erie Sand and Gravel Limited until required for rehabilitation.	5.16
3	In order to maximize extraction and future water areas, all above and below water slopes on the boundaries will be a minimum of 2:1. Two horizontal metres to each of vertical metres.	5.19.1
4	The sign indicating "This site is licenced under the Aggregate Resources Act" including the licence Ref # will be located at the entrance/exit of an adjacent licenced pit to the east Licence # 5291, which is located at County Road #31.	5.22

**SITE PLAN AMENDMENTS**

NO.	DATE	REVISION

**OPERATIONAL NOTES (CON'T)**

21. Extraction: Extraction will be carried out in a maximum of five (5) lifts with a maximum of two (2) lifts of a maximum ten (10) metres for above water extraction and three (3) lifts of a maximum ten (10) metres for below water extraction.
22. Buildings: There are no buildings on the site.
23. Maintenance of Vegetation: Vegetation will be maintained on all final rehabilitation areas. Any vegetation that dies or is otherwise damaged will be replanted to prevent erosion.
24. Recycling: No recycling of asphalt or concrete will be carried out on site.

**TECHNICAL REPORT RECOMMENDATIONS**

25. The Archaeological Assessment Stages 1, & 2 prepared by Archaeologix Inc.; dated April 2007, recommended that should deeply buried archaeological material be found on the property, the Ministry of Culture shall be notified immediately at 519-675-7742. In the event that human remains are encountered the proponent shall immediately contact both ministry of Culture (MOC), and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit, of the Ministry of Consumer and Commercial Relations (MCCR) at 416-326-8392.
26. The Level 1/Level 2 Hydrogeological Assessment report prepared by Golder and Associates Ltd, dated February 2008 and updated in February 2009 recommended the following:

- Groundwater Monitoring and Protection Plan  
Although development of the Site is not anticipated to result in significant impacts to local groundwater resources, as part of the due diligence process it is recommended that a suitable network of monitoring wells, including existing domestic wells, be established and maintained, and that a program of groundwater monitoring be implemented prior to commencing extraction operations at the Site, as follows:
  - At least one year prior to commencement of extraction, the following wells shall be monitored for monthly water levels: MW#1-Longlee Lane, MW#2-981 Road 6, Sharp MW#3, MW#4, MW#5, R. Neaves, K&K #8, Ruby Sharp #2 and S51 to S54. All of these wells are currently included in a routine groundwater level monitoring program carried out by the licensee and the results are reviewed annually by a Hydrogeological firm.
  - The following water wells, if accessible and suitable, shall be added to the routine monitoring program: Thompson (Well No. 7), Stator (Well No. 8), Sharp (Well No. 11), Golder #15), R. Whaley (Well No. 9) and, as suitable, one of the Whaley wells Golder Nos. 10, 16 or 17. The approximate locations of these wells are shown on drawing #4 of 4.
  - To establish baseline groundwater quality prior to the start of extraction, semi-annual (April and October) groundwater samples shall be collected from suitable up-gradient and down-gradient monitors (minimum of three locations each) for at least one year immediately prior to extraction below the water table and analyzed for the following parameters: benzene, toluene, ethylbenzene and xylenes (BTEX), petroleum hydrocarbon (PH) fractions F1 (C6-10), F2 (C>10-16), F3 (C>16-34), and F4 (C>34), and a suite of metals.
  - Following commencement of extraction activities, groundwater samples shall continue to be collected annually from the same locations and analyzed for the parameters listed above.
  - After extraction commences, the water level and groundwater quality data shall be reviewed by a qualified hydrogeologist, on an annual basis, for evidence of significant impacts attributable to the extraction activities. Should evidence of significant impacts be observed in the data set, recommendations for mitigation measures shall be developed, in consultation with applicable stakeholders, and implemented. The data acquired would also provide a basis for assessing any subsequent claims of groundwater interference as a result of the aggregate extraction.
  - Any unused water wells encountered on site during extraction activities shall be properly abandoned in accordance with Ontario Water Resources Act, RRO 903, as amended.

**2. Spill Avoidance and Contingency Plan**

It is recognized that this operation will be extracting within close proximity to, and eventually below water, and as such the use of equipment to contain absorbent materials, shall be maintained on the Site or an adjacent location operated by Erie Sand and Gravel Limited. In the event of a spill, sampling of on-site and/or nearby wells shall be increased from once per year to twice per year for a period of two years following the spill in order to provide additional quality monitoring.

- All fuel handling practices on the Site will be subject to Technical Standards and Safety Authority (TSSA) regulation requirements.
- Although the use of petroleum hydrocarbons is regulated under the TSSA, to address the potential for impacts, Best Management Practice (BMP) plans shall be put in place to minimize the risk of contaminant releases and a suitable contingency plan shall be developed to respond in the event of a significant spill.
- In order to minimize spills, all equipment shall be routinely maintained and accumulations of oil and grease on Site should be minimized.
- Storage of fuels and oils on Site shall be minimized and all potentially hazardous materials shall be stored in approved aboveground containment facilities in accordance with best management practices.
- Personnel shall be trained in the necessary actions in the event of a fuel, lubricant or oil spill, and supplies to contain spills, to contain absorbent materials, shall be maintained on the Site or an adjacent location operated by Erie Sand and Gravel Limited. In the event of a spill, sampling of on-site and/or nearby wells shall be increased from once per year to twice per year for a period of two years following the spill in order to provide additional quality monitoring.
- Spills shall be handled as described in the Ontario Environmental Protection Act, Revised Statutes of Ontario, 1990, Part X: Spills, as amended. If the spill is minor, the spill shall be contained and removed using appropriate methods (e.g. vacuum truck, excavation, etc.). If a major spill occurs (i.e. greater than 100 litres), the MOE, as well as the local fire department, shall be contacted immediately. Spill containment shall commence immediately.
- Designated site personnel shall maintain the telephone numbers of the appropriate response personnel (including site personnel, MOE, fire station, environmental consultant, petroleum contractor for vacuum truck, etc.).

**27. The Noise Impact Assessment report prepared by O2a Inc. dated Nov 6, 2007 and reassessed in November 2008 recommended the following:**

- In order to meet the applicable MOE NPC-232 guideline limits, operations within the pit shall be limited to the daytime period between 0700hrs and 1700hrs. (7:00 AM to 5:00 PM)
- A minimum setback distance of 30 metres from the licence boundary shared with residential properties to the north along Road 6 shall be maintained. A berm shall be constructed within this 30 metre setback to a minimum height of 5 metres above existing local grade. In the area near R4 (the Ferguson property) the berm may be constructed to a minimum height of 4.5 metres above existing grade along the property shared west residential property boundary (Ferguson west property line), and to a minimum height of 3 metres above existing grade along the shared south residential property boundary (Ferguson south property line).
- Potential on site aggregate screening plant activities shall remain 150 metres from the receptors to the north along Road 6. Barriers with a minimum surface density of 20 kg/m<sup>2</sup> (41 lbs/ft<sup>2</sup>) at least 8 metre high (eg. material stockpiles) shall be maintained in between aggregate screening plant operations and receptors.
- All constructed berms shall be continuous and block the line of sight between the pit operations and surrounding receptors.
- Notwithstanding note # 28 (b) above, Table 1 of the report reflect predicted noise impacts assuming the recommended north berm height of 5 metres. Therefore the north berm shall be maintained at a minimum height of 5 metres above existing grade.
- Mobile construction equipment operating in the pit or used to prepare the pit for excavation, to maintain the facility, or to construct berms shall produce sound levels which comply with MOE NPC-115 Guideline, "Sound Levels due to Construction Equipment".

**OPERATIONAL NOTES**

- Setbacks are 15 metres along the west boundary; 30 metres along portions of the north boundary adjacent to Road 6 E; 0 metres along the east boundary adjacent to Pit Licence # 5349; 15 metres along the east portion of the south boundary; and 0 metres along the west portion of the south boundary; all of which are outlined on the Fencing, Setback and Cross Section Drawing shown elsewhere on this page.
- Entrance/Exit/Gates: The Entrance/Exit to this site will be through the east boundary adjacent to Lic # 5349. The main entrance/exit of this complex of pits is through Lic # 5291. This entrance/exit located at County Road #31 is regulated by Site Plans of Lic # 5291.
- Tree Screens: Tree screens may be established along portions of the north boundary if suitable trees (deciduous, coniferous, or both) from areas to be excavated; can be transplanted.
- Fencing/Boundaries: Prior to commencing extraction operations, 1.2 metre high post and wire fencing will be constructed along the perimeter of extraction areas not already fenced, so that inadvertent access will be blocked. (See "Fencing, Setback & Cross-Section Drawing shown elsewhere on this page). Corner posts and all unfenced boundaries will be demarcated with 1.2m high orange capped cedar posts in sufficient numbers to adequately demarcate the licence boundaries and boundaries will be posted with "Danger No Trespassing" signs.
- Petroleum: No petroleum storage tanks will be stored on site. If portable tanks are brought on site for refuelling of equipment, refuelling will be carried out in accordance with the TSSA Standards. Any petroleum spills will be responded to and disposed of in accordance with Ministry of the Environment contingency plans.
- Scrap: An existing scrap storage area is shown on the existing features site plan. This scrap will be removed from the site, within one (1) year of issuance of the licence. No additional scrap will be stored on or be allowed to accumulate on the site.
- Dust: Any dust generated by extraction and hauling equipment will be controlled by use of a water truck applying water or a mixture of other approved dust suppressants.
- Noise or Groundwater interference problems: Should noise or groundwater interference complaints be received, the licensee will take appropriate measures as deemed necessary by the Ministry of the Environment to rectify the problem(s).
- Equipment: Equipment used on site will consist primarily of rubber tired front end loaders, bull dozers, drag lines, hydraulic excavators, barge mounted sand sucker, tractor trailers, tandem axle dump trucks, and off road trucks. All equipment will be kept in good working order and have O.E.M. quality noise attenuation devices. Generally aggregate will be hauled to other licenced areas for processing and marketing. However portable dry screening plants may be used on site and will be located as close to the active pit face as possible, but not within 30 metres of the north, south and west boundaries.
- Drainage: There will be no direct off site discharge of water, and all internal drainage will be directed to the lake to be created on site.
- Dewatering/Washing/Crushing: No dewatering, washing or crushing of aggregate will take place on this site.
- Water Table Elevations: The elevation of the water table is approximately 199.5± M ASL. The level was established from existing water wells, monitoring wells, pond water levels on and off site, and by Golder and Associates, Hydrogeological Level 1/ Level 2 Assessment, dated March, 2008.
- Aggregate Stockpiles: Aggregate stockpiles and processing equipment will not be placed closer than 30 metres from the north, south or west boundaries. Because the property to the East is a licenced pit there will be no setbacks for stockpiles, excavations or equipment. Any product stockpile will be a maximum of 10 metres in height and shall follow extraction face or stockpiled near shoreline and allowed to drain before processing. (See site plan overrides).
- Topsoil/Subsoil/Overburden: Topsoil and any subsoil or overburden will be sequentially stripped and separately stockpiled on site, in berms or stockpiles a minimum of 30 metres from any licenced boundary, except as provided by site plan overrides; and retained for rehabilitation. Stockpiles will be maximum of 10 metres high. Note if required because of space limitations on site, some topsoil may be stockpiled in the form of a vegetated berm, on the adjoining property located immediately north of the north boundary of licence # 5349 K&K Pit, as shown.
- Phasing: Notwithstanding the extraction and rehabilitation notes shown on this or other drawings, demand for certain products, or blending of materials may require some deviation in extraction and rehabilitation phasing. However when extraction has been completed and stockpiles removed from any part of a phase, rehabilitation will be carried out in accordance with the site plan. Phases do not represent any specific or equal time periods.
- Slopes: The finished slopes of the pit will have grades of a minimum of 2 horizontal to 1 vertical (2:1) unless indicated otherwise. (see site plan overrides)
- Tonnage: The maximum number of tonnes of aggregate to be removed from this licenced property is 500,000 tonnes in any calendar year.
- Hours of Operation: The normal hours of operation are 7:00 AM to 5:00 PM, Monday to Friday, and 7:00 AM to Noon on Saturday. Notwithstanding an emergency, no extraction will take place on Sunday or holidays.
- Area to be Extracted: The Area to be extracted is 15.67± hectares.
- Berms: Topsoil may be stockpiled in the form of 2.5± - 5.0± metre high vegetated berms. The berms will be located in the setbacks and/or adjacent to residents, seeded with a grass/legume seed mixture and graded with 1.5-2:1 slopes. Berms will be located a minimum of 3 metres from licence boundary fences. Adequate vegetation shall be established and maintained to control erosion of any berm, or stockpile of topsoil or overburden.

**LICENCEE**

CLARKE SURVEYORS INCORPORATED

**LOCATION**

GEOGRAPHIC TOWNSHIP OF GOSFIELD SOUTH NOW IN THE

**OPERATIONS**

OPERATIONS

**DRAWING NUMBER**

2 OF 4

CLARKE SURVEYORS INCORPORATED

Ontario Land Surveyors  
2535 Lesperance Road  
Tecumseh, Ontario  
N9N 2X1  
Ph. (519) 258-4166  
Fax (519) 735-2155  
Toll Free 1-888-735-4166

ASSOCIATE COMPANY  
MACKAY MACKAY & PETERS  
L I M E D  
BURLINGTON AND HAMILTON  
ONTARIO

DRAWN BY: KB/SJP  
CHECKED BY: RAC/KRB  
JOB NO: 33925-13  
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