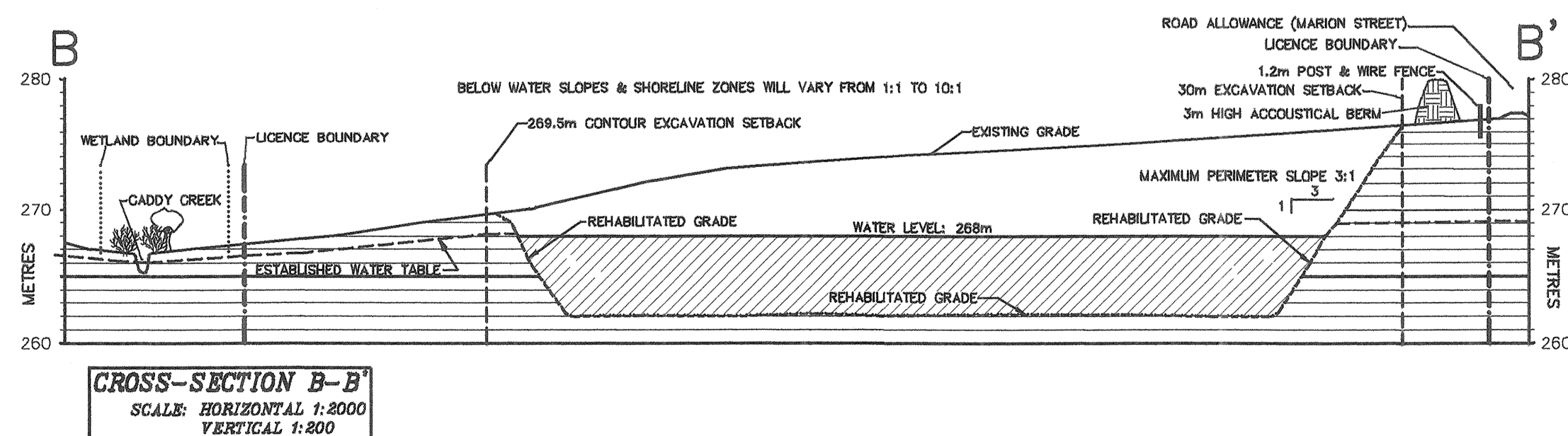
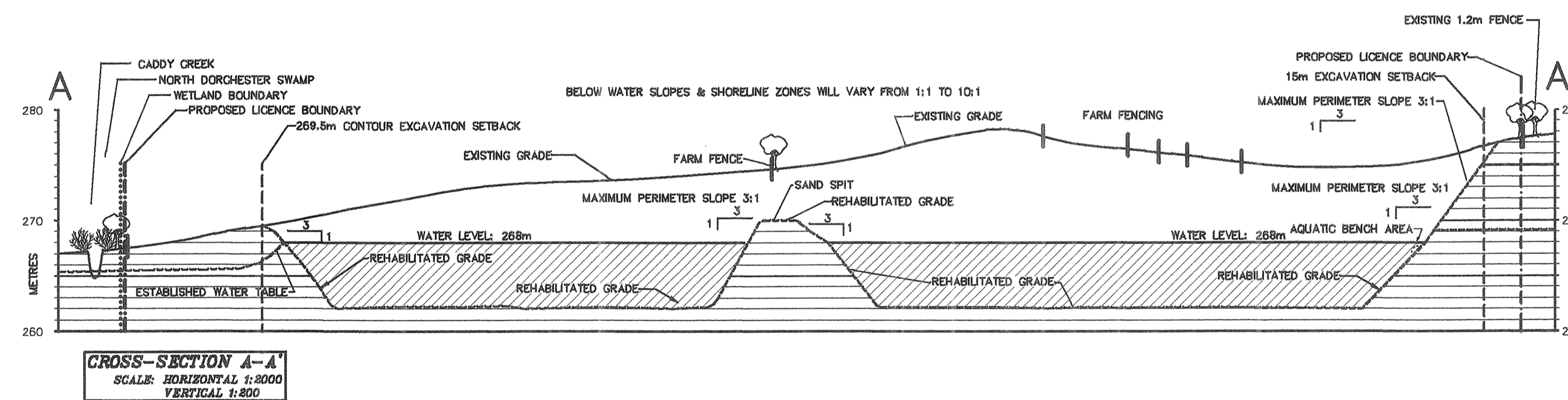


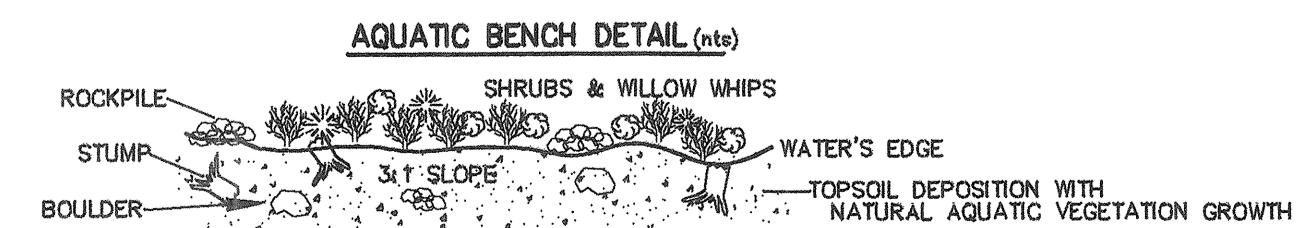
REHABILITATION NOTES

1. The area to be rehabilitated is 12.8 hectares (max.10.15 hectares pond).
2. This site is to be rehabilitated to natural environment and agricultural after uses.
3. The sequence and direction of rehabilitation is as follows: Perimeter slopes shall be rehabilitated as the limits of extraction are reached. Slopes shall be no steeper than 3:1. Below water slopes and shoreline zones will vary from 1:1 to 10:1 to enhance shoreline diversity. Slopes shall be created by excavation or by backfilling with onsite overburden. Slopes shall be spread with topsoil (minimum depth 0.15m) and shall be planted with a native grass seed mix and a native wildflower mix.
4. Rehabilitation operations such as stripping and earth moving shall take place only when the soil is dry to reduce compacting of the soils.
5. Agricultural uses will continue in perimeter areas around the future pond. Where possible the size of the pond will be minimized and the depth maximized. This will keep as much as possible of the rehabilitated areas above water available for agricultural uses.
6. During rehabilitation in the agricultural areas the soils shall be replaced in a manner that approximates the original soil profile. Prior to soil placement compacted areas of the pit floor shall be ripped and scarified. As such, it is expected that the same average soil capability will be restored.
7. Rehabilitated agricultural areas shall be planted with a grass/legume mixture such as alfalfa and red clover. These areas shall be ploughed under in the fall of the first year and reseeded the following spring to enhance soil structure. Sloped areas around the pond shall be planted with a native grass mixture that shall include a mixture of Virginia Wild Rye, Indian Grass, Little Blue Stem and Switch Grass with some wildflower mix (Milkweed, Aster, Tick-trefoil and Black-eyed Susan).
8. Areas shall be graded to direct drainage towards the pond as shown. Most surface water in perimeter areas will percolate into the ground.
9. Rehabilitated areas are to be re-graded and reseeded in the event of washouts.
10. Any vegetation that dies or is otherwise damaged shall be reseeded or replanted.
11. Shoreline zones may be sculpted where practical to enhance the natural environment aspects and biodiversity of the pond. Examples are shown.
12. Shallow aquatic benches shall be created at various locations along the limit of the proposed aggregate pond. On these shallow benches, marsh habitats shall be created by planting rooted aquatic plants such as native sedges and rushes. Large woody debris and boulders shall be placed on the benches. Examples are shown. See the detail below.
13. No buildings or structures associated with aggregate operations will remain on site.



LEGEND:

- DRAINAGE DIRECTION
- LICENCE BOUNDARY
- WETLAND BOUNDARY
- 1.2m HIGH FENCE
- LOT LINE
- SPOT ELEVATION
- 1m CONTOUR
- DECIDUOUS TREE
- CONIFEROUS TREE
- AQUATIC BENCH AREA
- POND AREA



JOHNSTON BROS. (BOTHWELL) LIMITED
P.O. BOX 220, BOTHWELL, ONTARIO, N0P 1C0
PART LOT 16, CONCESSION 4, NTR
GEOGRAPHIC TOWNSHIP OF NORTH DORCHESTER
MUNICIPALITY OF THAMES CENTRE
COUNTY OF MIDDLESEX

PROGRESSIVE REHABILITATION AND FINAL REHABILITATION PLANS

DRAWING 4 of 4
SCALE 1:2000

1	UPDATED FOR BELOW WATER APPLICATION	01-2018
No.	AMENDMENT	DATE

MNRF ID #608781

SEQUENCE OF OPERATIONS & PROGRESSIVE REHABILITATION

This Sequence of Operations and Progressive Rehabilitation section has been revised to reflect the 2018 site plan amendment to extract within 1.5m of, and below the water table.

In General:

1. Phases do not represent any specific or equal time period.
2. Rehabilitation will be progressive and proceed as outlined below. The current agricultural uses shall continue on this site as long as possible during pit operations.
3. This pit shall be operated in two areas with one bench above water varying across the site from approximately 1 to 7 metres and one bench below water of approximately 6 metres.
4. Operations shall proceed in the directions of the arrows shown.
5. As the limit of extraction is reached, the perimeter areas shall be rehabilitated as outlined on the Progressive Rehabilitation and Final Rehabilitation Plan.
6. Notwithstanding the operational and rehabilitation notes, demand for certain products or blending of materials may require minor deviations in the extraction and rehabilitation sequence. Any other major deviations shall require written MNRF approval.

Phase 1:

1. The entrance has been constructed where shown and fencing has been erected where required.
2. Farm buildings shall be removed prior to stripping.
3. Above water extraction has been completed in the original extraction area of Area 1 and most of Area 2. Stripped materials have been used for noise attenuation berms or stored in perimeter areas.
4. The scale and scale house area area located in the northeast corner of Area 1.

Phase 2:

1. If above water extraction is not completed in Area 2 by the time this amendment is approved then the remaining area above water in Area 2 shall be extracted.
2. In Area 1, the setback around the onsite residence that has been reduced to 30m from the residence shall be extracted after above water extraction has taken place in Area 2.
3. Once above water extraction is completed in Area 2, below water extraction shall commence in the southerly corner of Area 2 and proceed along the southwesterly, below water extraction limit in a northerly direction.
4. Once below water extraction has moved north of a westerly extension of the south boundary of Area 1, then topsoil may be taken from the stripped materials of Area 2, currently stored in and along the westerly setback of Area 2. These materials shall be used for the progressive rehabilitation of shoreline zones in Area 2 where below water extraction has been completed.

Note: The part of the berm that is stored north of Observation Wall 1 (OW1) shall remain in place for noise attenuation measures until extraction is completed at this site.

Phase 3:

Note: Phase 3 shall not commence until rehabilitation is completed as noted in Phase 2, Note 4 above.

1. Below water extraction shall continue from the west side of Area 2 and proceed easterly in the direction of the arrows shown.
2. Progressive rehabilitation shall continue along the shoreline zones where extraction has been completed utilizing topsoil taken from the stripped materials of Area 2, currently stored in and along the westerly setback of Area 2.
3. Below water extraction shall continue easterly through Area 1 in the direction of the arrows shown.

Phase 4:

1. Any remaining stockpiles shall be removed.
2. Berms shall be removed and used to complete perimeter rehabilitation in all areas where required. Remaining materials shall be used for additional shoreline sculpting and/or to create islands and aquatic benches.
3. Final rehabilitation shall be completed on the entire site.

OPERATIONAL NOTES

1. SETBACKS: In Area 1 the extraction setback shall be 30m along the northern roadside boundary with the exception of the area around the farm residence where the setback shall be 30m from the face of the existing farm residence by landowner agreement. The setback shall be 15m along the east side of Area 1. There shall be no setback along the south boundary of Area 1 adjacent to the licensed Lafarge pit (ID 2319) by landowner agreement.

In Area 2, there shall be no setback along the east boundary of Area 2 adjacent to the licensed Lafarge pit (ID 2319) by landowner agreement. In the southeast corner of Area 2 the setback shall be 72m from the south licence boundary as shown. In the southwesterly part of Area 2 the extraction setback is along the 269.5m contour where shown. On the westerly side of Area 2, above the 269.5m contour, the setback shall be 15m until it reaches the north part of the west boundary adjacent to the rural residence where it shall be 30m as shown. In Area 2 the extraction setback shall be 30m along the northern roadside boundary.

Prior to commencing extraction in Area 1, all excavation setbacks shall be marked with 1.2m high minimum marker posts at intervals distances not to exceed +/-60m. Prior to commencing any operations, including stripping, in Area 2, extraction setbacks, including the southwest extraction limit along the 269.5m contour, shall be marked with 1.2m high minimum height marker posts at intervals distances not to exceed +/-60m. The extraction limit posts shall be painted a different colour than the boundary markers.

2. MAXIMUM DEPTH OF EXTRACTION: The maximum depth of extraction shall terminate at the clayey silt layer or an elevation of 262m (whichever is encountered first). Extraction shall take place in one bench above water and one bench below water.

3. SIDE SLOPES: Final perimeter slopes above water shall be constructed no steeper than 3(horizontal) to 1(vertical) and shall be created by backfilling with onsite materials. Final 3:1 slopes shall be spread with a minimum of 0.15 metres of topsoil and shall be seeded with a native grass mixture and a wildflower mixture. Below water slopes and shoreline zones (within 5m of the water line) shall vary from 1:1 to 10:1 to enhance shoreline diversity. See override.

4. ENTRANCE/EXIT/GATE: The main entrance/exit for this pit shall be located at the northeast corner of Area 1 adjacent to Marion Road. An additional entrance is located at the southeast corner of Area 1 where shown. A gate shall be maintained at the Marion Street entrance. Both entrances shall be kept close when the pits are not operating. The existing farm entrances shown on the north boundary shall remain.

5. FENCING: Prior to the commencement of operations, 1.2m post & wire fencing (minimum height 1.2 metres) shall be repaired or installed on the north roadside boundary and the west boundary of Area 2. Fencing on the southwest part of Area 2 is not required by landowner agreement. The existing fence along the south and east boundaries of Area 1 and the west boundary of Area 2, in common with the Lafarge Pit (ID 2319), shall not be required by agreement with the adjacent licensee. All unfenced boundaries shall be delineated with highly visible posts (minimum height 1.2m) at the corners of the licence and at inter-visible distances no greater than +/-60 metres. Marker posts shall be re-installed as soon as possible after extraction on any part of the areas adjacent to the common pit boundaries. Fencing and marker posts shall be maintained for the life of the licence.

6. TOPSOIL/OVERBURDEN STORAGE: All topsoil, subsoil and overburden shall be separately stripped and stored in the setback areas as berms or in stockpiles within the extraction areas. There will be no stockpiling within 30m of the boundaries with the exception of the boundaries in common with the Lafarge Pit (ID 2167). All topsoil, subsoil and overburden stockpiles shall be a maximum of 10 metres in height, graded to stable slopes and used to prevent erosion. Berms shall be graded to stable slopes and seeded with grasses. (See berm detail on Drawing 4.) All topsoil stripped in the operation of this site shall be used in the rehabilitation of this site.

7. VEGETATION: Vegetation shall be maintained on all topsoil berms and stockpiles and rehabilitated areas. Any vegetation that dies or is otherwise damaged shall be reseeded or replanted.

8. AGGREGATE STOCKPILES: No aggregate stockpiles shall be located within 30 metres of the licence boundary with the exception of the zero setback boundaries adjacent to the Lafarge pit (ID 2319). Aggregate stockpiles shall be located on the pit floor, shall be located near the processing equipment and shall be a maximum of 20 metres in height.

9. EXCAVATION EQUIPMENT: Processing equipment to be utilized on this site shall include scrapers, bulldozers, loaders, an excavator, dump trucks, portable crushing equipment and portable screening equipment. No processing equipment shall be parked, stored or installed within 30 metres of the licensed boundary with the exception of the zero setback boundaries in common with the Lafarge Pit (ID 2319). No processing equipment shall be located within 30m of any rural residential land use, the onsite residence excepted. Processing equipment shall be located below grade on the pit floor. Crushing shall only take place in the south east corner of Area 1, where shown. A 10m barrier shall be constructed between the crusher and any sensitive receptors. Refer to the Noise Recommendations on Drawing 3 of 4.

10. DUST CONTROL: Dust control shall be maintained through the application of water or other MECP approved dust suppressants. Dust shall be mitigated on site.

11. NOISE, DUST OR GROUNDWATER INTERFERENCE ISSUES: Should noise, dust or groundwater interference complaints be received, the licensee shall take appropriate measures as deemed necessary by the MECP to rectify the problem(s). Also see the Water Supply Interference Complaint Response Procedure on page 3 of 4.

12. DEWATERING/WASHING: No dewatering shall take place on this site. No washing of aggregate materials shall take place on this site.

13. SCRAP STORAGE: All scrap on the site shall be collected and stored in the designated area shown and located a minimum of 30 metres from any licensed boundary. All scrap shall be removed from the site on an ongoing basis.

14. PETROLEUM STORAGE: Petroleum products shall be stored in the scale house area on an impervious pad and in compliance with the Technical Standards and Safety Act 2000 and the Liquid Fuels Handling Code 2001, as may be amended. Any spills shall be removed and disposed of at a facility approved by the MECP. See the Spills Plan on this page. Mobile fuel tanks shall be the new generation engineered double-tanked variety with vacuum sealed valves.

15. BUILDINGS: The existing farm residence shall remain. Other farm buildings outside of the 30m building setback shall be removed and disposed of in an acceptable manner. A scale & scale house may be constructed within the area designated on this drawing. A typical transport truck trailer shall be used as an equipment and tool trailer. The trailer shall be located in the general vicinity of the processing equipment and is in addition to any generator trailers used to run the processing equipment. The trailer may not be located within 30m of any licence boundary.

16. DRAINAGE: Surface drainage initially shall be by percolation into the pit floor. As rehabilitation is completed the site shall be graded to drain towards the pond as shown on drawing 4 of 4, "Progressive Rehabilitation & Final Rehabilitation Plan". There will be no offsite drainage from operational areas during operations or after the site is rehabilitated.

17. HOURS OF OPERATION: The hours of operation for this site shall be from 7am to 6pm Monday to Friday. There shall be no operations on weekends or holidays.

18. EXTRACTION AREA: The extraction area is 12.8 hectares, of which 10.15 ha. is below water.

19. TONNAGE CONDITION: The maximum amount of aggregate that may be removed from this site in any calendar year is 250,000 tonnes.

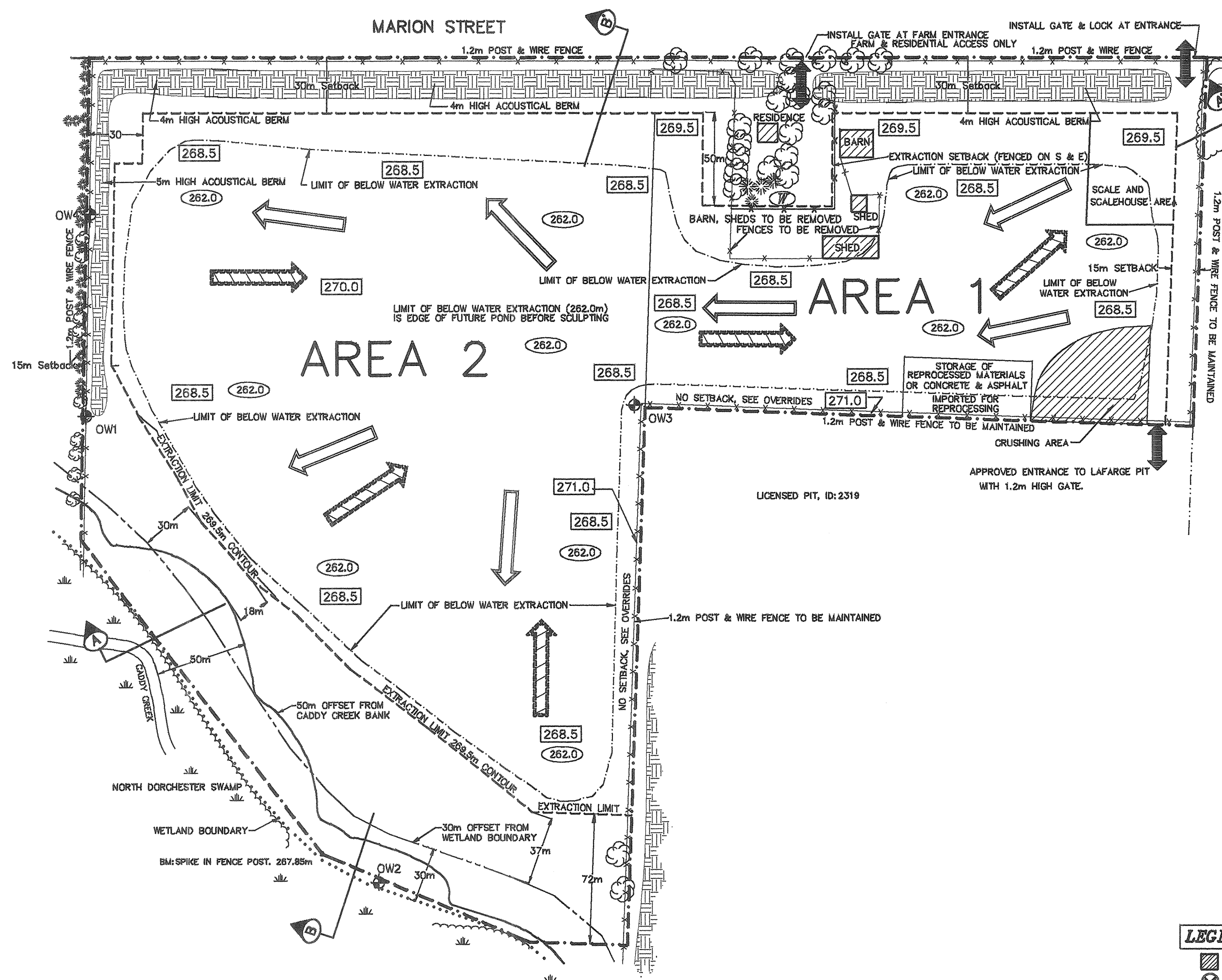
20. WATER TABLE ELEVATION: The elevation of the water table varies from +/-269m ASL to 266m ASL. The final pond elevation after rehabilitation is completed will be approximately 268m ASL.

21. TREE REMOVAL: Any trees removed as part of the operation of this site shall be utilized as firewood or shall be ground into mulch.

22. LANDOWNER EXEMPTION: In order to continue farm operations, the landowner (Marsh) has signed an agreement that eliminates the requirement for a berm around the farm buildings and residence as shown in the Noise Recommendations' Figure 2 on Drawing 3.

23. CONSULTANT RECOMMENDATIONS: The recommendations from the Hydrogeological, the Noise Attenuation, the Natural Environment and the Archaeological consultants are shown on Drawing 3 of 4: "Consultant Recommendations".

24. JAKE BRAKES: A sign shall be posted at the entrance to this site stating: "PLEASE REFRAIN FROM USING JAKE BRAKES ON MARION STREET AND ELGIN ROAD".



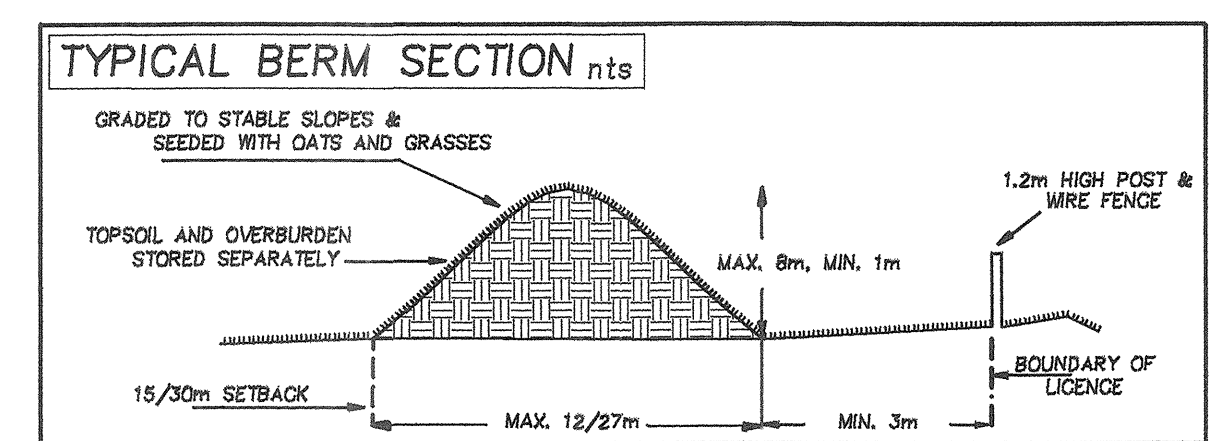
SITE PLAN OVERRIDES OF THE OPERATIONAL STANDARDS

1. STANDARD 5.1 - No fencing shall be required along the southern boundary of Area 2 by landowner agreement. No fencing shall be required along the south boundary of Area 1 or the east boundary of Area 2 by adjacent licensee agreement.
2. STANDARD 5.10.1 - Excavation setbacks have been reduced to zero along boundaries adjacent to the common boundaries with the Lafarge pits (ID2319 & ID2167) by adjacent licensee and landowner/Marsh agreement.
3. STANDARD 5.13.1 - Stockpiles and processing equipment may be located within 30m of any boundary where the setbacks have been reduced to zero metres by landowner (Marsh) agreement. (i.e. boundaries adjacent to the Lafarge pit (ID 2319). As indicated in Noise Recommendation Note 4, crushing may only take place in the southeast corner of Area 1, where shown.
4. STANDARD 5.13.1 - A scale and scale house may be located within the eastern 15m setback by an adjacent landowner agreement with the licensee on file at MNRF.

Spills Plan

- In case of an accidental spill of petroleum products, the following contingency plan will be activated:
- a) The MECP (See address & phone number below) and surrounding landowners will be notified.
 - b) For a leakage or spill immediate action will be taken to stop it. At the same time measures will be taken to prevent spreading. These measures may include building or a berm or construction of a ditch, for instance.
 - c) The pit operator shall commence recovery procedures by collecting the spilled substance into containers.
 - d) The soil in the area affected by the spill or leak shall be removed and disposed of at a location prescribed by the MECP.

MECP
Southwest Regional Office
733 Exeter Road, 2nd Floor
London, Ontario, N6E 1L3
Spills Action Centre: 1-800-268-6060



LEGEND:

[Symbol]	BUILDING
[Symbol]	MARKER POST
[Symbol]	APPROXIMATE DEPTH OF ABOVE WATER EXTRACTION
[Symbol]	MAXIMUM DEPTH OF ABOVE WATER EXTRACTION
[Symbol]	EXCAVATION DIRECTION ABOVE WATER
[Symbol]	EXCAVATION DIRECTION BELOW WATER
[Symbol]	15/30m SETBACK LINE
[Symbol]	LICENCE BOUNDARY
[Symbol]	ENTRANCE/EXIT
[Symbol]	1.2m HIGH FENCE
[Symbol]	LOT LINE
[Symbol]	BERM/STOCKPILE
[Symbol]	CRUSHING AREA
[Symbol]	DECIDUOUS TREE
[Symbol]	CONIFEROUS TREE
[Symbol]	WETLAND BOUNDARY
[Symbol]	30m OFFSET FROM WETLAND BOUNDARY
[Symbol]	LIMIT OF BELOW WATER EXTRACTION

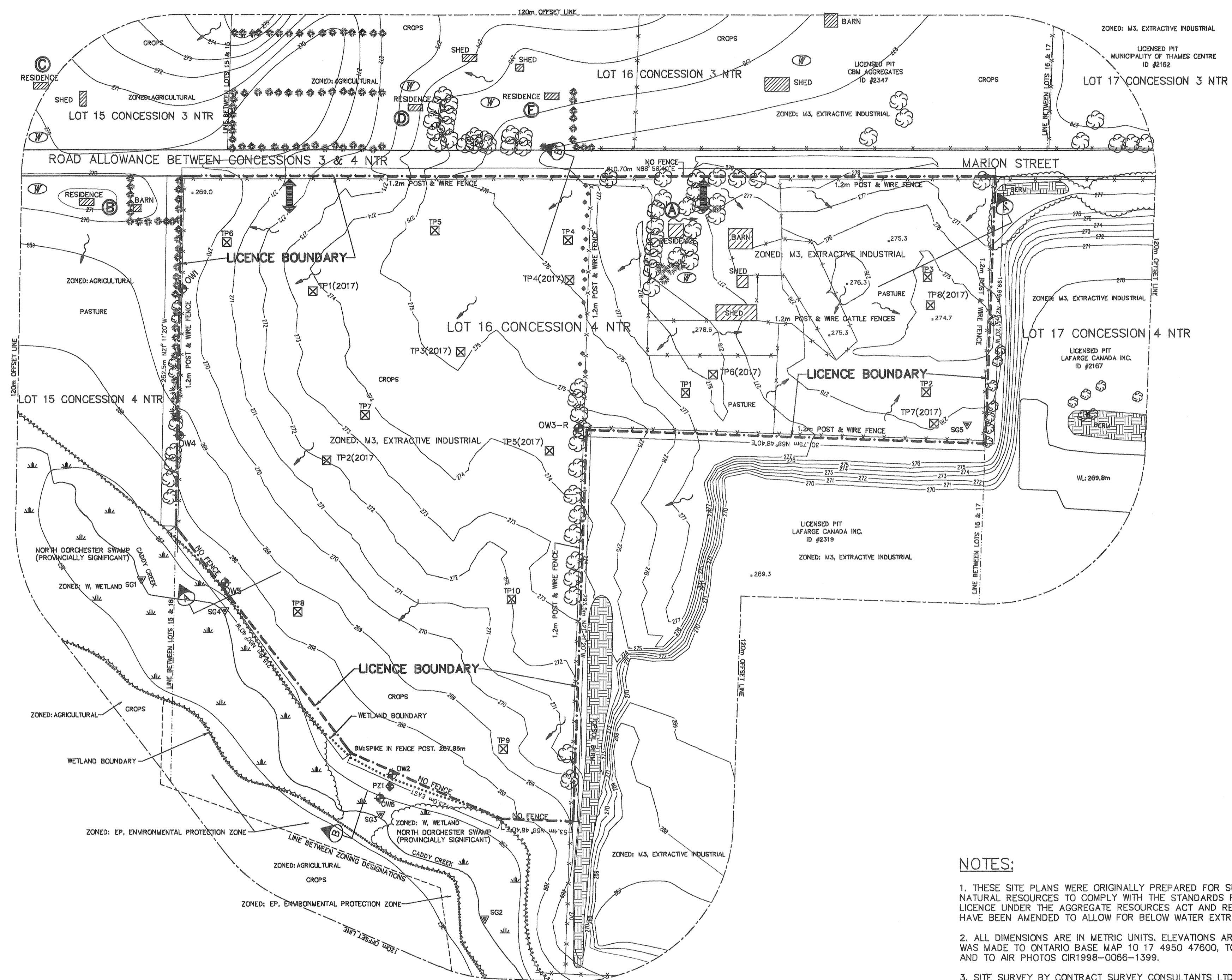
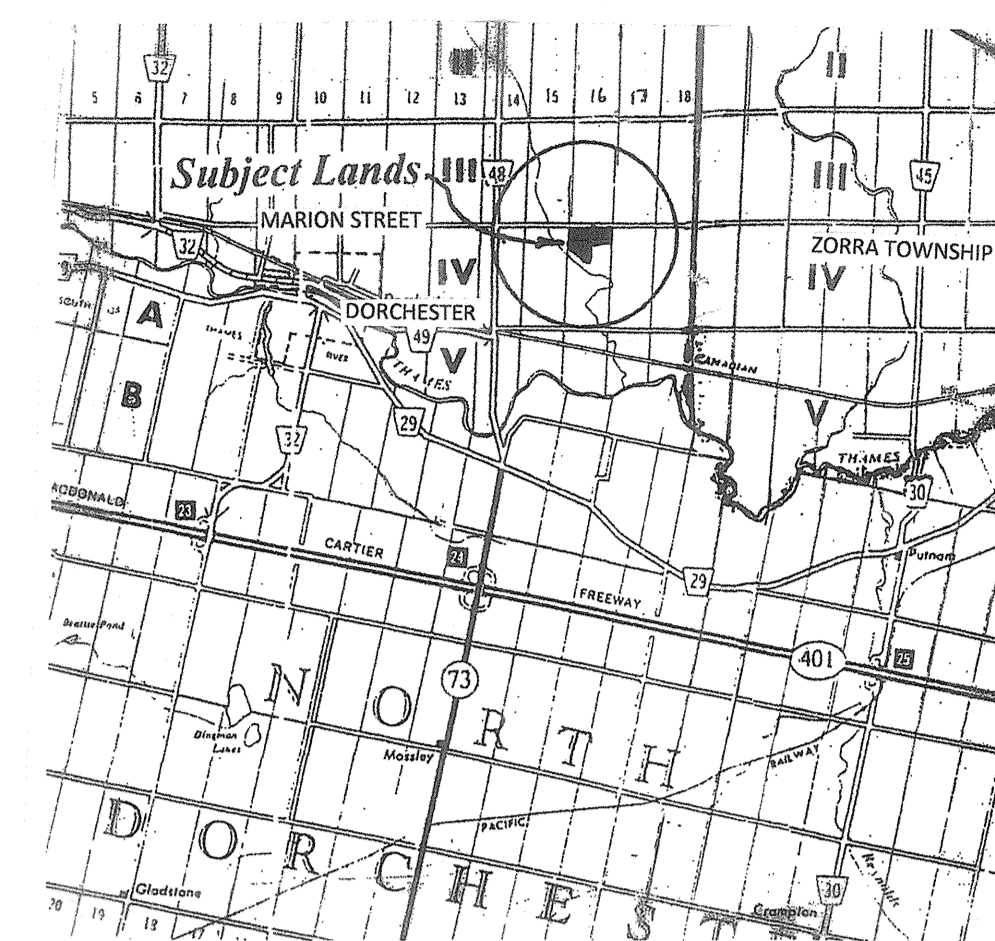
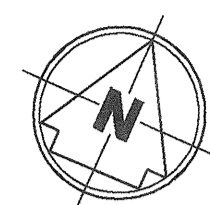
JOHNSTON BROS. (BOTHWELL) LIMITED
P.O. BOX 220, BOTHWELL, ONTARIO, N0P 1C0
PART LOT 16, CONCESSION 4, NTR
GEOGRAPHIC TOWNSHIP OF NORTH DORCHESTER
MUNICIPALITY OF THAMES CENTRE
COUNTY OF MIDDLESEX

OPERATIONAL PLAN
DRAWING 2 of 4

SCALE 1:2000

50	0	50	100	150
1	MARKING OF AREA 2 SETBACKS, TIMING REVISED			11-2011
2	SCALE AND SCALEHOUSE LOCATION IN E 15m SETBACK			11-2011
3	EQUIPMENT AND TOOL TRAILER			11-2011
4	ENTRANCE AT SE CORNER OF AREA 1			04-2016
5	BELOW WATER EXTRACTION ADDED.			04-2016
No.	AMENDMENT			DATE

LICENCE # 608781



NOTES:

1. THESE SITE PLANS WERE ORIGINALLY PREPARED FOR SUBMISSION TO THE MINISTRY OF NATURAL RESOURCES TO COMPLY WITH THE STANDARDS FOR A CATEGORY 3, CLASS A LICENCE UNDER THE AGGREGATE RESOURCES ACT AND REGULATIONS. THE SITE PLANS HAVE BEEN AMENDED TO ALLOW FOR BELOW WATER EXTRACTION.
2. ALL DIMENSIONS ARE IN METRIC UNITS. ELEVATIONS ARE GEODETIC, ASL. REFERENCE WAS MADE TO ONTARIO BASE MAP 10 17 4950 47600, TO REGISTERED PLANS 33R-4688 AND TO AIR PHOTOS CIR1996-0066-1399.
3. SITE SURVEY BY CONTRACT SURVEY CONSULTANTS LTD., CAMBRIDGE, ONTARIO (NOVEMBER, 2005).
4. THE PROPOSED LICENSED AREA IS ZONED M3, Extractive Industrial.
5. THE ESTABLISHED WATER TABLE ELEVATION VARIES ACROSS THE SITE FROM 269.48m TO 266.51m. THE WATER TABLE ELEVATION WAS DETERMINED BY A HYDROGEOLOGICAL STUDY BY NOVATERRA ENVIRONMENTAL LTD. (OCTOBER 24, 2017)
6. SEE DRAWING 4 OF 4, PROGRESSIVE REHABILITATION AND FINAL REHABILITATION PLANS, FOR CROSS-SECTIONS.
7. THE PROPOSED LICENSED AREA IS 18.5 HECTARES.
8. THE REQUIREMENTS OF THIS SITE PLAN BY THE MINISTRY OF NATURAL RESOURCES IS FOR THE PURPOSES OF THE AGGREGATE RESOURCES ACT AND DOES NOT RELIEVE THE LICENSEE FROM COMPLYING WITH THE REQUIREMENTS OF ANY OTHER APPLICABLE FEDERAL OR PROVINCIAL ACTS, REGULATIONS, ORDERS AND OPERATIVE BYLAWS.
9. THE LOCATION OF MONITORING WELLS WAS TAKEN FROM THE NOVATERRA ENVIRONMENTAL LTD. REPORT TITLED: "HYDROGEOLOGICAL LEVEL 1 AND LEVEL 2 ASSESSMENTS", DATED OCTOBER 24, 2017.

LEGEND:

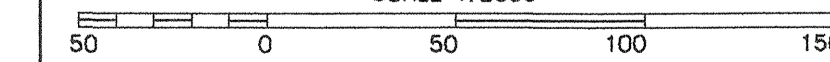
	BUILDING
	WATER WELL
	NOISE RECEPTOR DESIGNATION
	DRAINAGE DIRECTION
	LINE BETWEEN SE ZONING DESIGNATIONS
	PROPOSED LICENSED BOUNDARY
	ENTRANCE/EXIT
	1.2m HIGH FENCE
	120m OFFSET LINE
	LOT LINE
	WETLAND BOUNDARY
	TOPSOIL/OB BERM/STOCKPILE
	WATER
	SPOT ELEVATION
	1m CONTOUR
	5m CONTOUR
	DECIDUOUS TREE
	CONIFEROUS TREE
	OBSERVATION WELL
	STAFF GAUGE
	PIEZOMETER
	2007 TEST PITS
	2017 TEST PITS

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COUNTY OF MIDDLESEX

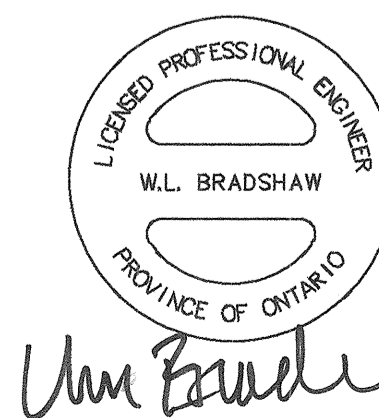
EXISTING FEATURES

DRAWING 1 of 4

SCALE 1:2000



1	ZONING UPDATED, TEST PITS ADDED FOR BELOW WATER APPLICATION	01-2018
No.	AMENDMENT	DATE



Hydrogeological Recommendations (by Novaterra Environmental Ltd.):

- Fuel storage onsite shall comply with the Technical Standards and Safety Act 2000 and the Liquid Fuels Handling Code 2001, as may be amended.
 - Maintenance and refueling of mobile excavation equipment and other vehicles shall take place in the fuel storage area. Crushers, stackers and screening plants shall be refueled and maintained on the pit floor during daylight hours. Any minor drips or spills shall be immediately cleaned up and properly disposed of.
- A "Spills Plan" shall be incorporated into the Site Plans.
- The following monitoring program shall be implemented and maintained until the completion of aggregate extraction: manual water levels and temperature profiles on a monthly basis from April to November inclusive at six monitoring wells and one piezometer (OW1 through OW6, and PZ1), and at three staff gauges (SG1, SG3, and SG4). Pressure transducers shall be maintained at OW2, OW4, OW5, PZ1, and SG3 with one-hour recording interval of water levels and temperatures from April to November inclusive. Monitoring well OW3R will eventually be removed in its entirety by the aggregate extraction.
 - After issuance of the amended pit license, an initial report summarizing background conditions and collected data at the Site shall be prepared within 2 months after the end of the calendar year in which the license was issued. Subsequent annual monitoring reports will summarize monitoring data and assess changes in groundwater at the Site. The reports shall be prepared by a qualified hydrogeologist with recommendations, if any, and shall be submitted to the MNRF in Aylmer, to the MECP in London and to UTRCA.
 - If complaints regarding groundwater interferences are received, the "Water Supply Interference Complaint Response Procedures" noted above shall be followed and the licensee shall take appropriate measures as deemed necessary by the MECP and/or MNRF to rectify the problem(s).
 - In the unlikely event that unanticipated temperature increases (i.e. other than seasonal) are detected at the entry wells, OW2 and OW5, below water extraction shall cease, MNRF staff shall be notified, and an assessment shall be conducted to determine if the increases are normal (i.e. a result of climatic stresses or concerns upstream, for instance). Once it is proven that the increases are natural and could not have been caused by the below water extraction, the normal operations may resume.

Water Supply Interference Complaint Response Procedures: (from the report by Novaterra Environmental Ltd.(October 24, 2017)

This response applies to domestic and farm water supplies for properties located within 120 m of the licensed boundary.

- Owners of domestic and farm water supplies experiencing disruption or quality problems shall immediately notify the Licensee. The Licensee shall, upon receipt of any water supply disruption complaint, notify the MNRF and the MECP.
- Should the owner of domestic and farm water supplies experience a significant disruption in their supply of water, or should they experience significant adverse effects upon their water supply, and if the operation of the pit cannot obviously and definitively be excluded as the cause, the licensee shall supply such resident with a temporary water supply within 24 hours and thereafter until such time as the cause of the disturbance can be determined and the situation addressed. The Licensee shall investigate the cause of the water supply disturbance and shall report to the MNRF, MECP, and the resident.
- If, after consultation with the affected resident and the Licensee, the MNRF and/or the MECP concur that the operation of the pit has caused a domestic or farm water supply to be adversely affected, the Licensee shall, at the Licensee's expense, either restore or replace the water supply to ensure that historic water supply and quality are restored for such a resident.
- If MNRF and/or MECP have concurred that the operation of the pit has not caused any domestic or farm water supply to be adversely affected, the Licensee shall maintain the temporary water supply provided for under Item 2 for an additional 24 hours to allow the resident to make alternate water supply arrangements.

Noise Attenuation Recommendations (by Howe Gastmeyer Chapnik Limited) August, 2018

- The following table presents the reference sound levels used for the acoustic modeling:

Table 1 – Reference Sound Power Levels of Processing Equipment:

Equipment	Reference Average 'A Weighted' Sound Power Level
Plant #1 Crushing plant with an associated loader	117 dB (76 dBA, SPL at 50 m)
A Screening Plant with associated loader	112 dB (70 dBA, SPL at 50 m)
Additional Loader or Excavator	107 dB (65 dBA, SPL at 50 m)
Trucks	104 dB (62 dBA, SPL at 50 m)

If other equipment is proposed for operation in the gravel pit, it shall be confirmed through measurement to produce sound levels consistent with the above referenced sound levels or additional mitigation measures may be required.

- Plant #1 shall operate within the Crushing Area only. A 10 m high acoustical barrier shall be constructed beside Plant #1 in the direction of all receptors to fully shield them from the crushing activities. The acoustical barrier shall be constructed prior to the commencement of crushing activities.
- Plant #2 shall not operate within 90 m of the property line of any offsite residential land use.
- For Phase 2 and 3 operations, the existing 4.0 m high acoustical berm along the northern property and the existing 5.0 m high acoustical berm along the northern portion of the western boundary as shown on the Operational Plan shall be maintained for the duration of processing and excavation activities in the gravel pit. A 3.0 m high acoustical barrier shall be constructed beside the Plant #2 (Screening) in the direction of all receptors when the processing plant is operating within 200 m of any receptor.
- The acoustical barrier reference in Items 2 and 4 could be comprised of an earth berm, a noise wall, aggregate stockpiles or any other construction with a minimum surface density of 20 kg/m². The barrier must be of a continuous construction with no gaps within or below its extent and must have sufficient extent to fully shield the offsite receptors.
- All mobile construction equipment operating in the pit or used to prepare the pit for excavation, to maintain the facility or to construct the berms shall only produce sound levels which comply with MECP Guidelines NPC-115, (Sound Levels due to Construction Equipment).

NATURAL ENVIRONMENT RECOMMENDATIONS (as outlined in the Natural Environment Level 1 and Level 2 Report (Oct., 2006) for this site and subsequent letter report to UTRCA (Feb., 2008) by Thompson Environmental, October, 2006.):

- Erosion & silt control measures shall be implemented during stripping operations to ensure that silt does not find its way off site.
- Provide a 30 metre wide buffer between the North Dorchester Swamp boundary and the edge of aggregate extraction.
- Provide a minimum 50 metre wide buffer from the edge of the Caddy Creek channel and the edge of aggregate extraction.
- The Ontario Benthos Biomonitoring Network Protocol shall be applied at 2 locations on Caddy Creek. The two locations shall be situated on the Marsh property and include a control site on the upstream portion of the property and a second test site on the downstream portion of the property. The sample sites will be from two similar habitats (i.e. either a riffle and a run) containing 300 organisms for analysis. The Benthic monitoring shall occur in the spring and fall for three years and then once annually during spring and fall. The Benthic monitoring may be re-evaluated depending upon results.
- No stripping of overburden shall occur within 300m of Caddy Creek or the Dorchester Wetland boundary from May 1 to June 15 in any year to avoid disruption of breeding birds in the area.

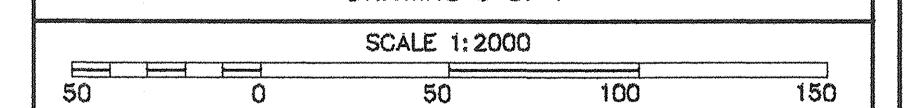
ARCHAEOLOGICAL RECOMMENDATIONS (As outlined in the Archaeological Report for this site completed by Archaeology Inc., April, 2006.): Should deeply buried archaeological material be found on the property during future development activities, the Ministry of Culture shall be notified immediately (519)-675-7742. In the event that human remains are encountered, the proponent should immediately contact the Ministry of Culture and Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer and Commercial Relations, (416) 326-8392.

ADAPTIVE MANAGEMENT PLAN (as outlined in the UTRCA letter dated April 2, 2008): Should unexpected results from the monitoring program indicate possible impacts may be pending on the natural features or water resources, then an Adaptive management Plan shall be implemented immediately.

JOHNSTON BROS. (BOTHWELL) LIMITED
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PART LOT 16, CONCESSION 4, NTR
GEOGRAPHIC TOWNSHIP OF NORTH DORCHESTER
MUNICIPALITY OF THAMES CENTRE
COUNTY OF MIDDLESEX

CONSULTANT RECOMMENDATIONS

DRAWING 3 of 4



2	NOISE RECOMMENDATIONS REVISED FOR BELOW WATER AMENDMENT	08-2018
1	HYDROG RECOMMENDATIONS REVISED FOR BELOW WATER AMENDMENT	01-2018
No.	AMENDMENT	DATE

LICENCE # 608781