



October 18, 2024

**Duivenvoorden Haulage Limited
Aggregate Pit Expansion – Stormwater Management Brief
WMI File No.: 20-636
NVCA ID #: 42204**

Duivenvoorden Haulage Ltd. is proposing to apply for a Class 'A' License (Category 3 – Pit Above Water) under the Aggregate Resources Act, for a pit expansion. The license would permit aggregate extraction to expand north onto the 437202 4th Line (Phases 2-4), Township of Melancthon property and include a strip of 437138 4th Line between the municipal right-of-way and the existing pit (Phase 1). The area subject for the pit expansion (licensed area) is 45 hectares (111.1 acres), with a proposed extraction area of 34.5 hectares (85.2 acres). The proposed pit expansion area is referred to as the “site” in the context of this brief.

As required by the Nottawasaga Valley Conservation Authority (NVCA) pre-consultation comments, dated June 23, 2020, and through continued correspondence with the NVCA (email dated Nov. 11, 2020 & comments letter dated Oct. 20, 2021), this letter has been prepared by WMI & Associates Limited in support of the proposed aggregate pit expansion from a stormwater management perspective. Comments for this project have been received and reviewed with this letter updated to reflect the proposed revisions.

The proposed expansion of the pit does not include an increase in impervious area as it is simply the expansion of an existing earthworks operation.

Upon investigation of the existing drainage conditions associated with the site (pit expansion area), it was determined that there is no existing stormwater outlet due to existing topography. As indicated on the attached Drainage Plan (**FIG1**), all contributing runoff from external lands enters 437202 4th Line from the west and north with the majority of the runoff being in the form of concentrated flow from the southwest and northwest corners. All internal and external runoff ultimately concentrates and infiltrates into the native soils at the low point located just east and north of the middle of 437202 4th Line. The external runoff from the southwest runs into an existing wetland feature located at the southwest corner of 437202 4th Line prior to reaching the area proposed for pit expansion. Runoff from the wetland is only anticipated to discharge into the site when the wetland surcharges.

As indicated by Dufferin County's GIS mapping, aerial imagery clearly illustrates the low area (surfacing ponding visible) while Google Maps imagery taken at a different time shows the same area as being cropped, further suggesting that all site runoff ultimately infiltrates into the native soils.

In the proposed condition, existing drainage patterns and infiltration will remain as in the existing condition. In order to extract the aggregate on-site while maintaining existing drainage patterns, all earthworks will ensure sufficient conveyance to and space for, stormwater ponding and infiltration as in the existing condition.


The stormwater drainage for the pit expansion will be managed to suit the proposed phasing as per the Operational Plan prepared by Innovative Planning Solutions (IPS) and the aggregate extraction activities. The drainage through the site in the proposed condition will follow the contours of the proposed pit floor with an elevation of 507 masl (meters above sea level) at the northwest corner of the site to 497 masl at the southeast property boundary. The proposed sequencing of the stormwater drainage and erosion and sediment controls shall be as follows:

- Prior to any construction or pit expansion, silt fence is to be installed along the east limit of the existing wetland between the wetland and pit expansion Phases 1 & 2.
- Topsoil and overburden will be stripped and placed from Phase 1 of the pit expansion and utilized, including any portion of the Phase 2/3 topsoil/overburden if required, to construct the entire berm along the south perimeter of phase 1 and east perimeter of Phases 1, 2 & 3.
- Phase 2 of the pit expansion will be constructed similar to Phase 1 noted above. With the exception of the lowered/extraction areas, all internal and external drainage including excess runoff from the wetland, will flow into the existing low-lying region of the site within Phase 3 during the aggregate extraction of Phases 1-2 as is in the existing condition.
- Prior to construction of Phase 3 a cut-off swale along the western limits of Phase 3 and north of the existing wetland will be constructed. This cut-off swale will intercept the external drainage from west of Phase 3 and from the wetland. Similarly, another cut-off swale will be constructed along the north and east limits of Phase 3. Both cut-off swales will convey external runoff to the south and ultimately discharge into the previously extracted phase (Phase 2).
- The removal of aggregate from Phases 1-2 (from the south towards the north) will generally direct the stormwater drainage to the previous phases / existing pit where it will minimize impacts to extraction operations and be temporarily stored within the property limits prior to being infiltrated into the native soils as is in the existing condition.

Based on the above, we request that this letter be received by the NVCA and Township in support of the proposed expansion of DHL's existing aggregate pit located on the 4th Line in the Township of Melancthon.

Respectfully submitted,

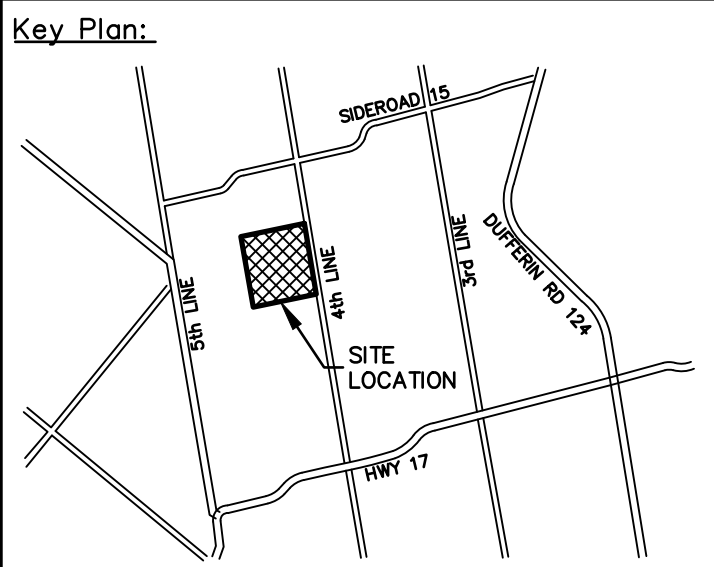
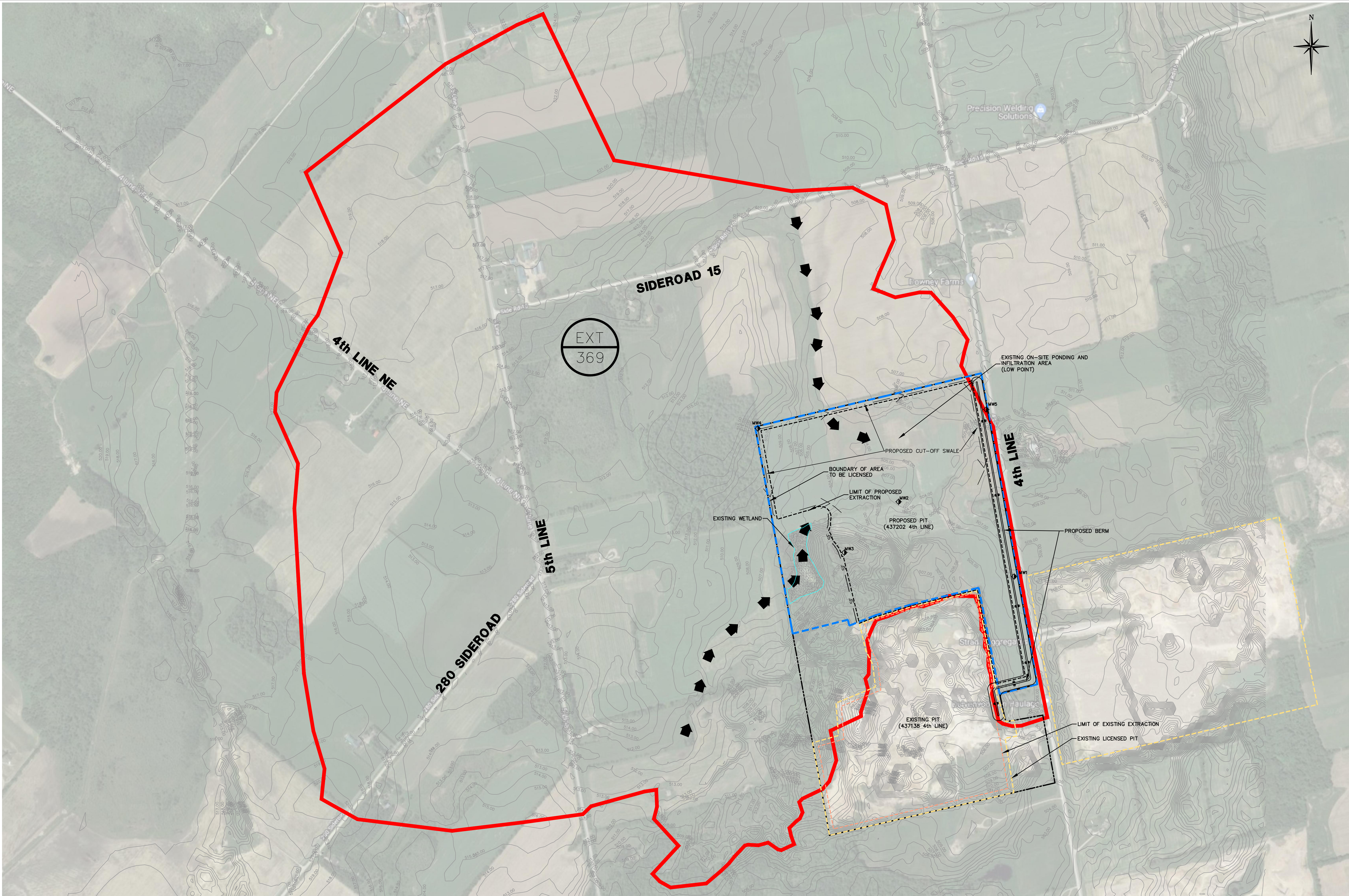
WMI & Associates Limited



Andrew Windrem, C. Tech



Jeremy W. Lighthouse, P. Eng.



- Legend:
- CATCHMENT IDENTIFICATION
 - CATCHMENT AREA (HA)
 - CONCENTRATED EXTERNAL FLOW
 - LIMITS OF CATCHMENT AREA
 - BOUNDARY OF AREA TO BE LICENSED
 - LIMIT OF PROPOSED EXTRACTION
 - EXISTING LICENSED PIT
 - LIMIT OF EXISTING EXTRACTION
 - PROPERTY LINE

- DRAWING REFERENCE NOTES:
- BASE MAPPING AND TOPOGRAPHIC INFORMATION FROM DIGITAL OBM AND AIR PHOTO ANALYSIS PROVIDED BY GOOGLE EARTH 2018 EUROPA TECHNOLOGIES
 - PROPERTY BOUNDARY PREPARED BY RODNEY GREYER, QLS, DATED JANUARY 20, 2019.
 - OPERATIONAL PLAN PREPARED BY IPS DATED APRIL 2024.

CAUTION
CONTRACTOR TO DETERMINE
LOCATION OF EXISTING UTILITIES
PRIOR TO CONSTRUCTION.

Notes:

- Unless noted otherwise, the measurements and distances shown on this drawing are shown in meters.
- Do not scale drawings.
- It is the contractor's responsibility to verify all dimensions, levels and datums on site and report any discrepancies or omissions to WMI & Associates Ltd. prior to construction.
- This drawing is to be read and understood in conjunction with all other relevant documents applicable to this project.
- This drawing is the exclusive property of WMI & Associates Ltd. and the reproduction of any part of this document without prior written consent is strictly prohibited.



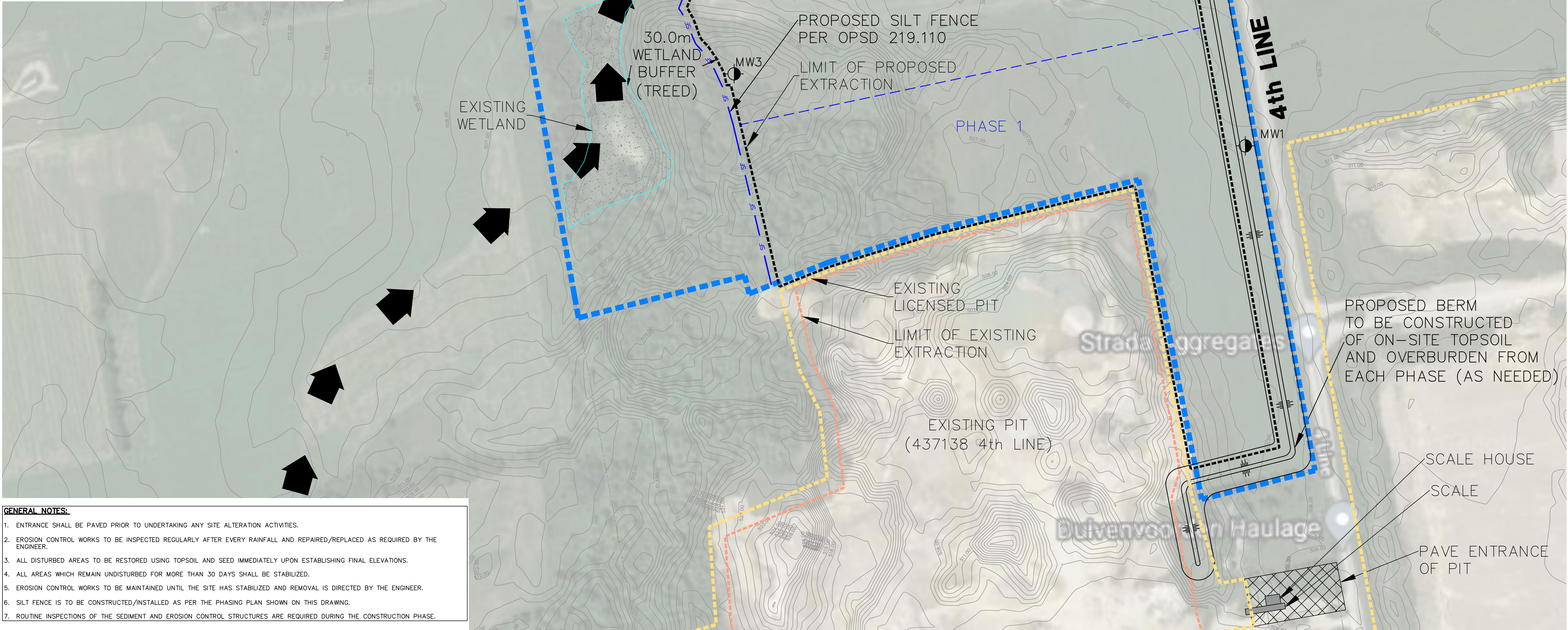
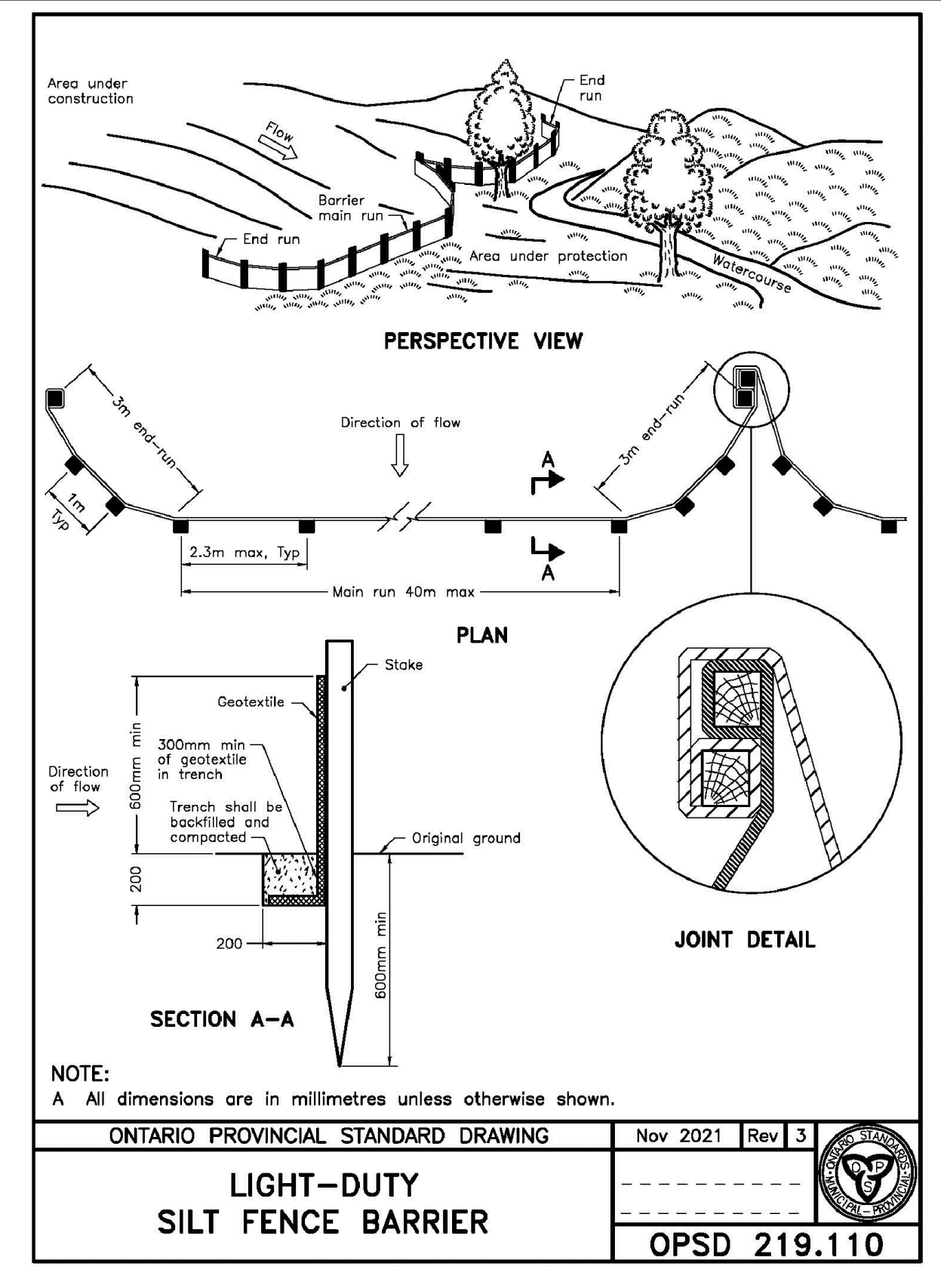
| No. | Issue / Revision | Date |
|-----|--------------------------------|---------------|
| 1 | 1ST SUBMISSION | DEC. 15, 2020 |
| 2 | 2ND SUBMISSION – NVCA COMMENTS | MAY 24, 2024 |
| 3 | THIRD SUBMISSION | OCT. 18, 2024 |
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| | | |
| | | |
| | | |

DHL PIT
DRAINAGE PLAN

Client:
Duivervoorden Haulage Ltd.

3425 9th Line
Innisfil, Ontario
L9S 3Z6

| | | |
|-------------------|--------------|--|
| | | WMI & Associates Limited 119 Collier Street Barrie, Ontario L4M 1H5 Ph 705-797-2027 www.wmiengineering.ca |
| Drawn By Scale | AW 1:5000 | Checked By Project No. |
| | | JWL 20-636 |
| | | FIG1 |



- GENERAL NOTES:**
- ENTRANCE SHALL BE PAVED PRIOR TO UNDERTAKING ANY SITE ALTERATION ACTIVITIES.
 - EROSION CONTROL WORKS TO BE INSPECTED REGULARLY AFTER EVERY RAINFALL AND REPAIRED/REPLACED AS REQUIRED BY THE ENGINEER.
 - ALL DISTURBED AREAS TO BE RESTORED USING TOPSOIL AND SEED IMMEDIATELY UPON ESTABLISHING FINAL ELEVATIONS.
 - ALL AREAS WHICH REMAIN UNDISTURBED FOR MORE THAN 30 DAYS SHALL BE STABILIZED.
 - EROSION CONTROL WORKS TO BE MAINTAINED UNTIL THE SITE HAS STABILIZED AND REMOVAL IS DIRECTED BY THE ENGINEER.
 - SILT FENCE IS TO BE CONSTRUCTED/INSTALLED AS PER THE PHASING PLAN SHOWN ON THIS DRAWING.
 - ROUTINE INSPECTIONS OF THE SEDIMENT AND EROSION CONTROL STRUCTURES ARE REQUIRED DURING THE CONSTRUCTION PHASE.

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DHL PIT

EROSION & SEDIMENT CONTROL PLAN

Client:

Duivenvoorden Haulage Ltd.

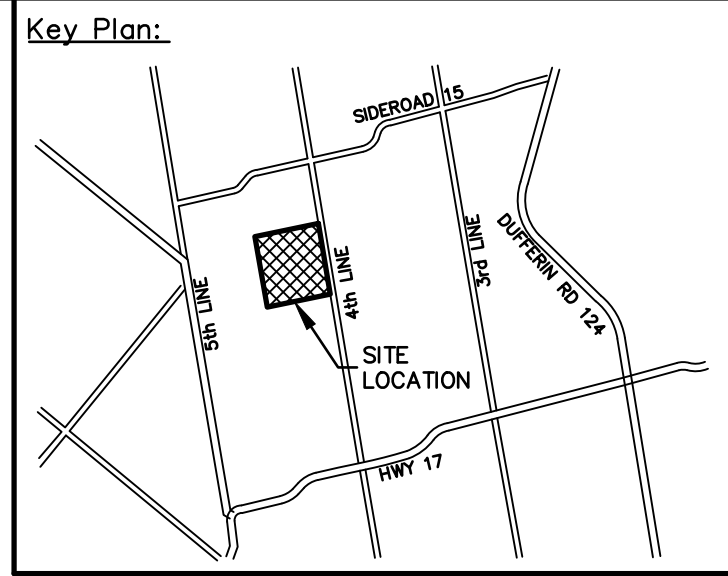
3425 9th Line
Innisfil, Ontario
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wmi

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Drawn By CJ Checked By JWL Drawing No.

Scale 1:2000 Project No. 20-636 **ESC**



- EXISTING FEATURES (EX)**
- EX SIE EX STD IRON BAR
 - EX IB EX IRON BAR
 - EX UP EX UTILITY POLE
 - EX BELL PED
 - EX HYDRO TRANSFORMER
 - EX WS EX WATER SERVICE
 - EX HYD EX FIRE HYD.
 - EX ST NAME SIGN
 - EX STOP SIGN
 - EX ELEVATION
 - EX U/G GASMAIN
 - EX U/G BELL
 - EX U/G HYDRO
 - EX WATERMAIN & VALVE
 - EX SAN SEWER & MH
 - EX STM SEWER & MH
- PROPOSED FEATURES (PR)**
- NS PR STREET NAME SIGN
 - SS PR STOP SIGN
 - SF PR SILT FENCE
 - SL PR STREET LIGHT
 - W PR HYDRO TRANSFORMER
 - S PR WATER SERVICE
 - ST PR SANITARY SERVICE
 - 00mm W/M PR WATERMAIN
 - 00mm W/M PR FIRE HYDRANT
 - 00mm W/M PR WATER VALVE
 - 00mm SAN 0.0% PR SANITARY SEWER
 - 00mm SAN 0.0% PR SANITARY MANHOLE
 - 00mm STM 0.0% PR STORM SEWER
 - CBMH 1 PR CATCHBASIN MANHOLE
 - MH 1 PR MANHOLE
 - CB 1A PR CATCHBASIN
 - PR SWALE
 - PR ELEVATION
 - PR MATCH EXISTING ELEVATION (INTERPOLATED)
 - PR TOP OF CURB ELEVATION
 - PR EDGE OF PAVEMENT ELEVATION
 - PR STEEP SLOPE
 - CONCENTRATED EXTERNAL FLOW
- LEGEND:**
- BOUNDARY OF AREA TO BE LICENSED
 - LIMIT OF PROPOSED EXTRACTION
 - EXISTING LICENSED PIT
 - LIMIT OF EXISTING EXTRACTION
 - PROPERTY LINE
 - MW1 MONITORING WELL

- CONSTRUCTION PHASING**
- PHASE 1 - INSTALL SILT FENCE, STRIP TOPSOIL & OVERBURDEN PHASE 1, 2, 3 (AS REQUIRED) TO CONSTRUCT ENTIRE BERM.
- PHASE 2 - STRIP TOPSOIL & OVERBURDEN.
- PHASE 3 - STRIP TOPSOIL & OVERBURDEN, INSTALL CUT-OFF SWALES.

- DRAWING REFERENCE NOTES:**
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