

## 2. Planning and Land Use

Ron Davidson Land Use Planning Consultant Inc. has been retained to address matters relating to planning and land use.

### 2.1 Land Use

#### Proposed Pit

The proposed area to be excavated exhibits a gently rolling terrain with elevations ranging from a high of 439 MASL in the north east to a low of 420 MASL along the most southerly boundary. Surface vegetation is predominately agricultural crops. Intermittent hedgerows and trees, including several Butternuts, are located near existing buildings and along fence lines. Two farm houses and associated outbuildings are present on the site, and will be removed as part of excavation.

#### Surrounding Land Uses

As illustrated on Figure 3 Site Environs, lands to the east and south of the site are predominately in use for agriculture, with several rural residences and some wooded areas. The area to the west is heavily tree covered, and includes a wetland associated with Sheldon Creek. North west of the site lies the settlement of Violet Hill, comprising residences and two small commercial establishments. North of the site, across Highway 89, there is an estate residential subdivision. The closest near-by aggregate operation is located approximately two kilometres west of the proposed entrance, on the north side of Highway 89.

### 2.2 Provincial Policy Statement

The Provincial Policy Statement (PPS) provides a policy framework for land use within the Province of Ontario. Section 1.1.4 of the PPS is intended to control development of rural lands. The management or use of resources is included as a permitted use within the rural areas of the province. Agricultural lands may

also be developed in rural areas for the purposes of the management or use of resources (Section 2.3), however, the lands must be properly rehabilitated after the material has been exhausted. As an aggregate operation taking place within an Agricultural designation (see below), the proposed pit on the subject property will be fully rehabilitated to its current agricultural capability.

Furthermore, the proposed development on the subject property is consistent with all other applicable policies of the PPS including those sections related to the management and use of resources, water, cultural heritage and archaeology and natural heritage.

### 2.3 Growth Plan for the Greater Golden Horseshoe

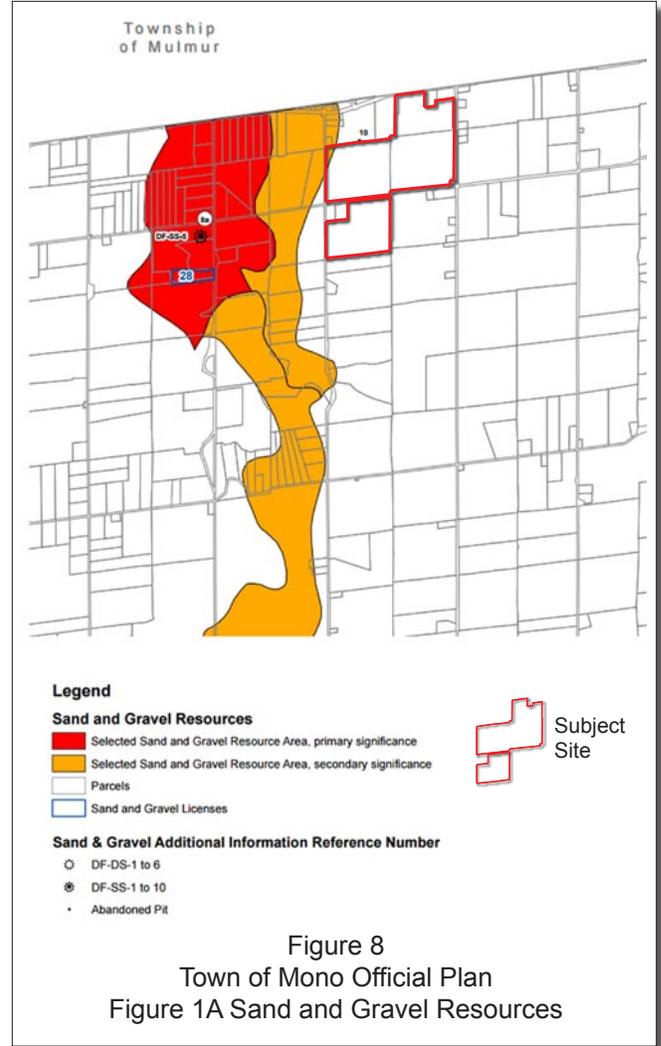
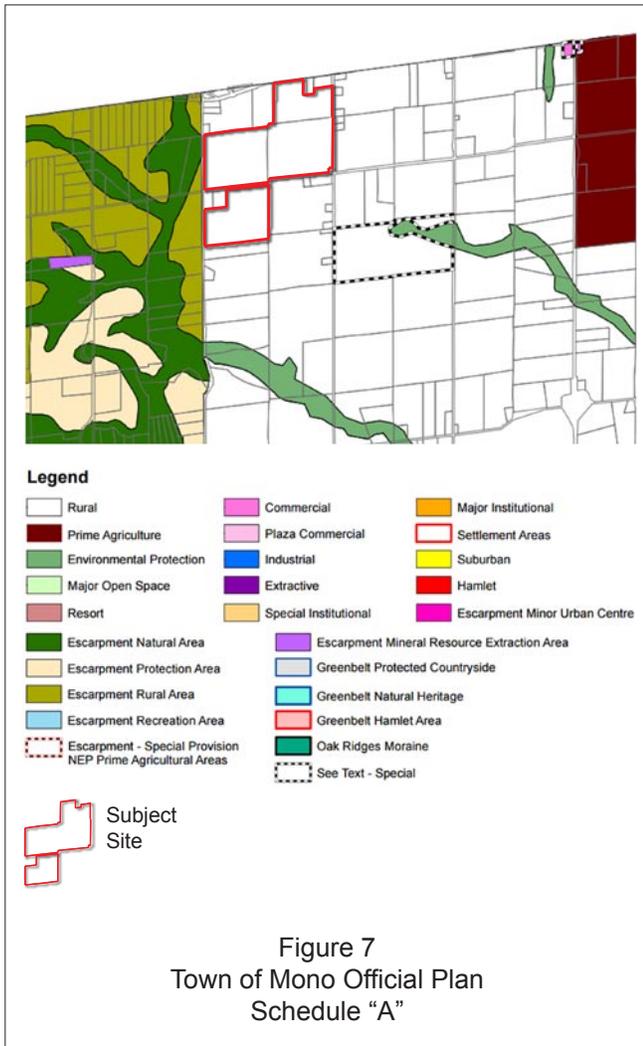
The Town of Mono is included within the area affected by the Growth Plan for the Greater Golden Horseshoe (GPGGH), prepared under the Places to Grow Act, 2005. It is located in the outer ring of the Greater Golden Horseshoe. Section 2.2.2 (i) of the GPGGH, much like Section 1.1.4 of the PPS, outlines the type of development permitted in rural areas, which includes the management or use of resources. The GPGGH also encourages the wise use and management of mineral aggregate resources, including the establishment of local policies that identify and protect high potential mineral aggregate deposits. While the subject lands are not identified as such in the Town of Mono's Official Plan, they are immediately adjacent to an area of both primary and secondary significance. Overall, the proposed pit on the subject lands is consistent with the policies of the GPGGH.

### 2.4 Niagara Escarpment Plan

The boundary of the Niagara Escarpment Plan lies just west of the subject site, though the site itself is outside NEC jurisdiction.

### 2.5 Dufferin County Official Plan

Dufferin County received final approval for its new Official Plan in March of 2015. While the document



does not specifically designate the subject site in its mapping of "significant mineral aggregate resources," Section 4.4.2 states "... Furthermore it is recognized that there is potential for deposits of mineral aggregate resources to exist outside the areas identified on Schedule D for which there were no records existing at the time this Plan was prepared. The extraction of mineral aggregate resources may be permitted outside of the mineral aggregate resource areas identified on Schedule D where there is sufficient quantity and quality of mineral aggregate resources to warrant extraction."

Section 4.4.2.1, New or Expanding Mineral Resource Operations, states in part: "It is the policy of the County that: a) New mineral aggregate resource operations or any expansion to an existing mineral aggregate resource operation that extends beyond the lands identified in the local municipal official plan will

require an amendment to the local municipal official plan, and will conform to the policies of this Plan and the local municipal official plan. An amendment to this Plan will not be required for new or expanding mineral resource operations."

## 2.6 Town of Mono Official Plan

Schedule A of the Town of Mono Official Plan designates the property as Rural. This must be amended to Extractive in order for pit development to proceed.

Development of new extractive industrial uses are subject to policies contained in Section 12, Extractive Areas. Among other matters, these policies establish basic objectives for responsible aggregate development, phasing of development, permitted uses, and siting considerations such as noise control and buffering.



## 2.8 Summary of Policy Considerations

The proposed aggregate extraction development is in line with all of the provisions set out in the policy affecting the subject lands, including the Planning Act, R.S.O. 1990, as amended, and the Provincial Policy Statement. The proposed development also complies with the Growth Plan for the Greater Golden Horseshoe, as well as the Town of Mono Official Plan, although a redesignation of the subject lands from Rural to Extractive will be necessary to permit the proposed development. A zoning by-law amendment is required to allow the Extractive Industrial use of the subject property. This change in zoning is also in line with the policy and regulations of both the Province and the municipality.

Applications for amendments to the official plan and zoning by-law have been filed.

The policies also require that aggregate operators enter into a Development Agreement with the Town.

## 2.7 Town of Mono Zoning By-law

The Town of Mono Zoning By-law designates the property as Rural. The proposed pit development will require redesignation to Extractive Industrial.

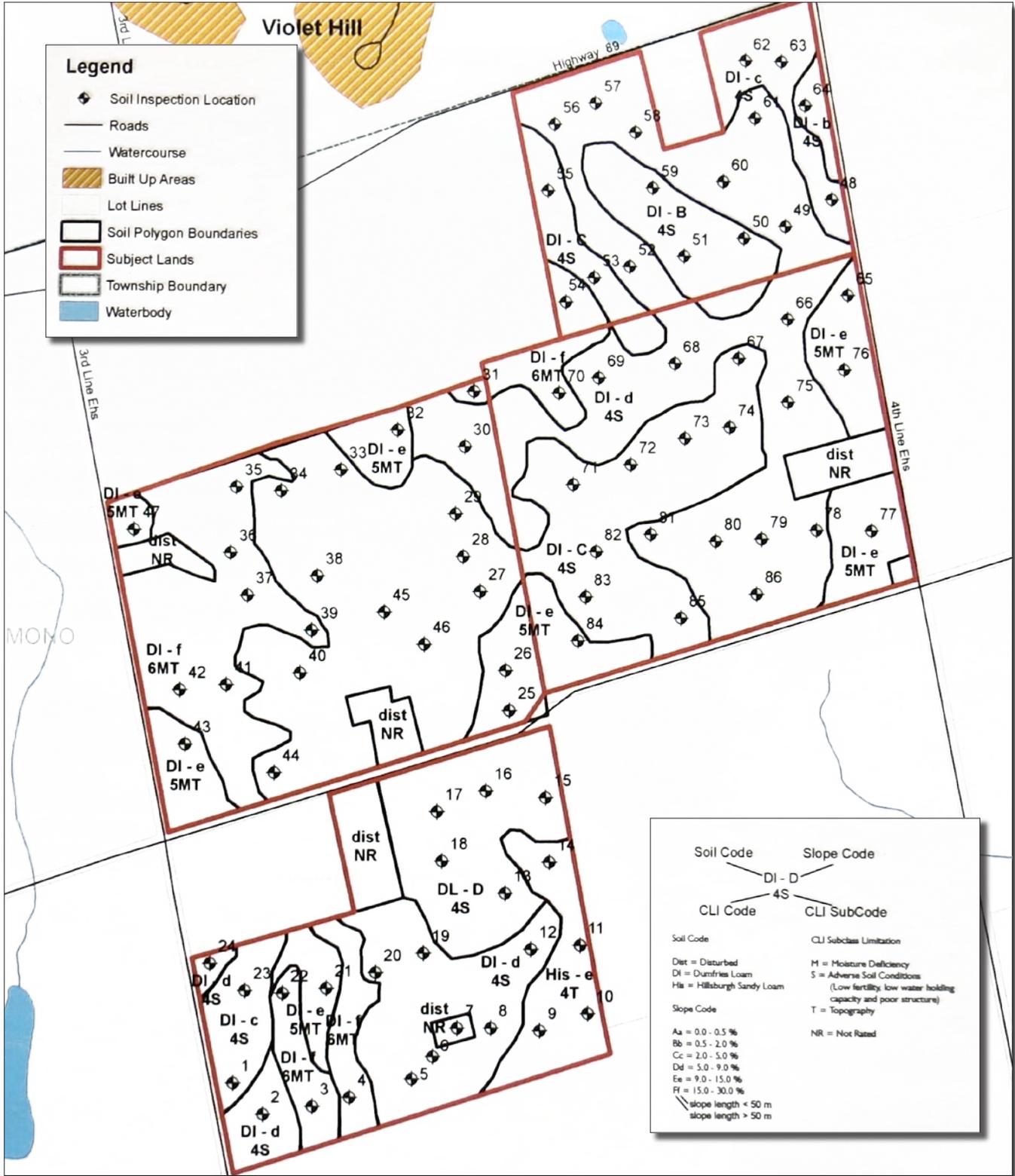


Figure 10  
Detailed Soil Survey and Canada Land Inventory (CLI)

### 3. Agriculture

DBH Soil Service Inc. was retained by Greenwood Aggregates Limited to complete an Agricultural Impact Assessment (AIA) in support of this application for licence.

Most of the lands under application are currently used for agricultural activities (common field crop production). There are two woodlots and some hazard lands that will remain outside of the area proposed for extraction.

The following steps were taken in compiling the AIA:

- Review of Canada Land Inventory soil capability ratings.
- Correlation with Agricultural Resource Inventory maps. (OMAFRA)
- Review of the Town of Mono and County of Dufferin planning documents.
- Physical testing of soils on site.
- Assessment of potential agricultural impacts with 1000 metres of the site.
- Recommendations for successful agricultural rehabilitation.

The AIA confirms the mapping completed by the Ontario Ministry of Agriculture, Food and Rural Affairs:

- 72.6% of the lands are Class 4 (CLI)
- 10.9% of the lands are Class 5 (CLI)
- 12.5% of the lands are Class 6 (CLI)
- 4% are unrated (disturbed lands)

There are no prime agricultural lands on the subject site.

The AIA has confirmed through Minimum Distance Separation calculations that existing agricultural operations are protected from any adverse impact from the operation of a licensed pit. There will be no conflict with agricultural transportation requirements. While it has been determined that none of the lands

are designated as “prime agriculture”, it is the intent of Greenwood Aggregates Limited to rehabilitate the lands under licence to agricultural use. The lands will be restored at minimum to their original classifications and through “best rehabilitation practices,” the capability of the lands will be enhanced.

The final rehabilitation program will include the following:

- Stripping and storage of topsoil, subsoil and overburden separately (when present)
- Stripping only enough land to support aggregate production
- Soils will be moved under dry conditions
- Progressive and interim rehabilitation will be undertaken whenever possible
- Pit floor will be graded and contoured as part of the progressive rehabilitation
- Pit floor will be chisel plowed to alleviate compaction
- Overburden, subsoil and topsoil will be applied in the correct sequence
- Each horizon will be separately chisel plowed
- The rehabilitation sequence is also found on the site plans.

Greenwood Aggregates Limited is also proposing “interim rehabilitation” to keep disturbed lands to a minimum. Details may be found in the Progressive and Final Rehabilitation component of this report.

The Operations Plan for this licence requires that a maximum of 25 ha. of land be open for extraction and processing at any one time. Interim and final rehabilitation plans will ensure that disturbed areas will be kept to a minimum and that agricultural capability will be returned to the current state of productivity if not enhanced.

Agricultural operations will continue on the lands that are not required for extractive purposes.

#### Conclusion

This application does not involve “prime agricultural lands”. Upon final rehabilitation, the licensed lands will be returned to an agricultural use with a production capability equal to or greater than has currently been identified.

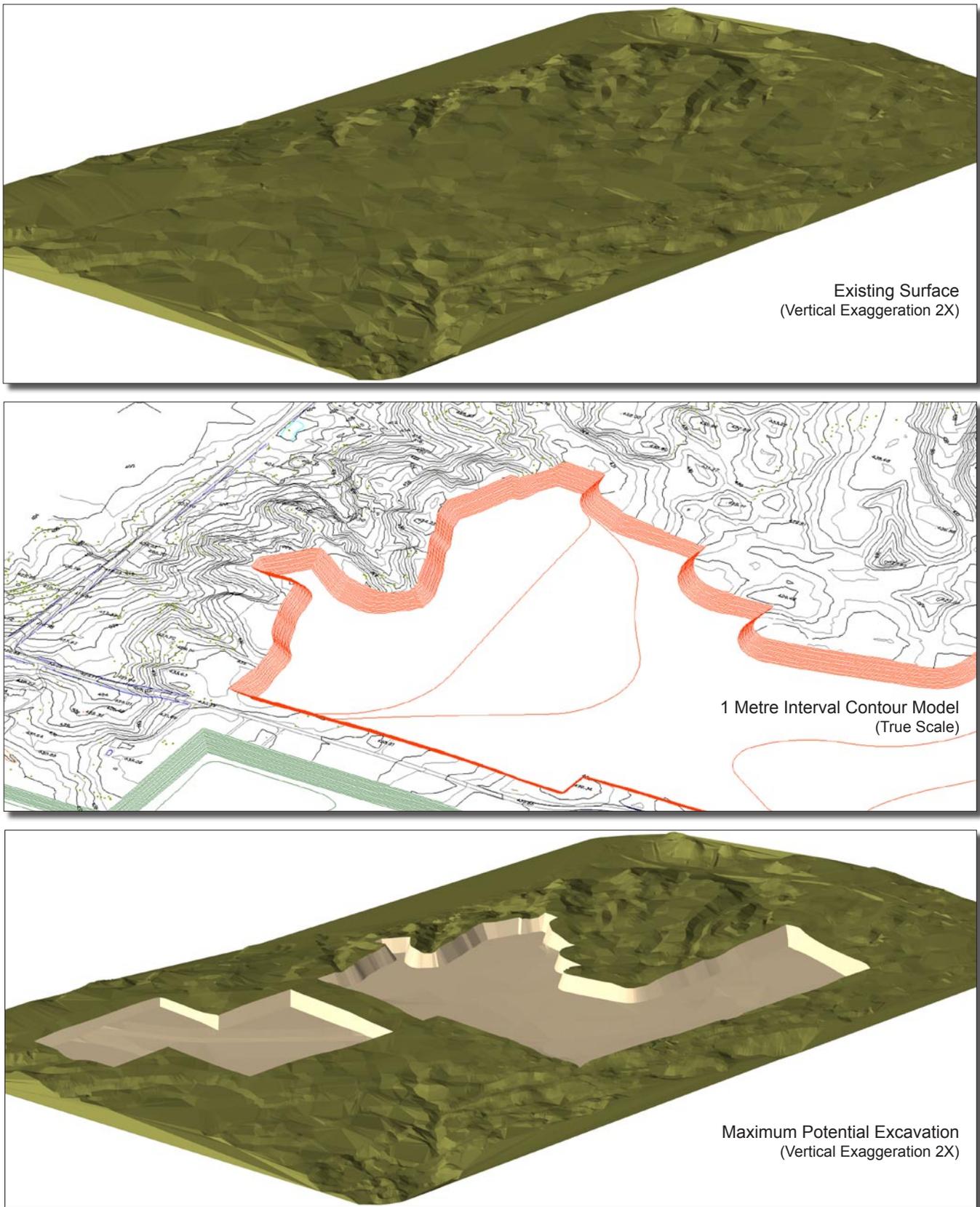


Figure 11  
Digital Terrain Model and Volume Analysis

An illustration of the digital terrain model appears opposite.

With a proposed production limit of 1,000,000 tonnes per annum, the life of the licence is expected to be approximately 30 years. There will be no aggregate extraction from below the water table.

## 4. Quality/Quantity of Aggregate

### Overview

The lands under application for licence are located in terrain mapped as Glaciofluvial Outwash by the Ontario Geological Survey. The Aggregate Resource Inventory Report for Dufferin County indicates the material to be extracted is “gravel, sandy gravel” and is mapped as an area of tertiary significance as an aggregate deposit.

### 4.1 Quality

Geological Investigations (2015) completed an aggregate resources investigation on the material proposed for extraction on the site. Favourable aggregate quality testing results were obtained when the grain size curves were plotted against the Provincial Standards for Granular “B” and Concrete sand. It was concluded that aggregate products meeting the required Provincial Standards can be produced from the materials found at the proposed Violet Hill Pit. The type of products which can be produced from the materials encountered at this site include, but are not limited to, Granular “B”, concrete, most general sand products, clear stone and Granular “A”.

### 4.2 Quantity

Rollings Hyland Consulting has completed a resource estimate for this proposal. Computer modelling based upon 13 monitoring wells drilled and logged and using a final excavation level five metres above the water table indicates that approximately 24,652,887 tonnes of aggregate resource are contained within the extraction limits. In addition, topsoil and overburden volumes are about 460,406 cubic metres.

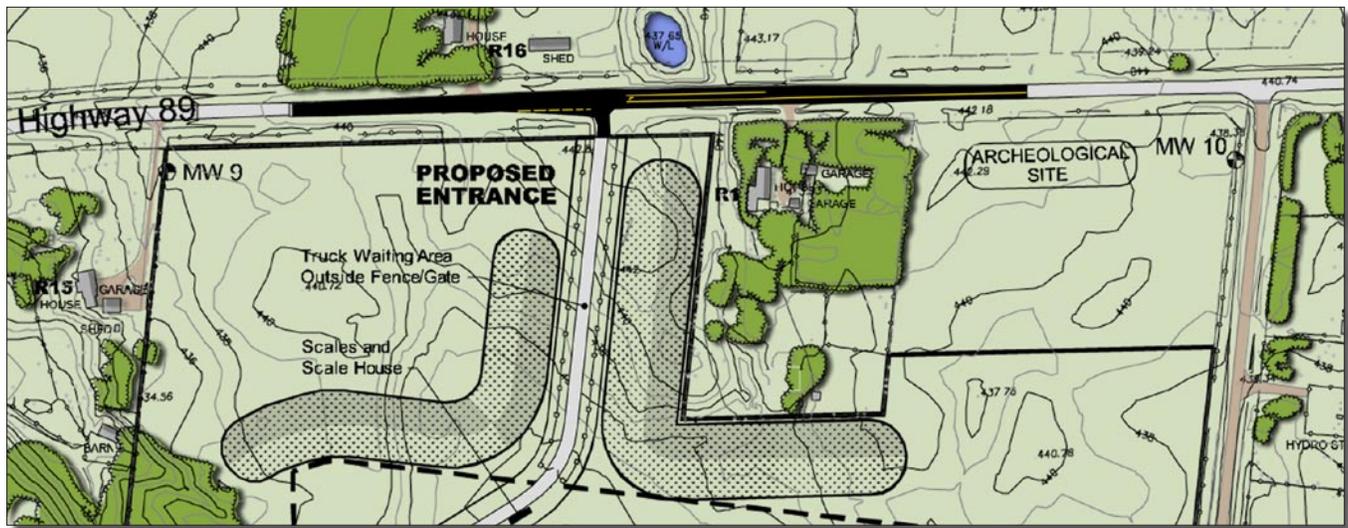


Figure 12  
Entrance Improvements

Highway 89 was recommended.

Direct access to Highway 89 also means that no local roads will be required for use as a haul route.

## 5. Traffic and Haul Route

C.C. Tatham & Associates Ltd. was retained to conduct a traffic review.

The review considered the site's proposed maximum extraction limit of 1,000,000 tonnes, and peak seasonal truck trip volumes. It found that *"under future total traffic conditions (for the years 2020 and 2025), the site access will provide excellent levels of service with minimal delays. Operations at the site access and along Highway 89 will remain under capacity."*

It is anticipated that approximately 25 percent of material will leave the site headed west on Highway 89, while the remaining 75 percent will go east.

The review also considered potential access via either 3rd Line E.H.S., or 4th Line E.H.S. and found that constraints such as gradient and sight distances meant neither road was suitable. As a result, direct access to

Improvement to Highway 89 at the site entrance will include left and right turn lanes, together with appropriate tapers, storage and run-out lanes. These improvements will be staged over the initial years of operation, both to accommodate increasing truck trips as production ramps up, and so that material from the pit can be used in construction of the road improvements.

## 6. Rehabilitation

The excavation area contains two layers of aggregate material: a layer of gravel on top, and sand underneath. In order to meet market demand, the operator will need to be able to access the gravel first, then come back later to remove the slower-selling sand.

### 6.1 Interim Rehabilitation

Progressive rehabilitation will be undertaken in two stages. The gravel layer will be excavated first, followed by progressive interim rehabilitation consisting of a thin layer of topsoil and seed.



Figure 13  
Progressive and  
Final Rehabilitation Plan

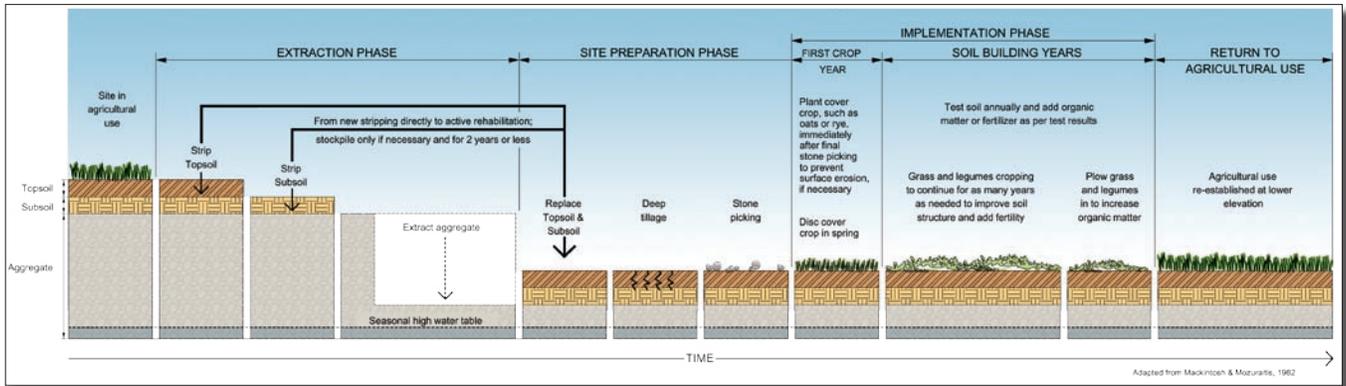


Figure 14  
Agricultural Rehabilitation Sequence

Progressive 3:1 side-slope rehabilitation, from the excavation limit down to the top of the sand layer, will also be completed during interim rehabilitation.

Once the sand has been excavated down to final pit floor depth at five metres above the water table, final rehabilitation for an agricultural after use will be completed.

As Aggregate Resources Act standards stipulate that “disturbed area” measurements must include all areas that have not undergone final rehabilitation, areas that have undergone interim rehabilitation are still considered “disturbed.” Therefore, the maximum disturbed area for the site needs to be the entire 83.7 Ha. (206.8 Ac.) excavation area. However, in order to control the amount of exposed area at any one time, a note has been added to the Site Plan to limit the active extraction area, not under interim or final rehabilitation, to 25 Ha. (61.8 Ac.)

## 6.2 Final Rehabilitation

Final rehabilitation will include an agricultural after use. Existing topsoil and overburden will be stockpiled separately and/or used in progressive rehabilitation within the licensed area. Perimeter slopes will be graded to 3:1 or less, topsoiled and seeded with low maintenance grass/clover mix. Longer term, side slopes will be permitted to naturally revegetate with woody species.

Agricultural rehabilitation is in keeping with the goals

of the Town of Mono Official Plan to encourage agriculture and maintain the agricultural heritage of the town.

Extensive berming is proposed for the site. The volume of material required to build these berms is too large to obtain onsite without having to strip too large an area and remove it from agricultural production. Therefore, provision has been made on the Site Plan for importation of clean, inert fill to facilitate construction of these berms. Imported material will only be utilized to create sufficient volumes for berm construction, and will be utilized in side-slope rehabilitation when the berms are no longer required. At source testing will be conducted as required to ensure the material meets or exceeds all relevant MNRF and/or MOECC regulations before coming to the site.

The Site Plan illustrates that rehabilitation of the proposed pit will return the site to a state which is consistent with surrounding land uses and natural features. Rehabilitation will also meet requirements of the Aggregate Resources Act, and all other provincial and municipal requirements.

Refer to ARA Site Plan Page 3 of 4, Progressive and Final Rehabilitation, (Appendix A) for additional details.

When extraction is complete, a total area of 130 acres (52.6 hectares) will be available for agricultural use with the excavation areas. The balance of the excavation areas, or approximately 76.9 acres (31.1 hectares) will become natural areas.