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# PLANNING JUSTIFICATION REPORT & AGGREGATE RESOURCES ACT SUMMARY STATEMENT

## UPPER'S QUARRY

City of Niagara Falls

Date:

**October 2021 (revised August 2023 and April 2024)**

Prepared for:

**Walker Aggregates Inc.**

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# Revision Tracker (since August 2023)

| No. | Date | Section | Change/Revision |
|---|---|---|---|
| 1. | April, 2024 | Executive Summary | Clarified size/area of Walker lands to include additional lands purchased |
| 2. | | | Clarified on-site and off-site rehabilitation features. |
| 3. | | | Edited list of significant natural features |
| 4. | | 1.0 | Edited number of years where Walker has acquired land in the City of Niagara Falls and the size and location of lands purchased by Walker. |
| 5. | | 2.3 | Added further detail to surrounding land uses located to the north and east. |
| 6. | | 3.2 | Added note regarding off-site mitigation planting to reflect updated EIS. |
| 7. | | | Included asphalt plant in final paragraph. |
| 8. | | 3.3 | Clarified/edited on-site and off-site rehabilitation features. |
| 9. | | 4.3 | List of natural heritage features updated to reflect updated EIS. |
| 10. | | | Table 1 updated to reflect updated EIS. |
| 11. | | 4.3.6 | Summary of Mitigation and Ecological Enhancement updated to reflect updated EIS. |
| | | 4.3.7 | Update to reflect list of updated recommendations from EIS including details re monitoring program |
| 12. | | 5.2 | Updated noise mitigation measures. |
| 13. | | 5.5 | Updated recommended mitigation measures to reflect the updated VIA. |
| 14. | | 5.7.2 | Added additional information on how TCPL requirements were addressed. |
| 15. | | 5.9 | Updated conclusions from updated Economic Benefits Analysis |
| 16. | | 6.0 | Added "Section 2, Planning Act" to the list of applicable planning instruments the proposed quarry is subject to. |
| 17. | | 6.1 | Added further information in response to Policy 4.2.8.4 of the Growth Plan to reflect the updated EIS. |
| 18. | | 6.2 | Added further information regarding significant woodlands. |
| 19. | | 6.3 | Added new section (6.3) to address Section 2 of the Planning Act. (Further sections renumbered as a result). |

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|---|---|---|---|
| 20. | | 6.4.1 | Added additional information on the proposed haul route and road improvements in response to Policy 6.C.5. |
| 21. | | 6.4.2 | Added additional information in response to Policy 6.C.7. |
| 22. | | 6.4.3 | Revised wording regarding policy 7.A.2. |
| 23 | | | Revised wording regarding policy 7.B.1.5 |
| 24. | | 6.5.2 | Added wording regarding policy 7.4 based on Prism/Walker response to peer reviewer |
| 25. | | 6.5.3 | Formatting change regarding response to policy 9.1 |
| 26. | | | Added additional wording in response to Policy 9.3.2 |
| 27. | | | Added additional wording in response to Policy 9.5 regarding haul routes. |
| 28. | | 6.5.6 | Revised wording in response to policy 11.2.30 |
| 29. | | 6.6.1 | Added additional information regarding the Rolling Meadows Secondary Plan – "Aggregate Buffer Area" Policies, and off-site mitigation. |
| 30. | | 6.7 | Provided note on additional setback requirements from the TransCanada pipeline. |
| 31. | | 6.8.2 | The wording "on-site and: added to Number 8. |
| 32. | | | Updated dates of technical reports. |
| 33. | | Figures | Updated to include additional lands purchased by Walker and to reflect the updated EIS where necessary. |
| 34. | | Appendix D | Zoning by-law amendment updated to include TransCanada pipeline setbacks. |
| 35. | | Appendix E | Updated with updated site plans (April 4, 2024). |
| 36. | | Appendix F | Updated with schematic maps (April 4, 2024). |
| 37. | | Appendix H | Updated to reflect updated EIS and more recent review/responses to agencies (and updated reference to 'MNRF') – responses to 2.4(a), 2.5(a), 5 (Preamble) |
| 38. | | Appendix I | Updated to reflect updated EIS and more recent review/responses to agencies (and updated reference to 'MNRF') – responses to 11.1.19, 11.1.40, 11.1.43, 11.1.46, 1.3.1-1.3.4, 1.5, 18.4, 1.5.23, 5.3.4, 2.6.6, 14.1 |

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# EXECUTIVE SUMMARY

For the past 17 years, Walker Aggregates Inc. (Walker) has acquired over 165 ha of land 408 acres) in the City of Niagara Falls, Regional Municipality of Niagara where high quality limestone is situated in proximity to Walker's customers. The proposed quarry site includes approximately 106.3 ha (262.7 acres) of land. Walker also owns 58.9 ha (145.5ac). of land adjacent to the proposed quarry site that are intended to be used, in part, for buffer/ecological enhancement purposes.

The Region of Niagara Official Plan has identified the proposed quarry site and surrounding area as a potential aggregate resource area since 1978. The City of Niagara Falls also maps this area as a protected mineral aggregate resource area.

On-going development within Urban Areas in the City of Thorold and the City of Niagara Falls has sterilized a significant amount of potential aggregate resources located within the urban boundary. As a result, the remaining aggregate in this resource area in the City of Niagara Falls are very important for long term protection to supply high quality aggregate resources close to market.

Borehole testing confirmed that the proposed quarry site contains approximately 60 M tonnes of some of the highest quality limestone in the Region. Limestone products range from large armour stone to limestone fines used for local home construction, road construction / maintenance, erosion control, and landscape projects.

The resource located at this site is considered an important provincial source of aggregate given the proximity to the market area and depleting supply of this product available to serve the Region. The proposed applications aim to protect an "important provincial source of aggregate" for the following reasons:

i) Policy 2.5.1 of the PPS states: "Mineral aggregate resources shall be protected for long term use and, where provincial information is available, deposits of mineral aggregate resources shall be identified".

ii) Through their borehole testing, WSP confirms in their Water Report (Section 3, Quarry Design Summary) that "approximately 60 million tonnes of high-quality dolomitic bedrock are planned for extraction. The estimated life expectancy of the operational phase of the proposed quarry is 40 and 50 years".

iii) The Ministry of Natural Resources (now MNRF) identified the proposed source of aggregate as a "selected bedrock resource" for many years and prior to 1985[1], which led to the identification of the resource area in the Niagara Region Official Plan and City of Niagara Falls Official Plan.

iv) Further, Policy 2.5.2.1 of the PPS states that "As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible". In this case, the proposed aggregate source is situated immediately adjacent to urban areas and is considered close to market.

This site was selected by Walker to continue to secure an ongoing supply of high quality bedrock resource within Niagara Region and the City of Niagara Falls for the long term, as Walker's supply of bedrock at their nearby existing quarry is running out of reserves.

Approvals under the Planning Act are required to permit the proposed quarry operation, including amendments to the Niagara Region Official Plan (Region OP) and the City of Niagara Falls Official Plan (City OP) and Zoning By-law. Furthermore, approval under the Aggregate Resource Act (ARA) is required from the MNRF to permit the licence.

The application includes an integrated phasing and rehabilitation plan. Extraction will occur in phases to ensure operations are kept centralized. A small tributary of Beaverdam's Creek (unnamed watercourse) currently crosses the central area of the proposed quarry site ('existing watercourse'). Therefore, as part of the first phase, an ecologically enhanced corridor will be established east of Thorold Townline Road to allow for a realignment of the existing watercourse. Once the realignment is established, the former watercourse lands will be extracted. Extraction will generally proceed in a clock-wise direction, starting and ending in the central-west portion of the proposed quarry site. The main access is off of Thorold Townline Road via Upper's Lane.

The final rehabilitated landform will enhance ecological diversity of the site by creating:

<u>On-site Rehabilitation</u>:

- 70 ha lake with 1.41 ha of submerged aquatic habitat
- 17.47 ha riparian corridor, including:
    - 1.27 ha new channel
    - 1.86 ha pond and vernal pool
    - 5.89 ha meadow / riparian thicket
    - 4.58 ha deciduous woodland
    - 3.9 ha vegetated berms / meadow (to remain)

[1] Alternative Sources of Sand and Gravel for Niagara, by C. Mirza Engineering Inc., dated June 1985 (Drawing No. 1 Inventory of Bedrock Resources)

Off-site Ecological Enhancement:

- 6.4 ha deciduous woodland (4.0 ha west of Thorold Townline Road and 2.4 ha on adjacent property to the north)
- 0.3 ha woodland (southwest of hydro corridor and along Beechwood Road) (for planting mix, see Visual Impact Assessment and ARA Site Plans for "At Grade Planting Cell Detail)

The proposal is consistent with the Provincial Policy Statement and conforms to the Growth Plan for the Greater Golden Horseshoe ("Growth Plan"). While amendments are required to both the Region and City OPs, the proposal conforms to the objectives and general intent of these OPs and has had regard to matters of provincial interest as set out in the Planning Act for the following reasons:

- Making identified high quality resource available for aggregate extraction represents a wise use and management of resources, providing economic benefits, while minimizing potential social and environmental impacts;

- The proposed quarry is located within an area protected for aggregate extraction and will secure a supply of high quality bedrock resource (estimated 60 million tonnes) for Niagara Region and City of Niagara Falls markets for the long term before it is further sterilized by urban and rural development. Walker's supply of bedrock at their nearby existing quarry is running out of reserves;

- An Alternative Site Analysis was completed which considered other alternative locations within the market area and found them to be less suitable in comparison to the proposed quarry site.

- The Provincial Policy Statement and Growth Plan permit the extraction of mineral aggregate resources in the rural area subject to meeting certain policy tests.

- The Region OP and City OP have both identified this area as a Potential Bedrock Area (Stone) for over 40 years. Both OPs allow for the extraction of mineral aggregate resources in such areas provided applications are made to amend both OPs to permit the use.

- The proposed quarry is intended to secure a future supply of aggregate for the market area. The proposed quarry site is located just over 2 kms south of Walker's existing quarry which is running out of reserves and which also utilizes Thorold Townline Road as a haul route to access Provincial highways.

- The operation is appropriately designed, buffered and/or separated from sensitive land uses to minimize potential impacts;

- Special provisions have been incorporated into the City of Thorold's Rolling Meadow Secondary Plan immediately west of Thorold Townline Road that require land use compatibility studies and mitigation by the developer to protect the subject site for its aggregate potential since it is mapped as a protected resource area;

- Water resources will be monitored and protected from potential impacts and will not adversely impact surrounding wells;

- While direct impacts are anticipated on the following significant natural features, appropriate measures have been incorporated through the design of the quarry and on the ARA Site Plans (Appendix E) to ensure no negative impact and a net gain on these features or their function when implemented:
    - Evaluated non-provincially significant wetland features
    - Significant woodland feature relative to Niagara Region Official Plan
    - Fish habitat
    - Woodland
    - Significant Wildlife Habitat (non-SAR Bat Maternity Colony - seasonal concentration and Monarch)

- The proposed quarry will be rehabilitated to a lake, shoreline wetland, enhanced woodland area and a riparian corridor including the realigned watercourse, enhanced wetlands and terrestrial habitat;

- The primary haul route is proposed via west on Upper's Lane and north on Thorold Townline Road, which is an existing haul route;

- The proposed quarry represents the efficient use of existing infrastructure; and,

- There are no significant cultural heritage resources on site.

# 1.0 INTRODUCTION

For the past 19 years, Walker has acquired land in the City of Niagara Falls, Region of Niagara where high quality bedrock is situated for the purpose of establishing a new quarry. The proposed quarry is located just over 2 kms south of Walker's other existing quarry in the City of Niagara Falls which is nearing depletion.

For this purpose, Walker is applying for amendments to the Niagara Region Official Plan, the City of Niagara Falls Official Plan and the City of Niagara Falls Zoning By-law under the *Planning Act* to permit the mineral aggregate quarry operation on the "proposed quarry site" or "subject lands" (shown on **Figure 1**). The proposed amendment lands include Upper's Lane lying between Thorold Townline Road and Beechwood Road and the unopened road allowance between Township Lots 120 & 136 in the former Township of Stamford, now in the City of Niagara Falls, Region of Niagara lands.

Walker is also applying for a Class A (Quarry Below Water) licence under the *Aggregate Resources Act (ARA)* on lands Walker owns within the subject lands (Part Lots 119, 120, 136 and 137 in the former Township of Stamford, now in the City of Niagara, Region of Niagara).

Walker also purchased 58.9ha (145.5 acres) of land west, north and east of the proposed quarry site within the City of Thorold and City of Niagara Falls, which are intended to be used in part for buffer / ecological enhancement purposes (also shown on Figure 1).

The location of the proposed quarry site has been identified as an area containing high quality limestone (bedrock) product for over 40 years. This product is used by local businesses and the public sector to build necessary tall buildings and foundations and infrastructure including roads, sewer and water mains, transit and bike paths.

Borehole testing has confirmed that the proposed extraction area contains approximately 60 M tonnes of some of the highest quality bedrock resource in the Region. The resource located at this site is considered an important provincial source of aggregate overall given the high demand and depleting supply of this product available to serve future markets. This site was selected by Walker to continue to secure an ongoing supply of high quality bedrock resource within Niagara Region and the City of Niagara Falls for the long term, as Walker's supply of bedrock at their nearby existing quarry is running out of reserves.

# 2.0 SITE DESCRIPTION AND SURROUNDING LAND USES

## 2.1 General Description

The proposed extraction area is primarily agricultural in nature.

Upper's Lane and an unopened road allowance separate the subject site into three extraction areas:

i) 'North Extraction Area': extraction area north of Upper's Lane;

ii) 'Mid Extraction Area': extraction area south of Upper's Lane and north of the unopened road allowance between Township Lots 120 & 136 in the former Township of Stamford, now in the City of Niagara Falls ("unopened road allowance"); and

iii) 'South Extraction Area': extraction area south of the unopened road allowance.

The subject site is bisected by an existing watercourse and associated wetlands, which runs from south to north crossing under Upper's Lane via a culvert. A woodlot, approximately 2 ha (5 acres) in size, is situated along Thorold Townline Road, south of Upper's Lane. The topography of the subject site is gently rolling, with the lowest elevation at ±178 masl in the existing watercourse corridor and the highest elevation at ±184 masl generally in the southeast corner of the site.

Three (3) dwellings with accessory structures remain situated on the lands to be extracted and will be removed if the proposed licence is approved.

## 2.2 **Legal Descriptions**

The lands proposed to be licenced includes the following 10 properties owned in affiliation with Walker Aggregates Inc (see **Figure 2**):

| No. | Registered Owner | Property Description |
|---|---|---|
| 1 | Walker Community Development Corporation | Pt Twp Lt 119 Stamford; Pt Twp Lt 120 Stamford Pt 1, 59r3552 ; S/t St55057 ; Niagara Falls |
| 2 | Walker Industries Holdings Limited | Pt Twp Lt 119 Stamford; Pt Twp Lt 120 Stamford As In Ro577929 ; Niagara Falls |
| 4 | Walker Aggregates Inc. | Pt Twp Lots 119 & 120 Stamford As In Ro762116 and Part 2 59r15720; Niagara Falls |
| 5 | Walker Industries Holdings Ltd. | Pt Twp Lt 120 Stamford As In Bb80120 ; Niagara Falls |
| 6 | Walker Aggregates Inc. | Pt Twp Lt 120 Stamford As In Ro207473 ; Niagara Falls |
| 7 | Walker Industries Holdings Limited | Pt Twp Lt 120 Stamford As In Ro482772; Niagara Falls |
| 8 | Walker Aggregates Inc. | Pt Twp Lt 120 Stamford As In Ro154457 (firstly); S/t Aa81984 ; Niagara Falls<br>10 WALKER |
| 9 | Walker Community Development Corporation | Pt Twp Lot 120, Stamford, Pt 2, 59r3552, Niagara Falls |
| 11 | Walker Community Development Corporation | Pt Twp Lt 136 Stamford,pt 1 59r12553; Niagara Falls |
| 12 | Walker Industries Holdings Limited | Pt Twp Lt 136 Stamford; Pt Twp Lt 137 Stamford As In Ro360891, T/w Ro234926 ; Niagara Falls |

It is noted that Properties "3" and "10" on Figure 2 are road allowances owned by "The Corporation of the City of Niagara Falls" and are not included in the proposed Aggregate Resource Act licence area(s).

## 2.3 **Surrounding Land Uses**

Provincial, Regional and City policies require new mineral aggregate operations to minimize social impacts on surrounding sensitive land uses. The provincial standards require a noise study and blasting study be completed if there are sensitive receptors located within 500 metres of the proposed extraction area of the proposed quarry. The provincial standards also require that all blasting receptors within 500 m of the site be identified on the Site Plan (see Appendix E, Existing Features Plan).

Surrounding land uses are generally illustrated on **Figure 3** and include:

**North:** Three rural residential dwellings located north of the proposed quarry site and south of Beaverdams Road (between Thorold Townline Road and Beechwood Road) with the remainder of the landscape consisting of agricultural lands, a golf course and natural open space. One of these three dwellings (at 10148 Beaverdam's Road) is now owned by Walker. The Trans Canada Pipeline (TCP) is situated north and west of the proposed quarry site, generally running southwest to northeast, with a small portion of the pipeline corridor intercepting the far northwest corner of the quarry site.

**South:** Directly south of the proposed quarry site is a hydro corridor running between Thorold Townline Road and Beechwood Road (and beyond). Agricultural uses (including a winery), two rural residential dwellings and a social club (Italo-Canadian Centennial Club) exist south of the hydro corridor and Lundy's Lane is beyond.

**East:** Beechwood Road runs along the easterly limit of the quarry with exception of a rural community church (Bible Baptist Church). The church property is situated immediately east of the site between Beechwood Road and the proposed quarry. It is noted that Walker and owners of the Bible Baptist Church have entered into an agreement with each other wherein the Church acknowledges the proposed quarry and will not object to its approval in the proposed location. Otherwise, uses are primarily agricultural together with rural residential dwellings along Beechwood and a rural office/business to the northeast along Beaverdams Road.

East of Beechwood Road and southeast of the proposed extraction limit is a driving range and the Urban Area boundary of the City of Niagara Falls, including an existing residential subdivision. One of the closest receptors included in technical studies (a property which included a rural dwelling at 5584 Beechwood Road) is now owned by Walker.

**West:** Directly west of the proposed quarry site is Thorold Townline Road, which demarks the boundary between the City of Niagara Falls and the City of Thorold. Within the City of Thorold, future employment lands within the Rolling Meadows Secondary Plan are planned immediately west of Thorold Townline Road. Lands along Thorold Townline Road are also identified as 'Aggregate Impact Area' in the Secondary Plan. Currently, immediately west of the proposed quarry site on the west side of Thorold Townline Road, there is a paintball facility and a cricket club.

The lands owned by Walker west of the proposed quarry and Thorold Townline Road consist of agricultural and forested areas. As recommended by the Environmental Impact Study, a portion of these lands will accommodate enhancement plantings and additional mitigation measures.

# 3.0 PROPOSED UPPER'S QUARRY

## 3.1 Processing

Operations of the proposed quarry will consist of overburden stripping, berm construction, drilling, blasting, extraction, transportation of aggregate internally, processing, washing, stockpiling, shipping aggregate off-site and rehabilitation. The maximum annual production limit proposed is 1,800,000 tonnes of aggregate per year; however, during several phases of operation, the maximum annual tonnage will be lower at times due to operational constraints for noise and air quality mitigation.

In each extraction area, a mobile crusher plant will be close to the surface initially during the sinking cut and will descend in elevation as material is extracted. Due to the three separate extraction areas, the processing plant will be located at varying elevations, beginning at the top of rock during the sinking cut portion of operations, and moving to the first bench and then the final quarry floor as space becomes available.

At the processing plant, aggregate will be processed, washed and stockpiled, prior to loading into highway shipping trucks by front-end loaders.

Operations will also include a hot mix asphalt (HMA) batch plant, capable of producing 4,900 tonnes per day and a maximum production limit of 400,000 tonnes/year.

Once sufficient area has been extracted in Phase 2A and the processing plant has been relocated to the Phase 2A lands, a hot mix asphalt (HMA) batch plant will be introduced. The HMA plant and operations will be established on the quarry floor in Phase 1A in the area identified on the Operational Plan. Recycled asphalt and concrete will be imported and blended with aggregate material on-site and stockpiled in proximity to the centralized asphalt plant. The HMA plant will remain in that same location for the life of the quarry in order to minimize potential impact.

# 3.2 **Phasing**

Overall, the proposed quarry is proposed to be extracted in five (5) main phases. **Figure 4** provides a Simplified Operations Schematic which illustrates the proposed extraction area and phasing plan.

Overburden on the majority of the site generally ranges in depth from 5 to 10 m. Once the overburden is stripped, extraction will proceed in phases to a maximum depth of approximately 28 m to 39 m, corresponding to the geologic base of the Gasport dolostone of the Lockport Group.

## Phases 1 and 2

Phases 1 and 2 include all lands west of the existing watercourse and associated setback. Phase 1 includes both the Mid Extraction Area and South Extraction Area, both south of Upper's Lane. Phase 2 includes the North Extraction Area, north of Upper's Lane.

Phase 1 includes overall site preparation (i.e. fencing around entire site, removal of existing buildings, and construction of berms/acoustic barriers) and road improvements, including:

- intersection improvements at Upper's Lane and Thorold Townline Road;
- upgrade Upper's Lane and establish an entrance/exit off of Upper's Lane to access the North Extraction Area and the Mid-Extraction Area; and,
- establish a crossing over the unopened road allowance to access the South Extraction Area.

Off-site mitigation and enhancement plantings will be undertaken in accordance with the Rehabilitation Plan as the proposed quarry site is being prepared for extraction. A Conservation Easement will be placed on the lands identified as Woodland Mitigation Planting Areas on the Site Plans. The Conservation Easement will be registered prior to the commencement of Phase 1 to secure protection of the lands for conservation purposes in perpetuity. Off-site plantings will be completed prior to the removal of the 2.0 ha woodlot south of the unopened road allowance.

The existing watercourse will remain open (not culverted) where it enters the site along the south perimeter of the site. Where the watercourse exits the site at the north perimeter, a culvert will be installed to maintain the watercourse while allowing an acoustic berm to be constructed. Once extraction is complete, the berm and culvert will be removed to allow for the watercourse to be open as part of final rehabilitation.

A pond will be constructed in the Watercourse Realignment Transition Area within Phase 2B to provide an ecological enhancement. The pond will be excavated to a maximum depth of 174 masl in this area. Therefore, no drilling or blasting will occur in this Transition Area.

Other culverts will be installed under berms as they are being constructed along the west and south perimeter to provide for a continual conveyance of surface water contribution to the site and, in some cases, to the watercourse. These drainage features are intermittent and do not contain fish habitat.

During Phase 1, a new stream channel running along the east side of Thorold Townline Road (Phases 1B and 2B) will be established for the realignment of the existing watercourse. Extraction of Phase 1B and 2B in all three extraction areas will occur to an elevation of 155 masl. As resource extraction is completed in Phases 1B and 2B, the extraction area in this Phase will be regraded with overburden material (from Phase 1) to an elevation ranging between 173 to 178 masl. A new watercourse channel will be constructed, vegetated and designed for erosion and sediment control. Culverts will be installed under Upper's Lane and the unopened road allowance. 2:1 side slopes will be established on the east side of the new watercourse channel down to the quarry floor.

A new watercourse channel with adjacent wetlands will be constructed. Once adequate vegetation has been established in the bed of the new riparian channel and 2:1 side slopes have been established, water from the existing watercourse will be diverted to the new channel. A monitoring program (post-construction) will be developed and implemented to ensure the function of the watercourse and wetlands are maintained and enhanced.

As extraction progresses to the east and as area provides, an additional lift will be extracted in Phase 1A to an elevation ranging between ±140 masl in the southwest corner and ±145 masl in the northeast corner. In Phase 2A, extraction will take place to an elevation of 145.5 masl.

As water collects on the quarry floor, it will be pumped from the sump to either a man-made pond for washing aggregate or discharged to the watercourse in accordance with MECP requirements to protect the watercourse.

As noted earlier, once extraction is complete in Phase 1A/1B and processing has been shifted to Phase 2A/2B, a hot mix asphalt (HMA) batch plant facility will then be introduced and established on the quarry floor in Phase 1A (in the area shown on the Operational Plan). The HMA batch plant will stay in that location for the life of the quarry.

## Phase 3

Phase 3 is located in the north extraction area and includes two (2) sub-phases. Phase 3A includes the existing watercourse meander valley and Phase 3B is the remaining area in north extraction area to the east.

Extraction in Phase 3A will not commence until the realigned watercourse is commissioned and flow within the existing watercourse is diverted, based on approval from the appropriate regulatory agencies. In the event that the construction of the realigned watercourse may require additional time, extraction in Phase 3B may proceed until approval to extract Phase 3A has been granted. Once the realigned watercourse has been commissioned and is fully supporting flows, extraction in Phase 3A and 3B may occur concurrently.

Phase 3 will be extracted in up to three (3) lifts to a depth ranging between ±145 masl and ±149 masl in the northeast corner.

### Phase 4

Phase 4 includes the remaining lands in the Mid Extraction Area. Extraction will not proceed until Phase 3 extraction is complete, and it is anticipated that the realigned watercourse will be commissioned well before Phase 4 extraction proceeds. Phase 4 will be extracted in up to three (3) lifts to a depth ranging between ±142 and ±147 masl.

### Phase 5

Phase 5 includes the remaining lands in the South Extraction Area. Extraction will not proceed until Phase 4 extraction is complete.

Phase 5 will be extracted in up to three (3) lifts to a depth ranging between ±140 and ±143 in the southwest corner.

A Final Phase will include removal of all remaining resource within the extraction limit near the entrance (e.g. ramp) and any other resource remaining in the extraction area will be removed as part of final rehabilitation. Any remaining structures, including the asphalt plant, will be removed, all remaining side sloping will be completed during this Phase and final rehabilitation will be completed. Following completion of extraction, the Subject Property will be rehabilitated to recreational water bodies with enhanced natural features and habitat.

## 3.3 **Progressive and Final Rehabilitation**

During the operational phase, as resources are extracted, the quarry will be progressively rehabilitated to a variety of rehabilitated landforms, as set out on the Rehabilitation Plan (Appendix E) **Figure 5** provides a Simplified Rehabilitation Schematic of the final rehabilitated landform.

Adjacent to the watercourse realignment corridor and road allowances, side slopes having a 2:1 ratio will be established with surplus overburden against the quarry wall. In some cases, the slope will be gradual at the water's edge where near shore wetland zones are proposed to be established. Shallow shoreline areas, with the addition of brush piles, logs, stumps and boulders provide for enhanced habitat diversity and cover. In other cases, vertical bedrock faces will be permitted to remain with side sloping near the water's edge to create a variety of landscapes and habitat.

The final rehabilitation plan for the proposed quarry site includes:

On-site Rehabilitation:

- 70 ha lake with 1.41 ha of submerged aquatic habitat
- 17.47 ha riparian corridor, including:
    - 1.27 ha new channel
    - 1.86 ha pond and vernal pool
    - 5.89 ha meadow / riparian thicket
    - 4.58 ha deciduous woodland
    - 3.9 ha vegetated berms / meadow (to remain)

Off-site Ecological Enhancement:

- 6.4 ha deciduous woodland (4.0 ha west of Thorold Townline Road and 2.4 ha on adjacent property to the north)
- 0.3 ha woodland (southwest of hydro corridor and along Beechwood Road) (for planting mix, see Visual Impact Assessment and ARA Site Plans for "At Grade Planting Cell Detail)

Once extraction is complete, the dewatering sump(s) will be decommissioned and three lakes (for each extraction area) will progressively fill with water from precipitation and groundwater discharge. Ultimately, the lakes will achieve levels that are in equilibrium with the annual influx of water. A final lake elevation of ±175.15 masl is predicted through modelling.

Currently, all surface water runoff flows to the north via the existing watercourse where it crosses the northern property. This will continue to be the outlet location for the proposed realignment and the realigned watercourse bed elevation will be constructed to match predicted conditions.

Compared to the features and functions of the existing watercourse corridor, the proposed design of the realigned watercourse will result in significant ecological enhancements. The existing corridor has approximately 7.0 ha of evaluated non-provincially significant wetlands.

The proposed watercourse realignment corridor is a 17.47 ha feature that will provide:

- a riparian zone including deciduous woodlands that will offer shade and overhead cover to the realigned watercourse as well as foraging habitat for bats, nesting habitat for a variety of birds, and foraging and egg-laying habitat for monarch; and
- shoreline wetland, watercourse, vernal pools and marsh meadow.

The 2.0 ha woodlot to be removed on-site will be restored in-situ with a deciduous woodland (4.58 ha) within the riparian corridor. In addition, off-site mitigation plantings (6.4 ha) will be undertaken as early as possible and any on-site mitigation will be undertaken at the same time as site preparation and prior to the removal of the on-site woodlot south of the unopened road allowance. This will allow for reforestation and natural succession to be well established before the licence is surrendered.

## 3.4 **Alternate Extraction Scenario**

As noted earlier, Upper's Lane (between the North Extraction Area and the Mid Extraction Area) and the unopened road allowance between Lots 120 and 136 (between the Mid Extraction Area and the South Extraction Area) both cross the proposed quarry site, creating three separate extraction areas. Therefore, in the event that Walker obtains permission from the City of Niagara Falls, extraction will include the two road allowances bisecting the proposed quarry site:

i) Upper's Lane, between the North Extraction Area and the Mid Extraction Area; and

ii) the unopened road allowance between Lots 120 and 136, between the Mid Extraction Area and the South Extraction Area.

Walker owns all of the lands north and south of Upper's Lane and the unopened road allowance between Thorold Townline Road and Beechwood Road, with exception of the Bible Baptist Church property which has secured access from Beechwood Road.

In the event the City agrees to extraction of the unopened road allowance and Upper's Lane, the Site Plans would be amended to implement details of an Alternate Extraction Scenario which is conceptually illustrated on Figures attached in **Appendix F**.

Note A.3 is included on the Proposed Operational Plan (in Appendix E) which states: "In the event that the licencee obtains permission from the City of Niagara Falls to extract the road allowance(s), the licencee may apply to MNRF to amend the licence and site plan to expand the licence boundary to include the road allowances directly adjacent to the licence boundary (i.e. Upper's Lane and/or the road allowance between Lots 120 and 136). An expansion to the licence boundary for this purpose will not require an application for a new licence under section 7 of Aggregate Resources Act. Note A.4 further states that "All technical reports have taken into consideration the potential removal of the road allowance(s)".

This wording is consistent with section 13.2 (2) of the Aggregate Resources Act.

# 4.0 APPLICATIONS AND STUDIES

Prior to filing the applications, Walker held pre-consultation meetings with the Ministry of Natural Resources and Forestry (MNRF), Ministry of Environment, Conservation and Parks (MECP), Niagara Region (Region), the City of Niagara Falls (City), the City of Thorold (Thorold), and the Niagara Peninsula Conservation Authority (NPCA) to discuss the required applications and technical studies. See **Appendix A** for a copy of the pre-consultation records from these meetings. Pre-consultation with the Department of Fisheries and Oceans (DFO) and First Nations was also undertaken with respect to the applications.

Based on the pre-consultation meetings the following applications are required to permit the proposed quarry. All of the required applications have been submitted concurrently.

| Application | Approval Authority |
|---|---|
| Niagara Region Official Plan Amendment | Niagara Region* |
| City of Niagara Falls Official Plan Amendment | Niagara Region* |
| City of Niagara Falls Zoning By-law Amendment | City of Niagara Falls* |
| Aggregate Resources Act Licence Application | Ministry of Northern Development, Mines, Natural Resources and Forestry* |

**unless appealed or referred to the Ontario Land Tribunal*

The following is a summary of each application:

- Niagara Region Official Plan Amendment is required to permit a new mineral aggregate operation by identifying the proposed quarry site as a "Licensed Pits and Quarries" on Schedule D4 (Mineral Resources). See **Appendix B** for further details. This application is referred to as "ROPA" in this Report.

- City of Niagara Falls Official Plan Amendment is required to permit a new mineral aggregate operation by re-designating the proposed quarry site from "Good General Agriculture", "Environmental Protection Area" and "Extractive Conservation Area" to

"Extractive Industrial" on Schedule A (Future Land Use). See **Appendix C** for further details. This application is referred to as "OPA" in this Report.

- City of Niagara Falls Zoning By-law Amendment is required to permit a new mineral aggregate operation by rezoning the propose quarry site from "Agriculture (A)", Agricultural (A)(numbered 467) and "Hazard Lands (HL)" to "Extractive Industrial (EI)(numbered ###)". See **Appendix D** for further details. This application is referred to as "ZBA" in this Report.

- Aggregate Resources Act Class A licence application to permit a below-water quarry on the proposed quarry site. This application is made under the Aggregate Resources Act. See ARA Site Plans in **Appendix E** for further details. This application is referred to as "proposed ARA licence".

In addition to this Report and Summary Statement, the following reports have been submitted to constitute a complete application:

- Level 2 Water Study Report, WSP
- Maximum Predicted Water Table Report, WSP
- Level 1 and Level 2 Natural Environment Technical Report and Environmental Impact Study, Stantec
- Acoustic Assessment Report, RWDI;
- Air Quality Impact Assessment, RWDI;
- Blast Impact Analysis, Explotech Engineering Ltd.;
- Traffic Impact Study, TMIG;
- Agricultural Impact Assessment, Colville Consulting;
- Alternative Site Analysis, MHBC;
- Archaeological Assessments, (Archaeological Research Associates Ltd. and others);
- Cultural Heritage Impact Assessment, MHBC;
- Visual Impact Study, MHBC;
- Economic Benefits Report, Prism; and,
- Aggregate Resources Act Site Plans, MHBC.

In addition to the proposed applications, additional approvals will be required including:

i) authorization from the Department of Fisheries and Oceans (DFO) under the *Fisheries Act* prior to culvert installation (or any other works) within watercourses that support fish habitat and for prior to realignment of the watercourse;

ii) Environmental Compliance Approval (for air quality and noise) under the *Environmental Protection Act* to carry out certain operations at the quarry; and,

iii) Permit to Take Water approval under the *Environmental Protection Act*.

## 4.1 On Site and Adjacent Mineral Aggregate Resource

As confirmed through borehole testing, the proposed quarry site contains high quality bedrock resources with an estimated maximum depth of 39 m (corresponding to the depth of the Gasport dolostone of the Lockport Group formation)[2].

Based on the completion of on-site testing, it is estimated that the proposed quarry area contains approximately 60 million tonnes of high quality bedrock. These resources will provide decades of high quality aggregate supply for the Niagara Region construction industry.

The proposed quarry site is in a potential resource area that has been protected for over 40 years. A significant amount of the other identified potential resource areas have now been sterilized because of the introduction of urban uses within those areas. This is one of the last remaining resource areas and is important for long term aggregate supply for the Region and, in particular this market area.

Similar to this site, areas not sterilized by urban uses are also either mapped as prime agricultural areas and/or have other environmental features overlapping these identified resource areas. When comparing this site to other bedrock resource areas in the market area, the proximity to urban areas, being located on prime agricultural areas and the presence of natural heritage features is not uncommon.

## 4.2 On Site and Adjacent Agricultural Uses

The proposed quarry site and surrounding area is considered a prime agricultural area. A majority of the proposed quarry site is currently in common field crop production and are leased by a single farmer. No livestock operations are present within the proposed quarry site.

Soil classification mapping identifies that the proposed quarry area has an overall equivalence to Class 3 soils (i.e. lowest classification of prime agricultural land). See **Figure 6**.

Accordingly, Colville Consulting Inc. conducted an Agricultural Impact Assessment ("AIA") which concludes the following:

[2] Level 2 Water Study Report, WSP, Figure 9

- Although the lands are considered to be prime agricultural lands, there is minimal agricultural activity within the Study Area other than the production of common field crops
- There are five small hobby farms located within the Study Area as well as some retired farm operations
- No active livestock operations are present within the Study Area
- No agri-food operations are present within the Study Area, although there is some agriculture related industry in the form of a landscaping company
- Potential impacts to agriculture will be mitigated through recommended measures set out in technical reports and as set out on the proposed Site Plans
- The main impact to agriculture is the removal of the agricultural lands. However, this removal is contemplated by Provincial Policy in cases where the quantity and quality of aggregate resource exists below the water table and there is a lack of suitable alternative sites within the market area on lower quality agricultural land.

## 4.3 On Site and Adjacent Natural Heritage Features

Stantec completed a detailed Level 1 and 2 Natural Environment Technical Report and Environmental Impact Study ("EIS") for the proposed quarry site, additional lands owned by Walker and other adjacent lands. The EIS was prepared in collaboration with WSP, who completed a detailed water study of the proposed quarry site and surrounding area.

Based on the ecological and water resource assessments that were completed, portions of the proposed quarry site and/or adjacent lands (within 120 metres) contain the following identified natural heritage features as identified on **Figure 7**:

- wetlands (evaluated non-provincial significance);
- fish habitat (supporting warmwater species and pike spawning);
- significant wildlife habitat (non-SAR Bat Maternity Colony and Monarch); and,
- woodland (significant relative to Niagara Region Official Plan policy and criteria).

The proposed quarry site (and adjacent lands) does not contain the following:

- wetlands (of provincial significance)
- significant woodlands (relative to PPS definition and policy);
- area of natural and scientific interest;

- significant valleylands;
- sand barrens;
- savannahs;
- tall grass prairies; or
- alvars.

To protect the above noted ecological features and associated functions from negative impacts, the following avoidance and mitigation measures have been recommended by Stantec in their EIS as summarized and set out in **Table 1**. A detailed description of potential impact and mitigation is set out in the EIS.

**TABLE 1: IDENTIFIED NATURAL HERITAGE FEATURES – SUMMARY OF POTENTIAL IMPACT AND PROPOSED MITIGATION**

| FEATURE | POTENTIAL IMPACT | PROPOSED MITIGATION |
|---|---|---|
| **Wetlands**<br>(evaluated non-provincially significant) | • on-site and off-site wetlands (total area of ±7.0 ha) are isolated from each other and are dependent on precipitation and surface flow from upstream watercourse catchment or run off<br>• proposed quarry will alter surface flow on-site<br>• proposed groundwater drawdown not expected to have impact on wetlands (on-site and off-site) due to presence of thick aquitard with dense clay composition | • proposed replacement and enhancement of on-site wetlands in realigned riparian corridor (total area of ±17.47 ha)<br>• new wetland areas will provide more diverse and connected habitat function<br>• wetland complex along existing watercourse will be replaced by realigned riparian corridor prior to removal<br>• surface flow off-site will continue via controlled discharge |
| **Woodland** | • An on-site 2.0 ha woodland is proposed to be removed. This woodland meets at least one of the regional criteria for significance but not provincial criteria.<br>• The existing woodland to be removed is situated immediately adjacent to Thorold Townline Road, subject to edge effects and | • Woodland ecological enhancement:<br>o 6.4 ha of additional deciduous woodlands to create a 18 ha contiguous woodland with 3.77 ha of interior habitat within 400 m of the site<br>o Additional deciduous woodland (4.58 ha) |

| | | |
|---|---|---|
| | degradation due to the presence of invasive plants and human disturbance and is isolated. | proposed on-site as part of rehabilitation<br>• Off-site woodland will incorporate specific wildlife habitat features for deer and other wildlife<br>• In summary, the 2.0 ha of isolated woodland to be removed will be replaced with 6.4 ha of woodland with enhanced species composition, including 4.0 ha woodland contiguous to an existing 14 ha woodland |
| **Fish Habitat (and Pike Spawning)** | • Existing watercourse will be replaced with the proposed realignment of the watercourse<br>• Vibration from blasting can potentially impact fish and spawning | • Proposed realignment will result in the creation of in-stream fish habitat, enhanced pike spawning habitat and rearing habitat, pools and riffles<br>• Compliance with DFO Guidelines for the Use of Explosives in or near Canadian Fisheries Waters and implementation of a vibration monitoring program to ensure vibration limits are not exceeded |
| **Significant Wildlife Habitat** | | |
| • Non-SAR Bat Maternity Colony (seasonal concentration area) | • Within the proposed quarry site and 120 m of site (in woodlands along both sides of Thorold Townline Road, as mapped by MNRF)<br>• The EIS notes that the 2.0 woodland proposed to be removed is very low quality for deer wintering habitat due to its marginal size, isolation, proximity to a major roadway, lack of conifer or dense shrub cover and general level of human disturbance. | • With the proposed woodland enhancement plan, increasing the existing 14 ha woodland in the Study Area to 18 ha, as well as the installation of specific wildlife habitat features, deer wintering habitat will be enhanced as a result of the proposal. |

| | | |
|---|---|---|
| • Monarch (habitat of species of conservation concern) | • Observed on-site in meadow communities | • Habitat will continue to be protected within buffer areas and along the realigned watercourse corridor.<br>• Measures will be taken to minimize impact of vegetation clearing (i.e. milkweed plants cleared outside of April 1 to September 30) and to enhance habitat in these areas (i.e plant milkweed and similar supportive species within setbacks and realignment channel). |

### 4.3.6 Summary of Mitigation and Ecological Enhancement

In summary, 9.0 ha of natural heritage features (regionally significant woodland and evaluated non-provincially significant wetlands) will be removed and the combined rehabilitation and enhancement plan for the proposed quarry will provide the following ecological features and functions resulting in an overall net environmental gain:

- a **70.0 ha** central lake with **1.41 ha** of shoreline wetland along the westerly edge to provide habitat for fish, aquatic invertebrates and a variety of bird species;
- a **17.47 ha** riparian corridor along the realigned watercourse to provide habitat for fish, pike spawning, foraging and rearing habitat, pools and rifles, extensive riparian wetland and a forested floodplain that will offer that will offer shade and overhead cover to the realigned watercourse;
- a **4.58 ha** deciduous woodland (on-site and within the riparian corridor), in the same location as the 2.0 ha woodlot to be removed;
- **a 4.3 ha** deciduous woodland (on adjacent lands west of Thorold Townline Road) to increase overall forest cover and interior forest in the region, maintain local genetic diversity through seed collection from the existing vegetation community and provide wildlife habitat for bats, deer and other wildlife
- **a 2.4 ha** deciduous woodland (on adjacent lands to the north) to increase overall forest cover in the region, maintain local genetic diversity through seed collection from the existing vegetation community and provide wildlife habitat for bats, deer and other wildlife

### 4.3.7 Natural Environment Recommendations

Stantec has included the following recommendations in their EIS (Section 17.6):

## General

- Existing vegetation within the setbacks shall be maintained except where berms, haul roads and conveyors are required.
- A monitoring program of all berm plantings, rehabilitation plantings and offsite mitigation and enhancement plantings shall be prepared in consultation with regulatory authorities to address replacement plantings if die off occurs and to confirm stable conditions have been established.
- New vegetation shall be maintained in accordance with note G.5 on drawing 4 of 6 of the Site Plan.
- Prior to construction, silt fencing and sediment control measures shall be installed and implemented prior to and during construction at the easterly limit of Phases 1A and 2A where field drainage enters the existing watercourse. This may include the use of silt fencing, check dams, straw bales, rip-rap and/or other techniques as required depending on scope, nature and location. Silt fencing will serve to demarcate the limit of protected area until the watercourse is diverted
- Stockpiling of all excavated material shall be in accordance with note H.7 on drawing 2 of 6 of theSite Plan.
- Topsoil and overburden stockpiles shall be maintained in accordance with the Best Management Practices for the Protection, Creation and Maintenance of Bank Swallow Habitat in Ontario (MNRF 2017). Stripped overburden and topsoil for rehabilitation shall be utilized in accordance with Site Plans.
- Dust control will be implemented in accordance with Air Quality Notes on the Site Plan
- Fuel storage shall be in accordance with the Site Plans.
- Side slopes steeper than 3:1 shall be seeded with a naturalizing mix of native, non-invasive wildflowers and grasses capable of rapid germination and growth to stabilize slopes and minimize mowing and maintenance.

## Natural Channel Design

- The existing watercourse will remain open (not culverted) where it enters the south limit of the South Extraction Area.
- Where the watercourse exits the North Extraction Area, a culvert will be installed to maintain the watercourse while allowing an acoustic berm to be constructed. As part of final rehabilitation, the berm and culvert will be removed to allow for the watercourse to be open.
- As part of site preparation, a compensation pond will be constructed in the Watercourse Realignment Transition Area within Phase 2B, in accordance with the

Natural Channel Design Report (Stantec 2021). The compensation pond will be excavated to a maximum depth of 174 masl in this area and in accordance with DFO authorization. No drilling or blasting shall occur in this Transition Area.

- As extraction is completed in Phases 1B and 2B, these areas will be filled with clay overburden material to an elevation ranging between 173 to 178 masl. In accordance with the Natural Channel Design Report (Stantec 2021), a new watercourse channel will be constructed, vegetated and designed in these areas and will include the following design elements:
  - floodplain wetlands,
  - fish habitat ponds, including new pike spawning habitat as well as foraging, spawning and rearing habitat for other fish species,
  - creek sections,
  - wood debris toe protection and wood reinforced banks,
  - log sills, and
  - augmented riffle.
- Culverts will be installed under Upper's Lane and the unopened road allowance.
- 2:1 side slopes will be established on the east side of the new watercourse channel down to the quarry floor.
- Once the realigned watercourse channel has been constructed in Phases 1B and 2B and adequate vegetation to mitigate potential erosion has been established (as confirmed by an ecologist), water from the existing watercourse will be diverted to the realigned watercourse in consultation with regulatory authorities. A fish rescue will be undertaken prior to dewatering and channel relocation. A Licence to Collect Fish for Scientific Purposes will be obtained for the fish rescue.
- The Natural Channel Design (NCD) Report details the Rehabilitation Planting Plan in drawings L-460 to L463 and L-500 to L503.

## Woodland and Terrestrial Habitat Enhancement

- The 2.0 ha woodland situated on the east side of Thorold Townline Road will be removed during the advancement of operations in Phase 1A/1B. Tree clearing in the woodlot shall be undertaken outside of the breeding bird period and the active bat season from March 23 and August 26.
- The lands identified off-site as "Woodland Mitigation and Enhancement Area" on the Operational Plan, an area of 4.7 ha, shall be planted in accordance with the Rehabilitation Plan (drawing 5 of 6) and Planting Plan L460 to L463 and L 500 to L503 from the NCD Repot.
- Planting for the off-site Woodland Mitigation and Enhancement Area will commence immediately in the appropriate planting season following licence approval.
- The goal of the on-site Rehabilitation, in particular, the detailed planting plan that accompanies the NCD and the off-site Woodland Mitigation and Enhancement Area (see Rehabilitation Plan Table 1) shall be refined in consultation with regulatory authorities to:

i) allow practices and management to respond to changing forest dynamics in the Woodland Mitigation and Enhancement Areas such as pest infestations, climatic conditions (e.g. species selection) and restoration ecology; and
ii) achieve a net gain in the ecological functions of the local and regional landscape through:

- Increasing the total area of woodland cover in the regional landscape;
- Improving associated landscape functions such as ecological linkages and interior forest areas;
- Improving forest ecological characteristics such as species diversity, age class distribution and structural diversity, while retaining native genetics through seed collection and replanting. For example, prior to the removal of the existing 2 ha woodland:
- Establish the planting of the 6.7 ha of off-site Woodland Mitigation and Enhancement Area planting and approximately 4.5 ha on-site woodland planting
- Tree seeds and nuts will be gathered from the woodland for direct planting in the Woodland Mitigation and Enhancement Area to promote the continuity of local genetic stock and a similar community composition to the removed vegetation community (FOD9);
- Leaf litter and sods containing native understory vegetation will be transplanted to promote rapid establishment of a healthy forest soil microbiome;
- Transplanting of native saplings and small shrubs from the woodland to the off-site Woodland Mitigation and Enhancement Areas, where feasible.
- Incorporating specific wildlife habitat features for bats, deer and other wildlife, such as bat roosting structures (bat boxes or condos), coniferous tree clusters for cover, browse-tolerant shrubs and mast producing trees;
- Incorporating specific planting in setbacks and the watercourse realignment channel. For example, plantings that provide habitat for monarch including common milkweed (Asclepias syriaca), swamp milkweed (Asclepias incarnata) and nectar producing plants.

## Significant Wildlife Habitat and Wildlife

- Vegetation clearing where milkweed plants are present will proceed when monarch larvae are absent (September 30 to April 1).
- The setbacks along Thorold Townline Road and Beechwood Road shall be planted with a mix of deciduous and coniferous trees and shrubs with a range of sizes as per the Visual recommendations on this drawing. Native plant materials that are complementary to the regional and local landscape shall be used (see planting plan drawings L-460 to L-463 and L-500 to L-503 from the NCD Report for additional information).
- 8 multi chambered bat boxes shall be installed in the NCD corridor where creek and vernal pool habitat is created

## Fish and Fish Habitat

- Implement Blasting Notes on drawing 4 of 5 of the Site Plan.
- Water shall be discharged from the sump area to the existing watercourse until water flow is diverted to the watercourse realignment channel. Once the watercourse realignment has been completed, water shall be discharged from the sump locations to the realigned watercourse. Pumping and discharge shall occur as required to support fish habitat.
- Water collected from the sump area shall be directed to a holding pond for storage to allow for settling of suspended solids and dissipation of other constituents such as hydrogen sulfide and alkalinity. Following this pond treatment, water will be discharged to the existing watercourse until water flow is diverted to the watercourse realignment channel. Once the watercourse realignment has been completed, water shall be discharged from the holding pond to the realigned watercourse. Pumping and discharge shall occur as required to support fish habitat
- Create riparian corridor to provide pike spawning habitat as shown on drawing 5 of 6 of the Site Plan.

## Wetlands

- Wetlands along the existing watercourse will be maintained until the watercourse has been diverted to the watercourse realignment channel.
- Once the watercourse has been diverted, the wetlands created in the watercourse realignment channel shall be created and maintained.

## Monitoring Program

- A monitoring plan shall be prepared in consultation with regulatory authorities to assess the performance of the watercourse realignment channel and to confirm that impacts to off-site wetlands are not occurring as a result of dewatering.
- A monitoring program of offsite woodland mitigation and enhancement planting shall be prepared in consultation with regulatory authorities to confirm stable conditions have been established.
- A trigger mechanism and contingency plan, as detailed in WSP's Level 2 Water Study Report, shall be implemented upon licence approval to proactively ensure natural heritage features and their functions are maintained (i.e. fish habitat, wetland features downstream and at 5584 Beechwood Road, and woodlands) during operational and rehabilitation phases.
- A Wetland Monitoring Program shall be prepared in consultation with regulatory agencies and shall be implemented to monitor the reconfigured wetland features to accurately monitor any changes in the wetland community over time and to measure the success of the re-configuration / restoration and management actions. Long-term monitoring plots and/or monitoring transects shall be established to include a count

of the number of stems and percent cover for all plant species present. Monitoring shall be conducted annually at a similar time of year (i.e., late July) for the duration of Phase 1A through Phase 3A.

- All plants identified as part of the Wetland Monitoring Program shall be categorized by the wetness index based on the Floristic Quality Assessment System for Southern Ontario.
- The results of the Wetland Monitoring Program shall be submitted to the MNRF and all appropriate agencies, as determined by MNRF, annually prior to December 31 until the re-alignment and rehabilitation is complete. It is recommended that, at a minimum, a 5-year monitoring plan upon completion of the wetland re-configuration plantings be undertaken.

The recommendations above will be implemented through the ARA licence and associated ARA Site Plans. These recommendations are included specifically on Drawing 4 of 6, Report Recommendations, Section E – Natural Heritage. MNRF will require that all detailed recommendations in the Technical Reports relative to monitoring will be addressed in the monitoring plan to be prepared in consultation with all regulatory authorities.

## 4.4 On Site and Adjacent Water Resources

The site is bisected by a warmwater tributary that runs south to north and crosses under Upper's Lane via a concrete box culvert. An evaluated non-provincially significant wetland complex exists along the watercourse corridor.

The headwaters of the existing watercourse on-site originate southeast of the Site near the Niagara Falls moraine. Across the Site, the gradient within the existing watercourse corridor is less than 1%.

The existing watercourse flows into Beaverdams Creek which is hydraulically connected to the portion of the Welland Canal. Stage elevations within this portion of Beaverdams Creek are subject to canal operational requirements. Most notably, Beaverdams Creek is virtually dry during the winter months when the canal is drained for maintenance. The use of Beaverdams Creek as a reservoir for the canal operation (i.e. the Welland Canal South Turn Basin) has led to the creation of wetland complexes (evaluated non-provincially significant) along the existing watercourse.

The existing watercourse flows only during precipitation or melt events. A number of small drainage features convey flows to the existing watercourse from the site, including flow through culverts under Thorold Townline Road.

Groundwater elevations range from 184.5 masl in the western portion of the proposed quarry site to 176 masl in the northern portion of the site during spring conditions, with a decrease in the order of 1 to 2 m during fall conditions.

The majority of the proposed quarry site has an overburden depth of 5 to 10 m. The aquifer overburden in the region is comprised of thick layers of dense slowly permeable clay soils, restricting the movement of water between surface water features and the groundwater. The exception to this is the northerly reach of the existing watercourse (north of Upper's Lane).

The closest off-site surface water feature to the proposed quarry site is a wetland situated at 5584 Beechwood Road, which Walker now owns (see **Figure 7**).

### 4.4.1 Water Quality

According to the Water Study Report, no adverse groundwater quality impacts are predicted as a result of the proposed quarry.

Chemicals or nutrients are not used during quarry operations. Limited quantities of fuel and petroleum products will be used on site as part of extraction operations. The Province requires that any licenced operation is subject to specific conditions that regulate fuel storage and requires a spill contingency plan be prepared and implemented[3]. Accordingly, a Spill Action Plan will be required to be implemented as set out on the Operational Plan, Section L (Spills Plan).

The ambient surface water quality in the existing watercourse on-site and Beaverdams Creek is generally in poor condition. Concentrations of total phosphorous and iron typically exceed the Provincial Water Quality Objectives (PWQO) for surface water. Other metals concentrations, including cobalt, copper, vanadium and zinc also regularly exceed their respective PWQO. The existing watercourse on-site is considered a Policy 2 receiver for these parameters under the PWQO.

Monitoring data indicates that the current conditions are generally poor. The groundwater in this area is typically hard, with mineralization increasing with depth. The proposed quarry dewatering discharge will be directed to the watercourse which flows northward of the proposed quarry site. Therefore, with groundwater flows being approximately 86% of flow, the discharge is predicted to improve overall water quality in these surface water systems.

Monitoring of the quarry sump discharge has been included in the proposed monitoring program and a trigger mechanism and contingency plan has been developed to mitigate potential impacts (e.g. groundwater inflows are collected in an internal ditch network and flow to a sump pond prior to discharging to the natural environment. Exposure to atmospheric

[3] Aggregate Resources Act, Ontario Regulation 244/97, 0.12 (3) (1 and 2)

conditions during this period typically allows hydrogen sulphide concentrations to dissipate naturally to acceptable levels prior to discharge).

The proposed quarry discharge will have a moderating effect on surface water temperatures. The existing watercourse on-site and Beaverdams Creek are considered warmwater habitat and cooler discharge water will not adversely impact warmwater species found to inhibit these watercourses.

### 4.4.2 Water Quantity

The proposed quarry will be developed below the natural groundwater table and, in order to maintain dry working conditions, the quarry will operate a dewatering system. Instead of water collecting on the quarry floor, water will be redirected and discharged to the existing watercourse and, once the watercourse is realigned, to the proposed watercourse. In addition, overland surface water flow from upstream catchment areas will be managed by the realigned watercourse and perimeter ditches (where required). Discharge will be controlled by the amount of water being pumped from the quarry. Once the quarry excavation is complete, the dewatering sumps will be decommissioned and the quarry cells will be allowed to fill naturally with precipitation and groundwater recharge. As such, the end use of the quarry is a series of lakes, a realigned watercourse corridor with enhanced wetlands and woodland areas. Discharge from the lakes to the realigned watercourse will be by gravity (i.e. no pumping) and governed by a constructed outlet.

A Permit to Take Water will be required to dewater the quarry and will include and regulate a detailed water management plan and monitoring program.

Under full development, there is a negligible change in the predicted net flow of other surface water features in the study area. Beyond the northerly reach of the existing watercourse, other surface water features in the study area are isolated from the underling aquifers such that even under full development, there is minimal impact predicted.

The wetland situated at 5584 Beechwood Road has been studied through the installation of monitoring wells. WSP and Stantec both conclude that this wetland is reliant on precipitation and is an isolated feature with no distinguishable surface water drainage channels. The rate of water movement through the confining layer between the wetland and the groundwater is very slow. Under full development conditions, the predicted change from under-draining is less than 2% which is not considered to be a negative impact on the wetland feature or its function.

Potential impact on water resources for domestic use is addressed in detail in WSP's Level 2 Water Study Report ("Water Study Report") and summarized below in Section 5.1 of this Report.

In a rehabilitated state, the surface water flow will be returned to the Beaverdams Creek system.

### 4.4.3 Water Management

The proposed quarry will be developed below the natural groundwater table and in order to maintain dry working conditions, the quarry will be dewatered.

The proposed dewatering involves the collection, transmission, treatment and discharge of water extracted from the proposed quarry as well as process water. A Permit to Take Water (PTTW) will be required to dewater the quarry. In addition, water that is pumped out of the quarry and discharged back into the watercourse is technically considered 'industrial sewage works' under the Ontario Water Resources Act. Accordingly, Walker will be required to obtain an Environmental Compliance Approval (ECA) from the MECP.

#### Stormwater

As set out in WSP's Water Study Report, overland surface water flow from the upstream catchment areas will be managed by the watercourse realignment design. This is further discussed in Section 4.5 of the Natural Channel Design prepared by Stantec, as follows:

> A valley berm on the east side of the proposed new valley alignment has been designed to contain the 100-year flow. The results from the 100-year event show that proposed conditions flood elevations were contained within the designed floodplain; however, the valley berm will overtop into the quarry upstream of the unopened road allowance for approximately 100 m in the Regional flood (see DWG C-202 and C-203 in Appendix B). The culvert under the unopened road allowance has been sized to convey flows up to the 100-year event (see Section 4.5.1). During a Regional flood event, the road allowance culvert creates a backwater upstream of the culvert. The design accommodates this backwater by providing a protected overtopping area between the valley berm and the quarry. During quarry operation any flow introduced into the quarry at the overtopping location by a Regional event will be pumped, treated, and returned to the creek. Upon quarry closure, any flow that overtops the valley berm at the overtopping location will discharge into the quarry lake. The quarry lake will ultimately have an outlet at the downstream end of the site and will discharge the overtopped Regional flows back into the creek.
>
> The shear stresses are highest at the downstream end of the culverts and on the side of the valley berm facing into the quarry. To limit scour and erosion in these areas, culvert substrate and berm protection has been sized based on these velocities and shear stresses (see section 4.7 of the Natural Channel Design prepared by Stantec).

Furthermore, the placement of culverts (under perimeter berms) and perimeter ditches will be refined and addressed on the ARA Site Plan, where necessary, to direct overland flow to the watercourse realignment or other existing tributaries downstream of the site.

During anticipated severe precipitation events, excess overland flow within the existing watercourse or watercourse realignment would be diverted to the quarry sump for temporary storage to prevent flooding around the proposed quarry site. During an anticipated precipitation event of 25 mm or more, the quarry sump pump will be deactivated, and the quarry will not discharge to either watercourse until the excess water has dissipated. This will prevent flooding along the existing watercourse downstream (north) of the Site.

### 4.4.4 Water Resource Monitoring

WSP sets out an extensive water quality and quantity monitoring program in their Water Study Report (see Table 1: Proposed Monitoring Program for more detail) that will be implemented if the applications are approved, including:

| | | | |
|---|---|---|---|
| **GROUNDWATER MONITORING** | | | |
| **Groundwater Level Monitoring** | 60 locations | Semi-annually<br>(May and October) | Water level measurement and logger download |
| **Groundwater Quality Monitoring** | 60 locations | Annually<br>(May)<br><br>Every 4 years - Lower Aquitard only | Samples |
| **Well Inspection** | 60 locations | Semi-annually<br>(May and October) | Check well / logger condition |
| **Private Supply Well Monitoring** | 11 locations + where additional permission is provided | Annually<br>(May) | Water level measurement and logger download<br>+<br>Samples |
| **SURFACE WATER MONITORING** | | | |
| **Stage / Flow Measurement** | 11 locations | Semi-annually<br>(May and October) | Water level measurement and logger download<br><br>Flow rate measured at 4 staff gauges |
| **Surface Water Sampling** | 6 locations | Semi-annually<br>(May and October) | Samples |

| | | | |
|---|---|---|---|
| **Sump Discharge Monitoring** | 1 location | Daily / monthly | Daily volume recorded;<br>Monthly sample analysed for quality |

An annual monitoring report summarizing all monitoring activities, an interpretation/analysis of the monitoring results and any recommendations for additional mitigation, will be produced for each calendar year. Monitoring will be undertaken during the operational phase of the quarry and until the licence is surrendered after final rehabilitation is achieved.

# 4.5 On Site and Adjacent Cultural Heritage Resources

### 4.5.1 Cultural Heritage

Cultural heritage resources consist of archaeological resources, built heritage resources, and cultural heritage landscapes. Significant cultural heritage resources are identified as resources that are valued for the important contribution they make to our understanding of the history of a place, an event, or a person.

Provincial, Region and City policies require that significant built heritage resources and significant cultural heritage landscapes be conserved and that significant archaeological resources are conserved by removal and documentation, or by preservation on site.

MHBC conducted a Cultural Heritage Impact Assessment and concludes:

1. The proposed extraction area does not contain any built heritage resources or cultural heritage landscape; therefore, no direct or indirect impacts are anticipated as a result of the proposed operation.

2. No adjacent properties are designated under the *Ontario Heritage Act* and one adjacent property is listed on the City's Non-Designated Register. There is a small pioneer cemetery located nearby. Both adjacent resources are located 200-250 m from the proposed quarry site.

Accordingly, the proposed quarry will not cause direct impacts on any significant built heritage resource or significant cultural heritage landscapes and there will be no potential impact on adjacent heritage resources.

### 4.5.2 Archaeology

The following archaeological assessments have been completed and registered with the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI):

| | Report Name | Author | Date of Report |
|---|---|---|---|
| 1 | Stage 1 Archaeological Resource Assessment of Walker Aggregates Proposed South Niagara Quarry, Part of Lots 102, 119, 120, 136 & 137 | Archaeological Services Inc. | December 2008 |
| 2 | Stage 1-2 Archaeological Assessment of Part 9764 Uppers Lane, Part of Lots 119 & 120 | Archaeological Assessments Ltd. | November 3, 2005 |
| 3 | Stage 2-3 Archaeological Assessment, Part of Lots 102, 119, 120, 136 & 137 | Archaeological Assessments Ltd. | November 21, 2012 |
| 4 | Stage 1-2 Archaeological Assessments, Upper's Quarry Additional Lands, Part of Lots 119 & 120* | Archaeological Research Associates Ltd. ("ARA Ltd") | April 20, 2020 |
| 5 | Stage 3 Mitigation of Development Impacts, Final Excavation Report, Walker XI (AgGt-411), Upper's Quarry | Archaeological Research Associates Ltd. | May 26 2021 |
| 6 | Stage 4 Mitigation of Development Impacts, Final Excavation Report, Walker IX (AgGt-178), Upper's Quarry | Archaeological Research Associates Ltd. | July 22, 2021 |

* summarizes previous archaeological assessments conducted on the proposed quarry site

A Record of Indigenous Engagement undertaken by Archaeological Research Associates Ltd. is also appended to the various Archaeology Reports.

Based on Archaeological Research Associates Ltd.'s assessment and the previous assessments, there are specific areas within the proposed quarry site that require further archaeological assessment. Archaeological Research Associates Ltd.'s assessment concludes and recommends the following:

- Given that there are no further concerns for impacts to archaeological sites within the majority of the proposed licence boundary, Archaeological Research Associates Ltd. recommended an avoidance strategy be implemented as part of its recommendation for partial clearance by the Ministry (MHSTCI). A partial clearance allows a decision to be made on the applications with the condition that sites identified for additional archaeological assessment will not be impacted until that work is carried out by a qualified archaeologist and clearance by the Ministry is provided.

- Areas identified for protection include each site and the central agricultural field with generally a 20 m protective buffer and a 50 m monitoring buffer.
- No ground alterations or development of any kind may occur with the identified protected areas until the required investigations are completed, recommendations that the site has no further cultural heritage value or interest are made and the associated reports are entered into the Ontario Public Register of Archaeological Reports.
- A temporary barrier is to be established around each protected area in advance of construction on-site.
- Soil disturbance activities may be permitted within the 50 m monitoring buffer provided that a licenced archaeologist monitors the activity to ensure the effectiveness of the avoidance strategy.
- Remaining archaeological fieldwork will be completed after the licence has been issued by the MNRF.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and the licencee is required to cease alteration of the site and engage a licenced archaeologist to carry out any further necessary fieldwork.

Recommendations made by Archaeological Research Associates Ltd. comprehensive and more recent assessments have been incorporated onto the proposed Site Plans.

# 5.0 LAND USE CONSIDERATIONS

The following sections of this report consider potential impact related to water wells, noise, blasting, air, visual, traffic, and how the proposed quarry has been designed to minimize potential impact on the surrounding land uses, domestic wells, water resources and any significant natural heritage features and their function.

## 5.1 Water Wells

A Level 2 Water Study Report (dated October 2021) ("Water Study Report") has been prepared by WSP. As part of WSP's assessment, potential impacts on local groundwater users and surface water features were studied and the following information was reviewed:

- Published studies;
- Available groundwater and surface water monitoring data from on-site wells;
- Available monitoring of private wells within the surrounding area (based on information included in the MECP water well information system and well monitoring data as part of the well survey program);
- Extensive drilling programs (advanced in 2004, 2011, 2016, and 2017) to improve the understanding of the local geology;
- An extensive hydraulic testing program was undertaken (2016 to 2019) both during borehole advancement as well as after the completion of the monitoring network;
- A steady-state numerical groundwater flow model was constructed to simulate baseline hydrogeological conditions. The calibrated baseline model was then modified to predict effects of quarry dewatering at both full quarry development and at final rehabilitation.

Based on this analysis, WSP concludes:

- The majority of the predicted area where groundwater levels will be drawn down (i.e. cone of influence) at full quarry development is within an area that is either currently serviced or planned for future servicing.

- Surface Water Quantity: No measureable effects to surface water quantity is predicted within the study area. Baseline data indicates there is minimal groundwater contribution to surface water features due to the presence of a thick clay upper aquitard. Specifically, as predicted, surface water takings at Beechwood Golf & Country Club will not be negatively impacted. Furthermore, no measureable effects are predicted for the mapped wetland feature situated at 5584 Beechwood Road east of the site due to the thick clay aquitard present beneath it. This wetland is reliant on direct precipitation to maintain wetland conditions.
- Surface Water Quality: Water quality within the existing watercourse and Beaverdams Creek is predicted by the proposed quarry discharge during the operational phase. Monitoring data indicates that the current conditions are generally poor. With groundwater flows being approximately 86% of flow, the discharge is predicted to improve overall water quality in these surface water systems.
- Groundwater Quality: No adverse groundwater quality impacts are predicted as a result of the proposed quarry. No chemicals are used in the processing or washing of aggregates. Limited quantities of fuel and petroleum products will be used on-site and will be managed according to applicable Ontario regulations. A spill action plan will be developed and implemented throughout all phases of quarry operations.
- Groundwater Quantity: Impacts on groundwater quantity is predicted to occur within a relatively limited un-serviced area between the urban boundaries of the City of Niagara Falls and the City of Thorold.
- Local Groundwater Users: Residents that currently rely on cisterns will not be impacted by the proposed quarry dewatering. The impact on local water well users in un-serviced portions of WSP's study area depends on the availability of water in wells during operations when the site is dewatered. For this assessment, it was determined that each well needs a minimum of 3 metres of available water to maintain its current use.
- A detailed well mitigation plan has been prepared by WSP for each parcel that may be potentially impacted in the un-serviced area (see Tables 2 and 3 in the Water Study Report).
- Deepened replacement wells and, in some cases, treatment would be provided to private well users that will be affected by drawdown from the quarry. Deepening replacement would take place if any private well is predicted to have a water column of 3 metres or less as a result of the quarry. Treatment would be provided by Walker in cases where the deepening of the well changes water quality (reducing quality) and if the well is being used for domestic water supply (vs. irrigation). The requirement for a Water Well Interference Mitigation Plan is set out on the proposed ARA Site Plans (Drawing 4 of 6, Water Study Notes) which will be implemented and regulated by MNRF through the ARA licence.

### 5.1.1 Water Well Interference Mitigation Plan

The proposed Water Well Interference Mitigation Plan will allow proactive mitigation in advance of any well being adversely impacted as a result of the proposed quarry. Prior to extraction, landowners will be provided with a copy of the Plan as well as contact information for the licencee and MECP. In the event a well interference claim is received, the licencee will be required to implement the Water Well Interference Mitigation Plan (as recommended by WSP) to protect local groundwater users[4].

## 5.2 Noise

An acoustical assessment was prepared by RWDI to assess potential noise impacts from the proposed quarry on surrounding noise-sensitive receptors.

The noise sources considered include:

- the working face and associated equipment and activity;
- the processing plant and associated equipment/activity;
- the conveyor (from working face primary crusher to processing plant);
- asphalt plant and associated equipment/activity;
- internal haul truck routes (between working face and plants);
- shipping truck routes (from plants to off-site and material received from off-site).

RWDI concluded that the sound levels due to the proposed quarry are predicted to comply with MECP noise standards at representative receptors with implementation of the following mitigation measures:

1. Minimum 3 metre tall perimeter berms be constructed as soon as possible around the proposed quarry during site preparation and prior to extraction.
2. The primary crusher should stay within 30 metres of the working face to maximize shielding effect of the quarry terrain.
3. Material extracted from the South Extraction Area shall be processed in the Mid Extraction Area.
4. While processing in Phase 4, Walker shall maintain an 8 m tall barrier at a radius of 40 m to the southeast of the processing plant secondary crushers (in the location shown in the RWDI Report and reflected on the Site Plans). The barrier can be material stockpiles, noise walls, or a combination of both. The barrier shall extend long enough to shield noise receptors (R4 and R5) from the secondary crushers. If crushers need to be moved for operational reasons, the barrier must be extended to block the additional line-of-

[4] Level 2 Water Study Report, WSP, Section 5.2.3

sight to both R4 and R5. The 40 metre radius from the barrier to the processing plant secondary crushers must also be maintained.

RWDI also recommended a number of best practices to minimize potential for construction noise impacts and complaints, including:

1. All construction equipment shall meet the sound emission standards defined in MECP Publication NPC-115.
2. Construction will be limited to time periods allowed by the City's applicable by-laws. If construction activities are required outside of these hours, the licensee will seek permits / exemptions directly from the City in advance.
3. All internal combustion engines will be fitted with appropriate muffler systems.
4. The licensee's operating procedures will contain a provision that any initial complaint will trigger verification that the general noise control measures agreed to on this Plan are in effect.
5. In the presences of persistent noise complaints, all construction equipment will be verified to comply with MECP's NPC-115 guidelines.
6. In the presence of persistent noise complaints and subject to the results of a field investigation, alternative noise control measures may be required, where reasonably available. In selecting appropriate noise control and mitigation measures, consideration will be given to the technical, administrative and economic feasibility of the various alternatives.

The above mitigation measures and best practice recommendations have been incorporated on the proposed ARA Site Plans.

## 5.3 **Blasting**

The Province has prescribed regulations that apply to all quarries to ensure that blasting impacts are minimized on surrounding land uses. In accordance with the prescribed regulations, the following will be required in this case:

(i) No blasting shall occur on a holiday, or between 6:00 pm and 8:00 am;

(ii) The licencee shall monitor all blasts for ground vibration and blast overpressure and prepare blast monitoring reports in accordance with provincial guidelines

(iii) The licencee shall retain the blast monitoring reports for a period of seven years after each blast.[5]

In addition to this, a blast impact assessment has been prepared by Explotech Engineering.

[5] Aggregate Resources Act, Ontario Regulation 244/97, 0.12 (5) (1 and 2)

The analysis concluded that the blasting operations for the proposed quarry can be carried out safely and within guidelines set by the MECP to protect surrounding buildings and structures.

Explotech Engineering has recommended that the following mitigation measures be implemented and have been included on the proposed ARA Site Plans:

1. An attenuation study shall be undertaken by an independent blasting consultant during the first 12 months of operation in order to obtain sufficient quarry data to confirm the initial guideline parameters and assist in developing future blast designs.

2. All blasts shall be monitored for both ground vibration and overpressure at the closest privately owned sensitive receptors adjacent the site, or closer, with a minimum of two (2) instruments – one installed in front of the blast and one installed behind the blast.

3. Blasts shall be designed to maintain vibrations below 13mm/s at the location of the closest identified active spawning bed as per DFO guidelines. When blasting during active spawning season, a minimum of one supplemental vibration monitor shall be installed on the shoreline closest to the spawning bed to confirm the vibration levels.

4. The guideline limits for vibration and water overpressure shall adhere to standards as outlined in the Guidelines for the Use of Explosives in or near Canadian Fisheries Waters (1998) or any such document, regulation or guideline which supercedes this standard.

5. All blasts shall be monitored for ground vibration at the adjacent TC Energy High Pressure Natural Gas Pipeline when blasting within 100 m of the pipeline or when calculations suggest vibrations in excess of 35 mm/s.

6. Blasts shall be designed to maintain vibrations at the transmission towers in the Hydro One Corridor below 50 mm/s or any such document, regulation or corporate policy in effect at the time. When vibration calculations suggest vibrations at the towers may exceed 35 mm/s, the towers shall be monitored for ground vibration.

7. Blasts shall be designed to maintain vibrations at the 4832 Thorold Townline Road utility buildings below 50 mm/s. When vibration calculations suggest vibrations at the utility buildings may exceed 35 mm/s, the buildings shall be monitored for ground vibration.

8. The guideline limits for ground vibration and air overpressure shall adhere to standards as outlined in the Model Municipal Noise Control By-law publication NPC 119 (1978) or any such document, regulation or guideline which supersedes this standard.

9. Orientation of the aggregate extraction operation shall be designed and maintained so that the direction of the overpressure propagation will be away from structures as much as possible.

10. Blast designs shall be continually reviewed with respect to fragmentation, ground vibration and overpressure. Blast designs shall be modified as required to maintain compliance with current applicable guidelines and regulations.

11. Detailed blast records shall be maintained in accordance with current industry best practices.

## 5.4 **Air Quality**

The Province has prescribed regulations that apply to all quarries to ensure that air quality impacts are minimized on surrounding land uses. In accordance with the prescribed regulations, the applicant is required to

(i) mitigate dust on site,

(ii) apply water (or another provincially approved dust suppressant) on any internal haul route and processing areas as often as required to mitigate dust

(iii) equipment that has the potential to create dust and is located within 300 m of a sensitive receptor must be equipped with dust suppressing or collection devices[6].

In addition to this, an air quality assessment has been prepared by RWDI to assess estimated emissions of key contaminants from on-site quarry operations.

For a quarry, the primary contaminant of interest is dust. All potential sources of emissions considered include:

- drilling and blasting operations;
- material crushing. screening, conveying and stockpiling;
- material handling (loaders, haul trucks and highway trucks);
- equipment travel over unpaved surfaces
- tailpipe emissions from on-site vehicles and heavy equipment;
- asphalt plant operations.

Through their assessment, RWDI concludes that with appropriate watering of internal haul routes, compliance with relevant Provincial criteria can be achieved at all off-site sensitive receptors.

[6] Aggregate Resources Act, Ontario Regulation 244/97, 0.12 (2) (1 and 2 and (6) (1)

The air quality assessment has recommended the following mitigation be implemented to ensure that any potential impacts on air quality are within acceptable limits:

1. The licencee shall apply water or another provincially approved suppressant will be applied to internal haul roads and processing areas as often as required to mitigate dust;
2. The licencee shall equip any processing equipment that creates dust with dust suppressing or collection devices, where such equipment is being operated within 300 m of a sensitive receptor;
3. The licencee shall obtain an Environmental Compliance Approval be obtained under the Environmental Protection Act where required to carry out operations at the quarry.
4. The site will operate in accordance with the Best Management Practices Plan (BMPP) for Fugitive Dust Emissions, which may be amended from time to time, considering actual impacts and operational considerations. The recommendations in the BMPP are based on the maximum daily production rates. At lower production rates, the control measures specified by the BMPP can be reduced accordingly, provided dust remains mitigated on site.
5. The BMPP will include the following mitigation measures:
    a. Blasting operations occurring within 300 m of a residential receptor shall have a smaller blast area, not exceeding 200 m2 in area;
    b. Aggregate extraction, processing and shipping does not exceed 9,000 tonnes per day.
    c. Under dry conditions, the capacity to apply water on an hourly basis to all travelled haul routes within the licence boundaries is required."

The above recommendations are reflected on the proposed Site Plans attached in Appendix E. (see Report Recommendations Plan, Note B, Air Quality Notes.

## 5.5 **Visual**

MHBC conducted a Visual Impact Assessment (separate report/author). Berms will be constructed around the perimeter of the proposed quarry to minimize visual impacts as well as mitigating noise levels and air quality emissions. The berms will be vegetated, and trees and shrubs will be planted on the berm to enhance their visual appearance and provide wildlife habitat. Furthermore, existing vegetation within the setback will be retained as much as possible to increase the effect of the visual screen.

As part of the first phase, the watercourse realignment channel along Thorold Townline Road will provide for an additional naturalized buffer once complete.

MHBC has recommended that the following mitigation measures be implemented and have been included on the proposed ARA Site Plans:

1. Where possible and to the extent to which it is present, existing vegetation located along the site perimeter and within the setback area should be retained.

2. The proposed 3 metre high acoustic berms and 2.4 metre high visual berms shall be established around the perimeter of the site as identified in the VIA. Berms shall be constructed in a smooth, rolling manner with varying highpoints (where space permits while respecting minimum height requirements), and variations along the berm frontage to create a more natural appearance. Berms shall be seeded with a naturalizing mix of wildflowers and grasses to stabilize slopes and minimize mowing and maintenance.

3. Where proposed on the VIA Mitigation Plan, trees should be planted as supplementary visual mitigation. Trees are to be planted at a spacing of 5 to 10 m on centre, depending on species. Plantings are to be randomly spaced and staggered up on the berm up to one third of its maximum height to appear more natural, where possible. Planting shall also extend a minimum of 3 m out from the berm towards the road where available space permits. All vegetation is to be selected for wind, salt and drought tolerance. Where appropriate, native non-invasive species that complement the existing surroundings are to be utilized wherever possible.

   The proposed at grade planting areas adjacent to the proposed culvert are to be a minimum of 6 metres wide at the culvert area and as shown on the VIA Mitigation Plan at the corner of the hydro corridor and Beechwood Road and consist of both coniferous and deciduous plant material. Shrubs and understory species shall be planted closer to the road with trees behind. For these planting areas, large planting stock is to be utilized.

   Where large planting stock are indicated, this shall mean deciduous trees of minimum 40 mm caliper, coniferous trees of minimum 1.5 m height, and shrub species of minimum 40 cm height.

   Where small planting stock are indicated, this shall mean deciduous tree whips of minimum 1.2 m height, coniferous trees of minimum 1.2 m height, and shrub species of minimum 20 cm height (or bare root stock when in season). (Note: Planting details for the above are included in the VIA and incorporated onto the ARA Site Plans).

   Berm planting shall occur for 40 m stretches on either side of the unopened road allowance facing Thorold Town Line Road and on either side of the internal entrances off of Upper's Lane. Large planting stock will be planted 3 m extending out from the berm and small planting stock shall extend from the toe of the berm to 2 m up the berm.

   Plant species for berms may include, but are not limited to the following:

Trees

| | | |
|---|---|---|
| White Pine | Common Hackberry | Chokecherry |
| White Spruce | Paper Birch | Pin Oak |
| Sugar / Silver Maple | Trembling Aspen | Basswood |
| White Cedar | Balsam Fir | American Larch |
| Eastern Hemlock | | |

Shrubs

| | | |
|---|---|---|
| Staghorn Sumac | Nannyberry | Common Ninebark |
| American Elder | Dogwood | Highbush Cranberry |
| Common Chokecherry | | |

4. To ensure survival and positive growth rate, the vegetative screening is to be maintained and managed appropriately so that it remains an effective visual screen over time. Allowance of natural succession to occur is encouraged, in keeping with restoration objectives.

5. During the first year, it is recommended that the planted trees and shrubs are watered and monitored until established. This establishment period is expected to last between 1-3 months depending on the planting period and weather conditions. After the first year and up to five years, it is recommended that the trees are inspected annually. This will be conducted to ensure any trees or shrubs which are in poor condition at the time, are fertilized, watered, and monitored, as needed, to improve their health and vigor.

6. Within the warranty period, 100% of all dead trees will be replaced. Within the subsequent maintenance period, it is expected that there may be a mortality rate of up to 15 % of all trees planted over the course of the five year maintenance period due to factors such as adjacent plant growth and natural succession. Trees that die exceeding this percentage shall be replaced yearly, preferably in the spring or late summer. With annual maintenance and monitoring, the trees will have the best chance of survival, and overall, it is anticipated that the need for tree replacements during the life of the operation will be reduced. In addition, if the death or decline of trees open up direct views into the Quarry, these trees shall be replaced even if there is a die off rate below 15 % of all trees.

   We note that the overall goal of this planting is to provide vegetated screening and begin the naturalization process of the area. We believe that the established 15% cut off for replacement provides a balance between maintaining the effectiveness of the planted area, and the practicality of managing such a large extent of planting. We further note that it is well accepted that dead trees serve an important role in ecosystem health and having a percentage below 15 % would not have a negative impact on the overall naturalization goals.

With these measures in place, the assessment concluded that views from public roadways, receptor homes and recreational uses into the proposed quarry will be effectively screened year round in a way that maintains the open landscape character and limits visual impacts.

# 5.6 **Traffic**

TMIG completed a Traffic Impact Study for the proposed quarry, which identified and evaluated two possible haul routes using Thorold Townline Road. The proposed haul route will not make use of Beechwood Road to the east of Upper's Lane.

The first option (Haul Route Option 1) would utilize Thorold Townline Road to the north of the site to Thorold Stone Road. From Thorold Stone Road, trucks would travel west via Thorold Stone Road to Highway 406 or trucks would travel north via Taylor Road to the Queen Elizabeth Way (QEW) or east via Thorold Stone Road to the QEW.

The second option (Haul Route Option 2) would also utilize Thorold Townline Road but to the south of the site to Lundy's Lane and then truck traffic would proceed west to Davis Road (provincial highway).

Haul Route Option 1 was determined to be the preferred option as it utilizes regional roads to access provincial highways and provides the most direct route to/from the quarry.

The proposed quarry entrance / exit is located on Upper's Lane. Truck traffic exiting the quarry will travel westbound on Upper's Lane and primarily northbound on Thorold Townline Road. From Thorold Townline Road, trucks will go west on Provincial Highway 58, continue north on Taylor Road or east on Thorold Stone Road. With exception of Highway 58, all of these roads are identified as "Regional" roads. See **Figure 8** for a preferred external haul route map. Thorold Townline Road has a planned function to accommodate truck traffic and larger volumes of traffic to connect areas within and outside of the Region.

For the purpose of the Traffic Impact Study, it was assumed that the proposed quarry would ship a maximum of 1,800,000 tonnes annually, which is the proposed maximum annual tonnage limit.

The proposed quarry will have restricted hours of operation and will generally utilize the existing Upper's Lane entrance and Thorold Townline Road, an existing haul route.

A Traffic Impact Study was prepared by TMIG that confirmed the following through its analysis:

- Truck traffic related to aggregate: Hourly truck traffic of up to 47 inbound and 31 outbound trucks during the a.m. peak hour and 31 inbound and 31 outbound trucks during the p.m. peak hour are predicted.
- Total traffic related to asphalt: Hourly truck traffic of up to 11 inbound and 7 outbound trucks during the a.m. peak hour and 7 inbound and 7 outbound trucks during the p.m. peak hour was predicted.

- Overall, the study area intersections operate well or at acceptable levels under all planning horizons.
- With adjustments to existing signal timing plans, all study intersections operate at acceptable levels under 2025 and 2035 background conditions. Some individual movements are approaching capacity but operate at acceptable levels of service.
- Some individual movements are approaching capacity, particularly under 2035 conditions, but still operate with acceptable delays of 80 seconds or less, indicating a Level of Service (LOS) 'E' or better.
- Some geometric changes and modifications to signal timing plans are recommended in order to address any capacity or queuing issues in order to allow for efficient movement of traffic through the study area.

In their TIS, TMIG recommends that the following be implemented:

Existing Conditions

1. It is TMIG's opinion that signals for the intersection of Thorold Townline Road and Beaverdams Road should be considered by the Region at this intersection under 2025 Background conditions.
2. Construction of an auxiliary southbound right turn lane at the intersection of Thorold Townline Road and Lundy's Lane by the 2035 background planning horizon was found to provide better overall operations at the intersection.
3. Interim adjustments to signal timings and introduction of protected phases could potentially negate the need for a southbound right turn lane, however, high volumes of southbound right-turning vehicles are predicted in 2035 that would benefit from a dedicated lane compared to the existing shared through/right turn lane.
4. There is opportunity to widen the existing 24 metre ROW at the Thorold Townline Road and Lundy's Lane intersection to the designated 26.2 metre road allowance to accommodate a southbound right turn lane. Furthermore, the Region may require road widening dedications in addition to the designated road allowances without the need for amendments to the Official Plan for purposes such as turning lanes at intersections.
5. It is recommended the Thorold Townline Road and Lundy's Lane intersection be monitored in the future to determine whether constructing the dedicated southbound right turn lane would be the most appropriate solution to accommodate background development traffic volumes within the vicinity of the intersection.

Future Conditions (2025 & 2035)

6. With adjustments to existing signal timing plans, all study intersections operate acceptably under 2025 and 2035 total conditions. Some intersections/movements are approaching, or are at capacity, but operate at acceptable levels of service.
7. The proposed access design will be constructed in 2025 prior to the quarry becoming active. The proposed access design provides deceleration and accelerations lanes northbound at the site access (via Upper's Lane). A slip around lane is provided southbound, thus accommodating left-turning vehicles into the site and preventing blockage of through traffic at the site access.
8. The southbound queue at Thorold Stone Road and Thorold Townline Road should be monitored in 2035 to determine if any upgrades to the intersection are needed to address the potential for long queues to build up (southbound left experiences a queue up to 160m according to simulations). The long southbound left queue buildup does not occur under 2025 total conditions when Upper's Quarry is active, as such, quarry related traffic is **not** the cause of the long queues predicted in 2035.
9. In general, it is suggested that the Thorold Townline Road and Beaverdams Road intersection be monitored for signalization in 2025, and that signals be installed prior to the 2035 planning horizon (i.e. prior to the combined full build-out of the Rolling Meadows development, Thorold Townline Road Employment Lands, and the proposed Upper's Lane Quarry).

The recommendations above are attributed to existing and forecasted conditions that are not triggered by the proposed quarry.

Therefore, while these recommendations are to address existing and future conditions, they are unrelated to the proposed quarry and the only road improvements that are required for the proposed quarry are the improvements at the proposed entrance / exit and widening of Thorold Townline Road at the Upper's Lane intersection. As a result, the following note has been incorporated into the Report Recommendations Plan, Traffic Notes under Section F (Appendix E):

"Prior to commencement of extraction operations, the required entrance, improvements, road improvements and road widenings (to Thorold Townline Road) shall be completed to the satisfaction of the applicable road authorities and in general accordance with the figures titled "Uppers Lane Conceptual Intersection Design" and "Uppers Lane Vehicle Movement Diagram" provided on this drawing".

# 5.7 **Utilities**

Two major utility corridors run adjacent to the proposed quarry site: (i) the Trans Canada Pipeline corridor (runs along the north perimeter of the proposed licence boundary) and (ii) a hydro corridor (runs along the south perimeter of the proposed licence boundary).

Utility corridors (Niagara Peninsula Energy Inc. Hydro One Networks Inc. and Bell Canada) also exist along Upper's Lane. Walker has consulted with these utility companies and is committed to providing easements and/or entering agreements in order to reconcile relocation, removal or use of utilities as part of the land transfer should a licence be approved on these lands.

## 5.7.1 Hydro Corridor

MHBC consulted with Hydro One and confirmed that the proposed 15 m setback is sufficient in protecting their facilities within the adjacent corridor.

## 5.7.2 Trans Canada Pipeline Corridor

MHBC consulted with TransCanada Pipeline (TCPL) and the following is included with the proposal to address their requirements:

- Blasting Impact Assessment prepared by Explotech (dated October 2021, updated April 2024);
- ARA Site Plans have included the following requirements in accordance with TCPL comments dated November 17, 2023:
    i) The licencee shall notify TCPL if it intends to blast within 300 metres of their right-of way (easement). No blasting shall occur until written consent is obtained from TCPL.
    ii) Any other work (other than blasting) within 30 metres of TCPL's right-of-way requires written consent from TCPL.
    iii) Crossing of the TCPL right-of-way with vehicles is not permitted without written consent from TCPL
    iv) No material extraction shall be permitted within 30 metres of TCPL's right-of-way without written consent from the Canada Energy Regulator (CER).
    v) No buildings or structures shall be constructed anywhere on TCPL's right-of-way. Permanent buildings and structures shall be located a minimum of 7 metres from the edge of the TCPL right-of-way. Temporary or accessory buildings and structures shall be located a minimum of 3 metres from the edge of the right-of-way.
    vi) A minimum setback of 7 metres from the nearest portion of a TCPL pipeline right-of way shall also apply to any parking area or loading area, including any parking spaces, loading spaces, stacking spaces, bicycle parking spaces, and any associated drive aisle or driveway.

## 5.8 **Alternative Site Analysis**

An Alternative Site Analysis has also been prepared by MHBC to address Policy 2.5.4.1 of the PPS related to alternative agricultural sites, with input from Colville and Associates, that concludes the following:

1. Other alternatives have been considered within the market area by the applicant and found other sites to be unsuitable in comparison to the proposed site for reasons set out in the Analysis.
2. The proposed Upper's Quarry is consistent with Policy 2.5.4.1 of the Provincial Policy Statement

## 5.9 **Economic Benefits**

Prism Economics and Analysis prepared an Economic Benefits Analysis that reviews the economic benefits of the proposed Upper's Quarry, including employment, tax revenue and licence fees, close to market supply and revenue contributions for education.

The key findings of the Analysis are as follows:

- An estimated 84 person –years of employment will be generated directly and 64 person-years of employment in support industries that manufacture materials used at the quarry;
- An estimated 20 full-time jobs will be generated in Niagara Falls and Thorold and an additional 9 trucking jobs will be created for the quarry;
- The City of Niagara Falls will receive an estimated $31,000 to $41,000 of revenue annually over a period of 40 to 50 years;
- Niagara Region will receive an estimated $38,000 to $51,000 of revenue annually over a period of 40 to 50 years;
- Indirect benefits to the City and Region include reduced transportation distances to bedrock aggregate supply helps to minimize construction costs for projects in the City and Region, and provincial taxes generated from the project that will be directed to education, including schools located in the Region.

# 6.0 PLANNING ANALYSIS

The proposed quarry is located within the City of Niagara Falls in Niagara Region. Based on the location of the site, the proposed quarry is subject to the:

- Growth Plan;
- Provincial Policy Statement;
- Section 2, Planning Act;
- Niagara Region Official Plan;
- City of Niagara Falls Official Plan; and,
- City of Niagara Falls Zoning By-law.

The proposed quarry site is also situated immediately adjacent to the City of Thorold. Therefore, policies relating to the land use designations and zones on the adjacent lands in Thorold have also been reviewed and assessed.

The proposed quarry site is outside of the Niagara Escarpment Plan Area and the Greenbelt Plan Area.

The following is an assessment of the proposed quarry relative to the policies and provisions of these documents.

## 6.1 Growth Plan

The proposed quarry is located within the Greater Golden Horseshoe (GGH) Growth Plan Area. The Growth Plan for the Greater Golden Horseshoe was approved through an Order in Council under the *Places to Grow Act* and took effect on May 16, 2019. Amendment 1 (2020) to the Growth Plan (2019) was approved and took effect on August 28, 2020. Any decisions made on the proposed ROPA/OPA/ZBA applications are required to conform with the Growth Plan (2019) as amended by Amendment 1 (2020) (referred to herein as "Growth Plan").

The following are excerpts from the Growth Plan that are relevant to the proposed Upper's Quarry.

> **"1 Introduction**
>
> **1.1 The Greater Golden Horseshoe**

**The Greater Golden Horseshoe (GGH) is one of the most dynamic and fast-growing regions in North America. It is the destination of choice for many people and businesses relocating from other parts of Canada and around the world. They settle here because of the high quality of life and the economic opportunities. This is a place of prosperity where, through their skills and talents, people are building a greater future for themselves." (1.1)**

**"As the GGH grows and changes, we must continue to value what makes this region unique to ensure the sustained prosperity of Ontario, its people, and future generations. While growth is an important part of vibrant, diversified urban and rural communities and economies, the magnitude of growth that is expected over the coming decades for the GGH presents several challenges:**

- **Increased demand for major infrastructure investments driven by population growth, the need to renew aging infrastructure and continuing infrastructure deficits associated with low-density urban sprawl, combined with relatively scarce financial resources, means an ever greater imperative to plan to optimize existing assets and make the best use of limited resources by considering full life cycle costs.**
- **Increased traffic congestion, and the resulting delays in the movement of people and goods in the GGH, is costing billions of dollars in lost GDP every year…**
- **…The impacts of changing climate are already being felt. Communities and infrastructure must be adapted to be more resilient, greenhouse gas emissions across all sectors of the economy need to be reduced, and valuable water resources and natural areas need to be protected." (1.1)**

*Comment*: The GGH currently has an infrastructure deficit that is tens of billions of dollars beyond current levels of investment[7]. Mineral aggregates will be required to build and maintain new and existing infrastructure needed to support projected population growth in the Province.

Section 4.1 of the Growth Plan discusses "Protecting What is Valuable". In part, Section 4.1 states:

**"4.1 Context**

**The GGH contains a broad array of important hydrologic and natural heritage features and areas, a vibrant and diverse agricultural land base, irreplaceable cultural heritage resources, and valuable renewable and non-renewable resources. These lands, features and resources are essential for the long-term quality of life, economic prosperity, environmental health, and ecological integrity of the region.**

[7] Supply and Demand Study of Aggregate Resources Supplying the Greater Golden Horseshoe, prepared by Golder Associates for the Ministry of Natural Resources and Forestry, dated August 2016, pg. 150

**They collectively provide essential ecosystem services, including water storage and filtration, cleaner air and habitats, and support pollinators, carbon storage, adaptation and resilience to climate change…**

**…Through their historic relationship with the lands and resources in this region, Indigenous communities have gained traditional knowledge that is of value to the planning decisions being made today. A balanced approach to the wise use and management of all resources, including those related to water, natural heritage, agriculture, cultural heritage, and mineral aggregates, will be implemented in the GGH…**

**…Building compact communities and the infrastructure needed to support growth requires significant mineral aggregate resources. The Aggregate Resources Act establishes the overall process for the management of mineral aggregate operations, and this Plan works within this framework to provide guidance on where and how aggregate resource extraction can occur, while balancing other planning priorities. The GGH contains significant deposits of mineral aggregate resources, which require long-term management, including aggregate reuse and recycling. Ensuring mineral aggregate resources are available in proximity to demand can support the timely provision of infrastructure and reduce transportation-related greenhouse gas emissions".**

*Comment*: Borehole testing on-site confirms that the proposed quarry site contain an estimated 60 M tonnes of high quality dolomitic bedrock product that will provide many decades of aggregate reserves for Niagara Region close to market. Due to the location of the quarry and the high quality of the resource, this site is considered an important provincial source of aggregate.

Section 4.2.8 of the Growth Plan outlines the policy considerations related to mineral aggregate resources. Based on the provisions of the Growth Plan, the province has established a policy framework that differs depending on the type of mineral aggregate operation that is proposed. There are four types of applications:

- new mineral aggregate operations within the natural heritage system;
- expansions to existing mineral aggregate operations within the natural heritage system;
- new mineral aggregate operations outside of the natural heritage system; and,
- expansions to mineral aggregate operations outside of the natural heritage system.

As shown on **Figure 9**, no portion of the proposed quarry site is within the *Natural Heritage System for the Growth Plan* according to mapping issued by the Province in February 2018. This is confirmed by the Ministry of Municipal Affairs and Housing in their letter to Walker dated January 18, 2021 (attached in **Appendix G**).

As shown on **Figure 10,** the proposed quarry site is entirely within a *prime agricultural area*, according to provincial mapping.

Accordingly, the proposed quarry is considered a new mineral aggregate operation, outside of the *Natural Heritage System for the Growth Plan* but within a *prime agricultural area*. Therefore, for clarity, Policies 4.2.8.2 and 4.2.8.5 do not apply and Policies 4.2.8.3, 4.2.8.4, and 4.2.8.6 do apply as follows.

> **"4.2.8 Mineral Aggregate Policies**
>
> **3. In *prime agricultural areas*, applications for new *mineral aggregate operations* will be supported by an *agricultural impact assessment* and, where possible, will seek to maintain or improve connectivity of the *Agricultural System*".**

An agricultural impact assessment has been prepared by Colville Consulting Inc. in relation to the proposed quarry. In these circumstances, permission to remove prime agricultural lands for the purpose of below-water extraction is set out in the Growth Plan and the PPS subject to meeting certain criteria.

As concluded in the agricultural impact assessment, a substantial amount of high quality bedrock resource exists below the water table, there is a lack of appropriate alternative site alternatives in the market area, the majority of the proposed quarry site is rated CLI Class 3 lands (i.e. lowest classification of prime agricultural lands) and the net impact on surrounding farmlands are minimal given the proximity of urban areas and other rural uses (including golf courses and Walker's existing quarry). The proposed quarry will be using Thorold Townline Road as a haul route which is already in use and is intended and designed for high traffic volumes as well as large vehicle traffic.

> **"4.2.8 Mineral Aggregate Policies**
>
> **4. For rehabilitation of new *mineral aggregate operation* sites, the following apply:**
>
> **a) the disturbed area of a site will be rehabilitated to a state of equal or greater *ecological value* and, for the entire site, long-term *ecological integrity* will be maintained or enhanced;**
>
> **b) if there are *key natural heritage features* or *key hydrologic features* on the site, or if such features existed on the site at the time of the application:**
>
> **i. the health, diversity, and size of these *key natural heritage features* and *key hydrologic features* will be maintained or enhanced; and**

**ii. any permitted extraction of *mineral aggregate resources* that occurs in a feature will be completed, and the area will be rehabilitated, as early as possible in the life of the operation";**

**c) aquatic areas remaining after extraction are to be rehabilitated to aquatic enhancement, which will be representative of the natural ecosystem in that particular setting or ecodistrict, and the combined terrestrial and aquatic rehabilitation will meet the intent of policy 4.2.8.4 b); and**

**d) outside the *Natural Heritage System for the Growth Plan*, and except as provided in policies 4.2.8.4 a), b) and c), final rehabilitation will appropriately reflect the long-term land use of the general area, taking into account applicable policies of this Plan and, to the extent permitted under this Plan, existing municipal and provincial policies. In *prime agricultural areas*, the site will be rehabilitated in accordance with policy 2.5.4 of the PPS, 2014.**

*Comments*:

In order to address 4.2.8.4(a), the EIS prepared by Stantec concludes that through recommended measures of avoidance, mitigation, rehabilitation and enhancements, the site will be rehabilitated to a state of greater ecological value (net gain) and, for the entire site, long term ecological integrity will be maintained and enhanced.

In this case, 4.2.8.4(b) (i) and (ii) apply as the EIS confirms that the following *key natural heritage features* and *hydrologic feature* (as defined in the Growth Plan) are situated on the site (pre and post realignment):

- fish habitat
- significant wildlife habitat (non-SAR Bat Maternity Colony and Monarch)
- wetlands (non-provincially significant)

The EIS demonstrates that Policies 4.2.8.4(b) (i) and (ii) will be achieved through the proposed quarry design including appropriate setbacks, phasing and transitional requirements, mitigation incorporated into the proposed realignment and associated enhancements and proposed reforestation. Through a combination of the mitigation measures proposed, the health, diversity and size of these features will be maintained and enhanced as early as possible in the life of the operation. Further enhancement measures will be implemented once full rehabilitation is complete, as set out in detail in the EIS and on the proposed ARA Site Plans.

In this case, 4.2.8.4(c) above applies as there will be aquatic areas remaining after extraction. As recommended by the EIS and detailed on the Rehabilitation Plan, the watercourse realignment corridor and lakes will be representative of the natural

ecosystem in the overall ecodistrict. The proposed rehabilitation, including the design of the waterfront realignment corridor, will further enhance the ecological value of the aquatic areas existing on the site, by providing additional wetland areas and shoreline wetland areas around lake edges.

Policy 4.2.8.4(d) applies as the proposed quarry site is situated outside of the *Natural Heritage System for the Growth Plan*. Further, as the lands are within a *prime agricultural area* (as mapped by the province), the site is to be rehabilitated in accordance with Policy 2.5.4 of the PPS. According to Policy 2.5.4 of the PPS, complete rehabilitation to an agricultural condition is not required in this case given that: (i) there is a substantial quantity of mineral aggregate resource below the water table warranting extraction and the depth of planned extraction makes restoration of pre-extraction agricultural capability unfeasible and (ii) other alternatives have been considered and found unsuitable.

Final rehabilitation of the quarry will return the lands to natural features (i.e. lake(s), wetlands, enhanced riparian corridor with naturalized watercourse channel, larger contiguous woodlands on-site and off-site, enhanced interior habitat off-site and proposed linkages amongst these proposed enhancements), all of which reflects the City's overall long-term vision for heritage feature protection and enhancement (post-extraction).

**"4.2.8 Mineral Aggregate Policies**

**6 Except as provided by the policies of this subsection, decisions on planning matters must be consistent with the policies in the PPS that pertain to the management of *mineral aggregate resources*".**

*Comment*: In accordance with Section 4.2.8.6, the application must be consistent with the policies of the PPS. The following section of this report outlines how the application is consistent with the PPS and therefore the application conforms to the policies of the Growth Plan.

**In summary, for reasons set out in this Report, the proposed quarry conforms to the Growth Plan.**

## 6.2 Provincial Policy Statement (2020) ("PPS")

The PPS was issued under Section 3 of the *Planning Act* and came into effect on May 1, 2020. Any decisions made on the proposed ROPA/OPA/ZBA applications are required to be consistent with the PPS.

The PPS provides policy direction on matters of provincial interest related to land use planning and development, as set out in section 2 of the Planning Act. The PPS provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment (Part 1, Preamble).

The PPS is a policy-led planning approach that recognizes and addresses the complex inter-relationship among environmental, economic and social factors in land use planning. The PPS supports a comprehensive, integrated and long-term approach to planning and recognizes linkages among policy areas. The PPS is more than a set of individual policies. It is to be read in its entirety and the relevant policies are to be applied to each situation. When more than one policy is relevant, a decision maker should consider all of the relevant policies to understand how they work together. (Part III, How to Read the PPS).

The PPS recognizes that the Province's natural heritage resources, water resources, agricultural lands, mineral resources, and cultural heritage and archaeological resources provide important environmental, economic and social benefits. The wise use and management of these resources over the long term is a key provincial interest. The Province must ensure that its resources are managed in a sustainable way to conserve biodiversity, protect essential ecological processes and public health and safety, provide for the production of food and fibre, minimize environmental and social impacts, provide for recreational opportunities and meet its long-term needs (Part IV, Vision for Ontario's Land Use Planning System).

The proposed Upper's Quarry is consistent with the PPS for the following reasons:

- The management or use of mineral aggregate resources is a permitted use in the rural area. The proposed quarry will utilize rural infrastructure already in place (i.e Thorold Townline Road as a haul road) and represents wise management of a non-renewable resource (Policy 1.1.4.1 a and 1.7.1 c);
- The proposed quarry represents an efficient use of existing infrastructure by utilizing Thorold Townline Road, a Regional Road and existing haul route (Policies 1.1.4.1 e), 1.6.7.2, 1.6.8.2);
- The proposed quarry optimizes the long term availability of mineral aggregate resources, utilizes existing infrastructure and has been appropriately designed, buffered and/or separated to prevent or mitigate adverse effects on sensitive land uses (Policy 1.2.6.1);
- Making this identified potential mineral aggregate resource area (bedrock) available for extraction represents the wise use and management of resources, providing economic benefits, while minimizing potential impacts (Section 2.0);
- The proposed quarry will protect natural features in the long term and ensure no negative impacts to significant natural heritage features and their ecological function. Proposed rehabilitation will maintain, restore and, where possible, will enhance the diversity and connectivity of natural features identified on-site and in the area and

recognizes the linkages between the natural heritage features, and protects surface water features and ground water features (Policies 2.1.1, 2.1.2)

- The EIS concludes that there will be no negative impact on significant wildlife habitat or its ecological function (2.1.5).
- There are no provincially significant wetlands, significant woodlands, significant valleylands, or significant areas of natural and scientific interest located on site and any significant wetlands and woodlands on adjacent lands will be protected from negative impacts (Policy 2.1.4, 2.1.5, 2.1.8).
- Although evaluated non-provincially significant wetlands and a regionally-significant woodland will be removed, the EIS concludes that, through enhancement and rehabilitation, there will be no negative impact on the ecological function of these features (2.1.4, 2.1.5);
- Fish habitat will be relocated through the realignment of the existing watercourse which has been subject to preliminary DFO review. Under Section E on the Extraction Sequence Plan, Note E.2 (Appendix E) requires that development and site alteration will not be permitted in fish habitat until such time that DFO has issued an Authorization for the works (Policy 2.1.6);
- Habitat of endangered and threatened species (Barn Swallow) will be replaced through authorization under the Endangered Species Act using proven ecological enhancement measures for these species in Ontario and resulting in a net benefit to the species (2.1.7);
- The proposed quarry has been designed to take into account potential impacts of dewatering within the area of influence and appropriate mitigation has been incorporated into the Site Plans to ensure that the proposed quarry will not adversely impact the quality and quantity of ground and surface water, relative to the environment and to water users. In the long term, the proposed rehabilitation of the quarry will restore groundwater levels to an extent there will be no adverse impact in the long term. As set out under Section P (Report Recommendations), Water Study Notes, the following will be required to be implemented during the life of the quarry as set out in detail in WSP's Water Study Report:
    - A long term monitoring program
    - A well interference plan
    - A spill action plan
    - A trigger mechanism and contingency plan (Policy 2.2.1.a);
- The proposed Upper's Quarry is located within the Beaverdams Watershed within the Niagara Region Conservation Authority. The application has taken into consideration potential impacts to the watershed and it has been determined that potential impacts to the watershed will be minimized through implementation of the measures noted above (Policy 2.2.1 b)

- The EIS and Water Study Report coordinated their findings and recommendations to ensure that the proposed quarry will maintain linkages and related functions among water and natural heritage features during extraction (dewatering) and post-dewater lake filling. This is largely due to the presence of a thick, clay overburden on the majority of the site. In areas where there will be groundwater influence, discharge will compensate for any loss in the operational and post-rehabilitation scenarios (Policy 2.2.1 e and 2.2.2);
- There are no municipal drinking water supplies or designated vulnerable areas in the vicinity of the proposed quarry (Policy 2.2.1.f.1);
- The proposed quarry is an area identified as a potential mineral aggregate resource area (stone) (Policy 2.5.1);
- The proposed quarry makes available high quality mineral aggregate resource that is close to market to serve Niagara Region (Policy 2.5.2.1);
- The operation has been designed in a manner which minimizes and mitigates and potential social, economic and environmental impacts (2.5.2.2);
- Aggregate recycling is included in proposed operations (2.5.2.3)
- Adjacent lands within the City of Thorold Urban Area provide for appropriate 'Aggregate Impact Area' policy that recognize the proposed quarry site as a resource area. The Rolling Meadows Secondary Plan requires that: as the Secondary Plan Area lands develop with sensitive land uses in proximity of the proposed quarry site, that such development does not preclude or hinder the establishment of a quarry on the proposed site (2.5.2.5)
- Final rehabilitated use of the proposed quarry will be a lake, a riparian corridor, wetland and larger contiguous woodland which is compatible with the surrounding lands and will increase long term biodiversity in the area (Policy 2.5.3.1);
- According to the EIS, the 2.0 ha woodlot on-site is not considered 'significant woodlands' based on the definition of the PPS, which is:

  Significant: means

  b) in regards to woodlands, an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. These are to be identified using criteria established by the Ontario Ministry of Natural Resources and Forestry";

  Therefore, for purposes of determining consistency with PPS policy, 'significance' relative to PPS policies is evaluated by applying criteria established by the MNRF. The criteria established by the MNRF is contained within the Natural Heritage Reference

Manual. Based on Stantec's evaluation of the criteria set out in the NHRM, the 2.0 ha woodlot would not be considered 'significant' by definition under the PPS.

- With that said, the proposal as revised would be consistent with the PPS even if the woodlot was considered 'significant' by definition under the PPS, as follows:
    - We have revised the rehabilitation plans to initiate off-site mitigation plantings as early as possible and enhanced the amount and location of proposed mitigation to allow for additional ecological enhancement to compensate and mitigate the proposed removal of the 2.0 ha woodlot through rehabilitation (according to Policy 2.5.3.1 of the PPS).
    - In the case of aggregate resource applications, Policy 2.5.3.1 of the PPS also needs to be considered in addition to Policy 2.1.5 as well as the definition of "significant". Therefore, when considering 'mitigation for negative impact' in this case, the rehabilitation and the fact that the loss will be temporary is to be taken into account: "Whether the mitigation measure is called reforestation, afforestation, replacement, net gains or compensation (in this case) is not important. The PPS test is whether the mitigation activity being proposed has the ability to remove or ameliorate any negative impacts that 'threatens the health and integrity of the natural features or ecological functions for which an area is identified and whether the mitigation measures will result in enhanced beneficial effects"[8].
    - Through the revised EIS, Stantec demonstrates that it meets this test through proposed off-site on on-site mitigation including the consideration of the timing and location of mitigation relative to the timing and location of removing the on-site feature. The updated EIS recommendations for enhanced mitigation have been incorporated onto the enclosed Site Plans.
- Walker has viewed the proposed quarry with their other operations comprehensively in terms of availability of resource and rehabilitation. This proposed quarry is intended to replace Walker's other quarry nearby that is nearing completion (Policy 2.5.3.2);
- The proposed quarry site contains primarily Class 3 soils and is considered to be within a prime agricultural area. Complete rehabilitation to an agricultural condition is not required provided certain criteria are met. In this case, a substantial quantity of mineral aggregate resources is located below the water table warranting extraction which makes the restoration of pre-extraction agricultural capability unfeasible. In addition, other alternative sites have been considered by the applicant and found to be unsuitable compared to the proposed quarry site (Policy 2.5.4.1);
- There are no significant built heritage resources or significant cultural heritage landscapes located within the proposed quarry area. Adjacent resources are minimal and located 200-250 m from the proposed quarry site. The proposed quarry will not

[8] Office of Consolidated Hearings Decision, Case No. 08-094, pgs. 58 and 59

cause direct impacts and there is no potential impact on adjacent heritage resources (Policies 2.6.1, 2.6.3);

- It has been determined that there are no further concerns for impacts to archaeological sites within the majority of the proposed licence boundary. Certain areas have been identified on the proposed Site Plans where additional archaeological assessment is required before any development or site alteration may be permitted in those areas, including a 20 m protective buffer and a 50 m monitoring buffer. A temporary barrier will be established around each protected area and any necessary remaining archaeological fieldwork will be completed after the licence has been issued. No (2.6.2).
- Walker and Archaeological Research Associates Ltd. (ARA Ltd) have engaged with Indigenous communities with interest in the project (see **Appendix J**) Representatives for these communities were also provided with the Archaeological Assessments submitted by ARA Ltd to the Ministry of Heritage, Sport, Tourism and Culture Industries (2.6.5)
- Appropriate mitigation has been incorporated into the design of the realignment of the watercourse in order to ensure safe operational conditions and to ensure there are no future damages off-site resulting from potential flooding or erosion hazards (Policies 3.1.1, 3.1.2); and,
- The proposed quarry represents the wise use and management of an aggregate resource in an area where there are no known or suspected hazards. (Policy 3.2.1).

**In summary, for reasons set out in this Report, the proposed quarry is consistent with the Provincial Policy Statement.**

## 6.3 Section 2, Planning Act

Section 2 of the Planning Act requires that a municipality or other approval authority shall have regard for matters of Provincial interest when carrying out their responsibilities. The proposed applications have had appropriate regard to matters of Provincial interest as follows:

| **Provincial interest** | | **Comments** |
|---|---|---|
| (a) | the protection of ecological systems, including natural areas, features and functions | Extensive field work and analysis has been completed by Stantec and WSP to gain an understanding of the relevant ecological systems and natural areas on-site and how they are supported by groundwater and surface systems in the surrounding area.<br><br>Based on that review, the proposed quarry has been designed and appropriate |

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| | | provisions for mitigation and monitoring, have been incorporated onto the Site Plans to protect ecological systems and significant natural features and functions in accordance with provincial and municipal policies. |
| (b) | The protection of agricultural resources of the Province | The main impact to agriculture is the removal of agricultural lands. However, this removal is contemplated by Provincial Policy in cases where the quantity and quality of aggregate resource exists below the water table and there is a lack of suitable alternative sites within the market area on lower quality agricultural land.<br><br>OMAFRA have reviewed the proposed applications and the Agricultural Impact Assessment and determined that it has no concerns. |
| (c) | The conservation and management of natural resources and the mineral resource base | The availability of mineral aggregate is a matter of provincial interest. With remaining reserves to be deleted in the not too distant future at the nearby Walker Brothers Quarry, the proposed quarry will secure an ongoing supply of high quality bedrock resource within Niagara Region and the City of Niagara Falls for the long term.<br><br>Licencing of the proposed quarry represents wise resource management close to market and in a manner that minimizes social and environmental impacts. |
| (d) | The conservation of features of significant architectural, cultural, historical, archaeological or scientific interest | The proposed quarry will not cause direct impacts on any significant built heritage resource or significant cultural heritage landscapes and there will be no potential impact on adjacent heritage resources.<br><br>Based on Archaeological Research Associates Ltd.'s assessment and the previous assessments, there are specific areas within the proposed quarry site that require further archaeological assessment. Given that there are no further concerns for impacts to |

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| | | archaeological sites within the majority of the proposed licence boundary, an avoidance strategy will be implemented through a partial clearance by the Ministry (MHSTCI). A partial clearance allows a decision to be made on the applications with the condition that sites identified for additional archaeological assessment will not be impacted until that work is carried out by a qualified archaeologist and clearance by the Ministry is provided.<br><br>As set out on the Site Plans, where a specific area has been identified for further Stage 3 and, in some cases, Stage 4 assessments, the additional assessments will be undertaken as recommended upon issuance of the proposed licence and before any site alteration occurs in these areas, a 20 m protective buffer and a 50 m monitoring. |
| (e) | The supply, efficient use and conservation of energy and water | Potential impacts on surface water and groundwater supply have been analysed and recommended mitigation requirements have been incorporated onto the proposed Site Plan for implementation upon licence issuance and throughout the life of the quarry. |
| (f) | The adequate provision and efficient use of communication, transportation, sewage and water services and waste management systems | The proposed quarry will utilize existing haul routes. TYLin (formerly TMIG) confirmed that with existing and forecasted traffic levels, there is an acceptable level of service on area roadways subject to improvements being made to Upper's Lane and the intersection of Upper's Lane and Thorold Townline Road. |
| (g) | The minimization of waste | Overburden removed from the proposed quarry will be used in the construction of berms. Water supply and quality will be monitored throughout the duration of operations. Water used for washing of aggregate will be recycled through a closed loop system. The proposed extraction area will eventually be rehabilitated to a natural |

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| | | area, including a lake and shoreline wetlands. Wastes will be minimized. |
| (h) | The orderly development of safe and healthy communities | Approval of the proposed Applications will have no impact on the "orderly development" of nearby communities. The proposed quarry is situated within an identified resource area in the Niagara Region Official Plan. The lands are situated outside the Urban Area and not identified as part of any proposed expansion to the Urban Area identified in the Region's recently approved Official Plan required for any future development of these communities except that a close supply of aggregates would facilitate economic provision of infrastructure. |
| (i) | The adequate provision and distribution of educational, health, social, cultural and recreational facilities | Not applicable |
| (j) | The adequate provision of a full range of housing, including affordable housing | The proposed quarry will make available resources that will support infrastructure and construction material needed for housing in the Region. |
| (k) | The adequate provision of employment opportunities | Approval of the proposed Applications will support the continuation and generation of employment opportunities in the long term (direct and indirect) as set out in the Economic Benefits Report prepared by Prism. |
| (l) | The protection of the financial and economic well-being of the Province and its municipalities | The proposed quarry will secure a high quality aggregate resource for use as construction material for buildings and roads, fostering the financial and economic well-being of the City, Region and Province in the long term. See Prism's Economic Benefits Report for additional detail on the financial and economic benefits that the proposed quarry will provide over a horizon of 40 to 50 years. |
| (m) | The co-ordination of planning activities of planning bodies | All agencies and municipalities, including lower tier, upper-tier and provincial agencies, have been involved in a |

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| | | coordinated review as part of the Joint Agency Review Team to ensure co-ordination of various interests. |
| (n) | The resolution of planning conflicts involving public and private interests | Walker has undertaken a significant consultation beyond minimum legislative requirements and have made readily available information and response to matters raised by public and private interests. |
| (o) | The protection of health and safety | Public health and safety will be, secured through a number of means, including the proposed quarry design, intersection improvements, groundwater monitoring, noise and vibration monitoring, establishment of appropriate setbacks, prescribed conditions for blasting and treatment of dust. |
| (p) | The appropriate location of growth and development | It is Provincial Policy that residential growth be primarily directed to settlement areas and that lands situated outside settlement areas, be primarily devoted to resource interests, including the extraction of aggregates. Technical studies have demonstrated that impacts will be minimized and mitigated in accordance with provincial standards and regulations. The proposed quarry will take advantage of existing infrastructure and haul routes. The proposed quarry is located in an area identified as having economically recoverable bedrock resources of high quality.<br><br>Additional lands have been purchased by Walker that will provide a buffer to land uses to the north, west and east. Other aspects of the proposed site design will also minimize potential impact on surrounding land uses and on identified sensitive natural features. It is concluded that the proposed quarry location is appropriate. |
| (q) | The promotion of development that is designed to be sustainable, to support | The proposed quarry will secure a high quality aggregate resource for use as |

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| | public transit and to be oriented to pedestrians | construction material for infrastructure required to put in place public transit in the Region. |
| (r) | The promotion of built form that:<br>(i) is well-designed,<br>(ii) encourages a sense of place, and<br>(iii) provides for public spaces that are of high quality, safe, accessible, attractive and vibrant; | Not applicable |
| (s) | The mitigation of greenhouse gas emissions and adaptation to a changing climate | One of the most meaningful ways to conserve energy is to licence pits and quarries close to established markets. More distant sources of aggregate increases distance traveled to market and generates more greenhouse gas emissions. The proposed Upper's Quarry is close to existing markets. |

## 6.4 Niagara Region Official Plan

The proposed quarry is located within Niagara Region. The Niagara Region's Official Plan came into effect on August 1, 2014 and any amendments made since that time have been consolidated as of that date ("Region OP"). Any decisions made on the proposed ROPA/OPA/ZBA applications are required to conform with the Region OP.

According to Schedule A (Regional Structure) and Schedule B (Agriculture Land Base), the proposed quarry site is located within the "Good General Agriculture Area" (see **Figures 11 and 12**).

According to the Region OP Schedule C (Core Natural Heritage), a small portion in the far northeast corner of the proposed quarry site is identified as "Environmental Conservation Area" and the existing watercourse on-site is identified as Fish Habitat (**Figure 13**).

While the proposed quarry site is identified as "Potential Bedrock Areas: Stone" on Schedule D1 of the Region's OP (**Figure 14**), an amendment to the Region OP is required to establish any new mineral aggregate operation (or expansion) in Good General Agricultural Areas by identifying the proposed quarry site on "Schedule D4: Mineral Resources". See **Appendix B** for the proposed amendment to the Region OP.

The following is an assessment of the proposal relative to the key policies of the Region OP. See **Appendix H** for a more detailed policy analysis (beyond what is provided below).

### 6.4.1 Agriculture

The Region benefits from an abundance of quality soils and temporal conditions for agriculture as well as bedrock resources. Both resources are highly valued by the Province and the Region and, accordingly, it is important to find an appropriate balance in securing these resources in the long term.

According to **Policies 5.B.5 and 5.B.6**, in order to introduce any non-agricultural use in the Good General Agricultural Areas, including mineral aggregate operations, a Regional Official Plan amendment is required to demonstrate that there will be no adverse impact on the agricultural and natural resources (5.B.7).

> **Policy 5.B.5** (in part) states:
> **"….Changes to the Good General Agricultural Areas and Rural Areas on Schedule B will be made only after consultation with the local municipalities, agricultural representatives and interested local and provincial agencies and organizations and will be done through a Regional Official Plan amendment….".**
>
> **Policy 5.B.6** (in part) states:
> **"In the Unique and Good General Agricultural Areas, the predominant use of land will be for agriculture of all types, including livestock operations as well as associated value retention uses. Compatible uses such as forestry and conservation of plant and wildlife are also permitted. …"**
>
> **Policy 5.B.7** (in part) states:
> **Non-agricultural uses should not be located in Agricultural Areas. The introduction of new non-agricultural development of all types into the Agricultural Areas has an adverse impact on the agricultural and natural resources and shall be strictly limited. However, applications for individual non-agricultural uses may be considered. These applications will be reviewed through a Regional Official Plan Amendment subject to the following conditions:**

**c) A demonstrated need for additional land to be designated within the municipality and the desirability of the proposed use to the community.**

*Comment*: As stated earlier, Policy 5.B.7 (c) is not consistent with PPS Policy 2.5.2.1 which states that the "demonstration of need for *mineral aggregate resources*, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licencing for extraction of *mineral aggregate resources* locally or elsewhere". In this case, PPS Policy 2.5.2.1 would prevail.

**d) There are no reasonable alternatives in *Rural Areas* or in Urban Areas.**

*Comment*: The Region of Niagara Official Plan has identified the proposed quarry site and surrounding area as a potential aggregate resource area since 1978. The City of Niagara Falls also maps this area as a protected mineral aggregate resource area.

On-going development within Urban Areas in the City of Thorold and the City of Niagara Falls has sterilized a significant amount of potential aggregate resources located within the urban boundary.

As a result, the remaining aggregate in this resource area in the City of Niagara Falls are very important for long term protection to supply high quality aggregate resources close to market.

**e) There are no reasonable alternative locations in other Good General Agricultural Areas with lower priority agricultural land.**

*Comment:* There are no reasonable alternative locations taking into account PPS Policy 2.5.4.1(c). See MHBC's Alternative Site Analysis and Colville's AIA.

**f) The degree of conflict with surrounding agricultural uses. Any conflict should be mitigated to the extent feasible. This would depend on the size and nature of the proposed use, the existing agricultural uses, and on any buffering factors between them. For example, creeks, roadways and other prominent features would be helpful in defining and screening a non-agricultural use from surrounding farms;**

*Comment*: The AIA and other supporting technical reports conclude that the proposed quarry will be properly mitigated to minimize conflict with surrounding uses, including any surrounding agricultural uses.

**g) Compliance with policies contained in Chapters 6 and 7, Environmental Policies including the Natural Heritage and Aggregate Resource Policies.**

*Comment*: Compliance with policies contained in Chapters 6 and 7 are addressed further below and in Appendix H.

**h) Applications must be supported by adequate technical assessment to ensure that private water supply and private sewage services can be provided.**

*Comment*: Private water supply and private sewage systems are not required. Water supply for employees will be provided through the installation/use of a cistern.

**i) Compliance with other policies contained in the Regional Official Plan.**

*Comment*: Compliance with the Regional Official Plan policies is addressed further in this Section and Appendix H of this Report.

### 6.4.2 Resources

**Policy 6.A (Mineral Resources)** states:

**The Niagara Region is fortunate in having large deposits of sand, gravel, stone and shale as illustrated on Schedules D1 through D4. These mineral resources play a significant role in the Region's economy in providing necessary raw materials for buildings, roads and other construction projects. Policies for mineral resources are intended to ensure that these natural resources are available for future use and that their management is compatible with the natural and human environment.**

**The *Pits and Quarries Control Act*, 1971, provides that:**

**a) all pit and quarry operations must obtain a Provincial license and must meet the landscaping, buffering and setback regulations of the Province; and**

**b) pit and quarry operations must prepare and follow plans for the future rehabilitation of their pit or quarry and must contribute funds to ensure that the rehabilitation measures are carried out.**

**There are now nine sand and gravel pits and eleven stone quarries within the Niagara Region operating under the provisions of the above Pits and Quarries Control Act. Approximately four million tonnes of aggregate have been extracted annually in recent years.**

**Other mineral resources found in the Region are peat and natural gas. There is a large peat-harvesting operation in the Wainfleet Marsh. A small amount of natural gas is produced from the southern portion of the Niagara Region and offshore Lake Erie. Natural gas is also stored underground in this Region to help provide for peak wintertime usage.**

*Comment*: It is noted that the "nine sand and gravel pits and eleven stone quarries" referenced above are gradually nearing depletion and new reserves are necessary to maintain supply as well as to keep up with the Region's growing demand for aggregate as a result of projected growth.

The Region's objectives for Mineral Resources are set out in **6.B.1** and **6.B.2** as follows:

**Policy 6.B.1** states:

**To ensure an adequate supply of mineral resources (including sand, gravel, stone and shale) for the short-term and long-term construction, chemical, and metallurgical needs within the Niagara Region.**

**Policy 6.B.2** states:

**To ensure the suitable location, operation and rehabilitation of mineral extraction activities in order to minimize conflicts with both the natural and human environment of the Region.**

*Comment*: The proposed quarry site is identified as being within a "Potential Resource Areas – Stone" on Schedule D1 of the Region OP (see **Figure 14**). The quality and depth of resource further confirmed by borehole testing, as reported by WSP in their Water Study Report.

The proposed quarry will help ensure a supply of high quality aggregate resources (estimated 60 million tonnes) that will support construction needs within Niagara Region in particular given future projected growth.

The operation and rehabilitation plans for the proposed quarry implement recommendations made through various technical studies and which aim to minimize conflict on the natural and human environment of the Region.

**Policy 6.C.2** states:

**"The Region will consider new pits and quarries or the expansion of existing pits and quarries within either the 'possible aggregate areas' which are shown in a general way on Schedule D4, or elsewhere in the Region…"**.

*Comment*: On Schedule D4 (Mineral Resources), only one small area is shown across the Region as 'potential aggregate areas' and the map seems to mainly identify licenced pits and quarries. Therefore, it is acknowledged that a Regional Official Plan Amendment is required in this case to permit the proposed quarry.

**Policy 6.C.3** states:

**Other uses within possible aggregate areas will be restricted, insofar as possible, to existing uses plus agricultural, open space, and forestry uses which do not involve significant new building. The intent is to limit the establishment of uses or activities whose presence would either prevent or conflict with the possible development of a pit or quarry extraction operation. In addition, within the Niagara Escarpment Plan area, land uses are restricted to uses that are permitted in the Niagara Escarpment Plan policies.**

**Policy 6.C.4** states:

**Only those uses permitted under Chapter 5.B, Policies for Agriculture, and Niagara Escarpment Plan policies within the Niagara Escarpment Plan area, should be considered for areas adjacent to either licensed pits and quarries or possible aggregate areas which are outside the urban areas boundaries of local municipalities as shown in this Plan.**

**Also, in areas adjacent to or in known deposits of mineral aggregate resources, development and activities which would preclude or hinder the establishment of new operations or the expansion of existing operations or access to the resources shall only be permitted if:**

**a) Resource use would not be feasible; or**

**b) The proposed land use or development serves a greater long-term public interest; and**

**c) Issues of public health, public safety and environmental impact are addressed.**

*Comment*: The site is considered a known deposit of aggregate resources and is mapped in the Region OP as a potential resource area. The principle of the above policies was exercised through the application of special 'aggregate buffer area' policy in the Rolling Meadows Secondary Plan that recognizes a future quarry may develop on the proposed quarry site and aims to protect the resource area from the further encroachment of sensitive land uses. As noted earlier, this is one of the last remaining resource areas in the market area that has not been sterilized by urban uses and has been protected for over 40 years for aggregate resource use.

**Policy 6.C.5** states:
**Applications for licenses to open new pits or quarries and applications for changes to or expansions of existing licensed pits or quarries will be considered in relationship to the Niagara Escarpment Plan policies within the Niagara Escarpment Plan area and to the following conditions:**

**a) compliance with the provisions of other policies in this Plan including Policies 7.B.1.31 to 7.B.1.34 inclusive in Chapter 7 of this Plan;**

**b) compatibility with surrounding land uses;**

**c) the impact on the natural environment including surface watercourses and Groundwater;**

**d) the proposed manner of operation, site plan, and rehabilitation;**

**e) the proposed haulage roads and the possible effect on the roads concerned and on adjacent development.**

*Comment*: The proposed quarry site is outside of the Niagara Escarpment Plan Area.

In relation to 6.C.5 a), as set out in this Report, including Appendix H, the proposed applications comply with the provisions of the Region OP, including Policies in Chapter 7, where they are consistent with overarching Provincial Plan policy.

In relation to 6.C.5 b), with appropriate mitigation in place and as set out on the proposed Site Plans, the proposed quarry operation will be compatible with surrounding land uses.

In relation to 6.C.5 c), Stantec and WSP have concluded through their studies that:

- the surface water features are sufficiently isolated from the underlying aquifers such that even under worse case conditions (full quarry development), there will be a negligible change in the water balance for these features;
- during quarry development, the proposed quarry discharge will ultimately be directed to maintain surface flow to the watercourse;
- no adverse groundwater quality impacts are predicted as a result of the proposed quarry.

Extensive monitoring and ongoing mitigation and a Spill Action Plan will be put in place for the life of the quarry. Further, a Trigger Mechanism and Contingency Plan will be implemented to ensure that where actual or observed quarry effects differ from predicted effects, appropriate contingency measures will be triggered to mitigate any unanticipated impacts to local groundwater users and surface water features.

In relation to 6.C.5 d), the proposed ARA Site Plans are included in **Appendix E** of this Report which provide detailed requirements of proposed phasing, mitigation, operations and rehabilitation.

In response to C.6.5 e), the proposed haul road will be Thorold Townline Road via Upper's Lane. Trucks will be routed to/from Thorold Townline Road and then the majority of trucks will travel to/from the north of this intersection along Thorold Townline Road, a Regional Road.

The Traffic Impact Study makes a number of recommendations for road improvements that are attributed to existing and forecasted conditions that are not triggered by the proposed quarry. While these recommendations are set out in the Traffic Impact Study to address existing and future conditions, they are unrelated to the proposed quarry and the only road improvements that are required for the proposed quarry are the improvements at the proposed entrance / exit and widening of Thorold Townline Road at the Upper's Lane intersection. The Site Plans (Drawing 2 of 6, Note 2) make it clear that Walker is responsible for the improvements required as a result of the proposed quarry

and that, prior to the commencement of extraction operations, the licence holder shall enter into an agreement with the appropriate road authority (City of Niagara Falls and Niagara Region) to ensure the required entrance improvements, road improvements, and dedication of road widenings are completed and/or secured.

**Policy 6.C.6** states:
**Notwithstanding any provisions in the Chapter 6 to the contrary:**

**a) No new mineral aggregate operations, wayside pits and quarries or any ancillary or accessory use thereto will be permitted between Lake Ontario and the Niagara Escarpment Plan Area.**

**c) A new mineral aggregate operation or the expansion of an existing operation shall only be permitted in Unique Agricultural Areas not identified under clauses a) and b) above where the applicant demonstrates the following: ….**

*Comment*: The proposed quarry site is not situated between Lake Ontario and the Niagara Escarpment Plan Area and is not on lands designated Unique Agricultural Areas.

**Policy 6.C.6** states:
**The Region desires full consultation among the Ministry of Natural Resources, the Region, the area municipalities and pit and quarry applicants before the licenses are issued or changed, to ensure that proposed new or expanded pit and quarry operations are found to be on satisfactory sites and that the rehabilitation plans are found suitable. Policies of local official plans and comments by area municipalities will be taken into account.**

*Comment*: Pre-consultation with the MNRF, the Region, the City of Niagara Falls and the City of Thorold has been undertaken prior to submitting applications. As set out in **Appendix J**, Walker is committed to undertaking full consultation through the application review process with these agencies.

**Policy 6.C.7** states:
**The Region encourages progressive rehabilitation of operating pits and quarries, that is, the simultaneous stripping, extraction, and rehabilitation of licensed areas. The rehabilitation of the pit or quarry should be compatible with the surrounding land uses.**

*Comment*: Progressive rehabilitation and ecological enhancement will be undertaken in accordance with the proposed Site Plans. Final rehabilitation will return the quarry site to natural open space including a series of lakes, wetlands, and an enhanced riparian corridor and additional woodland areas on-site and on other lands owned by Walker immediately west and north of the quarry site.

**Policy 6.C.12** states:

**The Region will request area municipalities to establish land-use designations and by-laws for pits and quarries to conform with the policies and Schedules in this Plan.**

*Comment*: In both Official Plans, the proposed quarry site is designated Good General Agricultural Area which permits mineral aggregate operations subject to meeting certain policy tests and an amendment to both the Region's Official Plan and the City's Official Plan.

It also must be kept in mind that, given that the proposed mineral aggregate use is a matter of provincial interest, the policies in the Region and City Official Plan also must be consistent with Provincial Plan policies as set out in Part 1, Preamble, Part III, the 'Relationship with Provincial Plans' and with Section 4.6 of the PPS.

**Policy 6.C.13** states:

**Where a new pit or quarry or an extension to an existing licensed pit or quarry are to be located outside a possible aggregate area, an amendment to this Plan is required.**

*Comment:* An amendment to the Region OP has been submitted together with this Report. See **Appendix B** for the proposed ROP Amendment.

### 6.4.3 Natural Environment

The proposed quarry site is not within the Natural Heritage System for the Growth Plan or the Greenbelt Natural Heritage System. No part of the site is mapped as being within an Environmental Protection Area on Schedule C. Small areas along the watercourse are mapped as Environmental Conservation Area on Schedule C, which seem to correlate with the location of non-provincially significant evaluated wetlands. The existing watercourse on-site and a small tributary in the northeast corner of the proposed quarry site is identified as Fish Habitat according to Schedule C (**Figure 13**).

Although a detailed policy review is included in **Appendix H,** the following is a summary of the key natural heritage policies in the NROP that are relevant to the proposed quarry site.

**Policy 7.A.2** states:

**Development should maintain, enhance or restore ecosystem health and integrity. First priority is to be given to avoiding negative environmental impacts. If negative impacts cannot be avoided then mitigation measures shall be required.**

*Comment*: It is not possible for the proposed quarry to avoid environmental impacts of a general nature. However, mitigation is proposed to ensure that extraction can take place in a manner so there will be no negative impact on any natural heritage features that is consistent with policies of the PPS and the Growth Plan. Furthermore, the rehabilitation proposed will result in restoration and enhancement of the ecosystem health and integrity in the fullness of time.

The Water Study Report and the EIS have assessed potential impacts on the health and integrity of surface and ground water and concludes that, with recommended mitigation in place, there will be no negative impact on matters identified in **Policy 7.A.2.1** and on natural ecosystems or the quality and quantity of water to meet existing and planned uses (**7.A.2.8 and 7.A.2.9**) This is discussed in greater detail in Appendix H.

As the existing watercourse traverses the site, extraction within the existing floodplain will occur. It is noted that Walker and its consultants have had pre-consultation meetings with NPCA on the proposal and will continue to work to satisfy NPCA comments on the application (**7.A.6.4**).

## The Region's Core Natural Heritage System

According to **Policy 7.B.1.2,** it is the Region's objective:
**"To maintain, restore and, where possible, enhance the long term ecological health, integrity and biodiversity of the Core Natural Heritage System and its contributions to a Healthy Landscape".**

**Policy 7.B.1.1** states:
**The Core Natural Heritage System consists of:**

**a) Core Natural Areas, classified as either Environmental Protection Areas or Environmental Conservation Areas;**
**b) Potential Natural Heritage Corridors connecting the Core Natural Areas;**
**c) the Greenbelt Natural Heritage and Water Resources Systems; and**
**d) Fish Habitat.**

**The System generally is shown on Schedule C, which provides an overall indication of provincially and regionally significant natural features and provides the framework for natural heritage planning and development review in Niagara. The Niagara Region Planning and Development Services Department should be contacted for more detailed information. Natural heritage features may be further defined through future studies. Additional Natural Heritage features of local significance may be identified by local municipalities in their planning documents.**

*Comment:* Schedule C only identifies the existing watercourse as Fish Habitat on the proposed quarry site. As discussed below, the EIS provides a more detailed review of natural heritage features present on-site.

**Policy 7.B.1.3** states:
**Environmental Protection Areas include provincially significant *wetlands;* provincially significant Life Science Areas of Natural and Scientific Interest (ANSIs); and significant *habitat of endangered and threatened species*. In addition, within the Greenbelt Natural Heritage System, Environmental Protection Areas also include *wetlands*, significant *valleylands*, significant *woodlands*, significant *wildlife habitat;* habitat of *species of concern*; publicly owned conservation lands; savannahs and tallgrass prairies; and alvars.**

**Mapping of the significant *habitat of endangered and threatened species* is not included in the Core Natural Heritage Map although much of this habitat may be found within the Environmental Protection and Environmental Conservation areas shown on the Map. Significant *habitat of endangered and threatened species* will be identified through the Planning and Development review process. Where such habitat is identified development and site alteration shall be subject to the policies for Environmental Protection Areas.**

**Significant is defined as:**
**(b) in regard to the habitat of threatened and endangered species, the habitat, as approved by the Ministry of Natural Resources, that is necessary for the maintenance, survival and/or recovery of the naturally occurring or reintroduced populations of endangered or threatened species, and where those areas of occurrence are occupied or habitually occupied by the species for all or any part(s) of its life cycle.**

*Comment*: No portion of the proposed quarry site is mapped as Environmental Protection Area on Schedule C.

Policy 7.B.1.3 refers to '<u>significant</u> habitat of endangered and threatened species'. This terminology and the definition of 'significant' in the NROP are consistent with terminology in the 2005 PPS. The PPS has gone through a number of updates since 2005, including amendments to the reference of 'significant habitat of endangered and threatened species'.

In 2014, the terminology 'significant habitat of endangered and threatened species' in the PPS was replaced with 'habitat of endangered and threatened species, except in accordance with *provincial and federal requirements*' to bring it in line with the

Endangered Species Act (see PPS Policy 2.1.7, addressed in Section 6.2 of this Report). This wording continues to be in place in the 2020 PPS.

As demonstrated by the EIS, the proposed applications conform with the current policy regime related to endangered and threatened species habitat.

**Policy 7.B.1.4** states:
**Environmental Conservation Areas include significant woodlands; significant wildlife habitat; significant habitat of species of concern; regionally significant Life Science ANSIs; other evaluated wetlands; significant valleylands; savannahs and tallgrass prairies; and alvars; and publicly owned conservation lands.**

*Comment*: Schedule C of the Region OP does not identify any portion of the proposed quarry site as Environmental Conservation Area (ECA).

In this case, the 2.0 ha woodlot on-site adjacent to Thorold Townline Road is considered "significant woodlands" under the Region's criteria and is considered significant wildlife habitat. The existing watercourse corridor contains evaluated non-provincially significant wetlands (±7.0 ha). Therefore, the 2.0 ha woodland and the watercourse corridor would be considered ECAs as defined by Policy 7.B.1.4 (discussed further below).

**Policy 7.B.1.31** sets out criteria that needs to be met where aggregate extraction is proposed within an ECA, a Potential Natural Heritage Corridor or Fish Habitat as follows:

**Policy 7.B.1.31** states:
**Where a new mineral aggregate operation or an expansion to an existing operation is proposed outside the Greenbelt Natural Heritage System within an Environmental Conservation Area, a Potential Natural Heritage Corridor or Fish Habitat or within adjacent lands as set out in Table 7-1 the Environmental Impact Study will include consideration of:**

**a) Whether the following will be maintained or enhanced before, during and after mineral aggregate extraction,**

**i) connectivity among Core Natural Areas and hydrologic features; and**

**ii) significant hydrologic features and functions; and**

**b) How significant natural heritage features and ecological functions that would be affected will be replaced, on or off site, with features and functions of equal or greater ecological value that are representative of the natural ecosystem in that particular setting or ecodistrict.**

*Comment*: In this case, this policy is specific to 'new mineral aggregate operations' and would apply to certain on-site features including: (i) the 2.0 ha woodland on-site (ECA), (ii) the watercourse corridor (ECA) and (iii) fish habitat within the watercourse corridor (see Figure 7).

Through their EIS, Stantec confirmed that:

- the tributary situated in the northeast corner of the site identified as "Fish Habitat" on Schedule C functions intermittently as a drainage ditch and does not contain fish habitat;
- fish habitat exists on-site and off-site as identified on Figure 7.

Relative to this policy, the EIS and Water Study Report have concluded the following.

Firstly, the ecological value of the existing watercourse on-site is constrained as a result of adjacent agricultural land uses including historic dredging of the channel to improve drainage for agricultural purposes. The watercourse is choked with vegetation and provides seasonal habitat for Northern Pike. Further, this habitat is limited due to isolated refuge pools that dry up over the summer months.

The proposed realignment will enhance the watercourse corridor on-site to provide for enhanced aquatic and riparian habitat, water quality and a more stabilized function. The realigned watercourse will be situated within a 60 m meander belt width for its entire length; whereas, the existing watercourse is currently within a meander belt that ranges from 52 to 60 m.

Overall, the project will replace this portion of the existing poor quality watercourse feature, with a natural channel, complemented by a diverse riparian corridor and wetlands for improved aquatic and riparian habitat.

The hydrologic features and functions will be maintained and enhanced before, during and after mineral aggregate extraction. In particular, overland surface water runoff from upstream of the proposed quarry site will continue to flow within the existing watercourse. Negligible impacts to surface water quantity are predicted as a result of the proposed quarry. The proposed quarry discharge into the existing watercourse is predicted to have a moderating effect and not adversely impact surface water temperatures in the watercourse. As this water is diverted to the realignment channel, the realignment will maintain the function of the existing watercourse on-site and downstream. The proposed monitoring program and Trigger Mechanism and Contingency Plan will be put in place so that contingency measures can be introduced if the observed conditions significantly differ from what was predicted through modelling.

As set out in the EIS, fish habitat identified on-site will be replaced with enhanced fish habitat through the design and establishment of the waterfront realignment corridor, providing greater ecological value and in a manner that is representative of the natural ecosystem in the Region today.

## Woodlot

**7.B.1.5** To be identified as significant a woodland must meet one or more of the following crtieria:

**a) Contain threatened or endangered species or species of concern**
**b) In size, be equal to or greater than:**
**c) Contain interior woodland habitat at least 100 metres in from the woodland boundaries;**
**d) Contain older growth forest and be 2 hectares or greater in area;**
**e) Overlap or contain one or more of the other significant habitat heritage features listed in Policies 7.B.1.3 or 7.B.1.4**
**f) Abut or be crossed by a watercourse or water body and be 2 or more hectare in area**

*Comment*: Stantec reviewed Policy **7.B.1.5** specifically in their EIS and concludes that the 2.0 ha woodland on-site is a Significant Woodland (regional significance) based on criteria (a) and (e), as follows.

Little Brown Myotis were detected in the woodland. However, this species is widespread in Ontario and could be detected in any woodland or open area in Niagara. Habitat replacement is proposed.

The woodland contains Significant Wildlife Habitat for Non-SAR Bat Maternity Colony. Therefore, the 2.0 ha woodlot on-site would be considered an ECA even though it is not mapped.

In accordance with Policy **7.B.1.31**, habitat replacement on-site and on adjacent lands is proposed in a manner that woodland replacement and enhancment will provide greater ecological value through the replacement feature and its function.

To offset the loss of the 2.0 ha woodland and associated wildlife habitat, Walker has committed to planting: (i) a 4.58 ha area on-site once extracted and rehabilitated and (ii) approximately 6.4 ha of lands off-site that are currently not vegetated and which are partly adjacent to an existing woodlot. Reforestation will provide a better linkage with existing features and incorporate habitat features for bats, deer and species included in

the proposed enhancment area(s) and will commence in the appropriate planting season following licence approval.

### Fish Habitat

Schedule C of the Region's OP identifies two tributaries as "Fish Habitat" within the boundary of the proposed quarry site (see **Figure 13**).

> **Policy 7.B.1.7(b)** states:
> **The boundaries of Core Natural Areas, Potential Natural Heritage Corridors and Fish Habitat are shown on Schedule C. They may be defined more precisely through Watershed or Environmental Planning Studies, Environmental Impact Studies, or other studies prepared to the satisfaction of the Region and may be mapped in more detail in local official plans and zoning by-laws. Significant modifications, such as a change in the classification of a Core Natural Area, or a significant change in the spatial extent or boundaries of a feature, require an amendment to this Plan unless otherwise provided for in this Plan. Only minor boundary adjustments to Environmental Protection Areas will be permitted without Amendment to this Plan.**
>
> **In considering both refinements and significant modifications to the mapping or classification of features shown on Schedule C the Region shall consult with:**
>
> **b) the Ministry of Natural Resources (*MNRF*) and the Department of Fisheries and Oceans (DFO) or its designate respecting changes to Fish Habitat.**

*Comment*: Policy direction more specific to mineral aggregate operation proposals is provided for by Policy 7.B.1.31 (noted above). Policy 7.B.1.31 permits a new mineral aggregate operation in Fish Habitat subject to consideration of certain criteria. As noted above, the criteria set out in Policy 7.B.1.31 have been considered appropriately.

## 6.3.4 Transportation

The main entrance/exit to the quarry will be off of Upper's Lane. The primary haul route will travel west on Upper's Lane to Thorold Townline Road. From there, it is expected that the majority of trucks will travel to/from the north of the quarry via Thorold Townline Road to access the current haul route at Thorold Stone Road, which leads to Highway 406 and on to the QEW.

The Region has two main transportation objectives relative to the proposed quarry:

> **Objective 9.A.1** **To promote and support safe, convenient, efficient, aesthetic and economical transportation systems for all modes of transport for the movement of people and goods.**

**Objective 9.A.2 To provide an arterial road which, in conjunction with the Provincial and local road systems, will give convenient access throughout all parts of the Region and to adjacent areas.**

These objectives will be met with mitigation proposed as follows:

1) The TIS recommends entrance and road improvements that will ensure a safe access to/from Townline Thorold Road via Upper's Lane.
2) As proposed, the main entrance/exit will minimize conflict potential with the overall traffic system in a location confirmed to have good sight lines.
3) The proposal provides for vegetated berms along Thorold Townline Road and Beechwood Road, maintaining aesthetic transportation system.
4) The proposal makes available close to market quality aggregate resources, minimizing haulage costs of material needed to construct roads and infrastructure in the Region.
5) The proposed quarry fronts onto Thorold Townline Road which is an arterial road, designed to accommodate the proposed volumes and truck traffic.

**In summary, for reasons set out in this Report, the proposed ROPA/OPA/ZBA applications are in conformity with the general intent of the Niagara Region Official Plan.**

## 6.5 City of Niagara Falls Official Plan

The proposed quarry is located within the City of Niagara Falls. The Official Plan came into effect on October 6, 1993 (approved by the now Ministry of Municipal Affairs and Housing) and includes consolidated amendments made up to April 2019 ("City's OP"). Any decisions made on the proposed ROPA/OPA/ZBA applications are required to conform with the City's OP.

According to the City's OP, the majority of the proposed quarry site is designated "Good General Agriculture" and the existing watercourse running north-south through the central portion of the proposed quarry site is designated "Environmental Protection Area" (EPA) with smaller tributaries designated "Environmental Conservation Area" (ECA). (**Figure 15**). As noted above, the proposed quarry site is identified as "Bedrock Resource Area" on Appendix 4 of the City's OP (**Figure 16)**.

Portions of the proposed quarry site are also identified on City OP Schedules as follows:

- Schedule A1: Heritage Features and Environmental Lands: existing watercourse is identified as Environmental Protection Area and 'Creek' and smaller tributaries also identified as 'Environmental Conservation Area' and 'Creek' (**Figure 17**)

- Schedule A2: Urban Structure Plan: the majority of the proposed quarry site is identified as "Rural Area" and the existing watercourse corridor is identified as "Protected Natural Heritage Area" (see **Figure 18**).

The following is an assessment of the proposal relative to the key policies of the City OP. See **Appendix I** for a more detailed policy analysis (beyond what is provided below).

### 6.5.1 Strategic Direction

The population of Niagara Falls is intended to grow, reaching a population of 106,800 with employment for 53,640 people by the year 2031 (Section2, Strategic Policy Direction). With growth comes the need for materials to construct safe and reliable infrastructure (roads, transit, bridges, stormwater management facilities, erosion control) and buildings/structures. The material to be extracted from this quarry will help support the close to market supply needed to support forecasted growth.

Further, the proposed quarry supports the City's growth objectives by protecting Natural Heritage Areas and their functions through plantings and enhancements to the watercourse corridor in early stages of the quarry and rehabilitation of the proposed quarry site that will result in an overall ecological net gain (2.2 and 2.2.2).

### 6.5.2 Good General Agriculture

As set out in Policies 7.1 and 7.4 below, mineral aggregate operations are not permitted 'as-of-right' on lands within the Good General Agriculture and any expansion or new licence requires an amendment to the City's Official Plan. Accordingly, the proposed City OPA would redesignate the lands from 'Good General Agriculture Area' to "Mineral Resource Extraction' to permit the proposed mineral aggregate operation. See **Appendix C** for the proposed amendment to the City of Niagara Falls Official Plan.

> **Policy 7.1** states:
> **The predominant use of land in the Good General Agriculture Area will be for agriculture of all types including crop farming, tender fruit and vineyards, dairy farming, livestock operations including equestrian activities, nurseries, and intensive greenhouse as well as agricultural value retention uses, forestry, conservation uses and farm related residential dwellings. Uses of land not related to agricultural uses will not be permitted in the Good General Agriculture Area except as provided for in this Plan.**
>
> **Policy 7.4** (in part) states:
> **Uses of land and the creation of lots not related to agricultural uses are not permitted in the Good General Agriculture Area. However, Council may consider a site specific amendment to this Plan to remove lands from the Good General**

**Agriculture designation for non-agricultural use where it has been demonstrated that the use cannot be accommodated in a non-agricultural designation. In addition, the siting of a non-agricultural use shall be supported by qualified evidence demonstrating matters of need for the proposed use over the next 20 years, poor soil capability and suitability of the site for the proposed development, no disruption of natural areas, effects on adjacent properties and financial impact on the City. The requirements of the Provincial Policy Statement and the Regional Niagara Policy Plan also shall be satisfied.**

**All non-agricultural uses satisfying these policy requirements shall be subject to site plan review to regulate the extent of the use and mitigate any impact the use may have on adjacent lands.**

This Policy generally applies to any amendment to the Official Plan that proposes non-agricultural uses in the Good General Agriculture Area. PPS Policy 2.5.2.1 with respect to an aggregate application specifically states that: "Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere".

Through the culmination of findings of supporting studies, it has been concluded that the proposed quarry site is suitable for the proposed quarry use and that there will be no adverse impact on adjacent properties.

Natural areas will be temporarily 'disrupted' through the relocation of the existing watercourse. However, as set out in the EIS, appropriate measures are proposed to ensure that the transition is appropriately designed and monitored, ensuring no impact on the function of the watercourse feature, including its role in providing fish habitat.

Furthermore, as identified by Prism and Walker, any potential costs that have been identified are not be imposed on the City and Region. If the proposed applications and licence are approved, Walker is committed to, for example:

- all necessary capital upgrades required for the sole purpose of the quarry and to accommodate quarry traffic including upgrades at the intersection of Upper's Lane and Thorold Townline Road will be at Walker's expense. Walker is committed to enter into a legal agreement with the Region and/or City to cover the necessary costs associated with these capital upgrades.
- any relocation of existing utilities and /or the introduction of new utilities required to serve or accommodate the quarry will be at the expense of Walker and Walker is committed to enter into any necessary agreements with utility providers.

- all mitigation and monitoring requirements set out on the ARA Site Plans and are associated with the proposed quarry on and where agreed to by other landowners off site will be the responsibility of Walker.
- the proposed quarry will provide economic benefits to the Region and City and will have a net positive impact on the Region and City's finances. The proposed quarry uses are not anticipated to have any impact on the Region's or City's capital programs.

### 6.5.3 Extractive Industrial

**Section 9 Extractive Industrial – Preamble** states:
**The extraction of mineral aggregate resources is an important industry to the local and Regional economy. Areas licensed for extractive industrial operations are shown on Schedule 'A'. It is the intent of the Plan to ensure compatibility of such operations with adjacent properties, as well as their progressive rehabilitation to suitable after-uses. New and/or expanded pits and quarries shall require approval from the Ministry of Natural Resources *(MNRF)* under the Aggregate Resources Act and an amendment to this Plan. Potential Mineral Aggregate Areas to be protected for future extractive industrial purposes are identified on Appendix IV.**

*Comment*: As noted earlier, according to Appendix IV: Potential Aggregate Resources, the property quarry site is situated within an identified "Bedrock Resource Area". (**Figure 16**). The proposed OPA would designate the proposed quarry site to "Extractive Industrial" on Schedule A of the City OP which allows for the proposed quarry operation:

**Policy 9.1** states:
**The predominant use of land within the Extractive Industrial designation will be for the extraction and processing of mineral aggregates such as clay, sand, gravel and quarry stone. Extractive industrial operations may also include storing, refining and further processing of mineral aggregates and other ancillary uses.**

In our opinion, 'other ancillary uses' would include:
- the importation, use and stockpiling of recycled aggregate for blending purposes;
- an asphalt processing plant facility

The Zoning By-law permits an 'asphalt mixing plant' within the EI Zone. However, to provide clarity, the proposed Zoning By-law Amendment includes specific wording to clarify that importation, use and stockpiling of recycled aggregate is permitted on-site.

The proposal official plan amendment meets the plan and submission requirements as set out in **Policy 9.2**, including:

| Policy | Requirement | Submission Reference |
|---|---|---|

| | | |
|---|---|---|
| **9.2.1** | **Location of the site including dimensions, topography, existing elevations and any natural or archaeological features found on the site** | See Appendix E (Existing Features Site Plan); EIS and Archaeological Assessments |
| **9.2.2** | **Location and use of all lands and buildings within 500 m from the boundaries of a proposed quarry** | See Figure 3 and Appendix E (Existing Features Site Plan for 120 m); |
| **9.2.3** | **The proposed use of the site detailing the limits of extraction, proposed depth of extraction, sequence of extraction, location and use of all buildings and structures, internal roads and points of access** | See Appendix E (Operational Site Plan) |
| **9.2.4** | **Location of all existing water wells within a minimum of 300 m of the proposed site, hydrogeological reporting identifying water table levels relative to the proposed depth of extraction and the effect of the proposed extraction upon the water table and wells in the general area as well as on stream flows and surface water quality** | See Water Study Report |
| **9.2.5** | **Detailed landscaping plans including fencing and screening** | See Appendix E (Operational Site Plan and Report Recommendations Plan) and Visual Impact Assessment |
| **9.2.6** | **Proposed haulage routes for the off-site distribution of aggregates** | See Figure 8 and Traffic Impact Study |
| **9.2.7** | **Progressive and final rehabilitation plans** | See Appendix E (Operational Site Plan, Report Recommendations Plan and Rehabilitation Site Plan) |
| **9.2.8** | **A social impact assessment or any other information that may be required by the City to assess the appropriateness of the proposed extractive operation including predicted impact of noise, dust and vibration beyond the site and necessary mitigation measures.** | In addition to this Planning Justification Report:<br>See Appendix E (Site Plans), Noise Impact Study; Air Quality Impact Assessment; Traffic Impact Study, Visual Impact Assessment, Blasting Impact Study and Water Study Report |

**Policy 9.3** sets out matters that Council shall have regard for when considering any application to establish a new extractive industrial operation, which are addressed by the proposed applications as follows:

**Policy 9.3.1** states:

**No extraction will generally be permitted within an Environmental Protection Area. Extraction adjacent to or within an Environmental Protection Area may only be permitted where the results of any necessary studies indicate that the Areas will not be adversely affected by the extraction operation. Any mitigating measures as outlined in such studies, including a suitable buffer, will be required where extraction is proposed in these areas.**

*Comment*: The existing watercourse corridor on-site is designated as "Environmental Protection Area". As set out on the proposed Site Plans, the EIS and Water Study Report, this corridor is proposed to be relocated and enhanced on-site along the east side of Thorold Townline Road, without impacting the function of this feature or the fish habitat it supports. As set out on the proposed ARA Site Plans, extraction has been phased in a manner so that appropriate setbacks from the existing feature will be enforced until such time that the realignment has taken place to the satisfaction of the DFO and MNRF.

**Policy 9.3.2** states:

**A sequence of extraction and rehabilitation is to be encouraged which would have the effect of minimizing the amount of land disturbed at any one time.**

*Comment*: As set out on the ARA Site Plans (Appendix E), best efforts have been made so the sequence of extraction and some elements of rehabilitation and mitigation will occur in the early stages of the quarry, including the relocation and enhancement of the existing watercourse and additional enhancement planting areas proposed outside of the extraction area. Side slopes (2:1) will be established through progressive rehabilitation where identified on the Plans through phasing. However, given the location and nature of the resource being extracted (bedrock below the water table), other elements of rehabilitation (i.e. lake and wetland creation) will not occur until all extraction has taken place and dewatering has ceased.

**Policy 9.3.3** states:

**The effect of the proposed extractive operation on the ground water resources and hydrology of the surrounding area, including on-site drainage and treatment of waste water and the effect of the operation on adjacent areas.**

*Comment*: WSP completed a comprehensive and thorough review of the potential effect of the proposed quarry at full development on the ground water resources and hydrology of the surrounding area. The Water Study Report has been included with the application

submission and the overall findings of the WSP's Study are summarized in Sections 4.4 and 5.1 of this Report.

**Policy 9.3.4** states:
**The effect of the proposed extractive operation on the roads and traffic patterns in the area.**

*Comment*: TMIG completed a Traffic Impact Study (TIS) that reviewed the effect of the proposed quarry for haul route options and the future transportation network. The Study makes recommendations on the preferred haul route, what improvements are recommended to ensure intersections continue to operate at acceptable levels given estimated traffic volumes to be generated by the proposal and the timing of those recommended improvements. The TIS has been included with the application submission and the overall findings of the TIS are summarized in Section 5.6 of this Report.

**Policy 9.3.5** states:
**Where applicable, no extraction will be permitted on Good General Agriculture lands unless the Ministry of Agriculture and Food (*now OMAFRA*) is satisfied that the site can be substantially rehabilitated for agriculture to allow production of the same area and at the same level of productivity.**

*Comment*: In accordance with Policy 2.5.4.1 of the PPS and Section 4.2.8.4(d) of the Growth Plan, a substantial amount of high quality bedrock resource exists below the water table, there is a lack of appropriate alternative site alternatives in the market area, the majority of the proposed quarry site is rated CLI Class 3 lands (i.e. lowest classification of prime agricultural lands) and the net impact on surrounding farmlands are minimal given the proximity of urban areas and other rural uses (including golf courses and Walker's existing quarry). The proposed quarry will be using Thorold Townline Road as a haul route which is already in use and is intended and designed for high traffic volumes as well as large vehicle traffic.

**Policy 9.3.6** states:
**The amounts of noise, vibration, dust, traffic and related factors which may affect properties and their occupants in the surrounding area must satisfy the Ministry of the Environment (*now MEC*P) guidelines.**

*Comment*: Detailed technical studies have been completed relative to potential noise, dust, and traffic in support of the proposed applications. Each of these studies provide recommended mitigation measures to ensure that Provincial guidelines will be satisfied, which have been appropriately incorporated into the operational design and detailed

notes of the ARA Site Plans. Furthermore, on the proposed Site Plans (Report Recommendations Plan, Air Quality Note 3 states): "The licensee shall obtain an environmental compliance approval under the Environmental Protection Act where required to carry out operations at the quarry".

**Policy 9.4** states:
**In order to encourage land use compatibility of extractive industrial operations with adjacent properties and their occupants, Council may request additional setbacks or separation distances be established by the Ministry of Natural Resources (*MNRF*) through the licensing process. Similarly, incompatible land uses, particularly residential uses, must be suitably separated from and shall not be permitted to encroach on lands used for extractive industrial purposes or lands designated Extractive Industrial.**

Given the quality and quantity of bedrock resource identified in this location for the past ±40 years, the potential for a quarry has generally been considered in land use decisions. For example, the Rolling Meadows Secondary Plan incorporated specific land use policies to prevent incompatible land uses and protect the resource from further encroachment of sensitive land uses.

**Policy 9.5** states:
**Council shall cooperate with the proper road authorities in order to determine the most appropriate haulage routes and points of access for mineral extraction operations.**

The TIS reviewed two potential haul route options to determine the most appropriate haul route. The TIS determined that directing haulage trucks to Thorold Townline Road (a Regional road) and then north of the intersection of Upper's Lane and Thorold Townline Road would be most appropriate and would utilize an existing haul route, requiring minimal changes or upgrades to existing intersections.

**Policy 9.6** states:
**A progressive rehabilitation program shall be encouraged during the period that aggregate is being extracted. Final rehabilitation for all extractive industrial sites will be required following the expiration of any licensed site or extraction of material has been exhausted. Rehabilitation will be required in accordance with a Ministry of Natural Resources (*now MNRF*) approved rehabilitation plan. Development on, or adjacent to, former mineral mining or aggregate operations may be permitted only if rehabilitation measures to address and mitigate known or suspected hazards are under way or have been completed. The City will encourage rehabilitation that will restore and create compatible land uses with adjacent properties and their occupants. An Official Plan and Zoning By-law amendment**

**shall be required to consider new uses within extractive industrial sites that are not agriculturally related.**

The proposed rehabilitation of the site includes both progressive and final rehabilitation measures that will result in a naturalized land use (i.e. lakes, riparian corridor and woodlands) that will provide enhanced ecological value and will be compatible with adjacent land uses.

### 6.5.4 Environmental

**Policy 11.1.4 states:**
**Schedules A and A-1, along with Appendices III-A, III-B, III-C, III-D and III-E to this Plan detail the natural heritage features that are located within the Environmental Protection Area (EPA) or Environmental Conservation Area (ECA) designations of this Plan as well as linkages and natural corridors, water resources, Municipal Drains and other natural heritage features.**

*Comment*: According to Schedule A-1: Heritage Features and Environmental Lands, the existing watercourse corridor on-site is identified as "Environmental Protection Area" (EPA) and certain smaller tributaries beyond the existing watercourse are identified as "Creek" and "Environmental Conservation Area". (see **Figure 17**)

**Policy 11.1.5 states:**
**When considering development or site alteration within or adjacent to a natural heritage feature, the applicant shall design such development so that there are no significant negative impacts on the feature or its function within the broader ecosystem. Actions will be undertaken to mitigate any unavoidable negative impacts. (*emphasis added)***

**Policy 11.1.6 states:**
**The Natural Heritage Policies shall apply when development or site alteration is proposed on lands within the City that are adjacent to a natural heritage feature identified within the Official Plan of a neighbouring municipality, the Niagara Region Official Plan or by the Ministry of Natural Resources (*now MNRF*).**

**Policy 11.2.3** states:
**The limits of the EPA and ECA designations and their adjacent lands may be expanded or reduced from time to time as new environmental mapping and studies are produced by the Ministry of Natural Resources or the Niagara Peninsula Conservation Authority or through site specific applications where produced by qualified environmental consultants and approved by the appropriate authority.**

**Policy 11.2.13** states:

**The EPA designation shall apply to Provincially Significant Wetlands, NPCA regulated wetlands greater than 2ha in size, Provincially Significant Life ANSIs, significant habitat of threatened and endangered species, floodways and erosion hazard areas and environmentally sensitive areas.**

**Policy 11.2.22 states:**

**The ECA designation contains significant woodlands, significant valleylands, significant wildlife habitat, fish habitat, significant Life and Earth Science ANSIs, sensitive ground water areas, and locally significant wetlands less than 2 ha in size.**

*Comment*: The above-noted policies recognize the ability to refine the EPA and ECA designations as a result of the findings of an EIS and through a site specific application. These policies should also be read together with Policy 11.1.48, 11.1.49, 11.2.28 and 11.2.30 (discussed below) which deals more specifically with mineral aggregate applications proposed in EPA and ECA designations.

With respect to the EPA designation, Stantec has determined through their EIS that there are no Provincially Significant Wetlands or Provincially Significant ANSIs. Habitat of endangered and threatened species is identified on site and can be removed on-site subject to compliance with the *Endangered Species Act*. Other EPA features noted in Policy 11.2.22 are present on the site (e.g. locally significant wetlands) and these are addressed further below with Policy 11.1.49.

With respect to the ECA designation, Stantec has determined through their EIS that there is a regionally significant woodland and locally significant wetlands on-site and these are addressed further below with Policy 11.2.30.

### 6.5.5 Watershed Planning & Water Resources

**Policy 11.1.12** states:

**The City recognizes the watershed as a meaningful scale to integrate water management, natural heritage management and land use decisions. A watershed plan provides a broad assessment of the natural environment and the interconnections between features extending beyond lot boundaries and municipal boundaries and shall be utilized as a guide for more site specific studies such as subwatershed plans, drainage plans and environmental impact studies.**

**Policy 11.1.15** state

**A subwatershed plan may be required through secondary plans, neighbourhood plans or for large scale developments that require an amendment to this Plan, whether or not a watershed plan exists, to provide specific guidance on the means**

**to protect, restore and rehabilitate natural resources and to provide a framework for integrating environmental concerns into the land use development process in context of the watershed area.**

**Policy 11.1.16** states
**The location and extent of completed watershed and subwatershed plans are shown on Appendix III-E of this Plan.**

*Comment*: The proposed quarry site is within the "Beaverdams Creek" watershed. The EIS and Water Study Report provide for the necessary site specific study that reviews how the watershed will be protected, restored and rehabilitated during and after extraction and dewatering. This is summarized in Sections 4.4 and 5.1 of this Report.

### 6.5.6 Mineral Aggregates

The proposed Amendment would designate the proposed quarry site as "Extractive Industrial" on Schedule A (Future Land Use).

The following key policies are relative to the proposed application:

**Policy 11.1.48** states:
**The City recognizes the importance of ensuring the availability of an adequate supply of mineral aggregate for future use. Potential mineral resources, as identified in the Regional Niagara Policy Plan and the Ministry of Natural Resources Niagara District Land Use Guidelines, shall be protected by restricting land uses in these areas to those which do not preclude the option of future aggregate extraction.**

*Comment*: This resource area will significantly contribute a long term supply of mineral aggregate for future use. Accordingly, this resource area was protected through land use policy contained in the adjacent Rolling Meadows Secondary Plan, despite being located within the Urban Area to ensure the option of future aggregate extraction would not be precluded.

**Policy 11.1.49** states:
**A new mineral aggregate operation or an expansion to an existing operation that is located within any area identified as a Bedrock Resource Area on Appendix 4 to this Plan may be permitted through applications to amend this Plan and/or the Zoning By-law within NPCA regulated wetlands greater than 2 ha in size, floodways and erosion hazard areas and environmentally sensitive areas designated EPA, subject to the following:**

**a) Completion of an Environmental Impact Study (EIS), as set out in policies 11.1.17 to 11.1.21 inclusive, to the satisfaction of Niagara Region in consultation with the City of Niagara Falls and the Niagara Peninsula Conservation Authority;**
**b) Completion of a hydrogeological study in accordance with policy 11.1.27;**
**c) The EIS is to include the considerations set out in policy 11.2.30a) and b);**
**d) The requirements of the Niagara Peninsula Conservation Authority; and**
**e) Other applicable policies of this Plan including the requirements of Part 2 Section 9.**

*Comment:* As shown on **Figure 16**, the entirety of the proposed quarry site is within an area identified as "Bedrock Resource Area" on Appendix 4 of the City's OP. According to this Policy, an Amendment to the City's OP and Zoning By-law have been made to permit the proposed mineral aggregate operation.

Despite other policies in the City's OP, Policy 11.1.49 allows for permission of a mineral aggregate operation despite the lands being within (i) NPCA regulated wetland greater than 2 ha; (ii) floodways and erosion hazard areas and (iii) lands designated EPA as the following has been completed:

- An EIS has been completed in accordance with 11.1.17 to 11.1.21 and includes the consideration of policy 11.2.30(a) and (b);
- A Level 2 Water Study Report has been completed in accordance with policy 11.1.27;
- This Report demonstrates how the requirements of Part 2, Section 9 have been met.

The NPCA, the Region and the City will be actively engaged throughout the application review process and will be retaining peer reviewers to assess the above-noted EIS and Water Study Report.

**Policy 11.2.30** states:
**Where a new mineral aggregate operation or an expansion to an existing operation is proposed within hazard lands, an ECA or their respective adjacent lands, the Environmental Impact Study will include, in addition to the requirements under this Section, consideration of:**
**a) The maintenance or enhancement of the connectivity of natural heritage features as well as significant hydrologic features and functions before, during and after mineral aggregate extraction;**
**b) The way in which significant natural heritage features and ecological functions that would be affected will be replaced, on or off site, with features and functions of equal or greater ecological value that are representative of the natural ecosystem in that particular setting.**

*Comment*: The proposed quarry will result in the removal of the regionally significant woodland (2.0 ha) and evaluated non-provincially significant wetlands on-site (±7.0 ha). With input from the EIS and the Water Study Report, the proposed Site Plans put in place proper measures that will maintain and enhance the connectivity of natural heritage features during the life cycle of the quarry by adding ±11.0 ha of woodland and a 17.47 riparian corridor including wetlands, ponds, vernal pools, the realignment channel and a meadow/riparian thicket. The Plans will implement detailed recommendations from the EIS and Water Study Report for the replacement of these features on and their function on and off site, resulting in greater ecological value.

## 6.6 City of Thorold Official Plan

The proposed quarry is located adjacent to the City of Thorold and, therefore, regard has been given to the City of Thorold Official Plan and policies associated with the proposed quarry and future development of the adjacent lands. The City of Thorold Official Plan was adopted on April 21, 2015 and was approved by Niagara Region on April 28, 2016.

In 2007, the Rolling Meadows Secondary Plan was approved, sterilizing the resource area identified by the Region within the urban area boundary in the City of Thorold. However, to protect the remaining resource area on the proposed quarry site, the "Aggregate Buffer Area" was established in the Secondary Plan Schedule D-3 and in Policies B1.8.12.3 and B.1.8.12.4 (see **Figure 19**).

The Secondary Plan included a special policy area to require appropriate studies to be undertaken as part of detailed development proposal and that mitigation be put in place by the developer, ensuring compatibility with a potential quarry on this site. For existing sensitive uses surrounding the proposed quarry site, it is Walker's responsibility to design the proposed quarry to ensure appropriate mitigation is included to minimize impacts on existing sensitive uses.

### 6.6.1 Rolling Meadows Secondary Plan – "Aggregate Buffer Area" Policies

Walker was actively involved in Thorold's Rolling Meadows Secondary Plan dating back to 2005. That process identified the high quality aggregate resources that could be sterilized within the Secondary Plan area and potentially on the east side of Thorold Townline Road in the City of Niagara Falls if policy was not established to protect this resource.

Accordingly, the Region modified the Secondary Plan to include Policy B.1.8.12.3 in the Rolling Meadows Secondary Plan, in order to ensure that PPS 2.5.2.5 would be properly implemented and that important aggregate reserves on the east side of Thorold Townline Road would be protected from the encroachment of sensitive land uses that had the potential to preclude or hinder the ability to access these resources.

As clearly set out in Policy B1.8.12.3 and of PPS Policy 2.5.2.5, it is the obligation of the residential developer to provide for any additional mitigation necessary for any future sensitive land uses proposed within the Aggregate Resource Protection Area and not the other way around. Accordingly, Walker's proposal has taken into consideration and incorporates mitigation for all existing sensitive land use receptors and/or lands zoned which permit sensitive land uses as-of-right, for which it is obligated to do and in accordance with technical guidelines established by the Province.

Under Section B1.8.12, the Secondary Plan requires that appropriate measures be undertaken to attenuate the effects of noise, visual intrusion or other undesirable impacts of residential development adjacent to Highways 58 and 20, Thorold Townline Road and other environmentally incompatible land uses

Section B.1.8.12.3 recognizes the potential bedrock resource area where the proposed quarry lands is situated. This policy specifically puts the onus of mitigation on future residential developers to provide visual mitigation and landscape treatments, particularly for development within 500 metres of the resource area.

The Secondary Plan further recognizes that Thorold Townline Road will be the future aggregate haul route for a future extraction operation on the subject lands.
The proposed location for off-site mitigation includes lands situated within the City of Thorold Urban Area, designated 'Employment – Light Industrial' and 'Employment – Prestige Industrial' as part of the Neighbourhoods of Rolling Meadows Secondary Plan.

To address comments received from the City, the proposed ARA Site Plans have been revised to: (i) shift mitigation plantings towards the south end of Walker's property in the City of Thorold (on the west side of Thorold Townline Road) and (ii) provide for additional plantings on Walker's property immediately north of the proposed quarry (on the east side of Thorold Townline Road).

While future employment uses are important, this objective must be balanced with all policies set out in the Provincial Policy Statement. Walker owns a number of properties in the City of Thorold along Thorold Townline Road that can accommodate future employment uses where mitigation is not proposed. Furthermore, the property owned by Walker in the City of Thorold where mitigation is proposed was selected for the following reasons:

i) this area is in close proximity to the 2.0 ha woodlot feature proposed to be removed, providing for a continuation of habitat;
ii) greater linkage opportunity will be established with the watercourse realignment corridor;
iii) given the size of the existing woodlot west of Thorold Townline Road, interior habitat can be established which does not exist today (by definition).

With that said, we have reconfigured the proposed off-site mitigation on the employment lands in the City of Thorold so that plantings will be situated along the southerly portion of Walker's property in the City of Thorold, optimizing land availability for future employment development opportunities north of the Trans-Canada Pipeline corridor on that property and adding a continual linkage between the future realignment corridor and the larger and expanded woodlot feature to the west.

## 6.7 City of Niagara Falls Zoning By-Law 79-200

The majority of the proposed quarry site is currently zoned 'Agriculture (A)' with lands around the existing watercourse on-site zoned 'Hazard Lands (HL)' and one small property zoned Agricultural (A) with exception 467 in the City of Niagara Falls Zoning By-law 79-200[9]. (see **Figure 20)**.

To permit the proposed quarry operation, a ZBA is required to rezone the proposed quarry site from 'Agriculture (A)', Agriculture (A)(467) and 'Hazard Lands' to 'Extractive Industrial (EI)' zone to permit the proposed quarry.

The EI zone permits the following uses (11.6.2):

> **11.6.2 PERMITTED USES: No person shall within any EI Zone use any land or erect or use any building or structure for any purpose except one or more of the following uses:**
> **(a) A pit or quarry licensed under the Pits and Quarries Control Act, 1971**
> **(b) Processing of natural materials removed from this site including crushing, screening, mixing, washing and storing of such materials**
> **(c) Concrete or asphalt mixing plant**
> ***(d) Accessory buildings and accessory structures***
> **(e) A *use, building* or structure permitted in any one or more of clauses a to d inclusive or section 12.1**

Pit or quarry is defined in the Zoning By-law (11.6.1) as:

> **11.6.1 INTERPRETATION: In section 11.6.2:**
> **(a) "'pit or quarry means land where gravel, stone, sand, clay, shale or other natural material is or has been removed by excavating, quarrying or otherwise for sale or use for construction, business, manufacturing or other industrial purposes."**

The proposed Zoning By-law Amendment (**Appendix D)** provides for two amendments to Section 11.6.2 as it relates to the proposed quarry site:

[9] By-law 79-200 was passed in November 5, 1979 with various amendments made to the By-law since that time (appears to be consolidated to include up to By-law No. 2020-003)

i) to replace the outdated reference in 11.6.2(a) to "The Pits and Quarries Control Act, 1971" and replace it with "Aggregate Resources Act"

ii) to provide clarity that the importation, use and stockpiling of recycled aggregate for blending purposes;

Regulations for the EI zone in 11.6.3 include the following (*italics* denote term that are defined):

| **REGULATION** | | **REQUIRED** | **PROPOSED SITE SPECIFIC AMENDMENT** |
|---|---|---|---|
| (i) | Minimum **front yard depth** | 30 m plus any applicable distance specified in section 4.27.1 | Amend so minimum required yard is:<br>• 30 m from a lot line abutting Thorold Townline Road or Beechwood Road<br>• 15 m from all other lot lines |
| (ii) | Minimum **exterior side yard width** | 30 metres plus any applicable distance specified in section 4.27.1 | |
| (iii) | Minimum **interior side yard width** | 16 metres | |
| (iv) | Minimum **rear yard depth** | 16 metres plus any applicable distance specified in section 4.27.1 | |
| (v) | No **building**, **structure**, **accessory building**, **accessory structure** or product stockpile of a pit or quarry shall be located closer than: 30 metres from any boundary of the land **used** for any of the aforesaid **uses** permitted under clauses a, b, c or d of section 11.6.2 or 50 metres from any boundary of a residential zone. | | Amend to remove and rely on above regulation and ARA site plans regulate stockpile locations |
| (vi) | TransCanada Pipeline setback | No **building, structure**, parking or loading spaces, or related aisles or driveways may be located closer than 7.0 metres to the TransCanada pipeline right of way except accessory buildings which may not be located any closer than 3.0 m to the TransCanada pipeline right-of-way. | Added in response to request by JART |
| (vii) | Maximum **height** of **building** or **structure** | 15 metres subject to Section 4.7 and provided that the **height** of a **building** or **structure** which is **erected** | Same. With added clarification that a silo and/or conveyor that is used in association with |

| | | | |
|---|---|---|---|
| | | or is to be **erected** on an excavated portion of a pit or quarry shall be measured from the average grade level of the unexcavated ground closest to such **building** or **structure**. | a permitted use on the same lot is exempted from the maximum height of a building or structure. |
| (viii) | Definition of **Lot** | | Notwithstanding the definition of **lot** in this By-law, the Lands shall be considered to be one **lot** for zoning purposes. |

Additional setback requirements from the TransCanada pipeline have also been incorporated into the proposed Zoning By-law Amendment to address comments received in November 2023.

Once the zoning is in place to permit the land use and the site is licenced, detailed regulations pertaining to setbacks, operational requirements, the watercourse realignment, the establishment of other natural environment features and rehabilitation will be addressed through the ARA Site Plans.

See **Appendix D** for a copy of the proposed Zoning By-law Amendment.

# 6.8 Aggregate Resources Act Summary Statement

The complete ARA application for the proposed quarry extension consists of the following:

### 6.8.1 Site Plans

The site plans enclosed with this application submission (and attached in Appendix E) have been prepared in accordance with the "Aggregate Resources of Ontario: Site Plan Standards", as set out in O. Reg. 466/20.

The Site Plans include details of existing features, the operational plan, final rehabilitation, and cross-sections of existing conditions and final rehabilitation of the proposed quarry area. The Site Plans have been prepared and certified by: (i) a registered professional planner who is a

member of the Ontario Professional Planners Institute and (ii) a person qualified and approved in writing by the MNRF.

### 6.8.2 Part 1.0: Summary Statement

The following sections are structured to address information requirements under the 'Aggregate Resources of Ontario: Technical reports and information standards' for a Class A licence.

## 1.1 Agricultural Classification of the Proposed Site

The proposed quarry are mainly comprised of Class 3 soils, with other smaller portions comprised of Class 2 and Class 5, as shown on **Figure 6**.

## 1.2 Planning and Land Use Considerations

Prior to a licence being issued on this site, the lands need to be zoned to permit the proposed quarry and these applications have been submitted concurrently for review.

The proposed quarry represents good planning and is consistent with the Provincial Policy Statement (PPS), conforms to the Growth Plan, Niagara Region Official Plan and the City of Niagara Falls Official Plan, and has regard for matters of provincial interest in the Planning Act for the following reasons:

1. Making the proposed quarry area available for aggregate extraction represents the wise use and management of resources, providing economic benefits, while minimizing potential social and environmental impacts;
2. The proposed quarry site contains approximately 60-70 million tonnes of a high quality aggregate resource that is used for skid-resistant surfacing of provincial highways and for a variety of road building and construction projects for the local market;
3. The Provincial Policy Statement, Growth Plan and Niagara Region Official Plan permits the extraction of mineral aggregate resources in the rural area;
4. The proposed quarry site is located just over 2 km from the Walker Brothers Quarry, where reserves are running out;
5. The operation is appropriately designed, buffered and/or separated from sensitive land uses to minimize impacts;
6. Water resources, including ground and surface water quantity and quality, will be monitored and protected from potential impacts. The following summarizes predicted impacts on water resources as a result of proposed dewatering:
    a. The proposed quarry will impact a defined portion of the groundwater quantity in the area aquifers between the urban area boundaries of the City of Niagara

Falls and the City of Thorold. However, much of the area is either currently serviced or planned for future servicing. Mitigation measures are proposed to ensure that the potentially impacted groundwater users in the un-serviced areas will have adequate water supply;

b. Surface water quality within the existing watercourse and Beaverdams Creek is predicted to be improved as a result of the proposed discharge of groundwater into the existing watercourse.

7. There will be no negative impact to significant natural features and avoidance and mitigation measures will be utilized to protect on site and adjacent natural heritage features;
8. The proposed quarry will be rehabilitated to a lake, wetland, and terrestrial habitat that has been designed to protect and enhance on-site and adjacent natural heritage features;
9. While the proposed quarry is considered a prime agricultural area, the proposed applications are consistent with PPS Policy 2.5.4.1;
10. The aggregate from the proposed quarry will be shipped primarily via Thorold Townline Road, an existing haul route;
11. The proposed quarry represents the efficient use of existing infrastructure; and
12. There are no significant cultural heritage resources on site.

## 1.3 Source Water Protection

As confirmed by WSP's Water Study Report, drawdown impacts do not extend to areas identified in the Niagara Peninsula Source Protection Plan as Intake Protection Zones (IPZ).

## 1.4 Quality and Quantity of Aggregate On site

The proposed quarry is a mapped resource area and contains a high quality aggregate product suitable for most road building and construction projects.

On site testing has been completed which confirmed that the quality of the aggregate located within the proposed quarry area is high quality bedrock (limestrone). The proposed quarry site contains approximately 60 million tonnes of high quality aggregate.

## 1.5 Main Haulage Routes

Truck traffic to and from the proposed quarry would utilize Thorold Townline Road via Upper's Lane. The main haul route would be north of the quarry on Thorold Townline Road with the exception of any local deliveries.

## 1.6 Progressive and Final Rehabilitation

Upon completion of extraction, the proposed quarry will be rehabilitated the quarry will be progressively rehabilitated to a variety of rehabilitated landforms, as set out on the Rehabilitation Plan (Appendix E). **Figure 5** provides a schematic of the final rehabilitated landform.

Progressive and final rehabilitation is described in detail in Section 3.3 of this Report.

## 1.7 Part 2.0 Technical Reports

All technical reports and information, as required under the "Aggregate Resources of Ontario: Technical Reports and Information Standards" and as set out in O. Reg. 466/20 for a Class A licence are enclosed with the application submission:

| | **ARA Standards – Technical Reports and Information Requirements** | **Enclosed** |
|---|---|---|
| **2.1** | Maximum Predicted Water Table Report | Maximum Predicted Water Table Report, prepared by WSP, dated October 2021 |
| **2.2** | Natural Environment Report | Level 1 and Level 2 Natural Environment Technical Report and Environmental Impact Study, prepared by Stantec, dated April 2024 |
| **2.3** | Cultural Heritage Report | Cultural Heritage Impact Assessment, prepared by MHBC, dated October 2021 |
| **2.4** | Agricultural Impact Assessment Report | Agricultural Impact Assessment, prepared by Colville Consulting, dated October 2021 |
| **2.5** | Water Report | Level 2 Water Study Report, prepared by WSP, dated October 2021 |
| **2.6** | Noise Assessment Report | Acoustic Assessment Report, prepared by RWDI, dated April 2024 |
| **2.7** | Blast Design Report | Blast Impact Analysis, prepared by Explotech Engineering, dated April 2024 |

# 7.0 CONCLUSIONS

The proposed quarry extension represents wise resource management. For reasons outlined in this Report, the application represents good planning in the public interest and:

- is consistent with the Provincial Policy Statement;
- conforms to the Growth Plan for the Greater Golden Horseshoe;
- conforms to the Niagara Region Official Plan, as proposed to be amended;
- conforms to the City of Niagara Falls Official Plan, as proposed to be amended;
- complies with the City of Niagara Falls Zoning By-law, as proposed to be amended; and
- addresses the requirements of the Aggregate Resources Act Provincial Standards.

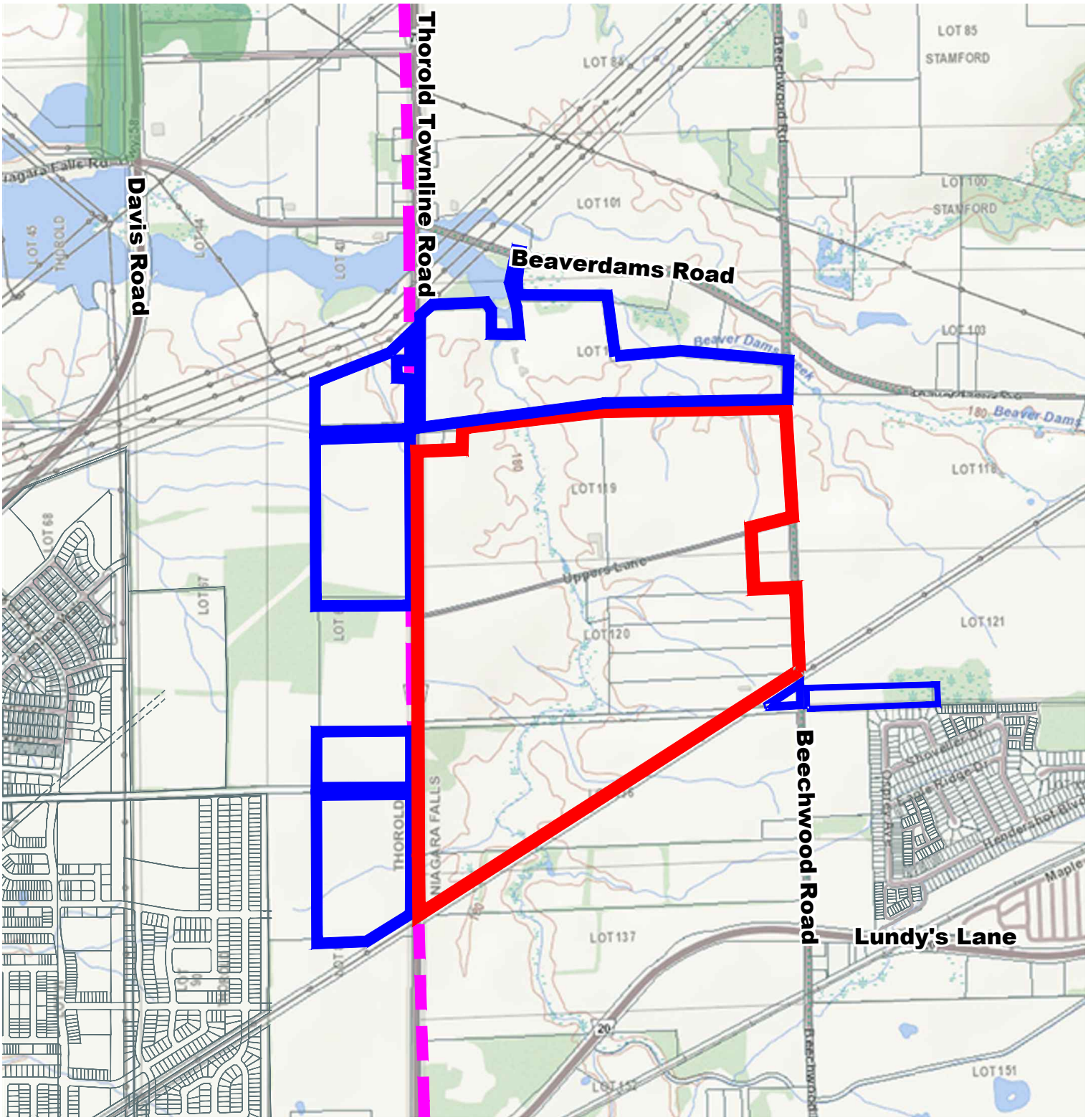
Respectfully submitted,

**MHBC**

Brian Zeman, BES, MCIP, RPP
President and Partner

Debra Walker, BES, MBA, MCIP, RPP
Partner

# Figures




Data Source: Open Street Map 2015& Region of Niagara Open Data- Property Parcels

Figure 1

## Location Map

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site (±106.3 ha)
- Other Lands Owner by Walker Aggregates (±58.9 ha)
- Municipal Boundary
- Existing Walker Brothers Quarry
- Property Line

**DATE:** February 2, 2024

**SCALE** 1:50,000

north

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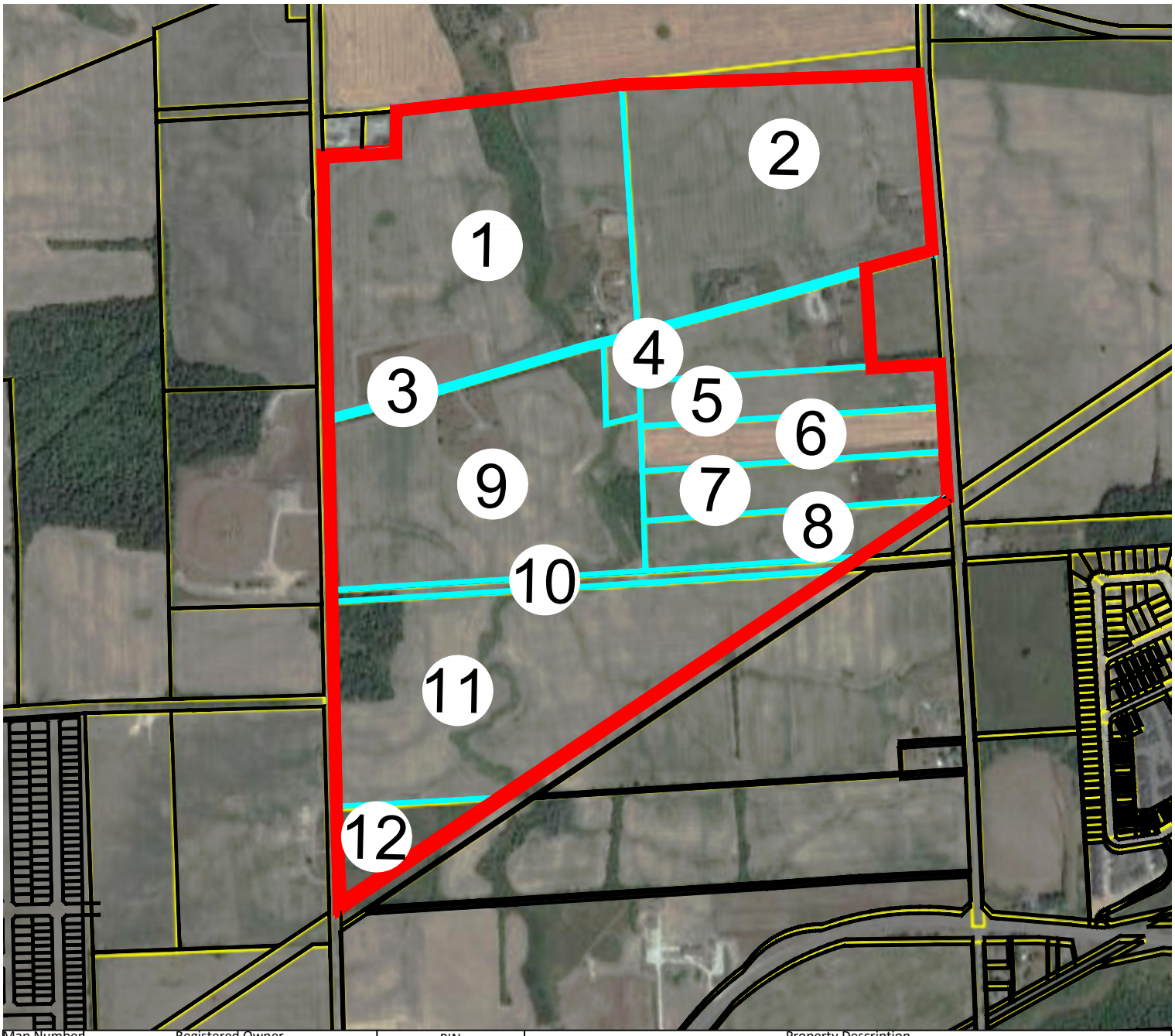


| Map Number | Registered Owner | PIN | Property Description |
|---|---|---|---|
| 1 | WALKER COMMUNITY DEVELOPMENT CORPORATION | 642650013 | Pt Twp Lt 119 Stamford; Pt Twp Lt 120 Stamford Pt 1, 59r3552 ; S/t St55057 ; Niagara Falls |
| 2 | WALKER INDUSTRIES HOLDINGS LIMITED | 642650012 | Pt Twp Lt 119 Stamford; Pt Twp Lt 120 Stamford As In Ro577929 ; Niagara Falls |
| 3 | THE CORPORATION OF THE CITY OF NIAGARA FALLS | 642650014 | Pt Twp Lt 119 Stamford; Pt Twp Lt 120 Stamford Being Uppers Lane Lying Btn Thorold Townline Rd & Beechwood Rd ; Niagara Falls |
| 4 | WALKER AGGREGATES INC. | 642650016 & 642650742 | Pt Twp Lt 120 Stamford As In Ro762116 ; Niagara Falls & Part Lots 119 & 120 Stamford; Part 2 59r15720 City Of Niagara Falls |
| 5 | WALKER INDUSTRIES HOLDINGS LTD. | 642650018 | Pt Twp Lt 120 Stamford As In Bb80120 ; Niagara Falls |
| 6 | WALKER AGGREGATES INC. | 642650019 | Pt Twp Lt 120 Stamford As In Ro207473 ; Niagara Falls |
| 7 | WALKER INDUSTRIES HOLDINGS LIMITED | 642650020 | Pt Twp Lt 120 Stamford As In Ro482772; S/t Aa81984 ; Niagara Falls |
| 8 | WALKER AGGREGATES INC. | 642650021 | Pt Twp Lt 120 Stamford As In Ro154457 (firstly); S/t Aa81984 ; Niagara Falls |
| 9 | WALKER COMMUNITY DEVELOPMENT CORPORATION | 642650015 | Pt Twp Lt 120 Stamford Pt 2, 59r3552 ; Niagara Falls |
| 10 | THE CORPORATION OF THE CITY OF NIAGARA FALLS | 642650077 | Rdal Btn Twp Lt 120 & 136 Stamford (closed By Bylaw Sn356642) City Of Niagara Falls |
| 11 | WALKER COMMUNITY DEVELOPMENT CORPORATION | 642650024 | Pt Twp Lt 136 Stamford,pt 1 59r12553; Niagara Falls |
| 12 | WALKER INDUSTRIES HOLDINGS LIMITED | 642650027 | Pt Twp Lt 136 Stamford; Pt Twp Lt 137 Stamford As In Ro360891, T/w Ro234926 ; Niagara Falls |

Data Source: First Base Solutions Aerial Flown 2017

Figure 2

## Context Map

**LEGEND**

Proposed Upper's Quarry Site

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**DATE:** December 8, 2023

**SCALE** 1:12,500

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north

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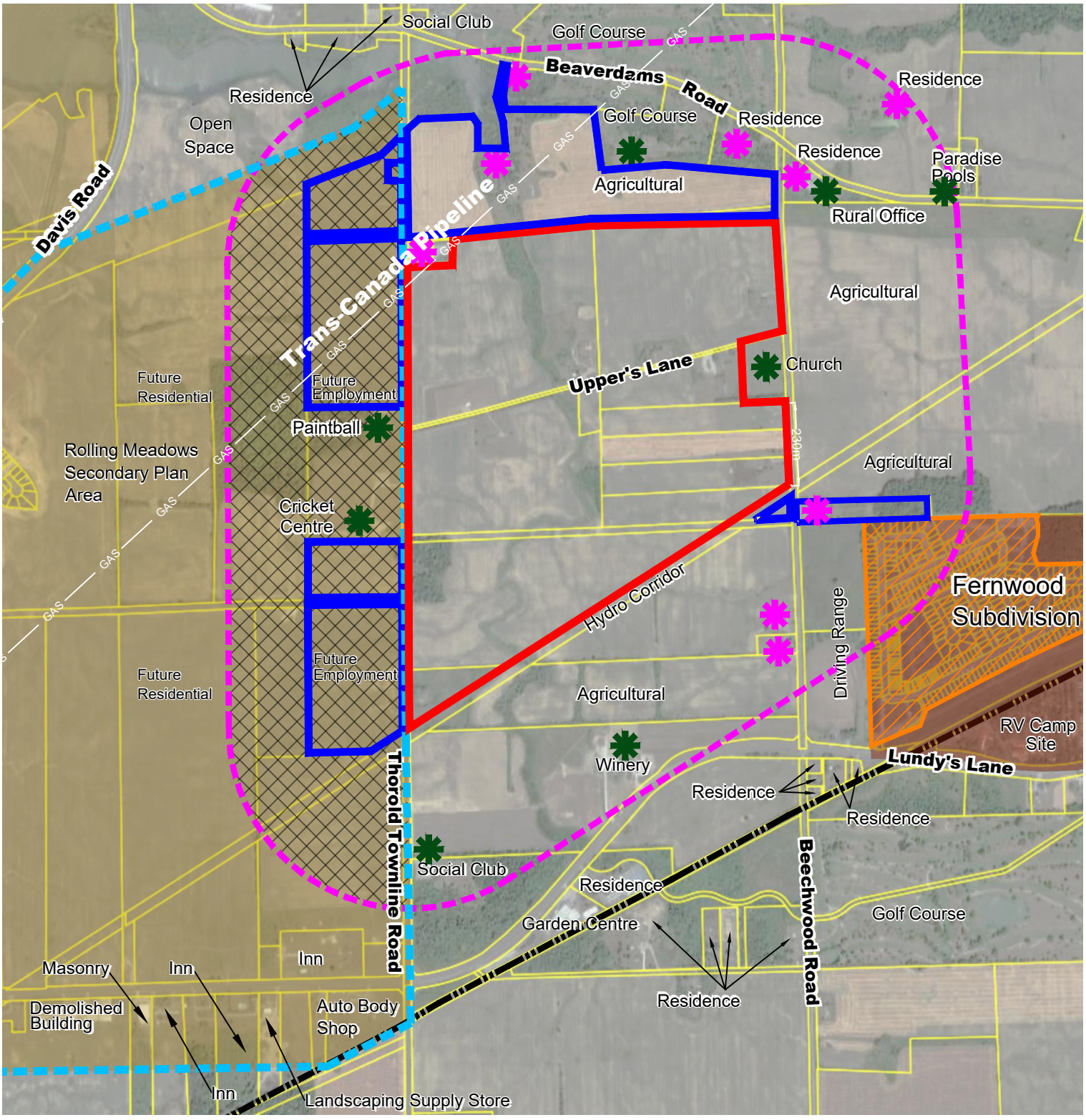


Data Source: First Base Solutions Aerial Flown 2017

Figure 3

## Surrounding Land Use

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands Owned By Walker
- 500 m Radius Buffer
- City of Thorold Urban Area
- Rolling Meadows Secondary Plan Area
- Existing (Residential) Dwelling within 500m Radius (Outside Urban Area)
- Existing (Non- Residential) Rural Use within 500m Radius (Outside Urban Area)
- City of Niagara Falls Urban Area
- TransCanada Pipeline
- Fernwood Subdivision
- CN Railway
- Aggregate Impact Area (Rolling Meadows Secondary Plan

**DATE:** December 15, 2023

**SCALE** 1:15000

north

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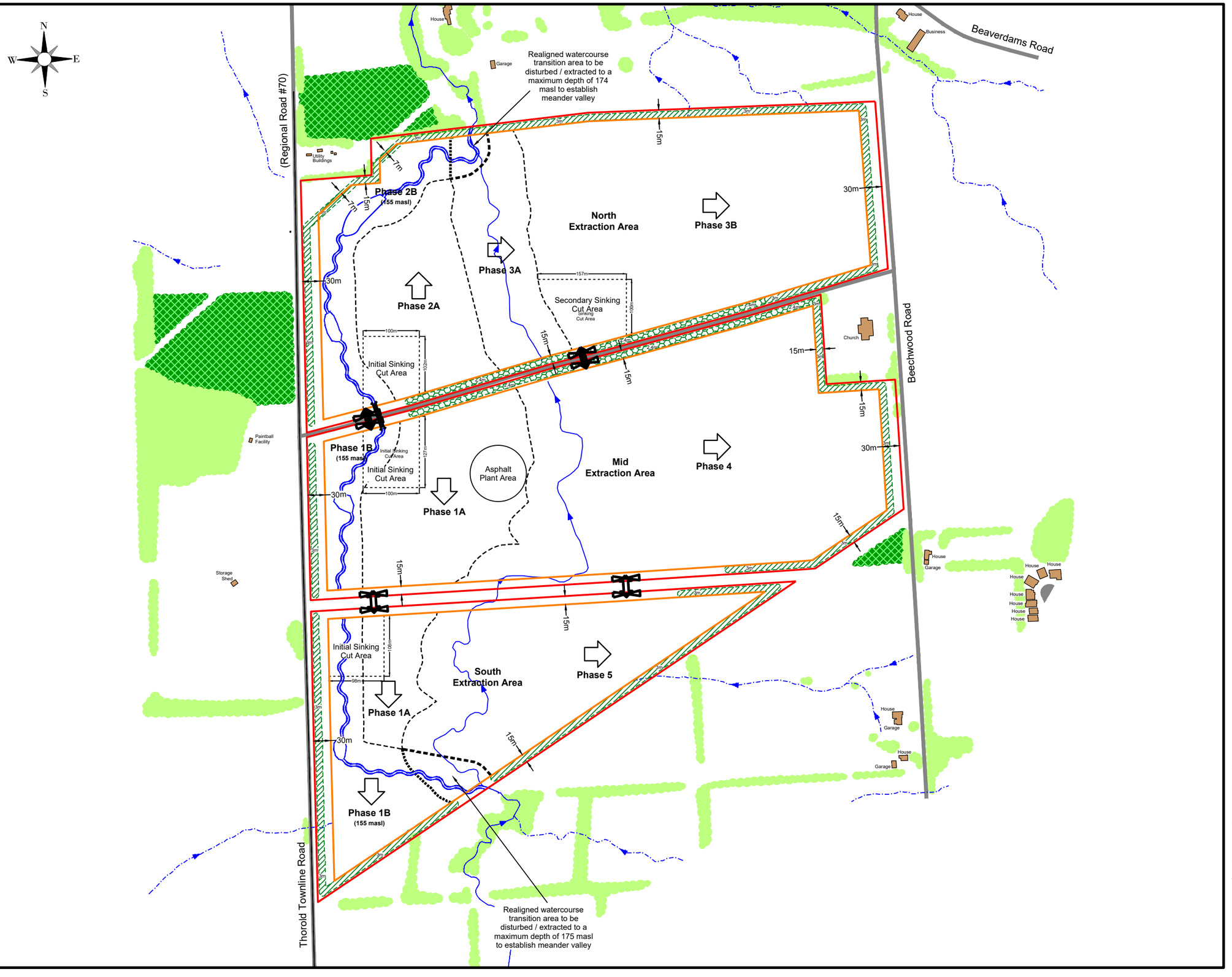
Figure # 4

# Operational Plan - Schematic

## Upper's Quarry

Part of Lots 119, 120, 136 and 137
Geographic Township of Stamford
City of Niagara Falls
Regional Municipality of Niagara




## Legend

- Licence Boundary
- Limit of Extraction
- Phase Boundary
- General Direction of Excavation
- Berm - Acoustic
- Berm - Visual
- Surface Drainage Feature
- Watercourse Realigned
- Culvert
- Gate
- Entrance / Exit
- Limited Service Access
  (for Phases 1A, 1B and 5 in South Extraction Area)

| | |
|---|---|
| Date | April 2024 |
| Sources | Proposed Rehabilitation Scenario from April 2024 Site Plan |
| Scale - 1:6500 | 0 100 200 Meters |

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Figure # 5

# Rehabilitation Plan - Schematic

## Upper's Quarry

Part of Lots 119, 120, 136 and 137
Geographic Township of Stamford
City of Niagara Falls
Regional Municipality of Niagara

N
W E
S

(Regional Road #70)
Beaverdams Road
Beechwood Road
Thorold Townline Road
Lundys Lane
Osprey Avenue
Shoveller Drive
Eagle Ridge Drive
Hendershot Boulevard

### Legend

- Licence Boundary
- Limit of Extraction
- Extraction Face - Above Water
- Extraction Face - Below Water
- Surface Drainage Feature
- Watercourse Realigned
- Culvert
- Waterbody
- Shoreline Wetland
- Terrestrial Habitat and Vegetated Slopes
- Deciduous Woodland and Vegetated Screening
- Woodland Mitigation and Enhancement Area

| | |
|---|---|
| Date | April 2024 |
| Sources | Proposed Rehabilitation Scenario from April 2024 Site Plan<br>Aerial photography from Microsoft Bing, date unknown |

Scale - 1:6500

0 100 200
Meters

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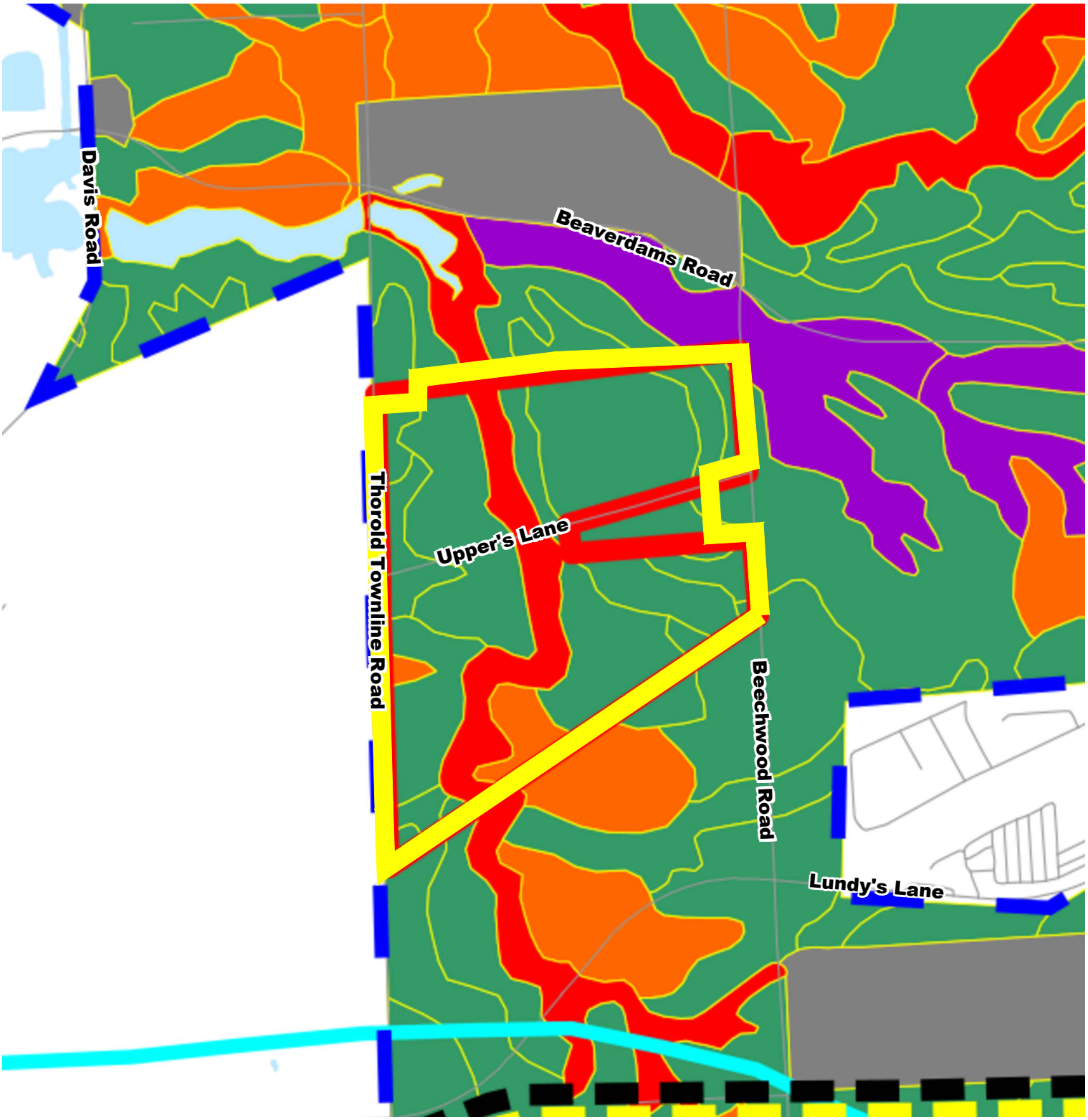


Data Source: Agricultural Impact Assessment for Uppers Quarry, prepared by Colville Consulting Inc.

Figure 6

## Proposed Upper's Quarry

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- CLI Class 1
- CLI Class 2
- CLI Class 3
- CLI Class 4
- CLI Class 5
- Not Mapped
- Study Area
- Drift Thickness
- Lockport Formation
- Guelph Formation

**DATE:** December 7, 2023

**SCALE** 1:15000

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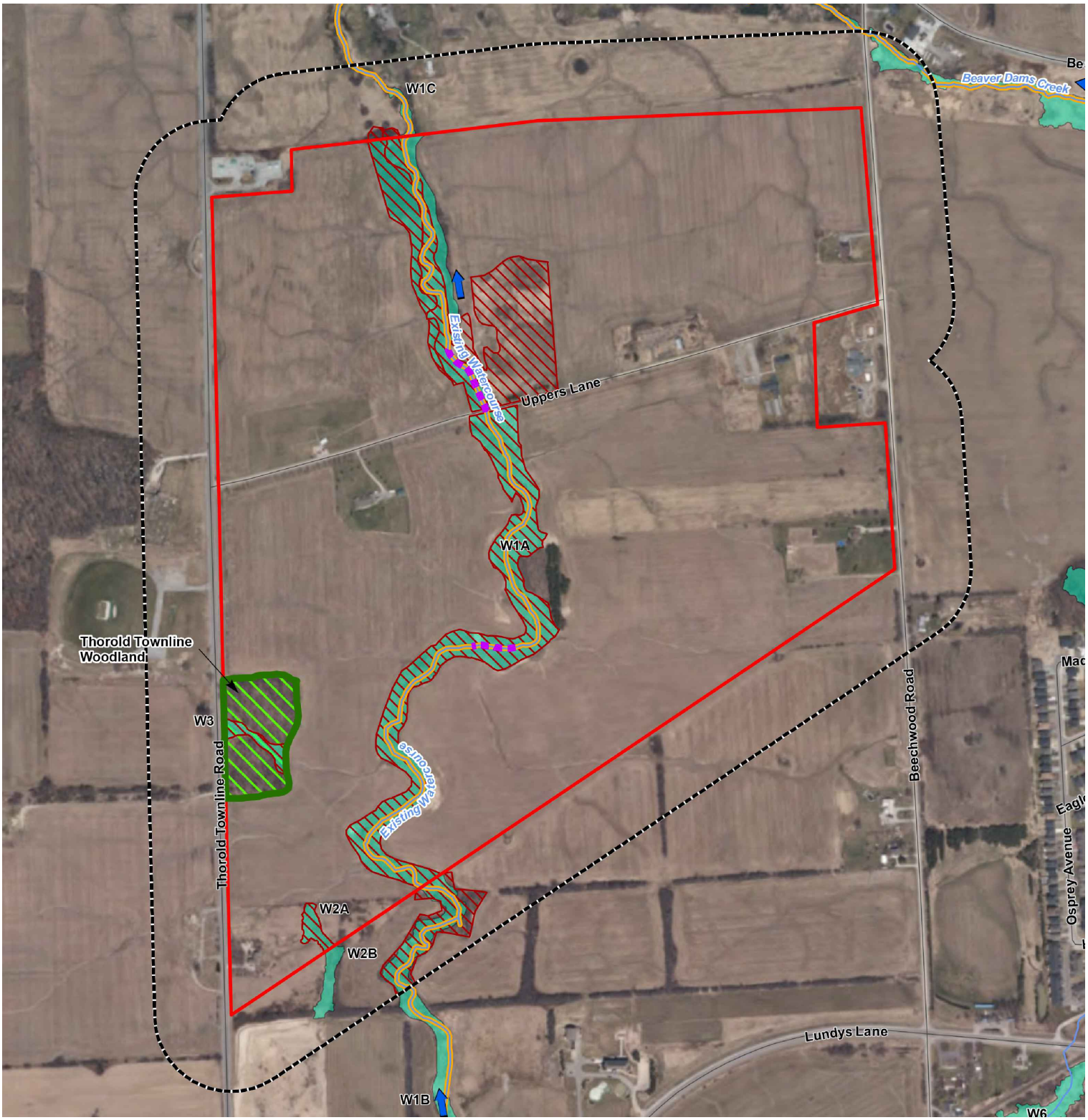


Data Source: Uppers Quarry Level 1 and Level 2 Natural Environment Technical Report and Environmental Impact Study, prepared by Stantec, dated 2024

Figure 7

# Context and Natural Heritage Features Map

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Study Area (120m Zone of Investigation)
- Flow Direction
- Watercourse
- Fish Habitat
- Wetland (Evaluated, Non-PSW)
- Pike Spawning Habitat
- Significant Wildlife Habitat- Monarch
- Significant Wildlife Habitat (Non SAR Bat Habitat Seasonal Concentration Area)
- Woodland

**DATE:** April 5, 2024

**SCALE** 1:8,500

north

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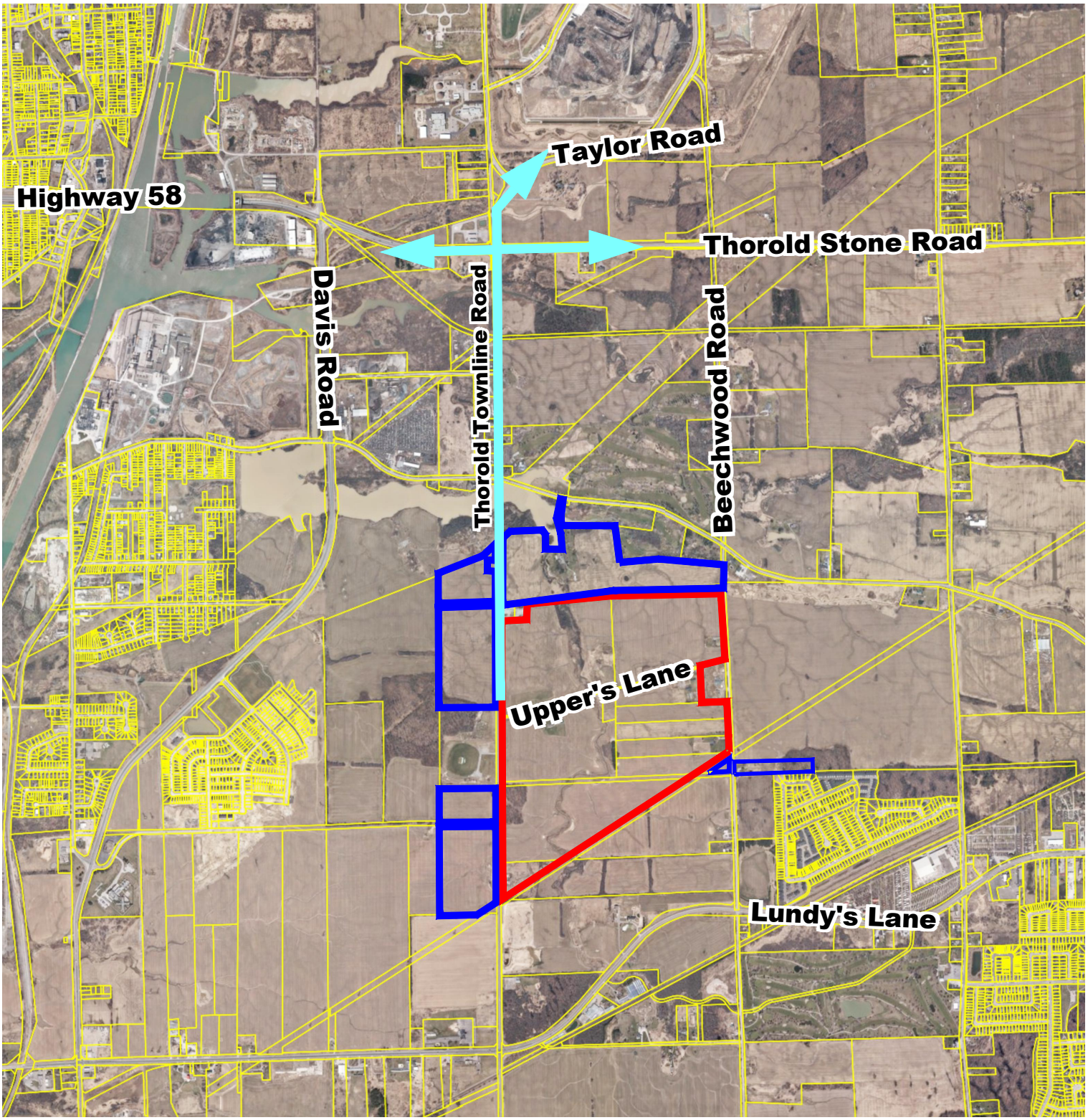


Data Source: First Base Solutions Aerial Flown 2016

Figure 8

## External Haul Route

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands Owned By Walker Aggregates
- Preferred External Haul Route

**DATE:** December 8, 2023

**SCALE** 1:25000

north

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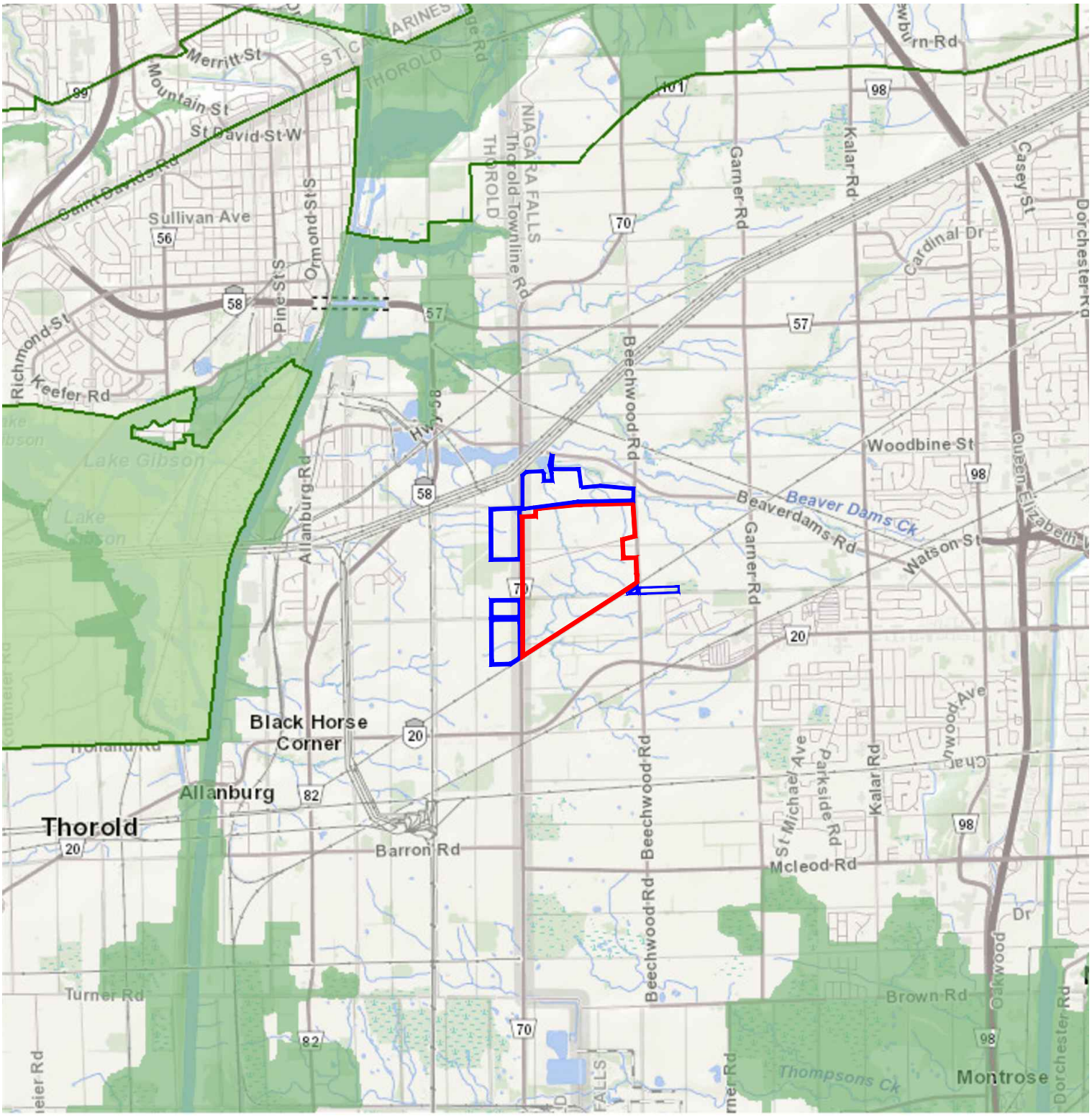


Data Source: Ministry of Natural Resources- Make a Map: Natural Heritage Areas (2018)

Figure 9

## Growth Plan

Natural Heritage System for Growth Plan

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands Owned by Walker Aggregates
- Greenbelt Plan Area Boundary
- Growth Plan Natural Heritage System
- Greenbelt Plan Area Natural Heritage System

**DATE:** January 25, 2024

**SCALE** 1:50,000

north

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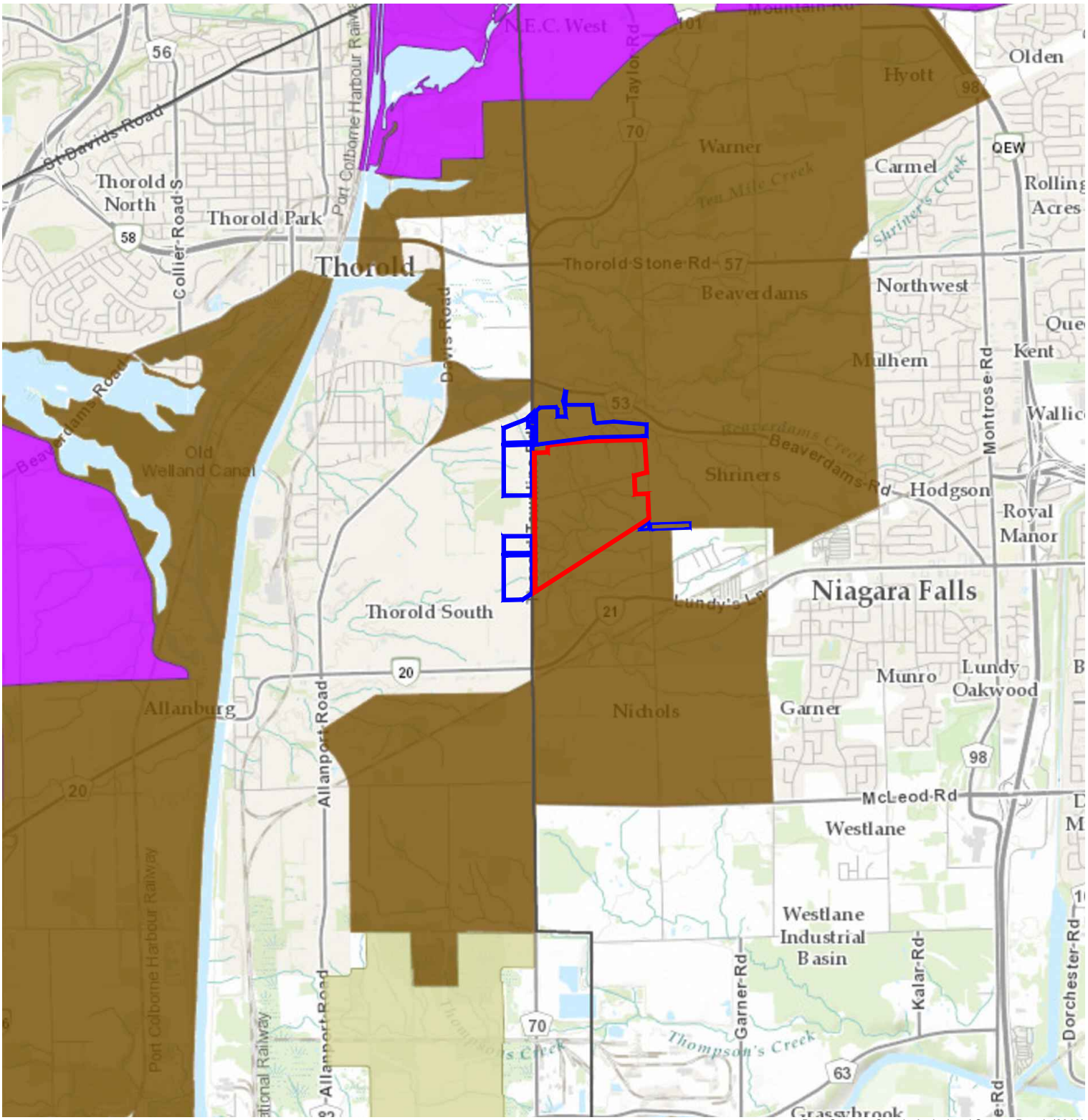


Data Source: Ontario Agricultural System Portal (2018)

Figure 10

**Agricultural System for the Greater Golden Horseshoe (GGH)**

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands Owned by Walker Aggregates
- Prime Agricultural Area
- Candidate Area (Could be added to Prime Agricultural Areas or Rural Lands)
- Specialty Crop Area
- Municipal Boundary

**DATE:** January 25, 2024

**SCALE** 1:50,000

north

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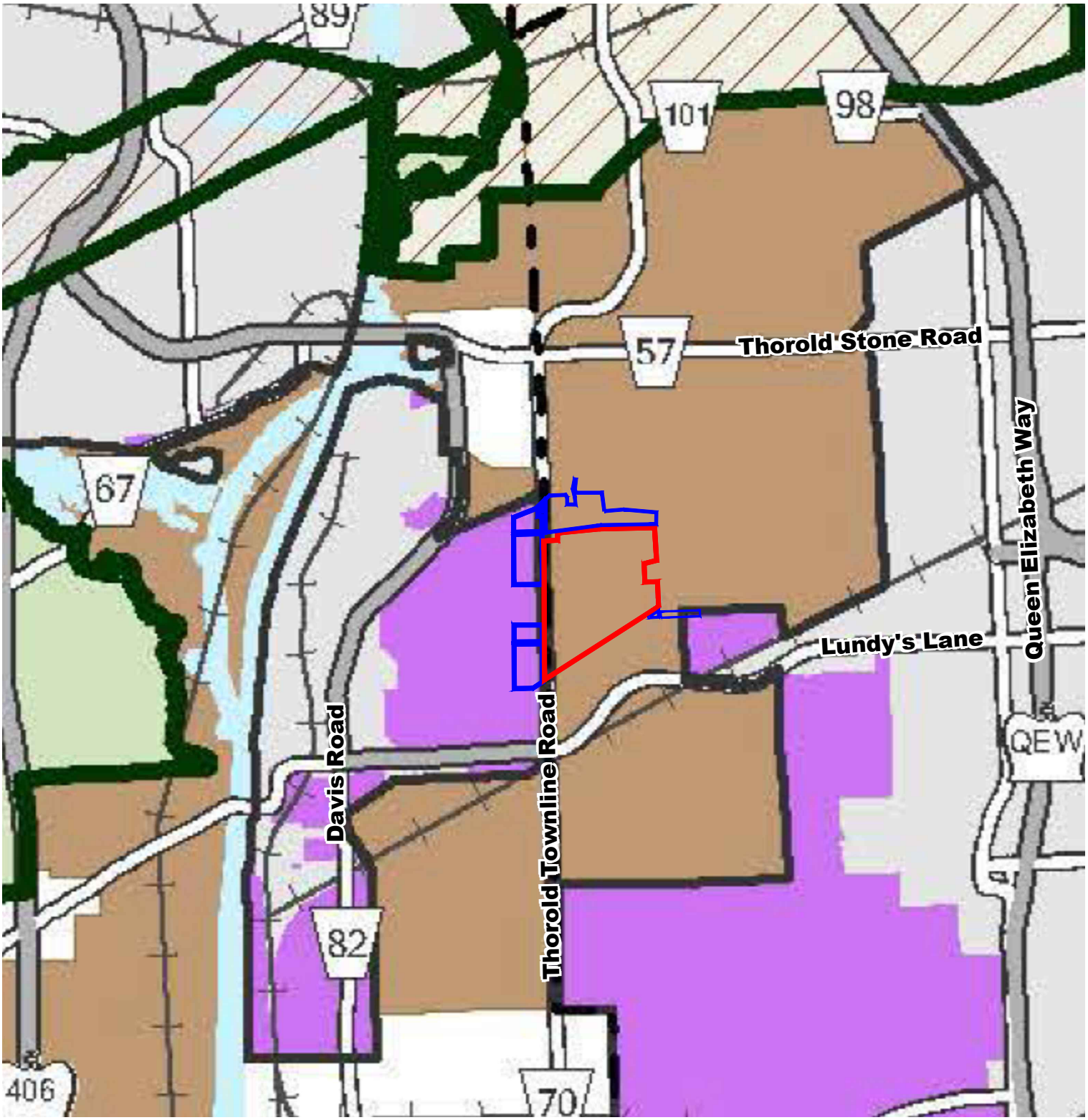


Data Source: Niagara Region Official Plan- Schedule A: Regional Structure (2015)

Figure 11

**Niagara Region Official Plan**

Schedule A: Regional Structure

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands Owned by Walker Aggregates
- Urban Area Boundary
- Built-Up Area
- Designated Greenfield Area
- Niagara Escarpment Plan Area
- Greenbelt Plan Area
- Protected Countryside
- Good General Agriculture Area
- Rural Area
- Municipal Boundary
- Railway

**DATE:** February 2, 2024

**SCALE** 1:50,000

north

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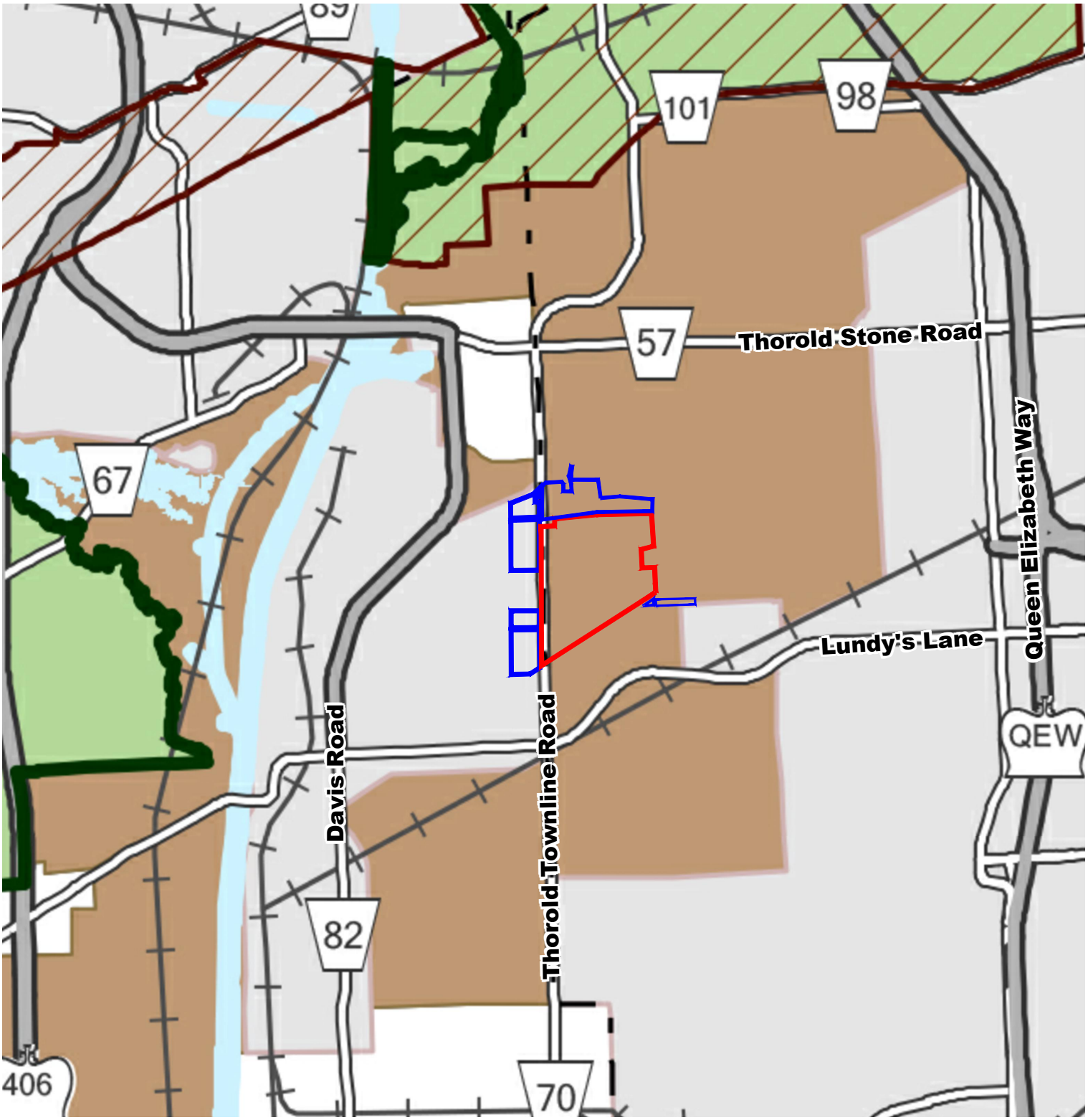


Data Source: Niagara Region Official Plan- Schedule B: Agricultural Land Base (2015)

Figure 12

# Niagara Region Official Plan

Schedule B: Agriculture Land Base

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands Owned by Walker Aggregates
- Unique Agriculture Area
- Good General Agriculture Area
- Rural Area
- Greenbelt Plan Area
- Niagara Escarpment Plan
- Urban Area
- Railway
- Municipal Boundary

**DATE:** January 25, 2024

**SCALE** 1:50,000

north

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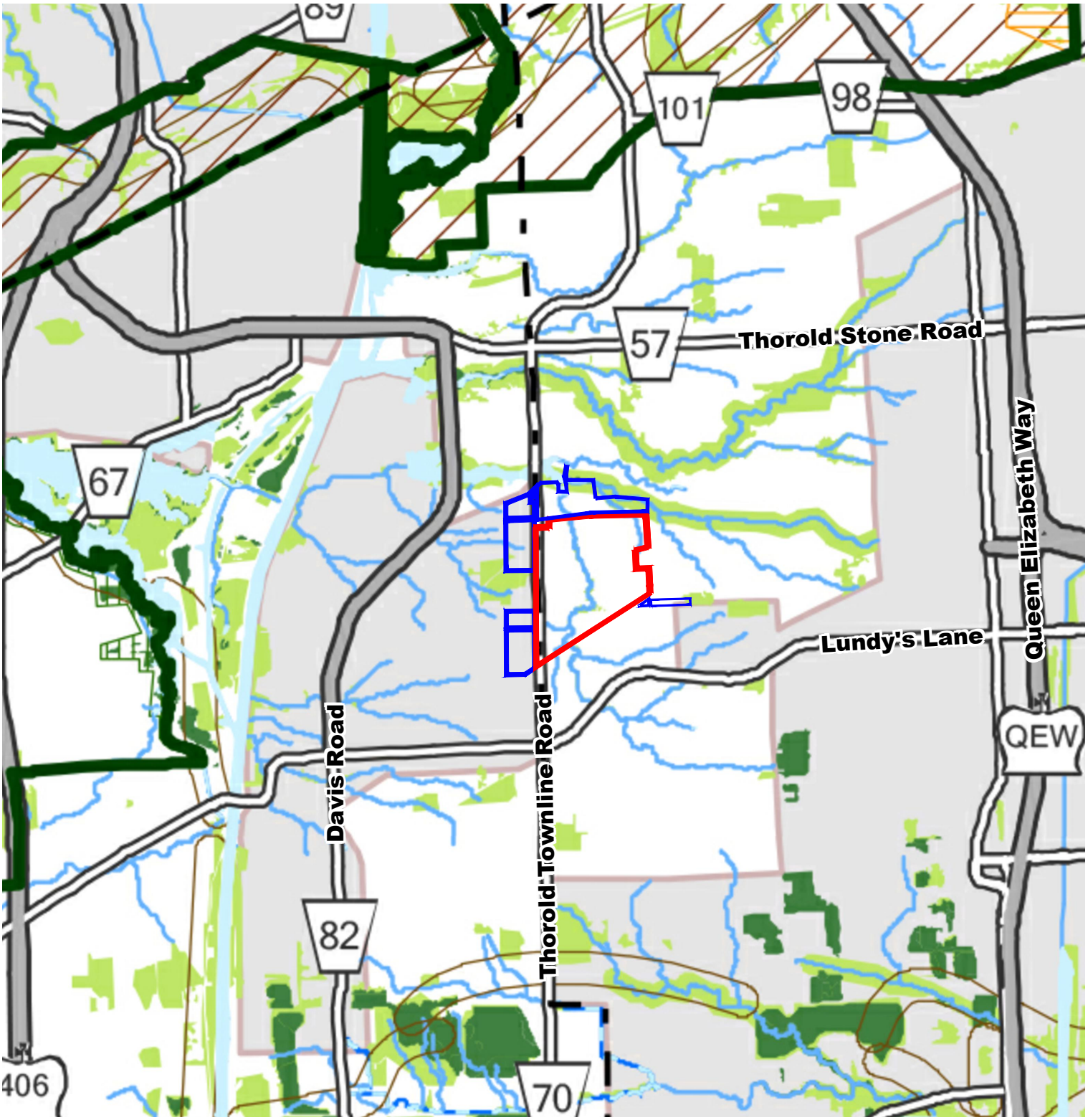


Data Source: Niagara Region Official Plan- Schedule C: Core Natural Heritage (2015)

Figure 13

**Niagara Region Official Plan**

Schedule C: Core Natural Heritage

**Upper's Quarry, City of Niagara Falls, Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands Owned by Walker Aggregates
- Environmental Protection Area
- Environmental Conservation Area
- Greenbelt Plan
- Niagara Escarpment Plan
- Earth Science ANSI
- Fish Habitat
- Fish Habitat
- Municipal Drain
- Potential Natural Heritage Corridor
- Urban Area
- Railway
- Municipal Boundary

**DATE:** January 25, 2024

**SCALE** 1:50,000

north

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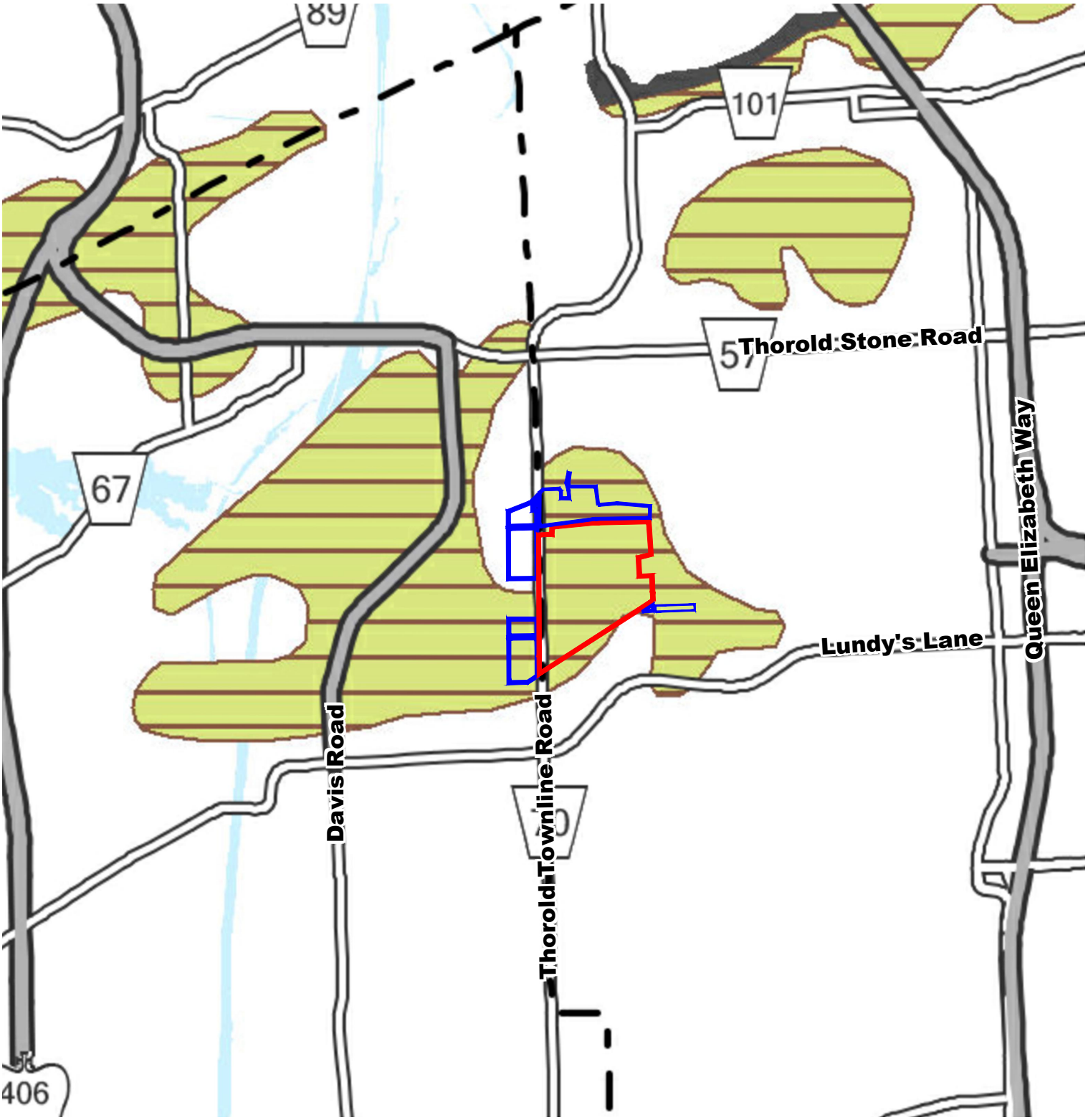


Data Source: Region of Niagara Official Plan- Schedule D1- Potential Resource Areas-Stone (2015)

Figure 14

**Niagara Region Official Plan**

Schedule D1: Potential Resource Areas-Stone

**Upper's Quarry, City of Niagara Falls, Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands owned by Walker Aggregates
- Potential Resource Areas-Stone
- Outcrop-Stone within 3' of Surface
- Municipal Boundary

**DATE:** January 25, 2024

**SCALE** 1:50,000

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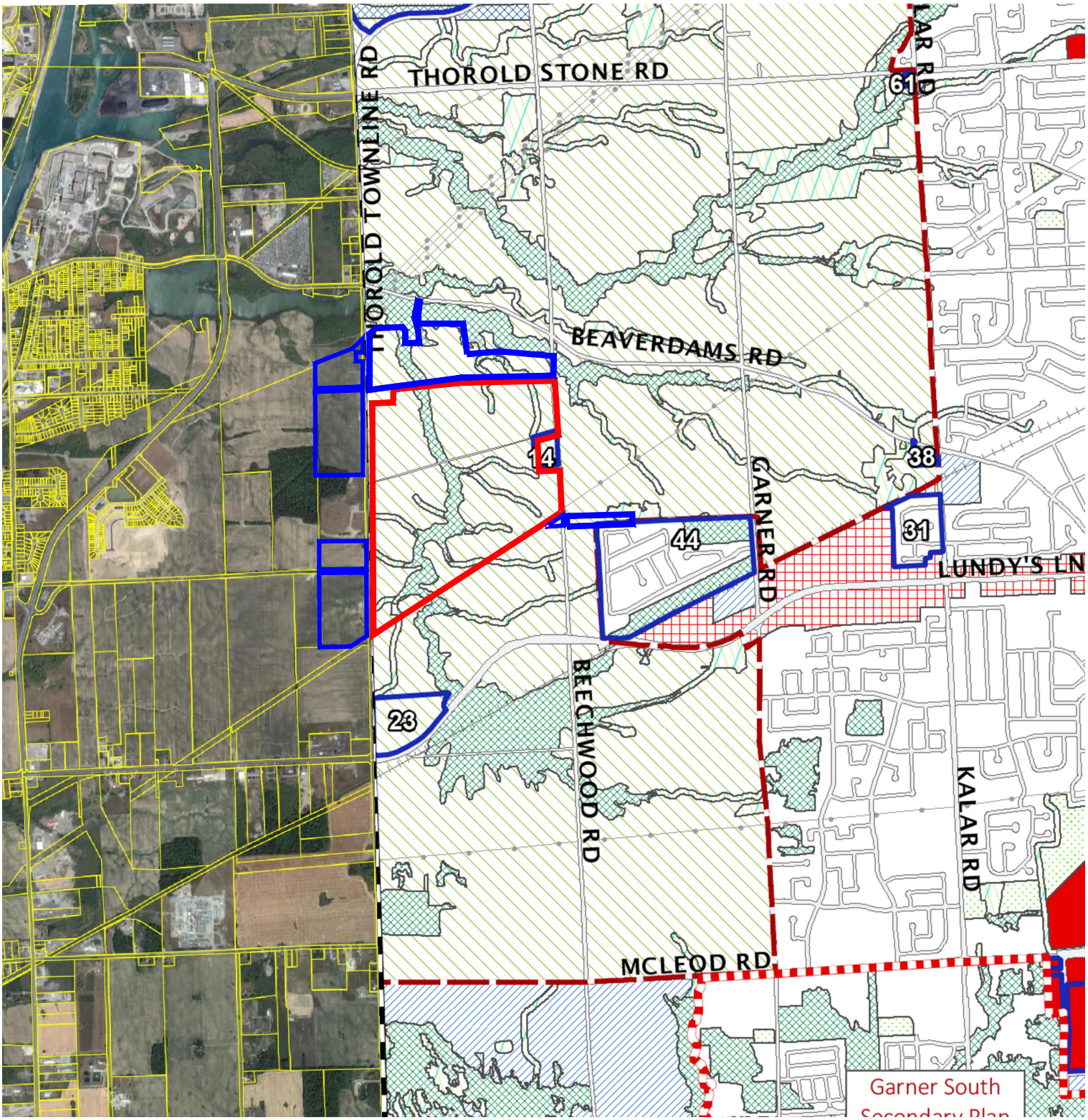


Data Source: City of Niagara Falls Official Plan- Schedule A: Future Land Use (January 2020)/ First Base Solutions Aerial Flown 2017

Figure 15

**City of Niagara Falls Official Plan**

Schedule A:
Future Land Use

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands owned by Walker Aggregates
- Environmental Conservation Area
- Environmental Protection Area
- Good General Agriculture
- Industrial
- Major Commercial
- Open Space
- Residential
- Tourist Commercial
- Secondary Plan Area
- Special Policy Area
- Urban Area Boundary

**DATE:** January 25, 2024

**SCALE** 1:30,000

north

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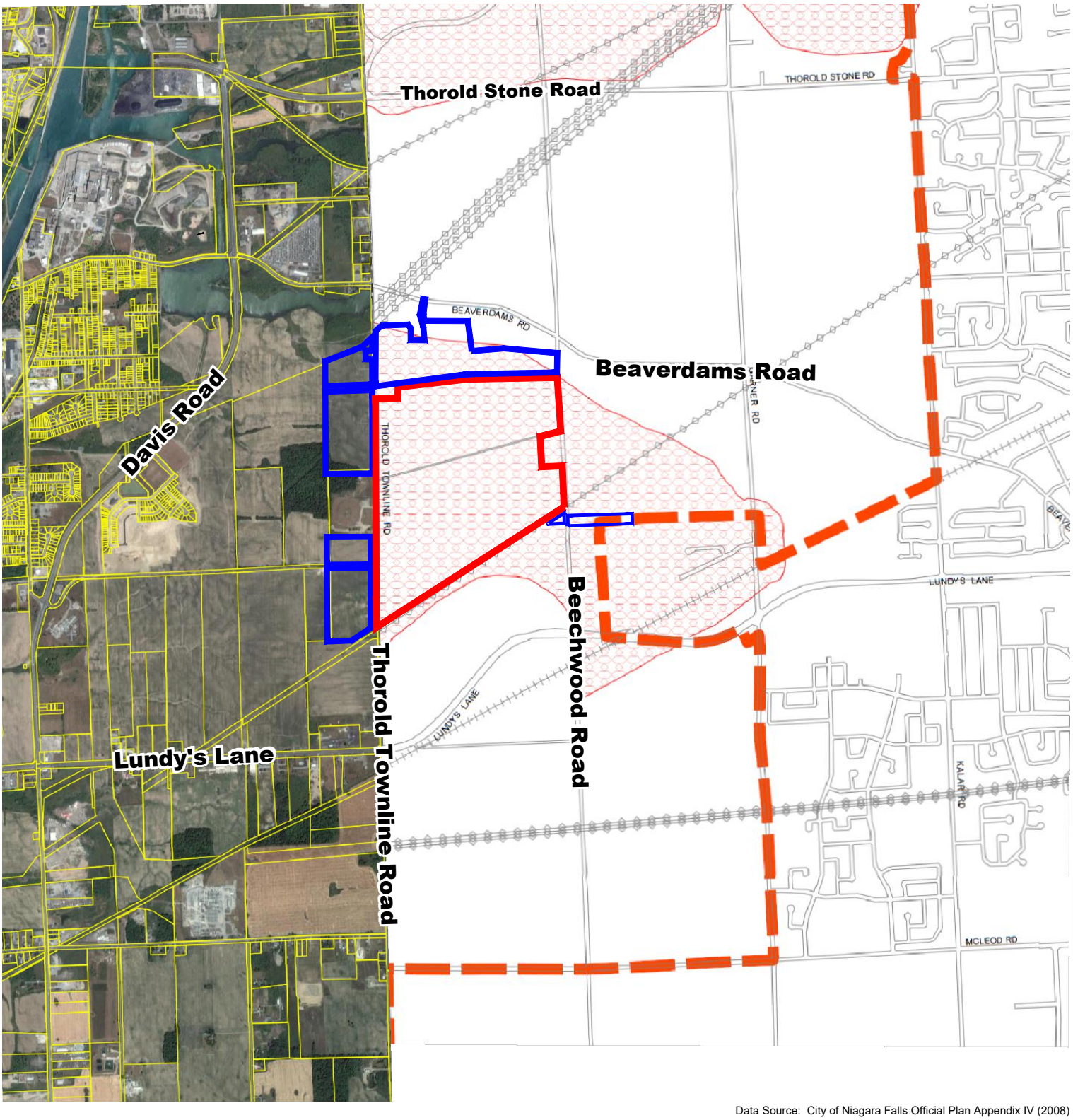
MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
230-7050 WESTON ROAD WOODBRIDGE, ON, L4L 8G7
P: 905 761 5588 F: 905 761 5589 | WWW.MHBCPLAN.COM




Data Source: City of Niagara Falls Official Plan Appendix IV (2008)

Figure 16

**City of Niagara Falls Official Plan**

Appendix IV: Potential Aggregate Resources

**Upper's Quarry, City of Niagara Falls, Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Adjacent Lands owned by Walker Aggregates
- City of Niagara Falls Urban Area Boundary
- Bedrock Resource Area
- City of Thorold Urban Area Boundary

**DATE:** January 25, 2024

**SCALE** 1:30000

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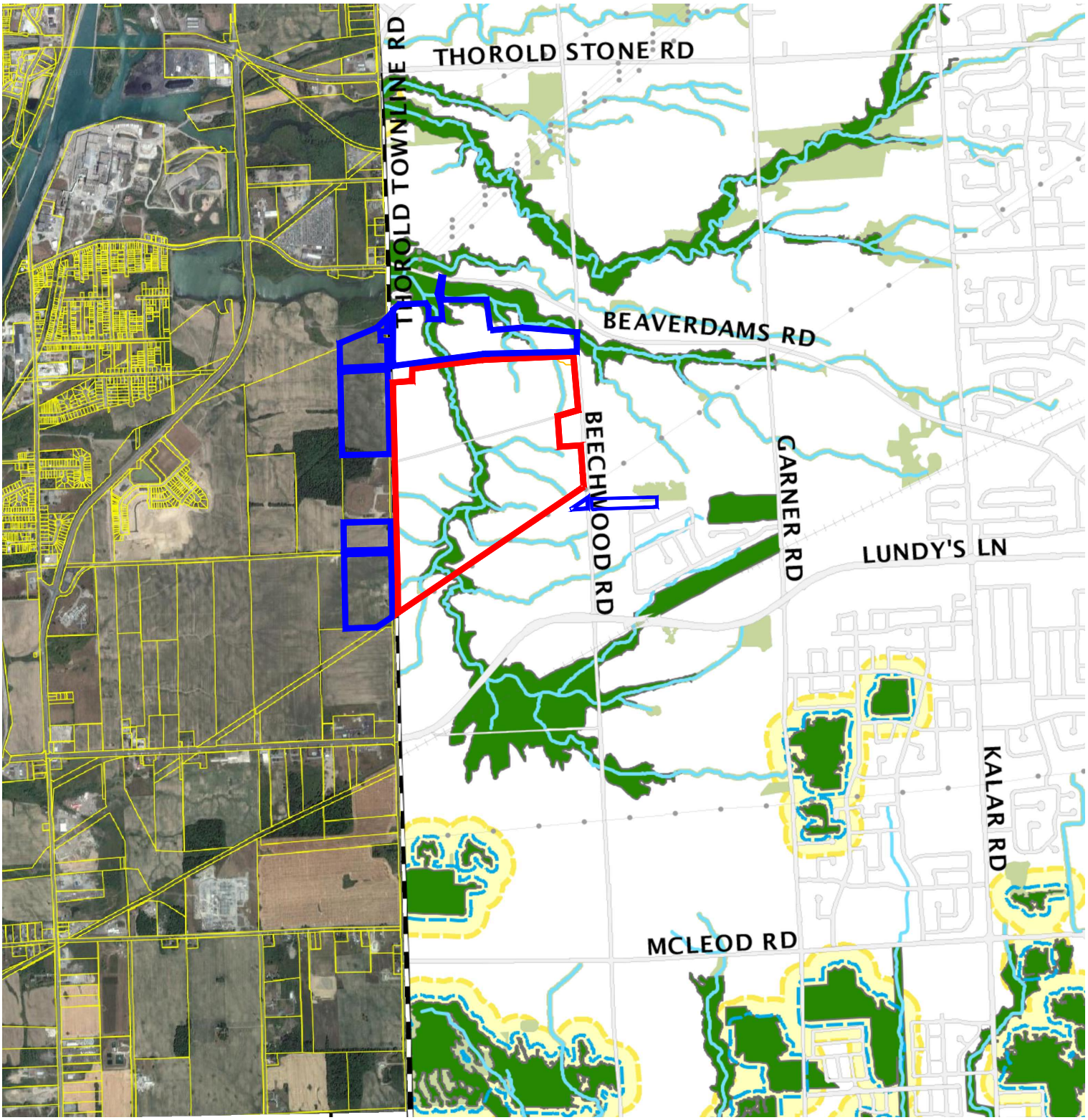


Data Source: City of Niagara Falls Official Plan- Schedule A-1: Heritage Features and Environmental Lands (January 2020)/ First Base Solutions Aerial Flown 2017

Figure 17

**City of Niagara Falls Official Plan**

Schedule A-1:
Heritage Features and Environmental Lands

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands Owned by Walker Aggregates
- Environmental Protection Area
- Environmental Conservation Area
- Wetland Buffer Area
- Adjacent Land
- Creek

**DATE:** January 25, 2024

**SCALE** 1:30,000

north

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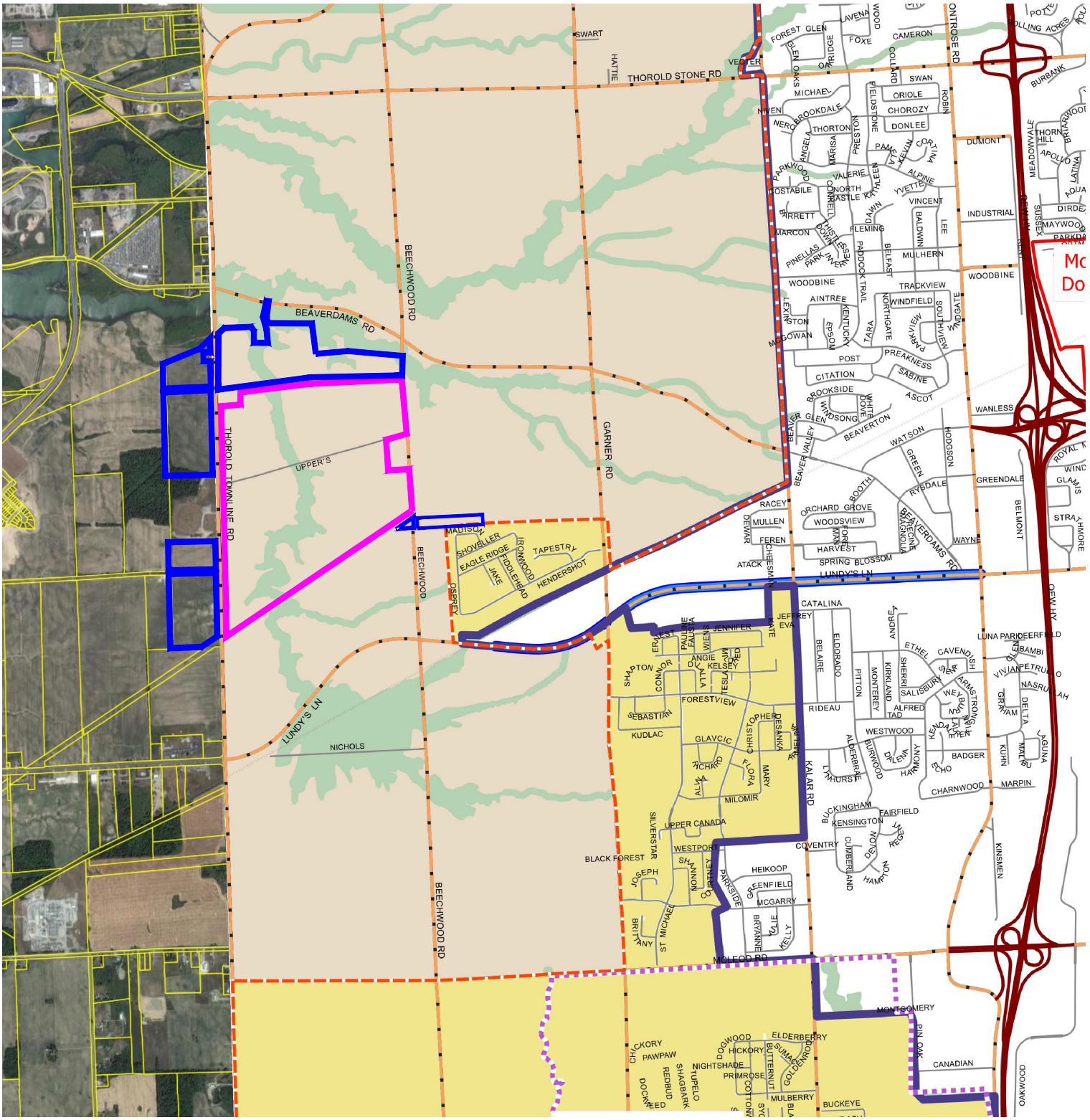


Data Source: City of Niagara Falls Official Plan- Schedule A2: Urban Structure Plan (March 2020)/ First Base Solutions Aerial Flown 2017

# Figure 18

## City of Niagara Falls Official Plan

Schedule A2:
Urban Structure Plan

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands owned by Walker Aggregates
- Urban Area
- Built Area Boundary
- Rural Area
- Protected National Heritage Area *Includes lands designated EPA only
- Built Up Area
- Corridor
- Greenfield Area
- Warren Woods
- Arterial Roads
- Highway
- Rail

**DATE:** January 25, 2024

**SCALE** 1:30,000

north

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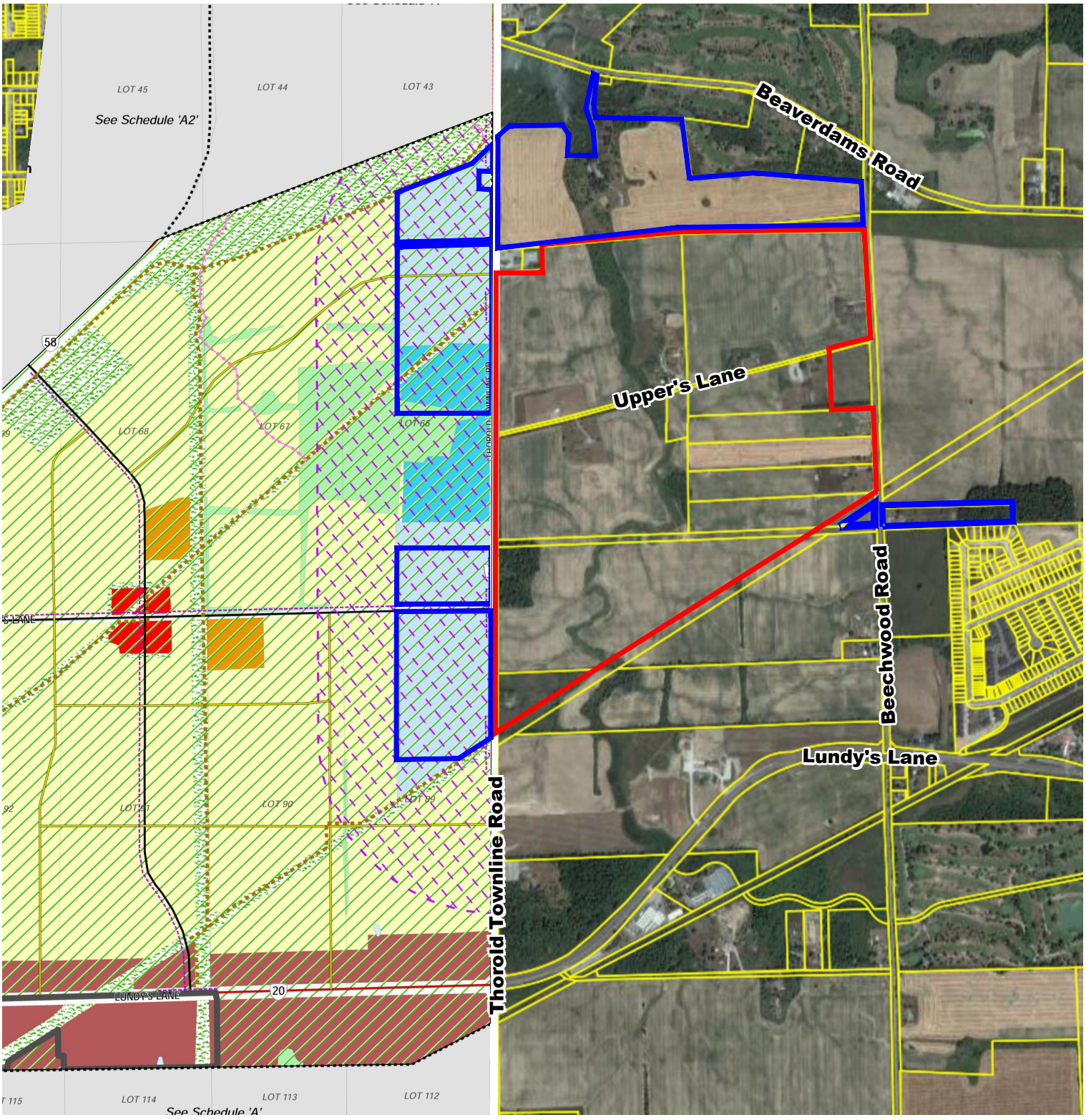


Data Source: City of Thorold Official Plan- Schedule A-3: The Neighbourhoods of Rolling Meadows Secondary Plan (2017)/ Ontario Agricultural System Portal (2018)

# Figure 19
## City of Thorold Official Plan

Schedule A-3:
The Neighbourhoods of Rolling Meadows Secondary Plan

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

**LEGEND**

- Proposed Upper's Quarry Site
- Other Lands owned by Walker Aggregates
- Employment- Prestige Industrial
- Employment- Light Industrial
- Highway Commercial
- Village Square Commercial
- Institutional
- Residential
- Environmental Protection Two
- Aggregate Impact Area
- Greenfield Overlay
- Urban Area Boundary
- Municipal Boundary
- Open Space and Parks
- Eco-Trail
- Off-Road Multi-Use Trail
- On-Road Multi-Use Trail

**DATE:** February 2, 2024

**SCALE** 1:15000

north

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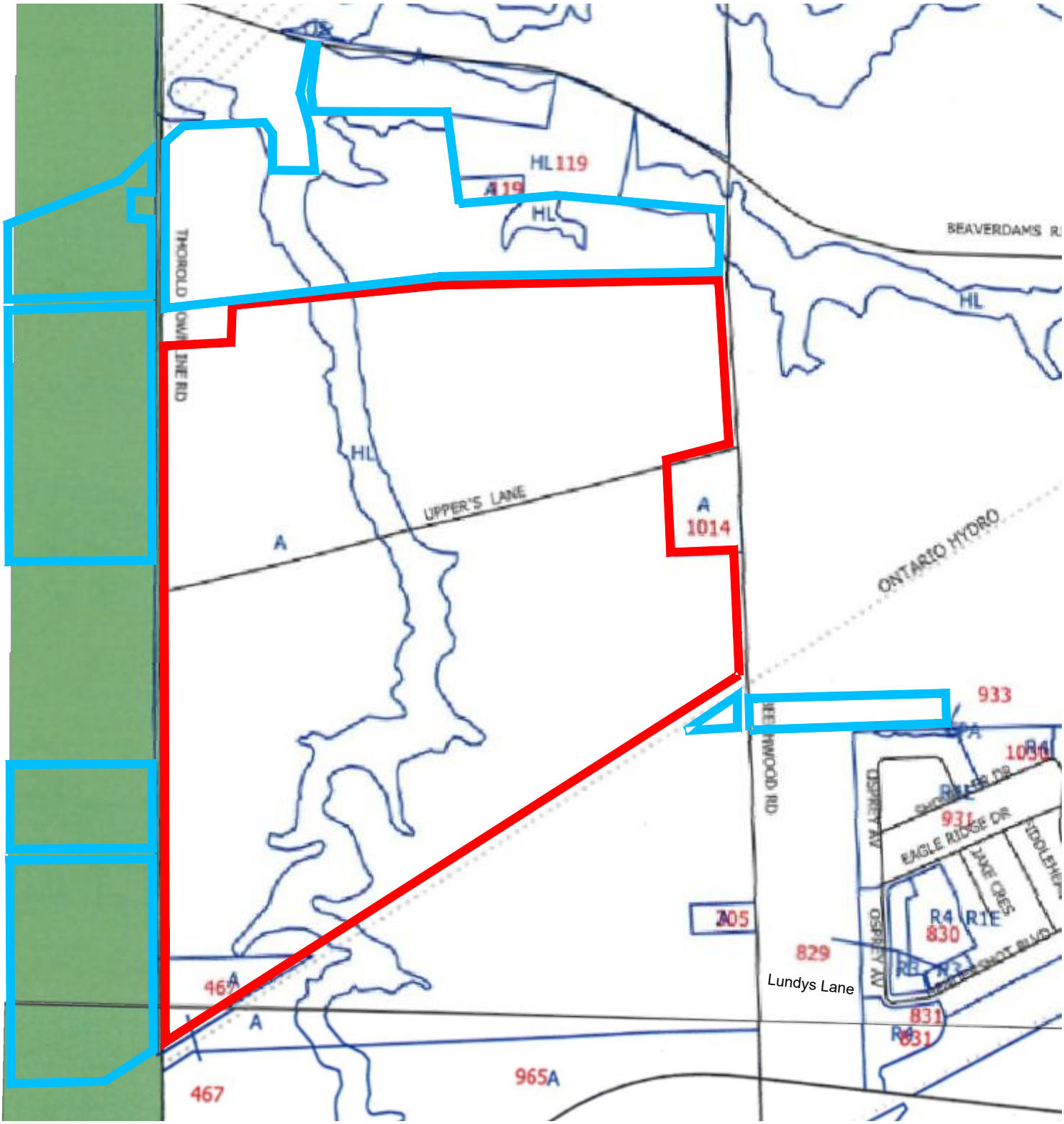


Data Source: City of Niagara Falls Zoning By-law 79-200 (2017)

Figure 20

**City of Niagara Falls Zoning By-law 79-200**

Sheet A4 & Sheet A5

**LEGEND**

- Proposed Upper's Quarry Site
- Buffer Lands
- Zone Lines
- Lands Outside of Municipal Boundary

**DATE:** January 25, 2024

**SCALE** 1:10,000

north

**Upper's Quarry,**
**City of Niagara Falls,**
**Region of Niagara, Ontario**

N:\9811\V - South Niagara Quarry\Planning Justification Report\Figures\CAD\9811V_Figure MappingMaps_27 July 2021-Dec 2023.dwg

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# Appendix **A**

# Pre-Consultation Meeting Form

Niagara Region &
City of Niagara Falls

Persons intending to make an application for a proposed development are required to consult with planning staff prior to submitting an application. A pre-consultation meeting will identify what is required to be submitted for a complete application and will provide the opportunity to discuss:

- The nature of the application;
- Development and planning issues;
- Fees;
- The need for information and/or reports to be submitted with the application;
- The planning approval process;
- Other matters, as determined.

**Pre-Consultation Meeting Date:** October 17, 2019

| | | | |
|---|---|---|---|
| **Site Address:** | See Schedule 'A' attached (includes Upper's Lane & Road Allowance Between Township Lots 120 and 136) | **Approximate Land Area (metric):** | 106.3 ha |

**Owner Contact Information:**

| | | | |
|---|---|---|---|
| **Name of Owner:** | Walker Aggregates Inc. | **Contact:** | Kevin Kehl, Project Manager |
| **Phone Number:** | 905-680-3692 | **Email:** | kkehl@walkerind.com |

**Agent Contact Information:**

| | | | |
|---|---|---|---|
| **Name of Agent:** | MHBC Planning | **Contact:** | Debra Walker (Kakaria) |
| **Phone Number:** | 905-761-5588 x. 216 | **Email:** | dkakaria@mhbcplan.com dwalker |

**Application Types:**

- [x] Regional Official Plan Amendment
- [x] Local Official Plan Amendment
- [x] Zoning By-law Amendment

1. **Brief description of proposed development:**

Regional Official Plan Amendment, City of Niagara Falls Official Plan and Zoning By-law Amendments to permit the proposed below water aggregate quarry operation

2. **Existing Regional Official Plan Designations:**

Good General Agriculture and Environmental Conservation Area

**Conformity with Regional Official Plan land use designations and policies?** [ ] Yes [x] No

**If 'No', what is the nature of the amendment needed?**

To add site specific policies to Section 13 to permit the proposed quarry operation

3. **Check All Applicable:** [ ] Brownfield [ ] Greenfield [ ] Built-up [ ] NEP [ ] Greenbelt

4. **Existing Local Official Plan Designation:**

Good General Agriculture and Environmental Protection Area

**Conformity with Official Plan land use designations and policies?** [ ] Yes [x] No

**If 'No', what is the nature of the amendment needed?**

To add a Special Policy Area to permit the proposed quarry operation

5. **Existing Zoning:**

Agricultural (A) and Hazard Land (HL)

**Conformity with existing zoning?** [ ] Yes [x] No

**If 'No', what is the proposed zoning?**

Extractive Industrial

6. **Is Site Plan approval required?** [ ] Yes [x] No

7. **Fees Required at time of Submission of the Application:**

| Application | City of Niagara Falls | Niagara Region | Niagara Peninsula Conservation Authority | Other Fees |
|---|---|---|---|---|
| Regional Official Plan Amendment | | $111,650 | $7,425 | |
| Local Official Plan Amendment | See S.10 | $9,520 | $7,425 | |
| Zoning By-law Amendment | See S. 10 | $1,270 | $7,425 | |
| Plan of subdivision | | | | |
| Plan of Condominium | | | | |
| Consent | | | | |
| Site Plan Control or Amendment | | | | |
| Other | Full Cost Recovery + $16,200 Base Fee | $1830 Stormwater Management review fee (site over 5ha)<br><br>Peer Reviews and Aggregate Advisor | $2205 – EIS review<br><br>$1755 – Hydrogeological Review<br><br>$1755 – Storm Water Management Review | |
| **TOTAL** | Full Cost Recovery + $16,200 Base Fee | $124,270 + Aggregate Advisor and Peer Reviews | $27,990 | |

Notes:

- Notwithstanding the fees noted above, all fees are payable based upon the rate in the fee schedule by-law in effect on the date the application is received.
- Further fees may be required at a later date as per the fee schedule by-law.
- Separate cheques shall be made payable to the appropriate agency.
- The owner/applicant shall bear the cost of peer reviews and an aggregate advisor as per the Regional Municipality of Niagara Fee By-Law in accordance with the Cost Acknowledgement Agreement
- As provided for under Section 69 of the *Planning Act* an applicant may pay the fees under protest.

8. **Additional Agencies to be contacted:**

[x] Hydro [x] Pipelines [ ] NEC [x] Other City of Thorold

9. **Required Information and Studies to be submitted with the Application(s):**

See Schedule 'B' attached

10. **Additional Comments:**

In addition to the comments provided below, please see other preliminary staff comments attached as Schedule 'C'.

- All studies listed in Section 9 (Schedule 'B') of this form may be peer reviewed. The Terms of Reference for a peer review is determined by the Joint Agency Review Team (JART) and paid for by the applicant. An Aggregate Advisor will be required. As per the Regional Municipality Fee By-Law the applicant/owner shall bear any and all costs associated with the peer reviews and the aggregate advisor. The applicant/owner shall be required to sign a cost acknowledgment agreement, which must be signed and submitted as part of the application.
- The City of Niagara Falls requires full cost recovery for aggregate applications with a $16,200 base fee. The owner/applicant is required to enter into a separate Cost Acknowledgement Agreement with the City of Niagara Falls.
- Some of the above mentioned studies/required information may be combined. If the required information/study as listed above is not found in a standalone report, the applicant will be required to indicate in a covering letter to the application where the information/study can be found within the application package. In addition, if a report contains information/studies on multiple topics from the table above, the qualified person writing each section shall be clearly identified within the report and this portion of the report shall be signed and dated by the qualified professional.
- A Joint Agency Review Team will be formed. The purpose of the JART is to share information and expertise among review agencies; review, analyze and comment on the completeness of the submissions; engage the public more efficiently; and, improve decision-making and efficiency associated with aggregate applications. A JART does not make recommendations on whether or not applications should be approved.
- Certain reports, such as the Natural Environment Study, Traffic Study and Land Use Studies, shall not be more than five years old when submitted, and will not be accepted unless previously agreed to by the JART. All studies shall be in accordance with current applicable regulations, policies and standards.
- To date, Terms of References for the following studies have been submitted to the Region, City and NPCA for review:
  - Transportation Impact Study
  - Natural Environmental Level I/II Study
  - Economic Impact Assessment
- Comments on the above Terms of Reference documents are included as Schedule 'D'. The JART may request additional scoping or Terms of Reference for other studies, as necessary. Generally, Terms of Reference comments are provided by the individual or agency responsible for reviewing the study. However, it is noted that the Aggregate Advisor and peer reviewers have not been retained to date. Future

scoping or Terms of Reference comments may be provided by the Aggregate Advisor or a peer reviewer when they are retained.

**11. Site Visits:**

- An initial site visit and additional site visits, as required, may requested. Reasonable requests for site visits will be accommodated. The owner consents to these site visits by signing this Pre-Consultation Meeting Checklist.

**12. Additional Notes:**

1. The purpose of this document is to identify the information required to commence processing and evaluating an application as set out in the Planning Act. This pre-consultation process is designed to proceed based on the mutual agreement of the parties as shown by the signatures below.
2. Pre-consultation does not imply or suggest any decision whatsoever on behalf of staff or the municipality to either support or refuse the application.
3. The applicant should be aware that the information provided is accurate as of the date of the pre-consultation meeting. Should an application not be submitted in the near future, and should other policies, by-laws or procedures be approved by the Province, Municipality, Region or other agencies prior to the submission of a formal application, the applicant will be subject to any new policies, by-laws or procedures that are in effect at the time of the submission of a formal application. If an application is not submitted within 1 year, it is advisable that the applicant confirm with the municipality the directives of the original pre-consultation meeting.
4. Any application submitted without the information identified in this Pre-consultation Document will be deemed incomplete and not processed. Alternately, staff may recommend refusal of the application based upon insufficient information to properly evaluate the application.
5. The applicant acknowledges that the Municipality and Region considers the application forms and all supporting materials including studies and drawings, filed with any application to be public information and to form part of the public record. With the filing of an application, the applicant consents and hereby confirms that the consent of the authors of all supporting reports have been obtained, to permit the Municipality and Region to release the application and any supporting materials either for its own use in processing the application, or at the request of a third party, without further notification to, or permission from, the applicant.
6. It is hereby understood that during the review of the application additional studies or information may be required as a result of issues arising during the processing of the application or the review of the submitted studies.
7. All plans and statistics must be submitted in metric.

**Signatures:**

Andrew Bryce
City of Niagara Falls
Planning Staff

Niagara Falls Staff (signature)

Date: Nov 20/19

Pat Busnello
Niagara Region
Development Services Staff

Regional Staff (signature)

Date: Nov 19/19

ERIK ACS
Niagara Region
Policy Planning Staff

Regional Staff (signature)

Date: Nov 19/19

Sean Norman
Niagara Region
JART Chair

Regional Staff (signature)

Date: Nov 19/19

Cara Lampman
NPCA Staff

NPCA Staff (signature)

Date: Nov 20/19.

Debra Walker
Agent

Agent (signature)

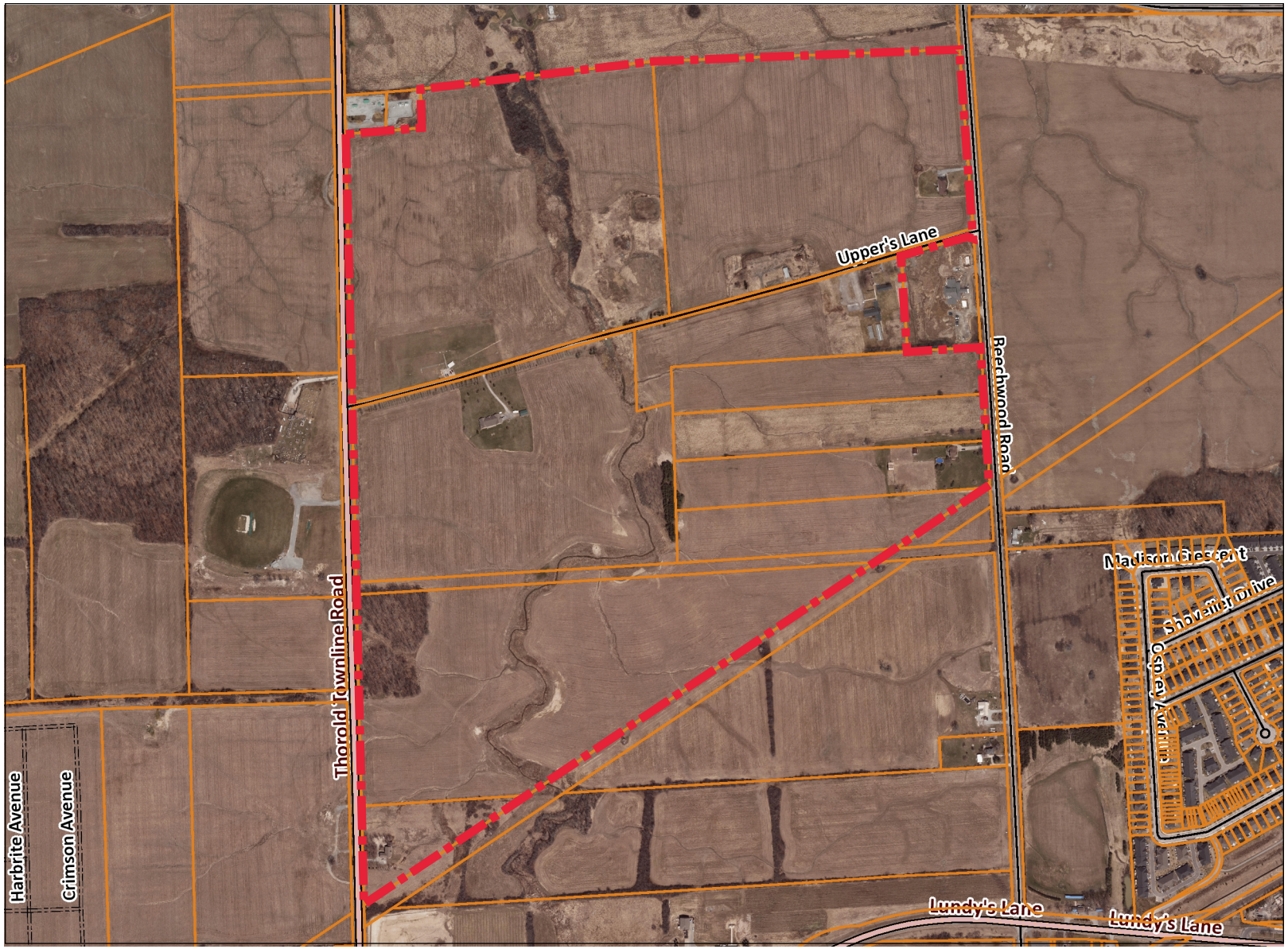
Date: Nov. 21. 2019

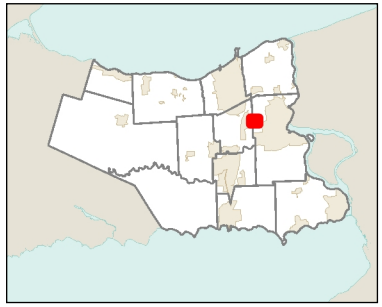
Kenhuey Shyn
Owner

Owner (signature)

Date: Dec 6/2019

# Schedule 'A' Subject Lands



## Legend

- Assessment with Owner
- Streets Labels
- Provincial
- Regional
- Municipal/Private Roads
- Unimproved Roads
- Future/Planned Roads
- Regional Roads
- Subject Lands

508.0 0 254.00 508.0 Meters

N



## Notes

# Schedule 'B' - Required Information and Studies

| Region | Niagara Falls | NPCA | Thorold | Submission Requirements | Notes | * Peer Review |
|---|---|---|---|---|---|---|
| **Studies** | | | | | | |
| ✓ | ✓ | | ✓ | Planning Justification Report | Specifically address 14.D.5 of ROP<br>Please include surrounding land uses plan within 500 m of property (including buildings and structures) | |
| ✓ | ✓ | | ✓ | Land Use Compatibility / Sensitive Land Use Study | Includes Land Use Compatibility / Sensitive Land Use Study, informed by applicable Provincial Guidelines (e.g., D-Series, NPC-300) and applicable Air Quality, Noise and Vibration Studies | ✓ |
| ✓ | ✓ | | ✓ | Air Quality Assessment | | ✓ |
| ✓ | ✓ | | ✓ | Noise Study | | ✓ |
| ✓ | ✓ | | ✓ | Blasting Impact Assessment / Vibration Study | | ✓ |
| ✓ | ✓ | ✓ | ✓ | Site Plans | As per Aggregate Resources Act (ARA) standards (including Existing Features, Proposed Operations, Progressive Rehabilitation, Final Rehabilitation, Cross-Sections). Landscape Plans, including fencing and screening. | |
| ✓ | ✓ | | ✓ | Visual Impact Study | | |
| ✓ | ✓ | ✓ | ✓ | Environmental Impact Study / Natural Heritage Evaluation | Will be combined with Natural Environment Level 1 and Level 2 Studies required as part of the ARA process.<br>Include copy of Draft Natural Channel Design Report | ✓ |

| | | | | | | |
|---|---|---|---|---|---|---|
| ✓ | ✓ | | | Hydrogeological / Hydrological / Water Resources Study / *Stormwater Management Report | Hydrogeological components of the study will include geotechnical considerations<br>Includes an analysis of the ability of the site to support private services and a plan illustrating the location of services<br>*See notes attached<br>Includes on-site sedimentation and erosion control plans; drainage and grading plans | ✓ |
| ✓ | ✓ | | | Archaeological Assessment | | |
| ✓ | ✓ | | | Cultural Heritage Assessment | Built Resources and Cultural Heritage Resources | ✓ |
| ✓ | ✓ | | | Agricultural Impact Assessment | | |
| ✓ | ✓ | | | Transportation Impact Study / Transportation / Haul Route Study | | |
| ✓ | ✓ | | ✓ | Financial Impact Assessment / Economic Benefits | | ✓ |
| **Other Information** | | | | | | |
| ✓ | ✓ | ✓ | | Completed Application Forms | | |
| ✓ | | | ✓ | Draft Regional Official Plan Amendment | | |
| | ✓ | | | Draft Local Official Plan Amendment | | |
| | ✓ | | | Draft Zoning By-Law Amendment | | |
| ✓ | ✓ | | ✓ | Public Consultation Plan | Will include an overview of the work completed to date | |
| ✓ | ✓ | | | Summary of Well Records | Including information related to the decommissioning of on-site wells | |
| ✓ | ✓ | ✓ | | Required Fees | | |
| ✓ | ✓ | | | Cost Acknowledgement Agreement | Separate Cost Acknowledgment Agreements with the Region and City | |

Please note that some of the above mentioned studies/required information may be combined. If the required information/study as listed above is not found in a standalone report, the applicant will be required to indicate in a covering letter to the application where the information/study can be found within the application package. In addition, if a report contains information/studies on multiple topics from the table above, the qualified person writing each section shall be clearly identified within the report and this portion of the report shall be signed and dated by the qualified professional.

* In accordance with the Memorandum of Understanding and Regional Fee By-Law, the Joint Agency Review Team will retain third party consultants to peer review certain technical studies and to provide advice and recommendations on specific topics. Please note that the “Peer Review” column above is provided for information only at this time and represents a preliminary prediction of which studies will be peer reviewed.

# Schedule 'C' - Other Preliminary Comments

Based on information received to date, the following preliminary comments are provided. These comments are not intended to be comprehensive and are provided to assist the applicant in preparing the application and technical reports.

## City of Niagara Falls

Planning

- Site plans should note building sizes and setbacks and dimensions of parking and aisles that are provided. In addition any proposed fencing should be noted.
- Well survey – Wells within 300m of the site should be surveyed.
- Agricultural study should look at the capability and soils of the affected agricultural areas.

## Niagara Region

Stormwater Management ***TO BE DISCUSSED FURTHER**

The Niagara Region expects the following with respect to on-site stormwater management:

- Water quality control: Normal level of protection (the receiving waterbody is a Type 2 fish habitat)
- Water quantity control: attenuate post-development flows to pre-development flow levels for all storm events (2- to 100-year) due to the development size and potential flooding impacts to Thorold Townline Road. To address the MECP's minimum erosion control requirement, i.e. detain runoff from a 25 mm rainfall-runoff for at least 24 hours.
- Preparation of Operation/Inspection/Maintenance Manual of the SWM facilities and the emergency (spill) management plan. Routine monitoring and records of outflow quality would be required.
- The on-site sedimentation and erosion control plan shall be provided.
- A SWM report which outlines the overall SWM plan for the entire development and the detailed plan/measures for each individual phase indicating how the above requirements will be achieved.

## City of Thorold

- MHBC's Figure 1 – Location Map identifies a small portion of lands on the west side of Thorold Townline Road as "Buffer" lands. Please note that Schedule A-3 of the City's Official Plan identifies a significant portion of lands west of Thorold Townline Road as an Aggregate Impact Area. The lands are designated for various uses including residential, employment – light industrial, employment – prestige industrial and environmental protection two. Policies for the Aggregate Impact Area are included in Policy B1.8.12.3 of the City's Official Plan.
- Policy B1.8.12.3 of the City of Thorold Official Plan identifies Thorold Townline Road as the aggregate haul route (option 1 on the proposed haul route options map prepared by TMIG Ltd.). The haul route identified as option 2 is not identified in the City's Official Plan.

# Schedule 'D' - Terms of Reference Comments

To date, Terms of References for the following studies have been submitted to the Region, City and NPCA for review:

- Transportation Impact Study
- Natural Environmental Level I/II Study
- Economic Impact Assessment

The following comments are provided to support the applicant in completing/finalizing the studies.

**Natural Heritage Evaluation**

Natural Environment Level I/II Study (Existing Conditions and Impact Assessment) Terms of Reference (TOR) for the property located at Upper's Lane in the City of Niagara Falls, prepared by Stantec Consulting Ltd., dated July 15, 2019 - Overall, staff are satisfied that the studies/surveys proposed (some of which have already been completed) adequately address the natural heritage features present on the subject property.

Staff would like to clarify that the ELC Assessment proposed by Stantec Consulting Inc. is expected to include a 3-season vegetation inventory and soil assessment/classification. All ELC data sheets should be included with the Environmental Impact Study (EIS) submission. In addition, the TOR identifies that the ELC Assessment will include "confirmation of previous data". Environmental Planning staff caution that natural heritage data (i.e. vegetation inventories, ELC polygon delineations etc.) generally have a shelf life of approximately 5 years. If "previous data" includes information that is more than 5 years old, please contact Regional Environmental Planning staff to discuss.

Further, please note that the most Recent Regional EIS Guidelines are dated 2018 - the TOR identifies our 2012 EIS Guidelines. The updates contained in the 2018 version are predominately administrative in nature and are available on the Region's website.

**Transportation Impact Study**

- The TIS shall be undertaken in accordance with Niagara Region's *Guidelines for Transportation Impact Studies*, 2012 which stipulates:
    - Planning horizons shall include the base year (2019), short-term horizon (2024), and long-term horizon (2029);
    - A 2% compound annual growth rate shall be used to forecast future background traffic volumes in addition to incorporating traffic generated by adjacent developments currently not captured within the existing background traffic volumes;
    - The traffic analyses shall be undertaken using ideal saturation flow rates of 1,750 vehicles per hour per lane, total lost times of 4 seconds for any signalized intersections, and peak hour factors of 0.92 for all movements;

- 8-hour turning movement counts shall be collected with 7:00 a.m. to 9:00 a.m., 11:00 a.m. to 2:00 p.m., and 3:00 p.m. to 6:00 p.m. as the collection periods on a typical weekday including automobiles, heavy vehicles, and cyclists;
- Traffic volume balancing shall only be undertaken if the variance between the counts is minimal and no significant traffic generators/attractors are situated between the count locations;
- Given the geometry of several of the roadways and intersections and the acceleration characteristics of typical vehicles travelling to and from quarries, sight lines shall be reviewed at each intersection under Niagara Region's jurisdiction;
- The analysis shall include the proposed accesses to the site for operations including the need for geometric improvements, left-turn lanes, and intersection control;
- Any geometric improvements recommended shall be accompanied by a functional plan demonstrating the feasibility of implementing such a recommendation;
- Any operational improvements shall be supported by justification analyses such as, but not limited to: left-turn lane warrants, traffic control signal warrants, roundabout feasibility reviews, and demonstrated operational and/or safety benefits;
- Based on the study intersections, the Ministry of Transportation Ontario (MTO) will be a review and commenting agency on the TIS and will also have their own requirements to be placed on the TIS; and
- One of the haul routes identified falls within the City of Thorold's jurisdiction and consideration should be given for providing the opportunity to review and comment on the TIS for representatives from the City of Thorold.

**Economic Impact Assessment**

- It is requested that the Economic Impact Assessment includes financial and economic benefits for the City of Thorold as well as the City of Niagara Falls and the Region.

# Appendix **B**

**THE REGIONAL MUNICIPALITY OF NIAGARA**

**BY-LAW NO.**

**A BY-LAW TO PROVIDE FOR THE ADOPTION OF AMENDMENT XX TO THE OFFICIAL PLAN FOR THE NIAGARA PLANNING AREA to identify Lands On Schedule D4: Mineral Resources as "Licensed Pits And Quarries" and permit a new mineral aggregate operation together with ancillary facilities on such Lands through site specific policy (Upper's Quarry)**

WHEREAS the lands subject to this Amendment are described as Part Lots 119, 120, 136 and 137, including Upper's Lane lying between Thorold Townline Road and Beechwood Road, and Part of Road Allowance between Lots 120 and 136 between Thorold Townline Road and Beechwood Road, in the former Township of Stamford, now in the City of Niagara Falls, in the Regional Municipality of Niagara (hereinafter referred to as "the subject lands");

WHEREAS the subject lands are currently designated "Good General Agriculture Area" on *Schedule A: Regional Structure* in the Niagara Region Official Plan;

WHEREAS the Niagara Region Official Plan provides consideration for the establishment of new or expanded mineral aggregate extraction operations on lands designated "Good General Agricultural Area", subject to an assessment of the potential impacts of such a land use on the natural environment, agricultural operations, and surrounding land uses;

WHEREAS the subject lands are within an area identified as "Silurian Formation" on *Schedule D1: Potential Bedrock Areas – Stone*;

WHEREAS the approval of any new or expanded mineral aggregate operations require an amendment to the Niagara Region Official Plan and, through that amendment, are to be identified as "Licensed Pits and Quarries" on *Schedule D4: Mineral Resources*;

WHEREAS Subsection 22 of the *Planning Act, 1990* states when the requirements of subsections (15) to (21), as appropriate, have been met and Council is satisfied that the plan as prepared is suitable for adoption,

WHEREAS it is deemed appropriate to further amend the Official Plan as adopted by Regional Council for the Niagara Planning Area,

NOW THEREFORE the Council of The Regional Municipality of Niagara enacts as follows:

1. That the text attached hereto is hereby approved as Amendment __ to the Official Plan for the Niagara Planning Area.

2. That the Regional Clerk is hereby authorized and directed to give notice of Council's adoption in accordance with Section 17(23) of the *Planning Act, 1990.*

3. That this By-law shall come into force and take effect on the day after the last day of appeal provided no appeals have been received.

THE REGIONAL MUNICIPALITY OF NIAGARA

James Bradley, Regional Chair

AnnMarie Norio, Regional Clerk

Passed: _____, 2021

**Amendment No.**
**To The Official Plan**
**for the Niagara Planning Area**

PART "A"- THE PREAMBLE

The preamble provides an explanation of the Amendment including the purpose, location, background, and basis of the policies and implementation, but does not form part of this Amendment.

- Title and Components
- Purpose of the Amendment
- Location of the Amendment
- Background
- Basis for the Amendment
- Implementation

PART "B"- THE AMENDMENT

The Amendment describes the additions and/or modifications to the Official Plan for the Niagara Planning Area, which constitute Official Plan Amendment No. XX

- Map Change
- Text Change

PART "C"- THE APPENDICES

The Appendices provide information regarding public participation and agency comments relevant to the Amendment, but do not form part of this Amendment.

## PART "A" - THE PREAMBLE

TITLE AND COMPONENTS:

This document, when approved in accordance with Section 17 of the *Planning Act, 1990,* shall be known as Amendment __ to the Official Plan of the Niagara Planning Area. Part "A"- The Preamble, contains background information and does not constitute part of this Amendment. Part "B" – The Amendment, consisting of map and text changes, constitutes Amendment __ to the Official Plan of the Niagara Planning Area. Part "C" – The Appendices, does not constitute part of the Amendment. These Appendices contain information related to public involvement and agency comments associated with the Amendment.

PURPOSE OF THE AMENDMENT:

The purpose of this Amendment is amend Schedule D4 to identify lands, as described below and shown on Map 1 attached to this Amendment, as "Licensed Pits and Quarries" to the Niagara Region Official Plan that reflects and supports the approval of the Upper's Quarry.

LOCATION OF THE AMENDMENT:

The amendment area is within the City of Niagara Falls and on lands described as Part Lots 119, 120, 136 and 137, including Upper's Lane between Thorold Townline Road and Beechwood Road, and Part of Road Allowance between Lots 120 and 136, in the former Township of Stamford, now in the City of Niagara Falls, in the Regional Municipality of Niagara, as shown on Map 1 attached to this Amendment.

BACKGROUND

The subject lands are identified by the Niagara Region Official Plan Schedule D1 as being within a 'Potential Resource Areas: Stone'.

To permit the proposed quarry, an amendment to the Niagara Region Official Plan is required to identify the subject lands as a "Licensed Pits and Quarries" on Schedule D4: Mineral Resources. In addition, the applicant has applied to amend the City of Niagara Falls Official Plan and Zoning By-law. An application for a Class A licence (for a below water table quarry) under the Aggregate Resources Act has also been submitted concurrently to the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF).

In support of the proposed applications, the proponent has participated in pre-consultation with Niagara Region, the City of Niagara Falls, the Niagara Peninsula Conservation Authority and the MNDMNRF. The applications have been submitted together with the prescribed technical reports and information requested through pre-consultation and in accordance with the Aggregate Resources Act Standards, including detailed Site Plans.

BASIS FOR THE AMENDMENT:

a) The Amendment was the subject of a Public Meeting held under the *Planning Act, 1990* on _____. Public and agency comments were addressed as part of the preparation of this Amendment.

b) The Amendment will allow for the proper conservation and management of an identified important provincial source of high quality aggregate resource from being sterilized by development;

c) The Amendment will support provincial policy that aims to protect a long term supply of mineral aggregate resources by making available as much mineral aggregate resource as is realistically possible as close to markets as possible;

c) Based on the Region's review of the *Planning Act, 1990,* the Provincial Policy Statement (2020), the Growth Plan (2020), the Provincial Plans (2017), the Regional Official Plan, and public and agency consultation, Regional staff is of the opinion that the Amendment is consistent with the Provincial Policy Statement, is in conformity and does not conflict with the Provincial Plans that are in effect, is in conformity with Provincial and Regional policies and represents good planning.

IMPLEMENTATION:

Section 14, Implementation of the Official Plan for the Niagara Planning Area, shall apply where applicable.

**PART "B" – THE AMENDMENT**

# Amendment XX
# To the Official Plan for the Niagara Planning Area

The Official Plan for the Niagara Planning area is amended as follows:

## Map Changes (attached)

1. "Schedule D4- Mineral Resources" is amended to add and identify lands described as Part Lots 119, 120, 136 and 137, including Upper's Lane between Thorold Townline Road and Beechwood Road, and Part of Road Allowance between Lots 120 and 136 between Thorold Townline Road and Beechwood Road, in the former Township of Stamford, now in the City of Niagara Falls, in the Regional Municipality of Niagara, as shown on Map 1 attached to this Amendment as "Licensed Pits and Quarries"

## Text Changes

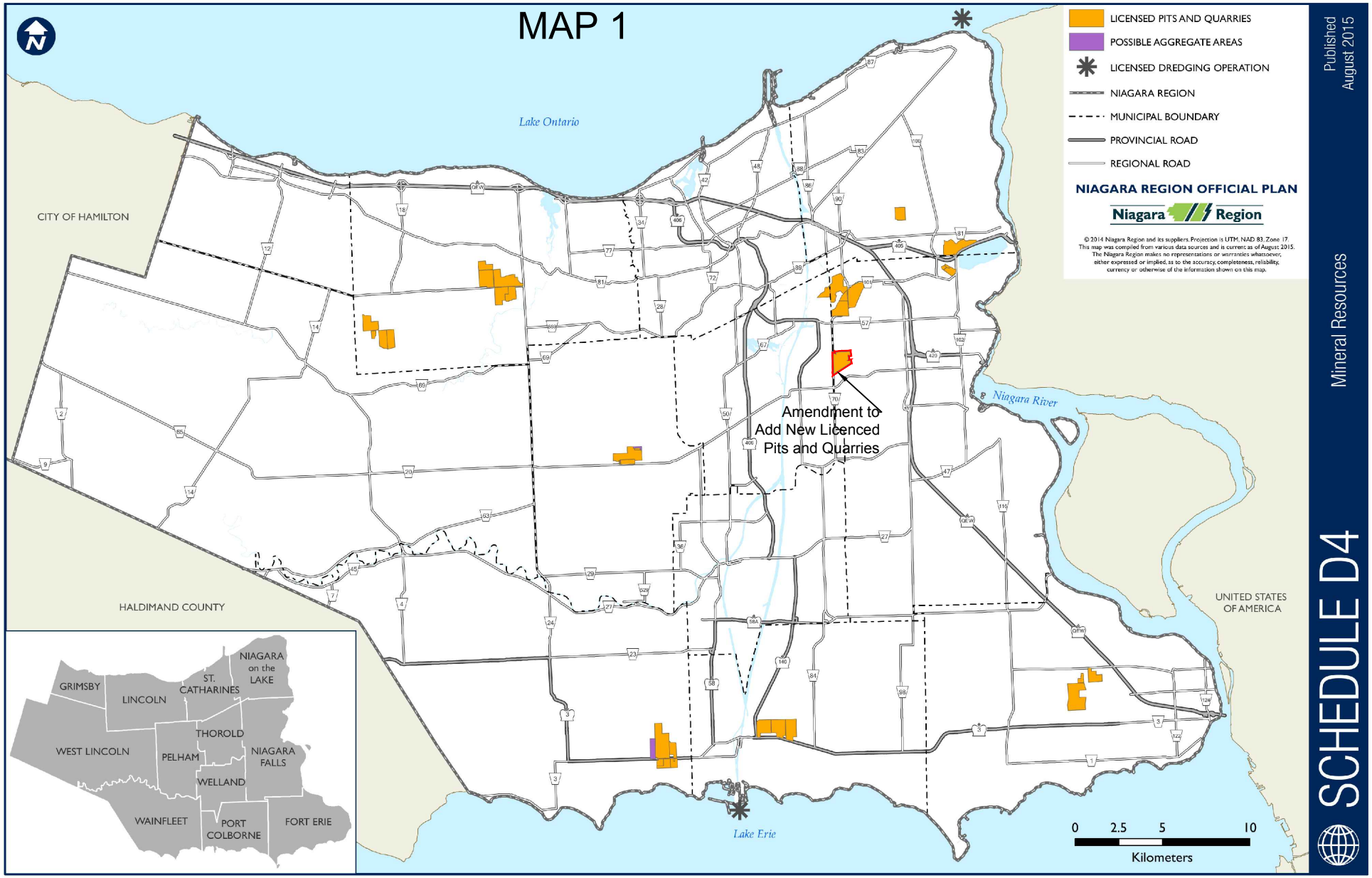
The Official Plan for the Niagara Planning Area is amended as follows:

Part I – Modifications to Existing Policies

1. Add to Section 13.D (Site Specific Policies for Niagara Falls) the following site specific policy:

13.D.1 Land Use

Policy 13.D.1.__ Notwithstanding any other policy to the contrary in this Plan, a mineral aggregate operation (quarry) and ancillary uses and facilities are permitted in accordance with approval under the Aggregate Resource Act on lands described as Part Lots 119, 120, 136 and 137, including Upper's Lane between Thorold Townline Road and Beechwood Road, and Part of Road Allowance between Lots 120 and 136 between Thorold Townline Road and Beechwood Road, in the former Township of Stamford, now in the City of Niagara Falls, in the Regional Municipality of Niagara.


MAP 1
LICENSED PITS AND QUARRIES
POSSIBLE AGGREGATE AREAS
LICENSED DREDGING OPERATION
NIAGARA REGION
MUNICIPAL BOUNDARY
PROVINCIAL ROAD
REGIONAL ROAD
NIAGARA REGION OFFICIAL PLAN
Niagara Region
© 2014 Niagara Region and its suppliers. Projection is UTM, NAD 83, Zone 17.
This map was compiled from various data sources and is current as of August 2015.
The Niagara Region makes no representations or warranties whatsoever,
either expressed or implied, as to the accuracy, completeness, reliability,
currency or otherwise of the information shown on this map.
Published
August 2015
Mineral Resources
SCHEDULE D4
Lake Ontario
CITY OF HAMILTON
HALDIMAND COUNTY
Niagara River
UNITED STATES
OF AMERICA
Lake Erie
Amendment to
Add New Licenced
Pits and Quarries
0
2.5
5
10
Kilometers
GRIMSBY
LINCOLN
ST.
CATHARINES
NIAGARA
on the
LAKE
THOROLD
WEST LINCOLN
PELHAM
NIAGARA
FALLS
WELLAND
WAINFLEET
PORT
COLBORNE
FORT ERIE

# Appendix **C**

**CITY OF NIAGARA FALLS**

**By-law No. 2021-**

A by-law to provide for the adoption of Amendment No. XX to the City of Niagara Falls Official Plan (OPA #XX).

**THE COUNCIL OF THE CORPORATION OF THE CITY OF NIAGARA FALLS, IN ACCORDANCE WITH THE PLANNING ACT, 1990, AND THE REGIONAL MUNICIPALITY OF NIAGARA ACT, HEREBY ENACT AS FOLLOWS:**

1. The attached text and mapping constituting Amendment No. XX to the City of Niagara Falls Official Plan is hereby adopted.

Passed this ____ day of ____, 2021.

..... .....

WILLIAM G. MATSON, ACTING CITY CLERK JAMES M. DIODATI, MAYOR

First Reading: _____, 2021
Second Reading: _____, 2021
Third Reading: _____, 2021

# OFFICIAL PLAN AMENDMENT NO. XX

## PART 1 – PREAMBLE

### (i) Purpose of the Amendment

The purpose of this amendment is to redesignate lands from “Good General Agriculture”, “Environmental Protection Area” and “Environmental Conservation Area” to “Extractive Industrial” to permit a below-water quarry (Upper’s Quarry) on lands generally situated south of Beaverdams Road, immediately east of Thorold Townline Road, immediately west of Beechwood Road and north of Lundy’s Lane in the City of Niagara Falls. The lands are municipally described as Part Lots 119, 120, 136 and 137, including Upper’s Lane between Thorold Townline Road and Beechwood Road, and Part of Road Allowance between Lots 120 and 136, in the former Township of Stamford, now in the City of Niagara Falls, Regional Municipality of Niagara.

### (ii) Location of the Amendment

The amendment applies to the land shown on Map 1.

### (iii) Details of the Amendment

**Map**
**Changes**

- Schedule A – Future Land Use has been amended to redesignate the land, shown on Map 1 (attached), from “Good General Agriculture”, “Environmental Protection Area” and “Environmental Conservation Area” to “Extractive Industrial”

### (iv) Basis of the Amendment

The City’s Official Plan states that the extraction of mineral aggregate resources is an important industry to the local and regional economy and that potential Mineral Aggregate Areas (identified on Appendix IV) (including the subject lands) are to be protected for future extractive industrial purposes.

Walker Aggregates operates their existing quarry just over 2 kms north of the subject lands. The bedrock resource at Walker’s existing quarry is nearing depletion in the not too distant future.

The site proposed for the new quarry was selected by Walker Aggregates to continue to secure an ongoing supply of high quality bedrock resource needed to support growth within Niagara Region and the City of Niagara Falls for the long term.

An amendment to the City's Official Plan is required where there is extraction proposed outside an area designated Extractive Industrial. In addition, the applicant has applied to amend the Region of Niagara Official Plan and the City of Niagara Falls' Zoning By-law. An application for a Class A licence under the Aggregate Resources Act has also been submitted to the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) for the below water table quarry.

In support of the proposed applications, the proponent has prepared a Summary Statement and Site Plans in accordance with the Aggregate Resources Act Standards. Site Plans describing the existing site conditions, method of aggregate extraction, phasing, progressive and final rehabilitation are also contained in the Summary Statement. Additional supporting reports and studies were prepared and submitted by the applicant and peer reviewed collectively by the Region and City as part of the Joint Aggregate Review Team (JART) program.

## PART 2 - BODY OF THE AMENDMENT

All of this part of the document entitled PART 2 – Body of the Amendment, consisting of the following text and attached maps, constitute Amendment No. XX to the Official Plan of the City of Niagara Falls.

## DETAILS OF THE AMENDMENT

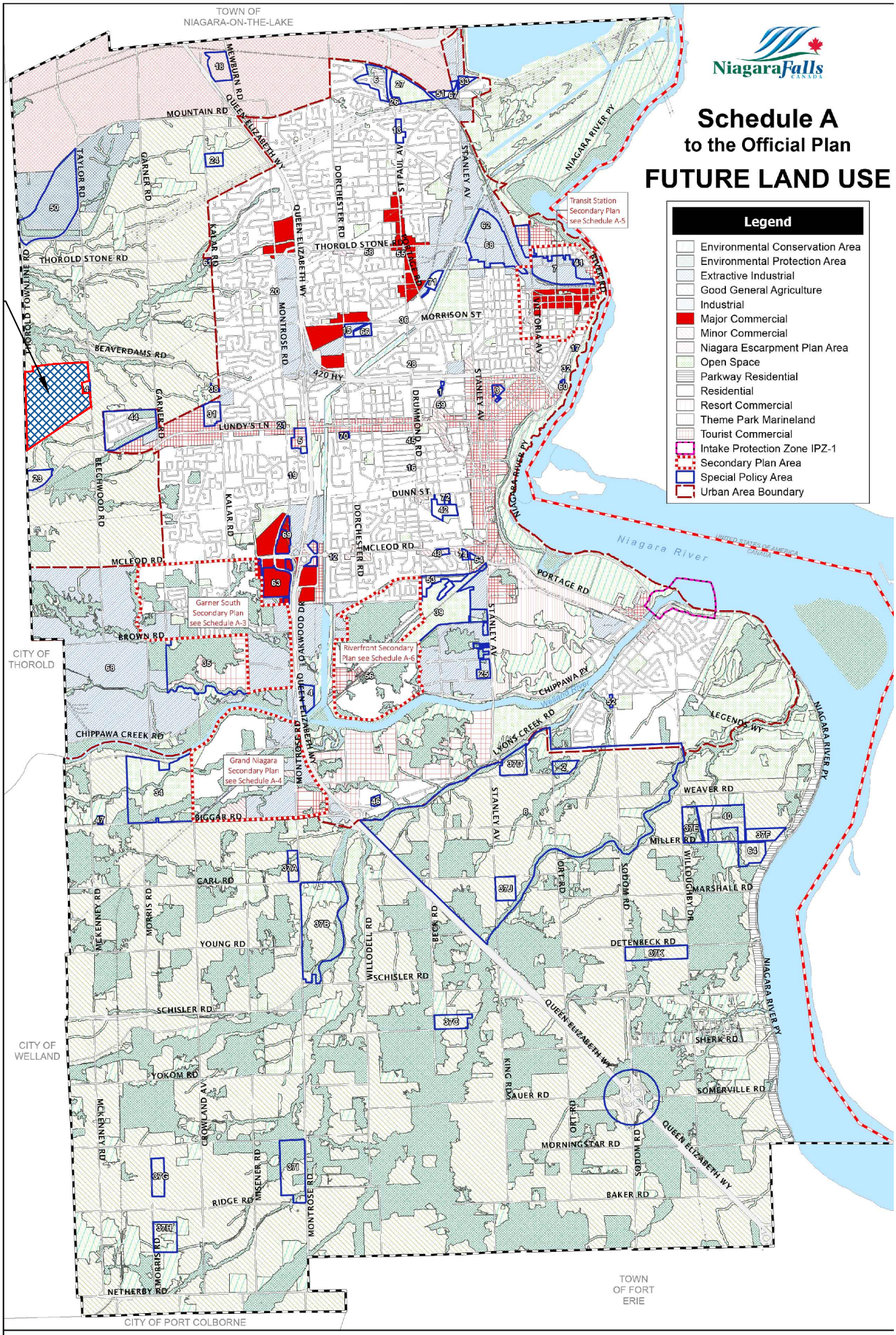
The Official Plan of the City of Niagara Falls is hereby amended as follows:

## MAP CHANGES

i) SCHEDULE A – LAND USE PLAN of the Official Plan is amended by:

- redesignating land from "Good General Agriculture", "Environmental Protection Area" and "Environmental Conservation Area" to "Extractive Industrial" as shown on the map attached entitled 'Map 1 to Amendment No. XX."

Amendment to redesignate lands (shown hatched) from "Good General Agriculture", "Environmental Protection Area" and "Environmental Conservation Area" to " Extractive Industrial"



# Appendix **D**

# CITY OF NIAGARA FALLS

## By-law No. 202_-

A by-law to amend By-law No. 79-200, to rezone the Lands from Agricultural (A) Zone, Agricultural (A) (numbered 467) and Hazard Lands (HL) Zone to Extractive Industrial (EI) (numbered ###) Zone to permit a quarry licensed under the Aggregate Resources Act. The site specific exceptions to the EI (numbered ###) Zone will update references according to the Aggregate Resources Act and associated Standards, to clarify minimum yard width and depth requirements and will clarify that storage and processing of recycled aggregate material is a permitted use.

**THE COUNCIL OF THE CORPORATION OF THE CITY OF NIAGARA FALLS ENACTS AS FOLLOWS:**

1. The lands that are the subject of and affected by the provisions of this by-law are described in Schedule 1 of this by-law and shall be referred to in this by-law as the "Lands". Schedule 1 is a part of this by-law.

2. The purpose of this by-law is to amend the provisions of By-law No. 79-200, to permit the use of the Lands in a manner that would otherwise be prohibited by that by-law. In the case of any conflict between a specific provision of this By-law and any existing provision of By-law No. 79-200, the provisions of this By-law are to prevail.

3. Notwithstanding any provision of By-law No. 79-200 to the contrary, the following regulations shall govern the use of the Lands:

    a. 11.6.1 be replaced with the following:

    11.6.1 INTERPRETATION: In section 11.6.2
    (a) "pit or quarry" means land where gravel, stone, sand, clay, shale or other natural material is or has been removed by excavating, quarrying or otherwise for sale or **use** for construction, business, manufacturing or other industrial purposes. For clarity, the importation, use and stockpiling of recycled aggregate, for blending purposes will also be included within this meaning.

    b. 11.6.2 be replaced with the following:

    11.6.2 PERMITTED USES: No person shall **use** the Lands or **erect** or **use** any **building** or **structure** for any purpose except one or more of the following **uses**:

        (a) A pit or quarry licensed under the Aggregate Resources Act, 1990, as amended

        (b) Processing of natural materials removed from the site including crushing, screening, mixing, washing and storing of such materials

        (c) Processing of recycled aggregate material, including recycled asphalt and recycled concrete, brought on site including mixing and storing of such materials

        (d) Concrete or asphalt mixing plant

        (e) **Accessory buildings** and **accessory structures**

**(f)** A **use, building** or **structure** permitted in any one or more of clauses (a) to (d) inclusive or section 12.1

c. 11.6.3 (b) be replaced with the following

11.6.3
(b) the regulations for a **use**, **building**, or **structure** permitted under clauses a, b, c, d or e of section 11.6.2 shall apply to the Lands as follows:

| | | |
|---|---|---|
| (i) | Minimum **required yard:** | |
| | • from a **lot line** abutting Townline Road and Beechwood Road | 30 metres |
| | • from a **lot line** abutting any other **lot** or a **lot line** abutting Upper's Lane | 15 metres |
| (ii) | TransCanada pipeline setback | A minimum setback of 7.0 m shall be required from any part of a permanent building or structure from the edge of the TransCanada pipeline right-of-way.<br><br>A minimum setback of 3.0 m shall be required from any part of a temporary or accessory building or structure from the edge of the TransCanada pipeline right-of-way.<br><br>A minimum setback of 7.0 m from the nearest portion of a TransCanada pipeline right-of-way shall also apply to any parking area or loading area, including any parking spaces, loading spaces, stacking spaces, bicycle parking spaces, and any associated aisle or driveway. |
| (iii) | Maximum **height** of **building** or **structure** | 15 metres subject to section 4.7. In addition to section 4.7, a silo and/or conveyor that is used in association with a **use** |

| | | |
|---|---|---|
| | | permitted on the same **lot** is exempted from the maximum **height** of a **building** or **structure** |
| (iv) | Definition of **Lot** | Notwithstanding the definition of **lot** in this By-law, the Lands shall be considered to be one **lot** for zoning purposes. |

4. The provisions of this by-law shall be shown on Sheets A4 and A5 of Schedule “A” of By-law No.79-200 by rezoning the Lands from A Zone, A (numbered 467) Zone and HL Zone to EI (numbered ###) Zone.

5. Section 19 of By-law No. 79-200 is amended by adding thereto:

19.1.### Refer to By-law No. 2021-__

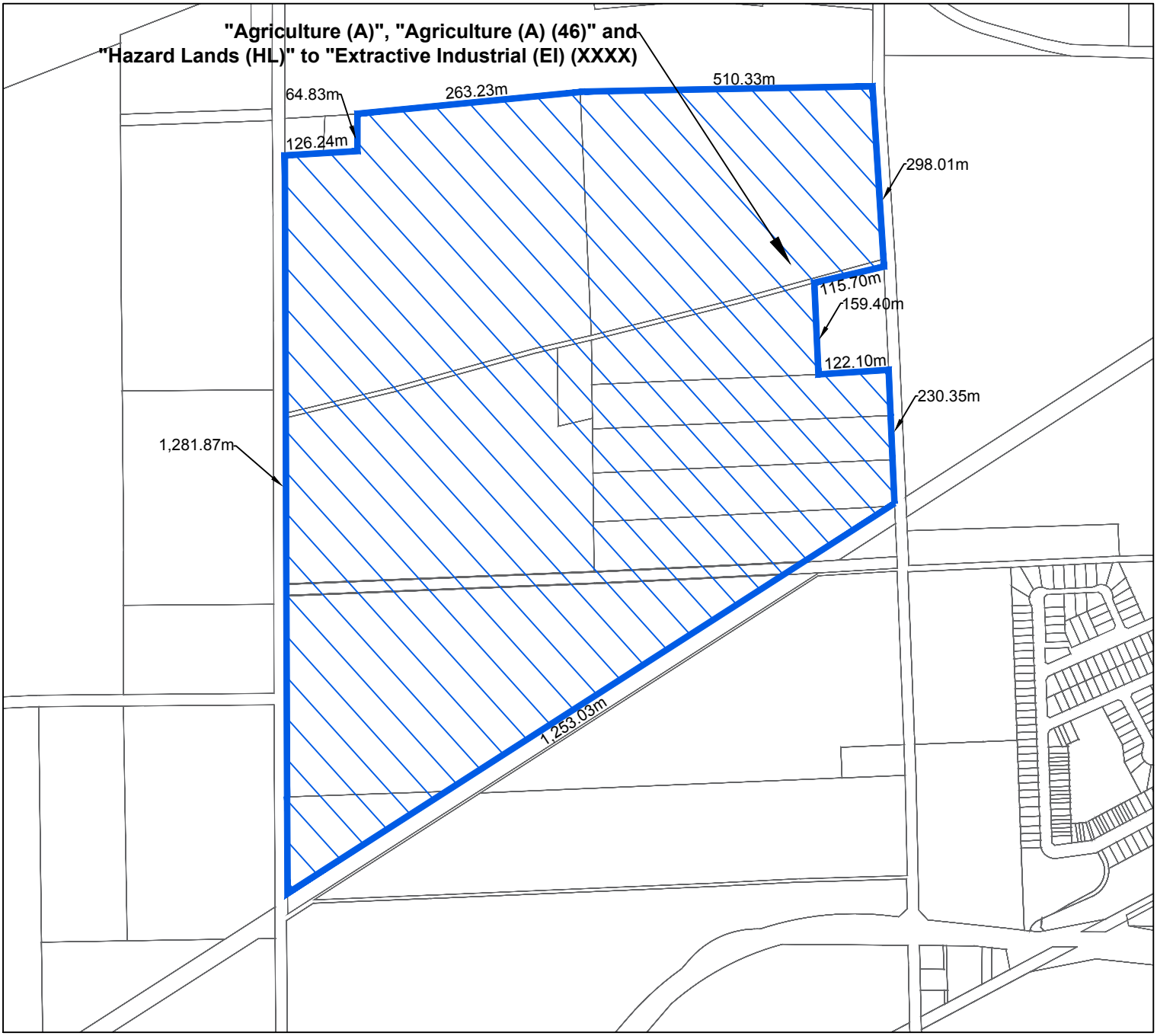
**Read a First, Second and Third time; passed, signed and sealed in open Council this ___ day of _____, 202_**

..... .....

WILLIAM G. MATSON, CITY CLERK JAMES M. DIODATI, MAYOR

# SCHEDULE 1 TO BY-LAW NO. 2021-

Subject Land:




Amending Zoning By-law No. 79-200

Description: Part of Lots 119 & 138 Stamford; Niagara Falls
Rdal Btn Twp Lt 120 & 136 Stamford (closed By Bylaw Sn356642) City Of Niagara Falls

Applicant: Walker Aggregates

N

NTS

Assessment #: AM-202X-XXX

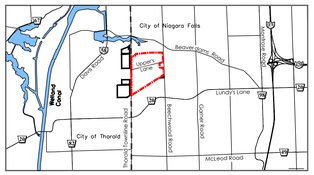
06/08/2021

# Appendix **E**

**Key Map - (N.T.S.)**

Subject Lands

Additional Lands Owned by Applicant




## A. General

1. This Site Plan is prepared under the Aggregate Resources Act for a Class A Licence for a quarry below the ground water table.
2. Area to be licenced 103.6 ha. (±256.0 ac.)
   Area to be extracted 89.1 ha. (±220.2 ac.)

## B. References

1. Contour information was obtained from a topographic survey prepared by TEC Engineering (formerly Renishaw (Canada) Limited) using October 2016 and February 2017 aerial photography and are displayed in one metre intervals. Elevations shown are in metres above sea level (masl).
2. Topographic information was obtained from numerous sources including Ontario GeoHub (Land Information Ontario), Google Earth Pro aerial photography captured on July 18, 2018 and field investigations for technical reports.
3. All topographic features and structures are shown to scale in Universal Transverse Mercator (UTM) with North American Datum 1983 (NAD83), Zone 17 (metre), Central Meridian 81 degrees west coordinate system.
4. Property boundaries were obtained from a Plan of Survey prepared by Matthews, Cameron, Heywood-Kerry T. Howe Surveying Ltd. dated April 5, 2012. Other property boundaries were established using Municipal Property Assessment Corporation (MPAC) parcel fabric data.
5. Zoning categories on or within 120 metres of the licence boundary are from the City of Niagara Falls Zoning By-law No. 79-200 (Schedules A3 and A4 - Consolidation April 2015) and the City of Thorold Zoning By-law No. 60-2019 (Schedules A8 and A13 - dated May 2019) .
6. Land use information on or within 120 metres of the licence boundary has been compiled from October 2016 orthophotography, site visits and water well survey data.

## C. Groundwater

1. The maximum predicted water table is 184.9 masl and the contact aquifer potentiometric contours ranges between 176.0 and 184.9 masl (as per WSP's "Proposed Upper's Quarry - Maximum Predicted Water Table Report", dated October 2021.

## D. Drainage

1. Existing surface water drainage on and within 120 metres of the licence boundaries are by overland flow in the direction shown by arrows on the plan view.

## E. Site Access and Fencing

1. There are two (2) existing site accesses on Thorold Townline Road, six (6) existing site accesses on Upper's Lane, and three (3) existing site accesses on Beechwood Road.
2. Post and wire fencing (unless otherwise noted) exists in the locations shown on the plan view.

## F. Significant Features

1. All significant natural features on and within 120 metres of the licence boundary are shown on the Key Natural Heritage Features Schematic on this drawing.
2. All significant human-made features on and within 120 metres of the licence boundary are shown on the plan view.

## G. Aggregate Related Site Features

1. There are no existing aggregate operations or features within the licence boundaries such as stationary or portable equipment, stockpiles, recyclable materials, scrap, fuel storage, haul roads, berms or excavation faces.

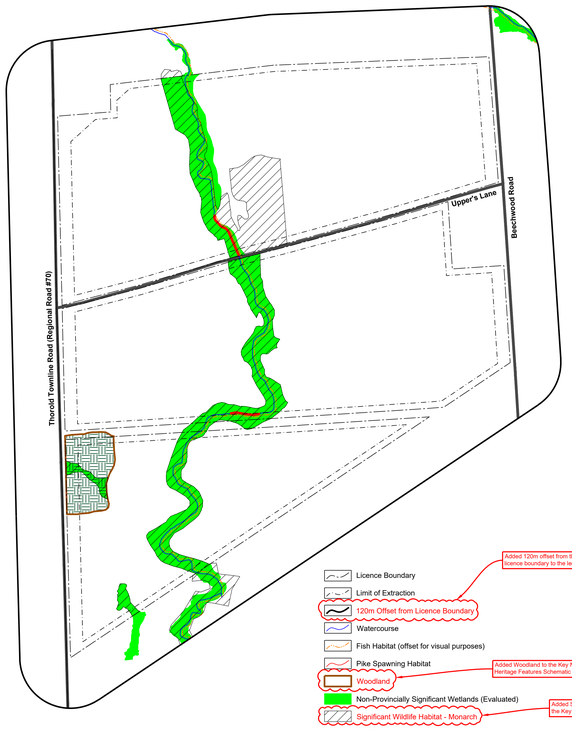
## H. Technical Reports - References

1. Upper's Quarry: Acoustic Assessment Report, RWDI, ~~August 2, 2023~~ January 11, 2024.
2. Agricultural Impact Assessment for Upper's Quarry, Colville Consulting Inc., ~~October~~ September 2021.
3. Upper's Quarry: Air Quality Assessment, RWDI Air Inc., July 12, 2023.
4. Archaeological Assessments:
   a. Stage 1 Archeological Resource Assessment of Walker Aggregates Proposed South Niagara Quarry, Part of Lots 102, 119, 120, 136 & 137, Archeological Services Inc., December 2008.
   b. Stage 1-2 Archeological Assessment of Part 9764 Uppers Lane, Part of Lots 119 & 120, Archeological Assessments Ltd., November 3, 2005.
   c. Stage 2-3 Archeological Assessment, Part of Lots 102, 119, 120, 136 & 137, Archeological Assessments Ltd., November 21, 2012.
   d. Stage 1-2 Archeological Assessments, Upper's Quarry Additional Lands, Part of Lots 119& 120, Archaeological Research Associates Ltd., April 20, 2020.
   e. Stage 3 Mitigation of Development Impacts, Final Excavation Report, Walker XI (AgGT-411), Upper's Quarry, Archaeological Research Associates Ltd., May 26, 2021.
   f. Stage 4 Mitigation of Development Impacts, Final Excavation Report, Walker XI (AgGT-178), Upper's Quarry, Archeological Research Associates Ltd., July 22, 2021.
5. Blast Impact Analysis, Upper's Quarry, Explotech, ~~August 2023~~ April 2024.
6. Cultural Heritage Impact Assessment Report, Proposed Upper's Quarry, MHBC, October 2021.
7. Economic Benefits Analysis, Prism, ~~February 2023~~ April 2024.
8. Level 2 Water Study Report and Response to JART Hydrogeological Comments, WSP, October 3, 2022.
9. Maximum Predicted Water Table Report, WSP, October 2021.
10. Upper's Quarry, Niagara: Level 1 and Level 2 Natural Environment Technical Report and Environmental Impact Study, Stantec, ~~August 2023~~ April 2024.
11. Planning Justification Report and Summary Statement, MHBC, ~~August 2023~~ April 2024.
12. Traffic Impact Study and TIS Addendum, Upper's Quarry, TYLin, March 23, 2023.
13. Visual Impact Assessment, Proposed Upper's Quarry, MHBC, ~~October 2021~~ April 2024.

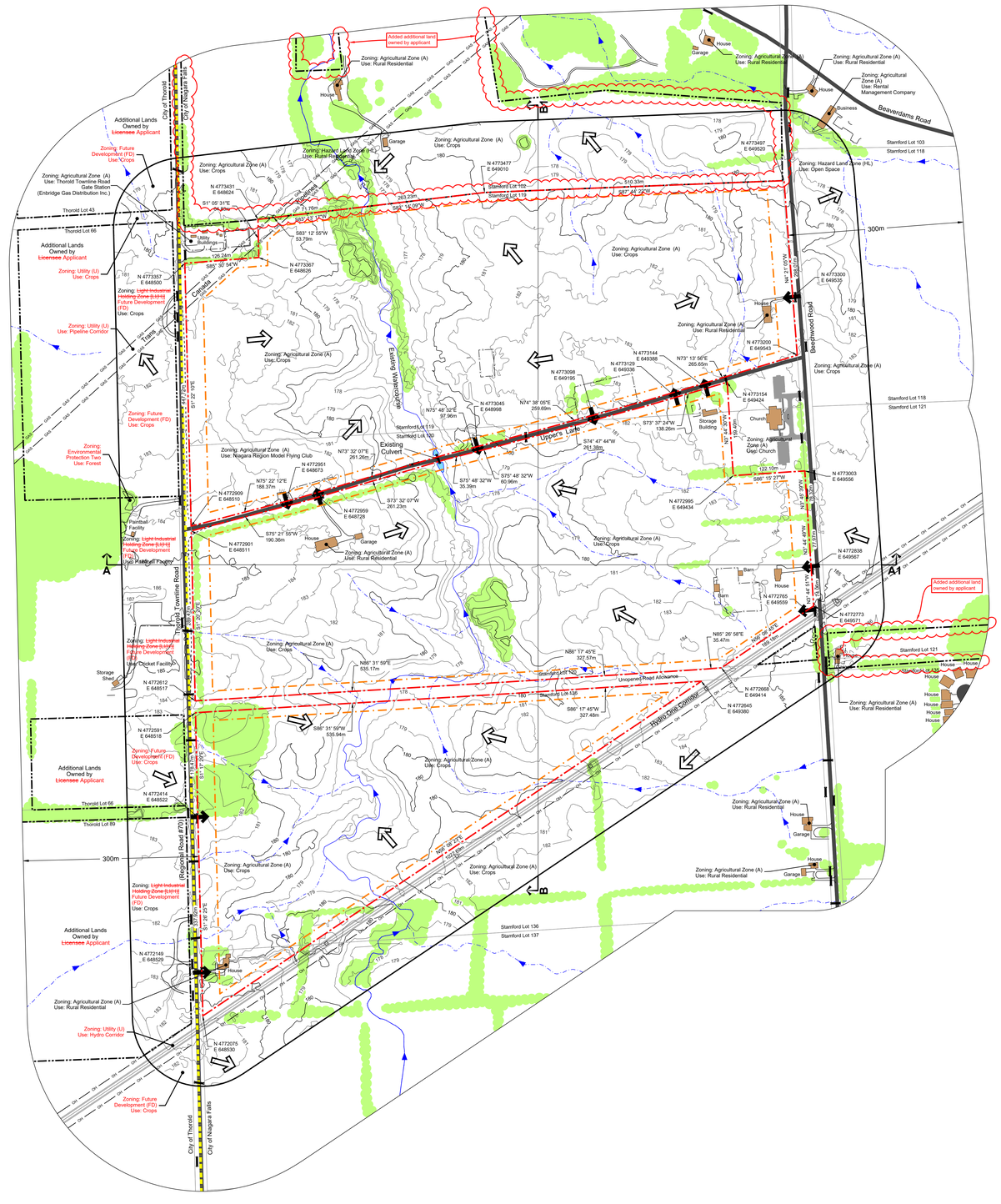
## Key Natural Heritage Features Schematic

Scale 1:5000

0 150 300 Meters




- Licence Boundary
- Limit of Extraction
- 120m Offset from Licence Boundary (Added 120m offset from the licence boundary to the legend)
- Watercourse
- Fish Habitat (offset for visual purposes)
- Pike Spawning Habitat
- Woodland (Added Woodland to the Key Natural Heritage Features Schematic)
- Non-Provincially Significant Wetlands (Evaluated)
- Significant Wildlife Habitat - Monarch (Added Significant Wildlife Habitat - Monarch to the Key Natural Heritage Features Schematic)
- ~~MNRF Mapped Deer Wintering Congregation Area~~ Significant Wildlife Habitat - Non SAR Bat Habitat Seasonal Concentration Area




- Licence Boundary
- Limit of Extraction
- Additional Lands Owned by ~~Licensee~~ Applicant
- Municipal Boundary
- Contours with Elevation (Metres above sea level (MASL))
- Public Road
- Fence (1.2m post & wire farm fence unless otherwise noted)
- Watercourse (Direction of flow indicated by arrows)
- Surface Drainage Feature (Direction of flow indicated by arrows)
- Water Feature
- Wooded Area
- 120m Offset From Licence Boundary
- Parcel Fabric
- Trans Canada Pipeline Easement
- Hydro One Easement
- Existing Site Access
- Direction of Surface Drainage
- Existing Culvert
- Building/Structure
- Cross Sections (A1)

**Legal Description**

Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara

## Site Plan Acronyms

1. ARA - Aggregate Resources Act
2. MNRF - Ministry of Natural Resources and Forestry
3. MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries
4. MECP - Ministry of the Environment, Conservation and Parks
5. MGCS - Ministry of Government and Consumer Services
6. DFO - Department of Fisheries and Oceans Canada
7. ECA - Environmental Compliance Approval
8. BMPP - Best Management Practices Plan
9. PTTW - Permit to Take Water
10. MASL - Metres above sea level
11. TCPL - Trans Canada Pipeline
12. ROW - Right of way
13. HMA - Hot mix asphalt
14. PWQO - Provincial Water Quality Objectives
15. MISA - Municipal Industrial Strategy for Abatement
16. TSS - Total Suspended Solids
17. NCD - North Channel Design

**Site Plan Amendments**

| No. | Date | Description | By |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**Site Plan Revisions (Pre-Licencing)**

| No. | Date | Description | By |
|---|---|---|---|
| 1 | January 2022 | Added Key Natural Heritage Features Schematic and Section F to the site plan notes | C.P. |
| 2 | August 2023 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| 3 | April 4, 2024 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| | | | |
| No. | Date | Description | By |


MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
113 COLLIER STREET, BARRIE, ON. L4M 1H2 | P: 705.728.0045 F: 705.728.2010 | WWW.MHBCPLAN.COM


**MHBC Stamp**

**Debra Walker**
Is authorized by the Ministry of ~~Northern Development~~, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

**MHBC Stamp**

**Christopher Poole**
Is authorized by the Ministry of ~~Northern Development~~, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

Draft

N W E S

**Applicant**

walker aggregates

Walker Aggregates Inc.
2800 Thorold Townline Road
P.O. Box 100
Thorold, Ontario
L2V 3Y8

**Project**

# *Upper's Quarry*

**MNRF Licence Reference No.**

**Applicant's Signature**

**Plan Scale:** 1:3000 (Arch E)

0 90 180 Meters

**Date** ~~October 2021~~ April 4, 2024

**Drawn By** C.P.

**Checked By** D.W.

**File No.** 9811V

**File Name**

## Existing Features

**Drawing No.**

## 1 of 6

**File Path** N:\Brian\9811V - Walker Uppers Quarry\Drawings\Site Plan\CAD\9811V - Site Plan.dwg

## A. General

1. Area to be licenced 103.6 ha. (±256.0 ac.)
   Area to be extracted 89.1 ha. (±220.2 ac.)
2. Prior to the commencement of extraction operations, the licence holder shall enter into an agreement with the appropriate road authority to ensure that the following is completed and/or secured to the satisfaction of the appropriate road authority:
   - 2.1. City of Niagara Falls:
     - 2.1.1. Road widening with a width of 2.94 metres along the entire length of frontage of the subject lands along Beechwood Road is to be dedicated to the City of Niagara Falls. In addition, daylight triangles with 7 metre by 7 metre legs at the intersection of Beechwood Road and Uppers Lane is to be dedicated to the City of Niagara Falls. In addition, A road widening of 6 metres on either side of Uppers Lane is to be dedicated to the City of Niagara Falls.
     - 2.1.2. Road widenings are to be dedicated prior to the commencement of quarry operations.
     - 2.1.3. Notwithstanding the above, only the road widening along Beechwood Road is required to be dedicated to the City of Niagara Falls should the Uppers Lane Right of Way be acquired by the licensee.
   - 2.2. Niagara Region and City of Niagara Falls:
     - 2.2.1. The required entrance improvements, road improvements, and dedication of road widenings (to Thorold Townline Road, Beechwood Road and Uppers Lane) shall be completed to the satisfaction of the applicable road authorities the Regional Municipality of Niagara and the City of Niagara Falls and in part in general accordance with the figures titled "Uppers Lane Conceptual Intersection Design" and "Uppers Lane Vehicle Movement Diagram" provided on Drawing 4 of 6
3. The maximum amount of aggregate to be removed from this site in any calendar year is 1,800,000 tonnes.
4. In the event that Walker obtains permission from the City of Niagara Falls to extract the road allowance(s), the licensee may apply to the MNRF to amend the licence and site plan to expand the licence boundary to include the road allowance directly adjacent to the licence boundary (i.e. Upper's Lane and/or the road allowance between Lots 120 and 136). An expansion to the licence boundary for this purpose will not require a new licence under Section 7 of the Aggregate Resources Act (ARA).
5. All technical reports have taken into consideration the potential removal of the road allowance(s).
6. Table 1 on this drawing identifies the number of sensitive receptors within 500 metres of the licence boundary and the distance from the licence boundary to each receptor.

## B. Hours of Operation

1. The proposed quarry will have the following hours of operation:

| Activity | Monday to Friday | Saturday | Sunday |
|---|---|---|---|
| Drilling, extraction (at working face) | 7:00 am to 7:00 pm | 7:00 am to 7:00 pm | N/A |
| Blasting | 8:00 am to 6:00 pm | N/A | N/A |
| Aggregate processing at mobile crusher plant | 7:00 am to 7:00 pm | 7:00 am to 7:00 pm | N/A |
| Asphalt plant operations | 24 hours per day | 24 hours per day | 24 hours per day |
| Internal hauling of aggregate and/or recycled material:<br>- From working face (shot rock) to mobile crusher plant<br>- From mobile crusher plant/stockpiles to asphalt plant | 7:00am to 7:00pm<br>24 hours per day | 7:00am to 7:00pm<br>24 hours per day | N/A<br>24 hours per day |
| Aggregate and recycling shipping to and/or from the quarry (including hot mix asphalt shipping from quarry and receiving recycled asphalt to quarry) | 24 hours per day | 24 hours per day | 24 hours per day |
| Maintenance | 24 hours per day | 24 hours per day | 24 hours per day |
| Conveyor to the mobile crusher plants | 7:00 am to 7:00 pm | 7:00 am to 7:00 pm | N/A |

No operations shall occur on Statutory Holidays except as noted below.
A response to emergencies is not limited by the hours of operations shown on this plan.

## C. Proposed Entrances/Exits and Fencing

1. For the Mid Extraction Area:
   - a. All traffic for operations will enter and exit the Mid Extraction Area from Upper's Lane using a main entrance/exit in the location generally shown on the plan view.
2. For the South Extraction Area:
   - a. Material will be transported to the Mid Extraction Area for processing via a conveyor over the unopened road allowance between Lots 120 and 136. Limited traffic required for operations will enter and exit the South Extraction Area via a crossing over the unopened road allowance between Lots 120 and 136, subject to approval from the City, in the location generally shown on the plan view.
3. For the North Extraction Area:
   - a. All traffic for operations will enter and exit the North Extraction Area from Upper's Lane using a main entrance/exit in the locations generally shown on the plan view.
4. Once established, each operational entrance/exit shall be gated. All gates shall be kept closed during hours of non-operation and shall be maintained throughout the life of the licence.
5. The licence boundaries shall be fenced in the locations shown on the plan view (prior to the commencement of operations) and shall be maintained for the life of the licence with upkeep during periodic inspections (see Section N Variations from Control and Operation Standards on this drawing).

## D. Drainage and Siltation Control

1. Silt fencing/sediment control measures will be installed within the Watercourse Realignment Transition Area prior to extraction in each extraction area and along the easterly and northerly limits of Phase 1B after the watercourse realignment is completed.

## E. Site Preparation

1. All existing structures within the licence boundary shall be demolished or removed (and any associated residential entrances closed off) prior to extraction in each extraction area. Prior to erecting or demolishing a building, all necessary Permits shall be obtained by the City in accordance with the Ontario Building Code Act, to the satisfaction of the Building Services Division and the Fire Prevention Division.
2. Timber resources (if any) will be salvaged for use as saw logs, fence posts and fuel wood where appropriate. Stumps and brush cleared will be burned (with applicable permits), used for shoreline habitat enhancement or mulched for use in progressive rehabilitation.
3. Areas of the site will be stripped of topsoil/overburden in stages in accordance with the phases. Topsoil and overburden will be stripped and stored in berms and/or stockpiles wherever feasible.
4. Topsoil and overburden shall be placed in perimeter acoustic/visual berms, pond construction, watercourse realignment or used immediately for progressive rehabilitation in this licence or existing Licence Numbers 11175 and 4437 (see Section N Variations from Control and Operation Standards on this drawing).
5. Excess topsoil and overburden not required for immediate use in berms or rehabilitation may be temporarily stockpiled on the quarry floor. Topsoil and overburden stockpiles shall be located within the limit of extraction and remain a minimum of 30 metres from the licence boundary and 90 metres from a property with a residential use.
6. Temporary topsoil and overburden stockpiles which remain for more than one year shall have their slopes vegetated to control erosion. Seeding shall not be required if these stockpiles have vegetated naturally in the first year.

## F. Setbacks, Berms and Screening

1. Setbacks are as shown on the plan view. Excavation will occur within the extraction setback area along the west and northwest area of the licensed boundary to accommodate grading required for the realignment of the existing watercourse. Furthermore, areas within the setbacks will be accessed as necessary to perform general site servicing, maintenance (berming, fencing etc.) and progressive rehabilitation. See Section N Variations from Control and Operation Standards on drawing 2 of 6.
2. Locations and heights for all acoustic/visual berms are provided on the plan view. All proposed berms shall be constructed in accordance with the "Typical Acoustic Berm Detail" (on this drawing), "Typical Visual Berm Detail" (on drawing 4 of 6) and, more specifically, berms adjacent to Beechwood Road will be constructed in accordance with "Typical Berm - Adjacent to Beechwood Berm Detail" (on this drawing). Where the proposed berm transects the existing watercourse along the north perimeter, a culvert shall be installed in accordance with DFO requirements. Culverts will also be installed under berms, where necessary, to maintain existing drainage to and from off-site and to the existing watercourse. All proposed berms will be vegetated with non-invasive plant species and maintained to control erosion. Temporary erosion control will be implemented as required.
3. Perimeter acoustic berms may be removed for final rehabilitation in the final Phase when they are no longer required for noise attenuation.
4. Any natural treed buffer areas in the setbacks will be maintained where feasible subject to berm requirements.

## G. Site Dewatering

1. Surface water will be discharged from the sump areas to the existing watercourse until the watercourse is realigned to the location of Phases 1B and 2B. Once the watercourse realignment has been completed, surface water will be discharged from the sumps to the realigned watercourse in Phase 1B.
2. Sump: During quarry development, a portable submersible pumps will be installed in each Initial Sinking Cut Area for the purpose of dewatering to maintain a dry working area and/or aggregate washing. Water will be pumped from the sumps to a pond where it is either used for aggregate washing or discharged to the existing watercourse. The sumps shall be relocated (as required) within each extraction area during the operational life of the quarry.

## H. Extraction Details

1. The extraction sequence is outlined on drawing 3 of 6.
2. The proposed maximum depth of extraction is indicated by the spot elevations shown on the plan view. Extraction shall proceed to a maximum depth of approximately 42 m below ground surface (ranging in elevation from 141 masl in the southwest to 149 masl in the northeast portions of the site), corresponding to the geologic base of the Gasport dolostone of the Lockport Group.
3. For the "Watercourse Realignment Transition Area", the maximum depth of extraction is approximately 1 metre (down to an elevation of 174 masl) and any extraction in the "Watercourse Realignment Transition Area" shall be completed as part of site preparation (construction of compensatory ponds). No drilling or blasting shall be permitted in the "Watercourse Realignment Transition Area".
4. Internal haul road locations shall vary as extraction progresses and will be located on the quarry floor with the exception of at grade crossings.
5. Blasted aggregate will be transported back to the mobile crusher plant and processing area on the quarry floor for processing and shipping.
6. An office/scale house and weigh scale will be established on site. A maintenance shop and shed(s) may be constructed on site. Portable office/storage trailers and structures associated with fuel storage may be brought onto the site for temporary periods for uses associated with quarry activity. All structures shall remain 30 metres from the licence boundary / Trans Canada Pipelines easement or 90 metres from the licence boundary if the boundary abuts land that is used for residential purposes or is restricted to residential use by the Zoning By-law at the time the licence is issued.
7. Aggregate stockpiles (including recyclable material) shall be located within the limits of extraction and remain a minimum of 30 metres from the licence boundaries (except where the licence boundaries abut Upper's Lane and the unopened road allowance - See Section N Variations from Control and Operation Standards on this drawing) and 90 metres from a property with a residential use.
8. All highway trucks shall be directed to the haul route utilizing Thorold Townline Road from Upper's Lane and not directed to Beechwood Road from Upper's Lane.

## I. Equipment and Processing

1. A portable processing plant (including primary, secondary and tertiary crushing and screening units) will be permitted within the North and Mid Extraction Areas inclusive.
2. Processing shall be located within the limit of extraction and remain a minimum of 30 metres from the licence boundary and 90 metres from a property with a residential use.
3. During the sinking cuts and early phases of operation, the primary crusher will be integrated into a single processing plant located near the working face. In later phases, the primary crusher will split from the single integrated plant and start to follow the working face. The processing plant, which contains the secondary and tertiary crushers, shall be placed in the location identified on the Extraction Sequence Schematic on drawing 3 of 6 during each stage of extraction. The processing plant will be located at varying elevations, beginning at the top of rock during the sinking cut portion of operations, and moving to the first bench and then the final quarry floor as space becomes available. See note A.3. on drawing 4 of 6 for additional information.
4. Once processing has progressed to Phase 2A, a hot mix asphalt (HMA) batch plant facility shall be established on the quarry floor (in the location shown on the plan view) in Phase 1A. The HMA batch plant shall remain in the location shown on the plan view for the life of the quarry until extraction is complete and shall be removed during progressive rehabilitation.
5. In Phase 4, the portable processing plant shall require additional shielding in accordance with note A.5 on drawing 4 of 6.
6. A wash plant and temporary wash ponds may be established and located to move together with the portable processing plant, subject to permit approval from MECP.
7. Equipment to be used onsite may include, but shall not be limited to:
   - a. Working Face - 1 silenced rock drill; 1 loader;
   - b. Processing - 1 portable processing plant including crushers, screeners, and stackers; 2 loaders (at stockpiles);
   - c. Asphalt - 1 asphalt plant; 2 loaders, 1 compressor vent, 1 dust controller blower (motor and stack); elevator motor, conveyor motor, oven motor, pug mill (door and motor);
   - d. Conveyor(s);
   - e. Generator(s) (diesel-fueled); and
   - f. Rock trucks, haul trucks, shipment trucks and fuel trucks.
8. Wash pond(s) and sump(s) may be permitted in accordance with Environmental Compliance Approval or Permit to Take Water Requirements. The pond(s) and sump(s) will move throughout operations and as extraction progresses horizontally and vertically.
9. Equipment used for construction of the perimeter berms/barriers, overburden stripping, rehabilitation, the new watercourse corridor, as well as other quarry related construction projects will be utilized on site.

## J. Frequency / Timing of Blasts

1. Prior to blasting being permitted within the 300 metre setback of the TransCanada Pipeline, identified as 'TransCanada Blasting Buffer Area' on this Plan, the licensee shall address the requirements of notes D.5 on drawing 4 of 6.
2. All blast monitoring reports shall be retained by the licensee for a period of seven years after each blast and made available upon request for audit purposes. See Section D on drawing 4 of 6 for detailed blasting requirements.

## K. Fuel Storage

1. Fuel storage tanks will be located in close proximity to the main processing plant (or in an alternative location subject to approval by the MNRF). Fuel storage tanks shall be installed and maintained in accordance with Technical Standards and Safety Act, 2000. Liquid Fuels Handling Code, 2000 and Liquid Fuels Regulation Reg. 217/01.
2. All fuel tanks shall be doubled sided or placed in containment facilities large enough to hold the tanks maximum volume.
3. Fuel trucks shall be used to transfer fuel to on-site equipment in accordance with the Liquid Fuels Handling Code, 2000.
4. A Spills Contingency Plan shall be prepared and implemented prior to site preparation. The Spills Contingency Plan shall be available on site, submitted to the City of Niagara Falls Fire Services Department and all employees and contractors shall be informed and required to comply with this plan. The location of on site fire routes, as well as any other emergency operation plans for the quarry, will be included in this plan.

## L. Spills Plan

1. In case of an accidental spill of petroleum products, the following contingency plan will be activated:
   - a. The Ministry of Environment, Conservation and Parks (MECP) (see address and 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, measures will be taken to prevent spreading. These measures may include building a berm or construction of a ditch, for instance.
   - c. The quarry 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.

   **Ministry of Environment, Conservation and Parks**
   Niagara District Office
   Garden City Tower 9th Floor Suite 15
   301 St. Paul Street
   St. Catharines, Ontario
   L2R 7R4

   Spills Action Centre: 1-800-268-6060

## M. Scrap and Recycling

1. Scrap may be stored on-site and shall be removed on an on-going basis.
2. Scrap shall only include material generated directly as a result of the aggregate operation such as refuse, debris, scrap metal, lumber, discarded machinery, equipment and motor vehicles.
3. All fluids shall be drained from any discarded equipment, machinery or motor vehicle prior to storage and disposed of in accordance with the Environmental Protection Act.
4. Scrap shall not be stored within 30 metres of any body of water or the licence boundary and shall be kept in close proximity to the main processing plant.
5. Recycling of asphalt, concrete, porcelain and glass shall be permitted on-site.
6. Recyclable asphalt materials shall not be stockpiled within:
   - 6.1. 30 metres of any waterbody or man-made pond; or
   - 6.2. 2 metres of the ground water table.
7. Recyclable material shall be kept in close proximity to the main processing plant and shall be stored separately on the quarry floor and within the extraction area limit.
8. Rebar or other structural metal shall be separated from recyclable aggregate material during processing and placed in a designated scrap pile on-site which shall be removed on an on-going basis.
9. Recycled aggregate shall be removed on an on-going basis.
10. Recycling activities shall not interfere with the operational phases of the site or with rehabilitation.
11. Once the site is depleted, no further importation of recyclable material shall be permitted.
12. Once final rehabilitation has been completed and approved in accordance with the site plan, all recycling operations shall cease.
13. The site shall be kept in an orderly condition.

## N. Variations from Control and Operation Standards

**Variations from Control and Operation Standards**

| No. | Variation | Rationale | Standard (0.13) |
|---|---|---|---|
| 1 | Extraction shall occur within 30 metres but no closer than 15 metres from the Upper's Lane road allowance and the unopened road allowance between Lots 120 and 136.<br><br>In addition, extraction may occur:<br>- Within the 15 metre setback from the Upper's Lane road allowance and the unopened road allowance between Lots 120 and 136,<br>- Within the 15 metre setback from the north and south boundaries of the site and<br>- Within the 30 metre setback from Thorold Townline Road. | Upper's Lane and the unopened road allowance are isolated since no road allowance exists for either to the west of Thorold Townline Road or east of Beechwood Road.<br><br>Setbacks will be disturbed in order to facilitate construction associated with the site access points and watercourse realignment. | (1) 9 and 10 |
| 2 | Overburden may be removed from the extraction setback area to permit:<br>- Extraction within 30 metres but no closer than 15 metres from Upper's Lane road allowance and the unopened road allowance between Lots 120 and 136<br><br>Overburden and aggregate may be removed from the excavation setback areas as follows:<br>- Within the 15 metre setback from the Upper's Lane road allowance and the unopened road allowance between Lots 120 and 136,<br>- Within the 15 metre setback from the north and south boundaries of the site and<br>- Within the 30 metre setback from Thorold Townline. | Upper's Lane and the unopened road allowance are isolated since no road allowance exists for either to the west of Thorold Townline Road or east of Beechwood Road.<br><br>Setbacks will be disturbed in order to facilitate construction associated with the site access points and watercourse realignment. | (1) 11 |
| 3 | Topsoil and overburden may be moved between this Licence and Licence Numbers 11175 & 4437 (subject to drawing 5 of 6, Section C). | This will provide for effective rehabilitation of these licences. | (1) 18 |
| 4 | A portion of the quarry face shall remain vertical. See Rehabilitation Plan, drawing 5 of 6. | Vertical faces above and below the lake level will create a more diverse habitat and visually appealing rehabilitated landform. | (1) 19 |
| 5 | The licence boundary for the North Extraction Area shall not be fenced on or west of the Trans Canada Pipeline easement. Fencing shall be erected on the eastern extent of the easement. | This will allow Trans Canada to have unobstructed access to the easement for maintenance purposes. | (3)(a) |

## O. Trans Canada Pipeline (TCPL)

1. The licencee shall notify TCPL if it intends to blast within 300 metres of their right-of-way (easement). No blasting shall occur until written consent is obtained from TCPL.
2. Any other work (other than blasting) within 30 metres of TCPL's right-of-way requires written consent from TCPL.
3. Crossing of the TCPL right-of-way with vehicles is not permitted without written consent from TCPL.
4. No material extraction shall be permitted within 40 30 metres of TCPL's right-of-way without written consent from the Canada Energy Regulator (CER) formerly NEB or National Energy Board.
5. No buildings or structures shall be constructed anywhere on TCPL's right-of-way. Permanent buildings and structures shall be located a minimum of 7 metres from the edge of the TCPL right-of-way. Temporary or accessory buildings shall be located a minimum of 3 metres from the edge of the right-of-way.
6. A minimum setback of 7 metres from the nearest portion of a TCPL pipeline right-of-way shall also apply to any parking area or loading area, including any parking spaces, loading spaces, stacking spaces, bicycle parking spaces, and any associated drive aisle or driveway.

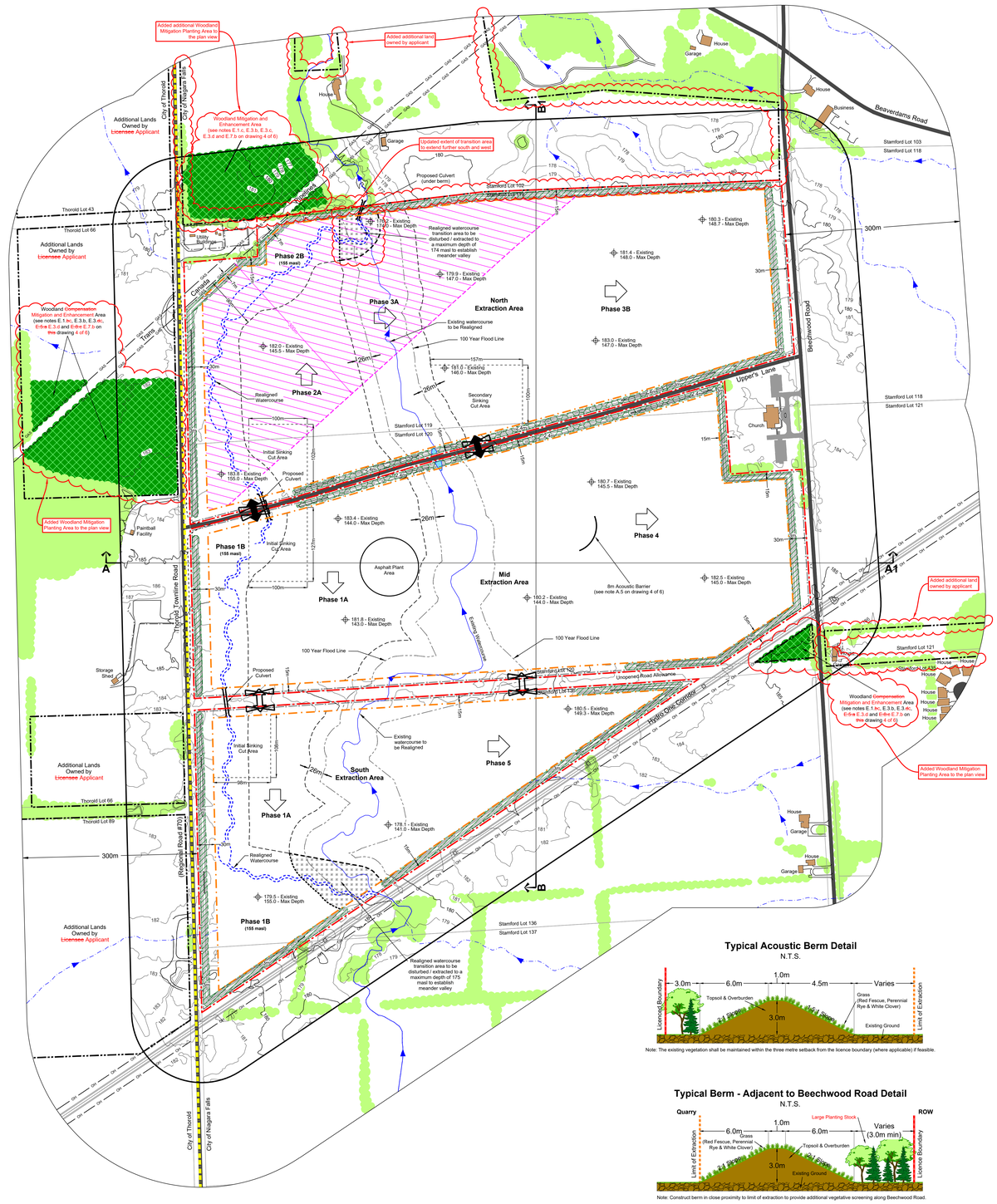



**Table 1: Sensitive Receptors Within 500m of the Licence Boundary**

| Receptor | Address | Distance | Receptor | Address | Distance | Receptor | Address | Distance | Receptor | Address | Distance | Receptor | Address | Distance | Receptor | Address | Distance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 101 | 10148 Beavers Road | 184 m | 121 | 5695 Osprey Avenue | 374 m | 141 | 9349 Madison Crescent | 415 m | 161 | 9245 Shoveller Drive - Unit 24 | 489 m | 181 | 9414 Shoveller Drive | 416 m | 201 | 9461 Eagle Ridge Drive | 427 m |
| 102 | 10138 Beavers Road | 442 m | 122 | 5687 Osprey Avenue | 362 m | 142 | 9337 Madison Crescent | 423 m | 162 | 9245 Shoveller Drive - Unit 25 | 495 m | 182 | 9404 Shoveller Drive | 423 m | 202 | 9500 Eagle Ridge Drive | 474 m |
| 103 | 9722 Beavers Road | 234 m | 123 | 5679 Osprey Avenue | 350 m | 143 | 9325 Madison Crescent | 434 m | 163 | 9312 Madison Crescent | 417 m | 183 | 9394 Shoveller Drive | 428 m | 203 | 9494 Eagle Ridge Drive | 477 m |
| 104 | 9582 Beavers Road | 151 m | 124 | 5671 Osprey Avenue | 339 m | 144 | 9315 Madison Crescent | 445 m | 164 | 9324 Madison Crescent | 404 m | 184 | 9374 Shoveller Drive | 443 m | 204 | 9490 Eagle Ridge Drive | 478 m |
| 105 | 9417 Beavers Road | 447 m | 125 | 5663 Osprey Avenue | 333 m | 145 | 9245 Shoveller Drive - Unit 21 | 469 m | 165 | 9336 Madison Crescent | 390 m | 185 | 9364 Shoveller Drive | 450 m | 205 | 9484 Eagle Ridge Drive | 480 m |
| 106 | 9337 Beavers Road | 475 m | 126 | 5655 Osprey Avenue | 321 m | 146 | 9245 Shoveller Drive - Unit 20 | 461 m | 166 | 9352 Madison Crescent | 370 m | 186 | 9354 Shoveller Drive | 460 m | 206 | 9440 Eagle Ridge Drive - Unit 1 | 484 m |
| 107 | 5584 Beaverdams Beechwood Road | 81 m | 127 | 5647 Osprey Avenue | 311 m | 147 | 9245 Shoveller Drive - Unit 19 | 453 m | 167 | 9366 Madison Crescent | 354 m | 187 | 9344 Shoveller Drive | 467 m | 207 | 9440 Eagle Ridge Drive - Unit 2 | 495 m |
| 108 | 5769 Beaverdams Beechwood Road | 287 m | 128 | 5639 Osprey Avenue | 299 m | 148 | 9245 Shoveller Drive - Unit 18 | 447 m | 168 | 9380 Madison Crescent | 338 m | 188 | 9334 Shoveller Drive | 478 m | 208 | 5772 Osprey Avenue | 499 m |
| 109 | 5821 Beaverdams Beechwood Road | 360 m | 129 | 5631 Osprey Avenue | 290 m | 149 | 9245 Shoveller Drive - Unit 17 | 440 m | 169 | 5610 Osprey Avenue | 311 m | 189 | 9324 Shoveller Drive | 488 m | 209 | 9440 Eagle Ridge Drive - Unit 40 | 494 m |
| 110 | 5783 Osprey Avenue | 490 m | 130 | 5623 Osprey Avenue | 284 m | 150 | 9245 Shoveller Drive - Unit 1 | 410 m | 170 | 5622 Osprey Avenue | 323 m | 190 | 9314 Shoveller Drive | 494 m | 210 | 5599 Osprey Avenue | 251 m |
| 111 | 5775 Osprey Avenue | 480 m | 131 | 5615 Osprey Avenue | 271 m | 151 | 9245 Shoveller Drive - Unit 2 | 425 m | 171 | 5632 Osprey Avenue | 331 m | 191 | 9355 Eagle Ridge Drive | 494 m | 211 | 9457 Madison Crescent | 260 m |
| 112 | 5767 Osprey Avenue | 470 m | 132 | 5607 Osprey Avenue | 259 m | 152 | 9245 Shoveller Drive - Unit 3 | 435 m | 172 | 5642 Osprey Avenue | 341 m | 192 | 9365 Eagle Ridge Drive | 481 m | 212 | 5329 Beechwood Road | 63 m |
| 113 | 5759 Osprey Avenue | 459 m | 133 | 9445 Madison Crescent | 280 m | 153 | 9245 Shoveller Drive - Unit 4 | 443 m | 173 | 5652 Osprey Avenue | 350 m | 193 | 9375 Eagle Ridge Drive | 469 m | 213 | 9384 Shoveller Drive | 435 m |
| 114 | 5751 Osprey Avenue | 448 m | 134 | 9433 Madison Crescent | 299 m | 154 | 9245 Shoveller Drive - Unit 5 | 457 m | 174 | 5668 Osprey Avenue | 362 m | 194 | 9385 Eagle Ridge Drive | 471 m | | | |
| 115 | 5743 Osprey Avenue | 438 m | 135 | 9421 Madison Crescent | 316 m | 155 | 9245 Shoveller Drive - Unit 6 | 467 m | 175 | 9405 Shoveller Drive | 374 m | 195 | 9395 Eagle Ridge Drive | 464 m | | | |
| 116 | 5735 Osprey Avenue | 424 m | 136 | 9409 Madison Crescent | 334 m | 156 | 9245 Shoveller Drive - Unit 7 | 476 m | 176 | 9395 Shoveller Drive | 383 m | 196 | 9045 Eagle Ridge Drive | 457 m | | | |
| 117 | 5727 Osprey Avenue | 415 m | 137 | 9397 Madison Crescent | 351 m | 157 | 9245 Shoveller Drive - Unit 8 | 485 m | 177 | 9385 Shoveller Drive | 392 m | 197 | 9415 Eagle Ridge Drive | 448 m | | | |
| 118 | 5719 Osprey Avenue | 404 m | 138 | 9385 Madison Crescent | 371 m | 158 | 9245 Shoveller Drive - Unit 9 | 498 m | 178 | 9446 Shoveller Drive | 400 m | 198 | 9425 Eagle Ridge Drive | 445 m | | | |
| 119 | 5711 Osprey Avenue | 393 m | 139 | 9373 Madison Crescent | 391 m | 159 | 9245 Shoveller Drive - Unit 22 | 474 m | 179 | 9434 Shoveller Drive | 405 m | 199 | 9435 Eagle Ridge Drive | 443 m | | | |
| 120 | 5703 Osprey Avenue | 383 m | 140 | 9361 Madison Crescent | 407 m | 160 | 9245 Shoveller Drive - Unit 23 | 482 m | 180 | 9424 Shoveller Drive | 412 m | 200 | 9445 Eagle Ridge Drive | 436 m | | | |

**Legal Description**

Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara

**Legend**

- Licence Boundary
- Limit of Extraction
- Additional Lands Owned by ~~Licensee~~ Applicant
- Municipal Boundary
- Contours with Elevation (Metres above sea level (MASL))
- Public Road
- Fence (1.2m post & wire farm fence unless otherwise noted)
- Watercourse (Direction of flow indicated by arrows)
- Surface Drainage Feature (Direction of flow indicated by arrows)
- Watercourse - Realigned (Stantec, 2020)
- 100 Year Floodline
- Water Feature
- Wooded Area
- Woodland Mitigation and Enhancement Area (Off-site)
- Watercourse Realignment Transition Area
- 120m Offset From Licence Boundary
- Trans Canada Blasting Buffer Area - See Note D.5 on drawing 4 of 6
- Parcel Fabric
- Trans Canada Pipeline Easement
- Hydro One Easement
- Entrance / Exit
- Limited Service Access (For Phases 1A, 1B and 5 in South Extraction Area)
- Gate
- Culvert
- General Direction of Excavation & Boundary
- Berm (Top - Noise Attenuation Berm; Bottom - Visual Berm)
- Building/Structure
- Spot Elevation (Metres above sea level (MASL); Top - Existing; Bottom - Maximum Depth of Extraction)
- Cross Sections (A1)

**Site Plan Acronyms**

1. ARA - Aggregate Resources Act
2. MNRF - Ministry of Natural Resources and Forestry
3. MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries
4. MECP - Ministry of the Environment, Conservation and Parks
5. MGCS - Ministry of Government and Consumer Services
6. DFO - Department of Fisheries and Oceans Canada
7. ECA - Environmental Compliance Approval
8. BMPP - Best Management Practices Plan
9. PTTW - Permit to Take Water
10. MASL - Metres above sea level
11. TCPL - Trans Canada Pipeline
12. ROW - Right of way
13. HMA - Hot mix asphalt
14. PWQO - Provincial Water Quality Objectives
15. MISA - Municipal Industrial Strategy for Abatement
16. TSS - Total Suspended Solids
17. NCD - North Channel Design

**Site Plan Amendments**

| No. | Date | Description | By |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

**Site Plan Revisions (Pre-Licencing)**

| No. | Date | Description | By |
|---|---|---|---|
| 1. | January 2022 | Removed note H.3, revised note I.8, added note I.9. and hatched watercourse realignment area. | C.P. |
| 2 | August 2023 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| 3 | April 4, 2024 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| | | | |


MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
113 COLLIER STREET, BARRIE, ON. L4M 1H2 | P: 705.728.0045 F: 705.728.2010 | WWW.MHBCPLAN.COM


**MHBC Stamp**
**Debra Walker**
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 0.2 (2) of Ontario Regulation 244/97 to prepare and certify site plans.

**MHBC Stamp**
**Christopher Poole**
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

Draft

**Applicant**


Walker Aggregates Inc.
2800 Thorold Townline Road
P.O. Box 100
Thorold, Ontario
L2V 3Y8


**Project**

# Upper's Quarry

**MNRF Licence Reference No.**

**Applicant's Signature**

**Plan Scale:** 1:3000 (Arch E)

0 90 180 Meters

| | |
|---|---|
| Date | October 2021 April 4, 2024 |
| Drawn By | C.P. |
| Checked By | D.W. |
| File No. | 9811V |

**File Name**

## Operational Plan

**Drawing No.**

## 2 of 6

**File Path** N:\Brian\9811V - Walker Uppers Quarry\Drawings\Site Plan\CAD\9811V - Site Plan.dwg

**A. General**

1. This plan depicts a schematic operations sequence for the property based on the best information available at the time of preparation.
2. Phases do not represent any specific or equal time period.
3. The direction of extraction will be in accordance with the General Direction of Excavation (shown on the plan view) unless otherwise authorized by MNRF. Notwithstanding the operational and rehabilitation notes, demand for certain products, blending of materials or Water Study Contingency measures may require minor deviations in the extraction and rehabilitation sequence. Any major deviations from the operations sequence shall require approval from the MNRF. The maximum combined disturbed area which includes the processing plant, berms, stockpiles, silt pond, active extraction area and area being stripped for the next area of extraction within the licence boundary identified on this Drawing but excludes the area of Phase 1A needed for the continued operation of the asphalt plant for the life of the quarry. Concurrent extraction of phases is permitted for blending purposes provided the overall maximum combined disturbed area does not exceed 40 hectares to ensure progressive rehabilitation of the site is being undertaken as required by the Site Plans.
4. Progressive and final rehabilitation will be completed in direct correlation to the development of the quarry as the extraction limits are reached and enough area is available to ensure that rehabilitation activities will not interfere with the production, stockpiling and processing of aggregate materials.

**B. Initial Site Preparation**

1. A Conservation Easement shall be placed on the lands identified as Woodland Mitigation Planting Areas (off-site) that are situated outside of the licence area and such Easement shall be registered on the lands prior to the commencement of Phase 1 (1A and 1B) to secure protection of the lands for conservation purposes in perpetuity.
2. Generally, site preparation in Phases 1 and 2 to include but not limited to:
   a. Constructing the main entrance and cross over(s) in accordance with entrance permit approvals
   b. Establishing fencing around licenced boundary (see Section N Variations from Control and Operation Standards on drawing 2 of 6)
   c. Removal of trees and existing buildings (in accordance with all site plan requirements and applicable regulations)
   d. Proceed with stripping of overburden/topsoil from Phase 1 and, if necessary, Phase 2
   e. Construction of berms/acoustic barriers within the perimeter setback of the licence boundary (as shown on the plan view).
3. Initiate plantings in Woodland Mitigation Planting Area (off-site) in accordance with the Rehabilitation Plan. Off-site plantings will be completed in the Woodland Mitigation Planting Areas (off-site) prior to the removal of the woodlot south of the unopened road allowance in Phases 1A and 1B.
4. Install water management and erosion and sediment control measures (silt fencing) in accordance with note D.1 on this drawing and note E.1.cd on drawing 4 of 6.
5. Commence portable crushing/screening plant set up. The plant shall operate in accordance with Section A on drawing 4 of 6 for all Phases.

**C. Phase 1 (1A and 1B)**

1. Commence extraction in the 'Initial Sinking Cut Area' identified in the Mid and South Extraction Area (see plan view for location).
2. Phase 1A shall be extracted in up to three (3) lifts to a depth ranging between 140 masl and 145 masl.
3. Phase 1B shall be extracted in one (1) to two (2) lifts to a depth of 155 masl.
4. A portable pump shall be utilized as necessary in the Mid Extraction Area and the South Extraction Area to discharge water to a man-made pond for aggregate washing or to a sediment forebay before being discharged to the existing watercourse. During heavy rainfall events (25 mm or more), the pump will be deactivated as necessary to prevent flooding along the watercourse downstream of the site. The discharge, pond and forebay locations will move with the quarry face until the final quarry depth is reached. At this point, a permanent sump will be established in each extraction area.
5. During Phase 1, a new watercourse channel shall be constructed along the east side of Thorold Townline Road (within Phase 1B) for the eventual realignment of the existing watercourse. As resource extraction is completed in Phase 1B, this area will be filled with clay overburden material from on-site to an elevation ranging between 173 to 178 masl. The new watercourse and riparian wetland channel will be constructed, designed and vegetated in accordance with DFO's authorization and this Rehabilitation Plan (drawing 5 of 6).
6. As extraction reaches the final quarry floor, and there is sufficient separation from the quarry floor working areas in Phase 1A, a 2:1 sideslope along the easterly and northerly limit of Phase 1B shall be backfilled with either: (i) overburden stockpiled on-site; (ii) overburden in Phase 2; or (iii) material imported from Licence Numbers 11175 and 4437.
7. Commence site preparation of Phase 2.

**D. Phase 2 (2A & 2B)**

1. Commence extraction in the 'Initial Sinking Cut Area' identified in the North Extraction Area (see plan view for location).
2. Phase 2A shall be extracted in up to three (3) lifts to a depth ranging between 141 masl to 145 masl.
3. Phase 2B shall be extracted in one (1) to two (2) lifts to a depth of 155 masl.
4. A portable pump shall be utilized as necessary to discharge water to a man-made pond for aggregate washing or to a sediment forebay before being discharged to the existing watercourse. During heavy rainfall events (25 mm or more), the pump will be deactivated as necessary to prevent flooding along the watercourse downstream of the site. The discharge, pond and forebay locations will move with the quarry face until the final quarry depth is reached. At this point, a permanent sump will be established.
5. Similar to Phase 1, the new watercourse channel shall be constructed within Phase 2 running along the east side of Thorold Townline Road (Phase 2B) for the eventual realignment of the existing watercourse. As resource extraction is completed in Phase 2B, this area will be filled with clay overburden material from on-site to an elevation ranging between 173 to 178 masl. The new watercourse and riparian wetland channel will be constructed, designed and vegetated in accordance DFO authorization and Rehabilitation Plan (drawing 5 of 6).
6. As extraction reaches the final quarry floor, and there is sufficient separation from the quarry floor working areas in Phase 2A, a 2:1 sideslope along the easterly and northerly limit of Phase 2B shall be backfilled with either: (i) overburden stockpiled on-site; (ii) overburden in Phase 3B; or (iii) either material imported from Licence Numbers 11175 and/or 4437 (subject to drawing 5, note C.7) or with overburden in Phase 4.
7. Commence site preparation of Phase 3.

**E. Phase 3 (3A & 3B)**

1. Proceed with stripping of overburden/topsoil.
2. Prior to undertaking any works within Phase 3A that may result in any serious harm to fish, according to 35(1) of the Fisheries Act, the Licensee shall obtain a Fisheries Act Authorization from the Department of Fisheries and Oceans (DFO) and shall fulfill any other conditions required by the DFO as stated on its authorization. Once obtained, a copy of the Fisheries Act Authorization shall be provided to the MNRF. Once the watercourse has been realigned to the satisfaction of DFO, stripping of overburden and topsoil can proceed in Phase 3A.
3. In the event that watercourse relocation has not been approved or completed, extraction in Phase 3B may proceed before extraction in Phase 3A.
4. In the event that Phase 3B is extracted before Phase 3A, a portable pump shall be utilized as necessary to discharge water to a man-made pond for aggregate washing or to a sediment forebay before being discharged to the existing watercourse. During heavy rainfall events (25 mm or more), the pump will be deactivated as necessary to prevent flooding along the watercourse downstream of the site. The discharge, pond and forebay locations will move with the quarry face until the final quarry depth is reached. At this point, a permanent sump will be established.
5. Phase 3A and 3B shall be extracted in up to three (3) lifts to a depth ranging between 145 masl to 149 masl. Extraction will proceed in an easterly direction, moving gradually from north to south.
6. Once the existing watercourse has been realigned, stripping and extraction in Phase 3A may proceed.
7. Complete progressive rehabilitation of new watercourse and riparian wetland channel in accordance with Rehabilitation Plan (drawing 5 of 6).
8. Continue progressive rehabilitation of the quarry perimeter where limits of extraction have been reached and there is sufficient separation from the quarry floor working areas.
9. Commence site preparation of Phase 4.

**F. Phase 4**

1. Proceed with stripping of overburden/topsoil.
2. Commence Phase 4 extraction in an easterly direction, moving gradually from north to south.
3. Phase 4 shall be extracted in up to three (3) lifts to a depth ranging between 142 masl in and 147 masl.
4. Continue progressive rehabilitation of the quarry perimeter where limits of extraction have been reached and there is sufficient separation from the quarry floor working areas.

**G. Phase 5**

1. Proceed with stripping of overburden/topsoil.
2. Commence Phase 5 extraction in an easterly direction, moving gradually from north to south.
3. Phase 5 shall be extracted in up to three (3) lifts to a depth ranging between 140 masl and 143 masl.
4. Continue progressive rehabilitation of the quarry perimeter where limits of extraction have been reached and there is sufficient separation from the quarry floor working areas.

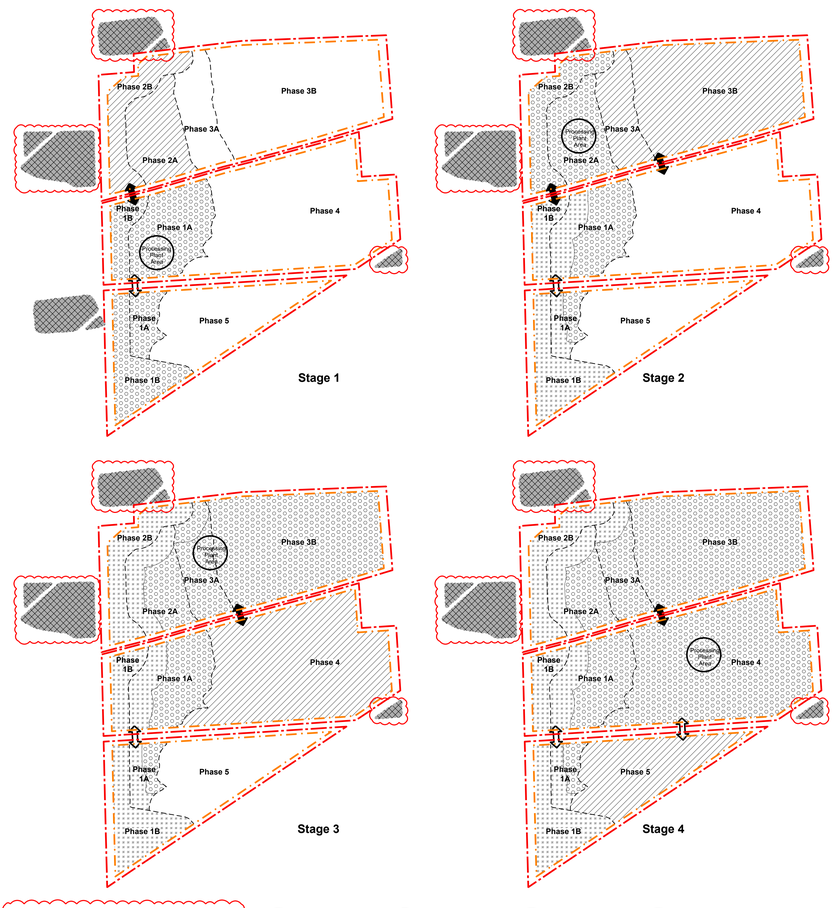
**H. Final Phase**

1. Complete extraction of any remaining resource in the extraction limit near the entrance in Phase 1A and 1B (e.g. ramp).
2. As part of the final operations of the site, remove office/scale house and scales, asphalt plant, recycled asphalt material and any other equipment and scrap from the site.
3. Continue and complete with final rehabilitation of the site. Complete quarry face backfilling on the remaining quarry faces as identified on drawing 5 of 6.

## Extraction Sequence Schematic

Scale 1:7500

0 200 400 Meters



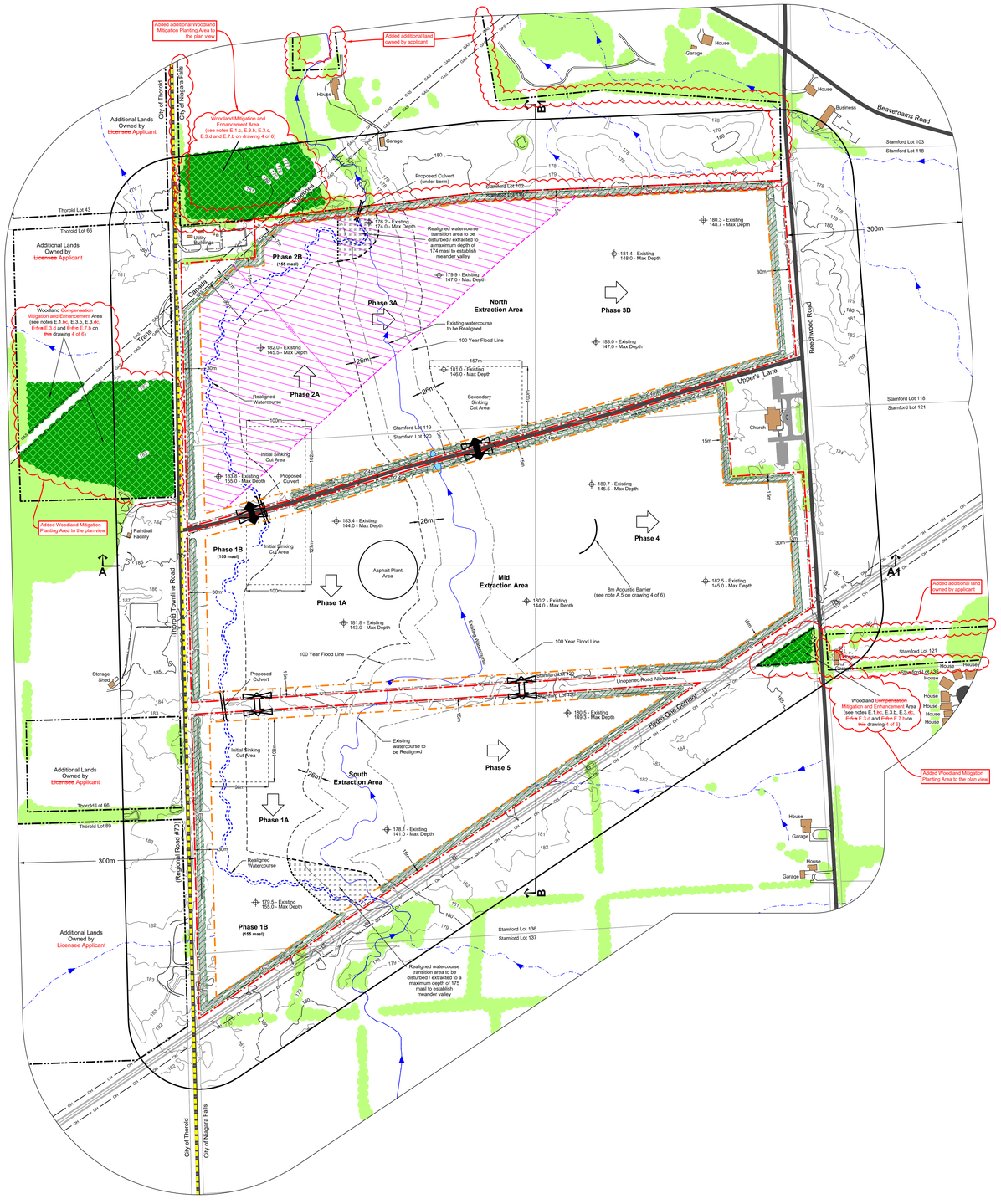

Off-site plantings to be initiated as part of Site Preparation and completed prior to Phase 1

Undisturbed

Site Preparation

Under Extraction

Progressive and Final Rehabilitation




**Legal Description**

Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara

**Legend**

- Licence Boundary
- Limit of Extraction
- Additional Lands Owned by ~~Licensee~~ Applicant
- Municipal Boundary
- Contours with Elevation (Metres above sea level (MASL))
- Public Road
- Fence (1.2m post & wire farm fence unless otherwise noted)
- Watercourse (Direction of flow indicated by arrows)
- Surface Drainage Feature (Direction of flow indicated by arrows)
- Watercourse - Realigned (Stantec, 2020)
- 100 Year Floodline
- Water Feature
- Wooded Area
- Woodland Mitigation and Enhancement Area (Off-site)
- Watercourse Realignment Transition Area
- 120m Offset From Licence Boundary
- Trans Canada Blasting Buffer Area - See Note D.5 on drawing 4 of 6
- Parcel Fabric
- Trans Canada Pipeline Easement
- Hydro One Easement
- Entrance / Exit
- Limited Service Access (For Phases 1A, 1B and 5 in South Extraction Area)
- Gate
- Culvert
- General Direction of Excavation & Boundary
- Berm (Top - Noise Attenuation Berm; Bottom - Visual Berm)
- Building/Structure
- Spot Elevation (Metres above sea level (MASL); Top - Existing; Bottom - Maximum Depth of Extraction)
- Cross Sections

## Site Plan Acronyms

1. ARA - Aggregate Resources Act
2. MNRF - Ministry of Natural Resources and Forestry
3. MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries
4. MECP - Ministry of the Environment, Conservation and Parks
5. MGCS - Ministry of Government and Consumer Services
6. DFO - Department of Fisheries and Oceans Canada
7. ECA - Environmental Compliance Approval
8. BMPP - Best Management Practices Plan
9. PTTW - Permit to Take Water
10. MASL - Metres above sea level
11. TCPL - Trans Canada Pipeline
12. ROW - Right of way
13. HMA - Hot mix asphalt
14. PWQO - Provincial Water Quality Objectives
15. MISA - Municipal Industrial Strategy for Abatement
16. TSS - Total Suspended Solids
17. NCD - North Channel Design

**Site Plan Amendments**

| No. | Date | Description | By |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**Site Plan Revisions (Pre-Licencing)**

| No. | Date | Description | By |
|---|---|---|---|
| 1 | January 2022 | Revised note C.1 and hatched watercourse realignment area. | C.P. |
| 2 | August 2023 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| 3 | April 4, 2024 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| | | | |
| | | | |


MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
113 COLLIER STREET, BARRIE, ON. L4M 1H2 | P: 705.728.0045 F: 705.728.2010 | WWW.MHBCPLAN.COM


**MHBC Stamp**

**Debra Walker**

Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

**MHBC Stamp**

**Christopher Poole**

Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

Draft

**Applicant**

walker aggregates

Walker Aggregates Inc.
2800 Thorold Townline Road
P.O. Box 100
Thorold, Ontario
L2V 3Y8

**Project**

***Upper's Quarry***

| | |
|---|---|
| **MNRF Licence Reference No.** | **Applicant's Signature** |
| **Plan Scale:** 1:3000 (Arch E) | **Date** ~~October 2021~~ April 4, 2024 |
| 0 90 180 Meters | **Drawn By** C.P. |
| | **Checked By** D.W. |
| | **File No.** 9811V |

**File Name**

**Extraction Sequence**

**Drawing No.**

**3 of 6**

**File Path** N:\Brian\9811V - Walker Uppers Quarry\Drawings\Site Plan\CAD\9811V - Site Plan.dwg

## A. Acoustic Assessment

1. Minimum 3 metre tall acoustic berms shall be constructed in the locations shown on the plan view.
2. The acoustic berms shall be constructed during site preparation and prior to extraction.
3. The primary crusher shall stay within 30 metres of the working face to maximize shielding effect of the quarry terrain, except when extraction is in the South Extraction Area as per note A.4 below.
4. Material extracted from the South Extraction Area shall be processed in the Mid Extraction Area.
5. While processing in Phase 4, the licensee shall maintain an 8 metre tall barrier at a radius of 40 metres to the southeast of the processing plant's secondary crushers (see plan view for location). The barrier can be material stockpiles, noise walls, or a combination of both. The barrier shall extend long enough to shield receptors R4 and R5 (see plan view) from the secondary crushers. If crushers need to be removed for operational reasons, the barrier must be extended to block the additional line-of-sight to both R4 and R5. The 40 metre radius from the barrier to the processing plant's secondary crushers must also be maintained.
6. All construction equipment shall meet the sound emission standards defined in MECP Publication NPC-115.
7. The following best practice measures shall be undertaken to minimize the potential for construction noise impacts related to site preparation, berm creation and rehabilitation but not related to extraction and processing activities:
   a. Construction will be limited to time periods allowed by the City's applicable by-laws. If construction activities are required outside of these hours, the licensee will seek permits / exemptions directly from the City in advance.
   b. All internal combustion engines will be fitted with appropriate muffler systems.
   c. The licensee's operating procedures will contain a provision that any initial complaint will trigger verification that the general noise control measures agreed to on this Plan are in effect.
   d. In the presence of persistent noise complaints, all construction equipment will be verified to comply with MECP's NPC-115 guidelines.
   e. In the event of verified presence of persistent noise complaints and subject to the results of a field investigation, alternative noise control measures may be required, where reasonably available. In selecting appropriate noise control and mitigation measures, consideration will be given to the technical, administrative and economic feasibility of the various alternatives.

## B. Air Quality

1. The licensee shall apply water or another provincially approved dust suppressant to internal haul roads and processing areas, as necessary, to mitigate dust.
2. Processing equipment shall be equipped with dust suppressing or collection devices, where the equipment creates dust and is operating within 300 metres of an air quality sensitive receptor (as set out in the Air Quality Impact Assessment).
3. The licensee shall obtain an environmental compliance approval under the Environmental Protection Act where required to carry out operations at the quarry.
4. The site will operate in accordance with the Best Management Practices Plan (BMPP) for Fugitive Dust Emissions. The BMPP may be amended from time to time, considering actual impacts and operational considerations. The recommendations in the BMPP are based on the maximum daily production rates. At lower production rates, the control measures specified in the BMPP can be reduced accordingly, provided dust remains mitigated on site.
5. The following mitigation measures shall be incorporated into the BMPP:
   a. Blasting operations occurring within 300 metres of a residential receptor shall have a smaller blast area, not exceeding 200 m² in area.
   b. Aggregate extraction, processing and shipping does not exceed 9,000 tonnes per day.
   c. Under dry conditions, the capacity to apply water on an hourly basis to all traveled haul routes within the licence boundaries is required.

## C. Archaeology

1. Areas identified as "Archaeological Site - Protected Areas Requiring Further Archaeological Assessment" on this drawing reflect areas that require further archaeological assessment and are protected by a 20 to 30 metre protective buffer. A 50 metre monitoring buffer is also identified on this drawing.
2. No ground alterations including overburden stripping and excavation, or development of any kind shall occur within areas identified as "Archaeological Site - Protected Areas Requiring Further Archaeological Assessment" and their respective protective buffers until:
   a. the required investigations are completed in accordance with the Stage 1 and 2 Archaeological Assessment prepared by Archaeological Research Associates Ltd. (April 2020),
   b. any recommendations that the respective site(s) has no further cultural heritage value or interest are made as a result of completing further investigations, and,
   c. the associated reports are entered into the Ontario Public Register of Archaeological Reports and copies are provided to the MNRF.

   Should the required investigations noted above determine that any portion of the "Protected Areas Requiring Further Archaeological Assessment" contain significant archaeological resources that will require long term protection, the licencee shall amend the extraction limits to remove areas to be protected as set out by the assessment on all pages of the Site Plan accordingly.
3. Until note C.2 has been satisfied, a temporary barrier shall be established around the perimeter of each "Archaeological Site - Protected Areas Requiring Further Archeological Assessment" identified on this drawing as part of site preparation and in advance of ground alteration.
4. All soil disturbing activities within the 50 metres monitoring buffers shall be monitored by a licensed archaeologist to ensure the effectiveness of the avoidance strategy. The archaeologist shall ensure that the temporary barrier is in the appropriate location and shall be empowered to stop construction if there is a concern for impacts to an archaeological site. 'No go' instructions shall be issued to all work crews for the protected areas, and the locations of the protected areas shall be shown on all appropriate contract drawings. The protected areas shall be inspected by a licensed archaeologist once the strategy is no longer required, and the effectiveness of the strategy shall be reported to the MHSTCI.
5. Immediately upon issuance of the Licence, and once the construction schedule has been finalized, a licensed archaeologist will be retained by the licensee so that monitoring can occur where required. The remaining archaeological fieldwork will be completed upon issuance of the licence by the MNRF.
6. Should deeply buried archaeology remains be found during the course of site preparation and/or extraction related activities, the MHSTCI shall be notified.
7. In the event that human remains are encountered during construction or extraction activities, the licensee shall immediately contact both the MHSTCI and Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services (MGCS).

## D. Blasting

1. An attenuation study shall be undertaken by an independent blasting consultant during the first 12 months of operation in order to obtain sufficient quarry data to confirm the initial guideline parameters and assist in refining future blast designs.
2. All blasts shall be monitored for both ground vibration and overpressure at the closest privately owned sensitive receptors adjacent the site, or closer, with a minimum of two (2) instruments - one installed in front of the blast and one installed behind the blast.
3. Blasts shall be designed to maintain vibrations below 13mm/s at the location of the closest identified active spawning bed as per DFO guidelines. When blasting during active spawning season, a minimum of one supplemental vibration monitor shall be installed on the shoreline closest to the spawning bed to confirm the vibration levels.
4. The guideline limits for vibration and water overpressure shall adhere to standards as outlined in the Guidelines For the Use of Explosives In or Near Canadian Fisheries Waters (1998) or any such document, regulation or guideline which supersedes this standard.
5. All blasts shall be monitored for ground vibration at the adjacent Trans Canada Energy High Pressure Natural Gas Pipeline when blasting within 100m of the pipeline or when calculations suggest vibrations in excess of 35mm/s.
6. Blasts shall be designed to maintain vibrations at the transmission towers in the Hydro One Corridor below 50mm/s or any such document, regulation or corporate policy in effect at the time. When vibration calculations suggest vibrations at the towers may exceed 30mm/s, the towers shall be monitored for ground vibration.
7. Blasts shall be designed to maintain vibrations at the 4832 Thorold Townline Road utility buildings below 50mm/s. When vibration calculations suggest vibrations at the utility buildings may exceed 35mm/s, the buildings shall be monitored for ground vibration.
8. The guideline limits for ground vibration and air overpressure shall adhere to standards as outlined in the Model Municipal Noise Control By-law publication NPC 119 (1978) or any such document, regulation or guideline which supersedes this standard.
9. Orientation of the aggregate extraction operation shall be designed and maintained so that the direction of the overpressure propagation will be away from structures as much as possible.
10. Blast designs shall be continually reviewed with respect to fragmentation, ground vibration and overpressure. Blast designs shall be modified as required to maintain compliance with current applicable guidelines and regulations.
11. Detailed blast records shall be maintained in accordance with current industry best practices.

## E. Natural Heritage

1. General
   a. Existing vegetation within the setbacks shall be maintained except where berms, haul roads and conveyors are required.
   b. A monitoring program of all berm plantings, rehabilitation plantings and offsite mitigation and enhancement plantings shall be prepared in consultation with regulatory authorities to address replacement plantings if die off occurs and to confirm stable conditions have been established.
   c. New vegetation shall be maintained in accordance with note G.5 on this drawing.
   d. Prior to construction, silt fencing and sediment control measures shall be installed and implemented prior to and during construction at the easterly limit of Phases 1A and 2A where field drainage enters the existing watercourse. This may include the use of silt fencing, check dams, straw bales, rip-rap and/or other techniques as required depending on scope, nature and location. Silt fencing will serve to demarcate the limit of protected area until the watercourse is diverted.
   e. Stockpiling of all excavated material shall be in accordance with note H.7 on drawing 2 of 6.
   f. Topsoil and overburden stockpiles shall be maintained in accordance with the Best Management Practices for the Protection, Creation and Maintenance of Bank Swallow Habitat in Ontario (MNRF 2017). Stripped overburden and topsoil for rehabilitation shall be utilized in accordance with notes E.4, E.5 and E.6 on drawing 2 of 6.
   g. Dust control will be implemented in accordance with Section B on this drawing.
   h. Fuel storage shall be in accordance with the notes under Section K on drawing 2 of 6.
   i. Side slopes steeper than 3:1 shall be seeded with a naturalizing mix of native, non-invasive wildflowers and grasses capable of rapid germination and growth to stabilize slopes and minimize mowing and maintenance.
2. Natural Channel Design
   a. The existing watercourse will remain open (not culverted) where it enters the south limit of the South Extraction Area.
   b. Where the watercourse exits the North Extraction Area, a culvert will be installed to maintain the watercourse while allowing an acoustic berm to be constructed. As part of final rehabilitation, the berm and culvert shall be removed to allow for the watercourse to be open.
   c. As part of site preparation, a compensation pond will be constructed in the Watercourse Realignment Transition Area within Phase 2B, in accordance with the Natural Channel Design Report (Stantec 2021). The compensation pond will shall be excavated to a maximum depth of 174 masl in this area and in accordance with DFO authorization. No drilling or blasting shall occur in this Transition Area.
   d. As extraction is completed in Phases 1B and 2B, these areas will be filled with clay overburden material to an elevation ranging between 173 to 178 masl. In accordance with the Natural Channel Design Report (Stantec 2021), a new watercourse channel will shall be constructed, vegetated and designed in these areas and will shall include the following design elements:
      d.1. Floodplain wetlands
      d.2. Fish habitat ponds, including new pike spawning habitat as well as foraging, spawning and rearing habitat for other fish species
      d.3. Creek sections
      d.4. Wood debris toe protection and wood reinforced banks
      d.5. Log sills
      d.6. Augmented riffle
   e. Culverts will be installed under Upper's Lane and the unopened road allowance.
   f. 2:1 side slopes shall be established on the east side of the new watercourse channel down to the quarry floor.
   g. Once the realigned watercourse channel has been constructed in Phases 1B and 2B and adequate vegetation to mitigate potential erosion has been established (as confirmed by an ecologist), water from the existing watercourse will be diverted to the realigned watercourse in consultation with regulatory authorities. A fish rescue will shall be undertaken prior to dewatering and channel relocation. A License to Collect Fish for Scientific Purposes will be obtained for the fish rescue.
   h. The Natural Channel Design (NCD) Report details the Rehabilitation Planting Plan on drawings L-460 to L-463 and L-500 to L-503.
3. Woodland and Terrestrial Habitat Enhancement
   a. The 2.0 ha woodland situated on the east side of Thorold Townline Road shall be removed during the advancement of operations in Phase 1A/1B. Tree clearing in the woodlot shall be undertaken outside of the breeding bird period and the active bat season from March 23rd and August 26th.
   b. The lands identified off-site as "Woodland Compensation Mitigation and Enhancement Area" on this drawing, an area of 4.7 6.7 ha, shall be planted in accordance with the Rehabilitation Plan (drawing 5 of 6) and Planting Plan L-460 to L-463 and L-500 to L-503 from the NCD Report.
   c. The lands identified on-site as Deciduous Woodland, Treed Deciduous Swamp and Swamp Thicket / Marsh Meadow on drawing 5 of 6, an area of 4.0 ha, shall be planted in accordance with the Rehabilitation Plan.
   c. Planting for the off-site Woodland compensation Mitigation and Enhancement Area will commence in the appropriate planting season following licence approval.

5. Woodland and Wildlife Habitat Compensation Plan
   d. The goal of the on-site Rehabilitation, in particular, the detailed planting plan that accompanies the NCD and the off-site Woodland Mitigation and Enhancement Area (see drawing 5 of 6, Table 1) shall be refined in consultation with regulatory authorities to. A woodland and wildlife habitat compensation plan shall be prepared in consultation with regulatory authorities for (i) allow practices and management to respond to changing forest dynamics in the Woodland Compensation Mitigation and Enhancement Areas such as pest infestations, climatic conditions (e.g. species selection) and restoration ecology; and (ii) achieve a net gain in the ecological functions of the local and regional landscape through:
      d.1. Increasing the total area of woodland cover in the regional landscape;
      d.2. Improving associated landscape functions such as vegetative linkages and interior forest areas;
      d.3. Improving forest ecological characteristics such as species diversity, age class distribution and structural diversity, while retaining native genetics through seed collection and replanting. For example, prior to the removal of the existing 2 ha woodland:
         d.3.1. Establish the planting of the 6.7 ha of off-site Woodland Mitigation and Enhancement Area planting and approximately 4.5 ha on-site woodland planting
         d.3.2. Tree seeds and nuts will shall be gathered from the woodland for direct planting in the Woodland Compensation Mitigation and Enhancement Areas to promote the continuity of local genetic stock and a similar community composition to the removed vegetation community (FOD9);
         d.3.3. Leaf litter and sods containing native understory vegetation will shall be transplanted to promote rapid establishment of a healthy forest soil microbiome; and
         d.3.4. Transplanting of native saplings and small shrubs from the woodland to the off-site Woodland Mitigation and Enhancement Areas compensation planting area, where feasible.
      d.4. Incorporating specific wildlife habitat features for bats, deer and other wildlife, such as bat roosting structures (bat boxes or condos), coniferous tree clusters for cover, browse-tolerant shrubs and mast producing trees;
      d.5. Incorporating specific planting in setbacks and the watercourse realignment channel. For example, plantings that provide habitat for monarch including common milkweed (Asclepias syriaca), swamp milkweed (Asclepias incarnata) and nectar producing plants.
4. Significant Wildlife Habitat and Wildlife
   a. Vegetation clearing where milkweed plants are present will shall proceed when monarch larvae are absent (September 30th to April 1st).
   b. The setbacks along Thorold Townline Road and Beechwood Road shall be planted with a mix of deciduous and coniferous trees and shrubs with a range of sizes as per the Visual recommendations on this drawing. Native plant materials that are complementary to the regional and local landscape shall be used (see Rehabilitation Plan: drawing 5 of 6; planting plan drawings L-460 to L-463 and L-500 to L-503 from the NCD Report for additional information).
   c. Eight multichambered bat boxes shall be installed in the NCD corridor where creek and vernal pool habitat is created.
5. Fish and Fish Habitat
   a. Implement notes D.3 and D.4 on this drawing.
   b. Water shall be discharged from the sump area to the existing watercourse until water flow is diverted to the watercourse realignment channel. Once the watercourse realignment has been completed, water shall be discharged from the sump locations to the realigned watercourse. Pumping and discharge shall occur as required to support fish habitat.
   c. Water collected from the sump area shall be directed to a holding pond for storage to allow for settling of suspended solids and dissipation of other constituents such as hydrogen sulfide and alkalinity. Following this pond treatment, water will be discharged to the existing watercourse until water flow is diverted to the watercourse realignment channel. Once the watercourse realignment has been completed, water shall be discharged from the holding pond to the realigned watercourse. Pumping and discharge shall occur as required to support fish habitat.
   d. Create riparian corridor to provide pike spawning habitat as shown on the rehabilitation plan, drawing 5 of 6.
6. Wetlands
   a. Wetlands along the existing watercourse will shall be maintained until the watercourse has been diverted to the watercourse realignment channel.
   b. Once the watercourse has been diverted, the created wetlands created in the watercourse realignment channel shall be maintained.
7. Monitoring Program
   a. A monitoring plan shall be prepared in consultation with regulatory authorities to assess the performance of the watercourse realignment channel and to confirm that impacts to off-site wetlands are not occurring as a result of dewatering.
   b. A monitoring program of compensation planting off-site woodland mitigation and enhancement planting shall be prepared in consultation with regulatory authorities to confirm stable conditions have been established.
   c. A trigger mechanism and contingency plan, as detailed in WSP's Level 2 Water Study Report, shall be implemented upon licence approval to proactively ensure natural heritage features and their functions are maintained (i.e. fish habitat, wetland features downstream and at 5584 Beechwood Road, and woodlands) during operational and rehabilitation phases.
   d. A Wetland Monitoring Program shall be prepared in consultation with regulatory agencies and shall be implemented to monitor the reconfigured wetland features to accurately monitor any changes in the wetland community over time and to measure the success of the re-configuration / restoration and management actions. Long-term monitoring plots and/or monitoring transects shall be established to include a count of the number of stems and percent cover for all plant species present. Monitoring shall be conducted annually at a similar time of year (i.e., late July) for the duration of Phase 1A through Phase 3A.
   e. All plants identified as part of the Wetland Monitoring Program shall be categorized by the wetness index based on the Floristic Quality Assessment System for Southern Ontario.
   f. The results of the Wetland Monitoring Program shall be submitted to the MNRF and all appropriate agencies, as determined by MNRF, annually prior to December 31st until the re-alignment and rehabilitation is complete. It is recommended that, at a minimum, a 5-year monitoring plan be undertaken upon completion of the wetland re-configuration plantings.

## F. Traffic

1. Prior to commencement of extraction operations, the required entrance improvements, road improvements and dedication of road widenings (to Thorold Townline Road, Beechwood Road and Upper's Lane) shall be completed to the satisfaction of the applicable road authorities the Regional Municipality of Niagara and the City of Niagara Falls and in part in general accordance with the figures titled "Uppers Lane Conceptual Intersection Design" and "Uppers Lane Vehicle Movement Diagram" provided on this drawing 6 of 6.

## G. Visual

1. Where possible and to the extent to which it is present, existing vegetation located along the site perimeter within the setback area shall be retained.
2. 3.0 metre high acoustic berms and 2.4 metre high visual berms shall be established in the locations shown on the plan view. Berms shall be constructed in a smooth, rolling manner with varying highpoints (where space permits while respecting minimum height requirements), and variations along the berm frontage to create a more natural appearance. Berms shall be seeded with a naturalizing mix of wildflowers and grasses to stabilize slopes and minimize mowing and maintenance.
3. Within the "Extended Planting Areas" (as shown on this drawing), trees shall be planted at a spacing of 5 to 10 metres on centre, depending on species. Where possible. Plantings shall be randomly spaced and staggered up on the berm up to one third of its maximum height to appear more natural. Plantings shall also extend a minimum of 3 metres out from the berm towards the road where available space permits. All vegetation shall be selected for wind, and salt and drought tolerance and hardiness. Native, non-invasive species that complement the existing surroundings shall be utilized.

   Where "Large Planting Stock" is indicated (see plan view "Extended Planting Areas" and "Typical Visual Berm Detail" on this drawing), this area shall be planted with deciduous trees of minimum 40 millimetres caliper, coniferous trees of minimum 1.5 2 metre in height, and shrub species of minimum 40 centimetres height.

   Where "Small Planting Stock" is indicated (see plan view "Extended Planting Areas" and "Typical Visual Berm Detail" on this drawing), this area shall be planted with deciduous tree whips of minimum 1.2 metres in height, coniferous trees of minimum 0.6 1.2 metre in height, and shrub species of minimum 20 centimetres in height (or bare root stock when in season).

   Planting shall occur for 40 metre stretches on either side of Upper's Lane and the unopened road allowance facing Thorold Town Line Road and on either side of the internal entrances off of Upper's Lane. The large planting stock shall be planted 3 metres beyond the berm and small planting stock shall extend from the toe of the berm to 2 metres up the berm.

   See "Planting Cell Detail for Planted Berms" and "Planting Cell Detail for at Grade Planting" on this drawing for additional information.

   Plant species for berms may include, but shall not be limited to the following:

   **Trees**

   | | | | |
   |---|---|---|---|
   | White Pine | Common Hackberry | Chokecherry | Eastern Hemlock |
   | White Spruce | Paper Birch | Pin Oak | Balsam Fir |
   | Sugar / Silver Maple | Trembling Aspen | Basswood | American Larch |
   | White Pine Cedar | White Spruce | White Cedar | |

   **Shrubs**

   | | | | |
   |---|---|---|---|
   | Staghorn Sumac | Nannyberry | Common Ninebark | Common Chokecherry |
   | American Elder | Dogwood | Highbush Cranberry | |

4. To ensure survival and positive growth rate, the vegetative screening shall be maintained as an effective visual screen over time. Allowance of natural succession is encouraged.
5. During the first year, planted trees and shrubs shall be watered and monitored until established. After the first year and up to five years, trees shall be inspected biannually (end of Year 1, beginning of Year 3 and end of Year 4). Trees or shrubs which are in poor condition at the time shall be fertilized, watered and monitored to improve their health and vigor.
6. A mortality rate of up to 15% of all trees planted over the course of the five year maintenance period is expected. Trees that die exceeding this percentage shall be replaced yearly, preferably in the spring or late summer. If the death or decline or trees open up direct views into the Quarry, these trees shall be replaced even if there is a die off rate below 15% of all trees.

## H. Water Study

1. A long-term monitoring program will be implemented during the quarry operational and rehabilitation phases, until stable conditions are observed after quarry decommissioning.
2. In the event a well interference claim is received, the licensee shall implement the following mitigation plan to protect the local groundwater users.
   a. Prior to extraction, landowners shall be provided with a copy of the water well interference plan as well as the contact information for the licensee and MECP (Wells Help Desk 1-888-396-9355 or email wellshelpdesk@ontario.ca).
   b. If a water well interference claim is received by the licensee the following actions shall be taken:
      b.1. The licensee shall immediately notify MNRF and MECP of the complaint.
      b.2. The licensee shall contact a well contractor in the event of a well malfunction and residents will be provided a temporary water supply within 24 hours, if the issue cannot be easily determined and rectified.
   c. The well contractor shall contact the resident with the supply issue to rectify the problem as expeditently as possible, provided landowner authorization of the work.
   d. If the issue raised by the landowner is related to loss of water supply, the licensee shall have a qualified hydrogeologist / well contractor determine the likely causes of the loss of water supply, which can result from a number of factors, including pump failure (owner's expense), extended overuse of the well (owner's expense), lack of well maintenance / well cleaning (owner's expense) or lowering of the water level in the well from the quarry development (licensee expense). This assessment process shall be carried out at the expense of the licensee and the results provided to the homeowner.
   e. If it has been determined that the quarry caused the water supply interference (i.e., lowering of the water level), the licensee shall continue to supply water at their expense until the problem is rectified. The following mitigation measures shall be considered, and the appropriate measure(s) implemented at the expense of the licensee:
      e.1. Adjust pump pressure;
      e.2. Lowering of the pump to take advantage of existing water storage within the well;
      e.3. Deepening of the well to increase the available drawdown, if the well deepening changes the water quality a water treatment shall be provided;
      e.4. Widening of the well to increase the available storage of water;
      e.5. Relocation of the well to another area on the property; or
      e.6. Drilling multiple wells.
   f. If the issue raised by the landowner is related to water quality, the licensee shall have a qualified hydrogeologist / well contractor determine the likely causes of the change in water quality, and review monitoring results at the quarry and background monitoring results from the baseline well survey to determine if there is any potential correlation with the quarry. If it has been determined that the quarry caused a water quality issue, the licensee shall continue to supply water at their expense until the problem is rectified. The licensee shall be responsible for restoring the water supply by replacing the well or providing a water treatment system. The licensee is responsible for the expense to restore the water quality.
3. A spill action plan shall be carried out in accordance with the notes in Section N L Spills Plan on drawing 2 of 36.
4. A trigger mechanism and contingency plan as set out in WSP's Level 2 Water Study Report shall be implemented.
5. WSP's Water Study Report confirms that drawdown impacts do not extend to areas identified in the Niagara Peninsula Source Protection Plan as Intake Protection Zones.

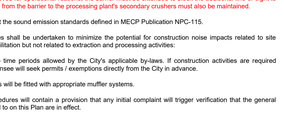
Moved traffic details to drawing 6 of 6 due to limited space

## PLANTING CELL DETAIL FOR PLANTED BERMS

For Large Stock Species Planting on Berms, Approx Area: 200m2
Cell A1 - A4
34 Trees Total
• Deciduous 40mm cal.
• 1.5M Coniferous
• 1.2M Deciduous
• 1.2M Coniferous

For Small Stock Species Planting on Berms, Approx Area: 150m2
Cell B1 - B4
28 Trees Total
• 1.2M Deciduous
• 1.2M Coniferous
• +21 Shrubs Total

+30 Shrubs Total




LEGEND
40mm Caliper Deciduous (+5.0m o/c)
1.5m Height Coniferous (+3.0m o/c)
1.2m High Deciduous (+2.5m o/c)
1.2m High Coniferous (+2.5m o/c)
40cm High Shrubs (+1.5m o/c)
20cm High Shrubs (+1.5m o/c)

Typical planting cells for berm planting.

Tree whips and saplings are to be planted at irregular +2.5m centres in a staggered fashion to maximize screening potential, and shrubs planted +1.5m on centre.

Planting cells will typically contain a higher ratio of deciduous plant material with trees (40mm caliper and 1.2m high deciduous tree whips and 1.2-1.5m height coniferous saplings), and shrub species (bareroot nursery stock or potted from 20-40cm in height).

Planting cells are to be implemented in a staggered layout (as illustrated) to provide an enhanced level of screening with the final concentration of coniferous versus deciduous planting within a plant cell to be determined on site to ensure that areas with the least amount of existing vegetation are filled to provide best screening potential.

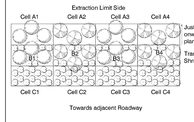
Added Planting Cell Details

## PLANTING CELL DETAIL FOR AT GRADE PLANTING

For Tree Planting from Transition Row to Extraction Limit
Approx Area: 200m2
Cell A1 - A4
12 Trees Total
• Deciduous 40mm cal.
• 1.5M Coniferous

For Transition from Shrub Planting to Tree Planting
Approx Area: 200m2
Cell B1 - B4
12 Trees Total
• Deciduous 40mm cal.
• 1.5M Coniferous
+24 Shrubs Total

For Shrub Planting Adjacent to Roadways
Approx Area: 200m2
Cell C1 - C4
+56 Shrubs Total




Just tree species onward to back of planting area

Transition from Shrubs to Trees

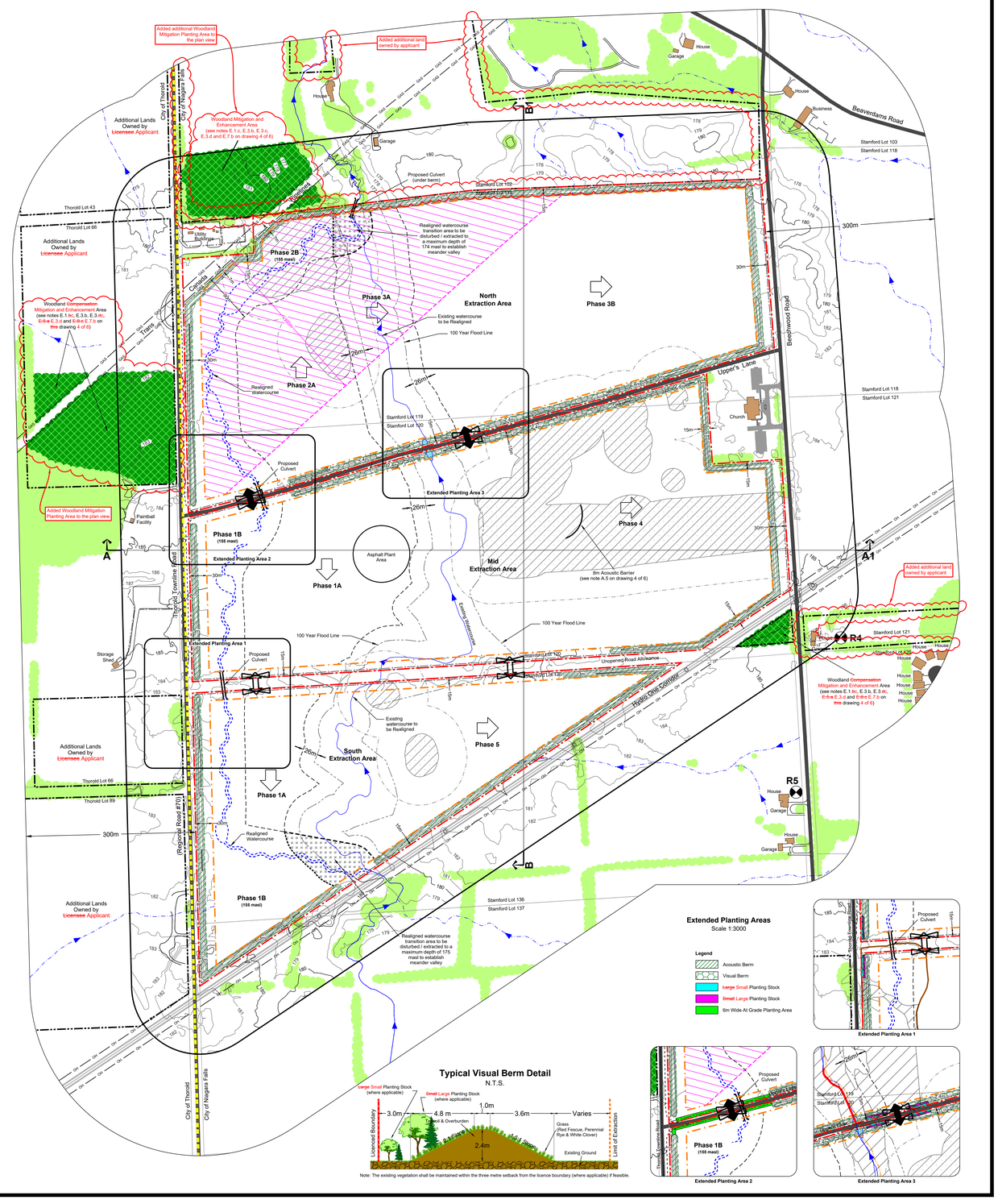
LEGEND
40mm Caliper Deciduous (+5.0m o/c)
1.5m Height Coniferous (+3.0m o/c)
40cm High Shrubs (+1.5m o/c)

Typical planting cells for at grade planting

Tree whips and saplings are to be planted at irregular +2.5m centres in a staggered fashion to maximize screening potential, and shrubs planted +1.5m on centre.

Planting cells will typically contain a higher ratio of deciduous plant material with trees (40mm Cal.) and shrub species (bareroot nursery stock or potted 40cm in height).

Planting cells are to be implemented in a staggered layout (as illustrated) to provide an enhanced level of screening with the final concentration of coniferous versus deciduous planting within a plant cell to be determined on site to ensure that areas with the least amount of existing vegetation are filled to provide best screening potential.




## Extended Planting Areas
Scale 1:3000

Legend
- Acoustic Berm
- Visual Berm
- Large Small Planting Stock
- Small Large Planting Stock
- 6m Wide At Grade Planting Area










## Typical Visual Berm Detail
N.T.S.




Note: The existing vegetation shall be maintained within the three metre setback from the licence boundary (where applicable) if feasible.

## Legend

- Licence Boundary
- Limit of Extraction
- Additional Lands Owned by Licensee Applicant
- Municipal Boundary
- Contours with Elevation — Metres above sea level (MASL)
- Public Road
- Fence — 1.2m post & wire farm fence unless otherwise noted
- Watercourse — Direction of flow indicated by arrows
- Surface Drainage Feature — Direction of flow indicated by arrows
- Watercourse - Realigned (Stantec, 2020)
- 100 Year Floodline
- Water Feature
- Wooded Area
- Watercourse Realignment Transition Area
- Woodland Compensation Mitigation and Enhancement Area (Off-site)
- Archaeological Site — Protected Areas Requiring Further Assessment (Includes 20-30m Buffer)
- Archaeological Offset — 50m Monitoring Buffer
- 120m Offset From Licence Boundary
- Trans Canada Blasting Buffer Area - See Note D.5 on this drawing
- Parcel Fabric
- Trans Canada Pipeline Easement
- Hydro One Easement
- Entrance / Exit
- Limited Service Access — For Phases 1A, 1B and 5 in South Extraction Area
- Gate
- Culvert
- General Direction of Excavation & Boundary
- Berm — Top - Noise Attenuation Berm; Bottom - Visual Berm
- Building/Structure
- Noise Receptor
- Cross Sections

## Site Plan Acronyms

1. ARA - Aggregate Resources Act
2. MNRF - Ministry of Natural Resources and Forestry
3. MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries
4. MECP - Ministry of the Environment, Conservation and Parks
5. MGCS - Ministry of Government and Consumer Services
6. DFO - Department of Fisheries and Oceans Canada
7. ECA - Environmental Compliance Approval
8. BMPP - Best Management Practices Plan
9. PTTW - Permit to Take Water
10. MASL - Metres above sea level
11. TCPL - Trans Canada Pipeline
12. ROW - Right of way
13. HMA - Hot mix asphalt
14. PWQO - Provincial Water Quality Objectives
15. MISA - Municipal Industrial Strategy for Abatement
16. TSS - Total Suspended Solids
17. NCD - North Channel Design

**Legal Description**

Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara

**Site Plan Amendments**

| No. | Date | Description | By |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

**Site Plan Revisions (Pre-Licencing)**

| No. | Date | Description | By |
|---|---|---|---|
| 1 | January 2022 | Added note H.5 and hatched watercourse realignment area. | C.P. |
| 2 | August 2023 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| 3 | April 4, 2024 | Updated site plan to incorporate JART and MNRF comments | C.P. |


MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
113 COLLIER STREET, BARRIE, ON. L4M 1H2 | P: 705.728.0045 F: 705.728.2010 | WWW.MHBCPLAN.COM


**MHBC Stamp**
Debra Walker
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

**MHBC Stamp**
Christopher Poole
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

Draft

**Applicant**

walker aggregates

Walker Aggregates Inc.
2800 Thorold Townline Road
P.O. Box 100
Thorold, Ontario
L2V 3Y8

**Project**

# Upper's Quarry

**MNRF Licence Reference No.**

**Applicant's Signature**

**Plan Scale:** 1:3000 (Arch E)
0 90 180 Meters

Date: October 2021 April 4, 2024
Drawn By: C.P.
Checked By: D.W.
File No.: 9811V

**File Name**

# Report Recommendations

**Drawing No.**

# 4 of 6

**File Path** N:\Brian\9811V - Walker Uppers Quarry\Drawings\Site Plan\CAD\9811V - Site Plan.dwg

**PROGRESSIVE REHABILITATION**

**A. General**

1. Area calculations:

| | | |
|---|---|---|
| a. | Licenced area | **103.6 ha** |
| b. | To be extracted | **89.1 ha** |
| c. | Final rehabilitation within licence (total) | **103.6 ha** |
| c.a. | Lake | ~~60.8~~ 70.0 ha |
| c.b. | Shoreline wetland | 1.3 ha |
| c.c. | Wetland/pond/stream | 2.9 ha |
| c.d. | Terrestrial ~~and Vegetated Slopes~~ | ~~22.7~~ 19.4 ha |
| c.e. | Deciduous Woodland & ~~Vegetated~~ Screening | ~~1.2~~ 6.1 ha |
| c.f. | ~~Treed Deciduous Swamp~~ | ~~2.0 ha~~ |
| c.g. | ~~Swamp Thicket & Marsh Meadow~~ | ~~0.8 ha~~ |
| c.h. | Undisturbed | 3.9 ha |
| d. | To be rehabilitated outside of licence: | **~~4.7~~ 6.7 ha** |
| d.a. | Woodland Compensation Area | ~~4.7~~ 6.7 ha |

2. The maximum predicted water table is 184.9 masl and the contact aquifer potentiometric contours ranges between 176.0 and 184.9 masl (as per WSP's ~~"Proposed Upper's Quarry "~~ Maximum Predicted Water Table Report", dated October 2021).

**B. Phasing**

1. As excavation reaches the limit of extraction or maximum depth, progressive rehabilitation shall commence.
2. Progressive rehabilitation shall follow the general direction and sequence of extraction identified on the plan view and described in the notes on drawing 3 of 6. Minor deviations in operational/rehabilitation sequence will be permitted in order to adjust for any variable resource and market conditions. Any major deviations from the operations sequence shall require approval from the MNRF.
3. Prior to extraction commencing in Phases 3A and 3B, side sloping adjacent to Phases 1B and 2B shall be completed to allow for the existing watercourse realignment to be finalized.
4. Dewatering of the quarry will ultimately discharge to the watercourse (pre and post realignment). The quarry will continue dewatering operations to maintain a dry quarry floor. When the rock is fully extracted, it is proposed that dewatering operations will cease and the quarry will be permitted to fill naturally with surplus precipitation, surface water and any contribution from groundwater seepage to form a lake. As shown on the plan view, shallow shoreline wetland areas shall be created to provide aquatic habitat.
5. Watercourse Realignment Channel Area - As portions of the watercourse realignment channel are constructed, the channel shall be planted according to the requirements of each respective planting zone: (i) riparian planting zone; (ii) upland planting zone; (iii) shoreline ~~planting~~ seeding zone and (iv) life staking planting zone (v) riparian forest planting zone; (vi) upland forest planting zone; (vii) dense upland planting zone. Details relating to construction, planting and monitoring requirements for the watercourse realignment corridor are contained within the "Natural Channel Design Report" prepared by Stantec Consulting Ltd. (dated ~~October 2021~~ April 2024).
6. Reforestation Areas - There are two main reforestation areas:
   6.1. The Woodland ~~Compensation~~ Mitigation and Enhancement Area (Off-site) to be no less than ~~4.3~~ 6.7 ha in area. Plantings in this area are set out in Table 1 on this drawing. Planting for this Area (Off-site) will commence in the appropriate planting season following licence approval.
   6.2. The on-site Woodland ~~Compensation~~ Mitigation and Enhancement Area includes the areas identified as ~~the~~ Deciduous Woodland on the plan view of this drawing. ~~Treed Deciduous Swamp and Swamp Thicket/Marsh Meadow; to~~ These areas shall be no less than ~~4.0~~ 4.5 ha in total ~~area~~. Plantings in these areas are set out in Tables ~~1 to 3~~ on this drawing and the Natural Channel Design Report planting plan drawings L-460 to L-463 and L-500 to L-503 respectively. In the Deciduous Woodlands (on-site), additional conifer species will be added to the species mix to provide additional screening.
7. A woodland and wildlife habitat ~~compensation~~ rehabilitation plan shall be prepared in consultation with regulatory authorities in accordance with Note ~~E.5.s~~ E.3.d on drawing 4 of 6.

**C. Slopes and Grading**

1. Progressive rehabilitation will utilize a variety of rehabilitation techniques including:
   a. backfilling extraction faces and quarry floors; or
   b. Leaving extraction faces vertical
2. Excess soil, as defined in Ontario Regulation 244/97 may be imported to this site to facilitate the following rehabilitation:
   2.1. To establish the final elevations, slopes and grades depicted on the plan view
   2.2. Top dressing to establish vegetation
3. Liquid soil, as defined in Ontario Regulation 406/19 under the Environmental Protection Act, is not authorized for importation to the site.
4. The quality of excess soil imported to the site for final placement must be equivalent to or more stringent than the applicable excess soil quality standards as determined in accordance with Ontario Regulation 244/97, as amended from time to time, and must be consistent with the site conditions and the end use identified in the approved rehabilitation plan.
5. Where a qualified person is retained or required to be retained in accordance with Ontario Regulation 244/97, the quality, storage, and final placement of excess soils shall be done according to the advice of the qualified person.
6. Excess soil imported to facilitate rehabilitation as described on this site plan shall be undertaken in accordance with Ontario Regulation 244/97 under the Aggregate Resources Act, as amended from time to time.
7. The cumulative total amount of excess soil that may be imported to this site for rehabilitation purposes is ~~2,460,000~~ 750,000 m³.
8. The final rehabilitated landforms established using the rehabilitation techniques will consist of a lake, shoreline wetlands, riparian corridor, woodlands, gradually sloping grades, 2:1 and 3:1 side slopes, and vertical faces as shown on the plan view.

**D. Seeding and Planting**

1. Side slopes steeper than 3:1 shall be seeded with a naturalizing mix of native, non-invasive wildflowers and grasses capable of rapid germination and growth to stabilize slopes and minimize mowing and maintenance.
2. The deciduous woodlands, ~~treed deciduous swamp; swamp thicket/marsh meadow;~~ shoreline wetland, and realigned watercourse channel (riparian corridor) shall be planted with species identified in Tables ~~1-5~~ on this drawing and the Natural Channel Design Report planting plan drawings L-460 to L-463 and L-500 to L-503 respectively.

**E. Drainage**

1. Final surface drainage will follow the rehabilitated contours and directional arrows shown on the plan view.
2. Once the quarry is depleted, pumping will cease and portions of the site below the ground water table will fill with water.
3. The quarry dewatering discharge will be directed to the watercourse (pre and post alignment) and ultimately flow to Beavердams Creek to support fish habitat and downstream wetlands.
4. The licensee shall operate in accordance with the conditions of the MECP, PTTW and ECA for the ongoing dewatering of the site.

**F. Trigger Mechanism and Contingency Plan**

1. During progressive rehabilitation, until surrendering the licence, the licensee is required to operate in accordance with the Trigger Mechanism and Contingency Plan outlined below.
2. The monitoring program will allow a comparison of observed conditions throughout the quarry development to baseline conditions. The predicted effects of the quarry have been reviewed and are based on the numerical groundwater model simulations and baseline water quality. Should the observed quarry effects differ from those predicted, a trigger mechanism has been developed to trigger the implementation of appropriate contingency measures to mitigate impacts before they occur. The quarry dewatering discharge will be directed to the Existing Watercourse, and ultimately flow to Beavердams Creek. The discharge water will consist of a mixture of direct precipitation and groundwater inflows from the contact aquifer, shallow bedrock aquifer, deep bedrock aquifer and likely a small contribution from the underlying lower aquitard. The ratio of groundwater contribution from each unit is related to the relative hydraulic conductivities. Based on the hydraulic testing completed as part of this study, it is interpreted that the majority of the groundwater inflow will originate from the shallow bedrock aquifer. Therefore, it is predicted that the quarry discharge will have similar water quality to the shallow bedrock aquifer baseline ranges. The observed 2019 pumping test discharge water quality, which is predicted to be similar to the future quarry discharge water quality, supports this interpretation.
3. Monthly sampling of the quarry sump discharge has been included in the monitoring program, for the analysis of parameters with an associated Provincial Water Quality Objectives (PWQO), as well as selected parameters which aid in the assessment of influence from the various bedrock units. The trigger mechanism for the sump discharge to the Existing Watercourse is to assess the monthly sump water quality results against the list of trigger concentrations summarized in the table below.

| Parameter | Proposed Trigger Mechanism | Applicable Standard |
|---|---|---|
| pH (pH units) | 6.5 - 8.5 | PWQO / MISA |
| TSS | 25 | MISA |
| Hydrogen Sulphide (undissociated) | 0.002 | PWQO |
| Total Oil and Grease | No visible sheen or odour | PWQO |
| Note: Trigger concentrations in mg/L unless otherwise noted. | | |

4. The shallow bedrock aquifer groundwater is more mineralized / harder than the surface water in the vicinity of the Site; however, it satisfies the PWQO for most parameters. The two exceptions are undissociated hydrogen sulphide and total phosphorus. A trigger for hydrogen sulphide has been included in the trigger mechanism for quarry discharge. In the case of total phosphorus, the median total phosphorus concentration in the baseline surface water quality currently exceeds the PWQO, making the Existing Watercourse a Policy 2 receptor for this parameter. It is predicted that the total phosphorus concentration in the future quarry discharge will be below that of the upstream surface water in the Existing Watercourse. As such, total phosphorus has not been included in the trigger mechanism.
5. The Municipal Industrial Strategy for Abatement (MISA) was also considered; as such, pH, total suspended solids (TSS) and total oil and grease have also been included in the trigger mechanism.
6. The monthly sump discharge sample results shall be compared with the background conditions in the Existing Watercourse (station SW3) and Beavердams Creek (station SW1). If parameter concentrations in the sump discharge exceed the above trigger concentrations without a corresponding exceedance in the background surface water, then weekly sampling of the quarry sump shall be initiated. Weekly sampling will continue until less than two parameter concentrations in the sump discharge exceed the trigger concentrations.
7. If weekly sampling is required for a period of more than four (4) weeks, contingency measures shall be implemented to reduce concentrations in the quarry discharge. Trigger exceedances for pH, TSS and total oil and grease would initiate a review of the design and operation of the quarry discharge sump. Where required, improvements shall be made to reduce discharge concentrations.
8. At existing pits and quarries within southern Ontario, hydrogen sulphide is typically not routinely included in the trigger mechanism. In southwestern Ontario, where the bedrock geology can favour hydrogen sulphide in groundwater, an Effluent Objective for hydrogen sulphide has been included in site ECAs. A sump or holding pond with a large surface area normally allows enough off-gassing of the hydrogen sulphide to meet the Effluent Objectives. For the quarry, the need for sufficient off-gassing of hydrogen sulphide shall be taken into consideration during the design and construction of the internal ditch network and sump pond for the Site. It is anticipated that the hydrogen sulphide concentration in the discharge to the Existing Watercourse will be lower than the PWQO / trigger concentration as a result of the off-gassing. If the hydrogen sulphide concentrations in the discharge are found to consistently exceed the trigger once the operational phase of the quarry begins, then a review of the design and operation of the internal ditch network and sump pond shall be completed with the objective of increasing the rate of off-gassing prior to discharge. Additional measures, such as aeration of the pond, may also be employed to enhance the off-gassing of hydrogen sulphide.

**FINAL REHABILITATION**

**G. General**

1. All equipment and buildings/structures shall be removed from the licenced areas.
2. Field/property access points may be established to access the site for maintenance and monitoring purposes. All operational access points shall be decommissioned and fenced as part of final rehabilitation.
3. The long term average surface water and lake level elevation is estimated to be approximately 175.15 masl.
4. At final rehabilitation, outflow from the realigned watercourse and the quarry lake will continue to discharge from the licence area at the present location where the existing watercourse channel crosses the northern licence boundary.

**Table 1**

**UPLAND PLANTING ZONE:**

TREES:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| BP | 5% | 105 | *Betula papyrifera* | Paper Birch | 125 | 2 Gal. Pot | 3 m to 7 m |
| CAO | 5% | 105 | *Carya ovata* | Shagbark Hickory | 100 | 2 Gal. Pot | 3 m to 7 m |
| CGP | 10% | 211 | *Carya glabra* | Pignut Hickory | 100 | 2 Gal. Pot | 3 m to 7 m |
| JN | 15% | 316 | *Juglans nigra* | Black Walnut | 250 | 15 Gal. Pot | 3 m to 7 m |
| PT | 15% | 316 | *Populus tremuloides* | Trembling Aspen | 150 | 3 Gal. Pot | 3 m to 7 m |
| PGA | 10% | 211 | *Populus grandidentata* | Largetooth Aspen | 175 | 10 Gal. Pot | 3 m to 7 m |
| QA | 15% | 316 | *Quercus alba* | White Oak | 250 | 15 Gal. Pot | 3 m to 7 m |
| QRU | 10% | 211 | *Quercus rubra* | Red Oak | 175 | 7 Gal. Pot | 3 m to 7 m |
| SAS | 5% | 105 | *Sassafras albidum* | Sassafras | 100 | 5 Gal. Pot | 3 m to 7 m |
| TA | 10% | 211 | *Tilia americana* | Basswood | 175 | 10 Gal. Pot | 3 m to 7 m |
| **Totals:** | **100%** | **2107** | **Upland Zone Planting Density Target Goal = 5 trees / 100 m²** | | | | |

SHRUBS:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| CFO | 15% | 632 | *Cornus racemosa* | Gray Dogwood | 50 | 2 Gal. Pot | 1 m to 1.5 m |
| EA | 15% | 632 | *Euonymus atropurpureus* | Eastern Burning Bush | 50 | 2 Gal. Pot | 1 m to 1.5 m |
| HV | 15% | 632 | *Hamamelis virginiana* | Common Witch-Hazel | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| PRA | 15% | 632 | *Prunus americana* | American Plum | 100 | 2 Gal. Pot | 1 m to 1.5 m |
| RT | 15% | 632 | *Rhus typhina* | Staghorn Sumac | 80 | 3 Gal. Pot | 1 m to 1.5 m |
| RRI | 10% | 423 | *Rubus idaeus* | Red Raspberry | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| VT | 15% | 632 | *Viburnum lentago* | Nannyberry | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| **Totals:** | **100%** | **4215** | **Upland Zone Planting Density Target Goal = 10 shrubs / 100 m²** | | | | |

**RIPARIAN PLANTING ZONE:**

TREES:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| ASN | 15% | 66 | *Acer saccharum subsp. nigrum* | Black Maple | 100 | 2 Gal. Pot | 8 m to 12 m |
| AF | 20% | 87 | *Acer x freemanii* | Freeman Maple | 250 | 10 Gal. Pot | 8 m to 12 m |
| PD | 10% | 44 | *Populus deltoides* | Eastern Cottonwood | 175 | 10 Gal. Pot | 8 m to 12 m |
| QB | 15% | 66 | *Quercus bicolor* | Swamp White Oak | 175 | 10 Gal. Pot | 8 m to 12 m |
| QP | 20% | 87 | *Quercus palustris* | Pin Oak | 200 | 10 Gal. Pot | 8 m to 12 m |
| SAG | 10% | 44 | *Salix amygdaloides* | Peachleaf Willow | 100 | 2 Gal. Pot | 8 m to 12 m |
| SAN | 10% | 44 | *Salix nigra* | Black Willow | 200 | 3 Gal. Pot | 8 m to 12 m |
| **Totals:** | **100%** | **438** | **Riparian Zone Planting Density Target Goal= 1 tree / 100 m²** | | | | |

SHRUBS:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| ARN | 10% | 654 | *Aronia melanocarpa* | Black Chokeberry | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| CEO | 10% | 654 | *Cephalanthus occidentalis* | Buttonbush | 60 | 3 Gal. Pot | 1 m to 1.5 m |
| COR | 10% | 654 | *Cornus sericea* | Red Osier Dogwood | 50 | 2 Gal. Pot | 1 m to 1.5 m |
| PH | 10% | 654 | *Physocarpus opulifolius* | Common Ninebark | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| SAD | 15% | 981 | *Salix discolor* | Pussy Willow | 60 | 3 Gal. Pot | 1 m to 1.5 m |
| SAE | 15% | 981 | *Salix eriocephala* | Heart-leaved Willow | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| SAL | 10% | 654 | *Salix lucida* | Shining Willow | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| SCE | 10% | 654 | *Sambucus canadensis* | American Elderberry | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| SPL | 10% | 654 | *Spiraea alba* | Meadowsweet | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| **Totals:** | **100%** | **6540** | **Riparian Zone Planting Density Target Goal = 15 shrubs / 100 m²** | | | | |

**UPLAND FOREST PLANTING ZONE:**

TREES:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| BP | 5% | 158 | *Asimina triloba* | Pawpaw | 250 | 15 Gal. Pot | 2 m to 4 m |
| BP | 5% | 158 | *Betula papyrifera* | Paper Birch | 125 | 2 Gal. Pot | 2 m to 4 m |
| CAO | 5% | 158 | *Carya ovata* | Shagbark Hickory | 100 | 2 Gal. Pot | 2 m to 4 m |
| CGP | 10% | 316 | *Carya glabra* | Pignut Hickory | 100 | 2 Gal. Pot | 2 m to 7 m |
| FG | 10% | 316 | *Fagus grandifolia* | American Beech | 150 | 3 Gal. Pot | 2 m to 4 m |
| JN | 5% | 158 | *Juglans nigra* | Black Walnut | 250 | 15 Gal. Pot | 2 m to 4 m |
| OV | 10% | 316 | *Ostrya virginiana* | Ironwood | 175 | 10 Gal. Pot | 2 m to 4 m |
| PS | 5% | 158 | *Pinus strobus* | Eastern White Pine | 100 | 7 Gal. Pot | 2 m to 4 m |
| PT | 10% | 316 | *Populus tremuloides* | Trembling Aspen | 150 | 3 Gal. Pot | 2 m to 4 m |
| PGA | 10% | 316 | *Populus grandidentata* | Largetooth Aspen | 175 | 10 Gal. Pot | 2 m to 4 m |
| QA | 5% | 158 | *Quercus alba* | White Oak | 250 | 15 Gal. Pot | 2 m to 4 m |
| QRU | 10% | 316 | *Quercus rubra* | Red Oak | 175 | 7 Gal. Pot | 2 m to 4 m |
| SAS | 5% | 158 | *Sassafras albidum* | Sassafras | 100 | 5 Gal. Pot | 2 m to 4 m |
| TA | 5% | 158 | *Tilia americana* | Basswood | 175 | 10 Gal. Pot | 2 m to 4 m |
| **Totals:** | **100%** | **3160** | **Upland Forest Zone Planting Density Target Goal = 10 trees / 100 m²** | | | | |

SHRUBS:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| CFO | 10% | 237 | *Cornus racemosa* | Gray Dogwood | 50 | 2 Gal. Pot | 1 m to 1.5 m |
| EA | 10% | 158 | *Euonymus atropurpureus* | Eastern Burning Bush | 50 | 2 Gal. Pot | 1 m to 1.5 m |
| HV | 15% | 237 | *Hamamelis virginiana* | Common Witch-Hazel | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| PRA | 15% | 237 | *Prunus americana* | American Plum | 100 | 2 Gal. Pot | 1 m to 1.5 m |
| RT | 15% | 237 | *Rhus typhina* | Staghorn Sumac | 80 | 3 Gal. Pot | 1 m to 1.5 m |
| RRI | 10% | 158 | *Rubus idaeus* | Red Raspberry | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| VL | 10% | 158 | *Viburnum lentago* | Nannyberry | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| VT | 15% | 237 | *Viburnum trilobum* | Highbush Cranberry | 40 | 3 Gal. Pot | 1 m to 1.5 m |
| **Totals:** | **100%** | **1580** | **Upland Forest Zone Planting Density Target Goal = 5 shrubs / 100 m²** | | | | |

**RIPARIAN FOREST PLANTING ZONE:**

TREES:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| ASN | 10% | 177 | *Acer saccharum subsp. nigrum* | Black Maple | 100 | 2 Gal. Pot | 2 m to 4 m |
| AF | 15% | 265 | *Acer x freemanii* | Freeman Maple | 250 | 10 Gal. Pot | 2 m to 4 m |
| PD | 15% | 265 | *Populus deltoides* | Eastern Cottonwood | 175 | 10 Gal. Pot | 2 m to 4 m |
| QB | 15% | 265 | *Quercus bicolor* | Swamp White Oak | 175 | 10 Gal. Pot | 2 m to 4 m |
| QP | 15% | 177 | *Quercus palustris* | Pin Oak | 200 | 10 Gal. Pot | 2 m to 4 m |
| SAG | 15% | 265 | *Salix amygdaloides* | Peachleaf Willow | 100 | 2 Gal. Pot | 2 m to 4 m |
| SAN | 10% | 177 | *Salix nigra* | Black Willow | 200 | 3 Gal. Pot | 2 m to 4 m |
| TO | 10% | 177 | *Thuja occidentalis* | Eastern White Cedar | 50 | 2 Gal. Pot | 2 m to 4 m |
| **Totals:** | **100%** | **1768** | **Riparian Forest Zone Planting Density Target Goal= 10 trees / 100 m²** | | | | |

SHRUBS:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| ARN | 10% | 88 | *Aronia melanocarpa* | Black Chokeberry | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| CEO | 5% | 44 | *Cephalanthus occidentalis* | Buttonbush | 60 | 3 Gal. Pot | 1 m to 1.5 m |
| COR | 10% | 88 | *Cornus sericea* | Red Osier Dogwood | 50 | 2 Gal. Pot | 1 m to 1.5 m |
| LB | 5% | 44 | *Lindera benzoin* | Spice Bush | 60 | 3 Gal. Pot | 1 m to 1.5 m |
| PH | 10% | 88 | *Physocarpus opulifolius* | Common Ninebark | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| SAD | 15% | 133 | *Salix discolor* | Pussy Willow | 60 | 3 Gal. Pot | 1 m to 1.5 m |
| SAE | 15% | 133 | *Salix eriocephala* | Heart-leaved Willow | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| SAL | 10% | 88 | *Salix lucida* | Shining Willow | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| SCE | 10% | 88 | *Sambucus canadensis* | American Elderberry | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| SPL | 10% | 88 | *Spiraea alba* | Meadowsweet | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| **Totals:** | **100%** | **882** | **Riparian Forest Zone Planting Density Target Goal = 5 shrubs / 100 m²** | | | | |

**DENSE UPLAND PLANTING ZONE:**

TREES:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| PT | 20% | 41 | *Populus tremuloides* | Trembling Aspen | 150 | 3 Gal. Pot | 3 m to 7 m |
| PGA | 20% | 41 | *Populus grandidentata* | Largetooth Aspen | 175 | 10 Gal. Pot | 3 m to 7 m |
| QA | 20% | 41 | *Quercus alba* | White Oak | 250 | 15 Gal. Pot | 3 m to 7 m |
| QRU | 20% | 40 | *Quercus rubra* | Red Oak | 175 | 7 Gal. Pot | 3 m to 7 m |
| TA | 20% | 41 | *Tilia americana* | Basswood | 175 | 10 Gal. Pot | 3 m to 7 m |
| **Totals:** | **100%** | **204** | **Dense Upland Zone Planting Density Target Goal= 5 trees / 100 m²** | | | | |

SHRUBS:

| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| CFO | 40% | 244 | *Cornus racemosa* | Gray Dogwood | 50 | 2 Gal. Pot | 1 m to 1.5 m |
| HV | 20% | 122 | *Hamamelis virginiana* | Common Witch-Hazel | 50 | 3 Gal. Pot | 1 m to 1.5 m |
| PRA | 20% | 122 | *Prunus americana* | American Plum | 100 | 2 Gal. Pot | 1 m to 1.5 m |
| RRI | 20% | 122 | *Rubus idaeus* | Red Raspberry | 60 | 2 Gal. Pot | 1 m to 1.5 m |
| **Totals:** | **100%** | **610** | **Dense Upland Zone Planting Density Target Goal = 15 shrubs / 100 m²** | | | | |

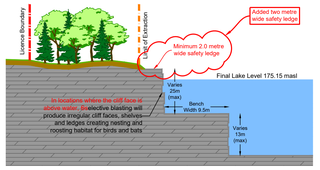
**LIVESTAKE PLANTING ZONE:**

TREES:

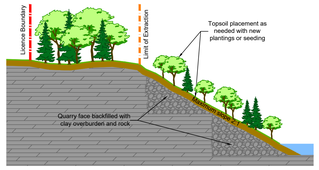
| Sym. | Percent | Quantity | Botanical Name | Common Name | Ht. (cm) | Root | O.C. Spacing |
|---|---|---|---|---|---|---|---|
| COR | 10% | 2736 | *Cornus sericea* | Red Osier Dogwood | min. 75 | Livestake | 50 cm |
| SAD | 30% | 8208 | *Salix discolor* | Pussy Willow | min. 75 | Livestake | 50 cm |
| SAE | 30% | 8208 | *Salix exigua* | Sandbar Willow | min. 75 | Livestake | 50 cm |
| SAP | 30% | 8208 | *Salix petiolaris* | Slender Willow | min. 75 | Livestake | 50 cm |
| **Totals:** | **100%** | **27360** | **Livestake Zone Planting Density Target Goal = 3-5 livestakes / 1 m²** | | | | |

Replaced previous species tables with the one above

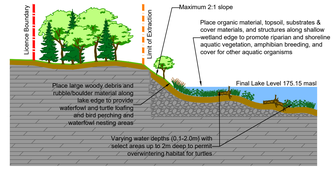
**Stepped Cliff Face Detail**
N.T.S.

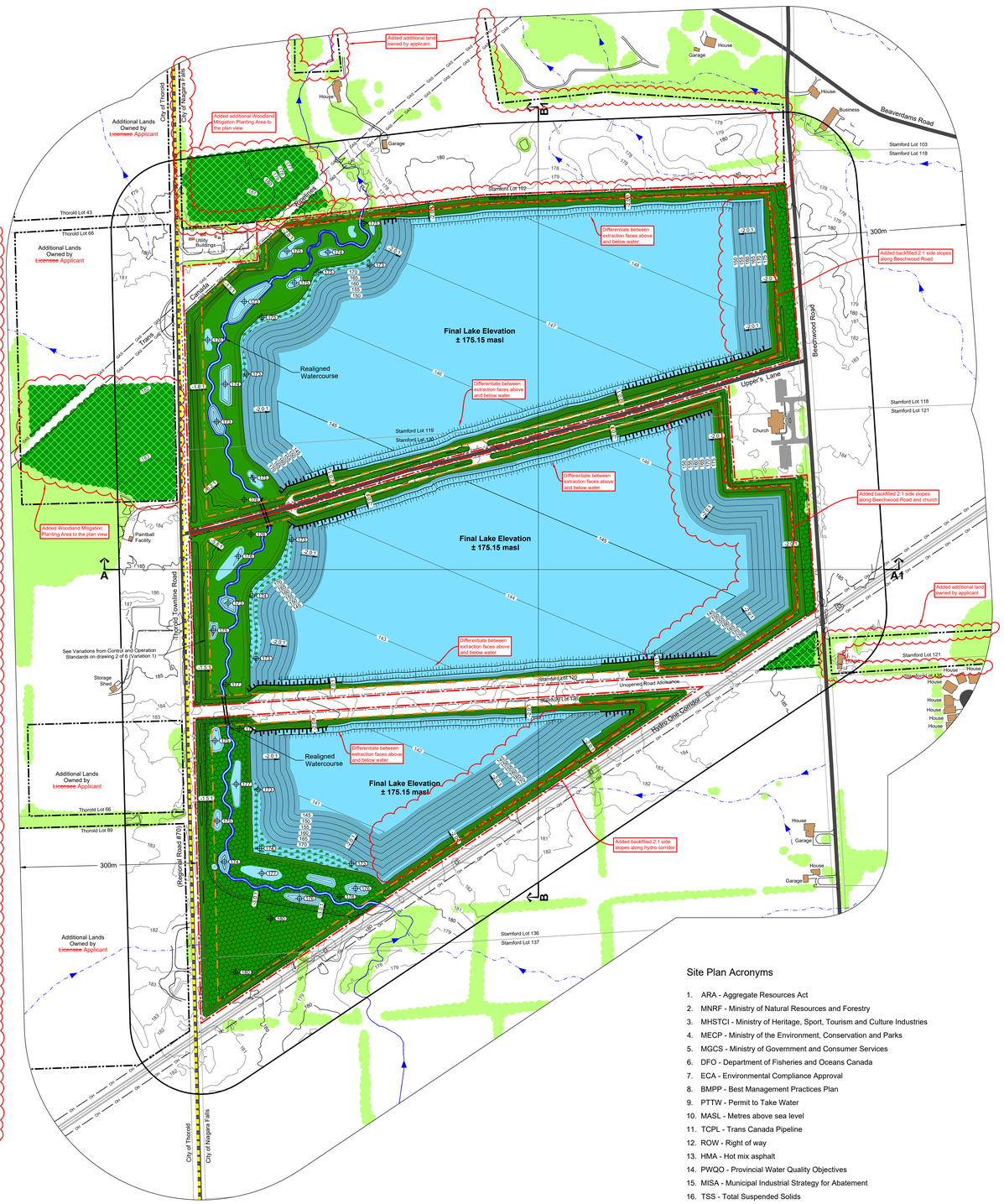



**Typical Backfilled Side Slope Detail - Quarry**
N.T.S.




**Typical Shoreline Wetland Detail**
N.T.S.




**Site Plan Acronyms**

1. ARA - Aggregate Resources Act
2. MNRF - Ministry of Natural Resources and Forestry
3. MHSTCI - Ministry of Heritage, Sport, Tourism and Culture Industries
4. MECP - Ministry of the Environment, Conservation and Parks
5. MGCS - Ministry of Government and Consumer Services
6. DFO - Department of Fisheries and Oceans Canada
7. ECA - Environmental Compliance Approval
8. BMPP - Best Management Practices Plan
9. PTTW - Permit to Take Water
10. MASL - Metres above sea level
11. TCPL - Trans Canada Pipeline
12. ROW - Right of way
13. HMA - Hot mix asphalt
14. PWQO - Provincial Water Quality Objectives
15. MISA - Municipal Industrial Strategy for Abatement
16. TSS - Total Suspended Solids
17. NCD - North Channel Design

**Legal Description**

Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara

**Legend**

- Licence Boundary
- Limit of Extraction
- Additional Lands Owned by ~~Licensee~~ Applicant
- Municipal Boundary
- Watercourse (Direction of flow indicated by arrows)
- Surface Drainage Feature (Direction of flow indicated by arrows)
- Watercourse - Realigned (Stantec, 2020)
- Waterbody
- Shoreline Wetland
- Terrestrial Habitat
- Deciduous Woodland & Vegetated Screening
- ~~Treed Deciduous Swamp~~
- ~~Swamp Thicket and Marsh Meadow~~
- Woodland ~~Compensation~~ Mitigation Planting Areas (Off-site)
- Wooded Area
- 120m Offset From Licence Boundary
- Parcel Fabric
- Contours with Elevation (Metres above sea level (MASL))
- Public Road
- Trans Canada Pipeline Easement
- Hydro One Easement
- Extraction Face (Above Water - Bold; Below Water - Narrow)
- Entrance / Exit (Differentiate between extraction faces above and below water)
- Gate
- Culvert
- Fence (1.2m post & wire farm fence unless otherwise noted)
- Building/Structure
- Proposed Floor Elevation (Metres above sea level (MASL))
- Proposed Final Grade
- Cross Sections

**Legend - Cross Sections**

- Licence Boundary
- Limit of Extraction
- Existing Grade - Undisturbed
- Existing Grade - Removed / Altered
- Maximum Predicted Water Table (See note A.2 on this drawing)
- Quarry Floor / Face
- Backfilled
- Lake or Pond
- Hydro Corridor

**Site Plan Amendments**

| No. | Date | Description | By |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

**Site Plan Revisions (Pre-Licencing)**

| No. | Date | Description | By |
|---|---|---|---|
| 1. | January 2022 | Revised notes C.3 and G.1. Added notes C.2.2, C.4 and C.5. | C.P. |
| 2 | August 2023 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| 3. | ~~April 4, 2024~~ | Updated site plan to incorporate JART and MNRF comments | C.P. |
| | | | |
| **No.** | **Date** | **Description** | **By** |


MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE
113 COLLIER STREET, BARRIE, ON, L4N 1H2 | P: 705.728.0045 F: 705.728.2010 | WWW.MHBCPLAN.COM


**MHBC Stamp**
**Debra Walker**
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 6.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

**MHBC Stamp**
**Christopher Poole**
Is authorized by the Ministry of Northern Development, Mines, Natural Resources and Forestry pursuant to Subsection 6.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

Draft

**Applicant**

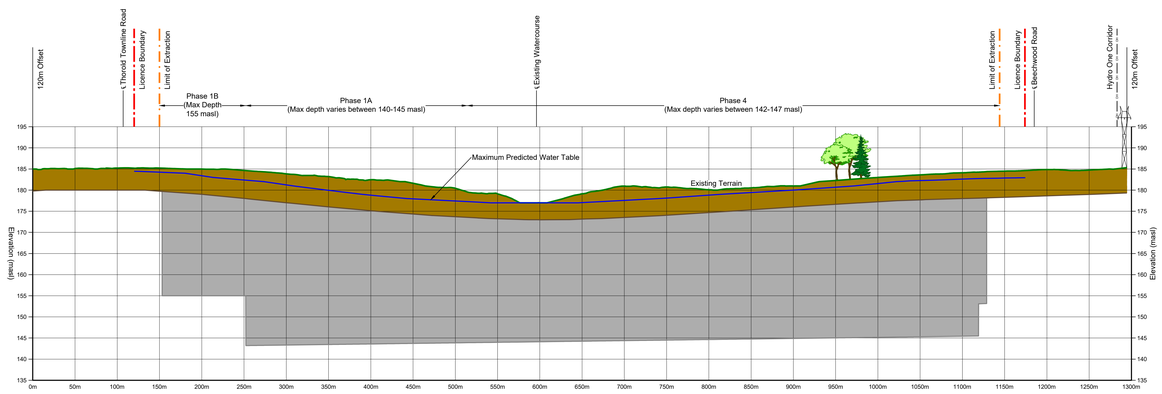
walker aggregates

Walker Aggregates Inc.
2800 Thorold Townline Road
P.O. Box 100
Thorold, Ontario
L2V 3Y8

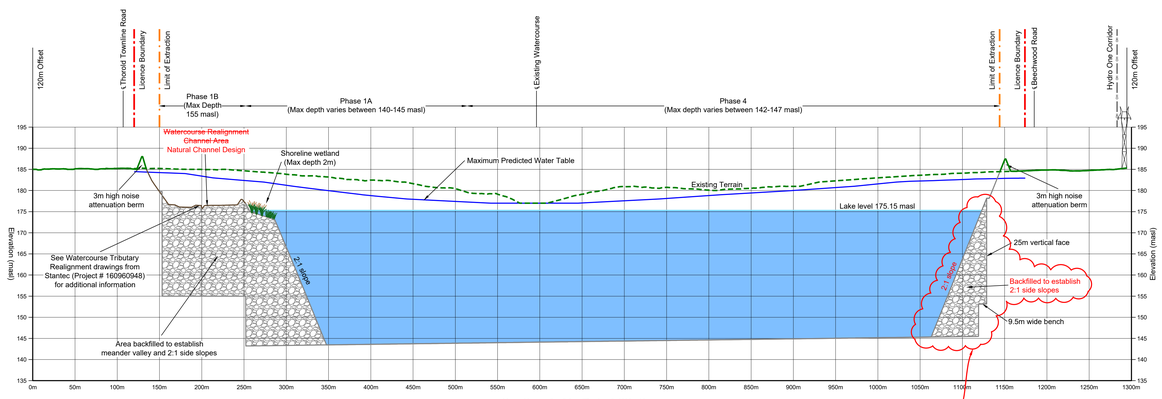
**Project**

# *Upper's Quarry*

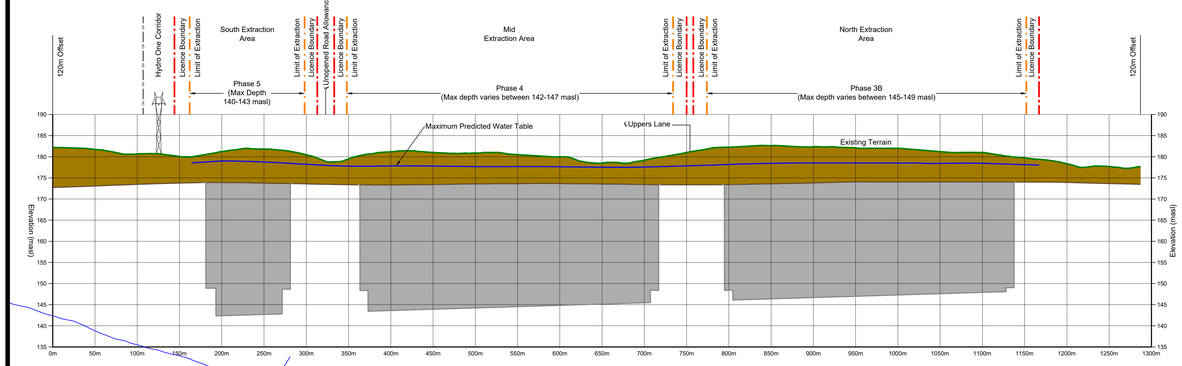
| | |
|---|---|
| **MNRF Licence Reference No.** | **Applicant's Signature** |
| **Plan Scale:** 1:3000 (Arch E) | **Date** ~~October 2021~~ April 4, 2024 |
| 0 90 180 Meters | **Drawn By** C.P. |
| | **Checked By** D.W. |
| | **File No.** 9811V |
| **File Name** | **Rehabilitation Plan** |
| **Drawing No.** | **5 of 6** |
| **File Path** | N:\Brian\9811V - Walker Uppers Quarry\Drawings\Site Plan\CAD\9811V - Site Plan.dwg |



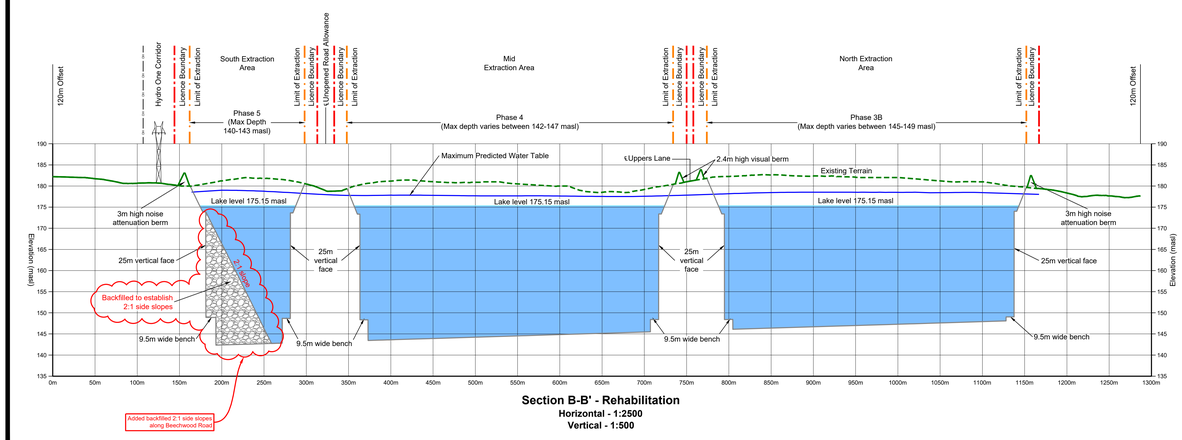

## Section A-A' - Existing
**Horizontal - 1:2500**
**Vertical - 1:500**




## Section A-A' - Rehabilitation
**Horizontal - 1:2500**
**Vertical - 1:500**

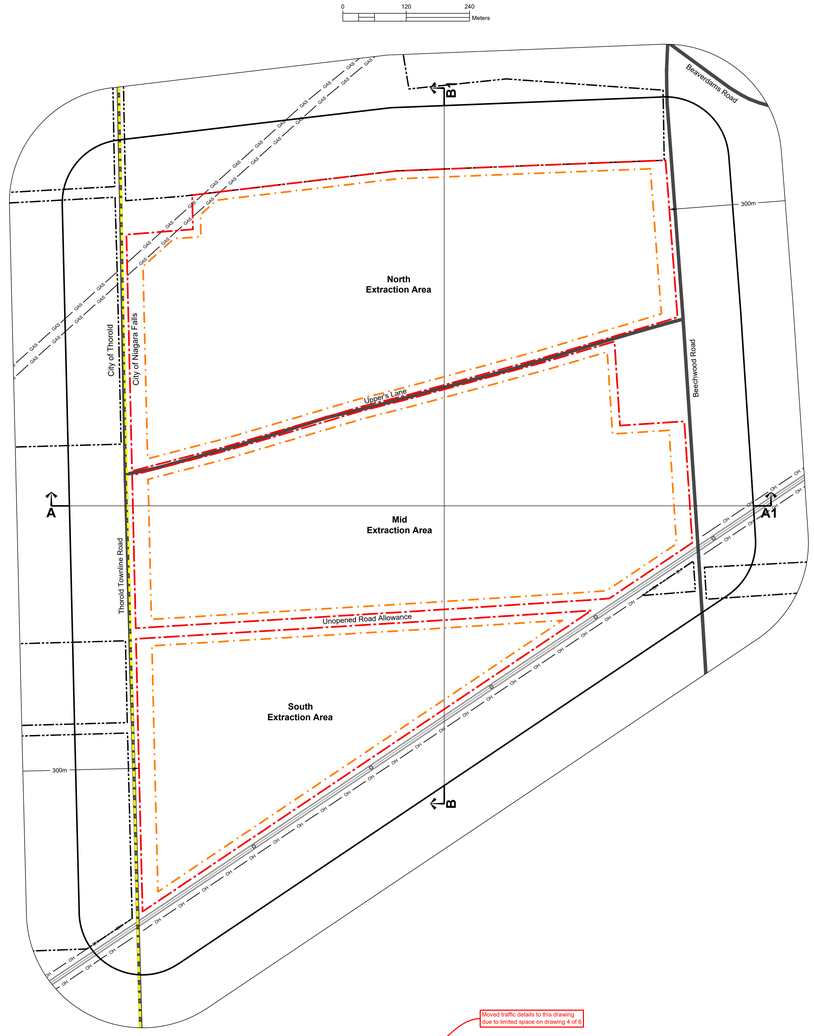



## Section B-B' - Existing
**Horizontal - 1:2500**
**Vertical - 1:500**



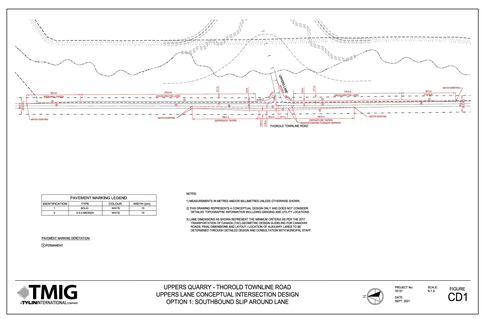

## Section B-B' - Rehabilitation
**Horizontal - 1:2500**
**Vertical - 1:500**

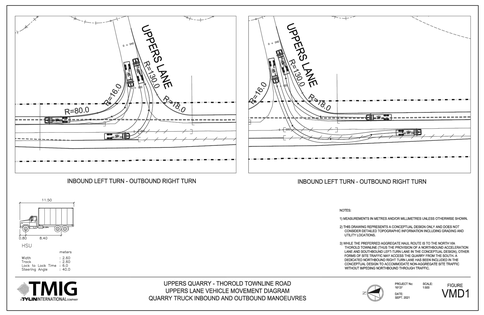
## Cross Section Key Map
Scale 1:4000




Moved traffic details to this drawing due to limited space on drawing 4 of 6

See Section F on drawing 4 of 6 for Traffic Report Recommendations




**Legal Description**

Part of Lots 119, 120, 136 & 137
City of Niagara Falls (Geographic Township of Stamford)
Regional Municipality of Niagara

**Legend**

- Licence Boundary
- Limit of Extraction
- Additional Lands Owned by ~~Licensee~~ Applicant
- Municipal Boundary
- 120m Offset From Licence Boundary
- Public Road
- Trans Canada Pipeline Easement
- Hydro One Easement
- Cross Sections

**Legend - Cross Sections**

- Licence Boundary
- Limit of Extraction
- Existing Grade - Undisturbed
- Existing Grade - Removed / Altered
- Berm
- Maximum Predicted Water Table (See note A.2 on drawing 5 of 6)
- Quarry Floor / Face
- Topsoil and/or Overburden
- Aggregate Available for Extraction
- Backfilled
- Lake or Pond
- Hydro Corridor

**Site Plan Amendments**

| No. | Date | Description | By |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

**Site Plan Revisions (Pre-Licencing)**

| No. | Date | Description | By |
|---|---|---|---|
| 1 | January 2022 | Updated site plan per feedback from MNRF and completed minor housekeeping | C.P. |
| 2 | August 2023 | Updated site plan to incorporate JART and MNRF comments | C.P. |
| 3 | ~~April 4, 2024~~ | Updated site plan to incorporate JART and MNRF comments | C.P. |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**MHBC Stamp**

**Christopher Poole**

Is authorized by the Ministry of ~~Northern Development, Mines,~~ Natural Resources and Forestry pursuant to Subsection 0.2(3)(f) of Ontario Regulation 244/97 to prepare and certify site plans.

Draft

**Applicant**

walker aggregates

Walker Aggregates Inc.
2800 Thorold Townline Road
P.O. Box 100
Thorold, Ontario
L2V 3Y8

**Project**

# *Upper's Quarry*

**MNRF Licence Reference No.**

**Applicant's Signature**

**Plan Scale:** (Arch E)
Horizontal 1:2500
Vertical 1:500

**Date** ~~October 2021~~ April 4, 2024
**Drawn By** C.P.
**Checked By** D.W.
**File No.** 9811V

**File Name**

## Cross Sections

**Drawing No.**

## 6 of 6

**File Path** N:\Brian\9811V - Walker Uppers Quarry\Drawings\Site Plan\CAD\9811V - Site Plan.dwg

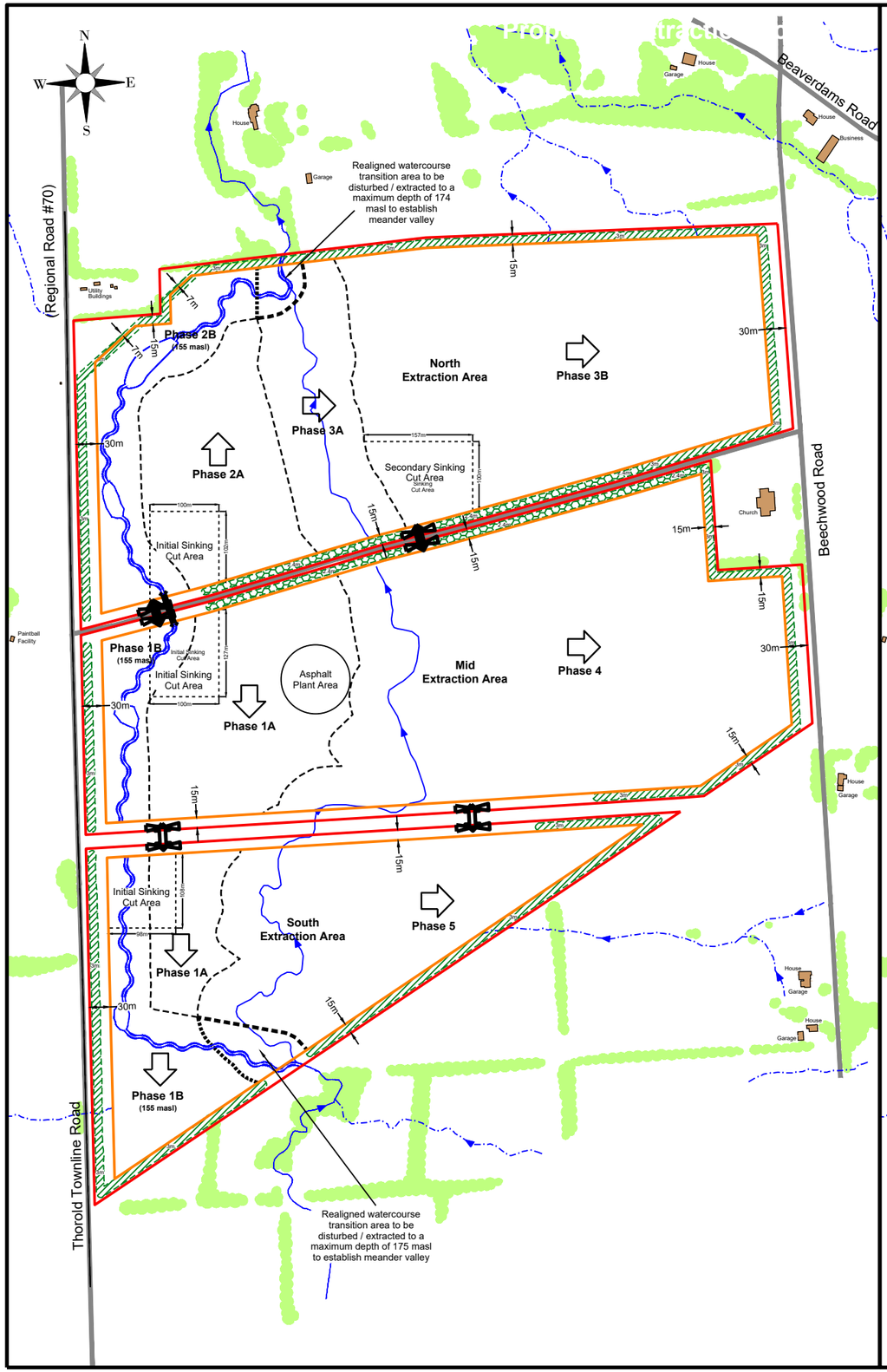
# Appendix **F**

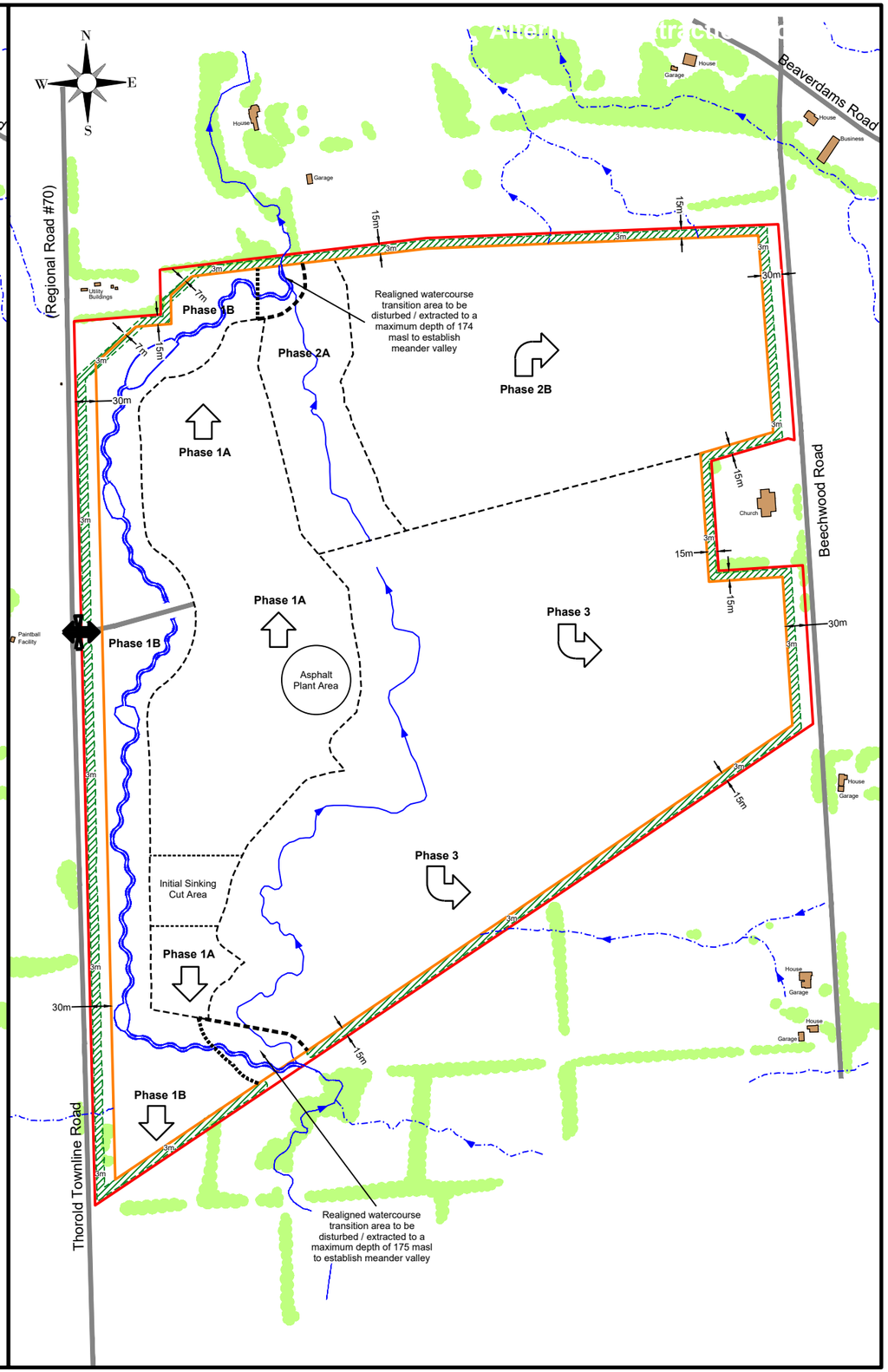
Appendix F

# Operational Comparison - Schematic

## Upper's Quarry

Part of Lots 119, 120, 136 and 137
Geographic Township of Stamford
City of Niagara Falls
Regional Municipality of Niagara




## Legend

- Licence Boundary
- Limit of Extraction
- Phase Boundary
- General Direction of Excavation
- Berm - Acoustic
- Berm - Visual
- Surface Drainage Feature
- Watercourse Realigned
- Culvert
- Gate
- Entrance / Exit
- Limited Service Access (for Phases 1A, 1B and 5 in South Extraction Area)

Date: April 2024

Sources:
Proposed Rehabilitation Scenario from April 2024 Site Plan
Alternative Rehabilitation Scenario from October 2020 Site Plan

Scale - 1:7500

0 100 200 Meters

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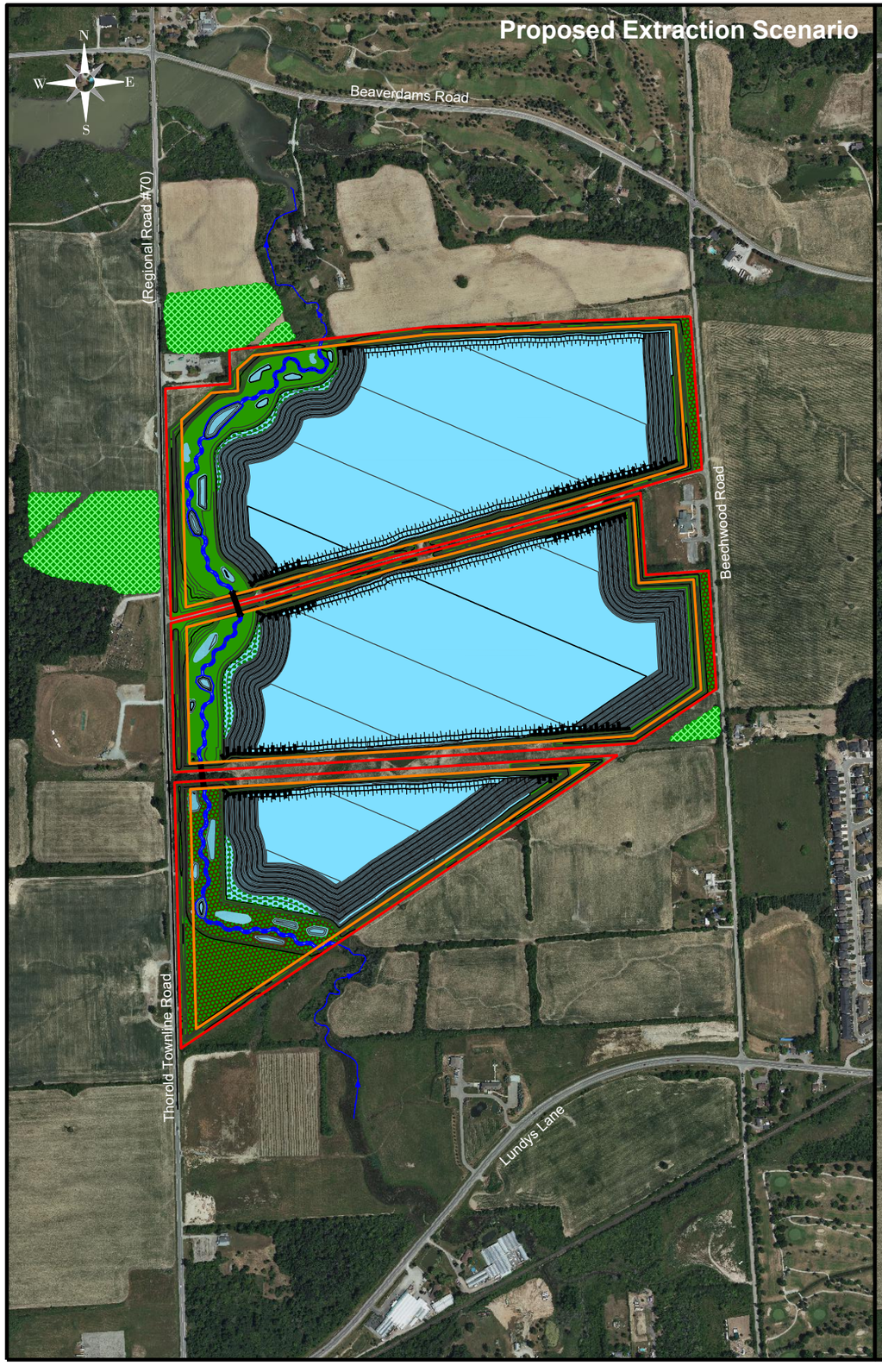
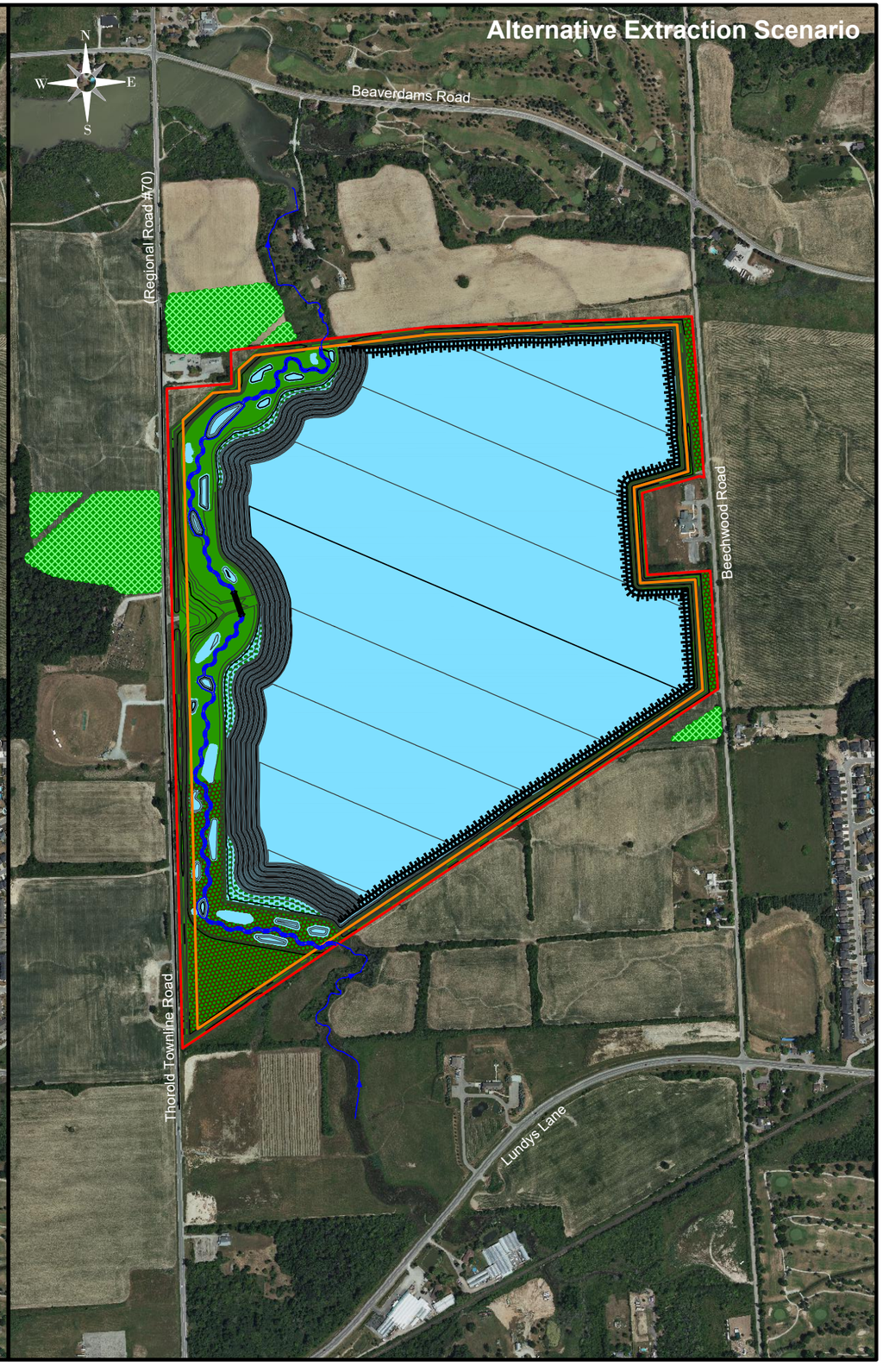
Appendix F

# Rehabilitation Comparison - Schematic




## Upper's Quarry

Part of Lots 119, 120, 136 and 137
Geographic Township of Stamford
City of Niagara Falls
Regional Municipality of Niagara

### Legend

- Licence Boundary
- Limit of Extraction
- Extraction Face - Alternative
- Extraction Face - Proposed - Above Water
- Extraction Face - Proposed - Below Water
- Surface Drainage Feature
- Watercourse Realigned
- Culvert
- Waterbody
- Shoreline Wetland
- Terrestrial Habitat and Vegetated Slopes
- Deciduous Woodland and Vegetated Screening
- Woodland Mitigation and Enhancement Area

| | |
|---|---|
| Date | April 2024 |
| Sources | Proposed Rehabilitation Scenario from April 2024 Site Plan<br>Alternative Rehabilitation Scenario from October 2020 Site Plan<br>Aerial photography from Microsoft Bing, date unknown |

Scale - 1:10,000

0 150 300 Meters

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# Appendix **G**

**Ministry of
Municipal Affairs
and Housing**

Office of the Minister

777 Bay Street, 17th Floor
Toronto ON M7A 2J3
Tel.: 416 585-7000

**Ministère des
Affaires municipales
et du Logement**

Bureau du ministre

777, rue Bay, 17e étage
Toronto ON M7A 2J3
Tél. : 416 585-7000

Ontario

234-2020-5382

January 18, 2021

Ken Lucyshyn
Executive Vice President, Aggregates & Construction
Walker Industries Holdings Limited
klucyshyn@walkerind.com

Dear Ken Lucyshyn:

Thank you for your correspondence expressing your concerns about the Walker Quarry site within Niagara Region and the recent amendments to the aggregate resources policies in **A Place to Grow: Growth Plan for the Greater Golden Horseshoe** (Growth Plan).

Our government understands the important role that the aggregates industry plays in supporting job creation and economic health across Ontario. As you may know, the Ministry of Natural Resources and Forestry has recently brought forward regulatory amendments under the *Aggregate Resources Act* which will help streamline processes for businesses in the aggregate industry. The changes will ensure unnecessary administrative requirements are reduced and create opportunities for growth, while maintaining a steadfast commitment to protecting the environment and managing impacts to communities.

In response to your inquiry about your property located between Thorold Townline Road and Beechwood Road, south of Beaverdams Road in City of Niagara Falls, we have reviewed our provincial Natural Heritage System (NHS) mapping and can confirm that your lands are not included in this mapping. As such, once adopted by Niagara Region, the provincial policies for the NHS in the Growth Plan will not apply to your lands.

It should be noted that the NHS is intended to protect the region's natural heritage and biodiversity. Based on provincial mapping criteria, the lands on Upper's Lane were not and were never intended to be included in the NHS. I hope this helps to alleviate any concerns you may have had and allows you to proceed with your application process.

We recommend continuing to work with the City of Niagara Falls and Niagara Region as they complete their official plan review.

…/2

The Ministry of Municipal Affairs and Housing, along with our colleague ministries, remains committed to supporting the mineral aggregate industry and we look forward to future discussions.

Sincerely,

Steve Clark
Minister

c. Cordelia Clarke Julien, ADM Ontario Growth Secretariat
Ministry of Municipal Affairs and Housing

John Matheson
Strategy Corp
aosindero@strategycorp.com

Doug Giles
Acting Commissioner
Planning and Development Services
Niagara Region
1815 Sir Isaac Brock Way
Thorold ON L2V 4T7

# Appendix **H**

Appendix H:

# Niagara Region Official Plan
# Detailed Policy Analysis

| 2. Growing the Economy | |
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| **Strategic Initiatives** | |
| **2.1** | To recognize the diversified opportunities and needs in Niagara by balancing both urban development and the conservation of natural resources. |
| **2.1.c)** | Conservation of natural resources (e.g. fishery habitat, Areas of Natural and Scientific Interest, natural areas, wildlife habitat, waterways, Natural Escarpment, wetlands, **aggregate areas**, and woodlots); (*bold added*) |
| *Comment:* | The proposed licence application aims to strike an appropriate balance between protection of aggregate resources while conserving and enhancing natural resources through mitigation, rehabilitation and ecological enhancements on and off-site. |
| **2.1.d)** | Minimization of conflicts between incompatible uses |
| *Comment:* | Recommendations included in technical studies have been incorporated into the proposed quarry design and Site Plan notes in order that any potential impact will meet provincial standards. The Site Plan requirements will be implemented through the proposed licence to ensure any potential land use conflicts are appropriately minimized and mitigated. |
| **2.4** | To preserve and enhance the ecological processes and life-support systems essential for sustaining human well-being and the health of the natural environment. |
| **2.4.a)** | The importance of water quality (e.g. as a source of drinking water and for fishery habitat) |
| *Comment:* | Maintaining water quality as a source of drinking water and fish habitat is an important aspect of the proposed submission. The Water Study Report and EIS have been thoroughly reviewed by expert peer reviewers retained on behalf of the Region and City, as well as qualified experts at the Ministry of Natural Resources and Forestry (MNRF). Applications for environmental compliance approvals will ultimately be reviewed by qualified experts at Ministry of Environment, Conservation and Parks (MECP). These Reports recommend comprehensive mitigation measures and a monitoring program that will be implemented and regulated through the proposed ARA Site Plans. |

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| **2.4.b)** | Public facilities to protect water quality. |
| *Comment:* | The majority of domestic water supply in the vicinity of the proposed quarry is based on municipal servicing. Other uses on private wells will be protected through mitigation and the ongoing monitoring program proposed by the Water Study Report. |
| **2.4.c)** | Air quality improvements by good urban design, reduced commuting and linking residential and employment areas. |
| *Comment:* | Protecting mineral aggregate resources close to market, like this proposal, helps to reduce the requirement for longer haulage routes to transport needed aggregate to construction sites and, as a result, minimizes greenhouse gas emissions overall.<br><br>The Air Quality Impact Assessment informs the quarry design and recommends mitigation measures and monitoring program that will be to ensure air quality standards set by the Province will be met for the proposal and have been peer reviewed by qualified experts retained on behalf of the Region and City. Furthermore, the proponent will be required to submit and have approved Environmental Compliance Approvals for air quality which will also involve a detailed review by qualified experts at MECP. |
| **2.4.c)** | Contributions of natural areas (e.g. wetlands) |
| *Comment:* | The proposed Site Plans reflect recommendations made by all technical reports, including the EIS and Water Study Report on appropriate monitoring, rehabilitation and contributions of natural areas to offset any potential impact and protect key natural heritage systems and features. |
| **2.5** | To improve regional self-reliance through long-range economic development planning and economic diversification. |
| **2.5.a)** | Attraction of more employment through existing or new firms. |
| *Comment:* | The proposed quarry will enable a sufficient resource mineral aggregate supply to ensure the efficient ongoing development of the Region. The Economic Benefits Analysis accompanying the application highlights that the project will provide a number of economic benefits to the Niagara Region, including employment for the 40-50 year lifespan of the project. |

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| **2.6** | To provide for the conservation and wise use of Niagara's agricultural and other natural resources, through environmentally sound resource use without compromising the needs of future generations. |
| **2.6.f)** | Wise use of mineral aggregate resource |
| *Comment:* | The proposed amendments will ensure that a supply of high quality mineral aggregate resource is available within the region to support the needs of future generations and projected growth. |
| **2.A Tourism** | |
| **2.B Greater Niagara Circle Route and Trails** | |
| **2.C Niagara Wine Country** | |
| *Comment* | The subject lands are <u>not</u> located in proximity to the Greater Niagara Circle Route and Trails, identified Tourism Areas or within Niagara Wine Country or along any identified Wine Route in the NROP. |
| **2.E Commerce, Industry and Trade** | |
| **2.E.2.1** | It is the policy of the Region to promote innovation and excellence by building on Niagara's economic strengths and creating partnerships with institutes of higher education, the private sector and the investment community. |
| *Comment:* | The Economic Benefits Analysis the numerous economic benefits to the City and to Niagara Region that will result from approval of the applications in the form of employment and increased municipal and provincial tax and aggregate levy revenue. |
| **4. Managing Growth** | |
| **4.G.13 Transportation Corridors** | |
| **4.G.13.1** | The Transportation Corridors shown on Schedule A are intended to be the focus for moving people and goods within Niagara and through the Region. The Region's key Transportation Corridors are:<br>a) The Welland Canal;<br>b) The Queen Elizabeth Way;<br>c) Highway 406;<br>d) Other Provincial Highways;<br>e) Regional Roads; and<br>f) Railways |
| *Comment:* | The proposed quarry site abuts a regional road (Thorold Townline Road) which runs along the west boundary line of the site. With regards to traffic generated by the proposal, the preferred Haul Route Option for trucks to / from Upper's Quarry consists of utilizing Thorold Townline Road via Upper's Lane. Primarily truck traffic to/from the operation will travel west on Upper's Lane and then north of the site along Thorold |

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| | Thorold Road, a regional road, providing the most direct route to / from the quarry. This haul route option includes the following roads:<br>- Upper's Lane to Thorold Townline Road<br>- Thorold Townline Road north of the site access to Thorold Stone Road<br>- Highway 406 via Thorold Stone Road westbound<br>- Queen Elizabeth Way (QEW) via Taylor Rd northbound<br>- Queen Elizabeth Way (QEW) via Thorold Stone Road eastbound<br><br>For further details on traffic associated with the proposal, refer to the Traffic Impact Study. |
| **5. Rural and Agriculture** | |
| Preamble | This Chapter outlines the objectives and the policies for the Region's Agricultural and Rural Areas. Many of Niagara's important renewable and non-renewable resources can be found in Agricultural and Rural Areas of the Region. For example, these areas contain high quality agricultural land, environmentally significant features, and sand and gravel resources. To achieve the proposed Regional strategy of balancing conservation and development these resources must be used wisely. ... |
| *Comment:* | In accordance with the Growth Plan and PPS, a substantial amount of high quality bedrock resource exists below the water table, there is a lack of appropriate alternative site alternatives in the market area, the majority of the proposed quarry site is rated CLI Class 3 lands (i.e. lowest classification of prime agricultural lands) and the net impact on surrounding farmlands are minimal given the proximity of urban areas and other rural uses (including golf courses and Walker's existing quarry). The proposed quarry will be using Thorold Townline Road as a haul route which is already in use and is intended and designed for high traffic volumes as well as large vehicle traffic.<br><br>Environmental features, their level of significance and potential for impact have been appropriately evaluated through the Environmental Impact Study (EIS). Direct impacts to identified natural heritage features will occur such as wetland features, wildlife habitat, woodlands, and fish habitat. However, theses impacts will be mitigated and features and their functions will be enhanced through operational design, rehabilitation, and ecological enhancement measures in accordance with the PPS and the Growth Plan.<br><br>Accordingly, an appropriate balance between conservation and development of the Region's resources is achieved through the proposed applications. |
| **5.A Objectives for Rural and Agricultural Areas** | |
| **5.A.3** | To conserve and enhance the natural resources of the Agricultural and Rural Areas. |

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| **5.A.5** | To provide an efficient and orderly pattern of land uses in the Agricultural and Rural Areas, which lessens land use conflicts, which requires a minimum of municipal services and conserves natural resources. |
| *Comment:* | The proposed quarry site has been identified as a mineral aggregate resource area for over ±40 years. The proposed applications will make available a supply of high-quality aggregate resource close to market and is essential to the continued growth of the Region. Policy is in place in the Region and City OP to ensure that land uses that may conflict with potential aggregate extraction of this resource are avoided or mitigated. As a result, land uses in the area of the proposed quarry have generally been regulated over the years to lessen potential land use conflict with a future quarry in this location. |
| **7.A.3 Air Quality and Climate Change** | |
| **Objectives** | |
| **7.A.3.A** | To reduce air pollutant and greenhouse gas emissions. |
| *Comment:* | An air quality assessment has been prepared by RWDI to assess estimated emissions of key contaminants from on-site quarry operations. The analysis shows that with a reasonable level of control on the haul routes, compliance with the relevant criteria can be achieved at all offsite receptors. Details on air quality mitigation measures are outlined in the Air Quality Assessment and section 5.4 of the Planning Justification Report. |
| **7.B.2 Environmental Impact Studies** | |
| 7.B.2.1 | An Environmental Impact Study (EIS) required under this Plan shall be submitted with the development application and shall be prepared and signed by a qualified biologist or environmental planner in accordance with the Environmental Impact Study Guidelines (EIS Guidelines) adopted by Regional Council. An EIS shall be prepared to the satisfaction of the appropriate Planning Authority, in consultation with the NPCA and the other commenting body. |
| *Comment:* | The EIS for the proposed quarry has been prepared by a qualified biologist and ecologist in accordance with applicable standards, guidelines and consultation process. |

# Appendix I

Appendix I:

# City of Niagara Falls Official Plan
# Detailed Policy Analysis

| Part 2 Land Use Policies | |
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| **Section 11 Environmental Policies** | |
| ***Environmental Impact Studies (EIS)*** | |
| 11.1. 17 | An EIS shall be required as part of a complete application under the Planning Act for site alteration or development on lands:<br>a) within or adjacent to an Environment Protection Area or Environmental Conservation Area as shown on Schedule A or A-1; or<br>b) that contain or are adjacent to a natural heritage feature. |
| 11.1. 18 | An EIS required under this Plan shall:<br>a) include a Terms of Reference, reviewed by the City, Region and, where appropriate, the Niagara Peninsula Conservation Authority, that outlines the scope of the study;<br>b) be prepared and signed by a qualified professional;<br>c) be to the satisfaction of the City of Niagara Falls, in consultation with the Region and the Niagara Peninsula Conservation Authority, for proposals within or adjacent to ECA within the Urban Area Boundaries; and<br>d) be to the satisfaction of the Region, in consultation with the City and the Niagara Peninsula Conservation Authority, for the remaining areas. |
| 11.1. 19. | An EIS required under this Plan shall be prepared in accordance with the Environmental Impact Study Guidelines adopted by Regional Council. |
| *Response* | A detailed EIS, prepared by qualified professionals at Stantec, has been submitted as part of the application submission. The EIS is based on Terms of Reference reviewed by the City of Niagara Falls, Niagara Region and Niagara Peninsula Conservation Authority (NPCA) (*see Appendix C of EIS*). The City, Region and NPCA are reviewing the EIS and consultation with these agencies will continue as part of the application review process.<br><br>As stated throughout, the EIS was prepared in accordance with the EIS Guidelines adopted by the Region and by the Province. |
| ***Woodlands and Forestry Resources*** | |

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| **11.1.39** | The City recognizes the values and benefits of trees, hedgerows and woodlands to the overall environmental health of the community as well as its visual appeal. The City shall place a high priority on the protection of these features. |
| **11.1. 40** | The City shall endeavour to meet forest cover and vegetative buffer targets set through watershed studies and environmental impact studies by including minimum vegetative setbacks from all order streams under the Environmental Conservation Area designation. The protection of land adjacent to woodlands, water features and other natural heritage features by retaining the buffer in a natural state shall also be undertaken through these policies. |
| *Response* | To offset the loss of 2 ha of woodland to be removed from the proposed quarry site, Walker has committed to planting:<br>• 6.4 ha of land off-site (within 400 m of woodland to be removed) with off-site mitigation planting to be commenced follow approval of the licence and completed prior to removal of the 2 ha woodlot<br>• 4.58 ha of land on-site as part of Phase 1 rehabilitation in same location and as part of watercourse realignment corridor<br>• off-site woodland enhancements will incorporate specific wildlife habitat features for bats, deer and other wildlife<br>In addition, Walker will be planting additional trees on-site within the 17.47 ha riparian and naturalized corridor and setbacks. |
| **11.1.43** | Good stewardship of urban woodlots and forested areas shall be promoted. The location of treed and wooded areas, including those located outside of significant woodlands, are illustrated on Appendix III to this Plan. Where such lands are under private ownership and are contemplated for development, the preservation and maintenance of natural environment conditions will be encouraged to the fullest extent possible. Where deemed appropriate, the City will consider such measures as bonusing, land purchase, transfer of development rights or land exchanges to safeguard important natural areas. |
| *Response* | Portions of the 2.0 ha woodlot are identified on Appendix III as "Wooded and Treed Sites" (see **Figure 20**). The subject lands are not within an urban area and are situated within an identified bedrock resource area. While this woodlot is proposed for removal, the proposal includes mitigation and enhancement plantings for a total area of 6.4 ha off-site and 4.58 ha as part of the rehabilitation of the quarry that will enhance the amount of forested areas in the Region, the City of Niagara Falls and the City of Thorold while making the resource available close to market. |
| **11.1. 46** | Land owners in Good General Agricultural and Rural/Agricultural areas as well as the Niagara Escarpment Area shall be encouraged to recognize the forest resource as both a source of income from various forest products and as an important element in providing essential soil and water conservation benefits. In this respect, land owners shall be encouraged to carry out the following: |

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| | (i) Employ proper forest management practices in consultation with the Ministry of Natural Resources (*now MNDMNRF*) and within the Niagara Escarpment Plan Area in accordance with applicable Ontario Regulations.<br>(ii) Retain existing tree cover wherever possible.<br>(iii) Discourage the grazing of livestock within woodlots.<br>(iv) Provide for the reforestation of non-productive or abandoned farmland.<br>(v) Apply for tax reduction programs and other benefits associated with the protection and management of woodlots.<br>(vi) Maintain or establish tree and shrub cover on soils of low agricultural capability and in hazardous areas such as steep slopes and flood prone areas, in order to reduce water runoff and minimize soil erosion. |
| *Response* | Enhancement planting will increase and enhance the amount of tree and shrub cover compared to the amount that exists on the site today, providing greater ecological value. Proposed planting species and details recommended by Stantec are provided on the proposed Rehabilitation Plan and may be refined through further consultation with the MNRF and NPCA. |
| **Part 3 – Environmental Management** | |
| **Section 1 Municipal Infrastructure** | |
| **1.3 Storm Drainage** | |
| 1.3.1 | It is required that all new development or redevelopment within the City be connected to and serviced by a suitable storm drainage system. Appropriate systems may include underground pipes, ditches, culverts, swales, man-made and natural watercourses, detention storage areas or any other storm water management system acceptable to Council, the Niagara Region, the Niagara Peninsula Conservation Authority, and other agencies. |
| 1.3.2 | Council shall not permit any new development or redevelopment where it would interfere with, or reduce, the drainage capacity of any natural watercourse or agricultural field drainage system, result in any erosion, pollution or drainage problems along watercourses and their tributaries or where it would adversely affect the quality/quantity of ground water or a water recharge/discharge area |
| 1.3.4 | Storm water management plans shall incorporate the use and creation of naturalized overland systems. Naturalized off-stream ponds and wetlands are encouraged to properly regulate and control water quantity and quality flows going into natural watercourses. In addition to controlling water quality and quantity, such systems shall be as natural as possible to create habitat areas and where applicable, will be used to provide linkages to other natural features. |

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| *Response:* | WSP and Stantec reviewed current and proposed full quarry development conditions and incorporated measures in the design of the quarry to provide for storm water management. For example, overland surface water flow from the upstream catchment areas will be managed by the watercourse realignment design. The placement of culverts (under perimeter berms) and perimeter ditches will direct overland flow to the watercourse realignment or other existing tributaries downstream of the site.<br><br>As detailed in the Natural Channel Design Report (appended to the EIS), a valley berm on the east side of the proposed new valley alignment has been designed to contain the 100-year flow. The results from the 100-year event show that proposed conditions flood elevations were contained within the designed floodplain; however, the valley berm will overtop into the quarry upstream of the unopened road allowance for approximately 100 m in the Regional flood (see DWG C-202 and C-203 in Appendix B). The culvert under the unopened road allowance has been sized to convey flows up to the 100-year event (see Section 4.5.1). During a Regional flood event, the road allowance culvert creates a backwater upstream of the culvert. The design accommodates this backwater by providing a protected overtopping area between the valley berm and the quarry. During quarry operation any flow introduced into the quarry at the overtopping location by a Regional event will be pumped, treated, and returned to the creek. Upon quarry closure, any flow that overtops the valley berm at the overtopping location will discharge into the quarry lake. The quarry lake will ultimately have an outlet at the downstream end of the site and will discharge the overtopped Regional flows back into the creek.<br><br>The shear stresses are highest at the downstream end of the culverts and on the side of the valley berm facing into the quarry. To limit scour and erosion in these areas, culvert substrate and berm protection has been sized based on these velocities and shear stresses<br><br>With regard to sediment and erosion control, at all times, discharge from the proposed quarry will be directed to sediment forebays to prevent erosion and minimize sedimentation downstream of the discharge point.<br><br>Groundwater quality impacts are not predicted. Mitigation measures, such as a comprehensive water monitoring programme and a spill action plan, will be implemented during the operational life (and lake filling) of the quarry.<br><br>According to WSP's Water Study Report, the baseline data indicates that there is minimal groundwater discharge to most surface water features (i.e. the existing watercourse and Beaverdams Creek) due to the presence of the thick silt and clay soils confining layer present throughout most of the study area. At full quarry development, these features |

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| | are predicted to become a source of groundwater recharge. At final rehabilitation, groundwater discharge rates are predicted to return to near baseline conditions.<br><br>For further details on drainage regarding the proposed quarry, see the Level 2 Water Study Report prepared by WSP the EIS prepared by Stantec. |
| **1.5 Transportation** | |
| 1.5.1 | As shown on Schedule A-2, the City's transportation corridors consist of rail corridors, provincial highways and the arterial road system. These corridors are the primary conveyors of goods and people within, into and out of the City. |
| 1.5.18.4 | Arterial Roads - include all roadways under the Region's and City's jurisdiction that are designed to accommodate large volumes of traffic between major land use areas in the City.<br>Regional Arterial Roads are designed to accommodate the movement of large volumes of traffic and function as secondary highways and primary arterial roads. Design, road allowance width, use, alignment and access are regulated by the Regional Municipality of Niagara. Road widths vary from 20 metres to 42 metres. |
| *Response:* | Walker has designed the quarry operation so the quarry access will be to/fromThorold Townline Road, a Regional Arterial Road, via Upper's Lane. As this policy states, Thorold Townline Road is designed to accommodate the movement volumes of traffic. Accordingly, the proposed haul route is appropriate and identified by the TIS as the preferred alternative when considering other options. |
| 1.5.23 | The dedication of land for roads and rights-of-way improvements will conform to prescribed Provincial and Regional standards. Where lands are required for road construction or widening, such lands shall be conveyed to the appropriate public body as a condition of site plan control, consent to sever or plan of subdivision and when such road construction or widening is contemplated on a City-owned road within a five year time space. Road widenings, as identified in Policy 1.4.19, may be required to expand the width of the travelled portion of the roadway, or for servicing locations, including ditches and drains. |
| *Response:* | Policy 1.5.34 identifies that a planned road width for Thorold Townline Road is 26.2 m.<br>Beechwood Road has a planned road width of 26 m.<br>The Region and City have confirmed road widening requirements which will be dedicated once the licence has been approved.<br>As set out on the ARA Site Plans, the licencee will be required to enter into an agreement(s) with the appropriate road authority (City and Region) to ensure that the necessary entrance improvements, road improvements and dedication of road widenings are completed and secured. |

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| **1.5.28** | Council shall cooperate with the Niagara Region to designate, maintain, monitor and improve truck routes to accommodate the safe and efficient movement of truck traffic while prohibiting the penetration of non-essential trucking into residential areas. In addition, Council shall require appropriate building setbacks, screening and buffering along designated truck routes to alleviate excessive noise impacts on adjacent land uses where the noise level from traffic is above the relevant level established by the Ministry of the Environment, Conservation and Parks (MECP). |
| *Response:* | The Traffic Impact Study prepared for the proposal considers two possible haul route options for material that will be shipped from Upper's Quarry to serve local and broader markets. Haul Route Option 1 is the preferred haul route which will direct trucks northbound on Thorold Townline Road (via Upper's Lane) through a non-residential area. This haul route is already in use and intended for high traffic volumes as well as large vehicle traffic.<br><br>With regard to noise sensitive receptors in relation to the proposed quarry, noise control measures will be implemented in order to meet the applicable criteria as outlined in the Acoustic Assessment Report prepared by RWDI. |
| **Part 3 Environmental Management** | |
| **Section 4 Cultural Heritage Conservation** | |
| 4.5 | In consultation with the MHC, built heritage resources within the municipality shall be assessed by use of studies, surveys or other methods. The following criteria shall be considered when identifying, studying, assessing or conserving properties of cultural heritage value.<br>1. The property represents a rare, unique, or early example of a style, type, expression, material or construction method.<br>2. Built resources or design of the property displays exceptional craftsmanship or artistic merit<br>3. Elements of the property demonstrate a high degree of technical or scientific achievement.<br>4. The property is significant to the community because of direct associations to a theme, event, belief, person, activity, organization or institution.<br>5. The property contributes to the understanding of a community or culture.<br>6. The property demonstrates/reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to the community.<br>7. The property is important in defining, maintaining or supporting the character of an area.<br>8. The property is physically, functionally, visually or historically linked to its surroundings. |

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| | 9. The property is a landmark. |
| *Response:* | The Cultural Heritage Impact Assessment prepared by MHBC for the proposed quarry outlines that there are no built heritage features on the Subject Lands. For further detail, see section 5.2 of the Cultural Heritage Impact Assessment. |
| 4.9 | In consultation with the MHC, the following criteria shall be considered when identifying, studying and assessing cultural heritage landscapes.<br>1. The landscape represents a rare, unique or early example of a style, type, expression, material or construction method.<br>2. The landscape contains excellent craftsmanship or artistic merit.<br>3. The landscape is representative of a high degree of technical or scientific achievement.<br>4. The landscape has associations to a theme, event, belief, person, activity, organization or institution that is significant to the community.<br>5. The landscape contains elements that contribute to the understanding of a community or culture.<br>6. The landscape demonstrates or reflects the work or ideas of an architect, artist, builder, designer or theorist who is significant to the community.<br>7. The landscape is important in defining, maintaining or supporting the character of an area.<br>8. The landscape is physically, functionally, visually or historically linked to its surroundings.<br>9. The landscape is considered a landmark of the City. |
| *Response:* | The Cultural Heritage Impact Assessment (Section 5.3) prepared for the proposed quarry concludes that the subject lands do not represent a significant cultural heritage landscape. |
| **4.10** | The City recognizes that there are many archaeological sites containing artifacts or other physical evidence of past human use or activities throughout the municipality. Every effort will be taken to ensure archaeological resources are protected in situ. No work shall be carried out on any property which has identified archaeological resources or has archaeological potential without first conducting archaeological fieldwork and submitting a report, both undertaken by a licensed archaeologist. Any fieldwork and investigation shall adhere to Provincial guidelines and requirements. The archaeological report shall be prepared to the satisfaction of the Ministry of Culture (*now Ministry of Heritage, Sport, Tourism and Cultural Industries*) or its designate to address, among other things: site findings, analysis of findings, a statement of heritage value, any further assessment needed, methods of protecting archaeological sites/artefacts (buffer areas, landscaping, avoidance strategy) and a construction monitoring schedule. |

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| *Response:* | Stage 1 and 2 Archaeological Assessments were prepared by qualified archaeologists for the proposed quarry lands in accordance with applicable requirements and guidelines. The assessments have been reviewed by the Ministry of Heritage, Sport, Tourism, Culture Industries, and as a result, the assessments have been entered into the Ontario Public Register of Archaeological Reports.<br><br>Areas and associated notes on the proposed Site Plans indicate where additional archaeological assessment is required in accordance with the Stage 2 Archaeological Assessment recommendations. |
| **4.19** | Development adjacent to and surrounding significant heritage properties shall be designed as to not adversely impact on the character, quality or amenity associated with the heritage resource.<br>1. In consultation with the MHC, the City may require a proponent of development to submit a heritage impact assessment to determine the impact of a specific development proposal on any heritage resource or area of archaeological potential and to recommend the most appropriate method of conservation through mitigative measures or alternative development.<br>2. The City shall consider the impact of public works activities on heritage properties or districts and design such necessary work to mitigate the effects on heritage resources as outlined in a heritage impact assessment. |
| *Response:* | The Cultural Heritage Impact Assessment prepared for the proposed development concludes that the proposed development will have no negative impacts on adjacent cultural heritage resources. |
| **Part 3 – Environmental Management** | |
| **Section 5 Urban Design Strategy** | |
| 5.3.4 | Landscaping, together with other design measures, can assist in mitigating the impacts of development on surrounding lands. Landscaping, where adjacent to buffer areas of natural heritage features, shall be designed to incorporate native species. The City shall encourage the utilization of adequate buffering, screening and other landscaping measures to ensure separation between potentially incompatible uses. |
| *Response:* | The proposed quarry includes the construction of landscape berms around the majority of the site's periphery in accordance with the Visual Impact Assessment. Berms are required to mitigate against noise impacts arising from the operational phase of the quarry, as well for visual screening purposes. The landscape berms will be seeded with a naturalizing mix of wildflowers and grasses to stabilize slopes and minimize mowing and maintenance. |

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| | Where planting is recommended by the Visual Impact Assessment, vegetation is to be selected for wind, salt and drought tolerance. Where appropriate, native non-invasive species that complement the existing surroundings are to be utilized wherever possible. |
| **Part 4 Administration and Implementation** | |
| **Section 2 Official Plan Review and Amendments** | |
| **2.6** | When considering an amendment to the Official Plan, Council shall consider the following matters. |
| **2.6.1** | The conformity of the proposal to the general objectives of this Plan. |
| *Response:* | The Planning Justification Report and this Appendix evaluates all relevant policy (provincial, regional and municipal) and concludes that the proposed quarry conforms with policies of the City of Niagara Plan Official Plan (as proposed to be amended). |
| **2.6.2** | Suitability of the site or area for the proposed use, especially in relation to alternative sites or areas of the City or possible areas of intensification or redevelopment. |
| *Response:* | The Subject Lands are located in an area identified as a Bedrock Resource Area shown on Appendix IV of the Official Plan.<br><br>An Alternative Site Analysis was also undertaken which evaluates other alternative sites and found these sites to be unsuitable in comparison to the proposed site for reasons such as resource quality, accessibility, fragmentation, and existing and planned uses. For further detail, see sections 2 and 3 of the Alternative Site Analysis prepared for the proposal. |
| **2.6.3** | Compatibility of the proposed use with adjacent land use designations and natural resources. |
| *Response:* | The proposed quarry is compatible with surrounding land uses resources through the appropriate design, buffering and/or separation measures incorporated into the proposal in order to protect these uses. Natural resources relating to the proposal have also been taken into account through the implementation of design, mitigation and ecological enhancement measures to ensure that such resources are adequately maintained and enhanced in the area. |
| **2.6.4** | The need for and market feasibility of the proposed use. |
| *Response:* | PPS Policy 2.5.2.1 does not require the demonstration of need for mineral aggregate proposals. |
| **2.6.5** | The extent to which the existing areas of the City designated for the proposed use are developed or are available for development. |

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| *Response:* | Existing licences are identified in the City's Official Plan. New mineral aggregate operations (or expansions) require an amendment to the Official Plan to redesignate lands to an "Extractive Industrial" designation to permit the use. The Subject Lands are identified as a 'Bedrock Resource Area' on Appendix IV of the Official Plan. PPS (2.5.2.1) requires that 'as much mineral aggregate resources as is realistically possible shall be made available as close to markets as possible'. |
| **2.6.6** | The availability of adequate municipal services and facilities for the proposed use and its impact on the transportation system, community facilities and natural environment. |
| *Response:* | The proposed quarry will not utilize any municipal services or facilities. However, the proposal will use hydro utilities and arrangements/agreements will be made with a provider once the quarry is licenced.<br><br>The Traffic Impact Study makes a number of recommendations for road improvements that are attributed to existing and forecasted conditions that are not triggered by the proposed quarry. While these recommendations are set out in the Traffic Impact Study to address existing and future conditions, they are unrelated to the proposed quarry and the only road improvements that are required for the proposed quarry are the improvements at the proposed entrance / exit and widening of Thorold Townline Road at the Upper's Lane intersection. The Site Plans make it clear that Walker is responsible for the improvements required as a result of the proposed quarry. For further information please see the TIS which accompanies the application.<br><br>The proposal incorporates appropriate buffers, screening and other mitigation measures to counteract any potential impacts arising to community uses in the surrounding environs of the Subject Lands. Such measures include the construction of landscape berms around the periphery of the entire site in order to mitigate against certain impacts arising from the operational phase of the quarry, as well visual screening purposes. The proposed quarry will also bring economic benefits to the region including increased municipal and provincial tax revenue directed to the community as set out in the Economic Benefits Analysis prepared by Prism Economics and Analysis.<br><br>Natural heritage features relating to the proposal are identified and assessed in the EIS prepared by Stantec Consulting Ltd. evaluates the natural heritage features on-site and on adjacent lands. Recommended mitigation, rehabilitation and enhancement measures have been incorporated onto the proposed Site Plans. |
| **2.6.7** | The financial implications of the proposed development. |
| *Response:* | The proposed quarry will financially benefit Niagara Region and the City of Niagara falls as set out in the Economic Benefits Analysis prepared by Prism Economics. |

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| **2.6.8** | The protection of specialty crop land as defined in the Provincial Policy Statement from development. |
| *Response:* | The Subject Lands are not located within a specialty crop area. |
| **2.6.9** | Any applicable cross-jurisdictional issues such as, but not limited to servicing, transportation, watersheds and natural areas. |
| *Response:* | Two major utility corridors run adjacent to the subject lands which include the Trans Canada Pipeline corridor and a hydro corridor, both of which have been consulted with by MHBC. Sufficient setback distances and appropriate operating procedures will be implemented by the proposed ARA Site Plans.<br><br>Transportation has been taken into account in the TIS prepared for the proposed development. For further details, see the TIS which accompanies this application.<br><br>The Water Study Report prepared by WSP concludes that, water resources, including ground and surface water quantity and quality, will be monitored and protected from potential impacts.<br><br>The proposal also includes progressive rehabilitation and enhancement measures including a higher quality watercourse and diverse riparian corridor and improve connections within the Core Natural Heritage System, regardless of municipal boundaries. Therefore, the proposal will provide greater connection to other natural features reducing landscape fragmentation. |
| **2.6.10** | Compliance with a Comprehensive Review prepared by the City when considering the conversion of employment areas including an area of employment, to another land use category, except where the conversion is proposed within an area identified as a Community Improvement Plan Area in this Plan in which case a Comprehensive Review as defined by the Provincial Places to Grow Growth Plan has been initiated or adopted by the City. |
| *Response:* | The Subject Lands are not within an identified employment area or Community Improvement Plan Area. |
| **Section 14 General Implementation Policies** | |
| **14.1** | Pre-consultation between the applicant and the City is required prior to the submission of an application for an official plan amendment, zoning by-law amendment, draft plan of subdivision, draft plan of condominium, consent or site plan control unless the Director of Planning determines that pre-consultation is not necessary based on the scale of development or the complexity of planning issues associated with the proposed application. Pre-consultation will determine what is required to be submitted for a complete application and will provide the opportunity to discuss the nature of the |

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| | application; development and planning issues; the need for additional information and/or reports to be submitted with the application; and the planning and approval process including the appropriateness of concurrent applications, where applicable. Pre-consultation may also involve the Region, Niagara Peninsula Conservation or other agencies that may have an interest in the application as determined by the City. A by-law shall be approved by Council requiring pre-consultation. Pre-consultation shall be considered a requirement for the submission of a complete application. |
| *Response:* | Prior to filing the applications, Walker held pre-consultation meetings with the MNRF, MECP, Niagara Region, the City of Niagara Falls, and the City of Thorold, and the NPCA to discuss the required applications and technical studies. See **Appendix A** for a copy of the pre-consultation records from these meetings. |

# Appendix **J**

# Appendix J: Consultation Summary & Strategy

**Upper's Quarry**

Applications under the *Planning Act* for Niagara Region Official Plan Amendment, City of Niagara Falls Official Plan Amendment, City of Niagara Falls Zoning By-law Amendment

Application under the Aggregate Resource Act for a Class A Licence (below water quarry)

## Prior to Filing of Applications (Completed)

1. Initial Meeting held with Mississaugas of the Credit First Nation (MCFN) and Haudenosaunee Development Institute (HDI) (March 8 2018 and August 15, 2018)
2. Letter to Six Nations of the Grand River (SNGR) from Archaeological Research Associates Ltd. (ARA) re summary details of archaeological assessments and Upper's project (December 11 2018)
3. Pre-consultation Meeting held with Niagara Region / City of Niagara Falls / NPCA (June 21 2019)
4. Pre-consultation Meeting held with MNRF (now MNDMNRF) (October 17, 2019)
5. Pre-consultation Meeting held with Niagara Region / City of Niagara Falls / NPCA (October 17, 2019)
6. Pre-consultation Meeting / Calls with Department of Fisheries and Oceans (various dates in 2019)
7. Walker hosted six (6) Public Information Sessions:
    a. November 27, 2019 at 9:00 am
    b. November 27, 2019 at 2:00 pm
    c. November 27, 2019 at 5:00 pm
    d. November 28, 2019 at 9:00 am
    e. November 28, 2019 at 2:00 pm
    f. November 28, 2019 at 5:00 pm
8. Walker established website (*http://uppersquarry.ca/)* on October 29, 2019 includes general information (map of subject lands, fact sheet and ability to register for updates)
9. Walker compile(s) emails of public contact/notification list (ongoing)

***Note: For additional details regarding consultation with MCFN, HDI and SNGR, see Record of Indigenous Engagement appended to Archaeological Assessment submissions.**

## Following Submission of Applications

10. Niagara Region / City of Niagara Falls provides Notices of Complete Applications
11. MNDMNRF provides Notice of Complete application (for *Aggregate Resources Act* Licence)
12. Walker posts submission material (applications, all technical reports and Site Plans) on website (ongoing as updated information becomes available)
13. Walker will offer to host open house and/or individual meetings with residents upon request (ongoing)
14. Notices of Public Meetings as required by *Planning Act* (Region and City)
15. Public Meeting hosted by Region and City
16. Public Notice of Application circulated as required by *Aggregate Resources Act*
17. Public Information Session hosted by Walker
18. Walker responds to all comments received during ARA Consultation Period
19. Objection Forms served to persons to confirm if objection continued
20. If Objections, Walker/MHBC compiles and submits record of process taken and objections to MNDMNRF

## Following Public Meeting / Public Information Session

21. Niagara Region / City of Niagara Falls Joint Council meeting to consider ROPA, OPA and ZBA and recommendations for Site Plans
22. Notice of Decision (ROPA) – issued and circulated by Niagara Region
23. Notice of Decision (City of Niagara Falls OPA) – issued and circulated by Niagara Region
24. Notice of Decision (ZBA) – issued and circulated by City of Niagara Falls
25. Notice of Referral or Recommendation – issued and circulated by MNDMNRF

# Appendix **K**

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# CURRICULUM**VITAE**

## Debra S. Walker, BES, MBA, MCIP, RPP, LEED®AP

Debra Walker (Kakaria), a Partner with MHBC, has specialized in development approvals in both the private and public sector over the span of her career of 25+ years (since 1995). She has successfully led numerous development projects, spanning from mineral aggregate approvals to residential, mixed use and industrial projects in rural, urban and seasonal recreational communities across Ontario. Debra is engaged in various large-scale complex development and plan proposals and regularly acts as project manager of multi-disciplinary development projects.

In addition to being a Registered Professional Planner, she is certified by the Minister of Natural Resources to prepare site plans under the Aggregate Resources Act. Debra has been a qualified expert in planning and aggregate-related matters before the Local Planning Appeal Tribunal, former Ontario Municipal Board and the Toronto Local Appeal Board in a number of hearings.

### EDUCATION

2006
**Master of Business Administration**,
Schulich School of Business,
York University

1994
**Bachelor of Environmental Studies**,
Honours Urban and Regional Planning,
Management Studies Minor,
Co-operative Program,
University of Waterloo

## PROFESSIONAL ACCREDITATIONS

Full Member, Canadian Institute of Planners (CIP)
Full Member, Ontario Professional Planners Institute (OPPI)
Member, Canada Green Building Council (CaGBC)

## PROFESSIONAL HISTORY

| | |
|---|---|
| 2013 - Present | **Partner**, MacNaughton Hermsen Britton Clarkson Planning Limited |
| 2005 - 2013 | **Associate**, MacNaughton Hermsen Britton Clarkson Planning Limited |
| 2003 - 2005 | **Senior Planner**, MacNaughton Hermsen Britton Clarkson Planning Limited |
| 2001 - 2003 | **Senior Planner**, Regional Municipality of York |
| 1999 - 2001 | **Development Planner**, Regional Municipality of York |
| 1998 - 1999 | **Development Planner**, District Municipality of Muskoka |
| 1995 - 1998 | **Planner/Planning Department Head**, Township of Lake of Bays |

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# CURRICULUM**VITAE**

## Debra S. Walker, BES, MBA, MCIP, RPP, LEED®AP

### SELECTED PROJECT EXPERIENCE

**RESIDENTIAL / MIXED USE / RECREATIONAL**

- **Secondary plans / Block plans / Official Plan and Zoning By-law Amendments / Plans of Subdivision / Condominium**
- Consultant to:
    - Langmaid's Island Corporation (Lake of Bays)
    - Nobleton Landowners Group, Strategic Planning (Nobleton)
    - Fandor Homes (Nobleton and King City)
    - Dawsco Homes (Nobleton)
    - Bruce Anchor Cruises (Tobermory)
    - Revera (various sites in south-central Ontario)
    - Averton (East Gwllimbury and Vaughan)
    - White Rose (Dundalk)
    - Mason Homes (Peterborough, Uxbridge and Barrie)
    - Gabriele Holdings Inc. (Nobleton, Markham and Vaughan)

**AGGREGATE / INDUSTRIAL**

- **Aggregate Resource Act (ARA) Licence Approvals / ARA Site Plan Amendment Approvals / Preparation of detailed Site Plans, Operational Plans and Rehabilitation Plans in support of ARA Licence applications**
- Expert planning witness and/or Consultant for:
    - Walker Industries (various sites in Niagara, Simcoe, Grey and Bruce)
    - Vicdom Sand and Gravel at LPAT (Kawartha Lakes)
    - Olympia Sand and Gravel at OMB (Caledon)
    - CBM St. Marys at OMB (Toronto and Wellington County)
    - Brock Aggregates (Caledon, Toronto, Oakville and King Township)
    - CRH (Vaughan, Mississauga and Oakville)
    - Coco Paving (Vaughan)
    - Lafarge (London and Toronto)
    - GFL (East Gwillimbury)
    - Tricap Properties (East Gwillimbury)

**PUBLIC SECTOR**

- **Public Consultation and Policy Preparation / Expert planning witness / Planning Reports / Assist with Planning and NEP Development Permit Approvals**
- Employee at, Consultant or Expert Planning Witness for:
    - Infrastructure Ontario
    - Conservation Halton
    - Town of East Gwillimbury
    - Region of York
    - District of Muskoka
    - Township of Georgian Bay
    - Township of Lake of Bays

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# CURRICULUM**VITAE**

## Debra S. Walker, BES, MBA, MCIP, RPP, LEED®AP

**RETAIL COMMERCIAL / GREYFIELDS**

- **Official Plan Amendments, Zoning By-law Amendments and Site Plan Approvals**
- Consultant for:
  - Hopewell (Burlington and Brampton)
  - Gabriele Holdings Inc. in Nobleton
  - Home Depot (Burloak/Oakville, Huntsville, Lindsay, Cornwall, and London)
  - Target (Aurora and Stratford)
  - Calloway REIT (Oakville)
  - Canadian Tire (Oakville)
  - Morguard REIT (Aurora)

## PROFESSIONAL/COMMUNITY ASSOCIATIONS

| | |
|---|---|
| 2016 | Certified by Ministry of Natural Resources and Forestry to prepare Aggregate Resource Act Site Plans |
| 2014 - Present | Ontario Stone, Sand and Gravel Association (OSSGA) Niagara Regional Committee |
| 2013- Present | Ontario Stone, Sand and Gravel Association (OSSGA) Rehabilitation Committee |
| 2007-2008 | Member, Professional Practice & Development Committee, OPPI Central District and OPPI Toronto District |

## AWARDS / PUBLICATIONS / RECOGNITION

| | |
|---|---|
| 2017 | Women's Leader Initiative (WLI) Champion - selected by the Toronto Urban Land Institute for leadership and skill in real estate development, land use and city-building |
| 2011 | Project Team Recipient - Places to Grow Community of the Year (Low-Rise) Award by the Building Industry and Land Development Association (BILD) for the Mason Homes' Peterborough Avonlea Community |
| 2003 | Project manager of York Region's Vision 2026 corporate initiative which won the OPPI 2003 Excellence in Planning Award for 'Communications / Public Education' |

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# CURRICULUM**VITAE**

## Brian A. Zeman, BES, MCIP, RPP

Brian Zeman, President of MHBC, joined MHBC as a Planner in 1998 after graduating from the University of Waterloo with a Bachelors Degree in Urban and Regional Planning.

Mr. Zeman provides planning services for all aspects of the firm's activities including residential, commercial and industrial uses while specializing in aggregate resource planning. He has experience in aggregate site planning and licensing and processes relating to aggregate applications.

Mr. Zeman is a member of the Canadian Institute of Planners and Ontario Professional Planners Institute.

### EDUCATION

1998
Bachelor of Environmental Studies, Honours, Urban and Regional Planning, University of Waterloo

## PROFESSIONAL ACCREDITATIONS / ASSOCIATIONS

- Full Member, Canadian Institute of Planners
- Full Member, Ontario Professional Planners Institute
- Member, Ontario Expropriation Association
- Certified by the Province of Ontario to prepare Aggregate Resources Act Site Plans

## PROFESSIONAL HISTORY

| | |
|---|---|
| 2014 - Present | **President**, MacNaughton Hermsen Britton Clarkson Planning Limited |
| 2010 - 2014 | **Vice President and Partner**, MacNaughton Hermsen Britton Clarkson Planning Limited |
| 2005 - 2009 | **Partner**, MacNaughton Hermsen Britton Clarkson Planning Limited |
| 2004 - 2005 | **Associate**, MacNaughton Hermsen Britton Clarkson Planning Limited |
| 2001 – 2004 | **Senior Planner**, MacNaughton Hermsen Britton Clarkson Planning Limited |
| 1998 - 2001 | **Planner**, MacNaughton Hermsen Britton Clarkson Planning Limited |

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# CURRICULUM**VITAE**

## Brian A. Zeman, BES, MCIP, RPP

### PUBLICATIONS

- Co Author of the "State of the Aggregate Resource in Ontario Study Paper 2 – Future Aggregate Availability & Alternatives Analysis, Prepared for the Ministry of Natural Resources dated December 2009.

### SELECTED PROJECT EXPERIENCE

- Research, preparation and co-ordination of reports / applications under the Planning Act, Niagara Escarpment Planning and Development Act, Oak Ridges Moraine Conservation Act, and the Aggregate Resources Act.
- Facilitate public meeting on major development applications.
- Project management for major development applications.
- Undertake aggregate Compliance Assessment Report inspections and preparation of reports.
- Planning evaluations and analysis for mineral aggregate development and resource management.
- Conduct notification and consultation procedures under the Aggregate Resources Act.
- Aggregate Resources Act site plan amendments.
- Planning evaluations for residential developments.
- Registration and planning of residential developments.
- Planning assessment for commercial, retail, office and industrial developments.
- Restoration planning for pits and quarries and preparation of recreational afteruse plans.
- Research and preparation of reports /evidence for hearings before the Ontario Municipal Board, Environmental Review Tribunal, Joint Board.
- Provide expert planning evidence before the Ontario Municipal Board, Environmental Review Tribunal and the Joint Board.

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# CURRICULUM**VITAE**

## Brian A. Zeman, BES, MCIP, RPP

### SAMPLE PROJECT LIST

- Activa Group - Laurentian Subdivision, Kitchener
- Adventure Farm – Kirkwall Subdivision, Hamilton
- Aecon - Oliver Pit - Site Plan Amendment/Compliance Assessment Report
- Aggregate Producers Association of Ontario - Caledon Official Plan
- Aggregate Producers Association of Ontario - PPS Review
- Aggregate Producers Association of Ontario - Region of Halton Official Plan
- Blue Mountain Aggregates-Pit Deepening and Expansion
- Brampton Brick - Cheltenham Quarry Site Plan Amendment
- Brampton Brick - Niagara Escarpment Development Permit
- Cayuga Material & Construction - Property Investigation
- Cliff's Natural Resources – Chromite Aggregate Project
- Crisdawn Construction Inc. – Barrie Annexation Lands
- Dufferin Aggregates - Acton Quarry Afteruse Plan
- Dufferin Aggregates - Acton Quarry Expansion
- Dufferin Aggregates – City of Hamilton Official Plan
- Dufferin Aggregates - Milton Comprehensive Zoning By-law
- Dufferin Aggregates - Milton Quarry Afteruse Plan
- Dufferin Aggregates - Milton Quarry Extension
- Dufferin Aggregates - Property Investigations
- Dufferin Aggregates - Region of Halton Official Plan
- Dufferin Aggregates - Town of Halton Hills Official Plan
- Dufferin Aggregates – Town of Halton Hills Zoning By-law
- E.C. King Contracting - Sydenham Quarry Expansion Erie Sand & Gravel - Pelee Quarries
- Gies Construction - Old Chicopee Drive, Waterloo
- Hazad Construction - Conestoga Golf Course Subdivision Hallman Construction Limited - Consent for Church Site
- Home Depot - Barrie, Kitchener, Markham, Mississauga, Richmond Hill and Whitby
- J.C. Duff - Property Investigations
- Kulmatycky Rezoning/Plan of Subdivision/Area Study - Town of Paris
- Lafarge Canada – Brechin Quarry Site Plan Amendment
- Lafarge Canada – City of Hamilton Official Plan
- Lafarge Canada - Dundas Quarry Expansion
- Lafarge Canada - Lawford Pit
- Lafarge Canada – Limbeer Pit
- Lafarge Canada – Mosport Pit Site Plan Amendments
- Lafarge Canada - Oster Pit

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## Brian A. Zeman, BES, MCIP, RPP

- Lafarge Canada - Property Investigations
- Lafarge Canada - Warren Merger Due Diligence
- Lafarge Canada-Wawa Site Plans
- Lincoln Village Subdivision - Phase 2 and 3, Waterloo
- Livingston Excavating - Simcoe Pit
- Nelson Aggregates Co., Burlington Quarry Extension
- Ontario Stone, Sand & Gravel Association – Region of Halton Aggregate Strategy
- Ontario Stone, Sand & Gravel Association - Region of Halton Official Plan
- Paris Land Development Limited - Subdivision
- Pitway Holdings - Brillinger Pit
- Pitway Holdings - Naylor/Forman Pit
- Pine Valley Homes - Ainsley Estates, Town of Wasaga Beach
- Pioneer Construction-Aggregate Resources Act Licensing-Thunder Bay
- Region of Durham - Homefounders Subdivision Riverbank Estates Inc. - Subdivision, Kitchener
- St. Marys Cement – Alternative Fuels
- St. Marys Cement - Bowmanville Quarry Deepening
- St. Marys Cement - Bowmanville Quarry Site Plan Amendment
- St. Marys Cement - Clarington Comprehensive Zoning By-law
- St. Marys Cement – Westside Marsh Project
- Steed & Evans - Contractor's Yard/Site Plan Amendment
- Tanem Developments - Bridge Street Subdivision University of Guelph - Canadian Tire
- University of Guelph - Commercial Centre University of Guelph - Office/Research Park
- YMCA – Redevelopment of Site, Barrie
- Zavarella Construction Ltd. - Consent/Rezoning/Plan of Subdivision/Area Study, Town of Paris

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