



# NELSON AGGREGATE CO.

## Burlington Quarry Extension



December 10, 2020

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# Gravel Facts



- Aggregate Resources are the stone, sand and gravel used by the construction industry.
- Aggregate Resources are literally the foundation of Ontario. Everyday we rely on aggregate resources.
- Every year, each person in Ontario uses a dump truck load of aggregate to help build and maintain our communities.

# Greater Toronto Area



- Highest demand area for aggregates in Ontario.
- Consumes 1/3 of all aggregate produced in Ontario.
- Consumes on average, 65 million tonnes of aggregate per year.
- By 2041, 1.5 billion tonnes of aggregate will be needed.
- Requires the highest quality aggregate for high order infrastructure and construction requirements.

# Burlington Quarry is an Important Local Source of Aggregate



- Approximately 75% of the aggregate produced is used within the Region of Halton (37.5% in the City of Burlington and 37.5% in the other areas of the Region of Halton).
- The remaining 25% is predominately shipped to the Region of Peel and City of Toronto.

# Aggregate From the Nelson Quarry has Helped Build Burlington



- The City of Burlington includes:
  - 71,375 private dwellings
  - 47,217 driveways
  - 734 kilometers of city roads
  - 34 public schools
  - 6 community centres
  - Joseph Brant Hospital
  - Waterfront Trail
  - City Hall

# Public Interest is Served by Accessing Aggregate Resources Close to Market



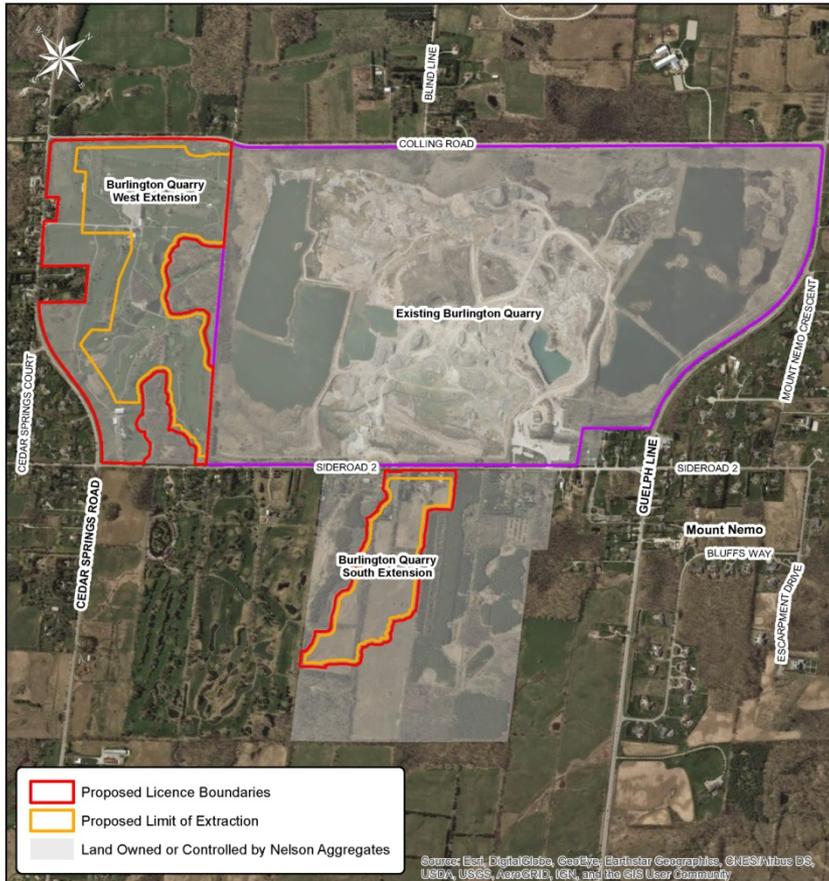
- Province has noted:

*"Extracting aggregate resources close to where they are being utilized can also be considered the most environmentally sensitive alternative. Trucking resources long distances increases greenhouse gas emissions, which is one of the top environmental concerns in the world today."*

*"The cost of transportation is estimated to be approximately 60% of the total cost of aggregate. Therefore, the economic value of an aggregate deposit is based not only on the quantity and quality of the deposit, but also how close the deposit is to its final destination."*

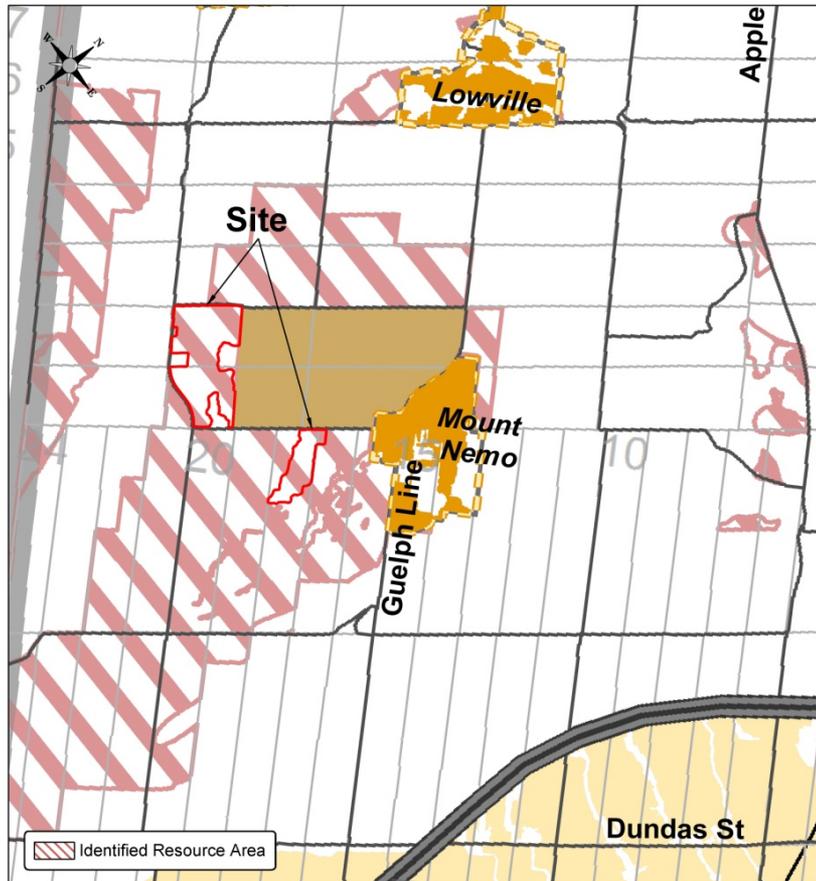
- 60% of aggregate is purchased by the public sector.

# Burlington Quarry Extension



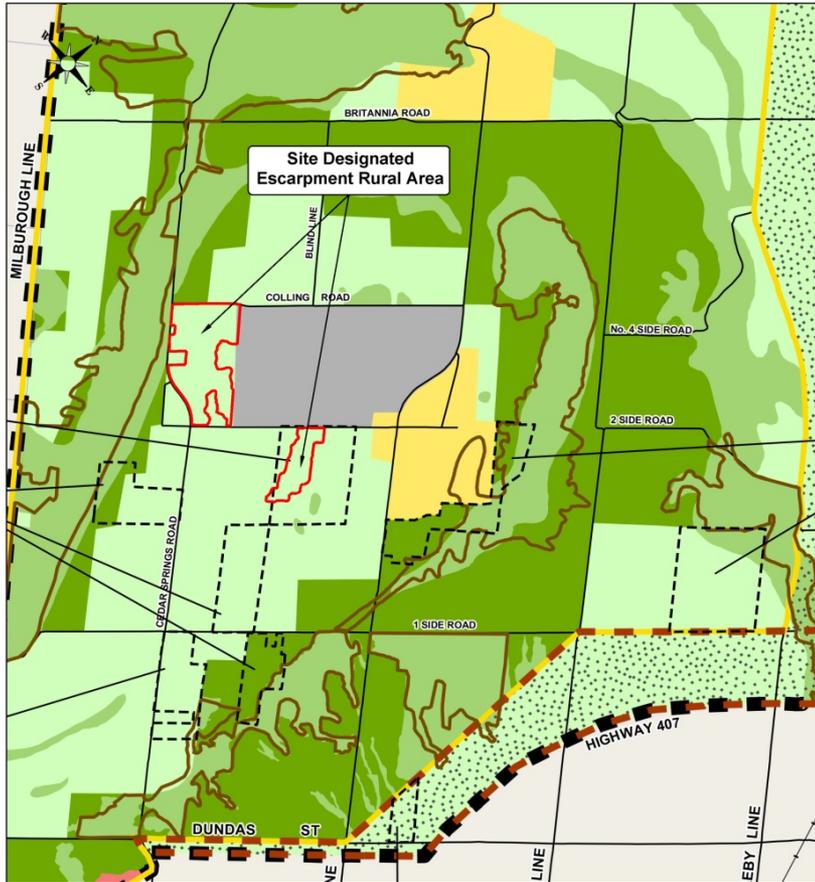
- Licence Area: 78.3 ha
- Extraction Area: 50.4 ha
- +/- 30 million tonnes

# The Site is a Protected Aggregate Resource Area



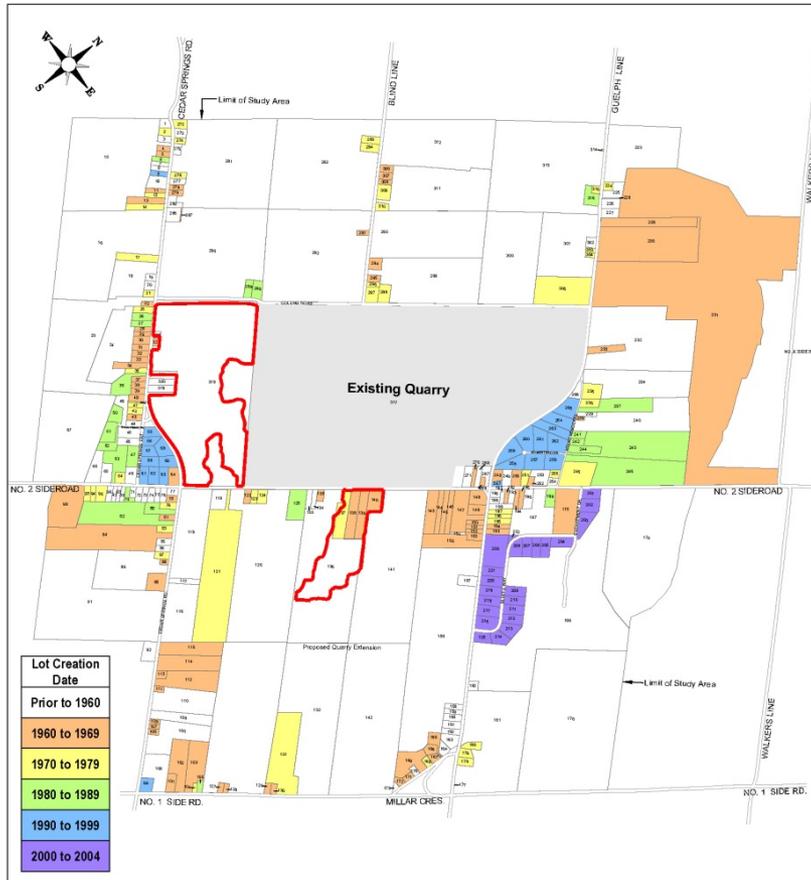
- Longstanding history of being recognized as an important mineral aggregate resource area in provincial documents dating back to 1974.
- Site is protected as a high potential mineral resource area in the Region of Halton Official Plan.

# Site is Identified in the Niagara Escarpment Plan, Region and City Official Plan to Consider an Expansion of the Quarry



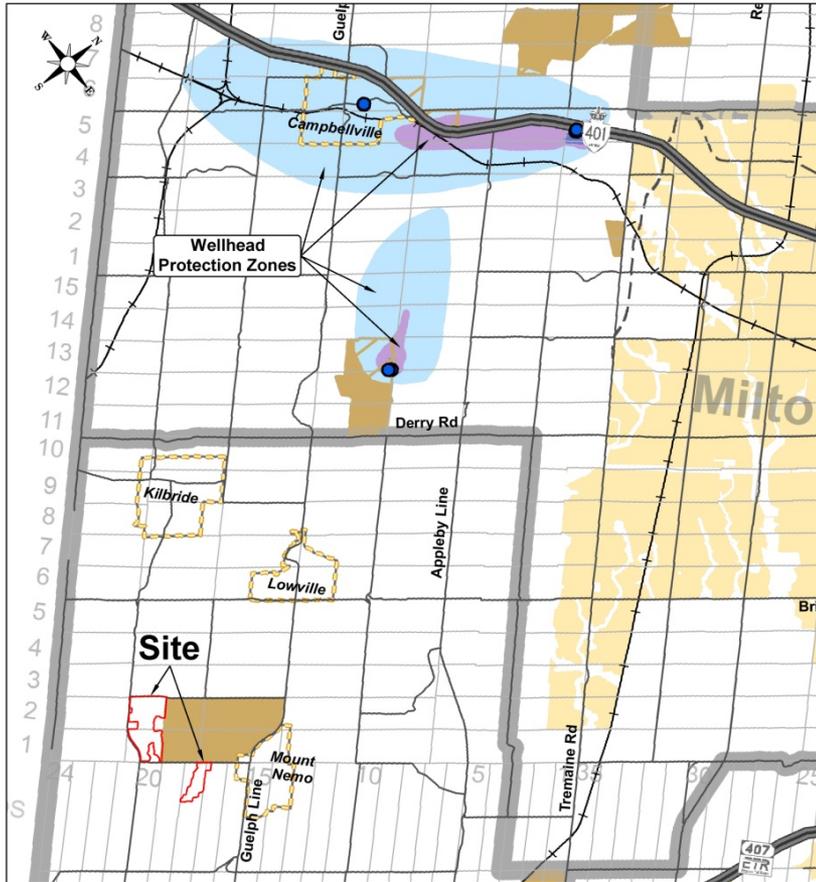
- The site has an objective to provide for the designation of new or expanded mineral aggregate operations.

# Extraction is a Longstanding Use that has Co-Existed with Other Land Uses in the Area



- Aggregate extraction at the Burlington Quarry began in 1953.
- Additional rural residential development and investment has occurred in the area while the quarry has been in operation.
- The majority of the people living in the community moved into the area with knowledge of the existing quarry.
- Based on land uses in the area, the site remains protected for its aggregate potential in the Provincial, Regional and Local planning documents.

# Protection of Wells



- The site is not located within a municipal wellhead protection area.
- Site has operated since 1953 and there are no adverse impacts to existing residential and agricultural wells.
- For example, wells continue to operate at properties on No. 2 Sideroad and Colling Road that are in close proximity to existing extraction areas.

# Agricultural and Residential Well Complaint Procedure

## Agricultural and Residential Procedure

If a water well complaint is received by the licensee the following actions will be taken:

- The licensee will notify MNRF and MECP of the complaint.
- The licensee will 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.
- The well contractor will contact the resident with the supply issue and rectify the problem as expeditiously as possible, provided landowner authorization of the work. If the issue raised by the landowner is related to loss of water supply, the licensee will have a consultant/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) or lowering of the water level in the well from potential quarry interference (licensee expense). This assessment process would be carried out at the expense of the licensee and the results provided to the homeowner.
- If it has been determined that the quarry caused the water supply interference, the quarry shall continue to supply water at the licensee's 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:
  - adjust pump pressure;
  - lowering of the pump to take advantage of existing water storage within the well;
  - deepening of the well to increase the available water column;
  - widening of the well to increase the available storage of water;
  - relocation of the well to another area on the property;
  - drilling multiple wells; and
  - only at the request of a landowner would a cistern be installed.
- If the issue raised by the land owner is related to water quality, the licensee will have a consultant/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 quarry shall continue to supply water at the licensee's 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. Only at the request of a landowner would a cistern be supplied. The licensee is responsible for the expense to restore the water quality.

- Despite no impacts being predicted, Nelson has developed a detailed well complaint procedure in the event of a complaint to ensure water quantity and quality is protected.



# Blasting



- Every blast is designed by an independent blasting expert to meet provincial guidelines for air and ground vibrations.
- Ontario blasting limits are one of the strictest limits in North America.
- Limits are set well below levels to cause impacts to surrounding structures and wells.
- Nelson monitors all blasts at the closest sensitive receptors.
- Nelson has a blast notification program and provides blast monitoring results to those residents that request a copy.

# Air and Noise



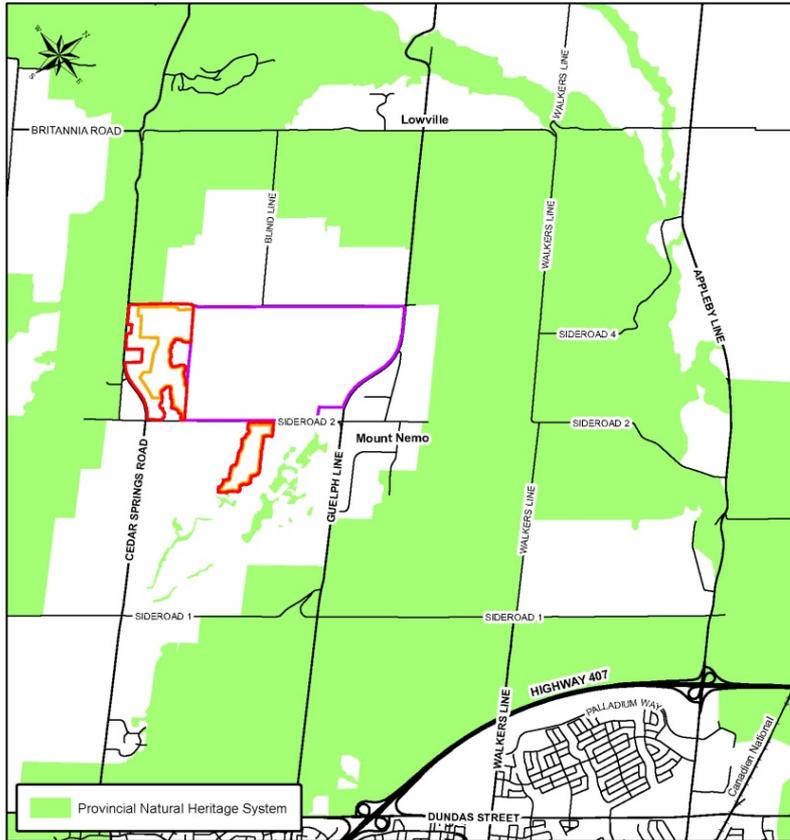
- Extension has been designed to meet provincial air and noise limits at all surrounding residents.
- There will be no aggregate processing at the extension.
- All aggregate will be transported to the existing processing plant which is located 20 m below grade.
- Where required, berms ranging from 2.5-5m will be built to screen and reduce dust and noise levels.
- Nelson will use a new quieter drill for the extension.
- The site has been designed to meet air and noise limits assuming 2 million tonnes is produced per year whereas Nelson plans on producing half this amount.

# Traffic



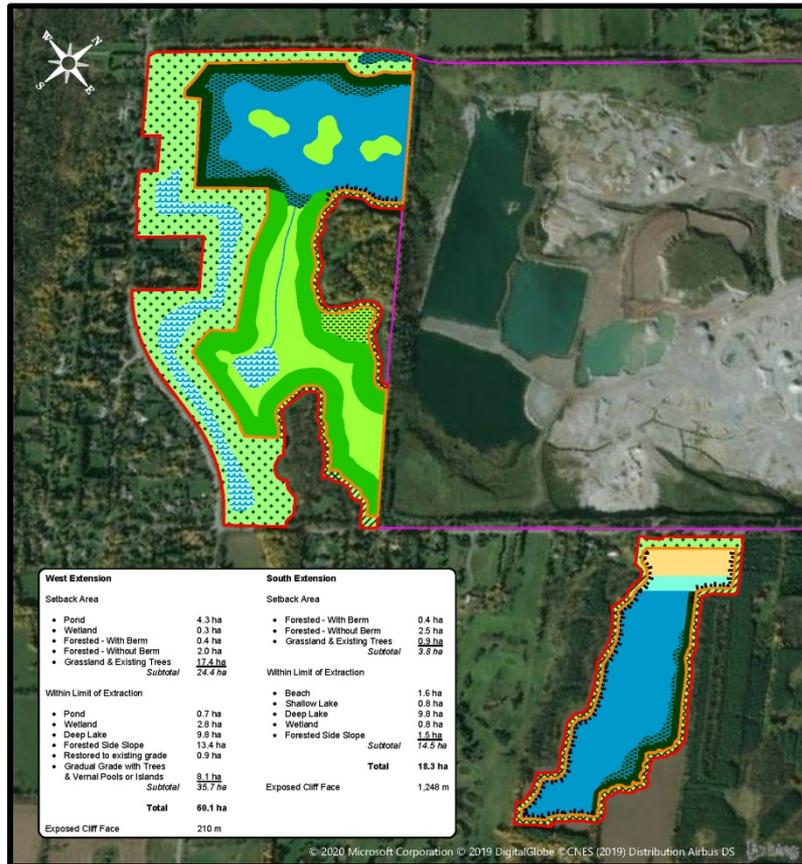
- Traffic patterns will not change as a result of the Extension.
- The existing quarry has an unlimited tonnage limit and on average shipped 1.5 to 2.0 million tonnes of aggregate per year with reduced shipping levels in recent years.
- The proposed extension includes a maximum limit of 2.0 million tonnes per annum, however Nelson's plan is to ship 1 million tonnes per year.
- Shipping will continue from the existing entrance/exit with trucks travelling east on No. 2 Sideroad to Guelph Line.
- As per the existing City of Burlington By-law, trucks are prohibited on Cedar Springs Road except for local deliveries.

# Site Meets and Exceeds Environmental Standards



- Within the Greater Golden Horseshoe, 77% of potential quarry areas are mapped as part of the Provincial Natural Heritage System.
- This site is located outside of the Provincial Natural Heritage System.
- Based on site specific studies, a portion of the West Extension extraction area contains two small woodlands that provide habitat for bats and with the proposed mitigation, there will be no negative impacts or requirement for an Endangered Species Act permit.
- Site is close to market and reduces greenhouse gas emissions.

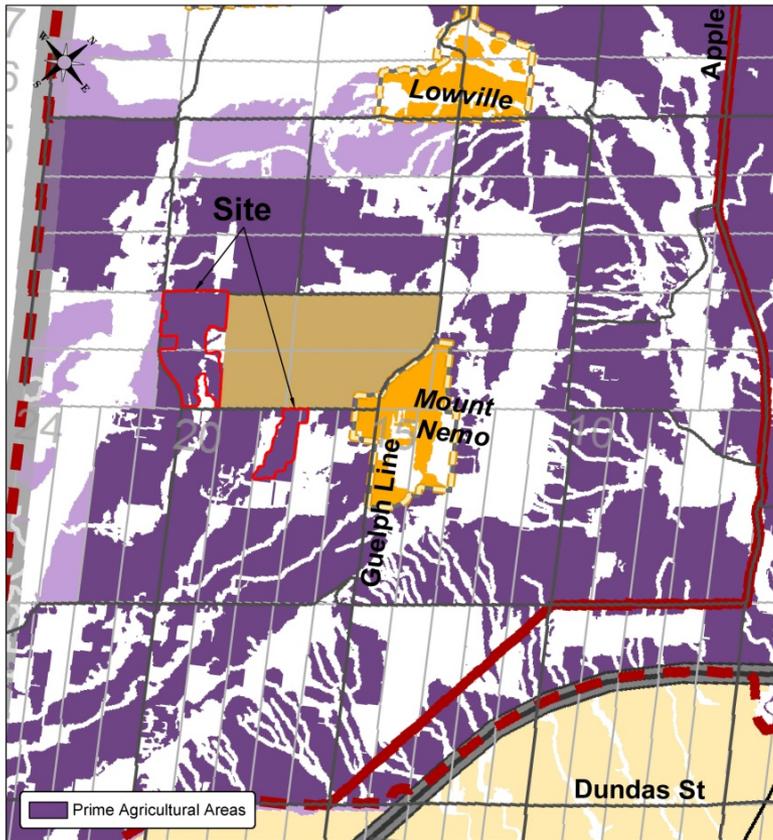
# Application will Enhance the Natural Heritage System



Key Feature	Proposed for Removal	Proposed to be Added
Butternut Tree	1 tree	Minimum 5 to be replaced
Barn Swallow Nests	9 nests within golf course maintenance buildings	Minimum 10 to be replaced
Jefferson Salamander Habitat	0.0 ha	4 ha to be enhanced
Woodlands	2 woodlands totaling 0.96ha	33.2 ha of new forest
Wetlands	0.0 ha	3.6 ha of new wetland

In addition, the proposed change to the rehabilitation plan for the existing quarry also results in significant increase to natural environment and ecological diversity compared to the existing approved rehabilitation plan.

# Site is Appropriate from an Agricultural Perspective



- All sites are either mapped as part of the Natural Heritage System or Agricultural System.
- Policies generally favour removal of agricultural lands over natural heritage features.
- Site is located within a prime agricultural area and contains prime agricultural land.
- Planning policies permit extraction within prime agricultural areas and do not require rehabilitation back to agriculture for this site since additional requirements have been addressed.

# Site Protects Cultural Heritage Resources

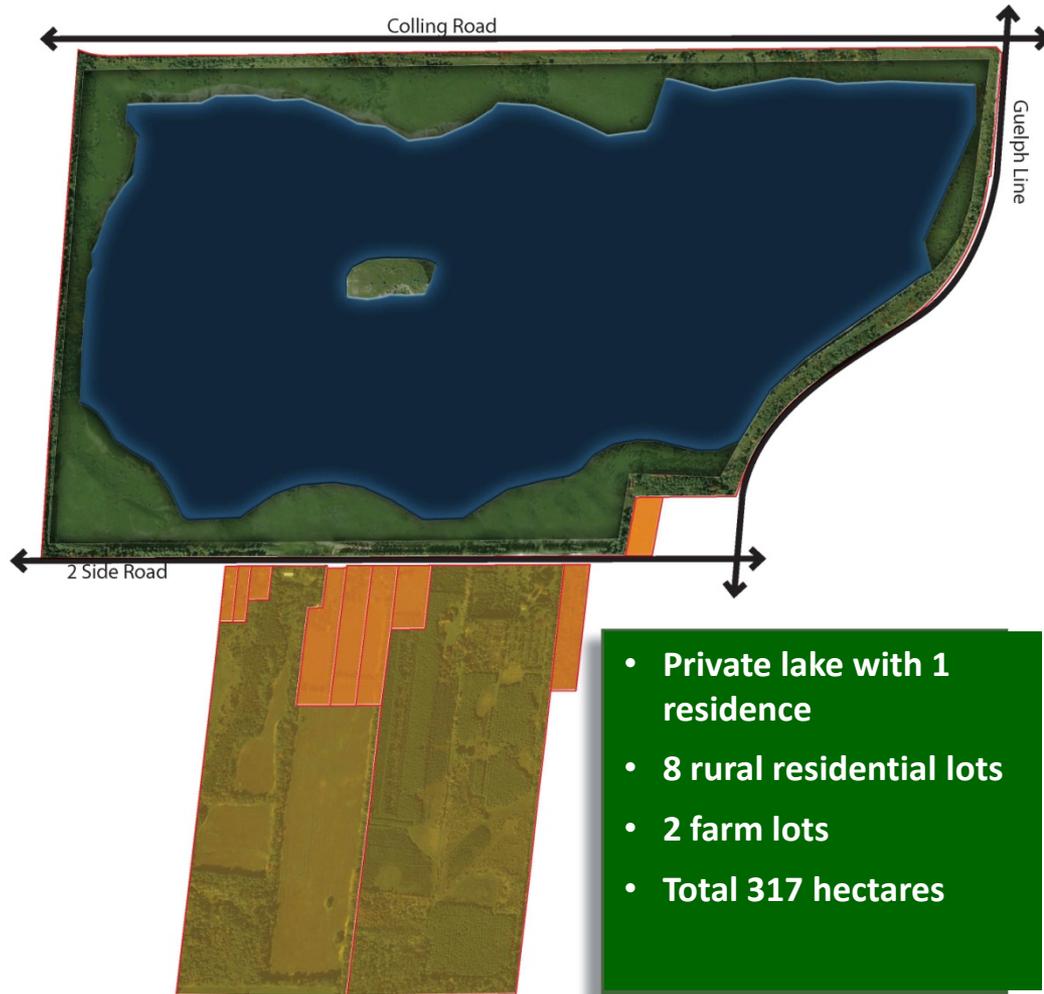


- The proposed extraction area does not include:
  - Significant built heritage resources
  - Significant archaeological resources
  - Significant cultural heritage landscapes

# Nelson Aggregate Co.

## Burlington Quarry: Current Licence

- The existing Burlington Quarry will continue to operate for at least 50 years.
- The quarry will be operated at reduced production levels and will primarily supply the on-site asphalt plant.
- Potential future underground mining could further extend the life of the quarry.



- Following extraction, the quarry will be rehabilitated to a private lake and 1 residential dwelling is permitted.
- The lands on the south side of No. 2 Sideroad will remain in private ownership for 8 small rural residential properties and 2 farm properties with a residential use on each lot.

# Mount Nemo Park

## A Look Into the Future – 382 ha

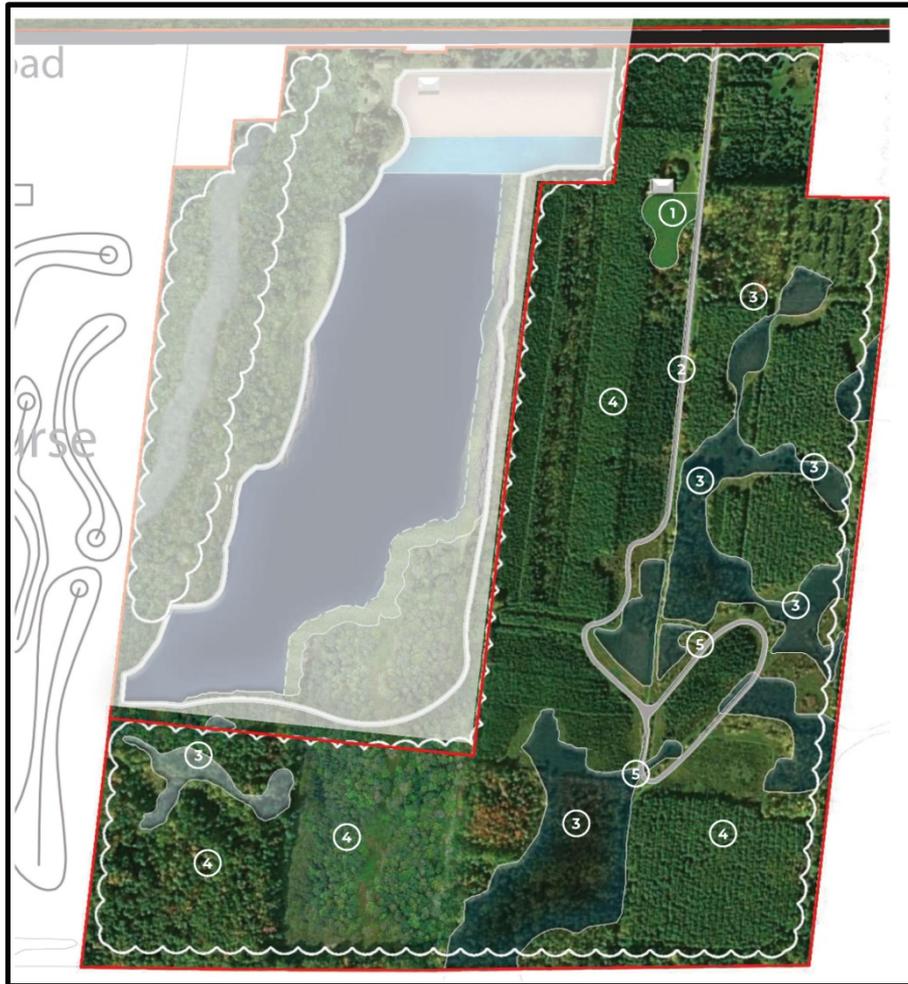
### ACTIVITIES COULD INCLUDE, SUBJECT TO REQUIRED APPROVALS:

- Lakes
- Beaches
- Canoeing
- Kayaking
- Fishing
- Paddleboarding
- Trails
- Disc golf course
- Swimming
- Picnic areas
- Look outs
- Rock climbing
- Cross country skiing
- Skating
- Tobogganing
- Soccer
- Volleyball
- Baseball
- Skiing
- Kite-flying
- Parking
- Community farming
- Skate park
- Playground
- Off-leash dog park
- Hiking
- Camping
- Community garden
- Wetland
- Amphitheatre
- Office/Restaurant
- Pavillions
- Biking





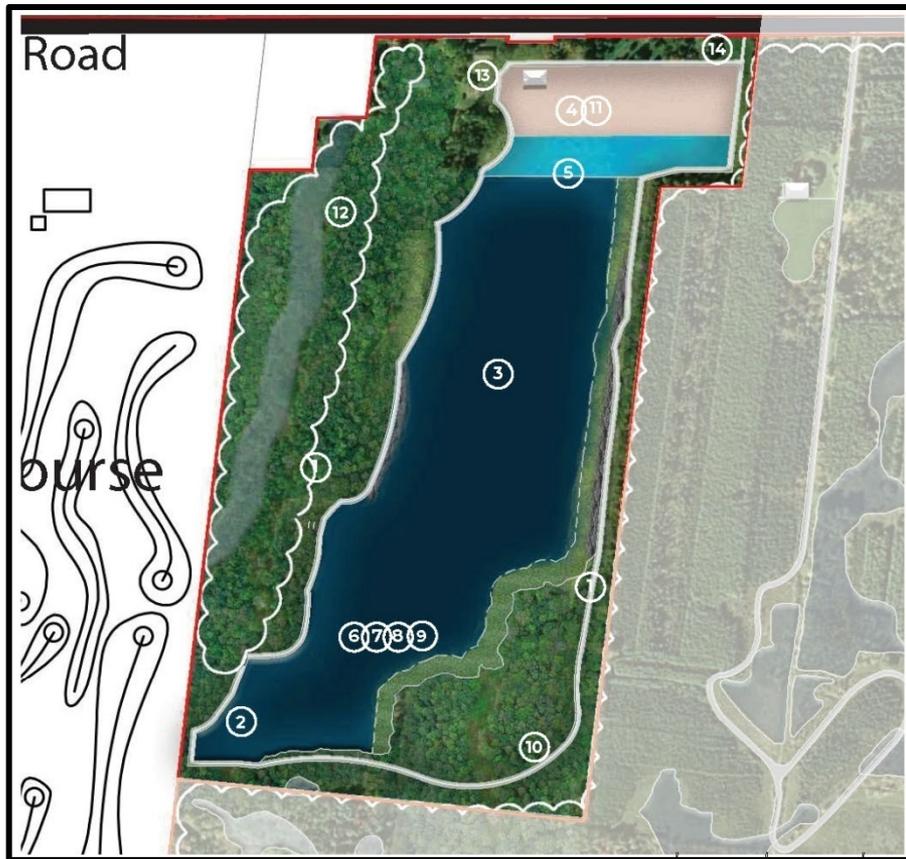
# Mount Nemo Park Phase 1: Immediate – 48 hectares



## **ACTIVITIES COULD INCLUDE, SUBJECT TO REQUIRED APPROVALS:**

1. Picnic Area
  2. Trail
  3. Significant wetlands
  4. Significant woodlands
  5. Bird Watching
-  City's existing natural heritage system

# Mount Nemo Park Phase 2: +/- 10 Years – 31 hectares



## **ACTIVITIES COULD INCLUDE, SUBJECT TO REQUIRED APPROVALS:**

1. 1.9 km of trail
2. Lookout
3. Lake
4. Beach
5. Swimming
6. Fishing
7. Canoe
8. Kayaking
9. Paddleboard
10. Hiking
11. Picnic area
12. Significant woodland
13. Office / Maintenance Building
14. Parking

 City's existing natural heritage system

# Mount Nemo Park Phase 2: +/- 10 Years – 58 hectares



## ACTIVITIES COULD INCLUDE, SUBJECT TO REQUIRED APPROVALS:

1. 1.5 km side trail of Bruce Trail
2. Lookout
3. Lake
4. Picnic Area
5. Parking
6. Swimming
7. Fishing
8. Canoe
9. Kayaking
10. Paddleboard
11. Hiking
12. Skating
13. Bird Sanctuary



# Mount Nemo Park Phase 3: +/- 30 Years – 245 hectares



## ACTIVITIES COULD INCLUDE, SUBJECT TO REQUIRED APPROVALS:

- |   |                         |
|---|-------------------------|
| 1. 15 km of trail                               | 14. Tobogganing         |
| 2. Disc Golf Course                             | 15. Soccer              |
| 3. Hiking                                       | 16. Baseball            |
| 4. Biking                                       | 17. Fishing             |
| 5. Cross country skiing                         | 18. Hiking camp grounds |
| 6. Former Buildings for reuse by City as office | 19. Community farming   |
| 7. Parking                                      | 20. Dog off-leash park  |
| 8. Ponds  | 21. Kite-flying         |
| 9. Lakes  | 22. Amphitheatre        |
| 10. Picnic areas                                | 23. Wildflower gardens  |
| 11. Look outs                                   | 24. Playground          |
| 12. Rock climbing                               | 25. Skate park          |
| 13. Beginner ski hill                           | 26. Volleyball courts   |
|   | 27. Pavilions           |

# Application Has Been Well Studied

- Planning Report - MHBC
- Aggregate Resources Act Site Plans –MHBC
- Hydrogeological Assessment – Azimuth
- Surface Water/Water Balance Assessment - C.C. Tatham
- Karst Assessment – D. Worthington
- Fully Integrated Groundwater and Surface Water Model – EarthFX
- Natural Environment Assessment – Savanta
- Adaptive Environmental Management Plan – Azimuth, C.C. Tatham, EarthFX, Savanta
- Agricultural Impact Assessment – MHBC
- Built Heritage Assessment – MHBC
- Cultural Heritage Landscape Assessment – MHBC
- Financial Impact Study – Altus, Nelson
- Archeology – Golder
- Traffic Study – Paradigm
- Visual Impact Study - MHBC
- Noise Assessment – HGC
- Air Quality Assessment – BCX Environmental
- Blasting Assessment - Explotech
- Progressive & Final Rehabilitation/Monitoring Study - MHBC



THANK YOU