



Committee Report

To: Warden Janice Jackson
Members of the Planning and Development Committee

From: Mark Paoli
Director of Planning and Development

Date: June 17, 2021

Re: Bruce County Official Plan Amendment C-2021-006 - Big Island Quarry

Staff Recommendation:

That Bruce County Official Plan Amendment C-2021-006 - Big Island Quarry be approved; and,

That the by-law be forwarded to County Council for adoption.

Summary:

A new aggregate extraction quarry is being proposed on a 10 hectare (ha) lot on Quarry Road west of Wiarton. The proposal would involve licensing 7.4 ha and extracting above and below the water table in a 4.9 ha area. Extraction would focus on the 'Eramosa' stone layer as a dimension stone product; as extraction is completed, areas would be backfilled to above the water table with scrap rock and inert fill, with two new wetland areas created.

A Bruce County Official Plan (BCOP) Amendment and Local Zoning Bylaw Amendment are required for an Aggregate Resources Act license to be issued and to permit the proposed use. A separate public meeting for the Zoning amendment will be held by South Bruce Peninsula Council on June 17, 2021.

Alignment with Guiding Principles:



GOOD GROWTH

To put growth in the right locations with the right services



AGRICULTURE

To support our key economies, including supporting a thriving agriculture community



CONNECTING

To improve our ability to move people, goods, and information between communities



HOMES

To increase the supply and mix of homes



BUSINESS

To create opportunities for a diversity of businesses, jobs, and employers



COMMUNITIES

To create wellbeing through access to healthy complete communities



HERITAGE
To identify and manage
our cultural heritage
resources



NATURAL LEGACY
To manage natural resources
wisely for future generations

- Not applicable
- Not aligned
- Aligned
- Strongly aligned

The proposal is aligned with the Natural Legacy principle in that it facilitates extraction of a natural resource, while applying mitigation measures to address potential adverse environmental impacts.

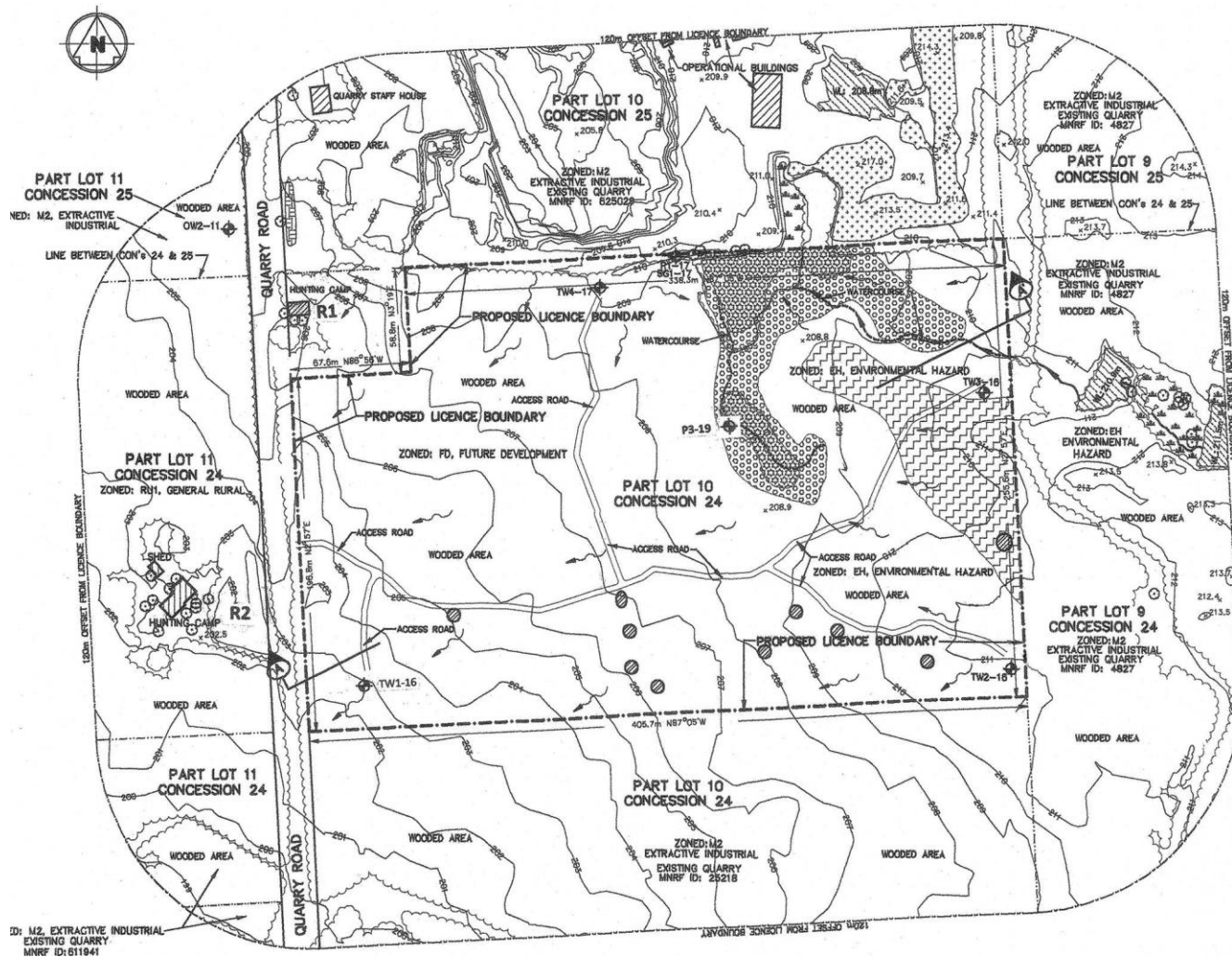
The proposal is aligned with the 'Good Growth' and 'Business' principles in that additional land resource use activities are proposed within a cluster of similar activities and provide for the extraction of a higher-value stone product.

On balance, this proposal is aligned with the Guiding Principles and the Vision of a healthy, diverse and thriving future.

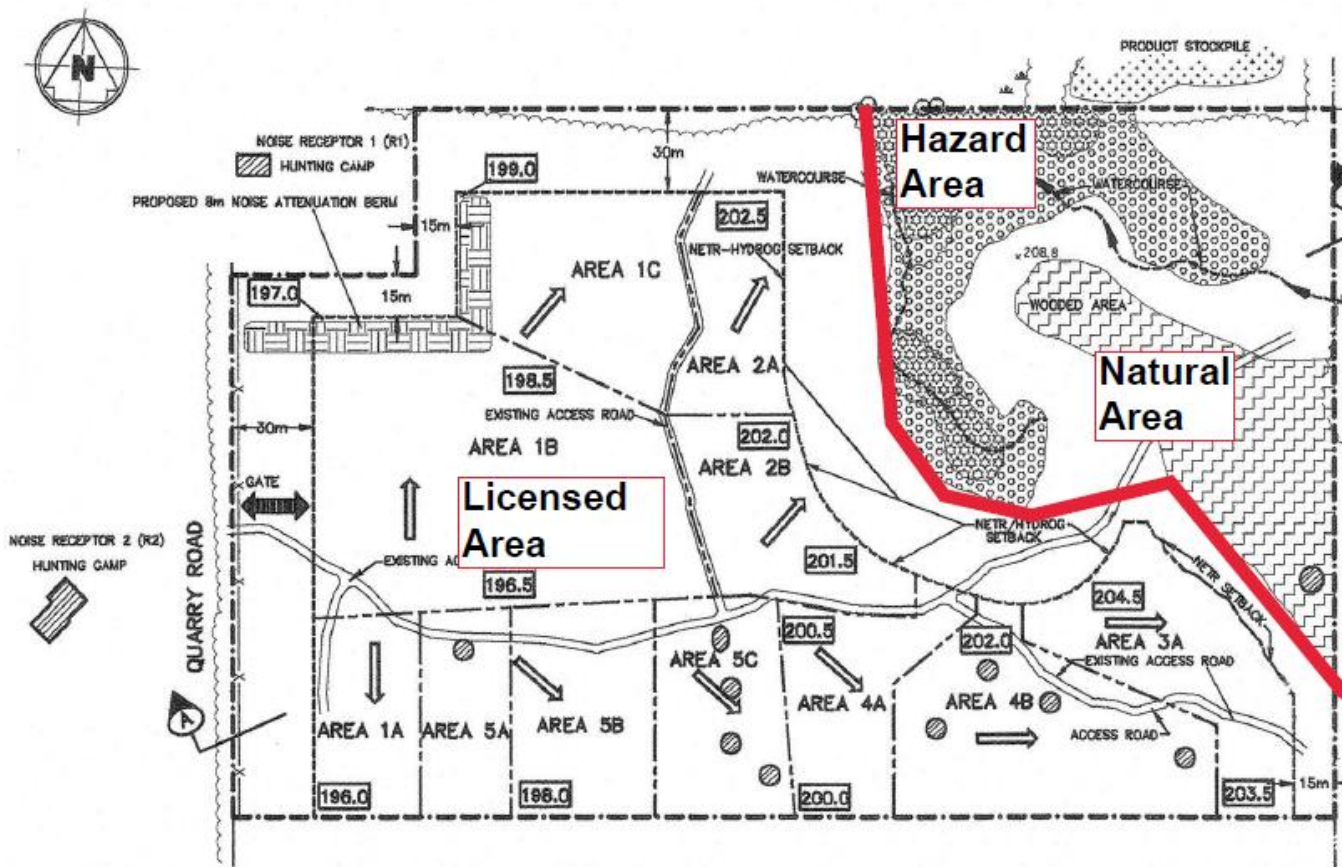
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Site Plan - Existing Features



Site Plan - Operations



Planning Analysis

The following section provides an overview of the planning considerations that factored into the staff recommendation for this application, including relevant planning policy sections.

The following considerations have been reviewed in the Planning Analysis section of this report:

- Efficient use of mineral resources
- Hydrogeology
- Natural legacy
- Traffic
- Nearby residential uses

A detailed review of BCOP location criteria for pits and quarries is also provided as an appendix to this report.

Efficient use of mineral resources

Mineral Aggregate resources are important to sustaining infrastructure and materials for development.

The Provincial Policy Statement (PPS) directs the protection of mineral aggregate resources for long-term use. Mineral aggregate resources are to be made available as close to markets

as possible. Extraction should occur in a manner that minimizes social, economic and environmental impacts.

Primary aggregate resources are identified by the Province through an aggregate resource inventory and mapped in the County Official Plan for protection from incompatible uses.

The subject lands are identified as a 'Primary Bedrock' resource area in the Official Plan.

The proposed development involves extraction that is focused on a high value 'Eramosa' stone layer which yields high-quality dimension stone products. This stone layer is near the surface at the eastern end of the site, and becomes deeper towards the west, including areas below the Water Table. The proposal would remove overburden and materials above the Eramosa layer, remove the Eramosa layer, then fill the hole with either "scrap" rock or inert fill brought to the site. The Summary Statement estimates that approximately 80% of the rock within the extraction area is scrap and would be used for backfilling so that the final quarry floor is generally above the water table, with exception of two small wetland areas. Use of inert fill may provide an opportunity for greater utilization of "waste" rock for example as crushed stone.

Hydrogeology

Aggregate extraction activities can have impacts on surface water flows and on groundwater quality and are licensed according to whether they are above or below the water table. A Hydrogeological Study was completed to review surface water and groundwater features on the property and assess potential impacts to these features.

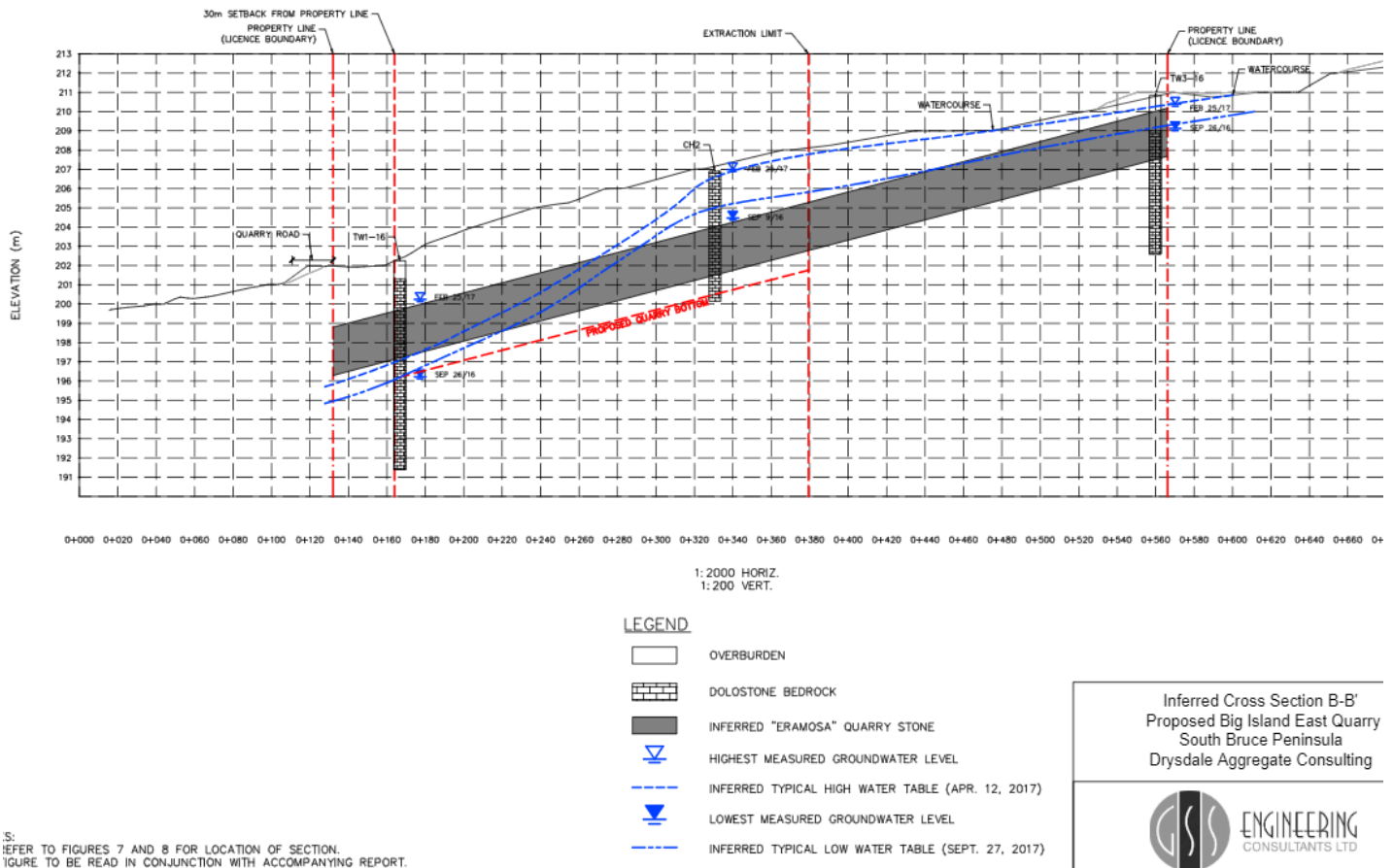
The Hydrogeological Report used test wells in order to identify the location of the water table across the site relative to the location of the Eramosa stone layer. The report also identified small wetland areas in the northeastern portion of the site which receive intermittent (seasonal) flows from two watercourses.

One of these watercourses is in an area where the Eramosa layer is near the ground surface and so extraction is proposed to occur beneath watercourse. Typically, the County Official Plan requires a setback of 50 metres to any watercourse or hazard land area.

To avoid impacts, rehabilitation in this area, including a reconstructed flow channel, is proposed to occur within one year so that the wetland will continue to receive spring runoff the following year. GSCA and MNRF staff reviewed the proposal and have no objections from a hazards or natural heritage perspective.

The underlying and surrounding bedrock is a "tight" formation with little water movement. The report identifies that the 30-40 metres around the excavation may see ground water levels influenced arising from the dewatering activities. Proposed Extraction setbacks are 30-40 metres from onsite wetlands to avoid impacts to these features.

The image below illustrates the inferred water table and stone layer in a cross-section running from southwest to northeast across the site and illustrates the portion of the northeastern part of the site that would not be extracted.



As extraction occurs, active dewatering (pumping) will be required to maintain a dry excavation. This pumping would be the property or ditch adjacent to Quarry Road, which is the current destination for overland drainage from the site. Pumping greater than 50,000l/day would require a Permit to Take Water (PTTW) from the Ministry of Environment, Conservation and Parks.

With the site forming a depression that is to be filled to above the water table, it is expected that rainfall within the site will infiltrate the backfilled material but remain in the depression, resulting in a small (0.0009%) decrease in flows to the Rankin River system.

Natural Legacy

Natural legacy features on the site include four types of "significant wildlife habitat" and significant woodlands.

- Species of Conservation Concern, Round-leaved Ragwort:
This species is provincially rare but locally common. The plants are found in the southern portion of the proposed quarry site. The Environmental Consultant has recommended a replanting program, with monitoring, in the first phase of this area before extraction is permitted to proceed to additional phases of this area. This approach has been successfully applied elsewhere on the Peninsula.
- Amphibian breeding habitat-wetland: This area, together with buffering setbacks, is excluded from extraction.
- Candidate Bat Maternity functions: This area is in the eastern part of the site and is not proposed to be included in the licensed area.

- Amphibian/Wildlife Movement Corridor: This function is to be maintained using extraction setbacks to maintain a thirty-metre-wide vegetated corridor along the northern limit of the quarry site.
- Significant Woodlands: The Environmental Consultant recommends that the overall woodland functions are maintained using mitigation measures for the significant wildlife habitat features above.

Following discussions with the applicant, consultants, and MNRF, the proposal was modified in order to remove the northeastern portion of the site, including wetland areas and candidate bat habitat, from the proposed licensed area and from the proposed 'pits and quarries' overlay in the proposed Official Plan Amendment.

Traffic

Traffic concerns are often raised related to Aggregate extraction operations. The proposed operation would involve extraction for processing at another quarry on the same road, or shipment of large blocks for processing elsewhere. The haul route is generally used for local quarry operations and proceeds Bruce County Road 13 with access to Highway 6.

Nearby Residential Uses

There are two dwellings located to the west and northwest of the proposed quarry. Typically, the County Official plan requires a setback of 215 metres from a quarry to a residential structure. However, these dwellings are only occupied as hunting cabins. A noise study and a blasting and vibration study were completed and recommendations for berm requirements and operational restrictions during hunting season when the dwellings are occupied have been included in the operations plan.

Planning Analysis

The application proposes to extract aggregate resources in a Primary Bedrock area. Supporting information has been provided and incorporated into the operations plans to address potential impacts to water, natural legacy features, and surrounding uses. The proposed development is consistent with the Provincial Policy Statement (2020) conforms with the County Official Plan criteria for new aggregate operations and represents good land use planning.

Financial/Staffing/Legal/IT Considerations:

Potential Appeal to Local Planning Appeal Tribunal

Report Author:

Jack Van Dorp
Manager of Land Use Planning

Departmental Approval:

Mark Paoli
Director of Planning and Development

Approved for Submission:

Sandra Datars Bere
Chief Administrative Officer

Appendices

- County Official Plan Map
- Local Official Plan Map
- Local Zoning Map
- List of Supporting Documents and Studies
- Agency Comments
- Review of Official Plan Criteria for Pits and Quarries C6 Z25 Big Island (attached)
- Draft By-law, Schedule, and Decision Sheet (attached)
- Public Notice (attached)

County Official Plan Map (Rural Areas, Hazard Land Area)



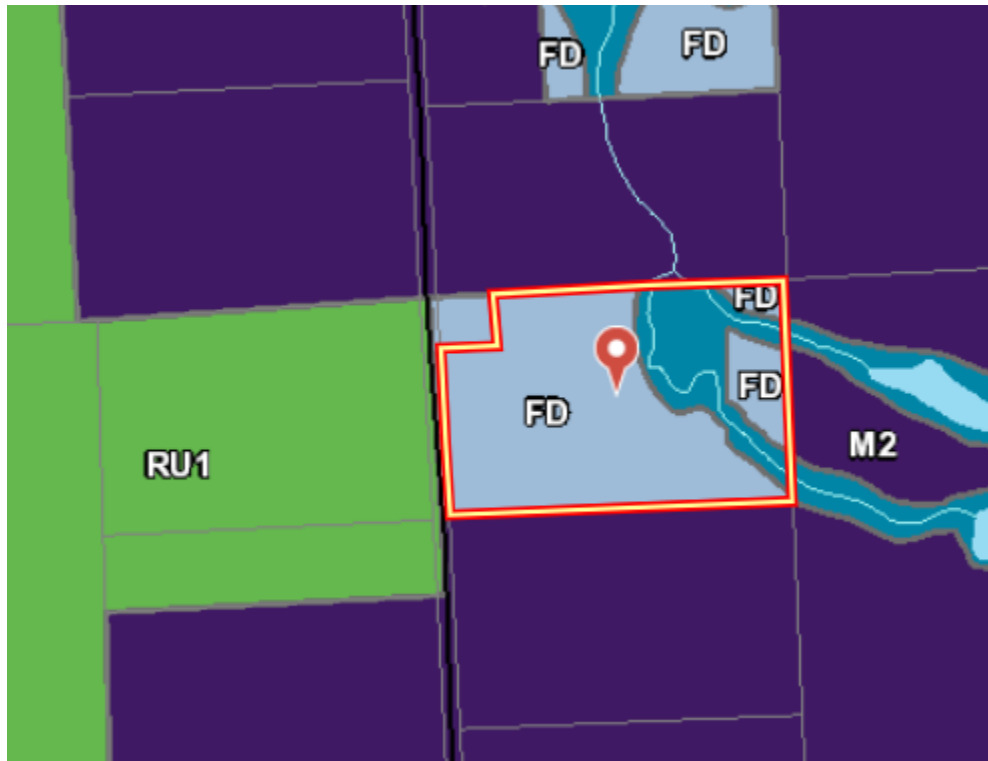
Bruce County Official Plan - Constraints (Mineral Resource Area)



Local Official Plan Map (Extractive Industrial, Environmental Hazard)



Local Zoning Map (FD - Future Development, EH - Environmental Hazard)



List of Supporting Documents and Studies

- Hydrogeological Assessment (May 2018)
- Natural Environment Technical Report (April 2018)
- Noise Impact Study (October 2018)
- Blasting, Noise and Vibration Study (October 2018)
- Planning Justification Report (March 2021)
- Archaeological Assessment (July 2017)
- Site Plans including: Existing Features, Operations, Consultant Recommendations (2 plans), and Progressive and Final Rehabilitation Plans (updated May 19, 2021)
- Agency Comments and Responses arising from Aggregate Resources Act Review

Agency Comments

TSBP (attached): Will require entrance permit; no other comments or concerns

GSCA (attached): Satisfied with responses to comments, revisions, and proposal in general through ARA process.