

EAGLE RIDGE SUBDIVISION

MUNICIPALITY OF CENTRAL ELGIN

**SERVICING REPORT
PHASE 2 - ADDENDUM**

CJDL
Consulting Engineers

19012
11 April 2022

EAGLE RIDGE SUBDIVISION
MUNICIPALITY OF CENTRAL ELGIN
SERVICING REPORT – PHASE 2 ADDENDUM

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1. INTRODUCTION

Eagle Ridge Subdivision (formerly known as Kemsley Farm) property consists of approximately 29.98 ha (74.1 ac) of land, described as part of Lots 1 and 2 of Registered Plan 263 and Part of Lots 2 and 3, Concession 6 of the Geographic Township of Yarmouth. For the purposes of this report, “Eagle Ridge” also includes 42477 Southdale Line (0.29 ha (0.7 ac)) and part of 42405 Southdale Line (0.79 ha (2.0 ac)), both of which have been acquired by the Developer and were included within the Phase 1 Plan of Subdivision. Of the Eagle Ridge lands, 25.12±ha (62.1 ac) is considered developable, and 4.86± ha (12.0 ac) is ravine/woodlot. Doug Tarry Limited is proposing to develop these lands as a 325± lot single family residential subdivision.

Phase 2 consists of 7.45 hectares (18.41 acres) of land on the north western portion of the Eagle Ridge property, immediately south of Southdale Line, and yields 66 single family residential lots. Referring to the Draft Plan, this includes 30 lots along Street ‘C’, 30 lots along Street ‘D’, and 6 lots along White Tail Path on the northern boundary of Phase 1. Phase 2 is bounded on the north by Southdale Line, to the east by Phase 1 existing residential, to the west by Kettle Creek Valleylands/open farmland, and to the south by ravine. The Phasing and Staging Plan for Phase 2 is enclosed in Appendix A.

The following Servicing Report – Phase 2 Addendum is an addendum to the original Kemsley Farm Subdivision Servicing Report (CJDL, 19 July 2017), which served as a basis for Draft Plan approval for the entire Eagle Ridge development.

2. PARKS AND TRAILS

The Municipality of Central Elgin’s policy recommends that 5% of the development area be dedicated as park for low-density residential subdivisions.

The required parkland dedication for the entirety of Eagle Ridge Subdivision was satisfied in Phase 1, comprised of the central park adjacent to existing natural heritage and proposed stormwater management (SWM) features, plus the multi-use trail is proposed along the easterly perimeter of the subject lands, adjacent to the Port Stanley Terminal Rail (PSTR) corridor. The cross-section of the trail is proposed as a 3.0m wide asphalt pathway.

Doug Tarry Limited and the Municipality of Central Elgin will be continuing with development and construction of the parkland amenity areas and trail features in 2022.

3. TRANSPORTATION

Eagle Ridge Subdivision will contain the equivalent of 325± single family units and will be provided two (2) points of access from Southdale Line for vehicular connections. The Snowy Owl Trail primary access was constructed in Phase 1; Street 'D', opposite the future Shaw Valley Drive extension, will be constructed in Phase 2.

Southdale Line, from Sunset Drive west to Street 'D', was reconstructed by the Municipality of Central Elgin in 2020, implementing the recommendations provided by "Kemsley Farm Subdivision Transportation Impact Study" (Paradigm Transportation Solutions Limited, May 2017).

With specific respect to Eagle Ridge, Phase 2, Paradigm concluded the following;

- The Street 'D' connection to Southdale Line was shown to be operating well within acceptable levels of service and can accommodate the site traffic under 2041 Total Traffic Conditions. Turning lanes at Street 'D' are not required on Southdale Line.

For full discussion, please refer to Kemsley Farm Subdivision Transportation Impact Study" (Paradigm Transportation Solutions Limited, May 2017).

4. GRADING & GEOTECHNICAL

Existing contours of the site show gently sloping terrain of 1-2±%, with localized areas of 3-5±% slopes. Steeper grades will be softened under post-development conditions, where centreline road grades are typically anticipated to fall within the 0.5 - 1.5% range. Road grades may be set in a saw-tooth pattern, as required, to suit proposed SWM wet pond drainage areas. Pre-development major flow paths are generally required to be maintained in post-development conditions.

Lot grading will be designed to minimize the number of rear-yard catchbasins, where practical. Back-to-back lots on parallel streets will generally be designed as back-to-front drainage, where catch basins are not required for lot drainage. Earth grading will raise boulevards and rear property lines to grade prior to sewer servicing. Surplus fill stripped from high points will be placed in low lying areas where it can be accommodated. Some engineered fill will be required adjacent to areas of ravine and wash-out fills.

"Geotechnical Investigation and Slope Assessment" (exp Services Inc., 27 March 2017) was completed to provide comments and recommendations for this development, including;

- 200 to 300mm of topsoil was found over sandy/clayey silt underlain by clayey silt till. While the stable water table was established at an 18 - 21m depth, some boreholes encountered areas of perched water table.
- Slope analysis completed identifies all existing slopes influencing the property to be stable, and further that a 6.0m erosion access allowance be provided from the existing top of bank to establish the rear property line. The rear property lines on the Draft Plan have been set to respect this restriction.
- Minor washout areas that have developed along the top of existing ravine banks can be filled to re-establish the former top of bank.
- Proposed SWM system within the existing ravine contours is acceptable from a geotechnical standpoint.

Please refer to the EXP Final Report for additional comment.

Portions of some rear yards next to ravine slopes lie within the KCCA Regulation Limit. KCCA permit will be sought prior to grading or servicing.

5. WATERMAIN

Eagle Ridge - Phase 1 is serviced by a 300mm \emptyset watermain on Snowy Owl Trail from Southdale Line. Water service will be provided to Phase 2 by extending a 200mm \emptyset watermain from the stub located at the intersection of Street 'C' and Snowy Owl Trail.

As part of the Southdale Reconstruction project in 2020, a 300mm \emptyset watermain was installed from Sunset Drive to the future intersection of Street 'D' and Shaw Valley Drive. A 200mm \emptyset stub was provided at the Street 'D' intersection to provide service for Eagle Ridge Phase 2. Extending a 200mm \emptyset watermain from Snowy Owl Trail along Street 'C' and 'D' will complete watermain looped service by tying into the stub at Southdale Line and Street 'D'.

Individual water services will be provided to each unit with 25mm \emptyset PEX DR 9 tubing, in accordance with Municipality of Central Elgin standards.

6. SANITARY SEWAGE

Sanitary sewage from Phase 2, including Street 'C', 'Street D' and Lots 61-66 on White Tail Path, will be conveyed via the existing Phase 1 sanitary sewers and to the existing Southdale Line sanitary sewer. The Southdale Line sewer was constructed in the Summer of 2020 (ECA 6307-BAULP9) and is designed to connect to the proposed Shaw Valley Drive trunk sanitary sewer and the existing Shaw Valley Pumping Station (ECA 2307-6RLK9P), ultimately tributary to the City of St. Thomas Water Pollution Control Plant (WPCP).

Timing of construction of the Shaw Valley Drive 300mm \emptyset sanitary trunk southerly from the existing Shaw Valley P.S. along the Shaw Valley Drive right-of-way (ROW) to Southdale Line has, until recently, been unknown due to delayed receipt of planning approvals of McGregor, Phase 2. The City of St. Thomas granted Draft Approval for this file (34T-20502) on 3 March 2022.

Doug Tarry Limited and 1611905 Ontario Limited, the Developer of McGregor, Phase 2, have co-operated to advance a trunk sanitary sewer design along the revised Shaw Valley Drive right-of-way. The Developers have entered into a Development Agreement with the City of St. Thomas and the Municipality of Central Elgin, and construction is anticipated to commence April 2022.

It should be noted that, in case necessary planning approvals for McGregor Phase 2 were not received in time to provide a sanitary sewer outlet to Eagle Ridge, Doug Tarry Limited did obtain an ECA approval (1946-CBMKAJ) for an interim sanitary sewage pumping station and forcemain within the Eagle Ridge Phase 2 lands. The interim sanitary pumping station was proposed to be located on Future Street 'D', south of the intersection of Southdale Line, discharging via a 150mm \emptyset forcemain easterly to the existing 450mm \emptyset sanitary sewer on Sunset Drive. At this time, it is not anticipated that the interim sanitary pumping station will be required to be constructed and ultimately the ECA will be rescinded.

7. STORM DRAINAGE AND STORMWATER MANAGEMENT

Street 'C' and Street 'D' storm sewers in Phase 2 will outlet to the existing Snowy Owl Trail, Phase 1 storm sewer and the Phase 1 Stormwater Management Area. Refer to the Eagle Ridge Subdivision – Phase 1 Stormwater Management Report by CJD L dated 26 June 2020. Stormwater received from Phase 2 lands has been included in the design tributary area of the Phase 1 Stormwater Management Pond, and the facility is therefore expected to continue to operate satisfactorily upon development of Phase 2.

Road construction at Street 'D' connection to Southdale Line requires crossing of a 5±m deep ravine. A culvert will be installed in the ravine to accommodate existing flows, while the roadway will be filled to design profile grade. Shallow retaining walls are proposed on the east and west side of Street 'D' in the ravine to allow all earthworks to be contained within Eagle Ridge Subdivision lands. Embankments constructed at the crossing will be graded at a maximum slope of 2H:1V to minimize the height of the proposed retaining walls, while still ensuring safe roadway operation.

Based on the Ministry of Transportation's Directive B100, culverts crossing local roads with a span of 6.0m or greater should be designed with a capacity for at least the 25-year design storm, provided that protection is afforded to adjacent buildings and structures for the regional storm. Due to the presence of existing residences and properties upstream of the proposed culvert, both the 100-year and regional design storms will be evaluated to ensure no negative impacts result from construction.

Watershed characteristics and topographic survey tributary area information was inputted into the Autodesk® Storm and Sanitary Analysis (SSA) computer modelling program to determine 25-year, 100-year, and regional peak flows through the culvert. The results of the computer model calculated the 100-year storm to have a peak flow to the culvert of 3.0m³/s, which is the controlling flow rate for the purposes of culvert sizing.

A 27+/-m long 825mmØ culvert at an approx. slope of 5.4% (to match the slope of the existing gully), equating to a design capacity of 3.33m³/s, is proposed to ensure both the 100-year and regional storms can pass without negatively impacting upstream residences. Please note the calculations presented in this report are pre-design at this time, and will be subject to detailed engineering review at time of contract drawing preparation. A Preliminary Plan and Profile for the 825mmØ culvert is enclosed in Appendix B for further information.

8. ELECTRICAL AND UTILITIES

Electrical power to Eagle Ridge and Southdale Line is provided by Hydro One. Electrical service will be extended from Eagle Ridge – Phase 1 to service Phase 2.

It is understood that Bell, Rogers and Enbridge presently provide service to Eagle Ridge Phase 1 and it is anticipated they will have adequate capacity to provide service for Phase 2. Contact with the various utilities will commence following submission of this Draft Plan Application.

9. ENVIRONMENTAL CONSIDERATIONS

The EIS completed by Leonard and Associates in August 2017 for the entire Eagle Ridge property concluded that the proposed Eagle Ridge Subdivision could proceed without any negative impacts on the natural heritage systems located within the site boundary and its surrounding landscape, as long as the mitigative measures from the report are followed.

Vroom + Leonard prepared the 'Tree Assessment Report and Protection Plan– Eagle Ridge Phase 2' (June 2021) to inventory individual trees on the property and within 3m of its legal boundary. Trees that are required to be removed for construction are identified in the report. Trees that are near the property boundary or cross the property line that are proposed to be preserved have protection measures described in the report.

The Tree Assessment Report (2021) concluded that the proposed development of Phase 2 will not adversely impact the natural heritage features found within the development area and adjacent lands as long as the best management practices outlined in the report are followed.

All of which is respectfully submitted,



Cameron Cluett, P.Eng.

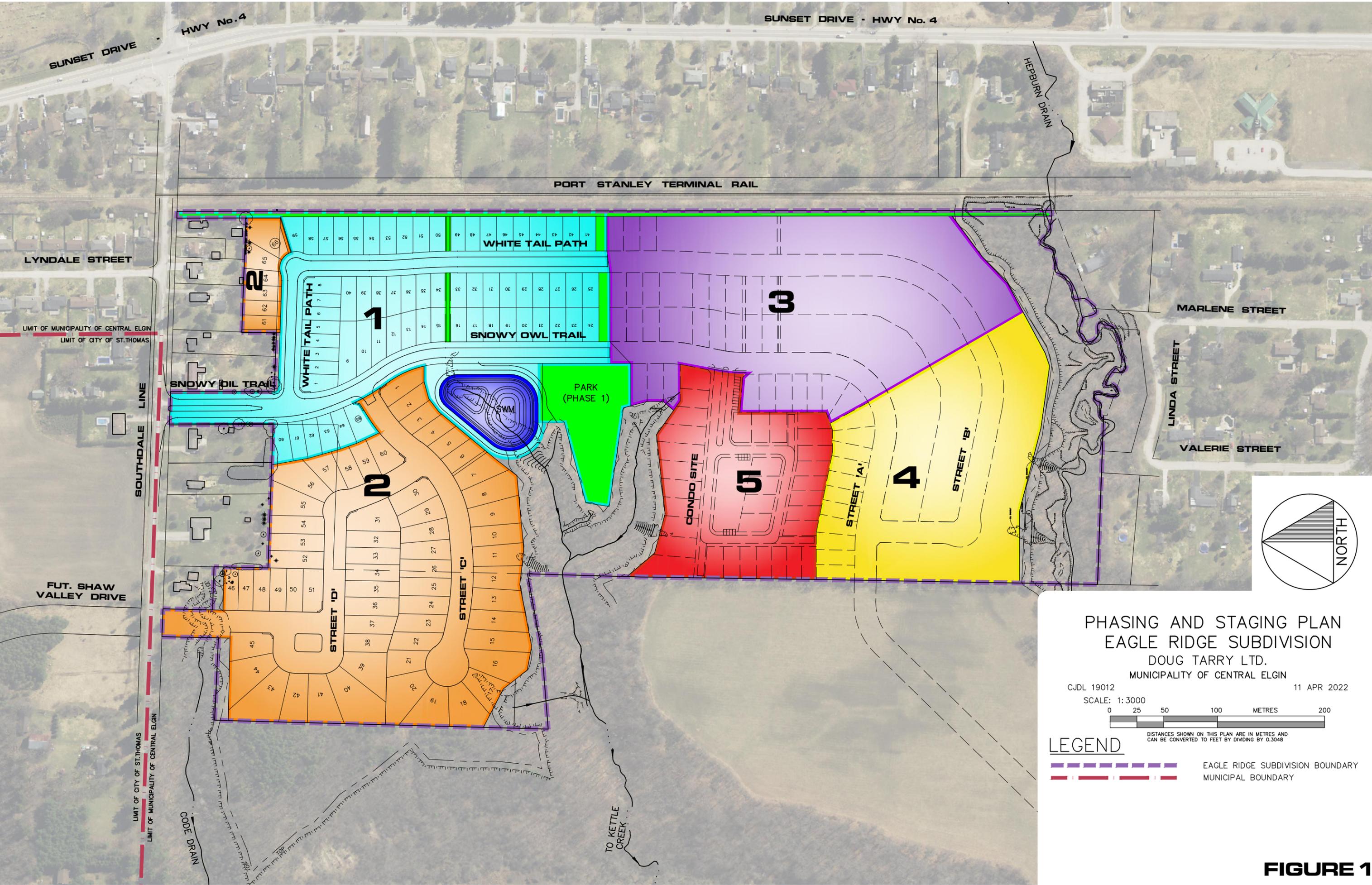
Deren Lyle, P. Eng.

CJC/kc



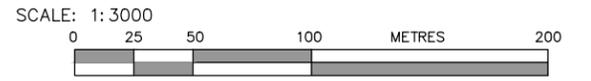
APPENDIX 'A'

FIGURE 1 PHASING AND STAGING PLAN



PHASING AND STAGING PLAN
 EAGLE RIDGE SUBDIVISION
 DOUG TARRY LTD.
 MUNICIPALITY OF CENTRAL ELGIN

CJDL 19012 11 APR 2022



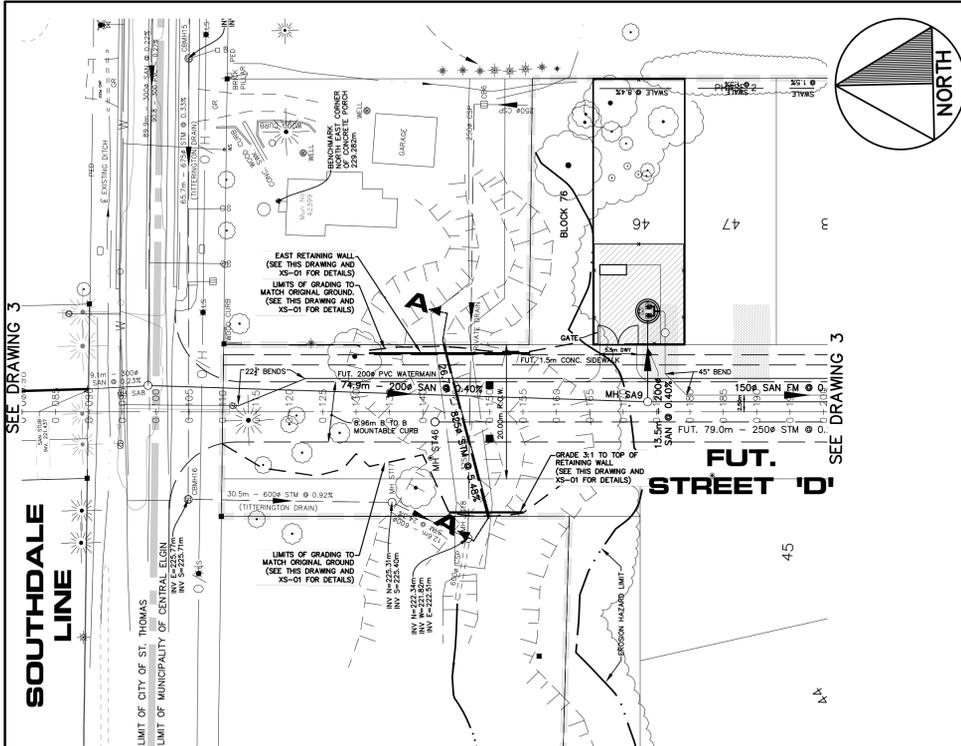
LEGEND

- EAGLE RIDGE SUBDIVISION BOUNDARY
- MUNICIPAL BOUNDARY

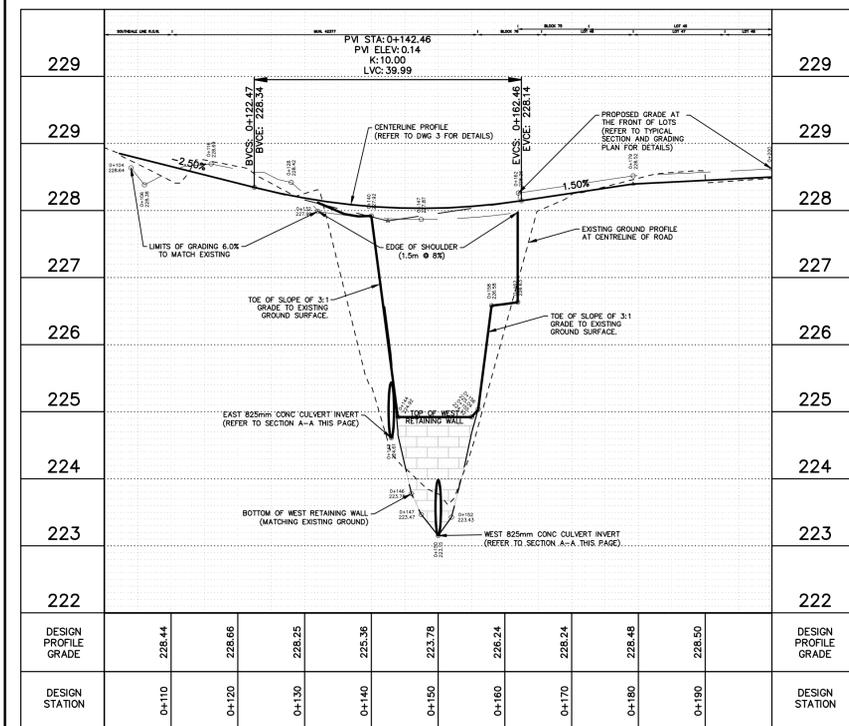
FIGURE 1

APPENDIX 'B'

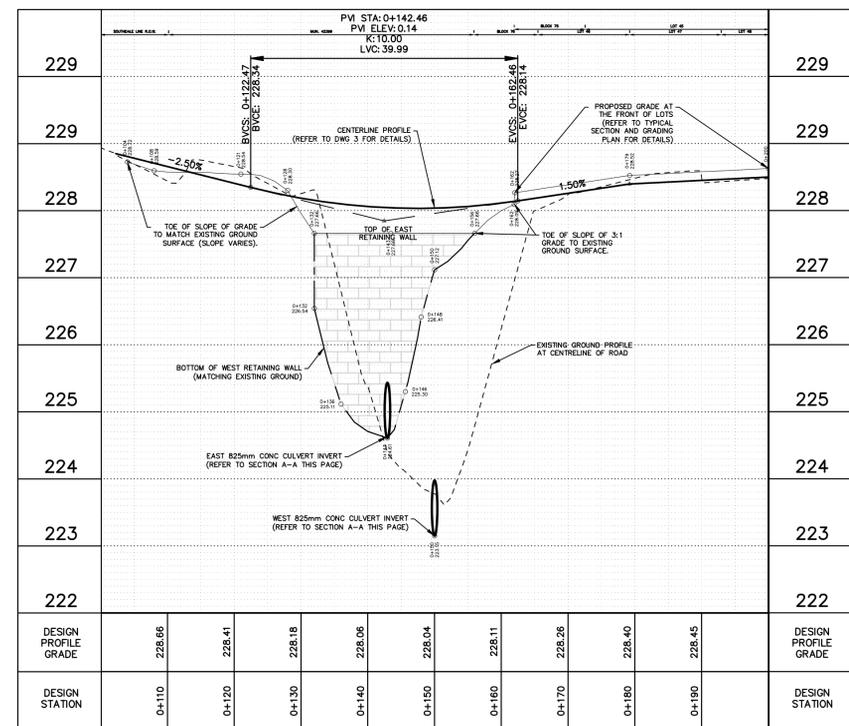
Eagle Ridge Subdivision – Phase 2: Street 'D' Culvert Plan and Profile (CJDL, Preliminary)



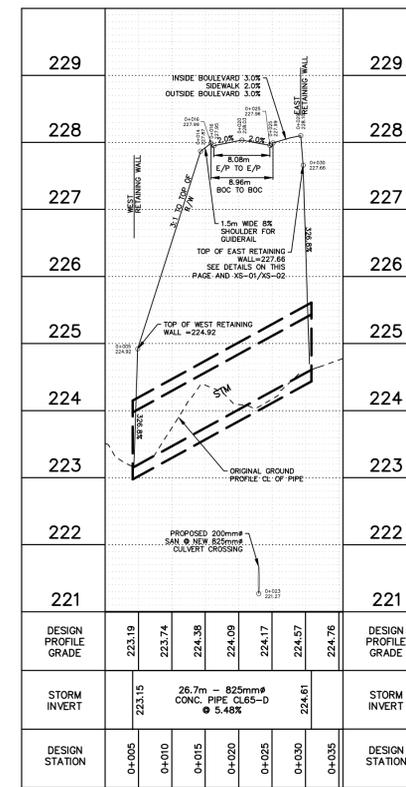
**STREET 'D' WEST
RETAINING WALL PROFILE
LOOKING EAST**



**STREET 'D' EAST
RETAINING WALL PROFILE
LOOKING EAST**



**SECTION A-A
LOOKING NORTH**



LEGEND

<ul style="list-style-type: none"> PROPOSED SANITARY SEWER EXISTING SANITARY SEWER PROPOSED STORM SEWER EXISTING STORM SEWER PROP. MANHOLE, EXISTING OR AS CONSTRUCTED PROP. DOUBLE CATCHBASIN, EXISTING OR AS CONST. PROP. CATCHBASIN, EXISTING OR AS CONST. PROPOSED WATERMAIN EXISTING WATERMAIN PROPOSED HYDRANT, EXISTING OR AS-CONST. 	<p>6</p> <p>(A), (R), (F)</p> <p>LOT NUMBER</p> <p>EXISTING GASMAIN</p> <p>ADJUST, REMOVE, FUTURE</p> <p>PROPOSED DRIVEWAYS</p> <p>SUBDIVISION PHASE LIMITS</p> <p>ORIGINAL CONTOURS PRIOR TO CONSTRUCTION (MAY NOT BE VALID NOW)</p> <p>PROPOSED BLOW-OFF, EX. OR FUT.</p> <p>PROPOSED WATERVALVE, EXISTING</p>	<ul style="list-style-type: none"> EXISTING/PROPOSED TRANSFORMER, EXISTING PEDESTAL EXISTING OVERHEAD HYDRO EXISTING BURIED BELL EXISTING JOINT UTILITY TRENCH EXISTING HYDRO POLE, EXISTING UTILITY POLE, EXISTING GUY WIRE DRILIPLINE (CJDL 2016) TACTILE PLATES AND RAMP PER OPSD 310.033 MUNICIPAL BOUNDARY 	<ul style="list-style-type: none"> NO PARKING ZONE PROPOSED COMMUNITY MAIL BOX, EXISTING EXISTING TREES PROPOSED TREES PROPOSED SILT FENCE BOREHOLE
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METRIC H. SCALE 1:500 V. SCALE 1:50

No.	REVISION	DATE	BY

MUNICIPALITY OF CENTRAL ELGIN

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EAGLE RIDGE SUBDIVISION
PHASE 2 - RP 11M-???

DOUG TARRY LIMITED

STREET 'D'
0+110 TO 0+200

DESIGN BY: CJC	DRAWN BY: TTA	CHECKED BY: DJL
PROJECT NO. 1312	SURVEY BY: TPM	DATE: 11 APR 2022

DRAWING No. **XX**