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BMG Engineering Ltd.

Preliminary Servicing Options Report
Chelmsford, Ontario

PLANNING SERVICES

BMG Development

Preliminary Servicing Options Report
4360 Municipal Road #35, Chelmsford,
City of Greater Sudbury, ON

Rev. A

May 07, 2024

131 Fielding Rd.
Lively, ON P3Y 1L7
T +1 705-522-6303 T F +1 800-797-2997

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May 07, 2024
23-0998

City of Greater Sudbury
200 Brady Street
City of Greater Sudbury, ON
P3A 5P3

Attention: Robert Webb, P.Eng., Supervisor of Development Engineering

Re: Preliminary Servicing Options Report for the proposed development of
4360 Municipal Road #35, Chelmsford, City of Greater Sudbury, ON

Dear Robert,

Please find enclosed our report outlining the Preliminary Servicing Options Report for the above-noted project in the City of Greater Sudbury, Ontario. This report presents the proposed methods to service the proposed development as per City of Greater Sudbury requirements issued through pre-consultation on March 8, 2023 (File #PC2023-017).

We trust the enclosed is adequate for your needs at this time. If there is anything further we can provide, please contact the undersigned.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Erin Kennelly'.

Erin Kennelly, P.Eng.
Project Engineer
Sudbury, ON

A handwritten signature in blue ink, appearing to read 'Peter Derro'.

Peter Derro, P.Eng.
Project Manager
Sudbury, ON

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1. INTRODUCTION

1.1. General

BMG Engineering Ltd. has retained Tulloch Engineering Inc. (TULLOCH) to prepare a Preliminary Servicing Options Report for proposed buildings for a mining-related engineering business. The subject land is 4360 Municipal Road #35 (MR 35), ON. This report intends to demonstrate how the proposed development can be serviced based on the availability of nearby municipal infrastructure.

The proposed development will include a mining-related fabrication shop building, an outdoor storage yard, a business office building, parking, and other related accessory uses on the south-westerly portion of the subject lands. The fabrication shop building would have a gross floor area of approximately 1,100 m² and be enclosed by an outdoor storage and maintenance yard area measuring approximately 167 m by 140 m. The business office is proposed to be located south of the fabrication shop building, providing a gross floor area of approximately 440 m². At this preliminary stage, the building's gross floor areas may be subject to change, and these will be confirmed in the detailed design.

The subject property is bounded by CP Rail to the north, MR #35 to the south, and existing residential properties to the east and west. The Chelmsford urban settlement area's easterly boundary is approximately 0.20 kilometres to the west of the lands. The westerly boundary of the Azilda urban settlement area is further situated approximately 2.1 kilometres to the east.

The northern and middle portions of the lands are heavily vegetated, with the southerly portion having some cleared area. An existing drainage ditch of significance, Soenens Drain G, regulated by Conservation Sudbury, bisects the property from the northeast corner to the southwest, outletting along the western property line. The regulated ditch and associated floodplain are to remain undisturbed as part of the proposed development. Existing natural vegetation and topographical features on the lands are proposed to remain undisturbed to the maximum extent possible, with landscaping areas provided on the southerly portions of the land where the proposed buildings would be situated.

The development area is currently zoned RU (Rural) and is comprised of forest and open area. The property is proposed to be re-zoned to RU(S) (Rural Special). The total area of the proposed development is approximately 25.4 ha, as outlined in **Figure 1** below.

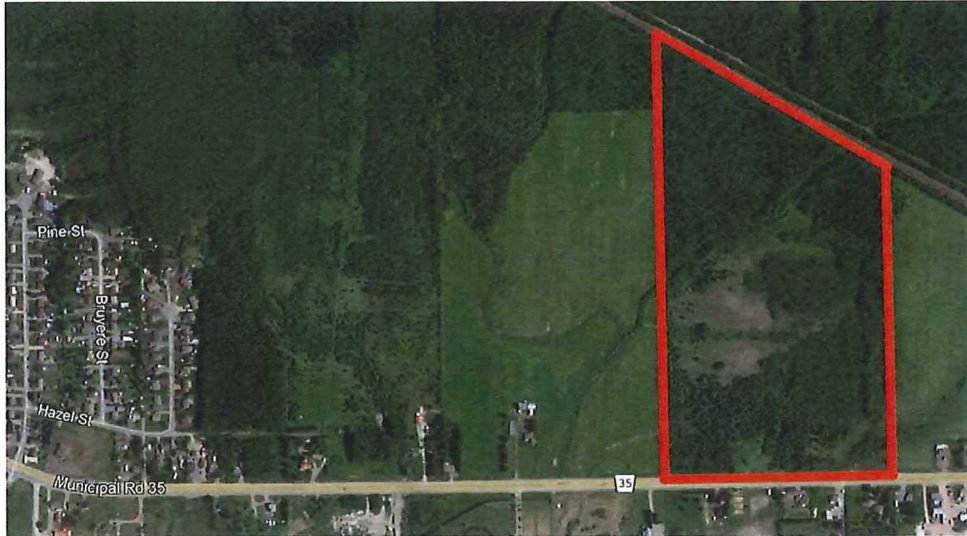


Figure 1: Subject Property

The Memorandum of Understanding issued following the SPART meeting for this project on March 8, 2023, states the following:

- Evaluate options and provide recommendations for water and sanitary services applicable to the development proposal, including reviewing existing infrastructure and estimating proposed demands.
- Confirm sufficient capacity in the existing municipal water infrastructure to accommodate the proposed development.

1.2. Supporting & Reference Documents

The following documents have been referenced in preparation for this design brief:

- City of Sudbury. (June 2001) *Old HWY 144 (MR35) STA 33+50 to STA 36+50*.
- Ministry of Environment. (2008). *Design Guidelines for Sewage Works*.
- Ontario Building Code. (2012). *O Reg. 332/12*.
- City of Sudbury. (November 2012). *Engineering Design Manual*.
- City of Sudbury. (March 2023), *Pre-Consultation Understanding*.

2. SANITARY SERVICING

2.1. Existing Conditions

The subject property has no known existing sanitary infrastructure on-site. The closest municipal sanitary sewer is approximately 700 m west of the site within the MR #35 right-of-way (ROW), per the City's MOU, as-built drawing, and Open Data Portal. An extension of the sanitary sewer network to support this development is not considered economical; therefore, an on-site private sewage disposal system is proposed. The MOU is included in **Appendix C** for reference.

2.2. Proposed Sanitary Flows

The sewage system's design was completed per the Ministry of the Environment, Conservation and Parks (MECP) Design Guidelines and Part 8 of the 2012 Ontario Building Code (OBC).

The information and data used to develop the design flow for the sewage system were based on data collected from a desktop study and information provided by the client. The design of daily sewage flows was developed according to the OBC and MECP guidelines. The daily wastewater volumes were calculated with the following design criteria applied:

- The Office wastewater volume calculations were based on Item 15. b) Office Building - per 9.3 m² of floor space, Table 8.2.1.3.B
- The Factory wastewater volume calculations were based on Item 10. b) Factory (excluding process or cleaning waters) - per employee per 8-hour shift – including showers, Table 8.2.1.3.B
- According to client correspondence, 20 employees are proposed for the office and 7 employees for the factory.

The total wastewater volume generated from the proposed development has been calculated in **Appendix B**, supporting design spreadsheet, and summarized in **Table 1** below.

Table 1: Wastewater Volume Calculation per OBC Part 8

Building	Gross Floor Area	Number of Employees	Wastewater Flow Calculation	Total Daily Wastewater Flow
Office Building	440 m ²	20	440 m ² / 9.3 m ² x 75 L/d	3,548 L/d
Fabrication Shop	1100 m ²	7	7 employees x 125 L/d	875 L/d
Total Wastewater Daily Flow Rate				4,423 L/d
Notes:				
1. Where multiple calculations of sanitary sewage volume are permitted, the calculation resulting in the highest flow shall be used in determining the design of daily sanitary flow per Note 3 of Table 8.2.1.3.B.				

2.3. Subsurface Conditions

According to AgMaps Ontario, the subject property comprises poor-draining Azilda Silt Loam. The native soil's percolation rate (T-Time) is assumed to be 50 min/cm, although supporting geotechnical investigations have not been completed yet. The T-time will be confirmed prior to construction in accordance with the OBC. In addition, the seasonal high groundwater table elevation shall be confirmed through in-situ testing prior to construction.

2.4. Proposed Sanitary System

The sewage system is proposed to be located north of the business office to service the office building and the fabrication shop. The proposed private sanitary sewer piping layout internal to the site, pipe slopes, and pipe sizing will be confirmed during detailed design. The layout of the sewage system components is shown in Drawing SD1 in **Appendix A**, and calculations for the required sewage system components are included in **Appendix B**.

The proposed sewage system will comprise of the following:

- One (1) septic tank to provide a minimum total working volume of 13,270 L;
- One (1) effluent filter to be added to the septic tank;
- One (1) distribution box;
- Two (2) filter beds with a total contact area of 90 m² provided, exceeding the minimum required area of 88 m²;
- 72 m in length of 75 mm diameter distribution pipe;

- One (1) expanded contact area of 261 m² provided, exceeding the minimum required area of 260 m²; and,
- One (1) loading area of 1,110 m² provided, exceeding the minimum required area of 1,106 m².

3. WATER SERVICING

3.1. Existing Water Servicing

A review of the City's as-built drawing indicates a 300 mm diameter PVC watermain is present within the MR #35 right-of-way, and multiple fire hydrants are located along the south side of MR #35, as shown in Drawing SD1 in **Appendix A**. There is no known existing water infrastructure on-site.

3.2. Proposed Water Servicing

The servicing capacity assessment results submitted to the City of Greater Sudbury were received via letter dated April 17th, 2024. As per the letter from the City, the City's minimum requirements for pressure and fire flow are available within the water distribution system along the property frontage to support the proposed development.

The closest hydrant is located on the south side of MR #35 across from the property, approximately 80 m south of the proposed business office and 220 m south of the proposed fabrication shop. As per the OBC, a maximum of 90 m is allowed from a hydrant to the building's principal entrance or fire department connection if one is provided. Therefore, on-site fire suppression is required and will be provided during the detailed design.

The water service size shall be determined in conjunction with the Mechanical designer for the buildings based on the water pressures available at the Municipal distribution system and confirmed during detailed design. The Water Capacity Assessment and City's analysis results are included in **Appendix C**.

4. SUMMARY AND RECOMMENDATIONS

This report shows that the proposed buildings at 4360 MR #35 in Chelmsford can be serviced with a private on-site sewage system and the municipal watermain provided along the property frontage. Our analysis of servicing for the buildings is as follows:

- The proposed development appears to be serviceable within the parameters identified herein by a private sewage disposal system with a capacity of less than or equal to 4,500 L/day.

- The existing 300 mm diameter watermain within the MR #35 ROW will provide water servicing and fire suppression. The City confirmed that the water distribution system has the available capacity to support the proposed development.
- The existing hydrants along MR #35 are located too far from the proposed buildings to provide sufficient cover. An on-site fire hydrant is proposed.

5. REPORT LIMITATIONS AND GUIDELINES FOR USE

We have prepared this report for the exclusive use of the Client and their authorized agents for the proposed development. The report is only applicable to the project described herein. Any changes to the project require a review by TULLOCH Engineering to ensure compatibility with the recommendations described in this report.

6. CONCLUSION

We trust that the information and recommendations in this report will be found to be complete and adequate for your consideration. Should further elaboration be required for any portion of this project, we would be pleased to assist.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Erin Kennelly'.

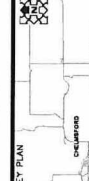
Erin Kennelly, P.Eng.
Project Engineer
Sudbury, ON

A handwritten signature in blue ink, appearing to read 'Peter Derro'.

Peter Derro, P.Eng.
Project Manager
Sudbury, ON

APPENDIX A

DRAWING



ENGINEER'S SEAL
TULLOCH ENGINEERING
PRELIMINARY NOT FOR CONSTRUCTION
APRIL 30, 2024

DATE	REV.	BY	REVISION	DT	APP'D

CLIENT:
BMG ENGINEERING
10100 HWY 70E UNIT 101
CHELSEA, ONTARIO

CONSULTANT:
TULLOCH

PROJECT TITLE:
BMG DEVELOPMENT

DRAWING TITLE:
SEPTIC DESIGN PLAN

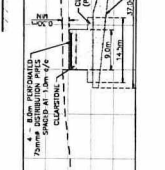
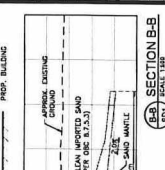
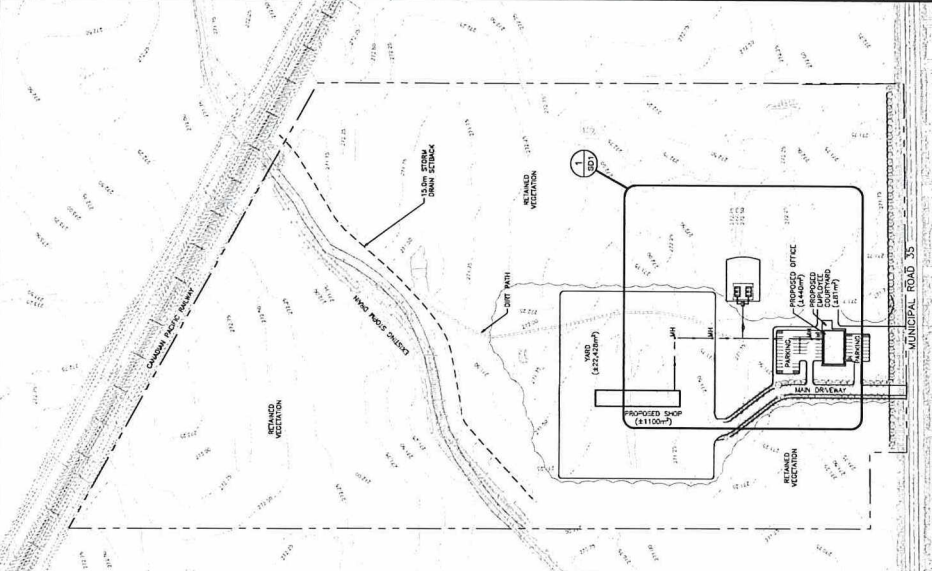
SCALE:
AS NOTED

DATE:
MAY 7, 2024

PROJECT NO.:
23-0998

REVISION:
0

DRAWING:
SD1



RESTORATION:
 1. ALL DIMENSIONS SHALL MATCH EXISTING CONDITIONS OR METERS.
 2. ALL RESTORATION SHALL BE COMPLETED IN ACCORDANCE WITH DPSS 3.4.5.
 3. ALL TRENCHES SHALL BE FENCED OFF AND THE TOP OF ALL TRENCHES SHALL BE COVERED WITH 150 MM SAND AND 75 MM GRANULAR FILL TO MAINTAIN A MINIMUM OF 100 MM COVER OVER THE TRENCHES AND TO MAINTAIN A MINIMUM OF 100 MM COVER OVER ALL UTILITIES. ALL TRENCHES SHALL BE BACKFILLED WITH SAND AND GRANULAR FILL TO ORIGINAL GRADE.

METRIC NOTES:
 1. DIMENSIONS SHOWN ON THIS PLAN ARE IN METERS AND ON A 1:500 SCALE.
 2. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE CITY OF CHELSEA'S DESIGN MANUAL.
 3. ALL DIMENSIONS SHALL BE IN ACCORDANCE WITH THE CITY OF CHELSEA'S DESIGN MANUAL.

SOIL CONDITIONS:
 1. ALL SANITARY DISTRIBUTION PIPES SHALL BE 100MM DIA.
 2. ALL PRESSURE MAINS SHALL BE 100MM DIA.
 3. ALL SANITARY DISTRIBUTION PIPES SHALL BE 100MM DIA.
 4. ALL SANITARY DISTRIBUTION PIPES SHALL BE 100MM DIA.

SANITARY SERVICES:
 1. ALL SANITARY DISTRIBUTION PIPES SHALL BE 100MM DIA.
 2. ALL PRESSURE MAINS SHALL BE 100MM DIA.
 3. ALL SANITARY DISTRIBUTION PIPES SHALL BE 100MM DIA.
 4. ALL SANITARY DISTRIBUTION PIPES SHALL BE 100MM DIA.

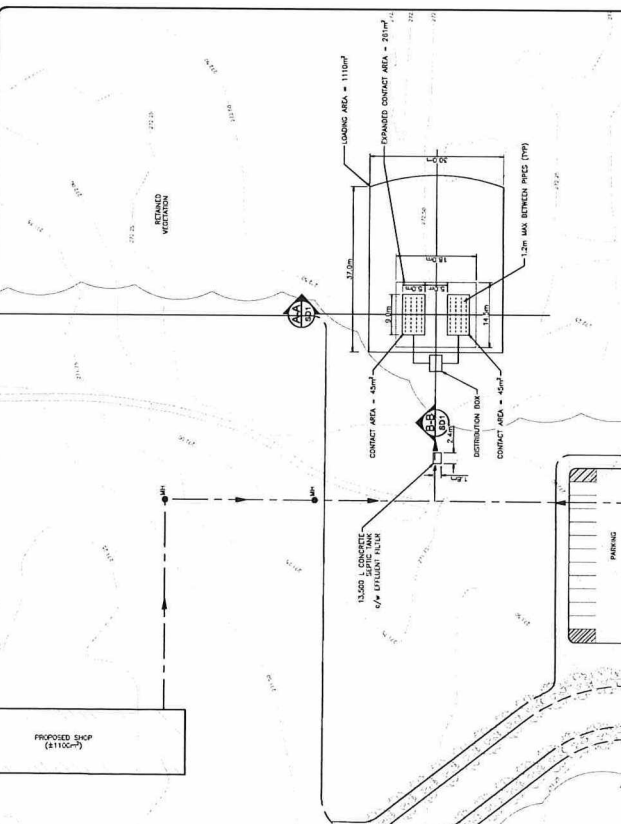
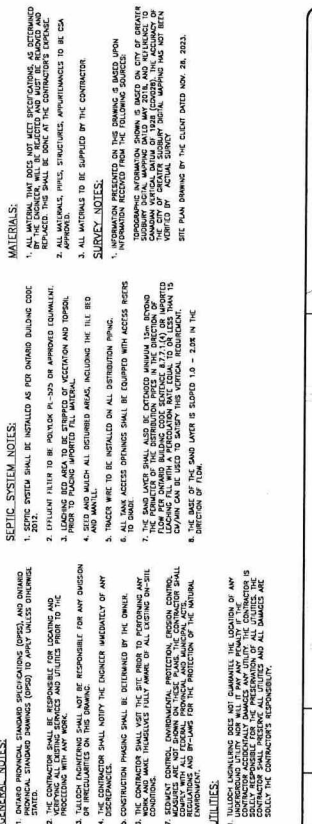
SEPTIC DESIGN NOTES:
 1. THE SEPTIC TANK SHALL BE 3.0M DIA.
 2. THE SEPTIC TANK SHALL BE 3.0M DIA.
 3. THE SEPTIC TANK SHALL BE 3.0M DIA.
 4. THE SEPTIC TANK SHALL BE 3.0M DIA.

GENERAL NOTES:
 1. ALL DIMENSIONS SHALL BE IN METERS.
 2. ALL DIMENSIONS SHALL BE IN METERS.
 3. ALL DIMENSIONS SHALL BE IN METERS.
 4. ALL DIMENSIONS SHALL BE IN METERS.

MATERIALS:
 1. ALL MATERIALS SHALL BE APPROVED BY THE CITY OF CHELSEA.
 2. ALL MATERIALS SHALL BE APPROVED BY THE CITY OF CHELSEA.
 3. ALL MATERIALS SHALL BE APPROVED BY THE CITY OF CHELSEA.
 4. ALL MATERIALS SHALL BE APPROVED BY THE CITY OF CHELSEA.

CONSTRUCTION NOTES:
 1. ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH DPSS 3.4.5.
 2. ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH DPSS 3.4.5.
 3. ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH DPSS 3.4.5.
 4. ALL CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH DPSS 3.4.5.

GENERAL NOTES:
 1. ALL DIMENSIONS SHALL BE IN METERS.
 2. ALL DIMENSIONS SHALL BE IN METERS.
 3. ALL DIMENSIONS SHALL BE IN METERS.
 4. ALL DIMENSIONS SHALL BE IN METERS.



GENERAL NOTES:
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GENERAL NOTES:
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 3. ALL DIMENSIONS SHALL BE IN METERS.
 4. ALL DIMENSIONS SHALL BE IN METERS.

APPENDIX B

DESIGN CALCULATIONS

SEPTIC SYSTEM FLOW CALCULATIONS

CLIENT: BMG Engineering Ltd.

Date: 06-May-24

PROJECT: Septic Schematic for BMG Engineering 4360 Regional Road 35

Designer: EK

FILE: P:\2023\230998 - BMG Engineering Planning Due Diligence_CIVIL\03 DESIGN\03.02 Design Calculations

Checked by: PD

DESCRIPTION	Proposed	Employees / Gross Floor Area m ²	Shift length hours	Adjustment factor	Base flow rate per OBC L/cap/day	Adjusted flow rate L/cap/day	Proposed flow rate L/cap/day	
Office Building Office - OBC Table 8.2.1.3.B 15 a) per employee per 8 hr shift	Proposed	20	8	1.0	75	75	1500.0	
15 b) per each 9.3 m ² of floor space		440			75		3548.4	
Fabrication Shop Building Factory - OBC Table 8.2.1.3.B 10. b) per employee per 8 hr shift- showers	Proposed	7	8	1.0	125	125	875.0	
Proposed Total Sanitary Discharge								
Office building								
Base							3548 L/day	
Shop building								
Base							875 L/day	
Total Flow								4423 L/day

Design daily sewage flow
Q = 4423 L/day

Percolation Rate T = 50 min/cm *assumed per AgMaps, to be confirmed prior to construction

Level of Pre-Treatment = primary

SEPTIC TANK WORKING CAPACITY

$V = 3 \times Q$

minimum working capacity, non-residential occupancy

V = 13270 L/day

required per OBC 8.2.2.3.(1)

where

Q = the total daily design sanitary sewage flows in litres

FILTER BED

Surface Loading Area

$A_{stone} = Q/75$ (if $Q < 3000$)

$A_{stone} = Q/50$ (if $Q > 3000$)

$A_{stone} = 88$ sq.m min.

required contact area filter bed - OBC 8.7.5.2.(3)/ (4)

where

L = total length of distribution pipe in metres

Q = the total daily design sanitary sewage flow in litres

*as per OBC 8.7.5.2(1) and (4)(b) multiple filter beds are required, each of similar size adjacent to each other

Base of Filter Area

$A_{sand} = Q \times T / 850$

$A_{sand} = 260$ sq.m min.

required expanded contact area of filter bed OBC 8.7.5.3.(6)

where

A = the area of contact in square meters between the soil base of the filter medium and the underlying soil

Q = the total daily design sanitary sewage flow in litres

T = the design percolation time in minutes

T = the lesser of 50 and the percolation time of the underlying soil.

Contact Area Calculation (Mantle)

$A_{sand} = Q/LR$

$A_{sand} = 1106$ sq.m min.

Required loading area of filter bed (OBC table 8.7.4.1.)

where

Q = the total daily design sanitary sewage flows in litres

LR = the loading rate in litres / m² / day and is a function of t-time

T = 4

APPENDIX C

REFERENCE INFORMATION



Pre- Consultation Understanding

Planning Services

200 Brady Street, Tom Davies Square
Sudbury, ON P3A 5P3
T: (705) 674-4455 Ext. 4295
F: (705) 673-2200

January 10, 2019

PRE-CONSULTATION UNDERSTANDING

PRE-CONSULT FILE: PC2023-017					
OWNER: Estate of Pentti Laakso & Risto Laakso (Agent: BMG Engineering c/o Bryan Guse)					
SPART MEETING: March 8, 2023					
PROPERTY DESCRIPTION/ADDRESS: 0 Municipal Road #35, Chelmsford					
REPORTS AND PLANS	OPA	ZBL	SITE PLAN	SUB	CONDO
REPORTS					
Application Form	✓	✓			
Arborist Report					
Archaeological Assessment					
Draft Official Plan Amendment					
Draft Zoning By-law Amendment					
Environmental Impact Study (Full-Site)					
Environmental Impact Study (Scoped)					
Functional Servicing Study					
Geotechnical/Soils Report					
Heritage Impact Assessment					
Hydrogeologic Study					
Mine Hazard Study					
Noise Study					
Parking Study					
Phase I Environmental Site Assessment					
Planning Justification Report	✓				
Public Consultation Strategy	✓	✓			
Risk Management Plan					
Servicing Options Report	✓	✓			
Source Protection Plan Section 59 Application					
Stormwater Management Report					
Sun/Shadow Study (>6 Storeys)					
Traffic Impact Study					
Transportation Demand Management Plan					
Vibration Study					
Wind Study (>6 Storeys)					
PLANS					
Comprehensive Development Plan					
Concept Plan	✓	✓			
Construction Erosion and Sediment Control Plan					
Draft Plan of Condominium					
Draft Plan of Subdivision					
Elevation Plans					
Floor Plans					
Grading Plan					
Landscape Plan					
Legal Survey Plan (RECOMMENDED)	✓	✓			
Off-Site Servicing Plan					
Photometric Exterior Lighting Plan					
Site Plan					
Servicing Plan					
Other Reports/Plans(s) – Specify					
1. CGS Water Capacity Analysis	✓	✓			
2.					
Agencies to be Contacted by Applicant					
	OPA	ZBL	SITE PLAN	SUB	CONDO
Canada Post					
Canadian National Railway					
Canadian Pacific Railway					
Greater Sudbury Utilities					
Hydro One					
Ministry of Municipal Affairs					
Ministry of Natural Resources and Forestry					
Ministry of the Environment, Conservation & Parks					
Ministry of Transportation Ontario					
Nickel District Conservation Authority (Conservation Sudbury)	✓	✓			
Sudbury District Health Unit (SDHU)					
Sudbury East Planning Board					
Others – Specify					
1.					

PRE-CONSULTATION UNDERSTANDING

Planning Services Notes

Building Services:

1. The owner is advised that the Concept Plan submitted as part of this pre-consultation is insufficient for the purposes of giving detailed feedback on the proposed rezoning to permit a light industrial use on the subject lands. The owner should include a zoning compliance chart on a revised Concept Plan as part of complete Official Plan Amendment and Zoning By-law Amendment applications;
2. The owner is therefore strongly encouraged to review the City's Zoning By-law in order to identify all applicable development standards (eg. general provisions, parking and loading provisions, zone provisions, etc.) and to request site-specific relief from said applicable development standards where and if required;
3. The owner is further advised that at the time of building permit application a Geotechnical Report will be required providing an analysis from a qualified professional with respect to soil composition, structural stability and the ability of the subject lands to support the proposed light industrial buildings; and,
4. Should you have any questions, please contact Carol Skanes, Plans Examiner, by email at carol.skanes@greatersudbury.ca.

Conservation Sudbury:

1. Conservation Sudbury notes that the subject lands are partially situated within an area (ie. floodplain) that is regulated by [Ontario Regulation 156/06](#) under the [Conservation Authorities Act](#);
2. The owner is advised that works within an area regulated by Ontario Regulation 156/06 may require a permit pursuant to Section 28 of the [Conservation Authorities Act](#). For information purposes, works include, but are not limited to, alteration of a watercourse, grading, placement or removal of fill, and the erection of a building or structure. Scientific studies and/or technical reports may be required to support the permit application, the cost of which will be borne by the applicant. Any permit issued may include conditions of development and permits are not guaranteed;
3. For information purposes, the owner is provided with the following "Permits and Planning" web-link: <https://conservationsudbury.ca/en/permits-planning.html>;
4. Should you have any questions, please contact Danielle Marcoux, Regulations & Planning Officer, by email at danielle.marcoux@conservationsudbury.ca.

Development Approvals Section:

1. The subject lands are designated Rural in the City's Official Plan and zoned "RU", Rural in the City's Zoning By-law;
2. For reference purposes, both the City's Official Plan and Zoning By-law are available online at the following web-links: <https://www.greatersudbury.ca/city-hall/reports-studies-policies-and-plans/official-plan/official-plan/op-pdf-documents/official-plan/> and <https://www.greatersudbury.ca/do-business/zoning/>;
3. For the owner's information, the City's Official Plan Amendment Application Form is available at the following web-link: <https://www.greatersudbury.ca/do-business/planning-and-development/start-a-planning-application/official-plan-amendment/>;
4. For the owner's information, the City's Zoning By-law Amendment Application Form is available at the following web-link: <https://www.greatersudbury.ca/do-business/planning-and-development/start-a-planning-application/planning-application-forms/rezoning-application-form/>;
5. With respect to the Provincial Policy Statement 2020 (PPS), it is noted that the subject lands are not within a settlement area or an employment area as defined and described in the PPS. The proposed land use (ie. light industrial uses) would be directed to settlement areas and employment areas. The owner is advised that the PPS does not permit expansions to settlement area outside of a comprehensive Official Plan Review. The owner is advised that the development proposal would generally not be consistent with the land use policy directions identified in the PPS;

6. For reference purposes, the PPS is available at the following web-link: <https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf>;
7. With respect to the City's Official Plan, the development proposal in general amounts to a light industrial use that is not permitted within the Rural land use designation. The lands are also not situated within an identified Settlement Area or within a Built Boundary on Schedule 3 – Settlement and Built Boundary of the City's Official Plan. For the owner's information, those policies that pertain to rural industrial/commercial land uses are found under Section 5.2.5 of the City's Official Plan;
8. As part of a complete application for Official Plan Amendment, the owner is required to submit a Planning Justification Report (PJR) that has been prepared and provided by a Registered Professional Planner or other related qualified professional. The required PJR must address how the development proposal complies with both provincial land use planning documents (ie. PPS & Growth Plan for Northern Ontario) and the City's Official Plan. The owner is however advised that the Development Approvals Section is likely unable to support the application to amend the City's Official Plan;
9. The owner is further advised that the submitted Official Plan Amendment Application must identify and outline the specific amendment to the City's Official Plan that is proposed. The owner is encouraged to review the City's Official Plan in order to ensure that the amendment that is proposed addresses all applicable policy relief that is required in order to accommodate the development proposal (ie. light industrial land use) on the subject lands;
10. Based on the intended use of the lands and the submitted sketch, staff would recommend that the owner apply to rezone the lands from "RU", Rural to "RU(S)", Rural Special. The owner is however cautioned that the Development Approvals Section is likely unable to support the rezoning application on the basis that the development proposal would not be consistent with the land use planning policy directions identified in the PPS nor would it be in conformity with the land use planning policies contained within the City's Official Plan;
11. As part of a complete Zoning By-law Amendment application, any site-specific relief that is required in order to facilitate the intended development of the lands must be identified both in the rezoning application form and on the required Concept Plan. The owner is encouraged to review the general provisions, parking provisions and zone-specific development standards (ie. "RU") that would be applicable to the development proposal in order to ensure that the Zoning By-law Amendment application seeks all required site-specific relief that would be required. It is strongly recommended that the submitted Concept Plan include a zoning compliance table that demonstrates where compliance is achieved and where site-specific relief is required;
12. As part of complete applications for Official Plan Amendment and Zoning By-law Amendment, the submission of a Concept Plan is required and must depict all required information as indicated in Question #19 b) of the City's Official Plan Amendment Application Form and Question #23 b) of the City's Zoning By-law Amendment Application Form;
13. If available, please also include any Legal Survey Plans which provide an accurate legal description of the subject lands;
14. Staff would encourage the owner to contact the City's Economic Development staff to discuss services available with respect to site-selection and identification of appropriately designated and/or zoned parcels of lands available for light industrial development elsewhere in the City; and,
15. Should you have any questions, please contact Glen Ferguson, Senior Planner, by email at glen.ferguson@greatersudbury.ca.

Development Engineering:

1. The subject lands are presently serviced with municipal water located within the road allowance of Municipal Road #35, however the lands are not serviced with municipal sanitary sewer infrastructure;;
2. As part of complete applications for Official Plan Amendment and Zoning By-law Amendment, a Servicing Options Report will be required that has been prepared by a qualified professional. The Servicing Options Report must evaluate options for water and sanitary services applicable to the development proposal and include a review of existing water service infrastructure, estimation of water demands (ie. domestic and fire flow), confirmation of the capacity of existing infrastructure to supply the required flows, review of options for sewage servicing (ie private septic system), estimation of daily sewage effluent, estimation of area requirements for the sewage system and a recommendation with respect to preferred water and sewer servicing and preliminary infrastructure sizing;
3. The owner is advised that the proposed light industrial buildings would be required to connect to the existing municipal water infrastructure. For reference purposes, the City's By-law Respecting the Supply of Water, the Management and Maintenance of Waterworks Systems is available at this weblink: <https://www.greatersudbury.ca/city-hall/by-laws/by-law-pdfs-en/c-by-law-2010-214/>;
4. As part of complete applications for Official Plan Amendment and Zoning By-law Amendment, a Water Capacity Analysis is required in order to confirm that the capacity of existing municipal infrastructure is sufficient for the purposes of accommodating the required flows of the development proposal. This work must be completed by a qualified engineering professional. The owner is advised that the applicable fee for a Water Capacity Analysis is \$430.00;
5. Should you have any questions, please contact Robert Webb, Supervisor of Development Engineering, by email at robert.webb@greatersudbury.ca.

Drainage Section:

1. The owner is advised that there is a municipal drain of significance (ie. Soenens Drain G) which traverses the subject lands. It appears that the proposed light industrial building (ie. shop building) may require the re-location of the municipal drain, and if this was the case and re-location is proposed then it would require approval from the City;
2. The owner is further advised that in order to accommodate the proposed development, the municipal drain may need to be upsized, and/or multiple drains may need to be installed and/or on-site storm-water management facilities may need to be provided;
3. The owner is advised that the City's Drainage Section has some concerns with the development proposal in light of the above noted observations and certain requirements may need to be satisfied in order to properly accommodate light industrial uses on the subject lands;
4. For reference purposes, the owner is encouraged to review and familiarize themselves with the [Drainage Act, R.S.O. 1990, c. D.17](#) as the above may require an application to the City made under *Sections 65 – Changes In Assessment* and/or *Section 78 – Improving of the Drainage Act*; and,
5. Should you have any questions, please contact Tom Gmyrek, Hydraulic Modeler/Analyst, by email at tom.gmyrek@greatersudbury.ca or Paul Javor, Drainage Engineer, by email at paul.javor@greatersudbury.ca.

Economic Development:

1. The owner's agent is advised that the City's Economic Development staff are available to assist with respect to site-selection and the identification of appropriate locations for light industrial uses; and,
2. Should you have any questions, please contact Liesel Franklin, Business Development Officer, by email at liesel.franklin@greatersudbury.ca.

Fire Services:

1. No concerns at this time; and,
2. Should you have any questions, please contact Doug White, Senior Fire Prevention Officer, by email at doug.white@greatersudbury.ca.

Roads, Transportation & Innovation (RT&T):

1. The owner is advised that the municipal watermain is situated on the south side of Municipal Road #35. This portion of Municipal Road #35 was also recently asphalted and therefore the City's "no cut" policy is in effect for a period of three years. The owner is encouraged to contact RT&T staff to discuss options as it relates to installing municipal water service connections to the lands;
2. For the owner's information, the ultimate right-of-way width for Municipal Road #35 is 61 m (200.13 ft) whereas the existing right-of-way width along this portion of Municipal Road #35 is 35 m (114.83 ft). The owner may wish to design their site in a manner that contemplates future road widenings;
3. Should you have any general questions on the above, please contact David Knutson, Traffic & Transportation Engineering Analyst, by email at david.Knutson@greatersudbury.ca.

Site Plan Control:

1. The owner is advised that site plan control will be applicable to the proposed light industrial use;
2. For the owner's information, the City's Site Plan Control website is available at the following web-link: <https://www.greatersudbury.ca/do-business/planning-and-development/start-a-planning-application/site-plan-control-application/>; and,
3. Should you have any general questions on the above, please contact Jonathan Clark, Site Plan Control Engineer, by email at jonathan.clark@greatersudbury.ca.

Strategic & Environmental Planning:

1. The development proposal does not pose an elevated risk to species protected by the [Endangered Species Act](#) (ESA) or to their habitat. The proposed development is anticipated to either have only minor negative effects on the overall natural environment or to have potential negative effects that are to be adequately mitigated as indicated on the relevant site plans. As such, specific environmental studies are not required beyond those that may have been requested previously. The owner should note that compliance with the ESA is solely their own responsibility; and,
2. Should you have any questions, please contact Bailey Chabot, Senior Planner, Environmental Planning Initiatives, by email at bailey.chabot@greatersudbury.ca or Stephen Monet, Manager of Environmental Planning Initiatives, by email at stephen.monet@greatersudbury.ca.

Name: Glen Ferguson

Date: March 8, 2023

PRE-CONSULTATION UNDERSTANDING

1. Official Plan Designation: Rural

Conformity with Official Plan designation: YES NO

If "No" what is the nature of the amendment needed?

To permit light industrial uses on a site-specific basis within the Rural land use designation.

2. Existing Zoning: "RU", Rural

Compliance with the City's Zoning By-law? YES NO

If "No" what is the proposed zoning or amendment required?

To permit a light industrial use on the lands in the form of an administrative office, shop building, storage yard, and related accessory uses.

3. Related File No.(s): N/A

4. Additional Information: N/A

Acknowledgement by Owner/Agent

The owner acknowledges that this form in no way confirms support or non-support by the City of the presented proposal, is based on the agreed processing and submission requirements discussed.

By signing below, I acknowledge that, subject to any appeals, the drawings, report(s) and other information requirements indicated on the above chart, must be submitted along with a completed application form, any information or materials prescribed by statute, the required application fees and this executed Pre-consultation Application Form to be considered complete. All comments and direction offered by City staff and outside agencies is preliminary and based solely on the information available at the time of the meeting and is only applicable for up to one year from the date of the Pre-consultation meeting. Once an application has been submitted, deemed complete and circulated for comments additional information or consultation meetings may be required during the processing of the application. In addition, I have read, understood, and agreed to all of the notes listed on this form.

<u>Bryan Guse</u>	<u>Bryan Guse</u>	<u>2023/3/31</u>
Owner/Agent (Print)	Owner/Agent (Signature)	Date
<u>Glen Ferguson</u>	<u>Glen Ferguson</u>	<u>March 9, 2023</u>
CGS Planning Services Staff (Print)	CGS Planning Services Staff (Signature)	Date

GLOSSARY

Application Form

A development planning application form in accordance with the Ontario Planning Act and includes applications for official plan amendment, zoning by-law amendment, draft plan of subdivision, draft plan of condominium and site plan approval.

Arborist Report

A report by a certified arborist identifying the species, size of a tree(s) and evaluating their health and condition, and setting out the nature of the work to be undertaken on the tree(s), tree replacement, replanting information and the arborist's recommendation for treatment of the tree(s), i.e., recommend removal and replacement, recommend preservation, etc.

Archaeological Assessment

An assessment in accordance with Provincial and municipal requirements in or near areas of archeological potential.

Comprehensive Development Plan

A plan that illustrates the subject lands in context with abutting properties and the land uses in the surrounding area.

Concept Plan

A plan drawn to scale showing the proposed development including all existing natural and human elements, including existing buildings and proposed buildings, driveways, parking areas, walkways, landscaped areas, amenities, property limits, natural features including streams, forested areas, wetlands along with descriptions.

Construction Erosion and Sediment Control Plan

A plan that details the measures to control sediment and erosion. Refer to the City's Site Plan Control Guide for further information at: <https://www.greatersudbury.ca/do-business/planning-and-development/application-forms/pdf-documents/site-plan-control-guide/>

Draft Official Plan Amendment

A draft official plan amendment includes all text, maps and appendices required by the City.

Draft Plan of Condominium

The information required on plans to be in accordance with the Planning Act and its regulations. The information required to be shown on the draft plan are:

- a) proposed exclusive use areas of the common element, such as outdoor yards and parking;
- b) driveways and pedestrian access to the proposed private units

Draft Plan of Subdivision

The information required on plans is to be in accordance with the Planning Act and its regulations. The information required to be shown on the draft plan are:

- a) the boundaries of the land to be subdivided as certified by an Ontario Land Surveyor
- b) the locations, widths and names of the proposed highways within the proposed subdivision and of the existing highways on which the proposed subdivision abuts
- c) on a small key plan, at a scale not less than one centimeter to 100 metres, all of the land adjacent to the proposed subdivision that is owned by the applicant or in which the applicant has an interest, every subdivision adjacent to the proposed subdivision, and the relationship of the boundaries of the land to be subdivided to the boundaries of the township lot or other original grant of which such land forms the whole or part
- d) the purpose for which the lots or blocks are to be used
- e) the existing uses of all adjoining lands
- f) the approximate dimensions and layouts of the proposed lots
- g) natural and artificial features such as buildings or other structures or installations, railways, highways, watercourses, drainage ditches, swamps, and wooded areas within or adjacent to the land proposed to be subdivided
- h) the availability and nature of domestic water supplies
- i) the nature and porosity of the soil
- j) existing contours or elevations as may be required to determine the grade of the highways and the drainage of the land
- k) the municipal services available or to be available to the land proposed to be subdivided
- l) the nature and extent of any restrictive covenants or easements affecting the land proposed to be subdivided

Draft Zoning By-law Amendment

A draft zoning by-law amendment includes all text, maps and appendices required by the City.

Elevation Plans

Architectural drawings presenting the external design of all proposed structures within the development, including buildings, retaining walls, fences, loading and garbage collection doors. Refer to the City's Site Plan Control Guide for further information at: <https://www.greatersudbury.ca/do-business/planning-and-development/application-forms/pdf-documents/site-plan-control-guide/>

Environmental Impact Study (Full-Site)

A study prepared by a qualified professional that contains a description of the proposal, the natural environment and an assessment of the environmental impacts of the proposal and a description of mitigating measures and recommendations. A full-site EIS requires a greater level of detail than that included in a scoped-site EIS that is appropriate to the scale of the proposed development and potential environmental impacts.

Environmental Impact Study (Scoped)

A study prepared by the development proponent or an environmental professional which addresses the requirements of an EIS in an abbreviated report or checklist and is usually applied to minor developments, single lot consents, or where negative impacts are known to be minor. The exact requirements of the scoped-site EIS will be established through consultation with municipal staff.

Functional Servicing Study

A report which addresses and ensures that the proposed development may be serviced in accordance with the City of Greater Sudbury Design Standards and Criteria. The report should include the proposed servicing scheme (Water supply and distribution, sanitary and storm drainage), the proposed grading for the site and road/access and right-of-way widths, etc.

Geotechnical/Soils Report

A report that analyses soil composition to determine its structural stability and its ability to accommodate development.

Grading Plan

A plan that details the grading required to facilitate the development of a specific site. Refer to the City's Site Plan Control Guide for further information at: <https://www.greatersudbury.ca/do-business/planning-and-development/application-forms/pdf-documents/site-plan-control-guide/>

Heritage Impact Assessment

A report prepared by a qualified consultant for development on lands located within a designated Heritage Conservation District or where development is proposed on or adjacent to a property or building designated under the *Ontario Heritage Act*. The report shall demonstrate that any development is in conformance with the Heritage Conservation District Plan where one exists, or demonstrates that the proposed development maintains the heritage aspects for which the property was designated and is compatible with the building and its heritage attributes. Compatibility may include building materials, colour, height, scale and design.

Hydrogeologic Study

A study reviewing and summarizing information for the site and surrounding areas including soil and groundwater information from available mapping, well records, monitoring wells and site specific geotechnical studies. The study shall identify the existing groundwater quality and local hydrogeological setting including the site-specific aquifer vulnerability index (ISI) and the rate and direction of groundwater flow, water quality and water budget. The report shall also identify and classify the nature of any predicted adverse impacts and measures that will be taken. Risk management/reduction measures are to be described, including engineering controls, management (emergency response plans) and monitoring programs, if applicable.

Landscape Plan

A plan including details on the location, type and number of planting materials to be located on a development site. The City of Greater Sudbury Site Plan Control Guide provides additional details on the requirements for a landscape plan. Refer to the City's Site Plan Control Guide for further information at: <https://www.greatersudbury.ca/do-business/planning-and-development/application-forms/pdf-documents/site-plan-control-guide/>

Legal Survey Plan

A plan prepared by a licenced member of Ontario Land Surveyors Association that includes the location and nature of any easement affecting the subject lands.

Mine Hazard Study

A study addressing a development proposal on, abutting or adjacent to lands affected by mine hazards or abandoned pits and quarries. The study shall identify potential safety hazards, demonstrate that the site can be rehabilitated to mitigate the known or suspected hazard, establish procedures for site rehabilitation and mitigation of the safety hazard or provides evidence that the potential hazards do not exist.

Noise Study

A noise study determines the impact on adjacent developments resulting from the proposed development or determines the impact on the development site from an existing noise source and recommends mitigation measures. Noise Studies are to be completed in accordance with the most recent guidelines issued by the Ministry of the Environment and Climate Change.

Off-Site Servicing Plan - A plan showing, road improvements, and/or sewer and water main upgrades required within the municipal right of way. Refer to The City's Site Plan Control Guide for further information at: <https://www.greatersudbury.ca/do-business/planning-and-development/application-forms/pdf-documents/site-plan-control-guide/>

Parking Study

A study prepared when a development proposal does not meet the minimum parking standard requirements in the City's zoning by-law. The study shall be prepared by a qualified professional and provide a basis in support of the reduced parking standard.

Phase I Environmental Site Assessment

The first phase of the systematic identification and evaluation of the potential impacts of proposed developments relative to the physical, chemical and biological components of the environment. A Phase II or III Environmental Report may be required depending upon the recommendations of the Phase 1 Report.

Photometric Exterior Lighting Plan

A plan which shows the location of each current and/or proposed outdoor lighting fixture with the projected hours of use measured in lux and the area of the lighting dispersed by each lighting fixture. Refer to the City's Site Plan Control Guide for further information at: <https://www.greatersudbury.ca/do-business/planning-and-development/application-forms/pdf-documents/site-plan-control-guide/>

Planning Justification Report

A report prepared and provided by a Registered Professional Planner or other related qualified professional. A planning justification report must address the development proposal's compliance with Provincial documents (Provincial Policy Statement, Growth Plan for Northern Ontario) and City of Greater Sudbury planning documents.

Risk Management Plan

A report that outlines the risk management actions to be undertaken by the owner, required to address the identified significant drinking water threats for the property. The applicant should contact the City's Source Water Protection Risk Management Office to assist with this report. Refer to the City's Source Water Protection Plan for further information at: <https://www.greatersudbury.ca/live/water-and-wastewater-services/source-water-protection/risk-management-plans/>

Public Consultation Strategy

A statement setting out the applicant's plans for consulting with the public on official plan amendment, rezoning, or plan of subdivision applications.

Servicing Options Report

A report which evaluates options for water and sanitary services applicable to the proposed development and includes a review of existing water service infrastructure; estimation of water demands, (domestic and fire flow); confirmation of the capacity of existing infrastructure to supply the required flows; review of options for sewage servicing; estimation of daily sewage flows; estimation of area requirements for the sewage system; and recommendation with respect to preferred water and sewer servicing and preliminary infrastructure sizing.

Site Plan

A site plan shall be prepared in accordance with the City of Greater Sudbury's Site Plan Guidelines. Refer to the City's Site Plan Control Guide for further information at: <https://www.greatersudbury.ca/do-business/planning-and-development/application-forms/pdf-documents/site-plan-control-guide/>

Servicing Plan

A plan that details the water and sanitary servicing, hydro, lighting and other infrastructure, to facilitate the development of a specific site. Refer to the City's Site Plan Control Guide for further information at: <https://www.greatersudbury.ca/do-business/planning-and-development/application-forms/pdf-documents/site-plan-control-guide/>

Source Protection Plan Section 59 Application

A completed application form for Section 59 Notice, Restricted Land Use Review, for applicants proceeding with a building permit or application under the *Planning Act*, in a "Vulnerable Area" as identified in the Greater Sudbury Source Protection Plan. Copies of the application form are available on the City's web site at: <http://www.greatersudbury.ca/living/sewer-and-water/source-water-protection/>.

Stormwater Management Report

A report that presents the data, methods, procedures and predicted results associated with the design of drainage works and erosion protection measures related to a development. The report shall be prepared by a qualified engineer and provide details on the techniques used to control storm runoff to allowable runoff rates, the method and volume of stormwater storage and the techniques used to address water quality requirements.

Sun/Shadow Study (6 Storeys or Greater)

A study showing the effects of a development on sunlight reaching surrounding properties, buildings and adjacent public realm areas by calculating the shadow that will be cast by the development at different times of day in different seasons. Sun/Shadow Studies maybe required for official plan amendments, zoning by-law amendments and site plan applications for developments usually 20 metres or 6 storeys and greater in height.

Sun/Shadow tests should be done for March 21 and September 21 between the hours of 9 AM and 6 PM. The Sun/Shadow diagram should identify permanently shaded areas between the start of December to the end of February.

Traffic Impact Study

A study which assesses the traffic impacts of a proposed development on the surrounding road system and identifies any improvements to the road system or mitigating measures to accommodate the development.

Transportation Demand Management Report

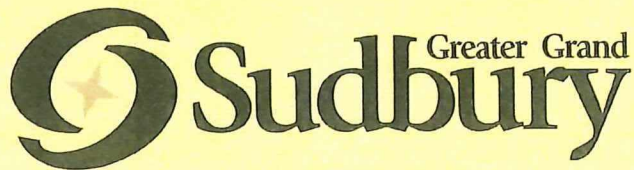
A report which establishes strategies to reduce travel demand from single occupancy private vehicles or to redistribute this demand in space or in time on the surrounding road system.

Vibration Study

A vibration study determines the impact on adjacent developments resulting from the proposed development or determines the impact on the development site from an existing vibration source and recommends mitigation measures.

Wind Study (6 Storeys or Greater)

A pedestrian wind model analysis is required for all six storey or taller buildings. For official plan and zoning by-law amendment applications a preliminary "Wind Impact Statement" by a qualified, registered Professional Engineer to professional standards is required. For site plan applications a detailed wind tunnel impact study shall be prepared by a qualified, registered professional engineer, and shall be based on a scale model simulation analysis, prepared to professional standards.



April 17, 2024

Tulloch Engineering
1942 Regent Street, Unit L
Sudbury, ON
P3E 5V5

Attention: Rebecca Dawson, EIT

**Re: Sewer and Water Capacity Analysis
4360 MR 35
Township of Balfour**

PO BOX 5000 STN A
200 BRADY STREET
SUDBURY ON P3A 5P3

CP 5000 SUCCA
200, RUE BRADY
SUDBURY ON P3A 5P3

705.671.2489

www.greatersudbury.ca
www.grandsudbury.ca

The Development Engineering Section has reviewed your request for a Water Capacity Analysis at the above noted location and have the following to report:

A capacity analysis performed by our WaterCAD model, developed the following results at the 300mm watermain in front of property 4360 MR 35 between stations 33+50 to 33+60.

Values Obtained from Model

C.G.S. Minimum Requirements

Max Hour: 76 psi
Max Day: 77 psi
Fire Flow: 144 l/s

- 40 psi
- 50 psi
- 75 L/s R1, 100 L/s R3

The results of the WaterCAD analysis indicate that sufficient water capacity and pressure exist for the proposal in question.

It should be noted that these results are derived at by using a theoretical computer model based on our best available data. In the event that these developments do not proceed within a one (1) year period, then you should make the necessary arrangements to have a current analysis carried out to take into account any changes made in our sewer or WaterCAD models and to ensure that there is sufficient Sewage, Fire Flows and/or Domestic Pressures available for your proposal(s).

Should you have any questions or concerns please contact me at 671-2489 ext 2409.

Yours truly,

David Longarini
Development Engineering Technician

DVL/ds

cc: Akli BenAnteur, Wastewater Project Engineer, (Kelly Lake)



Planners | Surveyors | Biologists | Engineers

March 18, 2024
P23-0998

City of Greater Sudbury
200 Brady Street
City of Greater Sudbury
Ontario, P3A 5P3

Attention: Robert Webb, P.Eng., Supervisor of Development Engineering

Memo Report: Water servicing demand calculation for the proposed development of 4360 Municipal Road #35, Chelmsford, City of Greater Sudbury, ON

TULLOCH Engineering Inc. (TULLOCH) has been retained to evaluate the water servicing demand associated with the proposed development of 4360 Municipal Road #35, City of Greater Sudbury, Ontario. This memo will identify the anticipated servicing demand needed to support the proposed development and is intended to be reviewed by the City to confirm adequate capacities/flows are available within the existing municipal infrastructure.

The development area is currently zoned RU (Rural) and consists of forested and open areas. The property has an approximate area of 25.4 ha. It is proposed to re-zone the property to RU(S) (Rural Special) and develop two buildings, one office building and one shop building.

A demand scenario has been evaluated for the proposed development by considering the proposed development as light industrial use for the office building and shop building, in accordance with section 3.4.4 Industrial Water Demands of the MOE 2008 Design Guidelines for Drinking-Water Systems, where the preliminary industrial water demand is estimated based on a rate of $35 \text{ m}^3/(\text{ha}\cdot\text{d})$. At this preliminary stage, we have estimated the proposed development area to be about 2.0ha in size. We note in accordance with the MOE Design Guidelines referenced above, these demands will vary greatly with the type of industry and expect that these preliminary demands be refined during the design stage of the project. The preliminary water demands outlined herein are prepared solely for the purpose of the City's capacity assessment application.

The development scenario proposes to utilize existing water services from Road #35. A review of the City's as-built drawing (Old HWY 144 (MR35) STA 33+50 to STA 36+50) dated June 26, 2001, indicates a 300mm diameter PVC water main is present.

The peak water demand for this development scenario has been calculated as per the MOE 2008 Design Guideline for Drinking-Water systems and the City of Greater Sudbury's Engineering Design Manual and is outlined herein.

Water Demand

The peak water demands for the proposed development scenario are calculated in the attached design spreadsheet and outlined in the table below.

Facilities	Development Category	Peaking Factor	Average Daily Flow (L/s)	Max. Hour Flow (L/s)
Office Building & Shop Building	Light Industrial	4	0.81	3.24

Closure

We trust the above is satisfactory; however, should you have any questions, please do not hesitate to contact the undersigned.

Sincerely,



Rebecca Dawson, EIT.
Civil Engineering Intern
Sudbury, ON



TULLOCH ENGINEERING
 PROPOSED DEVELOPMENT - 4360 ROAD 35, CHELMSFORD, ON
 WATER DEMAND CALCULATION

DATE: 2024-03-18
 DESIGN | CHECK: RD | PD
 PROJECT NO: 23-0998

SHEET
 1

Equations and Constants	
<u>Flow Criteria</u>	<u>Peaking Factors</u>
<p>35 m³/(ha-d) <i>Light Industrial</i></p>	<p>Peak usage rates will generally be 2 to 4 times the average rate depending on factors such as the type of industry and production schedule.</p>
<p>Maximum daily domestic flow from Section 3.4.3 and 3.4.4, MOE 2008 Design Guidelines for Drinking Water Systems</p>	<p><i>Industrial Water Demands Section 3.4.4 Peaking Factors MOE 2008 Design Guidelines for Drinking-Water Systems</i></p>

DEVELOPMENT CATEGORY	POPULATION			DESIGN FLOWS			NOTES
	Building Use	AREA	PEAK FACTOR	AVERAGE DAILY FLOW	AVERAGE FLOW	PEAK HOUR FLOW	
		Ha	Factor	l/d	l/s	l/s	
Light Industrial	Office Building, Shop Building	2.00	4	70000.0	0.81	3.24	
Total	-	-	-	70000	0.81	3.24	