ADEQUACEY OF PUBLIC SERVICING REPORT

1620 Laperriere Avenue, Ottawa

Prepared by

EAU Structural & Environmental Services

Ottawa, Ontario, K1Y 4P9
Phone: 613 869 0523
Email: derrick.r.clark@rogers.com

Revision 2
November 2024

1 Project Description:

1.1. Introduction:

The property at 1620 Laperriere Avenue is located close to the intersection of Laperriere Avenue and Clyde Avenue North. The existing lot is 0.22 hectare, currently, containing a one-story commercial buildings built in circa 1980. Property at 1620 Laperriere Avenue is currently zoned as IH (Heavy Industrial Zoning) which suits for the purpose of proposed development.

This report will address the servicing requirements associated with the proposed development located at 1620 Laperriere Avenue within the City of Ottawa. This report is prepared in response to the request from City of Ottawa Planning department.

1.2. Existing Conditions:

The property measures a total area of approximately 0.22 hectare. The site is fronting 203mm diameter UCI water main, 225mm diameter Concrete sanitary main and 375mm diameter concrete storm main.

2 Guidelines, Previous Studies, And Reports

The following studies were utilized in the preparation of this report:

- Ottawa Sewer Design Guidelines,
  City of Ottawa, SDG002, October 2012.
  (City Standards)
  - Technical Bulletin ISTB-2018-01
    City of Ottawa, March 21, 2018.
    (ISTB-2018-01)
  - Technical Bulletin ISTB-2018-04
    City of Ottawa, June 27, 2018.
    (ISTB-2018-04)

- Ottawa Design Guidelines Water Distribution
  City of Ottawa, July 2010.
  (Water Supply Guidelines)
  - Technical Bulletin ISD-2010-2
    City of Ottawa, December 15, 2010.
    (ISD-2010-2)
  - Technical Bulletin ISDTB-2014-02
    City of Ottawa, May 27, 2014.
    (ISDTB-2014-02)
  - Technical Bulletin ISTB-2018-02
    City of Ottawa, March 21, 2018.
    (ISTB-2018-02)

- Design Guidelines for Sewage Works,
  Ministry of the Environment, 2008.
  (MOE Design Guidelines)

- Stormwater Planning and Design Manual,
  Ministry of the Environment, March 2003.
  (SWMP Design Manual)

- Ontario Building Code Compendium
  Ministry of Municipal Affairs and Housing Building Development Branch,
  January 1, 2012 Update. (OBC)

3 Water Supply

Residential Water Demand:

The water demand is calculated based on the City of Ottawa Water Distribution Design Guidelines as follows:

Demand Type	Amount	Units
Commercial and Institutional		
- Shopping Centres	2500	L/(1000m^2/d)
- Hospitals	900	L/(bed/day)
- Schools	70	L/(Student/d)
- Trailer Parks no Hook-Ups	340	L/(space/d)
- Trailer Parks with Hook-Ups	800	L/(space/d)
- Campgrounds	225	L/(campsite/d)
- Mobile Home Parks	1000	L/(Space/d)
- Motels	150	L/(bed-space/d)
- Hotels	225	L/(bed-space/d)
- Tourist Commercial	28,000	L/gross ha/d
- Other Commercial	28,000	L/gross ha/d
Maximum Daily Demand		
Residential	2.5 x avg. day	L/c/d
Industrial	1.5 x avg. day	L/gross ha/d
Commercial	1.5 x avg. day	L/gross ha/d
Institutional	1.5 x avg. day	L/gross ha/d
Maximum Hour Demand		
Residential	2.2 x avg. day	L/c/d
Industrial	1.8 x avg. day	L/gross ha/d
Commercial	1.8 x avg. day	L/gross ha/d
Institutional	1.8 x avg. day	L/gross ha/d

- Commercial occupancy :

 28000 L/gross ha/day x 0.22 gross ha = 6160 L/d

Total Demand: 6160 L/d = 0.07 L/s

 Maximum daily demand (factor of 1.5) is 0.07 L/s x 1.5 = 0.105L/s
 Peak hourly demand (factor of 1.8) = 0.175L/s x 1.8 = 0.315 L/s

Fire Fighting Requirement
Based on Fire Underwriter Survey Method

Fire flow protection requirements were calculated as per the Fire Underwriter's Survey (FUS). Please see below table. Total area for existing and proposed addition are 450sq.m + 357sq.m = 807sq.m

Fire Flow Calculations as per Fire Underwriter's Survey Guidelines

$F=220C\sqrt{A}$

Address:
File No.:

where
F= Required fire flow in L/min
C= Coefficient related to the type of construction
A= Total floor area in m²

C

Coefficient Related to Type of Construction		C-Value
• Wood Frame Construction	☐	1.5
• Ordinary Construction	☑	1.0
• Non-Combustible Construction	☐	0.8
• Fire-Resistive Construction	☐	0.6
	C =	1.0

A

Total Floor Area (m²)
8686 ft² ◄► 807.00 m²

F

Required Fire Flow (L/min)
= 220·C·√A
= **6200** L/min

Occupancy Reductions or Surcharges

• Non-Combustible	☐	-25%
• Limited Combustible	☐	-15%
• Combustible	☑	0%
• Free Burning	☐	15%
• Rapid Burning	☐	25%
		0%
	6200	L/min

Sprinkler Reduction

• Adequately Designed System	☐	-30%
• Water Supply is Standard	☐	-10%
• Fully Supervised System	☐	-10%
		0%

6200 L/min
Reduction: 0 L/min
Fire Flow **6200 L/min**

Exposure Surcharge

Distance	Charge	# of Sides	
• 0 to 3m	25%		
• 3.1 to 10m	20%	2	40%
• 10.1 to 20m	15%		
• 20.1 to 30m	10%		
• 30.1 to 45m	5%	2	10%
			50%

6200 L/min
Surcharge: 3100 L/min
Fire Flow: **9300 L/min**

REQUIRED FIRE FLOW

Cannot exceed 45,000 L/min nor be less than 2,000 L/min

9300 L/min
or 200 L/s
or 2000 IGPM

There are two (2) existing fire hydrants in proximity to 1620 Laperriere Avenue that are available to provide the required fire flow demand of 9,300 L/min. Fire hydrant locations are illustrated in the sketch below. Table below summarizes the aggregate fire flow of the contributing hydrants in close proximity to the proposed development based on Table 18.5.4.3 of ISTB-2018-02.

Fire Protection Summary Table

Building	Fire Flow Demand (L/min)	Fire Hydrant within 75m	Fire Hydrant within 150m	Fire Hydrant within 300m	Available Combine Fire Flow (L/min)
1620 Laperriere Avenue	9,300	1	1	0	(1 x 5678) + (1 x 3785) = 9,463

The total available fire flow from contributing hydrants is equal to 9,463L/min which will provide adequate fire flow for the proposed development.

The city of Ottawa was contacted to obtain boundary conditions associated with the estimated water demand. The following are boundary conditions, HGL, for hydraulic analysis at 1620 Laperriere Avenue assumed to be connected to the 203mm dia. watermain on Laperriere Avenue.

Minimum HGL: 125.1 m
Maximum HGL: 133.1 m
Max Day + Fire Flow : 97.2 m

Analyzing results:

Demand Senario	Head (m)	Pressure (KPa)
Max. HGL	133.10	549
Min HGL	125.10	470
Max Day + Fire Flow	97.20	197

❖ Ground Elevation = 77.1 m

Floor Elevation	(m)	Pressure (KPa)
Ground Floor EL. =	78.1	190

Based on City of Ottawa Design Guidelines, minimum water pressure of 310 kPa is required for normal water demand. The calculated water pressure (190Kpa) is less than the minimum threshold. As such a mechanical system such as booster pump is needed to provide water demand pressure. Note that a pressure test will be required at the time of construction to confirm minimum pressure is provided for proposed development.

4 Sanitary Sewage

Sanitary Sewage Calculation

Design Flows

- Commercial occupancy :

 28000 x 0.22 = 6160 L/d

Total: 6160 L/d = 0.07 L/s

Peaking Factor = 1 + 14/(4 + (7/ 1000)^0.5)*0.8 = 3.54 *use 4 maximum

Q Peak Domestic = 0.07 L/sec x 4.0 = 0.28 L/sec

Infiltration

Q Infiltration = 0.33 L/S/Gross hectare x 0.22 ha = 0.07 L/sec

Total Peak Sanitary Flow = 0.28 + 0.07 = 0.35 L/sec

The Ontario Building Code specifies minimum pipe size and maximum hydraulic loading for sanitary sewer pipe. OBC 7.4.10.8 (2) states "Horizontal sanitary drainage pipe shall be designed to carry no more than 65% of its full capacity." A 135mm diameter sanitary service with a minimum slope of 1.0% has a capacity of 45.0 Litres per second. The maximum peak sanitary flows for the

site is 0.35 L/s. Since 0.35 L/s is much less than 0.65 x 45.0 = 29.3 L/s, therefore, 135mm diameter PVC pipe will be satisfactory.

Sewage discharges will be domestic in type and in compliance with the Ontario Building Code. No industrial sewage will be produced by the proposed development. As such, no Environmental Compliance approval (ECA) would be required by the proposed development.
The proposed service connection from the proposed building will be made to the existing sanitary sewer on Laperriere Ave,. The proposed service will be a 135mm diameter PVC pipe installed at a minimum slope of 1%.

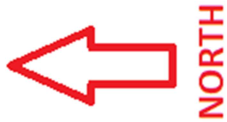
The peak sanitary flow from the proposed development is less than 10 percent of the capacity of the existing sanitary. As such the proposed increase in sanitary flow as a result of the construction of the proposed building is negligible and there is sufficient available capacity for the proposed development.

Should you have any question, do not hesitate to let us know.

Yours truly,
Derrick R. Clark, P. Eng.

APPENDIX A:

GeoOttawa Map


NORTH


1580
1594
1600
1640
1615
937
915
668
668
908
900
1621
639
870
874
863
873
101
Woodward Dr
aut/Hwy. 417
aut/Hwy. 417
aut/Hwy. 417

APPENDIX B:

Correspondence and Engineering Drawings

Boundary Conditions

Gmail

EAU Services <eau.services.ottawa@gmail.com>

RE: Request for site boundary condition- 1620 LAPERRIERE AVE

1 message

Cassidy, Tyler <tyler.cassidy@ottawa.ca> 29 July 2024 at 10:29
To: EAU Services <eau.services.ottawa@gmail.com>
Cc: derrick CLARK <derrick.r.clark@rogers.com>, "Lodoen Unseth, Kelby" <Kelby.LodoenUnseth@ottawa.ca>

Good Morning,

Please find below the boundary conditions for the proposed development at 1620 Laperriere Avenue:

The following are boundary conditions, HGL, for hydraulic analysis at 1620 Laperriere Avenue assumed to connected to the 203mm watermain on Laperriere Avenue (see attached PDF for location).

-

Minimum HGL: 125.1 m

Maximum HGL: 133.1 m

Max Day + Fire Flow (167 L/s): 97.2 m

-

These are for current conditions and are based on computer model simulation.

Disclaimer: The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation.

Please let me know if you require any additional information.

Thank you,

Tyler Cassidy, P.Eng

Infrastructure Project Manager,

Planning, Development and Building Services department (PDBS)/ Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB) - South Branch

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

613.580.2424 ext./poste 12977, Tyler.Cassidy@ottawa.ca

From: Cassidy, Tyler
Sent: July 11, 2024 10:06 AM
To: EAU Services <eau.services.ottawa@gmail.com>
Cc: derrick CLARK <derrick.r.clark@rogers.com>; Lodoen Unseth, Kelby <Kelby.LodoenUnseth@ottawa.ca>
Subject: RE: Request for site boundary condition- 1620 LAPERRIERE AVE

Hi EAU Team,

I have submitted your request for boundary conditions to our water resources team, please allow for up to 10 business days for results to be provided. I will contact you if any additional information is required.

Also, please note that I adjusted your total required fire flow to 10,000 L/min (167 L/s), When you submit your FUS calculations with the Site Servicing Report, you will need to revise your FUS calculation to match, Please follow steps A-G on page 19 of the FUS2020 Guideline exactly with the next submission.

Thank you,

Tyler Cassidy, P.Eng

Infrastructure Project Manager,

Planning, Development and Building Services department (PDBS)/ Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB) - South Branch

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

613.580.2424 ext./poste 12977, Tyler.Cassidy@ottawa.ca

From: EAU Services <eau.services.ottawa@gmail.com>
Sent: July 10, 2024 2:36 PM
To: Cassidy, Tyler <tyler.cassidy@ottawa.ca>
Cc: derrick CLARK <derrick.r.clark@rogers.com>; Lodoen Unseth, Kelby <Kelby.LodoenUnseth@ottawa.ca>
Subject: Re: Request for site boundary condition- 1620 LAPERRIERE AVE

Hi Tyler,

Please see attached revised FUS,

Thanks,

On Tue, 9 Jul 2024 at 15:06, Cassidy, Tyler <tyler.cassidy@ottawa.ca> wrote:

> Good Afternoon EAU Team,
>
> I'm preparing the request for boundary conditions for our Water Resources Team; however, I am noticing a numerical error in the provided FUS calculation. Some of the calculations haven't been rounded to the nearest 1000 as required per FUS 2020. I did a quick check, and it will have an impact on your FUS numbers.
>
> Could you please redo the FUS calculation following the FUS 2020 methodology (attached) and return to my attention?
>
> Thank you,
>
> **Tyler Cassidy, P.Eng**
>
> Infrastructure Project Manager,
>
> Planning, Development and Building Services department (PDBS)/ Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB) - South Branch
>
> City of Ottawa | Ville d'Ottawa
>
> 110 Laurier Avenue West Ottawa, ON | 110, avenue, Laurier Ouest, Ottawa (Ontario) K1P 1J1
>
> 613.580.2424 ext./poste 12977, Tyler.Cassidy@ottawa.ca
>
> ---
>
> **From:** EAU Services <eau.services.ottawa@gmail.com>
> **Sent:** July 06, 2024 10:05 PM
> **To:** Lodoen Unseth, Kelby <Kelby.LodoenUnseth@ottawa.ca>
> **Cc:** Derrick Clark <derrick.r.clark@rogers.com>
> **Subject:** Fwd: Request for site boundary condition - 1620 LAPERRIERE AVE
>
> **CAUTION: This email originated from an External Sender. Please do not click links or open attachments unless you recognize the source.**
>
> **ATTENTION : Ce courriel provient d'un expéditeur externe, Ne cliquez sur aucun lien et n'ouvrez pas de pièce jointe, excepté si vous connaissez l'expéditeur.**
>
> Hi Kelby,

We are still waiting for the boundary conditions to complete our servicing report. I would appreciate your expedited response.

Thank you,

EAU Team

---------- Forwarded message ---------
From: **EAU Services** <eau.services.ottawa@gmail.com>
Date: Thu, 27 Jun 2024 at 23:56
Subject: Request for site boundary condition- 1620 LAPERRIERE AVE
To: <Kelby.LodoenUnseth@ottawa.ca>

Hi Kelby,

Please provide us site boundary condition as per below information and attached FUS:

Address: 1620 LAPERRIERE AVE

Proposed Development: Commercial development

Average daily Demand: 0.07 L/ S

May Daily Demand:0.105 L/ s

Peak hour demand: 0.315 L/s

fire flow requirement as per FUS: 162 L/S

Closest Hydrant 40m on the frontage.

Fire flow calculation based on FUS.

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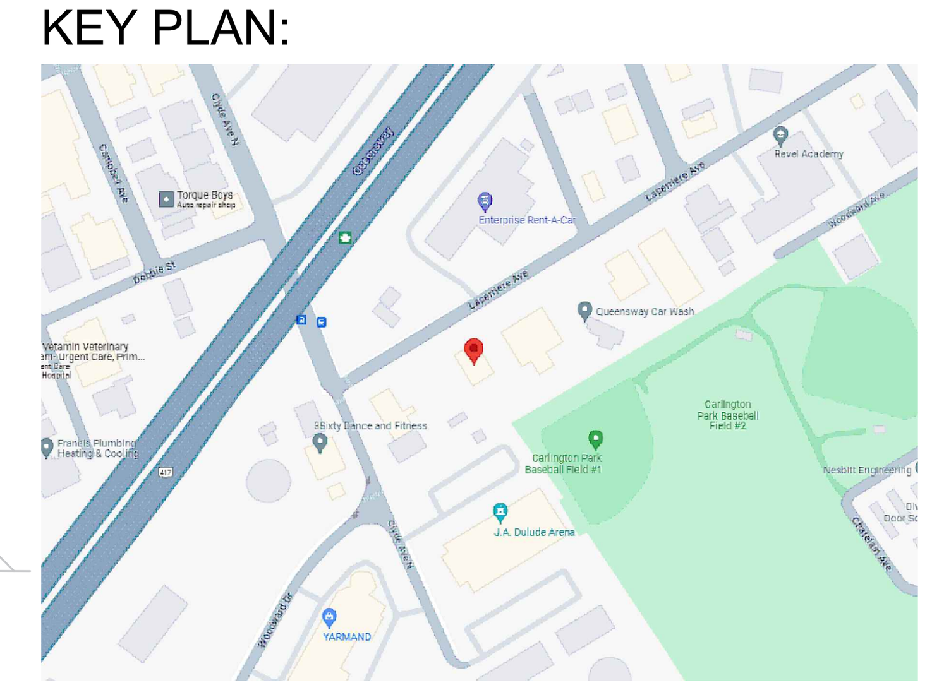
SERVICE	Ø(mm)	MATERIAL	INV.	SEPARATION
STORM	100	PVC	77.3	1.7m
WATER	203	DI	75.4	

1 C1 GRADING & SITE SERVICING PLAN

SCALE: 1 : 100

KEY PLAN:



NOTES:

1) "ROW" LEVELS + SEWER MAIN DETAILS TAKEN FROM CITY OF OTTAWA WATER & WASTEWATER NETWORKS -INTERACTIVE MAP.
2) SURVEY INFO WAS TAKEN FROM THE SURVEY DATED 24 SEPT. 2024 BY FAIRHALL, MOFFATT & WOODLAND.
3) INTERNAL - SEE MECHANICAL DWGS FOR DETAILS.
4) EXISTING GRADING & DRAINAGE ON SITE TO REMAIN UNCHANGED.
5) EXISTING STORM UNDER BLDG. WAS CAMERA INSPECTED ON 15/10/2024. THIS LINE IS TO BE ABANDONED PER CITY OF OTTAWA SPECIFICATIONS.

Notes & Legend

Symbol	Denotes	
(property line)	Denotes	Property Line
MHST	"	Maintenance Hole (Storm)
MHSA	"	Maintenance Hole (Sanitary)
— s — s —	"	Underground Sanitary Sewer
— ST — ST —	"	Underground Storm Sewer
WV	"	Water Valve
+65.00	"	Location of Existing Elevations
T.O.F.	"	Top of Foundation
UP	"	Utility Pole
USF	"	Underside of Footing
USS	"	Underside of Slab
BWV	"	Backwater Valve
TBM	"	Temporary Bench Mark (EL = 100.0)
Gr	"	Proposed Soft Landscaping (Grass, Top Soil & Sod)
As	"	Proposed Hard Landscaping (Asphalt)

LICENSED PROFESSIONAL ENGINEER D. R. CLARK 24/10/24 PROVINCE OF ONTARIO

EAU STRUCTURAL & ENVIRONMENTAL SERVICES

Structural Environmental Services

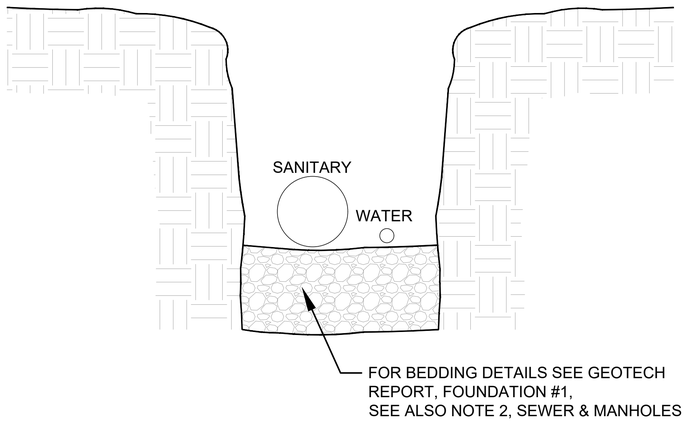
Ottawa, ON K1Y 4P9 Tel. : 613- 869- 0523

GRADING & SITE SERVICING PLAN

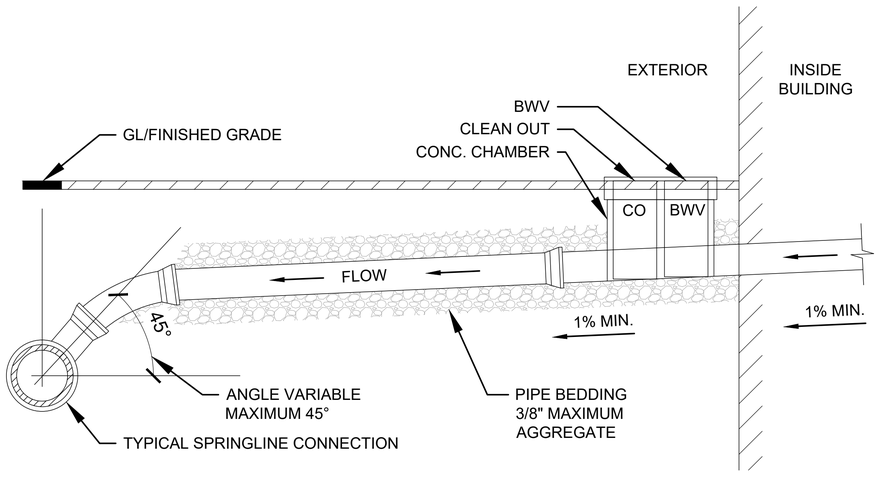
1620 LAPERRIERE AVE. OTTAWA, ON K1Z 7T2

Drawn by: E.J.	Checked By: D.C.
Date: Oct. 24, 2024	Scale: 1:100

Plan number: C1



1 / C2 SERVICES IN TRENCH
SCALE: N.T.S.



2 / C2 PIPE DETAIL
SCALE: N.T.S.

GENERAL NOTES:
1. THE DESIGN AND CONSTRUCTION OF THIS PROJECT IS TO CONFORM TO THE REQUIREMENTS OF THE 2020 ONTARIO BUILDING CODE (O.REO 332/12) & THE CSA STANDARDS INDICATED THEREIN. THE LATEST REVISIONS TO ALL STANDARDS WILL GOVERN.
2. THE CONTRACTOR SHALL CHECK & VERIFY ALL CONDITIONS & MEASUREMENTS AT THE SITE &REPORT ANY DISCREPANCIES OR UNSATISFACTORY CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE WORK TO THE ENGINEER AND/OR PROJECT COORDINATOR PRIOR TO PROCEEDING WITH THE WORK.

FOUNDATIONS:
1. PLEASE REF. GEOTECHNICAL INVESTIGATION REPORT - PG7151-1 (27/06/2024).

CONCRETE:
1. ALL CONCRETE TO BE MINIMUM 25MPa @ 28 DAYS c/w 5-8% AIR ENTRAINMENT.
2. THE CONCRETE IS TO BE VIBRATED DURING PLACEMENT. THE WIRE MESH IS TO BE SUPPORTED ON CONC. BLOCKS OR PLASTIC CHAIRS SO THAT IT REMAINS IN THE CENTER OF THE SLAB AND THE SLAB IS TO BE FLOAT FINISHED.
3. FOR DETAILS ON THE FLOOR DRAINS & UNDERGROUND PLUMBING, REFER TO PLUMBING PLANS.

DOORS/HARDWARE:
1. CONSULT WITH THE CLIENT FOR DETAILS.

ELECTRICAL/LIGHTING/INSTRUMENTATION:
1. CONSULT WITH THE CLIENT FOR DETAILS.

PLUMBING:
1. CONSULT WITH THE CLIENT FOR DETAILS.

TIMBER:
1. ALL STRUCTURAL FRAMING LUMBER IS TO BE SPF CONVENTIONAL LUMBER.
2. ALL LOAD BEARING WALLS TO HAVE CONTINUOUS HORIZONTAL BLOCKING AT MID POINT.
3. ALL LINTELS TO BE 2- 2x10 c/w 2-2x6 POSTS AT EACH END, UNLESS SHOWN OTHERWISE.

MINIMUM LOADS & DEFLECTION:
LIVE LOAD = 1.9 KPa
DEAD LOAD = 1.0 KPa
SNOW LOAD = 2.5 KPa
LIVE LOAD DEFLECTION = L/360, MAX.
TOTAL LOAD DEFLECTION = L/360

NOTES FOR SERVICING:
1. ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS FOR THE CITY OF OTTAWA STANDARD SPECIFICATION AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD SPECIFICATION (OPPS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD), UNLESS OTHERWISE SPECIFIED, TO THE SATISFACTION OF THE CITY AND THE CONSULTANT.
2. THE POSITION OF THE EXISTING POLE LINES, CONDUITS, WATER MAINS, SEWERS AND OTHER UNDERGROUND AND ABOVE GROUND UTILITIES, IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND SHALL ASSUME LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION, ANY RELOCATION OF EXISTING UTILITIES IS TO BE UNDERTAKEN AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL, CABLE, TV AND CONSUMERS GAS LINES.
4. ALL TRENCHING AND EXCAVATIONS ARE TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
5. REFER TO ARCHITECT PLANS FOR BUILDING DIMENSIONS LAYOUT.
6. THE LOCATION OF UNDERGROUND SERVICES IS BASED ON INFORMATION FROM THE CITY OF OTTAWA, HOWEVER, THE CONTRACTOR MUST ENSURE THAT THIS INFORMATION IS VERIFIED PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
7. ALL ELEVATIONS ARE FROM ON SITE TBM = 100.00.
8. JOB BENCHMARK AS INDICATED ON THE DRAWINGS, TOP OF SLAB @ REAR OF EXISTING BUILDING.
9. ALL EDGES OF THE DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT (THE CONTACTORS RESPONSIBILITY).
10. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIAPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
11. REMOVE FROM THE SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
12. ALL PROPOSED UTILIZES CONNECTION POINTS AND CROSSINGS (I.E: STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
13. SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY ARE TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
14. CONTRACTOR TO REINSTATE PAVER STONES IN CITY “ROW”.
15. PAVEMENT STRUCTURE SHALL CONSIST OF:

TABLE 6 - RECOMMENDED PAVEMENT STRUCTURE - ACCESS LANES AND HEAVY TRUCK PARKING AREAS

	THICKNESS (mm)	MATERIAL DESCRIPTION
1)	40	WEAR COURSE - HL-3 OR SUPERPAVE 12.5 ASPHALTLIC CONCRETE
2)	50	WEAR COURSE - HL-8 OR SUPERPAVE 19 ASPHALTLIC CONCRETE
3)	150	BASE - OPSS GRANULAR A CRUSHED STONE
4)	450	SUBBASE - OPSS GRANULAR B TYPE II

SUBGRADE - EITHER FILL, IN-SITU SOIL, OR OPSS GRANULAR B TYPE I OR II MATERIAL PLACED OVER IN-SITU SOIL, BEDROCK OR CONCRETE FILL.

NOTES FOR SEWER AND MANHOLES:
1. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCES AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH OPPS 407 AND 410.
4. SANITARY BACKWATER VALVES ARE TO BE PROVIDED FOR EACH BUILDING CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER CITY OF OTTAWA STD S14.1 OR S14.2.
5. STORM BACKWATER VALVES ARE TO BE PROVIDED CLOSE TO THE FOUNDATION WALL NEAR SERVICES ENTRY AS PER THE CITY OF OTTAWA STD S14.
6. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
7. GAS MAIN SHALL BE 1.0m OF SEPARATION FROM WATERMAIN AS PER R20.

NOTES FOR WATER MAIN:
1. ALL WATER MAIN AND WATER MAIN APPURTENANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND THE MINISTRY OF ENVIRONMENTAL STANDARDS AND SPECIFICATIONS.

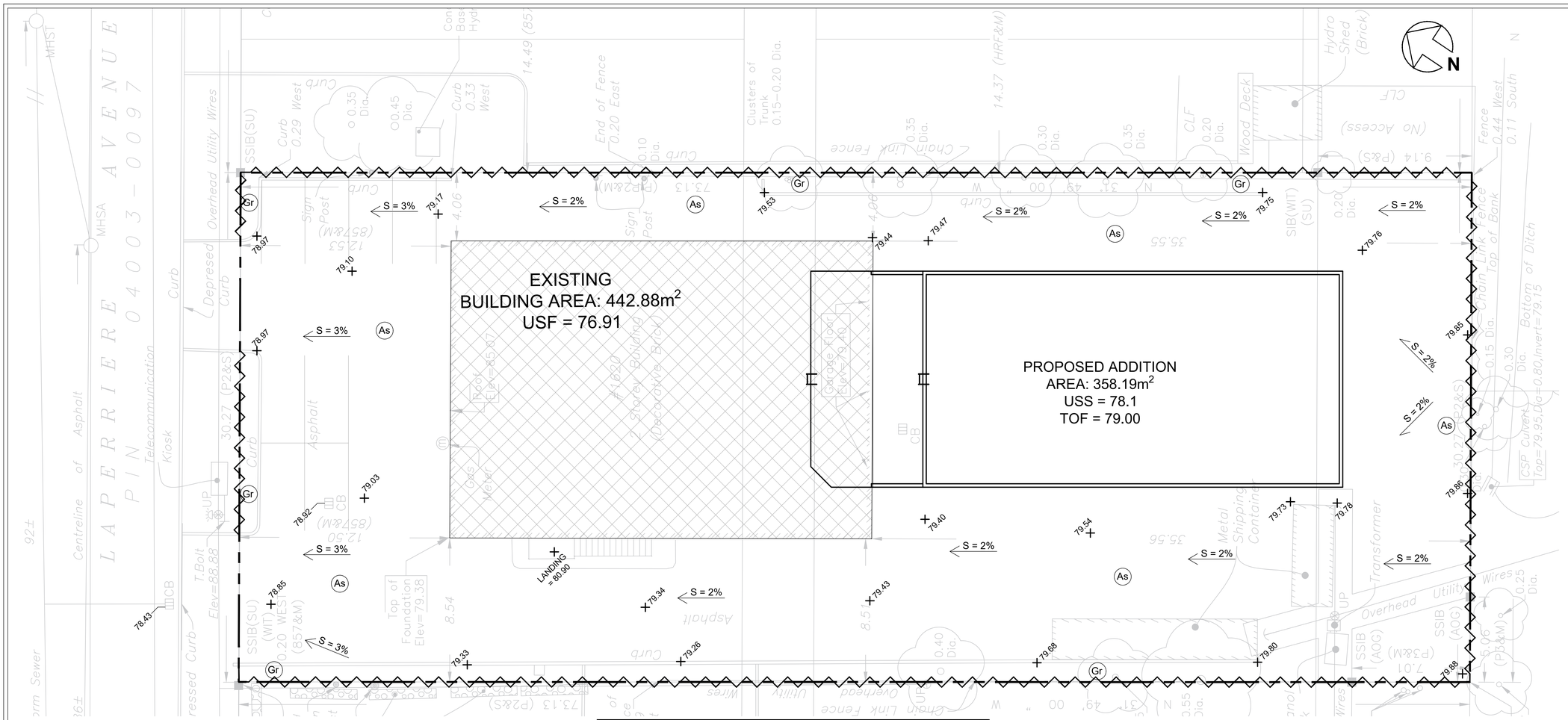
EAU STRUCTURAL & ENVIRONMENTAL SERVICES
Structural Environmental Services
Ottawa, ON
K1Y 4P9
Tel. : 613- 869- 0523

DETAILS & NOTES

1620 LAPERRIERE AVE.
OTTAWA, ON K1Z 7T2

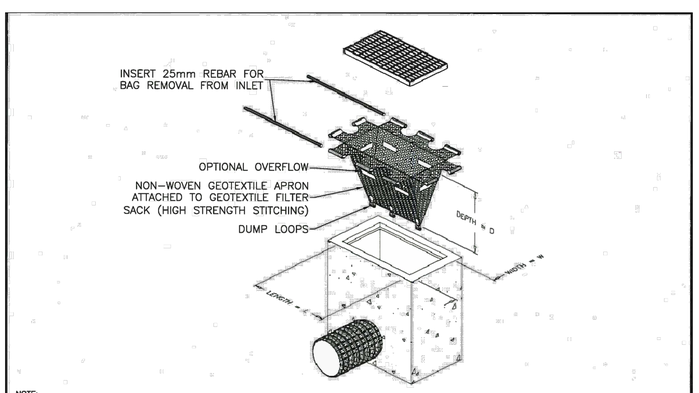
Drawn by: E.J.	Checked By: D.C.
Date: Oct. 24, 2024	Scale: 1:100

Plan number: C2



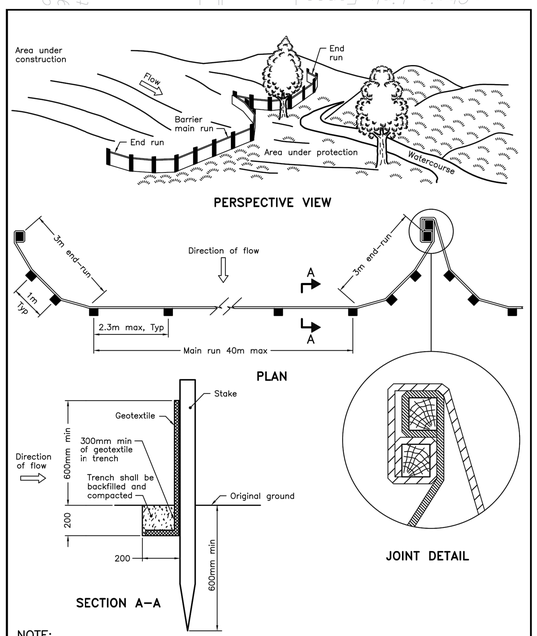
1 / C3 EROSION & SEDIMENT CONTROL PLAN

SCALE: 1 : 125



NOTE:
1. FILTER FABRIC TO BE INSPECTED BI-WEEKLY AND REPLACED BY THE OWNER WHEN THE SILT BAG (OR SILT SACK) IS 50% FULL OF SEDIMENT.
2. THIS STANDARD SHOULD BE USED DURING ROAD CONSTRUCTION.
3. THE USE OF TERRAFIX SILT SACK IS REQUIRED. THE USE OF ANY EQUIVALENT PRODUCT IS SUBJECT TO APPROVAL BY THE DIRECTOR OF ENGINEERING.

MARKHAM ENGINEERING DEPARTMENT	DRAWING NAME: STREET CATCHBASIN SEDIMENT TRAP DETAIL	SCALE: NTS REV: 1 DATE: AUGUST 2012	APPROVED BY: DIRECTOR OF ENGINEERING DWG. NO. MP5



NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING		Nov 2021	Rev 3
LIGHT-DUTY SILT FENCE BARRIER			OPSD 219.110

Notes & Legend

- Property Line
- Silt Fence Per OPSD 219.110

EROSION AND SEDIMENTATION

DURING ALL CONSTRUCTION ACTIVITIES EROSION AND SEDIMENTATION SHALL BE CONTROLLED BY THE FOLLOWING TECHNIQUES:

- LIMIT EXTENT OF EXPOSED SOILS AT ANY GIVEN TIME.
- RE-VEGETATE EXPOSED AREAS AS SOON AS POSSIBLE.
- MINIMIZE AREA TO BE CLEARED AND GRUBBED.
- INSTALL SILT FENCE AS PER OPSD 219.110 DRAWING SHOWN ATTACHED.
- TO PREVENT SEDIMENT FROM ENTERING EXISTING CONVEYANCE SYSTEMS.
- MUST BE INSTALLED BEFORE COMMENCEMENT OF CONSTRUCTION AND IN ACCORDANCE WITH THE TOE-IN-DETAIL.
- SILT FENCE CAN BE REMOVED AFTER LANDSCAPING IS COMPLETE.
- NO REFUELING OR CLEANING EQUIPMENT NEAR CATCH BASIN.
- PROVIDE SEDIMENT TRAPS ON APPROPRIATE DAYS TO AVOID FLOODING.
- INSTALL FILTER SOCKS BETWEEN CATCH BASIN COVER AND FRAME.

CONTRACTOR NOTE:
THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE SURROUNDING WATERCOURSE OR SWALES, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

THE FOLLOWING PRACTICES WILL BE FOLLOWED AFTER EVERY RAINFALL TO GUARANTEE THE PROPER PERFORMANCE:

- VERIFY WATER IS NOT FLOWING UNDER SILT FENCES.
- BUILD UP MATERIAL SHOULD BE REMOVED WHEN IT REACHES A DEPTH EQUAL TO HALF THE HEIGHT OF THE FENCE.
- CLEAN OR CHANGE FILTER SOCKS AT CATCH BASINS.
- A VISUAL INSPECTION SHALL BE COMPLETED DAILY ON SEDIMENT CONTROL BARRIERS AND CATCH BASIN AND ANY DAMAGE REPAIRED IMMEDIATELY. THIS PRACTICE WILL ENSURE THAT THE SEDIMENT CONTROL BARRIERS ARE RETAINING ADEQUATELY AND WILL NOT COLLAPSE.
- IN SOME CASES BARRIERS MAY BE REMOVED TEMPORARILY TO ACCOMMODATE THE CONSTRUCTION OPERATIONS; AFFECTED BARRIERS WILL BE REINSTATED AT NIGHT WHEN CONSTRUCTION IS COMPLETED.
- A SILT FENCE BARRIER (OPSD 219.100 TO 219.261) TO BE INSTALLED.
- CONSTRUCTION AND MAINTENANCE REQUIREMENTS FOR EROSION AND SEDIMENT CONTROLS TO COMPLY WITH ONTARIO PROVINCIAL STANDARD SPECIFICATION OPSS 805, AND PROPER MUNICIPALITY SPECIFICATIONS.

NOTE:
THE SEDIMENT & EROSION CONTROL MEASURES MAY BE MODIFIED AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR RIDEAU VALLEY CONSERVATION AUTHORITY. THE SEDIMENT AND EROSION CONTROL SHOULD BE CONSIDERED A "LIVING DOCUMENT" THAT MAY NEED TO BE CHANGED OR ADAPTED DURING THE LIFE OF THE PROJECT TO BE MORE EFFECTIVE.

LICENSED PROFESSIONAL ENGINEER D. R. CLARK 24/10/24 PROVINCE OF ONTARIO

EAU STRUCTURAL & ENVIRONMENTAL SERVICES
Structural Environmental Services
Ottawa, ON K1Y 4P9
Tel. : 613- 869- 0523

EROSION & SEDIMENT CONTROL PLAN		Plan number: C3
1620 LAPERRIERE AVE. OTTAWA, ON K1Z 7T2		
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