



# **FASTFRATE OTTAWA** WAREHOUSE AND **DISTRIBUTION FACILITY** SOMME STREET, OTTAWA, ONTARIO

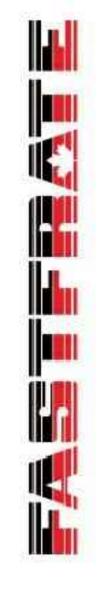
# **LIST OF DRAWINGS**

### **PLAN No:**

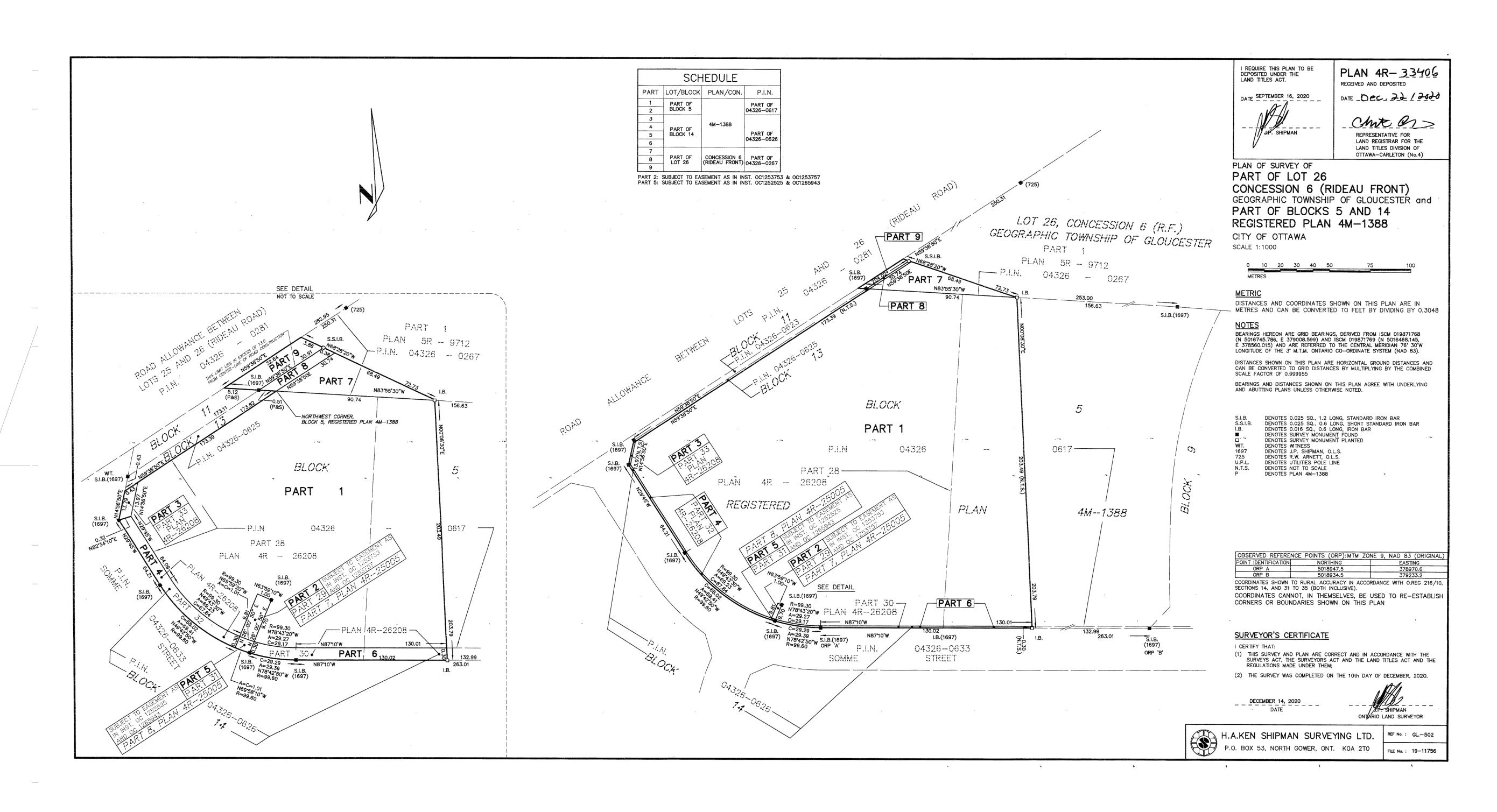
### DESCRIPTION

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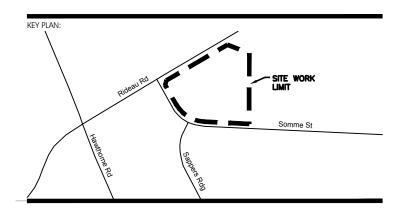


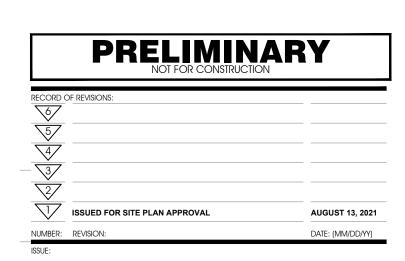














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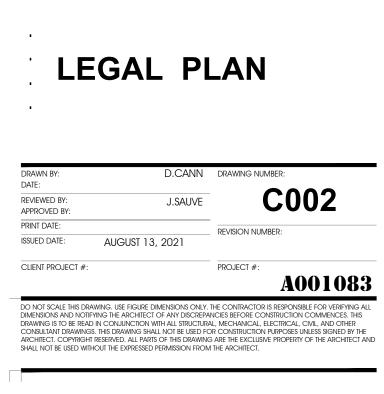


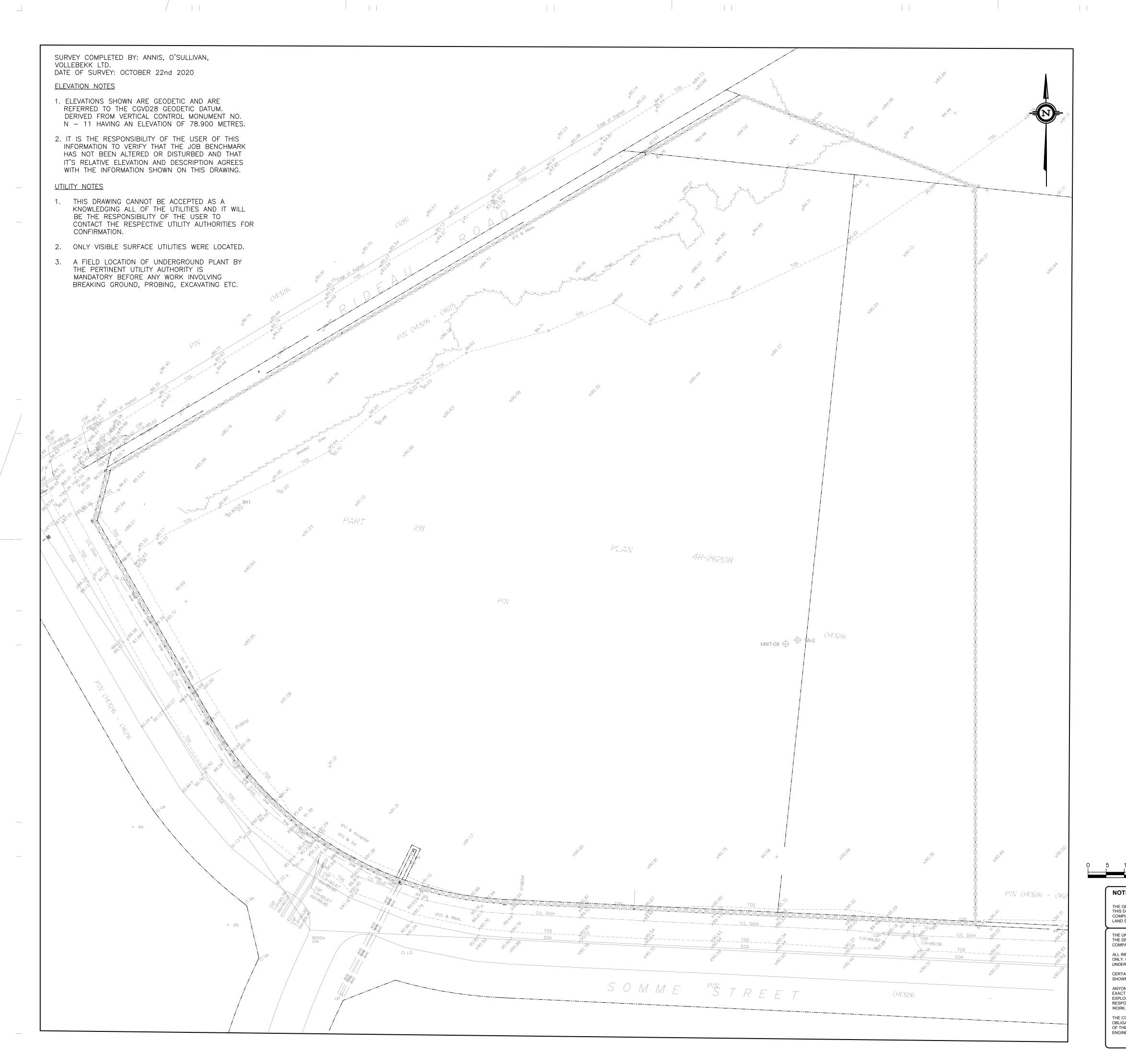
PROJECT TITLE: - FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY

Somme St. Ottawa, on

DRAWING TITLE:

PROFESSIONAL STAMP:

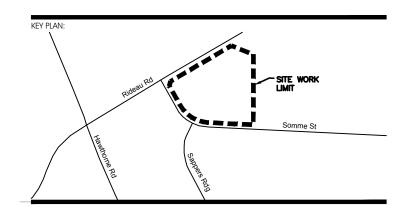




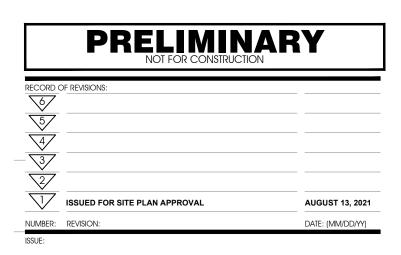
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EXISTING	LEGEND	PROPOSED
	SURVEY MONUMENT PLANTED	
	SURVEY MONUMENT FOUND	
SIB	STANDARD IRON BAR	
SSIB IB	SHORT STANDARD IRON BAR	
СС	IRON BAR CUT CROSS	
CP	CONCRETE PIN	
IBØ	ROUND IRON BAR	
SSIB*	SHORT STANDARD IRON BAR	
IB*	IRON BAR	
(WIT)	WITNESS	
Meas.	MEASURED	
(AOG)	ANNIS, O'SULLIVAN, VOLLEBEKK LTD.	
(P )	REGISTERED PLAN 4M-1388	
(P2)	PLAN 4R-26208	
$\bigtriangleup$	SIGN	
O LS	LIGHT STANDARD	
OUP	UTILITY POLE	
• AN	ANCHOR	
0	NATURAL GAS LINE	
CSP	CORRUGATED STEEL PIPE	
+ 65.00	LOCATION OF ELEVATIONS	
C/L	CENTRELINE	
	PROPERTY LINE	
TOS	TOP OF SLOPE	
BOS	BOTTOM OF SLOPE	
T/P	TOP OF PIPE	
T/G	TOP OF GRATE	
EOA	EDGE OF ASPHALT	
JB	JERSEY BARRIER	
OHW	OVERHEAD WIRES WORK LIMIT	
	BOREHOLE	
- Ө- ВН-1		









PROFESSIONAL STAMP



PROJECT TITLE: — FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: 1:500

Somme St. Ottawa, on

FESSIONAL STAMP:

### TOPOGRAPHICAL SURVEY PLAN

DRAWN BY: DATE:	D.CANN	DRAWING NUMBER:
REVIEWED BY: APPROVED BY:	J.SAUVE	C003
PRINT DATE:		REVISION NUMBER:
ISSUED DATE:	AUGUST 13, 2021	REVISION NOWBER.
CLIENT PROJECT #:		PROJECT #:
		A001083
DIMENSIONS AND NO DRAWING IS TO BE RE CONSULTANT DRAWIN ARCHITECT. COPYRIG	NIFYING THE ARCHITECT OF ANY DISCREPA AD IN CONJUNCTION WITH ALL STRUCTUR IGS. THIS DRAWING SHALL NOT BE USED FO	THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ANCIES BEFORE CONSTRUCTION COMMENCES. THIS AL, MECHANICAL, ELECTRICAL, CIML, AND OTHER OR CONSTRUCTION PURPOSES UNLESS SIGNED BY THE G ARE THE EXCLUSIVE PROPERTY OF THE ARCHITECT AND M THE ARCHITECT.

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NOTE OF CAUTION

THE GEODETIC COORDINATES OF EVERY ITEM INCLUDED AS PART OF THIS DOCUMENT HAVE NO LEGAL VALUE. THE SITE LAYOUT MUST BE COMPLETED USING THE OFFICIAL BENCHMARKS OF AN ACCREDITED LAND SURVEYOR.

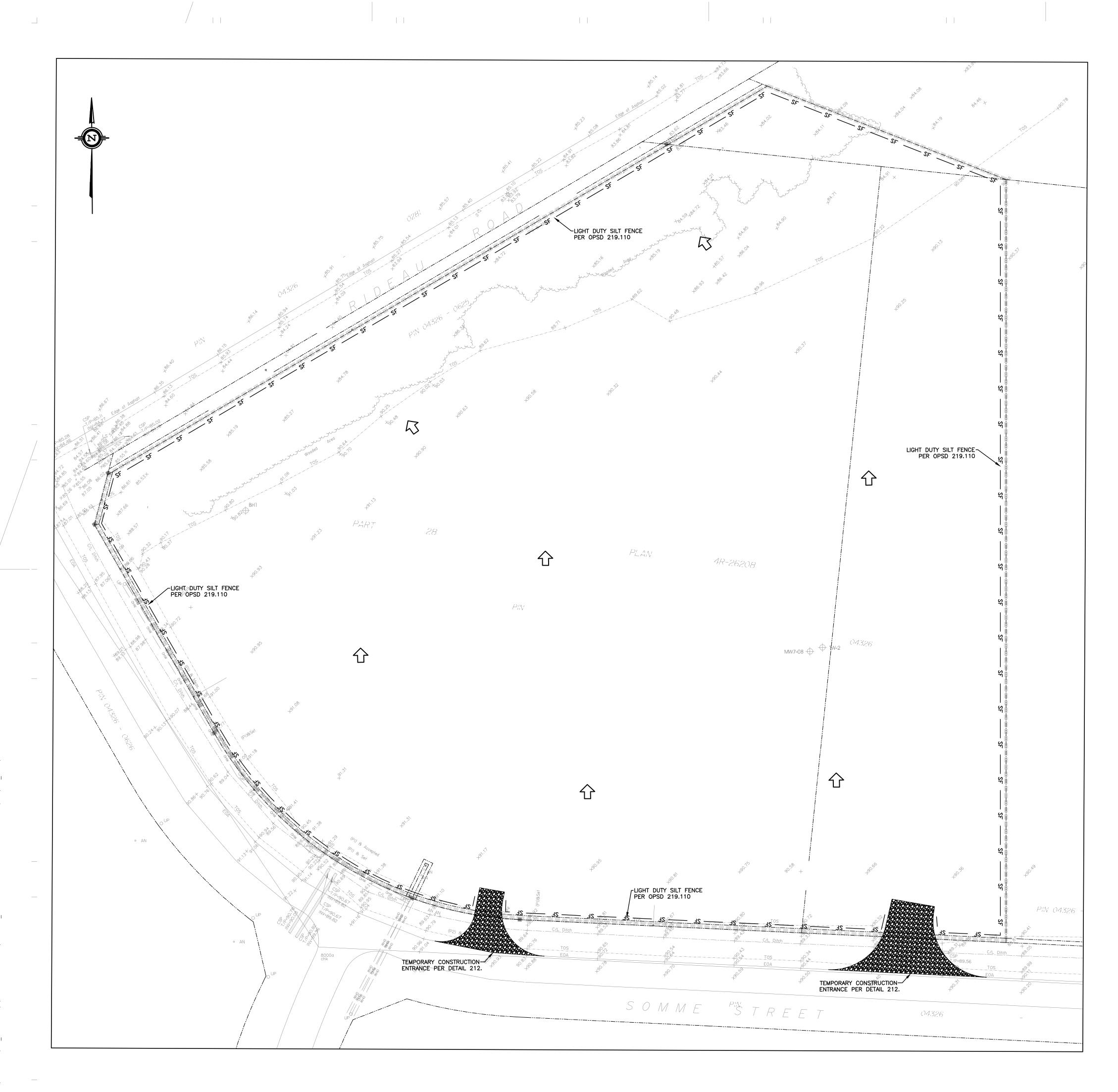
THE UNDERGROUND FEATURES AND INFORMATION THAT APPEAR ON THE DRAWINGS WERE OBTAINED FROM THE PUBLIC UTILITY COMPANIES AND/OR FROM THE CITY EACH RESPECTIVELY.

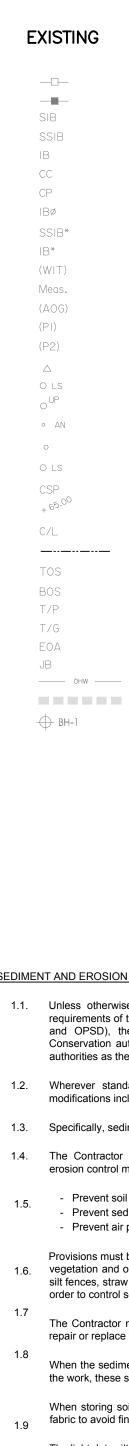
ALL INFORMATION UNDER THE LEGEND 'EXISTING' IS FOR INFORMATION ONLY. COMPLETE OR EXACT LOCATION AND ELEVATION OF UNDERGROUND SERVICES ARE NOT GUARANTEED. CERTAIN UNDERGROUND FEATURES ON PRIVATE PROPERTY ARE NOT

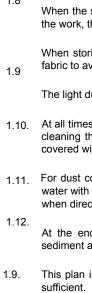
SHOWN ON THE CURRENT DRAWING. ANYONE WHO PROCEEDS WITH EXCAVATION WORK SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND FEATURES, BY EXPLORATORY EXCAVATIONS, AND SHALL ASSUME FULL RESPONSIBILITY IF THERE IS ANY DAMAGE THAT OCCURS DURING

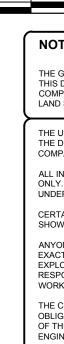
WORK. THE CONTRACTOR WILL HAVE THE RESPONSIBILITY AND THE OBLIGATION TO VALIDATE, BY EXPLORATORY EXCAVATION, THE SIZE

OF THE PUBLIC UTILITIES UNDERGROUND SERVICES AND TO WARN THE ENGINEER OF ANY CONFLICT WITH THE PROJECTED WORK.







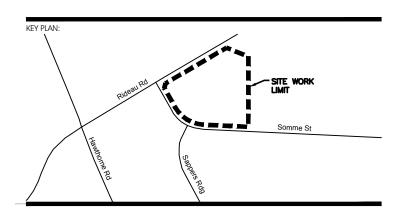


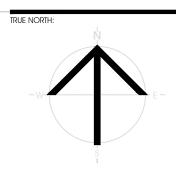
#### LEGEND

PROPOSED

	SURVEY MONUMENT PLANTED	
	SURVEY MONUMENT FOUND	
	STANDARD IRON BAR	
	SHORT STANDARD IRON BAR	
	IRON BAR	
	CUT CROSS	
	CONCRETE PIN	
	ROUND IRON BAR	
	SHORT STANDARD IRON BAR	
	IRON BAR	
	WITNESS	
	MEASURED	
	ANNIS, O'SULLIVAN, VOLLEBEKK LTD.	
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	PLAN 4R-26208	
	SIGN	
	LIGHT STANDARD	
	UTILITY POLE	
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	NATURAL GAS LINE	
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	LOCATION OF ELEVATIONS	
	CENTRELINE	
	PROPERTY LINE	
	TOP OF SLOPE	
	BOTTOM OF SLOPE	
	TOP OF PIPE	
	TOP OF GRATE	
	EDGE OF ASPHALT	
	JERSEY BARRIER	
-	OVERHEAD WIRES	
	WORK LIMIT BOREHOLE	
		1 00 000
		+ 99,000
	DRAINAGE DIRECTION	
	OVERLAND FLOW	$\Box$
	SILT FENCE	SF
	TEMPORARY CONSTRUCTION	DROROROF
	ENTRANCE	

# CLIENT LOGO:





	PRELIMIN NOT FOR CONSTRUCT	
RECORD	OF REVISIONS:	
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5		
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$\overline{3}$		
$\frac{1}{\sqrt{2}}$		
$\overline{\mathbf{V}}$	ISSUED FOR SITE PLAN APPROVAL	AUGUST 13, 2021
NUMBER:	REVISION:	DATE: (MM/DD/YY)

#### SEDIMENT AND EROSION CONTROL - GENERAL NOTES

1.1. Unless otherwise indicated, all materials and construction methods to be in accordance with the requirements of the latest edition of the Ontario Provincial Standard Specifications and Drawings (OPSS and OPSD), the Ontario Ministry of Environment, Conservation and Parks (MECP), applicable Conservation authorities, the municipal standard specifications and drawings, and all other governing authorities as they apply.

1.2. Wherever standards, laws and/or regulations are mentioned they refer to their current versions, modifications included.

1.3. Specifically, sediment and erosion control measures to be constructed as per OPSS.MUNI 805.

1.4. The Contractor must implement best management practices and provide adequate sediment and erosion control measures during construction:

Prevent soil erosion which can result from stormwater runoff or wind erosion during construction;
Prevent sediment deposits in the storm sewer and/or collecting streams and;
Prevent air pollution from dust and particulate matter.

Provisions must be made for sediment and erosion control measures prior to stripping the site of 1.6. vegetation and other deleterious materials. Measures such as phase stripping, vegetation buffer zones, silt fences, straw bales, sediment traps/basins, rock checks, etc. must be constructed and maintained in order to control sediment, as required by the provincial and municipal governing authorities.

The Contractor must set up the measures shown on the plan, inspect them frequently and clean and repair or replace the deteriorated structures.

When the sediment and erosion control measures have to be removed in order to complete a portion of the work, these same measures must be reinstated.

When storing soil on site in piles the Contractor must cover each pile with tarps, straw or a geotextile fabric to avoid fine particle transport by wind and/or streaming rain water.

The light duty silt fence barrier must be installed as per OPSD 219.110.

1.10. At all times the Contractor must maintain the municipal access roads clean and free of sediments. When cleaning the access roads, the Contractor must take the necessary precautions to clear the surfaces covered with sediment prior to cleaning with water.

1.11. For dust control, Contractor to apply calcium chloride (Type I - OPSS 2501 and CAN/CGSB-15-1) and water with equipment approved by the Owner's representative at rate in accordance to OPSS.MUNI 506 when directed by Owner's representative.

At the end of the construction period, the Contractor is responsible for removal of the temporary sediment and erosion control measures and reconditioning the affected areas.

1.9. This plan is a "Living Document" which may be revised in the event that the control measures are not

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C. LAVOIE-LE BEL

100067842

J. A. SAUVE 100200100

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PROJECT TITLE: - FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: 1:500

SOMME ST. OTTAWA, ON

DRAWING TITLE:

## SEDIMENT AND EROSION CONTROL

PLAN

drawn by: Date:	D.CANN	DRAWING NUMBER:
REVIEWED BY: APPROVED BY:	J.SAUVE	C004
PRINT DATE:		REVISION NUMBER:
ISSUED DATE:	AUGUST 13, 2021	
CLIENT PROJECT #:		PROJECT #:
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#### **GRADING NOTES**

- 1. GRADE CONTROL AND DRAINAGE GENERAL
- 1.1. The Contractor must conform to all laws, codes, ordinances, and regulations adopted by federal, provincial or municipal government councils and government agencies, applying to work to be carried
- 1.2. Unless otherwise indicated, all materials and construction methods to be in accordance with the requirements of the latest edition of the Ontario Provincial Standard Specifications and Drawings (OPSS and OPSD), the Ontario Ministry of Environment, Conservation and Parks (MECP), applicable Conservation Authorities, the municipal standard specifications and drawings, and all other governing authorities as they apply.
- 1.3. Wherever standards, laws and/or regulations are mentioned they refer to their current versions, modifications included.
- 1.4. The boreholes and test pits shown on the plan are for information purposes only. Their location on the plan is approximate. The Contractor must refer to the boreholes and test pit records to obtain information about observed stratigraphy on site.
- 1.5. The Contractor is responsible for obtaining all permits required to complete all works and bear cost of same, including road cut permit and water permit and their associated costs.
- 1.6. The Contractor is responsible for the coordination of his activities with others on site.
- 1.7. The location of existing underground municipal services, wells, and public utilities as shown on the plans are approximate. The Contractor must determine the exact location, size, material and elevation of all existing utilities (on-site and off-site) prior to any excavation work. Damage to any existing services, wells and/or existing utilities during construction, whether or not shown on the drawings must be repaired by the Contractor at his own expense.
- 1.8. Site preparation includes clearing, grubbing, stripping of topsoil, demolition, removal of unsuitable materials, cut, fill and rough grading of all areas to receive finished surfaces.
- 1.9. All material must be compacted as per the requirements of the governing authority and be approved by 2. DEMOLITION AND REMOVALS the Consultant prior to delivery to the site.
- 1.10. Compaction must conform to the following requirements:
- Exposed subgrade & building pad preparation: 95% Standard Proctor maximum dry density (SPMDD)
- Granular subbase foundations:
- 100% Standard Proctor maximum dry density (SPMDD) Granular base foundations:
- 100% Standard Proctor maximum dry density (SPMDD)
- Asphalt pavement:
- As per OPSS.MUNI 310 Roller compacted concrete pavement
- 98% Mix Design Density
- Subgrade fill (pavement areas OPSS Select Subgrade Material):
- 98% Standard Proctor Maximum Dry Density (SPMDD)
- Structural fill (building footprints, foundation slabs, OPSS Granular 'A' or Granular 'B' Type II Material):
- 100% Standard Proctor Maximum Dry Density (SPMDD)
- 1.11. If groundwater is encountered during construction, dewatering of excavations could be required as per OPSS.MUNI 518. It is assumed that groundwater may be controlled by sump and pumping methods. As required under the "Ontario Water Resources Act (OWRA)", the Contractor must register all water taking activities on Ontario's "Environmental Activity and Sector Registry (EASR)" if water taking exceeds 50,000 l/day, and obtain a "Permit to Take Water (PTTW)" if water taking exceeds 400,000 l/day. Furthermore, Contractor must provide all necessary measures required to ensure dewatering operations does not affect in any way the integrity of the existing surrounding buildings and must plan his work accordingly. Water Taking and Discharge Plan to be prepared by a Qualified Person as stipulated under O.Reg. 63/16.
- 1.12. Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements and as follows:
- Provide flocculation tanks, settling basins, or other treatment facilities to remove suspended solids 1.12.1. or other materials to within the required parameters of the receiving body before discharging to storm sewers, watercourses or drainage areas.
- 1.12.2. Before discharging to storm sewers, watercourses or drainage areas, discharge water must be sampled and tested to ensure quality requirements in accordance with City of Ottawa Sewer Use By-Law No. 2003-514 and the MECP are adhered to. The Contractor is to perform all additional sampling and testing as required by City of Ottawa. All associated fees to be paid by the Contractor
- Where water is not suitable for discharge into the adjacent storm sewers, watercourses or 1.12.3. drainage areas it must be discharged into the on-site sanitary sewer collection system, or disposed off-site at an approved disposal facility.
- 1.13. The Contractor must maintain benchmarks and landmark references as is. Otherwise, these references will be repositioned by a certified land surveyor at the Contractor's expense.
- 1.14. The Contractor is the only person in charge of safety on the building site. The Contractor is responsible for providing adequate protection of the workers, other personnel and the general public, protection of materials, as well as maintaining in good condition the completed works and works to be completed. The Contractor must supply, install and maintain an appropriate safety fence along the work perimeter until the work is complete.
  - The Contractor must provide at any time:
  - A sufficient number of barriers, posters, guards and others to ensure safety; Necessary conveniences for the completion of the work such as heating, lighting, ventilation, etc.
- 1.15. Temporary excavations in the overburden must be completed as per the requirements of the Occupational Health and Safety Act (OHSA), O. Reg. 213/91, Part III - Excavations. The side slopes of excavations in the soil and fill overburden materials should either be cut back at acceptable slopes or should be retained by shoring systems from the star of the excavation until the

structure is backfilled. The excavation side slopes above the groundwater level extending to a maximum depth of 3 m should <sup>3.6.</sup> be cut back at 1H:1V or flatter. The flatter slope is required for excavation below groundwater level. The subsurface soil is considered to be Type 3 soil according to the Occupational Health and Safety Act and Regulations for Construction Projects. Slopes in excess of 3 m in height should be periodically inspected by the geotechnical consultant in order to detect if the slopes are exhibiting signs of distress.

- 1.16. The Contractor must pace deliveries and removals in order to minimize and control stockpiles.
- 1.17. Stockpile material must be stored away from excavations at a distance at least equal to the depth of the excavation. Construction traffic should be limited near open excavation.
- 1.18. Cleanliness on the site
  - The Contractor must clean roadways at his own cost as directed by the Owner's representative; All site roads and walkways to and from the construction zone must be kept clean at all times, from mud, dirt, granular material, debris, etc.;
  - The Contractor must leave the work area clean at the end of each day;
  - Materials and equipment must be laid out in an organized and safe manner;
  - All material, equipment and temporary structures which are no longer necessary for the execution of the Contract must be removed from the site; If required the Contractor must use screens, bulkheads, or any other recognized means in order to reduce noise, dust, interference, obstruction, etc., in conformity with the requirements of the provincial and municipal authorities having jurisdiction.
- 1.19. During the construction period the Contractor is responsible for installing and maintaining temporary traffic signage, including traffic signs, traffic markings and temporary traffic lights, and flagmen, as 4.6. required by the Owner, the Consultant, the Municipality, the MTO, and other governing authorities.
- 1.20. The Contractor must control surface runoff from precipitation during construction.
- 1.21. Where trees and other vegetation are proposed within close proximity to hard surfacs (i.e. sidewalks or pavement structures) it is recommended that the vegetation be panted in CU-Structural Soils or approved equivalent. Under the areas of hard surfaces, the CU soil should be compacted to 100% SPMDD using suitable compaction equipment. The CU-structural soil must extend at least 1.0 m below grade and extend to a 3.0 m radius around the trees/vegetation
- 1.22. Protection of existing trees and shrubs:
  - The contractor must ensure that the existing trees and shrubs that are to remain on site will be protected throughout the construction phase in order to minimize the risk of damaging the trunks and branches and to avoid the compaction of the roots. As required, the Contractor must coordinate his work with other professionals to ensure that the existing tree and shrub protection measures are in place prior to any other work and that these measures are maintained until the work is complete:
  - The Contractor must protect the existing trees in accordance with OPSS.MUNI 801 and OPSD 220.010.
  - The Contractor must define paths for heavy machinery before construction to avoid compaction of the roots of existing trees and shrubs;

- The Contractor cannot store material at the base of trees and shrubs; The Contractor cannot backfill 5. PAVEMENT STRUCTURES, CURBS, AND SIDEWALKS the trunk of existing trees and shrubs; Prune tree branches, shrubs and roots as needed to complete the work.
- The Contractor must perform any tree cutting prior to April 15 (i.e. outside of the core Migratory Birds sting period, which is April 15 to August 15).
- 1.23. The Contractor must ensure the following mitigation measures are implemented in order to reduce the risk of ground contamination from petroleum products:
  - The list of persons and agencies to contact in the event of an emergency must be posted in plain sight on the work site for the duration of the construction period;
  - Machinery must be clean and kept clean to limit any grease or oil deposits inside the work area; Frequent inspections must be performed to detect any oil, fuel, grease or other leaks. If a leak is detected, the necessary corrective action must be taken immediately:
  - An emergency kit for the recovery of petroleum products must be kept on site at all times. The kit must include at least 30 m of absorbent booms, a box of absorbent pads and solid absorbent material (powder or granules). The kit must be stored near the location of work and machinery, and kept within easy reach at all times to ensure a rapid response;
  - In the event of a spill the Contractor must immediately report to the Spills Action Centre of the MECP at 1-800-268-6060. Hydrocarbons and contaminated soils will be recovered by a specialized
- 1.24. The Contractor must ensure the following measures are implemented regarding the handling of concrete
  - Concrete should either be mixed away from the site or should be prepared on paved surfaces if only small quantities are required (i.e. minor repairs):
  - Excess concrete must be disposed off-site at a location that meets all regulatory requirements; The washing of concrete trucks and other equipment used for mixing concrete should not be
  - carried out within 30 m of a watercourse or wetland and should take place outside of the work site; All concrete trucks should collect their wash water and recycle it back into their trucks for disposal
- 2.1. The Contractor must visit the premises in order to be fully aware of existing conditions on site, including 5.9. Concrete Toe-wall to be per OPSD 3120.100 Type I all elements to be removed and demolished. No claim will be accepted due to a poor evaluation of the work to be completed.

off-site at a location meeting all regulatory requirements.

- The Contractor must protect and maintain in service the existing works which must remain in place. If 2.2. they are damaged, the Contractor must immediately make the replacements and necessary repairs to the satisfaction of the Owner's representative and without additional expense to the Owner.
- 2.3. The Contractor must perform the nessessary clearing and grubbing in accordance with OPSS.MUNI 201.
- 2.4. The Contractor must carry out necessary saw cuts even if they are not shown on the drawings.
- The Contractor must entirely remove the demolition wreckage from the construction site in accordance with the requirements of the MECP and in accordance with OPSS.MUNI 180 and OPSS.MUNI 510.
- The Contractor must discard recyclable demolition materials in collaboration with a regional recycling company. The Contractor must be able to provide proof, upon request, that the materials were properly recycled and that the chosen recycling company is recognized in the recycling field. All other demolition materials must be disposed off-site at authorized licensed landfills and in conformity with the applicable laws and regulations. The Contractor must be able to provide, upon 5.13.
- request, copies of the disposal tickets. 2.6. The Contractor is responsible for locating existing public utilities and (if required) submit a request for
- the interruption of public utility services, such as gas, telephone, power, cable, sewers, watermain, etc.
- 2.7. The Contractor must conduct all removals required to make the work complete.
- 2.8. Unless otherwise specified, all materials, products and others coming from the demolition belong to the Contractor.
- Surfaces and works located outside of the construction work limit must be reinstated as they were 2.9. before beginning of work. The existing Well will be abandoned in accordance with O.Reg 903.
- 3. <u>GENERAL SUBGRADE PREPARATION</u>
- Earth removal must be inspected by an experienced Geotechnical Engineer to ensure that all 3.1. unsuitable materials are removed prior to the placement of fill, including concrete and/or others, and to confirm the compaction degree and condition of the founding soils. All unsuitable materials must be hauled off site and disposed as per provincial and municipal regulations.
- 3.2. Subgrade must be approved by experienced geotechnical personnel before proceeding with placement
- All granular fill must be placed in maximum 200 mm thick loose lifts and compacted using suitable 3.3. methods as per the requirements.
- All soft, wet or disturbed areas revealed under surface compaction must be removed to a minimum 3.4. depth of 500 mm and replaced with compacted suitable subgrade fill (i.e. OPSS Granular 'B' Type II material) and an approved non-woven geotextile per OPSS 1860 as directed by the Geotechnical Engineer. Transition around sub-excavations where backfill and native material are not of similar nature, shall be sloped at 5 horizontal to 1 vertical, within 1.8 m of finished surface
- 3.5. If contaminated material is encountered during the work, the Contractor must retain a Qualified Person (QP, as per the definition under O.Reg 153/04), characterize the soil and dispose off-site all materials from the contaminated area in accordance with the requirements of the MECP O.Reg 406/09 and OPSS.MUNI 180. Prior to the start of work the Contractor must provide the name and location of the intended Receiving Site (s) where the contaminated materials will be disposed to the Consultant. The Contractor must obtain from the Receiving Sites QP documents confirming that the site has the right to accept the contaminated material. During the work, the Contractor must provide the Consultant copies of all reports signed by the Receiving Site's QP.
- The Contractor is responsible for providing a confirmation that the imported material used as subgrade fill is free of any contaminants, as per O.Reg 153/04, such as Petroleum Hydrocarbons (C10-C50), Polycyclic Aromatic Hydrocarbons (PAH), and metals like mercury, silver, arsenic, cadmium, cobalt, 6.8. chromium, copper, tin, manganese, molybdenum, nickel, lead and zinc.
- 4. EXCAVATION AND BACKFILL
- 4.1. Subgrade preparation must be completed as per Section "3.0 General Subgrade Preparation".
- 4.2. The management of excess materials to comply with OPSS.MUNI 180 and any excess soils with O.REG. 406/19.
- 4.3. Topsoil and deleterious fill, such as those containing organic materials, must be stripped from under any buildings, paved areas, pipe bedding, and other settlement sensitive structures.
- 4.4. Non-specified existing fill along with on-site excavated soil can be used as general landscaping fill where settlement of the ground surface is of minor concern. These materials should be spread in thin lifts and at least compacted by the tracks of the spreading equipment to minimize voids. If these materials are to be used to build up the subgrade level for areas to be paved, they should be compacted in thin lifts to a minimum density of 98% of their respective SPMDD.
- Structural fill used for grading beneath the footings of buildings, building floor slabs, sidewalks, 4.5. pavements and slab on gradesigns and light standards must consist of OPSS Granular 'A' or Granular 'B' Type II Material.
- Construction operations could cause vibrations, and possibly, sources of nuisance to the community. Therefore, means to reduce the vibration levels as much as possible must be incorporated in the construction operations to maintain a cooperative environment with the residents. The following construction equipments could cause vibrations: piling equipment, hoe ram, compactor, dozer, crane, truck traffic, etc. Vibrations, caused by blasting or construction operations could cause
- detrimental vibrations on the adjoining buildings and structures. Therefore, it is recommended that all vibrations be limited Two parameters determine the recommended vibration limit, the maximum peak particle velocity and the frequency. For low frequency vibrations, the maximum allowable peak particle velocity is less than that for high frequency vibrations. As a guideline, the peak particle velocity should be less than 15 mm/s between frequencies of 4 to 12 Hz, and 50 mm/s above a frequency of 40 Hz (interpolate between 12 and 40 Hz). These guidelines are for current construction standards.
- Considering there are several sensitive buildings in close proximity to the subject site, consideration to lowering these guidelines is recommended. These guidelines are above perceptible human level and, in some cases, could be very disturbing to some people. A pre-construction survey is therefore required to minimize the risks of claims during or following the construction of the proposed building.

### SERVICES NOTES

5. PAVEMENT STRUCTURES, CURBS, AND SIDEWALKS	1. M	IUNICIPAL SERVICES - GENERAL	3. ST	TORM SEWER
5.1. Construction of granular foundation must conform to OPSS.MUNI 314.	1.1.	Unless otherwise indicated, all materials and construction methods to be in accordance with the	3.1.	Storm sewers, laterals and storm servic Ontario Provincial Standard Specification
5.2. Granular materials used on site must conform to the requirements of OPSS.MUNI 1010.		requirements of the latest edition of the Ontario Provincial Standard Specifications and Drawings (OPSS and OPSD), the Ontario Ministry of Environment, Conservation and Parks (MECP), applicable		410.
5.3. Road cut reinstatement as per City of Ottawa Detail R10 with surface course key.		Conservation Authorities, the municipal standard specifications and drawings, and all other governing authorities as they apply.	3.2.	PVC storm sewer material to conform to OPSD 802.010 for earth excavation and 8
5.4. Where the proposed pavement structure abuts the existing pavement, the pavement structure should match the existing pavement layers.	1.2.	Wherever standards, laws and/or regulations are mentioned they refer to their current versions, modifications included.		OPSS Granular 'A'.
5.5. Construction of asphalt must conform to OPSS.MUNI 310 and OPSS.MUNI 313.	1.3.	The boreholes and test pits shown on the plan are for information purposes only. Their location on the plan is approximate. The Contractor must refer to the boreholes and test pit records to obtain information about observed stratigraphy on site.		The allowable deflected pipe diameter wh - Pipes 100 to 750 mm: 7.5% of the ba - Greater than 750 mm: 5.0% of the ba
5.5.1. Paving must not be carried out if the roadbed is frozen or wet.	1.4.	The location of existing underground municipal services and public utilities as shown on the plans are	3.4	Final backfill material for storm sewers me
5.5.2. The granular grade must be free of standing water at the time of hot mix asphalt placement. The surface of a pavement upon which hot mix asphalt is to be placed must be dry at the time of hot mix asphalt placement. Following the final compaction of a hot mix asphalt course, a 4 hour minimum time laps must be respected before placing a new new hot mix asphalt course. Additionally, the temperature of the previous course must be 50 °C or less.		approximate. The Contractor must determine the exact location, size, material and elevation of all existing utilities (on-site and off-site) prior to any excavation work. Damage to any existing services and/or existing utilities during construction, whether or not shown on the drawings must be repaired by the Contractor at his own expense.	3.5.	conformance with OPSS.MUNI 212. Storm sewer pipes must be type PVC SDI
5.5.3. As per OPSS.310.07.06.02, the asphalt base course must not be placed unless the air	1.5.	The Contractor is responsible for obtaining all permits required to complete all works and bear cost of same, including water permit and associated costs.	3.6.	Culverts, when double barreled, must be s
temperature at the surface of the road is a minimum of 2°C and rising.	1.6.	The Contractor is responsible for the coordination of his activities with others on-site.	3.7.	All storm sewers to be C.C.T.V. inspecte provided to the Engineer in two (2) copies
5.5.4. As per OPSS.310.07.06.02, the asphalt surface course must not be placed unless the air temperature at the surface of the road is a minimum of 7°C and rising.	1.7.	Terminate and plug all service connections at 1.0 meter from edge of the building.		Storm manholes, manhole/catchbasins, c
5.6. Asphalt concrete material must conform to OPSS.MUNI 1150 for Hot Mix Asphalt and OPSS.MUN 1151 for Superpave and Stone Mastic Asphalt Mixtures. Minimum Performance Graded (PG) 58-34 asphalt cement must be used for this project.		The Contractor must complete compaction as per OPSS.MUNI 501 and note the following requirements for service trenching:	3.8.	per OPSS 407. Adjustment or rebuilding of manholes, chambers to be completed as per OPSS 4
5.7. Asphalt mix design must be reviewed and approved by a Geotechnical Engineer before paving.		MATERIALS         COMPACTION           Pipe bedding         95% Standard Proctor Maximum Dry Density	3.9. 3 10	Excavating, backfilling, and compacting t
5.8. Concrete curbs must conform to OPSS 353.MUNI.		Trench backfill and pipe cover 95% Standard Proctor Maximum Dry Density	5.10.	and valve chambers to be completed as p
5.9. Concrete Toe-wall to be per OPSD 3120.100 Type I	1.9.	The Contractor is responsible for making or arranging all connections to the existing sewers as per municipal requirements. Prior to connection, the Contractor must provide, to the Engineer and the City	3.11.	'B' compacted to 99% Standard Proctor N
5.10. Elevation at top of concrete curbs to be 150 mm above the asphalt, unless otherwise indicated on the drawings.		for approval, all test results performed on the internal services. Test results must include C.C.T.V. inspection of sewers, infiltration/exfiltration tests for sewers and manholes, deformation tests of sewers, watermain hydrostatic leakage test, flushing and disinfecting operations, and bacteriological water analysis.	3.12.	
5.11. Concrete sidewalks must conform to OPSS.MUNI 351.	1.10.		2 4 2	safety platform as per OPSD 404.020 whe
5.12. For all concrete placement during cold weather Contractor must place material in accordance to OPSS.904.MUNI.		of the existing conduits at the proposed connections. He must also carry out, if necessary, exploratory excavations in order to determine the exact location and inverts of existing duct banks. This information	0.14	
5.12.1. When ambient air temperature is 5°C or less, forms for concrete work must be left in place for the		must immediately be provided to the Engineer prior to start undertaking any municipal services work and a 48 hour period must be allocated to the Engineer for design review.		When a minimum cover of 1.5 meters is n
<ul> <li>duration of the curing period.</li> <li>5.12.2. When the ambient air temperature is below 0°C at the time of placing, components must be cured with moisture vapour barrier.</li> </ul>	1.11.	The Contractor is responsible for all excavation, backfill and reinstatement of all areas disturbed during construction to existing conditions or better and all associated works to the satisfaction of the Engineer and municipal authorities.		For building roof drain sizes and location r
5.12.3. Contractor must conform to OPSS.MUNI 904.07.11 for Control of Temperature when subjected to cold weather.		<ul> <li>Asphalt reinstatement must be in accordance with OPSS.MUNI 310.</li> <li>Landscape areas to be reinstated with 150 mm of topsoil and sod in accordance with OPSS.MUNI</li> </ul>	4.1.	Sanitary sewers, laterals and service con Provincial Standard Specifications. Specif
<ul> <li>5.13. Construction of Roller-Compacted Concrete Pavement as follows:</li> <li>Subgrade to be prepared as specified, and contoured for efficient drainageConstruction of Roller-Compacted Concrete Pavement as follows:</li> </ul>	1.12.	· · · · · · · · · · · · · · · · · · ·	4.2.	PVC sanitary sewer pipe material to type sewers to be installed as per OPSD 80 Bedding and cover material to be OPSS 0
<ul> <li>Subgrade to be prepared as specified, and contoured for efficient drainage</li> <li>Concrete should be transported in dump trucks and placed using asphalt pavers.</li> </ul>		steep or vertical sides. Services are expected to be installed by "cut and cover" methods and excavations should not remain open for extended periods of time.	4.3.	The allowable deflected pipe diameter wh
<ul> <li>If placed in more than one lift, subsequent lift should be placed using asprait pavers.</li> <li>If placed in more than one lift, subsequent lift should be placed within 60 minutes of placing the bottom lift.</li> <li>Roller compacted concrete must be compacted using 10 ton dual drum vibratory roller within</li> </ul>	1.13.	The pipe bedding for sewer and water pipes must consist of at least 150 mm of OPSS Granular A material The material must be placed in maximum 300 mm thick lifts and compacted to a minimum of 95% of its SPMDD. The bedding material should extend at least to the spring line of the pipe.		<ul> <li>Pipes 100 to 750 mm: 7.5% of the ba</li> <li>Greater than 750 mm: 5.0% of the ba</li> </ul>
<ul> <li>15 to 45 minutes of placement with 4 to 6 passes, until lift deflects uniformly under roller, and no pumping, shiny or pasty surface is observed.</li> <li>The desired density is 98% of the mix design density.</li> </ul>	1.14.	The cover material, which must consist of OPSS Granular A, will extend from the spring line of the pipe to at least 300 mm above the obvert of the pipe. The material must be placed in maximum 300 mm thick loose lifts and compacted to a minimum of 95% of its SPMDD.	4.4.	Final backfill material for sanitary sewers in conformance with OPSS.MUNI 212.
<ul> <li>Transverse saw joints must be placed at 5 m on centres.</li> <li>Longitudinal saw joints must be placed at 0.2 m from the edges, and every 8m subsequently.</li> </ul>	1.15.		4.5.	All sanitary sewers to be C.C.T.V. inspect
6. BUILDING PAD PREPARATION	1.10.	the frost zone (about 1.8 m below finished grade) must match the soils exposed at the trench walls to minimize differential frost heaving. The trench backfill must be placed in maximum 300 mm thick loose	4.0	provided to the Engineer in two (2) copies
6.1. The Building Pad shall be prepared prior to Dynamic Compaction (DC) to a level that will allow the finished grade to be 450mm below the Finish Floor Elevation (FFE). The Contractor shall assume that		lifts and compacted to a minimum of 95% of the material's SPMDD Dewatering of pipeline, utility and associated structure in rock excavations to be completed as per	4.6. 4.7.	Sanitary manholes to be installed as per C Adjustment or rebuilding of sanitary manh
the total settlement after DC will be 300mm. Therefore, the Building Pad finished grade Prior DC shal be 91.850m.	1.10.	OPSS.MUNI 403.	4.8.	Excavating, backfilling, and compacting for
6.2. The Building Pad footprint shall extend 2m past the perimeter of the proposed building footprint.	1.17.	Trenching, backfilling and compacting must conform to OPSS.MUNI 401.	4.9.	Sanitary manholes to be backfilled with
6.3. The final layer of the building pad (Working Pad) shall consist of compacted 600 mm of Granular E type II.	2. <u>W</u>	VATERMAIN		Maximum Dry Density (SPMDD). Joints be
6.4. The Building Pad shall be excavated to 91.850m minus (-) 600mm = 91.250m in Cut areas and or raised to 91.250m plus (+) 600mm = 91.850m in Fill areas.	2.1.	Watermain, water service connections and associated appurtenances must be constructed in accordance with the Ontario Provincial Standard Specifications. Specifically watermains must conform to OPSS.MUNI 441.		Sanitary manholes to be as per OPSD OPSD 404.020 when exceeding 5.0 m to
6.5. In addition to the 600mm Granular pad specified above, in fill areas, the Building Pad shall be raised using excavated surplus materials from the site as per the Excavated Materials Management		Watermain must be constructed as per OPSS.MUNI 441 and specifically OPSD 802.010 for earth		Sanitary manhole frame and cover to be a
<ul> <li>specifications.</li> <li>6.6. Fill must be place in lifts no greater than 200mm thick and compacted to the specified density using suitable compaction equipments.</li> </ul>	2.3.	excavations and 802.013 for rock excavation. Bedding and cover material to be OPSS Granular 'A' compacted to 95% Standard Proctor Maximum Dry Density. Watermain pipe materials must be class 150 PVC DR 18 or approved equivalent, unless otherwise	4.12.	A maintenance hole drop structure tee is inlet invert to the outlet invert is greater the be used as per OPSD 1003.020 when the
6.7. The building pad preparation must include a 20 m wide temporary access road (up to the property line)		shown on the Drawings. Materials must conform to OPSS 441.	4.13.	Sanitary service connections to rigid m Connections to flexible main sewer pipe to
around the building and, between the building and the access street. The contractor must be responsible for maintaining the temporary access roads in good and tidy condition at all times to the satisfaction of the Owner and / or Consultant. All temporary access roads constructed within future pavement areas must consist of compacted		All watermain must be installed with a minimum of 2.40 meters cover from finished grade. Where a minimum of 2.40 meters cover is not reached, thermal insulation is required as per City of Ottawa Details W22 and W23.	4.14.	When a minimum cover of 1.8 meters is n
granular materials as per pavement infrastructure details. All temporary access roads constructed within future landscaped areas must consist of compacted OPSS Select Subgrade Material to allow heavy equipment traffic.	2.5.	Watermain service connections must be installed a minimum of 2.40 meters from any catchbasin, manhole or object that may contribute to freezing. Thermal insulation must be installed as per City of Ottawa Details W22 and W23 where 2.40 meters of separation cannot be achieved.	4.15.	Benching is required inside the concrete b
6.8. If the building is constructed during the winter period, the Contractor must be responsible for the snow removal and spreading of abrasive throughout the construction work by the building contractor and his sub-contractors.		Cathodic protection (if required) must be installed as per City of Ottawa Details W40 and W42.		
7. EXCAVATED MATERIAL MANAGEMENT	2.7.	Restraints must be as per City of Ottawa Details W25.5 and W25.6.		
7.1. During site preparation excavation work, the Contractor shall ensure that the excavated existing fill material remains on-site as much as possible and is incorporated within its work. All surplus excavation		Valves to be installed as per OPSS 441 and conform to the following:		
of existing Fill material shall be managed as per the following priorities 7.1.1. Surplus excavated materials may come from excavation required to construct the proposed ponds		<ul> <li>All valves must open in a counter clockwise direction;</li> <li>Designed for cold water working pressure of 1035 kPa;</li> <li>Types must be one of the following:</li> </ul>		
and parking areas at specified finished elevations.		<ul> <li>Valves less than 75 mm to be brass or bronze gate valves;</li> <li>Valves greater than or equal to 75 mm, and less than or equal to 300 mm, to be cast or ductile iron</li> </ul>		
<ul> <li>7.1.2. First, surplus excavated materials shall be incorporated within the Building Pad Preparation to raise the Pad to the required elevation and allowing for the Working Pad layer mentioned at 6.3</li> <li>7.1.3. Second, surplus materials shall be used to backfill the Vegetated Retaining wall.</li> </ul>		<ul> <li>gate valves;</li> <li>Valves greater than 300 mm up to and including 500 mm to be gate or butterfly valves;</li> <li>Valves greater than 500 mm to be butterfly valves.</li> </ul>		
7.1.4.       The remaining surplus material shall be remove off-site as per the specification herein.	2.9.	A continuous 12 gauge copper tracer wire must be installed over all watermains. Tracer wire must be tied to all fire hydrants.		
	2.10.	Valve box assembly to be as per City of Ottawa Detail W24.		
	2.11.	When a watermain pipe crosses a sewer pipe, installation must be as per City of Ottawa Detail W25.2.		
	2.12.	. Watermains must be thoroughly flushed and cleaned to remove all dirt and debris prior to the disinfection process.		
	2.13.	All watermains must be hydrostatically and bacteriologically tested as per provincial and municipal regulations. It is the Contractor's responsibility to ensure that all requirements are followed.		

	7.1.	During site preparation excavation work, the Contractor shall ensure that the excavated existing fill	
h		material remains on-site as much as possible and is incorporated within its work. All surplus excavation	
		of existing Fill material shall be managed as per the following priorities	

- Surplus excavated materials may come from excavation 7.1.1. and parking areas at specified finished elevations. First, surplus excavated materials shall be incorporate 7.1.2.
- raise the Pad to the required elevation and allowing for 7.1.3. Second, surplus materials shall be used to backfill the
- The remaining surplus material shall be remove off-site 7.1.4.
- 2.14. Hydrostatic testing to be completed as per OPSS 441.07.24. Testing must be completed under the supervision of the Contract Administrator. The test section will be either a section between valves or the completed watermain. Test pressure to be 1035 kPa.

2.15. Flushing and Disinfecting to be completed as per OPSS 441.07.25 under the supervision of the Contract Administrator.

2.16. Contractor must coordinate the supply and installation of water meter and remote water meter for the building with the mechanical engineer

#### <u>1 SEWER</u>

Storm sewers, laterals and storm service connections must be constructed in accordance with the Intario Provincial Standard Specifications. Specifically storm sewers must conform to OPSS.MUNI

VC storm sewer material to conform to OPSS.MUNI 1841. PVC storm sewers to be installed as per PSD 802.010 for earth excavation and 802.013 for rock excavation. Bedding and cover material to be PSS Granular 'A'.

he allowable deflected pipe diameter when using flexible pipe is as follows: Pipes 100 to 750 mm: 7.5% of the base inside diameter of the pipe Greater than 750 mm: 5.0% of the base inside diameter of the pipe

nal backfill material for storm sewers must be approved native material or select subgrade material in onformance with OPSS.MUNI 212.

torm sewer pipes must be type PVC SDR-35, unless noted otherwise on the drawings.

ulverts, when double barreled, must be spaced laterally by 300mm between each barrel.

I storm sewers to be C.C.T.V. inspected by the Contractor as per OPSS.MUNI 409. Report must be rovided to the Engineer in two (2) copies and the C.C.T.V. inspection in DVD format only.

torm manholes, manhole/catchbasins, catchbasins, ditch inlets and valve chambers to be installed as r OPSS 407.

djustment or rebuilding of manholes, manhole/catchbasins, catchbasins, ditch inlets and valve nambers to be completed as per OPSS 408.

xcavating, backfilling, and compacting for manholes, manhole/catchbasins, catchbasins, ditch inlets nd valve chambers to be completed as per OPSS 402.

storm manhole, manhole/catchbasin and catchbasin excavations to be backfilled with OPSS Granular Compacted to 99% Standard Proctor Maximum Dry Density (SPMDD). Joints between sections must wrapped in a non-woven geotextile.

torm manholes and manhole/catchbasins to be as per OPSD 701.010 and must be equipped with afety platform as per OPSD 404.020 when exceeding 5.0 m to the lowest invert.

torm manhole frame and cover to be as per OPSD 401.010 Type "A" closed cover.

/hen a minimum cover of 1.5 meters is not reached, frost protection is required.

r building roof drain sizes and location refer to architectural and mechanical drawings.

#### ARY SEWER

anitary sewers, laterals and service connections must be constructed in accordance with the Ontario rovincial Standard Specifications. Specifically sanitary sewers must conform to OPSS.MUNI 410.

VC sanitary sewer pipe material to type PVC SDR-35, conforming to OPSS.MUNI 1841. PVC sanitary ewers to be installed as per OPSD 802.010 for earth excavation and 802.013 for rock excavation. edding and cover material to be OPSS Granular 'A'.

he allowable deflected pipe diameter when using flexible pipe is as follows:

Pipes 100 to 750 mm: 7.5% of the base inside diameter of the pipe Greater than 750 mm: 5.0% of the base inside diameter of the pipe

inal backfill material for sanitary sewers must be approved native material or select subgrade material

Il sanitary sewers to be C.C.T.V. inspected by the Contractor as per OPSS.MUNI 409. Report must be rovided to the Engineer in two (2) copies and the C.C.T.V. inspection in DVD format only.

nitary manholes to be installed as per OPSS 407.

ljustment or rebuilding of sanitary manholes to be completed as per OPSS 408

xcavating, backfilling, and compacting for sanitary manholes to be completed as per OPSS.MUNI 402.

anitary manholes to be backfilled with OPSS Granular 'B' compacted to 99% Standard Proctor aximum Dry Density (SPMDD). Joints between sections must be wrapped in a non-woven geotextile.

anitary manholes to be as per OPSD 701.010 and must be equipped with safety platform as per PSD 404.020 when exceeding 5.0 m to the lowest invert.

anitary manhole frame and cover to be as per OPSD 401.010 Type "A" closed cover.

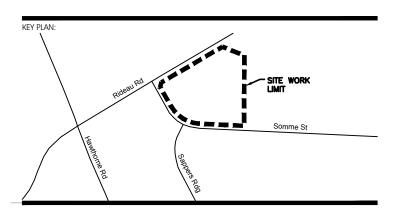
maintenance hole drop structure tee is to be used as per OPSD 1003.010 when the drop from the let invert to the outlet invert is greater than 600 mm and less than 1200 mm. A drop structure wye is to e used as per OPSD 1003.020 when the drop exceeds 1200 mm.

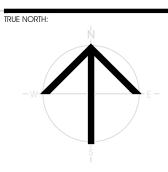
anitary service connections to rigid main sewer pipe to be as per City of Ottawa Detail S11. onnections to flexible main sewer pipe to be as per City of Ottawa Detail S11.1

/hen a minimum cover of 1.8 meters is not reached, frost protection is required.

enching is required inside the concrete bottom of sanitary manholes as per OPSD 701.021.







### PRELIMINARY

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$\bigvee$	ISSUED FOR SITE PLAN APPROVAL	AUGUST 13, 2021
UMBER:	REVISION:	DATE: (MM/DD/YY)



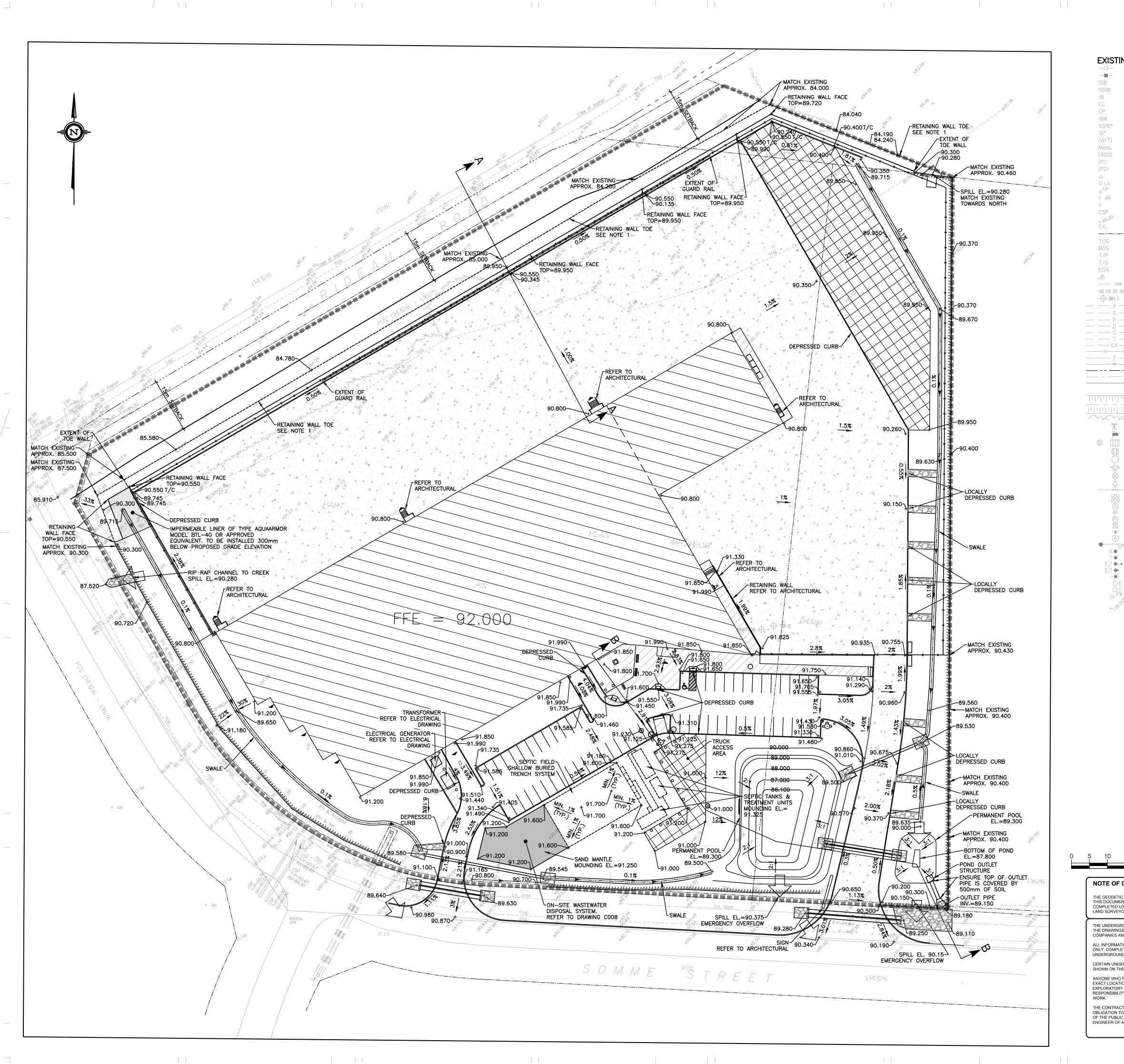


FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: NONE

SOMME ST. OTTAWA, ON

# NOTES PLAN

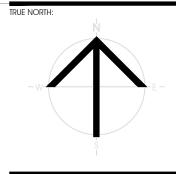
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REVIEWED BY: APPROVED BY:	J.SAUVE	C005
PRINT DATE:		REVISION NUMBER:
ISSUED DATE:	AUGUST 13, 2021	REVIOLATION NOIVIDEN.
CLIENT PROJECT #:		PROJECT #: <b>A001083</b>
DIMENSIONS AND NOTIF DRAWING IS TO BE READ CONSULTANT DRAWINGS ARCHITECT. COPYRIGHT	YING THE ARCHITECT OF ANY DISCREPA IN CONJUNCTION WITH ALL STRUCTUR 5. THIS DRAWING SHALL NOT BE USED FO	THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL INCIES BEFORE CONSTRUCTION COMMENCES. THIS AL, MECHANICAL, ELECTRICAL, CML, AND OTHER DR CONSTRUCTION PURPOSES UNLESS SIGNED BY THE A ARE THE EXCLUSIVE PROPERTY OF THE ARCHITECT AND IN THE ARCHITECT.



WORK



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	LOCATIO	CALIBER (mm) 200–100 300–200 RETAINING WALL SHO N VARIES WITH HEIGH	IT OF WALL.	ST LOCATION.	KNESS 300 500	(mm)
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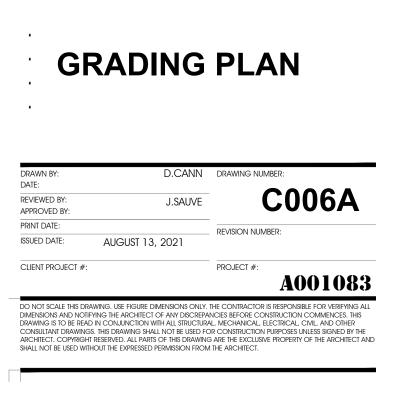


	PRELIMIN NOT FOR CONSTRUCTION	
	OF REVISIONS:	
$\frac{5}{4}$		
$\frac{\sqrt[3]{2}}{\sqrt[2]{2}}$		
$\bigvee$	ISSUED FOR SITE PLAN APPROVAL	AUGUST 13, 2021
JUMBER:	REVISION:	DATE: (MM/DD/YY)





PROJECT TITLE: - FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: 1:500 Somme St. Ottawa, on



NOTE OF CAUTION

THE GEODETIC COORDINATES OF EVERY ITEM INCLUDED AS PART OF THIS DOCUMENT HAVE NO LEGAL VALUE. THE SITE LAYOUT MUST BE COMPLETED USING THE OFFICIAL BENCHMARKS OF AN ACCREDITED LAND SURVEYOR.

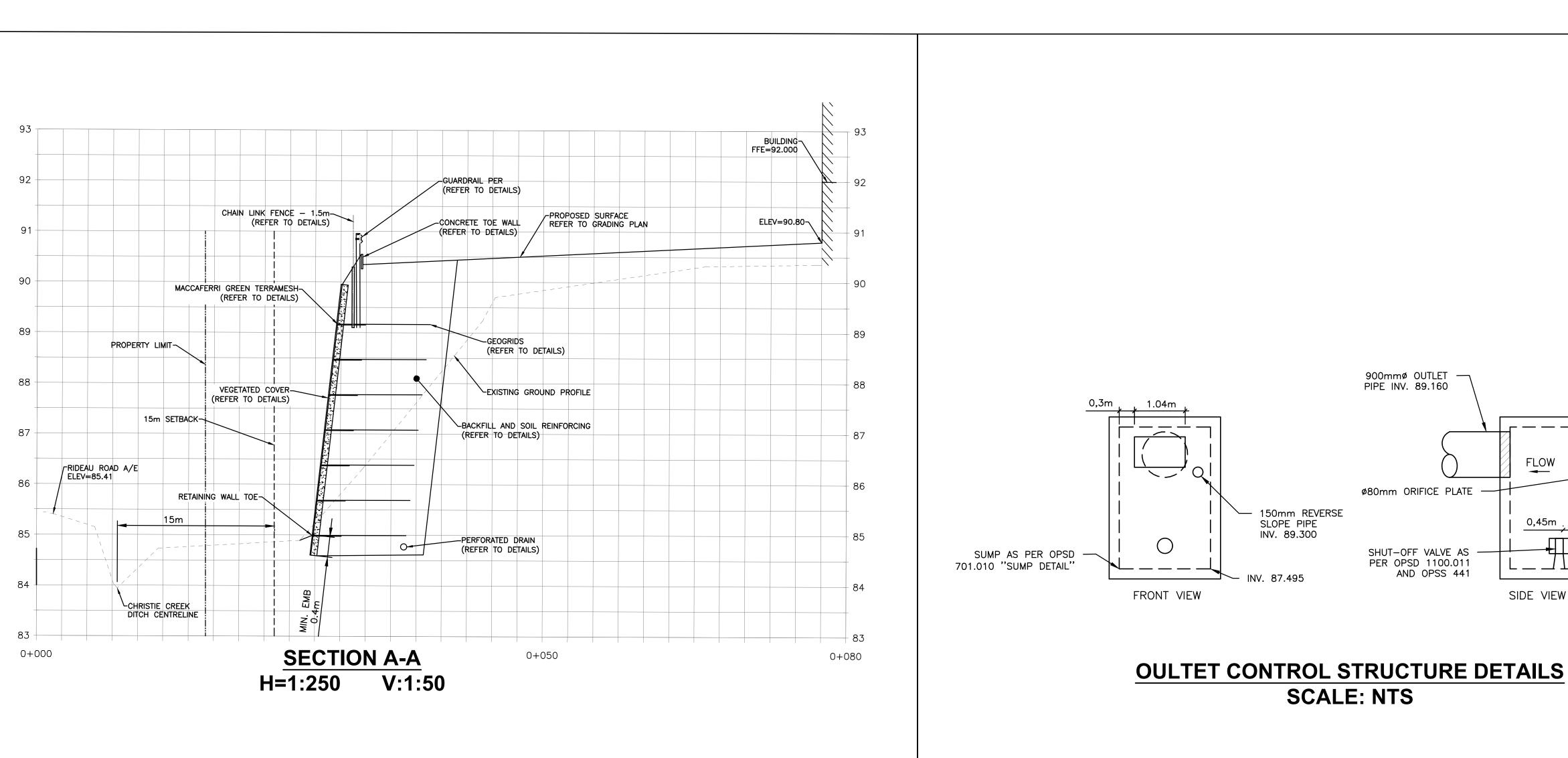
THE UNDERGROUND FEATURES AND INFORMATION THAT APPEAR ON THE DRAWINGS WERE OBTAINED FROM THE PUBLIC UTILITY COMPANIES AND/OR FROM THE CITY EACH RESPECTIVELY.

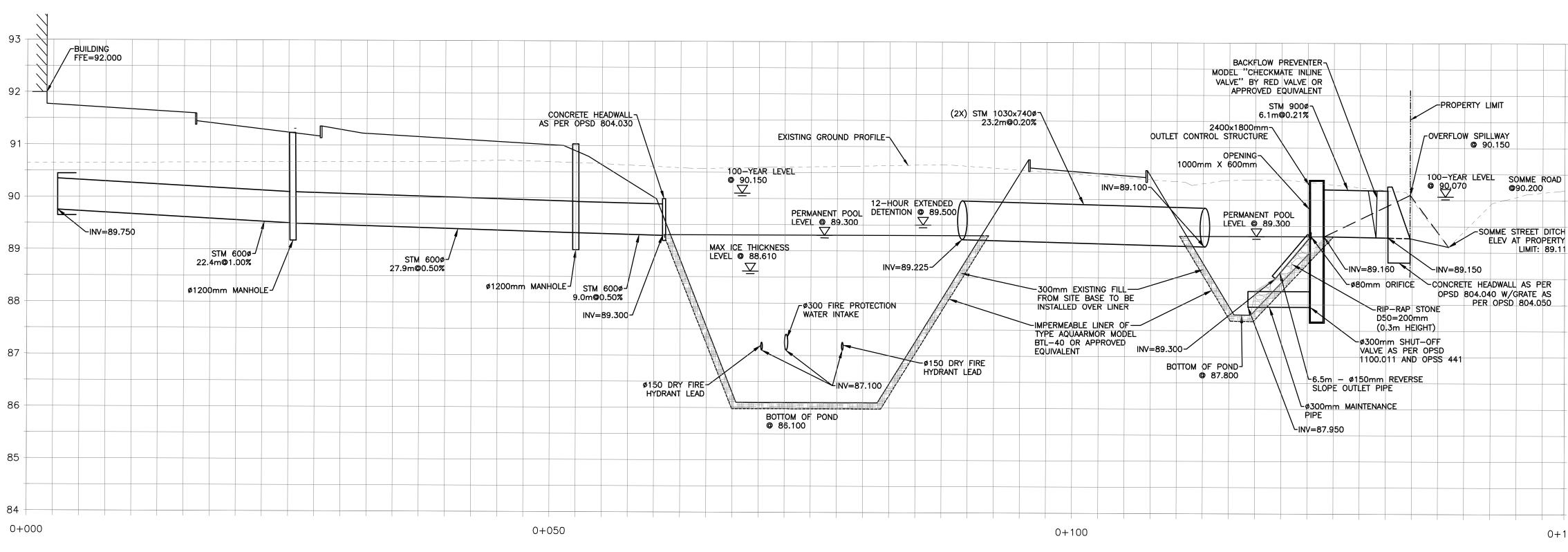
ALL INFORMATION UNDER THE LEGEND 'EXISTING' IS FOR INFORMATION ONLY. COMPLETE OR EXACT LOCATION AND ELEVATION OF UNDERGROUND SERVICES ARE NOT GUARANTEED.

CERTAIN UNDERGROUND FEATURES ON PRIVATE PROPERTY ARE NOT SHOWN ON THE CURRENT DRAWING. ANYONE WHO PROCEEDS WITH EXCAVATION WORK SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND FEATURES, BY

EXPLORATORY EXCAVATIONS, AND SHALL ASSUME FULL RESPONSIBILITY IF THERE IS ANY DAMAGE THAT OCCURS DURING

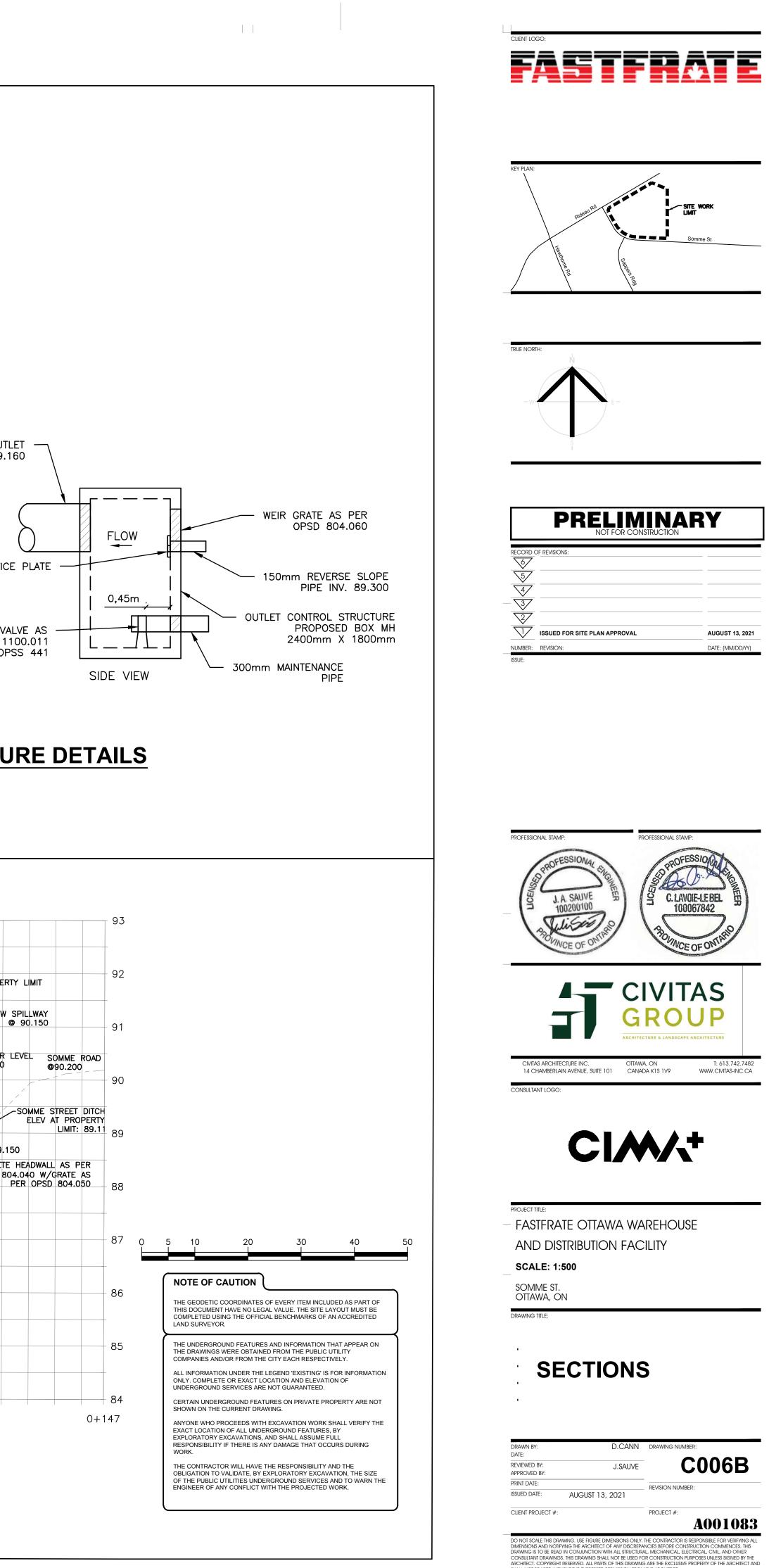
THE CONTRACTOR WILL HAVE THE RESPONSIBILITY AND THE OBLIGATION TO VALIDATE, BY EXPLORATORY EXCAVATION, THE SIZE OF THE PUBLIC UTILITIES UNDERGROUND SERVICES AND TO WARN THE ENGINEER OF ANY CONFLICT WITH THE PROJECTED WORK.



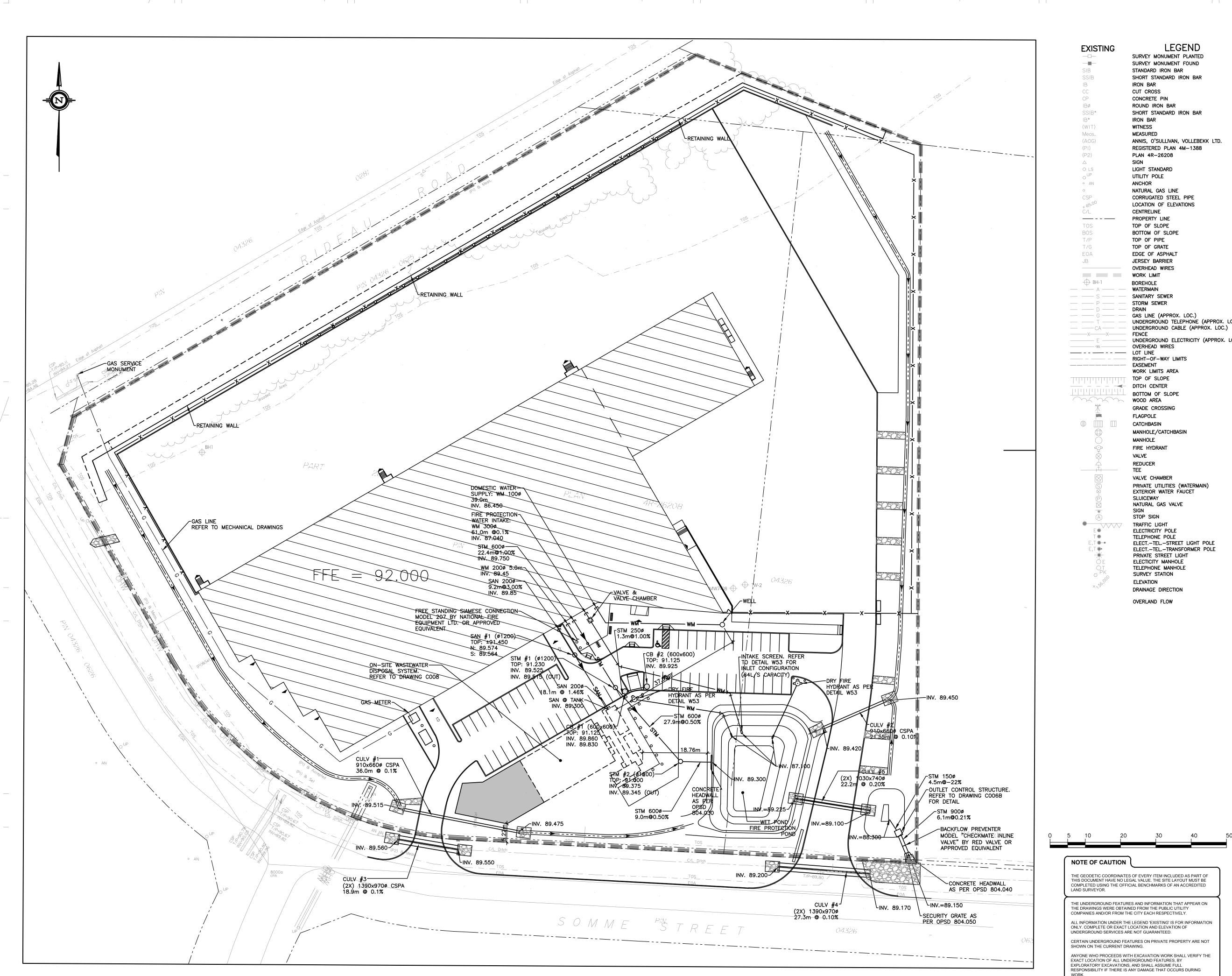


-C10\OTT\_PROJECTS\A\A001000-A001499\A001083\_FASTFRATE WAREHOUSE DEVELOPMENT\400\460\_

<u>SECTION B-B</u> H=1:250 V:1:50



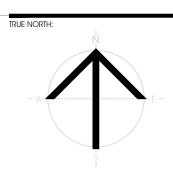
SHALL NOT BE USED WITHOUT THE EXPRESSED PERMISSION FROM THE ARCHITECT.





NG	LEGEND	PROPOSED
	SURVEY MONUMENT PLANTED	
	SURVEY MONUMENT FOUND	
	STANDARD IRON BAR SHORT STANDARD IRON BAR	
	IRON BAR	
	CUT CROSS	
	CONCRETE PIN	
	ROUND IRON BAR SHORT STANDARD IRON BAR	
	IRON BAR	
	WITNESS	
	MEASURED	
	ANNIS, O'SULLIVAN, VOLLEBEKK LTD. REGISTERED PLAN 4M-1388	
	PLAN 4R-26208	
	SIGN	
	LIGHT STANDARD	
	UTILITY POLE ANCHOR	
	NATURAL GAS LINE	
	CORRUGATED STEEL PIPE	
	LOCATION OF ELEVATIONS	
	CENTRELINE PROPERTY LINE	
	TOP OF SLOPE	
	BOTTOM OF SLOPE	
	TOP OF PIPE	
	TOP OF GRATE EDGE OF ASPHALT	
	JERSEY BARRIER	
	OVERHEAD WIRES	
	WORK LIMIT	
	BOREHOLE WATERMAIN	W/
	SANITARY SEWER	- <b>&gt;</b> SM SM
	STORM SEWER DRAIN	
	GAS LINE (APPROX. LOC.)	
	UNDERGROUND TELEPHONE (APPROX. LOC UNDERGROUND CABLE (APPROX. LOC.)	2.)
X	FENCE	
	UNDERGROUND ELECTRICITY (APPROX. LO	c.)
	OVERHEAD WIRES LOT LINE	
	RIGHT-OF-WAY LIMITS	
	EASEMENT WORK LIMITS AREA	
	TOP OF SLOPE	$\frac{1}{1}$
	DITCH CENTER	
	BOTTOM OF SLOPE WOOD AREA	
	GRADE CROSSING	
	FLAGPOLE	
	CATCHBASIN	
	MANHOLE/CATCHBASIN	
	FIRE HYDRANT VALVE	一 仕 
	REDUCER	Д
	TEE	
	VALVE CHAMBER	Ø
	PRIVATE UTILITIES (WATERMAIN) EXTERIOR WATER FAUCET	0
	SLUICEWAY	
	NATURAL GAS VALVE SIGN	
	STOP SIGN	
$\sim\sim\sim$		
	ELECTRICITY POLE TELEPHONE POLE	
•	ELECTTELSTREET LIGHT POLE	
-	ELECTTELTRANSFORMER POLE PRIVATE STREET LIGHT	
-	ELECTICITY MANHOLE	
E F K	TELEPHONE MANHOLE SURVEY STATION	
200	ELEVATION	+ 99,000
	DRAINAGE DIRECTION	
	OVERLAND FLOW	
		5

KEY PLAN:		, •
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	ISSUED FOR SITE PLAN APPROVAL	AUGUST 13, 2021 DATE: (MM/DD/YY)



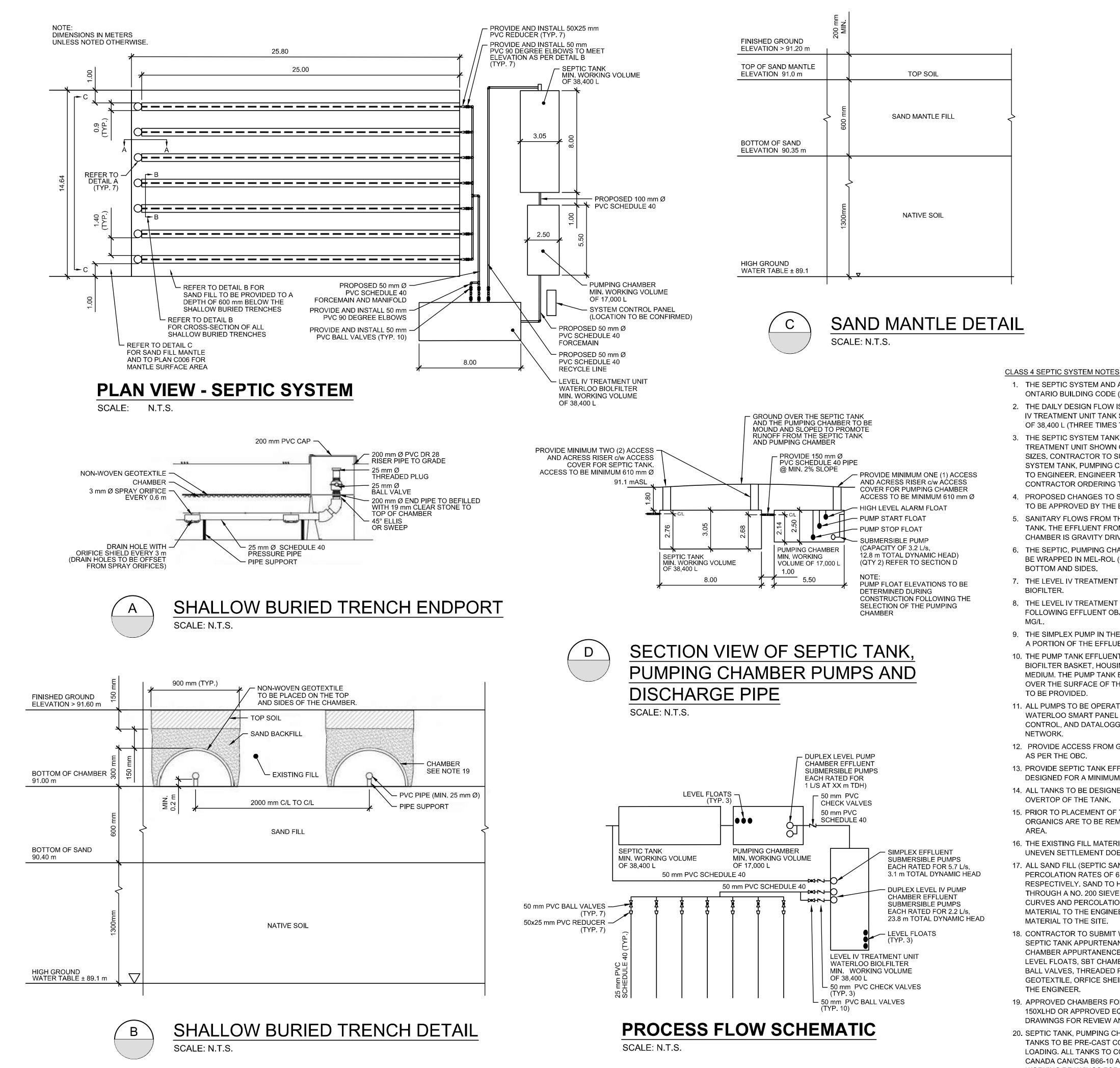


PROJECT TITLE: - FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: 1:500 Somme St. Ottawa, on



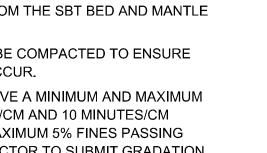
DRAWN BY: DATE:	D.CANN	
REVIEWED BY: APPROVED BY:	J.SAUVE	<b>C007</b>
PRINT DATE:		REVISION NUMBER:
ISSUED DATE:	AUGUST 13, 2021	REVISION NOVIDER.
CLIENT PROJECT #	<i>t</i> :	PROJECT #: A001083
DIMENSIONS AND NO DRAWING IS TO BE RE CONSULTANT DRAWI ARCHITECT. COPYRIG	DTIFYING THE ARCHITECT OF ANY DISCREPA AD IN CONJUNCTION WITH ALL STRUCTUR NGS. THIS DRAWING SHALL NOT BE USED FO	THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL INCIES BEFORE CONSTRUCTION COMMENCES. THIS AL, MECHANICAL, ELECTRICAL, CINIL, AND OTHER DR CONSTRUCTION PURPOSES UNLESS SIGNED BY THE 3 ARE THE EXCLUSIVE PROPERTY OF THE ARCHITECT AND IT HE ARCHITECT.

THE CONTRACTOR WILL HAVE THE RESPONSIBILITY AND THE OBLIGATION TO VALIDATE, BY EXPLORATORY EXCAVATION, THE SIZE OF THE PUBLIC UTILITIES UNDERGROUND SERVICES AND TO WARN THE ENGINEER OF ANY CONFLICT WITH THE PROJECTED WORK.





- 1. THE SEPTIC SYSTEM AND ALL APPURTENANCES SHALL ADHERE TO ONTARIO BUILDING CODE (OBC) PART 8.
- 2. THE DAILY DESIGN FLOW IS 12,800 L/DAY. THE SEPTIC TANK AND LEVEL IV TREATMENT UNIT TANK SHALL HAVE A MINIMUM WORKING VOLUME OF 38,400 L (THREE TIMES THE DAILY DESIGN FLOW).
- 3. THE SEPTIC SYSTEM TANK, PUMPING CHAMBER, AND LEVEL IV TREATMENT UNIT SHOWN ON THE DRAWINGS ARE APPROXIMATE SIZES. CONTRACTOR TO SUBMIT CUTSHEETS OF PROPOSED SEPTIC SYSTEM TANK, PUMPING CHAMBER, AND LEVEL IV TREATMENT TANK TO ENGINEER. ENGINEER TO APPROVE TANKS PRIOR TO THE CONTRACTOR ORDERING THE TANKS.
- 4. PROPOSED CHANGES TO SEPTIC SYSTEM DESIGN BY CONTRACTOR
- TO BE APPROVED BY THE ENGINEER. 5. SANITARY FLOWS FROM THE WAREHOUSE BY GRAVITY TO THE SEPTIC TANK. THE EFFLUENT FROM THE SEPTIC TANK TO THE PUMPING CHAMBER IS GRAVITY DRIVEN.
- 6. THE SEPTIC, PUMPING CHAMBER, AND LEVEL IV TREATMENT UNIT TO BE WRAPPED IN MEL-ROL (OR APPROVED EQUAL) ON THE TOP, BOTTOM AND SIDES.
- 7. THE LEVEL IV TREATMENT UNIT TO BE PROVIDED BY WATERLOO **BIOFILTER.**
- 8. THE LEVEL IV TREATMENT SYSTEM TO BE DESIGNED FOR THE FOLLOWING EFFLUENT OBJECTIVES: CBOD5 = 10 MG/L AND TSS = 10
- 9. THE SIMPLEX PUMP IN THE LEVEL IV TREATMENT UNIT RECIRCULATES A PORTION OF THE EFFLUENT TO THE INLET OF THE SEPTIC TANK.
- 10. THE PUMP TANK EFFLUENT TO BE DOSED TO THE WATERLOO BIOFILTER BASKET, HOUSING TWO BASKETS FILLED WITH BIOFILTER MEDIUM. THE PUMP TANK EFFLUENT TO BE EVENLY DISTRIBUTED OVER THE SURFACE OF THE MEDIUM. A PASSIVE CHARCOAL VENTING TO BE PROVIDED.
- 11. ALL PUMPS TO BE OPERATED BY WATERLOO SMART PANEL(S). THE WATERLOO SMART PANEL SHALL PROVIDE REMOTE MONITORING, CONTROL, AND DATALOGGING OVER A STABLE WIRELESS CELLULAR NETWORK.
- 12. PROVIDE ACCESS FROM GRADE TO SEPTIC TANK EFFLUENT FILTER AS PER THE OBC.
- 13. PROVIDE SEPTIC TANK EFFLUENT FILTER PER OBC REQUIREMENTS DESIGNED FOR A MINIMUM CAPACITY OF 25,000 L/DAY.
- 14. ALL TANKS TO BE DESIGNED FOR A MINIMUM OF 2m OF BURIAL OVERTOP OF THE TANK.
- 15. PRIOR TO PLACEMENT OF THE IMPORTED SAND FILL ANY SURFICIAL ORGANICS ARE TO BE REMOVED FROM THE SBT BED AND MANTLE AREA.
- 16. THE EXISTING FILL MATERIAL IS TO BE COMPACTED TO ENSURE UNEVEN SETTLEMENT DOES NOT OCCUR.
- 17. ALL SAND FILL (SEPTIC SAND) TO HAVE A MINIMUM AND MAXIMUM PERCOLATION RATES OF 6 MINUTES/CM AND 10 MINUTES/CM RESPECTIVELY. SAND TO HAVE A MAXIMUM 5% FINES PASSING THROUGH A NO. 200 SIEVE. CONTRACTOR TO SUBMIT GRADATION MATERIAL TO THE ENGINEER FOR APPROVAL PRIOR TO DELIVERING MATERIAL TO THE SITE.
- 18. CONTRACTOR TO SUBMIT WORKING DRAWINGS FOR: SEPTIC TANK, SEPTIC TANK APPURTENANCES, PUMPING CHAMBER, PUMPING CHAMBER APPURTANENCES, ALL PUMPS, WATERLOO BIOFILTER LEVEL FLOATS, SBT CHAMBERS, PIPE SUPPORTS, CHECK VALVES, BALL VALVES, THREADED PLUG, PIPES, REDUCERS, PVC CAPS, GEOTEXTILE, ORFICE SHEILDS TO BE REVIEWED AND ACCEPTED BY THE ENGINEER.
- 19. APPROVED CHAMBERS FOR SBT INCLUDE: CULTEC RECHARGER 150XLHD OR APPROVED EQUAL. CONTRACTOR TO SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL BY THE ENGINEER
- 20. SEPTIC TANK, PUMPING CHAMBER, AND LEVEL IV TREATMENT UNIT LOADING. ALL TANKS TO CONFORM TO NATIONAL STANDARDS OF CANADA CAN/CSA B66-10 AND CSA A23.4-19. CONTRACTOR TO SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROIVAL BY THE ENGINEER.



CURVES AND PERCOLATION TEST RESULTS FOR PROPOSED SAND FILL

TANKS TO BE PRE-CAST CONCRETE. CONCRETE AND RATED FOR H-20





# SEPTIC SYSTEM CONFIGURATION **AND SECTIONS**

DRAWN BY: DATE:	D.CANN	DRAWING NUMBER:		
REVIEWED BY: APPROVED BY:	K.SCHMIDT	C008		
PRINT DATE:		- REVISION NUMBER:		
ISSUED DATE:	AUGUST 13, 2021	REVISION NOWBER.		
CLIENT PROJECT #:		PROJECT #:		
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WWW.CIVITAS-INC.CA

AUGUST 13, 2021

DATE: (MM/DD/Y

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PROFESSIONAL STAMP:

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08/13/2021

K.G. SCHMIDT

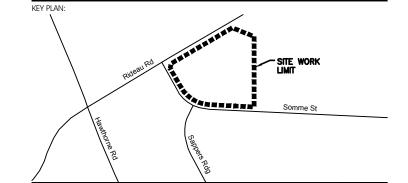
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CIVITAS ARCHITECTURE INC. OTTAWA, ON 14 CHAMBERLAIN AVENUE, SUITE 101 CANADA K1S 1V9

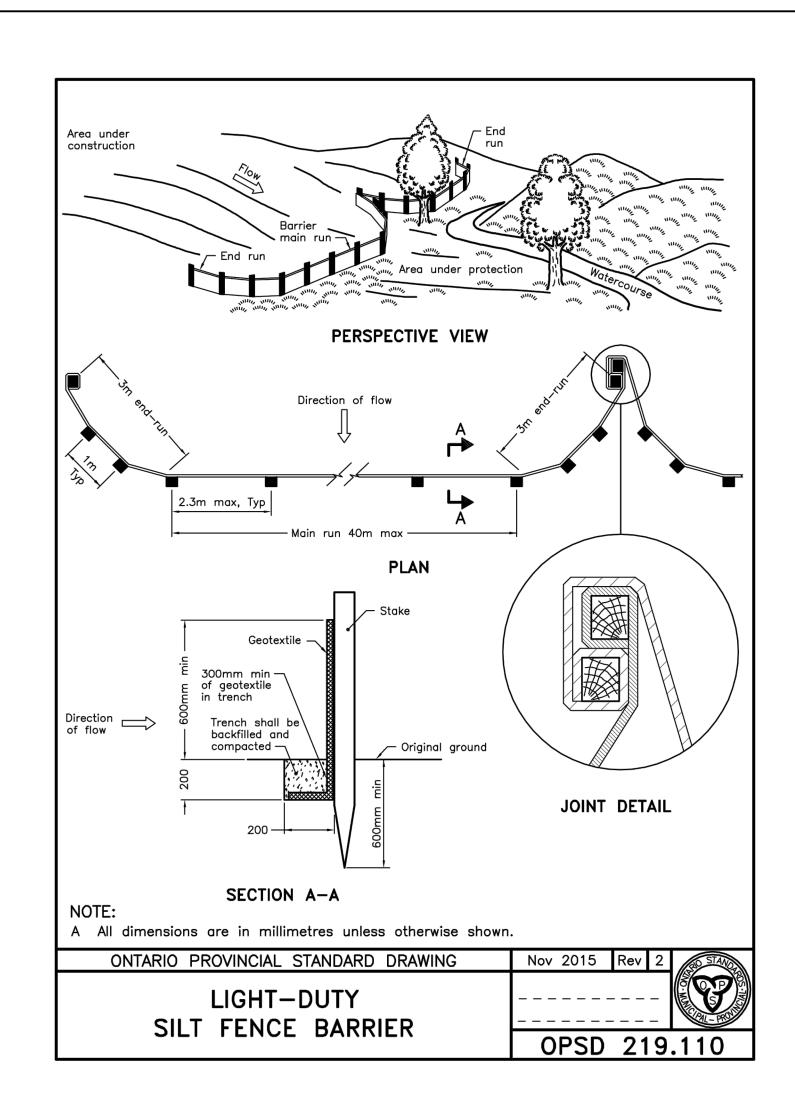
- FASTFRATE OTTAWA WAREHOUSE

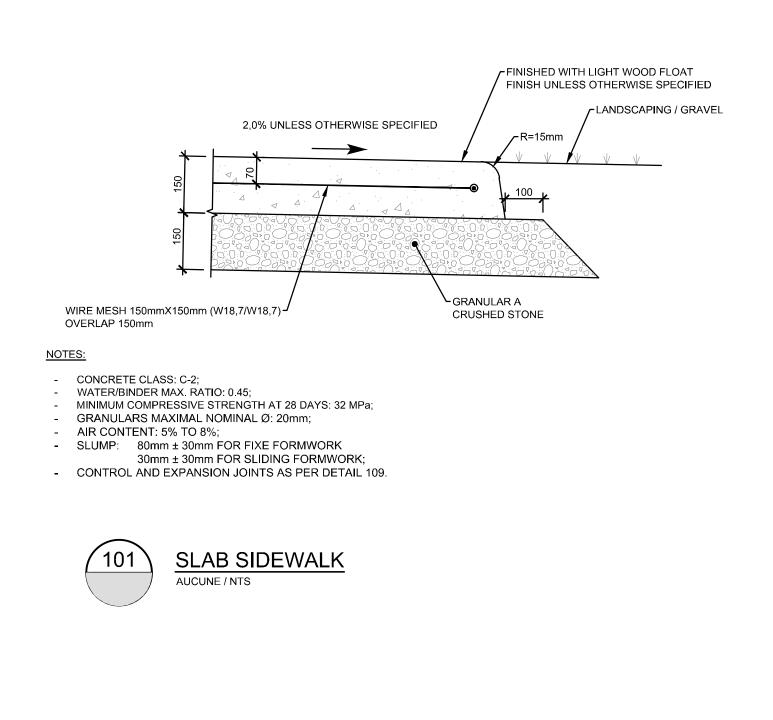
AND DISTRIBUTION FACILITY

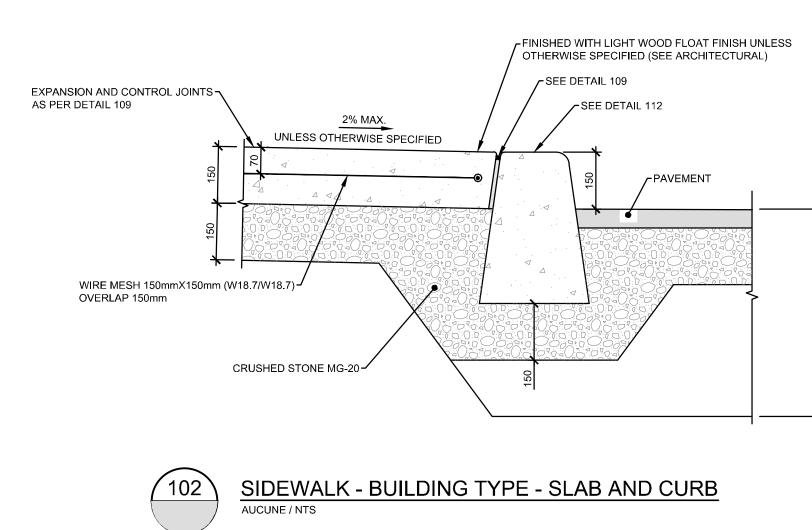
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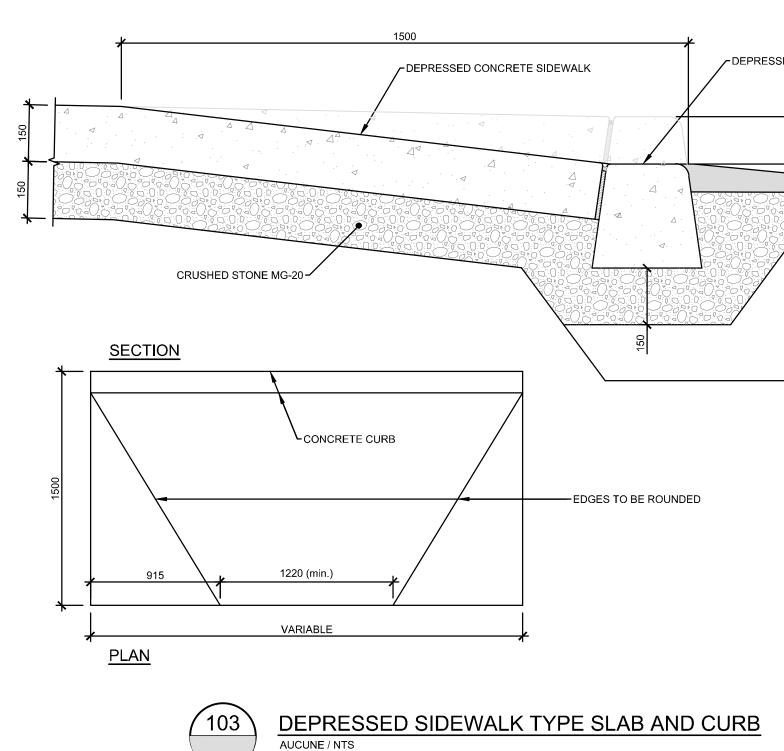






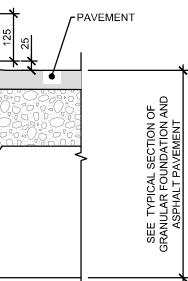




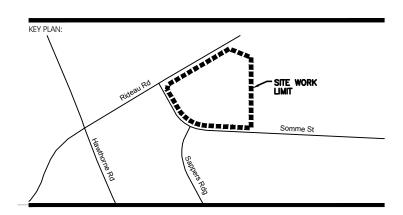


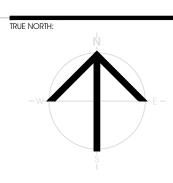


✓ DEPRESSED CONCRETE CURB









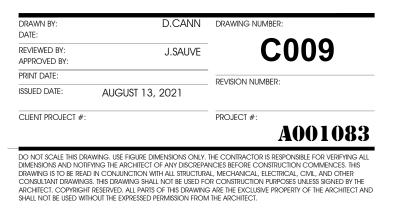
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UMBER:	REVISION:	DATE: (MM/DD/YY)

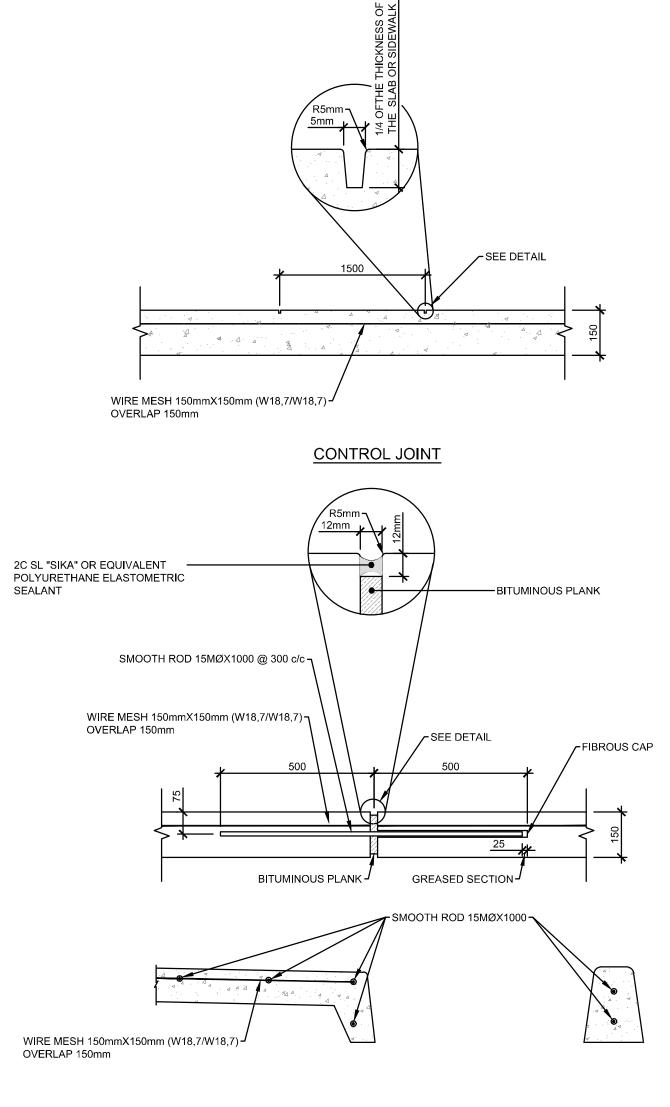




PROJECT TITLE: FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: NONE SOMME ST. OTTAWA, ON

# DETAILS





CONSTRUCTION AND EXPANSION JOINT

<u>NOTES :</u>

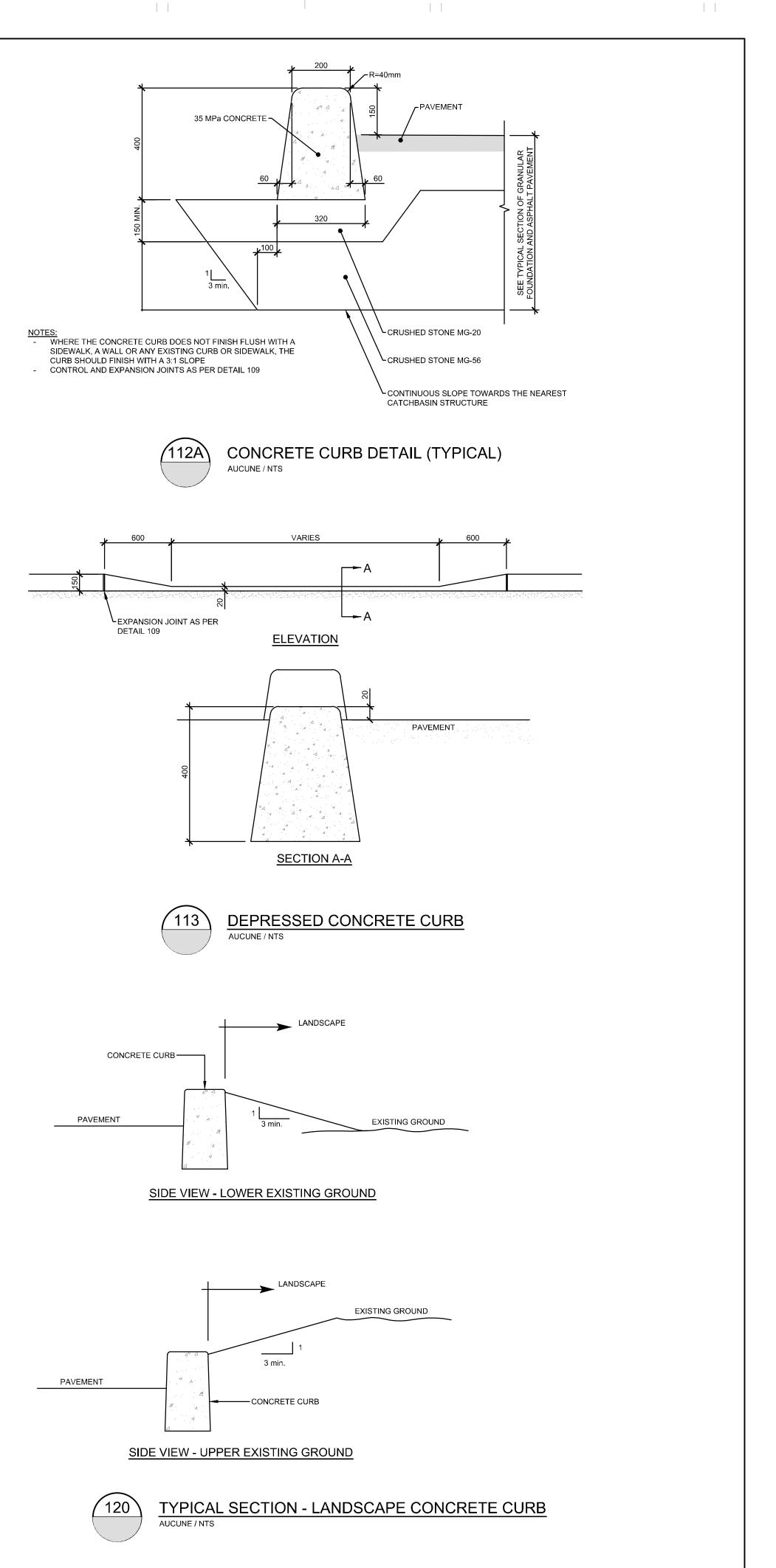
EXPANSION JOINTS OF CONCRETE WORK AT 6,0m C/C MAX. DIRECTION CHANGE AND AT CONTACT WITH CONCRETE STRUCTURES EDGES AND CONTROL JOINTS SHALL BE GROOVED, TOOLED AND BURNISHED WITH BRONZE EDGERS AND GROOVERS.



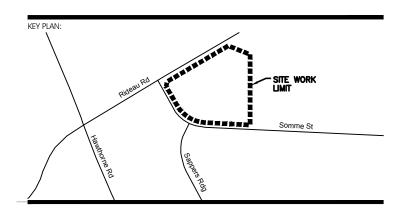
EXPANSION, CONTROL AND CONSTRUCTION JOINTS FOR CONCRETE WORK AUCUNE / NTS

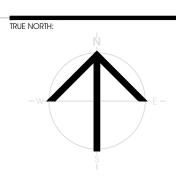












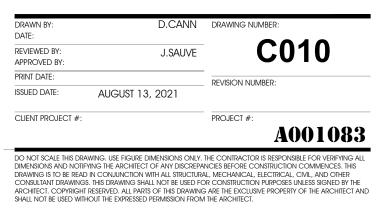
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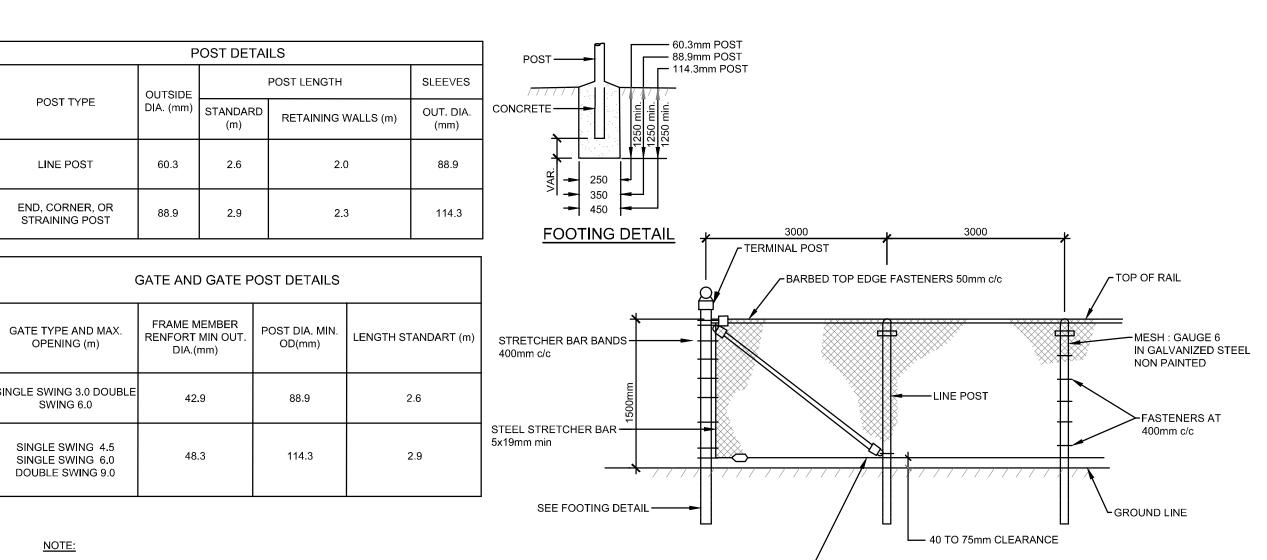




PROJECT TITLE: - FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: NONE Somme St. Ottawa, on

DETAILS



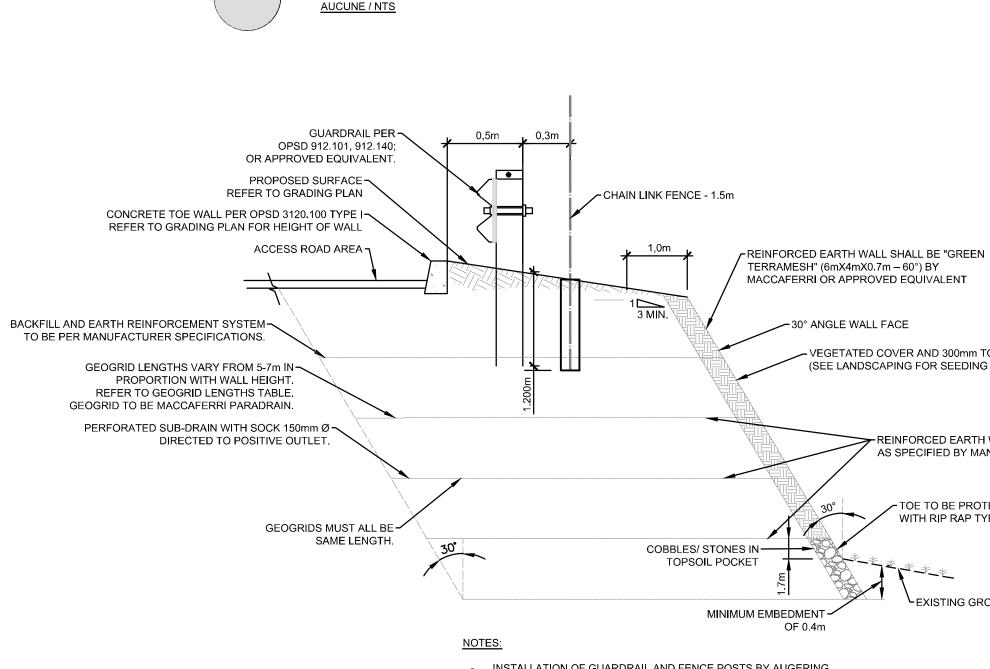


NOTE:

GATE LEAVES GREATER THAN 3.6m IN WIDTH ARE SUPPLIED WITH DIAGONAL BRACES.

126

3.5mm DIA. BOTTOM WIRE FASTENED



CHAIN LINK FENCE

INSTALLATION OF GUARDRAIL AND FENCE POSTS BY AUGERING STRICTLY PROHIBITED. STRUCTURE MUST BE FOUNDED ON APPROVED COMPETENT SOIL APPLIED LOAD = 175kPA SHOP DRWAINGS FOR EARTH WALL DESIGN, SIGNED AND SEALED BY AN ENGINEER LICENSED IN ONTARIO SHALL BE SUBMITTED. A TRANSITION IS REQUIRED WHERE SUBGRADE FILL MATERIAL HAS DIFFERENT FROST SUCEPTIBILITY. TRANSITION SHALL REACH A MAXIMUM DEPTH OF 1.8m BELOW PROJECTED PAVEMENT ELEVATION.

	LOAD TABLE			
PARAMETERS	REINFORCED SOIL	RETAINE		
UNIT WEIGHT, Kn/m <sup>3</sup>	21.2	19		
ANGLE OF INTERNAL FRICTIONS, $\phi$	32	30		
COHESION, KPA	0	0		
SURCHARGE LOAD AWAY FROM BACKSLOPE, KPA		17.0		



GEOGRID LENGTH TABLE

н

UP TO 4.9 m

4.91 m TO 6.3 m

6.31 m TO 7 m

REINFORCED

PARADRAIN LENGTH

Lg (m)

5 m

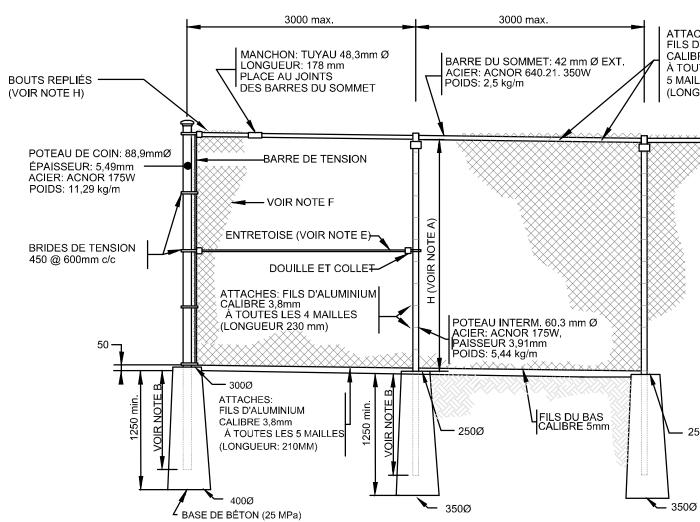
6 m

7 m

AUCUNE / NTS

#### <u>NOTES</u>

1. ALL FASTENERS MADE OF GALVANIZED STEEL (NO ALUMINUM) 2. TOP OF RAIL TYPE "KNUCKLE/KNUCKLE" (NO POINTY EDGE)



#### NOTES:

- A. FENCE HEIGHT: 1.5 m.
- B. LENGTH OF UNDERGROUND POLES: 1.1 m C. CORNER POST: 88.9 mmØ WITH TWO SPACERS.
- D. REINFORCING POST: 88.9 mmØ EVERY 60 m WITH TWO SPACERS.
- E. SPACERS: 42.2 mmØ, 350W ACNOR STEEL.
- F. GALVANIZED GRILLING-008; COVERED WITH VINYL (BLACK) FOR A TOTAL GAUGE #9E-008; CONFORMS TO CAN/CGSB-138.1 (TYPE 1. CATEGORY A, MEDIUM STYLE)
- SPACING OF 50mm X 50mm.
- G. ALL METAL PARTS ARE GALVANIZED. H. THE ENDS OF THE MESHES AT THE TOP AND BOTTOM MUST BE FOLDED
- INWARDS SO AS NOT TO HAVE PRICKLY TIPS.
- I. THE WIRE MESH AND METAL PARTS MUST BE BLACK WITH PVC STRAP "SUPER PRIVACY" (BLACK) IN THE PLACES INDICATED ON THE OVERALL PLAN
- J. MEASUREMENTS ARE IN MILLIMETRES



#### GALVANIZED METAL MESH FENCE 1.8m HIGH AUCUNE / NTS

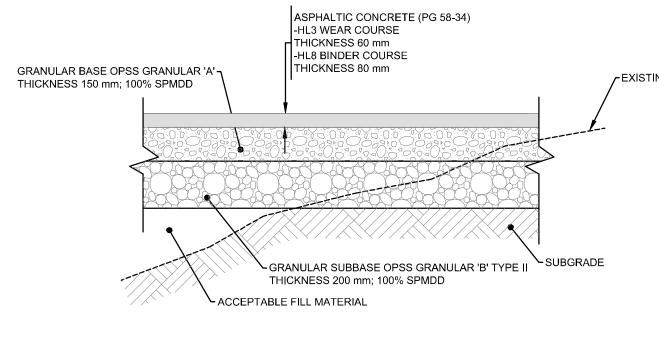
#### - VEGETATED COVER AND 300mm TOPSOIL POCKETS

(SEE LANDSCAPING FOR SEEDING MIX DETAILS)

#### - REINFORCED EARTH WALL GEOGRID. AS SPECIFIED BY MANUFACTURER DETAIL ...

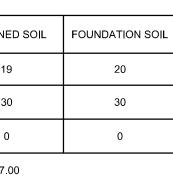
► TOE TO BE PROTECTED WITH RIP RAP TYPE 3.

EXISTING GROUND

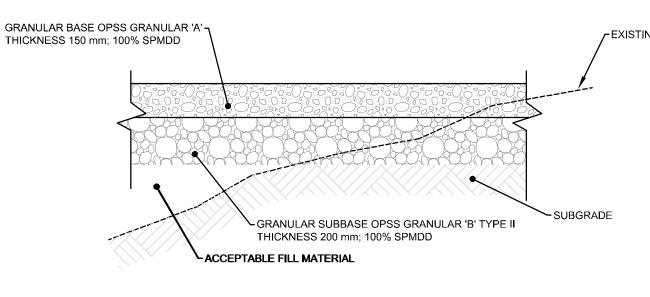




**TYPICAL SECTION - GRANULAR FOUNDATION** AND ASPHALT PAVEMENT (HEAVY DUTY) AUCUNE / NTS



#### ID FENCE





#### **TYPICAL SECTION - GRANULAR PAD** AUCUNE / NTS

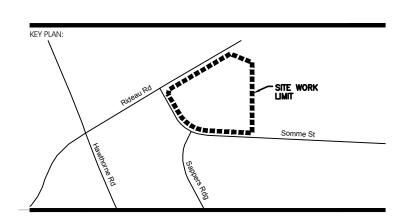
### ATTACHES: FILS D'ALUMINIUM CALIBRE 3,8mm À TOUTES LES 5 MAILLES. (LONGUEUR: 210mm)

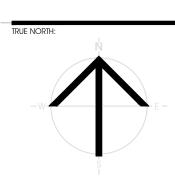
# – 250Ø

EXISTING GROUND

## FEXISTING GROUND







#### PRELIMINARY ECORD OF REVISION $\overline{\mathbf{V}}$ $\overline{5}$ $\sqrt{4}$ $-\overline{3}$ $\overline{2}$ ISSUED FOR SITE PLAN APPROVAL AUGUST 13, 2021 DATE: (MM/DD/YY) NUMBER: REVISION:

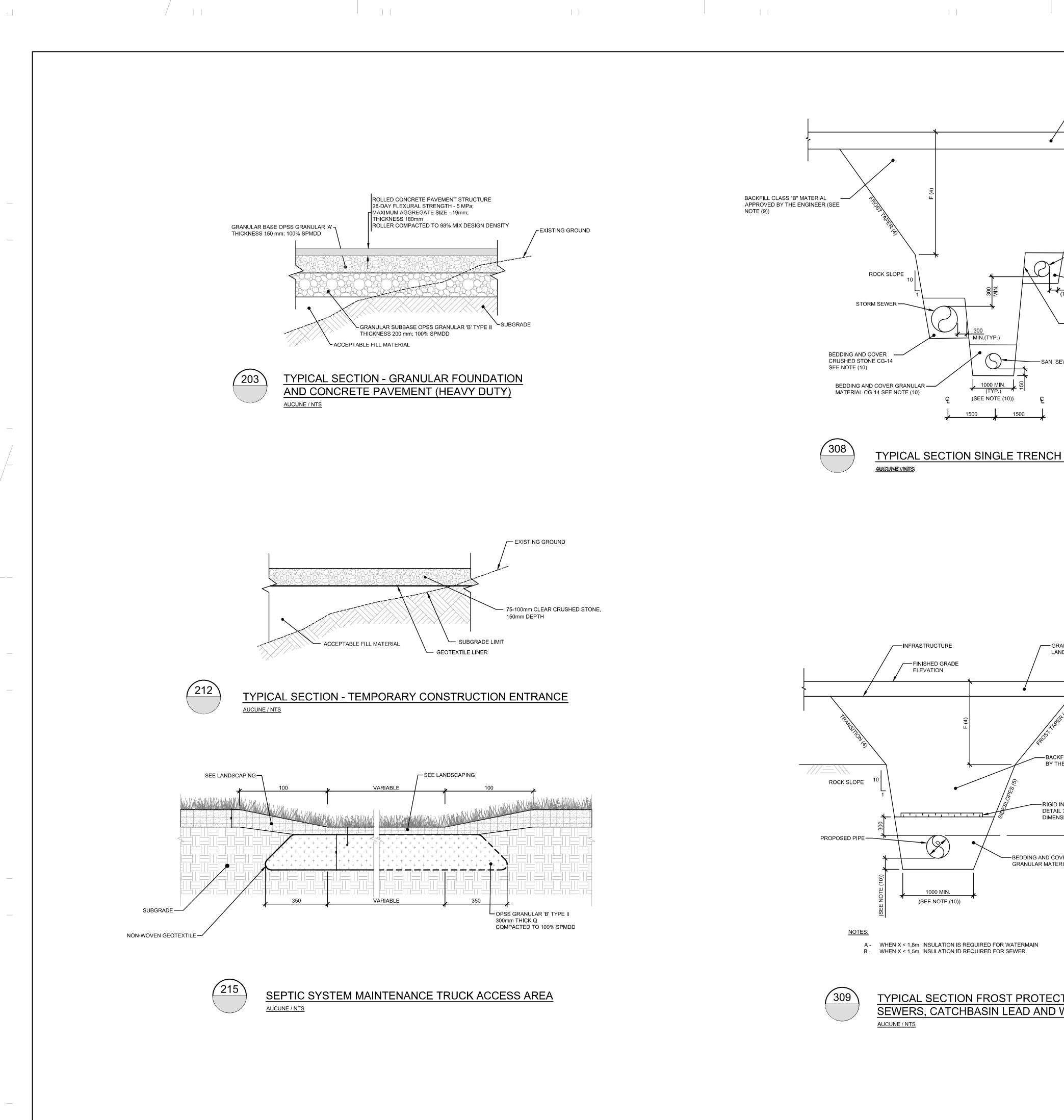


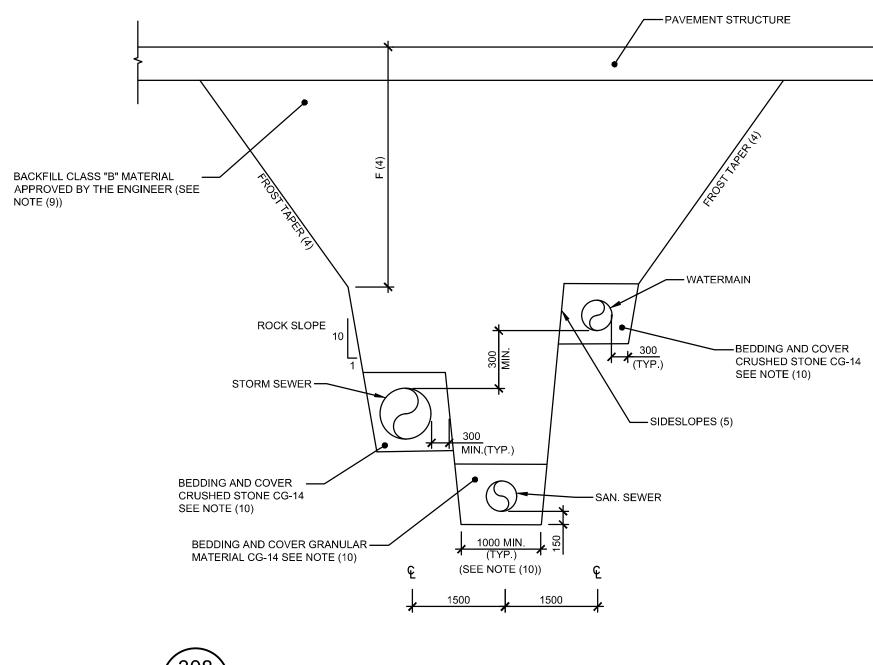


PROJECT TITLE - FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: NONE Somme St. Ottawa, on

# DETAILS

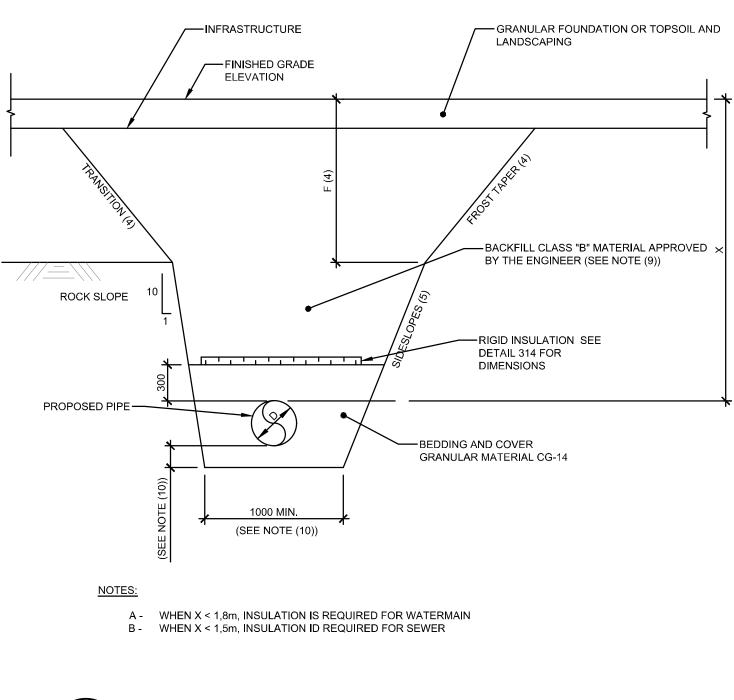
D.CANN **C01**1 REVIEWED BY: J.SAUVE APPROVED BY: PRINT DATE: REVISION NUMBER: ISSUED DATE: AUGUST 13, 2021 CLIENT PROJECT #: PROJECT #: A001083 do not scale this drawing. Use figure dimensions only, the contractor is responsible for verifying , Dimensions and notifying the architect of any discrepancies before construction commences. This DRAWING IS TO BE READ IN CONJUNCTION WITH ALL STRUCTURAL, MECHANICAL, ELECTRICAL, CIVIL, AND OTHER CONSULTANT DRAWINGS. THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED BY THE ARCHITECT. COPYRIGHT RESERVED, ALL PARTS OF THIS DRAWING ARE THE EXCLUSIVE PROPERTY OF THE ARCHITECT AND SHALL NOT BE USED WITHOUT THE EXPRESSED PERMISSION FROM THE ARCHITECT.







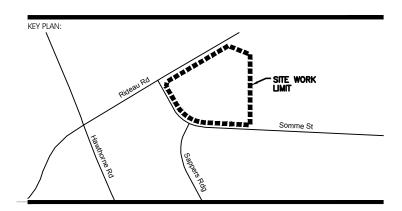
**TYPICAL SECTION SINGLE TRENCH - MULTIPLE PIPES** ANCUME//NITS

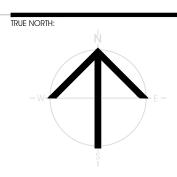




TYPICAL SECTION FROST PROTECTION FOR SEWERS, CATCHBASIN LEAD AND WATERMAIN AUCUNE / NTS







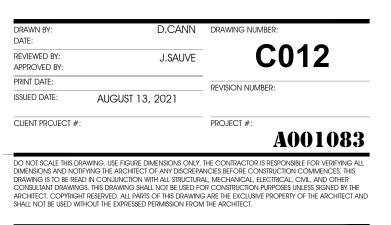
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NUMBER:	REVISION:	DATE: (MM/DD/YY)

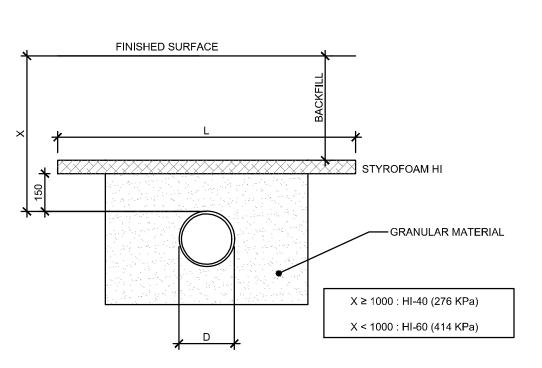




PROJECT TITLE: - FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: NONE Somme St. Ottawa, on





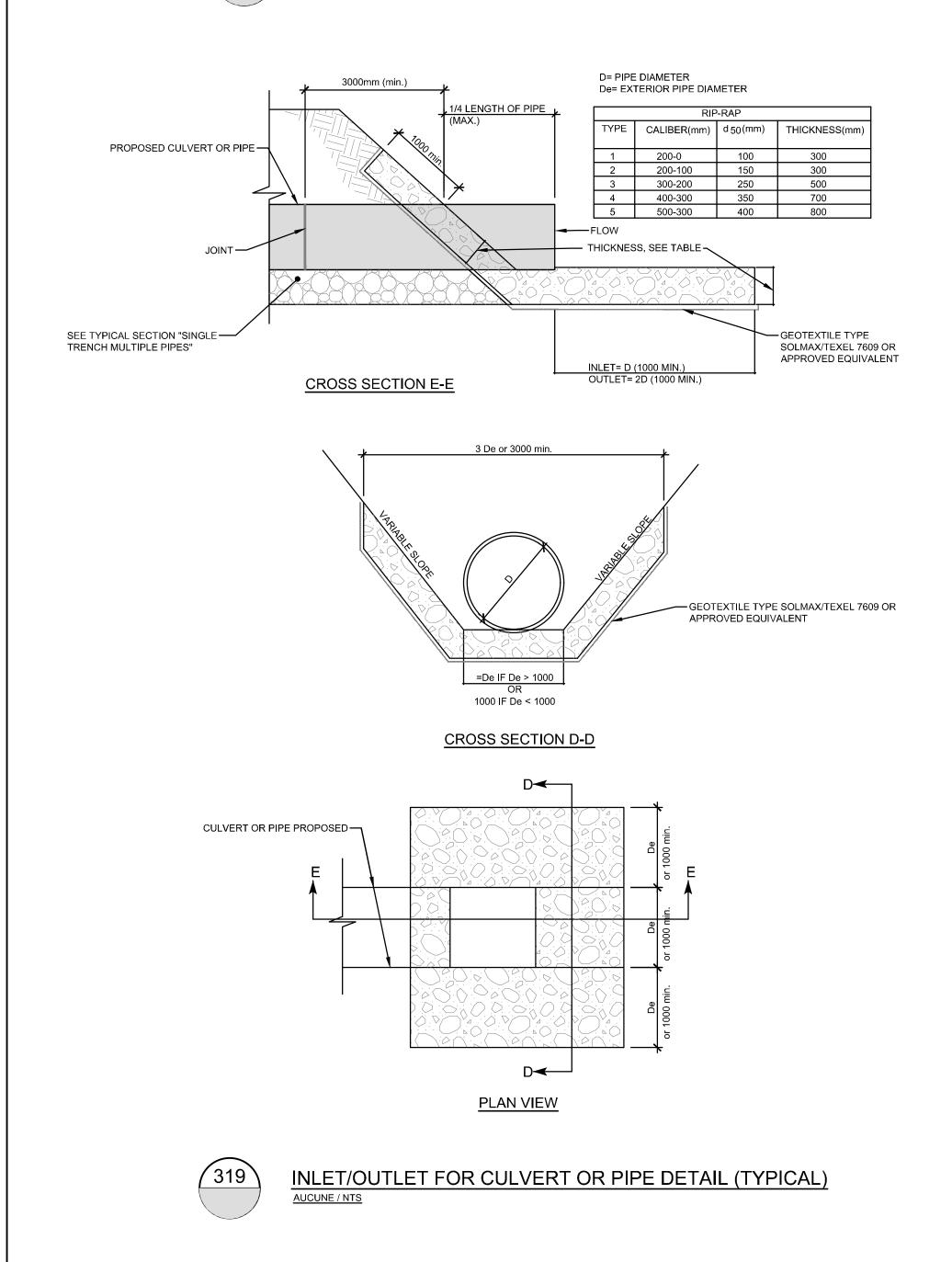


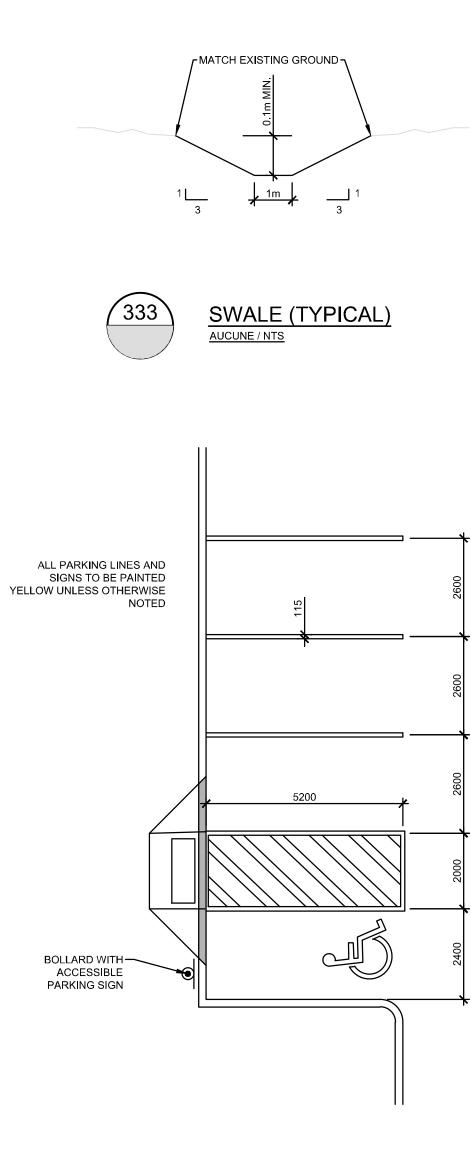
#### MINIMUM WIDTH OF ISULATION TABLE (L) INSULATION THICKNESS <u>P</u> ≤150 200 250 300 375 450 525 600 1650 1700 1750 1800 1875 1950 2025 750 2100 100 1000 1150 1200 1250 1300 1375 1450 1525 1600 100 1250 650 700 750 800 875 950 1025 1100 75 1500

1250	000	100	100	000	010	000	1020	1100		75
1500	600	600	600	600	600	600	600	600		75
1750	600	600	600	600	600	600	600	600		50
L= INSULATION WIDTH (mm) D= PIPE DIAMETER (mm)										



PIPE INSULATION (1.8m COVER) AUCUNE / NTS



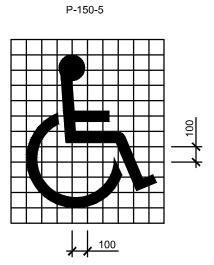




TYPICAL PARKING STALLS AUCUNE / NTS

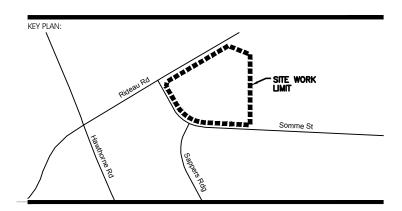
ACCESSIBLE PARKING SIGN

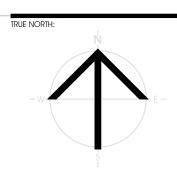




ACCESSIBLE PARKING SIGN AND MARKING







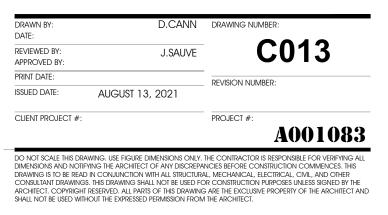
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RECORD C	DF REVISIONS:	
	ISSUED FOR SITE PLAN APPROVAL	AUGUST 13, 2021 DATE: (MM/DD/YY)





PROJECT TITLE: - FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: NONE Somme St. Ottawa, on

DETAILS







NOTES:



- 'DOME' CONCRETE FILLING TO PROVIDE RUN-OFF

3 - 50mm WHITE ENGINEERING GRADE REFLECTIVE TAPE

200mm O.D. STEEL PIPE FILLED WITH CONCRETE

PAINT WITH 1 COAT RED OXIDE PRIMER PAINT AND 2 COATS OF TREMCLAD (COLOUR AS SPECIFIED)

----- FINISHED GRADE

100mm GRANULAR 'A'

30 MPa CONCRETE FOOTING 400mm DIA. SONOTUBE

25mm DIA. x 350mm LONG STEEL PIN THROUGH PIPE

- COMPACTED SUBGRADE

AS ANCHOR

6mm CHAIN FROM BOLLARD TO BOLLARD

AFTER IT IS SET IN PLACE

/ / X V /

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log at

1 A & A & A & A & A

400

1. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED

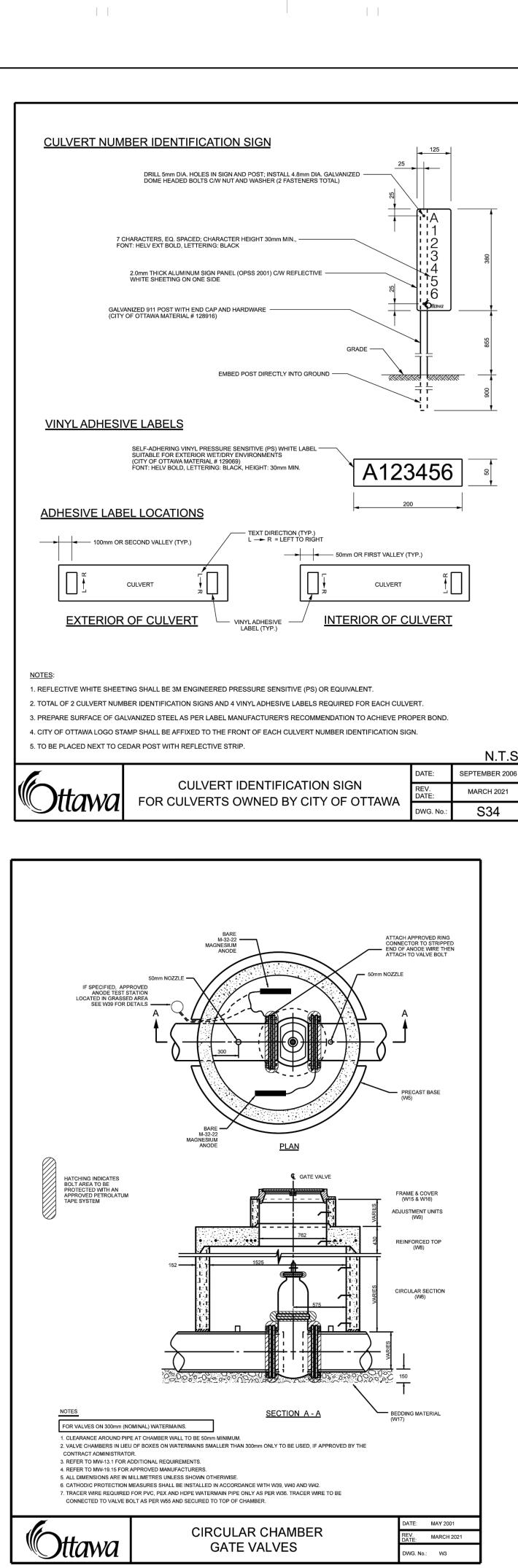
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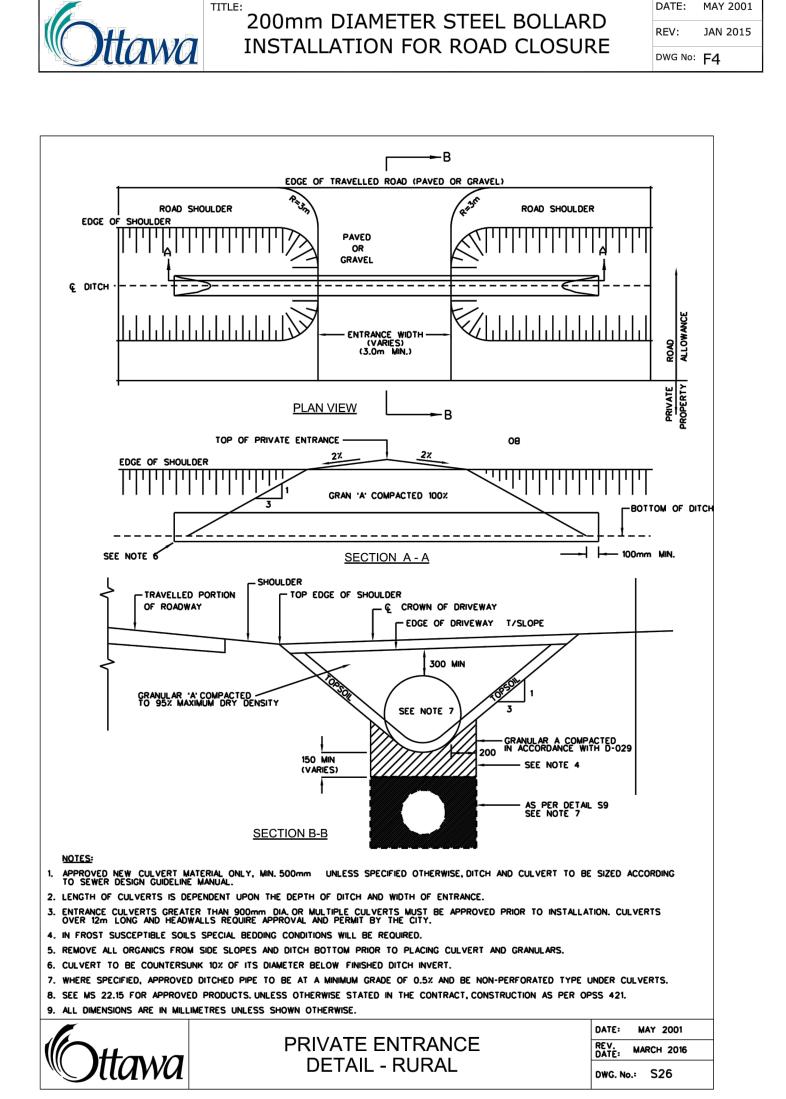
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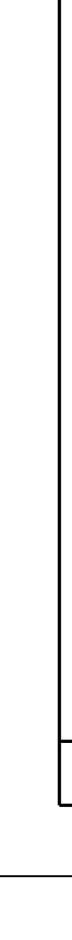
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RUST-PREVENTATIVE ENAMEL PAINT



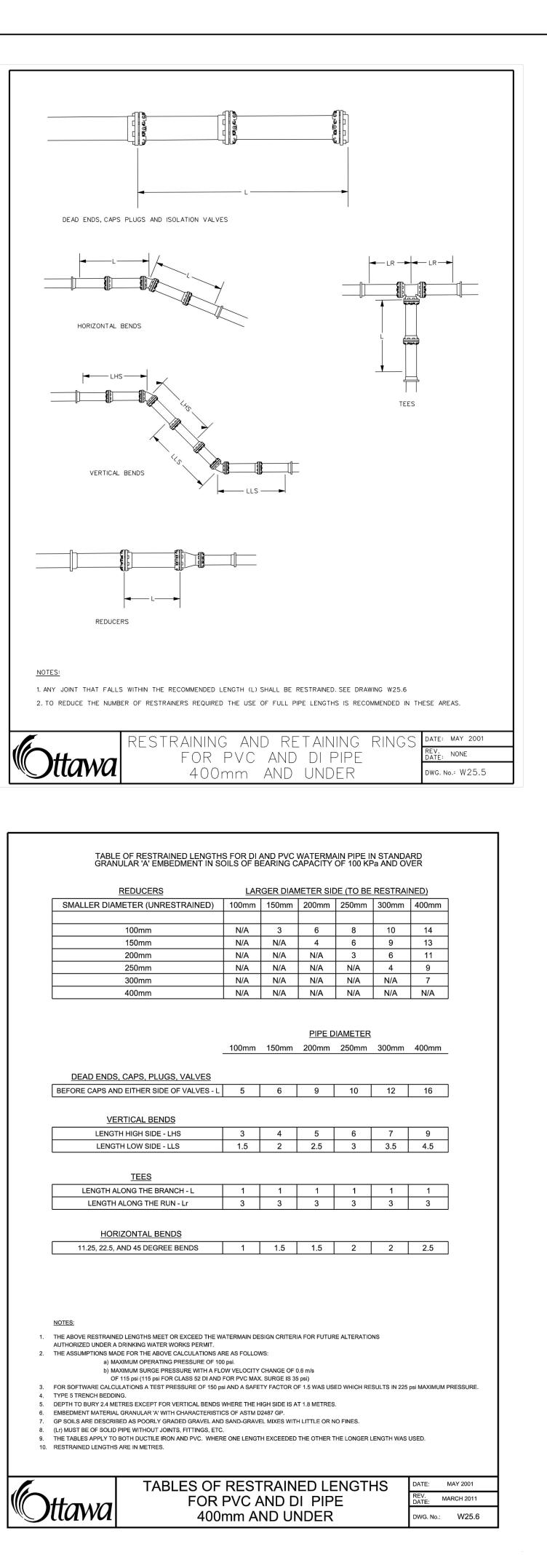




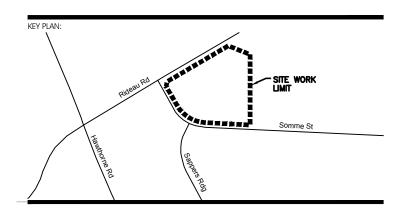


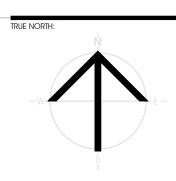












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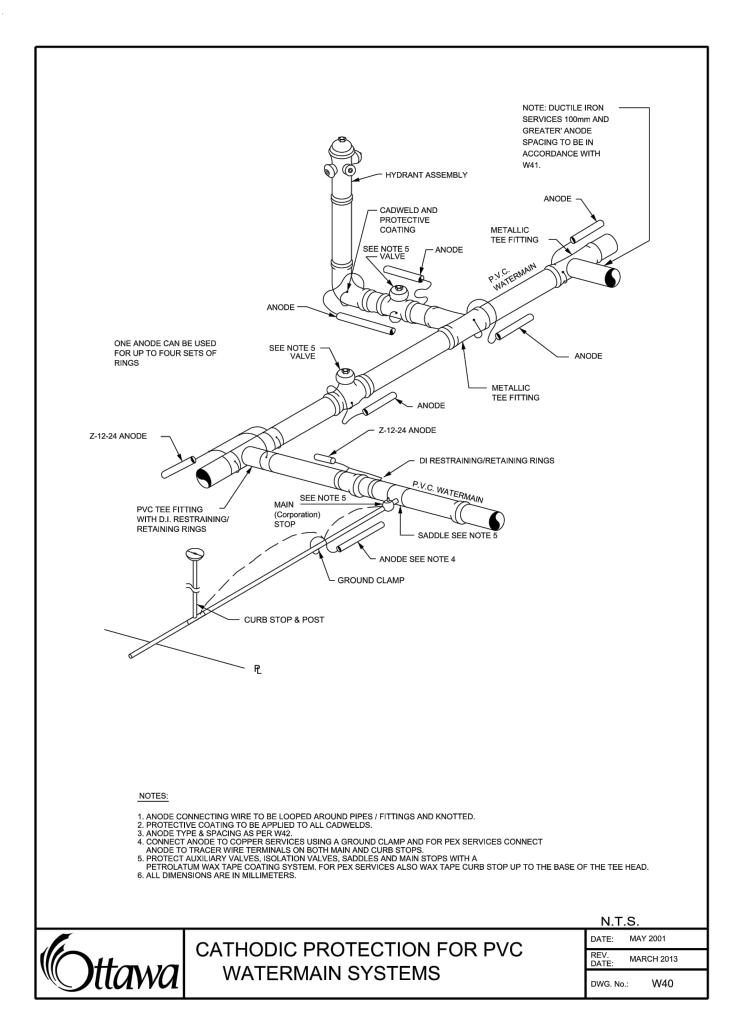


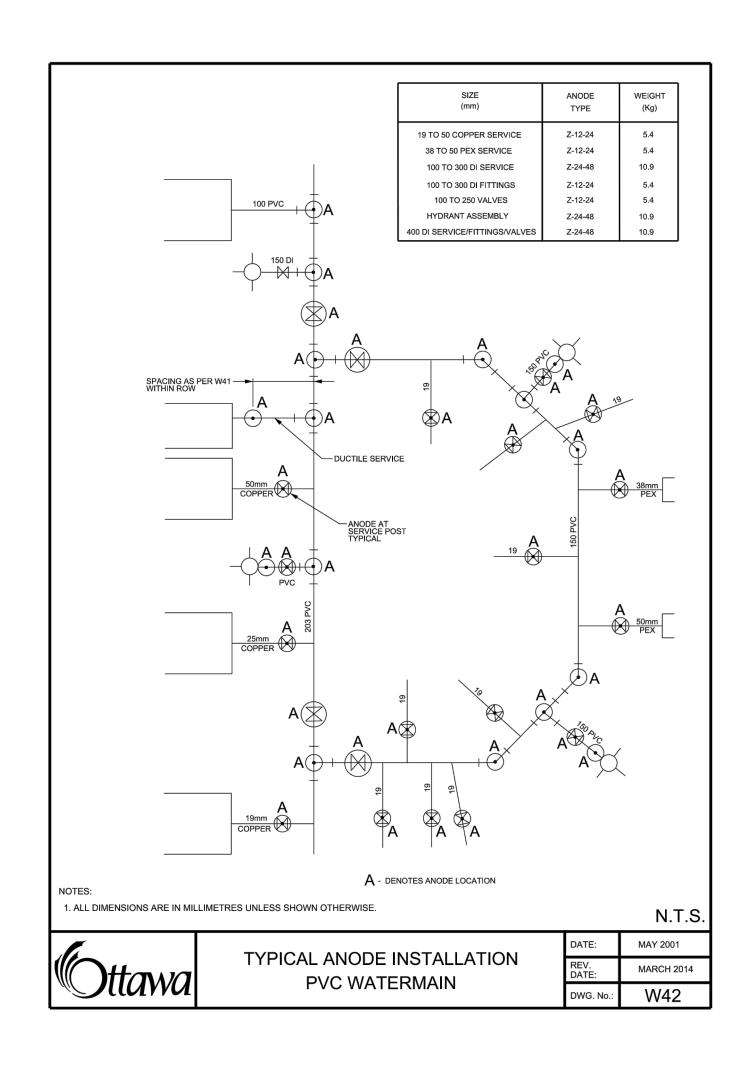
- FASTFRATE OTTAWA WAREHOUSE AND DISTRIBUTION FACILITY SCALE: NONE SOMME ST. OTTAWA, ON

# DETAILS

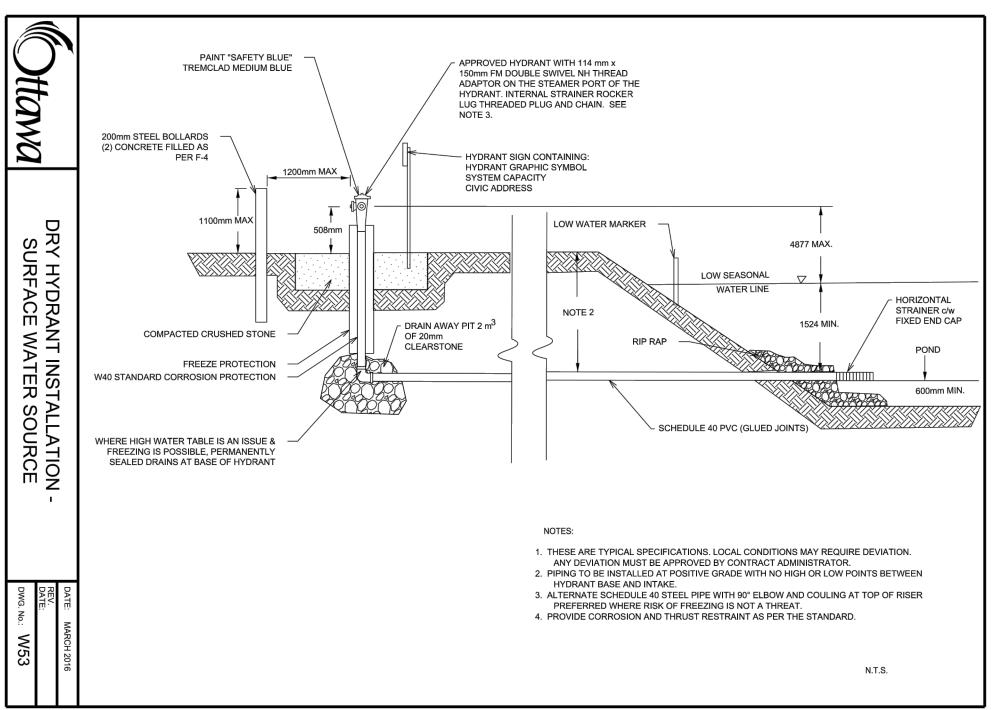
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ISSUED DATE:	AUGUST 13, 2021	
CLIENT PROJECT #:		PROJECT #:
		A001083
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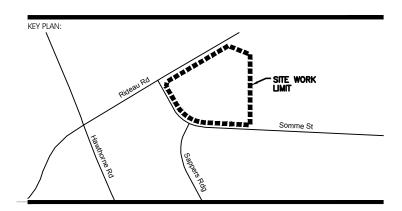






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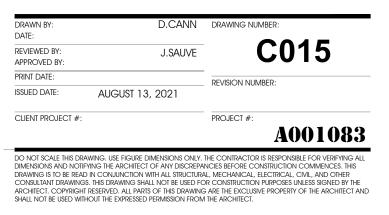
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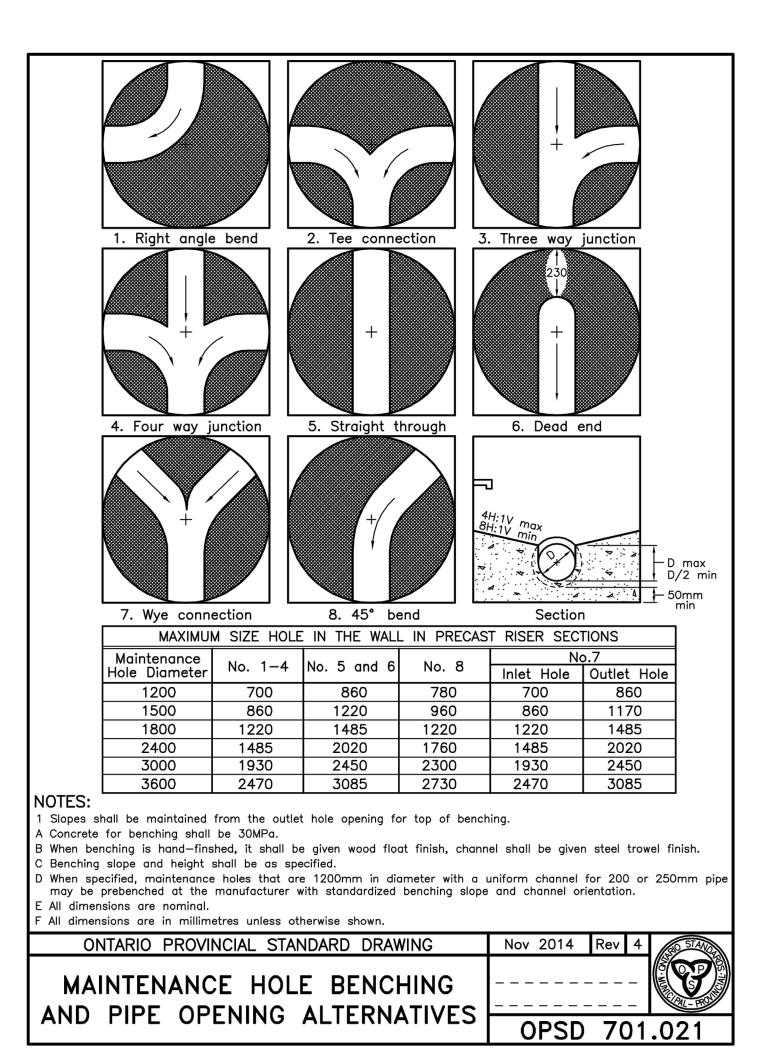


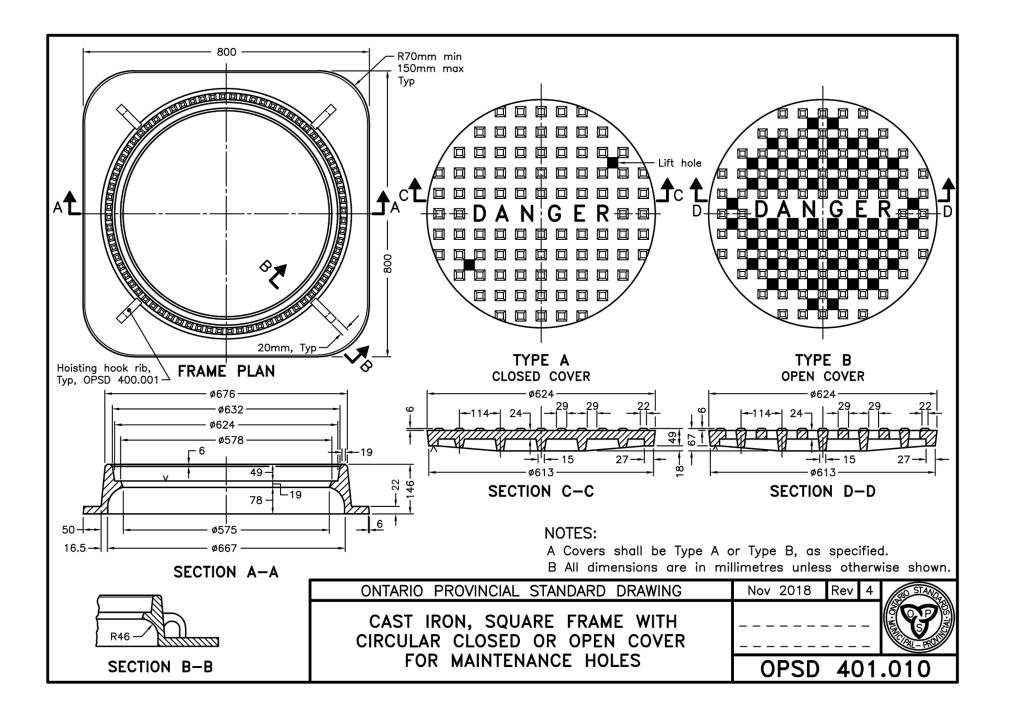


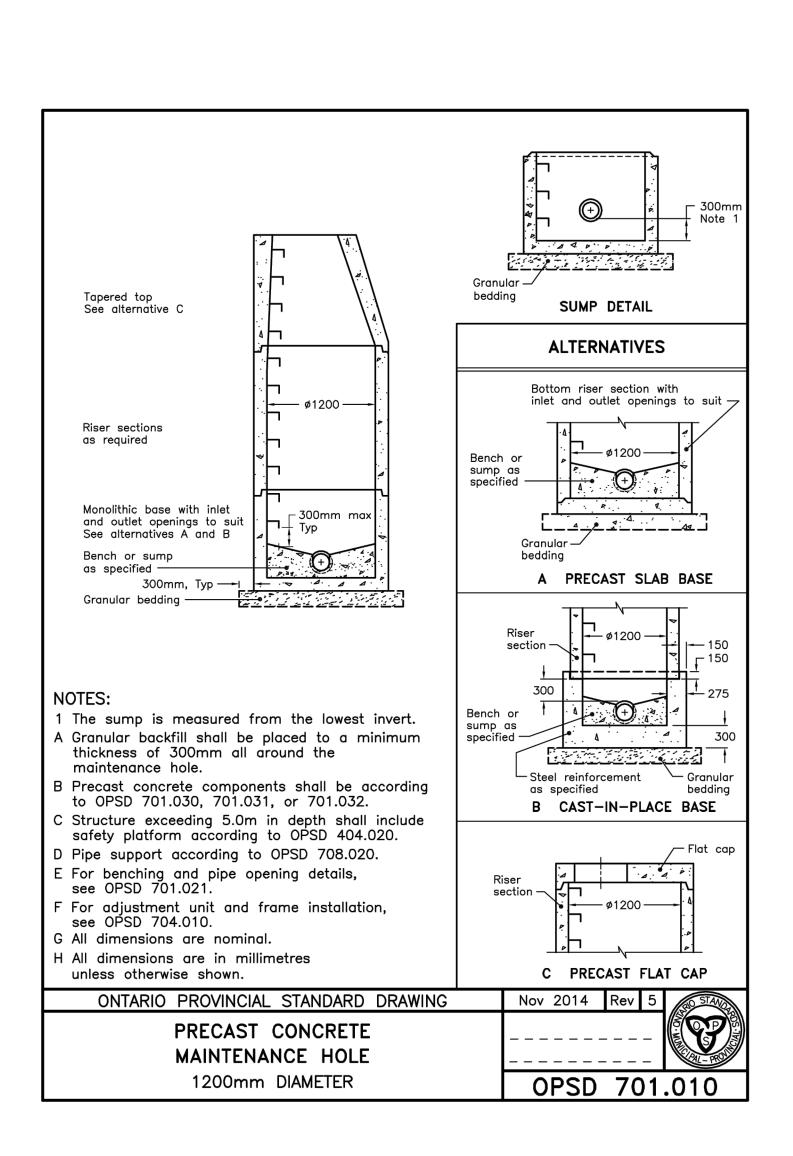
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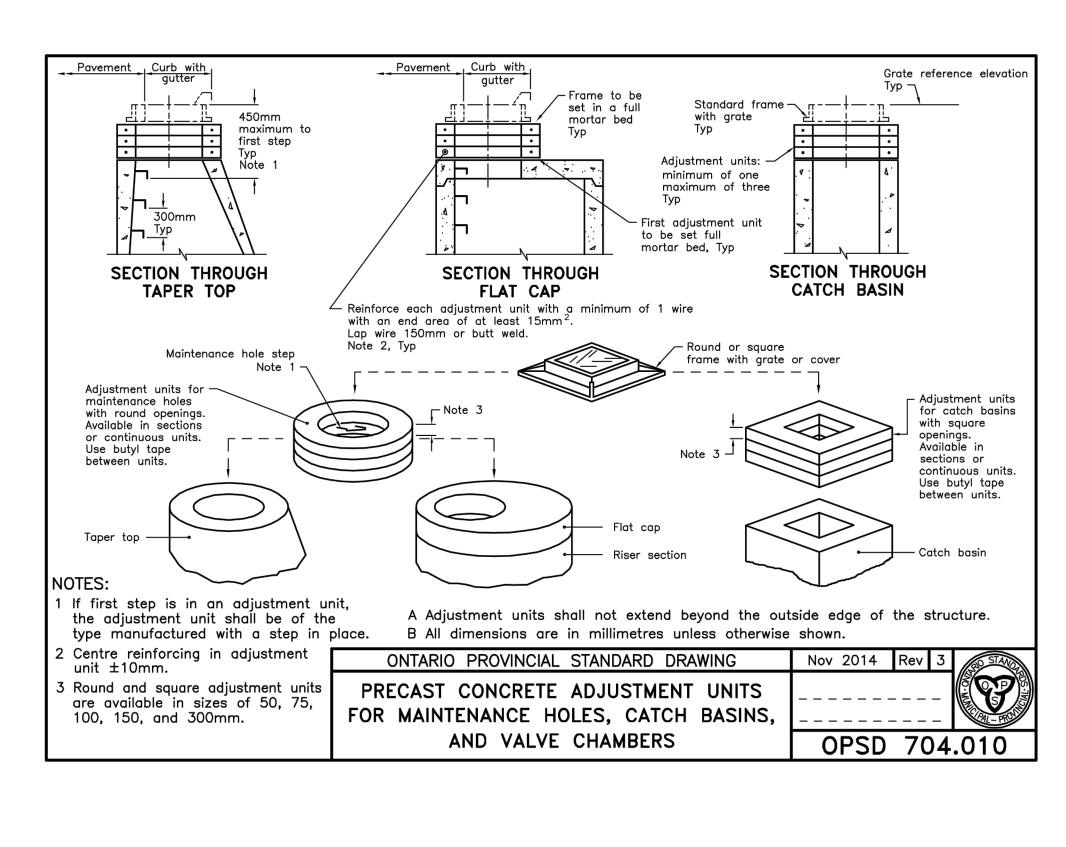
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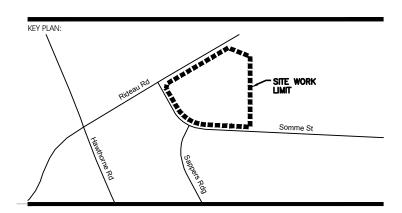


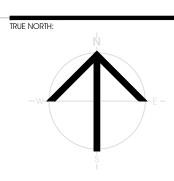






CLIENT LOGO:





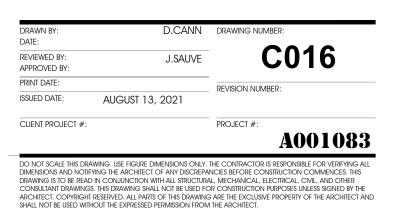
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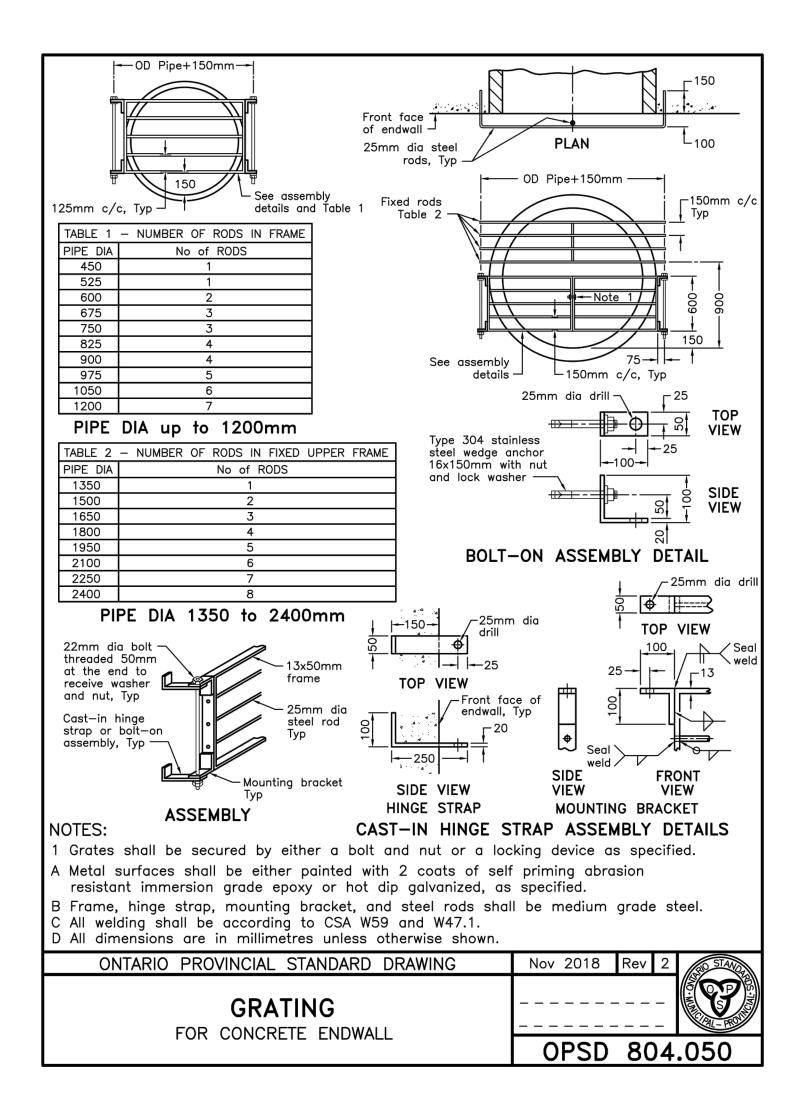


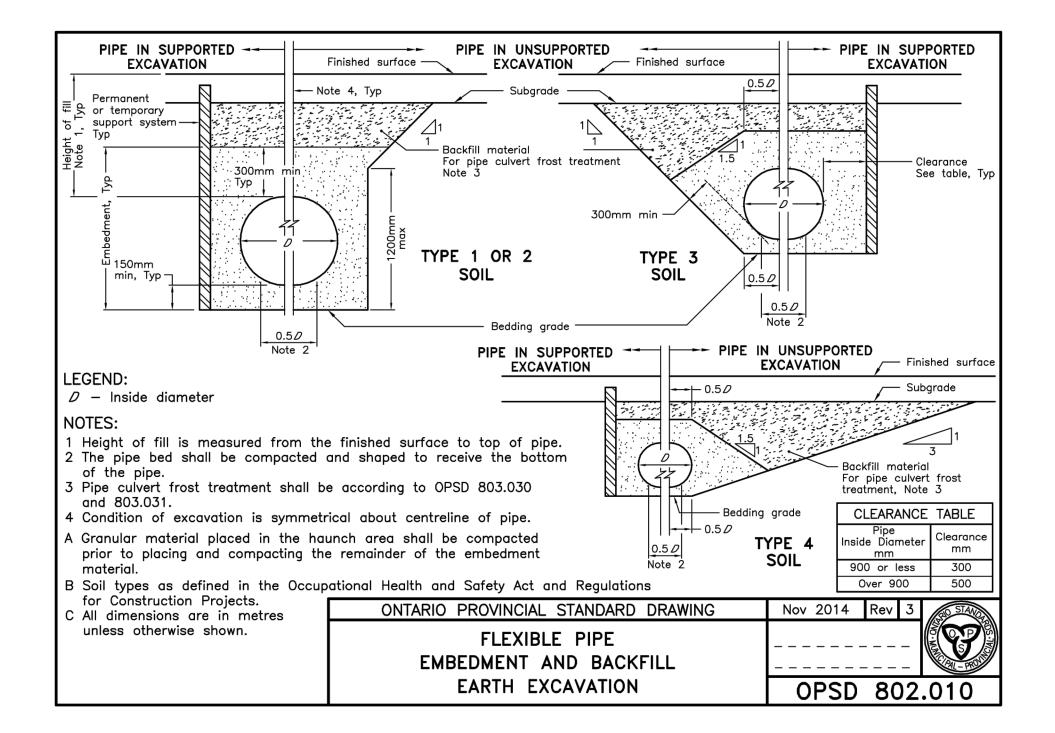


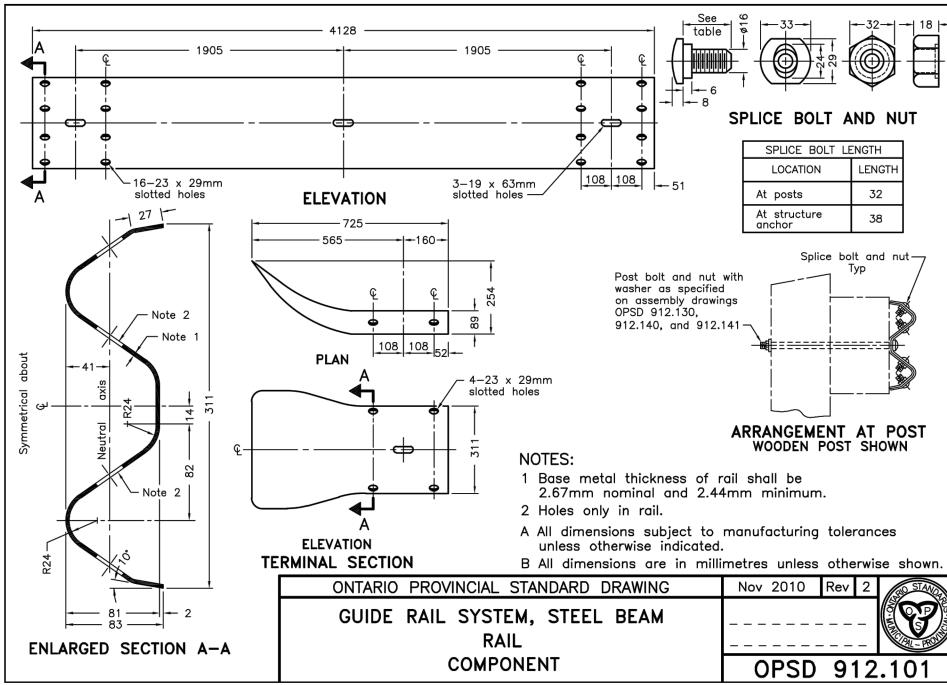
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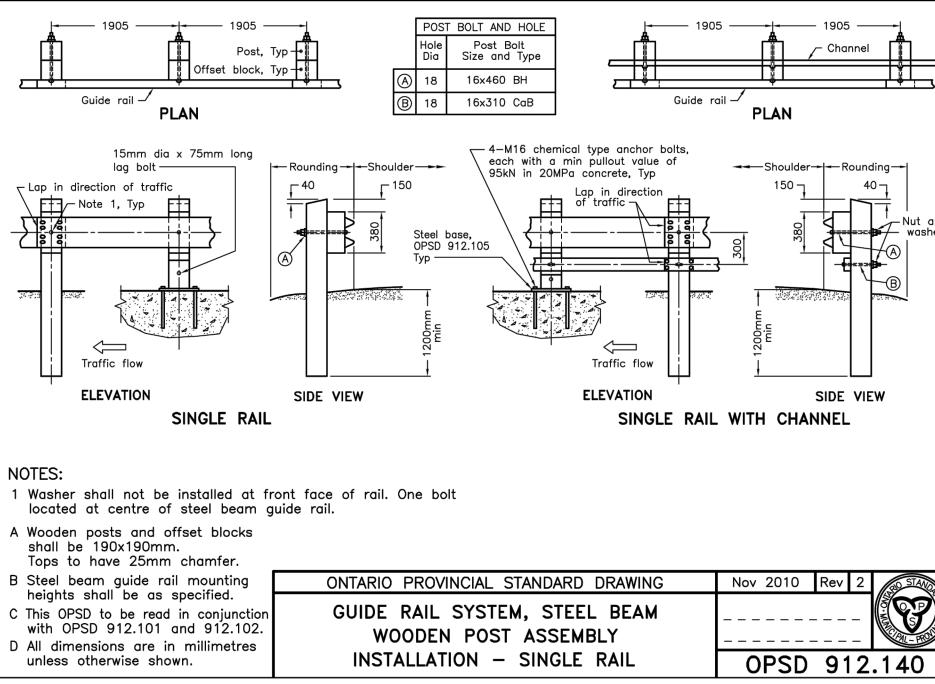
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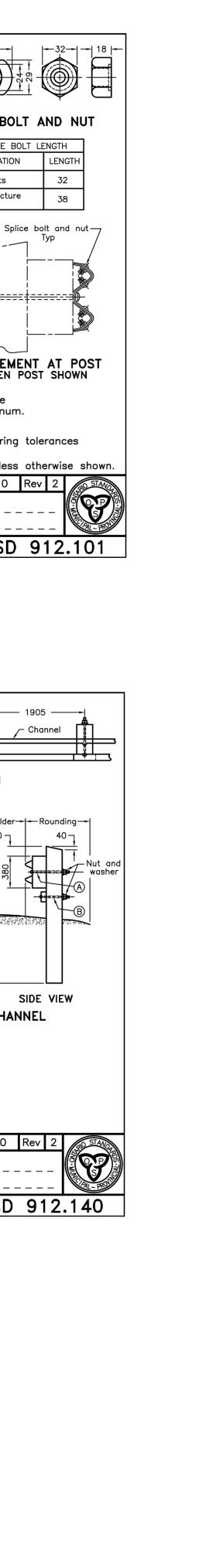




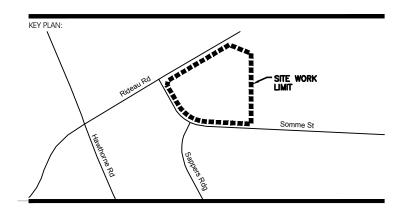


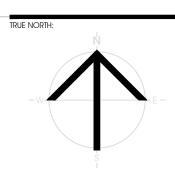


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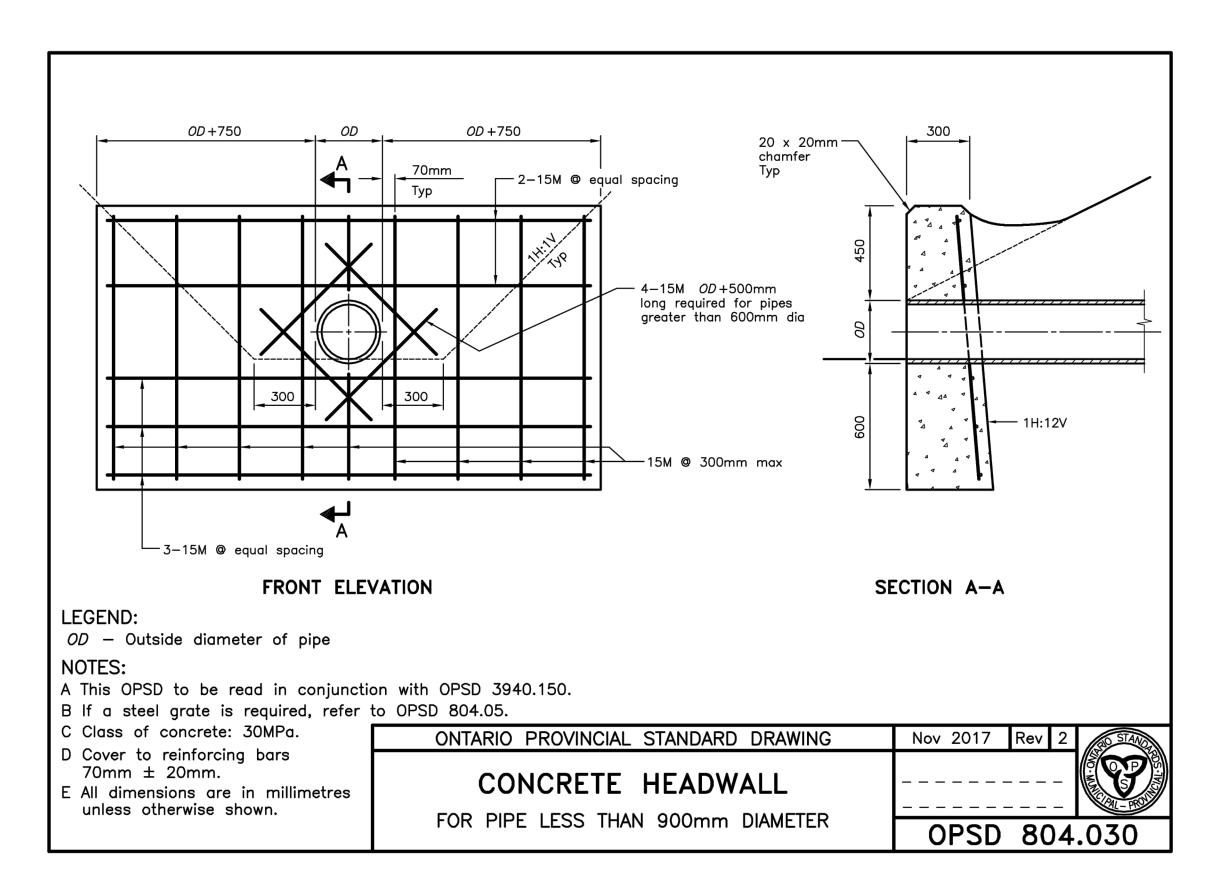


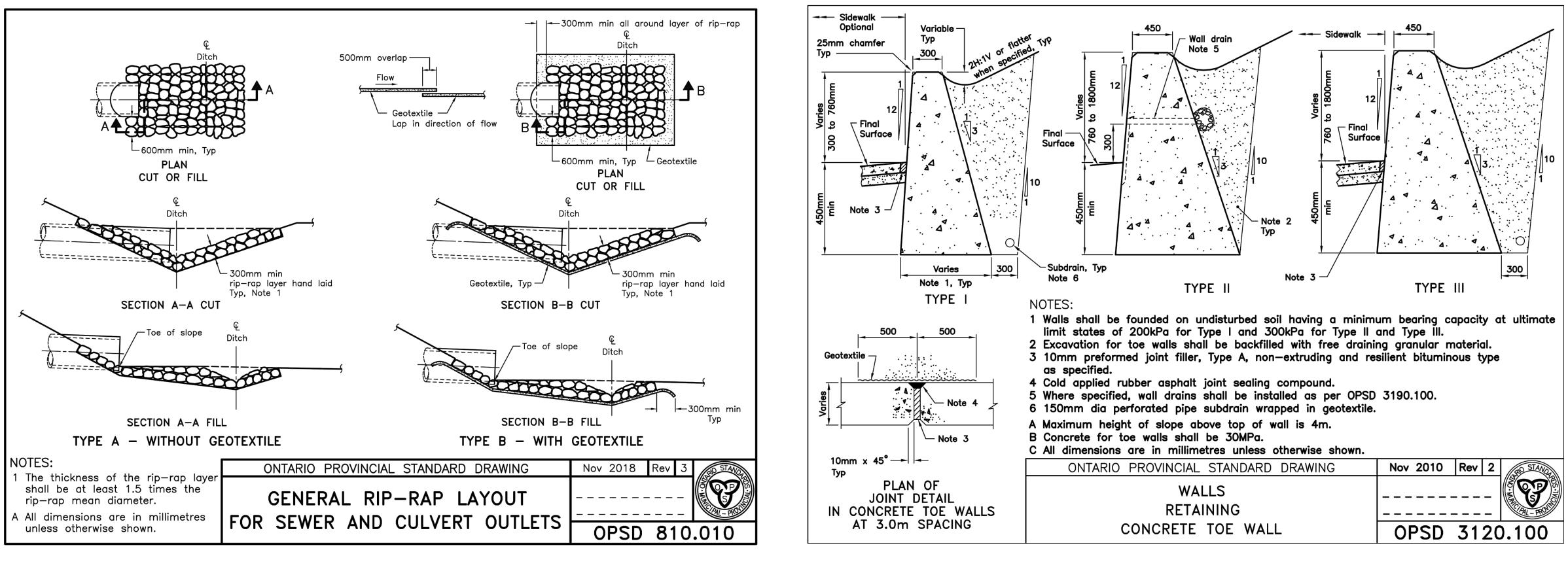


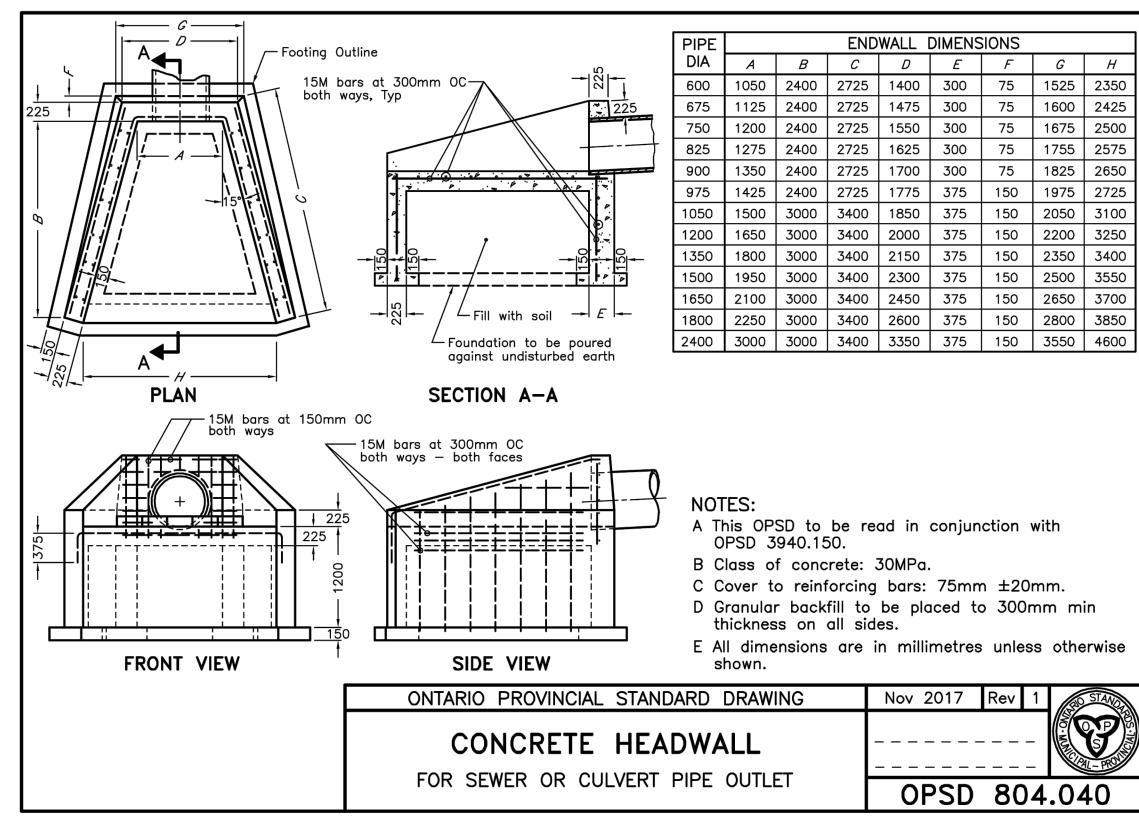
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		C017
REVIEWED BY: APPROVED BY:	J.SAUVE	6017
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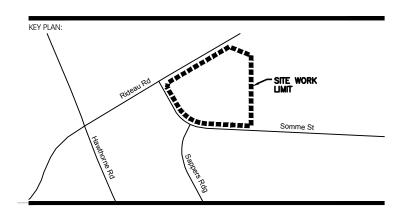


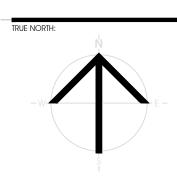




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