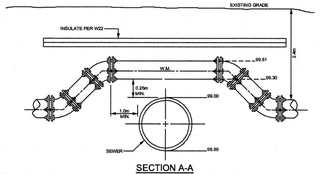
WATERMAIN CROSSING DETAIL (PER W25.2)

N.T.S.



SECTION A-A

NOTE:

FOR WATERMAIN 150mm (NOMINAL) TO 400mm (NOMINAL)

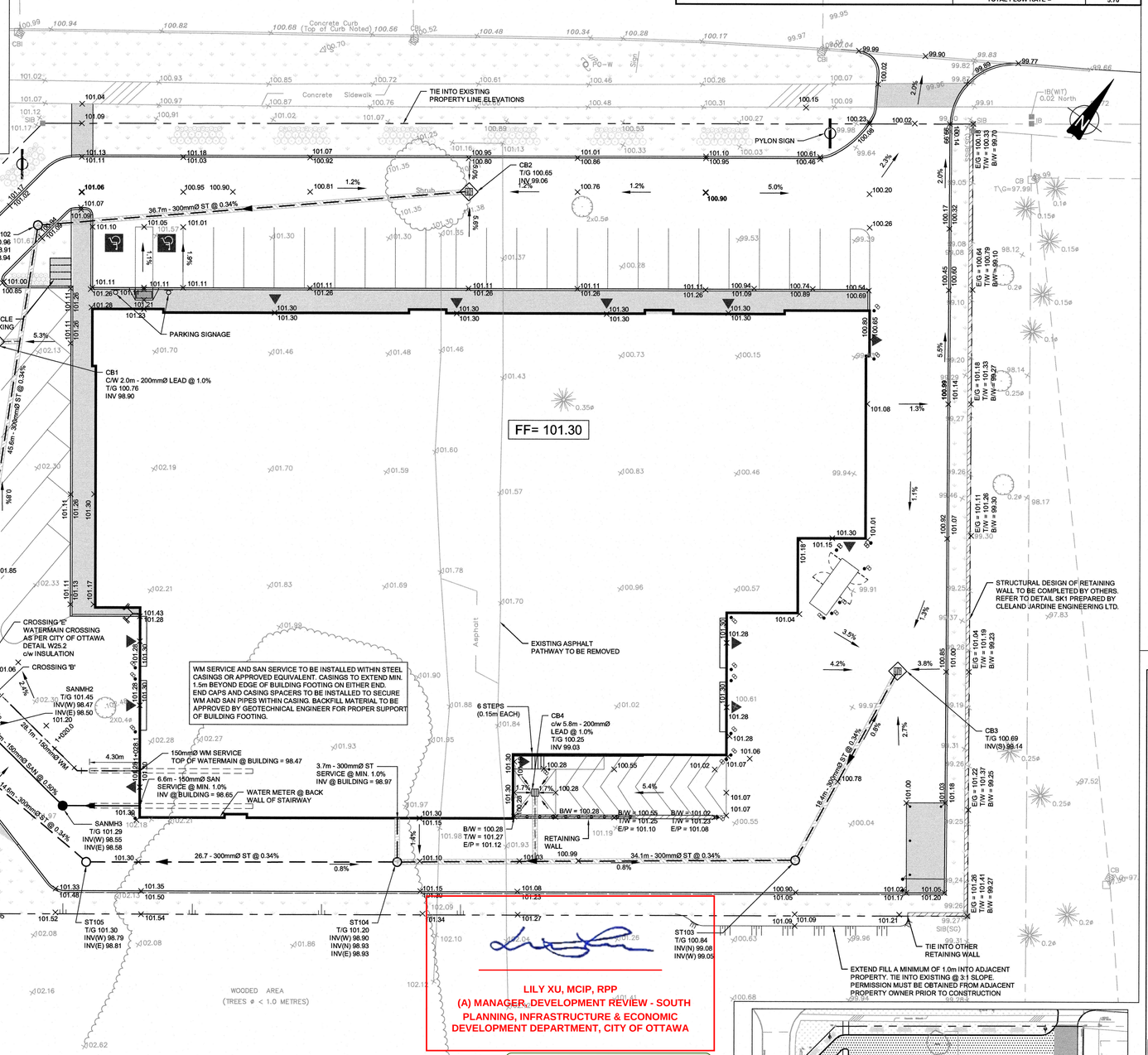
1. BARREL TO BARREL SEPARATION (D) SHALL BE 250mm MINIMUM.
2. THRUST BLOCKS FOR MAINS LARGER THAN 400mm (NOMINAL) SHALL BE PER SPECIAL DESIGN.
3. FOR 300mm (NOMINAL) AND 400mm (NOMINAL) MAINS, BENDS SHALL BE MAX 22.5°.
4. CONCRETE FOR THRUST BLOCKS SHALL BE 20MPA.
5. REFER TO W25.5 FOR RESTRAINED LENGTH REQUIREMENTS.
6. REFER TO W25.3 AND W25.4 FOR THRUST BLOCK REQUIREMENTS.
7. DESIGNED TO MEET THE INTENT OF THE MTE WATERMAIN DESIGN CRITERIA JUNE 2012.

ICD TABLE

ICD #	OUTLET PIPE DIA. (mm)	Qr (L/s)	OUTLET INVERT (m)	TOP OF GRATE (m)	MAX PONDING (m)	DESIGN HEAD (m)	HYDROVEX MODEL #
CB 1 - ICD 1	200	6.00	98.90	100.76	101.02	2.12	75 VHV-1
CB 2 - ICD 2	300	7.00	99.06	100.65	100.89	1.83	75 VHV-1
CB 3 - ICD 3	300	6.00	99.14	100.69	100.96	1.82	75 VHV-1

ROOF DRAIN TABLE

BUILDING	ROOF DRAIN	WEIR OPENING	MAX PONDING DEPTH (mm)	ROOF DRAIN TYPE	RELEASE RATE (L/S)
PROPOSED DYMON BUILDING	RD1	1/4 EXPOSED	150	WATTS ADJUSTABLE ACCUTROL WEIR	0.95
	RD2	1/4 EXPOSED	150	WATTS ADJUSTABLE ACCUTROL WEIR	0.95
	RD3	1/4 EXPOSED	150	WATTS ADJUSTABLE ACCUTROL WEIR	0.95
	RD4	1/4 EXPOSED	150	WATTS ADJUSTABLE ACCUTROL WEIR	0.95
	RD5	1/4 EXPOSED	150	WATTS ADJUSTABLE ACCUTROL WEIR	0.95
	RD6	1/4 EXPOSED	150	WATTS ADJUSTABLE ACCUTROL WEIR	0.95
				TOTAL FLOW RATE =	5.70



LILY XU, MCIP, RPP
(A) MANAGER, DEVELOPMENT REVIEW - SOUTH
PLANNING, INFRASTRUCTURE & ECONOMIC DEVELOPMENT DEPARTMENT, CITY OF OTTAWA

APPROVED
By Lily Xu at 1:47 pm, Sep 20, 2019

WATERMAIN TABLE - Sta. 1+000.00 TO 1+028.1 & Sta. 2+000 TO 2+004.9
PVC DR-18 CL.150

SIZE	STATION ALONG WM	DETAIL	FINISHED GRADE	TOP OF WM
150mmØ	1+000	200 x 200 x 150 TEE CONNECTION TO EXISTING	101.62	99.22
	1+006.9	PROPERTY LINE / VALVE & VB	101.56	98.47
	1+013.2	45° HORIZONTAL BEND	101.31	98.47
	1+018.5	CROSSING 'E'	101.20	98.47
	1+022.7	45° HORIZONTAL BEND	101.24	98.47
	1+028.1	CONNECTION @ BUILDING	101.28	98.47
	2+000	200 x 200 x 150 TEE CONNECTION TO EXISTING	101.54	99.21
	2+001.2	VALVE & VB	101.51	99.11
	2+004.8	FIRE HYDRANT	101.70	99.30

NOTE: ALL WM TO BE CONSTRUCTED AT MINIMUM 2.4m BELOW FINISHED GRADE, OTHERWISE PROVIDE THERMAL INSULATION. SEE GENERAL CONSTRUCTION NOTES 8, 9, 10

CROSSINGS:

CROSSING 'A' : 150mmØ SANITARY SEWER TO CROSS UNDER EXISTING 200mmØ WATERMAIN.
BOTTOM OF WM = 99.07 m
SAN SEWER OBVERT = 98.56 m
CLEARANCE = 0.51 m

CROSSING 'B' : 150mmØ SANITARY SERVICE TO CROSS UNDER 300mmØ STORM SEWER.
ST SEWER INVERT = 98.76 m
SAN SEWER OBVERT = 98.61 m
CLEARANCE = 0.15 m

CROSSING 'C' : 300mmØ STORM SEWER TO CROSS OVER EXISTING 200mmØ SANITARY SEWER.
ST SEWER INVERT = 98.68 m
SAN SEWER OBVERT = 98.54 m
CLEARANCE = 0.14 m

CROSSING 'D' : 300mmØ STORM SEWER TO CROSS UNDER RELOCATED EXISTING 200mmØ WATERMAIN.
BOTTOM OF WM = 99.30 m
ST SEWER OBVERT = 99.00 m
CLEARANCE = 0.30 m

CROSSING 'E' : 300mmØ STORM SEWER TO CROSS OVER 150mmØ WATERMAIN.
ST SEWER INVERT = 98.77 m
TOP OF WM = 98.47 m
CLEARANCE = 0.30 m

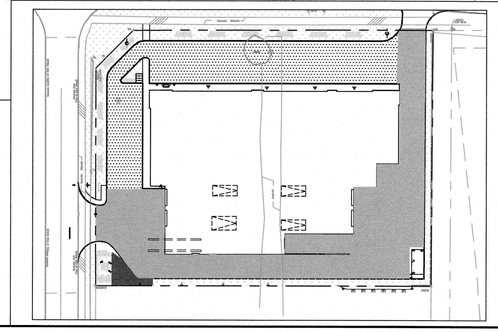
INSULATION REFERENCE TABLE

EARTH COVER	REQUIRED INSULATION THICKNESS
2.0m - 1.8m	25mm
1.8m - 1.5m	50mm
1.5m - 1.2m	75mm
1.2m - 0.9m	100mm
0.9m - 0.6m	125mm

1. SEWER INSTALLATION (INCLUDING BEDDING AND COVER) TO BE PER CITY OF OTTAWA TRENCH DETAIL S6
2. INSULATION POINTS TO BE STAGGERED, WITH MINIMUM 0.3 OVERLAP
3. INSULATION TO BE CENTERED OVER PIPE WITH MINIMUM WIDTH OF 1.2m
4. INSULATION TO BE PROVIDED AT ALL SEWER LOCATIONS WHERE MINIMUM COVERAGE OF 2.0m IS NOT ACHIEVED.

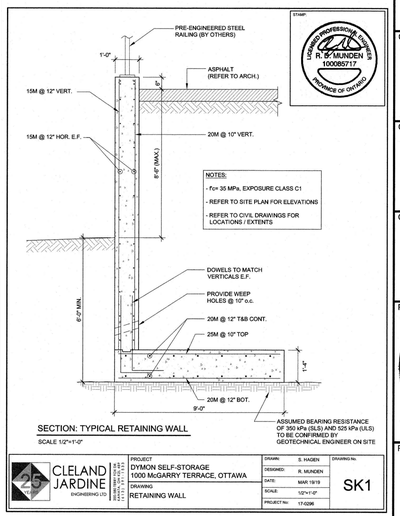
INSULATION DETAIL

N.T.S.



GENERAL CONSTRUCTION NOTES :

1. ALL MATERIAL (SANITARY, STORM & WATERMAIN) AND CONSTRUCTION METHODS TO BE IN ACCORDANCE WITH THE CURRENT CITY OF OTTAWA STANDARD DRAWINGS AND SPECIFICATIONS, OPSD AND OPSS.
2. UNLESS OTHERWISE NOTED, DIMENSIONS FROM STREET LINE ARE TO THE CENTRELINE OF SEWER, CATCH BASIN, OR MAINTENANCE HOLE.
3. THE NOMINAL DIAMETER OF PIPES ARE REFERRED TO IN PLAN VIEW.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING LOCATES FROM ALL UTILITY COMPANIES PRIOR TO EXCAVATION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATION, BACKFILL AND REINSTATEMENT OF ALL AREAS DISTURBED DURING CONSTRUCTION AND ALL ASSOCIATED WORKS TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF OTTAWA.
6. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE, VIA EXCAVATION, THE EXACT LOCATION AND ELEVATION OF THE EXISTING WATERMAINS, SEWERS AND UNDERGROUND STRUCTURES AS REQUIRED FOR ALL CONNECTIONS, RELOCATIONS AND BLANKINGS.
7. SERVICING DESIGN DRAWINGS TO BE READ IN CONJUNCTION WITH THE SITE SERVICING REPORT (FEBRUARY 2019) PREPARED BY J.L. RICHARDS & ASSOCIATES LIMITED (JLR 27296-003) AS WELL AS THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY FISHER ENVIRONMENTAL LIMITED (FE-P 18-8637GEO-UPDATE) DATED OCTOBER 5, 2018.
8. ALL WATERMAINS SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
9. WATERMAINS CROSSING BELOW OR OVER A SEWER SHALL BE IN ACCORDANCE WITH CITY STANDARD DRAWINGS W25 AND W25.2.
10. PROVIDE A MINIMUM OF 2.4m COVER ON ALL WATERMAINS AND WATER SERVICES. OTHERWISE PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD DRAWING W22 (IN SHALLOW TRENCHES) AND W23 (AT OPEN STRUCTURES).
11. AT ALL CONNECTION POINTS, REINSTATE SURFACES TO EXISTING CONDITION OR BETTER.
-ASPHALT RESTORATION SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD DRAWING R10.
-THICKNESS OF GRANULARS AND ASPHALT LAYERS SHALL MATCH EXISTING.
-BOULEVARDS SHALL BE REINSTATED WITH 100mm TOPSOIL AND SOD.
12. -SANITARY SERVICE LATERAL TO BE PVC DR 35.
-STORM SEWERS TO BE PVC SDR 35.
-INSULATION IS REQUIRED AT ALL LOCATIONS FOR BOTH SANITARY AND STORM SEWERS WHERE MINIMUM COVERAGE OF 2.0m IS NOT ACHIEVED, REGARDLESS OF WHETHER OR NOT IT IS SHOWN ON THE DRAWINGS (REFER TO INSULATION DETAIL).
-WATERMAINS TO BE PVC DR 18.
13. ALL STORM & SANITARY MAINTENANCE HOLES TO BE 1200Ø UNLESS OTHERWISE NOTED AS PER OPSD 701.010 c/w FRAME AND COVERS AS PER CITY STANDARD DRAWINGS 24, 24.1, AND 25. SANITARY AND STORM MAINTENANCE HOLES TO HAVE WATERTIGHT COVERS AS PER OPSD 401.030.
14. ALL CATCH BASINS TO BE 600x600mm PRECAST CONCRETE PER OPSD 705.010 c/w FRAME AND COVER AS PER CITY STANDARD DRAWING S19.
15. DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL SITE PLAN PREPARED BY NICHOLAS CARAGIANIS ARCHITECT INC.
16. SERVICES TO BE TERMINATED 1.0m FROM BUILDING WALL (TYPICAL).
17. CONCRETE CURB TO BE BARRIER TYPE AS PER CITY STANDARD DRAWING SC1.1.
18. SIDEWALKS AND WALKWAYS TO BE CONSTRUCTED AS PER CITY OF OTTAWA DETAILS SC2 (OR SC1.4) AND SC4. CURB ENTRANCES TO BE CONSTRUCTED AS PER CITY OF OTTAWA DETAIL SC7.1.
19. PAVEMENT DESIGN SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY FISHER ENVIRONMENTAL LIMITED (FE-P 18-8637GEO-UPDATE) DATED OCTOBER 5, 2018. REFER TO ARCHITECTURAL SITE PLAN PREPARED BY NICHOLAS CARAGIANIS ARCHITECT INC. FOR FIRE ROUTES.
20. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE SITE BENCHMARK(S) HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION DEPICTED ON THIS PLAN. FROM THE SURVEY COMPLETED BY AOV ON OCTOBER 10, 2017 THE SITE BENCHMARK IS LOCATED ON THE EXISTING FIRE HYDRANT ON MCGARRY TERRACE, HAVING AN ELEVATION OF 102.58m. CONTRACTOR TO ESTABLISH NEW BENCHMARK BEFORE EXISTING HYDRANT IS RELOCATED.
21. EXCAVATION FOR THE INSTALLATION OF SERVICES ALONG OR IN PROXIMITY OF A BUILDING OR A STRUCTURE IS TO BE CONTAINED WITHIN A TRENCH BOX WIDTH AND IS TO ENSURE NO CONFLICT WITH ANY FUTURE FOOTINGS. SELECT SUBGRADE MATERIAL, COMPACTED TO 100% SPD TO 1.0m BELOW EXISTING GRADE FOR FULL TRENCH WIDTH OF DISTURBED AREA SHALL BE USED FOR BACKFILL, INCLUDING ALONG ANY SEWERS AND WATERMAINS ADJACENT TO A BUILDING OR OTHER STRUCTURE.
22. HYDRANT SHALL BE INSTALLED AS PER CITY STANDARD DRAWING W19.



SECTION: TYPICAL RETAINING WALL

SCALE 1/2"=1'-0"

CLELAND JARDINE ENGINEERING LTD.

PROJECT	DYMON SELF-STORAGE 1000 McGARRY TERRACE, OTTAWA
DRAWING	RETAINING WALL
DRAWN:	S. HAGEN
DESIGNED:	R. MUNDEN
DATE:	MAR 19/19
SCALE:	1/2"=1'-0"
PROJECT No:	17-0296
DRAWING No.	SK1

HEAVY DUTY ASPHALT
- 40mm HL3
- 65mm HL8
- 150mm GRANULAR 'A'
- 300mm GRANULAR 'B'

LIGHT DUTY ASPHALT
- 50mm HL3
- 200mm GRANULAR 'A'

NOTE: LIGHT DUTY AND HEAVY DUTY PAVEMENT STRUCTURE TO BE IN ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY FISHER ENVIRONMENTAL LIMITED (FE-P 18-8637GEO) DATED OCTOBER 5, 2018.

KEYPLAN

LEGEND

- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- CATCH BASIN c/w ICD
- PROPOSED WATERMAIN, HYDRANT, VALVE & VALVE BOX AND REDUCER
- 92.52 / ×92.52 — PROPOSED ELEVATION / EXISTING ELEVATION
- E/G=101.20 — EDGE OF GRASS ELEVATION
- E/P=101.41 — EDGE OF PAVEMENT ELEVATION
- T/W=101.35 — TOP OF WALL ELEVATION
- B/W=99.29 — BOTTOM OF WALL ELEVATION
- ×100.90 — SPILL POINT
- 1.0% — PROPOSED TERRACING (MAX 3:1)
- 1.0% — SURFACE SLOPE
- CONCRETE SURFACE
- GRASS SURFACE
- DC — DEPRESSED CURB
- RETAINING WALL c/w CHAIN LINK FENCE
- RETAINING WALL c/w GUARD RAIL
- SIAMESE CONNECTION
- BOLLARD
- STORM SEWER c/w INSULATION (REFER TO INSULATION DETAIL)
- TACTILE WALKING SURFACE INDICATOR (TWSI)
- PIPE SERVICE CASING

No.	ISSUE / REVISION	DD/MM/YY
4	ISSUED FOR PERMIT AND TENDER	17/05/19
3	RE-ISSUED FOR SITE PLAN CONTROL	15/03/19
2	RE-ISSUED FOR SITE PLAN CONTROL	10/10/18
1	ISSUED FOR SITE PLAN CONTROL	16/02/18

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VERIFY SHEET SIZE AND SCALES. BAR TO THE RIGHT IS 25mm IF THIS IS A FULL SIZE DRAWING. 0 25mm

SCALE: 1:200

CLIENT:

DYMON SELF STORAGE

T: 613-247-9008
1830 WALKLEY ROAD
OTTAWA, ON
K1H 8K3

CONSULTANT: www.jlrichards.ca

J.L.Richards ENGINEERS · ARCHITECTS · PLANNERS

CONSULTANT:

PROFESSIONAL STAMP

LICENSED PROFESSIONAL ENGINEER A. WILLIAMS 100218983 May 17, 2019 PROVINCE OF ONTARIO

PROFESSIONAL STAMP

PROJECT:

SELF STORAGE FACILITY

1000 McGarry Terrace

DRAWING:

SITE SERVICING GRADING PLAN

DESIGN:	AW	
DRAWN:	SK	DRAWING #:
CHECKED:	SD	SSG
JLR #:	27296-003.1	

PLOT DATE: May 17, 2019 5:01:47 PM

D07-12-18-0029

PLAN # 16098

File Location: V:\27000\27296-003.1 Dymon 1000 McGarry Terr\3-JLR DWG\1-Civil\27296-003.1 C SSG.dwg