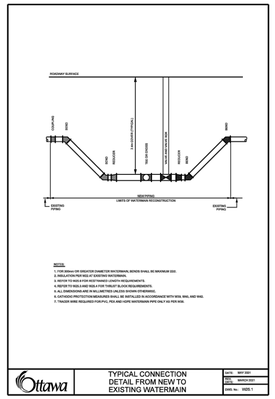


SECTION A - A

NOTES:

1. MATERIALS: TO INSERT GENERATION (SLB ENG.) BY SEWAY MANUAL.
2. THRUST BLOCKS FOR MAIN LATERAL TURN 450mm (MINIMUM) SHALL BE PER SPECIAL DESIGN.
3. FOR 300mm (NOMINAL) AND 450mm (NOMINAL) WIDE, SHOWS SHALL BE MADE, 20' 30'
4. FOR 600mm (NOMINAL) AND LARGER, SHOWS SHALL BE MADE, 30' 30'
5. REFER TO INSULATION RESTRAINED LENGTH REQUIREMENTS.
6. REFER TO W25.4 AND W25.5 FOR THRUST BLOCK REQUIREMENTS.
7. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
8. ENSURES TO INSERT THE INTENT OF THE MDE WATERMAIN DESIGN CRITERIA JUNE 2010.
9. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH SPEC. 9000, AND W42.
10. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER SPEC.

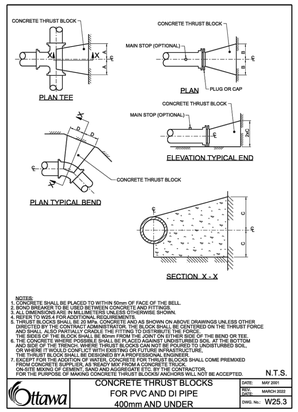
Ottawa	WATERMAIN CROSSING BELOW SEWER	DATE: MAY 2001 REV. DATE: MARCH 2021 DWG. No. W25



NOTES:

1. FOR 300mm OR GREATER DIAMETER WATERMAIN, BENCH SHALL BE MAXIMUM 300.
2. REFER TO W25.4 FOR THRUST BLOCK REQUIREMENTS.
3. REFER TO W25.5 FOR RESTRAINED LENGTH REQUIREMENTS.
4. REFER TO W25.6 AND W26.4 FOR THRUST BLOCK REQUIREMENTS.
5. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
6. CATHODIC PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH SPEC. 9000, AND W42.
7. TRACER WIRE REQUIRED FOR PVC, PEX AND HDPE WATERMAIN PIPE ONLY AS PER SPEC.

Ottawa	TYPICAL CONNECTION DETAIL FROM NEW TO EXISTING WATERMAIN	DATE: MAY 2001 REV. DATE: MARCH 2021 DWG. No. W25.1



NOTES:

1. CONCRETE SHALL BE PLACED TO WITHIN 50mm OF FACE OF THE BELL.
2. BOND BREAKER TO BE USED BETWEEN CONCRETE AND FITTINGS.
3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
4. REFER TO W25.4 FOR ADDITIONAL REQUIREMENTS.
5. THE CONCRETE THRUST BLOCKS SHALL BE PLACED AS SHOWN ON ABOVE DRAWINGS UNLESS OTHER DIRECTED BY THE CONTRACT ADMINISTRATOR. THE BLOCK SHALL BE CENTERED ON THE THRUST FORCE AND SHALL ALSO PARTIALLY CRADLE THE FITTING TO DISTRIBUTE THE FORCE.
6. THE CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL AT THE SIDES OF THE BEND OR TEE. THE CONCRETE WHERE POSSIBLE SHALL BE PLACED AGAINST UNDISTURBED SOIL AT THE BOTTOM AND SIDE OF THE TRENCH. WHERE THRUST BLOCKS CAN NOT BE POURED TO UNDISTURBED SOIL, THE DEPTH OF THE THRUST BLOCK SHALL BE INCREASED BY 100mm MINIMUM.
7. THE THRUST BLOCK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.
8. EXCEPT FOR THE ADDITION OF WATER, CONCRETE FOR THRUST BLOCKS SHALL COME PREMIXED FROM A CONCRETE PLANT. NO CONCRETE SHALL BE MIXED ON SITE. ON-SITE MIXING OF CEMENT, SAND AND AGGREGATE ETC. BY THE CONTRACTOR, FOR THE PURPOSE OF MAKING CONCRETE THRUST BLOCKS AND FOOTS WILL NOT BE ACCEPTED.

N.T.S.

Ottawa	CONCRETE THRUST BLOCKS FOR PVC AND DI PIPE 400mm AND UNDER	DATE: MAY 2001 REV. DATE: MARCH 2020 DWG. No. W25.3

1. SOIL DESCRIPTION: VERY FINE SANDS, SANDY CLAYS, SILTS.
SOILS WITH TYPICAL BEARING STRENGTH OF 100 TO 199 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
152	200	200	200	200
152	400	400	250	300
203	550	550	350	450
254	650	650	400	500
305	800	800	450	650
406	1050	1050	650	850

2. SOIL DESCRIPTION: SILTY SAND GRAVELS OR CLAYEY SAND GRAVEL MIXTURES, MODERATELY COMPACT.
SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 KPa

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
152	200	200	150	150
152	250	250	200	200
203	350	350	250	270
254	450	450	300	350
305	500	500	350	400
406	750	750	400	600

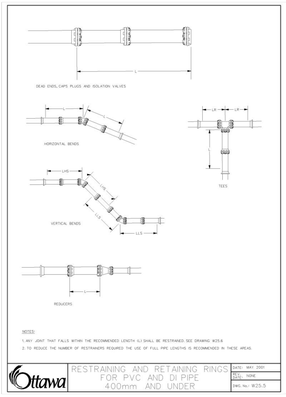
3. SOIL DESCRIPTION: SANDS, GRAVELS AND GRAVEL-SAND MIXTURES, COMPACT OR DENSE.
SOILS WITH TYPICAL BEARING STRENGTH OF 300 KPa AND OVER

PIPE DIAMETER	DIMENSION NOTED ON W25.3			
	A	B	C	D
102	150	150	150	150
152	200	200	200	200
203	300	300	250	230
254	400	400	250	270
305	450	450	300	300
406	650	650	350	450

NOTES:

1. THE ABOVE THRUST BLOCK DIMENSIONS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERATIONS AUTHORIZED WHEN A DOWNSIZING WATER MAINS PIPING.
2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:
   a) MAXIMUM WATER PRESSURE INCLUDING SURGE = 1035 kPa
   b) MINIMUM SAFETY FACTOR AGAINST SOIL BEARING FAILURE = 1.5
   c) TRENCH WALLS ARE VERTICAL
   d) TRENCH WIDTH AT PIPE SPRING LINE = OUTSIDE DIAMETER OF PIPE + 0.6 m
   e) BEARING SURFACE PRESSURE WITH A CLAY RELIEFTY CHANGE OF 2.4 mm OF 110 psi (110 psi FOR CLASS 52 DI AND FOR PVC MAIN, SURGE IS 56 psi)
3. THE TABLES APPLY TO STRAIGHT RUNS AND PVC, INSERE END LENGTH EXCEEDED THE 6 FOOT THE LONGER LENGTH WAS USED.
4. DIMENSIONS MAY BE ADJUSTED TO SUIT THE BEARING SURFACE AREA OF THE THRUST BLOCK IS NOT REDUCED.
5. TO BE USED IN CONJUNCTION WITH W25.5.

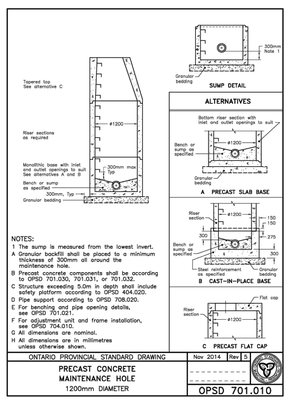
Ottawa	THRUST BLOCK DIMENSION TABLES FOR PVC AND DI PIPE 400mm AND UNDER	DATE: MAY 2020 REV. DATE: MARCH 2017 DWG. No. W25.4



NOTES:

1. ANY JOINT THAT FALLS WITHIN THE RECOMMENDED LENGTH AS SHALL BE RESTRAINED. SEE DRAWING W25.6
2. TO REDUCE THE NUMBER OF RESTRAINERS REQUIRED THE USE OF FULL PIPE LENGTHS IS RECOMMENDED IN THESE AREAS.

Ottawa	RESTRAINING AND RETAINING RINGS FOR PVC AND DI PIPE 400mm AND UNDER	DATE: MAY 2020 REV. DATE: NONE DWG. No. W25.5



NOTES:

1. SIDE SLOPE OF SWALE - MIN. 1.0%, MAX. 5:1
2. LONGITUDINAL SLOPE OF SWALE WITHOUT PERFORATED PIPE: 1.0% MIN.
3. LONGITUDINAL SLOPE OF SWALE WITH PERFORATED PIPE 0.5% MIN. WITH 1% OR GREATER PREFERRED.
4. UNDER DRIVEWAYS NON PERFORATED PIPE TO BE USED WITH 75mm BEDDING AND BACKFILLED WITH APPROVED NATIVE MATERIAL.
5. CB "T" TO BE BRACED ABOUT EVERY 20 TO 25m AND LOCATED 1m OFF REAR YARD AND SIDE YARD PROPERTY LINES.
6. CB ELBOW TO BE AT UPPER ENDS OF PERFORATED PIPE AND LOCATED 1m OFF REAR YARD AND SIDE YARD PROPERTY LINES.
7. GEOTOOLE SHALL BE APPROVED NON-WOVEN CLASS 1 OR AS SPECIFIED.
8. MAXIMUM REAR YARD WATER DEPTH IS 350mm.
9. A STORMED CATCHBASIN MH PROVIDES TYPE 3 AW OR A DICOSEWASH MAINTENANCE HOLE, STANDARD FRAMES OR PERFORATED MH MODIFICATIONS AS SPECIFIED BY THE CITY ENGINEER.

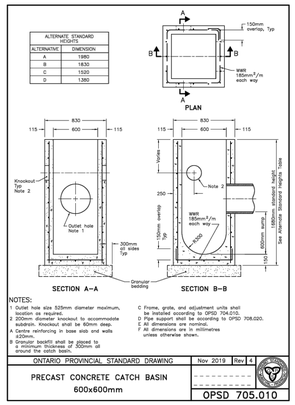
N.T.S.

Ottawa	PERFORATED PIPE INSTALLATION FOR REAR YARD AND LANDSCAPING APPLICATIONS	DATE: MARCH 2007 REV. DATE: MARCH 2019 DWG. No. S29

NOTES:

1. The sump is measured from the lowest invert.
A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
B Precast concrete components shall be according to OPSD 701.030, 701.031, or 701.032.
C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
D Pipe support according to OPSD 708.020.
E For benching and pipe opening details, see OPSD 701.021.
F For adjustment unit and frame installation, see OPSD 704.010.
G All dimensions are nominal.
H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2014 Rev 1
PRECAST CONCRETE MAINTENANCE HOLE 1200mm DIAMETER	OPSD 701.010



NOTES:

1 Outlet hole size 525mm diameter maximum, location as required.
2 200mm diameter knockout to accommodate subdrain. Knockout shall be 60mm deep.
3 Centre reinforcing in base slab and walls as shown.
4 Granular backfill shall be placed to a minimum thickness of 300mm all around the catch basin.
C Frame, grate, and adjustment units shall be installed according to OPSD 704.010.
D Pipe support shall be according to OPSD 708.020.
E Benching and pipe openings.
F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2019 Rev 4
PRECAST CONCRETE CATCH BASIN 600x600mm	OPSD 705.010

CAUTION

THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

JOB BENCH MARK JBM▲

FIRE HYDRANT TOP OF SPINDLE ELEVATION=93.57
NORTHING=5020457.01 EASTING=366125.53

TOPOGRAPHIC INFORMATION

PART OF LOT 24, CONCESSION 1 (RIDEAU FRONT) CITY OF OTTAWA.

TOPOGRAPHIC INFORMATION PROVIDED BY FAIRHALL MOFFATT & WOODLAND LIMITED O.L.S (TP_AE175.DWG) SURVEY DATED AUGUST 29, 2024. COORDINATES: (SMARTNET) MTM ZONE 9, NAD83 CSRS (2010).

REV	REVISION DESCRIPTION	DATE	BY	APPD
4	REISSUED FOR APPROVAL	10/02/26	AC	BMT
3	REISSUED FOR APPROVAL	07/15/26	SAB	BMT
2	ISSUED FOR APPROVAL	12/17/25	AC	BMT
1	ISSUED FOR APPROVAL	07/11/25	SAB	BMT

SCALE

NORTH

DESIGNED BY

LICENSED PROFESSIONAL ENGINEER
J.L. FITZPATRICK
2026-10-05
PROVINCE OF ONTARIO

REVIEWED BY

CLIENT
PEGASUS DEVELOPMENT CORP.
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OTTAWA, ON. K2G 1E8

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BASEPLAN	SAB
DESIGN	JLF
CHECKED	BMT
CAD	SAB
PROJECT MANAGER	BMT
APPROVED	BMT

PROJECT
CASSONE COURT
2028 MERIVALE ROAD
OTTAWA, ONTARIO

TITLE
STANDARD DETAILS
DETAIL SHEET 4

PROJECT No.	OTT-24015379-A0
SURVEY	FMW
DATE	MARCH 28, 2025
DRAWING No.	C403

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