

TOWN OF CALEDON
PLANNING
RECEIVED
Sep. 21, 2020

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 5
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.
 A Centre reinforcing in base slab and walls ±20mm.
 B 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 All dimensions are nominal.
 F All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING
 Nov 2014 Rev 3
PRECAST CONCRETE CATCH BASIN
 600x600mm
 OPSD 705.010

NOTE:
 1. ALL SERVICES TO BE AT 90° TO THE WATERMAIN UNLESS OTHERWISE SPECIFIED.
 2. WATER SERVICE TO BE A MIN. OF 1100mm UNDER THE BOTTOM OF DITCH.
 3. SERVICE BOX TO BE SET TO FINISH GRADE.
 4. NO DIRECT TAPPING OF PVC WATERMANS. ALL CONNECTIONS TO PVC PIPE TO BE MADE USING AN APPROVED WIDE-BAND SERVICE SADDLE.
 5. TRACER WIRE TO BE INSTALLED AS PER REGION STANDARDS.
 6. ALL WATER SERVICE MATERIALS SHALL BE STORED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 7. ZINC ANODE (Z-12-24) TO BE INSTALLED 1000mm FROM CURB STOP AS PER OPSS 442.

Region of Peel
 working with you
 PUBLIC WORKS STANDARD DRAWING
 REV. DATE: MAR. 2018
 APPROVED BY: E.O.
 DRAWN BY: ANILEY GROUP
 STD. DWG. NUMBER: 1-7-1
 SCALE: N.T.S.
 WATER SERVICE CONNECTION

GENERAL NOTES FOR PRECAST CIRCULAR OR RECTANGULAR MAINTENANCE HOLES:

1. PRECAST MAINTENANCE HOLES TO BE SUPPLIED BY A MANUFACTURER CERTIFIED UNDER THE OCPA PLANT REQUALIFICATION PROGRAM (STD. DWG. 2-0-1)
2. PROVIDE MONOLITHIC BASE SECTIONS FOR ALL MAINTENANCE HOLES UNLESS ALTERNATE APPROVED AND SPECIFIED ON PROJECT SPECIFIC REQUIREMENTS.
3. USE ALTERNATIVE BASE TOP PIPE SUPPORT OR CONNECTOR, STEPS, FRAME AND COVER AND/OR BENCHING ONLY WHERE APPROVED AND SPECIFIED ON PROJECT SPECIFIC REQUIREMENTS.
4. PROVIDE BASE EXTENSIONS FOR UPLIFT PREVENTION ON PRECAST MAINTENANCE HOLES 1200mm DIAMETER OR GREATER WHERE REQUIRED. REFER TO CONTRACT DRAWINGS AND SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PROJECT SPECIFIC REQUIREMENTS.
5. SPECIAL BASE DESIGN REQUIRED FOR DEPTHS GREATER THAN 9.0m.
6. FOR 1500mm DIAMETER AND LARGER SEWERS, PRECAST MAINTENANCE HOLE TEES ARE ACCEPTABLE (STD. DWG. SECTION 2-7)
7. APPROVED ADJUSTMENT UNITS AND APPROVED FRAME AND COVER SYSTEMS TO BE INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS (STD. DWG. SECTION 2-6)
8. FILL LIFTING HOLES WITH 1:3 NON SHRINK MORTAR MIX.
9. FROST STRAPS SHALL BE INSTALLED AT ALL RISER, TOP AND BASE SECTION JOINTS ON ALL PRECAST MAINTENANCE HOLES TO A MAXIMUM DEPTH OF 3.0m FROM FINISHED GRADE. INTERNAL FROST STRAP TO BE TYPICAL (STD. DWG. 2-4-23). EXTERNAL FROST STRAPS PERMITTED WITH APPROVAL FROM PROJECT ENGINEER. ADDITIONAL CORROSION PROTECTION REQUIRED AS PER MANUFACTURER'S RECOMMENDATIONS.
10. VENT PIPES SHALL BE REQUIRED AT EVERY THIRD MAINTENANCE HOLE ON SECTIONS OF SANITARY SEWERS WITH WATERTIGHT COVERS IN EASEMENTS. INSTALLATIONS WITHIN FLOOD PLAINS OR AREAS WITH HIGH LEVELS OF HYDROGEN SULFIDE. REFER TO PROJECT SPECIFIC REQUIREMENTS (STD. DWG. 2-5-22).
11. WATERPROOF MEMBRANE SHALL BE APPLIED EXTERNALLY AROUND ALL RISER, GRADE ADJUSTMENT UNITS, TOP AND BASE SECTION JOINTS ON ALL MAINTENANCE HOLES. WATERPROOF MEMBRANE TO BE 'MEL-ROL' BY W.R. MEADOWS OF MILTON ONTARIO OR APPROVED EQUAL. EXTEND COMPLETELY AROUND AND ALL RISER SECTION JOINTS WITH A MINIMUM 300mm WIDE STRIP. WATERPROOF ABOVE GRADE SURFACES WITH 'MEL-FLEX ST' BY W.R. MEADOWS OF MILTON ONTARIO OR APPROVED EQUAL (STD. DWG. 2-5-2). APPLY DETAIL STRIP ON ALL INSIDE OR OUTSIDE CORNER JOINTS BENEATH WATERPROOF MEMBRANE. G.W. FROEYER AND SURFACE PREPARATION AS PER MANUFACTURER'S SPECIFICATION. DETAIL STRIP TO BE 'MEL-ROL DETAIL STRIP' BY W.R. MEADOWS OF MILTON ONTARIO OR APPROVED EQUAL (STD. DWG. 2-5-25).
12. FRP SAFETY PLATFORMS BY ACCESS INDUSTRIAL OF MISSISSAUGA ONTARIO, OR ALUMINUM SAFETY PLATFORMS, WHERE REQUIRED, TO BE INSTALLED IN MAINTENANCE HOLES 1200mm DIAMETER OR GREATER (STD. DWG. SECTION 2-6). PLATFORMS TO BE ANCHORED USING 3/16 SS HILTI KWIK BOLTS OR ENGINEER APPROVED EQUAL.
13. FRP LADDERS BY ACCESS INDUSTRIAL OF MISSISSAUGA ONTARIO, OR ALUMINUM LADDERS, TO BE INSTALLED IN ALL MAINTENANCE HOLES 1200mm DIAMETER OR GREATER (STD. DWG. SECTION 2-6). LADDERS TO BE ANCHORED USING 3/16 SS HILTI KWIK BOLTS OR ENGINEER APPROVED EQUAL.
14. BENCHING TO BE CONSTRUCTED TO THE OVERTOP OF THE PIPE IN ALL CASES. 15MPa CONCRETE UNLESS OTHERWISE INDICATED (STD. DWG. 2-5-20). BENCHING AS PER OPSS 1350, MATERIAL SPECIFICATION FOR CONCRETE MATERIALS AND PRODUCTION.
15. FOR PVC PIPE (SEE NOTE 19), USE A FLEXIBLE WATERTIGHT CONNECTOR WITH GRANULAR BEDDING (STD. DWG. 2-6-15).
16. FOR RIGID PIPE (SEE NOTE 19), SUPPORT FROM MAINTENANCE HOLE TO FIRST JOINT WITH MIN. 20 MPa CONCRETE CRADLE (STD. DWG. 2-5-19).
17. IF MONOLITHIC RISER OR PRECAST RISER SECTIONS ARE USED, THEN THE LADDER (OR FIRST STEP) CAN BE ANCHORED INTO THE SECTION TO MEET THE MAX. 300mm DISTANCE FROM SURFACE. IF COMPOSITE SECTIONS ARE USED, THEN FRP LADDER MUST ANCHOR INTO TOP OF CONE OR TOP OF BARREL SECTION AND EXTEND TO WITHIN 300mm OF SURFACE.
18. ALL CHAMBERS LOCATED OUTSIDE OF B.O.W. OR WITHIN PARK SETTINGS MUST HAVE A 1500mm HIGH SANITARY CHAMBER MARKING POST (GREEN IN COLOUR) WITHIN 600mm OF CHAMBER COVER (STD. DWG. 2-5-24). MARKERS SHALL NOT BE INSTALLED IF SECTION RESULTS IN AN IMPEDIMENT TO PEDESTRIAN OR VEHICULAR TRAFFIC, NOT INCLUSIVE OF MAINTENANCE EQUIPMENT.
19. FOR CONNECTION OF FLEXIBLE OR RIGID PIPE TO SANITARY CHAMBERS, A FLEXIBLE WATER TIGHT RUBBER CONNECTOR SHALL BE USED. THE CONNECTOR DESIGN TO MATCH SPECIFIC PIPE MATERIAL AND DIAMETER. CONNECTOR SHALL BE FACTORY CAST WHERE POSSIBLE. CONNECTOR MAY BE INSTALLED IN A FACTORY PRODUCED OPENING THAT MEETS CONNECTOR MANUFACTURER'S SPECIFICATIONS. PVC CONNECTION ADAPTERS WITH SANDED ENDS WILL BE USED IN CONJUNCTION WITH FLEXIBLE RUBBER BOOT TO FACILITATE GROUTING OF ANNULAR SPACE INSIDE OF CHAMBER (STD. DWG. 2-5-16, 2-5-19, 2-5-17).
20. ALL INTERNAL HORIZONTAL SURFACES ON UNDERSIDE OF PRECAST FLAT CAPS OR TRANSITION SECTIONS TO BE PROVIDED WITH MIC PROTECTION (CEM-KOTE FLEX CR OR APPROVED EQUAL).
21. ALL CHAMBERS LOCATED OUTSIDE OF B.O.W. OR WITHIN PARK SETTINGS SHALL BE CONSTRUCTED SO THAT COVER SURFACE IS 150mm (MIN.) ABOVE FINISHED GRADE UNLESS OTHERWISE APPROVED BY PROJECT ENGINEER OR IF THIS CREATES AN IMPEDIMENT TO PEDESTRIAN OR VEHICULAR TRAFFIC, NOT INCLUSIVE OF MAINTENANCE EQUIPMENT.

NOTE:
 1. GENERAL NOTES TO BE READ IN CONJUNCTION WITH ALL STANDARD DRAWINGS PERTAINING TO PRECAST CIRCULAR MAINTENANCE HOLES.

Region of Peel
 Working for you
 PUBLIC WORKS STANDARD DRAWING
 REV. DATE: MARCH 2017
 APPROVED BY: A.P.
 DRAWN BY: ANILEY GROUP
 STD. DWG. NUMBER: 2-5-1
 SCALE: N.T.S.
 NEW SANITARY SEWER CONSTRUCTION
 GENERAL NOTES FOR PRECAST MAINTENANCE HOLES

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3. SEP. 2020 ISSUED FOR SPA-IV AZ
 2. APRIL 2019 ISSUED FOR SPA-III AZ
 1. MARCH 2017 ISSUED FOR SPA SB

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| 3. | SEP. 2020 | ISSUED FOR SPA-IV | AZ |
| 2. | APRIL 2019 | ISSUED FOR SPA-III | AZ |
| 1. | MARCH 2017 | ISSUED FOR SPA | SB |

NOT FOR CONSTRUCTION

BEDDING DETAILS ARE INTENDED FOR GENERAL INFORMATION. REFER TO CONTRACT SPECIFICATIONS AND GEOTECHNICAL REPORT FOR PROJECT SPECIFIC REQUIREMENTS.

NOTE:
 1. MATERIAL TO BE PLACED IN TRENCH IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD).
 2. IN CASE OF OVER-EXCAVATION TRENCH TO BE FILLED TO BOTTOM OF PIPE WITH APPROVED MATERIALS IN 150mm LAYERS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY.
 3. IN POOR SOILS PIPE FOUNDATION TO BE PROVIDED AS PER DESIGN. ADDITIONAL BEDDING MODIFICATIONS MAY BE REQUIRED AS PER DESIGN.
 4. BACKFILL ABOVE BEDDING AS REQUIRED PER DESIGN. NATIVE BACKFILL NOT PERMITTED UNDER PAVED PORTIONS.
 5. COVER MATERIAL, NO STONES GREATER THAN 25mm WILL BE PERMITTED.
 6. MIN. TRENCH WIDTH TO BE O.D. PLUS 450mm MAX. TRENCH WIDTH TO BE O.D. PLUS 750mm, UNLESS PROJECT SPECIFIC BEDDING STATES OTHERWISE.
 7. APPROVED SOILS AS PER GEOTECHNICAL REPORT RECOMMENDATIONS.
 8. THE CONSULTANT SHALL RECOMMEND THE APPROPRIATE BEDDING REQUIREMENTS BASED ON THE FINDINGS OF THE GEOTECHNICAL INVESTIGATION AND PROVIDE A CROSS-SECTION ILLUSTRATION ON THE FIRST PLAN & PROFILE DRAWING OR GENERAL DETAIL PAGE.
 9. IN ROCK OR SHALE TRENCH CONDITIONS, A MINIMUM OF 150mm GRANULAR MATERIAL BEDDING IS REQUIRED UNDERNEATH THE PIPE (FOR PVC).
 10. IN ROCK OR SHALE TRENCH CONDITIONS, INSTALL 10mm THICK POLYETHYLENE FOAM FOR ALL CONCRETE ENCASED SEWER INSTALLATIONS. REFER TO PROJECT SPECIFIC REQUIREMENTS. POLYETHYLENE FOAM TO BE EITHER DOW ETHAFOMT 400 OR NORDDIC VOID 400 OR APPROVED EQUAL.

Region of Peel
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 PUBLIC WORKS STANDARD DRAWING
 REV. DATE: MARCH 2017
 APPROVED BY: A.P.
 DRAWN BY: ANILEY GROUP
 STD. DWG. NUMBER: 2-3-1
 SCALE: N.T.S.
 BEDDING DETAILS FOR SEWERS

NOTES:
 A This OPSD shall be read in conjunction with OPSD 610.010 and 610.020.
 B All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING
 Nov 2018 Rev 3
CAST IRON, SQUARE FRAME WITH SQUARE FLAT GRATE FOR CATCH BASINS, HERRING BONE OPENINGS
 OPSD 400.020

LEGEND:
 OD - Outside diameter of pipe

NOTES:
 A This OPSD to be read in conjunction with OPSD 3940.150.
 B If a steel grate is required, refer to OPSD 804.05.
 C Class of concrete: 30MPa.
 D Cover to reinforcing bars 70mm ± 20mm.
 E All dimensions are in millimetres unless otherwise shown.

Region of Peel
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 PUBLIC WORKS STANDARD DRAWING
 REV. DATE: MARCH 2017
 APPROVED BY: A.P.
 DRAWN BY: ANILEY GROUP
 STD. DWG. NUMBER: 2-3-1
 SCALE: N.T.S.
CONCRETE HEADWALL
 FOR PIPE LESS THAN 900mm DIAMETER
 OPSD 804.030

3. SEP. 2020 ISSUED FOR SPA-IV AZ
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PROJECT:
GAS STATION AT 12544 HIGHWAY 50 BOLTON, ON.

DRAWING TITLE: SPA 2015-0067
 R2 15-08

STANDARD DETAILS

SITE PLAN FILE NUMBER: SC 2003 - 0035

| DRAWN BY: | DATE: |
|-----------|--------------|
| AZ | 01 FEB. 2019 |

| CHECKED BY: | SCALE: |
|-------------|--------|
| AZ | N.T.S. |

| PROJECT NO.: | DRAWING NO.: |
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| 13-40 | C-4 |