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03		
02	100% RESUBMISSION	2011/09/16
01	100% SUBMISSION	2011/03/31
revision		date

Do not scale drawings.
Verify all dimensions and conditions on site and immediately
notify the Departmental Representative of all discrepancies.

AECOM

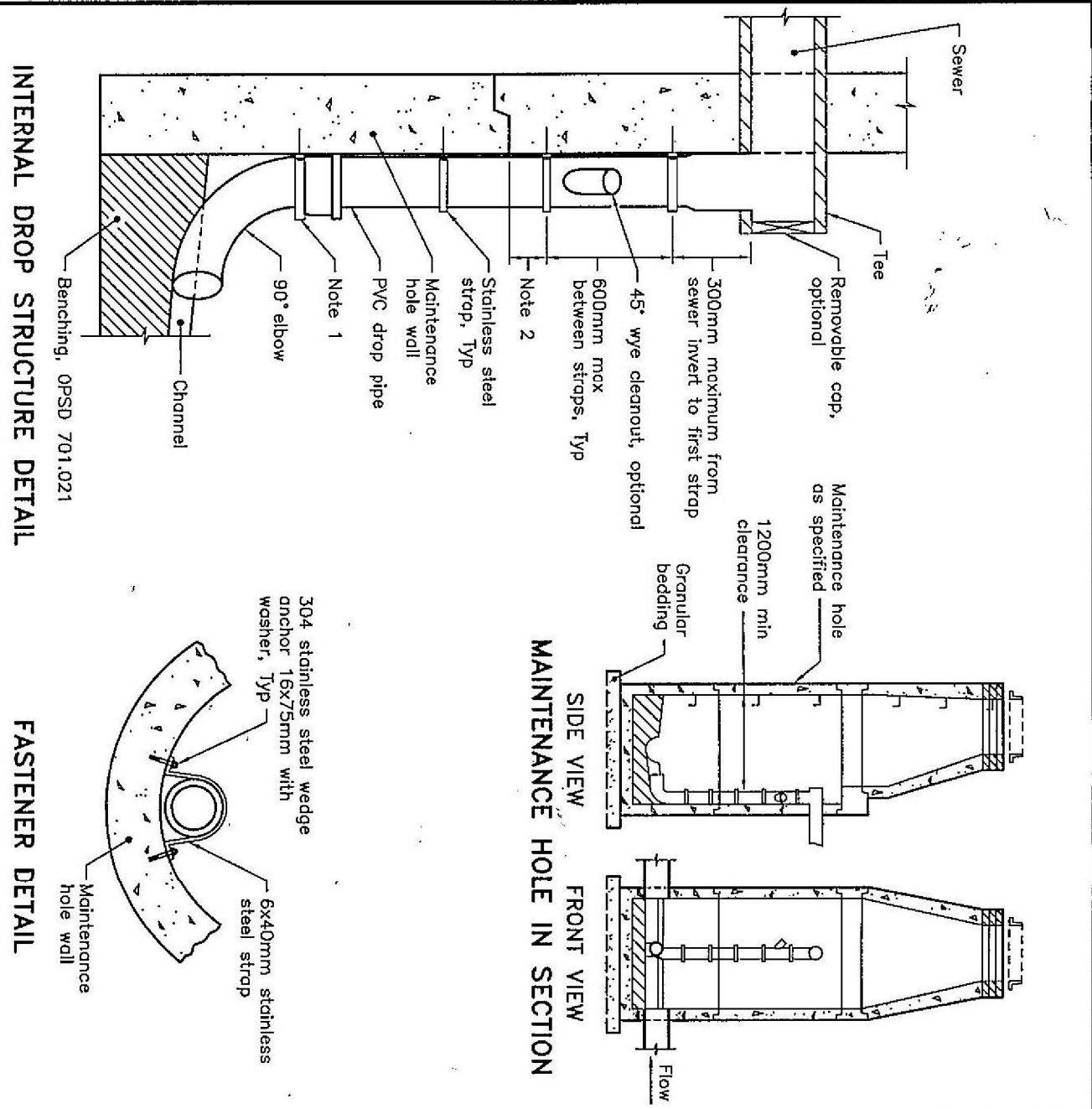
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The client shall be responsible for obtaining all necessary permits and approvals.

PROJECT TITLE
PORT GRANBY
PORT HOPE AREA INITIATIVE
Ontario

ELLIOTT ROAD UPGRADING

drawing title
**WWTP
DISCHARGE PIPE TO OUTLET
DETAILS**

drawn by dessiné par	L.T.
designed by conçu par	M.H.
approved by approuvé par	P.M.
by par	M.M.
project date date du projet	2011-09-16
project no. no. du projet	R.023276.022
drawing no. dessiné no.	SS-C-32



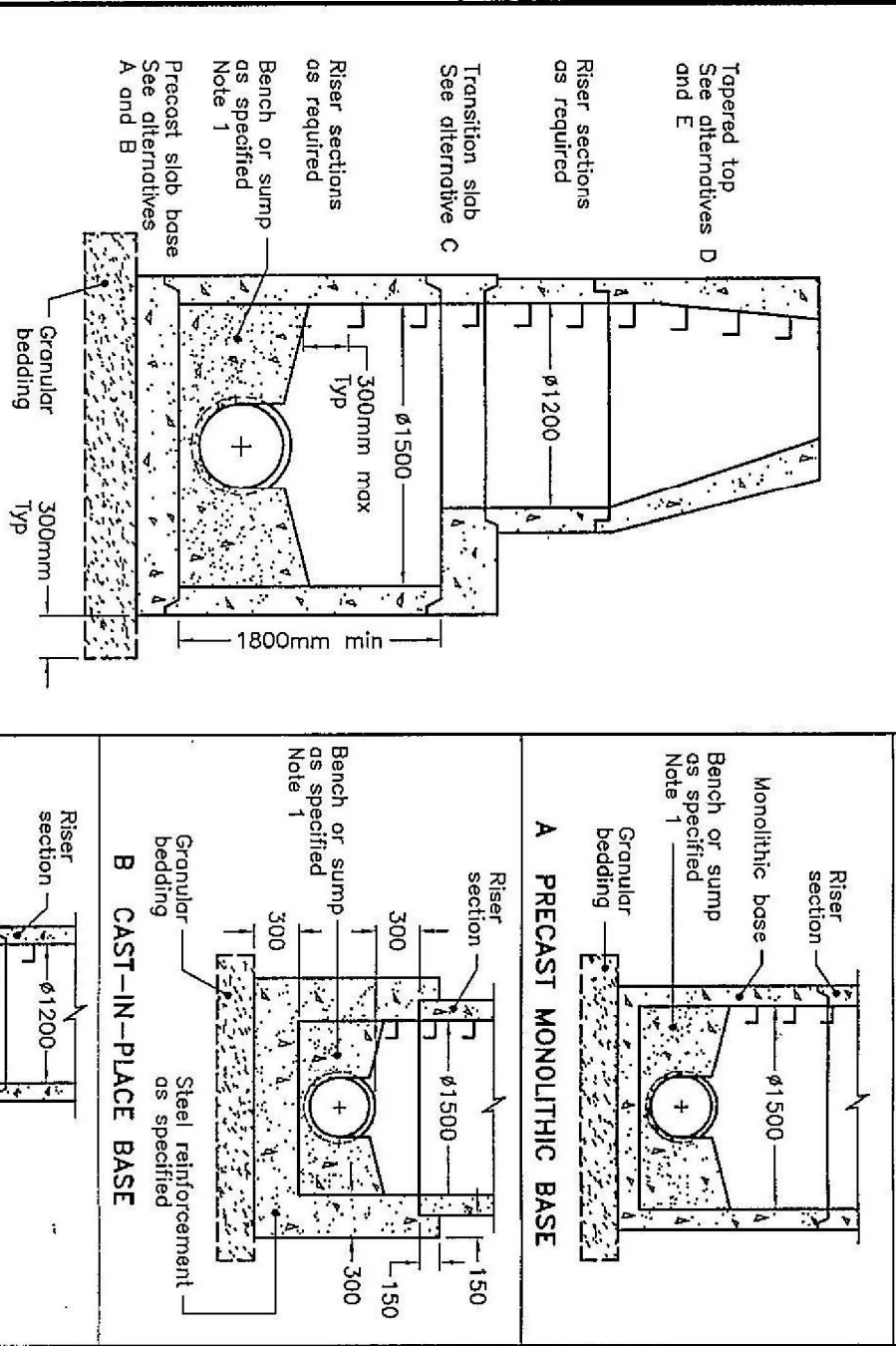
INTERNAL DROP STRUCTURE DETAIL

NOTES:

- 1 At the above, a stainless steel step is required at bottom of bell section joint.
 - 2 Steps shall not be placed within 150mm of any maintenance hole
- A Internal drop structure shall be used in maintenance holes 1500mm diameter and larger with a minimum height of 600mm from the inlet pipe invert to the bottom of channel.
- B Drop pipe shall be one size smaller than the incoming sewer
- C With a minimum 150mm diameter and maximum of 375mm diameter.
- H All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2008	Rev 1
INTERNAL DROP STRUCTURE		
FOR NEW MAINTENANCE HOLES		
OPSD 1003.031		

ALTERNATIVES

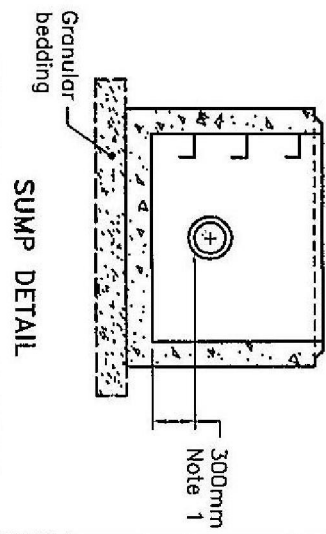


A PRECAST MONOLITHIC BASE

NOTES:

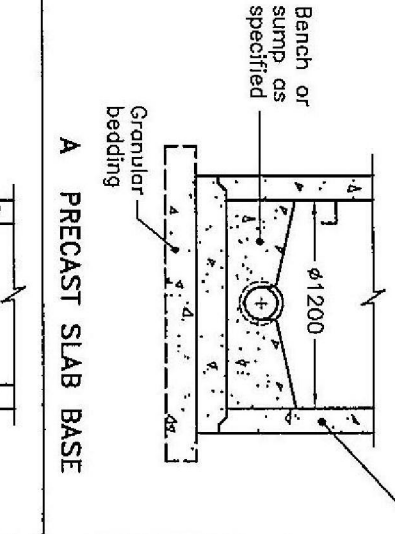
- 1 For sump detail see OPSD 701.010.
- A Granular backfill shall be placed to a minimum thickness of 300mm all around the maintenance hole.
- B Precast concrete components shall be according to OPSD 701.030, 701.031, 701.040, 701.041, 703.011, 703.021, and 706.010.
- C Structures exceeding 5.0m in depth shall include safety platform according to OPSD 404.020 or 404.021.
- D Pipe support shall be 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 2009	Rev 4
PRECAST CONCRETE MAINTENANCE HOLE		
1500mm DIAMETER		
OPSD 701.011		



SUMP DETAIL

ALTERNATIVES



A PRECAST SLAB BASE

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, and 701.032.
- C Structure exceeding 5.0m in depth shall include safety platform according to OPSD 404.020.
- D Pipe support shall be 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 2009	Rev 4
PRECAST CONCRETE MAINTENANCE HOLE		
1200mm DIAMETER		
OPSD 701.010		