

These amendments apply to and are to be read in conjunction with the latest version of OPSS and OPSD. These specifications will be adopted in their entirety. Each Contract will have its specifications adapted to suit its design requirements as necessary.

**VOLUME 1      GENERAL & CONSTRUCTION SPECIFICATIONS**

**Division 1      General Specifications – No amendments.**

**Division 3      Pavement (Flexible and Rigid)**

**OPSS 310      Construction Specification for Hot Mix Asphalt**

310                      Hot mix asphalt requirements shall comply with OPSS 310 except where superseded by Contract Special Provisions – refer to Contract Documents.

**Division 4      Drainage, Watermains and Utility**

**OPSS 407      Construction Specification for New Maintenance Hole, Catch Basin, Ditch Inlet and Valve Chamber Installation**

407.05.05              Precast concrete collars are permitted for temporary adjustments only. Rubber and HDPE adjustment units are not permitted. Frames are to be set in concrete.

407.07.16              All permanent adjustments are to be poured in place concrete.

407.07.19              New manholes - 1st step to be 450 mm ( $\pm$  40 mm) from finished road grade, however existing rebuilds to be 450 mm ( $\pm$  150 mm) from finished road grade.

407.07.21              To conform to City Specifications and/or Contract Documents.

407.07.22

407.07.23

**OPSS 412      Construction Specification for Sewage Forcemain Installation in Open Cut**

412.05                      Acceptable materials shall be identified by the Contract Documents.

412.05.04              Polyvinyl chloride pressure pipe only permitted where specified in Contract Documents.

412.05.05              Polyethylene plastic pressure pipe only permitted where specified in Contract Documents.

412.05.06              Steel pipe is acceptable in Special Projects only as per the Contract Documents.

412.05.07              Valve type to be selected from the Approved Products List or as specified in the contract documents. Valve operators - conform to City Standard and operating torque specifications.

412.05.07.04              Knife Gate Valves acceptable where specified in the Contract Documents.

412.05.07.05              Air and Vacuum valves - conform to City Specifications, double acting kinetic valves only selected from Approved Sewer Products List.

412.07.10 Pipe bedding and backfill to conform to City Specifications, OPS not acceptable.

412.07.14.01 Superseded by the following:

Wherever it is required to deflect mechanical - joint pipe, the maximum amount of deflection in a joint in any direction, shall not exceed the limits shown on Tables 4.1 and 4.2.

**TABLE 4.1**  
**PERMISSIBLE DEFLECTION IN MECHANICAL-JOINT PIPE**

NOMINAL PIPE SIZE (mm)	MAXIMUM PERMISSIBLE BEND ANGLE PER JOINT (Degrees)	MAXIMUM PERMISSIBLE DEFLECTION PER METRE OF PIPE (mm)
100	5	87
150	4	70
200	3	52
250	3	52
300	3	52
350	2	35
400	2	35

#### Permissible Deflection in Tyton-Joint Pipe

Wherever it is required to deflect Tyton-Joint pipe, the maximum amount of deflection in a joint in any direction, shall not exceed the limits shown on the following table:

**TABLE 4.2**  
**PERMISSIBLE DEFLECTION IN TYTON-JOINT PIPE**

NOMINAL PIPE SIZE (mm)	MAXIMUM PERMISSIBLE BEND ANGLE PER JOINT (Degrees)	MAXIMUM PERMISSIBLE DEFLECTION PER 5.49m LENGTH OF PIPE (mm)	MINIMUM PERMISSIBLE RADIUS OF CURVE (m)
100	3	290	103
150	3	290	103
200	3	290	103
250	3	290	103
300	3	290	103
350	2.5	240	125
400	2.5	240	125

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412.07.14.03 412.07.14.04	PVC & PE pipe deflections to be 1/2 of manufacturer's recommendations.
412.07.17	Hydrostatic Testing
412.07.17.01	All flushing, cleaning, swabbing and hydrostatic Leakage testing shall be in accordance with Form 400, Appendix A and Contract Documents.
<b>OPSS 416</b>	<b>Construction Specification for Pipeline and Utility Installation by Jacking and Boring</b>
416.07.05	Pipe Installation as per design requirements. Space between pipe and wall to be filled with slurry, sand or grout, as specified in Contract Documents. Hardwood skids to be steel strapped prior to jacking.
416.07.07	Cathodic protection shall be provided on the casing pipe where specified in the Contract Documents.
<b>Division 5</b>	<b>Miscellaneous</b> – No amendments.
<b>Division 6</b>	<b>Electrical</b> - This entire section will be adapted to suit Contract requirements.
<b>OPSS 603 and OPSS 616</b>	<b>Construction Specification for the Installation of Ducts</b> <b>Construction Specification for Footings and Pads for Electrical Equipment</b>  Specification acceptable, shall be superseded by City of Hamilton Traffic Department Drawing No. DT:0111-01 and Contract Documents where applicable.
<b>Division 7</b>	<b>Traffic Safety</b> – No amendments.
<b>Division 8</b>	<b>Environmental and Landscape</b>
<b>OPSS 801</b>	<b>Construction Specification for the Protection of Trees</b>
801	Acceptable with amendments by City of Hamilton Tree By-Law and Contract Documents.
<b>Division 9</b>	<b>Structural</b> - No amendments.
<b>VOLUME 2</b>	<b>MATERIAL SPECIFICATIONS</b>  For revisions to OPSS Materials Specifications, refer to the Contract Documents and the following:  Form 600 - Specification for Granular Fill Materials Form 700 - Specification for Portland Cement Concrete Form 800 – Specification for Hot Mix Asphalt Form 900 – Specification for Standard Compaction Requirements

<b>VOLUME 3</b>	<b>DRAWINGS FOR ROADS, BARRIERS, DRAINAGE, SANITARY SEWERS, WATERMANS AND STRUCTURES (OPSD)</b>
<b>Division 100</b>	<b>Abbreviations</b> Abbreviations and legends will be a combination of OPSS, OPSD and City Specifications used and denoted as required.
<b>Division 200</b>	<b>Grading</b> Delete OPSD 201.010, 201.020, 207.010, 207.020, 207.030, 209.020 and 216.020.
<b>Division 300</b>	<b>Side Entrances</b> Delete expansion joint material in OPSD 310.010, 310.020-and 310.050 except as directed by the City.  OPSD 310.030 - Refer to RD-124, Sheets 1 - 3 OPSD 310.040 – Refer to RD102.02
<b>Division 400</b>	<b>Frames and Grates</b> Frames and Grates shall be as listed in the applicable Approved Product List(s) or Contract Documents.
<b>Division 500</b>	<b>Paving</b> 509.010 shall be read in conjunction with RD-100.01 and RD-100.02
<b>Division 600</b>	<b>Curbs and Gutters</b> Curbs and gutter shall be as specified in Contract Documents.
<b>Division 700</b>	<b>Catch Basins and Manholes</b> OPSD 701.010, 701.011, 701.012, 701.013, 701.014, 705.015, 705.010 and 705.020 are all acceptable with a goss trap (SEW-304)  Delete OPSD 708.01
<b>Division 800</b>	<b>Culverts and Drains</b> Delete: all 802 series and 805.02, 806.02, 806.04, 806.06, 807.03, 807.04 and 807.05
<b>Division 900</b>	<b>Fencing, Guide Rails</b> All acceptable.
<b>Division 1000</b>	<b>Sanitary Sewers, Manholes and Catch Basins</b> OPSD 1003.010 permitted OPSD 1003.020, 1003.030, 1003.031, and 1006.010 not permitted.
<b>Division 1100</b>	<b>Watermains</b> OPSD 1104.02 and 1109.011 permitted Remaining 1100 drawings are superceded by Hamilton Standard Watermain Drawings (WM Series).

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<b>VOLUME 4</b>	<b>DRAWINGS FOR ELECTRICAL WORK</b>
	All specifications and drawings for electrical works shall be in accordance with the Contract Documents.
<b>VOLUME 5</b>	Not applicable.
<b>VOLUME 6</b>	Not applicable.
<b>VOLUME 7</b>	<b>MUNICIPAL-ORIENTED OPS GENERAL CONDITIONS OF CONTRACT AND GENERAL &amp; CONSTRUCTION SPECIFICATIONS</b>
<b>OPSS.MUNI 100</b>	<b>OPS General Conditions of Contract</b> Not applicable, refer to Contract Documents.
<b>Division 2</b>	<b>General Grading</b>
<b>OPSS.MUNI 206</b>	<b>Construction Specification for Grading</b>
206.07.01.07	Grading tolerances to "match existing line and grade", or as specified in the contract documents.
206.09	"Measurement For Payment" shall not apply. Excavation and/or break out limits shall be as defined by the Measurement For Payment Drawings RD-119.01 to RD-119.04 inclusive or as specified in the Contract Documents.
<b>Division 4</b>	<b>Drainage, Watermains and Utility</b>
<b>OPSS.MUNI 401</b>	<b>Construction Specification for Trenching Backfilling and Compacting</b>
401.07.13	Superseded by Form 300.22.01 and Contract Documents
<b>OPSS.MUNI 403</b>	<b>Construction Specification for Rock Excavation for Pipelines, Utilities and Associated Structures in Open Cut</b>
403.07.02	Superseded by City Blasting and Use of Explosives Form 300.35
<b>OPSS.MUNI 410</b>	<b>Construction Specification for Pipe Sewer Installation in Open Cut</b>
	Acceptable, payments for dual sewer will be used when applicable.
<b>OPSS.MUNI 441</b>	<b>Construction Specification for Watermain Installation in Open Cut</b>
	For all amendments to OPSS 441, refer to Form 400 - Specification for the Installation of Watermains and Appendix A.
<b>VOLUME 8</b>	<b>MUNICIPAL-ORIENTED MATERIAL SPECIFICATIONS</b>
<b>OPSS.MUNI 1101</b>	<b>Material Specification for Performance Graded Asphalt Cement</b> As modified by Form 800 and Contract Documents.

**OPSS.MUNI 1151    Material Specification for Superpave and Stone Mastic Asphalt  
Mixtures**

As modified by Form 800 and Contract Documents.