
REVISION INFORMATION
DIVISION 3 – UNDERGROUND WORKS
STANDARD CONSTRUCTION SPECIFICATIONS

REVISION SUMMARY

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Revised Specifications

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Revised Standard Details

- Revised SD-010, SD-011, SD-023, SD-024, SD-025 and SD-026

EXPLANATION OF THE REVISION SUMMARY

(All revisions are highlighted yellow in Specifications)

Revised Specifications

CW 2030-R7 – Excavation, Bedding and Backfill

Clause 3.5.6 Added new clause " Arrange with the Professional Engineer who designed the shoring system to inspect the shoring system during construction and certify, in writing to the Contract Administrator, that construction is in conformance with the approved design."

Clause 3.5.7 Added new clause "Leave the shoring system in place until such time as the Professional Engineer who designed the shoring system has provided written approval to remove. Provide a copy of the written approval to the Contract Administrator before removal."

Renumbered remaining clauses in section

CW 2110-R8 – Watermains

Clause 1.5.1 Revised title of AP-001 to "Standard Valve Box"

Clause 2.1.1 Revised Materials Management web site to <http://www.winnipeg.ca/matmgt/spec/>

Clause 2.3.2 Added new clause "Fabricated PVC fittings" and renumbered remaining clause in section

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CW 2125 - R2 - Flushing, Hydrostatic Leakage Testing and Disinfection of Watermains and Water Services

- Clause 3.1.1 Added new sentence "Provide a written plan for filling and flushing to the Contract Administrator for approval before starting."
- Clause 3.1.2 Added new sentence "Locate outlets within 1.0 metre of the end of each section being flushed and tested."
- Clause 3.1.4 Revised first sentence to read "Flush in a uni-directional manner from the supply source to the outlet to prevent contamination of the existing system."
Revised second sentence to read "One connection to the existing system at a time will be allowed as a supply source for flushing purposes."
- Table CW 2125.1 Revised corporation stop requirements for 200 millimetre watermains from "2-38 mm or 1-50 mm" to "1-50 mm".
Revised corporation stop requirements for 250 millimetre watermains from "3-38 mm or 2-50 mm" to "2-50 mm".
- Clause 3.3.9 Added "on active system" to second sentence.
Added new sentence "Connect to hydrant on active system in accordance with SD-019."
- Clause 3.4.1 Revised to read first sentence to read "The Contract Administrator will take bacteriological samples in accordance with procedures outlined in latest edition of AWWA publication "Standard Methods for the Examination of Water and Wastewater" after final flushing of watermain or water service."
- Clause 3.4.2 Added new sentence "2 sets of 2 samples will be taken at least 24 hours apart from the end of the main section of pipe being tested as well as 1 set of 2 samples from the end of each branch pipe connected to the main section where branches are more than 3.0 metres long."

CW 2130 – R9 - Gravity Sewers

- Clause 1.3.7 Added reference to CW 3210 and renumbered remaining clauses in section
- Clause 1.5.1 Revised title of AP-004 to "Standard Frame for Manhole and Catch Basin"
- Clause 1.5.2 Revised title of AP-005 to "Standard Solid Cover for Standard Frame"
- Clause 1.5.3 Revised title of AP-006 to "Standard Grated Cover for Standard Frame"
- Clause 1.5.4 Revised title of AP-007 to "Lifter Ring for Standard Frame"
- Clause 1.5.5 Revised the title of AP-008 to "Barrier Curb and Gutter Inlet Frame and Box"
- Clause 1.5.7 Removed AP-010 and renumbered remaining clauses in section
- Clause 2.1.1 Revised Materials Management web site to <http://www.winnipeg.ca/matmgt/spec/>
- Clause 2.3 Revised title to "Drainage Inlet Connection Pipe"
- Clause 2.7.6 Removed "or cast iron" from clause.
- Clause 3.8.1 Added new clause "Remove and replace existing manhole, catch basin and catch pit where indicated on the Drawings and Specifications."
Renumbered remaining clauses
- Clause 3.8.3 Added "750 millimetre diameter riser" to the first sentence.
- Clause 3.8.3 Added the sentence "Ensure grout completely fills space between frame and riser to make joint watertight and finish flush with inside surface of risers".
- Section 3.11 Revised title to "Drainage Connection Pipe Installation"

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Clause 3.11.1	Replaced “catch pit” with “drainage” in first sentence.
Clause 3.11.1	Added “between inlet box or catch pit and catch basin”.
Clause 3.11.3	Replaced “catch pit” with “drainage” in first sentence.
Clause 3.13.1	Added “reducer” to first sentence.
Clause 3.13.3	Revised first sentence to read “Remove existing pre-cast concrete, cast-in-place concrete or brick reducer and riser sections to depth shown on the Drawings or as directed by the Contract Administrator without damaging remaining risers.”
Clause 3.13.3	Added “flat top reducer” to second sentence.
Clause 3.13.3	Added “flat top reducer and” to last sentence.
Clause 3.13.4	Added new clause “Install pre-cast concrete riser sections, flat top reducer, frame and cover in accordance with Section 3.8 of this specification.”
Clause 3.13.5	Added new clause “Make final adjustment of frames in accordance with Section 3.2 of CW 3210.” and renumbered remaining clauses in section
Clause 3.15.3	Replaced “catch pit” with “drainage” in the first sentence
Clause 3.17.1	Added “sewer” to the first sentence.
Clause 3.19.1	Added “and sewer services” to the first sentence.
Section 3.20	Revised title to “Abandoning, Relocation and Removal of Existing Manholes, Catch Basins, Catch Pits and Drainage Inlets”
Clause 3.20.2	Added new clause “Abandon existing drainage inlets and inlet box by removing the inlet frame and inlet box cover and completely demolishing the concrete inlet box.” Renumbered remaining clauses in section
Clause 3.20.5	Revised the clause to read “Plug sewers and sewer services and drainage inlet pipe connected to abandoned or removed manholes, catch basins, catch pits and drainage inlet boxes in accordance with Section 3.19 of this specification. Backfill the remainder of the manhole, catch basin or excavation with compacted Class of Backfill indicated on the Drawings and Specifications in accordance CW 2030.”
Clause 3.25.1	Removed “3.16, 3.17” from the first sentence.
Clause 3.25.1	Added “sewer repairs and” to the first sentence
Clause 3.25.2	Added new clause “Perform video inspection of catch basin leads longer than 15 metres in length or that extend from a sewer or manhole to a catch basin at a rear lot line, in a public lane, in a park area or in a parking lot.”
Clause 3.26.1	Replaced “asphaltic pavement” with “asphalt pavement or overlays”
Clause 4.1.1	Added “and removed where required” to the first sentence
Clause 4.4.1	Added “and removed where required” to the first sentence
Clause 4.4.3	Removed this clause
Clause 4.6	Replaced “Catch Pit” with “Drainage” in the title
Clause 4.6.1	Replaced “catch pit” with “drainage” in the first and second sentences.
Clause 4.6.2	Replaced “catch pit” with “drainage” in the first sentence.
Clause 4.6.2	Added “inlet box or” to the first sentence
Clause 4.6.3	Replaced “catch pit” with “drainage” in the first sentence.
Clause 4.8.6	Added new clause “Video inspection required to confirm limits of sewer repair will be included in sewer repairs.”
Clause 4.9.1	Replaced “Items of Work - Replacing Existing Manhole Frames and Covers and Replacing Existing Catch Basin Frames and Covers” with “Replacing Standard Frames and Covers”
Clause 4.9.1i)	Revised title of AP-004 to “Standard Frame for Manhole and Catch Basin”.
Clause 4.9.1ii)	Revised title of AP-005 to “Standard Solid Cover for Standard Frame”.
Clause 4.9.1iii)	Revised title of AP-006 to “Standard Grated Cover for Standard Frame”.
Clause 4.9.1iv)	Replaced item “i)” with item “iv)”

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| Clause 4.9.1v) | Replaced item "ii)" with item "v)" |
| Clause 4.9.1vi) | Replaced item "iv)" with item "vi)" |
| Clause 4.9.2 | Added new clause "Installing new or replacing existing flat top reducers will be measured for payment on a unit basis for each size and paid for at the Contract Unit Price for "Installing New Flat Top Reducer" or "Replacing Existing Flat Top Reducer". Amount to be paid for will be the total number of flat top reducers supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator." and renumbered remaining clauses in section |
| Clause 4.9.3 | Replaced "Replacing Existing Risers" in the first sentence with "Items of Work listed below"
Replacing Existing Risers
i) Pre-cast concrete
ii) Brick
iii) Cast-in-place concrete |
| Clause 4.10.1 | Replaced "Connecting to Existing Manholes, Catch Basins and Catch Pits" with "the Items of Work listed below." |
| Clause 4.22.1 | Replaced "asphaltic pavement" with "asphalt pavement or overlays" |

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- Clause 4.10.1 Added "Items of Work
Connecting to Existing Manhole
Connecting to Existing Catch Basin
Connecting to Existing Catch Pit
Connecting to Existing Inlet Box"
- Section 4.16 Revised the title to "Abandoning, Relocation and Removal of Existing Manholes, Catch Basins, Catch Pits and Drainage Inlets"
- Clause 4.16.1 Added "catch pits" to first and second sentence
- Clause 4.16.2 Added new clause "Abandoning of existing drainage inlets and inlet boxes will be measured for payment on a unit basis and paid for at the Contract Unit Price for "Abandoning Existing Drainage Inlets", Number of units to be paid for will be the total number of drainage inlets abandoned in accordance with this specification, accepted and measured by the Contract Administrator."
Renumbered remaining clauses in the section

CW 2140 - R2– Sewer and Manhole Cleaning

- Clause 3.1.1.1 Revised the first sentence to read "Selection of nozzles capable of effectively scouring and removing grease from the sewer pipe wall and transporting debris in all sizes of the sewers to be cleaned."
- Clause 3.5.2 Revised the first sentence to read "Clean sewers and manholes completely of debris including sludge, dirt, sand, gravel, rocks, bricks, grease and other solid and semi-solid materials removed from the sewer by the equipment identified in Clause 3.1 of this specification."
- Clause 3.5.3 Added new clause "Remove grease deposits on pipe walls to within 25 millimetres of the inside surface of the pipe wall or as directed by the Contract Administrator."
- Clause 3.11.1 Added the sentence "Grease will not be considered solid debris." to the clause
- Clause 3.11.2 Added new clause "Remove solid debris to within 15 millimetres of the inside surface of the sewer." And renumbered remaining clauses in the section

CW 2145 - R2– Sewer and Manhole Inspection

- Clause 3.4.1 Revised the first sentence to read "Provide a minimum one operator on site at all times with each inspection unit who holds a valid certificate from the North American Pipeline Inspectors NAAPI Level of Qualification for WRc Operators or an acceptable alternate training program."
- Clause 3.4.3 Revised the first sentence to read "Perform condition coding using operators who hold a valid certificate from the North American Pipeline Inspectors NAAPI, formerly APIO, Level of Qualification for WRc Operators or an acceptable alternate training program."
- Clause 3.4.4 Revised the first sentence to read "Submit a valid copy of the NAAPI WRc Operators Certificate for each operator to the Contract Administrator at least 10 working days before starting the inspection work."
- Clause 3.5.2 Added new clause "Record place names in accordance with Clause 3.9.4 of this specification."

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- Clause 3.6.1 Added new sentence "Record place names in accordance with Clause 3.9.4 of this specification."
Revised MH ID Number e.g. 5328" to MH Asset Number e.g. S-MH0000001"
- Clause 3.6.1.1 Added the following to Header Description
"Manhole Riser Diameter e.g. 750mm"
- Clause 3.8.1 Revised the first sentence to read "Provide a minimum of 250 lines of resolution around the periphery of the picture for digital MPEG video playback."
- Clause 3.9.1 Revised line 5: to read "Sewer Asset Number e.g. S-MA0000001"
Revised line 6: to read "Start MH Asset Number e.g. S-MH0000001"
Revised line 6: to read "Finish MH Asset Number e.g. S-MH0000002"
- Clause 3.9.2 Revised top center to read "Street Name and Sewer Asset e.g. BERRY ST (S-MA0000001)"
Revised top left to read "Start MH Asset e.g. S-MH0000001"
Revised top right to read "Finish MH Asset e.g. S-MH0000002"
- Clause 3.9.3 Added new clause.
"Use the following naming convention when entering street and place names in sewer and manhole inspection records.

Term	Naming Convention	Term	Naming Convention
Street	ST	First	1ST
Avenue	AV	Second	2ND
Boulevard	BV	Third	3RD
Road	RD	Fourth	4TH
Bay	BY	Fifth	5TH
Crescent	CR	Sixth	6TH
Drive	DR	South of	S OF
Place	PL	East of	E OF
Way	WY	West of	W OF
Cove	CV	North Property Line	NPL
Highway	HW	South Property Line	SPL
		East Property Line	EPL
		West Property Line	WPL
		Centre Line	CL"

- Clause 3.9.4 Added new clause. "Use uppercase lettering for all street/place naming and location descriptions. Reference street locations relative to the direction of flow where possible. Reference sewer location using street name and start/end manhole locations as follows:
- .1 Street/Place

Enter the street name, followed by a Naming Convention, if required, in brackets noting its location within the right of way, e.g. OAK ST (N OF CL).
- .2 Location/Description

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	Enter location of start manhole relative to closest upstream Cross Street, followed by "TO", followed by location of end manhole relative to closest upstream Cross Street, e.g. 3RD MH N OF CORYDON AV TO 4TH MH N OF CORYDON AV."
Clause 3.10.1	Deleted existing clause and replaced with new clause "Analog format video recordings on VHS tape will not be acceptable."
Clause 3.10.2	Deleted clause
Clause 3.10.3	Deleted clause
Clause 3.11.1	Revised the first sentence to read "Capture the inspections in digital format in colour from the live video source on digital versatile discs, DVD-R format to the following requirements." .1 XSVD MPEG2 format. .2 Picture Size: NTSC 352 x 240 @ 29.97 frames per second. .3 Data/Bit Rate: MPEG-2 @ 3.0 M-bits/sec.
Clause 3.11.3	Revised the first sentence to read "Digital video inspections can to be saved to a hard-drive and later transferred to recordable digital versatile disc, DVD-R media for submission."
Clause 3.11.5.1	Revised example to read "910-2000_S-MA0000001_FS-MH0000001_TS-MH0000002_BERRY_M100.0_I39.2_US_B.MPG"
Clause 3.11.6	Revised the first sentence to read "Submit digital files of the original video inspections to the Contract Administrator on recordable digital versatile discs, DVD-R format in 5.2 millimetre slim-line clear "jewel cases" capable of displaying a summary sheet containing the information listed in Section 3.14 of this specification."
Clause 3.11.7	Replaced "compact discs" with "DVD-R discs" in the first sentence
Clause 3.12.1	Deleted "analog VHS tape and digital MPEG CD-R" from first sentence and replaced with "digital MPEG DVD-R"
Clause 3.14.1	Revised first sentence to read Label inspection reports, diskettes and DVD discs with the following information. Revised second example to read: Sewer Asset Number(s): e.g. Sewer Asset Numbers – S-MA0000001, etc"
Clause 3.14.2	Replaced "compact discs" with "DVD-R discs" in the first and second sentences
Clause 3.14.3	Replaced "compact discs" with "DVD-R" discs in first sentence

Revised Standard Details**SD-009 Sewer or Sewer Service Connection to Existing 1050 Diameter or Larger Sewer**

- Revised detail for Class 2 and 3 Backfill to include a minimum 300 millimetre thick layer of compacted excavated material over granular backfill in boulevards
- Revised hatching pattern for specified restoration for Class 4 and Class 5 detail

SD-010 Standard Pre-cast Concrete Manhole (For up to 525 Diameter Pipe)

- Revised "Minimum 1-150 Riser Maximum 2-150 Risers" to "Maximum 2-750 Dia. Adjusting Rings"

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- Added “1200 Dia. x 750 Dia. Flat Top Reducer”
- Revised dimension of flat top reducer from “300” to “230”

SD-011 Standard Precast Concrete Pipe Manhole (For up to 600 to 1500 Diameter Pipe)

- Revised “Minimum 1-150 Riser Maximum 2-150 Risers” to “Maximum 2-750 Dia. Adjusting Rings”
- Added “1200 Dia. x 750 Dia. Flat Top Reducer”
- Revised dimension of flat top reducer from “300” to “230”

SD-023 Standard Pre-Cast Concrete Catch Pit in Pavement

- Revised title
- Revised “Each Catch Pit With Curb and Gutter Inlet to Have Separate Connection to Sewer or Manhole” to “Catch Pit to be Connected to Catch Basin”
- Revised “City of Winnipeg Barrier Curb and Gutter Inlet Frame and Cover” to “Barrier Curb and Gutter Inlet Frame and Box (AP-008) and Inlet Cover (AP-009) or Mountable Curb and Gutter Inlet (AP-011)”
- Revised “Grout” to “Grout Around Frame and Box to Make Watertight”
- Revised “Concrete Bricks as Required 1 Layer Min 3 Layers Max” to “Grout or 1 Layer of Concrete Bricks and Grout as Required to Make Watertight”
- Added a dimension of “75 Max” between frame and reducer

SD-024 Standard Pre-Cast Concrete Catch Basin in Pavement

- Revised title
- Revised “Each Catch Basin With Curb and Gutter Inlet to Have Separate Connection to Sewer or Manhole” to “Each Catch Basin to Have Separate Connection to Sewer or Manhole”
- Revised “City of Winnipeg Barrier Curb and Gutter Inlet Frame and Cover” to “Barrier Curb and Gutter Inlet Frame and Box (AP-008) and Inlet Cover (AP-009) or Mountable Curb and Gutter Inlet (AP-011)”
- Revised “Grout” to “Grout Around Frame and Box to Make Watertight”
- Revised “Concrete Bricks as Required 1 Layer Min 3 Layers Max” to “Grout or 1 Layer of Concrete Bricks and Grout as Required to Make Watertight”
- Added a dimension of “75 Max” between frame and reducer

SD-025 Standard Pre-Cast Concrete Catch Basin in Boulevard

- Revised title
- Revised “Each Catch Basin With Curb and Gutter Inlet to Have Separate Connection to Sewer or Manhole” to “Each Catch Basin to Have Separate Connection to Sewer or Manhole”
- Revised “City of Winnipeg Grated Frame and Cover” to “Standard Frame (AP-004) and Grated Cover (AP-006)”
- Revised “Grout” to “Grout Around Frame and Box to Make Watertight”
- Revised “750 Dia. Pre-cast Concrete Adjusting Rings as Required” to “Maximum 2-750Dia. Pre-cast Concrete Adjusting Rings”
- Added a dimension of “300 Max” between frame and reducer



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- SD-026** **Stormwater Retention Basin Shoreline Revetment**
- Removed box from around dimension "2000"