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**REVISION INFORMATION**  
**DIVISION 3 – UNDERGROUND WORKS**  
**STANDARD CONSTRUCTION SPECIFICATIONS**

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**REVISION SUMMARY**

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**EXPLANATION OF THE REVISION SUMMARY**

*(All revisions are highlighted yellow in Specifications)*

**Revised Specifications**

**CW 2110-R9 – Watermains**

- Clause 3.16.4.2 Revised to read “Turn corporation stop to off position and cut water service pipe a maximum of 300 millimetres from the watermain. Crimp both ends end of abandoned water service pipe flat.”
- Clause 3.16.4.3 Revised to read “Remove service saddle if one is in place and install approved stainless steel repair clamp centered over hole in watermain in accordance with Clause 3.17.4 of this specification.”
- Clause 3.16.4.2 Revised sentence to read “Turn corporation stop to off position and cut water service pipe a maximum of 300 millimetres from the watermain. Crimp both ends of abandoned water service pipe flat.”
- Clause 3.16.4.3 Revised sentence to read “Remove service saddle if one is in place and install approved stainless steel repair clamp centered over hole in watermain in accordance with Clause 3.17.4 of this specification.”
- Clause 3.16.4.4 Deleted clause.
- Clause 3.16.4.5 Renumbered to 3.16.4.4.
- Section 3.20 Revised title to “Removal and Abandonment of Existing Valves, Valve Boxes and Hydrants”

**CW 2125 – R3 - Flushing, Hydrostatic Leakage Testing and Disinfection of Watermains and Water Services**

- Clause 3.5.1 Revised “Contract Administration Supervisor” to Construction Services Coordinator” in the first and second sentences.

*Embrace the Spirit • Vivez l'esprit*

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**CW 2130 – R10 - Gravity Sewers**

Clause 3.6.2	Revised sentence to read "Correct alignment and grade exceeding the allowable variance in a manner acceptable to the Contract Administrator."
Section 3.8	Delete Clause 3.8.1 and renumbered remaining clauses.
Clause 3.14.1	Revised first sentence to read "Remove and replace existing manholes, catch basins and catch pits where indicated on the Drawings and Specifications as excavation progresses." Added "replacement" in second sentence.
Clause 3.16.2	Added the wording "required" and "required lengths" to sentence. Revised reference to "Section 3.11" to "Section 3.12".
Clause 3.16.2.1	Added new clause "Where approved by the Contract Administrator a connection can be made to 300 millimetre and larger vitrified clay sewers with an approved PVC saddle in accordance with clause 3.16.3.2 of this specification.
Clause 3.16.3	Replaced "tee" with the word "fitting".
Clause 3.16.3.2	Revised sentence to read "Make a neat circular hole in the existing sewer the same size as the sewer or sewer service to be connected and install an approved PVC saddle in accordance with the manufacturer's instructions using stainless steel straps or 6 millimetre diameter stainless steel bolts."
Clause 3.16.3.2.1	Added new clause "Maximum connection to an existing sewer using a PVC saddle to be two sizes smaller than the sewer pipe."
Clause 3.16.3.2.2	Added new clause "Install fastening bolts with head on the inside of the sewer pipe. Use washers if hole has chipped during drilling. Do not over tighten bolts to cause stress or damage to existing sewer pipe."
Clause 3.16.3.2.3	Added new clause "Limit excavation beneath existing sewer to only what is required to install saddle straps. Fill excavation beneath existing sewer with grout or cement stabilized fill."
Clause 3.16.4.2	Revised sentence to read "Pipes less than 900 millimetres in diameter: by concrete coring or drilling a series of 12 millimetre diameter holes with a masonry drill bit around the circumference of the hole and carefully tapping out the coupon."
Clause 3.16.4.2.1	Added new clause "Drill holes at 15 millimetres on centre for sewer pipes 375 millimetre diameter and smaller and at 25 millimetres on centre for sewer pipes up to and including 900 millimetre diameter."
Clause 3.16.7	Replaced "VHS videotape" with "DVD".
Clause 3.16.7	Revised last sentence to read "Coding of the video inspection will not be required."
Clause 3.18.2	Added "Excavate and" to the sentence.
Clause 3.18.5	Added "riser pipe" to the sentence.
Clause 3.19.4	Replaced "VHS videotape" with "DVD".
Clause 4.4.2	Added "measured from the outside of the catch basin" to the sentence.
Section 4.13	Deleted the Section. Renumbered the remaining sections
Clause 4.13.3	Renumbered from 4.14.3 and added "Supply and" to sentence.
Clause 4.13.4	Renumbered from 4.14.4 and added "Supply and" to sentence.
Clause 4.13.5	Renumbered from 4.14.5 and added "from the outside of the new sewer main" to sentence.

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**CW 2140 –R3 – Sewer and Manhole Cleaning**

- Clause 3.5.1 Added “Deliver notices provided by the Contract Administrator to residents and businesses as directed by the Contract Administrator.”
- Clause 3.5.4 Renumbered from 3.5.3 and added “Reduce pressure of cleaning equipment as directed by the Contract Administrator.”
- Clause 3.9.2 Revised to read “Decant or dewater debris removed from sewers and catch basins and legally dispose of solid and semi-solid debris. Return decanted or dewatered liquid to the sewer of origin as soon as possible.”
- Clause 3.9.3 Added “Vehicles used to transport sewage within City of Winnipeg limits must be licensed by the Industrial Control Branch of the Water and Waste Department.”
- Clause 3.9.4 Revised to read “Provide written procedure for method of dewatering and debris disposal to Contract Administrator for approval before beginning Work.”
- Clause 3.9.5 Revised to read “Off-site debris dewatering facilities must meet Provincial environmental regulations and requirements. Obtain approval from City of Winnipeg, Industrial Waste Control Branch of the Water and Waste Department if the facility is located within the City of Winnipeg. Provide copies of required licenses, permits and relevant documentation required for dewatering facility to the Contract Administrator before starting the Work.”
- Clause 3.10.1 Added “Dispose of debris as indicated in Clause 3.9 of this specification.”
- Clause 4.5.1 Revised to read “Debris removal will be measured on a weight basis and paid for at the Contract Unit Price for “Debris Removal”. The weight to be paid for will be the total number of tonnes of sewer and catch basin debris removed and legally disposed of in accordance with this specification, accepted and measured by the Contract Administrator.”
- Clause 4.5.2 Added new clause “The weight to be paid for will be the total number of tonnes of debris measured on a certified weigh scale. Provide weigh tickets to the Contract Administrator for review and payment. Payment will only be made upon receipt of weigh tickets.”
- Clause 4.5.3 Added new clause “Only debris originating from the sewers cleaned will be included in the payment for “Debris Removal”.

**CW 2145 –R3 – Sewer and Manhole Inspection**

- Clause 3.2.2 Added new sentence “Ensure lighting illuminates the sewer or manhole ahead of the camera to be able to determine general condition, features and upcoming defects.”
- Clause 3.5.1 Revised to read “Perform sewer condition coding in accordance with the requirements of the NAAPI Manual of Sewer Condition Classification.”
- Clause 3.11.1 Added “minimum” and new sentence “Adjust requirements as required to achieve 250 lines of resolution specified in clause 3.8 of this specification.”
- Clause 3.15.1 Revised to read “Position the centre of the camera lens in the centre of circular and egg shaped sewers and manhole risers or as directed by the Contract Administrator.”
- Clause 3.17.3 Revised to read “Use the flusher continuously during inspection and implement flow control measures in accordance with Section 3.13 of CW 2140 where required to ensure the following.”
- Clause 3.17.3.1 Revised to read “The entire cross section of the sewer is visible and no debris is present during the sewer inspection.”

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- Clause 3.17.3.2 Revised to read “The manhole invert is completely visible and no debris is present during the manhole inspection.”
- Clause 3.17.3.3 Deleted clause.
- Clause 3.17.6 Revised to read “Ensure the picture is in focus and there is adequate, even lighting free of shadows and glare ahead of the sewer pipe or manhole riser ahead of the camera at all times to be able to determine general condition, features and upcoming defects. Provide better lighting as directed by the Contract Administrator.”
- Section 3.23 Deleted.

**CW 2160 – R7 - Concrete Underground Structures and Works**

- Clause 2.1.1 Replaced “A5 Type 10 Normal and Type 50 Sulphate-resistant” with “A3001 Type GU and Type HS”
- Clause 2.2.2 Deleted “Table 5, Group 1 Aggregate” from sentence.
- Clause 2.3.1 Replaced “A23.5, Type C Fly Ash” with “A3001 Type CI FI Ash”.
- Clause 2.3.2 Replaced “high sulphate resistance (type HS) cement indicated in ASTM C1157” with “Type HSb blended hydraulic cement in CSA A3001”. Revised last sentence to read “Limit fly ash content to 25% of cementitious materials except for cement stabilized fill which can have up to 70 kilograms of fly ash in the mix.”
- Clause 2.9.1 Replaced “Type 50 Portland cement” with “Type GU cement”.
- Section 2.16 Replaced “Type 50 Sulphate Resistant and Type 10 Normal” with “Type HS and Type GU” in Table CW 2160.1.  
Replaced “0.3 to 0.7 MPa” with “1.5 to 2.5 MPa” in Table CW 2160.1.
- Clause 2.17.5.2 Deleted “A23.2 and” from the first sentence.
- Clause 2.17.5.3 Deleted.
- Clause 2.17.6 Renumbered from 2.17.4.
- Clause 2.17.7 Renumbered from 2.17.5 and deleted “and flexural” from sentence.
- Clause 2.17.8 Renumbered from 2.17.6.
- Clause 3.13.1 Deleted “Clause 17.6.8 of” from sentence.