

CITY OF WHITEHORSE SERVICING STANDARDS MANUAL
PART 3 - CONSTRUCTION STANDARDS
SECTION 3.8 – WATER SERVICE CONNECTIONS

TABLE OF CONTENTS

| | |
|---|----------|
| 3.8.1 SCOPE | 2 |
| 3.8.2 MATERIALS | 2 |
| 3.8.2.1 WATER SERVICE MATERIALS..... | 2 |
| 3.8.2.2 INSULATION | 2 |
| 3.8.2.3 BEDDING SAND..... | 2 |
| 3.8.2.4 BEDDING STONE | 2 |
| 3.8.3 TESTING OF MATERIALS | 2 |
| 3.8.4 INSTALLATION | 2 |
| 3.8.4.1 BEDDING AND INITIAL BACKFILL..... | 2 |
| 3.8.4.2 MAINSTOPS | 3 |
| 3.8.4.3 ELEVATION..... | 3 |
| 3.8.4.4 CURBSTOPS AND SERVICE BOXES | 3 |
| 3.8.4.5 GREASED SERVICES..... | 3 |
| 3.8.4.6 MARKER STAKES..... | 3 |
| 3.8.4.7 BACKFILL..... | 4 |
| 3.8.5 REGULATIONS | 4 |
| 3.8.6 TESTING | 4 |
| 3.8.7 DAMAGE TO PROPERTY | 4 |

CITY OF WHITEHORSE SERVICING STANDARDS MANUAL
PART 3 - CONSTRUCTION STANDARDS
SECTION 3.8 – WATER SERVICE CONNECTIONS

3.8.1 SCOPE

The work described in this sub-section pertains to the supply and installation of factory-insulated water service piping and appurtenances.

3.8.2 MATERIALS

All work described in this section is to be carried out in strict accordance with manufacturer's recommendations unless otherwise noted.

3.8.2.1 WATER SERVICE MATERIALS

All Water Service Materials shall conform to Section 2.6.3

3.8.2.2 INSULATION

Sanitary sewer service connections are to be insulated as specified in Section 2.6.1.4 of this manual.

3.8.2.3 BEDDING SAND

The bedding sand, free from organic material, is to meet the grading requirements specified in 3.5.2.1.

3.8.2.4 BEDDING STONE

Bedding stone is to be used when wet trenching conditions exist.

The bedding stone, free from organic material, is to meet the grading requirements specified in 3.5.2.2.

3.8.3 TESTING OF MATERIALS

The Engineer may at any time require the Developer to produce certification by an independent testing authority that the materials currently used conform to the specified standards.

If installation of a copper water service with heat trace is approved by the City for installation on private property, the Developer is to test the service for continuity on the heat trace after installation of the service and prior to backfilling.

3.8.4 INSTALLATION

Water service lines are to be installed in accordance with Section 2.6 of this manual.

Lower approved pipe into trench, safely so that the materials are not damaged. Ensure pipe is cleaned of any foreign materials prior to joining.

3.8.4.1 BEDDING AND INITIAL BACKFILL

The bottom of the trench is to be suitable for receiving bedding and pipe, as per Section 3.4 - Trenching and Backfilling.

CITY OF WHITEHORSE SERVICING STANDARDS MANUAL
PART 3 - CONSTRUCTION STANDARDS
SECTION 3.8 – WATER SERVICE CONNECTIONS

Bedding sand or stone is to be placed over the full width of the trench and compacted in 150 mm layers up to a level of 300 mm above the crown of the highest service in the trench. Bedding and initial backfill is to be compacted to the specified minimum density of 95% Standard Proctor Density at optimum moisture content.

3.8.4.2 MAINSTOPS

Watermains are to be tapped under pressure by means of a tapping machine. The corporation main stop is to be threaded in by the tapping machine and installed in accordance with the standard drawing.

The minimum allowable distance from a main stop to an adjacent collar or coupling on the main is to be 600 mm.

Where multiple connections to the water main are made, each service is to be spaced a minimum of 1200 mm apart and staggered around the upper half of the water main.

Corporation main stops are to be tapped and connected with approved service saddles into the upper half of the water main and inclined to the horizontal at an angle of 45 degrees.

3.8.4.3 ELEVATION

The top of the water service at the property line is to be a minimum of 2.4m to a maximum of 3.5m below finished grade.

3.8.4.4 CURBSTOPS AND SERVICE BOXES

Curb stops are to be installed at the center of the lot unless otherwise shown on the drawings, or where designated by the Consultant, and installed to drain water from the building when in the shut-off position. The curb stop operating stem is to be adequately secured to the curb stop with a brass pin.

The service box is to be set plumb and is to be located 150 mm - 400 mm below finished grade and the operating stem is to be between 400 mm – 1200 mm below finished grade to prevent heavy loads from being transmitted to the curb stop. Installation is to be in accordance with the standard drawings, Section 4.

3.8.4.5 GREASED SERVICES

All water services initially not connected to any structure are to be greased with NSF-61 compliant grease that is compatible with potable water applications. Grease is to be injected through the open CC and past the compression fitting to a point 300 mm from the CC towards the main. Upon completion of greasing the CC will be closed. Greasing of the CC and compression fitting is to be completed prior to the pressure test on the service line. However, should the service leak when the City of Whitehorse inspects the connection at the CC the responsibility is with the Developer to replace said CC and or compression fitting.

3.8.4.6 MARKER STAKES

For services not connected to an existing structure, the Contractor is to place a 50 mm x 100 mm wood marker stake protruding 500 mm above ground. The stake is to extend down to the water service curb stop. The stake is to be painted blue.

CITY OF WHITEHORSE SERVICING STANDARDS MANUAL
PART 3 - CONSTRUCTION STANDARDS
SECTION 3.8 – WATER SERVICE CONNECTIONS

3.8.4.7 BACKFILL

The backfill is to be placed and compacted in accordance with Section 3.4 - Trenching and Backfill. The backfill around the casing is to be compacted by mechanical tampers up to the finished grade to prevent tilting.

3.8.5 REGULATIONS

All building services installed are to conform to regulations governing plumbing and drainage issued by the authority having jurisdiction and municipal bylaws in effect at the time of the work.

3.8.6 TESTING

The water services must be pressure tested as part of the water main testing.

Prior to greasing, the Developer is to open the curb stop and allow a full stream of water to escape, to ensure that the line is not obstructed.

If applicable, a continuity test is to be performed on the wire, ground, clamp, and pipe in the presence of the Consultant.

The Developer as part of the service card is to log a record of each test.

3.8.7 DAMAGE TO PROPERTY

The Developer is to obtain permission from the registered landowner before removing any fences, trees, hedges, shrubs, private walks, or other private property. Where necessary, the Developer is to remove fences and re-erect them immediately after backfilling and cleaning up, but he will not be required to replace fence material which is unsound. Where the Developer believes the fence material is unsound, he and the registered landowner must reach written agreement as to the method of removing and relocating it.

Where trees, hedges, and shrubs must be removed, such removal is to be done in an approved manner, removing only a sufficient amount to make space for the Developer's excavating equipment. All trees, hedges and shrubs that have been dug up, and all surplus earth, is to be removed from the site of the work and disposed of as approved by the Engineer.

Written permission from the Engineer is to be obtained before removing trees, hedges, shrubs, or sidewalks within street limits.

The Developer is to repair all damaged sidewalk, curb, and gutter and replace all trees, hedges, or shrubs removed from City of Whitehorse or private property.