

**CITY OF WHITEHORSE SERVICING STANDARDS MANUAL
SECTION 2 - CONSTRUCTION DESIGN CRITERIA
SUB-SECTION 2.1 - GENERAL CONDITIONS AND PROCEDURES FOR
THE INSTALLATION OF MUNICIPAL IMPROVEMENTS**

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2.1.1 SCOPE

These design standards shall apply to the design and installation of Municipal improvements within the jurisdiction of the City of Whitehorse. They apply to the design and installation of storm and sanitary sewers, watermains and roads, together with their respective connections and appurtenances and any other improvements that are required to be designed and/or installed.

2.1.2 DESIGN STANDARDS

These design standards do not cover the design or installation of street lighting, ornamental lighting, power, gas, telephone, and television services, but do include coordination with the various utility companies.

The standard drawings, referred to in various sub-sections and detailed in Section 4 - Standard Drawings, shall form an integral part of these design standards.

The design standards contained herein, shall apply to all or any of the respective Municipal improvements:

- Water Distribution System
- Sanitary Sewerage System
- Storm Drainage System
- Sewer and Water Service Connections
- Urban Roads
- Rural Roads
- Lift Stations
- Traffic Signals

All Municipal improvements shall at a minimum be designed and installed as detailed in the design standards contained herein and according to the procedures set out in this section. Should conditions dictate, more stringent standards will be required.

No relaxation of these standards shall be permitted except with the written approval of the Engineer.

The performance and responsibilities of all parties and persons carrying out the installation of improvements are set out in this section.

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2.1.3 PROCEDURE

2.1.3.1 ENGINEERING DESIGN

The Developer shall retain a Consultant who shall be responsible for the design and preparation of the drawings and the specifications for all improvements (except lighting, telephone and power, which design shall be conducted by the relevant utility organisation and co-ordinated by the Consultant). These improvements shall be designed in accordance with Section 2 - Construction Design Criteria. The design drawings shall show all existing and proposed improvements. It shall be the Consultant's responsibility to co-ordinate with the utility companies to establish the locations of their existing and proposed services.

2.1.3.2 SUBMISSION OF ENGINEERING DESIGN

Upon completion of the design drawings, the Developer shall submit to the Engineer:

- Calculations of sanitary and storm sewer capacity, pipe loading and thermal analysis, as required by the Engineer, where these improvements are to be installed;
- Water distribution and thermal analysis as specified in sub-section 2.3.1
- A print of the registerable plan of the subdivision (if not already supplied by the Consultant or the Developer).

All proposed streets should be named on the drawings, names to have been approved by the planning board prior to submission of the drawings.

2.1.3.3 DESIGN REVIEW

The Engineer shall review all design drawings, specifications and other relevant data, and any necessary revisions shall be incorporated into the final design drawings.

2.1.3.4 DESIGN APPROVAL

Upon completion of all revisions, the Developer shall submit one set of sealed contract drawings (Mylar or vellum originals) to the Engineer.

When the design is approved, the Engineer shall certify the drawings and return the Mylar or vellum originals to the Developer. The Developer shall supply the Engineer with three sets of approved plans, A1 size, and an 11 x 17 inch reduction of the overall roadway, overall storm drainage plan, overall water main plan, and overall sanitary main.

No work shall commence within any new parcel of land on any of the improvements to be provided by the Developer or applicant until the Engineer has certified the design drawings.

2.1.3.5 RIGHT OF WAY DOCUMENTS

Where easement or right-of-way documents are deemed necessary, a registered land surveyor at the Developer's expense shall prepare them.

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2.1.3.6 CONSTRUCTION APPROVAL

Upon receipt of certified drawings, the Developer or the applicant may proceed to install municipal improvements, subject to satisfactory execution of a Development Agreement or a Development Permit, if applicable.

A copy of all approved drawings and specifications shall be maintained at the construction site during the installation of improvements.

Underground subdivision improvements shall not be permitted to operate as part of existing municipal infrastructure until the respective improvements have been inspected, tested and approved in writing by the Engineer.

2.1.3.7 ENGINEERING SUPERVISION

The Consultant shall be responsible for the survey layout, inspection, and approval of materials and the inspection and installation of all municipal improvements that are the responsibility of the Developer. The Developer's Consultant or his authorized representative shall provide on-site construction supervision at all times during the installation of improvements, unless the Engineer provides authorisation for part time inspection.

In addition to inspection carried out by the Developer's Consultant, the Engineer may periodically inspect the work and assist in coordinating the subdivision works with any related municipal works. The Engineer shall bring the use any unacceptable materials or practices to the attention of the Consultant. If remedial action is not taken to the satisfaction of the Engineer, he may order the work to cease.

If the Developer wishes to make any changes in design, either before or during the execution of the work, he shall first submit a redline drawing, approved by the Consultant showing proposed revisions, to the Engineer. If approval is granted for revision, the consultant shall immediately revise the original drawing and issue new prints.

The Engineer must approve any major design change proposed by the Developer during construction. Drawing updates to be done as per the above.

2.1.3.8 TESTING

All system testing and quality control test results shall be submitted to the Consultant and the Engineer within 72 hours of the tests being taken.

2.1.3.9 RECORD DOCUMENTS

Prior to application for the Final Acceptance Certificate, the Developer shall deliver satisfactorily completed A1 record drawings and applicable reporting sheets to the Engineer as described in Section 1.6 and Appendices 1.E, 1.F and 1.G.

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2.1.3.10 ACCEPTANCE

Upon satisfactory completion of the project and after all deficiencies have been corrected, the Engineer will issue a Construction Completion Certificate to the Developer, notifying:

- Acceptance of the work by the Consultant and Developer;
- Commencement date of maintenance period.

The Developer shall be responsible for any defect, fault, or deficiency in the completed works during a specified maintenance period.

Upon completion of the maintenance period, and after final inspection and correction of any deficiencies, the Engineer will issue a Final Acceptance Certificate to the Developer.

2.1.3.11 DEVELOPMENT APPROVALS

No further Development Approvals (i.e. Building Permits, Street Occupancy Permits, Public Works Water and Sewer Connections) shall be issued until the subdivision plan is registered and all essential improvements have been provided as specified in the Development Agreement and/or Development Permit.