

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

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2.1.1 SCOPE

These design standards are to apply to the design and installation of Municipal improvements within the jurisdiction of the City of Whitehorse.

It is the responsibility of the Engineer, Developer and Contractor to ensure they are referencing the current version of these standards, as they are made available on the City of Whitehorse Engineering Services webpage.

They apply to the design and installation of storm and sanitary sewers, water mains, roads, sidewalks and trails together with their respective connections and appurtenances and any other improvements required to be designed and/or installed.

The City of Whitehorse reserves the right to negotiate additional off-site improvements to be carried out by the Developer to accommodate new developments. These requirements will be reviewed on a case by case basis.

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, are to form an integral part of these design standards.

The design standards contained herein are to 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;
- Traffic Signs;
- Transit Stops; and
- Pavement Markings.

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All Municipal improvements are to, 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 is to 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.

2.1.3 PROCEDURE

2.1.3.1 ENGINEERING DESIGN

The Developer is to retain a Consultant who is to be responsible for the design and preparation of the drawings and the specifications for all improvements (except lighting, telephone and power, which design is to be conducted by the relevant utility organization and coordinated by the Consultant). These improvements are to be designed in accordance with Section 2 - Construction Design Criteria. The design drawings are to show all existing and proposed improvements. It is to 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 is to submit to the Engineer:

- Four sets of sealed drawing prints;
- A geotechnical report;
- A water model utilizing the City's calibrated water model;
- A thermal analysis report for water, sanitary sewer mains, and the entire water and sewer system (if required);
- An Erosion and Sedimentation Control report;
- Storm and Sanitary sewer design calculations;
- Swale calculations; and
- A design report that summarizes the above and explains/justifies any proposed deviations from the current standard.

2.1.3.3. DESIGN REVIEW

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

2.1.3.4 DESIGN APPROVAL

Upon completion of all revisions, the Developer is to submit one set of sealed contract drawings to the Engineer.

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Upon approval, the Engineer is to return the approved drawings to the Developer. The Developer is to 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 is to 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 is to prepare them.

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 are to be maintained at the construction site during the installation of improvements.

Underground subdivision improvements are not permitted to operate as part of existing municipal infrastructure until the respective improvements have been inspected, tested and approved in writing by the Engineer. Water main boundary valves must only be operated by City personnel through a Work Order application.

2.1.3.7 ENGINEERING SUPERVISION

The Consultant is to 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 their authorized representative is to provide on-site construction inspection at all times during the installation of improvements, unless the Engineer provides authorization 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 is to 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, they are to first submit a redline drawing, approved by the Consultant showing proposed revisions, to the Engineer. If approval is granted for revision, the consultant is to 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.

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2.1.3.8 TESTING

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

2.1.3.9 WASTE MANAGEMENT

The Developer is responsible for ensuring all waste is removed from site in strict accordance with waste management requirements of the City of Whitehorse. Refer to the City of Whitehorse Water and Waste Department webpage for details.

Additionally the Developer is required to maximize waste diversion from the landfill where possible.

2.1.3.10 RECORD DRAWINGS

Prior to application for the Final Acceptance Certificate, the Developer is to 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.

For definition of Record Drawing refer to Section 1.1 – Application and Definitions.

2.1.3.11 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; and
- Commencement date of maintenance period.

The Developer is to 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.

2.1.3.12 DEVELOPMENT APPROVALS

No further Development Approvals (i.e. Building Permits, Street Occupancy Permits, Public Works Water and Sewer Connections) are to 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.