

# 1. General

## 1.1 Definitions

In these Standards, unless the context otherwise indicates, the following definitions shall apply:

- 1.1.1 “Change Authorization” means a written communication issued by the Town Engineer authorizing a departure from these Standards in accordance with Section 1.7 of these Standards.
- 1.1.2 “Town” shall mean to the Town of Whitecourt.
- 1.1.3 “Town Engineer” shall mean the professional engineer, or designated representative, authorized by the Town to oversee all approvals and execution of these design standards on behalf of the municipality.
- 1.1.4 “Contractor” shall mean the person, firm, or corporation that undertakes the installation of municipal infrastructure on behalf of the Developer or the Town.
- 1.1.5 “Design” shall mean the designs, reports, studies, engineering drawings, technical specifications, and associated documents, including the execution and implementation of such, pertaining to a Development, Subdivision, or other municipal improvement within the Town of Whitecourt.
- 1.1.6 “Designer” or “Consultant” shall mean the professional engineer responsible for the design, layout and supervision of installation, recording of as-built information, and performing these duties in connection with the provision of municipal infrastructure as set out in these design standards. Where applicable throughout these Standards, this term may refer to or include the Landscape Architect.
- 1.1.7 “Developer” shall mean the person, firm, or corporation named within an Area Structure Plan, Development Agreement, subdivision or development approval whether as the owner or an agent for the owner of the land included therein.
- 1.1.8 “Development” shall mean the land area to be developed.
- 1.1.9 “Engineering Drawings” shall mean the detailed engineering drawings and specifications prepared by the Consultant for the municipal infrastructure to be constructed within the development area.
- 1.1.10 “Municipal Infrastructure” includes roads, utility works, landscaping, and other surface or underground improvements to be owned and/or operated by the Town.
- 1.1.11 “Standards” refers to the latest version of these municipal engineering standards in their entire scope, as further defined in Section 1.3.
- 1.1.12 “Subdivision” shall mean the particular subdivision stage of the development that is proposed for construction.

## 1.2 Objective

- 1.2.1 The objective of these Standards is to provide a clear guiding framework for designers and developers in the design of municipal infrastructure in the Town of Whitecourt. These standards are intended to ensure that new municipal infrastructure is acceptable to the Town with regard to overall quality, safety and environmental considerations, functionality, operation and maintenance requirements, and life cycle costs. The developer and consultant are responsible for ensuring that municipal infrastructure is designed and constructed to achieve the Town’s objectives in this regard.

### **1.3 Scope**

- 1.3.1 These Standards apply to the design and installation of all municipal infrastructure within the Town of Whitecourt.
- 1.3.2 These Standards do not cover the detailed design or installation of street lighting, power, gas, telecommunication, or other 3<sup>rd</sup> party utilities, but do include the general Town requirements as it relates to their infrastructure as well as the requirement to coordinate with these various companies.
- 1.3.3 The Engineering Standard Drawings, and all other appendices, shall form a part of these Standards. Engineering Standard Drawings can be found in Appendix A of these Standards.

### **1.4 Interpretation**

- 1.4.1 The Town reserves the right to make the final decision regarding the interpretation of the intent of these Standards.
- 1.4.2 These standards are not specifications and should not be treated as such.

### **1.5 Use of These Standards**

- 1.5.1 These Standards define the minimum acceptable requirements to be satisfied in the planning, design, and construction of municipal infrastructure within the Town of Whitecourt. The Town reserves the right to impose more stringent planning, design, and/or construction criteria as appropriate.
- 1.5.2 The Town's acceptance of the design covers only compliance of the design with respect to these Standards and is not a warranty of the design.
- 1.5.3 Notwithstanding the requirements of these Standards, the Developer and Consultant shall remain fully responsible for the Design.
- 1.5.4 Where a departure from these Standards might achieve a better design with regard to infrastructure quality, safety and environmental considerations, functionality, operation and maintenance requirements, or life cycle costs, the Consultant is encouraged to present a change proposal to the Town in accordance with Section 1.7 of this section.

### **1.6 Revisions to these Standards**

- 1.6.1 The Town reserves the right to alter, revise, or update the Standards from time to time based on new or improved knowledge or innovations. Any such changes will be established following reasonable notice to designers and developers.

### **1.7 Proposed Changes and Items Not Covered**

- 1.7.1 Where the Designer is inclined to use a Design which differs from these Standards or which is not covered by these Standards, the Designer may apply to the Town to review the Design.
- 1.7.2 The Town will review requests to revise these Standards, provided such requests are submitted using the Standards Revision Request Form attached in Appendix B. The revision request process is described in more detail on the second page of the form.
- 1.7.3 The Town will review such change proposals on a case-by-case basis.
- 1.7.4 The Designer must provide a detailed proposal describing the Design to the Town for review. The proposal must be prepared, signed, and sealed by a professional engineer, landscape architect, architect, or other industry professional, as applicable to the Design.

- 1.7.5 The proposal shall include sufficient detail regarding the proposed method or material to be used in the Design, including justification with respect to the impact on infrastructure quality, safety and environmental considerations, functionality, operation and maintenance requirements, and life cycle costs. The Town may request additional information as required to make an informed decision regarding the proposed design.
- 1.7.6 No departure from these Standards shall be permitted except with written authorization of the Town Engineer. A change authorization shall be issued recording any such revision.
- 1.7.7 A Change Authorization is only valid for the Development or Subdivision under consideration.
- 1.7.8 Notwithstanding review and acceptance of any such proposal by the Town Engineer, the Developer and Consultant shall remain fully responsible for the Design.

## **1.8 Requirements by Other Authorities**

- 1.8.1 It is the responsibility of the designer to ensure the design conforms to all applicable statutes, laws, bylaws, regulations, ordinances, orders, directives, permits, licenses and requirements of governmental or other public authorities having jurisdiction, and all amendments thereto.
- 1.8.2 Wherever the standards of other authorities are referred to in these Standards, the current edition of such standards shall apply.
- 1.8.3 Where two or more applicable standards govern the design, the more restrictive shall apply.

## **1.9 Area Structure Plan – Detailed Requirements**

The technical report for an Area Structure Plan must include all information outlined in the Town's Municipal Development Plan and as follows:

- 1.9.1 All area structure plans must describe:

- The sequence of development proposed for the area;
- The land uses proposed for the area, either generally or with respect to specific parts of the area;
- The density of population proposed for the area either generally or with respect to specific parts of the area, and;
- The general location of major transportation routes and public utilities.

- 1.9.2 The technical report may be required to include the following information regarding proposed municipal infrastructure under the Area Structure Plan:

### 1.9.2.1 Transportation Systems

- a.) Land use and expected trip generation;
- b.) A Transportation Impact Assessment (TIA), signed and sealed by professional engineer, must be included for all developments that will result in greater than 100 peak hour trips generated;
- c.) Conceptual plan showing the location of all roads within the development;
- d.) Classification of all proposed roads (i.e. arterial, collector, or local);
- e.) Identification of truck routes and dangerous goods routes;
- f.) Identification of all intersections which may require signals and the trigger points where these shall be required;
- g.) Assessment of any special crossing requirements for vehicular, rail, and pedestrian traffic;
- h.) Alignment of proposed pedestrian, bicycle corridors, circulation routes and other active modes of transportation. This includes multi-use trail systems.
- i.) Alignment of any proposed transit routes;
- j.) Detailed description of the phasing of the development noting trigger points when transportation facilities or upgrades shall be required;
- k.) Description of any impacts of the proposed development on existing infrastructure and any proposed measures intended to offset negative impacts on such existing infrastructure; and
- l.) Description of any noise impacts to the proposed development from arterial roads and any proposed measures intended to mitigate such impacts.

The Town may request additional analysis for area structure plans featuring high traffic generation land uses and developments within areas of the Town with limited capacity for increased traffic volumes.

### 1.9.2.2 Water Distribution Systems

- a.) Land use, expected peak demands, and fire flow requirements;
- b.) Conceptual servicing plan showing the approximate location and sizing of major water mains, and any other significant water distribution facilities;
- c.) Definition of the pressure zone to be used for the development with delineation of pressure zone limits where more than one pressure zone may apply to the development;
- d.) Detailed description of the phasing of the development noting trigger points when water distribution facilities or upgrades shall be required; and
- e.) Description of any impacts of the proposed development on existing infrastructure and any proposed measures intended to offset negative impacts, including capacity limitations, on such existing infrastructure.

The Town may request that the technical report include a computer network analysis for the proposed water distribution system.

### 1.9.2.3 Wastewater Collection Systems

- a.) Land use and sewage generation rates;
- b.) Expected peak flows and design flows;
- c.) Conceptual servicing plan showing the approximate location and sizing of major sewer mains, lift stations, and any other significant wastewater collection system infrastructure;
- d.) Detailed description of the phasing of the development noting trigger points when wastewater facilities or upgrades shall be required; and.
- e.) Description of any impacts of the proposed development on downstream infrastructure and any proposed measures intended to offset negative impacts, including capacity limitations, on such downstream infrastructure.

The Town may request that the technical report include a computer analysis for the proposed wastewater collection system.

#### 1.9.2.4 Stormwater Management Systems

- a.) Definition of the general catchment areas;
- b.) Pre-development peak runoff flows and volumes, including all inflow and outflow points in the area;
- c.) Post-development rate shall be controlled to pre-development values, or no greater than 2.5 L /sec/ha;
- d.) Conceptual overland drainage plan illustrating flow routes and trapped low points within the proposed Development and clearly demonstrating the continuity of flow from upstream developments through the Development;
- e.) Conceptual servicing plan showing the approximate location and sizing of major sewer mains, stormwater management facilities, storm outfalls, and any other significant stormwater management system infrastructure;
- f.) Approximate alignment of proposed trunk sewers;
- g.) Approximate location of storm ponds and corresponding storage volumes;
- h.) Proposed connection locations to downstream major and minor drainage systems, including proposed release characteristics at each connection compared to pre- development characteristics;
- i.) If the site is near any river, creek, watercourse, or wetland, a plan of the floodplain and a letter providing recommendations to limit the risk of flooding must be included;
- j.) Detailed description of the phasing of the development such that the identified peak release rates are not exceeded at any time. This should include trigger points at which various stormwater facilities or upgrades shall be required;
- k.) Description of any impacts of the proposed development on downstream infrastructure and any proposed measures intended to offset negative impacts, including capacity limitations, on such downstream infrastructure; and
- l.) A map or detailed description of the major drainage system flow route from the development boundary to the major drainage system outlet. Such outlets are typically considered as the nearest water body or natural channel where storm runoff from the development would discharge.

The Town may request that the technical report include a computer analysis for the proposed stormwater management system.

#### 1.9.2.5 Landscaping/Open Space Design

- a.) Conceptual landscape plan for the Development;
- b.) Location and route for any trail systems through the Development;
- c.) Location and conceptual details of entryway features; and
- d.) Approximate location and details of any proposed fencing, berming retaining walls, decorative pavements, or other significant landscaping features that may reduce conflicts between residential and proposed new land use.
- e.) Retention of existing vegetation.
- f.) Identification of parks, schools and recreation facilities.
- g.) Provision for future linkages with existing developments.
- h.) Integration of land use with existing natural environment.
- i.) Identify locations of proposed environmental reserve (ER) and/or municipal reserve (MR).
- j.) Integration of stormwater management facility with the open space plan including plantings, seeding and access for maintenance.

## **1.10 Development/Service Agreement Requirements**

All new infrastructure that will come under the ownership of the Town will require a Development and/or Servicing Agreement. To commence preparation of a Development/Service Agreement, the Developer must have an approved subdivision/development permit for the proposed area, an approved engineering design, and full cost estimates for the proposed infrastructure to come under the ownership of the Town.

The Town reserves the right to require the Developer to construct or pay for an improvement with an excess capacity to accommodate future developments that may connect to the system. In these situations, the Town may endeavour to provide for reimbursement to the Developer of the cost incurred, or payment made in respect of the excess capacity, together with reasonable interest at the time of future connection to the constructed system(s). The Town shall only be responsible to the Developer for any excess capacity reimbursement actually collected by it, and the Town does not guarantee such collection.

The Developer shall be responsible to pay any excess capacity reimbursements for any previously installed oversizing or constructed infrastructure that benefits their proposed development area.

Information required for these development/service agreements may include:

### **1.10.1.1 Geotechnical Report**

The geotechnical report for the subdivision shall contain all required review and analysis to meet the requirements of the applicable sections of these Standards. The report shall include, but may not necessarily be limited to, the following information:

- a.) Summary of the field drilling program;
- b.) Summary of laboratory testing;
- c.) Site description with details regarding the surface, subsurface, and groundwater conditions, and frost action;
- d.) Soil alkalinity and resistivity test results with recommendations regarding the type of concrete to be used and any corrosion protection that might be required;
- e.) Identification of areas with high groundwater tables;
- f.) Estimated weeping tile flow rates;
- g.) Recommendations for pavement structure construction based on geotechnical conditions. This must include information regarding CBR values, design traffic loading volumes, and pavement design life;
- h.) Recommendations for any necessary berm construction;
- i.) Recommendations for stormwater management facility construction;
- j.) Recommendations with respect to any geotechnical conditions in the area that impact design, construction, and/or maintenance of the proposed municipal infrastructure;
- k.) Identification of areas requiring special design/construction considerations;
- l.) Delineation of any contaminated sites within the area with recommended procedures for any site remediation to be completed, including copies of any contaminated site assessments;
- m.) Top of bank setbacks for areas adjacent to creeks, watercourses, or ravines; and
- n.) Slope stability analysis and requirements for stabilization.

These must be reflected on the drawings may be required to be registered as caveats on applicable land titles.

### **1.10.1.2 Transportation System**

- a.) Calculated trip generation rates and identification of the ultimate number of dwelling units served at each road link and intersection;
- b.) Identification of truck routes and dangerous goods routes and description of any special measures in the Design to address these routes;
- c.) Identification of all intersections to be signalized, with proposed timings and identification of intersections which may require signals in the future and the trigger points where these shall be required;
- d.) Description of any special crossing designs for vehicular, rail, wildlife, and pedestrian traffic;
- e.) Identification and discussion of transit routes and proposed transit stop locations through the Subdivision;

- f.) Description of any impacts of the Subdivision on existing infrastructure and any measures to be completed to offset the negative impacts on such existing infrastructure;
- g.) Description of the pavement design;
- h.) Description and details regarding any temporary roadways or accesses required for regular and emergency traffic during the construction and phasing of the development;
- i.) Description and details on any traffic calming measures;
- j.) Noise Impact Assessment, signed and sealed by a professional engineer, where applicable;
- k.) Description and details on any noise attenuation infrastructure;
- l.) Description of any special materials or methods required for construction; and
- m.) Description of quality control testing and inspection to be instituted during and following construction.

#### 1.10.1.3 Water Distribution System

- a.) Population calculations;
- b.) Average and peak demand calculations;
- c.) Hydrant flow test results;
- d.) Fire flow calculations and a water network analysis which demonstrates that necessary fire flows will be maintained throughout all stages of the Development;
- e.) Detailed hydraulic calculations;
- f.) Description of pressure zone(s) and any required pressure relief infrastructure;
- g.) Criteria and results summaries for any computer simulation models;
- h.) Pipe design calculations;
- i.) Description of any special materials or methods required for construction; and
- j.) Description of quality control testing and inspection to be instituted during and following construction.

#### 1.10.1.4 Wastewater Collection System

- a.) Population calculations;
- b.) Average and peak flow calculations;
- c.) Inflow/infiltration calculations;
- d.) Detailed hydraulic calculations;
- e.) Description and details of any required lift stations and force mains;
- f.) Criteria and results summaries from any computer simulation models;
- g.) Pipe design calculations;
- h.) Description of any special materials or methods required for construction; and
- i.) Description of quality control testing and inspection to be instituted during and following construction.

#### 1.10.1.5 Stormwater Management System

- a.) Design flow calculations for minor and major systems;
- b.) Description of the stormwater management system demonstrating that peak release rates from the development are below defined limits;
- c.) Detailed hydraulic calculations;
- d.) Description and details of any required lift stations and force mains;
- e.) Criteria and results summaries from any computer simulation models;
- f.) Pipe design calculations;
- g.) Analysis of the capacity and characteristics of the downstream receiving drainage course and identification of any measures to be completed to prevent downstream flooding and/or for erosion and sediment control;
- h.) Details and calculations for major system conveyance infrastructure;
- i.) Expected flow depths and velocities for critical locations within the development's stormwater management system (i.e. major system conveyance infrastructure, inlets, outlets, overflows, and outfalls);
- j.) Lot grading plan and landscape design as related to the drainage plan;
- k.) Details regarding any interim stormwater management system infrastructure and protective measures required, including sediment and erosion controls, during the construction and phasing of the Development;

- l.) Detailed description of the design of any stormwater management facilities including details on extent, depth, volume, and duration of ponding in stormwater management facilities, orifice sizing, and trapped low points including a description of how the storage provided by such corresponds to the requirements of the drainage plan for the Development;
- m.) Stormwater quality control BMP infrastructure design calculations;
- n.) Storm outfall design details;
- o.) Description of any special materials or methods required for construction; and
- p.) Description of quality control testing and inspection to be instituted during and following construction.

#### 1.10.1.6 Public Lands

- a.) Identify parks, schools and recreation facilities.
- b.) Identify MR lands, ER lands, buffer strips and walkways.
- c.) Consideration for recreation facilities.

All road, utilities and or drainage rights of way, easements, reserves, and/or public utility lots required shall be noted and registered at land titles.

#### 1.10.1.7 Erosion and Sediment Control Plan

- a.) An erosion and sediment control plan may be required to define all procedures to be undertaken to control such during construction.
- b.) All water discharged, by gravity flow or pumping, to a watercourse or to storm sewer conveyance infrastructure must be filtered or treated in accordance with suitable best management practices (BMPs) prior to release.
- c.) The plan should detail the BMPs to be employed, including both temporary and permanent measures.
- d.) The Developer shall be responsible for ensuring the erosion and sediment control plan is fully implemented during construction and meets all current regulations and best practices.

### 1.11 Design Review Process

- 1.11.1 The full design complete with all necessary supporting documentation, must be provided to the Town for review following subdivision/development approval and prior to subdivision registration.
- 1.11.2 The Development/Servicing Agreement may not be issued until all required submissions have been reviewed and accepted by the Town.
- 1.11.3 Incomplete submissions, submissions with excessive errors, or submissions lacking appropriate authentication or endorsement, as determined by the Town, may be rejected and returned by the Town without review.
- 1.11.4 If the design submission process requires in excess of 3 Town reviews, the Town reserves the right to charge the Developer for any further reviews required to obtain an approved engineering design. Any charges for additional reviews shall be paid in full prior the Town undertaking the review.
- 1.11.5 The Developer will be required to pay for any 3<sup>rd</sup> party specialists required by the Town to review any components of the submitted design outside of the Town's expertise.
- 1.11.6 Review by the Town is for the sole purpose of ascertaining conformance with the Municipal Engineering Standards (current edition). This review shall not constitute the Town's approval of the Design, nor relieve the Designer of responsibility for errors or omissions in the submittal or of responsibility for meeting all requirements of the Standards.
- 1.11.7 The Designer shall make any changes to the submission which the Town may require, consistent with the Municipal Engineering Standards, and resubmit unless otherwise directed by the Town. When resubmitting, the Designer shall notify the Town in writing of any revisions made by the Designer other than those requested by the Town, in the Town's previous review.

1.11.8 The Developer shall not proceed with construction until the Town has approved the full design and executed a Development/Servicing Agreement for the Subdivision.

### **1.12 Design Revisions After Approval Issued**

1.12.1 If, for any reason, it becomes necessary to revise the Design after the Town approval has been issued, the Designer shall obtain the Town's acceptance of such revision prior to construction proceeding in accordance with the revision. An Appendix B-3 form is to be filled out in full and submitted to the Town for review.

1.12.2 Construction of the proposed revision shall not proceed until the Town has issued written acceptance of the revision.

### **1.13 Easements**

1.13.1 The Developer shall be responsible for securing all the necessary easements and rights of ways for any constructed utilities and infrastructure not located within a road right-of-way or utility lot.

1.13.2 All permanent easements shall be registered no later than at time of registration of subdivision.

### **1.14 Crossing Agreements**

1.14.1 Where a crossing of gas or oil pipelines, power transmission lines, railway, or other private utility is required by a Design, the Developer shall be responsible for securing and coordinating the crossing agreement and all associated approvals with the necessary authorities.

1.14.2 The Developer shall be responsible to comply with all terms and conditions of any crossing agreement and associated approvals.

1.14.3 Prior to application to the Town for a construction completion certificate for municipal infrastructure subject to a crossing agreement, the Developer shall apply to the Town and the crossing agreement authority to have the crossing agreement transferred to the Town's name. The construction completion certificate shall not be issued until all applicable crossing agreements are transferred to the Town.

### **1.15 Control Markers and Legal Pins**

1.15.1 Existing Control Markers

- a.) Every effort shall be made to protect existing markers.
- b.) The Developer shall be responsible for replacing any markers which are disturbed, destroyed, or missing, at the Developer's sole expense. Markers are to be replaced only by a licensed legal surveyor.

1.15.2 Alberta Survey Control Markers

- a.) The Developer shall provide additional markers as required for the Development.
- b.) Markers shall have a maximum spacing of 500 m with a minimum of two other markers within clear view.

1.15.3 Legal Pins

- a.) The Developer shall hire a licensed legal surveyor to install legal pins through the Development.
- b.) Legal pins shall be installed prior to installation of buried utilities.
- c.) The Developer shall be responsible for replacing any markers or legal pins which are disturbed, destroyed, or missing. Legal pins are to be replaced only by a licensed legal surveyor, at the Developer's sole expense. The Town will not issue the Final Acceptance Certificate until this is completed.

## **1.16 Construction**

- 1.16.1 A copy of all Town approved construction drawings, construction specifications, and applicable supporting documentation shall be maintained at the construction site during construction.
- 1.16.2 It is the responsibility of the Developer and Consultant to ensure that all utility locates, approvals, and coordination with utility providers is complete prior to construction.
- 1.16.3 It is the responsibility of the Developer and Consultant to ensure proper notification is given to the Town prior to construction.
- 1.16.4 Underground utilities shall not be permitted to operate as part of their respective existing utility systems until such utilities have been inspected and tested by the Contractor under witness of the Consultant, and accepted by the Town in writing. Only the Town may operate existing utility systems.
- 1.16.5 The Consultant shall be responsible for the layout and inspection of all municipal infrastructure to ensure conformance with the approved detailed engineering drawings, plans and specifications. The Consultant or their authorized representative shall conduct on-site regular inspections during construction and shall have an active presence during critical or sensitive times.
- 1.16.6 In addition to construction observation carried out by the Consultant, the Town will periodically review the work. Should the Town note any method or material being employed that is contrary to the accepted Design, the Town shall bring such to the attention of the Consultant. If remedial action is not taken to the satisfaction of the Town, the Town will issue a stop work order.
- 1.16.7 It shall be the responsibility of the Developer and Consultant to ensure that the Contractor successfully completes all necessary testing, to the satisfaction of the Town. The Consultant shall provide the Town with a written report acknowledging that all required testing has been successfully completed.
- 1.16.8 Where the work of the Contractor fails to meet the specifications of the accepted Design, the Developer and Consultant shall be responsible to ensure such work is rectified and retested accordingly.
- 1.16.9 Following construction completion, plan of record drawings must be prepared and submitted to the Town in accordance with Section 1.21 of these Municipal Engineering Standards prior to a construction completion certificate being issued.

## **1.17 Materials**

- 1.17.1 Only new materials shall be used in the construction of municipal infrastructure. Contractor to contact the Town forty-eight (48) hours prior to installation to inspect materials.
- 1.17.2 Any materials which are defective in manufacture or which are damaged prior to installation and acceptance by the Town shall be replaced by the Developer, at the Developer's sole expense.
- 1.17.3 Where specific materials are outlined in these Municipal Engineering Standards, the Town shall consider applications for substitute products which can be considered comparable in terms of these Municipal Engineering Standards. Written request shall be submitted using the standard revision request form attached in Appendix B 4 and acceptance of such must be obtained from the Town before any substitution can be made.

## **1.18 Operation and Maintenance Manuals**

- 1.18.1 Four (4) copies and one (1) digital copy of all applicable operation and maintenance manuals shall be provided to the Town prior to application to the Town for a construction completion certificate. The construction completion certificate shall not be issued until such documents are provided to the Town.

1.18.2 Commissioning reports for various infrastructures shall be incorporated into the applicable operation and maintenance manuals.

### **1.19 Construction Completion Certificate**

1.19.1 Prior to applying to the Town for a Construction Completion Certificate (CCC) inspection, the Consultant shall fully inspect the work and ensure that the constructed infrastructure is complete, functional and fully commissioned in accordance with the accepted engineering drawings and these Municipal Engineering Standards.

1.19.2 A CCC Request Form must be provided to the Town, complete with all necessary supporting documentation. A sample of the CCC Request Form is attached in Appendix B. More information regarding the CCC process is provided on the form.

1.19.3 CCC inspections may be requested at any time. At the discretion of the Town of Whitecourt and weather permitting, site amenities can be inspected year round, provided snow cover, temperature, and other considerations do not prevent the ability to perform a thorough inspection. If an inspection occurs after October 15 of any year, additional warranty may be required as described in Appendix B.

1.19.4 Town reserves the right to refuse any CCC application where information is not provided as required or where substantial deficiencies exist.

### **1.20 Warranty**

1.20.1 The warranty period shall start upon the Town's issuance of the Construction Completion Certificate (CCC) and shall not expire until the Town has issued the Final Acceptance Certificate (FAC).

1.20.2 The Developer shall be responsible to correct any defects or deficiencies in design, material, and/or installation that are noted during the warranty period.

1.20.3 A two (2) year warranty period shall apply to all infrastructure except where additional warranty has been agreed to or specified.

1.20.4 Trench Settlement During the Warranty Period

- a.) During the Warranty Period, the Developer shall be responsible to replace materials and rectify all failures that occur as a result of settlement of trench backfill or collapse of trench walls.
- b.) Trenches in which backfill settles shall be refilled with the specified backfill material. Paved or landscaped surfaces that are adjacent to trenches or on trench backfill, which fail during this period, shall be replaced or repaired in an acceptable manner.
- c.) Replacement of materials and rectification of failures that occur as a result of settlement of trench backfill or collapse of trench walls, are entirely the responsibility of the Contractor and such repair work shall be done at the Contractor's expense.
- d.) The Developer shall be responsible for extra road maintenance required as a result of trench settlement or disruption of surface drainage during the warranty period.

### **1.21 Plan of Record Drawings**

1.21.1 Plan of record drawings shall include all the information specified in Section 2.0, updated to reflect how the Subdivision was actually constructed. All design information will be struck through and replaced with field verified construction data. This information will be shown in red text.

1.21.2 Prior to issuance of the Construction Completion Certificate (CCC) submit three (3) full size printed sets of the plan of record drawings and digital drawing files to the Town for review. Digital files provided should include both AutoCAD files and PDF files for Town records.

1.21.3 The cover sheet shall include the following information:

- a.) Date of construction completion;
- b.) Date on which the plan of record information was updated;
- c.) Signature and stamp of the professional engineer approving the drawing set;
- d.) A table summarizing all underground utilities installed with information regarding pipe material, size, type, class, pressure rating, manufacturer, supplier, and applicable reference standard; and
- e.) A table summarizing the following information:
  - i. Name of the contractor for wastewater collection system infrastructure construction with construction start and completion dates;
  - ii. Name of the contractor for stormwater management system infrastructure construction with construction start and completion dates;
  - iii. Name of the contractor for water distribution system infrastructure construction with construction start and completion dates;
  - iv. Name of the contractor for road infrastructure construction with construction start and completion dates;
  - v. Name of the contractor for sidewalk, curb, and gutter infrastructure construction with construction start and completion dates; and
  - vi. Name of the contractor for landscaping infrastructure construction with construction start and completion dates.

1.21.4 Plans shall identify property lots by their legal address and municipal address, as provided by the Town.

1.21.5 Should the Town, upon its review, note any errors, omissions, or discrepancies in the plan of record drawings, the drawings shall be returned to the Consultant with the Town's comments. The Town may also assign drawing numbers and asset numbers that must be reflected on the final plan of record drawing set. The Consultant shall correct the drawings and return to the Town for review. This process shall be repeated until the Town deems the plan of record drawings acceptable.

1.21.6 The FAC will not be issued by the Town until all applicable plan of record drawings have been reviewed and accepted by the Town.

## **1.22 Final Acceptance Certificate**

1.22.1 Prior to applying to the Town for a Final Acceptance Certificate (FAC), the Consultant shall fully inspect the work and ensure that the constructed infrastructure is free of defects or deficiencies in design, material, and/or installation.

1.22.2 Prepare and submit a FAC Request Form, complete with all necessary supporting documentation. A sample of the FAC Request Form is attached in Appendix B. More information regarding the FAC process is provided on the form.

1.22.3 The Town reserves the right to refuse any FAC application where information is not provided as required or where deficiencies exist.

## **1.23 Infill and Redevelopment Projects**

1.23.1 Applications for a development agreement and/or development permits for infill and redevelopment projects must be accompanied by a design report, lot grading plan, and overall utility plan.

### **a.) Design Report**

- i. A copy of the design report must be provided for the Town's review.
- ii. The report should define the methodology utilized by the Designer, demonstrate conformance of the Design with these Standards, and contain all pertinent information regarding the Design.
- iii. The report shall be signed and sealed by a professional engineer, licensed to practice in the Province of Alberta.

- iv. The information provided in the report shall follow that prescribed in Section 1.10, as applicable to the nature of the proposed development.

#### 1.23.2 Lot Grading Plan

- a.) The lot grading plan shall follow the requirements of Section 2.2.9.

#### 1.23.3 Overall Utility Plan

- a.) The overall utility plan shall follow the requirements of Section 2.2.6.
- b.) The plan shall include a note stating "No groundwater or stormwater shall be discharged to the wastewater collection system."

#### 1.23.4 Landscaping Plan

- a.) The landscaping plan shall follow the requirements of Section 2.2.12.

#### 1.23.5 Erosion and Sediment Control Plan

- a.) Provide and adhere to an Erosion and Sediment Control Plan in accordance with Section 1.10.1.7

#### 1.23.6 Each infill and redevelopment site will be unique in its utility servicing requirements. As such, the Town may request additional details regarding the design in order to ascertain its acceptability.

#### 1.23.7 The development agreement and/or building permit will not be issued until the design report, lot grading plan, overall utility plan and landscaping plan have been submitted, reviewed, and accepted by the Town.

#### 1.23.8 Construction activities shall follow the applicable requirements provided in Section 1.16 and Section 1.17.

#### 1.23.9 Plan of record drawings must be provided to the Town once the project is complete and prior to CCC issuance.

### **1.24 Abandoning Services, Mains and Other Works**

#### 1.24.1 Any mains, services, or other works (such as driveways) that are no longer required must be removed at the developer's expense.

#### 1.24.2 Where an existing water or sewer service connection must be abandoned, the service connection shall be abandoned at the main, unless otherwise approved by the Town.

#### 1.24.3 Town inspection must occur prior to backfill of materials.

### **1.25 Tie-Ins to Existing Service Connection Stubs**

#### 1.25.1 Prior to connection to an existing service connection stub, the stub shall be exposed and the Town contacted to inspect the stub. A minimum of two (2) business days' notice must be given to the town to schedule inspections.

#### 1.25.2 In the event that the Town determines the existing stub to be insufficient or unsuitable to accommodate the new connection, the Developer shall replace the stub with a new service from the main to the property line, at the Developer's sole expense.