

SECTION B GUIDELINES FOR GENERAL COMPLIANCE

B.1 SUBMISSION REQUIREMENTS FOR LOT/SITE GRADING PERMIT

B.1.1 Pursuant to Land Use Bylaw Section 20, “Applications for Development Permits” and Section 68, “Stripping Excavation and Grading” as may from time to time be amended, the following technical information is required to be submitted in support of a Development Permit application to begin site stripping, stockpiling of topsoil and cut and fill operations only:

B.1.1.1 For multi-lot subdivision development the subdivision application must be approved by the County’s Subdivision Authority prior to the submission of engineering drawings for review and approval.

B.1.1.2 For large-scale industrial/commercial development where site grading may be desirable in advance of all other approvals at the discretion of the County of Vermilion River Development Authority may issue a development permit for site grading.

B.1.1.3 For excavations other than for construction or building purposes, including, but not limited to, sand and gravel, topsoil stripping, peat moss, and construction of artificial bodies of water.

B.1.1.4 Pursuant Section 3 of the Soil Conservation Act S-15 RSA 2000 as amended appropriate measure shall be implemented to prevent soil loss or deterioration from taking place or to stop soil loss and deterioration from continuing.

B.1.2 Development permit submission requirements are:

B.1.2.1 Provide a general site plan illustrating existing contours at 0.5 m intervals preferred not to exceed 1.0 m maximum. Elevations will be relative to geodetic datum. Reference benchmarks are to be detailed on the plan.

B.1.2.2 Provide a conceptual site plan illustrating proposed site stripping, cut and fill requirements and proposed contour elevations. The developer is responsible for the completion of rough grading for the entire development or subdivision area including road rights-of-way, laneways, drainage/utility easements, municipal reserve and all lots. Indicate on the plans the benchmark used in the control of construction for the project. Other information to be shown includes stock piling and windrow placements.

- B.1.2.3** The results of a Geotechnical/Hydrogeological Investigation completed by a qualified geotechnical engineering firm to a level that will allow the engineer to generally assess the site geotechnical/hydrogeological conditions and their effect on the development or subdivision. The report should outline any findings of contamination that may exist and any general recommendations.
- B.1.2.4** For subdivision lots or development sites that require 1.0 m or more fill a geotechnical evaluation and engineering requirements for each lot/site is to be submitted to support the development of each lot/site. Identify each lot on the conceptual subdivision plan. The developer is responsible for the supply, placement and compaction of necessary fill for rough grading. The rough grades should ensure that the overall drainage plan is satisfied. No standing water or areas where water may pool or pond will be permitted.
- B.1.2.5** A Phase I Environmental Site Assessment (ESA) of the subdivision or development area completed in accordance with Canada Standards Association (CSA) standard CSA Z768-01. A Phase II ESA conforming to CSA Z769-00 shall be required if recommended in the Phase I report.
- B.1.2.6** If a creek, river or other major watercourse crosses the site, a plan of the floodplain and a letter outlining the recommended measures to ensure that the development would not be exposed to flooding is required.
- B.1.2.7** Overall conceptual plans and description for the proposed subdivision or development area are required for review and approval; road layouts, water and sanitary sewer servicing and storm water management plan. The stormwater management plan is to address the capacity of existing systems and the requirements to accommodate the new flows is required to be completed with supporting calculations submitted for review.
- B.1.2.8** Any subdivision or development involving pipeline and or power line transmissions and or public utility right-of-way shall be sited to comply with all relevant Federal and Provincial legislation. Setbacks from pipelines and other utility corridors shall be in accordance with appropriate Provincial regulations of Acts and any regulation or directive established by the Energy and Utilities Board. Letters of crossing agreements are to be provided with the application.

- B.1.3** The standard drawing size of 841 mm by 594 mm (or other standard sheet size) shall be used for all plan submissions with a scale of 1:1000 (index plan may be a reduction of the standard scale to allow the plan to fit the standard size sheet).
- B.1.4** The County may require other non-technical submissions as part of the application.
- B.1.5** The County shall/may require the Developer to submit a Historical Resource Report to identify any significant historical resources within the boundaries of the proposed development including a review for archaeological and palaeontological resources, in consultation with Alberta Community Development.

B.2 PREREQUISITES TO REVIEW OF ENGINEERING DRAWINGS

- B.2.1** The subdivision plan must be approved by the County prior to the submission of engineering drawings for review and approval.
- B.2.2** The Engineering Drawings must be prepared, signed and sealed by a Professional Engineer registered in the Province of Alberta and shall be stamped with a Permit to Practice seal.
 - B.2.2.1** The standard drawing size of 841 mm by 594 mm (or other standard sheet size) shall be used for all plan submissions with a scale of 1:1000 (index plan may be a reduction of the standard scale to allow the plan to fit the standard size sheet).
- B.2.3** The submission of drawings shall be accompanied by all supporting documents, reports, studies, calculations or any other information as required by the County.
 - B.2.3.1** The County may require other non-technical submissions as part of the application.
 - B.2.3.2** The County may require the Developer to submit a Historical Resource Report to identify any significant historical resources within the boundaries of the proposed development including a review for archaeological and palaeontological resources, in consultation with Alberta Community Development.

B.3 ENGINEERING DRAWING SUBMISSION & APPROVAL PROCEDURE

- B.3.1** The Developer shall submit complete engineering drawings at least eight weeks prior to the start-up of construction. The County or its designated Engineer is not

responsible for any delay of approval if submissions are incomplete or found to contain excessive errors or omissions.

- B.3.2** Initially, the Developer shall submit, by mail four (4) complete sets of drawings and three (3) copies of specifications to the County together with all supporting documents and reports.
- B.3.3** The County shall respond to the Developer's initial submissions within four weeks and return one set of drawings and specifications to the Developer with comments for revision.
- B.3.4** The Developer shall promptly revise the engineering drawings to the satisfaction of the Municipal Engineer and re-submit four (4) complete sets of revised drawings and specifications and one (1) digital copy AutoCAD MapCAD 2012 GIS 10 (.DWG format) to the County for approval, together with any additional information as required by the Municipal Engineer.
- B.3.5** Upon receipt of revised drawings, satisfactory to the Municipal Engineer, the County shall return one complete set of drawings to the Developer with an Approval letter for Construction.
- B.3.6** The Developer shall not proceed with construction until the engineering drawings have been approved for construction.
- B.3.7** The County's Approval for Construction does not relieve the Developer or its Engineer's responsibility for the adequacy of the designs or the liability arising thereof.

B.4 GENERAL REQUIREMENTS FOR ENGINEERING DRAWINGS

B.4.1 Each drawing shall include the following:

B.4.1.1 a suitable title block, identifying:

- Name of the project,
- County File No.
- Draft or Revision No.,
- Revision Date,
- and Date of drawings issued;

B.4.1.2 the scale of the drawing;

B.4.1.3 a north direction indicator;

B.4.1.4 an appropriate space for the Professional Seal and Permit to Practice

- B.4.2.** All dimensions and measurements shown in the engineering drawings shall be in metric units. All elevations shown in the engineering drawings shall be referenced to geodetic datum and shall be noted as such.
- B.4.3** Geodetic Datum, surveys and plans are to be prepared utilizing utm2one12-North American Datum NAD83 (adopted) ground level coordinates.
- B.4.4** All elevations must be relative to geodetic datum.
- B.4.5** The standard drawing size of 841 mm by 594 mm shall be used.
- B.4.6** All lettering must be a minimum of 2 mm (0.08") high.
- B.4.7** It is suggested that abbreviations and drawing symbols used in the engineering drawings be consistent with industry standards.
- B.4.8** The engineering drawings are to provide a complete description of all existing and proposed municipal improvements, including any provisions for future extensions of utilities and systems.
- B.4.9** The engineering drawings shall include:

- B.4.9.1** **Cover sheet** of standard size, indicating the names of the subdivision development, the Developer and the Consultant, and the legal location or address of the subdivision.

Site Plan

This drawing shall include, but not limited to, the following existing and proposed information:

- Property lines;
- Street names, lot and block numbers;
- All easements and right of ways;
- Water, sanitary, storm information (pipes, valves, hydrants, catch basins, manholes, etc.);
- Curb lines, sidewalks, trails;
- Drawing number references to plan/profile and plan details sheets;
- Community mailboxes.

This drawing can be made into two (2) separate drawings, one containing all underground information and the other all surface related information.

Also to be shown on this plan are a minimum of two (2) survey reference points complete with location and elevation information as per the County of Vermilion River coordinate system.

- B.4.9.2** **Index plan** of standard size, scale 1:1000 or a reduction thereof, duplicating the legal plan, indicating drawing sheet number and related title.
- B.4.9.3** **Topography and Land Use Plan**, scale 1:1000, indicating the existing contours at 0.5 m intervals and the proposed land uses.
- B.4.9.4** **Lot Grading Plan**, scale 1:1000, that indicates the proposed lot corner elevations, the proposed finished grades at the buildings and the direction of surface drainage on the lots, streets and swales. Proposed building elevations and sewer service invert elevations should be shown. All lots on fill, disturbed or unsuitable soil must be identified on the lot-grading plan. The plan should indicate minimum rough grading requirements to be completed by the Developer. Rough grades shall ensure that the overall drainage concept is satisfied. No standing water or areas where water may pool or pond will be permitted at the rough grading stage.
- B.4.9.5** **Roadway Overall Plan**, scale 1:1000, indicating all walks, lanes, roadway widths and alignments.
- B.4.9.6** **Drainage Basin**, an overall drainage basin plan is required adjacent to all roadways, showing 1.0 m contours, existing overland drainage routes, and flood plains/ponding areas.
- B.4.9.7** **Pavement Marking and Signage Plan**, scale 1:1000, indicating pavement marking and proposed signage locations and specifications.
- B.4.9.8** **Sanitary, Storm and Water Main Overall Plan**, scale 1:1000, indicating the alignments and sizes of sanitary sewers, storm sewers and water mains and services, locations of manholes, catch basins, valves, hydrants and other proposed underground utilities.
- B.4.9.9** **Gas, Power and Telecommunication Overall Plan(s)**, scale 1:1000 indicating alignment of gas, power, telephone, underground cables, and utility easements if applicable. *
- B.4.9.10** **Landscaping Plan**, scale 1:1000 identifying street names and landscape amenities including fencing, signage, screening berms, Canada Post mail boxes and pads, entrance features, entrance sign location and specifications and name and location of all trees and shrubs. The plan shall include up to three alternative names for each

street. Street naming approval will be completed by County Council. The County reserves the right to select or reject proposed names (See Section H for more detail).

B.4.9.11 Detailed Plans & Profiles for Roadways, scale 1:500 horizontal and 1:50 vertical, showing:

- B.4.9.11.1** Road right-of-way width, roadway width offset from property line and horizontal curve data.
- B.4.9.11.2** Original ground profiles & chainages.
- B.4.9.11.3** Proposed centreline profiles & chainages.
- B.4.9.11.4** Proposed top of curb elevations.
- B.4.9.11.5** Proposed catch basin locations and inlet elevations.
- B.4.9.11.6** Vertical curve data.
- B.4.9.11.7** Elevations of shallow utilities at road crossings.
- B.4.9.11.8** Pavement structure.

B.4.9.12 Detailed Plans & Profiles for Water, Sanitary and Storm Sewers,

* Power: REA and Fortis ATCO Electric; Gas: ATCO Gas, County and Coops. (Maps in Appendix) scale 1:500 horizontal and 1:50 vertical showing:

- B.4.9.12.1** Horizontal alignment and separation distances between each utility.
- B.4.9.12.2** Water main plan showing pipe sizes, location of hydrants, valves and fittings.
- B.4.9.12.3** Water main profiles showing grades, cover, pipe sizes, pipe materials and class of pipe bedding.
- B.4.9.12.4** Storm and sanitary sewer plan showing pipe sizes and manhole locations.
- B.4.9.12.5** Storm and sanitary sewer profiles showing pipe sizes and materials, manhole invert elevations, length of pipe, grades between manholes and class of bedding.
- B.4.9.12.6** Location of services and invert elevations at property line.
- B.4.9.12.7** Elevations of oil and gas pipe line crossings.

B.5 REPORTS AND STUDIES

The Developer shall provide all relevant reports and studies in the submission of engineering drawings (if not previously provided) including:

B.5.1 Geotechnical/hydrogeological report to identify;

B.5.1.1 Existing soil and sub-soil conditions, groundwater tables, limits of any site contamination, top of bank setbacks adjacent creeks or ravines with stability problems.

B.5.1.2 Recommended pavement structure construction based on insitu conditions and projected traffic volume. A 20-year structure recommended by the Geotechnical Consultant is required; however, minimum pavement structure thickness as illustrated on the cross-sectional standard drawings must be maintained.

B.5.1.3 Construction methods and procedures for trenching and backfill requirements for buried infrastructure, storm drainage facilities and service requirements for proposed private servicing requirements and building foundation requirements.

B.5.2 A Stormwater Management Plan outlining the proposed drainage concept including calculation of pre and post-development run-off rates and the proposed method of stormwater control. The plan should outline both on-site and off-site drainage patterns as well as the ability of existing municipal infrastructure to accommodate the run-off from the development.

B.5.3 Engineering design brief including design calculations and analysis of the proposed municipal improvements.

B.5.4 Environmental impact assessment may be required for any development depending on the circumstances.

B.6 AS-CONSTRUCTED RECORD DRAWINGS

B.6.1 Within six (6) weeks following the issuance of the Construction Completion Certificate, the Developer shall submit to the County a set of as-constructed record drawings in a digital format CAD or GIS of the latest version together with three sets of blue prints.

B.6.2 All drawings must indicate As-Built or As-Constructed and shall be stamped, signed, sealed and dated by a registered Professional Engineer.

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