

RURAL MUNICIPALITY OF ROSSE POLICY AND PROCEDURE MANUAL		POLICY NO. TR - 16
REFERENCE: Transportation Services	ADOPTED BY: Resolution 25 415	Page 1 of 11
	Date: August 19 2025	
TITLE: Standards For Civil Design Submissions		DATE LAST REVIEWED BY COUNCIL: August 19, 2025

Scope of Document

This document was created to provide proponents with the Municipality's expectations for preparing and submitting a complete lot-level civil design package which meets the requirements of the Municipality. A Civil Works Design Set may include some or all of the design elements to address drainage, lot grading, emergency access, and municipal servicing, as described below.

Drainage Plan and Stormwater Management Applicability

Stormwater management is required on lots and properties in most areas of the RM of Rosser. The proponent is to confirm requirements prior to commencing design; the requirement for stormwater control is specified (a) in the area Development Agreement, (b) by Provincial Drainage Licence, or (c) applies to all areas where no previous Drainage Licence exists, except for Residential or Agricultural areas where exceptions are granted for low impact work.

Lot Grade Design

A Lot Grade Plan must be submitted in order to acquire a Lot Grade Permit for any change to the surface of a development area. The Lot Grade Plan may include the elements of a Drainage Plan, thereby meeting the Drainage Plan Design requirements.

Municipal Servicing Design

Sufficient servicing information to demonstrate compliance with Municipal Water and Sewage By-laws must be included in the submitted plans and specifications if a serviced building is planned. If the submittals do not include the required information, no building permit may be issued and the proponent must re-apply for Lot Grade and Servicing Permits when the design documents are available. Service design may be shown on a Lot Grade Plan where drafting space is available.

Referenced RM of Rosser By-Laws, Policies, Standards, and Specifications

The RM of Rosser has or is in the works of creating By-Laws, Policies, Standards, and Specifications which apply to the design and construction work described herein. The majority of the documents can be found on the Municipal website, with the following titles.

- RM of Rosser CentrePort Drainage Study 2-17
- RM of Rosser Water Distribution System By-Law No. 4-25
- RM of Rosser Wastewater System By-Law No. 11-17
- Standard Construction Specifications Water and Wastewater TR-11

- Lot Grade Policy TR-17
- Culvert Approach Policy TR-14 and TR-15
- Data Delivery Standards and Specifications GG-07
- Backflow Prevention By-Law (TBC)
- RM of Rosser Roads and Public Areas Standards (TBC)

The above list is current as of August 2025 and may be subject to updates, from time to time, by order of Council.

Drainage Plan Design (including Stormwater Management) Expectations

A stormwater management plan submission shall be in a report or drawing format and shall include:

1. A Drainage Plan must demonstrate control of a 1:50-year post-development runoff flow to a 1:5-year pre-development runoff flow rate.
2. Where the subdivision development has area detention ponds for the benefit and use of the lot runoff, the lot grade design engineer shall demonstrate that the lot-level design does not convey stormwater at a faster rate than the development ponds are designed for. Stormwater calculations for the lot are required on the submitted plan. In InksPort and the Focus Equities Rail Park, the allowable C-value from the lots is typically 0.60 - design engineer to confirm allowable runoff specified in the development Design Brief and design the lot according to the Development Design Brief details.
3. Typical detention and retention areas must have the capacity to hold the detained runoff volume of a 1:50 year event for a 3-hour storm duration.
4. Stormwater retention in surface ponds is not permitted in the Rosser CentrePort Lands. (Detention areas that dry-out are permitted)
5. Where an existing drain crosses through a property, a 10 m vegetative buffer is required between the top of the bank and the edge of any proposed asphalt, concrete, or gravel surface. Direct runoff from hard surfacing is not permitted to flow directly into the waterway without runoff velocity control measures.
6. Existing drainage paths and channels cannot be blocked: design must manage the surface water that passes through the development area. Management may include re-routing existing drainage that enters from adjacent areas.
7. Sediment, oil, chemical, and other contaminants must be prevented from introducing pollutants to the runoff water. Refer to Manitoba Regulations and Municipal Sewage By-Law. A sediment control plan must be included in the plans or specifications. The property owner shall be responsible for any damages caused by erosion or sedimentation originating from the lot.
8. Sustainable surface water runoff management techniques must be included in the design and may be used to reduce the potential runoff. Refer to the RM of Rosser CentrePort Lands Drainage Report for additional design options. Some examples of sustainable water management techniques include:
 - a) Dry river channel
 - b) Dry well / cistern
 - c) Dry pond / detention pond
 - d) Use of weir or control pipes at outlets

- e) Vegetative erosion control and sediment traps
 - f) Permeable paving with rock bedding or dry well below
 - g) Flat roof – rooftop rainfall detention storage
 - h) Landscape buffering with deep rooting vegetation
9. Mechanical methods of sediment trapping and erosion control shall be included in the construction phase to the permit establishment of permanent vegetation.
10. Note that additional licences and approvals may be required including SIPD Development Permit and others.

Civil Plan Design Requirements Quick Reference

Civil plan submissions (all submissions, with or without stormwater management) shall contain the following information.

- Plan(s) prepared and sealed by a Professional Engineer.
- Contact information of the firm preparing the plan(s).
- Address and description of the property including client, legal address, civic address.
- Lot lines, boundaries, and easements, with relative dimensions to planned work items.
- Existing and proposed elevations referenced to the geodetic datum and tied to a benchmark. For example, the City of Winnipeg BM 03-010 - elevation 235.568 m, referenced benchmark noted on the drawing.
- Drawing scale (metric) (no less than 1:200 for Residential or 1:500 for Commercial).
- North arrow.
- Temporary benchmark (cut, nail, etc.) established near the site and noted on the drawing.
- Existing and proposed lot grade elevations shown on the development site at corners and at any split grade locations. Proposed lot corner elevations must match the approved development lot corner elevations as shown in the development grading plans. Proposed property line elevations should generally slope from corner elevation to corner elevation so there is no significant increase or decrease of material over the shallow utilities. To be clear, an area over on-property utility mains plus 1.0m beyond (into the lot) shall be sloped with a percentage of -1.0% to +5.0% from development property line grade and shall not include ponds or swales greater than 100mm deep.
- Some existing elevations on the adjacent properties, ditches, and public ROW's.
- Approximate dimensions of all property lines and total area of each lot.
- As applicable, details of proposed and existing building, including:
 - Location(s) and approximate distances to between buildings, property lines, driveways, etc.
 - Main floor elevation for concrete slab foundations
 - Location of entrances to buildings and proposed landscape elevation
 - Location of roof drain downspouts and sump pump discharge
 - Identification of the location of a well, septic tank, or connections to municipal services
 - A detail of any concrete, asphalt, or gravel pavement areas.
- Location and dimensions of all paved or impervious areas such as parking lots, lanes, driveways, sidewalks, curbs, and gutters.

- Catch basin locations (existing and proposed) with rim and invert elevation, pipe locations, discharge location, outlet invert, and outlet treatment (splash pad).
- Planned and existing ROW and lot structures such as streetlamp standards, signposts, utility boxes, valves, hydrants, manholes, and fences.
- A plan that shows a proposed building must include a minimum of 3.0m x 3.0m space for a Manitoba Hydro transformer adjacent to the shallow utility mains; the transformer must not be planned to be placed on top of shallow utility mains nor on top of swales/ponds/fences.
- Drainage patterns indicated by flow arrows and slopes described in percentages; defined grade split locations (dashed lines).
- Show swale and drain locations, slope, and detail.
- Retaining walls shall be defined by length, location, and type. Construction detail required for walls greater than 150 mm tall.
- Driveway access points, sizes, and culvert inverts; complies with the Approach Standard.
- Driveway approach side radius shall be 6.0 m or greater.
- Approaches may not be located within 23.0 m of a stop sign. A stop sign is to be located at the intersection of a projection of straight right-of-way property lines.
- The maximum approach culvert length is 30.0 m.
- Culverts must have adequate diameter, material thickness, sufficient cover above, and enough length for a minimum of 3:1 approach embankment slope.
- Culverts shall be located in the center of a flat bottom ditch. Where existing culverts are in place before or after the planned install, align new culvert (horizontally) with the nearby culverts but ensure that culvert is installed to match design grade as prescribed by design engineer (do not match existing ditch bottom).
- The end of all culverts and land drainage pipes that terminate within a public or road right-of-way shall be marked. For steel culverts, this would include a steel angle bracket bolted to each end of the culvert and an orange poly-pipe inserted into the bracket and extending vertically a minimum of 1.20 m high (refer to RM approach policy). For plastic pipes, the poly pipe may be inserted a minimum of 400mm into the ground adjacent to the drainage pipe and extend 1.20 m vertically above the ground. Similar markers on private property are optional.
- It is recommended that where the development ROW stormwater control high water level exceeds the level of proposed lot control culverts and lot land drainage pipes, the lot pipes be outfit with flap gates on the downstream end.
- When constructed, acceptable culvert pipe deviation from design may be one of the three deviations listed below but not multiple deviations:
 - +/-75mm from the design grade line,
 - or +/-50mm at each end of a culvert pipe,
 - or +/- 50 for any dents or deflections found within a culvert pipe.
- Where an approach is proposed to encompass an existing manhole within the ROW, the design engineer must specify:
 - any adjustments required to achieve the design grade over the manhole rim.
 - when the approach is paved, an isolation joint shall be installed.
 - include the note: "maintenance and repairs to the pipe, manhole frame and/or cover resulting from traffic, snow clearing, or any other activities related to the approach shall be conducted at the cost of the property owner."

- Most Development Agreements require that lot approaches be paved. Verify the lot requirements and specify pavement as needed. Annotate that approach pavement must be installed within 6 months of final lot grade inspection and approval. Approach paving shall be according to the Municipality's Road Design Standards, with a minimum asphalt thickness of 100 mm, 150 mm of crushed aggregate (19mm down), and 400 mm of crushed aggregate (50 down), where aggregates are compacted in no more than 200mm lifts to 98% SPD.
- A culvert shall not terminate immediately adjacent to municipal or utility infrastructure such as manholes, hydrant bridge, or streetlamp standard. If this is to occur, the design culvert should be lengthened and coupled to any existing culvert or relocated to avoid the object. 4.0m is required between ends of culverts in an exposed ditch area.
- Sloped surfaces cannot exceed 3H:1V.
- Landscape buffer area and other sustainable development measures must be identified.
- Landscape Areas (6.1 m / 20 ft wide) along streets are required; vegetation and landscaping shall be specified (or submit landscaping architectural plan). At minimum, the drainage or grading plan shall include surface finish type (mulch, grass, landscaping stones, etc.) plus location of proposed trees or shrubs. Trees require a minimum of 3.0m diameter mulch surround, or more as specified by landscape architect.
- Indicate vegetation of any exposed soil, duration and type of erosion/sediment control measures.
- Where applicable, show calculations for the pre- and post-development runoff including control mechanisms to reduce the uncontrolled 50-year post-development peak flow to a 5-year pre-development peak flow using a minimum of a 1-hour storm.
- Where applicable, provide storage area and show calculations for a 3-hour duration 50-year controlled event.
- Grading high points for berms / side property line / top of swale / top of pond must not come to a narrow peak which would not be capable of holding back stormwater. Grading should be robust and risk-adverse: a vehicle rut or persons' footprint should not cause a berm to unravel; design tolerances should protect against flood damage and there should be room in the design to allow for minor contractor errors ($\pm 50\text{mm}$ minimum).
- Accessibility parking is ideally sloped $< 2\%$, never sloped more than 5% ; there must be a clear path to the building doors with reasonable slope to accommodate entry to the building.
- Where forklifts may be required to drive on the cross slope of a parking area, grading should be no more than 2% slope.
- Roof slope direction should be indicated (may provide structural roof plan with submission); downspouts should not be directed into reverse-grade loading docks.
- Reverse-grade loading docks must be designed to:
 - Prevent the top of a truck box from contacting the building before the bumpers contact,
 - Prevent trucks and trailers from dragging on a grading high-point while backing into the dock area,
 - Provide sufficient turning radius for a combination vehicle to dock without contacting with retaining walls or other objects,
 - Remove accumulated precipitation and runoff (show detail of pipes, sediment sump/trap, pump, and associated mechanical components),
 - No building downspout may discharge into the dock area,

- Structural Engineer review and approval for use of docks for stormwater storage is required (where applicable),
 - Mechanical Engineer review and approval for use of mechanical pumps for stormwater removal is required, where applicable, and
 - Sump discharge must be shown on plan.
- Fences within the frontage Landscape Area may be permitted for landscaping or vehicle block-heater use, must be aesthetic, must be no more than 1.2 m tall, and shall not conceal the frontage landscape area.
 - Fences shall not impede the access for fire response such as fire hoses connected to hydrants; where a fence is planned, a person gate with a suitable padlock shall be provided.
 - Property fences shall not be installed in easement areas, Public Reserves, or in a ROW.

Emergency Access

An emergency access route is required for lots with sprinklered building connections, lots with buildings that are larger than 600m², oversized lots (greater than 4 ha/10 acres), and dead-end roads longer than 400m.

- An emergency access route, when required, must be annotated on the civil plans as "Emergency Access".
- At no point shall the emergency access route be less than 6.0m wide. The access route must be spaced at least 3.0m from a structure or parallel fence and may not be more than 15m away from the face of the structure that it is aimed to protect. No overhangs below 5.0m in height are permitted to occur above the access.
- The access grade shall be no more than 1 in 12.5 over a minimum distance of 15.0m.
- The access shall be designed to support the expected loads imposed by firefighting equipment, 38,556 kg (85,000 lbs.).
- An emergency access route shall be provided on each side of a building that is designed to face a street in accordance with the building size and construction relative to occupancy classification per the Manitoba Building Code current edition, Subsection 3.2.2.
- Where an access services a development for use as emergency egress from the development, the minimum width of the access right-of-way shall be 9.0m.
- The width of an emergency access route shall be dimensioned on the civil engineering plans and may not have obstructions such as concrete steps, curbs, ditches, a hydrant, utility pedestal, or parking barriers within the access route.
- The emergency access shall have signage placed on site indicating that it is an emergency access route. The route must be maintained free of snow and debris and cannot be blocked with parked vehicles.
- Where an emergency access crosses a municipal ditch and is for use by emergency vehicles only, the access shall be gated and locked with the Standard Municipal gate and lock.
- Curves must provide a minimum of 12m radius at the centerline of travel for the design vehicle. Multiple curves in the emergency access route are not permitted.
- Emergency access routes which are longer than 90m require two connections on to roads or lanes.

- When the travel distance from any point on a lot to a road is greater than 400m or a lot is larger than 4 Ha, a second access (which may be designated for emergency use only) to another road is required.
- Where an access has minimal natural delineation and may be difficult to observe in poor lighting or snowy conditions, orange poly-markers shall be inserted into the ground on both sides of the route at a maximum of 100m spacing along the route.

Services Design Requirements Quick Reference

Packages submitted for municipal services design approval shall contain the following information.

- Plan(s) prepared and sealed by a Professional Engineer.
- Scale appropriate for paper size, typically 1:500 or better.
- Existing municipal mains shall be shown and annotated with material and size.
- Existing manholes, hydrants, and hydrant/manhole bridges shall be shown.
- Existing on-property septic or holding tanks, wells, and pipes shall be shown.
- Indicate the type, number, and flow demand of water fixtures plus indicate the flow of any industrial processes.
- For sprinklered buildings, provide the proposed water meter schematic.
- For sprinklered buildings, show the 45.0m radius of coverage of the hydrant and indicate the location of the Fire Department hook-up.
- A Fire Department hook-up must be accessible by fire truck in both directions. Backing up of the fire truck is not acceptable. Adding a fire access which crosses a ditch may be necessary for drive-through of emergency vehicles.
- Provide confirmation that shop floor drains have grit and oil separation and any sump discharge does not flow into the wastewater plumbing - via submission of mechanical plans is acceptable.
- For wash bays, provide sediment pit dimensions and calculations to demonstrate that the grit containment system is appropriately sized for the expected sediment loading. Sediment pit outflow pipes may not be installed at the bottom of the pit; minimum calculated depth of grit accumulation must be shown below outflow pipe invert.
- For Low Pressure Sewer, indicate wastewater generation; calculate settling chamber size and pump chamber size.
- For a small diameter water service (19 mm to 50 mm) connecting to an already installed large diameter service stub (200 mm), connect to large stub with a corporation stop and provide new curb stop at 300 mm into ROW.
- When decommissioning a septic field, indicate the method of decommissioning, either leave septic field in place undisturbed for a minimum of 1 year, or material removed for treatment elsewhere according to Provincial requirements for septic field decommissioning.
- Indicate the proposed pipe sizes, materials, and grades for water, sewer, and land drainage pipes.
- Where a water service is non-metallic and not detectable without a tracer wire, a 14 gauge TW solid copper light coloured plastic coated tracer wire is required to be attached to the length of the pipe. This requirement should be noted on the plans.
- Indicate the service-pipe-to-main connection style.
- Show proposed valves, curb stops, and manholes, as applicable.
- Demonstrate adequate burial depth by inclusions of topographic design surface elevations and the proposed pipe elevation.
- Annotations must note: "anode required on copper water services."

- Annotations must note: "CCTC of WWS main from MH to MH must be submitted and approved by RM prior to lot services being placed in-service. CCTV must be received within 60 days of service pipe install."
- The minimum gravity sewer service pipe diameter is 150 mm; larger pipes to be sized based on expected sewage flows.
- Building or on-site mechanical must provide oil, sediment, and grit containment and removal such that the wastewater and land drainage streams from the site are compliant with the Sewer By-Law pollution requirements.
- Refer to the Municipal Water By-Law and Sewer By-Law for additional information including an example schematic of a low-pressure sewer service design.
- Confirm fire hydrant proximity is consistent with Code; typically, 45.0 m to the entrance and with the fire hose requiring no more than 2-bends to access all sides of the building. If coverage is insufficient, propose a hydrant on-site or off-site.
- Submittals for lot service must include mechanical plans which show plan view water and sewer plumbing, plan view water meter location, water meter schematic, sump pit details, and oil and grit separation details (as applicable). Where water pipes are designed oversized due to length of building, water meter shall be based on anticipated water use; in this case, the water meter schematic should include long reducers on both size of meter to reduce constriction effects. Additionally, a backflow prevention device is required and must be shown on the water meter schematic downstream of the water meter and downstream of any by-pass.

Backflow Prevention

A backflow prevention device is required on every water service in accordance with CSA B64.10. The building use and number of water meters will impact the type, and location of the backflow prevention mechanisms.

- For a single meter in a building, install the backflow prevention device between the water meter and the first plumbing connection.
- For multiple meters (a meter bank), install:
 - a backflow prevention device between the water service building entry point and the first meter, and
 - a backflow prevention device on each service branch of a moderate or severe tenant space.
- A moderate or severe tenant space is defined in the "Guide to Degree of Hazard", according to CAN/CSA-B64.10/B64.10.1. Below are some examples of moderate and severe building uses:
 - Commercial premises (moderate to severe)
 - Engine repair or autobody shop (severe)
 - Fuel dispensing facility / gas station (moderate)
 - Industrial premises general (moderate to severe)
 - Manufacturing plant (moderate to severe)
 - Office building (moderate)
 - Radiator shop (severe)
 - Restaurant (moderate)

Below is the CSA Table 2 for selection of backflow preventer type of device required. Refer to the CSA for any updates to the table.

Selection guide for backflow preventers

(See Clauses [5.3.1.1](#), [5.4.1](#), and [5.4.4](#).)

Table summary: This Table lists the type of device, the relevant CSA Standard designation, the degree of hazard (whether minor, moderate, and/or severe), if the device is under continuous pressure, and if the device provides protection against back pressure.

Type of device	CSA Standard designation	Degree of hazard			Device under continuous pressure	Protection against back pressure
		Minor	Moderate	Severe		
Air gap	—	✓	✓	✓	No	—
AVB	B64.1.1	✓	✓	✓	No	No
DCAP	B64.3	✓	✓	—	Yes	Yes
DCAPC	B64.3.1	✓	✓	—	Yes	Yes
DCVA	B64.5	✓	✓	—	Yes	Yes
DuC	B64.6	✓	—	—	Yes	Yes
DuCV	B64.8	✓	✓	—	Yes	Yes
HCDVB	B64.2.1.1	✓	✓	✓	No	No
HCVB	B64.2	✓	✓	✓	No	No
LFVB	B64.7	✓	—	—	No	No
ASVB	B64.1.4	✓	✓	✓	No	No
PVB	B64.1.2	✓	✓	✓	Yes	No
RP	B64.4	✓	✓	✓	Yes	Yes
SRPVB	B64.1.3	✓	✓	✓	Yes	No
SCVAF	B64.9	✓	—	—	Yes	Yes

Note: Area or zone protection may be required. See Clauses [5.3.3](#) and [5.3.4](#).

Rosser Construction Specific Details

Additions, Deletions, and Amendments to Referenced Standard Construction Specifications

Below are the clarifications, exceptions, and amendments required for works in the RM of Rosser respecting the referenced City of Winnipeg (CW) or Manitoba Water Services Board (MWSB) underground construction specifications.

The RM of Rosser construction specific details listed below, along with the RM of Rosser By-Laws and Specifications shall govern over the specifications of other jurisdictions as follows:

Watermains

- For a small diameter water service (19 mm to 50 mm) connecting to an already installed large diameter service stub (200 mm), connect to large stub with a corporation stop and provide new curb stop at 300 mm offset into ROW.
- HDPE watermains are permitted: refer to the MWSB for approved products, construction specifications, and testing requirements
- HDPE water service permitted; only one material type per service with material being consistent from tie-in on main to building entry point; tracer wire required
- For water service, a backflow prevention device is required and must be shown on the water meter schematic downstream of the water meter and downstream of any by-pass
- Separation limits/overlap between valve box top and sleeve required to be completed in a way that the PVC sleeve does not protrude from the ground and the PVC to valve box overlap is at least 150mm.

RM of Rosser Specific Watermain Products and Construction Specifications

- Right hand valve
- Straight top valve stem
- Country-style valve box
- Stone disk required
- i-Hydrants are required at specified intervals in new developments
- Hydrants shall be Canada Valve Century or B-50-B24 or Clow Brigadier

Sewer Mains

RM of Rosser Specific Sewer Main Construction Specifications

- CCTV inspection shall comply with the CW 2145, additionally:
 - Sewer mains installed between October and March must be CCTV inspected after May 15 of the following year
 - Video shall contain digital inclinometer readout and PDF print-out of the profile shall be provided
 - Allowable infiltration in new construction shall be zero (0), regardless of design infiltration volume applied in the design

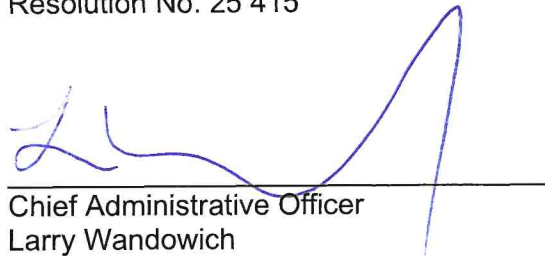
RM of Rosser Specific Culvert Specifications:

- Acceptable culvert pipe elevation deviation from design may be one of the three deviations listed below but not multiple deviations:
 - +/-75mm from the design grade line,
 - or +/-50mm at each end of a culvert pipe,
 - or +/- 50 for any dents or deflections found within a culvert pipe.
- Culverts must extend to toe of embankment and may be mitered to the road embankment
- Where an approach is proposed to encompass an existing manhole within the ROW, the design engineer must specify:
 - any adjustments required to achieve the design grade over the manhole rim
 - when the approach is paved, an isolation joint shall be installed

- A culvert shall not terminate immediately adjacent to municipal or utility infrastructure such as manholes, hydrant bridge, or streetlamp standard. If this is to occur, the design culvert should be lengthened and coupled to any existing culvert or relocated to avoid the object
- Culverts found to be non-compliant with this specification must be removed, or reinstalled/replaced according to design.

Policy reviewed and accepted by Rural Municipality of Rosser Council as Policy #TR-16 on the day of August 19, 2025.

Resolution No. 25 415



Chief Administrative Officer
Larry Wandowich



Reeve
Ken Mulligan