

THE RURAL MUNICIPALITY OF WOODLANDS

BY-LAW NO. 2700/18

A by-law to provide for the operation and management of the wastewater systems within the Hamlet of Woodlands, the appointment of a utilities manager and the administration and enforcement of the permit system.

The Council of the Rural Municipality of Woodlands in meeting duly assembled at Woodlands, Manitoba enacts as a by-law the following:

Purpose

1. The purpose of this By-law is to establish the terms and conditions for the operation and management of the wastewater system within the Hamlet of Woodlands ("Woodlands") including
 - a. standards for the construction of owners' wastewater systems,
 - b. standards for the operation and maintenance of owners' wastewater systems,
 - c. procedures for changing and upgrading of existing owners' wastewater systems,
 - d. the issuance of permits for carrying out work to owners' wastewater systems, and
2. The Council wishes to appoint a utilities Manager and provide for a system of permits for the administration and enforcement of this By-law.
3. This By-law may be known as the Woodlands Wastewater By-law.

Interpretation

4. In this By-law,

"Municipality" means the Rural Municipality of Woodlands;

"owner" means a registered owner of land;

"premises" means a parcel of land, and includes any house or building on the parcel of land;

"standards" means the standards and specifications set out in **Schedule B** to this By-law;

"user" means, as the context requires, the applicant for sewer service, the occupant of a premises to which sewer services is or must be supplied, or the person to whom invoices are sent for sewer services supplied to a premises;

"owner's wastewater system" means that part of the wastewater system located on an owner's land including service lines and all associated connections including any part of the wastewater system located in the municipal right of way up to the sewer main line;

"wastewater system" means the system of infrastructure and works necessarily incidental to the collection of sewage by Woodlands and any part of the system within Woodlands;

Permit required

5. No person shall construct, alter, relocate, remove, repair or change an owner's wastewater system ("work") without first obtaining a wastewater permit as the case may be.
6. Section 5 does not apply to work that
 - a. is minor in nature,
 - b. does not change the operation of the owner's wastewater system, and
 - c. has a value of no more than \$350.00.

Despite not requiring a permit, the work must comply with this By-law.

7. Where a permit is required, no preparatory work, including excavation, may take place before the permit is obtained.

Application for permit

8. An application to the Municipality for a permit may be made by the owner or a person authorized in writing by the owner. The application must include:
 - a. a completed and signed application form;
 - b. information as to the location and intended purpose of the work;
 - c. a plan or plans showing the work;
 - d. plans and specifications of the proposed work in sufficient detail to show that the proposed work complies with the standards and this By-law;
 - e. the fee set out in **Schedule A**;
 - f. where the work relates to a new connection to the wastewater system, the wastewater connection fee set out in Schedule A.
9. Plans and specifications submitted with a permit application must bear the name of the person who prepared the plans.
10. Permit applications and the documents submitted with them become the property of the Municipality.
11. If the utilities Manager considers that the complexity of the work warrants it, the utilities Manager may require an applicant to submit such further information or reports as are necessary to consider the application. In this case the application is not complete until the requested documents have been submitted.
12. The utilities Manager may issue a permit to the applicant if based on the application and the information supplied it appears to the utilities Manager that the proposed work will not contravene the standards, this By-law, other by-laws of the Municipality, or provincial laws and regulations.
13. A permit is issued in the name of the owner, and where the applicant is not the owner, to the owner and the applicant jointly.
14. A permit may be issued subject to conditions. The holder of a permit and the owner must comply with this By-law and the conditions of the permit.

15. A holder of a permit may request the utilities Manager to approve alterations to plans. If in the opinion of the utilities Manager the nature and complexity of the alterations warrant it, the utilities Manager may suspend the issued permit and require an additional fee for review and consideration of the alterations.

Utilities Manager

16. The position of utilities Manager is established. Council may by resolution appoint one or more persons as utilities Manager.
17. The utilities Manager shall have all powers, duties, discretion and functions of a designated officer set out in the Municipal Act. The utilities Manager is authorized to carry out the powers, duties and functions of a designated officer under this By-law.
18. The utilities Manager must:
 - a. keep records of any applications and plans received, inspections and tests made, permits and orders issued, and all other reports and documents connected with the utilities Manager's functions; and
 - b. examine and process applications and plans received.
19. The utilities Manager shall have the power to:
 - a. administer, inspect and enforce this By-law;
 - b. order work to stop if a permit has not been obtained;
 - c. order work to stop until a condition is rectified, if in the utilities Manager's opinion,
 - i. work is not being carried out in compliance with the permit, plans submitted, a condition under which a permit was issued, the standards this By-law or any other by-law, or provincial laws or regulations, or
 - ii. there is an unsafe condition;
 - d. order work to be done to make the owner's wastewater system comply with the standards and this By-law;
 - e. revoke a permit if
 - i. it was issued in error,
 - ii. the applicant submitted false or misleading information,
 - iii. the work has not started within 6 months of the issuance of the permit,
 - iv. work is discontinued for a year,
 - v. a condition under which the permit was issued has not been met,
 - vi. there is unauthorized deviation from the approved plans, or
 - vii. the work does not comply with the standards and this By-law;

- f. enter, inspect and be provided free and clear access to any premises to
 - i. administer and enforce this By-law,
 - ii. examine and inspect an owner's wastewater system,
 - iii. determine whether the requirements of this By-law are being complied with;
- g. disconnect an owner's wastewater system from the wastewater system if in the utility Manager's opinion at the owner's expense
 - i. any of the reasons for stopping work or revoking a permit exist as set out in this section,
 - ii. the owner's wastewater system does not comply with the standards or this By-law,
 - iii. the owner's wastewater system is not in a good repair or working order,
 - iv. there is any unsafe condition, or
 - v. a person has not complied with the utilities Manager's order;
- h. the power to discontinue the wastewater collection from the premises until such time as the requested access is provided and/or obtain a court order allowing the access where the owner, user or occupier does not provide the requested access;
- i. to take such action as is required to achieve compliance with this By-law.

Owner's responsibilities

- 20. The owner must ensure that the work complies with the current Manitoba Building/Plumbing Code, standards and this By-law, and any condition under which a permit was issued. The issuance of a permit and inspection by the Municipality do not relieve the owner of this responsibility.
- 21. The owner is liable for the cost of repairing damage to municipal property including roads, drains, and the wastewater system occurring in the course of or as a result of the work. If the holder of a permit is not the owner, the holder and the owner have this liability jointly and severally.
- 22. The owner must operate and maintain the owner's wastewater system in compliance with the standards and this By-law, including keeping it in good repair and working order.
- 23. All existing septic tanks must either be abandoned in place or physically removed. If the tank is abandoned in place the owner must pump out the tank, and clean and fill it with sand. If any contamination has occurred the Owner must contact the local area Provincial Health Inspector for direction and approval of the clean up procedures. The Owner must carry out and complete the cleanup work directed by and within the time set by the Provincial Health Inspector.
- 24. The owner must use Municipal approved contractors when working on Municipal infrastructure.

Municipality's responsibility

25. The Municipality shall provide to property owners connected to the low pressure sewer force main, a pump out of an owner's divided septic holding tank solid section, one each year.
26. The Municipality may upon reasonable notice discontinue wastewater collection from the wastewater system at any time for construction, operation or maintenance.

Emergencies

27. The Municipality may, without notice, temporarily discontinue the wastewater collection from any premises where in its opinion its continuation may be dangerous, cause damage to persons or property, or construction, operation or maintenance works must be carried out on an urgent basis.
28. Where work must be done on an urgent basis to an owner's wastewater system and it is not practical to first apply for and obtain a permit, an owner may carry out such work as is necessary to address the urgent circumstances without a permit. The owner must apply for a permit for the work as soon as is practicable, and in any case by no later than 3-days from the carrying out of the work. If the work is not in compliance with this By-law, the utilities Manager may take the steps set out in Section 19.

Compensation

29. Should the Municipality deem that the repair to the owner's wastewater system within the municipal right of way to the sewer main line was not necessitated by any actions under the control of the owner of the property or any party occupying the property, the Municipality, at their discretion, may relieve the owner of the responsibility for said repairs.
30. An owner may apply to the Municipality requesting such compensation, providing the details of any damage, and a copy of the invoice showing the repairs completed.
31. The utilities Manager will be responsible for reviewing the application and related documents and providing a report to the Municipality.
32. Council will decide, in its sole discretion, if compensation may be paid, and the amount of compensation based on the owner's application and the utilities Manager's report.

Remedies

33. The Municipality may repair any and all blockages in the service lines. An owner who is responsible for the blockage is responsible for the Municipality's costs of repair. The Municipality shall invoice the owner for the costs. If the owner fails to pay the Municipality within the time provided, the costs are a debt owing to the Municipality and may be collected in the same manner as a tax may be collected or enforced under the Municipal Act.
34. In the event that the Municipality completes work or carries out maintenance that is the responsibility of an owner under this By-law, the owner is responsible for the Municipality's costs of carrying out the work. The Municipality shall invoice the owner for the costs. If the owner fails to pay the Municipality within the time provided, the costs are a debt owing to the Municipality and may be collected in the same manner as a tax may be collected or enforced under the Municipal Act.

Review

35. An owner, applicant or holder of a permit may request Council to review a decision or order of the utilities Manager by giving written notice to the Chief Administrative Officer within 14 days of receiving the decision or order.
36. Upon receiving a request for review, the Chief Administrative Officer must set a date and time for the review by Council, and notify the person of the date of the review.
37. Council will convene the review at the time and place set out in the notice. The person who made the request may appear in person or by counsel. After reviewing the decision or order, Council may confirm, vary, substitute or cancel the decision or order.

Offence and costs

38. A person who contravenes this By-law or a condition of a permit, including an owner on whose land a contravention takes place, is guilty of an offence and is liable to:
 - a. a fine of not more than \$1000;
 - b. a penalty equal to the Municipality's cost of enforcement; and
 - c. in the case of a contravention of Section 5, a penalty equal to double the permit fee.
39. The following amounts may be collected and enforced by the Municipality in the same manner as a tax may be collected or enforced under the Municipal Act:
 - a. a fine or penalty imposed on conviction;
 - b. the cost of repairing damage to municipal property that occurs in the course of work;
 - c. the cost of an action taken by the utilities Manager or the Municipality to administer or enforce this By-law under the Municipal Act.

User's obligations

40. A user of the wastewater system must comply with the terms of this By-law in the same manner as an owner. The user and the owner are jointly responsible for complying with the terms of this By-law.

Transitional

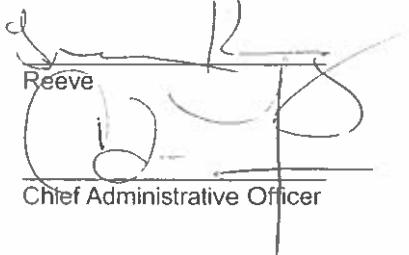
41. By-Law No. 2662/15 be repealed.
42. Permits, orders and decisions made under the repealed by-laws remain in effect, unless revoked or changed under this By-law.
43. An application for a permit made under the repealed by-laws but not granted continue under this By-law and shall be treated as being made under this By-law.

44. An owner of an existing owner's wastewater system who does not, on the date of the coming into force of this By-law, comply with the standards and this By-law as a result of
- a. weeping tiles discharging into the owner's wastewater system on the premises or must ensure the owner's wastewater system meets the standards outlined this By-law by no later than **December 31, 2015 or within 90 days of the transfer of the owner's land.**
45. In order to confirm compliance with respect to the discharging of weeping tiles an owner must complete a permit. There is no fee attached to this permit.

Mandatory connections

45. Within the area serviced by the wastewater system, if an existing owner's wastewater system is not connected to the wastewater system, the owner must:
- a. connect the owner's wastewater system to the wastewater system, and
 - b. take the owner's wastewater system out of service and decommission it.

DONE AND PASSED, in Manitoba this 8th day of May, 2018.


Reeve
Chief Administrative Officer

READ A FIRST TIME this 27th day of April, 2018.

READ A SECOND TIME this 8th day of May, 2018.

READ A THIRD TIME this 8th day of May, 2018.

SCHEDULE A

All works must be inspected by the Utility Manager prior to any backfilling on private or municipal property. A minimum of 24 hours notice shall be given to the Municipality prior to inspection of any work.

A1. Permit Fee:	
New Connection	\$150.00
Repair or Maintenance	\$ 60.00

Permit fee shall include administration costs and initial inspection costs only. Call-backs resulting from delays caused by the property owner or his/her contractor shall be charged at an hourly rate.

Hourly Call Back Rate (call backs)	\$ 125.00
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A2. Hook-up fees

Hook-up fee for connection to main lines service where lines are laid to the property line

..... \$400.00

A3. New Subdivisions – Per Lot Infrastructure Fee

Developers of new subdivisions within the Village of Woodlands are subject to a per lot infrastructure fee.....\$2,000.00/per lot

All sewer hook-ups that have to cross roads which are gravel, concrete, or asphalt or anything other than dirt must be pushed in from below street at wastewater line elevation, at the homeowners or developers expense.

A4. Installation of Sewer for New Connection from the Main Line to the Property Line (includes hook-up fee):

- a) \$10,500.00 for each new connection payable to the Municipality at the time permit is issued. Upon receipt of actual costs, the Municipality will refund or invoice the property owner the difference.

SCHEDULE B

Being a Schedule of the Municipality, respecting engineering specifications governing the Woodlands Wastewater (gravity sewer & pressure sewer) Utility.

INTERPRETATION

B1. In this Schedule,

"septic tank" means wastewater collection tank or tank assembly consisting of solids holding chamber and a liquids only holding chamber. The liquids only holding chamber is used for pumping clarified sewage effluent to the pressure sewer main;

"engineer" means an engineer of record as approved by the Municipality to interrupt, inspect and advise the Municipality in all matters in respect to this schedule;

"excavated bedding material" means clay, silt, sand or gravelly sand excavated from the trench which is free from stones and hard lumps of earth larger than 10 mm in diameter. If the material excavated from the trench does not conform to this clause use bedding sand;

"common backfill material" means material selected from trench excavation or other source, unfrozen and free from cinders, ashes, sods, refuse, stones or lumps exceeding 150 mm in diameter or other deleterious materials;

"bedding sand" means sand used for bedding shall be dry, unfrozen, fine granular material all of which passes through a 9.5 mm sieve, and not more than 8% of which passes through a 75 um sieve.

Equipment and Work Covered By Schedule B

B2.1 Provides engineering specifications for the supply and installation of service lines, service connection from either:

- a. the building to an existing line near property line, or
- b. from a building to a mainline.

B2.2 All new buildings must connect to the sewer system.

Standards and Regulations

B3.1 Septic tanks, electrical motors and equipment and piping: to meet the current standards of the Canadian Standards Association (CSA). All CSA certified items shall be marked in accordance with the applicable CSA standard stamped on item including the CSA identification logo:

- a. Low density polyethylene pipe: CSAB 137.0;
- b. Septic tanks: Shall conform to the Clean Environment Act, Chapter C130 and any associated regulations, and to CSA Standard B66;
- c. Electrical motors and equipment: CSA. Motors to be CSA C22.2.

B3.2 Curb stops to meet the current standards of AWWA C800.

B3.3 All septic tanks and installation of septic tanks must meet Regulation 83/2003, On-Site Wastewater Management Systems of the Environmental Act.

B3.4 All other items not specifically listed to meet the standards specified herein.

B3.5 Complete all works in accordance with applicable Workplace, Health and Safety Standards. All Contractors completing underground works must be registered with Workplace, Health and Safety and obtain required permits prior to excavations.

- B3.6 Complete work in accordance with safety precautions and programs required for the Work or the Contractor's compliance with the applicable Construction Safety Legislation, other regulations or good construction practice or for the acts or omissions of the Contractor, his Subcontractors, any manufacturer, fabricator, supplier or distributor, or their agents, employees, or other persons performing any of the Work. All of these matters will be the responsibility of the Contractor
- B3.7 Construction methods and techniques to be completed in accordance with the latest revision of the Manitoba Water Services Board (MWSB) Standard Construction Specification.
- B3.8 All works must be inspected by the Utility Manager prior to any backfilling on private or municipal property. A minimum of 24 hours notice is required.

Service Lines

- B4.1 Each premises connecting to the sewer service must connect to the service line located on Public Property near the property line. Each pressure sewer service must have a curb stop and service box on each service line located on Public Property within 0.3m of the property line. The ownership of all such connections shall vest in the Municipality.
- B4.2 Each service line must service only one occupied building
- B4.3 Each service line must be continuous without couplings. Fittings to join pipe are only to be made at mains, curb stops and building connections. Ensure pipe is a minimum of 100 mm from trench sidewall.
- B4.4 Use bedding sand around all saddle clamps, curb stops, pipes, and septic tanks. Use excavated bedding material around all pipe for a minimum thickness of 200 mm above the pipe and 100 mm below the pipe.
- B4.5 Curb stops are to be operated solely by the Municipality authorized personnel.
- B4.6 Each user obtaining a service connection must provide record drawings after construction is completed showing the location of all buried works and the location of the curb stops, measured to permanent references such as buildings, Hydro poles, property pins, etc.
- B4.7 All service lines crossing under driveways in an open cut trench must be insulated.

Abandoned and/or defective Septic Tanks

- B5.1 If a septic tank is not structurally sound and watertight it shall be deemed defective. All defective septic tanks must be either replaced or repaired in accordance with environmental regulations and in accordance with regulation RM 83/2003 – Onsite Wastewater Management Systems as approved by the Municipality.

Septic Tank Hydraulic Loading

- B6.1 All grey water and sewage generated by each building connected to the pressure sewer system shall be discharged directly into a septic tank. The clarified sewage effluent from the second chamber of the septic tank shall be directed to either the pressure sewer system or septic field if existing at the time of passage of this by-law. At no time shall grey water or sewage effluent be discharged on or into the ground.
- B6.2 Natural run-off, including but not limited to, drain water, snow melt and weeping tile water shall not be discharged into the wastewater collection system.
- B6.3 The septic tank manhole and immediate area around the septic tank manhole shall be higher than the ground in the general area of the septic tank such that run off is directed away from the septic tank manhole.

- B6.4 Each premises that is connected to the pressure sewer system and has a weeping tile system to collect run off water around the building foundation shall discharge such weeping tile water directly to the subject property and not to the septic tank.

Gravity Sewer Products and Procedures

- B7.1 Pipe: Underground sewer service line pipe shall be Type PSM Poly (Vinyl Chloride); to ASTM D3034 with a locked-in gasket and integral bell system SDR 35 or equal. Size to be **100 mm or 150 or equal**. Minimum slope of PVC service line pipe to be 1.0% for 100 mm diameter piping and 0.5% for 150mm diameter, ensure there are no dips that allow water ponding. For a change in direction use bends of 45 degree or less. Provide a minimum of 150mm of sand below the pipe and 300mm above the pipe. Hand place bedding and backfill material in uniform layers not exceeding 150 mm thick to minimum 300 mm over top of pipe. Dumping of material directly on top of pipe is not permitted.
- B7.2 Connection at main to be no closer than 1m to a joint to adjacent service connection.
- B7.3 Service connections to sewer mains; Use a prefabricated PVC tee, service saddle and all stainless steel clamps. Drill around type hole with sharp clean edges the maximum diameter allowed by the saddle in use. Ensure cuttings and plug (core) from drilling the hole does not fall into the pipe. Provide a minimum of 150mm of sand below the saddle clamp and 300 mm above the saddle clamp.
- B7.4 Service connections to piping at property line: expose piping near property line and determine elevation and location. For new buildings calculate the available grade by using the lowest required service line invert elevation at the building and the pipe at the property line. Compare available grade to minimum grades. If available grade is less than minimum grade contact the municipality for further direction.

If the proposed service line invert elevation at the house is higher than that obtained using minimum grades set elevation of service line at house as required. Determine line and available grade between service line invert at house and service line invert at property line. Set grade stakes to utilize available grade which is a higher grade than minimum. Install pipe to grade.

Pressure Sewer Products and Procedures

- B8.1 Underground mainline sewer pipe HDPE SDR17 – minimum 100 mm of sand below the pipe and 200 mm above the pipe in accordance with AWWA C906.
- B8.2 Pipe: Underground sewer service line pipe shall be polyethylene with a minimum diameter 32 mm (1 1/4") tubing, nothing lighter than series 100 low density CSA certified. If there are two or more pipes in one trench the pipes shall not cross. There shall be a minimum of 100 mm of sand below the pipe and 200 mm above the pipe. Hand place bedding and backfill material in uniform layers not exceeding 150 mm thick to minimum 200 mm over top of pipe. Dumping of material directly on top of pipe is not permitted. All water service lines are to be South or East of the sewer service lines.
- B8.3 Valves: In accordance with AWWA C-509. Flanged ends gasket for connection to HDPE using 316 stainless steel nuts and bolts. Valve box to be marked "S". Acceptable type: Mueller 2360 Series Resilient Wedge Gate Valve.
- B8.4 Pipe for submersible pumps inside septic tanks: shall be 32 mm, non-kinking type, min. bending radius of 82 mm, minimum 340 kPa (50 psi) working pressure, and 1,500 kPa (220 psi) burst pressure (@21°C). Construction of the hose for tube and cover shall be EPDM compound. Outer surface shall be smooth or corrugated and shall be free of external shipping protective coverings. Acceptable type: Kanaflex - K300.

- B8.5 Fittings: Fittings to be waterworks brass as manufactured by Mueller. Outlets compression use stainless steel inserts for poly tubing.
- B8.6 Use Teflon tape or appropriate pipe joint compound on all threaded connections.
- B8.7 Check Valve: Locate between shut off valve on pump discharge line. The check valve shall be brass "ball type", 32mm in size with female national pipe threads (FPT). Valves must be suitable for use in a vertical or horizontal position and have a plastic or rubber seat.
- B8.8 Ball valve: Locate as the first connection to the service line piping in the building. Ball valve shall have 32mm female iron pipe threads, shall be of brass construction and be rated for minimum 1,000 kPa (150 psi) working pressure, shall have a stainless steel operating lever, handle stop, and Teflon stem packing and washers. Ball to be stainless steel or brass with Teflon seats and provide a minimum 29mm opening (full port). Acceptable type; Emco 340.
- B8.9 Curb stops: Use a brass ball valve full port curb stop. The valve shall be 32mm in size with NPT female threads, brass, ball type be non-draining. Approved curb stop: Mueller B-20283N.
- .1 Plug open end of curb stop if complete connection to a building is not being completed.
 - .2 Tap main at 2:00 o'clock or 10:00 o'clock position only; not closer to a joint nor closer to adjacent service connections than recommended by manufacturer, or 1 m, whichever is greater.
- Provide a minimum of 150mm of sand below the curb stop and 300mm above the curb stop. Drill round type hole with sharp clean edges the maximum diameter allowed by the saddle and corporation stop or main stop in use. Do not exceed pipe manufacturer's maximum recommended tap size for pipe diameter.
- B8.10 Service boxes: Polyethylene boot, adjustable for 2.2 m to 2.75 m cover. Ribbed cast iron lid, tapped to receive a 25 mm brass plug. The plug is to have an Acme thread and a pentagon top 22 mm flat to point. 16 mm diameter x 1.8 to 2.1 m in length all stainless steel stem or stationary rod. Yoke drilled to accept a 5 mm diameter stainless steel cotter pin located centrally on the yoke and no more than 10 mm from the centre line of the hole to the extremity of the yoke. For anchoring: Base of the service box with holes to secure the base to the blocking or use "U-rods" to secure curb stop valves to wood base. Acceptable type Mueller A-714. Top to be marked "S".
- B8.11 Wood:
- .1 Wood base supporting the curb stop - use pressure treated wood. Locate curb stop on wood block to facilitate pipe connections.
 - .2 Wood marker (if service line is not extended into building).- 38 mm x 89 mm extending from pipe level to 600 mm above grade, with the upper half painted blue.
- B8.12 Mainstops are not required for service line connections at the main if connections are completed prior to the mainlines being pressure tested and placed into service. However full port brass mainstops are required for all service line connections where connections are being completed to pressurized water and sewer mains that are in service. If a mainstop is required use Mueller B-20045N.

B8.13 Saddle clamps on main: Provide full support around the circumference of the pipe, suitable for iron pipe sized pipe, does not distort the pipe, has a gasket that fully contacts the pipe surface and conforms to any minor pipe irregularities. Tapping to be 32 mm FPT if the main is not pressurized or 32 mm CC (to accept a mainstop) if the main is pressurized. Sewer (high density polyethylene) Mains - in accordance to manufacturer's (pipe and saddle) recommendations. Verify with manufactures prior to ordering. Use either:

- .1 All stainless steel construction (T304) provides an extra wide body (min 175 mm). Provide two 304 stainless steel spring washers for each bolt c/w manufacturer's written certification of material of construction. Acceptable type is Romac 306-H complete with AWWA threads or approved equal.
- .2 Double Strap Cast Bronze – Saddle Body: Cast Bronze, Straps and fasteners: T304 stainless steel. Acceptable type is Romac 202N-H.

Ensure cuttings and plug (core) from drilling the hole does not fall into the pipe. Provide a minimum of 150mm of sand below the saddle clamp and 300mm above the saddle clamp.

B8.14 Septic Tanks:

The minimum capacity of the sedimentation and control chamber shall be 4,500 litres (1,000 gallons).

Based on the application and the information supplied by the owner/applicant the Utility Manager may request that a larger sedimentation and control chamber be installed.

Pump out style with a factory-installed 32-mm (1 1/4") female thread connection in the second (control) chamber. Control chamber sizing (where applicable) to be suitable for installation of submersible pump.

Tanks shall be either concrete or fiberglass as requested by the property Owner and shall be complete with an access manhole (minimum 750mm in diameter and 750 mm long for shallow burial tanks and minimum 2,150 mm long for deep burial tanks). Manhole is to provide access to both chambers. Manhole connection to tank and any joints shall be watertight.

- a) Concrete: shall meet ASTM Standard C478M-85, minimum compressive strength of 27 MPa, with Type 50, sulphate-resistant cement.
- b) For conduit connections through manholes, use a bulkhead or other type of fitting to provide a waterproof seal
- c) For fiberglass tanks the first manhole riser section shall be bonded to the tank and all other riser sections made watertight by a gasket material.
- d) For concrete tanks all riser sections shall be made watertight by a bell and spigot type rubber gasket type fitting.
- e) For fiberglass tanks use 100% fiberglass without fillers.
- f) For fiberglass tanks use one piece assemblies without joints.
- g) Include 100-mm (4") ABS DWV pipe complete with flexible coupling for connection to building main drain piping, 1- 32 mm x 150 mm long brass nipple and 1-32-mm brass 90° elbow.
- h) Provide a childproof cover for manhole cover.

- i) Submersible pump systems - Tanks shall have a flat bottom surface and sufficient space for pump installation. Size of control chamber shall be suitable for pump operation.
- j) Provide a manhole joint sealing method and materials that makes all joints and connections watertight.

Install tanks in accordance with manufacturer's recommendations and in accordance with the current Manitoba Department of Conservation regulation. Install with a minimum of 600 mm of soil cover over the top of the tank for shallow burial tanks and a depth sufficient to drain piping below house foundation for deep burial tanks (max. 2 m). Install 32-mm diameter electrical conduit line between building and tank for electrical control cable(s) and pump suction line (if applicable). Seal connection to manhole watertight.

Backfill connections to the tank with sand and in accordance to manufacturer's recommendations; provide minimum of 2.2 m of soil cover for all connections and piping. Install the top of septic tank manhole 150 mm to 200 mm above existing ground surface and slope soil away from the septic tank manhole cover. Install tanks completely level in the horizontal direction ensuring all joints are watertight. Where applicable complete required anchoring to prevent floatation when the tank is empty and the water table is equal to the top of the ground.

Place tanks on a minimum 150-mm sand bedding and extend sand backfill to 300 mm above the top of tank. Remaining backfill shall be compacted common unless otherwise recommended by the Manufacturer. Haul away extra dirt from installation.

- 1 Some manufacturer's of fiberglass tanks recommend pea gravel to be used as backfill around tanks. Follow manufacturer's instructions or these specifications, whichever is more stringent.

Use sand around manhole risers. Install manhole in a plumb vertical or horizontal manner ensuring all joints are watertight. Seal manhole joints externally and internally. Hand backfill with sand around manhole risers.

Provide a guide or support mechanism to secure all liquid level controls in one area of the tank. Ensure guide assembly allows removal of the control servicing. Ensure second chamber is completely clean i.e. no pebbles, stones, debris, etc.

Fill tank with water and ensure it remains level during backfilling.

- B8.15 Above Ground Pumps used as a replacement of an existing above ground pump system: Centrifugal, semi-open impeller- type with a built-in check valve 120-V, single-phase, 1/2 horsepower pump motor with a minimum 3-m long electrical cord with a male electrical plug. Provide a minimum of 182 kPa (61 feet) and a maximum of 203 kPa (68 ft) total dynamic shut-off head and minimum 56 L/min @ 149 kPa (15 US gpm @ 50') head. Provide a support stand to mount the pump 200 mm above the floor. Acceptable support stands examples are painted steel brackets or standard, masonry building blocks (200 x 200 x 400 mm). Place neoprene gaskets between pump and support. Secure pump to support stand.

Acceptable type Myers MDPC, Berkley ECC5 or approved equal.

- B8.16 Submersible Pumps. All internal surfaces of cast iron pump casings shall be primed and Epoxy-coated after casing is machined. All outer surfaces of pump casing are to be primed and either painted, powder coated or epoxy-coated. Epoxy manufacturer's recommendations on applying and curing epoxy are to be followed. Casing shall have minimum of 3 integral-cast feet. Discharge port shall be 32 mm or bushed to 32 mm (1 1/4"). All exposed bolts are to be stainless steel.

Submersible pumps shall be 1/2 horsepower, maximum 15 amps at open discharge. Provide a minimum of 182 kPa (61 feet) and a maximum of 203 kPa (68 ft) total dynamic shut-off head and minimum 56 L/min @ 149 kPa (15 US gpm @ 50') head. The pump motor shall be CSA approved, oil filled and hermetically sealed, have an automatic reset thermal overload, be of standard frame design with 120 V, single phase, and shall be removable from the body for servicing without using special tools. All wetted motor parts shall be stainless steel. Electrical cable shall be SJOW type and be minimum 8 m long.

Provide a stainless steel lifting chain, a minimum of 4 metres in length, with a stainless steel lifting ring attached at one end and a stainless steel hook suitable for attaching to manhole wall at the other end. Hook and chain to be suitable for supporting entire weight of pump plus 50 kg without deflection.

Acceptable pump model is Berkley EC750, Goulds WE0511HH, Barnes STEP, Hydromatic SHEF50, Monarch WS 50H, Zoeller 163 or Liberty FL 61A.

B7.14 Liquid level control – Liquid level control is to be a Floating Mechanical Switch type rated to direct start a 1/2 horsepower 120V motor with maximum 15 running amps and shall be omni-directional in operation (ie. no "up" side).. The unit shall be CSA approved complete with 15m of electrical cable and in series tap (male/female plug).

B8.17 Electrical material – submersible pump systems - For submersible pump systems all junction and switch boxes shall be weatherproof PVC according to electrical code. All screws to fasten cover plates and boxes shall be stainless steel. Acceptable make of junction box: Ipex OB-20 c/w strain relief connectors, grommets, gaskets and cover; Ipex F.S. series single gang complete with toggle switch rated for minimum 20 amps, matching V.S.C. 15/10 weatherproof toggle switch cover, Gask 15/10 gasket and T.S.C. 15/10 toggle switch and waterproof grommets.

Works on Public Property

B9.1 Complete works utilizing methods that minimize damage to roads and other public property. Tunnel all services through roads. Provide minimum 100mm HDPE or PVC encasement pipe for water and sewer service lines under municipal roads, size to be minimum 40 mm larger than the sum of the service piping nominal diameters. Encasement to extend 3 m passed the finished road edge. Ensure pipes do not cross inside encasement pipe during installation.

B9.2 Minimum pipe depth 2.9 m under roadways. Pipes must be insulated.

B9.3 Minimum pipe depth 2.4 m in non roadway. Pipes must be insulated.

B9.4 Minimum pipe depth 2.7 m in driveway areas. Pipes must be insulated.

B9.5 Tunnel (push or bore) all service lines under all roads. If pushing or boring cannot be completed due to site specific circumstances obtain approval from Municipality for open cut excavation. As a minimum neatly cut road surface, minimize trench width, salvage and replace existing gravel, compact backfill using pit run material in 300 mm lifts and provide an additional 300 mm granular top thickness above that which was existing.

B9.6 Provide and maintain all necessary watchmen, barriers, fences, warning lights and signs and take all necessary precautions for the protection and safety of workmen and the public. Clearly mark all excavations or obstructions between sunset and sunrise with warning flares or lights.

B9.7 Pressure test mainline and service lines up to curb stops. Pressure testing requirements to meet or exceed MWSB Standard Construction Specification

B9.8 Restore public property to condition existing prior to excavation.

Granular Base Material

B8.1 Salvage existing gravel on roads and driveways by stripping, stockpiling and replacing after construction. Replace existing gravel to existing thickness prior to construction plus 300 mm.

B8.2 Use the gravel described below when granular base material for driveways and roads. The granular base material shall consist of sound, hard crushed rock or crushed gravel and shall be free from organic or soft material which would disintegrate through decay or weathering. The granular base material to be supplied by the contractor shall be well graded throughout and shall conform to the following Class B grading requirements: NOTE: department of Highways Class A may be used in place of Class B below.

Passing 1 ½" square opening	100%
Passing No. 4 sieve	35-75%
Passing No. 10 sieve	25-65%
Passing No. 40 sieve	15-35%
Passing No. 200 sieve	6-18%
Crushed particles	35% minimum

B8.3 Refrain from hauling aggregate and any other materials to and from the project when ground or atmospheric conditions will cause the roads or highway to be damaged by loaded trucks

Insulation

B9.1 Use rigid insulation where the contractor deviates from the specified depth and approval has been obtained by the Municipality. Rigid insulation installed in the trench and over waste water tanks shall conform to CGSB41-GP-14A type 4 extruded polystyrene foam as manufactured by Dow Chemical (blue in color) or approved equal with a compressive strength of 240 kPa. Municipality to advise on insulation thickness and width upon site specific circumstances.