



## **SCHEDULE A TO BYLAW 3-96**

### **STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER SERVICING**

#### **GENERAL REQUIREMENTS**

##### **1.0 GENERAL**

- 1.1** These standards set the criteria for the design and construction of water and sanitary sewer systems where water servicing is no larger than 50mm and/or sewer services are no larger than 150mm in size. Deviations from these standards may be considered on a case-by-case basis for justifiable engineering reasons. Where a conflict arises between these standards, Ontario Provincial Standard Specifications (OPSS) and Town of Deseronto Standard Specification the most stringent of the requirements, as determined by the Town, shall apply.
- 1.2** The operating authority for water and sanitary sewer systems within the Town of Deseronto are the responsibility of the Town. The Town of Deseronto is also responsible for setting construction standards and for ensuring that installation meets the standards.
- 1.3** Construction of water and sanitary mains and services shall not commence until all plans are approved for construction by the Town of Deseronto.
- 1.4** Specific requirements for water distribution and sewage collection are set forth in Annex A and B respectively in this schedule.

##### **2.0 DEVELOPER AND OWNER RESPONSIBILITIES**

- 2.1** The property owner is responsible for maintenance of water and sewer servicing within the property line.
- 2.2** The developer is responsible for all costs related to the provision of water mains and services and sanitary sewer mains and services to service the sub division or site.
- 2.3** The developer is responsible for all maintenance costs for works installed beyond the property line until one year after the issuance of the certificate of final completion of water mains and sanitary sewer mains.

- 2.4** The Town assumes operational responsibility for the water and sanitary sewer services mains beyond the property line upon connection to the Town's existing systems.

### **3.0 DESIGN RESPONSIBILITIES**

- 3.1** The developer shall submit proposed design of water and sanitary sewer servicing to the Town for approval before the commencement of work.

- 3.2** The Town shall inspect and approve all work prior to the developer or constructor back filling the trenches.

- 3.3** Water and sewer mains will normally be aligned in accordance with the approved drawing. Where the alignment is forced to deviate from those locations it shall maintain the horizontal separation as detailed below. All measurements between structures are the minimum permitted and measured near edge of water or sewer main trench to near edge of structure.

- Joint Utility Trench shall be 2.5m from water or sewer mains.
- Water Mains – 2.5m from sewer mains, 2.0m from all other buried utilities, 1.5m from curb edge, and 1.0m from sidewalk as measured from the trench edges.
- Sanitary and Storm Sewers – straddle road allowance centreline separated by 1.0m and 2.0m respectively from other buried utilities..
- Catch Basins – 1.0m from any main, or service and if necessary insulated to provide the equivalent of 2.0m of earth cover frost protection to water mains and services.
- Curb Stops – at or near property line (property owner side) or at the edge furthest from the road allowance where a utility easement abuts and runs parallel to the road allowance.
- Fire Hydrants – 1.0m from gas lines and joint utility trenches, 0.5m from sidewalks, 2.5m from curb edge and 0.9 meters from the limit of the public right of way. The fire hydrant obstruction free zone shall satisfy local bylaws.

- 4.3** Separation between water and sewer mains shall conform to Ministry of the Environment and Climate Change (MOECC) guidelines. Where due to construction in rock or Type 4 Soils it is proposed to use methods other than horizontal separation to protect the water main, all design of such works must be approved by the Town prior to submitting an application for MOECC approval.

- 4.4** Water and sewer services and foundation drains may be laid in the same trench subject to the provisions of Ontario Building Code. In such cases the horizontal

separation between each service shall be a minimum 0.5m plus the difference in depth between the services. All other utility services shall be separated 2.5m from water and sewer services measured from edge of structure. Sanitary and foundation/storm service drains that are terminated to facilitate future construction shall be capped and clearly marked at the property line with a wooden 2X4 projecting above ground a minimum of 1.0 meters.

- 4.5** All buried water and sewer mains and services shall have an appropriate warning tape laid on top of the cover material or no closer than 300mm of the top edge of the structure. The Town shall approve such tape.
- 4.6** All water mains and sanitary sewer mains shall be designed and installed in accordance with accepted good engineering practices and with MOECC guidelines for water distribution and sanitary sewage collection. They shall be constructed in accordance with applicable OPSS and *Ontario Provincial Standard Drawings (OPSD)* and the Town's Standard Contract Specifications, which ever is the most stringent.
- 4.7** Clearance between pipe or conduit crossings shall normally be a minimum of 300mm between the outside pipe barrels. Where a clearance of 300mm or less cannot be avoided, there shall be concrete encasement or non-shrink backfill of the crossing extending one meter in each direction on each pipe.

## **5.0 WORKS OWNERSHIP**

- 5.1** All mains and services to the property line become the sole property of the Town upon the Town assuming operational control. There shall be no cost recovery by the developer as a result of connections made by others to such mains after ownership passing to the Town.
- 5.2** Connections to any main installed to services outside the development shall only be permitted if directed or approved by the Town.

## **6.0 EASEMENTS**

- 6.1** Utility infrastructure to be assumed by the Town, that services more than one property shall be situated in either a road allowance or on property deeded to the Town of Deseronto by easement or ownership.
- 6.2** Easements or property transferred to the Town for buried services shall be five (5) meters wide for a single utility main or line. Where more than one utility main or line is in a single property or easement, the easement shall extend to 2.5m beyond the outside edge of the outside mains or lines. All measurements are to be construed as being the perpendicular width. Regardless, the separations as stated in the Public Utilities Act will not be compromised and sufficient width will be provided to allow for exposure of buried services using side slopes required by regulation and without the need for shoring.

- 6.3** Where an easement is provided, the property deed shall clearly state the Town or Town staff shall not be responsible for damages to any structure or landscaping placed on the easement.

**7.0 QUALITY CONTROL/INSPECTION FREQUENCY (Minimum Standards)**

The owner's shall ensure that quality control and inspection frequency is carried out in accordance with the following table:

**Compaction Requirements**

<b>Area</b>	<b>Min. % Compaction</b>	<b>Minimum Frequency/Intervals*</b>	<b>Test Location/Identification</b>
Mainline Sewer – Bedding, Cover and Trench Backfill	95	50 meters at random depths, 0.3 meters max. lift for first 150 m and every 100 m thereafter	Street, Distance from Downstream manhole
Mainline Water Main –Bedding, Cover and Trench Backfill	95	50 meters at random depths, 0.3 meters max. lift for first 150 m and every 100 m thereafter	Street, Station, and Offset
Road Subgrade Utility Crossings	100	50 meters at random depths, 0.3 meters max. lift for first 150 m and every 100 m thereafter	Street, Station, and Offset
Service Trenches (Water, Sanitary, Storm)	95	First 2 trenches and every 20 <sup>th</sup> trench thereafter	Lot Number

**ANNEX A****TOWN OF DESERONTO SUBDIVISION  
AND SITE PLAN DESIGN STANDARDS FOR WATER  
AND SANITARY SEWER SERVICING****WATER SERVICING****1.0 SERVICE CONNECTIONS**

**1.1** Service connections shall be as follows:

- 1.1.1** Services shall be sized in accordance with *The National Plumbing Code of Canada*. The minimum shall be 19mm.
- 1.1.2** Service connections shall have a corporation main stop and be “goose-necked” near the water main as per the appropriate OPSD. Main stops may be set at the spring line and the gooseneck may be horizontal.
- 1.1.3** A non-draining curb stop (unless otherwise specified by the Town) and associated valve box to finish grade shall be provided on the service connection to each premises and be located on, or near the property line (property owner side). All such service connections shall be in accordance with relevant OPSD. A stainless steel extension rod shall be used. A pre-cast concrete pad of 150x150x30 shall be set under the curb stop.
- 1.1.4** New curb stop installations shall not be located in driveways or sidewalks unless approved by the Town.
- 1.1.5** Separate services shall be provided to each building and each unit of a semi-detached or row house residential building.
- 1.1.6** Water services shall be “Type K” copper, polyethylene PC 160 or “KITECH<sup>®</sup>”. The same material shall be used throughout the development. Non-conductive materials will require the use of tracer wire.
- 1.1.7** Services of 50mm or less shall have no joints between the main stop and the curb stop and no joints between the curb stop and the building interior.
- 1.1.8** Service connections to PVC mains shall be by stainless steel saddle or by factory supplied PVC service tees.

## **2.0 TRACER WIRE**

- 2.1** All non-metallic water mains and services shall have a 12 gauge tracer wire.
- 2.2** Tracer wire shall be looped up the outside of all main valve boxes and extended into the valve box by 50mm through a saw cut 50mm below the bottom of the cover bell.

## **3.0 CATHODIC PROTECTION**

- 3.1** Tracer wire on mains shall be protected with a 2.3 kg zinc anode, at each end a maximum spacing of which shall be 500 m.
- 3.2** Metallic services of 25mm or smaller and less than 20m in length shall be protected with a 2.3kg zinc anode.
- 3.3** Other metallic services of 50mm or smaller shall be protected with a 5.5kg zinc anode.

## **4.0 DESIGN CRITERIA**

- 4.1** Water mains and services in residential developments shall be designed to provide an average flow of 350 L/person-day. Sizing of services to other development shall be approved by the Town prior to start of detailed design. Peaking factors shall be determined as noted in *Design Guidelines for Drinking Water Systems*.

## **5.0 MISCELLANEOUS**

- 5.1** Water services shall not be used as an electrical ground.

## ANNEX B

### TOWN OF DESERONTO SUBDIVISION AND SITE PLAN DESIGN STANDARDS FOR WATER AND SANITARY SEWER SERVICING

#### SANITARY SEWER SERVICING

## 1.0 DESIGN CONSIDERATIONS

### 1.1 Building Sewers

All building sewers shall be as follows:

- 1.1.1 Separate services shall be provided to each building and each unit of a semi detached or row house residential building.
- 1.1.2 Building sewers from the building line to the main shall be laid at a minimum of 2% from the building line to the main sewer. There shall be a minimum of 300mm of machine compacted bedding under the service and hunched to the centered line of the service.
- 1.1.3 The building services connected to mains shall be set above the spring line of the sewer main with a saddle or tee connection and with long radius bends. Service connection size in AC mains shall not exceed greater than 50 percent of the diameter of the sewer main unless using a tee connection. The tee shall be rotated at least 45° above horizontal for sewers connected by a tee connection.
- 1.1.4 Building services shall not be connected directly to MH unless authorized by the Town.
- 1.1.5 Building services from adjacent properties shall not be connected to each other.
- 1.1.6 Building sewer services shall be sized to meet The National Plumbing Code of Canada and shall be a minimum of 100 mm. If foundation drainage is provided such piping shall be connected to the storm sewer.
- 1.1.7 The minimum cover for sanitary services will normally be a minimum of 1.5m from the finished grade. Services of less than 1.5m may be permitted on a case-by-case basis. In such cases frost protection must conform to the OBC. Services with less than 1.0m of cover are not permitted.

- 1.1.8** Sanitary services shall not be connected to a storm main.
- 1.1.9** Sanitary services shall have a minimum of one clean-out located between the building line and the property line. Location(s) of clean-outs shall be only as approved by the Town. Clean-outs shall be capped with water-tight caps. The Town may direct that an inspection MH be placed at the property line of a site development.
- 1.1.10** Unconnected sanitary and other drain services shall be brought to the property line, properly capped and clearly marked such that an installer will not cross connect services. Caps must withstand air testing of sewers including services to the lot line. Capped services shall be appropriately marked with a “2X4” extending from the pipe invert to at least 1.0 meter above finished grade level.