

**CITY OF SASKATOON**  
**DESIGN AND DEVELOPMENT**  
**STANDARDS MANUAL**

**SECTION SEVEN**  
**SERVICE CONNECTIONS**

**2018**



# TABLE OF CONTENTS

## Section Seven – Service Connections

<b>SECTION</b>	<b>PAGE NUMBER</b>
1. Objective.....	1
2. Submissions and Approvals.....	1
2.1 City of Saskatoon.....	2
2.2 Other Authorities.....	2
3. Water and Sanitary Service Connections.....	2
3.1 Water Services.....	2
3.2 Sanitary Sewer Services.....	3
4. Storm Sewer Connections.....	4
4.1 Allowable Discharge.....	4
4.2 Connection to Main.....	5
Appendix A Standard Drawings.....	A-1

# SECTION SEVEN – SERVICE CONNECTIONS

## 1 Objective

Water and sanitary sewer service connections shall be provided for every property.

Storm sewer connections shall be provided for all commercial, industrial, institutional, and multi-unit family properties.

## 2 Submissions and Approval

The Proponent is responsible for being aware of the regulatory requirements governing service connections, and for compliance with these requirements.

Regulatory and supporting documents that shall be referenced for the design and installation of service connections include:

- [Waterworks Bylaw \(Bylaw No. 7567\)](#), City of Saskatoon;
- [Private Sewer and Water Service Connection Bylaw \(Bylaw No. 8880\)](#), City of Saskatoon;
- [Sewer Use Bylaw \(Bylaw No. 9466\)](#), City of Saskatoon;
- [Drainage Bylaw \(Bylaw No. 8379\)](#), City of Saskatoon;
- [Standard Construction Specifications and Drawings: Roadways, Water, and Sewer](#), Transportation & Utilities Department, City of Saskatoon;
- [Water Pipeline Design Guidelines](#), Saskatchewan Environment;
- [Waterworks Design Standard EPB 501](#), Saskatchewan Environment;
- [Sewage Works Design Standard EPB 503](#), Saskatchewan Environment;
- [Stormwater Guidelines EPB 322](#), Saskatchewan Environment;
- [The Plumbing and Drainage Regulations](#), Province of Saskatchewan;
- [The Occupational Health and Safety Act](#), Province of Saskatchewan;
- [Water Supply for Public Fire Protection](#), Fire Underwriters Survey;
- [The National Building Code](#), Canadian Commission on Building and Fire Codes, National Research Council of Canada;
- [National Plumbing Code](#), Canadian Commission on Building and Fire Codes, National Research Council of Canada; and
- National Fire Protection Association (NFPA) Standards

## **2.1 City of Saskatoon**

The City requires the submission of connection records in order to satisfy the requirements for final acceptance of construction.

## **2.2 Other Authorities**

The Proponent shall be responsible for obtaining approvals from the appropriate authorities in a timely manner.

# **3 Water and Sanitary Sewer Connections**

Service connections are generally laid in a straight line from the mains to the building and at right angles to the mains.

- Each building shall have separate service piping connected to the mains except for multi-unit dwellings.
- Semi-detached two-unit dwellings (side-by-side duplex) shall have separate service piping connected to the mains.
- Street row houses (three or more dwellings) may have separate, or shared, service piping connected to the mains.
- All other multi-unit dwellings shall have shared service piping connected to the mains.

## **3.1 Water Services**

- The depth of the water service pipe on the street portion shall not be less than 2.9 m at the property line.
- Where there are more than 50 dwelling units, or a high occupancy building, on a single lot, the lot shall be serviced by two connections that can be independently supplied and controlled.

### **3.1.1 Size**

Minimum inside diameters for water services are:

- 19 mm for single dwelling units.
- 25 mm where the length of the service pipe is greater than 25 m.
- As specified in NFPA standards where sprinkler service mains are required.

## **3.2 Sanitary Sewer Services**

Sanitary sewer service pipes of 150 mm diameter or less shall be tapped directly into the main.

- Service pipes greater than 150 mm in diameter shall connect to the main via a manhole.
- Manholes shall also be used on connections as specified in the *Sewer Use Bylaw No. 9466*.

### **3.2.1 Size**

The minimum diameter of sanitary sewer service pipe for a single dwelling unit shall be 100 mm.

### **3.2.2 Slope**

The minimum slope between the connection to the main cleanout and the collection main shall be:

- Two percent in low to medium density developments.
- One percent in higher density developments.

### **3.2.3 Clean Outs**

Sewer clean outs shall be provided where:

- The service pipe bends greater than 45 degrees.
- The length of the service pipe is greater than 25 m.

## 4 Storm Sewer Connections

Connections shall be provided for all commercial, industrial, institutional, and multi-family properties except for two unit dwellings.

- Service connections are generally laid in a straight line from the mains to the building and at right angles to the mains.
- Each property shall have separate service piping connected to the mains except for multi-unit dwellings.

Drainage from single family residential properties shall not be connected directly to the minor storm drainage system except as approved by the TU Department on a case-by-case basis.

### 4.3 Allowable Discharge

The allowable discharge to the minor storm system shall be based on design runoff coefficients. For new neighbourhoods, the design runoff coefficients are listed in Table B-2 within section 6 of the manual. For infill and redevelopment sites in existing neighbourhoods, the design runoff coefficient shall be determined using available system capacity. Developers are recommended to contact TU Department to determine design runoff coefficient prior to starting design and applying for building permits. Discharge shall typically enter the minor system and drain right away unless the rainfall is greater than the 1-in-2 year design event where stormwater shall remain on the property and drain slowly.

- Discharge shall enter the minor system directly and underground.
- All properties, including parking lots, which routinely discharge to the minor system during events equal to or less than the 1-in-2 year event, shall be required to implement on-site stormwater management practices to control peak runoff rate during high intensity rainfall events.
- Storage rate of release to the minor system shall be as per storm water design standards and available system capacity.
- On-site treatment via oil and grit separators may be required as per criteria listed in section 6 of the manual (Storm Water Drainage System) .

#### **4.4 Connection to Main**

Storm sewer service connections may be tapped directly into mains where the size of the service pipe is one-half the size of the mains or less.

- Where the size of the service pipe is greater than one-half the size of the main or where the size of the service pipe exceeds 250mm, a manhole shall be used to make the connection.

## APPENDIX A – STANDARD DRAWINGS

Proponents shall be responsible for referencing standard drawings that are applicable to their development. Drawings are available from the City website (see link at the end of this Appendix).

Drawings are subject to revision, addition, or deletion. Revised drawings shall be renamed using the date of latest revision. Proponents are responsible for ensuring that they are referencing the latest version of any standard drawing.

Drawings that are applicable to Service Connections include:

<b>Drawing Number</b>	<b>Title</b>
<b>Service Connections</b>	
102-0013-001	Typical Sewer & Polyethylene Water Service Connection
102-0013-002	Typical Sewer & Copper Water Service Connection
102-0013-003	Typical Duplex Water & Sewer Service Connection
102-0013-004	Interior Drop Structure at Sanitary Sewer Manhole
102-0013-005	Typical Sewer Service Cleanout
102-0013-007	Typical Sewer Tapping
102-0013-008	PVC Service Connection Riser Assembly
102-0013-009	100mm Water Service Seasonal Connection
102-0013-010	50mm Water Service Seasonal Connection
102-0013-013	15mm Spindle Details
102-0013-015	19mm Spindle Details
102-0013-016	PVC Service Connection Vertical Riser Assembly (Reconstruction only)
102-0013-017	Standard Curb Box
102-0013-018	Service Box Top
102-0013-019	Standard Curb Box Cap

Source:

<http://www.saskatoon.ca/business-development/development-regulation/specifications-standards>