

SARATOGA COUNTY SEWER DISTRICT No. 1

**STANDARD
SPECIFICATIONS**

for

**SANITARY SEWER
INSTALLATION and CONNECTIONS**

JANUARY 2011

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STANDARD DETAILS SHEETS

SECTION 1 - GENERAL

1.1 SEWER DISTRICT CONTROL

The following specifications apply to residential and commercial sanitary sewer installations discharging to facilities of Saratoga County Sewer District. Special installations will be handled on a case-by-case basis.

All installations and connections of sanitary sewer shall be subject to the review and approval of Saratoga County Sewer District No. 1.

Authority for Sewer District control is derived from the Local Law No. 3 of 1984. The Local Law regulates the use of all public and private sewers.

1.2 PROHIBITED DISCHARGES

No downspout, roof leader, gutter, sump pump, drain or channel which may at any time carry storm water, surface water or ground water of any kind, nor any drain from any catch basin, lake, swamp, pond or swimming pool, nor any inlet for surface water, storm water or ground water of any kind shall be connected to the District sewerage system or any sewer tributary.

Waters or wastes containing certain contaminants hazardous or injurious to the sewers or sewage treatment facilities are also prohibited. A complete description of such wastes is found in the Local Law.

1.3 CONNECTION PERMITS

No person shall uncover, make any connections with or opening into, use or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the District, for such connection and, if required, pay either a permit fee or connection charge.

All applicants for a permit to connect to any public sewer shall fill and file with the Director a sewer connection application and review submittal as a prerequisite for the consideration of such a permit. The permit application shall be supplemented by any plans, specifications or other information considered pertinent in the judgment of the Director.

All expenses incidental to the connection to the sewer system shall be paid by the property owner. The owner (or his agent) shall indemnify the District for any loss or damage that may result from his sewer connection work.

1.4 REGISTRATION AND INSURANCE

Any person working for fee (contractor) to make connections to the sewer system must notify the Sewer District.

All registered contractors must have on file with the District an Owner's and Contractor's protective liability insurance policy, in the name of the County of Saratoga c/o Saratoga County Sewer District No. 1, in the following amounts: Bodily injury \$500,000 each person and \$1,000,000 each accident; and property damage \$100,000. Saratoga County must be listed as additional insured and a minimum of 30 days notice of cancellation is to be given.

SECTION 2 - LAYOUT OF LATERAL SEWER CONNECTION

2.1 GRAVITY LATERAL SEWER

The lateral sewer is defined as extending from the public sewer main to the start of the building drain. The building drain is considered to begin at a point five (5) feet outside the foundation wall. Lateral sewers are under private ownership including the portion which may be in the right of way.

In the case of undeveloped property where a lateral sewer connection may not have been provided at the property line or permanent easement boundary, the property owner will be required, if and when a sewer connection becomes necessary, to connect at his own expense such a lateral sewer from the public sewer main to his property.

In all cases, it will be the property owner's responsibility to extend and construct at his own expense the lateral sewer across his property to the point of connection with the building drain. In addition, the homeowner will own and maintain the sewer lateral to the point of connection of SCSD's sewer main.

A separate and independent lateral sewer must be provided for every building and for all properties not under common ownership.

The lateral sewer shall be laid at a depth sufficient to afford protection from frost and at a uniform grade of ¼ inch per foot (about 2%).

No lateral sewer shall be laid within five (5) feet of and parallel to any bearing wall.

Necessary changes in direction shall be made only with properly curved pipe fittings. 90° bends are not acceptable. Two 45° bends connected with a one (1) foot nipple must be installed where needed.

Cleanouts extending up to ground level (to grade) must be spaced not more than seventy-five (75) feet apart along the lateral sewer. The cleanout on the lateral sewer must extend to a point at least three (3) inches above finish grade. All cleanouts shall be installed such that the cleanout opening is in a direction opposite to the direction of flow in the sewer. A valve box may be required on a cleanout at the discretion of SCSD #1.

Certain commercial sewer connections may be required by the Sewer District to incorporate a grease trap. The type and details of grease trap installation shall be approved by

the Sewer District. All installations are required to provide access for sampling beyond the grease trap discharge.

SECTION 3 - LATERAL SEWER PIPE AND FITTINGS

All standard lateral sewer pipe and fittings shall be 4 inch diameter PVC, 5 inch diameter cast iron or ductile iron. Commercial business lateral pipe and fittings shall be not less than 6 inches.

Listed below are the specifications for acceptable materials:

CAST IRON SOIL PIPE

Minimum diameter and strength:
5-inch, Service Class
Pipe and fittings:
ASTM A 74 – 75
Joints:
ASTM C564 – 70 for rubber-gasketed

DUCTILE IRON WATER PIPE

Minimum diameter and strength:
6-inch, Class 52
Pipe:
AWWA C150 – 76 and C151 – 76
Fittings:
AWWA C110-77
Joints:
AWWA C111 – 72 for push-on or
Mechanical

POLYVINYL CHLORIDE PIPE

Minimum diameter and strength:
6-inch, SDR – 26/35
Pipe and fittings:
ASTM D 3034, Type PSM
Joints:
ASTM F 477

3.1 CONNECTION TO EXISTING PUBLIC SEWER MAIN

Connections to the public sewer main may involve special construction, such as kore-n-seal or taps and risers, and will be considered by the Sewer District on a case-by-case basis.

3.2 CONNECTION TO EXISTING LATERAL SEWER

Connection of a new lateral sewer to an existing lateral sewer shall be made watertight in an acceptable manner, approved by SCSD No. 1.

The standard connection shall utilize the standard pipe fitting (or manufacturer's recommended adaptor) designed to join the type of pipes involved.

3.3 LATERAL SEWER TO BUILDING DRAIN CONNECTION

The connection shall be made watertight in an acceptable manner.

Depending on pipe materials being joined, the connection shall utilize one of the following methods: The standard reducer pipe fitting or virgin PVC coupling with stainless steel sheer ring and stainless steel clamping bands (pressure rated) by Fernco Joint Sealer Company or equivalent. No soft Fernco fittings will be allowed.

SECTION 4 - PRESSURE LATERAL SEWER CONNECTION

4.1 PRESSURE LATERAL SEWER

The pressure lateral sewer is defined as extending from the public sewer force main to the grinder pump. The grinder pump may be either an interior or exterior installation. In some locations, interior grinder pumps are not allowed. Contractor should contact the local building department.

A pressure lateral sewer pipe has been constructed from a "T" (tee) fitting in the public sewer force main to the owner's property line (or permanent easement boundary). The pressure lateral shall have a brass ball valve curb stop and extension type curb box with arch pattern base installed. A one (1) foot nipple has been capped and marked to await connection by the property owner. The curb box shall say SEWER on its lid.

In the case of undeveloped property, where a pressure lateral sewer connection may not have been provided at the property line (or permanent easement boundary), if and when a sewer connection becomes necessary, the property owner will be required to connect, at his own expense, such a pressure lateral from the public sewer force main to his property. The pressure lateral shall have a brass ball valve curb stop and extension type curb box with arch pattern base with a one (1) foot capped and marked nipple. The curb box shall say SEWER ON ITS LID. The homeowner will own and maintain the grinder pump system up to the back side of the property line shut off.

In all cases, it will be the property owner's responsibility to extend and construct, at his own expense, the pressure lateral sewer across his property to the point of connection with the grinder pump. For interior grinder pump installations, a 1-1/4 inch redundant check valve placed one (1) foot from the curb stop installed at the property line or permanent easement boundary is required. For exterior grinder pump installations, a 1-1/4 inch brass ball valve curb stop and extension type curb box with arch pattern base placed five (5) feet from the grinder pump unit preceded by a redundant check valve. A property line curb stop will be installed at least five (5) feet and no more than ten (10) feet from the edge of the property line.

A separate and independent grinder pump and pressure lateral sewer must be provided for every building except for special conditions approved by the Sewer District Director.

The pressure lateral sewer shall be laid at a depth of five (5) feet to afford protection from frost. Special permission may be given to use a lesser depth, which in no case shall be less than 4 (four) feet.

Necessary changes in direction shall be made only with properly curved pipe fittings; 90° bends are not acceptable. Two 45° bends connected with a short nipple must be installed where needed. All bends are to be provided with adequate thrust block protection.

SECTION 5 - PRESSURE LATERAL SEWER PIPE & FITTINGS

All pressure lateral sewer pipe and fittings shall be not less than 1-1/4 inch in diameter PVC or HDPE.

Listed below are the specifications for acceptable materials:

POLYVINYL CHLORIDE PIPE

Minimum diameter and strength:
1-1/4" SCH 80, 1-1/2" SDR 21
Pipe and fittings:
ASTM D-1784 made from Class
12454-B virgin compounds
Joints:
ASTM F 477, for gaskets
ASTM 2855, for solvent-cemented

HIGH-DENSITY POLYETHYLENE PIPE

Minimum diameter and strength:
1-1/4" SDR 9 or 7
Pipe and fittings:
ASTM D-1248, Type 3, Category 3,
4 or 5, P23, P33 or P34, Class C
Joints:
Mueller H-15000 with Mueller H-
15071 110 compression connections.
Couplings will be supplied with
Stainless steel inserts or approved
equivalent.

CURB STOP

Minimum size:
1-1/4" brass ball Ford model B11
555 or equivalent.

CURB BOX

Minimum size:
Ford model EA1-50-40-42R or
equivalent. Lid shall say SEWER.

CHECK VALVE

Minimum size:
1-14" PVC full ported passage
Way Environment One Corp. or
equivalent.

SECTION 6 - GRINDER PUMP

6.1 GRINDER PUMP STATION(S)

The manufacturer shall furnish complete factory-built and tested grinder pump station(s), each consisting of grinder pumps suitably mounted in a base constructed of fiberglass or high density polyethylene (HDPE), electrical quick disconnect (NEMA 4X), pump removal system, shut-off valve, anti-siphon valve, and check valve assembled within the basin, remote electrical alarm/disconnect panel, and all necessary internal wiring and controls. For ease of serviceability, all pump motor/grinder units shall be of like type and horsepower throughout the system as manufactured by Environmental One Corporation or approved equivalent.

SECTION 7 - PUBLIC SEWER MAINS

7.1 INSTALLATION GUIDELINES FOR GRAVITY

All public sewer main installations within the District boundaries shall be subject to review and approval on a project by project basis. The following guidelines shall be used in the review process:

Minimum Slope

8" 0.50%
10" 0.33%
12" 0.25%
Etc.

Manholes

Minimum 4' inside diameter up to 15'
Minimum 5' inside diameter over 15'
30" clear opening at top
Top section to be flat top or cone
Plastic or poly steps
Pipe to manhole connection – flexible rubber boot
Double butyl base section joints

Pipe

Polyvinyl chloride – PVC
Ductile iron
or approved equal

Pipe Class

0-12' SDR26/35 PVC or ductile iron
12-15' SDR26 PVC or ductile iron
15-18' SDR21 PVC or ductile iron
18' and over C900 or ductile iron

Pipe Zone Bedding

1/2" pipe O.D. plus 6" #1 and #2 mix angular crushed stone

Pipe Zone Backfill

1/2" pipe O.D. plus 24" sand or suitable excavated material

Sewers in relation to water mains

Follow guidelines detailed in “Recommended Standards for Wastewater Facilities”, or as approved by NYSDEC and/or NYSDOH.

7.2 INSTALLATION GUIDELINES FOR PRESSURE SEWER

All public sewer force main installations within the District’s boundaries shall be subject to review and approval on a project by project basis. The following guidelines shall be used in the review process;

Pump Stations

Smith and Loveless recessed wet well mounted or approved equivalent.

Structures

Minimum 5' inside diameter
30" clear openings
Top section to be flat top
Pipe to manhole connections – flexible rubber boot
Plastic or poly steps

Pipe

Poly vinyl chloride – PVC SDR21, SCH80
High-density polyethylene – HDPE 7 or 9 150 PSI or more
Ductile iron
or approved equivalent

Valves

Resilient wedge gate
PVC ball
or approved equivalent

Air Relief Valve

ARI 020, 025
or approved equivalent

Couplings

Dresser – Ford
or approved equivalent

Tracer Wire

No. 10 stainless steel

Warning Tape

4 mil., 6" wide, green with message "Caution Sewer Line Buried Below" imprinted in black.

Pipe Zone Bedding

1/2" pipe O.D. plus 6" #1 and #2 mix angular crushed stone or clean course sand.

Pipe Zone Backfill

1/2" pipe O.D. plus 24" sand or suitable excavated material.

SECTION 8 - INSTALLATION OF SEWER MAINS

The opening of streets and sidewalks for the purpose of making sewer connections must be done in accordance with the requirements of Town, City, County or State Highway Departments as applicable. Any required highway work permit shall be obtained by the property owner or his contractor.

No water shall be allowed to gather in excavations or trenches. Pumping of septic tanks to be abandoned shall not be discharged into the public sewer system. All tanks are to be abandoned per requirements of the local building department.

All excavations must be properly refilled to grade in compacted layers and the original type of surface replaced. Streets, sidewalks, parkways and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the Sewer District and any other authority having jurisdiction.

Proper and suitable tools and equipment for convenient and proper handling and lying of pipe and fittings shall be used. Dirt or foreign matter shall be kept out of the pipe during construction and damage of pipe shall not be allowed. Open ends of pipes shall be kept plugged or bulk headed during construction.

No defective materials shall be used or installed.

In order to be accepted by the District, all manhole frame sets shall be set to finish grade, all valve boxes and curb boxes shall be set squarely down on the valve or curb stop and shall be centered and plumb over the wrench nut of the valve or operating rod of the curb stop and shall not be over extended. All valves and curb stops shall be suitable marked.

SECTION 9 - INSPECTION AND TESTING

9.1 INSPECTION

Inspection of all sanitary sewer pipe and appurtenances shall fall under the guidelines of the Saratoga County Sewer District No. 1 Quality Assurance Program.

Inspection is considered full time while contractor is doing sanitary work, laying pipe backfilling 2' minimum over pipe, backfilled laterals, setting structures, wet wells, prefabricated pump stations and testing. Bench and trough, frame sets, air release, blow-off, flushing, odor control buildings and laterals, if left open, will be considered periodic inspection.

9.2 TESTING

Gravity Pipe

Low-pressure air testing as described in UNIBELL PVC Pipe Association document UNI-B-6-90 or approved equivalent.

Pressure Pipe

Hydrostatic testing shall be performed on the finished system after it is completely backfilled. Test to Conform to AWWA C600-93 Section 4. Parameters are:

Test Pressure –	120 lbs. minimum
Test Duration –	2 hours minimum
Allowable leakage, per thousand feet of pipe:	
1-1/4" pipe	.20 gallons
1-1/2" pipe	.25 gallons
2" pipe	.33 gallons
2-1/2" pipe	.41 gallons
3" pipe	.55 gallons
4" pipe	.66 gallons
6" pipe	.99 gallons
8" pipe	1.32 gallons
10" pipe	1.64 gallons

9.3

All sewer lines 8 inches and larger will be subject to requirements of an internal T.V. inspection with a report submitted to SCSD.

9.4

Reference SCSD No. 1 standard detail sheets for inclusion with review/permit submittals.

9.5

Local codes and requirements which are more stringent than SCSD No. 1's will apply.