

ORDINANCE 1-2012

**AN ORDINANCE OF THE TRUCKEE SANITARY DISTRICT AMENDING
CHAPTER 7, CHAPTER 10, AND APPENDIX A-5
OF THE TRUCKEE SANITARY DISTRICT CODE**

The Board of Directors of the Truckee Sanitary District does ordain as follows:

SECTION 1. Chapter 7. entitled "INSTALLATION OF SANITARY SEWER FACILITIES" Section 7.16 Residential/Small Commercial Pump Systems is hereby amended to read as follows in the attached Exhibit "A".

SECTION 2. Chapter 10. entitled "MAINTENANCE OF EXISTING FACILITIES" Section 10.03 Testing Procedures for Existing Sanitary Sewer Facilities is hereby amended to read as follows in the attached Exhibit "B".

SECTION 3. APPENDIX A-5. entitled "MATERIALS FOR CONSTRUCTION OF SANITARY SEWERS" is hereby amended to read as follows in the attached Exhibit "C".

SECTION 4. This Ordinance shall take effect thirty (30) days after adoption.

SECTION 5. The Clerk of the District is directed to enter a certified copy of this Ordinance in the minutes of the Board of Directors.

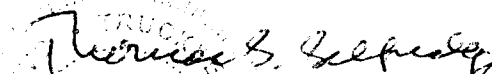
PASSED AND ADOPTED by the Board of Directors of the Truckee Sanitary District on the 19th day of April 2012, by the following roll call vote:

AYES: Affeldt, Gilmore, Sweet, Van Gundy
NOES: None
ABSENT: Smart
ABSTAIN: None



Jerry Gilmore,
President of the Board of Directors

ATTEST:



Thomas S. Selfridge,
Board Secretary

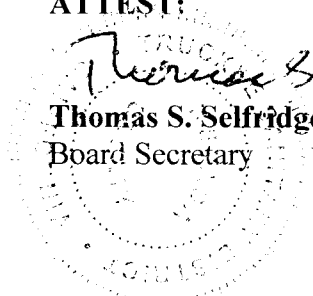


EXHIBIT A

7.16 Residential/Small Commercial Pump Systems

For all building sites in which the improvement plans designate a pumped service or for any owner wishing to construct a structure on a portion of a lot or parcel for which gravity service was not provided, the owner shall install a sewage pump as specified herein for the purpose of lifting sewage to the public sewer. Where installed, such installations shall be maintained by the owner at the owner's expense.

A pumped sewer service shall consist of a gravity sewer, a waste water holding tank, one or more pumps, a force main, electrical controls, and an alarm system. The pump and holding tank shall be installed in a location that provides at least a 48 inch diameter x 36 inch high area above the center of the holding tank that is free and clear of any obstructions to allow access for inspection and maintenance. If height clearance is not met, a removable access panel located above the center and at least 24 inch wide x 36 inch long must be installed. If the holding tank is located outside of the building foundation it shall not be located within 5 feet of any building used as a dwelling, within 10 feet of any property line or within 50 feet of any lake, stream, or reservoir

A duplex pump system is suggested for residential applications when more than one residence is served by the same pump system. Commercial enterprises which contain public restroom facilities shall be required to operate and maintain a duplex pump system.

Installation:

Gravity Pipeline - The gravity sewer lateral from the building sewer to the waste water holding tank shall be tested in accordance with Appendix A-6, Section A-6.10, Testing of Sanitary Sewer Facilities, page 107. Pipe must be mechanically sealed to a watertight condition at the point of holding tank penetration. Gravity pipe shall be restrained as required to prevent separation from the tank. The gravity sewer lateral is subject to the requirements of Tracer Wire on Building Sewer Laterals, Section 7.12, page 33.

Waste Water Holding Tank - The holding tank shall be a solid impervious walled container rated for both the liquid it contains and the method of installation including direct burial. All holding tanks that are buried must have an antifoatation device to prevent the tank from rising due to ground water. All direct burial polyethylene tanks must be approved in writing by the General Manager. All openings in the walls of the tank, including pipe or conduit penetrations, are to be mechanically sealed to prevent inflow of surface water, infiltration of ground water, or exfiltration of contained wastewater. The tank shall have a minimum capacity of 150 gallons. The tank shall be vented with a 1 1/4 inch minimum vent line. Exterior tanks shall be buried to a depth such that the top cover of the tank is a minimum of 18 inches below finished grade. A weatherproof housing, with adequate insulation, shall be installed and extended to 6 inches above finished grade. It shall be the owner's responsibility to determine groundwater conditions that

may cause the tank to float when empty and to provide the appropriate solutions to prevent it. Internal ballast that reduces the tank capacity below 150 gallons will not be acceptable. Tanks installed in areas of high groundwater shall require additional protection to avoid submergence. It is the owner's responsibility to address high groundwater concerns and may include the addition of impervious risers or a waterproof vault to prevent groundwater submergence of the waste water holding tank.

Pumping Equipment - Pumps shall be centrifugal of the non-clog or grinder type. Non-clog pumps shall be capable of passing a minimum of a 2-inch diameter sphere. Pumps and motors shall be sized so as to maintain a minimum of 4-feet per second flow velocity throughout the entire discharge piping system when a maximum of one pump is pumping under actual installed conditions. A copy of the pump specifications and pump curve shall be required and made available to the District inspector before testing is allowed. Installation of pumping equipment shall be in accordance with pump manufacturer's recommendations including a vent hole in the standpipe, above the high water float, to purge the unit of trapped air.

Electrical - The electrical control cabinet shall be isolated from the holding tank. All wiring, controls, conduits, boxes, etc. shall meet or exceed National Electrical Code (NEC) requirements for materials, ratings, placement, and installation, etc. All equipment located in the holding tank shall be U.L. approved for its specific and proper use. All wiring in the area above the holding tank shall be provided with protection from physical damage by a combination of cable routing and/or conduits. Any wiring which hinders entry or view into the holding tank when opened will not be acceptable. All electrical connections shall be in an approved electrical junction box. All conduits leaving the holding tank, or the enclosed area above or surrounding the holding tank, shall be sealed. A circuit disconnecting means for all circuits must be located within sight of the holding tank unless a lockout device is installed on the disconnecting means for each individual circuit attached to or related to the pump system at the holding tank.

Alarm System - The holding tank and electrical controls shall include an alarming system that produces an audible and visual alarm when the liquid level in the holding tank exceeds a predetermined safe level. The audible and visual devices indicating such an alarm state shall be located at all inhabited buildings or structures served by the sewage system with the intent to notify occupants inside the house of the possibility of a wastewater spillage. The alarms system power shall be supplied through a separate, dedicated circuit from the pump power supply. It is recommended that the alarm system include a battery backup to allow the alarm to function during an electrical power outage. For commercial applications that serve multiple buildings, the alarm system must also include an auto dialer system that will phone a responsible party and notify them of the alarm status of the pump system.

Discharge Piping - The discharge pipeline shall be ductile iron, polyvinyl chloride (PVC), high density polyethylene (HDPE), or an approved pressure rated material designed for wastewater. The piping shall be pressure class 150 minimum and rated for the pressure service being installed. The pipeline size shall be **2 inch nominal diameter minimum for non-clog pumps, and 1 ¼ inch nominal diameter minimum for grinder pumps**. The discharge pipeline shall be fitted with an approved pressure rated sewer check valve and an isolation gate or PVC ball valve.

The discharge pipeline shall also include a 1/4 inch valve pressure test port located between the check portion of the check valve and the isolation valve. The isolation valve shall be located on the discharge side of the check valve. Both valves and the test port shall be located in an accessible area outside of the holding tank in such a manner that they are accessible for operation and maintenance or repairs. Valves must be installed with unions rated for the application. An accessible pressure rated union is mandatory between the pump and valve assembly.

All discharge pipelines are required to have a tracer wire installed adjacent to the sewer pressure pipe. Tracer wire shall consist of 10 AWG minimum with THW, THHW, TW, THWN, or other approved wet location insulation. Wire shall be attached to the top of the force main with tape at appropriate intervals. Wire shall be continuous along entire length of force main, beginning at the boxed check valve and terminating at the property line cleanout. Splices shall incorporate approved underground splice kits. Each run of tracer wire shall be tested for continuity following backfill.

In cases where the District service lateral stubbed to the property line is a force main (positive slope), the tracer wire following the private force main discharge piping shall be brought to the surface and boxed to grade at the property line. It is recommended that the tracer wire be placed in conduit where it surfaces through the ground at the property line and covered with a concrete box with a cast iron lid labeled "sewer" or "S".

Discharge pipelines shall have a trench cutoff block located every 50 linear feet of pipe, at changes in pipeline type and/or grade, and at the pump tank, and as designated by the General Manager. Thrust blocks shall be located at all fittings that change the direction of the pipe. Thrust blocks shall be constructed of concrete with a minimum size of 2 cubic feet.

A siphon break shall be installed on the discharge pipeline at its connection point to the gravity sewer. A cleanout in accordance with the Installation of Cleanouts, Section 7.10, page 31, shall be placed immediately downstream of the siphon break in the discharge pipeline at the property line, if the siphon break can be placed in a practical manner such that sufficient gravity slope can be maintained from the property line to the District main pipeline.

All discharge piping is required to be protected from freezing. It is the owner's responsibility to address site specific conditions and install freeze protection as necessary. Protection may include provisions of bypass drains, insulation, and heat tape.

Inspection and Testing:

The gravity portion of the pipeline from the building to the holding tank and the Waste Water Holding Tank shall be tested in accordance with Appendix A-6, Section A-6.10, Testing of Sanitary Sewer Facilities, page 107. For testing purposes the Waste Water Holding Tank shall be considered a manhole.

A visual inspection shall be performed to check the following:

- ▶ proper venting of the holding tank.
- ▶ an acceptable weather proof box with weather rated insulation directly above the holding tank.
- ▶ watertight mechanical seals on the holding tank lid and at all pipe or conduit penetrations.

The discharge pipeline shall be pressured tested with air or water to a pressure of 150 percent of the calculated maximum possible working pressure (the Total Dynamic Head, TDH) for the installed pump. The maximum possible working pressure for the system can be assumed to occur at the pump's shut off point. The pump shut off point can be obtained from the pump's performance curve by following the curve to the point at which it meets the axis representing the head of liquid. The pressure must remain constant for 10 minutes. The required test equipment shall be provided by the owner or owner's agent and be acceptable to the District.

The electrical system and controls shall be inspected and approved by the local governing authority for the building electrical inspection. Pumping and alarm tests shall only be performed after the electrical system has been inspected and approved by the proper authority. The District Inspector shall require proof of such approval before starting any of the following functional tests:

- ▶ The pump shall be started and stopped so the check valve can be tested for proper operation.
- ▶ The pumping system shall be tested for a discharge pipeline velocity of 4 feet per second. The flow velocity test shall be performed with the discharge pipeline full of water and the pumping system functional under normal operating conditions.
- ▶ The pump shall be run to pump down the holding tank to allow a visual inspection of the tank and to check it for leaks.
- ▶ The alarm system shall be checked for proper function of audio and visual alarms.

Septic tanks may be converted to house the Waste Water Holding Tank, but are prohibited from being used as the Waste Water Holding Tank. Converted Septic Tanks must have drain holes drilled in the bottom of the tank to drain trapped water, and appropriate solutions to prevent the Waste Water Holding Tank from floating.

Deviation from Requirements:

Any deviation from the above stated requirements shall be approved in writing by the General Manager.

EXHIBIT B

10.03 Testing Procedures for Existing Sanitary Sewer Facilities

The owner or their agent of a house, building, or property connected to the District's sanitary sewer system shall conduct all sanitary sewer facility upgrades and testing required at their sole expense and shall notify the District 48 hours prior to testing. Testing shall be witnessed by a District Inspector.

Sanitary Sewer Pipelines: All building laterals, joint laterals, and privately owned main pipelines shall be tested by either an air or water method, at the discretion of the District. Tests shall be in accordance with Appendix A-6, Section A-6.10.

In the case of building and joint laterals, the test section shall be from the building cleanout to the District service connection point. The test section includes all private pipelines, including joint laterals, which provide sanitary sewer service to the parcel in question.

Privately owned main pipelines shall be tested their full length. Test failures of non-metallic asphaltic composite pipe shall require entire replacement of the defective pipeline.

If a cleanout has not been installed at the easement/property line, a two-way cleanout shall be installed prior to testing. If there is no cleanout located outside the building foundation (within five feet of the foundation wall), then a cleanout shall be installed. If the building lateral exits the foundation under an existing deck or concrete patio, the location of the building cleanout near the foundation may be modified on a case-by-case basis as determined by the General Manager. The Cleanouts shall be installed and boxed as specified in Installation of Cleanouts, Section 7.10, page 31. The owner or their agent shall be responsible for such installation. A cleanout underneath the house is not acceptable.

The building cleanout can be substituted by installing a two-way cleanout at the property line when the distance from the point where the building lateral exits the foundation to the property line cleanout is less than 20 feet and the building lateral consists of a single pipe segment with no fittings. Such building laterals will be considered too short to test. At the District's discretion, building laterals that are too short to test may be required to be televised to confirm integrity of pipeline.

Manholes, Grease Interceptors, Sand/Oil Interceptors: Testing of all manholes, grease interceptors, and sand/oil interceptors shall be in accordance with Appendix A-6, Section A-6.10, Testing of Sanitary Sewer Facilities.

Pump System Testing, Pump Station Outside The Building Foundation: The gravity portion of the pipeline from the building to the holding tank and the waste water holding tank shall be tested in accordance with Appendix A-6, Section A-6.10, Testing of Sanitary Sewer Facilities. For testing purposes, the holding tank shall be considered a manhole.

A visual inspection of the pump system will be performed to check for:

- ▶ soundness of the wastewater holding tank.
- ▶ proper venting of the holding tank.
- ▶ acceptable weather proof insulated box with adequate waterproof insulation below the box lid directly above the holding tank.
- ▶ a weather tight seal on the holding tank lid and at all pipe and electrical conduit penetrations.
- ▶ a properly functioning check valve on the discharge pipeline.
- ▶ properly boxed property line clean out. If necessary, property line clean out shall be brought to grade in accordance with Section 7.10, Installation of Cleanouts, page 31

In the event that there is no check valve and/or pressure test port installed on the existing discharge pipeline, a check valve, a 1/4 -inch valve pressure test port, and an isolation gate or PVC ball valve shall be installed in accordance with Section 7.16, Residential/Small Commercial Pump Systems, page 34.

A pressure gage shall be connected to the test port and the pressure test port valve shall be opened. The pump shall be started and the holding tank pumped down to allow a visual inspection of the holding tank to check it for leaks. The check valve shall also be inspected for proper operation.

Immediately after the holding tank is pumped down and the pump turned off, the gage pressure shall be noted in the discharge pipeline. The pressure shall remain constant for 10 minutes. Any drop in pressure shall constitute a test failure and the check valve and/or the discharge pipeline shall be repaired and/or replaced.

After the check valve and/or the discharge pipeline is repaired and/or replaced, another test shall be attempted. A subsequent loss of pressure constitutes a failure of the check valve and/or discharge pipeline; whereupon the defective check valve and/or discharge pipeline section shall be replaced and tested as described in Section 7.16 page 34.

The alarm system, if so equipped, shall be checked for proper function of audio and visual alarms. If no alarm system exists, an alarm system shall be installed in accordance with Section 7.16 if the pump system testing has been triggered by a building remodel that impacts the number or configuration of any plumbing fixture units in the building.

In the event that the holding tank or the force main needs replacement the pump and controls must be updated to meet District Code. In the event that the controls need replacement an alarm

system must be installed as specified in Residential/Small Commercial Pump System, Section 7.16, page 34.

Septic tanks and concrete vaults converted for use as holding tanks shall be air, water or vacuum tested. The test shall be the same as specified for sanitary sewer pipelines, manholes, and grease and sand/oil interceptors. If the converted septic tank/concrete vault fails the test, it shall be abandoned and a new holding tank meeting the requirements for residential pump systems shall be installed in its place.

EXHIBIT C

APPENDIX A-5 MATERIALS FOR CONSTRUCTION OF SANITARY SEWERS

GRAVITY PIPELINE INSTALLATIONS

Gravity pipe shall contain a flexible gasket in the bell section to provide an air tight seal in the joint.

<u>Type of Pipe</u>	<u>Class of Pipe</u>	<u>Minimum Cover</u>		<u>Maximum Cover</u>
		<u>Non-Traffic</u>	<u>Traffic</u>	
PVC	SDR 35	30"	48"	12'
PVC	C900 DR 25 or SDR 26	30"	48"	16'
PVC	C900 DR 18	30"	30"	28'
PVC	C900 DR 14	30"	30"	-
DI	CL 51 or greater	30"	30"	-

PRESSURE PIPELINE INSTALLATIONS

Force main pipelines shall be designed and approved on a case by case basis. Considerations shall include; design static and dynamic pressures, pressure cycling, alignments, and any other condition considered unique to the project. Piping shall be a minimum 2" nominal diameter for non-clog pumps, and 1 1/4" nominal diameter for grinder pumps with a pressure rating equal to or greater than the pump system requirements. .

<u>Type of Pipe</u>	<u>Minimum Class of Pipe</u>	<u>Minimum Cover</u>	
		<u>Non-Traffic</u>	<u>Traffic</u>
PVC	SCH 40 Welded Joint	30"	30"
PVC	DR18 CL 150*	30"	30"
HDPE	DR 13.5	30"	30"
DI	CL 51	30"	30"

*Blue pipe is not acceptable

INSTALLATION OF COUPLINGS

Building Laterals

Rigid or flexible couplings may be used on building laterals.

Gravity Main Pipelines

Coupling on pipelines shall be rigid or flexible with anti shear bands on pipes of similar material; or flexible couplings on pipes composed of different material.

Pressure Pipelines

Rigid couplings are required on pressure pipelines.

NOTE: Flexible couplings shall be Bond Seal, Fernco, Indiana Seal, or other approved coupling. Rigid couplings shall be PVC, Romac, Bond Seal Anti Shear, Fernco Anti Shear, Indiana Seal Anti Shear or other approved coupling.

NOTE: The use of any other pipe material for construction of sanitary sewer facilities, other than that listed above, must be approved in writing by the District.