



Town of Smyrna Technical Sewer Specifications Edition 2024-2025:
Revised Specifications Updates-

1.) Special Conditions

-7. (pg.26); revised 08-13-25

Once the **CONTRACTOR** has passed all sewer main testing, it is the **OWNER's** responsibility to re-camera the gravity sewer main after 75% subdivision/commercial lots are built. The sewer video shall be inspected by the Town's Utilities Department staff, and if deemed as such, the **OWNER** will be responsible for the cleaning and/or repairs of the mentioned gravity sewer main. This will be reflected in the utilities' bond amount for the **OWNER**.

2.) Section 1- Scope of Project

Thrust Blocks & Restraints for Sanitary Sewer Pipes & Re-claimed Water Pipes under Pressure

-1.12 Special Project Procedures (pg.43); revised 11-08-24

1.12.16- Poured in place concrete thrust blocks must be provided at all points of unbalanced pressure where the pipeline could pull apart. Thrust blocks shall conform to details and minimum bearing areas as shown on the drawings and shall bear against the undisturbed trench face. Contractors may elect to use an approved type of locked flexible joint extending on each side of bend as per standard drawings.

Where over bends (downward bends) cannot be avoided the fitting must be held in place by one of the following methods:

1. Poured concrete under a pipe of sufficient volume to counteract unbalanced force with steel clamp and anchor bolts to hold fitting to concrete as per standard drawings.
2. Approved type of locked flexible joint extending on each side of bend as per standard drawings.

When using all thread rods for restraint purposes, the number of rods used shall be a minimum of half the pipe's size (Ex. 8" water main will have four (4) all thread rods.) The all thread rods shall be used in conjunction with mega-lug joint restraints that are the same size as the pipe size that is being restrained. The all thread rods shall be stainless steel and/or have a coating to protect the rods from rusting.

AMOUNT OF ALL THREAD RODS PER PIPE SIZE

<u>Pipe Size(s)</u>	<u>Number of Rods Needed</u>
4"	2
6"	4

8"	4
10"	6
12"	6
14"	8
16"	8
18"	10
20"	10
24"	12
30"	16
36"	18
42"	22
48"	24

3.) Section 1- Scope of Project
Oil-water Separators and Grease Traps

-1.12 Special Project Procedures (pg.44); revised 07-21-25

1.12.17 Oil-water Separators and Grease Traps

Each facility that deals with oil and/or chemicals to be discharge into the sanitary sewer system shall have an oil-water separator/grease trap installed within its sanitary sewer service. The facility owner/developer/renter/contractor shall complete an oil-water separator/grease trap data sheet, which shall be turned into the Utilities Department engineer(s) for review. The minimum size of an oil-water separator/grease trap shall be 1500-gallon unless specified by the Town's engineer(s) in the Utilities Department. Details and/or information on the grease trap/oil-water separator that is to be used shall be given to the Utilities Department engineer for review.

A. 1500-gallon Grease Trap/ Oil-water Separator

When installing the grease trap/oil-water separator, it shall be installed 8 to 15-ft. away from the building. It is to have a cleanout on the upstream and downstream side surrounding the grease trap itself. The concrete grease trap/oil-water separator shall be traffic rated. There shall not be over 25-in. of risers used on the grease trap/oil-water separator. During inspection, a minimum of 10-ft. of pipe on the downstream side and 5-ft. of pipe on the upstream side needs to be uncover for the grease trap inspection.

B. 50gpm /100lbs. Grease Trap

If the capacity of the grease trap is calculated below 500-gallons, then a 50gpm/ 100lbs. grease trap shall be used. These grease traps are to be installed under the sink in question, and they are not to be installed outside of the establishment that is using the grease trap. The grease trap shall be pumped/cleaned quarterly.

1. During Construction Inspection

Before the floor is installed to where the grease trap is to be located, there is to be a minimum of 2-ft of pipe exposed from the sink to the sewer service. There is to be minimum of 1-ft of inlet and outlet pipe coming out of the grease trap. The grease trap shall be a Watts WD-L series grease trap and/or approved equal.

The grease trap shall be metal and/or approved equal material.

2. After Construction Inspection

The grease trap will be inspected quarterly. If deemed so by the Town's Wastewater Treatment Plant inspector that the inspected grease trap is not adequate in size and/or is used to maximum capacity, then it is the **OWNER's** responsibility to upgrade the size of the grease trap itself. The **OWNER** is given a time frame of 90-days to make the proper improvements on the grease trap.

If any changes are added to the area that are needing a grease trap and/or oil receptacle apparatus (cooking fixture, drains, sinks etc.) are needed, then the **OWNER** is to contact the Utilities Department. A grease trap data sheet shall be filled out and submitted to the Utilities Department for calculations of capacity. Any changes request made by the **OWNER** shall be approved by the Wastewater Treatment Plant in the Utilities Department.

4.) Section 2 - Preliminary Work

Blasting Policy

-2.4 Blasting Policy (pg. 47); revised 08-20-24

The **CONTRACTOR** shall have existing water, sewer, and gas mains located before blasting the construction site. The **minimum** distance that can be blasted from existing natural gas, water or wastewater lines is **25 feet** with an allowable weight in explosive pounds of ¾ pound. For increased weight in pounds of explosives, see the chart below from the Tennessee Blasting Standards Act (Tennessee Code 68-105-104) for the distance in feet from existing utilities:

ALLOWABLE MAX POUNDS OF EXPLOSIVES PER DAILY CALCULATIONS

For Distances Up to 300 Feet

<u>Distance (ft.)</u>	<u>Weight (lbs.)</u>	<u>Distance (ft.)</u>	<u>Weight (lbs.)</u>	<u>Distance (ft.)</u>	<u>Weight (lbs.)</u>
0-10	1/8	70	6.00	190	21.00
11-15	1/4	80	7.25	210	23.50
16-20	1/2	90	8.50	230	26.00
21-25	3/4	100	9.75	250	28.50
26-30	1.00	110	11.00	270	31.00
40	2.25	130	13.50	290	33.50
50	3.50	150	16.00	300	34.75
60	4.75	170	18.50		

For Distances 301-ft. to 5000-ft.

$W(\text{lbs.}) = (d(\text{ft})/55)^2$

For Distances 5001-ft. and Up

$W(\text{lbs.}) = (d(\text{ft})/65)^2$

The developer/contractor will need to submit a blasting plan to Smyrna Utilities showing their pounds of explosives per hole.

5.) Section 3- Materials

-3.17 Ductile Iron Pipe (pg.51); revised 08-07-25

3.17.1 ... Lining for the ductile iron pipe (DIP) shall be PROTECTO 401 Ceramic Epoxy or Ceramapure PL90 Ceramic Epoxy.

6.) Section 10- Manholes

-10.0 General (pg.78); revised 08-07-25

10.0.1... An admixture of Xypex Admix C-500 NF Red (or an approved equal) may be substituted for the bituminous coating by approval of the Director of Utilities.

-10.1 Materials (pg.79); revised 08-07-25

10.1.5 Mortar: ... All mortar used with in a manhole shall have Xypex Admix C-500 NF Red (or an approved equal) mixed in to it.

-10.2 Installation (pg.82); revised 08-07-25

10.2.11 ... All non-shrink grout used with in a manhole shall have Xypex Admix C-500 NF Red (or an approved equal) mixed in to it.

7.) Section 11- Gravity Sewer Main

-11.1 Materials (pg.84-85); revised 08-07-25

11.1.1 Pipes

B. ... The pipe shall be Class 350 with Protecto 401 Ceramic Epoxy lining or Ceramapure PL90 Ceramic Epoxy lining.

C. Lateral Branches:

... Service riser pipe shall be six (6) inch diameter to the cleanout (located at the right-of-way/property line) and then may be four (4) inch diameter pipe from the cleanout to the building. If the sewer lateral is installed on a sewer main that is 5-ft or less below final grade, then that sewer lateral is require to haved a back water valve installed on it.

iii. If the sweeping tee is made of DIP, then the sweeping tee shall be 6" Class 350 ductile iron with Protecto 401 Ceramic Epoxy lining or Ceramapure PL90 Ceramic Epoxy lining. The Protecto 401 Ceramic Epoxy lining or Ceramapure PL90 Ceramic Epoxy lining can be applied to the sweeping tee, but must be inspected by the Town's utilities inspector and be approved by that inspector. The sweeping tee shall have a 45^o angle with mechanical joint fittings

-11.6 Recording of Sewer Lines (pg.94); revised 08-13-25

11.6.2 Post-recording of sewer lines:

Once the **CONTRACTOR** has passed all sewer main testing, it is the **OWNER's** responsibility to re-camera the gravity sewer main after 75% subdivision/commercial lots are built. The sewer video shall be inspected by the Town's Utilities Department staff, and if deem as such, the **OWNER** will be responsible for the cleaning and/or repairs of the mention gravity sewer main. This will be reflected in the utilities' bond amount for the **OWNER**.

8.) Section 12- Force Main Sewer Lines

Forcemain Tracer Wire Pull Box

-12.0 General (pg.96); revised 08-20-24

12.0.6 ... Every 500-ft. there shall be a pull box that the tracer wire will be housed in. A minimum of 24-in. of 12 AWG gauge solid copper tracer wire shall be in the box. This box shall be placed starting outside of the fenced area of the lift station and every 500-ft. until discharging in to a manhole and/or Wastewater Treatment Plant.

Combination Vacuum-Air Release Valve

-12.0 General (pg.96); revised 09-16-24

12.0.9 When an air release valve is needed for the force main, it shall be a Aquestia A.R.I. D-025 combination vacuum-air release valve or approved equal for wastewater. The combination vacuum-air release valve shall be housed within a manhole that is precast or monolithic concrete with eccentric or concentric cones unless otherwise approved by the Town of Smyrna. All manholes shall contain an exterior bituminous coating. An admixture of Xypex Admix C-500 NF Red (or an approved equal) may be substituted for the bituminous coating by approval of the Director of Utilities.

9.) Section 12- Force Main Sewer Lines

Metro Box for Sewer Services

-12.3 Service Installations (pg.104); revised 01-16-25

... Each sewer service that is a privately own force main (e.i. grinder pump) shall have a metro box (see detail PS-1.1 & 1.2). The metro box shall be installed every 500-ft. and/or half the distance to the discharged manhole or force main service cleanout (see detail PS-1.3). All services lines shall have 12 AWG gauge solid copper tracer wire taped to the force main pipe with metallic tape.

10.) Section 13-Sanitary Sewage Lift Stations

-13.0 General (pg.101); revised 08-20-24

... When constructing a sanitary sewer lift station, one(1) **CONTRACTOR** will be held responsible for its construction. This construction includes installing the force main, installation of submersible pump(s), remote telemetry, installing the pump station's remote terminals, flow detection instruments, power generators (in needed and/or requested by the Wastewater Treatment Plant), fencing, control panels, cabinets and components.

This shall pertain to and includes any machinery and/or specialty item that will be needed for the lift station that is deemed necessary by the Town's Wastewater Treatment Plant Manager and/or staff/operators/maintenance crew.

-13.1 Submersible Pumps: Flygt Pumps

-13.1.18 Level Control System (pg.110-111); revised 10-01-25

IV. Submersible Pressure Transducer

A submersible pressure transducer shall be lowered to the bottom of the wet well and connected to the control system at the top of the well for the lift station. The transducer shall monitor the level of the wet well during pumping. The transducer shall be able to reach the designed recommended threshold that is stated by the lift station's design engineer. The transducer shall be a non-clogging submersible pressure transducer. The transducer shall be able to be viewed/report data to the SCADA monitoring system.

11.) Trench Backfill Detail (Paved Areas)

- Detail GS-4.0 (pg.168); revised 06-20-2024

Repairs in roadways shall include milling and re-surfacing a minimum of 20-ft. passed the trench edge in each direction.

12.) 1500 Gallon Grease Trap/Oil-Water Separator

- Detail PS5.4 (pg.178); revised 06-20-2025

Note:

1. The grease trap shall be installed 8-15-ft. away from the building.
2. There shall be cleanouts installed on the upstream and downstream sides of the grease trap.
3. The concrete grease trap/oil-water separator shall be a traffic rated concrete structure.
4. There shall not be over 25-in. of risers used on the grease trap/oil-water separator.

13.) Combination Vacuum-Air Release Valve Detail

- Detail PS-2.0 & 2.1 (pg.180); revised 08-24-25

14.) Backwater Valve Detail

- Detail GS-3.8 & 3.9 (pg.??); revised 09-15-2025

15.) Pre-construction Checklist

- (pg.203); revised 08-25-2025

3.) The Contractor shall provide proof of contacting property owners around their site on about the pending construction (an email confirmation to Smyrna staff is acceptable).

9.) For sewer lines, PVC pipe will be SDR-26 for gravity lines and SDR-21 Class 200 for force mains; ductile iron pipes (DIP) will be Class 350 with Protecto 401/**Ceramapure PL90** ceramic lining. For water lines, (4"-10") plastic PVC will be minimum AWWA C-900 (DR14) with a minimum pressure class of 200 psi. 12" and above water mains shall be Class 350 ductile iron pipe (DIP).