



City of Dover Septic Tank Standards Exhibit A

1 GENERAL

The City of Dover operates a septic tank effluent collection system that conveys wastewater to the treatment plant for additional treatment, disinfection and disposal. Therefore, the City relies on septic tanks to provide primary treatment. Adequate primary treatment is necessary to protect the functionality of the wastewater treatment plant. To that end, these standards require that:

- Septic tanks function adequately to provide primary treatment.
 - The tank will need to be sized properly
 - Inlet and outlet baffle will need to be installed properly to function well
- Septic tanks are inspected and maintained regularly to ensure proper functionality.
 - Owners will need to have their septic tank inspected by a qualified contractor using an inspection form available from the City
 - Upon inspection the owner will need to submit the inspection form to the City and comply with any maintenance activity required. Typical maintenance activity the owner may be responsible for include (but not limited to):
 - Remove accumulated solids in the tank, and/or
 - Remove accumulated floating debris in the tank, and/or
 - Clean and/or repair baffles
 - Repair any seals to ensure the septic tank is water tight
- Components used during construction are adequate to function properly throughout the expected life cycle. The owner is responsible for maintenance and function of all components of the service connection from the house to the sewer main. It is in the owner's interest to install adequate components.
- New construction or significant modifications to the service connection be inspected by City staff prior to being buried to ensure facilities can adequately provide primary treatment.
- Two stainless Steel swing check valves (pressure systems) are installed in the force main between the pump and curb stop to prevent backflow from the pressure main.

2 SUBMITTALS FOR REVIEW

- A Site Plan showing location of property lines, buildings, driveways, septic tank, pump vault, control panel, pipe runs, connections, clean-outs, valves, control points, and invert elevations.
- B Product Data: Provide product data for tank, risers, riser lids, baffles, pump, piping, pipe accessories, and stainless steel swing check valves.
- C Products Certificates that ensure products meet or exceed specified requirements.
- D Name of public works contractor used for installation (with correct license and proof of insurance)
- E Design plans and calculations as needed.

3 SUBMITTALS AT PROJECT CLOSEOUT

- A Record drawings showing location of property lines, buildings, driveways, septic tank, pump vault, control panel, pipe runs, connections, clean-outs, valves, control points, and invert elevations.

- B Record drawing identifying, indicating, and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

4 REGULATORY REQUIREMENTS

- A All construction shall be in accordance with **Idaho Standards for Public Works Construction** current edition.
- B Conform to applicable Idaho code for materials and installation of the Work of this section
- C Conform to City of Dover Standards for the installation of all materials. In case of conflict between the several parts of these specifications, the most stringent specifications shall govern as determined by the Engineer. Where these specifications refer to recognized standards, such as ASTM, Federal Specifications, NFPA, etc., the reference specifications shall be to the latest edition unless specified otherwise
- D Proof of completed inspections and compliance with items identified during inspections.
- E Commercial connections shall comply with the Uniform Plumbing Code for sizing of the effluent lines and septic tanks.

5 Septic Tanks

A General:

- 1 Septic tanks shall be one piece tanks with one piece lids and (see Figure 1 and 2):
 - a Have cast in place riser rings and 24" PVC risers, as applicable,
 - b Have a 24" diameter watertight access opening above the inlet baffle,
 - c Have at least an 8" diameter watertight access opening above the outlet baffle if dual compartment tank is installed, or a second 24" diameter watertight access opening above the outlet baffle if a single compartment tank is installed
 - d Have a 24" diameter watertight access opening above the pump chamber, as applicable,
 - e 4" schedule 40 inlet and out let baffles, or equivalent bolt-to-the-wall type,
 - f Have watertight joints and penetrations: lid sealed with mastic and pipe penetrations sealed with hydraulic cement, or cast-in-place high-strength boot with SS band clamp, sealed access openings and sealed risers with bold down lids,
 - g Locatable and accessible for inspection and routine maintenance,
 - h Be installed per manufactures recommendations,
 - i Be located on-site with set-backs per Panhandle Health District.
- 2 Buoyancy forces should be considered when the septic tank is located within the 100 year flood zone and/or when groundwater is a concern.
- 3 When the septic tank is located within the 100 year flood zone the septic tank and piping shall be designed by a qualified licensed professional to ensure compliance with Federal Emergency Management Agency Bulletin, FEMA P-383, Edition 1 / November 1999, "Protecting Building Utilities From Flood Damage", (or current edition).

B Gravity Systems:

- 1 1000 gallon (minimum) one-piece concrete tank or as required by Panhandle Health District for greater than 4 bedrooms,
- 2 See Figure 1 for Details

C Pressure Systems:

- 1 1500 gallon one-piece, two chamber, concrete tank (1000 gallon septic tank chamber and 500 gallon pump chamber) or as required by Panhandle Health District for greater than 4 bedrooms,
- 2 See Figure 2 for Details
- 3 Appurtenant and Ancillary equipment necessary and as needed to properly install equipment per manufactures recommendation, outfit, and connect the pump station.

6 Effluent Line

A Gravity Systems:

- 1 Pipe from house to septic tank and septic tank to the main line shall be 4" ABS (gravity flow), or equal. Installations within the 100 year flood zone shall be designed by a qualified licensed professional to ensure compliance with Federal Emergency Management Agency Bulletin, FEMA P-383, Edition 1 / November 1999, "Protecting Building Utilities From Flood Damage", (or current edition).
- 2 1 Cleanout per 100 feet of pipe run shall be installed
- 3 Magnetic green sewer locate tape 6" above pipe and tracer-wire shall be placed at top of pipe.
- 4 Main Line Connection shall be GPK Gasketed PVC Saddle with Neoprene Gasket or pre-approved equivalent, with stainless steel straps and bolts, or equal, size as required.
- 5 See Figure 1 for additional detail
- 6 Construction in Public right-of-way by licensed contractor
- 7 Installation per ISPWC

B Pressure Systems

- 1 Pipe from house to septic tank shall be 4" ABS (gravity flow), or equal. Installations within the 100 year flood zone shall be designed by a qualified licensed professional to ensure compliance with Federal Emergency Management Agency Bulletin, FEMA P-383, Edition 1 / November 1999, "Protecting Building Utilities From Flood Damage", (or current edition).
- 2 Force Main:
 - a Two stainless steel swing check valves shall be installed between the pump and the curb stop (at property line) to protect against backflow from City's high pressure system. One check valve shall be installed near the pump. The other check valve's preferred location is near the curb stop; however, if that location is inaccessible the other check valve could be installed in the septic tank near the wall with prior City approval.
 - b A 1/8" hole in the force main about 6" above pump should be drilled to prevent "air locking" after servicing pump.
- 3 Construction in Public right-of-way by licensed contractor.
- 4 Installation per ISPWC
- 5 Main Line Connection shall be a Saddle tap Romac Double Stainless Steel Strap Saddle or approved equal
- 6 Corporation stop with pack joint adapter shall be brass or stainless steel or approved equal

7 1-1/2" Brass Curb stop with pack joint assembly and cast iron riser with "SEWER" labeled lid shall be installed in the force main near the property line.

8 See Figure 2 for additional details.

7 Location Aids (Trace Wire and Tape):

- A 12 gauge, solid copper locate wire shall be placed on all pipe runs and the septic tank from the house cleanout, over the center line of the septic tank (one wrap around each riser) to the curb stop (pressure systems) to the main line.
- B Locate wire shall have the ends accessible for use at:
 - 1 The house cleanout and
 - 2 The curb stop (pressure systems)
 - 3 Near property line in a capped stand pipe or cleanout as applicable
- C Seal ends of wire and all splices with waterproof splice connectors
- D Magnetic detectable conductor, green colored, plastic coated sewer tape shall be placed 6 inches over the top of all pipe runs.

8 INSTALLATION

- A Bedding per ISPWC. Excavated material may be suitable or made suitable by screening, sifting, or manually sorting
- B The laying of sewer pipe shall be accomplished only after the trench has been dewatered and 4" of bedding has been prepared in accordance with specifications
- C Care shall be taken to avoid contamination, by dirt or any other unapproved materials, of the pipe interior or joint surfaces. Water shall not be allowed to flow down the pipe, unless approved as part of the dewatering plan
- D If groundwater is encountered during pipe installation, a dewatering plan shall be utilized to maintain the water level below the trench bottom before proceeding with laying of pipe
- E Seal joints watertight
- F Gravity flow pipe shall be laid at a minimum grade of 1/4" fall per foot of run
- G Coordinate termination of sanitary sewer connection to municipal sewer utility service and trenching work with the City, Highway District and/or Street Owner as applicable.
- H Maximum deflection from line and grade show on the plans is 3/8" of an inch per any section of pipe.
- I Cleanouts are required every 100 feet or as required by the Uniform Plumbing Code.
- J Septic Tanks and Vaults shall be sealed against leakage by cast in place high strength boot or non-shrink grout that matches the temperature coefficients of the concrete. Acceptable Products include:
 - 1 Flexcrete Fastfill / Reinforced Comprotec Elastomeric / FC1 & FC2 Systems
 - 2 Tamms Hey'DI K-11

9 SEPARATION AND SETBACKS OF UTILITIES

- A The requirements for the separation of water mains and any sanitary or storm sewer lines/appurtenances shall be specified in the Idaho Standards for Public Works Construction, Section 406 - "Separation of Water Mains and Sewers".
- B The septic tank shall be setback per Panhandle Health District Requirements, which in general are:
 - 1 5 feet from the building foundation
 - 2 100 feet from a public well
 - 3 50 feet from a private well
 - 4 50 feet from surface water
 - 5 5 feet from a property line
 - 6 2 feet from seasonal high water level

10 INSPECTION, Construction

- A Inspections shall be made prior to final backfill while the subject of the inspection is exposed. A record of inspections will be logged using the "City of Dover Sewer Service Connection Inspection Report" provided by the City. The owner shall keep the record and present it to a City authorized inspection agent to fill out during the inspection. A complete inspection report is required prior to issuance of the certification of occupancy.
- B The following require inspection:
 - See "SEWER SERVICE CONNECTION INSPECTION REPORT" form available from the City.
- C Request inspections prior to covering components.
- D If work does not meet specified requirements, the work will have to be brought up to standards

11 FINAL CONNECTION

- A Gravity System: The system will be deemed to be connected when the connection to the main line is made.
- B Pressure System: The system will be deemed to be connected when the connection to the main line is made. The force main curb stop valve will be opened by a city representative after final inspection.

12 INSPECTIONS WHILE IN SERVICE (to ensure functionality)

- A Regularly scheduled septic tank inspections shall be performed by persons permitted by the State of Idaho Department of Environmental Quality to manage septage, at owner's expense, to ensure the proper functionality of the septic tank.
- B Persons inspecting septic tank shall use the "City of Dover Septic Tank Inspection Report" available from the City.
- C Septic tanks with accumulated floating scum and/or accumulated settled solids greater than 35% of the usable volume shall be cleaned by emptying the tank. Tank contents must be managed by persons permitted by the State of Idaho Department of Environmental Quality.
- D Debris accumulation on or near the baffles shall be cleaned by clearing away and cleaning and/or repairing the baffles. Tank contents must be managed by persons permitted by the State of Idaho Department of Environmental Quality.
- E Septic tanks found to be leaking and/or with leaking pipe penetrations shall be repaired.

F Septic tanks shall be inspected according to the following schedule:

1 Within 2 months if septic tanks has not been inspected in 5 years

2 5 years after initial installation or prior inspection

a Then, if the existing home use does not change, the next tank inspection shall be:

- i. If usable volume was greater than 90%
 - a. In 12 years, or
 - b. In 17 years if the tank was cleaned.
- ii. If usable volume was between 85% and 90%
 - a. In 7 years, or
 - b. In 12 years if the tank was cleaned
- iii. If usable volume was between 80% and 85%
 - a. In 4 years, or
 - b. In 9 years if the tank was cleaned
- iv. If usable volume was between 75% and 80%
 - a. In 2 years, or
 - b. In 7 years if the tank was cleaned
- v. If usable volume was between 65% and 75%
 - a. In 1 year, or
 - b. In 6 years if the tank was cleaned
- vi. If usable volume was less than 65%, clean tank and inspect in 5 years
- vii. If usable volume was less than 55%, clean tank and inspect in 4 years
- viii. If usable volume was less than 40%, clean tank and inspect in 3 years
- ix. If usable volume was less than 15%, clean tank and inspect in 2 years

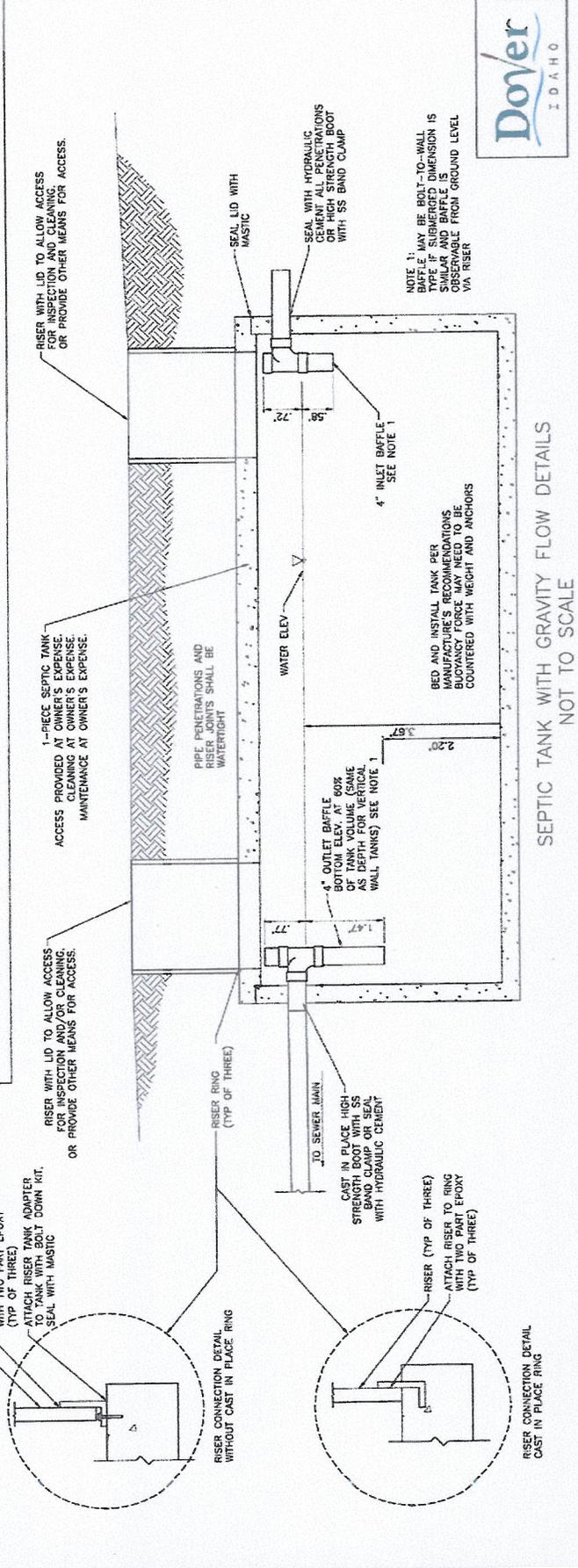
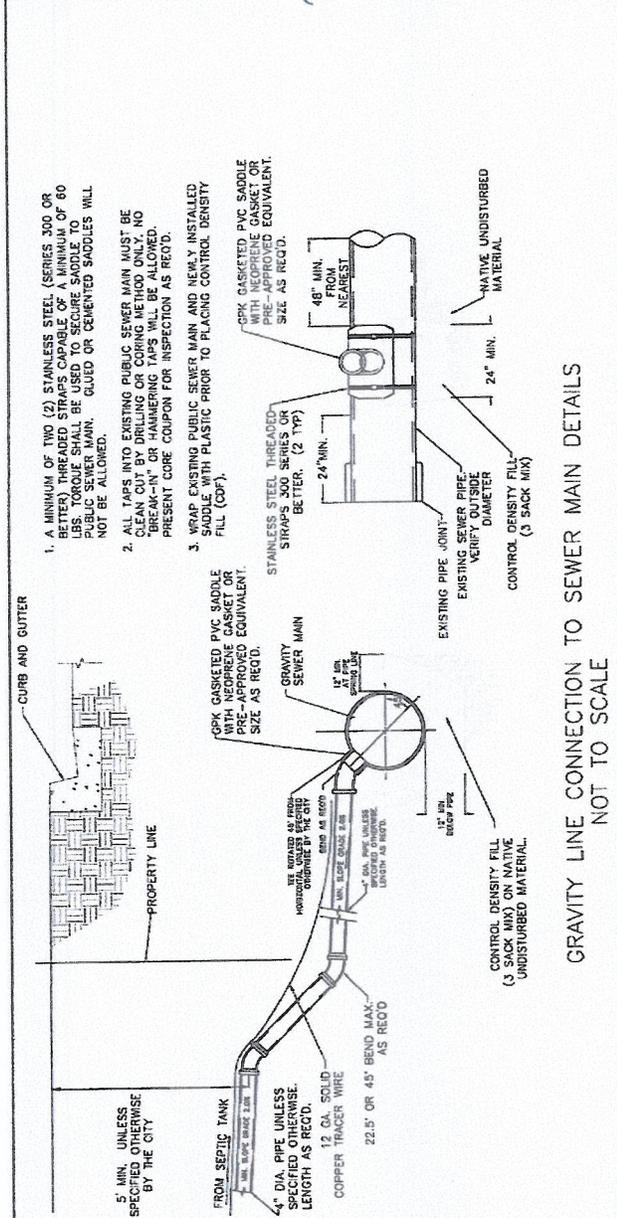
3 5 years from prior inspection if home use changes

G The City may inspect any septic tank to ensure functionality at any time at City's expense. Operational issues discovered during a City inspection shall be addressed and/or repaired at owner's expense.

H After inspection, the SEPTIC TANK INSPECTION REPORT shall be submitted to the City with proof that any required maintenance has been performed.

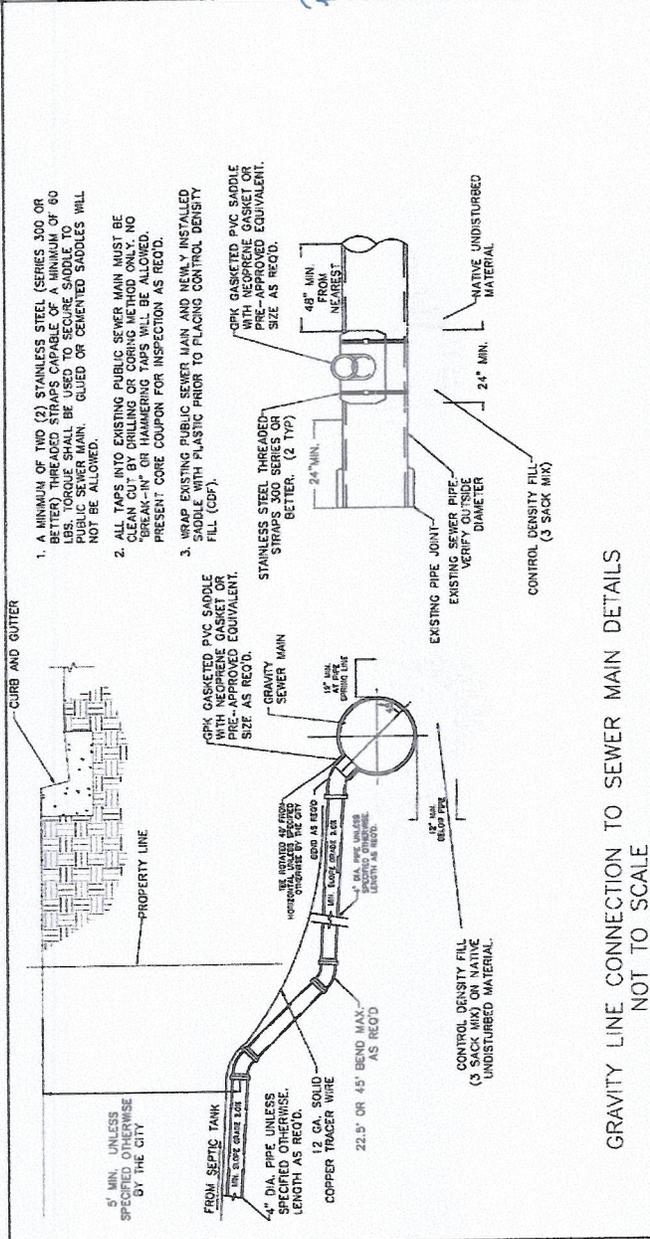


NO.	DESCRIPTION	DATE

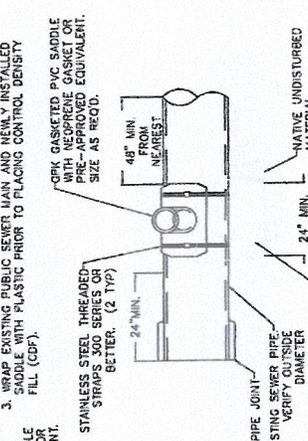




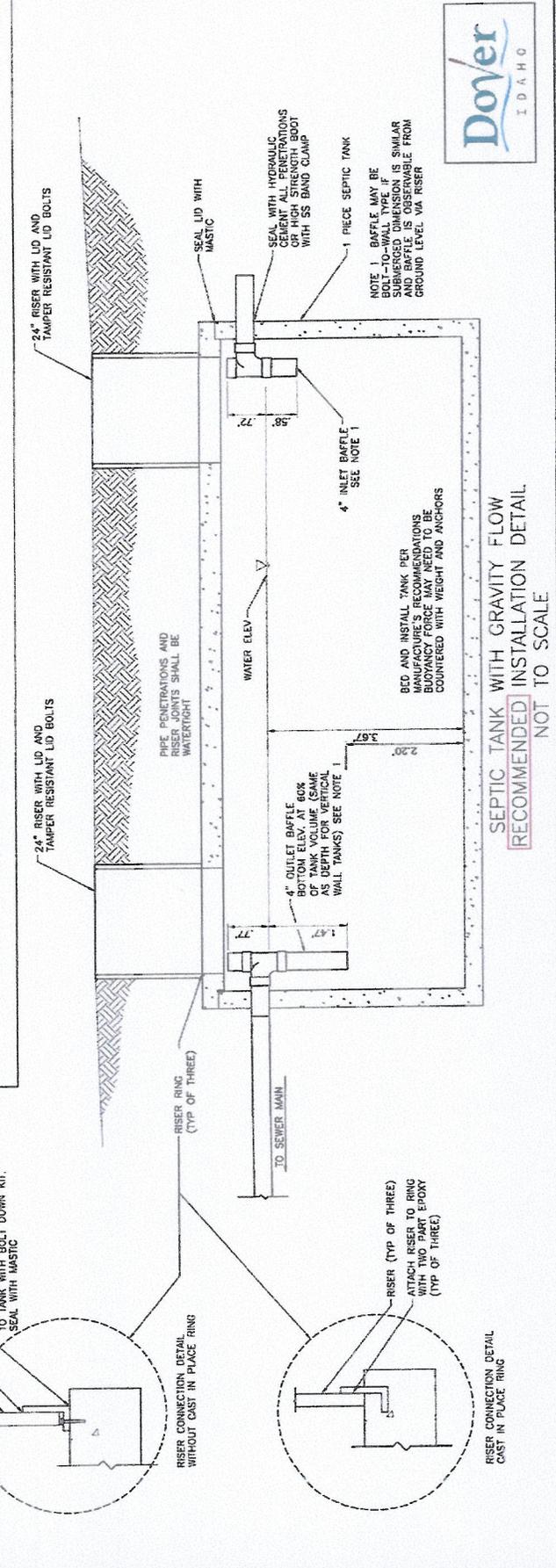
THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF DOVER, IDAHO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF DOVER, IDAHO. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF DOVER, IDAHO.



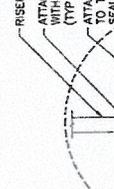
1. A MINIMUM OF TWO (2) STAINLESS STEEL (SERIES 300 OR BETTER) THREADED STRAPS CAPABLE OF A MINIMUM OF 80 LBS. TORQUE SHALL BE USED TO SECURE SADDLE TO PUBLIC SEWER MAIN. GLUED OR CEMENTED SADDLES WILL NOT BE ALLOWED.
2. ALL TAPS INTO EXISTING PUBLIC SEWER MAIN MUST BE "BREAK-IN" OR HAMMERING TAPS WILL BE ALLOWED. PRESENT CORE COUPON FOR INSPECTION AS REQ'D.
3. WRAP EXISTING PUBLIC SEWER MAIN AND NEWLY INSTALLED SADDLE WITH PLASTIC PRIOR TO PLACING CONTROL DENSITY FILL (CDF).



GRAVITY LINE CONNECTION TO SEWER MAIN DETAILS
NOT TO SCALE

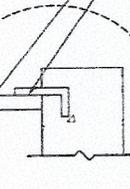


ATTACH RISER TO RING WITH TWO PART EPOXY (TYP OF THREE)
 ATTACH RISER TANK ADAPTER TO TANK WITH BOLT DOWN KIT. SEAL WITH MASTIC



RISER CONNECTION DETAIL WITHOUT CAST IN PLACE RING

RISER (TYP OF THREE) ATTACH RISER TO RING WITH TWO PART EPOXY (TYP OF THREE)

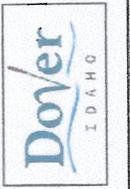


RISER CONNECTION DETAIL CAST IN PLACE RING

SEPTIC TANK WITH GRAVITY FLOW
RECOMMENDED INSTALLATION DETAIL
NOT TO SCALE

NOTE 1: BAFFLE MAY BE BOLT-TO-WALL TYPE IF SUBMERGED DIMENSION IS SIMILAR AND BAFFLE IS OBSERVABLE FROM GROUND LEVEL VIA RISER

BCD AND INSTALL TANK PER MANUFACTURER'S RECOMMENDATIONS BUOYANCY FORCE MAY NEED TO BE COUNTERED WITH WEIGHT AND ANCHORS





CITY OF DOVER

SEWER SERVICE CONNECTION INSPECTION REPORT

DATE: _____

In Flood Zone yes no

ADDRESS _____

INSPECTION:

	N / A	Approved	Date	Signature of Inspector
Setbacks				
5 feet from the building foundation				
100 feet from a public well				
50 feet from a private well				
50 feet from surface water				
5 feet from a property line				
2 feet from seasonal high water level ¹				
Septic Tank baffles				
Locate wire				
Main line connection				
Septic tank outlet connection				
Septic tank inlet connection				
Curb stop ² (Riser labeled "SEWER")				
Tank set level				
Risers and riser connections				
Pump and related plumbing				
Pump check valve				
Second check valve:				
At curb stop _____				
At tank wall _____				

¹ Tank located as shown on Engineering approved plans
² City staff will open when inspections are complete and installation accepted

City Use Only

Check one box for each trip

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NOTES: _____

FINAL ACCEPTANCE: yes

Date: _____

Authorized City Agent: _____
print name

Signature: _____