



Oregon

Theodore R. Kulongoski, Governor

Department of Environmental Quality

811 SW Sixth Avenue
Portland, OR 97204-1390
503-229-5696
TTY 503-229-6993

March 8, 2005

NORWESCO, INC

Attn: Jerry Paulson

4365 Steiner Street

P.O. Box 439

St. Bonifacius, MN 55375-0439

Re: WQ-LAL Polyethylene Plastic Tank Limited Approvals
Bruiser 1000-gallon polyethylene septic tank
Bruiser 1250-gallon polyethylene septic tank
Bruiser 1500-gallon polyethylene septic tank

Dear Mr. Paulson

The Oregon Department of Environmental Quality (Department) has received the plans, specifications and other associated materials you provided for the above mentioned septic tank configurations manufactured by your company. The design information and plans for these tanks have been reviewed and found to comply with the Department's standards as described in Oregon Administrative Rules (OAR), Chapter 340, Divisions 071 and 073 such that a limited approval can be granted. The plans, specifications and an installation manual for the approved tank configurations have also been attached to this letter. You are authorized to manufacture and distribute these tank configurations for use in Oregon until further notice, providing the following conditions are met:

1. This is a "Limited Approval" with some restrictions placed on use of the NORWESCO tanks that are concurrent with your company's cautions and installation procedures. For use in Oregon, no tank shall be used on a site where groundwater observations or conditions associated with saturation have predicted the water table to rise higher than the bottom surface of the tank at any time of the year.
2. Each tank must be manufactured in compliance with the Department's rules and the enclosed plans and design specifications. Any deviation from the stamped engineered plans or specifications received September 7, 2004, shall not be permitted unless and until authorized in writing by this office.
3. Each tank shall be manufactured to meet the structural specifications described in the plans for the Bruiser 1000, 1250, and 1500 – gallon septic tanks.

4. Each tank is only acceptable for use at locations where the top loading will not exceed the engineering design parameters. Tanks proposed for use at other locations shall require an engineering analysis of the potential top loading, and may require the preparation of site-specific plans and specifications.
5. You are responsible for providing a water tight tank. Also, each tank must be watertight tested after complete installation at the job site.
6. You are to deliver to each purchaser a complete and fully assembled tank, and provide all necessary risers, gaskets and covers.
7. It should be clear to each purchaser what type of traffic loads the tank can withstand. The tank is to be located in an area where the engineering parameters used in the design will not be exceeded.
8. An installation manual, on waterproof paper or equivalent, shall be provided with each tank. The manual shall describe how to properly install the tank, how to properly connect the risers, gaskets, covers, and pipes, and outline testing procedures, tank backfill, and any other special precautions and limitations.
9. Each tank shall be marked on the uppermost tank surface over the outlet with the liquid capacity, date of manufacture (month/day/year), burial depth limits, and either your full business name or the assigned number of 1810.

Please feel free to contact Mr. Uri Papish at 503-229-5013 if you have any questions regarding this approval.

Sincerely,



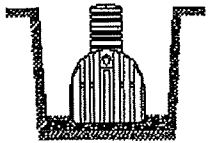
Mark Cullington
Water Quality Division

cc: Contract County Offices, Statewide
DEQ Direct Service Offices, Statewide
Joni Hammond, ER
Dick Nichols, ER
Michael Kucinski, WR
Andy Schaedel, NWR



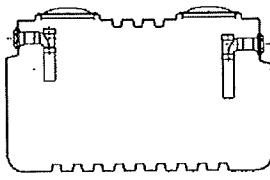
UNDERGROUND TANK INSTALLATION INSTRUCTIONS

1 EXCAVATION



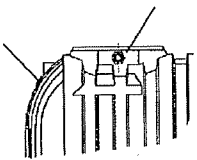
- A. Excavate to a depth that will provide a minimum of 6" and a maximum of 30" of cover over the top of the tank. This will avoid collapse and over-expansion of the tank and possible leakage.
- B. Allow 18" to 24" on both sides and both ends of the tank. Failure to comply with allowance ranges could cause tank collapse.
- C. Bed the tank in well-packed sand- 6" minimum in soil terrain, 12" minimum in rock terrain. The tank should be installed level.

2 SEPTIC AND BRUISER TANK INLET/OUTLET CONNECTIONS



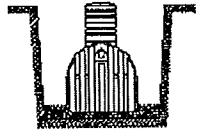
- A. Septic tanks and blue BRUISER tanks are supplied with PVC sanitary tees and adapters at the inlet and outlet. The PVC adapter has two sockets for use with either 4" schedule 40 pipe, or 4" SDR 35 pipe.
- C. Inlet and outlet piping should be solvent welded to the adapters using standard PVC cement.

3 WATER TANK CONNECTIONS



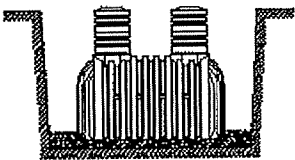
- A. Install bulkhead fittings in either side of manway or end rib as shown. Tank must be vented.
- B. For water-tight seal, lid should be sealed with silicone caulking. Re-use stainless steel screws supplied with lid.

4 MANHOLE EXTENSIONS



- A. Install manhole extension before you backfill.
- B. Manhole extensions are supplied with gaskets and screws. Re-use the lid gasket and screws to attach the lid at the top of the manhole extension.
- C. Note the direction of flow. The inlet is higher than the outlet.

5 BACKFILLING EXTERIOR



- A. CAUTION: Fill tank with water as you backfill, keeping water level even with backfill level as you go to prevent possible collapse.
- B. Backfill with 12" layers, and compact each layer. ALWAYS COMPACT ENDS FIRST.
- C. Tamp and compact backfill under inlet and outlet pipes.
- D. Maximum backfill over the top of the tank is 30". Mound soil over the top to provide positive drainage.

6 BACKFILL MATERIALS

The preferred material for backfill surrounding and covering the tank is a sand/gravel mixture as described below. For blue BRUISER tanks and white cistern tanks, native soil may be used for backfill, and those tanks may be left empty while backfilling. For yellow and black septic tanks, the sand gravel mixture is required, and the tanks must be filled with water during the backfilling process. BRUISER tanks and cistern tanks should be filled one-fourth full as soon as practical after installation.

- A. The sand/gravel mixture should be a mixture of sand and gravel, 100% smaller than 1-1/2", and about 50% smaller than 1/4".
- B. All fill should be free of any wood, masonry debris, silt or clay.

FOR SEPTIC INSTALLATIONS, IT IS IMPORTANT TO CONTACT YOUR LOCAL OR STATE SANITARIAN REGARDING APPROVED INSTALLATION PROCEDURES.



NORWESCO, INC.
4365 STEINER STREET
PO BOX 439
ST. BONIFACIUS, MN 55375-0439
TEL (952) 446-1945
FAX (952) 446-8813
www.norwesco.com

CAUTION

FAILURE TO COMPLY WITH THE POINTS BELOW VOIDS WARRANTY

- A. Do not install any tank in water saturated clay or in high water table. The tank may collapse and its contents will escape.
 - B. Tanks are not fire-resistant. Do not store them near an open flame or heat in excess of 180°F.
 - C. Do not install any tank under the path of vehicles or heavy equipment.
 - D. If a yellow or black septic tank is pumped for normal maintenance, it should be refilled immediately. If a blue BRUISER tank or a white cistern tank is pumped empty, it should be immediately refilled to one-fourth of capacity. Spherical 300 and 500 gallon tanks may be left empty.
 - E. Norwesco yellow and black septic tanks, blue BRUISER tanks, and cistern tanks are designed only for use as underground tanks.
 - F. Norwesco yellow or black septic tanks, with the exception of the 300 and 500 gallon spherical tanks, cannot be used as holding tanks or pump tanks because the tank may collapse if it is left empty underground. **Blue BRUISER tanks, white cistern tanks, and 300 or 500-gallon spherical tanks can be used for holding or pumping applications where permitted by local codes.**
 - G. White cistern tanks and blue BRUISER tanks are made of resins that meet FDA specifications for the storage of drinking water, and can be used for that application. Yellow septic tanks and black septic tanks must not be used for drinking water.
 - H. Protect the tank from sharp objects which could puncture it and cause leakage.
- Norwesco advises against the use of a plastic underground tank for **any** other uses! Such uses would void any Norwesco product warranty either stated or implied. In no event shall Norwesco be held liable for any consequential damages.

WARRANTY

Norwesco underground tanks, when installed in accordance with the manufacturer's instructions, are warranted against defective materials and/or workmanship for a full three (3) years from the date of manufacture. Should a defect appear within the warranty period, Norwesco will supply a new, equivalent tank in replacement thereof. Norwesco's liability is limited to the value of the tank itself and specifically excludes the cost of installation and/or removal and consequential damages.



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OREGON LEAKAGE TEST

AFTER BACKFILLING, BLOCK INLET AND OUTLET, AND CONTINUE TO FILL WITH WATER TO A LEVEL AT LEAST 2" ABOVE THE POINT OF THE MANHOLE EXTENSION CONNECTION TO THE TOP OF THE TANK. THE LEAKAGE OVER 24 HRS. MUST BE LESS THAN ONE GALLON.

JAN02--REV0

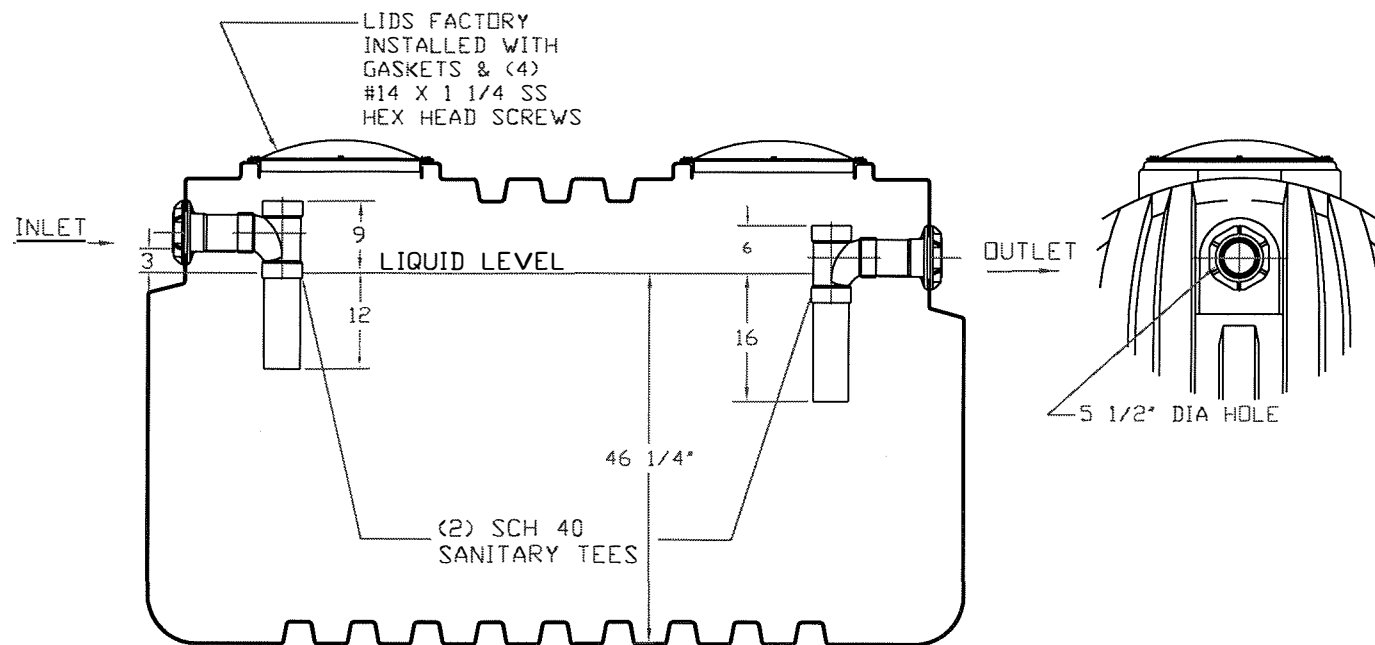
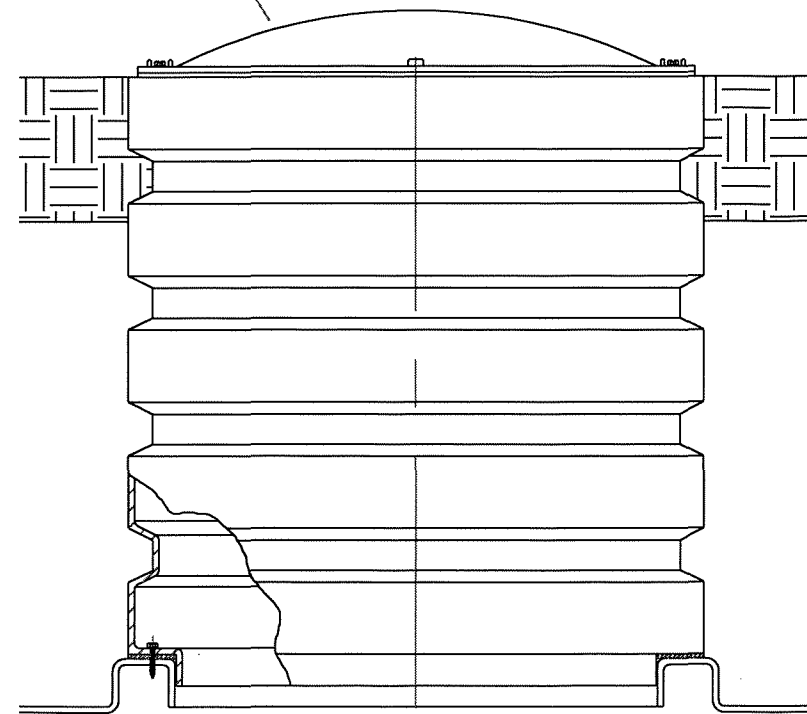
NOTES:

1. THIS TANK SHALL NOT BE INSTALLED WHERE THE ORDINARY HIGH WATER TABLE IS HIGHER THAN THE TANK BOTTOM.
2. AT INSTALLATION, BLOCK BOTH THE INLET AND OUTLET, AND FILL THE TANK WITH WATER TO A LEVEL TWO INCHES ABOVE THE CONNECTION OF THE RISER TO THE TANK. THE LEAKAGE OVER A 24-HOUR PERIOD SHALL BE LESS THAN ONE GALLON.
3. IF THIS TANK IS USED FOR A COMMERCIAL INSTALLATION, INSTALL TUFF-TITE EF-4 (OR EQUAL) EFFLUENT FILTER IN THE OUTLET TEE ASSEMBLY.

Length of tank 102 inches· width 60 inches· height 58 inches

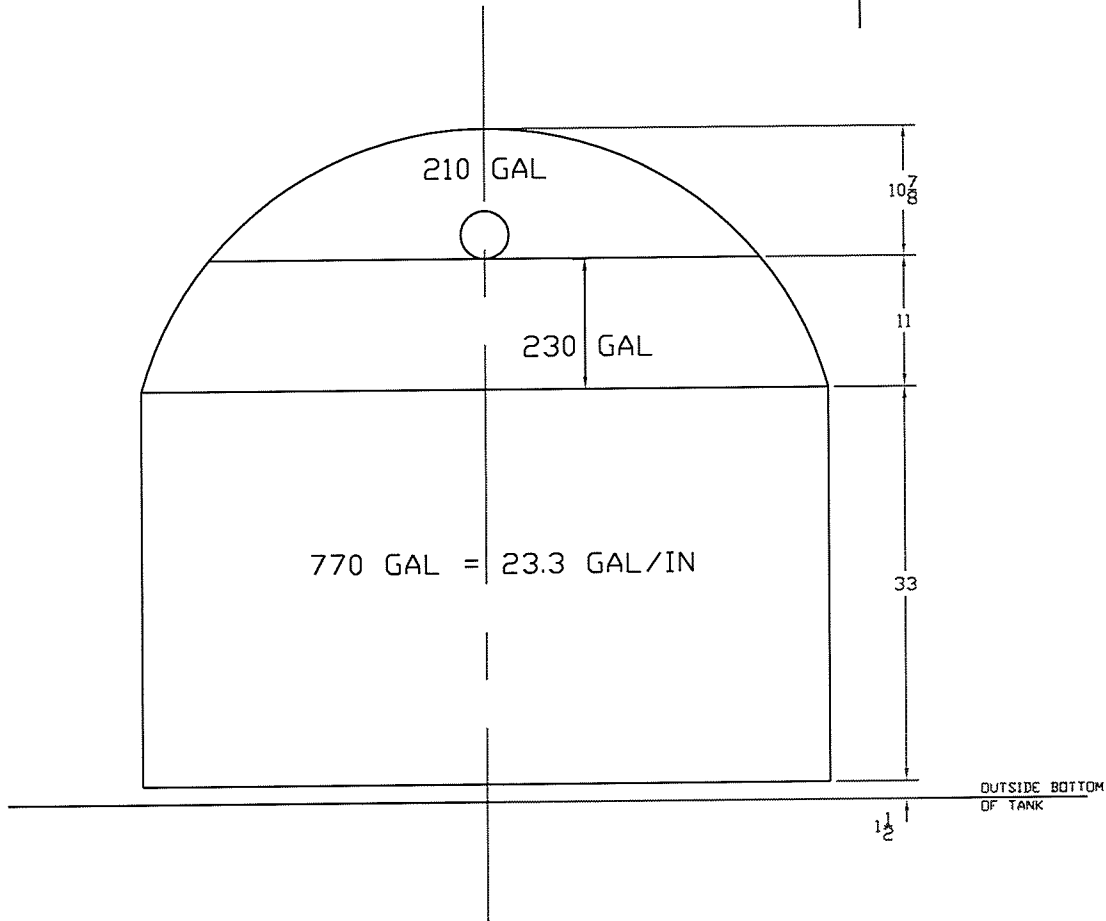
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED


AT INSTALLATION, EXTENSIONS SHALL BE INSTALLED AT EACH MANHOLE EXTENDING TO THE GROUND SURFACE OR ABOVE. USE NORWESCO P/N 62396 (24" H), AND/OR P/N 62397 (15" H). EACH EXTENSION INCLUDES FOUR SS SCREWS, AND A GASKET (ATTACHED W/ ADHESIVE) TO PROVIDE A WATERTIGHT INSTALLATION.



REF: OREGON		NORWESCO ST. BONIFACIUS, MN		
1000 GAL BRUISER SEPTIC TANK DETAILS				
JTP	29JUL03	SIZE B	FSCM NO.	DWG NO. 4
SCALE		SHEET		

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



JTP	08JAN02	 ST. BONIFACIUS, MN			
		1000 GALLON SEPTIC TANK VOLUME DISTRIBUTION			
		SIZE A	FSCM NO.	DWG NO. P/N	REV
		SCALE 1/16			SHEET

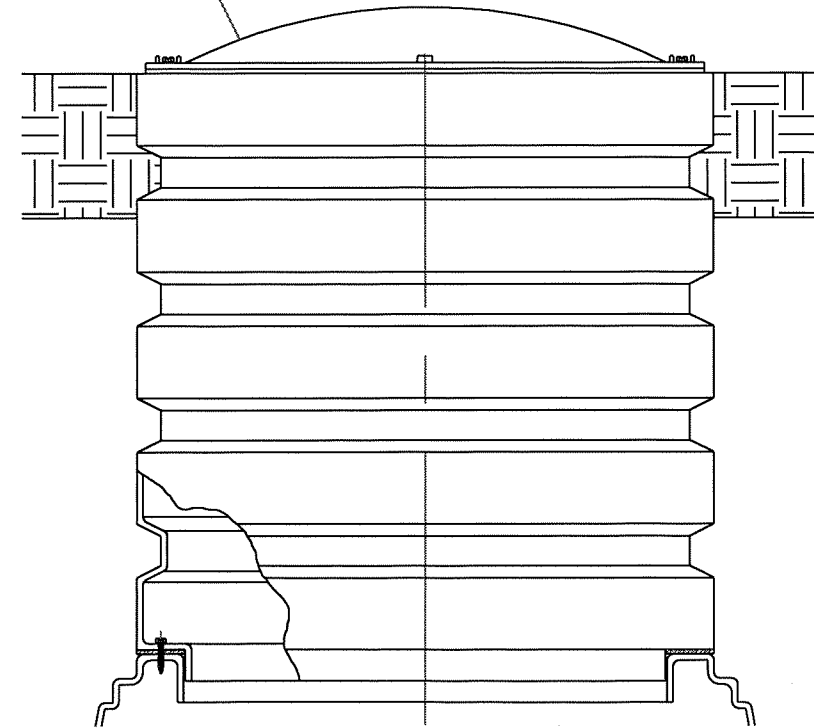
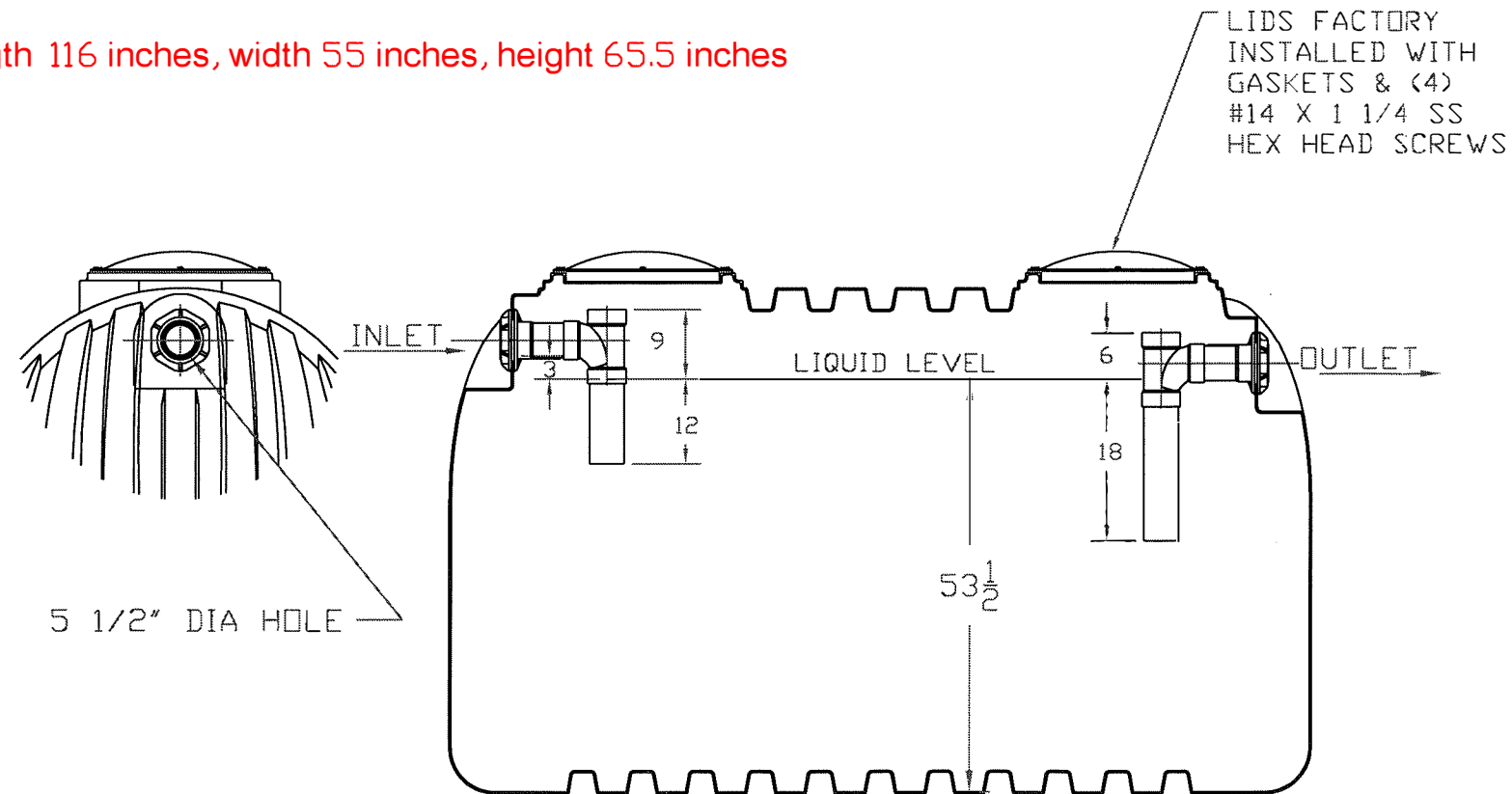
NOTES:

1. THIS TANK SHALL NOT BE INSTALLED WHERE THE ORDINARY HIGH WATER TABLE IS HIGHER THAN THE TANK BOTTOM.
2. AT INSTALLATION, BLOCK BOTH THE INLET AND OUTLET, AND FILL THE TANK WITH WATER TO A LEVEL TWO INCHES ABOVE THE CONNECTION OF THE RISER TO THE TANK. THE LEAKAGE OVER A 24-HOUR PERIOD SHALL BE LESS THAN ONE GALLON.
3. IF THIS TANK IS USED FOR A COMMERCIAL INSTALLATION, INSTALL TUFF-TITE EF-4 (OR EQUAL) EFFLUENT FILTER IN THE OUTLET TEE ASSEMBLY.

Length 116 inches, width 55 inches, height 65.5 inches

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

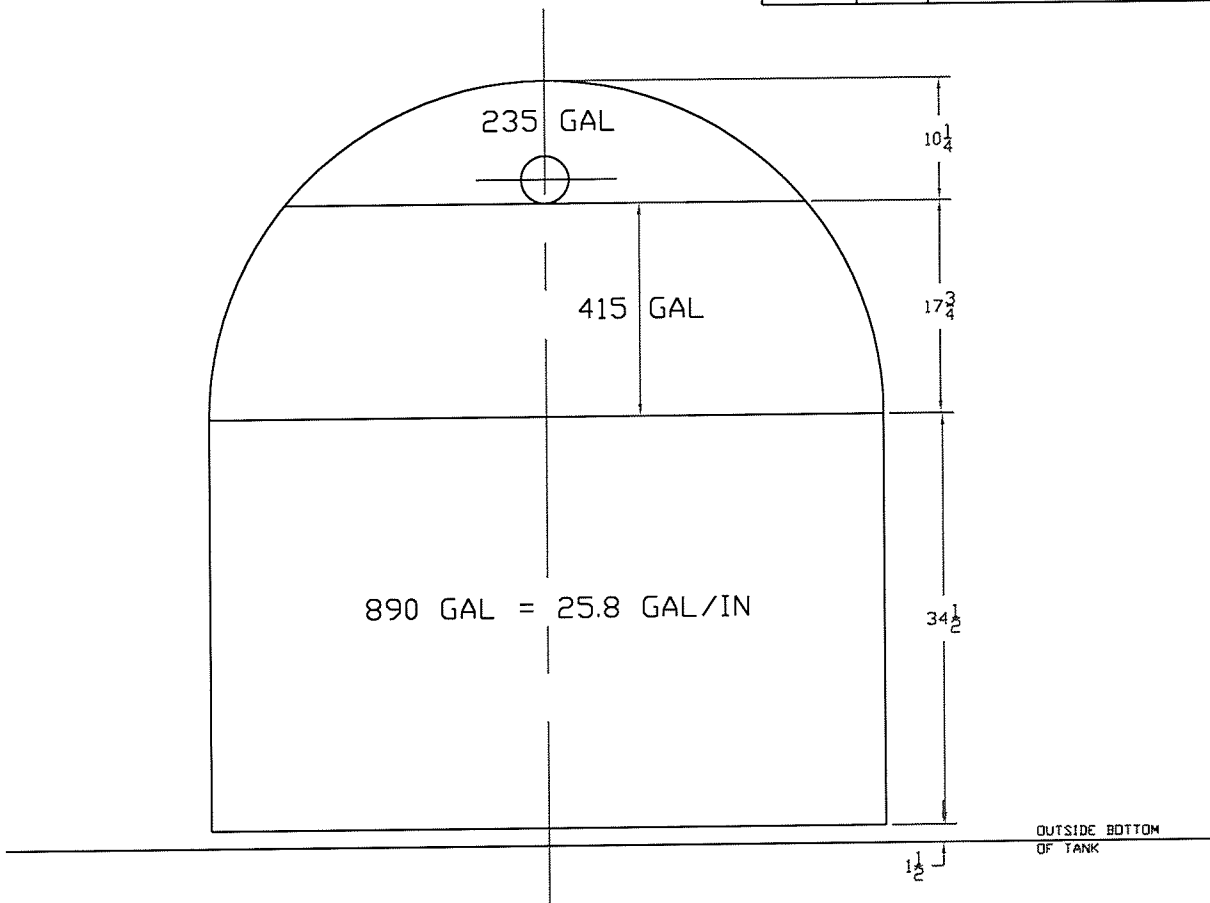
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5 1/2" DIA HOLE

REF: OREGON		NORWESCO ST. BONIFACIUS, MN		
		1250 GAL BRUISER SEPTIC TANK DETAILS		
JTP	29JUL03	SIZE B	FSCM NO.	DWG NO. 4
		SCALE	SHEET	

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

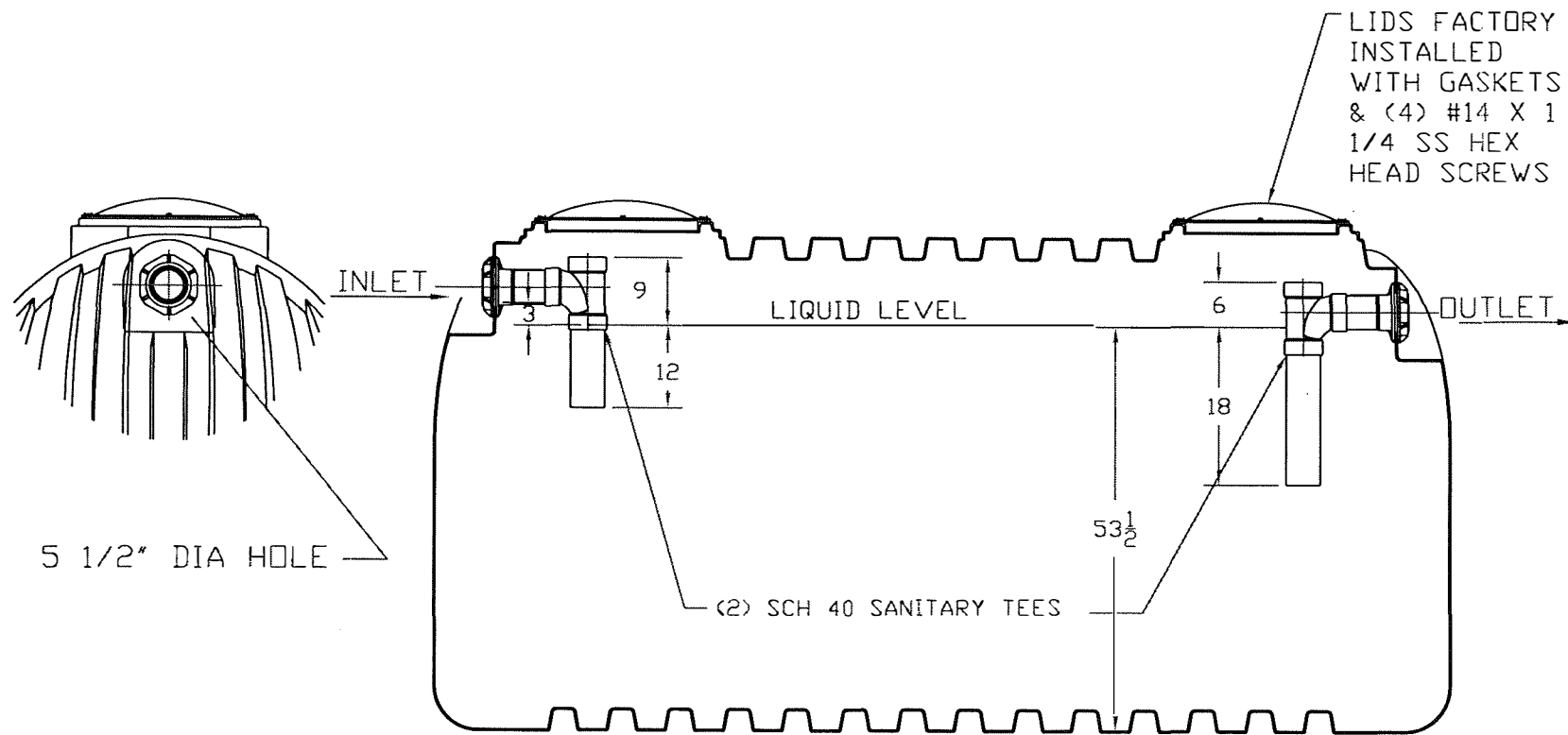


JTP 08JAN02	 ST. BONIFACIUS, MN			
	1250 GALLON SEPTIC TANK VOLUME DISTRIBUTION			
	SIZE A	FSCM NO.	DWG NO.	REV
	SCALE 1/16			SHEET

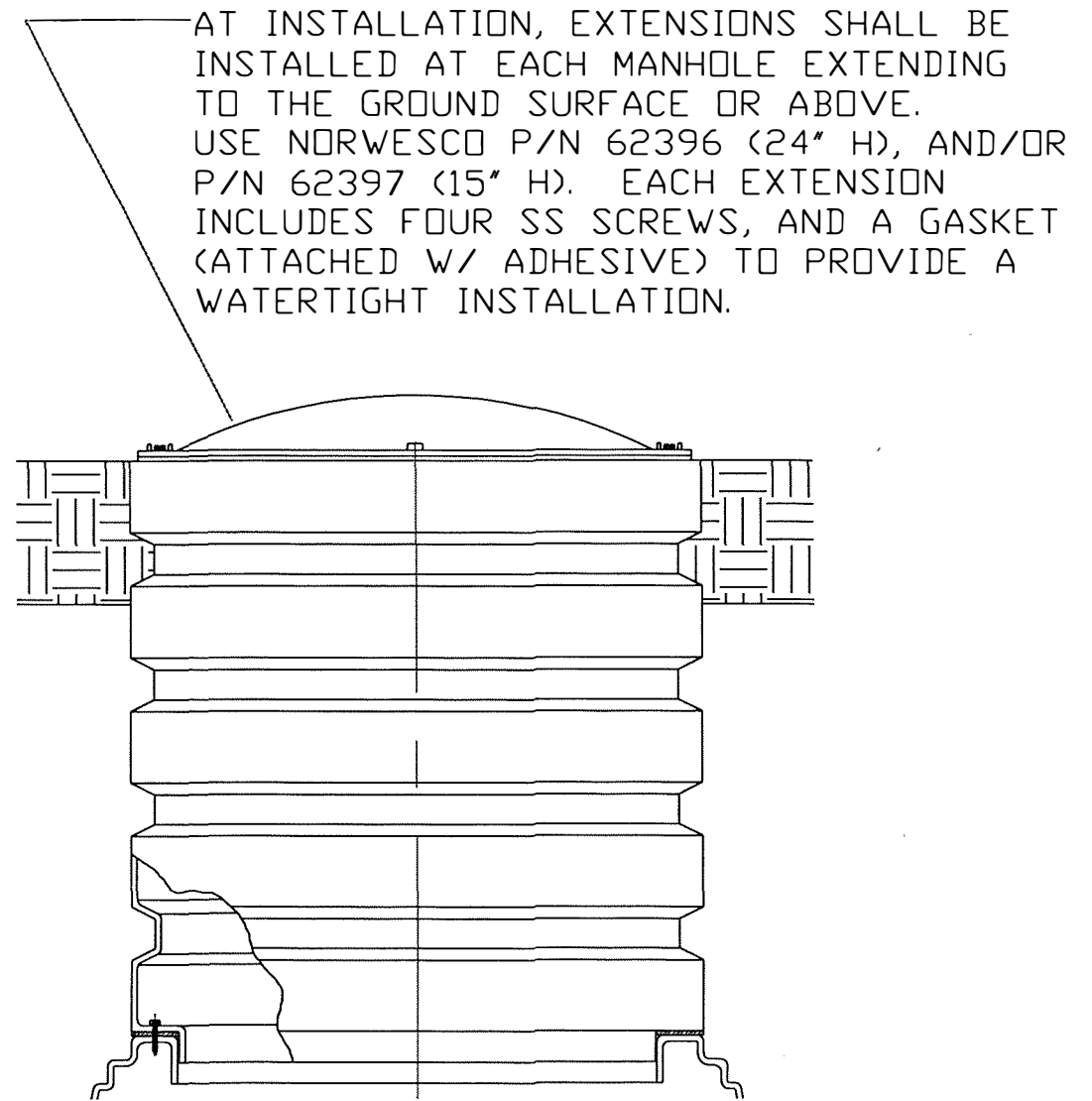
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2. AT INSTALLATION, BLOCK BOTH THE INLET AND OUTLET, AND FILL THE TANK WITH WATER TO A LEVEL TWO INCHES ABOVE THE CONNECTION OF THE RISER TO THE TANK. THE LEAKAGE OVER A 24-HOUR PERIOD SHALL BE LESS THAN ONE GALLON.
3. IF THIS TANK IS USED FOR A COMMERCIAL INSTALLATION, INSTALL TUFF-TITE EF-4 (OR EQUAL) EFFLUENT FILTER IN THE OUTLET TEE ASSEMBLY.

Length 133 inches, width 55 inches, height 65.5 inches

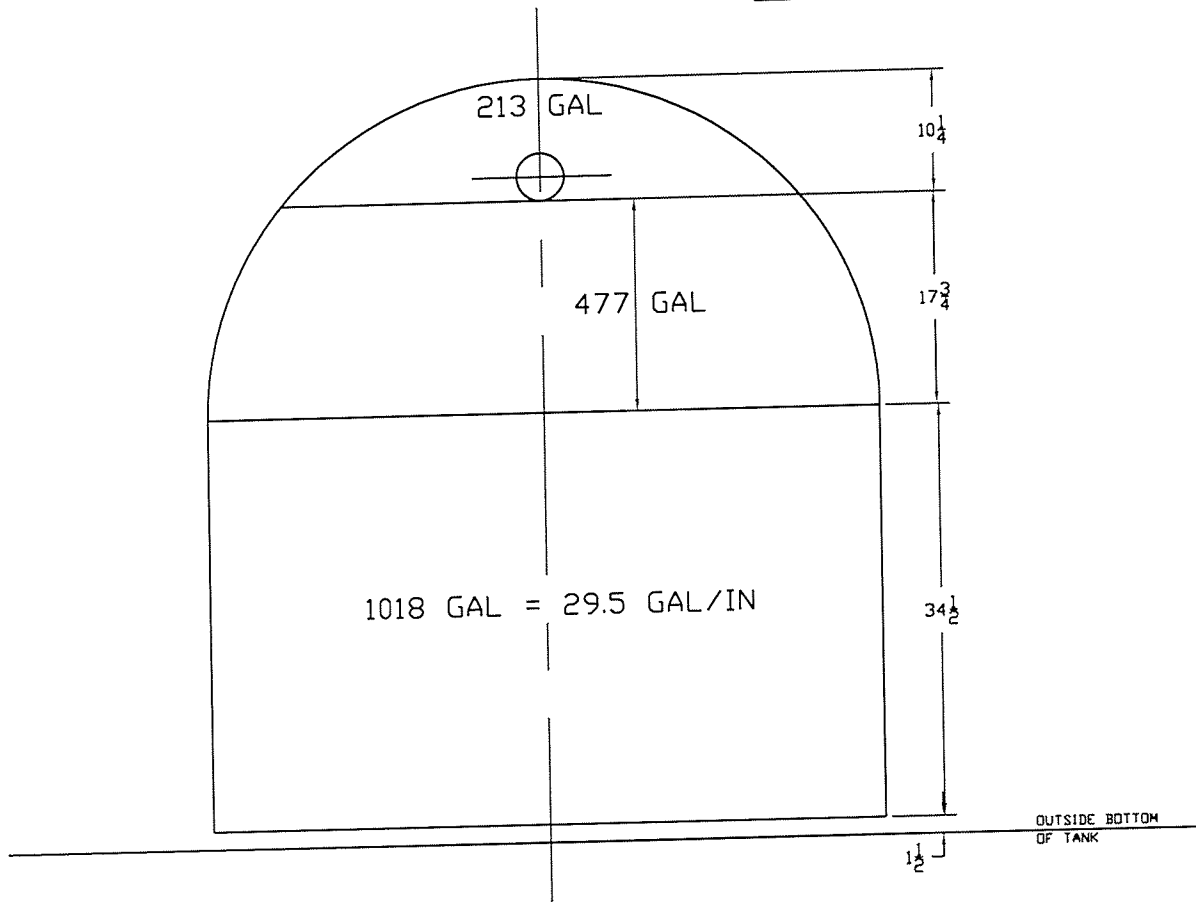


REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



REF: OREGON		NORWESCO		
		ST. BONIFACIUS, MN		
		1500 GAL BRUISER SEPTIC TANK DETAILS		
JTP	29JUL03	SIZE B	FSCM NO.	DWG NO. 4
		SCALE	SHEET	

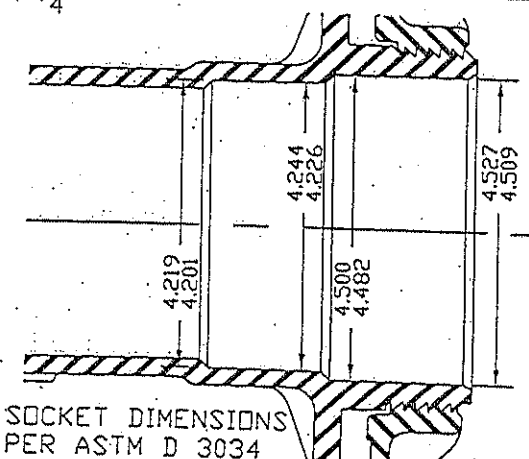
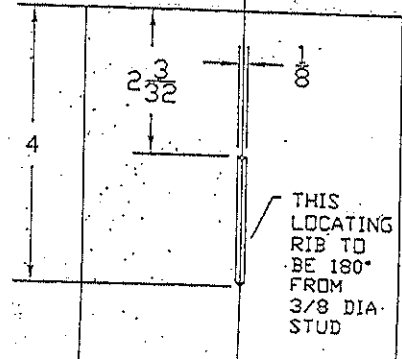
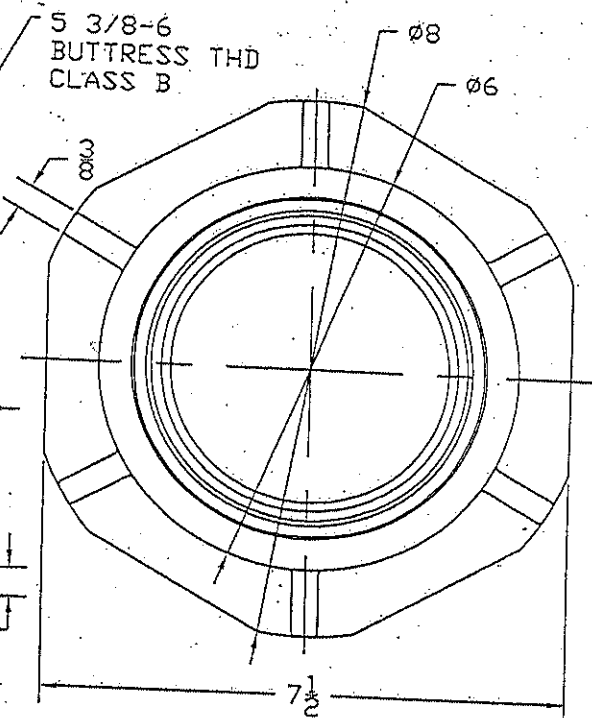
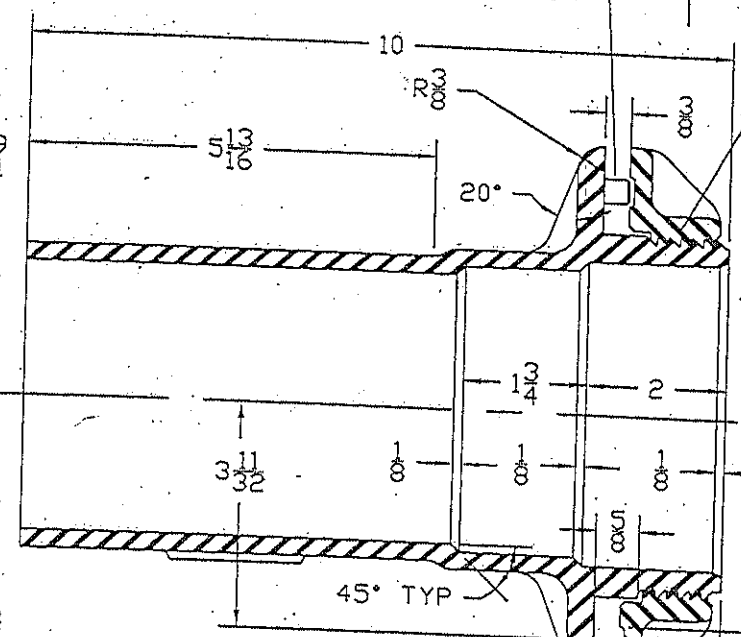
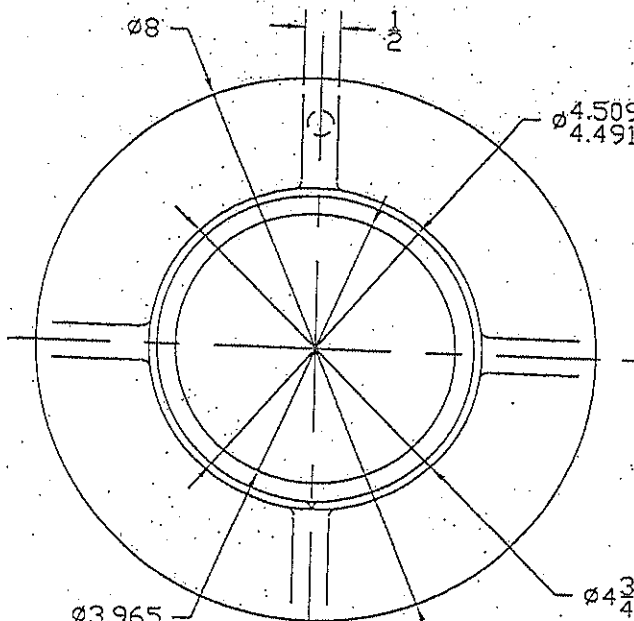
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



	NORWESCO			
	ST. BONIFACIUS, MN			
1500 GALLON SEPTIC TANK				
VOLUME DISTRIBUTION				
JTP 08JAN02	SIZE	FSCM NO.	DWG NO.	REV
	A			
SCALE 1/16			SHEET	

(1) 3/8 DIA STUD X 3/8 L
W/ 1/16 X 45 CHAMFER

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED

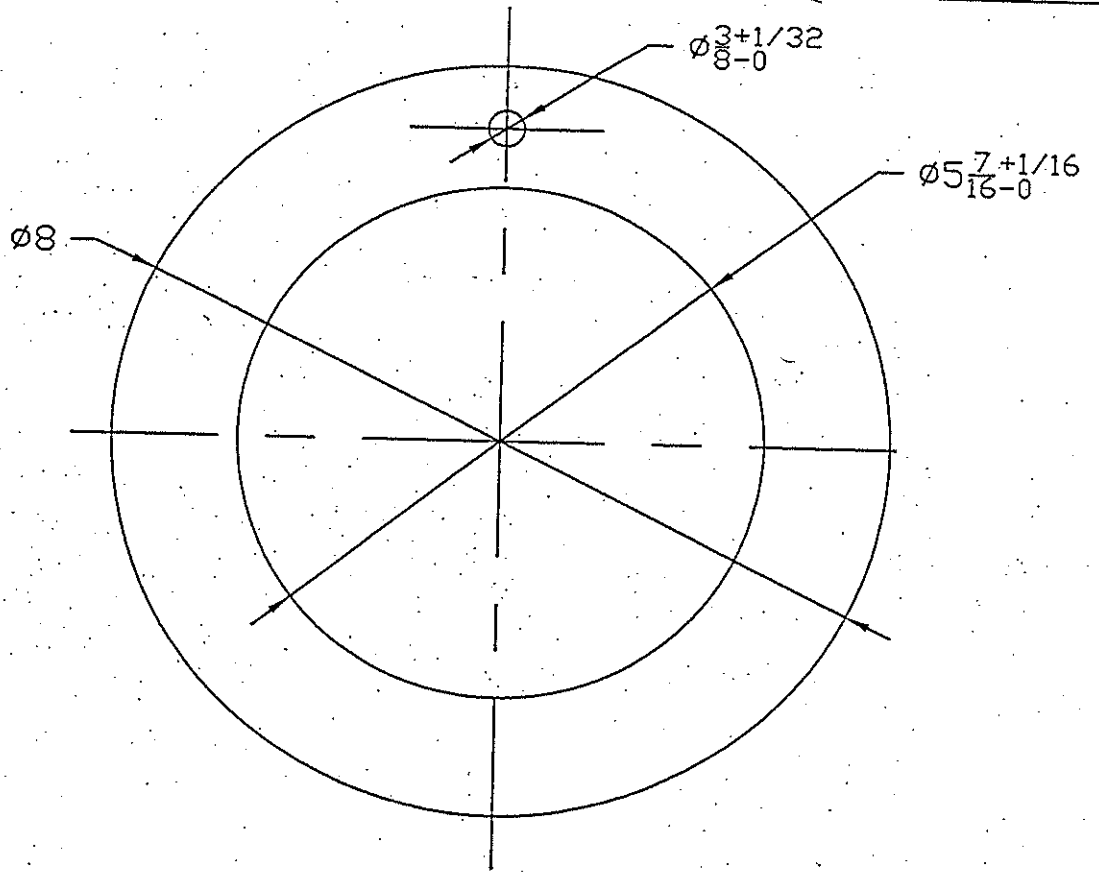
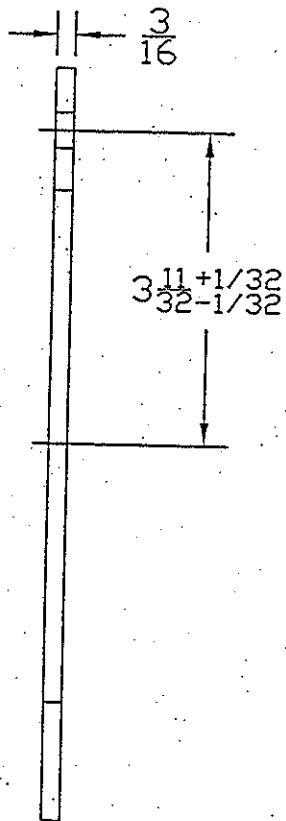


MAT'L:
ADAPTER: WHITE TYPE 1, GRADE 1 PVC
NUT: WHITE TALC-FILLED POLYPROPYLENE

ST. BONIFACIUS, MN				
SEPTIC ADAPTER, SCH 40				
W/ NUT				
JTP.	12JUL02	SIZE B	FSCM NO.	DWG NO. 63152
SCALE 1/2		SHEET		REV

SOCKET DIMENSIONS
PER ASTM D 3034
AND ASTM D 2466

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



MAT'L: EPDM
60 DUROMETER

JTP 13AUG02				
		ST. BONIFACIUS, MN GASKET, SEPTIC ADAPTER FITTING		
SIZE A	FSCM NO.	DWG NO. 63153	REV	
SCALE 1/2		SHEET		