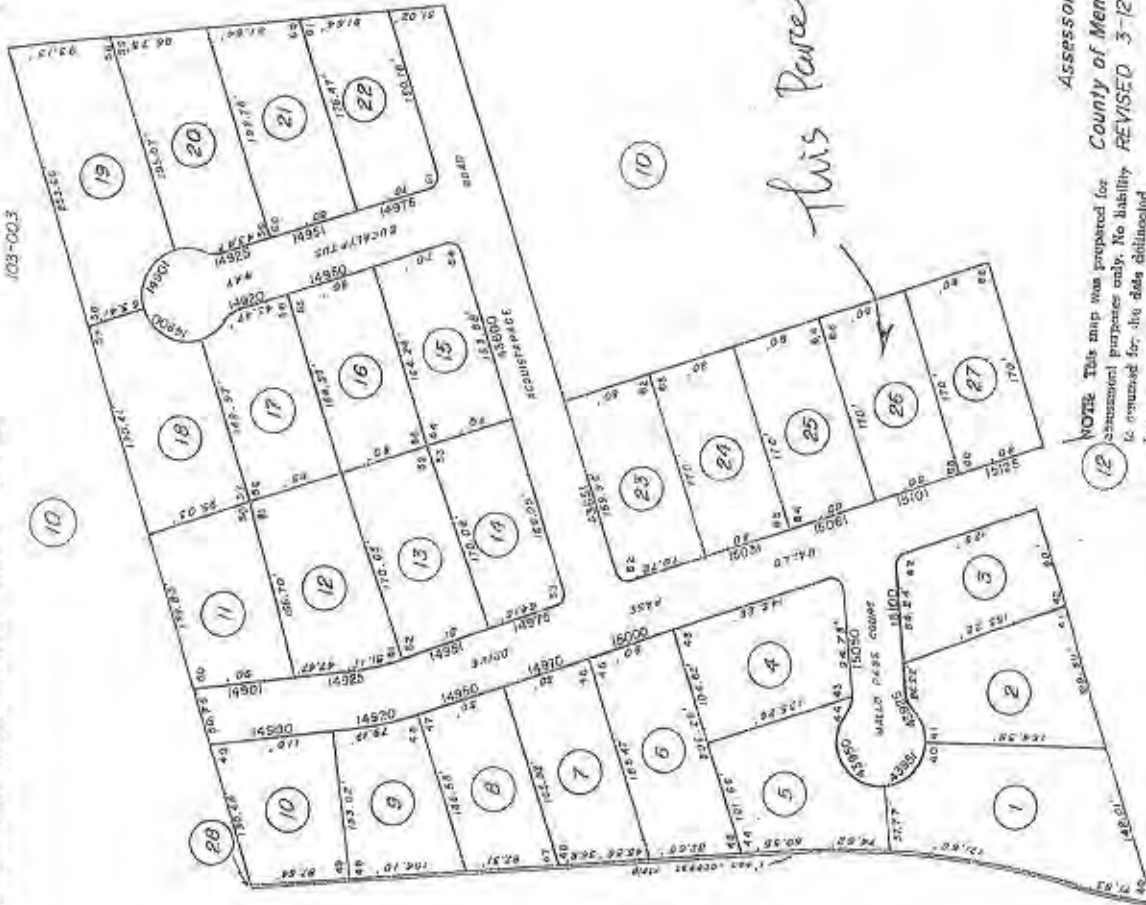


MAPS

Lots 40 thru 66 of Mendocino Coast No. 2

132-11



Assessor's Map
 NOTE: This map was prepared for
 assessment purposes only. No liability
 is assumed for the data delineated
 hereon.

County of Mendocino, Calif.
 REVISED 3-12-87

ROMO LAKE DR

* SEE PROPOSAL FOR ALL DESIGN NOTES + DETAILS

NA
1" = 20'

○ = SOIL PROFILE

INTERMITTENT DRAINAGE

50 FOOT DEEP

APPROXIMATE WATER TABLE POSITION

EXTENT OF TOPSOIL COVER

PRESSURIZED HIGH LINE LEACHFIELD AS DESCRIBED IN PERMITS + REPLACE IN SAME AREA

1500 GALLON CONCRETE SEPTIC TANK / PUMP CHAMBER

POSSIBLE LOCATION OF ONE BRONZE RESERVE

1.5" PVC 80 20 PEXE LINE

BALL VALVES ON EACH FORCE LINE - TO BE ENCLOSED IN RISE + LID - SEE ATTACHED DETAIL

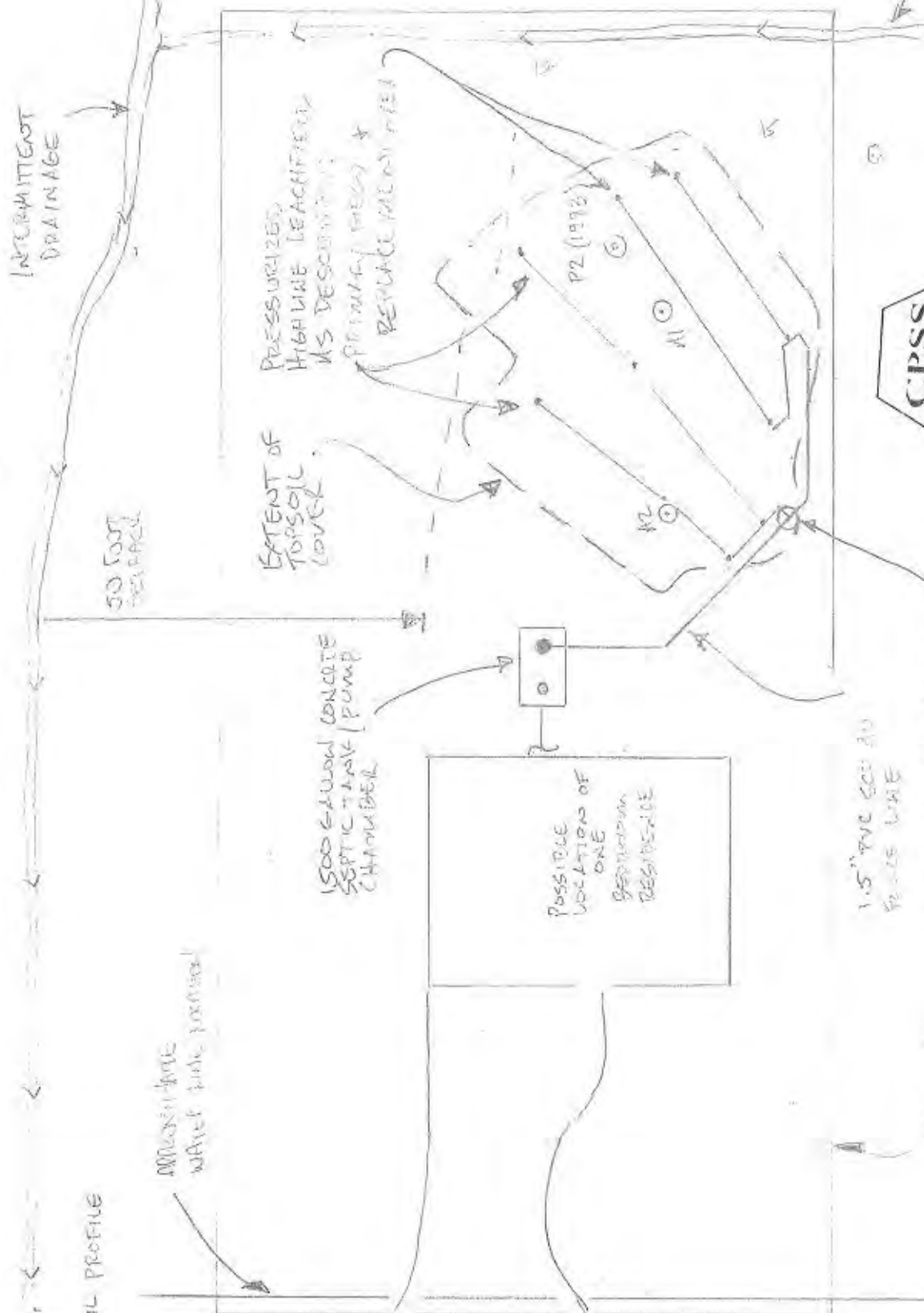
1.5" PVC 80 20 PEXE LINE

MAJOR PASS

SHALLOW SURFACE WATER



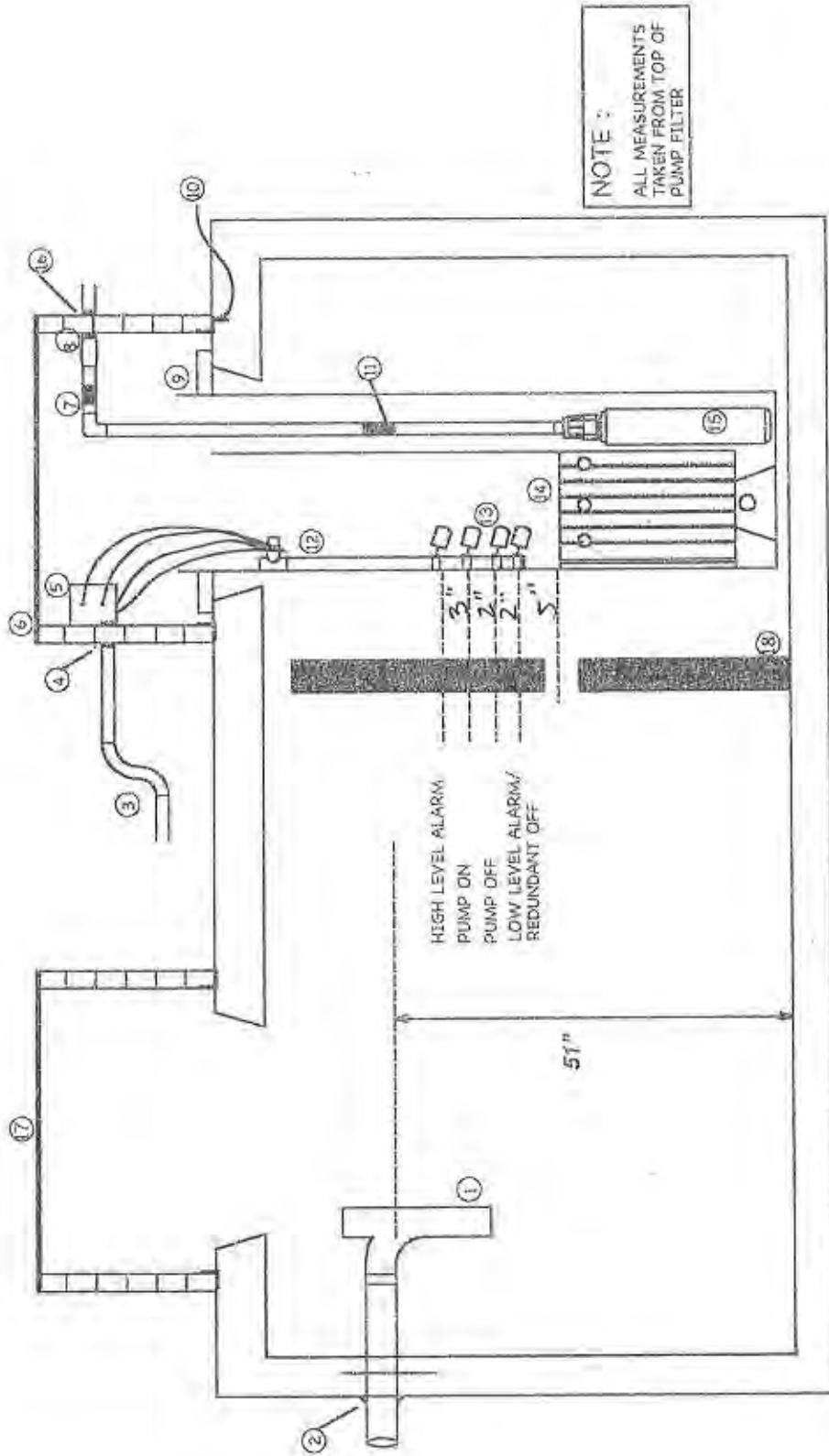
Certified Professional Soil Scientist
CARLA RITTIMAN
02859



SEWAGE SYSTEM DETAILS

REDWOOD VALLEY 1500 GAL. CONCRETE SEPTIC TANK/ PUMP CHAMBER WITH BIOTUBE PUMP VAULT

N.T.S.



NOTE:
ALL MEASUREMENTS
TAKEN FROM TOP OF
PUMP FILTER

- 1. STANDARD INLET TEE
- 2. WATERPROOF NON SHRINK GROUT OR CAST IN COUPLING TO BE USED
- 3. CONDUIT TO POWER SOURCE
- 4. WATERPROOF GROMMET
- 5. ELECTRICAL SPLICE BOX WITH WATERPROOF CORD GRIPS
- 6. 30" O.S.I. PVC RISER AND FIBERGLASS LID WITH STAINLESS STEEL BOLTS AND GASKET
- 7. UNION
- 8. BALL VALVE
- 9. SUPPORT PIPES
- 10. RISERS TO BE BONDED TO TANK IN A WATERPROOF MANNER
- 11. CHECK VALVE
- 12. FLOAT ASSEMBLY BRACKET
- 13. FLOATS
- 14. O.S.I. 12" DIAM. BIOTUBE VAULT
- 15. EFFLUENT PUMP
- 16. WATERPROOF GROMMET
- 17. 24" O.S.I. PVC RISER AND LID WITH STAINLESS STEEL BOLTS AND GASKET
- 18. CONCRETE TANK BAFFLE

CONTROL PANEL MOUNTING

NTS

3/4" MARINE GRADE
PLYWOOD OR
REDWOOD---
4" MIN. LARGER
THAN CONTROL
PANEL

CONTROL PANEL
MOUNTED ON
PLYWOOD OR
REDWOOD

6" x 6" REDWOOD
OR PRESSURE TREATED
POST

NATIVE
GRADE

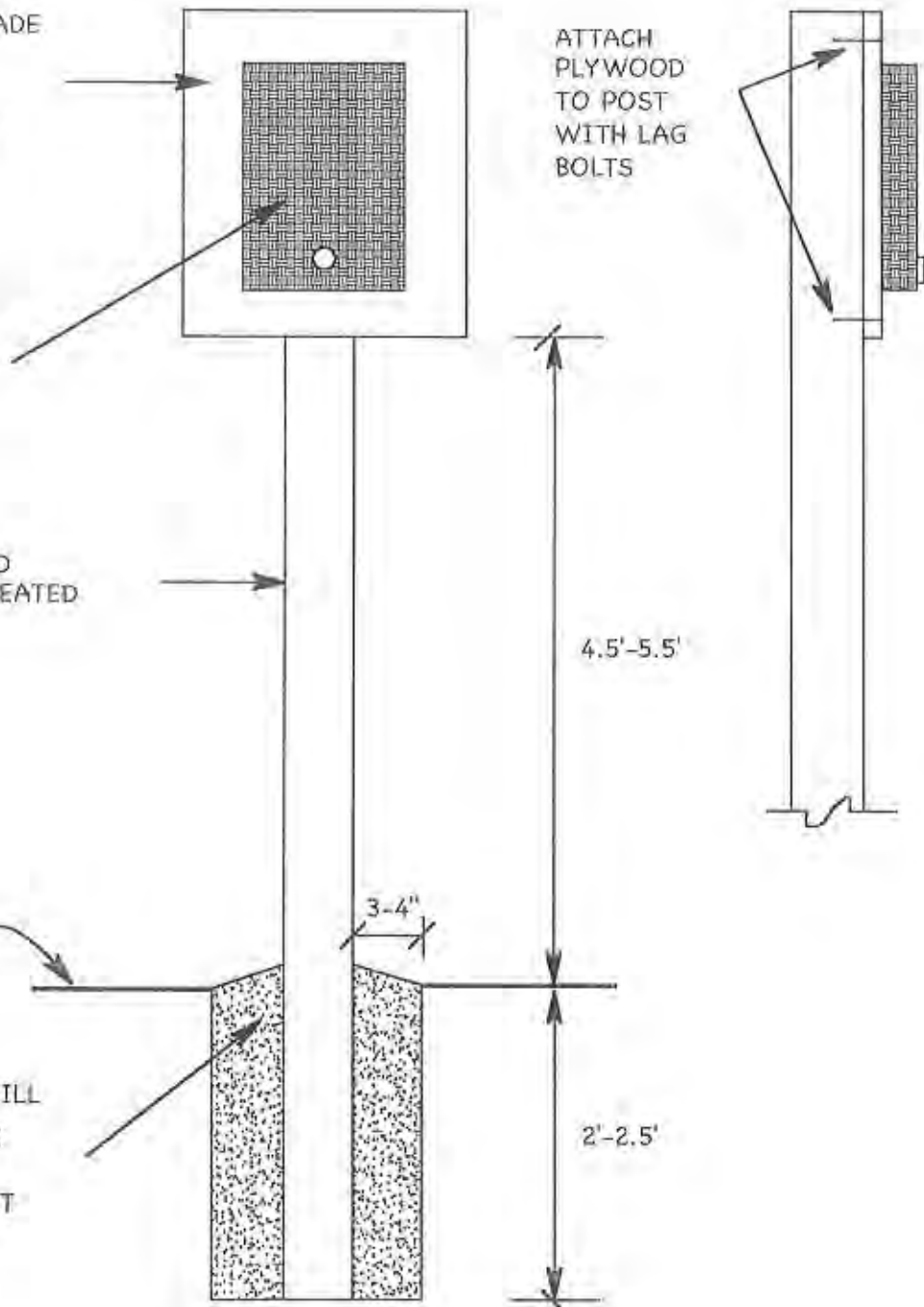
CONCRETE BACKFILL
SLOPE CONCRETE
TO SHED WATER
AWAY FROM POST

ATTACH
PLYWOOD
TO POST
WITH LAG
BOLTS

4.5'-5.5'

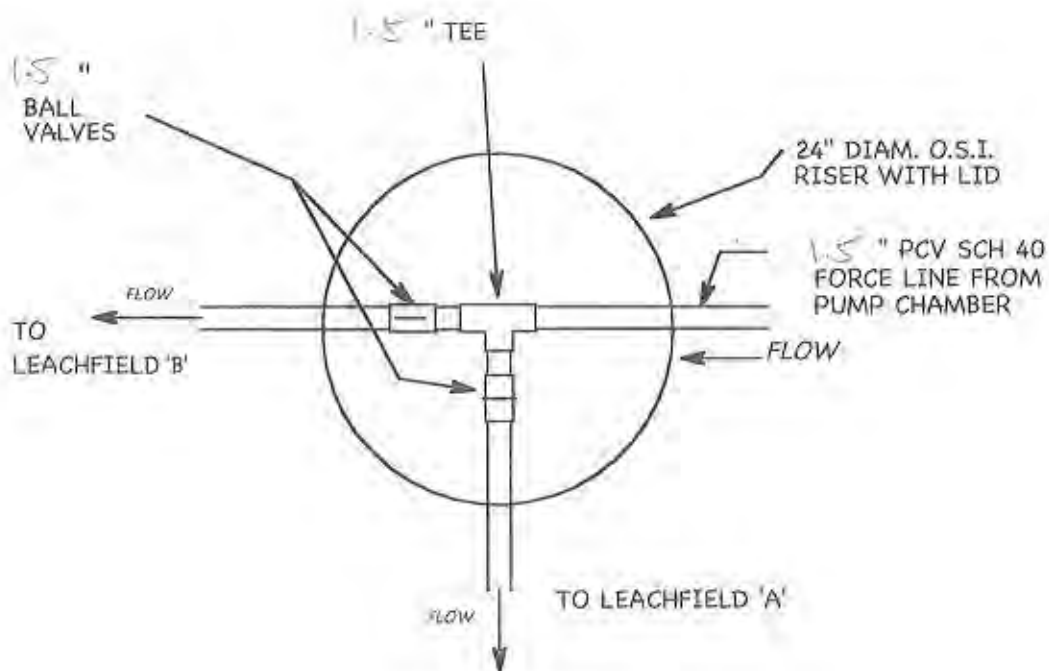
3-4"

2'-2.5'

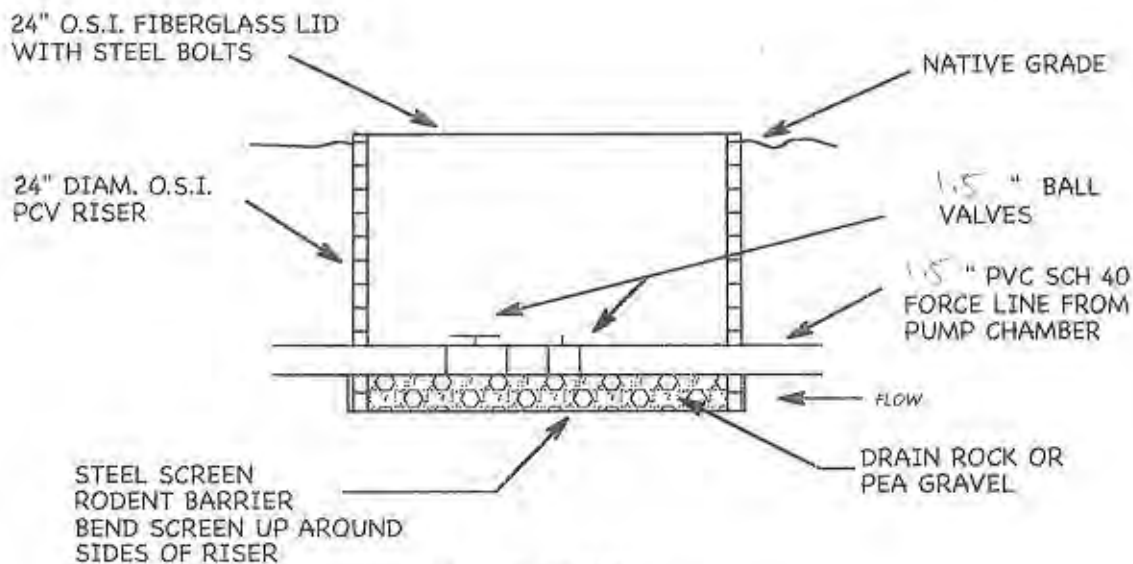


FORCE LINE BALL VALVE DETAIL

NTS



TOP VIEW



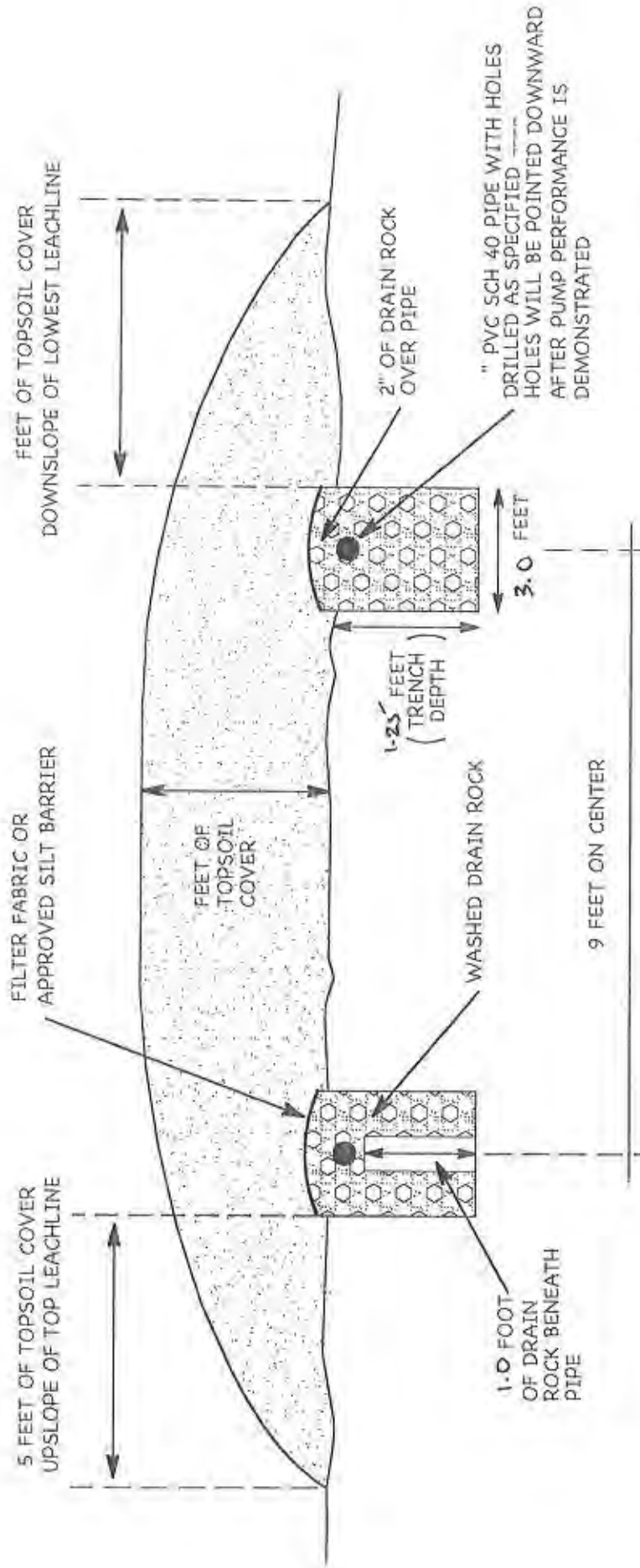
X-SECTION

HIGHLINE LEACHFIELD

NTS

PRESSURIZED LATERALS

SLOPE →



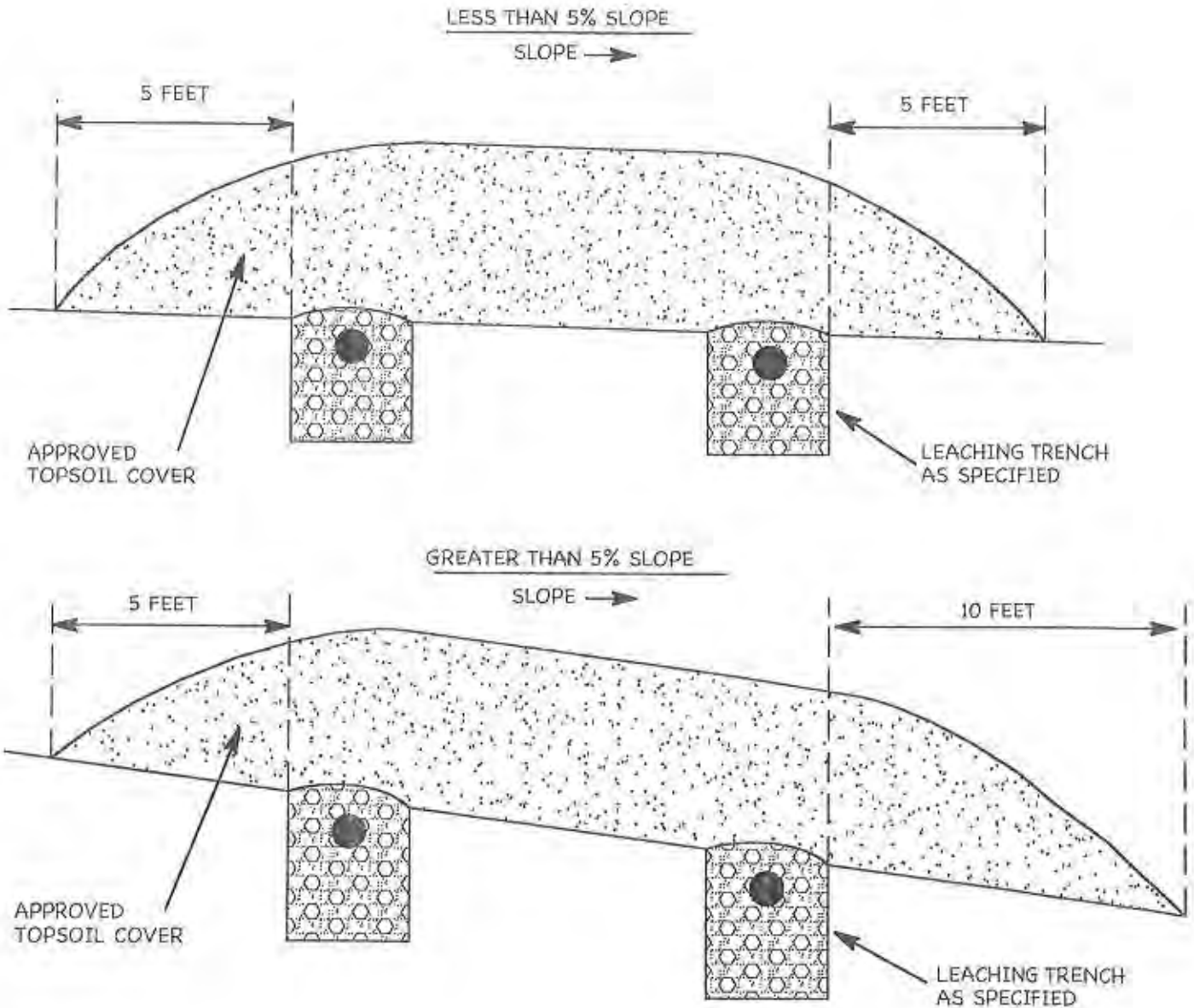
*** MAXIMUM SLOPE ALONG THE TRENCH OF 3"/100'

*** ACTUAL NUMBER OF LEACHING TRENCHES MAY VARY FROM ABOVE DRAWING. SEE PROPOSAL FOR DESIGN SPECIFICATIONS

*** REFER TO LEACHFIELD NOTES FOR ALL CONSTRUCTION SPECIFICATIONS

HIGHLINE TOPSOIL COVER DETAIL

NTS



** REFER TO COMPLETE PROPOSAL FOR TRENCH CONFIGURATION AND TOPSOIL COVER SPECIFICATIONS

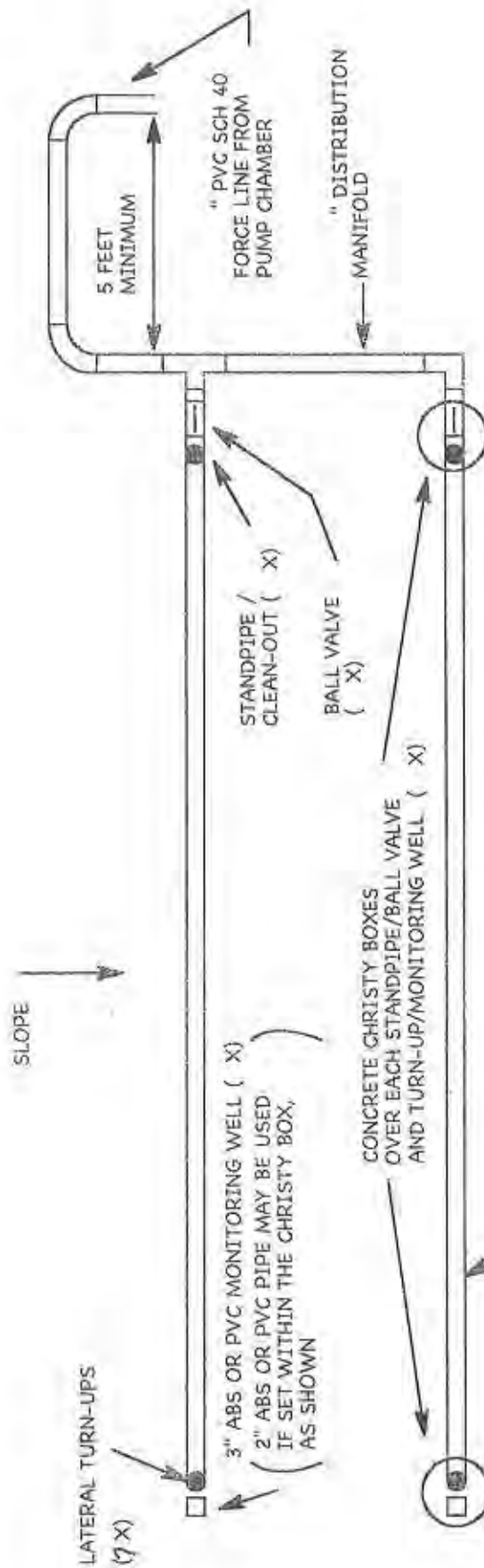
** GROUND SURFACE TO BE TILLED PRIOR TO FILL PLACEMENT. SEE PROPOSAL FOR SPECIFICATIONS

** ACTUAL NUMBER OF LEACHING TRENCHES MAY VARY FROM DRAWING. SEE PROPOSAL FOR DESIGN SPECIFICATIONS

** REFER TO LEACHFIELD NOTES FOR ALL CONSTRUCTION SPECIFICATIONS

LATERAL DETAIL (TOP VIEW)

NTS



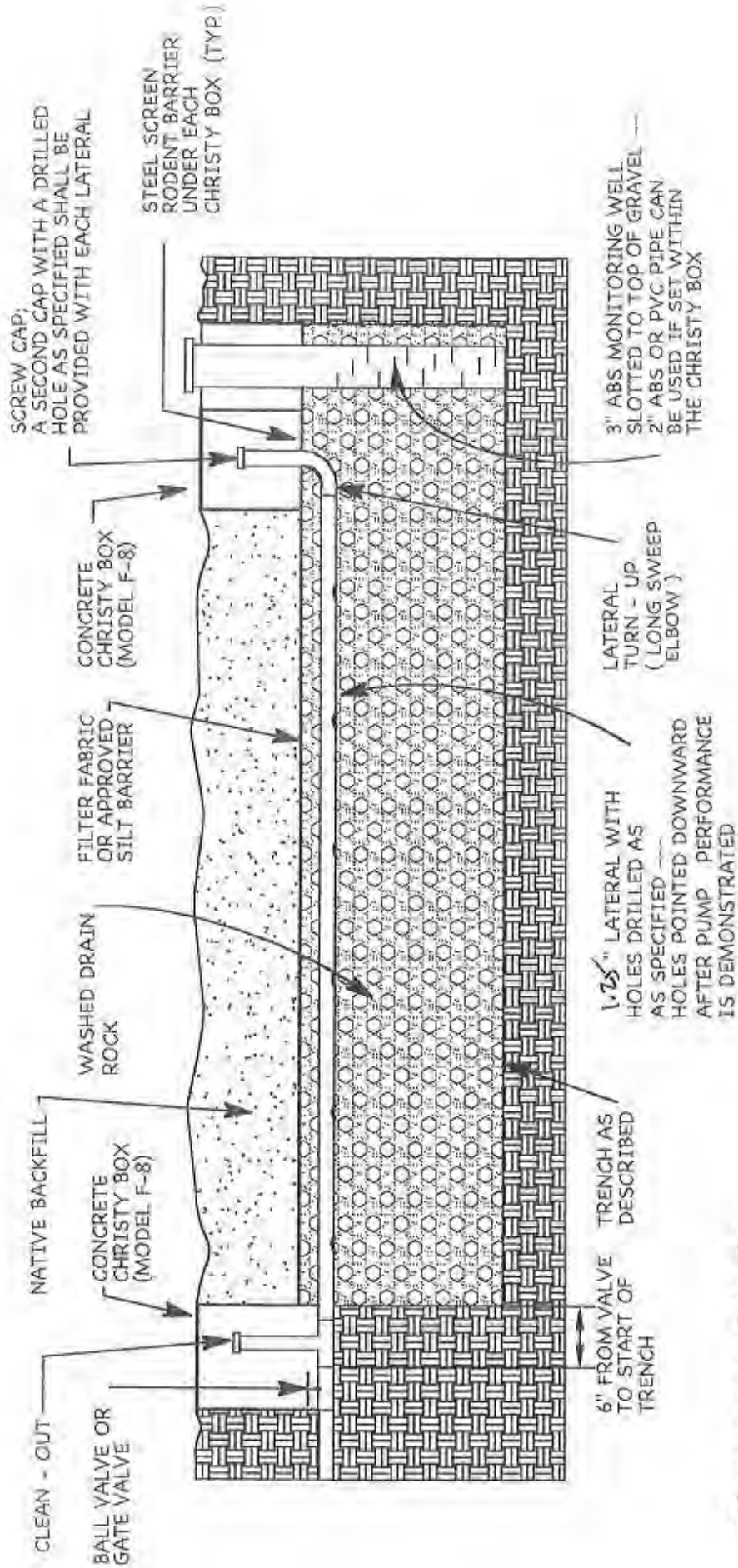
1" PCV SCH 40 LATERALS WITH HOLES DRILLED AS SPECIFIED; HOLES POINTED DOWN AFTER PUMP PERFORMANCE IS DEMONSTRATED

***SEE ATTACHED PLAN FOR REQUIRED LATERAL LENGTH, PIPE DIAMETER AND PLAN SPECIFICATIONS

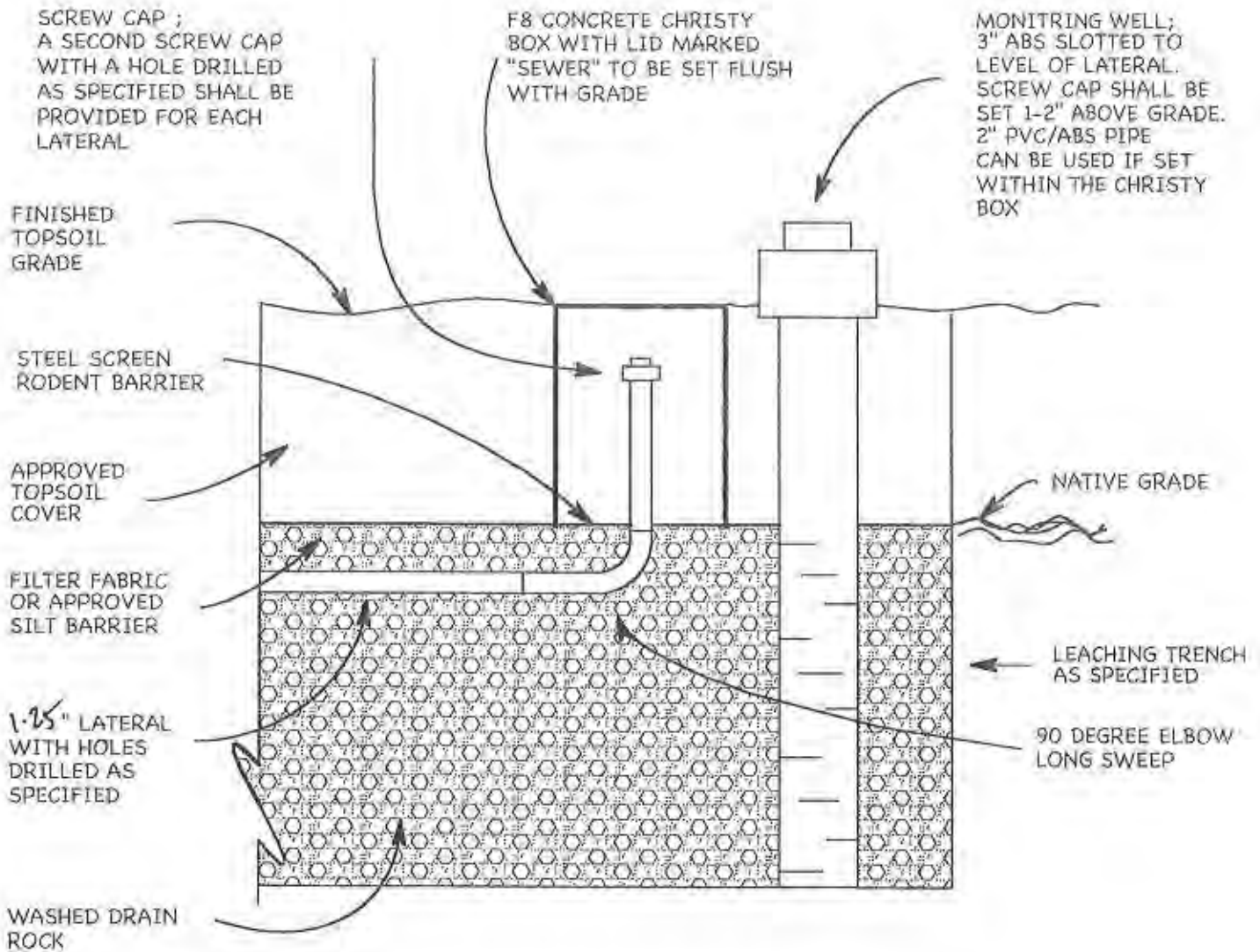
For Primary Leachfield; Duplicate for Replacement Field

HIGHLINE LATERAL DETAIL (SIDE VIEW)

NTS



*** SEE ATTACHED PLAN FOR LATERAL LENGTH, PIPE DIAMETER, AND PLAN SPECIFICATIONS



MONITORING WELL AND LATERAL TURN-UP DETAIL FOR HIGHLINE TRENCH

APPENDIX A
PROPOSAL ABSTRACT

PROPOSAL ABSTRACT:

This parcel is located in the Irish Beach subdivision in Manchester and is accessed off of Mallo Pass Road. The parcel is currently undeveloped.

A SER was prepared for this parcel in 1993 and a Modified Highline leachfield sized to accommodate two bedrooms was proposed and approved. The SER was revised in 2003 and a Highline primary leachfield was approved and the system was sized to accommodate two bedrooms. The approved replacement area consisted of a drip tubing leachfield (in order to reduce the area needed for the replacement area) and the system was located 15 feet from a seasonal surface ditch.

The current owner of the parcel would like to proceed with developing the parcel at this time. The setback to the Irish Beach water main encroached into the approved primary leachfield area. Soil conditions were observed upslope of the approved primary field to determine if the the primary field can be shifted upslope but conditions were found to be shallow to fractured rock. This proposal suggests that the leachfield areas will be located at soil profile P2. Two confirming soil profiles were observed in the area of P2 and similar subsoils were observed as originally reported.

The proposed replacement area will be located within 18 feet of the seasonal surface ditch to the east of the parcel and the primary leachfield shall be 28 feet from the ditch. The systems will be placed in the County's Non-Standard System Program. It is proposed that both leachfield areas be constructed as access for future construction will be difficult after the residence is constructed.

A Pressurized Non-Standard Highline leachfield is proposed for both the primary and replacement leachfield area. The system is sized to accommodate a total of two bedrooms.

APPENDIX B
CALCULATIONS

LEACHING TRENCH CALCULATIONS:

Soils, which fall into Soil Percolation Suitability Zone 2C, will be assigned a soil application rate of 0.5 gallons per square foot per day. Thus, the assigned daily waste water flow of 150 gallons per day, (gpd), can be applied to the soil at this rate:

$$150 \text{ gpd} \div 0.5 \text{ gal/sq ft/day} = 300 \text{ square feet of infiltrative surface required,}$$

The proposed trench configuration provides an allowable 5.0 square feet of leaching area per lineal foot of trench:

$$300 \text{ sq ft} \div 5.0 \text{ sq ft/lineal foot} = 60 \text{ lineal feet.}$$

2 leachlines are proposed for a total of 67 feet for the primary leachfield.

2 leachlines are proposed for a total of 61 feet for the replacement area.

PUMP SYSTEM SPECIFICATIONS: Calculations

Primary leachfield

Supply Line	1.5" PVC SCH 40*
Supply Line Length	50 feet*
Manifold Placement	End feed
Number of Laterals	2
Lateral Length	Line 1: 47 feet; Line 2: 20 feet
Lateral Diameter	1.25" PVC SCH 40
Lateral Spacing	9-10 feet
Hole Size	1/8"
Hole Spacing	36"
Total Number of Holes	23
Flow Per Hole	0.41 gpm
Total Flow	9.4 gpm
Elevational Head	5 feet*
Friction Loss	0.4 feet*
Residual Head	1-5 feet
Total Head	6.4-10.5 feet*
Minimum Pump Requirements	9.4 gpm @ 6.5-10.4 feet head*
Dosing Volume	50-60 gallons
Check Valve Needed?	Yes
Anti-Siphon Needed?	No*

Hole Spacing on Lateral in feet:

Line 1: 1.5, 4.5, 7.5, 10.5, 13.5, 16.5, 19.5, 22.5, 25.5, 28.5, 31.5, 34.5, 37.5, 40.5, 43.5, 46.5,

Line 2: 1.5, 4.5, 7.5, 10.5, 13.5, 16.5, 19.5

***These values are approximate and may change, based on final house location, distance to leachfield and development plans. Consultant will receive the final site map to review all specifications.**

PUMP SYSTEM SPECIFICATIONS: Calculations

Replacement Leachfield

Supply Line	1.5" PVC SCH 40*
Supply Line Length	75 feet*
Manifold Placement	End feed
Number of Laterals	2
Lateral Length	Line 1: 25 feet; Line 2: 36 feet
Lateral Diameter	1.25" PVC SCH 40
Lateral Spacing	9-10 feet
Hole Size	1/8"
Hole Spacing	36"
Total Number of Holes	20
Flow Per Hole	0.41 gpm
Total Flow	8.2 gpm
Elevational Head	5 feet*
Friction Loss	0.4 feet*
Residual Head	1-5 feet
Total Head	6.4-10.4 feet*
Minimum Pump Requirements	8.2 gpm @ 6.4-10.4 feet head*
Dosing Volume	50-60 gallons
Check Valve Needed?	Yes
Anti-Siphon Needed?	No*
Hole Spacing on Lateral in feet:	
Line 1:	1.5, 4.5, 7.5, 10.5, 13.5, 16.5, 19.5, 22.5
Line 2:	1.5, 4.5, 7.5, 10.5, 13.5, 16.5, 19.5, 22.5, 25.5, 28.5, 31.5, 34.5

***These values are approximate and may change, based on final house location, distance to leachfield and development plans. Consultant will receive the final site map to review all specifications.**

APPENDIX C
EQUIPMENT SPECIFICATIONS

PUMP SYSTEM SPECIFICATIONS: Products

Available from:

Redwood Valley Gravel Products
11200 East Road
Redwood Valley, CA 95470
707-485-8585

Manufactured by:

Orenco Systems Incorporated
814 Airway Avenue
Sutherlin, OR 97479
800-348-9843

1. Riser, Lid with Accessories			
PVC Riser	(1)	Model	RR2412*
PVC Riser with 1.5" grommet	(1)	Model	RR3012G150*
Fiberglass lid	(1)	Model	FL24g
Fiberglass lid	(1)	Model	FL30g
Epoxy	(2)	Model	ADH 200
2. Splice Box		Model	SB5
PVC vault with 5 cord grips and 1" outlet			
3. Biotube Pump Vault		Model	PVU641819L
PVC vault with screened vault			
4. Mechanical Switch Float Assembly with High Water Alarm, On, Off and Redundant Off		Model	MF4P
5. Control Panel with Counter, Elapsed Time Meter and Redundant Off; Panel to be set for demand dosing		Model	MVP S-1** CT RO ETM
6. Hose and Valve Assembly 1.5" PVC with ball and check valves		Model	HV150BCX
7. Effluent Pump Curve attached; 115 volt		Model	PF300511
8. Adapter Plate for Pump Tank		Model	RRFTA 30
9. Ball Valve	(4)	Model	VL1250S
10. Force line ball valves	(2)	Model	VL1500S
11. Force line ball valve enclosure and lid	(1)	Model	RR2412
	(1)	Model	FL24g

*Riser heights are listed as 12 inches for septic tank / pump tank. Those heights may need to change, based on actual field measurements and the final depths of the tanks.

** Control panel will require that system installer change the panel mode from 'timed dosing' to 'demand dosing' and remove the terminal link between terminals 3 and 4.

EQUIPMENT INSTALLATION NOTES:

1. A permit from the Mendocino County Building Department will be required to connect electricity to the control panel.
2. County DEH must be notified a minimum of 48 hours prior to the pump test and must be present when pump performance is demonstrated unless other arrangements are made. Contact County DEH for inspection requirements.
3. County DEH must be contacted during various phases of pressure system/pump system construction to inspect lateral layout, system performance and pump chamber equipment. Contact County DEH for inspection requirements.
4. Installer shall contact Consultant prior to ordering any of the above-specified products. Certain item numbers are based on the pump chamber dimensions and **final development plans**. Installer shall contact Consultant with the tank dimensions and the final site plans that are to be used.
5. **All equipment specifications shall be reviewed when a final site map is available.**
6. Set floats to deliver 50 to 60 gallons per cycle. See attached detail for float settings.
7. Set the floats to allow for a minimum of 250 gallons of reserve capacity within the pump chamber for times of power outages or equipment failure. See attached detail for float settings.
8. No driving shall take place over the septic tank / pump chamber.
9. The risers shall be set flush to grade. **The height of the risers shall be changed in order to match the site and final installation depth.** (County DEH requires a minimum of 12 inches of soil cover over a tank.)
10. Do not backfill around the risers until the epoxy has dried.
11. Slope the soil backfill around the risers in such a manner that water does not pond over the risers.
12. If no grooves are cast into the tops of the tank(s), then tank/riser adapter plates will be needed. The plates shall be bonded and bolted (min. of 12 bolts) to the top(s) of the tank(s) to form a watertight seal. The model number for the plates is RRFTA. **An adapter plate will be needed for the outlet port of the septic tank/ pump chamber to attach the specified 30-inch diameter riser.** It is recommended that 'swellstop' butyl strips and wedge anchor bolts be used.
13. Divert all building and site drainage away from the tanks.

EQUIPMENT INSTALLATION NOTES CONTINUED:

14. A watertightness test will be required on this tank. The tank shall be filled with water, to a height of 2 inches into the concrete lid, and no drop greater than one inch in 24 hours shall be tolerated. All inlet and outlet plumbing shall be in place for the test.
15. All pump equipment shall be installed as per manufacturer's specifications.
16. The installer or electrician shall contact the Consultant or manufacturer with any pump equipment installation questions *prior* to beginning installation.
17. All electrical splices shall be made watertight.
18. The pump control panel shall receive power through the main house panel and shall be provided with two dedicated breakers within the service panel (one for the pump and one for the floats).
19. The pump alarm/control panel shall be mounted on a post or on the house between the heights of 4 and 5 feet. The panel shall be mounted at a location where it is visible from the pump chamber and also at a location where it can clearly be heard from within the house. Due to noise from within the panel, it is recommended that the panel be mounted on an exterior wall of a *non-living quarter* room (if mounting is on the house). *The panel shall be placed at a location where it is accessible to maintenance personnel at all times. The panel shall not be installed in any interior locations such as a garage, shed or utility closet.*
20. Christy boxes shall be set flush to grade over each ball valve, clean-out and lateral turn-up. Model F-8 shall be used in non-traffic areas. The lids shall be marked 'sewer'.
21. The Consultant shall be contacted with any questions regarding the distribution manifold and pressure lateral installation.
22. If installer has any questions regarding this proposal, contact Consultant prior to construction.
23. Any deviation from this plan must first be cleared with Consultant and County DEH.

PVC Access Riser Installation

Installing PVC Access Risers onto Cast-In Orenco® Riser-Tank Adapters

Access risers provide access to septic tank openings, simplifying inspection and maintenance procedures. Access riser-to-tank connections must be watertight for the proper functioning of an onsite septic system or effluent sewer system. Orenco strongly recommends watertightness testing of all access riser-to-tank connections after installation.

Choosing Your Instruction Set

Following are instruction sets for prepping and installing access risers, installing grommets, and selecting adhesives for riser installations. Refer to the chart below to determine which instruction set to use.

Instruction Set	Page
1. Riser Preparation	1
2. Grommet Installation	2
3. Riser Installation — PRTA24-2 Adapters	3
4. Riser Installation — RRFTA, RRFTA30 Adapters	4
5. Riser Installation — PRTA24, PRTA30, and FRTA36 Adapters	5
6. Adhesive Selection and Quantities	6

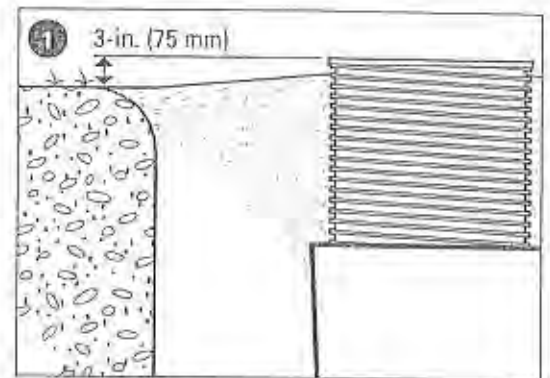
Instruction Set 1: Riser Preparation

Step 1: Determine Riser Height

Determine the necessary height for the riser. It should extend about 3 inches (75 mm) above finished grade after installation and backfilling — 2 inches (50 mm) for tank settling and 1 inch (25 mm) to ensure drainage away from the riser.

Step 2: Cut Riser to Size (if Necessary)

If the riser has not already been cut to the correct height, use a circular saw or table saw to cut the riser to size. To insure a good fit and watertight joint between the access riser and the adapter, Orenco recommends using an Orenco riser-cutting saw guide for square, even cuts.



Step 3: Dry Fit Riser to Adapter

Step 3a: Dry fit the riser to the adapter. If the riser has been pre-drilled for wiring and plumbing penetrations, make sure that the sizes and locations of the penetrations on the riser are correct.

Step 3b: If the riser stands more than about 3 inches (75 mm) above the estimated final grade, cut it to size per the instructions in step 2.

IMPORTANT: If you have to cut a riser to shorten it, always cut excess length from the bottom of the riser.

NOTE: If the riser is too short, an Orenco grade ring can be used to extend it.

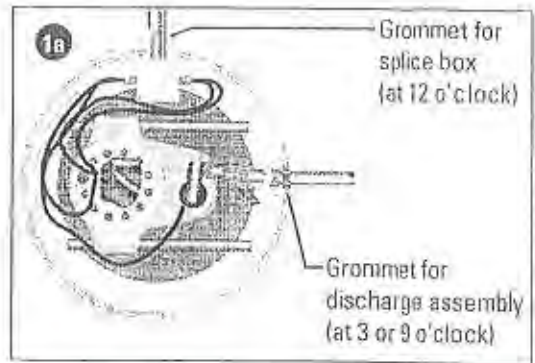
Instruction Set 2: Grommet Installation

Step 1: Mark Access Riser

Step 1a: Check site plans or drawings to determine if the riser requires penetrations and grommets. Use the plans or drawings when marking the location of riser penetrations. If no plans are available, use the drawing at left as a general guide for locating riser penetrations.

Step 1b: Mark the riser for location of the grommets.

Note: When drilling Perma-Loc™ risers, try to avoid cutting through the pipe seam — the extra thick rib — unless it is unavoidable.



Step 2: Drill and Clean Access Riser Penetrations

Step 2a: Drill holes for riser penetrations.

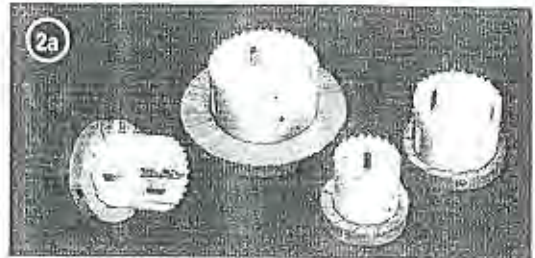
Using Orenco® RKHS Hole Saw ...

Use a correctly sized RKHS hole saw and a drill of at least 18 volts to cut the hole and grind the ribs down until there is a flat, smooth surface for installing the grommet. Do not grind too deeply into the riser — about 1/8 inch is sufficient.

Using Standard Hole Saw ...

1. Use a 4-inch (100-mm) grinder or cutting tool to notch the ribs through to the wall of the riser in an area about 1 inch (25 mm) larger than the diameter of the grommet.
2. Use a hammer and chisel to break the notched ribs off of the riser.
3. Use a grinder to remove any remaining rib material and make a flat, smooth surface about 1 inch (25 mm) larger than the diameter of the grommet.
4. Use a correctly sized hole saw to cut the hole in the center of the flat, smooth surface.

Step 2b: Use a wire brush to clean up the cut; then deburr the edges of the opening with a deburring tool or knife, being careful not to enlarge the opening.



Step 3: Install Grommet in Riser Penetration

Step 3a: Apply a bead of adhesive to the groove in the grommet's outer diameter.

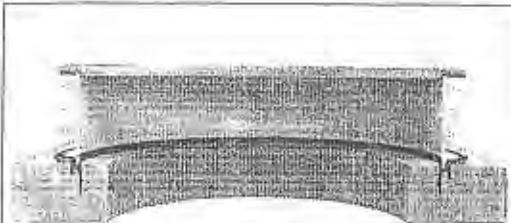
Step 3b: Firmly press the grommet into the riser penetration.

Grommet Hole Sizing Guide

Grommet size, inches (nominal IPS pipe size)	Hole saw size
1/2	1
3/4	1-1/4
1	1-3/8
1-1/4	1-3/4
1-1/2	2-1/8
2	2-3/4
3	3-1/2
4	5



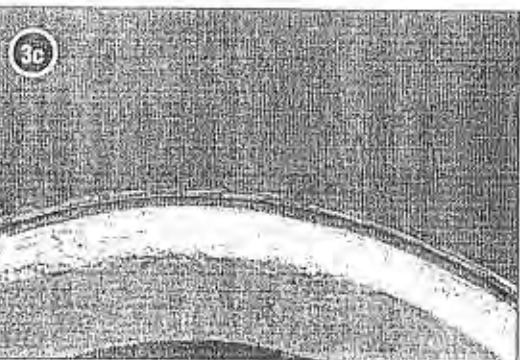
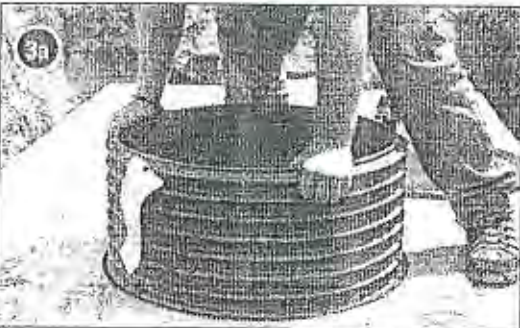
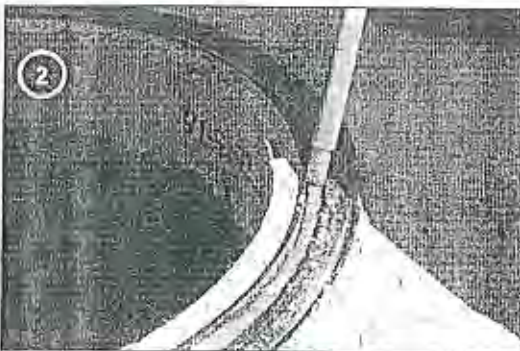
For more information on grommet dimensions and actual pipe O.D., see the Orenco Technical Data Sheet for grommets, NTD-RLA-PG-1



Cutaway view of Orenco® PRTA24-2, cast into concrete tank with 24-inch (600-mm) access riser attached



Riser adapter channel



Instruction Set 3: Riser Installation — PRTA24-2 Adapters

Step 1: Clean Riser Adapter Channel and Riser Surfaces

Step 1a: For the best bond, roughen the bonding surfaces of the adapter and riser with sandpaper.

Step 1b: Use a clean cloth and acetone to remove any dirt, debris, and moisture from the tank adapter channel. The channel must be clean and dry for a good fit and watertight joint.

Step 1c: Use a clean cloth and acetone to clean the bonding surface of the riser.

Step 2: Apply Adhesive to Riser Adapter Channel

Fill the channel with methacrylate adhesive.

NOTE: Self-leveling methacrylate adhesive is recommended for this operation. If non-self-leveling methacrylate adhesive is being used, be sure to apply a large enough bead to fully fill the channel, with no voids in the adhesive.

Step 3: Install Riser into Tank Adapter Channel

Step 3a: If the riser has penetrations, align the riser correctly.

Step 3b: Firmly press the bottom of the riser into the channel while slightly twisting the riser back and forth to fully seat it and to create a good bond.

Step 3c: If using non-self-leveling adhesive, it may be necessary to use a putty knife, tongue depressor, or clean shop rag to create a continuous adhesive fillet between the tank adapter and the inside of the riser after the riser has been installed.

Step 4: Perform Watertightness Test

NOTE: Follow the tank manufacturer's instructions for backfilling and watertight testing. General guidelines for watertight testing are provided below.

Step 4a: Make sure the adhesive has set and that the tank has been backfilled according to the manufacturer's instructions – typically to the tank's midpoint.

Step 4b: Plug the inlet (and outlet, if present) of the tank with watertight plugs.

Step 4c: Fill the tank with water to a level 2 inches (51 mm) into the riser.

Step 4d: Follow the tank manufacturer's recommendations (or applicable local regulations) for wait times before inspecting the tank for leaks. Orenco recommends at least 30 minutes for its fiberglass tanks. At the end of the test, there should be no drop in liquid level and no visible leakage from seams, pinholes, or other imperfections.

Step 4e: Once the tank is proven watertight, remove the plug(s) and drop the water level in the tank to just below the invert of the inlet or outlet, whichever is lower.

Instruction Set 4: Riser Installation — RRFTA and RRFTA30 Adapters

Step 1: Prep and Clean Tank Adapter Channel, Riser Surfaces

Step 1a: Roughen the correct tank adapter channel with sandpaper. For RRFTA adapters, the smaller channel fits 21-inch (525-mm) risers and the larger channel fits 24-inch (600-mm) risers. RRFTA30 adapters have a single channel for 30-inch (750-mm) risers.

Step 1b: Use a clean cloth and acetone to remove any dirt, debris, and moisture from the channel. The channel must be clean and dry for a good fit and watertight joint.

Step 1c: Use a clean cloth and acetone to clean the bonding surface of the riser.

Step 2: Apply Adhesive to Adapter Channel

Fill the channel with methacrylate adhesive.

NOTE: Self-leveling methacrylate adhesive is recommended for this operation. If non-self-leveling methacrylate adhesive is being used, be sure to apply a large enough bead to fully fill the channel, with no voids in the adhesive.

Step 3: Install Riser into Tank Adapter Channel

Step 3a: If the riser has penetrations, align the riser correctly.

Step 3b: Firmly press the bottom of the riser into the channel while slightly twisting the riser back and forth to fully seat it and to create a good bond.

Step 4: Perform Watertightness Test

NOTE: Follow the tank manufacturer's instructions for backfilling and watertight testing. General guidelines for watertight testing are provided below.

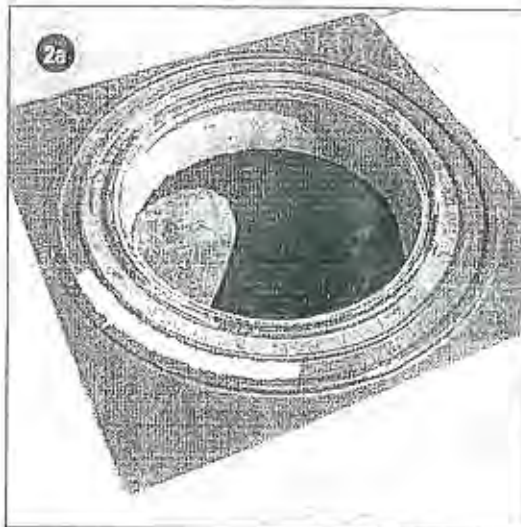
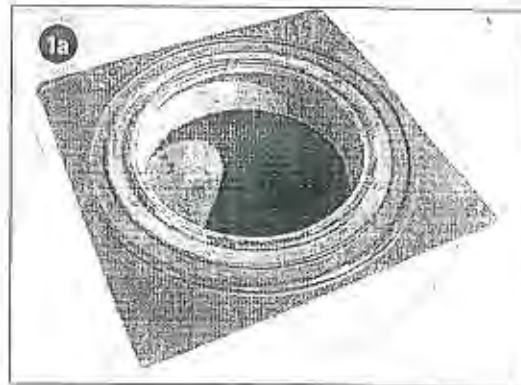
Step 4a: Make sure the adhesive has set and that the tank has been backfilled according to the manufacturer's instructions – typically to the tank's midpoint.

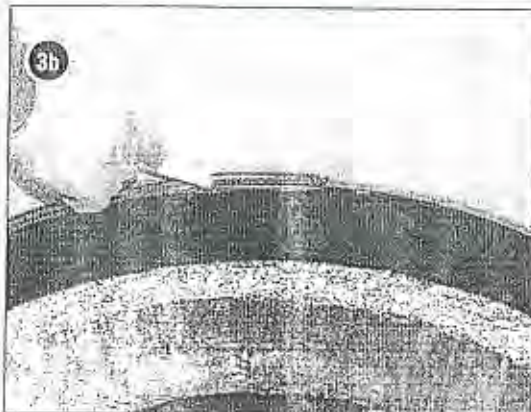
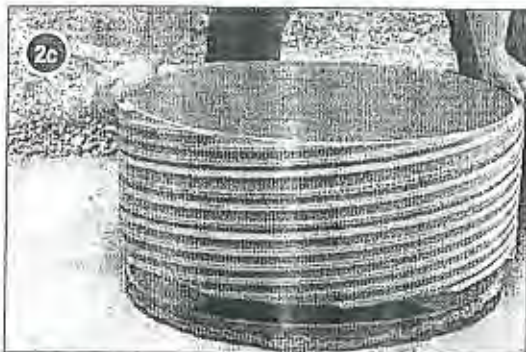
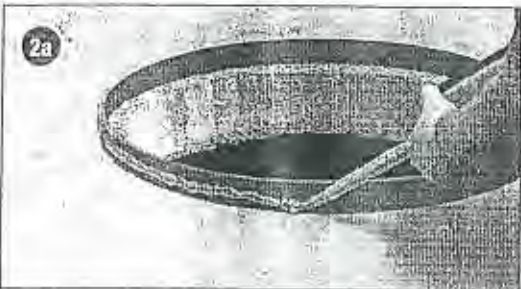
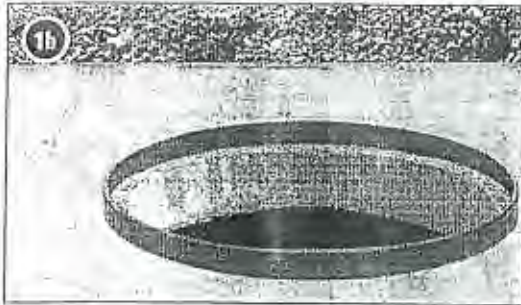
Step 4b: Plug the inlet (and outlet, if present) of the tank with watertight plugs.

Step 4c: Fill the tank with water to a level 2 inches (51 mm) into the riser.

Step 4d: Follow the tank manufacturer's recommendations (or applicable local regulations) for wait times before inspecting the tank for leaks. Orenco recommends at least 30 minutes for its fiberglass tanks. At the end of the test, there should be no drop in liquid level and no visible leakage from seams, pinholes, or other imperfections.

Step 4e: Once the tank is proven watertight, remove the plug(s) and drop the water level in the tank to just below the invert of the inlet or outlet, whichever is lower.





Instruction Set 5: Riser Installation — PRTA24, PRTA30, and FRTA36 Adapters

Step 1: Clean Tank Adapter Sleeve and Riser

Step 1a: For the best bond, roughen the bonding surfaces of the adapter and riser with sandpaper.

Step 1b: Use a clean cloth and acetone to remove any dirt and debris from the outside of the tank adapter sleeve. The adhesive surface must be clean and dry for a good fit and watertight joint.

Step 1c: Use a clean cloth and acetone to clean the bonding surface of the riser.

Step 2: Install Riser on Tank Adapter Sleeve

Step 2a: Apply a bead of methacrylate adhesive to the outside of the adapter.

Step 2b: If the riser has penetrations, align the riser correctly.

Step 2c: Firmly press the riser while slightly twisting the riser back and forth until the bottom of the riser is resting on the concrete (cast-in adapters) or the adapter flange (bolted-down adapters).

Step 3: Apply Adhesive Bead to Inside Joint

Step 3a: Apply a bead of methacrylate adhesive to the inside of the access riser-adapter joint.

Step 3b: Use a putty knife, tongue depressor, or clean shop rag to make a continuous fillet on the inside of the access riser-adapter joint.

Step 4: Perform Watertightness Test

NOTE: Follow the tank manufacturer's instructions for backfilling and watertight testing. General guidelines for watertight testing are provided below.

Step 4a: Make sure the adhesive has set and that the tank has been back-filled according to the manufacturer's instructions – typically to the tank's midpoint.

Step 4b: Plug the inlet (and outlet, if present) of the tank with watertight plugs.

Step 4c: Fill the tank with water to a level 2 inches (51 mm) into the riser.

Step 4d: Follow the tank manufacturer's recommendations (or applicable local regulations) for wait times before inspecting the tank for leaks. Orenco recommends at least 30 minutes for its fiberglass tanks. At the end of the test, there should be no drop in liquid level and no visual leakage from seams, pinholes, or other imperfections.

Step 4e: Once the tank is proven watertight, remove the plug(s) and drop the water level in the tank to just below the invert of the inlet or outlet, whichever is lower.

Instruction Set 6: Adhesive Selection and Quantities

Use the table below to select the correct adhesive and quantity for your grommet or riser installation(s). Be sure to check the expiration date on the adhesive package. If the adhesive is expired, do not use it to install Orenco components.

Note: Before installing a riser on an Orenco riser-tank adapter with an adhesive not recommended in the table below, contact your Distributor or Orenco.

Grommet and Access Riser Installation — Adhesive Recommendations

Component	Model	Adhesive Type and Approximate Usage				
		<u>MA530</u> 300/300-mL cartridge (600-mL total)	<u>MA515</u> 300/300-mL cartridge (600-mL total)	<u>MA320</u> 7-oz (200-mL) packet	<u>IPS 810</u> 1-pint (473-mL) 1-quart (946-mL)	<u>ADH100</u> 10.2-oz (300-mL) tube
Grommets	All Grommets	n/a	n/a	n/a	n/a	various quantities
Riser Tank	FRTA36	1 cartridge*	1 cartridge*	n/a	n/a	n/a
Adapters	PRTA24	½ cartridge*	½ cartridge*	1 packet	n/a	1 tube
	PRTA24-2	≥ ½ cartridge*	≥ ½ cartridge*	n/a	< 1 pint	n/a
	PRTA30	< 1 cartridge*	< 1 cartridge*	2 packets	n/a	2 tubes
	RRFTA	< 1 cartridge	n/a	n/a	1 pint*	n/a
	RRFTA30	1 cartridge	n/a	n/a	1 quart*	n/a

* Indicates preferred adhesive for this application

Residential Biotube[®] Effluent Filters

Applications

Our patented* 4-in. (102-mm) Biotube Effluent Filters, Biotube Jr., Biotube Insert Filters, and Biotube Base Inlet Filters are ideal for residential septic tanks and have a lifetime warranty. They prevent large solids from leaving the tank, dramatically improving wastewater quality and extending the life of residential drainfields.

4-in. (102-mm) Biotube Effluent Filter



4-in. (102-mm) Biotube Jr.
(4-in. Biotube cartridge available separately as Insert Filter)



8-in. (203-mm) Base Inlet Filter



12-in. (305-mm) Base Inlet Filter



Orengo's superior effluent filters resist clogging better than all other brands. Our standard, full-sized 4-in. (102-mm) Biotube Effluent Filter provides maximum long-term protection in a complete package, with housing. Our 4-in. (102-mm) Biotube Jr., at half the size of our standard model, has more filtering capacity than the full-sized filters sold by other manufacturers. For tanks with existing outlet tees, the Biotube Insert Filter is ideal. And for low-profile tanks, there's the Base Inlet Filter.

* Covered by patent numbers 5,492,635 and 4,439,323

To Order

Call your nearest Orengo Systems[®], Inc. distributor. For nearest distributor, call Orengo at 800-348-9843 or go to www.orengo.com and click on "Distributor Locator."

APS-FT-1
Rev. 3.2 © 2/05
Orengo Systems[®], Inc.

Standard Features & Benefits

- Has 5-10 times more flow area than other brands, so lasts many times longer between cleanings, increasing homeowner satisfaction
- Installs in minutes inside new or existing tanks; extendible tee handle for easy removal
- Easy to clean by simply hosing off whenever the tank needs pumping
- Removes about two-thirds of suspended solids, on average, extending drainfield life
- Corrosion-proof construction, to ensure long life
- Lifetime warranty removal

Optional Features & Benefits

- Alarm available, to signal the need for cleaning
- Flow modulating discharge orifices available to limit flow rate leaving tank, mitigating surges and increasing retention time
- Custom and commercial sizes available

Biotube Filtering Process

Effluent from the relatively clear zone of the septic tank, between the scum and sludge layers, horizontally enters the Biotube Effluent Filter. Effluent then enters the annular space between the housing and the Biotubes, utilizing the Biotubes' entire surface for filtering. Particles larger than the Biotube's mesh are prevented from leaving the tank.



Orengo Systems[™]
Incorporated

*Changing the Way the
World Does Wastewater[®]*

www.orengo.com

4" Biotube[®] Effluent Filter



Oreco Systems[®]
Incorporated
1-800-348-9843

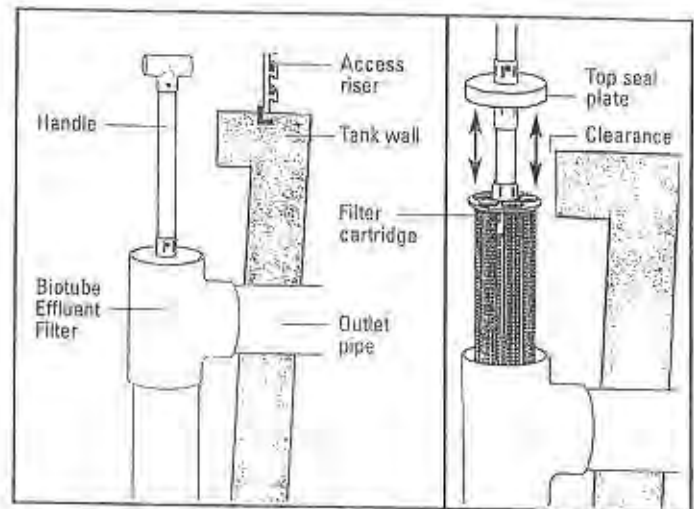
Installation and Maintenance Instructions

Biotube Effluent Filters* extend drainfield life by preventing solids from leaving the septic tank. Our 4" filter comes in its own housing, in both 36" and 28" lengths. Our 18" Jr. insert filter comes with or without its own housing. Biotube Effluent Filters install in minutes, inside new or existing tanks.



Step 1: Test-Fit the Effluent Filter

Test-fit the effluent filter on the septic tank's outlet pipe without gluing. Make sure it fits plumb. Install assembly as snug as possible to the tank wall, but ensure sufficient clearance for removing filter cartridge.



The Biotube Effluent Filter, with its housing, is suspended in the septic tank, supported by the 4" outlet pipe.

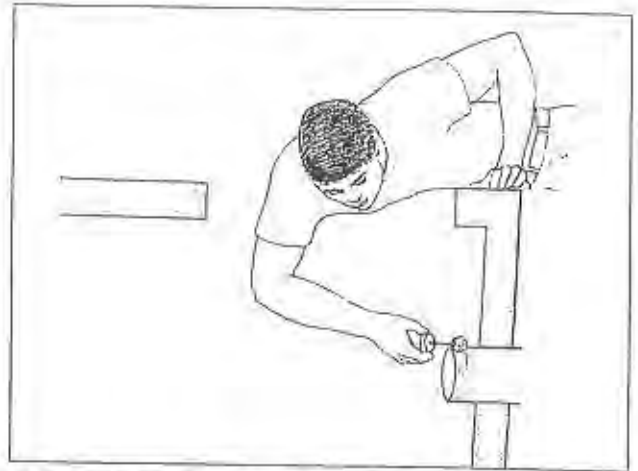
*Protected by U.S. Patent #'s 5,492,635 and 4,439,323

Installation Instructions (continued)

Step 2: Attaching Filter to Tank

Two attachment methods can be used:

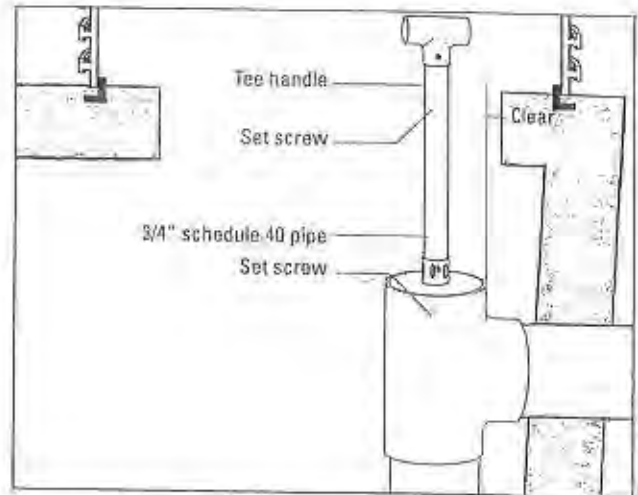
- 1) Glue the filter onto the tank outlet pipe using appropriate primer and glue.
- 2) A stainless steel set screw can be used to secure the filter instead of glue.



This illustration shows the gluing technique for installing a filter into a new septic tank. Installing a filter into an existing tank is a custom, site-specific job.

Step 3: Extending Cartridge Handle

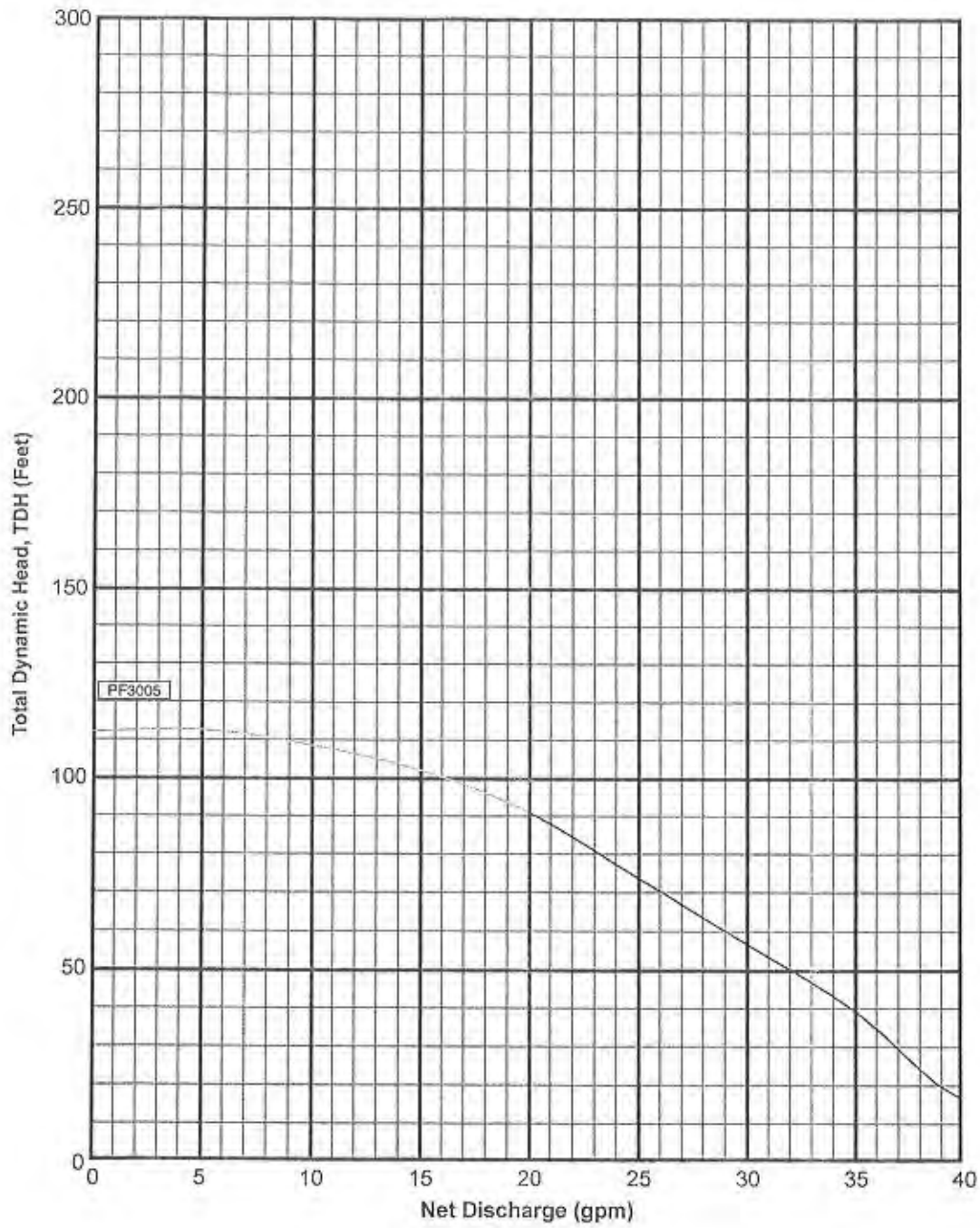
For easier access when servicing, the cartridge handle may be extended using a longer length of 3/4" schedule 40 pipe.



Cartridge handles can be extended for easier access.

Pump Curve

for PF3005



APPENDIX D
OPERATION & MAINTENANCE

OPERATIONS AND MAINTENANCE: ***Pump System to a Pressurized Leachfield***

The on-site sewage disposal system that we have designed for you will be administered under the Mendocino County Non-Standard System's Program. An operating permit is required for Non-Standard Systems. The permit is initially good for the first two years and will need to be renewed thereafter. This program is intended to allow monitoring of the performance of these systems as it includes a pressurized leachfield and one or more mechanical parts and to ensure that the required system maintenance listed below is carried out.

Operations:

This on-site wastewater disposal system includes the following:

1. A 1,500-gallon concrete septic tank/pumping chamber fitted with an automatic pumping system and pump vault.
2. Pump control box for the pumping system. The control box contains both audio and visual alarms for both high and low water conditions, a pump cycle counter and a run time meter for the pump.
3. A Highline leachfield containing 67 lineal feet of pressurized laterals in the primary leachfield and 61 lineal feet of pressurized laterals in the replacement leachfield.

The daily operation of this on-site wastewater disposal system will perform automatically without any necessary manipulation of switches, valves or controls. The system will not operate during periods of power outages. Approximately 250 gallons of reserve capacity exists within the pumping system, which will accommodate prudent use of water fixtures during power outages. Audio alarms in pump control box may sound upon the return of power. Pushing the red light on the face of the control box can disable the audio. When power returns, check all electrical breakers at the sub-panel and in the control box. If visual alarm persists *for over 1-hour after power is restored*, contact Consultant immediately.

Maintenance:

It is important to note that harmful bacterial pathogens exist within this disposal system. All necessary safety precautions should be adhered to when conducting maintenance inspections.

A maintenance contract should be procured from a qualified individual or firm to carry out annual maintenance of this system. Maintenance is necessary to ensure the proper performance of this system. A written report, detailing all maintenance performed and any recommendations, shall be provided to the owner of the system. Regular maintenance and monitoring of this Non-Standard Systems are required as part of the systems Operational Permit. All inspection information shall be provided to the County DEH. The maintenance program will consist of the following:

1. Ensure access risers are in place over all tank access ports and that they are in good condition. The risers are constructed of PVC, and the lids are fiberglass. The risers, lids and tanks are *not* designed for vehicular traffic. Allen-head bolts secure the lids to the risers. Keep riser lids accessible and free of debris. Do not place large objects over risers.

OPERATIONS AND MAINTENANCE:

Pump System to a Pressurized Leachfield Continued

Maintenance:

2. A qualified individual, on a yearly basis, shall conduct an inspection of the solid accumulation within the tank, until an accumulation rate can be established (typically after 2 years). After the rate of accumulation is established, the accumulation inspection schedule shall be revised so that a septic tank cleaning schedule can be established.
3. To ensure that the system does not exceed the design flows, a qualified individual will conduct an analysis of the daily wastewater flow figures on a yearly basis.
4. An inspection and observation of the pumping system will be conducted by a qualified individual once per year for this system. The inspection will verify pump, float and alarm performance.
5. The pump filter within the pump chamber shall be cleaned as needed (as recommended during the pump tank inspection). The filter needs to be cleaned when the solid accumulation on it is impeding the flow of effluent through the filter. Remove and clean filter **into the inlet port of the septic tank**.
6. The pressurized laterals shall be flushed annually to remove any accumulation within the laterals. Flushing shall take place by using the pump pressure to scour each line individually. The balancing valves shall be reset following flushing to achieve the design specified residual head pressure. The flow to all lines shall be rebalanced to ensure equal distribution.
7. A qualified individual shall record monitoring well data (if not conducted by homeowner).
8. A general inspection of the leachfield area shall take place on a yearly basis, by a qualified individual. This inspection shall include a visual inspection of the leachfield for any signs of seepage or surfacing effluent.
9. All valve boxes shall be inspected annually to ensure that they are free of soil debris.
10. All valves (in the leachfield and tanks) shall be opened and closed annually to ensure that they move freely and are in good working order.
11. Leachfield areas shall be alternated annually by alternating ball valves on the force line.
12. Root infiltration into the leaching trenches and pipes is a common problem. It is important to add a root inhibitor to the leachfield, through the clean-outs, to aid in keeping the roots out of the system. The use of any root inhibitor shall adhere to any State or Federal guidelines. A qualified individual shall add root inhibitor.

OPERATIONS AND MAINTENANCE:

Pump System to a Pressurized Leachfield Continued

The homeowner also has maintenance responsibilities for this system:

1. The homeowner will record annually the depth of water in each of the monitoring wells (2 wells per system; 4 wells total) within the leachfield. These levels shall be recorded on the forms provided by the DEH, if required for a Non-Standard System.
2. The homeowner will record monthly; all pump system data including pump cycle counts from the pump control panel. All other read-out numbers in the panel shall also be recorded. This interval shall be maintained for the first year, and then the readings can be taken every 6 months. The read-out data shall be recorded on the card within the panel, as well as on the forms provided by the Department of Environmental Health (DEH) (if required for a Non-Standard System). These numbers will be used to ensure that no groundwater infiltration into the tanks is occurring and also to ensure that the in-home water flows are adhering to the design parameters.
3. Regular maintenance of this system, prudent water use and adhering to the system 'DOs and DON'Ts' (list provided in this folder) will ensure the best possible performance of this system for the longest possible time. Owner shall contact Consultant or maintenance provider to alert them of any changes of use occurring on the property or changes to the occupancy occurring at the site.

The Mendocino County Division of Environmental Health will provide monitoring forms for monitoring well levels and pump control panel read-out data, upon request. Property owners shall complete the forms and return them to the DEH, Consultant and/or service provider, in a timely manner. *Failure to perform the self-monitoring and/or required inspections by qualified individual, may be cause for revocation of the operating permit, (if required), or may lead to a problem going unnoticed.*

Maintenance Instructions

4" Biotube® Effluent Filter

How to Clean Your Effluent Filter

To ensure your effluent filter is functioning properly, it should be inspected every year. Under normal conditions, your effluent filter will function for several years before cleaning is necessary. The filter should be cleaned when it becomes clogged enough to restrict normal flows out of the septic tank. At a minimum, the filter should be cleaned whenever the tank is pumped.

Most people prefer to have a septic tank service provider take care of filter maintenance and cleaning. You can find a septic tank service provider in the Yellow Pages, under "Septic Tanks & Systems." Or you can contact your county health department for a list.

If you wish to inspect and/or clean your effluent filter yourself, be sure to dress properly. Wear full-length pants and shirt, shoes, gloves, and goggles or glasses. Then follow these instructions:

1. Remove the access lid to your septic tank by unscrewing the stainless steel lid bolts with hex head wrench provided. If your lid is above ground, it will be easy to find. If it is buried below ground, find the marker that indicates its location.
 2. Remove the filter cartridge by grasping the tee handle and lifting it out of its housing (*see photo 1*).
 3. Spray the cartridge tubes with a hose to remove any material sticking to them (*see photo 2*). Ensure the three orifices in the optional flow modulation plate inside the filter are clear of any debris. Make sure the rinse water runs back into the tank, but do not allow solids material to fall into the open filter housing.
 4. Firmly place the cartridge back into the housing.
 5. Some effluent filters come with an alarm that activates when the filter needs cleaning. If you have an alarm, check to make sure it is working by lifting the float with a stick. An audible horn should sound. The alarm panel is normally mounted on the side of the house or in the garage.
- Note:** If your effluent filter doesn't have an alarm system and you would like one, call your local septic system installer.
6. Record the date that you inspected and/or cleaned your filter on the form that follows. If you checked the alarm or made any other observations about the tank or system, include that information under "Notes."
 7. Attach access lid by placing it on the riser, matching the openings in the lid with the bolt catches. Insert lid bolts into catches and tighten with hex head wrench provided.

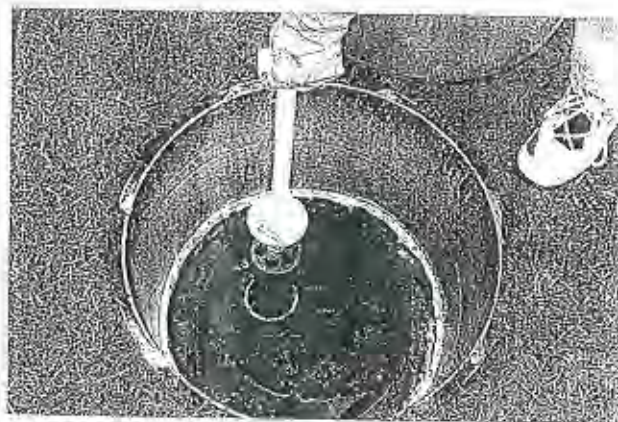


Photo 1. Remove the filter cartridge by lifting it out of its housing.



Photo 2. Spray the cartridge tubes with a hose.

APPENDIX E
CONSTRUCTION NOTES

SYSTEM DESIGN AND INSTALLATION FEATURES

General System and Construction Notes:

1. The primary and replacement leachfield areas were staked out at the site at the time of this evaluation. Stakes shall be used as guides. Lines shall be measured to ensure they are level by the County DEH inspector and the contractor prior to construction.
2. **The Consultant shall be notified of any site development plans in order to confirm that the integrity of the leachfield area(s) and all system components remain in place.**
3. This system will require regular maintenance. The operation of and maintenance of the system is outlined in this proposal.
4. *This proposal does not constitute a permit to construct this system.* Following review of this plan by the County DEH, the owner will be contacted (by the County) in regards to the steps necessary to obtain a permit.
5. This proposal does not reflect any County Building and Planning Department concerns regarding development at this site.
6. **A licensed surveyor shall accurately mark the property lines prior to construction.**
7. Pumping of effluent to the leachfield areas will be required. Pump specifications are attached.
8. **The Consultant will receive a copy of the final house and development plans, prior to any construction, in order to determine whether any pump system specifications will need to be modified.**
9. No cutting of soil (greater than 6 inches below leachline elevation) shall take place within 50 feet of the perimeters of the leachfield area(s).
10. No building foundation drain or any gravel filled diversion drain shall be permitted within 50 feet downslope, or closer than 15 feet upslope, of the leachfield area(s) or tanks.
11. No large livestock will be permitted on the leachfield area(s).
12. It is recommended that low flow toilets and water fixtures be installed in all bathrooms.

General System and Construction Notes Continued:

13. The Consultant shall review all final site plans to ensure that the integrity of all disposal system components is still intact.
14. It is recognized that changes to this proposal may be necessary as a result of (but not limited to) County DEH review process or project development changes. Any deviation from this plan *must* first be cleared with the Consultant and the County DEH, prior to construction.
15. Should the installer have any questions regarding this proposal, please contact Consultant prior to construction.

Wasteline Notes:

1. Either 3 or 4" ABS/PVC will be used for the wasteline from the house into the tank.
2. Keep the wasteline as high as possible, to allow the tank depth to be set as high as possible.
3. The wasteline plumbing shall conform to all criteria set forth in the Uniform Plumbing Code (UPC).
4. Clean-outs shall be installed on the wasteline as per County Building Department Codes.
5. The wasteline shall be installed on a flat, undisturbed trench bottom.
6. The wasteline shall slope at a minimum rate of 1/4" per foot.
7. Any deviation from this plan must first be cleared with the Consultant and County DEH.
8. Should the installer have any questions regarding this proposal, please contact Consultant prior to construction.

Septic Tank/Pump Chamber Notes:

1. A new, waterproof 1,500-gallon concrete septic tank/pump chamber, with dual compartments, dual-access ports, and with cast-in grooves or adaptor rings to accept access riser, will be used.
2. The septic tank/pump chamber must be a minimum of 5 feet from any structure or structural support and 5 feet from any property line.
3. *Any well* must be a minimum of 50 feet from the septic tank/pump chamber.
4. The septic tank/pump chamber must be a minimum of 50 feet from the seasonal drainage way.
5. The septic tank/pump chamber must be a minimum of 15 feet downslope, or 50 feet upslope, of any curtain drain.
6. Keep the septic tank/pump chamber as high in the ground as possible, in order to ensure that groundwater does not infiltrate the tank.
7. A minimum of 12 inches of soil must be placed over the tank.
8. No driving shall take place over the septic tank/pump chamber.
9. PVC riser will be bonded to the septic tank/pump chamber over each access port, to provide a watertight seal; detail is attached. The necessary riser heights will be determined at the time of construction. The riser will be set flush to grade.
10. **A riser adapter plate will be needed for the outlet port of the septic tank/pump chamber; a 30-inch riser is specified.** The adapter plate will be bonded and bolted (minimum of 12 bolts) down to the tank, to form a watertight seal. It is recommended that 'swellstop' butyl strips and wedge anchor bolts be used.
11. Do not backfill around the riser until the epoxy has set.
12. Slope the soil backfill over the tank in such a manner that water does not pond over or around the riser.
13. Divert all building and road drainage away from the tank.
14. **A water spigot, placed on a 4 x 4 post, shall be installed near the septic tank/pump chamber for future maintenance needs.**
15. The contractor shall ensure that this tank (the top joint and all plumbing connections) is watertight.
16. Grout (using hydraulic cement) the inlet pipe of the tank well, to ensure that no cracks form which would act as passageways for groundwater. **It is recommended that a tank with a cast-in watertight coupling (by the manufacturer) be used.**

Septic Tank/Pump Chamber Notes Continued:

17. A 24-hour watertightness test will be required on this tank. The tank shall be filled with water, to a height of 2 inches into the concrete lid and no drop in the water level greater than 1 inch shall be tolerated. All inlet and outlet plumbing shall be in place for the test. Contractor shall fill out the attached form and return it to the Consultant following construction.
18. All pump equipment specifications are attached. All pump system specifications will be reviewed after the final development plans are determined. Consultant will receive the final plans, prior to any construction.
19. All pump equipment shall be installed as per manufacturers specifications.
20. All wiring splices shall be watertight.
21. The pump alarm/control panel shall be mounted on a post near the pump chamber or on the house, at a location where it is clearly visible from the pump chamber and at a location where it can clearly be heard from within the house. Due to noise from within the panel, it is recommended that it be mounted on an *exterior wall of a non-living quarter* room. The panel shall be mounted between the heights of 4 and 5 feet. The panel can also be mounted on a post, as shown on the attached detail. *The panel shall be placed at a location where it is accessible to maintenance personnel at all times. The panel shall not be installed in any interior locations such as a garage, shed or utility closet.*
22. The Consultant and/or County DEH *must* inspect the septic tank/pump chamber and pump equipment, as well as be present for the pump test. *Any construction inspections by Consultant will be billed at the time of their need.*
23. The septic tank/pump chamber shall be set in native undisturbed soil, *not fill material.*
24. All plumbing leaving the riser shall be placed through watertight grommets.
25. **All plumbing shall be installed in a manner that will allow for easy removal of the pump equipment and the pump vault.**
26. Any deviation from this plan must first be cleared with the Consultant.
27. Should the installer have any questions regarding this proposal, please contact the Consultant prior to construction.

Force Line Notes:

1. A 1.5" PVC SCH 40 force line will be used to transfer effluent to the leachfield. This force line size may change based on final house location and development plans. Provide Consultant with final site map, prior to installing the pipe.
2. The force line shall be buried a minimum of 18 inches in non-traffic areas and 24 inches in traffic areas.
3. The force line must be a minimum of 25 feet from any well or waterway.
4. Backfill the force line trench carefully so as not to damage the pipe.
5. If rocky and clayey soil conditions are encountered during the trenching, the force line shall be bedded in 4 inches of sand and shaded with 4 inches of sand also in order to protect the pipe from damage.
6. It is recommended that the force line be pressure tested prior to use.
7. **The force line shall be laid on a flat, undisturbed trench bottom. It may be necessary to hand backfill over the pipe to ensure it be protected.**
8. The distribution manifolds shall be laid on a flat, undisturbed trench. The manifold shall not be installed on fill. The manifold may be placed on drain rock, if the lines are extended to allow for the manifold to be supported.
9. The location of the force line shall be permanently marked, or an accurate as-built map shall be prepared, in order to allow for easy future identification.
10. Ball valves shall be installed on the force line to allow the leachfield areas to be alternated. The ball valve shall be located in an OSI riser enclosure with lid. See attached detail.
11. Any deviation from this plan must first be cleared with the Consultant and County DEH.
12. Should the installer have any questions regarding this proposal, please contact the Consultant prior to construction.

Leachfield Notes:

1. The leachlines shall be installed on contour.
2. Pumping of effluent to the leachfield areas will be required. The entire leachfield will be pressurized; details are attached.
3. **The Consultant shall receive a copy of the final house and development plans to verify that no system design specifications need to be altered. All pump system equipment specifications shall be reviewed prior to ordering equipment *and following completion of final development plans.***
4. The primary and replacement leachfield area were staked out at the site at the time of this evaluation. Stakes shall be used as guides. Lines shall be measured to ensure they are level by the County DEH inspector and the contractor, prior to construction.
5. Any well must be a minimum of 100 feet from both designated leachfield areas.
6. The leachfield must be a minimum of 50 feet from the ephemeral drainage way to the north.
7. The leachfield must be a minimum of 18 feet from the seasonal surface ditch to the east.
8. The leachfield shall be a minimum of 50 feet from any soil cut.
9. No driving shall take place over the leachfield area(s).
10. No large livestock shall be permitted over the leachfield areas. If necessary, the leachfield areas shall be fenced off to ensure that they are protected.
11. No large tractors shall be permitted over either leachfield area as they may damage leachfield components and potentially compact the soil. The leachfield areas may need to be fenced off to avoid any problems.
12. This system shall be installed during the dry time of the year (May 1st to October 31st), as per County DEH guidelines. Contact the Consultant if any question of the appropriateness of construction arises.
13. The installer shall scarify the trench walls to remove any glazing caused by the equipment.
14. The entire leachfield area, including the extent of topsoil cover, shall be stripped of vegetation and ripped, or rototilled, to a depth of 3 inches prior to construction. *Rip soil along contour.*
15. 12 to 18 inches of sandy loam topsoil shall be placed over the entire leachfield area. The topsoil cover shall extend 5 feet beyond the ends of the leachlines as well as 5 feet upslope of the top line and 10 feet downslope of the bottom line.
16. Blend the topsoil cover into the native soil well.
17. The Consultant shall receive a sample of the topsoil intended for use as cover for the field, and must approve of it, prior to its delivery to the site and its use.

Leachfield Notes Continued:

18. The leachfield area shall be re-seeded with native grasses and/or mulched following construction to prevent erosion.
19. **The leachlines must be a minimum of 15 feet downslope, or 50 feet upslope, of any curtain drain.**
20. **Remove trees and brush necessary for the construction of the leachfield. All clearing shall be conducted *by hand*.**
21. **Stumps 5 inches in diameter and less may be removed. Stumps greater than 5 inches in diameter shall be ground down. The Consultant will determine the need for stump removal at the time of construction.**
22. It is recommended that root inhibitor be added to the leachfield (through the clean-out risers) on a regular basis to keep roots out of the system.
23. Any portion of the leachfield must be a minimum of 5 feet from the property lines.
24. Any structure or structural support must be a minimum of 8 feet from the edge of any leachline.
25. Monitoring wells will be installed in each leaching trench; detail is attached.
26. Ball valves will be installed at the start of each lateral; detail is attached.
27. Stand-pipes/clean-outs will be installed on each lateral to allow the addition of a root inhibitor to the leachfield. Place the standpipe next to the ball valve, in order to allow both to be enclosed within one Christy box; detail is attached.
28. Lateral turn-ups will be placed at the end of each lateral. Each turn-up shall be equal in height. Each turn-up shall be provided with two (2) screw caps; one shall have a hole drilled in the top, the same diameter as the holes in the laterals; the second cap shall be untampered with; detail is attached.
29. **Filter fabric and/or steel screen shall be placed around the base of the Christy boxes in order to prevent rodents from entering the box. The Christy box shall be filled with pea gravel to within 3 inches of the top of the turn-ups.**
30. Concrete Christy boxes shall be set, flush to grade, over each ball/gate valve, clean out, and lateral turn-up. The model number is F-8 and the lids shall be marked 'sewer'.
31. If desired, instead of a 3" ABS monitoring well (as shown on the attached diagram), a 2" ABS or PVC monitoring well may be used if it is set within the lateral turn-up Christy Box.
32. Any deviation from this plan must first be cleared with the Consultant and County DEH.
33. Should the installer have any questions regarding this proposal, please contact the Consultant prior to construction.

Replacement Leachfield Notes:

1. The replacement area shall be installed when the primary leachfield is constructed.
2. Pumping of effluent to the replacement field will be required.
3. All construction notes listed for the primary disposal field will also apply for the replacement field.
4. No soil cuts shall take place within 50 feet of the replacement leachfield area.
5. Take care to ensure that none of the proposed development plans encroach onto the replacement field area.

* SEE PROPOSAL FOR ALL DESIGNAL NOTES + DETAILS

N/A
1"=20'

SOIL PROFILE

APPROXIMATE
WATER TABLE LOCATION

INTERMITTENT
DRAINAGE

TO FOOT
CANTILEVER

EXTENT OF
TOP SOIL
LAYER

PRESSURIZED
HIGHLINE LEACHFIELD
AS DESCRIBED
PRIMARY PIPING +
PERFORATED GALVANNEAL

1500 GALLON CONCRETE
SEPTIC TANK / PUMP
CHAMBER

POSSIBLE
LOCATIONS OF
BREMENSON
RESISTANCE

1.5" PVC SEE AN
OTHER SHEET

BALL VALVES ON EACH
FORCE MAIN - TO BE
ENCLOSED IN RISE +
LID - SEE ATTACHED
DETAIL

1.5" PVC SEE AN
OTHER SHEET

Gregory-Schmidt@fws.gov

V. Jesse
Waldman

MAUD
PASS
PORT

PAMB Clearance



Certified Professional
Soil Scientist
CARLA RITTIMAN
02859

SHOW
SURFACE

* SEE PROPOSAL FOR ALL DESIGN NOTES & DETAILS

NA
1" = 20'

○ = SOIL PROFILE

INTERMITTENT DRAINAGE

50 FOOT SETBACK

PROPOSED WELLS

PROPOSED WELL

DRIVEWAY →

PRESSURIZED HIGHLINE LEACHFIELD AS DESCRIBED
PRIMARY FIELD + REPLACEMENT AREA

EXTENT OF TOPSOIL LOUPE

1500 GALLON CONCRETE SEPTIC TANK / PUMP CHAMBER

POSSIBLE LOCATION OF ONE BEDROOM RESIDENCE

P2 (1993)

M

M2

1.5" PVC 60' 40' FORCE LINE

BALL VALVES ON EACH FORCE LINE - TO BE ENCLOSED IN RISEN LID - SEE ATTACHED DETAIL

APPROXIMATE PROPERTY LINES



Certified Professional Soil Scientist
CARLA RITTIMAN
02859

SHADOW SURFACE

MAHO PASS Prof



COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING AND BUILDING SERVICES

860 NORTH BUSH STREET • UKIAH • CALIFORNIA • 95482
120 WEST FIR STREET • FT. BRAGG • CALIFORNIA • 95437

JULIA KROG, DIRECTOR
TELEPHONE: 707-234-6650
FAX: 707-463-5709
FB PHONE: 707-964-5379
FB FAX: 707-961-2427
pbs@mendocinocounty.org
www.mendocinocounty.org/pbs

August 3, 2022



Subject: Septic Permit Application Number: ST23473
Site Address: 15101 Mallo Pass Drive
Assessor's Parcel Number: 132-110-26

Dear Ms. Dillon,

Your septic permit application has been referred to the Planning Division for approval. Please be advised that installation of a septic system generally requires a coastal development permit from the County of Mendocino; however, your parcel is located within a mapped Categorical Exclusion area. Therefore, the County has a procedure whereby you can apply for a Categorical Exclusion for your entire project (i.e., residence, septic system, well, driveway, garage, etc.).

If your project is not complete in three years, you may qualify for another Exclusion or you may need to obtain a coastal permit at that time.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jessie Waldman".

Jessie Waldman
Planner II

Cc: Division of Environmental Health



Redwood Empire Title Company of Mendocino County

221 East Pine Street

Fort Bragg, CA 95437

Phone: (707)964-8666 • Fax: (707)409-6305

November 3, 2021



Re: Our Order No.: 20211637MN
Policy No.: FTY12539416
Loan No.:
Property Address: 15101 Mallo Pass Drive Manchester, CA 95459
Buyer/Borrower: Mary Dillon

Enclosed you will find the CLTA Standard Owners Policy for the above referenced order. If, after review, you should have any questions, please contact us at (707)964-8666.

We would like to thank you for the opportunity of serving you and hope that you will contact Redwood Empire Title Company of Mendocino County for your future escrow and title insurance needs.

Very truly yours,
Redwood Empire Title Company of Mendocino County

Title Officer

W/enclosure(s)

POLICY OF TITLE INSURANCE

Issued By
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

SCHEDULE A

File No. 20211637MN Policy No. FTY12539416
Amount of Insurance \$75,000.00
Premium \$550.00

Date of Policy October 8, 2021 at 09:30 AM

1. Name of Insured:

Mary Dillon

2. The estate or interest in the land which is covered by this policy is:

a Fee

3. Title to the estate or interest in the land vested in:

Mary Dillon, a married woman, as her sole and separate property

4. The land referred to in this policy is described as follows:

SEE SCHEDULE C ATTACHED HERETO

SCHEDULE B

File No.: 20211637MN

Policy No.: FTY12539416

EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

PART I

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.

Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests or claims which are not shown by the public records but which could be ascertained by an inspection of the land or which may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. (a) Unpatented mining claims; (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

PART II

1. Taxes and assessments, general and special, for the fiscal year 2021 - 2022, a lien not yet due or ascertainable.
2. The lien of supplemental taxes, if any, assessed pursuant to the provisions of Section 75, et seq. of the Revenue and Taxation Code of the State of California.
3. Easement(s) for the purposes stated herein and incidental purposes as provided in the following instrument(s):
Recorded: June 27, 1958 in Book 487, Page 441 of Official Records
In Favor of: Pacific Gas and Electric Company, a California corporation
For: ingress, egress and public utilities
4. Easements, building setback lines, notations and/or recitals as shown or provided for on the map referred to in the legal description.
5. Covenants, Conditions and Restrictions, but omitting any covenants or restrictions if any, based upon race, color, religion, sex, handicap, familial status, or national origin unless and only to the extent that said covenant (a) is exempt under Title 42, Section 3607 of the United States Code or (b) relates to handicap but does not discriminate against handicapped persons, as provided in an instrument
Recorded: July 27, 1966 in Book 721, Page 437 of Official Records

SCHEDULE B

(Continued)

- a. Modification thereof, but omitting any covenants or restrictions if any, based upon race, color, religion, sex, handicap, familial status, or national origin unless and only to the extent that said covenant (a) is exempt under Title 42, Section 3607 of the United States Code or (b) relates to handicap but does not discriminate against handicapped persons,
Recorded: August 31, 1966 in Book 724, Page 4; November 16, 1971 in Book 868, Page 131;
April 19, 1974 in Book 960, Page 38; September 30, 1994 in Book 2118, Page 248; December 6, 1995 in Book 2295, Page 223 and September 17, 1998 as 1998-17732 all of Official Records
6. Any facts, rights, interests or claims that may exist or arise by reason of matters, if any, disclosed by that certain Record of Survey filed November 21, 1994 in in Map Case 2, Drawer 59, Page 73 Mendocino County Records.

SCHEDULE C

File No.: 20211637MN

Policy No.: FTY12539416

All that certain real property situated in the County of Mendocino, State of California, more particularly described as follows:

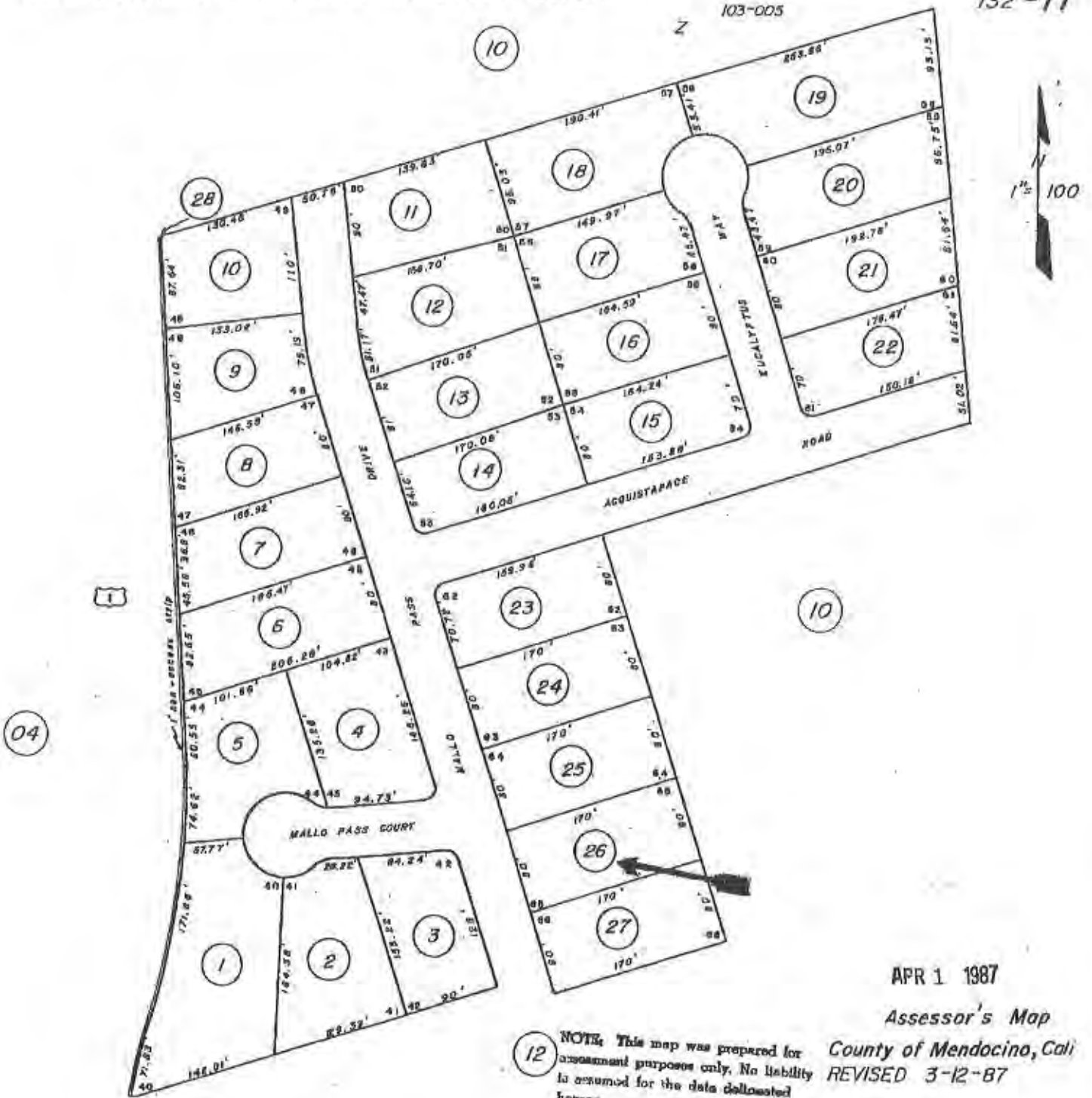
Lot 65 as numbered and designated upon the map of Unit Two, Mendocino Coast Subdivision recorded July 27, 1966 in Map Case 2, Drawer 6, Page 8, Mendocino County Records.

APN: 132-110-26

Lots 40 thru 66 of Mendocino Coast No. 2

103-005

132-11



APR 1 1987

Assessor's Map

County of Mendocino, Cali

REVISED 3-12-87

12 NOTE: This map was prepared for assessment purposes only. No liability is assumed for the data delineated hereon.

"Notice: This is neither a plat nor a survey. It is furnished merely as a convenience to aid you in locating the land indicated hereon with reference to streets and other land. No liability is assumed by reason of any reliance hereon."

CONDITIONS AND STIPULATIONS (REV. 04-08-14)

File No.: 20211637MN

Policy No.: FTY12539416

1. Definition of Terms.

The following terms when used in this policy mean:

(a) "insured": the insured name in Schedule A, and, subject to any rights or defenses the Company would have had against the named insured, those who succeed to the interest of the named insured by operation of law as distinguished from purchase including but not limited to, heirs, distributees, devisees, survivors, personal representatives, next of kin, or corporate or fiduciary successors. The term "insured" also includes:

(i) the owner of the indebtedness secured by the insured mortgage and each successor in ownership of the indebtedness except a successor who is an obligor under the provisions of Section 12(c) of these Conditions and Stipulations (reserving, however, all rights and defenses as to any successor that the Company would have had against any predecessor insured, unless the successor acquired the indebtedness as a purchaser for the value without knowledge of the asserted defect, lien encumbrance, adverse claim or other matter insured against by this policy as affecting title to the estate or interest in the land);

(ii) any governmental agency or governmental instrumentality which is an insurer or guarantor under an insurance contract or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage, or any part thereof, whether named as an insured herein or not;

(iii) the parties designated in Section 2(a) of these Conditions and Stipulations;

(iv) Subject to any rights or defenses the Company would have had against the named insured, (A) the spouse of an insured who receives title to the land because of dissolution of marriage, (B) the trustee or successor trustee of a trust or an estate planning entity created for the insured to whom or to which the insured transfers title to the land after the Date of Policy or (C) the beneficiaries of such a trust upon the death of the insured.

(b) "insured claimant": an insured claiming loss or damage.

(c) "insured lender": The owner of an insured mortgage.

(d) "insured mortgage": a mortgage shown in Schedule B, the owner of which is named as an insured in Schedule A.

(e) "knowledge" or "known": actual knowledge, not constructive knowledge or notice which may be imputed to an insured by reason of the public records as defined in this policy or any other records which impart constructive notice of matters affecting the land.

(f) "land": the land described or referred to in Schedule [A] [C], and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule [A] [C], nor any right, title, interest, estate or easement in adjoining streets, roads, avenues, alleys, lanes, ways or waterways, but nothing herein shall modify or limit the extent to which a right of access to and from the land is insured by this policy.

(g) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.

(h) "public records": records established under the state statutes at Date of Policy for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.

(i) "unmarketability of the title": an alleged or apparent matter affecting the title to the land, not excluded or excepted from coverage, which would entitle a purchaser of the estate or interest described in Schedule A or the insured mortgage to be released from the obligation to purchase by virtue of a contractual condition requiring delivery of marketable title.

2. Continuation of Insurance.

(a) After Acquisition of Title by Insured Lender. If this policy insures the owner of the indebtedness secured by the insured mortgage, the coverage of this policy shall continue in force as of Date of Policy in favor of (i) such insured lender who acquires all or any part of the estate or interest in the land by foreclosure, trustee's sale, conveyance in lieu of foreclosure, or other legal manner which discharges the lien of the insured mortgage; (ii) a transferee of the estate or interest so acquired from an insured corporation, provided the transferee is the parent or wholly-owned subsidiary of the insured corporation, and their corporate successors by operation of law and not by purchase, subject to any rights or defenses the Company may have against any predecessor insureds; and (iii) any governmental agency or governmental instrumentality which acquires all or any part of the estate or interest pursuant to a contract of insurance or guaranty insuring or guaranteeing the indebtedness secured by the insured mortgage.

(b) After Conveyance of Title by an Insured. The coverage of this policy shall continue in force as of Date of Policy in favor of an insured only so long as the insured retains an estate or interest in the land, or holds an indebtedness secured by a purchase money mortgage given by a purchaser from the insured, or only so long as the insured shall have liability by reason of covenants or warranty made by the insured in any transfer or conveyance of the estate or interest. This policy shall not continue in force in favor of any purchaser from an insured of either (i) an estate or interest in the land, or (ii) an indebtedness secured by a purchase money mortgage given to an insured.

(c) Amount of Insurance. The amount of insurance after the acquisition or after the conveyance by an insured lender shall in neither event exceed the least of:

(i) The amount of insurance stated in Schedule A;

(ii) The amount of the principal of the indebtedness secured by the insured mortgage as of Date of Policy, interest thereon, expenses of foreclosure, amounts advanced pursuant to the insured mortgage to assure compliance with laws or to protect the lien of the insured mortgage prior to the time of acquisition of the estate or interest in the land and secured thereby and reasonable amounts expended to prevent deterioration of improvements, but reduced by the amount of all payments made; or

(iii) The amount paid by a governmental agency or governmental instrumentality, if the agency or the instrumentality is the insured claimant, in the acquisition of the estate or interest in satisfaction of its insurance contract or guaranty.

A LIST OF DO'S AND DON'TS FOR SEPTIC SYSTEMS

DO'S:

- Do familiarize yourself with the location of all the components of your septic system including the septic tank, distribution boxes and leachfield. Also know the location of your pump chamber if your system incorporates the use of one.
- Do have your septic tank and system inspected on a regular basis. Refer to the recommended maintenance outlined in the system design.
- Do have your septic tank pumped on a regular basis (as needed).
- Do keep accurate records of the location of your septic tank and leachfield, as well as all maintenance and service calls.
- Do keep your septic tank accessible for service. Do not build over the tank or do any planting, which would hinder access for service calls.
- Do divert water from your septic tank and leachfield area, such as roof drains, foundation drains, road drainage, any hill slope or surface drainage. Excess water that finds its way into your system could cause premature failure of a leachfield or over work a pump system.
- Do practice water conservation within the home. By reducing the amount of water that your household uses, it could extend the life of your system. Avoid doing several loads of laundry in one day. Avoid letting the water run unnecessarily while washing hands, food, teeth, etc.
- Do clean the lint filter on your washing machine preferably before every load.
- Do add an *approved* root inhibitor to your leachfield (*not into your septic tank*) if your leachfield is located within a wooded area.
- Do fix all leaking fixtures within your home. A leaking faucet or toilet can add hundreds of gallons of additional water per day to your system.
- Do install low flush toilets in all bathrooms of your home.
- Do install low flow shower fixtures in your house.

SITE EVALUATION REPORT
FOR
REVISED INDIVIDUAL SEWAGE DISPOSAL SYSTEM PROPOSAL

Owner and Mailing Address:



Project Address:

15101 Malo Pass Road, Manchester

Assessor Parcel Number:

132-110-26

Location:

Highway 1 to Pomo Lake Drive in the Irish Beach Subdivision and follow to Mallo Pass Road and to the site. A map is attached.

Project Description:

This project was undertaken to revise a previously approved site evaluation report for a proposed one bedroom residence.

October 29th, 2021

CARL RITTIMAN & ASSOCIATES, INC.

PO Box 590 • Mendocino CA 95460

Phone 707-937-0804 • Fax 707-937-0575 • e-mail crit@mcn.org

SOIL CONDITIONS

***Don't Put the Following Chemicals or Items
Down the Drain or Flush Down the Toilet***

CAT LITTER
CIGARETTE BUTTS
COFFEE GRINDS
CONDOMS
DENTAL FLOSS
DISPOSAL DIAPERS
EGG SHELLS
FACIAL TISSUES
FAT, GREASE OR LARD
FLOOR WAX

HAIR
NEWSPAPERS
PAPER TOWELS
PLASTIC
RUG CLEANERS
SANITARY NAPKINS
TAMPONS
UN-DIGESTED FOOD PRODUCTS

Hazardous Chemicals

ANTIFREEZE
DE-GREASERS
OILS
PAINTS
PESTICIDES
LARGE AMOUNTS OF CHLORINE

PHOTOGRAPHIC SOLUTIONS
POOL AND SPA SOLUTIONS
THINNERS
VARNISHES
ETC.

***Basically, don't dispose of any materials that will destroy the natural digestion process
of the microorganisms within your septic tank
or dispose of any materials that will clog your system.***

***Contact your disposal system consultant
or the Environment Health Department
if you have any questions about products which were not listed.***

CONDITIONS AND STIPULATIONS (Rev. 04-08-14)
(Continued)

3. Notice of Claim to be Given by Insured Claimant:

An insured shall notify the Company promptly in writing (i) in case of any litigation as set forth in 4(a) below, (ii) in case knowledge shall come to an insured hereunder of any claim of title or interest which is adverse to the title to the estate or interest or the lien of the insured mortgage, as insured, and which might cause loss or damage for which the Company may be liable by virtue of this policy, or (iii) if title to the estate or interest or the lien of the insured mortgage, as insured, is rejected as unmarketable. If prompt notice shall not be given to the Company, then as to that insured all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any insured under this policy unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

4. Defense and Prosecution of Actions; Duty of Insured Claimant to Cooperate:

(a) Upon written request by an insured and subject to the options contained in Section 6 of these Conditions and Stipulations, the Company, at its own cost and without reasonable delay, shall provide for the defense of such insured in litigation in which any third party asserts a claim adverse to the title or interest as insured, but only as to those stated causes of action alleging a defect, lien or encumbrance or other matter insured against by this policy. The Company shall have the right to select counsel of its choice (subject to the right of such insured to object for reasonable cause) to represent the insured as to those stated causes of action and shall not be liable for and will not pay the fees of any other counsel. The company will not pay any fees, costs or expenses incurred by an insured in the defense of those causes of action which allege matters not insured against by this policy.

(b) The Company shall have the right, at its own cost, to institute and prosecute any action or proceeding or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured, or to prevent or reduce loss or damage to an insured. The Company may take any appropriate action under the terms of this policy, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this policy. If the Company shall exercise its rights under this paragraph, it shall do so diligently.

(c) Whenever the Company shall have brought an action or interposed a defense as required or permitted by the provisions of this policy, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from any adverse judgement or order.

(d) In all cases where this policy permits or requires the Company to prosecute or provide for the defense of any action or proceeding, an insured shall secure to the Company the right to so prosecute or provide defense in the action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of such insured for this purpose. Whenever requested by the Company, an insured, at the Company's expense, shall give the Company all reasonable aid (i) in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or proceeding, or effecting settlement, and (ii) in any other lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest or the lien of the insured mortgage, as insured. If the Company is prejudiced by the failure of an insured to furnish the required cooperation, the Company's obligations to such insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such cooperation.

5. Proof of Loss or Damage:

In addition to and after the notices required under Section 3 of these Conditions and Stipulations have been provided the Company, a proof of loss or damage signed and sworn to by each insured claimant shall be furnished to the Company within 90 days after the insured claimant shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the defect in, or lien or encumbrance on the title, or other matter insured against by this policy which constitutes the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of an insured claimant to provide the required proof of loss or damage, the Company's obligations to such insured under the policy shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, with regard to the matter or matters requiring such proof of loss or damage.

In addition, an insured claimant may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Policy, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the insured claimant shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by an insured claimant provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgement of the Company, it is necessary in the administration of the claim. Failure of an insured claimant to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in this paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this policy as to that insured for that claim.

6. Options to Pay or Otherwise Settle Claims; Termination of Liability:

In case of a claim under this policy, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Insurance or to Purchase the Indebtedness

(i) to pay or tender payment of the amount of insurance under this policy together with any costs, attorneys' fees and expenses incurred by the insured claimant, which were authorized by the Company, up to the time of payment or tender of payment and which the Company is obligated to pay; or

(ii) in case loss or damage is claimed under this policy by the owner of the indebtedness secured by the insured mortgage, to purchase the indebtedness secured by the insured mortgage for the amount owing thereon together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of purchase and which the Company is obligated to pay.

CONDITIONS AND STIPULATIONS (Rev. 04-08-14)
(Continued)

If the Company offers to purchase the indebtedness as herein provided, the owner of the indebtedness shall transfer, assign, and convey the indebtedness and the insured mortgage, together with any collateral security, to the Company upon payment therefor.

Upon the exercise by the Company of the option provided for in paragraph a(i), all liability and obligations to the insured under this policy, other than to make the payment required in that paragraph, shall terminate, including any liability or obligation to defend, prosecute, or continue any litigation, and the policy shall be surrendered to the Company for cancellation.

Upon the exercise by the Company of the option provided for in paragraph a(ii) the Company's obligation to an insured Lender under this policy for the claimed loss or damage, other than the payment required to be made, shall terminate, including any liability or obligation to defend, prosecute or continue any litigation.

(b) To Pay or Otherwise Settle with Parties Other than the Insured or With the Insured Claimant.

(i) to pay or otherwise settle with other parties for or in the name of an insured claimant any claim insured against under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay; or

(ii) to pay or otherwise settle with the insured claimant the loss or damage provided for under this policy, together with any costs, attorneys' fees and expenses incurred by the insured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of either of the options provided for in paragraphs b(i) or b(ii), the Company's obligations to the insured under this policy for the claimed loss or damage, other than the payments required to be made, shall terminate, including any liability or obligation to defend, prosecute or continue any litigation.

7. Determination and Extent of Liability.

This policy is a contract of indemnity against actual monetary loss or damage sustained or incurred by the insured claimant who has suffered loss or damage by reason of matters insured against by this policy and only to the extent herein described.

(a) The liability of the Company under this policy to an insured lender shall not exceed the least of:

(i) the Amount of Insurance stated in Schedule A, or, if applicable, the amount of insurance as defined in Section 2 (c) of these Conditions and Stipulations;

(ii) the amount of the unpaid principal indebtedness secured by the insured mortgage as limited or provided under Section 8 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time the loss or damage insured against by this policy occurs, together with interest thereon; or

(iii) the difference between the value of the insured estate or interest as insured and the value of the insured estate or interest subject to the defect, lien or encumbrance insured against by this policy.

(b) In the event the insured lender has acquired the estate or interest in the manner described in Section 2(a) of these Conditions and Stipulations or has conveyed the title, then the liability of the Company shall continue as set forth in Section 7(a) of these Conditions and Stipulations.

(c) The liability of the Company under this policy to an insured owner of the estate or interest in the land described in Schedule A shall not exceed the least of:

(i) the Amount of Insurance stated in Schedule A; or,

(ii) the difference between the value of the insured estate or interest as insured and the value of the insured estate or interest subject to the defect, lien or encumbrance insured against by this policy.

(d) The Company will pay only those costs, attorneys' fees and expenses incurred in accordance with Section 4 of these Conditions and Stipulations.

8. Limitation of Liability.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures the lack of a right of access to or from the land, or cures the claim of unmarketability of title, or otherwise establishes the lien of the insured mortgage, all as insured, in a reasonably diligent manner by any method, including litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(b) In the event of any litigation, including litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title, or, if applicable, to the lien of the insured mortgage, as insured.

(c) The Company shall not be liable for loss or damage to any insured for liability voluntarily assumed by the insured in settling any claim or suit without the prior written consent of the Company.

(d) The Company shall not be liable to an insured lender for: (i) any indebtedness created subsequent to Date of Policy except for advances made to protect the lien of the insured mortgage and secured thereby and reasonable amounts expended to prevent deterioration of improvements; or (ii) construction loan advances made subsequent to Date of Policy, except construction loan advances made subsequent to Date of Policy for the purpose of financing in whole or in part the construction of an improvement to the land which at Date of Policy were secured by the insured mortgage and which the insured was and continued to be obligated to advance at and after Date of Policy.

9. Reduction of Insurance; Reduction or Termination of Liability.

(a) All payments under this policy, except payments made for costs, attorneys' fees and expenses, shall reduce the amount of insurance pro tanto. However, as to an insured lender, any payments made prior to the acquisition of title to the estate or interest as provided in Section 2(a) of these Conditions and Stipulations shall not reduce pro tanto the amount of insurance afforded under this policy as to any such insured, except to the extent that the payments reduce the amount of the indebtedness secured by the insured mortgage.

CONDITIONS AND STIPULATIONS (Rev. 04-08-14)

(Continued)

(b) Payment in part by any person of the principal of the indebtedness, or any other obligation secured by the insured mortgage, or any voluntary partial satisfaction or release of the insured mortgage, to the extent of the payment, satisfaction or release, shall reduce the amount of insurance pro tanto. The amount of insurance may thereafter be increased by accruing interest and advances made to protect the lien of the insured mortgage and secured thereby, with interest thereon, provided in no event shall the amount of insurance be greater than the Amount of Insurance stated in Schedule A.

(c) Payment in full by any person or the voluntary satisfaction or release of the insured mortgage shall terminate all liability of the Company to an insured lender except as provided in Section 2(a) of these Conditions and Stipulations.

10. Liability Noncumulative.

It is expressly understood that the amount of insurance under this policy shall be reduced by any amount the Company may pay under any policy insuring a mortgage to which exception is taken in Schedule B or to which the insured has agreed, assumed, or taken subject, or which is hereafter executed by an insured and which is a charge or lien on the estate or interest described or referred to in Schedule A, and the amount so paid shall be deemed a payment under this policy to the insured owner.

The provisions of this Section shall not apply to an insured lender, unless such insured acquires title to said estate or interest in satisfaction of the indebtedness secured by an insured mortgage.

11. Payment of Loss.

(a) No payment shall be made without producing this policy for endorsement of the payment unless the policy has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within 30 days thereafter.

12. Subrogation Upon Payment or Settlement.

(a) The Company's Right of Subrogation.

Whenever the Company shall have settled and paid a claim under this policy, all right of subrogation shall vest in the Company unaffected by any act of the insured claimant.

The Company shall be subrogated to and be entitled to all rights and remedies which the insured claimant would have had against any person or property in respect to the claim had this policy not been issued. If requested by the Company, the insured claimant shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The insured claimant shall permit the Company to sue, compromise or settle in the name of the insured claimant and to use the name of the insured claimant in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the insured claimant, the Company shall be subrogated (i) as to an insured owner, to all rights and remedies in the proportion which the Company's payment bears to the whole amount of the loss; and (ii) as to an insured lender, to all rights and remedies of the insured claimant after the insured claimant shall have recovered its principal, interest, and costs of collection.

If loss should result from any act of the insured claimant, as stated above, that act shall not void this policy, but the Company, in that event, shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(b) The Insured's Rights and Limitations.

Notwithstanding the foregoing, the owner of the indebtedness secured by an insured mortgage, provided the priority of the lien of the insured mortgage or its enforceability is not affected, may release or substitute the personal liability of any debtor or guarantor, or extend or otherwise modify the terms of payment, or release a portion of the estate or interest from the lien of the insured mortgage, or release any collateral security for the indebtedness.

When the permitted acts of the insured claimant occur and the insured has knowledge of any claim of title or interest adverse to the title to the estate or interest or the priority or enforceability of the lien of an insured mortgage, as insured, the Company shall be required to pay only that part of any losses insured against by this policy which shall exceed the amount, if any, lost to the Company by reason of the impairment by the insured claimant of the Company's right of subrogation.

(c) The Company's Rights Against Non-insured Obligors.

The Company's right of subrogation against non-insured obligors shall exist and shall include, without limitation, the rights of the insured to indemnities, guaranties, other policies of insurance or bonds, notwithstanding any terms or conditions contained in those instruments which provide for subrogation rights by reason of this policy.

The Company's right of subrogation shall not be avoided by acquisition of an insured mortgage by an obligor (except an obligor described in Section 1(a)(ii) of these Conditions and Stipulations) who acquires the insured mortgage as a result of an indemnity, guarantee, other policy of insurance, or bond and the obligor will not be an insured under this policy, notwithstanding Section 1(a)(i) of these Conditions and Stipulations.

13. Arbitration.

Unless prohibited by applicable law, either the Company or the insured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Arbitration Association. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the insured arising out of or relating to this policy, any service of the Company in connection with its issuance or the breach of a policy provision or other obligation. All arbitrable matters when the Amount of Insurance is \$1,000,000 or less shall be arbitrated at the option of either the Company or the insured. All arbitrable matters when the Amount of Insurance is in excess of \$1,000,000 shall be arbitrated only when agreed to by both the Company and the insured. Arbitration pursuant to this policy and under the Rules in effect on the date the demand for arbitration is made or, at the option of the insured, the Rules in effect at Date of Policy shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permit a court to award attorneys' fees to a prevailing party. Judgement upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

CONDITIONS AND STIPULATIONS (Rev. 04-08-14)
(Continued)

14. Liability Limited to This Policy; Policy Entire Contract.

(a) This policy together with all endorsements, if any, attached hereto by the Company is the entire policy and contract between the insured and the Company. In interpreting any provision of this policy, this policy shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, and which arises out of the status of the lien of the insured mortgage or of the title to the estate or interest covered hereby or by any action asserting such claim, shall be restricted to this policy.

(c) No amendment of or endorsement to this policy can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

15. Severability.

In the event any provision of the policy is held invalid or unenforceable under applicable law, the policy shall be deemed not to include that provision and all other provisions shall remain in full force and effect.

16. Notices, Where Sent.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this policy and shall be addressed to the Company at 400 Second Avenue South, Minneapolis, MN 55401-2499.

POLICY OF TITLE INSURANCE

Issued By
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE EXCEPTIONS FROM COVERAGE CONTAINED IN SCHEDULE B AND THE CONDITIONS AND STIPULATIONS, OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, a Minnesota corporation, herein called the Company, insures, as of Date of Policy shown in Schedule A, against loss or damage, not exceeding the Amount of Insurance stated in Schedule A, sustained or incurred by the insured by reason of:

1. Title to the estate or interest described in Schedule A being vested other than as stated therein;
2. Any defect in or lien or encumbrance on the title;
3. Unmarketability of the title;
4. Lack of right of access to and from the land;

and in addition, as to an insured lender only:

5. The invalidity or unenforceability of the lien of the insured mortgage upon the title;
6. The priority of any lien or encumbrance over the lien of the insured mortgage, said mortgage being shown in Schedule B in the order of priority;
7. The invalidity or unenforceability of any assignment of the insured mortgage, provided the assignment is shown in Schedule B, or the failure of the assignment shown in Schedule B to vest title to the insured mortgage in the named insured assignee free and clear of all liens.

The Company will also pay the costs, attorneys' fees and expenses incurred in defense of the title or the lien of the insured mortgage, as insured, but only to the extent provided in the Conditions and Stipulations.

Issued through the office of:
Redwood Empire Title Company of Mendocino County
221 East Pine Street
Fort Bragg, CA 95437

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY
A Stock Company
400 Second Avenue South, Minneapolis, Minnesota 55401
(612) 371-1111

Countersigned:

By: Steve Buhon
Validating Officer

By: Mark A. Bilsby President
Attest: David Wald Secretary

POLICY OF TITLE INSURANCE
(Continued)

EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses which arise by reason of:

1. (a) Any law, ordinance or governmental regulations (including but not limited to building or zoning laws, ordinances, or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use, or enjoyment of the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.

(b) Any governmental police power not excluded by (a) above, except to the extent that a notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the public records at Date of Policy.
2. Rights of eminent domain unless notice of the exercise thereof has been recorded in the public records at Date of Policy, but not excluding from coverage any taking which has occurred prior to Date of Policy which would be binding on the rights of a purchaser for value without knowledge.
3. Defects, liens, encumbrances, adverse claims or other matters:
 - (a) whether or not recorded in the public records at Date of Policy, but created, suffered, assumed or agreed to by the insured claimant;
 - (b) not known to the Company, not recorded in the public records at Date of Policy, but known to the insured claimant and not disclosed in writing to the Company by the insured claimant prior to the date the insured claimant became an insured under this policy;
 - (c) resulting in no loss or damage to the insured claimant;
 - (d) attaching or created subsequent to Date of Policy; or
 - (e) resulting in loss or damage which would not have been sustained if the insured claimant had paid value for the insured mortgage or for the estate or interest insured by this policy.
4. Unenforceability of the lien of the insured mortgage because of the inability or failure of the insured at Date of Policy, or the inability or failure of any subsequent owner of the indebtedness, to comply with the applicable doing business laws of the state in which the land is situated.
5. Invalidity or unenforceability of the lien of the insured mortgage, or claim thereof, which arises out of the transaction evidenced by the insured mortgage and is based upon usury or any consumer credit protection or truth in lending law.
6. Any claim, which arises out of the transaction vesting in the insured the estate of interest insured by this policy or the transaction creating the interest of the insured lender, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws.



TELEPHONE: 707-964-5379

FAX: 707-961-2427

**COUNTY OF MENDOCINO
DEPARTMENT OF PLANNING & BUILDING SERVICES
120 WEST FIR STREET
FORT BRAGG, CALIFORNIA 95437**

COASTAL DEVELOPMENT PERMIT EXCLUSION REQUEST

Most development projects within the coastal zone require a Coastal Development Permit (CDP). However, the Coastal Commission has granted "categorical exclusions" to the County of Mendocino whereby certain categories of development do not require a CDP. In certain geographical areas and subject to specific criteria, the exclusions generally apply to the construction of single-family residences, water wells and septic system repair and replacement. If your project is eligible for an exclusion from CDP requirements, you will need to obtain a Notice of Coastal Development Permit Exclusion from the County prior to issuance of building, septic, and well permits.

To determine if your proposed project is excluded from the CDP requirement, the following materials must be submitted to the Department of Planning & Building Services:

1. One completed copy of the attached CDP Exclusion application form, questionnaire, Certification and Site View Authorization, and Indemnification Agreement.
2. Two copies of a vicinity map showing the project's location within the surrounding area.
3. Two copies of a site plan identifying all existing and proposed improvements.
4. Filing Fee payable to the County of Mendocino.

Applications for CDP Exclusions generally take between 1-3 weeks to process once the application is deemed to be complete.

Notices of CDP Exclusions are valid for a period of three years.

COUNTY OF MENDOCINO
DEPT OF PLANNING & BUILDING SERVICES
120 WEST FIR STREET
FORT BRAGG, CA 95437
Telephone: 707-964-5379
Fax: 707-961-2427

Case No(s) _____
 Date Filed _____
 Fee \$ _____
 Receipt No. _____
 Received by _____

Office Use Only

COASTAL DEVELOPMENT PERMIT EXCLUSION APPLICATION FORM

Name of Applicant	Name of Owner(s)	Name of Agent
Mailing Address	Mailing Address	Mailing Address
Telephone Number	Telephone Number	Telephone Number

Project Description:

Driving Directions

The site is located on the _____ (N/S/E/W) side of _____ (name road)
 approximately _____ (feet/miles) _____ (N/S/E/W) of its intersection with _____
 (provide nearest major intersection).

Assessor's Parcel Number(s)

Parcel Size	Street Address of Project
<input type="checkbox"/> Square Feet <input type="checkbox"/> Acres	

COASTAL DEVELOPMENT PERMIT EXCLUSION APPLICATION QUESTIONNAIRE

The purpose of this questionnaire is to relate information concerning your application to the Planning & Building Services Department to determine whether your project requires a coastal development permit. Please answer all applicable questions.

GENERAL

1. Is the subject parcel immediately adjacent to a coastal bluff or beach? Yes No N/A
2. Would any proposed development be located within 100 feet of any stream, wetland, marsh, estuary, or other environmentally sensitive habitat area (ESHA)? Yes No N/A
3. Would any proposed development be located on areas containing pygmy vegetation and/or pygmy soils? Yes No N/A
4. Are there any existing structures or improvements on the property? If yes, please describe. Yes No N/A

SINGLE FAMILY RESIDENCE

5. Does project site contain slopes which are greater than 20% in the area to be developed? Yes No N/A
6. Will vegetation be removed on areas other than the building sites and roads? If yes, please describe: Yes No N/A

SEPTIC SYSTEMS - REPAIR, REPLACEMENT, OR EXPANSION

7. Will the replacement or repair increase septic capacity? If yes, please describe. Yes No N/A
8. Is the replacement or repair for a new Wisconsin mound system? Yes No N/A

WATER WELLS

9. Is the proposed well a **test well** or a **production well**? (Circle one)
10. Is the proposed well a replacement or supplemental well which services an existing legal use on the parcel? Yes No N/A

OFFICE USE ONLY

PROJECT DESCRIPTION: _____

CONDITIONS

- | | | | |
|---------------------------------|------------------------------|-----------------------------|------------------------------|
| Mapped SFR Cat Ex area | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Cat Ex by definition | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| 100' from coastal waters | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| If SFR, less than 20% slope | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Shall conform to LCP | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| If SFR, limited by Cat Ex order | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |

OTHER PERMITS REQUIRED

- | | | | |
|--------------|------------------------------|-----------------------------|------------------------------|
| Septic Well* | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Building | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| Other: _____ | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |

MISC.

- | | | | |
|----------------------------|------------------------------|-----------------------------|------------------------------|
| Pygmy Soils/Vegetation | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> N/A |
| *Coastal Groundwater Study | SWR | MWR | CWR CWRbr |

CERTIFICATION AND SITE VIEW AUTHORIZATION

1. I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application, and all attached appendices and exhibits, is complete and correct. I understand that the failure to provide any requested information or any misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the County.
2. I hereby grant permission for County Planning and Building Services staff and hearing bodies to enter upon and site view the premises for which this application is made in order to obtain information necessary for the preparation of required reports and render its decision.

_____ Date

Owner/Authorized Agent

NOTE: IF SIGNED BY AGENT, OWNER MUST SIGN BELOW.

AUTHORIZATION OF AGENT

I hereby authorize _____ to act as my representative and to bind me in all matters concerning this application.

_____ Date

Owner

MAIL DIRECTION

To facilitate proper handling of this application, please indicate the names and mailing addresses of individuals to whom you wish correspondence and/or staff reports mailed if different from those identified on Page One of the application form.

Name	Name	Name
Mailing Address	Mailing Address	Mailing Address

SUBMIT ONLY ONE COPY

INDEMNIFICATION AND HOLD HARMLESS

ORDINANCE NO. 3780, adopted by the Board of Supervisors on June 4, 1991, requires applicants for discretionary land use approvals, to sign the following Indemnification Agreement. Failure to sign this agreement will result in the application being considered incomplete and withheld from further processing.

INDEMNIFICATION AGREEMENT

As part of this application, applicant agrees to defend, indemnify, release and hold harmless the County of Mendocino, its agents, officers, attorneys, employees, boards and commissions, as more particularly set forth in Mendocino County Code Section 1.04.120, from any claim, action or proceeding brought against any of the foregoing individuals or entities, the purpose of which is to attack, set aside, void or annul the approval of this application or adoption of the environmental document which accompanies it. The indemnification shall include, but not be limited to, damages, costs, expenses, attorney fees or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent, passive or active negligence on the part of the County, its agents, officers, attorneys, employees, boards and commissions.

Date: _____

Applicant

MENDOCINO COUNTY Site Evaluation Report

Environmental Health

Site Address: 15101 MALLO PASS ROAD
City: MANCHESTER

Site Evaluator: C. Rittiman
APN: 132-110-26
Land Div. #: _____
Home phone: _____
Work phone: _____

Location Description: HWY 1 TO POMO LAKE DRIVE TO MALLO PASS RD + TO SITE. SEE MAP.

Project Description(# of bedrooms): 1 BEDROOM

Water Source: COMMUNITY WATER PROVIDED Distance to Wastewater System: -

Profile #	Initial Area	Expansion Area
	<u>P2(1993) + A1</u>	<u>P2(1993) + A2</u>
Slope (%)	<u>2-10</u>	<u>2-10</u>
Effective Soil Depth (IN)	<u>60</u>	<u>60</u>
Absorption System Type	<u>NON-STANDARD HIGHLINE</u>	<u>NON-STANDARD HIGHLINE</u>
Distribution Method	<u>PRESSURIZED LATERALS</u>	<u>PRESSURIZED LATERALS</u>
Soil Suitability Class	<u>2C</u>	<u>2C</u>
Soil Perc Rate (MPI)	<u>60</u>	<u>60</u>
Design App. Rate (G/SF/D)	<u>0.5</u>	<u>0.5</u>
Design Flow (G/D)	<u>150</u>	<u>150</u>
Absorption Area (SF)	<u>300</u>	<u>300</u>
Linear Area (SF/LF)	<u>5.0</u>	<u>5.0</u>
Total Trench (LF)	<u>67</u>	<u>61</u>
Trench Depth (IN)	<u>15</u>	<u>15</u>
Trench Width (IN)	<u>36</u>	<u>36</u>
Effective Absorption Depth (IN)	<u>12</u>	<u>12</u>

Tanks: Septic Tank / PUMP TANK Pump Tank Treatment Tank

Volume (GAL) 1500 _____

Construction Material CONCRETE _____

Trench Calculation: $\text{Design Flow} \div \text{Design App. Rate} \div \text{Linear Area} = \text{Total Trench(LF)}$

SEE ATTACHED CALC'S

Requested Waiver:(attach justification) SEND BACK TO DITCH

Special Design Features: _____

Site Evaluator's Statement: I hereby certify that I have examined the above designated site using approved procedures, and that to the best of my information, knowledge and belief it complies with all State and County requirements for an On-site Sewage System at the time of this evaluation.

Date: 10-29-21

(seal) Signed



Certified Professional
Soil Scientist
CARL A RITTIMAN
02859

PRIMARY LEACHFIELD AREA*:

Profile...P2 (1993) and A1

Slope...2-10%

Soil Depth...60 inches

System Design...Non-Standard Highline

Distribution Method...Pressurized Laterals

Soil Suitability Class...2C

Soil Percolation Rate...60 mpi

Design Application Rate...0.5 gal/sq ft/day

Wastewater Design Flow...150 gpd

Total Trench Length...67 feet

Number of Trenches...2

Individual Trench Length...Line 1: 47 feet; Line 2: 20 feet

Trench Depth...1.25 feet

Gravel Depth...1.0 foot

Trench Width...3.0 feet

* This system will be placed in the County's Non-Standard Systems Program

* Both leachfields to be installed at this time.

REPLACEMENT LEACHFIELD AREA*:

Profile...P2 and A2

Slope...2-10%

Soil Depth...60 inches

System Design...Non-Standard Highline

Distribution Method...Pressurized Laterals

Soil Suitability Class...2C

Soil Percolation Rate...60 mpi

Design Application Rate...0.5 gal/sq ft/day

Wastewater Design Flow...150 gpd

Total Trench Length...61 feet

Number of Trenches...2

Individual Trench Length...Line 1: 25 feet; Line 2: 36 feet

Trench Depth...1.25 feet

Gravel Depth...1.0 foot

Trench Width...3.0 feet

* This system will be placed in the County's Non-Standard Systems Program

* Both leachfields to be installed at this time.

REQUESTED WAIVER FOR:

OWNER: [REDACTED]
PROJECT ADDRESS: 15101 Mallo Pass Road, Manchester
APN: 132-110-26

WAIVER JUSTIFICATION:

I request that the required 50 foot setback distance between the edge of the leaching system and a seasonal drainage ditch be waived to 28 feet primary leachfield area and 18 feet inches for the replacement leachfield of this project. No seasonal watertable is anticipated. All other site criteria are met on this parcel. The permeable, well-drained soils beneath the proposed leaching system will adequately treat the sewage effluent before it reaches the seasonal ditch. The ditch is located upslope from the proposed leachfield areas and any movement of effluent will be away from the seasonal ditch. Also, the leachfields will be placed in the Non-Standard Systems Program and will be pressurized to ensure that no one area of the field becomes inundated with effluent. No wells or water sources are present within 100+ feet of the leachfield areas; public water is provided to all parcels in this subdivision.

My experience in similar situations leads me to conclude that the granting of this waiver will not negatively impact useable groundwater nor give rise to a nuisance condition.

I hereby certify that the foregoing facts are true and correct to the best of my knowledge, information, understanding and belief.

Site Evaluator: Carl Rittiman, C.P.S.S.

Signature: 

Date: 10.29.21

DEPUTY HEALTH OFFICER DETERMINATION:

I have determined, based on the above statement of information and my own knowledge after reviewing the conditions on the property in question, that public health will not be endangered nor water quality impaired as a result of the issuance of this waiver.

Deputy Health Officer Signature:

Date:

SOIL PROFILE P1

- 0-24" Very dark brown gravelly loam, strong subangular blocky structure, friable, very many roots, 20% hard rock fragments
- 24-60" Brown, yellowish brown and white gravelly sandy clay loam, strong angular blocky structure, friable to firm, few roots, about 30% of this horizon is un-weathered soft through hard weathering shale fragments, color pattern due to weathering parent material
- 60-84" Dark reddish brown, brown and black hard fractured sandstone, some soil in fractures, 20% of horizon is pockets of soft weathered sandstone that crushes easily to sandy loam
- 84" End of observation
- No groundwater observed 2/5/93 or anticipated.

SOIL PROFILE P2

- 0-21" Very dark brown loam, strong subangular blocky structure, friable, very many roots, 20% hard sandstone fragments
- 21-60" Light brown, light grayish brown and yellowish brown sandy clay loam, strong angular blocky structure, firm, few roots
- 60-106" Very pale brown, yellowish brown and brown sandy clay loam, weak angular blocky structure, firm, few roots, 25% of horizon is hard through soft weathering sandstone
- 106" End of observation
- Groundwater observed at 106 inches 2/5/93. This is the highest anticipated level of groundwater.

MENDOCINO COUNTY

Soil Profile Description

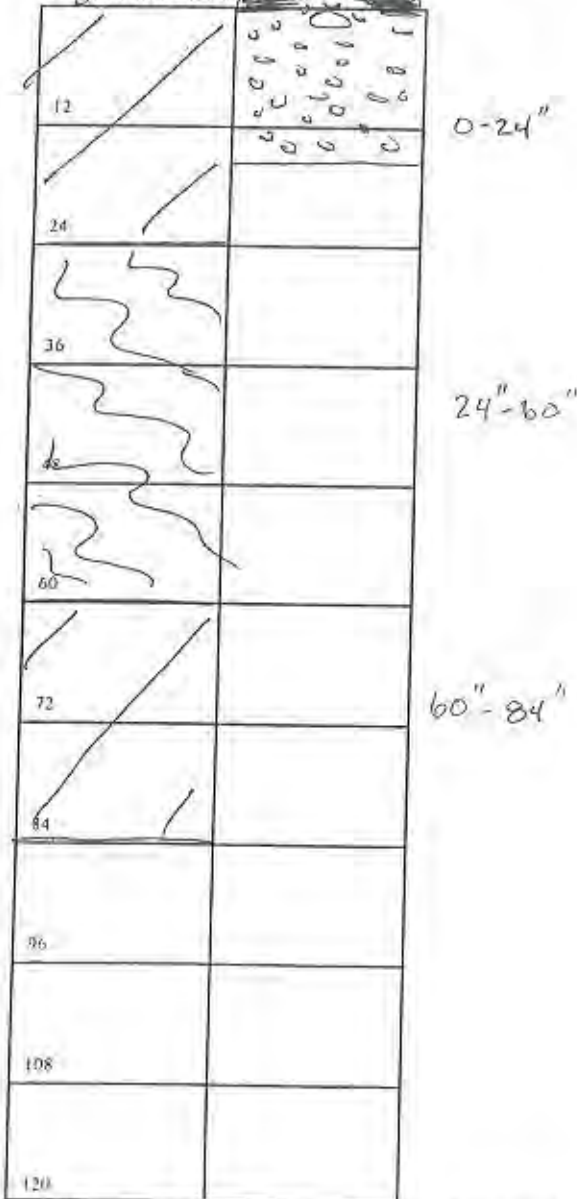
Owner Name A. MICHAEL & J. LOMBARD
Site Address 15101 MALLO PASS DRIVE
APN 132-110-26
Subdivision #

Division of Environmental Health

Test Date 2-5-93
Recorded by C. Pottmann
Slope 7-10%
Profile # PL

horizon depth range / color / mottles / gravel / texture / structure /
consistence / roots / pores / boundary /
[sample depth / texture zone / density / Avg. perc rate at this depth]

Soil depiction
0 ground surface



SEE ATTACHED

DESCRIPTION

I certify the test was carried out by the procedures specified by the Mendocino County Division of Environmental Health. I declare under penalty of perjury that the foregoing is true and correct.

Signed:

MENDOCINO COUNTY

Division of Environmental Health

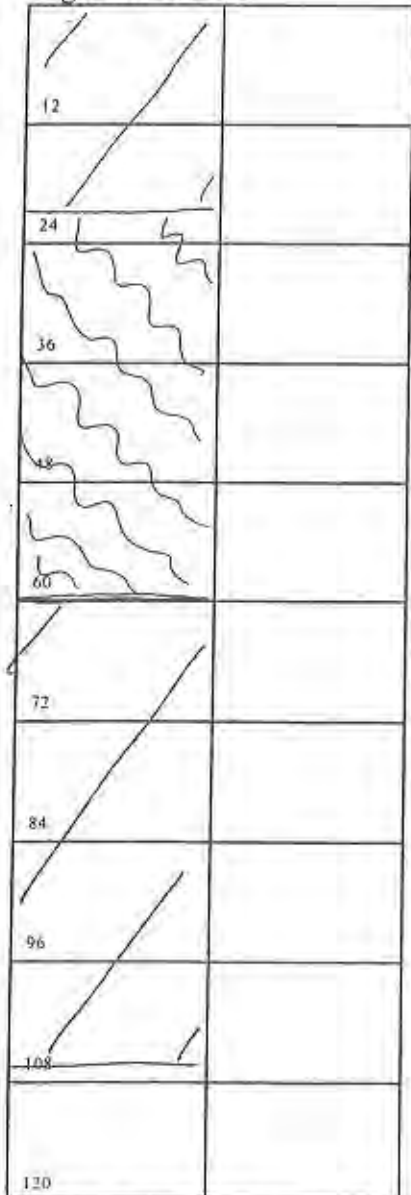
Soil Profile Description

Owner Name *A. MICHAEL & J. LOMBARD*
Site Address *15701 MAUD PASS DRIVE*
APN *132-110-26*
Subdivision #

Test Date *2-5-93*
Recorded by *C. RITTMAN*
Slope *2.5%*
Profile # *P2*

horizon depth range / color / mottles / gravel / texture / structure /
consistence / roots / pores / boundary /
[sample depth / texture zone / density / Avg. perc rate at this depth]

Soil depiction Trench depiction
0 ground surface



SEE ATTACHED DESCRIPTIONS

I certify the test was carried out by the procedures specified by the Mendocino County Division of Environmental Health. I declare under penalty of perjury that the foregoing is true and correct.

Signed: *C. Rittman*



WORK SHEET FOR SOIL TEXTURE

NAME LOMBARDI DATE 11/9/92
 ADDRESS _____
 SITE LOCATION _____

 A.P.# _____

Sample number	P1	P2	
Slake Test (Pass or Fail)	PASS	PASS	
Depth	21-60"	21-60"	
A. Oven dry wt. (gm)	50	50	
B. Starting time (hr:min)	11:33		
C. Temp @ 40 sec (°F.)	72	72	
D. Hydrometer reading @ 40 sec (gm/l)	29.0	27.0	
E. Composite correction (gm/l)	5.7	5.7	
F. True density @ 40 sec (gm/l) D.-E.	23.3	21.3	
G. Temp @ 2 hrs. (°F.)	61	61	
H. Hydrometer reading @ 2 hrs. (gm/l)	20.0	17.0	
I. Composite correction (gm/l)	7.9	7.9	
J. True density @ 2 hrs. (gm/l) H.-I.)	12.1	9.1	
K. % Sand = $100 - [(F. + A.) \times 100]$	53.4	57.4	
L. % Clay = $(J. + A.) \times 100$	24.2	18.2	
M. % Silt = $100 - (K. + L.)$	22.4	24.4	
N. Wt. coarse particles retained (gm)			
O. Wt. of total sample, oven dry (gm)			
P. % Coarse particles $(N. + O. \times 100)$			
Q. Bulk Density (gm/cc)			
R. Adjusted Sand (%)			
S. Adjusted Clay (%)			
T. Adjusted Silt (%)			

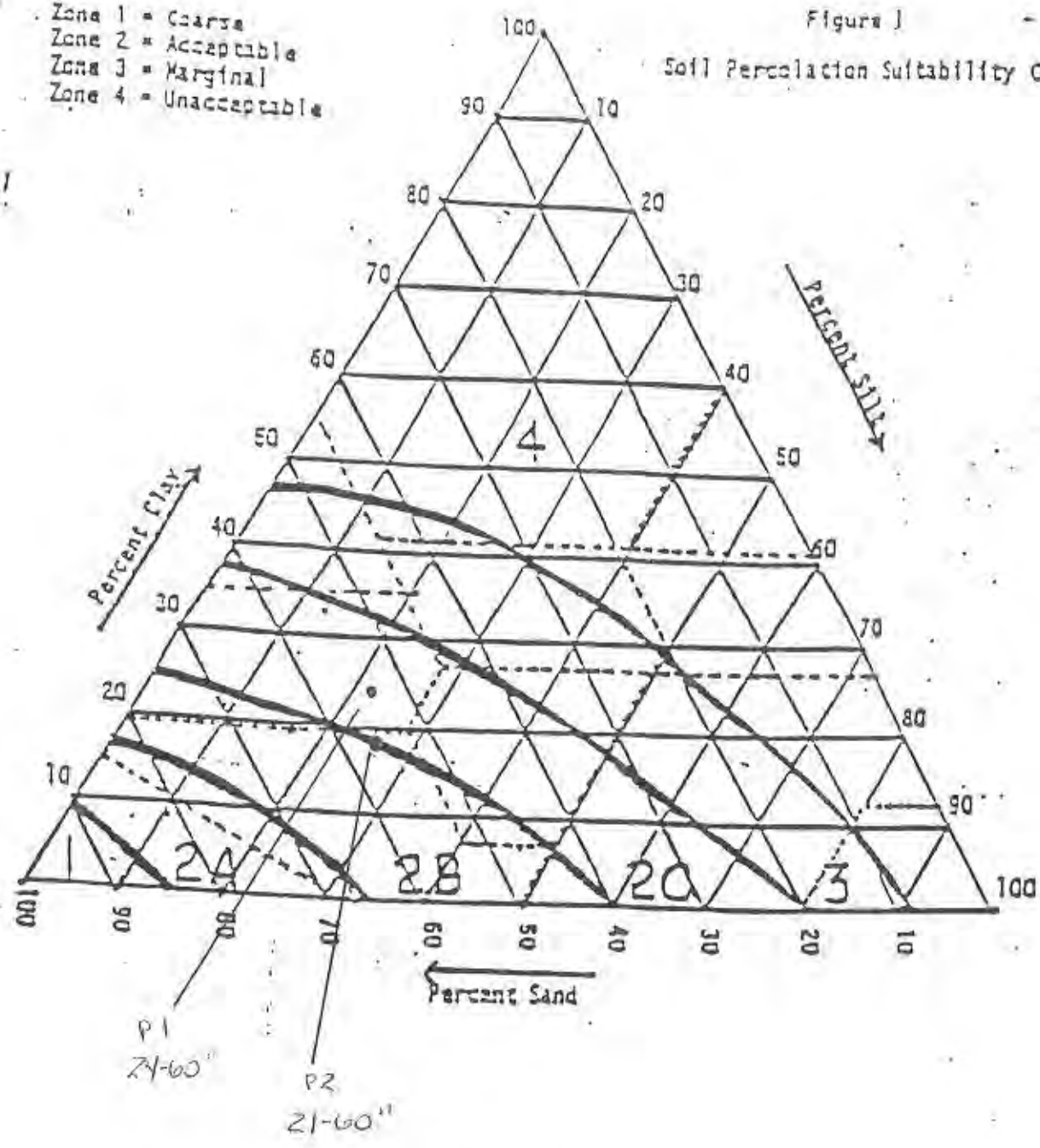
SOIL PERCOLATION SUITABILITY CHART ZONE

ZC

ZB/ZC

- Zone 1 = Coarse
- Zone 2 = Acceptable
- Zone 3 = Marginal
- Zone 4 = Unacceptable

Figure J
Soil Percolation Suitability Chart



- Instructions:**
1. Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
 2. Adjust for coarse fragments by moving the plotted point in the sand direction and additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
 3. Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk-density greater than 1.7 g/cc.
- Notes:** For soils falling in sand, loamy sand or sandy loam classification bulk density analysis will generally not affect suitability and analysis not necessary.



COUNTY OF MENDOCINO

DIVISION OF ENVIRONMENTAL HEALTH

PERCOLATION TEST DATA REPORT

Proposed Subdivision Name LOMBARD		Number 41	Date Received
Owner		Field Check Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Address		Date _____ Time _____	
City _____	Phone No. _____		Remarks
Water Supply Private _____ Public _____	Lot Size _____		
Type Soil _____	Test Date _____		
Recording Surveyor or Engineer Address _____ Phone No. _____			
Public Health Sanitarian			

See Instructions on Reverse Side Before Commencing Test

Hole Number	Lot Number	Depth	Water Level After Presoak	Starting Time	1st Adjustment		2nd Adjustment		3rd Adjustment		4th Adjustment		Calculate Rate From This Drop	
					Inches Water Added	Time	Inches Water Added	Time	Inches Water Added	Time	Inches Water Added	Time	Amount Final Drop	Calculated Rate (Inches per hr)
1		30"		10:51	6.0	11:06	6.0	11:21	6.0	11:36	6.0	11:51		
2				10:53	6.0	11:08	6.0	11:23	6.0	11:38	5.75	11:53	→	→
3				10:55	5.5	11:10	4.75	11:25	4.75	11:40	4.0	11:55		
4				11:01	6.0	11:16	6.0	11:31	6.0	11:46	5.75	12:01	→	→
5				11:03	1.5	11:18	1.0	11:33	3.0	12:33	2.5	1:33		
6				11:04	0	11:19	.25	11:34	.25	12:34	.5	1:34	→	→

Date 2/5/93

CERTIFICATION:

I certify the test(s) was (were) carried out by the procedure(s) specified by the Mendocino County Health Department.

I declare under penalty of perjury that the foregoing is true and correct.

Signed: *Carl [Signature]*

License No. _____



COUNTY OF MENDOCINO

DIVISION OF ENVIRONMENTAL HEALTH

PERCOLATION TEST DATA REPORT

Proposed Subdivision		Number	Date Received
Name <u>LOMFARO</u>		<u>AS 2</u>	
Owner		Field Check	
Address		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
City		Date	Time
Water Supply		Remarks	
Private <input type="checkbox"/> Public <input type="checkbox"/>			
Type Soil		Test Date	
Recording Surveyor			
or Engineer			
Address		Phone No.	
Public Health Sanitarian			

See Instructions on Reverse Side Before Commencing Test

Hole Number	Lot Number	Depth	Water Level After Presoak	Starting Time	1st Adjustment		2nd Adjustment		3rd Adjustment		4th Adjustment		Calculate Rate From This Drop	
					Inches Water Added	Time	Inches Water Added	Time	Inches Water Added	Time	Inches Water Added	Time	Amount Final Drop	Calculated Rate (Inches per hr)
1		30"			6.0	12:06	6.0	12:21	5.75	12:36	5.75	12:51		
2					5.75	12:08	5.75	12:23	5.75	12:38	5.75	12:53		
3					3.75	12:10	3.75	12:25	3.5	12:40	3.5	12:55		
4					5.75	12:16	5.75	12:31	5.5	12:46	5.5	1:01		
5					2.5	2:33	2.5	3:33						
6					1.5	2:34	1.5	3:34						

Adjust Water Level to 6" Above Gravel

Date 2/5/93

CERTIFICATION:

I certify the test(s) was (were) carried out by the procedure(s) specified by the Mendocino County Health Department.

I declare under penalty of perjury that the foregoing is true and correct.

Signed: _____

License No. _____



COUNTY OF MENDOCINO

DIVISION OF ENVIRONMENTAL HEALTH

PERCOLATION TEST DATA REPORT

Proposed Subdivision		Number	Date Received
Name <u>LOMBARD</u>		<u>613</u>	
Owner			Field Check
Address			Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City	Phone No.		Date _____ Time _____
Water Supply	Lot Sizes		Remarks
Private _____ Public _____			
Type Soil	Test Date		
Recording Surveyor			
or Engineer			
Address	Phone No.		Public Health Sanitarian

See Instructions on Reverse Side Before Commencing Test

Hole Number	Lot Number	Depth	Water Level After Presoak	Starting Time	1st Adjustment		2nd Adjustment		3rd Adjustment		4th Adjustment		Calculate Rate From This Drop	
					Inches Water Added	Time	Inches Water Added	Time	Inches Water Added	Time	Inches Water Added	Time	Amount Final Drop	Calculated Rate (Inches per hr)
1		30			5.75	1:06	5.75	1:21	5.75	1:36	5.75	1:51		
2					5.5	1:08	5.5	1:23	5.25	1:38	5.25	1:53		
3					3.25	1:10	3.25	1:25	3.25	1:40	3.25	1:55		
4					5.5	1:16	5.5	1:31	5.5	1:46	5.25	2:01		
5														
6														

Adjust Water Level to 6" Above Gravel

Date 2/5/93

CERTIFICATION:

I certify the test(s) was (were) carried out by the procedure(s) specified by the Mendocino County Health Department.

I declare under penalty of perjury that the foregoing is true and correct.

Signed: _____

License No. _____



COUNTY OF MENDOCINO

DIVISION OF ENVIRONMENTAL HEALTH

PERCOLATION TEST DATA REPORT

Proposed Subdivision Name <u>LOMBARD</u>	Number <u>EN</u>	Date Received
Owner		Field Check Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Address		Date _____ Time _____
City _____ Phone No. _____		Remarks
Water Supply Private _____ Public _____	Lot Sizes	
Type Soil	Test Date	
Recording Surveyor or Engineer		
Address _____ Phone No. _____		Public Health Sanitarian

See Instructions on Reverse Side Before Commencing Test

Hole Number	Lot Number	Depth	Water Level After Presoak	Adjust Water Level to 6" Above Gravel	Starting Time	1st Adjustment		2nd Adjustment		3rd Adjustment		4th Adjustment		Calculate Rate From This Drop	
						Inches Water Added	Time	Inches Water Added	Time	Inches Water Added	Time	Inches Water Added	Time	Amount Final Drop	Calculated Rate (inches per hr)
1		30				5.5	2:06	5.5	2:21	5.5	2:36	5.5	2:51	5.5	22.0
2						5.25	2:08	5.25	2:23	5.25	2:38	5.25	2:53	5.25	21.0
3						3.25	2:10	3.25	2:25	3.25	2:40	3.25	2:55	3.25	13.0
4						5.25	2:16	5.0	2:31	5.0	2:46	5.0	3:01	5.0	20.0
5														2.5	2.5
6														.5	.5
															27.2 13.2

measured rate = 13.2 inches / hour
 design rate = 5.0 inches / hour
 = 12 minutes / inch

Date 2/5/93

CERTIFICATION:

I certify the test(s) was (were) carried out by the procedure(s) specified by the Mendocino County Health Department.
 I declare under penalty of perjury that the foregoing is true and correct.

Signed: Carl R. Hill

License No. _____