3800-FM-WSFR0291 Rev. 9/2005

A 25.00 FEE WILL BE CHARGED FOR LOST PERMITS OR COPIES.

TO BE POSTED AT THE BUILDING SITE

IF YOU START THE INSTALLATION BEFORE NOTIFYING THE SEO IT WILL HAVE TO BE REMOVED AND THE SITE COULD BE DEEMED UNUSABLE!

PERMIT
for
INSTALLATION OF ONLOT SEWAGE DISPOSAL SYSTEM

Pursuant to Application for Sewage Disposal System number Z261967 a permit is hereby issued to:

Eldwin Eby
NAME OF APPLICANT

13205 Sawmill Rd., Blairs Mills, PA — 814-386-1961
ADDRESS OF APPLICANT — TELEPHONE NUMBER

10851 Colt Dr., Shade Gap (off of Marlin Cir.)
PROPERTY ADDRESS OF SITE FOR SEWAGE DISPOSAL SYSTEM

This permit issued under the provisions of the "Pennsylvania Sewage Facilities Act," the Act of January 24, 1966 (P.L. 1535), as amended, is subject to the following conditions:

1. Except as otherwise provided by the Act or regulations of the Pennsylvania Department of Environmental Protection, no part of the installation shall be covered until inspected by the approving body and approval to cover is granted in writing below.
2. This permit may be revoked for the reasons set forth in Section 7(b)(6) of the Act.
3. If construction or installation of an individual sewage system or community sewage system and of any building or structure for which such system is to be installed has not commenced within three years after the issuance of a permit for such system, the said permit shall expire, and a new permit shall be obtained prior to the commencement of said construction or installation.

ADDITIONAL CONDITIONS: Alternate septic sites must remain undisturbed for future use if needed.
Contact the SEO at least three days prior to starting the install.
Do not install in wet or frozen conditions.
If your design is not marked approved by my office it is not an approved copy and may not be the correct copy.
Use only certified sand / stone and have certs available on site at time of inspection.
Call SEO three days before you need an inspection to find out available time slots. Cover no part of the system until approved. All Changes must be approved. Lost permit replacement will be billed at $25 before it is signed.
Failure to follow the design AND PA regulation will result in permit revocation. Refer to The Pennsylvania Code.
Protect your septic site. Fence it off. Any septic site disturbance will result in permit revocation. Protect your alternate site as well It is the property owners responsibility to insure the contractor has read and understands the design and procedures.
A surveyed stakeout of the septic system location may be required before construction can begin.
Just because it is not in the design does not mean it is not in regulation and required by law. Refer to the PA Code requirements related to your system. **KEEP THIS PERMIT FOR FUTURE REFERENCE**

Approval to Cover

Signature of Enforcement Officer

Date

Date of issuance of Permit 5/18/22

Cromwell Twp.
Approving Body

Signature of Enforcement Officer

The basis for the issuance of this permit is the information supplied in the Application for Sewage Disposal System and other pertinent data concerning soil absorption tests, topography, lot size, and sub-soil groundwater table elevations. The permit only indicates that the issuing authority is satisfied that the installation of the sewage disposal system is in accordance with the rules, regulations and standards adopted by the Pennsylvania Department of Environmental Protection under the provisions of the Pennsylvania Sewage Facilities Act, the Act of January 24, 1966 (P.L. 1535), as amended. The issuance of a permit shall not preclude the enforcement of other health laws, ordinances or regulations in the case of malfunctioning of the system.

***SEE REVERSE SIDE FOR IMPORTANT INFORMATION**

FORM PROVIDED BY THE COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF WATER STANDARDS AND FACILITY REGULATION

APPROVED

SEWAGE SYSTEM DESIGN

For

Eldwin Eby

May 2, 2022

Design prepared by
William E. Wright, PLS
PO Box 1028
Lewistown, PA 17044
(717) 248-2517

ELEVATED SAND MOUND BED

Permittee: Eldwin Eby
13205 Sawmill Road
Blairs Mills, PA 17213

Phone: (814) 386-1961

Application Number: Z 261967

DEP Code Number:

Subdivision Name:

Site Address: 10851 Colt Drive Shade Gap

Township: Cromwell

County: Huntingdon

S.E.O.: Jamie Catanese

DESIGN CRITERIA:

Slope: 9%

Perc Rate: 111 min./inch

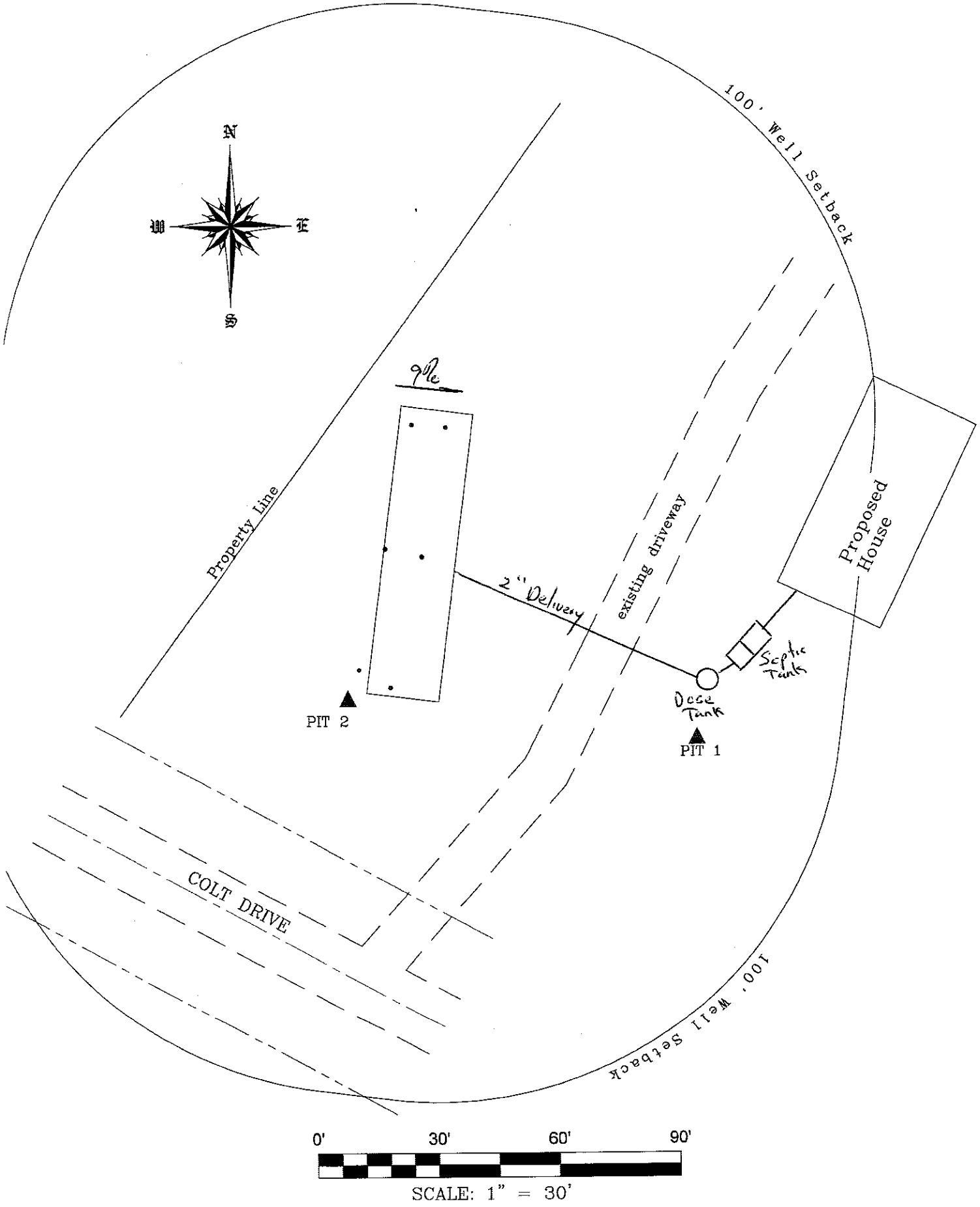
Limiting Zone: 25 inches

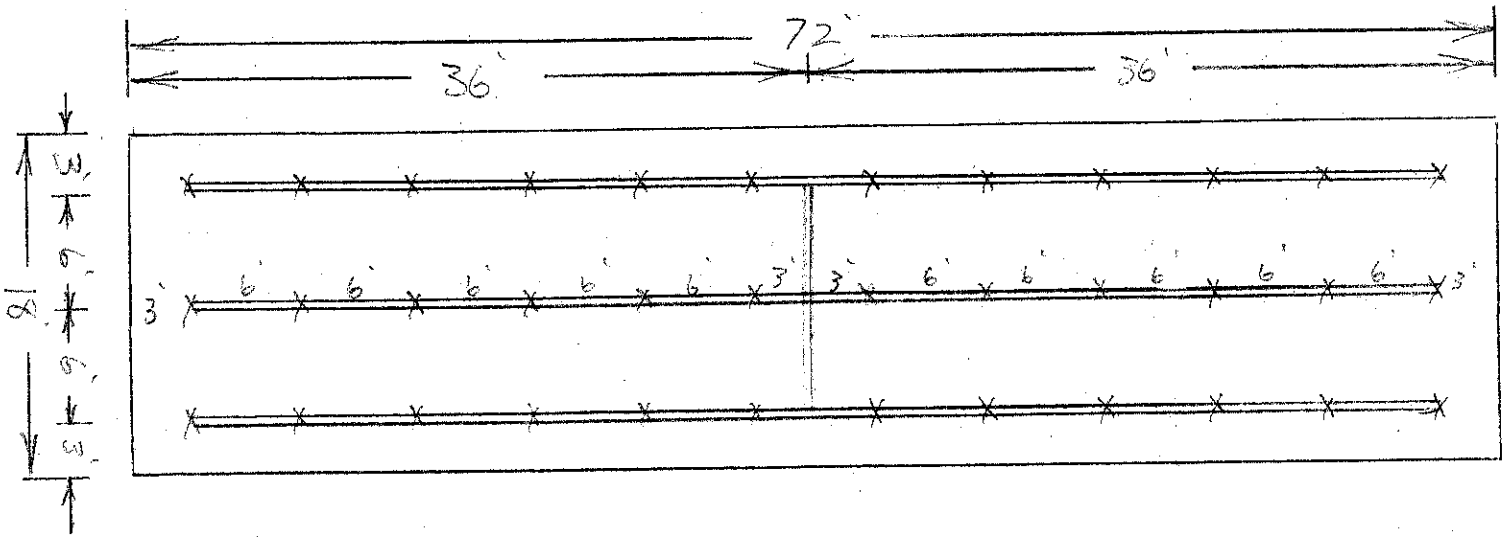
Gallons per Day: 400

Required Bed Area: 1,271 sq. ft.

Designed Bed Area: 1,296 sq. ft.

NOTES:


N
W
E
S
100' Well Setback
Property Line
gate
2" Delivery
existing driveway
Proposed House
Septic Tank
Dose Tank
PIT 2
PIT 1
COLT DRIVE
100' Well Setback
0'
30'
60'
90'
SCALE: 1" = 30'

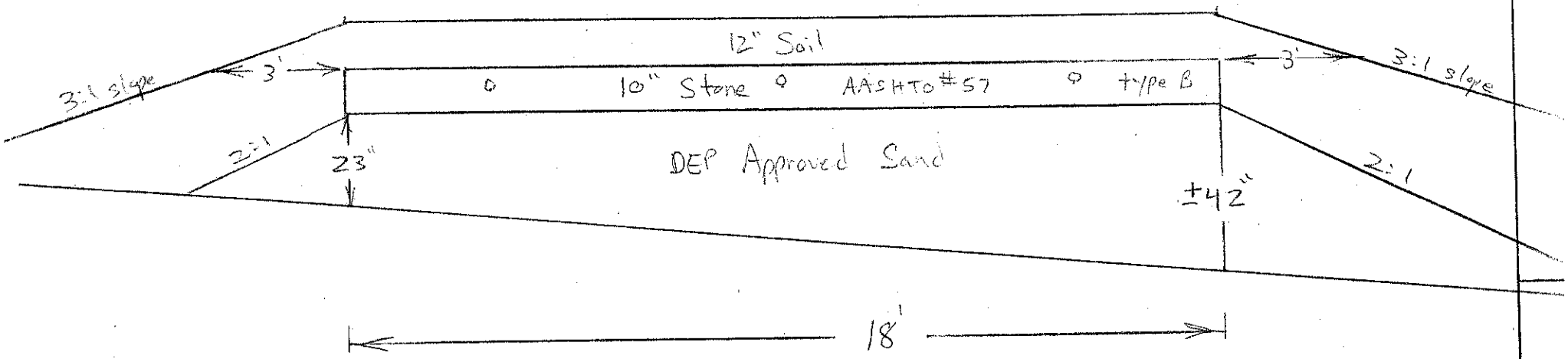


Elevated Sand Mound Bed

Scale 1" = 10'

Notes: 1) "X" denotes 1/4" hole in 1 1/2" laterals

2) Delivery and manifold lines are 2" diameter



ESM Bed Cross Section
Scale 1"=3'

ELEVATION CHANGE:

Depth of tank to pump inlet	6.00	ft.
Surface change from tank to bed	9.00	ft.
Height of sand (23")	1.92	ft.
Height of stone below laterals (6")	.50	ft.
Total elevation change	= 17.42	ft.

Contractor should verify final elevation to check pump size.

FRICTION LOSS:

Staight pipe (2 inch)	80.00 ft.
(2) 45 degree elbow (2 inch) @ 2.58 ft. per	5.16 ft.
(1) 90 degree elbow (2 inch) @ 5.55 ft. per	5.55 ft.
(4) coupling (2 inch) @ 1.35 ft. per	5.40 ft.
(1) disconnect (2 inch) @ 1.35 ft. per	1.35 ft.
(1) manifold tee (2 inch) @ 11.10 ft. per	11.10 ft.
Total pipe friction in equivalent feet	108.56 ft

Flow rate is 46.1 gpm based on using 1/4 inch holes @ 1.28 gpm per hole X 36 holes

Friction loss factor is 4.03 ft. per 100 ft. X 108.56 equiv. ft. = 4.37 ft.

HEAD TOTALS:

Elevation loss	17.42 ft.
Friction loss	4.37 ft.
Required head at manifold	3.00 ft.
total	24.79 ft.

PUMP REQUIREMENTS: 46.1 gpm at 25 ft. of head

DOSE REQUIREMENTS:

80 ft. of 2 inch delivery line X .16 gal.per ft. = 12.80 gallons
12 ft. of 2 inch manifold X .16 gal.per ft. = 1.92 gallons
198 ft. of 1 1/2 inch lateral line X .09 gal.per ft. = 17.82 gallons
total internal capacity of pipes = 32.54 gallons
32.54 gallons X 5 = 163 gallon minimum dose volume ~~or use 100 gallons~~

DOSE TANK REQUIREMENTS:

163 gallon dose volume X 2 plus extra room for electric connections
Use minimum 500 gallon dose tank

TREATMENT TANK REQUIREMENTS:

Use minimum 1,000 gallon treatment tank.
Treatment tank must be dual-compartment or 2 tanks placed in series.

CONSTRUCTION NOTES

(1) All existing mineral soil shall be utilized. No mineral soil in the area of the elevated sand mound may be removed or disturbed for the purpose of adding or mixing fill material.

(2) All vegetation shall be cut close to the ground throughout the area to be utilized for the absorption area and berm. Bushes and trees shall be cut flush with the ground surface; roots shall be left in place. All cut vegetation or organic litter shall be raked and removed from the absorption and berm areas.

(3) The proposed absorption area not obstructed by stumps or other obstacles shall be roughed or plowed parallel with the contour to a maximum depth of six inches, using a chisel plow or similar implement attached to light-weight equipment. Rotary tilling shall be prohibited.

(4) Under no circumstances shall equipment travel on the plowed soil surface until the sand is in place.

(5) Immediately after plowing, sand shall be placed over the exposed plowed surface. Sand shall be placed from the upslpoe side of the bed using only light-weight equipment.

(6) The slope of the sand not directly beneath the aggregate area shall be approximately 50%.

(7) The top of the sand directly beneath the aggregate shall be level to a tolerance of ± two inches per 100 feet.

(8) Minimum depth of aggregate material under the laterals shall be six inches.

(9) Minimum depth of aggregate material over the laterals shall be two inches.

(10) The top of the aggregate material shall be covered with untreated building paper or two inch thick layer of hay, straw or similar material to prevent back fill material from setting into the aggregate.

(11) The backfill material shall consist of soil suitable for the growth of vegetation, and be seeded to control erosion.

(12) The mound shall be surrounded by a berm consisting of mineral soil containing less than 20% coarse fragments with no coarse fragments greater than four inches in diameter, more stable and less permeable than the sand and lightly compacted during construction to contain and protect the mound interior. The width of this berm shall be a minimum of three feet at the top of the aggregate.

(13) Upon completion, the outside slope of the berm shall be no greater than 50% and shall be seeded to assure the stability of the berm. The cover over the aggregate shall be a minimum of one foot of soil suitable for the growth of vegetation.

(14) No equipment shall be permitted on the downslope side of the mound with the exception of light-weight equipment that is used to form the downslope berm. To the greatest extent possible, aggregate and the cover material shall be placed from the upslope side of the mound.

(15) The area surrounding the mound shall be graded to provide for diversion of surface runoff waters.

Minimum horizontal isolation distances.

(a) Minimum horizontal isolation distances shown in subsection (b) and (c) shall be maintained between the sewage disposal system and the features itemized. Where conditions warrant, greater isolation distances may be required.

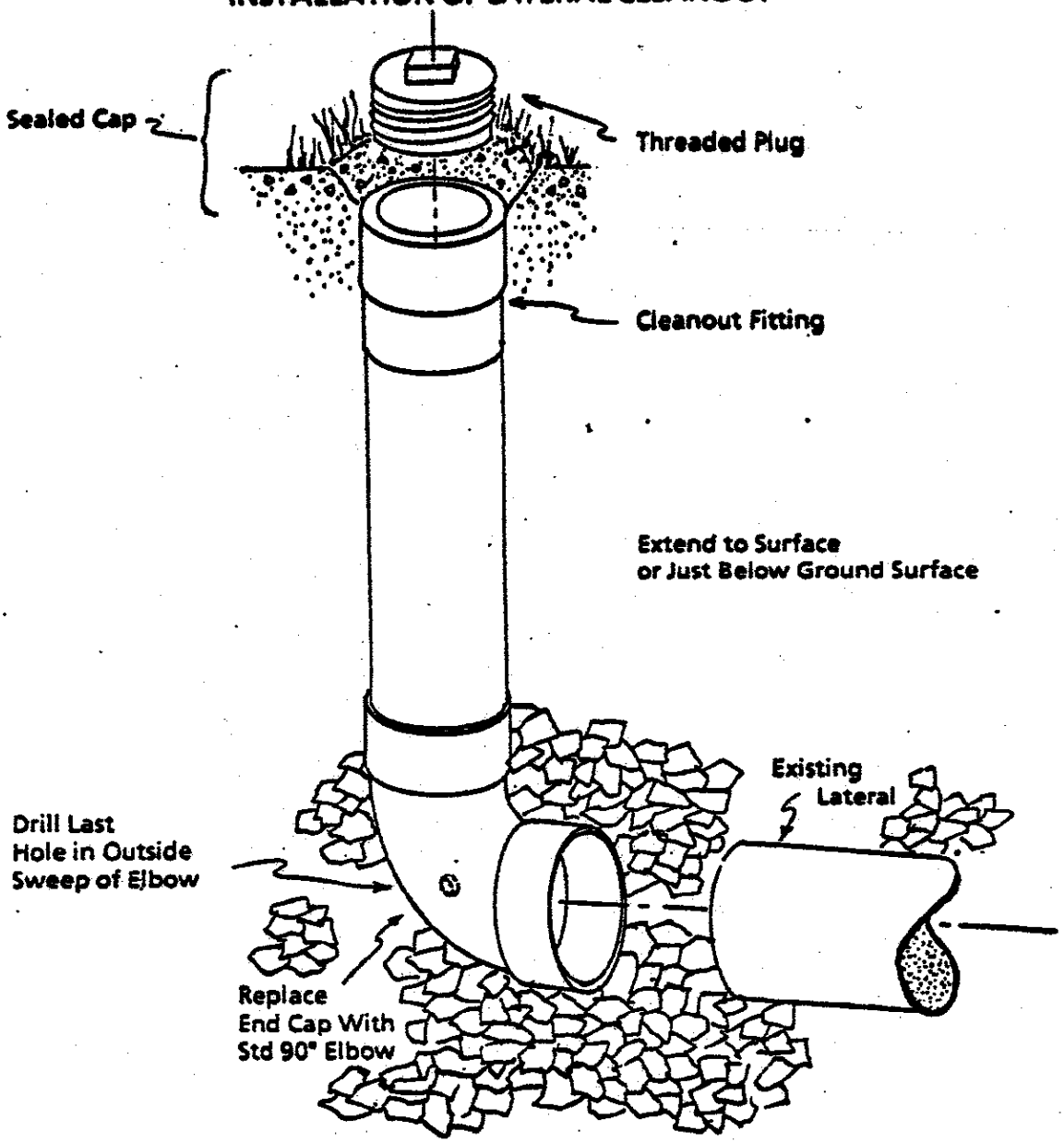
(b) The minimum horizontal isolation distances between the features named and treatment tanks shall comply with the following:

(1) Property line, easement or right-of-way - 10 feet.
(2) Occupied buildings, swimming pools and driveways - 10 feet.
(3) Any individual water supply or water supply system suction line - 50 feet.
(4) Water supply line under pressure - 10 feet.
(5) Streams, lakes or other surface waters - 25 feet.

(c) The following minimum horizontal isolation distances between the features named and the perimeter of the absorption area shall apply:

(1) Property line, easement or right-of-way - 10 feet.
(2) Occupied buildings, swimming pools and driveways - 10 feet.
(3) Any indvidual water supply or water supply system suction line - 100 feet.
(4) Water supply line under pressure - 10 feet.
(5) Streams, lakes or other surface water - 50 feet.
(6) Other active on-lot systems - 20 feet.
(7) Surface drainageways - 10 feet.
(8) Mine subsidence areas, mine bore holes, or sink holes - 100 feet.
(9) Rock outcrop or identified shallow pinnacle - 10 feet.
(10) Natural or manmade slope greater than 25% - 10 feet.

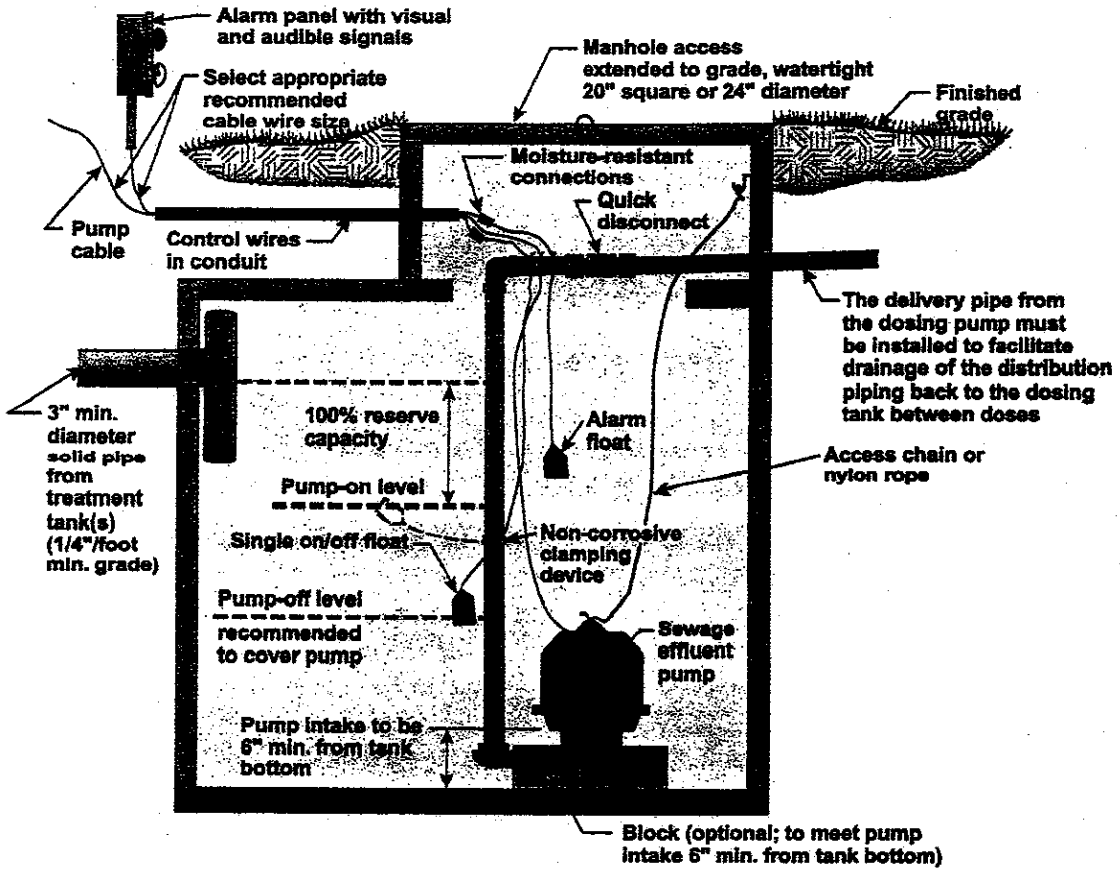
INSTALLATION OF LATERAL CLEANOUT



All PVC Piping
1 1/2" Diameter

PRESSURE DISTRIBUTION USING A PUMP

This illustration shows some of the regulatory requirements of a pressure distribution system that uses a pump.



NOTES:

- Dosing tank must have a minimum liquid capacity equal to or greater than two times the designed dose volume.
- Double on/off floats may be used in lieu of single on/off float.
- Quick disconnect must be located for ease of pump removal.
- Pump and alarm must be on separate breakers.

Calculate Float Levels for 163 gallon dose

INTERNAL VOLUME OF THE DOSING TANK -used to set float levels

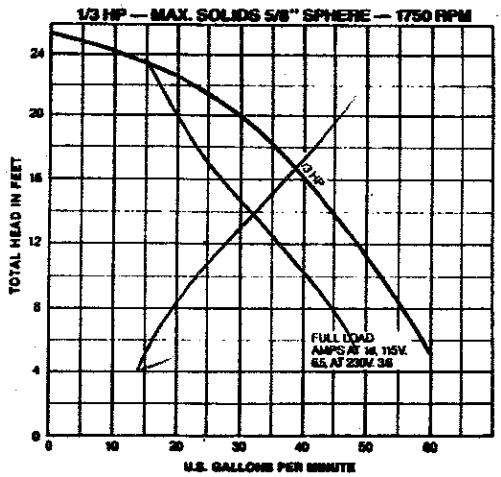
ROUND TANK: DIAMETER (inches) X DIAMETER (inches) / 292.5 = . GAL/ INCH

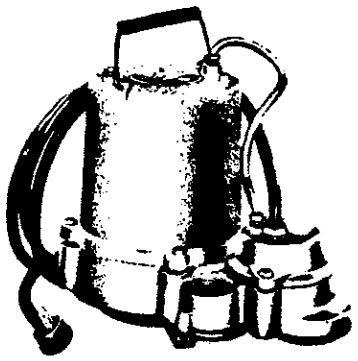
RETANGULAR TANK: LENGTH (inches) X Width (inches) / 231 = GAL/INCH

EFFLUENT PUMPS - *Features and Performance*

SP33

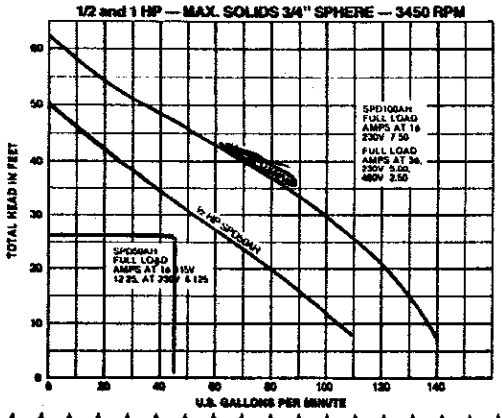
- Available in automatic or manual.
- Completely submersible.
- Non-clog bronze impeller.
- No suction screens to clean.
- Oil-filled, double ball bearing motor with built in overload protection.
- Reliable diaphragm switch.
- Rugged cast iron construction.
- Completely field serviceable.

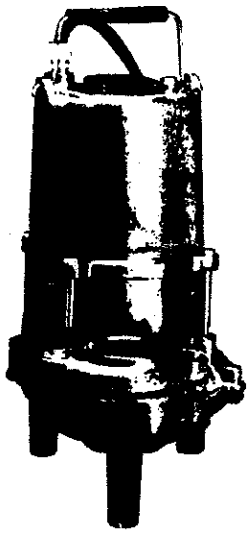




SPD50H/SPD100H *(HIGH HEAD)*

- Available in automatic or manual.
- Open two-vane sewage type impeller.
- Pump shaft and all fasteners are stainless steel.
- 1/2 HP (SPD50H) and 1 HP (SPD100H) motors. Ball bearing construction and oil-filled.
- Wide angle "piggy-back" float switch (automatic models).
- 2-inch NPT discharge (3" flange optional).
- Dual seals standard. Seal failure sensor capability (to be wired to an alarm device) available on manual pumps.





SKHD150

- Non-clog impeller.
- 1-1/2 HP, oil-filled motor.
- Pump shaft and all fasteners are stainless steel.
- 1-1/2-inch NPT discharge.
- Spring loaded mechanical seal with carbon and ceramic faces.
- Pump-out vanes on rear shroud of impeller.
- Dual seals and seal failure sensor capability (to be wired to an alarm device).