

# SEPTIC PRESSURE DISTRIBUTION SYSTEM:

480 GALLONS PER DAY  
 BASIL LOADING RATE 0.4  
 LANDSCAPE LOADING RATE 4.0  
 MOUND LENGTH - TOP 120.0'  
 BOTTOM 135.5'  
 MOUND WIDTH - TOP 4.0'  
 BOTTOM 19.5'  
 LATERAL LENGTH: 2 @ 60' EACH  
 HOLE SPACING - 3'  
 HOLE DIAMETER - 1 1/4"  
 TOTAL NO. OF HOLES: 38  
 LATERAL SIZE: 1.5"  
 DISTAL PRESSURE - 3'  
 FLOW PER HOLE: 1.27 GPM  
 FLOW PER LATERAL: 24.20 GPM  
 TOTAL LATERAL FLOW: 48.40 GPM

	3	4	5
NUMBER OF BEDROOMS	3	4	5
BASE FLOW RATE (gpd)	360	480	600
DIVERSITY FACTOR (NOTE 3)	1.0	1.15	1.50
DESIGN FLOW RATE (gpd)	360	417	460
EFFECTIVE MOUND LENGTH*	150'	120'	190'
OVERALL MOUND LENGTH* (NOTE 1)	176'	135.5'	216'
DESIGN LINEAR LOADING RATE (gpd/ft)*	2.4	4.0	2.4
DESIGN SAND LOADING RATE (gpd/sf)	0.7	1.0	0.7
MAXIMUM ALLOWABLE BASIL LOADING RATE (gpd/sf)	0.3	0.4	0.3
ABSORPTION BED AREA (sf)	525	480	665

\* MAY BE ADJUSTED BASED ON SITE SPECIFIC SOILS EVALUATION AND APPROVAL OF THE LAKE COUNTY HEALTH DISTRICT.

DOSING VOLUME: 78.5 GALLONS TO MOUND  
 STATIC LIFT: 6.8' SWITCH SEPARATION: 4"  
 HEAD LOSSES: 12'  
 TDH: 18.8' USE MYERS ME40 PUMP  
 MAIN SIZE: 2" WITH 4/10 HP MOTOR OR EQUAL.

TIMED PUMP: RUN TIME 2.37 MIN. @ EVERY 3 HOURS

NOTES:  
 1. CONTRACTOR TO CONSULT WITH DESIGNER PRIOR TO MAKING CHANGES ON SEPTIC SYSTEM.

- NOTES:
1. NOMINAL, ACTUAL MAY VARY WITH GROUND SLOPE.
  2. G = F ON LEVEL OR NEAR LEVEL BUILDING SITES.
  3. BASE FLOW RATE DIVIDED BY THE DIVERSITY FACTOR EQUALS THE DESIGN FLOW RATE. THE DIVERSITY FACTOR ACCOUNTS FOR NON-SIMULTANEOUS PEAKS AND TIMED DOSING.
  4. FOR PIPING DETAILS, SEE FIGURE 10.

## SAND FILL SPECIFICATIONS

< 20% greater than 2 mm  
 < 5% smaller than 0.053mm

plus

- OR
1. Total sample sieve analysis fits preferably between the solid lines of Fig. 6. Permissible to the dashed line
  2. ASTM C-33 Specifications
  3. Effective Diameter D<sub>10</sub> = 0.15-0.30mm  
 Coefficient of Uniformity D<sub>60</sub>/D<sub>10</sub> = 4-6

I, the undersigned, hereby certify that the topography shown thereon, indicated by one foot contours and elevations represents an actual field topographic survey made by me in March, 2008 and that the elevations were taken at appropriate intervals and that as of that date they existed as indicated thereon.

DAVID A. RAPP 4/1/08  
 REGISTRATION NO.

## Erosion and Sediment Control Schedule

**Ingress-Egress**  
 A stone access drive complete with under lying geo-textile fabric (20 feet wide and 50 feet long) for ingress and egress at the site shall be installed. This drive shall be the only entrance and exit to the site.

**Silt Fence**  
 All silt fence shall be installed prior to any earthwork activities at the site in the locations shown on the site plan as well as along the front of any lot that slopes towards the street.

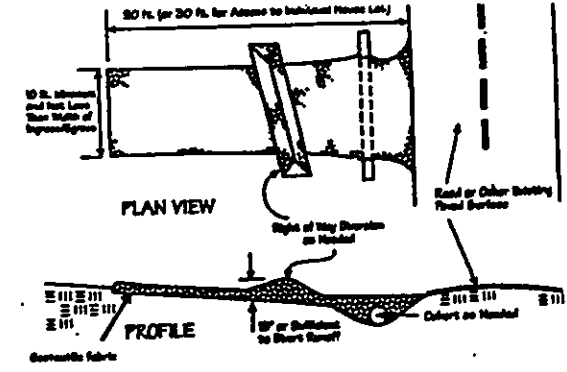
**Temporary Seeding**  
 Disturbed areas of the site that are to remain idle for more than Twenty-one (21) days shall be properly seeded and straw mulched within seven (7) days of completion of initial grading. Temporary seeding and mulching of a thirty (30) foot strip of the entire front of the lot shall be maintained on the site once initial grading is complete.

**Stabilization of critical areas** within fifty (50) feet of any stream or wetland shall be complete within two (2) days of the disturbance. If the site is to remain inactive for longer than fourteen (14) days.

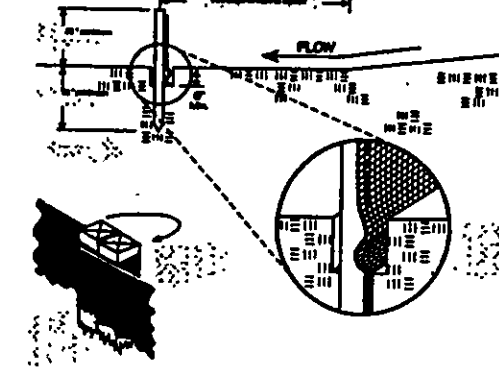
**Mulching**  
 Snow-mulch shall be applied at a rate of 1 bale per every ten (10) feet of curb, at a width of thirty (30) feet of the entire length of the lot. Wood chips may also be used but must be spread at a minimum depth of four inches over the thirty-foot width and must be accompanied by a properly installed silt fence.

**Maintenance**  
 Erosion and sediment controls shall be inspected every seven (7) days or within 24 hours of a 0.5" or greater rainfall event. Necessary repairs shall be made at this time.

## Construction Entrance Detail



## Silt Fence Detail



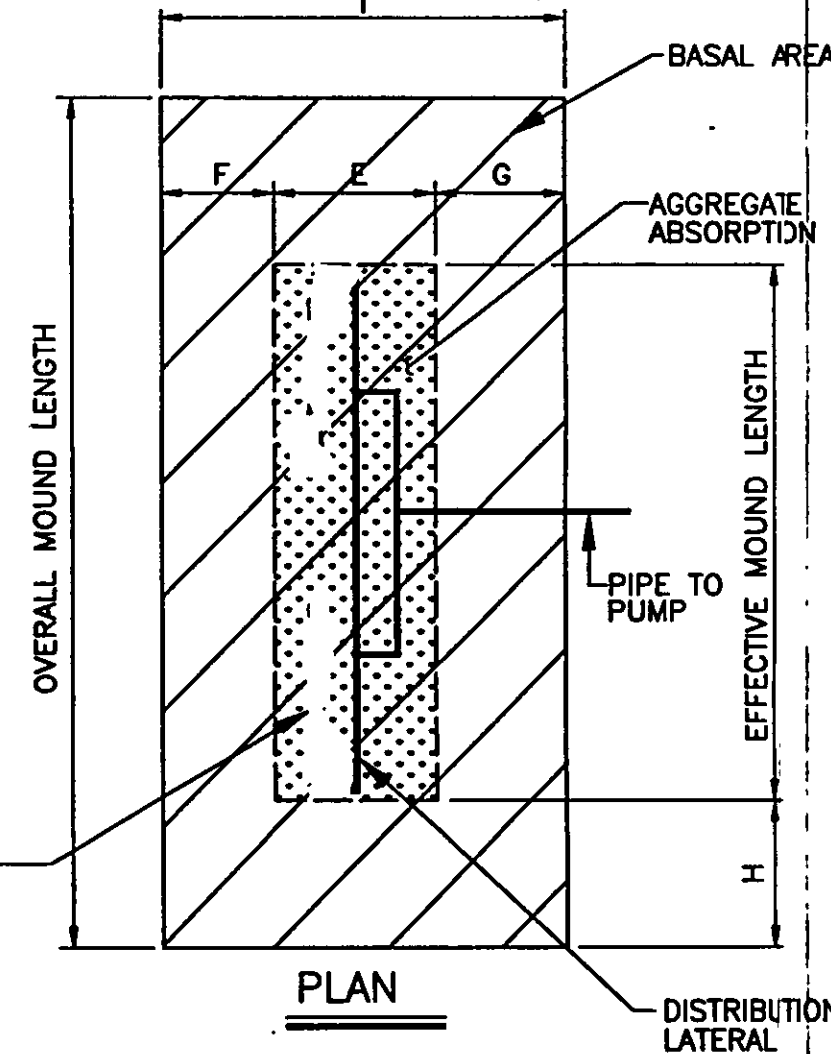
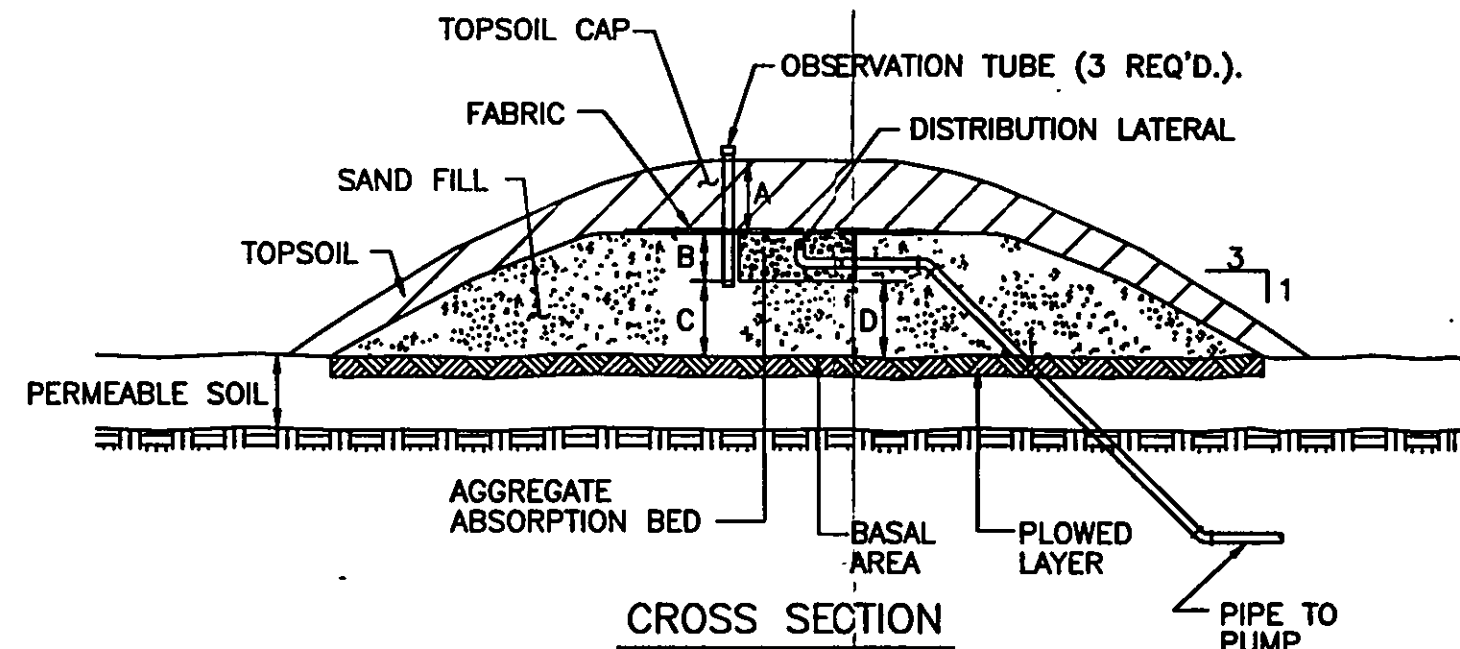
## Temporary Seeding Specifications

Seeding Date	Species	Quantity	Per Acre
March 1 to August 15	Grass	2	4 bushels
	Legume	1	1 bushel
August 16 to November 1	Grass	1	2 bushels
	Legume	1	1 bushel
November 1 to Spring Seeding	Grass	1	2 bushels
	Legume	1	1 bushel

JAMES K. JR. AND PAULA J. THARP  
 PP#01B-123-0-00-065-0  
 DOCUMENT NO. 2000R011314

RESIDUAL PARCEL  
 188,802 sq. ft.  
 4.5179 acres

ALEX AND MARLENE KOVACH  
 PP#01B-123-0-00-064-0  
 VOL. 0997, PAGE 0012



## MINIMUM DIMENSIONS

A =	18"
B =	9"
C =	10"
D =	10"
E =	4.0'
F =	7.75'
G =	7.75'
H =	7.75'
I =	19.5'

LAKE COUNTY GENERAL HEALTH DISTRICT  
 LAKE COUNTY MOUND SYSTEM DESIGN INFORMATION SHEET  
 DATE: AUGUST, 1998  
 REVISION: MARCH, 1999

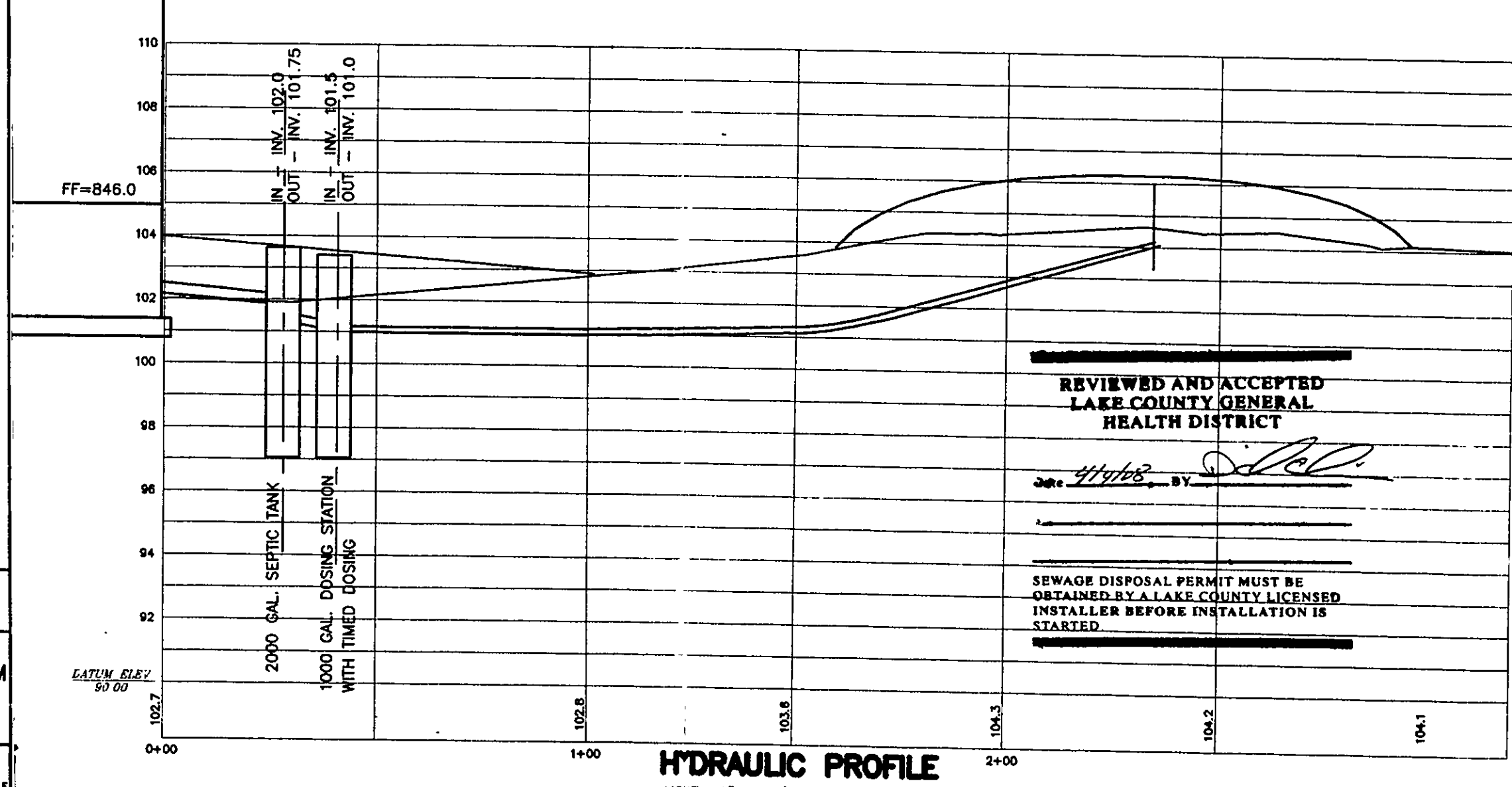
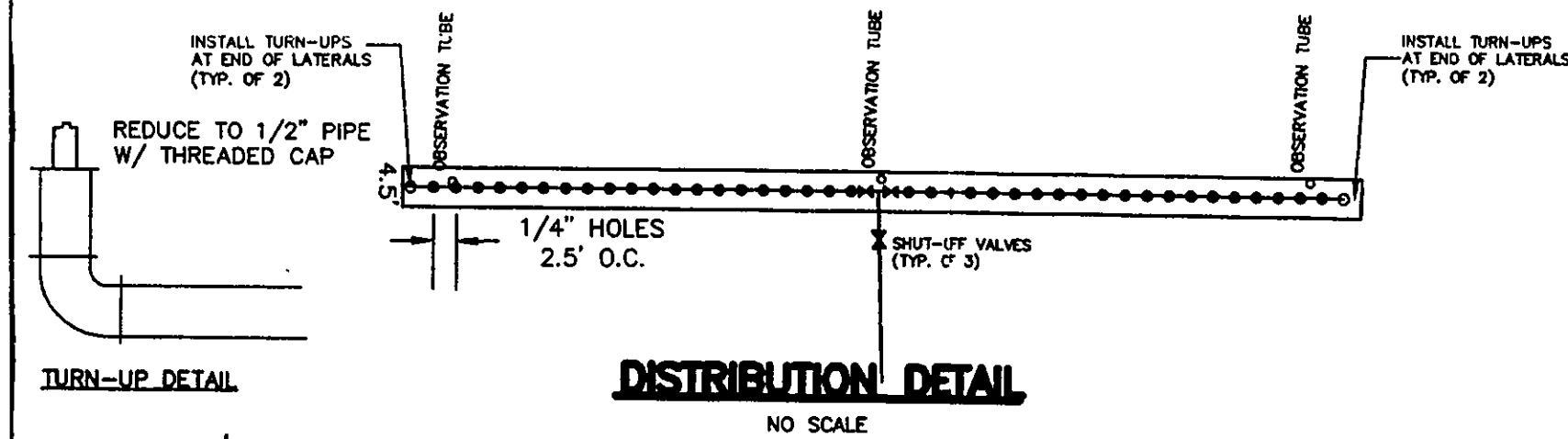
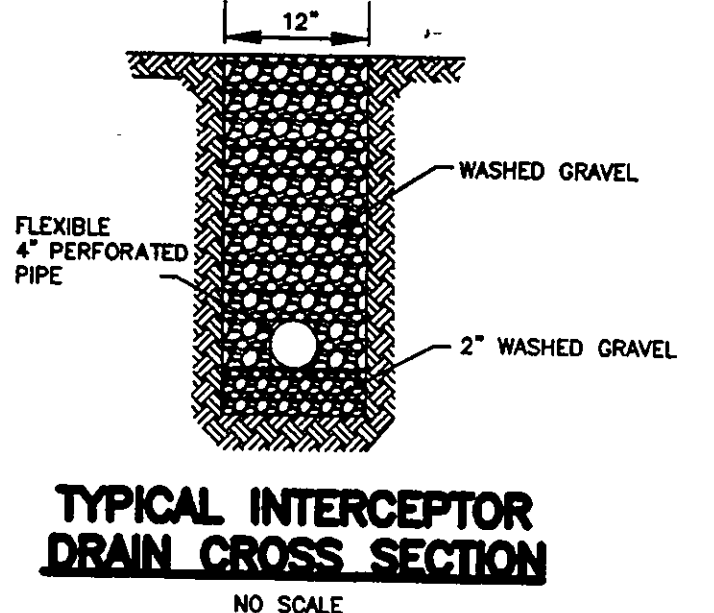
## GENERAL NOTES:

1. The system will be installed in accordance with the rules and regulations of the Ohio EPA and the County Health Department.
2. The engineer shall be responsible for setting grades and elevations and for ensuring satisfactory installation of the treatment system.
3. The existing septic tank shall be pumped by a licensed septic disposal company. The tank will then be crushed and filled with sand to eliminate voids.
4. All pipe shall be SCH 40 PVC.
5. The designer and / or installer shall assure that all electrical wiring meets the national electric code.

## INSTALLATION PROCEDURES FOR MOUND SYSTEM CONSTRUCTION

1. Stake out mound so that absorption bed runs parallel to the contour, and isolate area with tape to prevent disturbance.
2. Locate upslope edge of the absorption bed and then the lower.
3. Cut trees and remove vegetation from the site close to ground level. It is not necessary to remove the stumps unless a significant number of stumps exist. At which time the basal area may be enlarged.
4. Trench and lay the force main from the pumping chamber to the mound. Perpendicular to the side of the mound. Cut and cap the pipe one foot beneath the ground surface. Lay the pipe below the frost line or slope back to the pumping chamber. Backfill and compact soil around pipe to prevent back seepage of effluent along pipe.\*\* This step must be done before plowing to avoid compacting and disturbing the surface.
5. Till the basal area of the mound to improve infiltration at the sand / soil interface. Check soil moisture. Plowing may be done with a moldboard or chisel plow and should always be done along the contour.
- \*\* Backhoe bucket teeth are not satisfactory and are not to be used.
6. Extend the effluent pipe to several feet above the ground surface.
7. Place the fill material around the edge of the plowed area. \* Keep wheels of truck off plowed area. \*\* Stay off downslope side, work from ends of upslope side.
8. Move fill into place with the tractor blade. Always keep a minimum of six (6) inches of sand beneath the tracks to prevent compaction of the natural soil. Place fill to the required depth at the top of the absorption bed. Shape sides to the desired slope.
9. Form the bed with the blade of the tractor. The bottom of the absorption bed should be hand leveled and checked with a surveyors level.
10. Place the coarse aggregate in the bed to a minimum depth of six (6) inches and level. Place the distribution system on the aggregate, connecting to the pipe from the dosing chamber. Make sure the laterals are as level as possible. Place two (2) more inches of aggregate over the distribution system. Soft limestone should not be used since it dissolves and flakes with time.
11. Place a layer of synthetic fabric, such as Typar, Mirafi of the equivalent through the aggregate. The fabric will prevent soil particles from migrating to the aggregate / soil interface.
12. Place soil on top of the bed to a depth one (1) foot in the center and six (6) inches at the outer edges of the bed. \*\* This may be subsoil of topsoil.
13. Place an additional six (6) inches of good quality top soil over the entire mound surface. Finally, grade the mound and area with light weight equipment so that surface water moves away from the mound and does not accumulate.
14. Landscape the mound by planting grass, using the best vegetation available. Shrubs can be planted around the base and up the side slope. The shrubs should be moisture tolerant.

LATERAL ORIFICES SHALL BE PROTECTED WITH A STANDARD J-HOLE LEACH LINE COVER. THE LATERAL SHALL HAVE HOLES UP AND THE SHIELDING PIPE HAVE THE HOLES DOWN TO DRAIN.

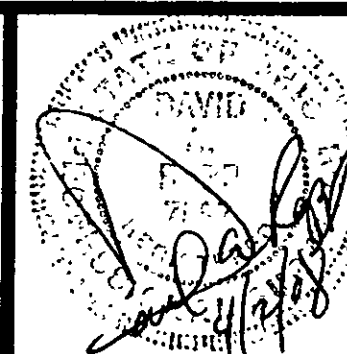


## H'DRAULIC PROFILE

HORIZ. 1" = 30' VERT. 1" = 4'

**DAVID RAPP SERVICES**

3406 DAYTON ROAD MADISON, OHIO 44057  
 440-983-1607



DATE: March, 2008  
 DRAWN BY: DAR  
 CHECKED BY:  
 APPROVED BY:  
 PE No. P.E. NO. 62081

**KENNY THARP**

PP#01B-123-0-00-076-0  
 MADISON TOWNSHIP, OHIO

APPROVED  
 MADISON TOWNSHIP ZONING  
 DATE: 4/1/8  
 BY: SIK 2-3235

**SEPTIC SYSTEM IMPROVEMENTS**

Hor. Scale Vert. Scale

CONTRACT No.  
**28007**

SHEET No. OF  
 1 1

Stormwater Management Plan  
 Approved as shown and/or noted  
 JAMES R. GILLS, P.E.  
 County Drainage Engineer  
 Date 4/1/08