St. Joseph County Department of Health

"Promoting physical and mental health and facilitating the prevention of disease, injury, and disability for all St. Joseph County residents"

PRESSURE TRENCH DISTRIBUTION WORKSHEET

This worksheet must be accurately completed and submitted with the site plan which demonstrates all aspects of the subsurface pressure system.

SYSTEM SPECIFICATIONS: See Department of Health specification sheet for information

Soil Load Rate (SLR) _____ Required absorption area _____ ft²

Daily Design Flow (DDF):_____ gallons = number of bedrooms/equivalents ___ x 150 or 450 whichever is greater.

SEPTIC TANK: New:_____ Existing:_____ Size:_____gallons Manufacturer:_____

DOSE TANK: New:_____ Existing:_____ Size:_____gallons Manufacturer:_____

Internal dimensions: Width:_____inches, Length:_____inches, _____gallons per inch or foot (circle one)

ABSORPTION FIELD: ____Aggregate/pipe/holes down ____Chambers/laterals suspended/holes up

Lateral separation: _____ feet on-center. Minimum trench depth:_____" Maximum trench depth:_____"

Chambers: Manufacturer:_____ Length per chamber:_____feet.

Total number of chambers:_____ Chambers per run or trench:_____

Trenches: Number:_____ Length:_____feet. Width:_____ feet. Total square feet:_____

Bed: Bottom must be level. Length:_____ feet. Width:_____ feet. Total square feet:_____

DISTRIBUTION NETWORK: (check one) _____Center Feed, or _____End Feed (max lateral length 55 feet)

Only pressure rated pipe, fittings (couplers, reducers, elbows, tee's, etc.) will be used. _____Yes ____No

Manifold and all laterals will be placed at the same elevation _____ Yes _____ No - contact the department

Laterals: Total number _____ Length _____feet Diameter _____ inches (Use Lateral Diameter Graph)

Holes: Soil loading rate _____ (Spec 23 sand is 1.2) Spacing _____ feet on/center Size ¼ inch

Holes/lateral _____ Holes/system _____ Flow/lateral _____ gpm Flow/system _____ gpm

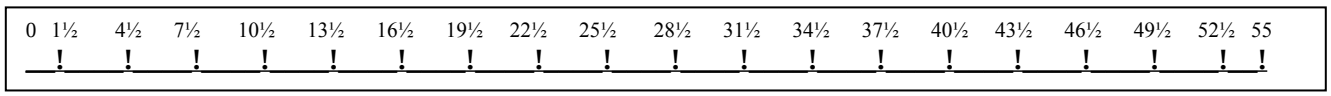
Total length of laterals _____ x the volume/foot = Total volume of laterals _____ gallons

Total number of holes x 1.28 gpm (3.0' design head) or 1.17 gpm (2.5' design head) = _____ total gpm

Separation of laterals to edge of aggregate bed: _____ to sides (1 – 1.5 feet) _1.5'_ to ends

Lateral length in feet with hole placement. Mark the appropriate lateral length and count the holes.(From the manifold, holes start ½ the distance of the hole spacing and no hole shall be placed less than that distance from the end cap. The end caps must be included in the count.)

Example: 3 feet on center hole spacing is universal for all soil load rates)



Manifold: Length:_____ feet. Diameter:_____ inches (must be 2 – 4"). Refer to Table X of Rule 410 IAC 6-8.2
Effluent force main: Length*:_____feet. Diameter:_____inches. Volume**:_____(length x volume/foot)

**If line drains to the dose tank, this is drain-back amount to be added to the actual dose to determine float settings.
Drains to: ____Field ____Dose tank

Pipe diameter:	1"	1¼"	1½"	2"	3"	4"
Gallons/foot:	.045	.078	.106	.174	.384	.650

*Is any portion of the force main deeper than than 60": _____yes _____no.
If yes, what length will NOT drain:_____feet. (subtract this amount from the total length before calculating drain-back volume)

Friction loss in effluent force main: *Sec. 73 (z) Table IX of Rule 410 IAC 6-8.2.

Friction loss at _____gpm = _____*feet per 100 ft. of _____ inch diameter pipe.

Calculate friction loss from fittings using chart:
List each fitting by type and corresponding value.
Example (for 2"): 2-90° elbows at 5.2' = 10.4'
Add up total equivalent length for each fitting type to get "Friction loss length from fittings" to use below.
FITTINGS List:

*Pipe diameter:	1"	1½"	2"	2½"	3"	4"
90° Elbow :	2.6'	4.3'	5.2'	6.2'	7.7'	10.1'
45° Elbow:	1.4'	2.1'	2.8'	3.3'	4.1'	5.4'
Check valve:	8.7'	13.4'	17.2'	20.6'	25.5'	33.6'

Length force main _____ (+) Friction loss length from fittings _____ = _____ total effective length in feet.

Number from Table IX:_____ (x) _____total effective length in feet/100 = _____ **Friction loss**

Dose amount is dependent upon the design load rate of the system:

___ SLR is 1.2 gallons per ft² day → Required dose = ¼ DDF

___ SLR is <1.2 gallons per ft² day → Required dose = DDF

In a replacement situation when backfilling with Spec 23 sand is necessary, mark the 1.2 load rate and contact the Health Department to discuss any "special circumstances" that may exist with the site.

Required dose: _____ + Drain back: _____ = _____ total gallons to determine float settings.

Volume calculation: The total dose amount delivered must be ≥ 7 times the volume of the distribution laterals.

Total volume of the laterals (from page one) _____ x 7 = _____ gallons. Total dose amount = _____ gallons.

Plan meets volume calculation requirements: _____ Yes _____No (If No, revise if possible or contact the HD)

PUMP: Manufacturer:_____ Model:_____ Horse power:_____ Height: _____"

Performance curve included with TDH and gpm plotted: _____ Yes _____ No

Pump is adequate, but not oversized: _____ Yes _____ No

Dosing Tank will be set up in compliance with Sec. 64 and Sec. 65 of the State Rule: _____ Yes _____ No

Junction box(es) will be located outside the dosing tank and riser, and shall be in accordance with Sec. 65 of the State Rule: _____ Yes _____ No

All Septic Tanks and Dosing Tanks will have risers in accordance with Sec. 59 of the State Rule: _____ Yes _____ No

Each Dose Tank will be equipped with an audible and visual alarm on a separate circuit from the pump: _____ Yes _____ No

Pump will stay submerged at all times: _____ Yes _____ No

TOTAL DYNAMIC HEAD: A. Friction Loss in Force Main _____feet

B. Elevation Difference _____feet
(Pump-off to Manifold, or highest elevation in force main)

C. System Design Head _____feet

Total Dynamic Head (A + B + C)= _____feet