

DESIGN SUMMARY
2-21-2007
FOR
ABEL HERNANDEZ
523 WALNUT AVENUE
FRESNO, TEXAS 77535
WASTEWATER USAGE RATE



Design is based on the TCEQ On-Site Sewage Facility (OSSF) rules manual and a drip-irrigation (pressure emitter) manufacturer requirements. The septic system consists of a 500-gallon trash tank, a 500-gallon CLEARSTREAM treatment plant (or equivalent), a chlorinator (optional), a 500-gallon pump tank and finally pumped to a drip-emitter system.

The system is sized for a single residency home (3-bedroom) using low flow fixtures.

Property has existing on-site water well. No well shall be closer than 100' from drain field, unless well is completely pressure cemented or cemented to the water aquifer (see Darcy's Law for existing well, if applicable).

SYSTEM AND DRAINFIELD

240gpd max. waste water flow (ULF)

$240/0.1=2,400$ ft² required

$2,400/2=1,200$ ft required

$1,200/2=600$ emitters required

1,200 linear feet of field area shown

20 lines @ 60 feet each, with a 2' spacing between emitters

Emitter flow rate = 1.13 gallons per hour (gph)

Total flow required = $600 \times 1.13 = 678$ gph / 60 minutes per hour = 11.3gpm

Dosing for 3-4 minute dosing cycles

Maximum trench depth = 6" (surface to be crowned)

System must be equipped with filtering device capable of filtering 100 microns.

System must be equipped with mechanism used to flush from drainfield back to the treatment unit.

Note: 80 gallon dosing volume (gdv) = 3 irrigation cycles

$240\text{gpd}/80=3$ irrigation cycles

4. All construction methods and materials must be in accordance with local, county, and or state rules and policies unless specifically noted on this drawing and approved by Fort Bend County.

5. Sits shall be carefully finished and graded after completion to installation to shed rainfall. Drainage swales shall be constructed to adequately convey storm water away from the absorption area.

6. Seed or sod with grasses (vegetation cover) immediately at absorption area upon completion of septic system.

7. If installed and operated in accordance with these plan specifications, the system should not present a hazard to public health nor the environment.

8. A check valve may be required if the total storage volume of the pipes is greater than one fourth of the total daily waste flow.



PRIMARY TREATMENT & PUMP TANK VOLUME (SPECS.)

500 gallon trash tank

500N CLEARSTREAM treatment unit(or equivalent)

500 gallon pump tank with alarm

1-Submersible pump, 4/10 horse power, dual audio/visual high water alarm

No changes are permitted by anyone without the written permission of designer.



PRIMARY TREATMENT & PUMP TANK VOLUME (SPECS.)

The pump activation float will be set so that the pump intake is never above the static water level of the pump tank. The static water level will be maintained at 20% of the tank volume to prevent tank floatation. The high water alarm activation float will be set so that its off-position is 2" below the pump activation float's on-position. These settings will provide 1.5 times the minimum required storage volume past the alarm activation for a standard 500-gallon tank flow line. A relieve valve will be installed on the pump's vertical flow-line column for sampling purposes, to reduce pump strains, and to freshen the static water volume.

FLOOD PLAIN CONSIDERATIONS

This property is not located in the 100-year flood plain. The proposed pump tank is designed to maintain the minimum static water volume and daily flow, therefore no additional anchoring will be required (see buoyancy calculations if applicable). The aerobic plant and pretreatment tanks will always remain filled with water during use; nonetheless, floatation is not a factor. The compressor and controls must be mounted at or above finished floor elevation (if system is in floodplain, then all electrical components shall be elevated 1.5 feet above floodplain level, and all inspection ports shall be sealed or provided with risers 1.5 feet above floodplain elevation).

GENERAL NOTES

1. An on-site sewage facility permit must be obtained from Fort Bend County prior to installing this wastewater disposal system.
2. Installation must be done by a registered Installer II of on-site sewage facilities as required by Article 4477-7E of Vernon's Civil Statutes or by the property owner. No component of this system shall be covered up without Fort Bend County's written approval.
3. If any discrepancies exist between this design and actual field conditions, it is the installer's responsibility to immediately notify the designer and Fort Bend County prior to start any work.

Design for:

El Hernandez Z
523 Walnut Ave
Fresno, TX 77535
713-478-1262

Design by:

Jorge Cedillo
816 B. Sabine
Houston TX 77007
281-703-4467

Design:
2406PD

0.1 = 2,400 ft²
1,200 ft²
needed

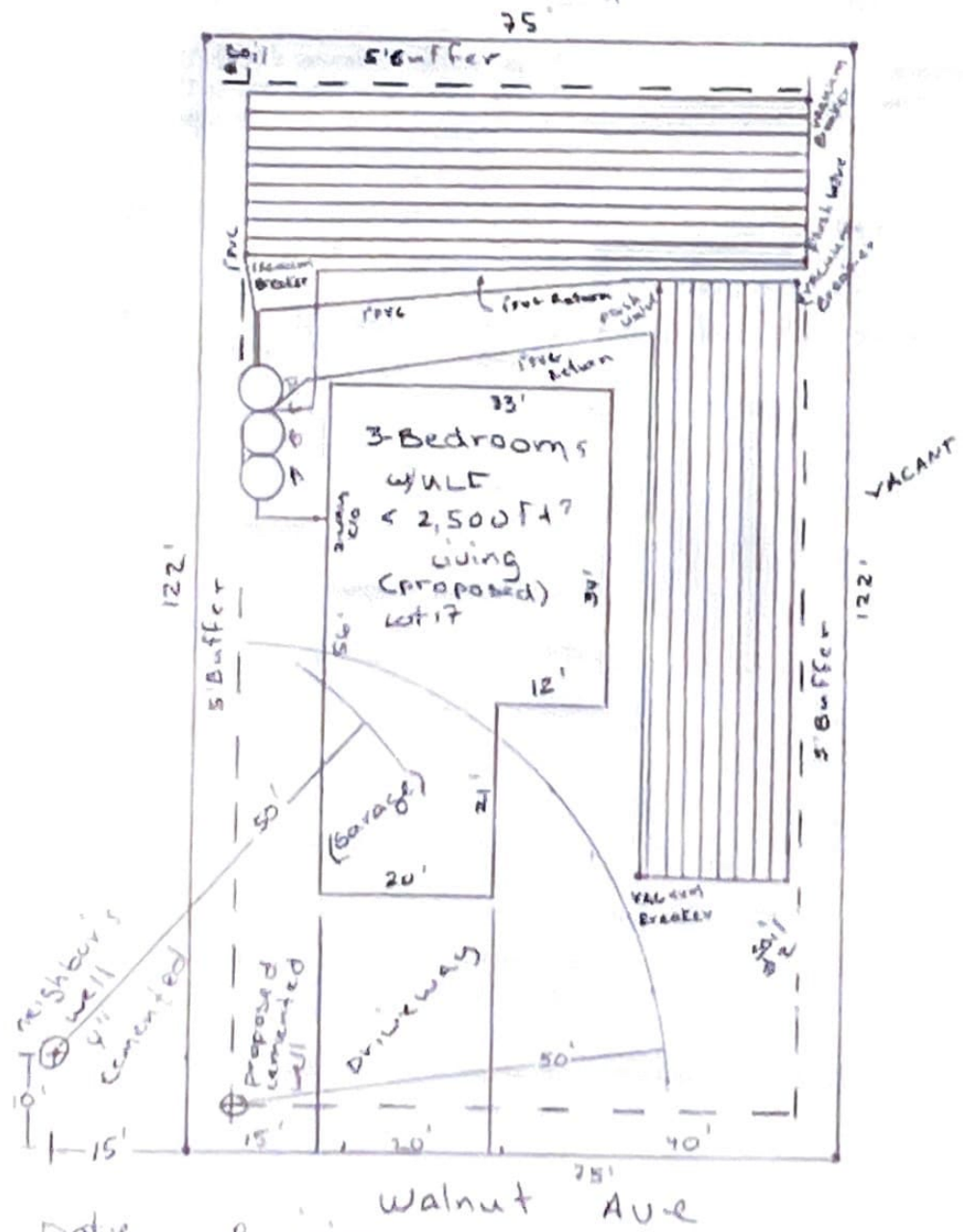
- Tank Battery
- A Pretreatment
- B Treatment
- C Chlorinator (optional)
- D Pump Tank

Legal:

Ridgewood Estates
Block 3 Lot 17
0.21 Acres
Fort Bend Co.

Design:

19 Lines @ 65' ea.
1,235 ft²
shown



Date 2-7-06
Revision 2-7-07

Walnut Ave

Scale 1" = 20'

Date: 2-7-06

Abel Hernandez SITE EVALUATION FORM

ADDRESS: 323 Walnut Ave

Subdivision: Ridgewood Estates (Plan Attached) Sec: Lot: 17 Blk: 3

Survey: (Copy Attached) Abstract:

Property Size: 75' x 122' Area: 0.21

Existing or Proposed Structure to be Served: 3 Bedroom W/LLF

TOPOGRAPHY

SLOPE: Flat (Under 2%): Slight (Over 2%): Severe (Over 30%):

VEGETATION: Grass/Brush: Lightly Wooded: Heavily Wooded:

SITE DRAINAGE: Poor [] Adequate [] Good [] Other []

NOTE: If slope is severe a Topo Survey with half foot contours must be provided with this form on the design. If site drainage is poor or slope is flat then a detailed drainage plan must be provided on the design if a subsurface system is proposed.

FLOOD HAZARD

PROPERTY IS LOCATED: Outside 100 Year Flood Plain [
In 100 Year Flood Plain []
In 100 Year Flood Plain and Floodway []

NOTE: Attach a FEMA Flood Insurance Rate Map (FIRM) map with property location identification survey with Flood Plain determination.

WATER SUPPLY

Name of Water Supplier: PUBLIC [] PRIVATE [] Proposed



Note: If well is on-site complete the following.

Size of Well: N/A Year Drilled: Driller:

Depth of Well: Feet

Settling Block Present YES NO
Well House Protecting Well YES NO
Is a Well Log Available (Attach if Available) YES NO

OTHER SET BACKS

Neighboring Wells Within 100 Feet of Property Line YES NO
Streams, Ponds, or Lakes within 75 feet of Property Line YES NO
Steep Slopes, Breaks or Dry Ditches YES NO

NOTE: (If any of these exist they must be shown on the design or attached site plan.)

SOIL (DEPTH) ANALYSIS

BORE HOLE # 1

PROFILE DEPTH	TEXTURE (USDA)	COLOR	RESTRICTIVE HORIZON	GROUNDWATER INDICATION	GRAVEL ANALYSIS %
0"	Clay	Brown	N/A	moisture	10%
				12"	
48"					

NOTE: BORES SHALL BE EXCAVATED TO THE DEPTH OF TWO FEET BELOW THE PROPOSED EXCAVATION OR TO A RESTRICTIVE HORIZON, WHICHEVER IS LESS.

BORE HOLE # 2

PROFILE DEPTH	TEXTURE (USDA)	COLOR	RESTRICTIVE HORIZON	GROUNDWATER INDICATION	GRAVEL ANALYSIS %

NOTE: STANDARD SUBSURFACE SYSTEMS IN CLASS II OR III SOILS CONTAINING GRAVEL SHALL BE FURTHER EVALUATED BY USING A SIEVE ANALYSIS TO DETERMINE THE PERCENTAGE OF GRAVEL BY VOLUME AND SIZE.


 SIGNATURE



7-7-06
 DATE

EFFLUENT LOADING DETERMINATION

SOIL TEXTURE	SOIL CLASS	LONG TERM LOADING RATE
Course Sand/Gravel	Ia	>.50 (Not Suitable for Standard Systems)
Sand / Loamy Sand	Ib	0.38
Sandy Loam/ Loam	II	0.25
Sandy Clay Loam / Sandy Clay/ Clay Loam/ Silty Clay Loam/ Silty Loam Silt	III	0.20
Clay/ Silty Clay	IV	0.1 (Not Suitable for Standard Systems)

Note: Soil must be evaluated to a minimum of two (2) feet below application area.

Indication of Seasonal Water Table : YES [] NO []
Depth: 1.2

NOTE: Subsurface horizons with colors of red, yellow and brown generally indicate good soil aeration and drainage throughout the year. Subsurface horizons that are in colors of gray, olive or blackish colors indicate poor aeration and poor soil drainage. Any soil profile that has the grayish colors indicative of high-water tables or soil mottling within thirty-six (36) inches of the surface or has ground water visible in the test bore less than forty-eight (48) inches below the ground surface shall be deemed unsuitable for conventional subsurface disposal due to internal drainage.

Is Soil Suitable for a Standard System? YES [] NO [x]
Application Rate: 0.211

NOTE: If soil has an application rate of over .38 gpd/sf or less than .1 gpd/sf or a high seasonal water table then standard systems are prohibited by State Law.

I Jorge A. Cedillo, a registered site evaluator did personally conduct the site evaluation on 323 Walnut Ave
Fresno TX 77535
(Address / Legal Description)

I certify these results are true and correct for the property evaluated.

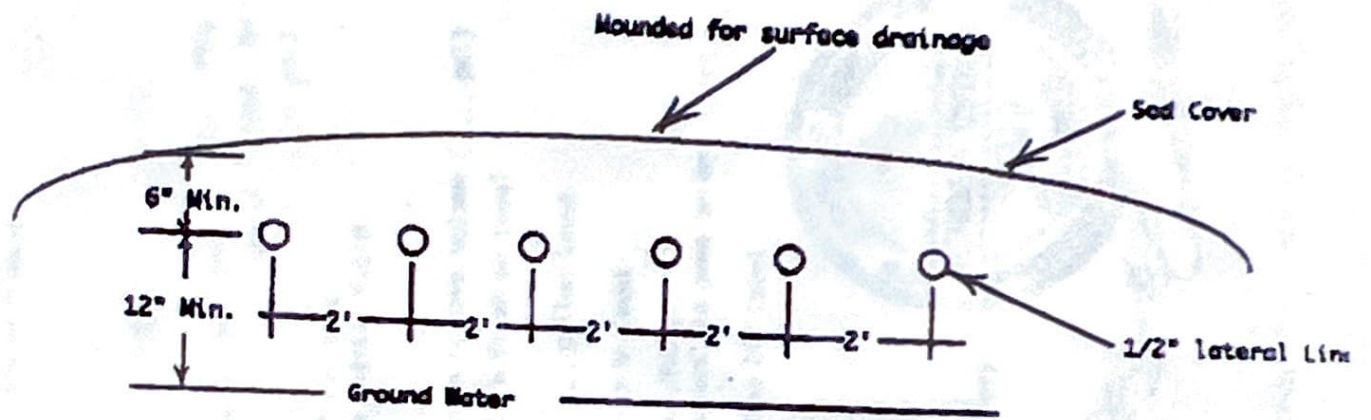
7-7-06
Date

Jorge A. Cedillo
Signature

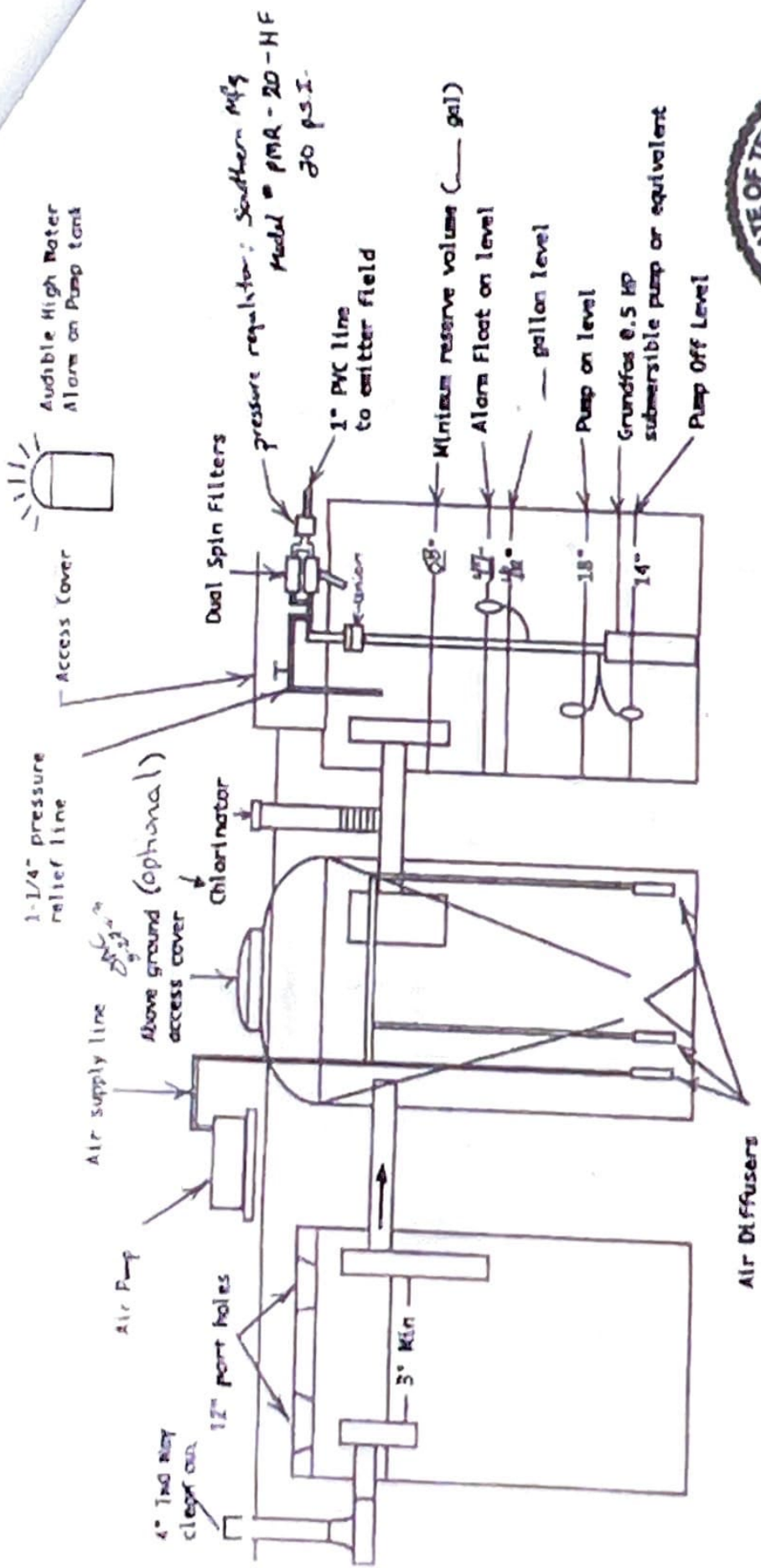
Site Evaluator Number 3379



Emitter Field cross section:



Scale: NTS



500 gallon
Pre-treatment Tank

Southern Aerobic
SM-500

500 gallon pump tank

Pumps of Houston Panel Mark I
With alarm light & buzzer, Manual On/Off
switch, and 24 hr timer.



[Handwritten signature]

Tank Specs: Aerobic / Filter & Drip Irrigation

Site Address:

NOTE: Chlorinator is optional

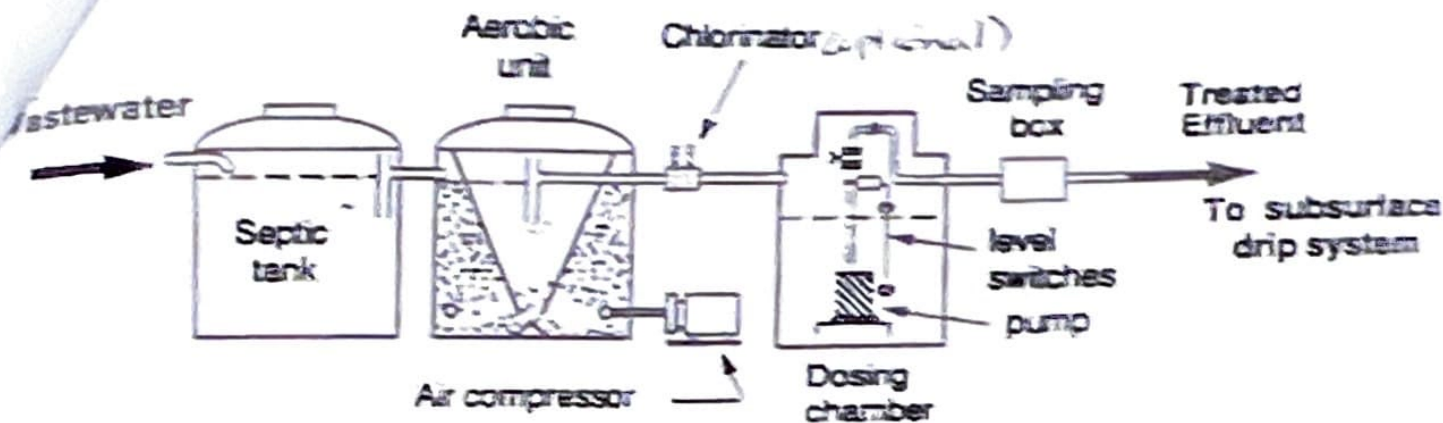


Figure 1. Pretreatment System

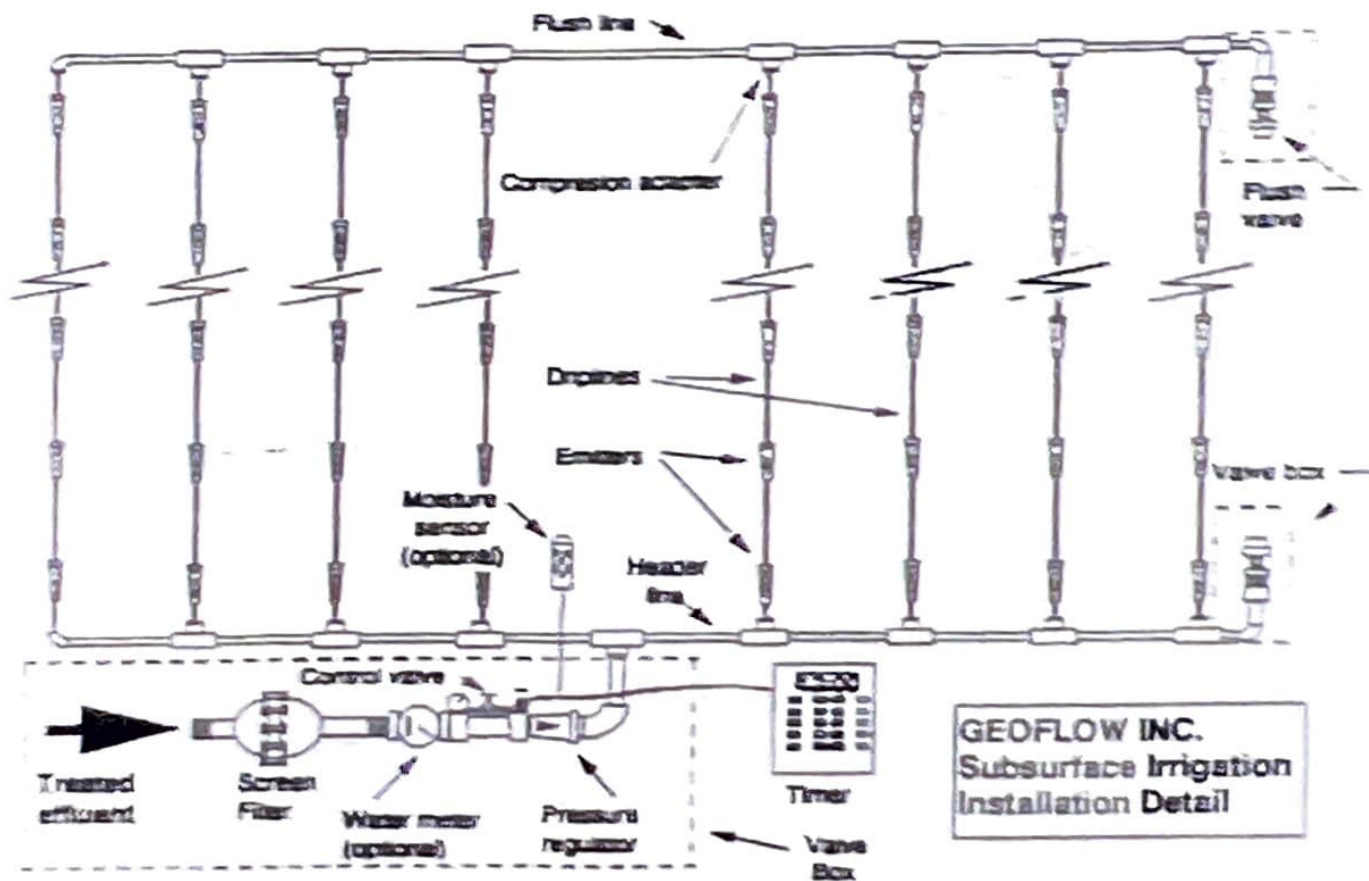


Figure 2. Subsurface Irrigation system