

**6567 West FM884
Goliad, TX 77963
Phone 361-938-7413
Fax 361-938-7412**

Amount Due: \$250.00

Invoice Date: 3-20-06

Job Name: Baria Job

NAME: Ricci Stevens
Address:
City, State: Yonkum, Texas
Zip:
Phone: (361)
Fax: (361) 293-5198

Company Name: Steven's Plumbing

Please make checks payable to:
Mayfield Designs

Thanks

Mayfield Designs

6567 W. FM 884
Goliad, TX 77963
(361) 938-7413

Client: Brenck/Barta

A. Wastewater Load:

A two bedroom house, less than 1,500 sq. ft. living area, and water saving devices.
Wastewater load 180 gallons per day

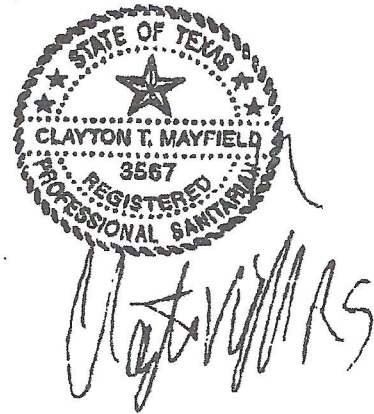
B. Required Septic Tank Capacity:

V = 750 Gallons (Oversize to 1250 Gallons)

C. Drainfield Requirements:

The disposal system will be a Low Pressure Dosing System

1. Soil Classification from the soil evaluation - Class IV
2. Allowable Effluent Loading Rate-
 $R = .10 \text{ GPD} / \text{SF}$
3. Required Drainfield Area-
 $(180 \text{ GPD}) / (.10 \text{ GPD} / \text{SF}) = 1,800 \text{ SF}$
4. Length of Distribution Lines-
Assume a trench width of 6 inches
 $3 \text{ SF wetted area} / (3 \text{ SF} / \text{LF})$ of distribution line
 $(1,800 \text{ SF}) / (3 \text{ SF} / \text{LF}) = 600 \text{ LF (minimum) OVERSIZE TO 630 LF}$
Use 9 - 70' LF Lines
5. Gravel Requirements-
Trench Width = 6 inches (.5)
Gravel Depth = 12 inches (1)



Volume of Trench = (.5) (1) (630' LF) = 315 CF

CF/27=Cubic Yards

Gravel Required = 315 CF / 27 = 11.67 CY

$(2700 \text{ lb.} / \text{CY}) (11.67 \text{ CY}) = 31,500 \text{ lb.} / 2000 = 15.75 \text{ Tons}$

Backfill required for trench - Use Class Ib, II or III Soil

D. Dosing Pipe:

- a. 1.25' dia PVC (Class 160)
- b. 1/8' dia holes on 5' centers
- c. Space dosing lines a minimum of 5' apart

Client: Brenck/Baria

E. Pipe from Dosing Chamber:-

Pipe from dosing chamber to manifold and manifold recommended to be 1.25" Schedule 40 PVC

F. Pump Sizing:-

1. $Q = 180$ gallons per day
2. Pump to discharge 60 gallons per dosage
3. Dosing rate of 23 gallons per minute ($140 \text{ holes} \times .18 = 22.7 \text{ GPM UNC '82}$)
4. 2 feet elevation head between pump and dosing bed or static head - H_s
5. 1 foot pressure head (HP) required to assure equal distribution in dosing lines
6. 30 feet between pump and dosing bed - supply line
7. 6.2 feet of friction loss per 100 feet of 1.25" dia pipe
8. 20% friction loss in joints and fittings
9. Total Head - feet

$H = (30) \text{ feet supply line length } (6.2) \text{ friction loss } (1.2) \text{ pipe friction } + 2 \text{ feet } H_s + 1 \text{ foot } H_p \text{ pressure head}$

$(.3) (6.2) (1.2) + 2 + 1 = 5.23 \text{ Feet of Total Head}$

10. Pump Requirements 23 GPM @ 5.23 FT Head

11. Dosing Volume - Dosing volume should equal volume of lateral lines and supply lines

a. Lateral Line Volumes

Unit Volume for 1.25"	= 9 gal / 100 LF
Lateral Length	= 630 LF
Lateral Length	= 70' ea. (9/100 LF)
Total	= 57 gallons

b. Supply Line Volume

Unit Volume for 1.25"	= 9 gal / 100 LF
Supply Line Length	= 30 LF
Supply Line Volume	= .09 gal / LF
Total	= 3 gallons

c. Total Volume

$57 + 3 = 60 \text{ Gallons}$

d. Set pump controls for a pumping cycle of 60 gallons. This falls within the recommended range of 2-4 pumping cycles per day

12. The Pump Tank should be designed such that the total reserve capacity is at least 1/3 of the wastewater load.

Client: Brunek/Barta

$180 \times 1/3 = 60$ gallon reserve

Since the pumping cycle is 60 gallons per cycle, the minimum reserve capacity should be:

Reserve Capacity = 60 gallons

Pumping Cycle = 60 gallons

Required Total = 120 gallons

Note: Check Valve is required. Pressure adjustment valve required on pump discharge

G. Minimum System Specifications:

1. Septic Tank - 750 Gallon Oversize to 1250 Gallons
2. Pump Tank - 131 gallons Oversize to 500 Gallons
3. Drainfield Area - 1,800 SF
Dosing Line Length - 600 LF
Oversize to 630 LF, 9-70' lines
1.25" PVC w/ 1/8" dia holes
4. Gravel Required - 18 Tons
13 CY
5. Pump - 25 GPM @ 5.23 Feet of Head

H. Permissible Soil Barrier to Cover Distribution Lines:

Minimum Values:

Weight oz / sq yd (ASTM D3376)	0.07
Grab Strength lb (ASTM D4632)	11
Air Permeability CFM / sq ft (ASTM D 737)	300
Water Flow Rate GPM / sq ft @ 3' head (ASTM D 497)	11
Trapezoidal Tear Strength (ASTM D4553)	6

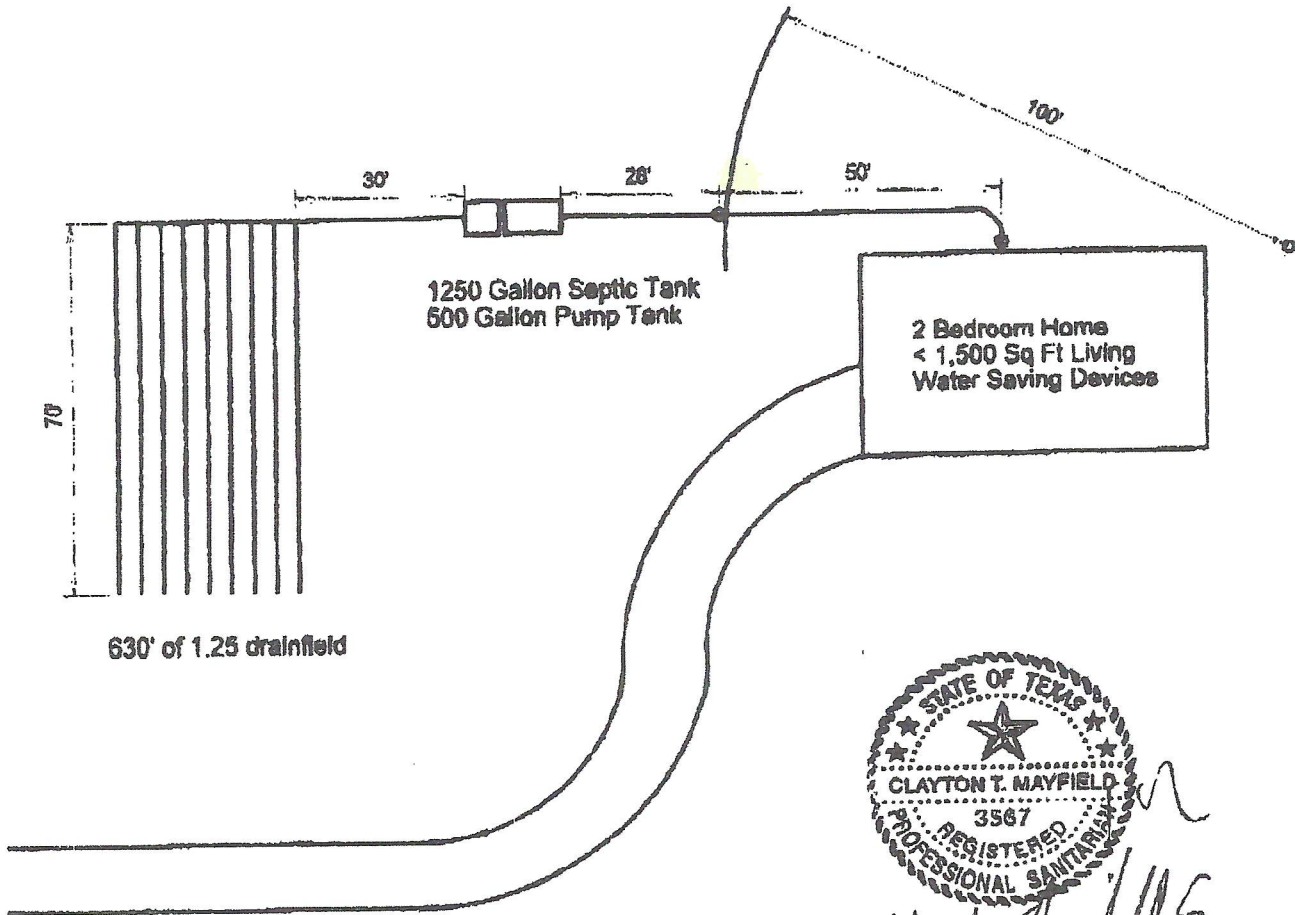
Designer Notes:

If discrepancies exist between the design and actual site conditions, the installer shall notify the designer and the local permitting authority prior to construction.

Construction materials and methods shall be pursuant to county and state rules/policies, unless specifically noted on this design and approved by the local permitting authority.

The site shall be finish graded, after completion of the system installation, providing positive drainage.

Owner: Leslie Brenek
Buying Land: Stanly Barta
1328 FM 882
Yoakum Tx
Scale 1" = 30'
5 Acres



Clayton T. Mayfield

☒ New Installation
☐ Alteration

CROSSROADS PUBLIC HEALTH DISTRICT
 Application for On-Site Sewage Facility
 New Construction and Alterations

CPHD USE ONLY

County _____

Application Date _____

Receipt No. _____

Application Log No. _____

Property Owner Name: Barta Stanley J
 (Last) (First) (Middle)
 Mailing Address: 5323 Summerhill Manor Katy, TX 77494
 Telephone Numbers: 281-395-5187 281-395-2352 281-395-9537
 (Day) (Cell/Pager) (Fax)

OSSF Site Address: _____ Subdivision: _____

Legal Description: _____ Acres: _____

Water Source: ☒ Private Water Well ☐ Public: _____ Water Saving Devices: ☒ Yes ☐ No

Single Family Residence: No. Bedrooms: 2 Square Footage: 4,500 Other: _____

Commercial/Institution/Multi-Family: No. Employees/Occupants/Units: _____ Days/wk Occupied: _____

I. Treatment Unit: Daily Wastewater Usage Rate: _____ gallons/day (gpd)

A. Septic Tank Size: 1250 gal. # Tanks/Compartments: 2 Comp
 Pump Tank Size: 500 gal. 1st Tank/Compartment Volume: 700 gal.
 B. Aerobic Model: _____ Size: _____ gpd
 Manufacturer: _____

C. Other: _____

II. Disposal System: Drainfield Area: 1,800 sq ft Trench Depth: 30 inches

A. Gravity

☐ 4" with gravel _____ ft Trench width _____ ft Gravel depth _____ ft
☐ 6" gravelless _____ ft ☐ 10" gravelless _____ ft ☐ Evapotranspiration Bed
☐ Multiple _____ pipe bundle _____ ft ☐ Leaching Chamber _____ ft or panels

B. Other:

☒ Low Pressure Dosed 630 ft Trench width 5 ft Gravel depth 12 inches
☐ Surface Irrigation _____ sq ft ☐ Drip Irrigation _____ ft
☐ Mound ☐ Other _____

Site Evaluator: Clayton Mayfield Cert./License No. 10206 Telephone: 10206
 Designer: Clayton Mayfield R.S.P.E. No. 3567 Telephone: 3567
 Installer: _____ Registration No. _____ Telephone: _____

I certify that the above statements are true and correct to the best of my knowledge. Authorization is hereby given to the authorized agent to enter upon the above described property for the purpose of lot evaluation and inspection of the on-site sewage facility and that a permit to operate the facility will be granted following successful inspection of the installed system which indicates that the system was installed in compliance with 50 TAC § 286, On-Site Sewage Facility Rules.

Stanley J Barta
 (Signature of Owner)

3-24-06
 (Date)

Crossroads Public Health District On-Site Sewage Facility Soil and Site Evaluation

Date Performed: _____ New Installation ☒ Modification _____ Repair _____

Property Owner's Information

Name _____
Address _____
City _____ State _____
Zip Code _____ Phone _____ Fax _____

Certified Site Evaluator/PE Information

Name Clayton Markfield
Company Markfield Design
Address 6567 W. F.A. 88th
City Glendale State IL
Zip Code 77965 Phone 738-7463 Fax 738-7463
TNRCC Registration Number 10206

Property Description

Plot Date _____
Sec _____ Lot _____ Block _____ Subdivision _____
Street/Road Address _____
County _____ Unincorporated Area? Y or N _____
City _____ Zip Code _____
Property Size _____ Acreage _____
Survey _____ Abstract _____
Additional Information _____

Installer Information

Name _____
Company _____
Address _____
City _____ State _____
Zip Code _____ Phone _____ Fax _____
TNRCC Registration Number _____

TOPOGRAPHY

- | Slope | Vegetation | Site Drainage | Reference Soil Survey Book |
|--|---|--|--|
| ☐ Flat (under 2%)
☒ Slight (under 4%)
☐ Severe (over 5%)
☐ Gullies/erosion | ☒ Grass/Brush
☐ Lightly Wooded
☐ Heavily Wooded | ☐ Poor
☐ Adequate
☒ Good | ☐ Seasonal water table
☐ Water table (upper water shed) evident
Depth: _____
☐ Presence of adjacent ponds, streams, water impoundments |

Comments/Observations: _____

WATER SUPPLY

Private ☒ Public _____ Name of public water supplier _____

WATER SAVING DEVICES ☒ Yes ☐ No

For on-site water well:

- Is water well less than 100 feet from drainfield?
 *If yes, attach documentation, i.e. well log or driller affidavit, that well is pressure cemented or grouted to required depth.
 Neighboring wells within 100 feet of property line?
 *If neighboring wells exist they must be shown on the design.

*Yes ☐ No ☒

*Yes ☐ No ☒

SOIL EVALUATION

Requirements:

- At least two soil evaluations must be performed on the site, at opposite ends of the proposed disposal area. Locations of soil boring or dug pits must be shown on the drawing.
- For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed trench depth. For surface disposal, the surface horizon must be evaluated.
- Please describe each soil horizon and identify any restrictive features in the space provided below. Draw lines at the appropriate depth.

Proposed Trench Depth: _____ (Will be 18" to 24" unless designed by P.E. or R.S.)

Soil Boring Number	Depth (Feet)	Textural Class	Soil Texture and Color	Gravel Analysis For Class II and III	Drainage (Mottles/Water Table) Indicate color of mottling	Restrictive Horizon
	0	III	Sandy clay	None	None	None ↓
	1		10a m			
	2	Light IV Heavy III	Clay Clay/loam	None	None	
	3					
	4					
	5					
	6					

Soil Boring Number	Depth (Feet)	Textural Class	Soil Texture and Color	Gravel Analysis For Class II and III	Drainage (Mottles/Water Table) Indicate color of mottling	Restrictive Horizon
	0	III	Sandy clay	None	None	None ↓
	1		10a m			
	2	Light IV Heavy III	Clay Clay/loam	None	None	
	3					
	4					
	5					
	6					

I certify that the findings of this report are based on my field observations and are accurate to the best of my ability.

Walter A. M. 10206
 Signature of Certified Soil Evaluator/P.E. or License #

3/20/06
 Date