

**OSSF SOIL AND SITE EVALUATION**

**Property Owner:** Elber Recino **Date Performed:** 7/1/2021  
**Site Location:** 10269 Hwy 90 N  
 Bedias, TX 77831  
**Legal Description:** A0472 B WHITE, TRACT 22-5, ACRES 2.0  
**County:** Grimes

Requirements: At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area. Locations of soil borings must be shown on the site drawing. For subsurface disposal, soil evaluations must be performed at a depth of at least two feet below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.

**Proposed Excavation Depth:** 5'

**Proposed System:** Aerobic Surface Application

**Soil Boring #1**

Depth (ft)	Class	Gravel Analysis	Drainage (mottles/ water table)	Restrictive Horizon	Observations
1	III	<30%	N/A		Sandy loam/ blocky
2	IV	<30%	N/A	Clay	Clay
3	IV	<30%	N/A		Clay
4	IV	<30%	N/A		
5	IV	<30%	N/A		

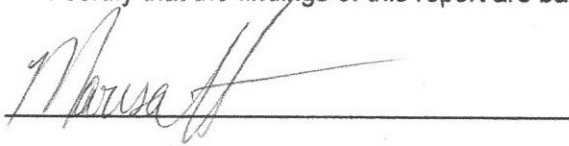
**Soil Boring #2**

Depth (ft)	Class	Gravel Analysis	Drainage (mottles/ water table)	Restrictive Horizon	Observations
1	III	<30%	N/A		Sandy Loam/ Blocky
2	IV	<30%	N/A	Clay	Clay
3	IV	<30%	N/A		Clay
4	IV	<30%	N/A		
5	IV	<30%	N/A		

Presence of 100 Year Flood Zone (based on FEMA data) : No  
 Presence of upper water shed? No  
 Existing or proposed water wells within 100' of proposed system: No  
 Ground Slope (approximate): <2%  
 Suitable for a conventional system? No

Additional Notes:

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



Marisa Harman  
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 979-337-4907

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Date 7/6/2021

Owner: Elber Recino  
Address: 10269 HWY 90  
Bedias, TX 77831  
County: Grimes  
Legal Description: A0472 B WHITE, TRACT 22-5, ACRES 2.00  
Property ID: 55055

4 Bedroom Single Family Residence with 1 BD Garage Apartment 3750 SQFT combined sqft, Q= 400GPD / (Ri) 0.045 = 8,888 sqft of surface area required. Any water usage above 400 GPD will invalidate this design.

Actual SQ . FT. of Application Area Designed: 8478sqft

New Construction ( ) Remodel ( X ) Water Saving Devices Installed: Yes ( X ) No ( )

Design Parameters:

Pre-Treatment Tank required: 447 gallon (existing tanks to be used as additional trash tank)  
Treatment tank: Pro Flo 600  
Pump Tank: 796 Gallon  
Pump: 1/2 hp HE 20-51 or equivalent.  
Sprinklers: 3 low angle  
Chlorinator: Liquid or tablet chlorinator  
Dosing Tank: none  
Indexing Valve: none  
Lift Tank: none  
Grease Trap: none

Site Evaluation Conducted At Site: Yes ( X ) No ( ) Zone X

Soil Evaluation Conducted At Site: Yes ( X ) No ( ) Soil Type: IV

Area is suitable for aerobic spray irrigation disposal system: Yes ( X ) No ( )

Water Supply: Public ( X ) Private ( )

All Counties: Audio/Visual high water alarm required on all pump tanks.



LANDSCAPING:

Immediately after completion of installation, homeowner must seed the spray field with grass and mow as necessary to maintain optimum growing conditions. Owner is responsible to fill low spots with soil and maintain positive drainage. Under NO circumstances may any food crops be planted on this area.

NOTES:

The 796 gallon pump tank will be set to give a reserve capacity of 134 gallons or more, which will meet or exceed the requirement of 1/3 daily flow. A 2-way clean out will be installed between the treatment unit and the facility at each stub-out. All effluent will be disposed of through aerobic treatment and spray dispersal.

The chlorinator may be located in line between the treatment tank and the pump tank, or within the pump tank.

All spray fields will be at least 20' from all property lines, 1' from easements, and 10' from non-seeping slope breaks. A commercial irrigation timer will be required on the pump tank with spray fields 10' from property lines according to design/ state/ county requirements.

System must be sampled and tested in accordance with State/ County requirements through a sampling port located in the discharge line from the pump to the spray field, which shall be contained within the pump tank.

System is designed in accordance with daily water usage described above. Any usage above design will invalidate design.

The effluent pump shall be hardwired on a separate circuit from the high water level alarm and all wiring shall be in accordance with National Electric Code, 30 Texas Administrative Code 285.34(b)(4)

The high water alarm shall be an audible and visible alarm.

All pre-cast concrete tanks will meet ASTM C1227-93a, d30 Texas Administrative Code 5.32(a)(1)(F)

The location for all sprinkler heads may be subject to location modification within reason and as long as they do not violate distance requirements for easements, setbacks, or total required spray area covered. Location change will only be considered if more efficient spray dispersal would be achieved due to change. Any changes must be submitted to and approved by the Texas Commission of Environmental Quality or the local Authorized Agent.





## AEROBIC - SPRAY SYSTEM

INSTALLER: Jay Porter

Existing 4 bedroom single family residence (300 GPD) and 1 BD Garage apartment(100GPD) with 3750 combined sqft living area with a new aerobic spray septic system. Q = 400 GPD; Acreage 2.00; Soil Class: IV; Ra = .045 gal/sqft/day; 1" Supply Line for Sprinkler Heads, 1 - 600 gallon/day Pro-Flo Aerobic Wastewater Treatment System. LBC Liquid Style Chlorinator, 3 -32' radius, 360 degree spray, K-Rain Low-Angle purple top sprinkler heads (not to exceed 40 psi). Audible and Visual high water alarm wired to a separate power circuit than the pump. Sewer pipe from house to tank must be 3" or 4" with a minimum of 1/8" per foot fall. All pipe shall be SCH 40 PVC or SDR26 . Set tank level and backfill with suitable soil (Class Ib, II or III), or pea gravel free of rock larger than 1/2" in diameter, including a minimum of 4" of backfill under the tanks. Inspection port risers shall extend up to grade. Spray zone should be sodded or seeded with an appropriate mix of annual/ perennial grass or hydro-mulched. Grass/Vegetation shall be maintained within each spray zone. Concrete ring sprinkler protectors shall be placed over sprinkler heads.

Square Footage Area (A) =  $Q / Ra = 400 / 0.045 = 8,888$  sqft required

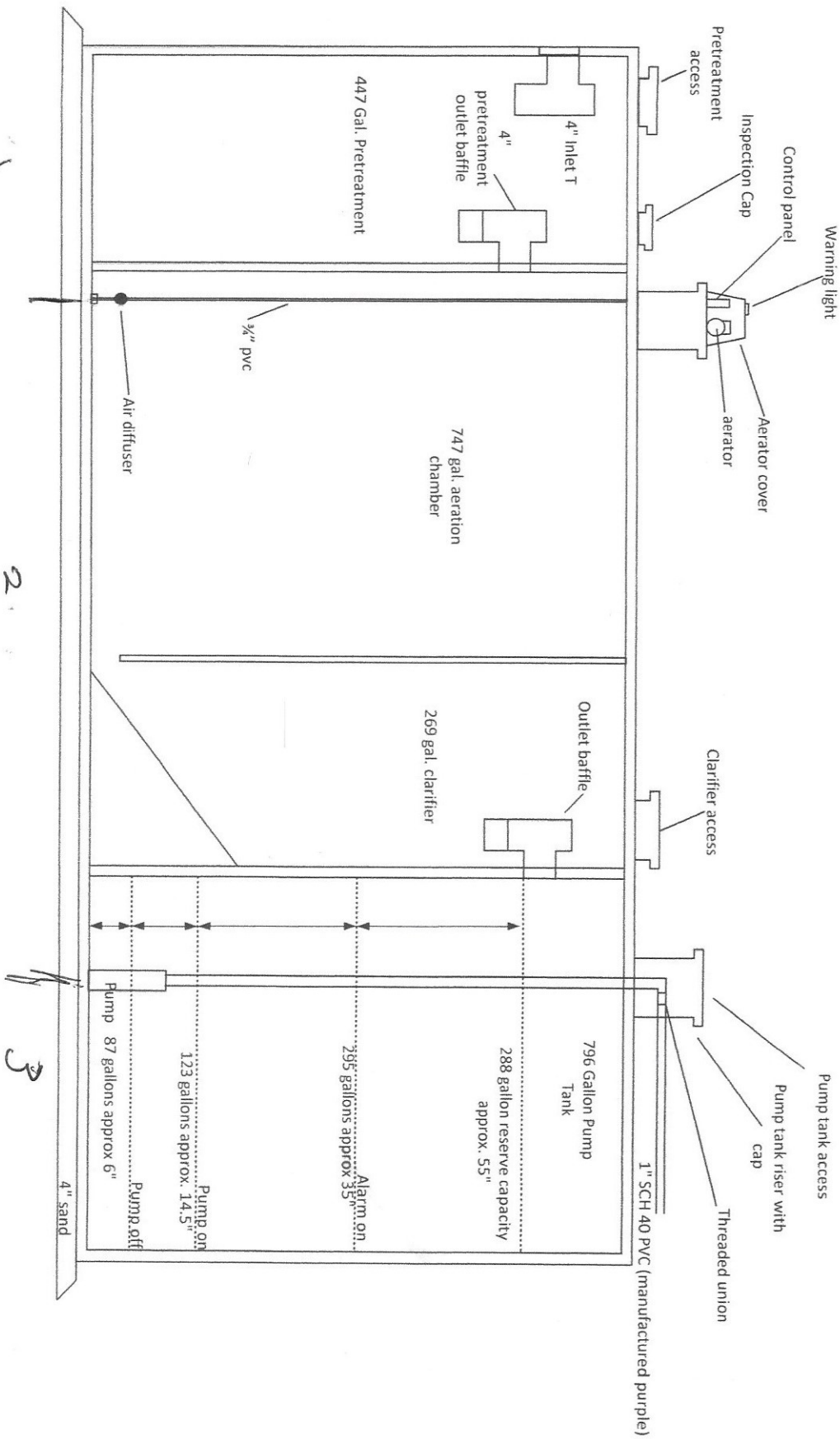
32' radius 360 degree sprinkler = 3215 sqft X 3 sprinklers = 9646 sqft designed



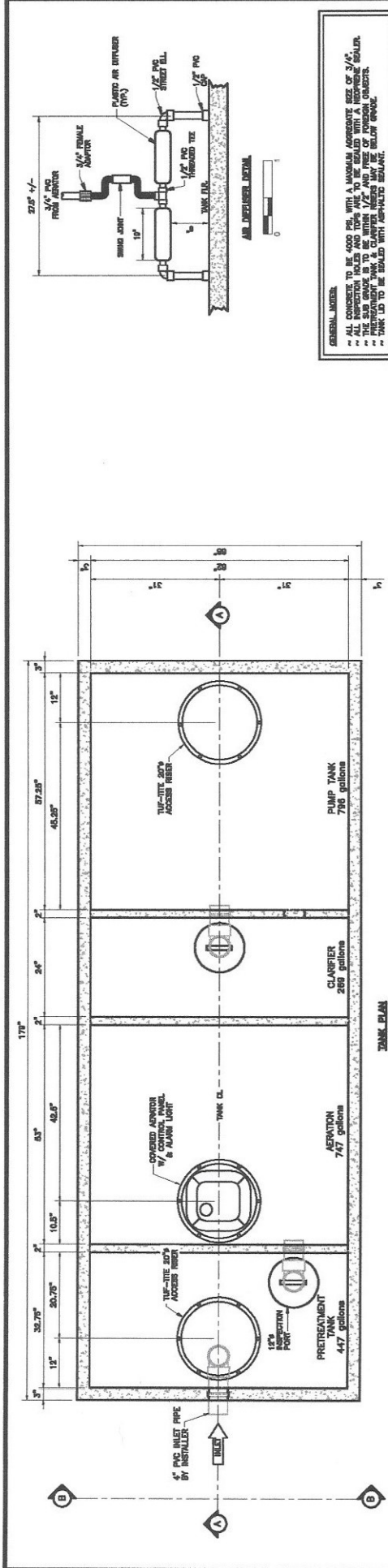
Pro Flo 600 SLPT2  
 Gatco Manufactured

(See system diagram for manufacturer specifications)

Approximately 14.4 gallons per inch  
 1" = 20"

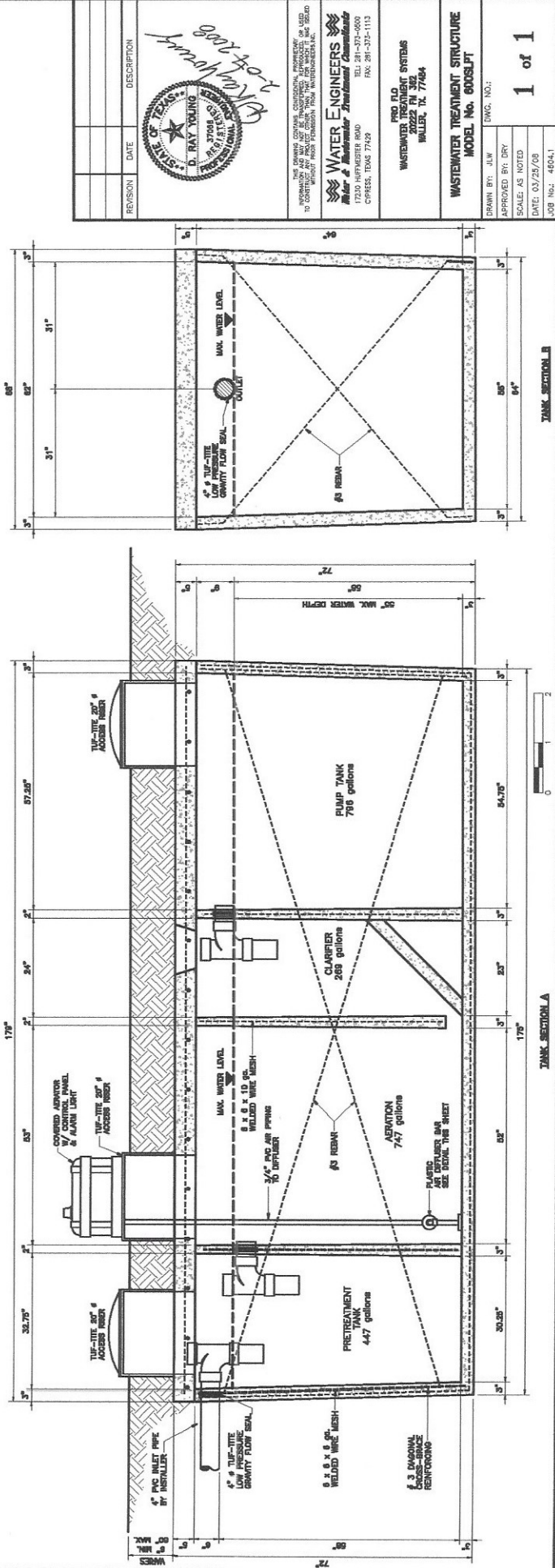


2 3



**GENERAL NOTES:**

- ALL CONCRETE TO BE 4000 PSI, WITH A MINIMUM MINIMUM SIZE OF 3/4".
- ALL REBAR TO BE #4.
- THE SUB GRADE IS TO BE WITHIN 1/2" AND FREE OF UNUSUAL OBSTACLES.
- PRETREATMENT TANK & CLARIFIER RISERS MAY BE DELAY ELEVATED.
- TANK IS TO BE SEALED WITH ASPHALTIC SEALANT.



REVISION	DATE	DESCRIPTION



INFORMATION ON HOW TO OBTAIN THIS DOCUMENT, OR HOW TO OBTAIN A COPY OF THIS DOCUMENT, IS AVAILABLE FROM THE FOLLOWING SOURCE:

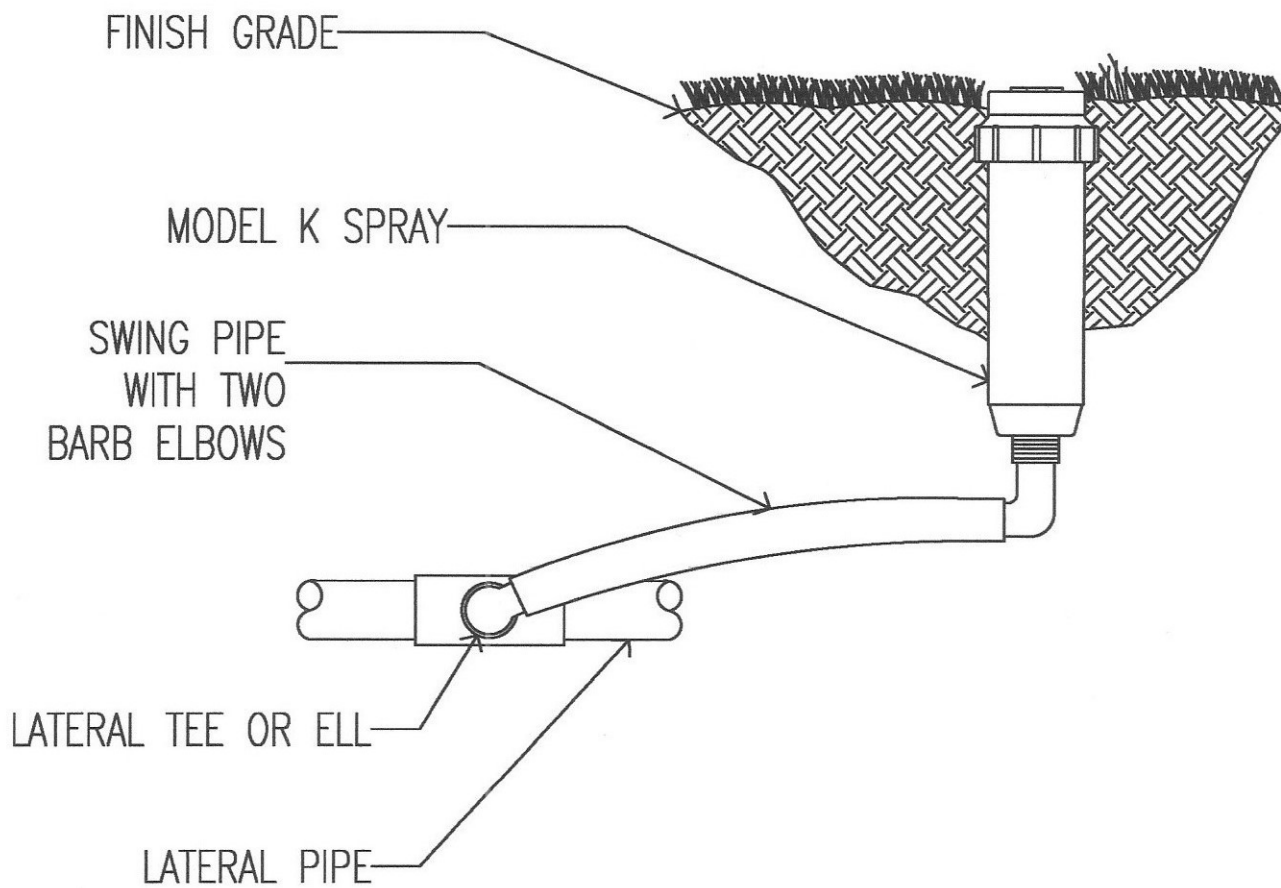
**WATER ENGINEERS**  
 Water & Wastewater Treatment Consultants  
 17300 HYTHUNDER ROAD  
 CYPRESS, TEXAS 77429  
 TEL: 281-337-0000  
 FAX: 281-337-1113

REG. P.O.  
 WASTEWATER TREATMENT SYSTEMS  
 20222 FM 302  
 WALLER, TX 77464

**WASTEWATER TREATMENT STRUCTURE**  
 MODEL NO. 600SLPT

DRAWN BY: JLW  
 APPROVED BY: DRY  
 SCALE: AS NOTED  
 DATE: 03/25/08  
 JOB NO.: 4604.1





K SPRAY: 3", 4" AND 6"

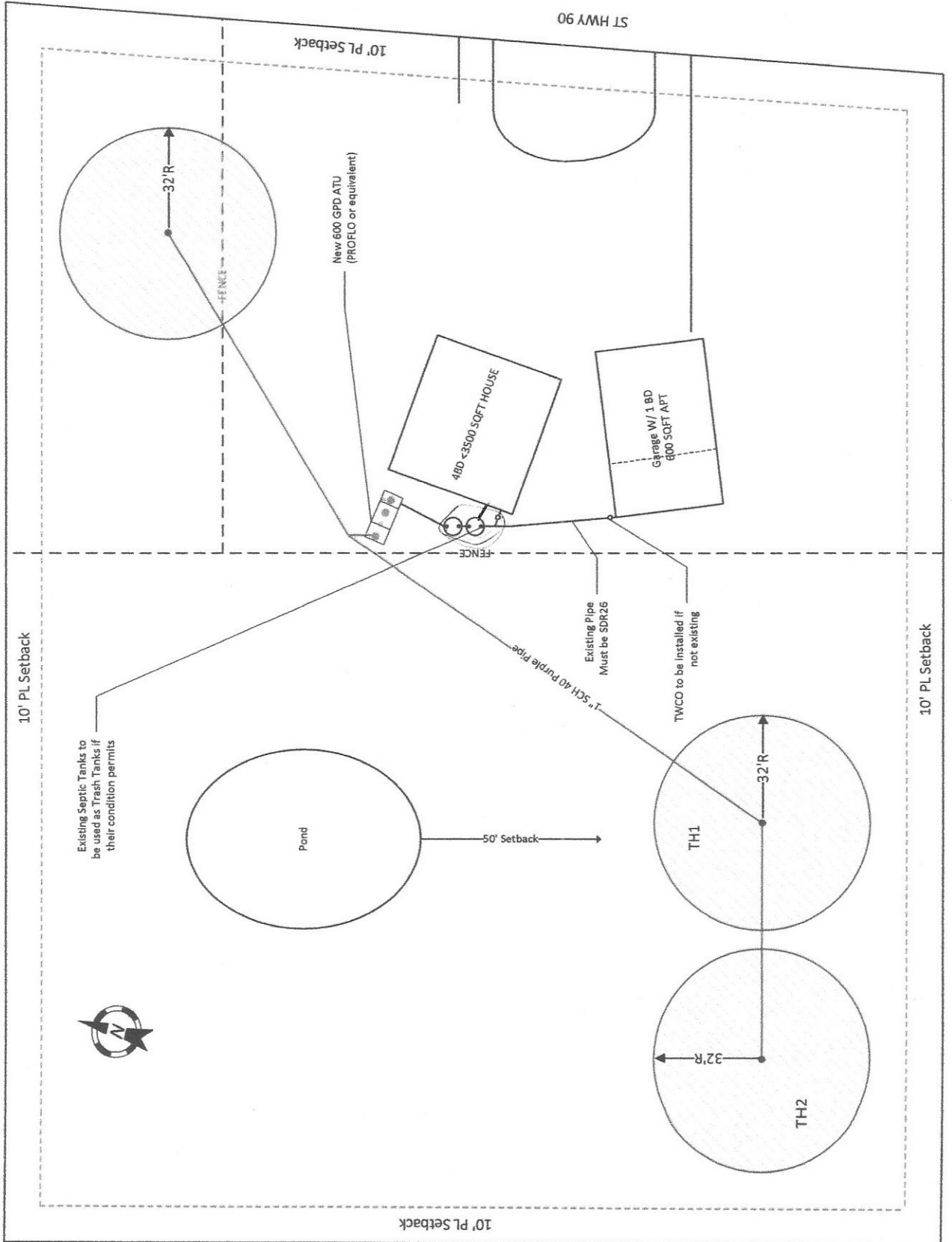
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IRRIGATION INSTALLATION DETAIL

OSSF FOR RESIDENCE AT 10269 ST HWY 90, BEDIAS, TX 77831  
LEGAL DESCRIPTION: A0472 B WHITE, TRACT 22-5, ACRES 2.00

7/6/2021

1 inch = 40 feet





**Surface Irrigation System**  
**Disposal Area Sizing**

# of Bedrooms	5	Bedrooms w/ WSD		Pump Selection	
Living Space	3750	sqft living area		# of nozzle	3
Flow rate	400	gal/day		system flow overall	11.7 gpm
Ra	0.045	gal/sqft/day		Total Discharge Time	34.1 min
Surface Area Required	8,888				
				Effective	
				Flow	
Nozzle 1	3215	sqft	radius	rotation	r
					Ra
					(gpm)
Nozzle 2	3215		32	360	1
					0.045
					3.9
Nozzle 3	3215		32	360	1
					0.045
					3.9
Total	9646	sqft		Avg. Ra	0.045

**General Notes**

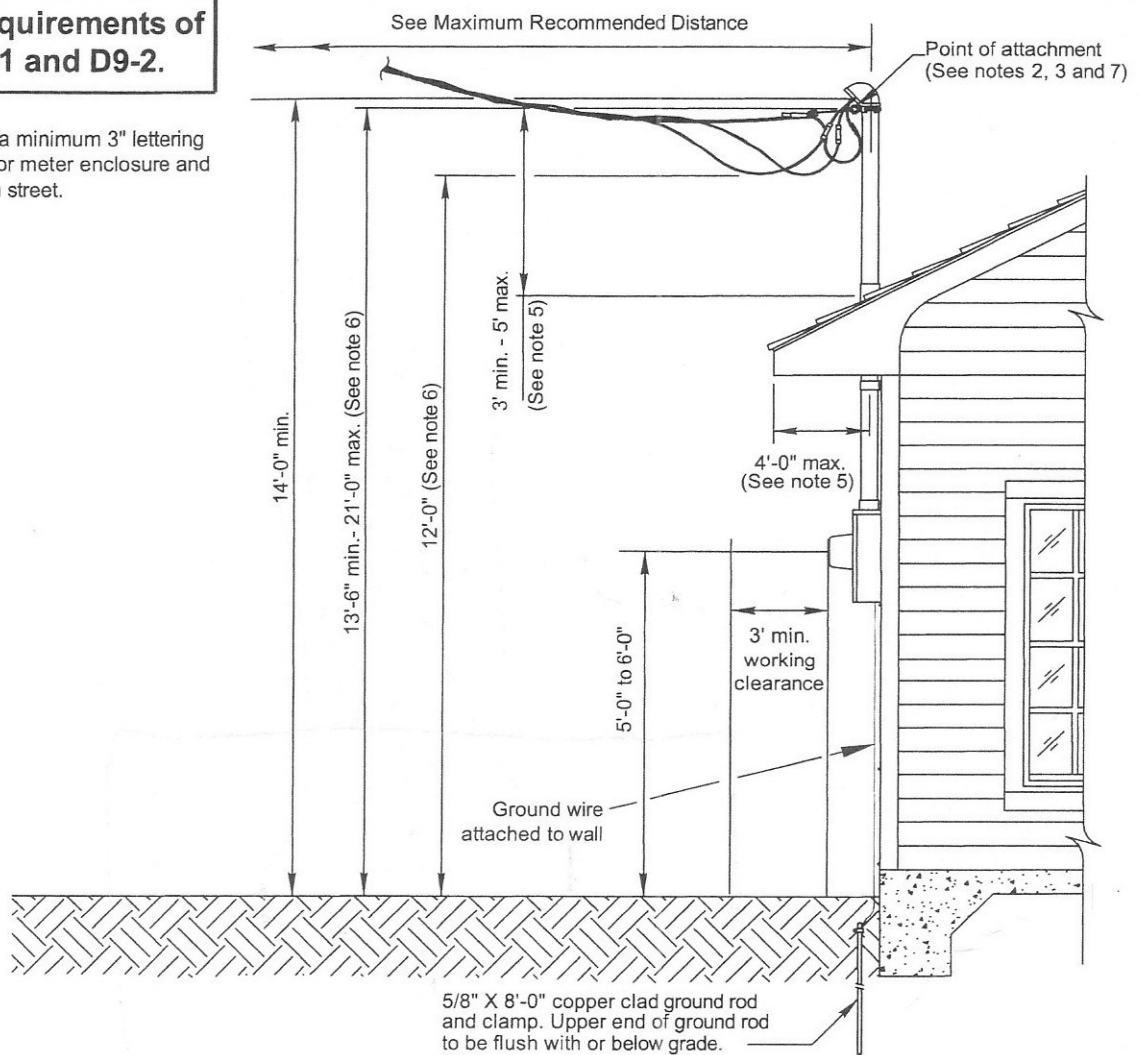
1. AN ON-SITE SEWAGE LICENSE MUST BE OBTAINED PRIOR TO INSTALLING THIS WASTEWATER DISPOSAL SYSTEM
2. SYSTEM INSTALLATION MUST BE BY A REGISTERED INSTALLER OF ON-SITE SEWAGE FACILITIES AS REQUIRED BY ARTICLE 4477E OF VERNON'S CIVIL STATUTES OR BY THE OWNER OF THE PROPERTY UNDER LICENSE. NO COMPONENT OF THIS SYSTEM SHALL BE COVERED UP WITHOUT COUNTY'S APPROVAL.
3. IF ANY DISCREPANCIES EXIST BETWEEN THE DESIGN AND ACTUAL FIELD CONDITIONS IT IS THE INSTALLERS RESPONSIBILITY TO IMMEDIATELY NOTIFY THE ENGINEER AND THE JURSDICTION PRIOR TO BEGINNING OF CONSTRUCTION.
4. ALL CONSTRUCTION METHOD AND MATERIALS MUST BE IN ACCORDANCE WITH COUNTY AND STATE RULES AND POLICES, UNLESS SPECIFIC NOTES ON THESE DRAWINGS AND ARE APPROVED BY THE JURSDICTION.
5. THIS SYSTEM INSTALLED AND OPERATED IN ACCORDANCE WITH THIS PLAN SHALL NOT PRESENT A HAZARD TO PUBLIC HEALTH, OR THREATEN PROPOSED OR ADJACENT WATER WELLS.
6. IF SYSTEM IS LOCATED IN THE FLOOD PLAN, THEN ALL ELECTRICAL COMPONENTS NEED TO BE INSTALLED 18" ABOVE BASE FLOOD ELEVATION.
7. PUMP TANK FLOAT ELEVATIONS MUST BE SET IN COMPLIANCE WITH 30 TAC 285.33(d)(2)(G)(i)(1)

Note: All pipe shown on the design reflects the minimum grade required by TCEQ standards or the specific County in which this design is located. Higher grade may always be substituted. All piping and valve boxes shall be permanently colored purple per TAC 30 Ch. 285.  
 Note: Designer NOT responsible for damage to any above or below ground utilities.



**Shall meet requirements of drawings D7-1 and D9-2.**

911 address shall be a minimum 3" lettering marked on structure, or meter enclosure and should be visible from street.



Maximum Recommended Distance	
Amps	Length
100	100'
200	75'
320	40'

**NOTES:**

1. Customer facilities shall comply with Company Standards, the National Electrical Code, and authorities having jurisdiction.
2. Customer shall install meter enclosure, conduit, weatherhead, point of attachment and conductor to point of attachment.
3. A minimum of 3'-0" of each conductor shall extend from the top of the service mast. The neutral shall be marked with white tape at both ends. Neutral can be bare.
4. Main breaker should be within 2'-0" of meter. Outside wall is recommended.
5. Distance from fascia to center of mast to be 4'-0" max. NEC. Only rigid metal or IMC conduit can be used above the roof. Guying or bracing of the mast may be required. See drawing D2-1.
6. Clearance. (See Section 7.3)
  - a. Point of attachment shall be either accessible to Company's bucket truck or have enough surface (such as wall or building structure) and sufficient ground space.
  - b. Additional height may be required to maintain clearance.
  - c. Point of attachment can be no higher than 21'.
  - d. Minimum 10'-0" height to bottom of drip loop allowed when all traffic under wire does not exceed 8'-0" height.
7. No telephone or cable attachment allowed on mast (NEC).
8. Any Service greater than 200 amps, consult the Company.

Minimum Customer Wiring Size - Residence Single Phase				
METER SIZE	CONDUIT SIZE	Current carrying & neutral wire size (per NEC)		COPPER GROUND WIRE SIZE
		ALUMINUM	COPPER	
100 Amp	1.5"	#2	#4	#6
200 Amp	2"	4/0	2/0	#4
320 Amp	3"	500	350	#2

Wire sizes based upon customer breaker size  
For 3Ø, consult the company Commercial & Industrial. Wire sizes are typically larger.

<b>ENTERGY SERVICES, INC.</b>	
<b>TYPICAL PERMANENT OVERHEAD SERVICE (ABOVE ROOF LINE)</b>	
APPROVED BY: JRH	DATE: 01/09/2013
CHECKED BY: JED	SCALE: None
DRAWN BY: krich95	
No. <b>D7-3</b>	
PLOT 1=1 SH. 1 OF 1	

1	01/13	REVISION OF DRAWING SS7.1-2	JED	
NO.	DATE:	REVISION	BY:	APPR: