Comal County Environmental Health
OSSF Inspection Sheet

Installer Name: Juan Rodriguez **OSSF Installer #:** OS0037637

1st Inspection Date: 9/11/25 **2nd Inspection Date:** **3rd Inspection Date:**

Inspector Name: Hendry **Inspector Name:** **Inspector Name:**

Permit#: 118828 **Address:** 1310 Mountain Top Loop

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
1	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Site and Soil Conditions Consistent with Submitted Planning Materials	X	285.31(a) 285.30(b)(1)(A)(iv) 285.30(b)(1)(A)(v) 285.30(b)(1)(A)(iii) 285.30(b)(1)(A)(ii) 285.30(b)(1)(A)(i)		X		
2	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Setback Distances Meet Minimum Standards	X	285.91(10) 285.30(b)(4) 285.31(d)		X		
3	SEWER PIPE Proper Type Pipe from Structure to Disposal System (Cast Iron, Ductile Iron, Sch. 40, SDR 26)	X	285.32(a)(1)		X		
4	SEWER PIPE Slope from the Sewer to the Tank at least 1/8 Inch Per Foot	X	285.32(a)(3)		X		
5	SEWER PIPE Two Way Sanitary - Type Cleanout Properly Installed (Add. C/O Every 100' &/or 90 degree bends)	X	285.32(a)(5)		X		
6	PRETREATMENT Installed (if required) TCEQ Approved List PRETREATMENT Septic Tank(s) Meet Minimum Requirements		285.32(b)(1)(G) 285.32(b)(1)(E)(iii) 285.32(b)(1)(E)(iv) 285.32(b)(1)(F) 285.32(b)(1)(B) 285.32(b)(1)(C)(i) 285.32(b)(1)(C)(ii) 285.32(b)(1)(D) 285.32(b)(1)(E) 285.32(b)(1)(A) 285.32(b)(1)(E)(ii)(II) 285.32(b)(1)(E)(i) 285.32(b)(1)(E)(ii)(I)				
7	PRETREATMENT Grease Interceptors if required for commercial		285.34(d)				

Inspector Notes: **9/11/25 CH: No structure, no tight line, tank leaking from outlet penetration, field not installed to design, not enough tubing, last run of tubing is not properly spaced and is to close to a slope where seeps may occur, DO NOT COVER, require revision for tank manufacturer to Aeris, stub out, tank and field location**

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OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
8	SEPTIC TANK Tank(s) Clearly Marked SEPTIC TANK If SingleTank, 2Compartments Provided withBaffle SEPTIC TANK Inlet Flowline Greater than3" and " T " Provided on Inlet and OutletSEPTIC TANK Septic Tank(s) MeetMinimum Requirements		285.32(b)(1) (E)285.91(2)285.32(b)(1) (F)285.32(b)(1)(E) (iii)285.32(b)(1)(E)(ii) (II)285.32(b)(1)(E)(ii) (I)285.32(b)(1)(E) (i)285.32(b)(1) (D)285.32(b)(1)(C) (ii)285.32(b)(1)(C) (i)285.32(b)(1) (B)285.32(b)(1) (A)285.32(b)(1)(E)(iv)				
9	ALL TANKS Installed on 4" Sand Cushion/ Proper Backfill Used	X	285.32(b)(1)(F) 285.32(b)(1)(G) 285.34(b)		X		
10	SEPTIC TANK Inspection / Clean Out Port & Risers Provided on Tanks Buried Greater than 12" Sealed and Capped		285.38(d)				
11	SEPTIC TANK Secondary restraint system providedSEPTIC TANK Riser permanently fastened to lid or cast into tank SEPTIC TANK Riser cap protected against unauthorized intrusions		285.38(d) 285.38(e)				
12	SEPTIC TANK Tank Volume Installed						
13	PUMP TANK Volume Installed						
14	AEROBIC TREATMENT UNIT Size Installed	X			X		
15	AEROBIC TREATMENT UNIT Manufacturer AEROBIC TREATMENT UNIT Model Number	X X		Aeris D-600; as per design	X X		
16	DISPOSAL SYSTEM Absorptive		285.33(a)(4) 285.33(a)(1) 285.33(a)(2) 285.33(a)(3)				
17	DISPOSAL SYSTEM Leaching Chamber		285.33(a)(1) 285.33(a)(3) 285.33(a)(4) 285.33(a)(2)				
18	DISPOSAL SYSTEM Evapo-transpirative		285.33(a)(3) 285.33(a)(4) 285.33(a)(1) 285.33(a)(2)				

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
19	DISPOSAL SYSTEM Drip Irrigation	X	285.33(c)(3)(A)-(F)		X		
20	DISPOSAL SYSTEM Soil Substitution		285.33(d)(4)				
21	DISPOSAL SYSTEM Pumped Effluent		285.33(a)(4) 285.33(a)(3) 285.33(a)(1) 285.33(a)(2)				
22	DISPOSAL SYSTEM Gravelless Pipe		285.33(a)(3) 285.33(a)(2) 285.33(a)(4) 285.33(a)(1)				
23	DISPOSAL SYSTEM Mound		285.33(a)(3) 285.33(a)(1) 285.33(a)(2) 285.33(a)(4)				
24	DISPOSAL SYSTEM Other (describe) (Approved Design)		285.33(d)(6) 285.33(c)(4)				
25	DRAINFIELD Absorptive Drainline 3" PVC or 4" PVC						
26	DRAINFIELD Area Installed						
27	DRAINFIELD Level to within 1 inch per 25 feet and within 3 inches over entire excavation		285.33(b)(1)(A)(v)				
28	DRAINFIELD Excavation Width DRAINFIELD Excavation Depth DRAINFIELD Excavation Separation DRAINFIELD Depth of Porous Media DRAINFIELD Type of Porous Media						
29	DRAINFIELD Pipe and Gravel - Geotextile Fabric in Place		285.33(b)(1)(E)				
30	DRAINFIELD Leaching Chambers DRAINFIELD Chambers - Open End Plates w/Splash Plate, Inspection Port & Closed End Plates in Place (per manufacturers spec.)		285.33(c)(2)				
31	LOW PRESSURE DISPOSAL SYSTEM Adequate Trench Length & Width, and Adequate Separation Distance between Trenches		285.33(d)(1)(C)(i)				

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
32	EFFLUENT DISPOSAL SYSTEM Utilized Only by Single Family Dwelling EFFLUENT DISPOSAL SYSTEM Topographic Slopes < 2.0% EFFLUENT DISPOSAL SYSTEM Adequate Length of Drain Field (1000 Linear ft. for 2 bedrooms or Less & an additional 400 ft. for each additional bedroom) EFFLUENT DISPOSAL SYSTEM Lateral Depth of 18 inches to 3 ft. & Vertical Separation of 1ft on bottom and 2 ft. to restrictive horizon and ground water respectfully EFFLUENT DISPOSAL SYSTEM Lateral Drain Pipe (1.25 - 1.5" dia.) & Pipe Holes (3/16 - 1/4" dia. Hole Size) 5 ft. Apart		285.33(b)(3)(A) 285.33(b)(3)(A) 285.33(b)(3) (B)285.91(13) 285.33(b)(3)(D) 285.33(b)(3)(F)				
33	AEROBIC TREATMENT UNIT Is Aerobic Unit Installed According to Approved Guidelines.	X	285.32(c)(1)		X		
34	AEROBIC TREATMENT UNIT Inspection/Clean Out Port & Risers Provided AEROBIC TREATMENT UNIT Secondary restraint system provided AEROBIC TREATMENT UNIT Riser permanently fastened to lid or cast into tank AEROBIC TREATMENT UNIT Riser cap protected against unauthorized intrusions	X X X X			X X X X		
35	AEROBIC TREATMENT UNIT Chlorinator Properly Installed with Chlorine Tablets in Place.	X			X		
36	PUMP TANK Is the Pump Tank an approved concrete tank or other acceptable materials & construction PUMP TANK Sampling Port Provided in the Treated Effluent Line PUMP TANK Check Valve and/or Anti- Siphon Device Present When Required PUMP TANK Audible and Visual High Water Alarm Installed on Separate Circuit From Pump						
37	PUMP TANK Inspection/Clean Out Port & Risers Provided PUMP TANK Secondary restraint system provided PUMP TANK Riser permanently fastened to lid or cast into tank PUMP TANK Riser cap protected against unauthorized intrusions						
38	PUMP TANK Secondary restraint system provided						
39	PUMP TANK Electrical Connections in Approved Junction Boxes / Wiring Buried						

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
40	APPLICATION AREA Distribution Pipe, Fitting, Sprinkler Heads & Valve Covers Color Coded Purple?	X	285.33(d)(2)(G)(iii)(II) 285.33(d)(2)(G)(iii)(III) 285.33(d)(2)(G)(v) 285.33(d)(2)(G)(iii) 285.33(d)(2)(G)(iv) 285.33(d)(2)(G)(i) 285.33(d)(2)(G)(ii) 285.33(d)(2)(G)(iii)(I)		X		
41	APPLICATION AREA Low Angle Nozzles Used / Pressure is as required APPLICATION AREA Acceptable Area, nothing within 10 ft of sprinkler heads? APPLICATION AREA The Landscape Plan is as Designed	X X	285.33(d)(2)(G) (i)285.33(d)(2) (A)285.33(d)(2)(F)		X X		
42	APPLICATION AREA Area Installed	X			X		
43	PUMP TANK Meets Minimum Reserve Capacity Requirements						
44	PUMP TANK Material Type & Manufacturer						
45	PUMP TANK Type/Size of Pump Installed						

COMAL COUNTY

ENGINEER'S OFFICE

Permit of Authorization to Construct an On-Site Sewage Facility
Permit Valid For One Year From Date Issued

Permit Number: 118828

Issued This Date: 08/04/2025

This permit is hereby given to: LWI Real Estate Solutions, LLC

To start construction of a private, on-site sewage facility located at:

1310 MOUNTAIN TOP LOOP
CANYON LAKE, TX 78133

Subdivision: Canyon Springs Resort
Unit: 4
Lot: 19B
Block: 47
Acreage: 0.2100

APPROVED MINIMUM SIZES AS PER ATTACHED DESIGN

Type of System: Aerobic
Drip Irrigation

This permit gives permission for the construction of the above referenced on-site facility to commence. Installation must be completed by an installer holding a valid registration card from the Texas Commission on Environmental Quality (TCEQ). Installation and inspection must comply with current TCEQ and Comal County requirements.

Call (830) 608-2090 to schedule inspections.

COMAL COUNTY
ENGINEER'S OFFICE

OSSF DEVELOPMENT APPLICATION CHECKLIST

Staff will complete shaded items

		118828
Date Received	*Initials*	*Permit Number*

Instructions:

Place a check mark next to all items that apply. For items that do not apply, place "N/A". This OSSF Development Application Checklist **must** accompany the completed application.

OSSF Permit

- ☑ Completed Application for Permit for Authorization to Construct an On-Site Sewage Facility and License to Operate
- ☑ Site/Soil Evaluation Completed by a Certified Site Evaluator or a Professional Engineer
- ☑ Planning Materials of the OSSF as Required by the TCEQ Rules for OSSF Chapter 285. Planning Materials shall consist of a scaled design and all system specifications.
- ☑ Required Permit Fee - See Attached Fee Schedule
- ☑ Copy of Recorded Deed
- ☑ Surface Application/Aerobic Treatment System
  - ☑ Recorded Certification of OSSF Requiring Maintenance/Affidavit to the Public
  - ☑ Signed Maintenance Contract with Effective Date as Issuance of License to Operate

I affirm that I have provided all information required for my OSSF Development Application and that this application constitutes a completed OSSF Development Application.

Signed by:
LWI Real Estate Solutions, LLC
6F7F93CBC5A24B4...
Signature of Applicant

7/9/2025
Date

___ COMPLETE APPLICATION

Check No. _____ Receipt No._____

___ INCOMPLETE APPLICATION
(Missing Items Circled, Application Refeused)

Revised: September 2019

COMAL COUNTY
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

195 DAVID JONAS DR
NEW BRAUNFELS, TX 78132
(830) 608-2090
WWW.CCEO.ORG

RECEIVED
By Kathy Griffin at 12:39 pm, Jul 10, 2025

Date 07/09/2025 Permit Number 118828

1. APPLICANT / AGENT INFORMATION

Owner Name	LWI Real Estate Solutions, LLC	Agent Name	Patrick Mahaffey
Mailing Address	PO Box 310225	Agent Address	626 Pilgrim Dr
City, State, Zip	New Braunfels, TX 78131	City, State, Zip	San Antonio, TX 78213
Phone #	281-636-3418	Phone #	210-668-2555
Email	patrick@alamocityseptics.com	Email	patrick@alamocityseptics.com

2. LOCATION

Subdivision Name Canyon Springs Resort Unit 4 Lot 19B Block 47

Survey Name / Abstract Number _____ Acreage _____

Address 1310 Mountain Top Loop City Canyon Lake State TX Zip 78133

3. TYPE OF DEVELOPMENT

☒ Single Family Residential

Type of Construction (House, Mobile, RV, Etc.) house

Number of Bedrooms 3

Indicate Sq Ft of Living Area 1300

☐ Non-Single Family Residential

(Planning materials must show adequate land area for doubling the required land needed for treatment units and disposal area)

Type of Facility _____

Offices, Factories, Churches, Schools, Parks, Etc. - Indicate Number Of Occupants _____

Restaurants, Lounges, Theaters - Indicate Number of Seats _____

Hotel, Motel, Hospital, Nursing Home - Indicate Number of Beds _____

Travel Trailer/RV Parks - Indicate Number of Spaces _____

Miscellaneous _____

Estimated Cost of Construction: $ 150,000 (Structure Only)

Is any portion of the proposed OSSF located in the United States Army Corps of Engineers (USACE) flowage easement?

☐ Yes ☒ No (If yes, owner must provide approval from USACE for proposed OSSF improvements within the USACE flowage easement)

Source of Water ☒ Public ☐ Private Well

4. SIGNATURE OF OWNER

By signing this application, I certify that:

- The completed application and all additional information submitted does not contain any false information and does not conceal any material facts. I certify that I am the property owner or I possess the appropriate land rights necessary to make the permitted improvements on said property.
- Authorization is hereby given to the permitting authority and designated agents to enter upon the above described property for the purpose of site/soil evaluation and inspection of private sewage facilities..
- I understand that a permit of authorization to construct will not be issued until the Floodplain Administrator has performed the reviews required by the Comal County Flood Damage Prevention Order.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Signed by:
LWI Real Estate Solutions, LLC
6F7F93CBC5A24B4...
Signature of Owner

07/09/2025
Date

Revised January 2021

COMAL COUNTY
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

195 DAVID JONAS DR
NEW BRAUNFELS, TX 78132
(830) 608-2090
WWW.CCEO.ORG

Planning Materials & Site Evaluation as Required Completed By Patrick Mahaffey; RS5194; OS0037816

System Description drip irrigation system with 500gpd ATU for treatment

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 1898 gallons/500gpd treatment Absorption/Application Area (Sq Ft) 960

Gallons Per Day (As Per TCEQ Table III) 240

(Sites generating more than 5000 gallons per day are required to obtain a permit through TCEQ.)

Is the property located over the Edwards Recharge Zone? ☐ Yes ■ No

(If yes, the planning materials must be completed by a Registered Sanitarian (R.S.) or Professional Engineer (P.E.))

Is there an existing TCEQ approved WPAP for the property? ☐ Yes ■ No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing WPAP.)

If there is no existing WPAP, does the proposed development activity require a TCEQ approved WPAP? ☐ Yes ■ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed WPAP. A Permit to Construct will not be issued for the proposed OSSF until the proposed WPAP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? ■ Yes ☐ No

Is there an existing TCEQ approval CZP for the property? ☐ Yes ■ No

(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? ☐ Yes ■ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? ☐ Yes ■ No

If yes, indicate the city: _____

By signing this application, I certify that:

- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Patrick Mahaffey Digitally signed by Patrick Mahaffey Date: 2024.02.12 17:05:53 -06'00' 07/09/2025

Signature of Designer Date

Revised July 2018

AFFIDAVIT TO THE PUBLIC

THE COUNTY OF COMAL
STATE OF TEXAS

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

According to Texas Commission on Environmental Quality Rules for On-Site Sewage Facilities (OSSF's), this document is filed in the Deed Records of Comal County, Texas.

The Texas Health and Safety Code, Chapter 366 authorizes the Texas Commission on Environmental Quality (commission) to regulate On-Site Sewage Facilities (OSSFs). Additionally, the Texas Water Code (TWC), § 5.012 and § 5.013, gives the commission primary responsibility for implementing the laws of the State of Texas relating to water and adopting rules necessary to carry out its powers and duties under the TWC. The commission, under the authority of the TWC and the Texas Health and Safety code, requires owner's to provide notice to the public that certain types of OSSF's are located on specific pieces of property. To achieve this notice, the commission requires a recorded affidavit. Additionally, the owner must provide proof of the recording to the OSSF permitting authority. This recorded affidavit is not a representation or warranty by the commission of the suitability of this OSSF, nor does it constitute any guarantee by the commission that the appropriate OSSF was installed.

An OSSF requiring maintenance contract, according to 30 Texas Administrative Code §285.91 (12) will be installed on the property described as (insert legal description): Lot 19B, Block 47, Canyon Springs Resort, Unit No. 4, according to a Map or Plat recorded in Volume 2, Page 1, Map and Plat records of Comal County, Texas.

The property is owned by (insert owner's full name): LWI Real Estate Solutions LLC

This OSSF must be covered by a continuous maintenance contract for the first two years. After the initial two-year service policy, the owner of an aerobic treatment system for a single family residence shall either obtain a maintenance contract within 30 days or maintain the system personally.
Upon sale or transfer of the above-described property, the permit for the OSSF shall be transferred to the buyer or new owner. A copy of the planning materials for the OSSF can be obtained from the Comal County Engineer's Office.

WITNESS BY HAND(S) ON THIS 16 DAY OF June, 20 25

Jose Valdes, managing member
Jose Valdes
Owner(s) signature(s)

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 16th DAY OF June, 20 25

Notary Public, State of Texas

PATRICK BRIAN MAHAFFEY
Notary Public, State of Texas
Comm. Expires 01-29-2028
Notary ID 130284039

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
07/09/2025 11:24:17 AM
PRISCILLA 1 Pages(s)
202506021164

Bobbie Koepp

Gonzales Septic Services
633 CR 150
San Antonio, TX 78223

Phone: (830) 251-1972

eddgonz72@gmail.com

Date Printed: 5/29/2025

Customer ID: 265

1302 Mountain Top Loop, Canyon Lake, TX 78133

Jose Valdez
1302 Mountain Top Loop
Canyon Lake, TX 78133

Customer's Email: Patrick@alamocityseptics.com

Contract with: Gonzales Septic Services
Treatment Type: Aerobic / Disposal: Surface Application
MFG: / Brand: / S#:
Disinfectant:

Contract Period

Issuance of License to Operate

through

2 yrs from Issuance of License to Operate

NO PERMIT ON FILE

Agency: Comal County

3 visits per year - one every 4 months

This is to Certify that the above RESIDENTIAL sewage system has an inspection agreement per standards for On Site Sewage Facilities as required by TCEQ.
This contract is effective on the start date listed above.
Inspection reports by the above service company will be filed with the authorized agency as required by the TCEQ regulations.
A weather proof tag or label will be attached to the controller showing the month that each inspection was made.

Items included on the Inspection Report generally include aerators, filters, irrigation pump, air compressor, disinfection device, chlorine supply, OK System light, spray field vegetation, probe, sprinkler or drip backwash.

We will visit your site within 48 hours of you notifying us of a problem (alarm).
This agreement will provide three inspections per year. The report will be submitted to the county.
The air filter will be cleaned at each visit.
This agreement does not include the cost of repairs. An estimate will be provided and must be approved before repairs are made.
There will be a $125 Service Call for calls other than a scheduled inspections.
Gonzales Septic Services will need complete access to the system.

Access-

Dogs: If there are dogs or any other type of animals that prevent servicing your system, the system will not be serviced and a $50 "dry run" charge will apply.

Security and or locked gates-
If the homeowner requires an appointment for each inspection in order to gain access to the system, the contact information will be provided by the homeowner when the contract is executed.

This agreement does not include the cost of CHLORINE.

Home Owner: Signed by: LWI Real Estate Solutions, LLC Date: 7/9/2025
Phone:

Certified Inspector: Eddie Gonzales Date: 7/9/2025
MP0002475, Cell# 8302511972

Eddie Gonzales
Gonzales Septic Services
5/29/2025

OSSF Soil & Site Evaluation

Page 1 (Soil & Site Evaluation) **Date Performed:** 06 / 18 / 2025

Property Owner: LWI Real Estate Solutions, LLC

Location/Legal Desc.: 1310 Mountain Top Loop 78133

Proposed Excavation Depth: 4'

REQUIREMENTS:

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area. Locations of soil borings or dug pits must be shown on the site drawing. For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed disposal field excavation depth. For surface disposal, the surface horizon must be evaluated. Describe each soil horizon and identify any restrictive features on this form. Indicate depths where features appear.

Soil Boring Number: 1

Depth (Feet)	Texture Class	Gravel Analysis (If Applicable)	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
1 FT.	IV	gravel followed		yes	
2 FT.	|	by	/	|	requires ATU
3 FT.	|	bedrock and		|	system;
4 FT.	|	clay	/	|	drip
5 FT.					irrigation recommended

Soil Boring Number: 2

Depth (Feet)	Texture Class	Gravel Analysis (If Applicable)	Drainage (Mottles/ Water Table)	Restrictive Horizon	Observations
1 FT.	IV			yes	
2 FT.	|	(same)	/	|	
3 FT.	|			|	(same)
4 FT.	|		/	|	
5 FT.	|			|	

FEATURES OF SITE AREA

Presence of 100 year flood zone ☐ Yes ☑ No

Presence of upper water shed ☐ Yes ☑ No

Presence of adjacent ponds, streams, water impoundments ☐ Yes ☑ No

Existing or proposed water well in nearby area (within 150 feet) ☐ Yes ☑ No

Ground Slope 1-8 %

Application rate for Surface Application: 0.064 ; will use drip irrigation system

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

Patrick Mahaffy 07/09/2025 OSSF37814 SE

(Signature of person performing evaluation) (Date) Registration Number and Type

Written Design Summary

OSSF Design for 1310 Mountain Top Loop 78133

Owner	LWI Real Estate Solutions, LLC	**Legal Description**	Canyon Springs Resort 4, Block 47, Lot 19B
Native Soil on Site	Class IV; clay w/ bedrock	**Building Description**	SFH; 3 bed, 2 bath
Living Area	~1,300 ft²	**Water Saving Dev.**	Yes
GPD (TCEQ Table III)	240 gpd	**Linear ft of Drip Line (min.)**	480 ft
Loading Factor (replacement soil)	0.25	**No. of Emitters**	240
Req'd Absorption Area	960 ft²	**Design ATU Size**	500 gpd

Site for Installation

The installation site is 1310 Mountain Top Loop, Canyon Lake, TX 78133. The system will serve a standard single-family home that contains 3 bedrooms and 2 bathrooms, with water-saving devices. Water usage regulation should not be a concern as this is a standard residence size with specs dictated by the Texas Commission on Environmental Quality (TCEQ.)

System Components

Two-way cleanouts, 4" SCH-40 PVC located 3' from home and after collection line turns prior to ATU entry. Discharge line size from ATU will be 1" SCH-40 PVC; watertight. The selected tank setup will be comprised of a 400-gallon pre-treatment tank leading into an 500 gpd Aerobic Treatment Unit that finalizes in an 750-gallon pump tank that includes a 20 gpm submersible pump. The pump will be activated by a time controller that allows dosing every 2 hours at a dosing duration of 9 minutes, to avoid soil saturation.

The drip emitter tubing will be no less than 480 ft spaced at 2 ft apart, with parallel rows to avoid overlap, with 0.6 gph emitters. A pressure regulator at 30 psi will be installed on the supply manifold to maintain pressure. The return line for flushing will be 1" SCH-40, watertight. Vacuum breakers will be installed at the highest point on the manifold to prevent siphoning from the higher points in the field to the lower points. Flow equalization will occur after the pretreatment tank.

Vegetation Plan

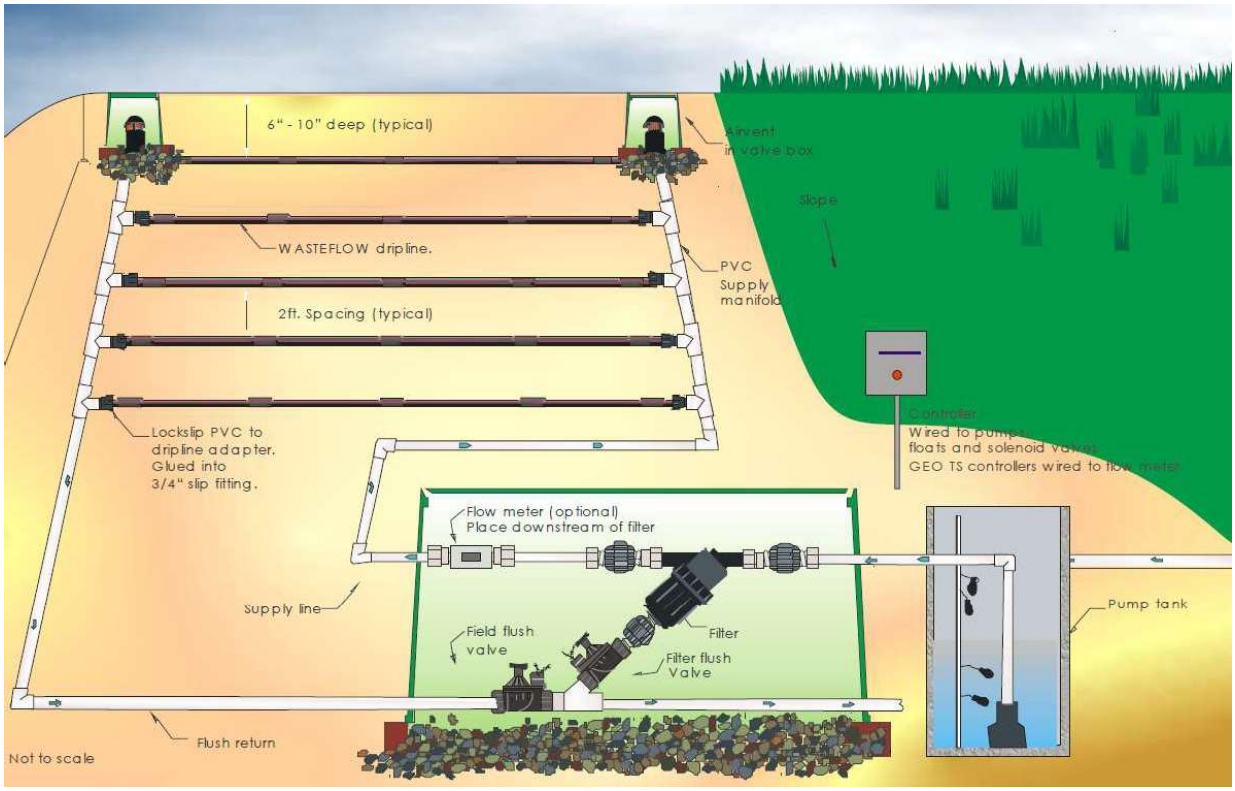
The drip tubing will be placed no less than 6" below grade, with Class II soil used as backfill. The site indicates a Class IV restrictive soil and a replacement soil must be used. Excavation to a level trench line/bed should be 30" below grade. This will ensure a 24" depth below the

placement of the drip tubing that should be 6” below grade, and will aid in appropriate absorption of the effluent before reaching any restrictive horizon.

Disturbance of the landscape and vegetation shall be kept to a minimum with native soil and suitable grass seed used to replace any excavation or excessive disturbance during construction.

<u>Sample Schematic of Typical Drip Irrigation Site Layout</u>

This setup and any other will vary depending on site monuments and impeding vegetation. Overall system setup is generic and can be referenced below for typical operation. I take no credit for this image or its’ likeness in production.



General Notes:

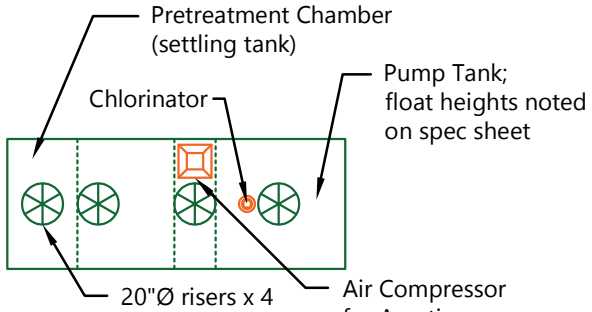
- all excavation and buried materials to be outside of any easements and setbacks
- configuration subject to change via installer but overall prescribed system to remain same
- setbacks/easements/topography obtained from provided plat or survey; perform own due diligence to confirm accuracy
- all inlet piping to be SCH-40 PVC w/ watertight connections; no less than ⅛" fall per 1' of piping
- all components and construction activity shall be performed to TCEQ Ch. 285 guidelines
- return line is installed from manifold at discharge end of each drip loop (one loop) back to pump tank and drip line is flushed continuously during each pump cycle
- a control valve and pressure gauge is installed on return line at the pump tank; it is appropriate to return this fluid to the pump tank since it maintains same quality of discharge line
- loop consists of 480 ft. of drip line from beginning discharge location (drain field initiation) to the return junction at the end of each loop; 12 rows at 40 ft. in length each
- unfiltered discharge from filter within pump tank is plumbed back into pretreatment tank and sent back through system for proper disinfection again until it passes through filter successfully
- dip lines laid in parallel spaced at 2 ft. apart with emitter spacing at 2 ft. between emitters per spec sheet
- filtering device should be capable of filtering particles larger than 100 microns per §285.33 (c)(3); use Netafim DF100-140 manual disc filter
- use Franklin Electric C1 Series effluent pump model 20C1-05P4-2W115
- excavation to be 24 in. below line placement depth and filled with suitable Class II soil; this will rectify any issues with the Class IV restrictive horizon; same Class II soil can be used for backfill upon successful installation inspection

Legend	
Water Meter	W
Electric Pole	E
Test Hole	⊗
Septic Tank	
Underground Line(s)	— — — — —

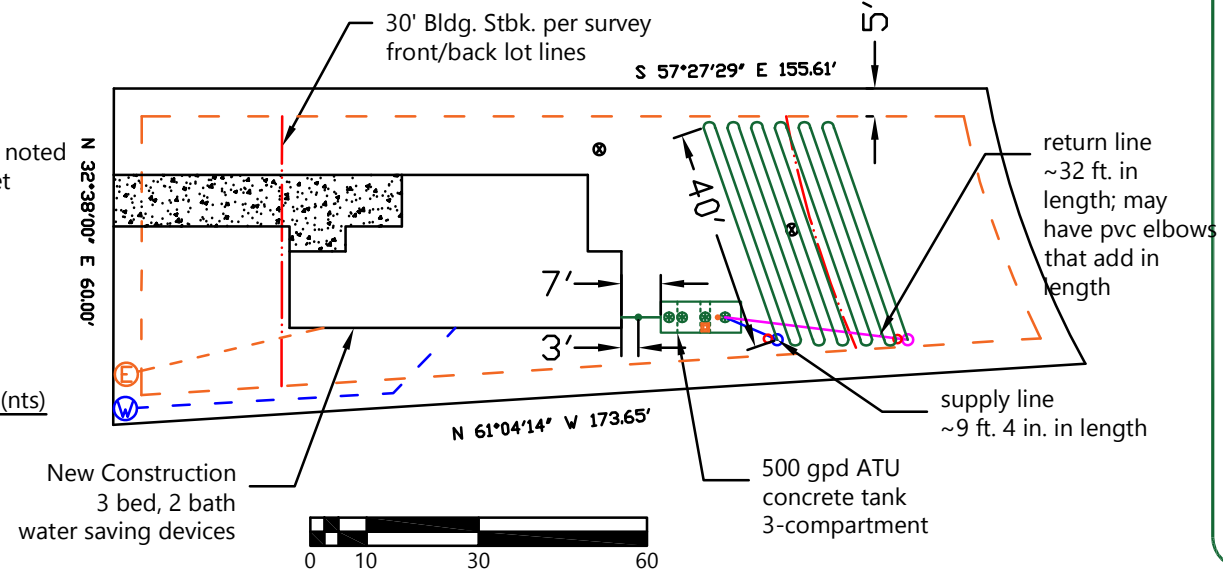
STATE OF TEXAS
PATRICK MAHAFFEY
5194
REGISTERED PROFESSIONAL SANITARIAN

**2nd revision on 9/16/25

- tank manufacturer
- tightline distance from house to tank
- supply/return line lengths



Aeris Aerobics, Inc.; D-600-M 600gpd ATU Tank (nts)



General Notes

Lot 19B, Blk 47
Canyon Springs
Resort 4

0.2073 AC

New Construction
3 Bed, 2 Bath
~1,300 ft²
Living Area

ATU System:
500 gpd
3–Compartment
Concrete Tank

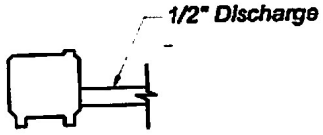
Drip Irrigation
960 ft² minimum
960 ft² design

Spec Sheets
Included

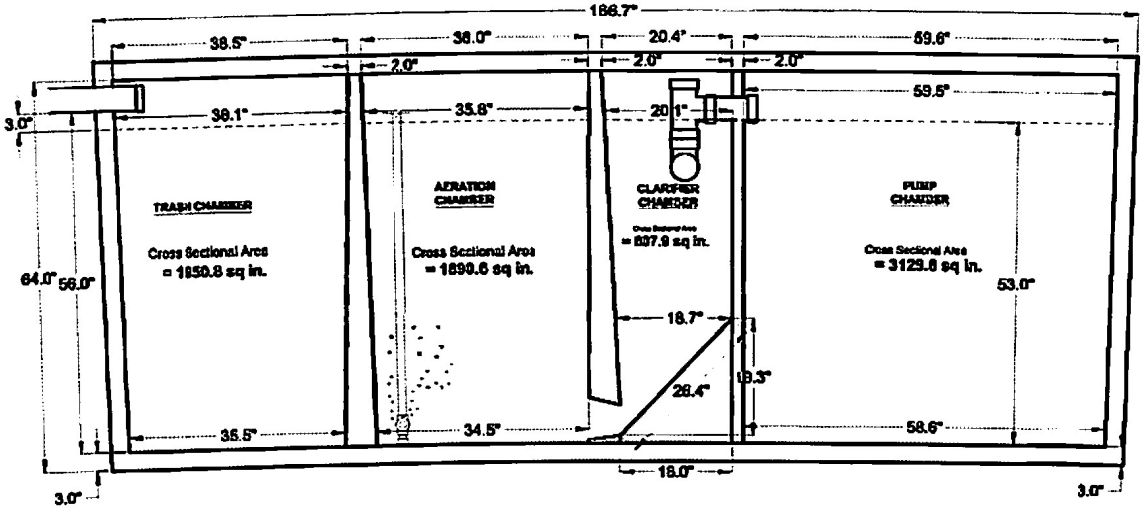
ALAMO CITY SEPTICS
Patrick Mahaffey
RS 5194
SE OS00037816

1310 Mountain Top Loop
78133
Owner:
LWI Real Estate
Solutions LLC

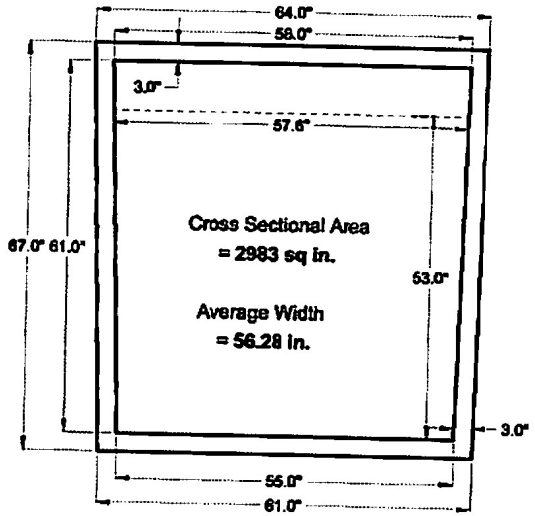
Project
Sheet
Date
09/11/2025
Scale



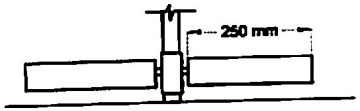
BLOWER



SIDE SECTION VIEW
SCALE: 1" = 3/8 "



END SECTION VIEW
SCALE: 1" = 3/8 "



DIFFUSER DETAIL
2 - 250 mm
Max flow per diffuser
= 55 liters/minute

Title:	Company Name:	Date:
Model D-600-m 600 gallon per day Aerobic Treatment Unit	Aeris Aerobics	2-22-2015

CALCULATIONS FOR

AERIS 500 vs 600 - M 600 gpd Unit

Calculated Values:				AERIS 600 - M 600 gpd Unit				600 gal per day
	W	A	D	cu in	cu ft	gallons	HRT	combined bio HRT
pre treatment	56.28	1950.8	53	109,791.0	63.5	476	19.0	37.47
aeration	56.28	1890.6	53	106,403.0	61.6	461	18.4	
clarification	56.28	807.9	53	45,468.6	26.3	197	7.9	
Pump Chamber	56.28	3129.8	53	176,145.1	101.9	763	30.5	

Calculated Values:				AERIS 500 gpd Treatment Unit				500 gal per day
	W	A	D	cu in	cu ft	gallons	HRT	combined bio HRT
pre treatment	55.94	1406.8	52	78,696.4	45.5	341	16.4	33.16
aeration	55.94	1442.9	52	80,715.8	46.7	350	16.8	
clarification	55.94	532.2	52	29,771.3	17.2	129	6.2	
Pump Chamber	55.94	3030.5	52	169,526.2	98.1	734.6	35.3	

where:

W= average Width
D= Water Depth using Invert of effluent pipe
L= average Length

Note: Clarifier volume deducts volume under sloped floor

clarifier floor:			
Unit:	600	500	
height	19.3	10.4	
length	18	10.8	
sloped floor	26.4	14.99	
angle	47.0	43.9	degrees

COMPARISION - Tested dimensions to calculated values for upgrade

	Diff. Gal.	Diff. HRT	% gal	% HRT
pre treatment	134.7	2.66	40%	16.3%
aeration	111	1.7	32%	9.9%
clarification	68	1.7	53%	27.3%
combined bio HRT differential:			4.32	18.02%
flow diff.	100		20%	

Oxygen Calculations and Comparison
AERIS 500 vs 600 - M 600 gpd Unit

BLOWER & DIFFUSER REVIEW

Original Diffuser Length:	250 mm
Airflow range/diffuser:	30-55 Liters/min
Original Air flow per diffuser:	21.60 Liters/min
New: Air flow per diffuser:	33.90 Liters/min
Number of original diffusers:	2
Number of new diffusers:	2

gallons per day:	Water Depth: Inches	feet	pressure
600	53	4.42	1.91
500	52	4.33	1.87

	original	new
liters/min	43.20	67.79
liters/sec		
cubic ft/min	1.53	2.39

1 liter= 0.0353 cubic feet

original blower (HP 40):	1.53 cfm	
HP 60=	2.39 cfm	157%
HP-80	3.07 cfm	201%
differential	0.87 cfm	
Percent increase in air:	57%	
Percent flow increase:	20%	
needed air:	1.83 cfm	

HP 80 Curves

	pressure	flow (cfm)
	1.76	3.14
operating PSI:	1.91	3.07
	1.95	3.05

HP 60 Curves

	pressure	flow (cfm)
	1.75	2.45
operating PSI:	1.91	2.39
	1.95	2.38

HP 40 Curves

	pressure	flow (cfm)
	1.44	1.67
operating PSI:	1.87	1.53
	1.95	1.5

3-22-2014

(2) Table II. Septic Tank and Aerobic Treatment Unit Sizing.

SEPTIC TANK MINIMUM LIQUID CAPACITY

A. Determine the applicable wastewater usage rate (Q) in TABLE III of 30 TAC Chapter 285.

B. Calculate the minimum septic tank volume (V) as follows:

1. For Q equal to or less than 250 gal/day: V = 750 gallons
2. For Q greater than or equal to 251 gal/day but less than or equal to 350 gal/day: V = 1000 gallons
3. For Q greater than or equal to 351 gal/day but less than or equal to 500 gal/day: V = 1250 gallons
4. For Q greater than or equal to 501 gal/day but less than or equal to 1000 gal/day: V = 2.5 Q
5. For Q greater than or equal to 1001 gal/day: V= 1,750 + 0.75Q

AEROBIC TREATMENT UNIT SIZING FOR RESIDENCES

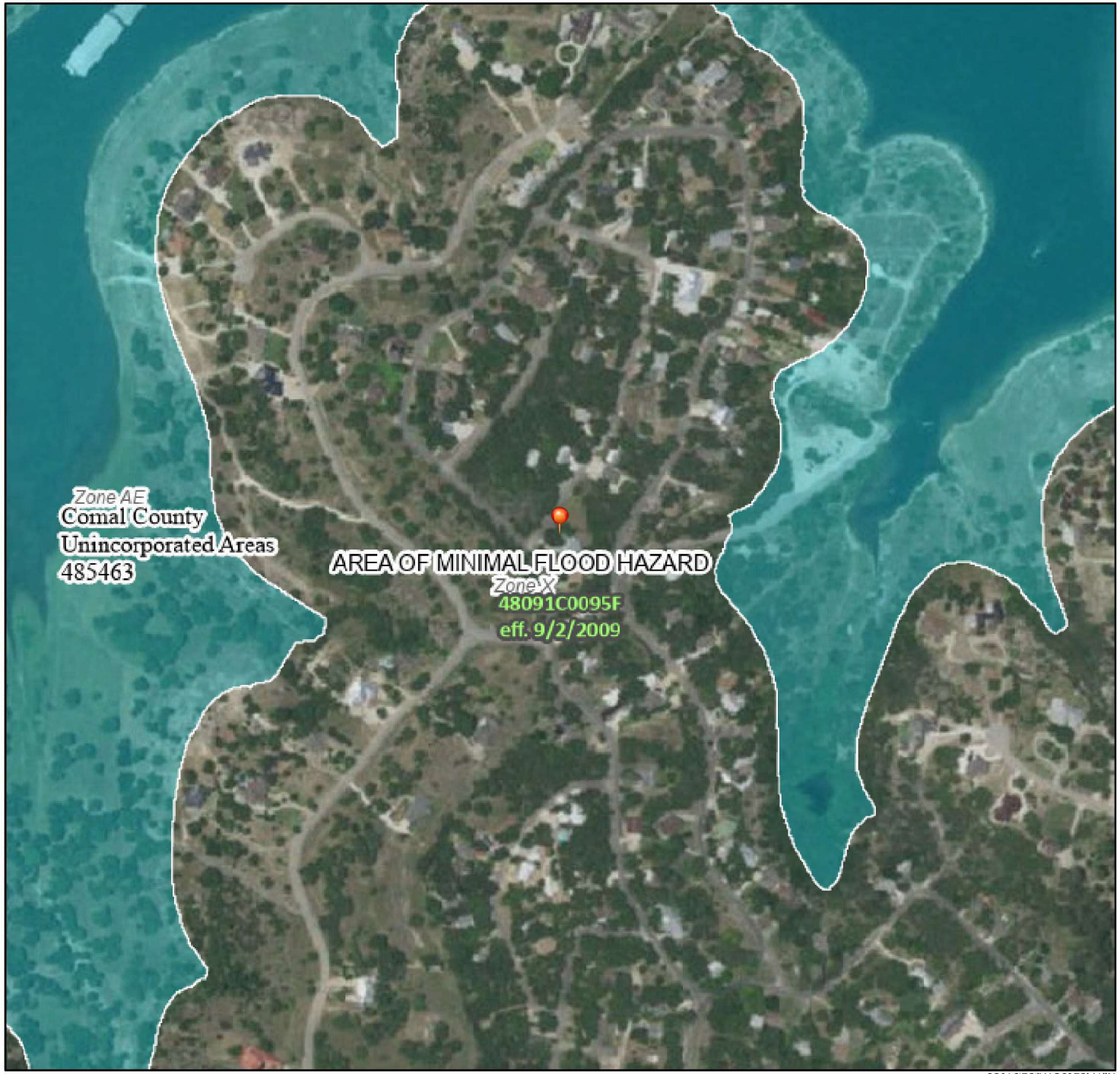
Number of bedrooms/living area of home	Minimum Aerobic Tank Treatment Capacity (gallons per day)
Three bedrooms and < 2,501 sq. ft.	400
Four bedrooms and < 3,501 sq. ft. or Less than four bedrooms and 2,500 < sq. ft. < 3,501	480
Five bedrooms and < 4,501 sq. ft. or Less than five bedrooms and 3,500 < sq. ft. < 4,501	600
Six bedrooms and < 5,501 sq. ft. or Less than six bedrooms and 4,500 < sq. ft. < 5,501	720
Seven bedrooms and < 7,001 sq. ft. or Less than seven bedrooms and 5,500 < sq. ft. < 7,001	840
Eight bedrooms and < 8,501 sq. ft. or Less than eight bedrooms and 7,000 < sq. ft. < 8501	960
Nine bedrooms and < 10,001 sq. ft. or Less than nine bedrooms and 8,500 < sq. ft. < 10,001	1,080
Ten bedrooms and < 11,501 sq. ft. or Less than ten bedrooms and 10,000 < sq. ft. < 11,501	1,200
For each additional bedroom above ten or 1,500 additional square feet of living area above 11,500	120

*Reserve Capacity: 1/3 of daily flow = 400/3 = 133.33 gallons
*Pump Tank holds 763 gallons

National Flood Hazard Layer FIRMette

FEMA

98°17'35"W 29°53'12"N



98°16'58"W 29°52'41"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/22/2025 at 8:43 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

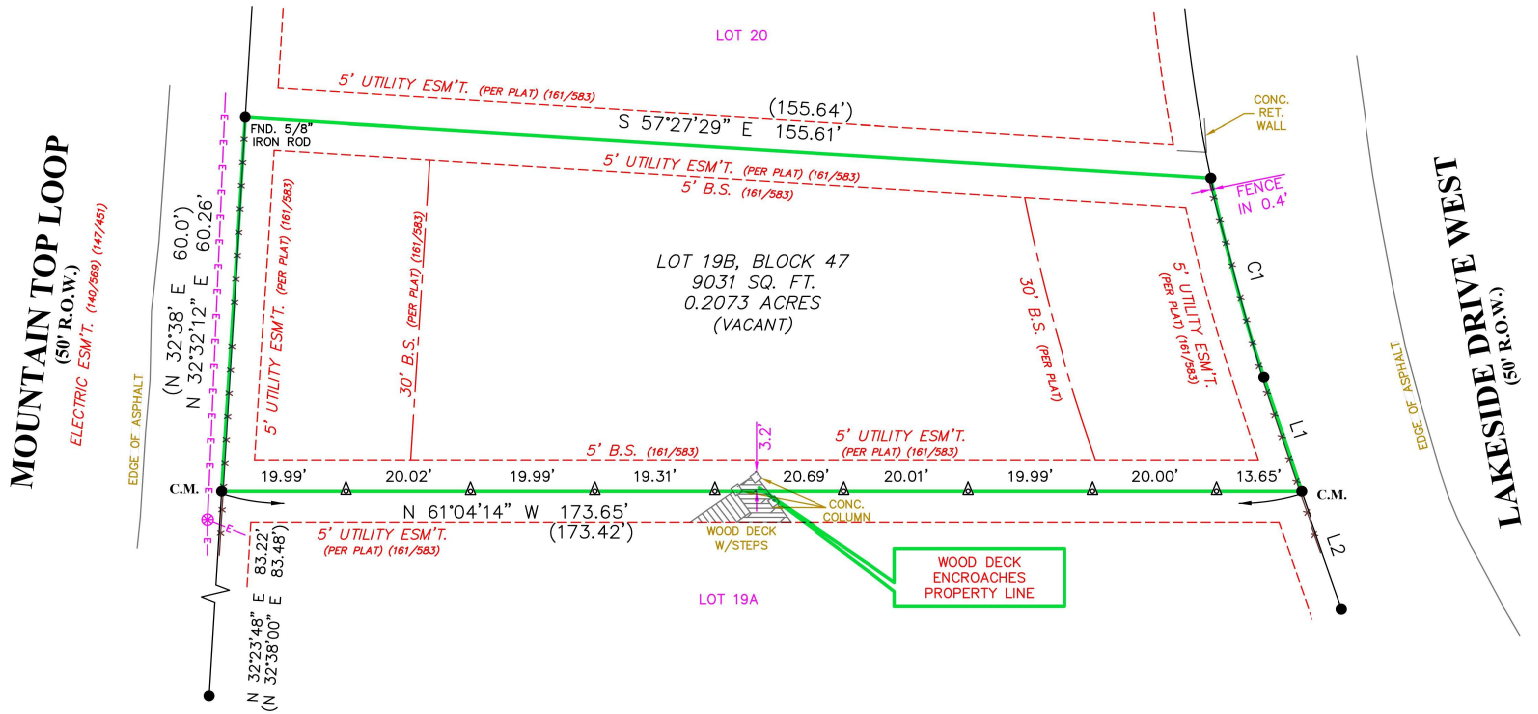
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FLOOD ZONE INTERPRETATION: IT IS THE RESPONSIBILITY OF ANY INTERESTED PERSONS TO VERIFY THE ACCURACY OF FEMA FLOOD ZONE DESIGNATION OF THIS PROPERTY WITH FEMA AND STATE AND LOCAL OFFICIALS, AND TO DETERMINE THE EFFECT THAT SUCH DESIGNATION MAY HAVE REGARDING THE INTENDED USE OF THE PROPERTY. The property made the subject of this survey appears to be included in c FEMA Flood Insurance Rate Map (FIRM), identified as Community No. 48091C , Panel No. 0095 F, which is Dated 9/2/2009 . By scaling from that FIRM, it appears that all or a portion of the property may be in Flood Zone(s) X . Because this is a boundary survey, the survey did not take any actions to determine the Flood Zone status of the surveyed property other than to interpret the information set out on FEMA's FIRM, as described above. THIS SURVEYOR DOES NOT CERTIFY THE ACCURACY OF THIS INTERPRETATION OF THE FLOOD ZONES, which may not agree with the interpretations of FEMA or state or local officials, and which may not agree with the tract's actual conditions. More information concerning FEMA's Special Flood Hazard Areas and Zones may be found at https://msc.fema.gov/portal.

NOTE:
BEARINGS SHOWN HEREON ARE BASED ON ACTUAL GPS OBSERVATIONS, TEXAS STATE PLANE COORDINATES, SOUTH CENTRAL ZONE, GRID.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	287.18'	33.14' (33.29')	33.12'	S 13°58'36" W	6°36'40"

LINE	BEARING	DISTANCE
L1	S 10°46'50" W	19.30'
	(S 10°40'50" W)	(20.00')
L2	S 10°15'33" W	20.02'
	(S 10°40'50" W)	(20.00')



SCALE: 1"=20'

NOTE:
THIS PROPERTY IS SUBJECT TO RESTRICTIVE COVENANTS, EASEMENTS, AGREEMENTS, AND/OR SETBACK LINES (IF ANY) AS FOLLOWS: VOLUME 121, PAGE 145, VOLUME 161, PAGE 583, DEED RECORDS, COMAL COUNTY, TEXAS, AND CLERK'S FILE NOS. 200606053796, 201506022296, 201606006346, 201906002818 AND 201906002819, REAL PROPERTY RECORDS, COMAL COUNTY, TEXAS.

NOTE:
THIS PROPERTY MAY BE SUBJECT TO AN ELECTRIC TRANSMISSION OR DISTRIBUTION LINE EASEMENT RECORDED IN VOLUME 140, PAGE 31, DEED RECORDS OF COMAL COUNTY, TEXAS. (LOCATION NOT DEFINED)

THIS SURVEY IS ACKNOWLEDGED AND IS ACCEPTED:

_____

_____

FIRM REGISTRATION NO. 10111700

Westar Alamo
LAND SURVEYORS, LLC.
P.O. BOX 1645 BOERNE, TEXAS 78006
PHONE (210) 372-9500 FAX (210) 372-9999

LEGEND

- ⊗ = SET 60D NAIL
- ● = FOUND 1/2" IRON ROD
- ( ) = RECORD INFORMATION
- B.S. = BUILDING SETBACK
- C.M. = CONTROLLING MONUMENT
- ⊛ = POWER POLE
- —E— = OVERHEAD ELECTRIC
- —X— = WIRE FENCE

DWG: AJS RVD: DLM

Property Address:
1302 MOUNTAIN TOP LOOP

Property Description:
LOT 19B, BLOCK 47, CANYON SPRINGS RESORT, UNIT NO. 4, ACCORDING TO A MAP OR PLAT RECORDED IN VOLUME 2, PAGE 1, MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS.

Owner:
LWI REAL ESTATE SOLUTIONS, LLC

STATE OF TEXAS REGISTERED DERRICK L. MAYFIELD 6456 PROFESSIONAL LAND SURVEYOR

I, DERRICK L. MAYFIELD, Registered Professional Land Surveyor, State of Texas, certify that the above plat represents an actual survey made on the ground under my supervision, and that my professional opinion is that there are no discrepancies, conflicts, shortages in area or boundary lines, or any encroachment or overlapping of improvements, except as may appear herein, to the best of my knowledge and belief.

DERRICK L. MAYFIELD
Registered Professional Land Surveyor
Texas Registration No. 6456

G.F. NO. SA-2959-KW | JOB NO. 130326 | TITLE COMPANY: McKNIGHT TITLE | DATE: 4/3/2025

LAKESIDE DRIVE WEST
(50' R.O.W.)
EDGE OF ASPHALT
5' UTILITY EASEMENT
30' BUILDING SETBACK
LOT 19B
BLOCK 47
9031 SQ. FT.
0.2073 ACRES
PROPERTY LINE S57D 27' 29" E 155.61'
PROPERTY LINE N 61D 04' 14" W 173.65'
5' UTILITY EASEMENT
5' BUILDING SETBACK
NEW RESIDENCE
WOOD DECK ENCROACHES ON PROPERTY LINE
CONCRETE DRIVEWAY
N 32D 38' 00" E 60.00'
EDGE OF ASPHALT
MOUNTAIN TOP LOOP
(50' R.O.W.)
1 SITE PLAN

(2) Table II. Septic Tank and Aerobic Treatment Unit Sizing.

SEPTIC TANK MINIMUM LIQUID CAPACITY

A. Determine the applicable wastewater usage rate (Q) in TABLE III of 30 TAC Chapter 285.

B. Calculate the minimum septic tank volume (V) as follows:

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2. For Q greater than or equal to 251 gal/day but less than or equal to 350 gal/day: V = 1000 gallons
3. For Q greater than or equal to 351 gal/day but less than or equal to 500 gal/day: V = 1250 gallons
4. For Q greater than or equal to 501 gal/day but less than or equal to 1000 gal/day: V = 2.5 Q
5. For Q greater than or equal to 1001 gal/day: V= 1,750 + 0.75Q

AEROBIC TREATMENT UNIT SIZING FOR RESIDENCES

Number of bedrooms/living area of home	Minimum Aerobic Tank Treatment Capacity (gallons per day)
Three bedrooms and < 2,501 sq. ft.	400
Four bedrooms and < 3,501 sq. ft. or Less than four bedrooms and 2,500 < sq. ft. < 3,501	480
Five bedrooms and < 4,501 sq. ft. or Less than five bedrooms and 3,500 < sq. ft. < 4,501	600
Six bedrooms and < 5,501 sq. ft. or Less than six bedrooms and 4,500 < sq. ft. < 5,501	720
Seven bedrooms and < 7,001 sq. ft. or Less than seven bedrooms and 5,500 < sq. ft. < 7,001	840
Eight bedrooms and < 8,501 sq. ft. or Less than eight bedrooms and 7,000 < sq. ft. < 8501	960
Nine bedrooms and < 10,001 sq. ft. or Less than nine bedrooms and 8,500 < sq. ft. < 10,001	1,080
Ten bedrooms and < 11,501 sq. ft. or Less than ten bedrooms and 10,000 < sq. ft. < 11,501	1,200
For each additional bedroom above ten or 1,500 additional square feet of living area above 11,500	120

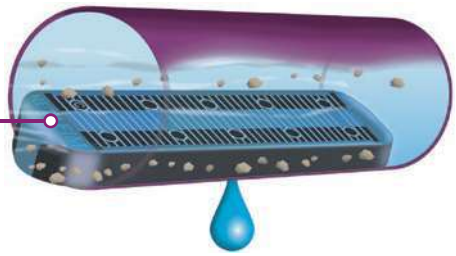
WASTEWATER DIVISION

BIOLINE® DRIPLINE

THE WORLD'S MOST ADVANCED CONTINUOUS SELF-CLEANING, PRESSURE COMPENSATING DRIPLINE SPECIFICALLY DESIGNED FOR WASTEWATER

CROSS SECTION OF BIOLINE DRIPLINE

Bioline dripper inlets are positioned in the center of flow where water is the cleanest



PRODUCT ADVANTAGES

- Pressure compensation - all drippers deliver equal flow, even on sloped or rolling terrain.
- Unique flow path - Turbonet technology provides more control of water and a high resistance to clogging.
- Continuous self-flushing dripper design - flushes debris, as it is detected - throughout operation, not just at the beginning or end of a cycle. Ensures uninterrupted dripper operation.
- Single hole dripper outlet from tubing:
  - Better protection against root intrusion
  - Allows the dripline to be used in subsurface applications without need for chemical protection
- Drippers capture water flow from the center of the tubing - ensures that only the cleanest flow enters the dripper.
- Built-in physical root barrier - drippers are protected from root intrusion without the need for chemical protection. Water exits dripper in one location while exiting the tubing in another.
- Three dripper flow rates - provides the broadest range of flow rates available. Allows the designer to match the dripline to any soil or slope condition.
- Bioline tubing is completely wrapped in purple - easily identifying it for non-potable use, regardless of how the tubing is installed.
- Anti-bacterial-impregnated drippers - prevents buildup of microbial slime.
- Can be used subsurface - Bioline can be installed on-surface, under cover or subsurface.
- No special storage requirements - does not degrade if stored outdoors.

APPLICATIONS

- Typically installed following a treatment process
- Can be used with domestic septic tank effluent with proper design, filtration and operation
- Reuse applications including municipally treated effluent designated for irrigation and other disinfected and non-disinfected water sources.

SPECIFICATIONS

- Dripper flow rates: 0.4, 0.6 or 0.9 GPH
- Dripper spacings: 12", 18" or 24" dripper spacings and blank tubing
- Pressure compensation range: 7 to 58 psi
- Maximum recommended system pressure: 58 psi
- Tubing diameter: 0.66" OD, 0.56" ID
- Tubing color: Purple color indicates non-potable
- Coil lengths: 500' or 1,000' (Blank tubing in 250')
- Recommended filtration: 120 mesh
- Bending radius: 7"
- UV resistant
- Tubing material: Linear low-density polyethylene

Additional spacing and pipe sizes available by special order. Please contact Netafim USA Customer Service for details.

BIOLINE DRIPLINE

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 3.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.3 GPM REQUIRED PER LATERAL TO ACHIEVE 3 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	102	94	84	136	127	113	161	151	137
	25	151	136	118	203	184	161	245	223	197
	35	193	171	146	260	232	200	315	283	245
	40	211	186	158	286	254	218	347	311	267
	45	228	200	169	310	274	233	377	335	287
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 3 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 2.0 GPM REQUIRED PER LATERAL TO ACHIEVE 2.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	128	115	100	172	155	136	205	187	165
	25	183	161	137	248	220	188	301	268	231
	35	228	198	166	310	272	229	379	333	283
	40	248	214	178	338	295	247	413	362	305
	45	266	229	190	364	316	263	447	389	327
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.6 GPM REQUIRED PER LATERAL TO ACHIEVE 2.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	161	141	119	217	191	164	263	233	201
	25	221	190	157	302	261	218	369	321	270
	35	269	229	187	370	316	260	455	391	324
	40	290	246	200	399	340	278	493	421	347
	45	310	261	212	427	362	296	527	449	369
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 2 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 1.2 GPM REQUIRED PER LATERAL TO ACHIEVE 1.5 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	201	171	140	275	235	194	337	289	241
	25	266	222	179	366	308	251	453	383	313
	35	316	262	210	437	365	295	543	455	369
	40	337	280	223	469	391	313	583	487	393
	45	358	296	235	497	413	331	619	517	415
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1.5 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.0 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.8 GPM REQUIRED PER LATERAL TO ACHIEVE 1.0 fps

DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	248	205	163	344	285	228	427	355	285
	25	315	258	203	440	361	286	549	453	359
	35	367	299	234	513	419	331	643	527	417
	40	389	316	248	545	445	350	683	559	441
	45	409	332	260	574	468	367	721	589	463
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 1 fps flushing/scouring velocity

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 0.5 fps FLUSH VELOCITY

ADDITIONAL FLOW OF 0.4 GPM REQUIRED PER LATERAL TO ACHIEVE 0.5 fps

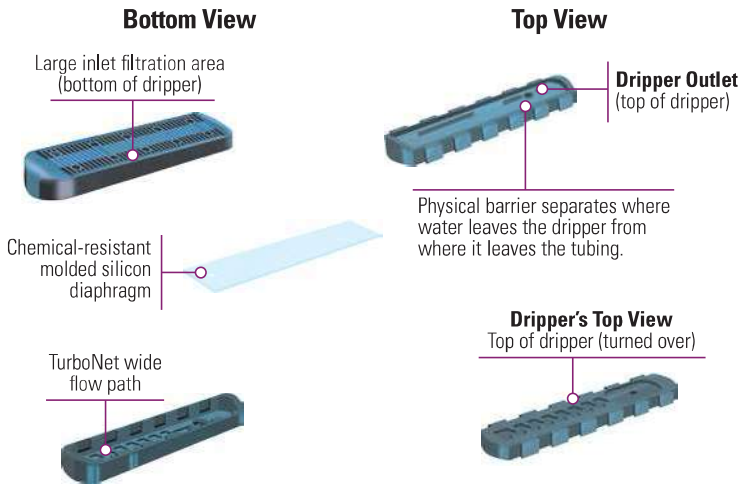
DRIPPER SPACING		12"			18"			24"		
DRIPPER FLOW RATE (GPH)		0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH	0.4 GPH	0.6 GPH	0.9 GPH
INLET PRESSURE	15	301	242	188	422	341	265	531	429	335
	25	369	296	228	520	418	323	655	527	409
	35	421	337	260	595	476	368	749	603	467
	40	443	354	273	626	501	387	790	635	491
	45	464	371	285	656	524	404	829	665	513
Flow per 100' (GPM / GPH)		0.67/40	1.02/61	1.53/92	0.44/26.67	0.68/41	1.02/61	0.34/20	0.51/31	0.77/46

Lateral lengths are based on flows allowing for a 0.5 fps flushing/scouring velocity

Netafim recommends flushing velocities capable of breaking free any accumulated bioslimes and debris in the piping network.

Notes:
1. Refer to local regulations for information on flushing velocities that may be written into codes.
2. Netafim does not endorse a specific flushing velocity.
3. Flushing velocities should be determined based on regulations, quality of effluent, and type of flushing control.
4. Using a flushing velocity less than 1 fps does not provide turbulent flow as defined by Reynolds Number.
5. Higher flushing velocities provide more aggressive flushing.

EXPLODED VIEW OF BIOLINE DRIPPER



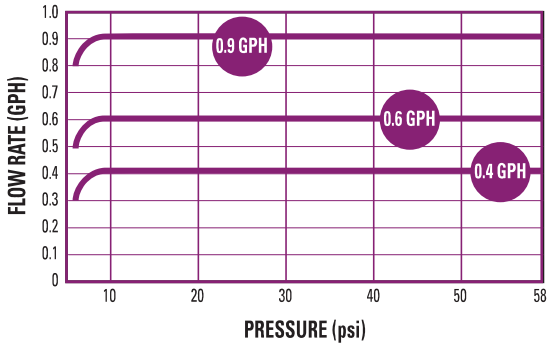
BIOLINE DRIPPER OPERATION

Bioline® drippers are pressure compensating - delivering the water uniformly into the soil for further treatment or for reuse by the landscape. These unique drippers allow the tubing to be installed on flat topography or steep slopes.

Bioline drippers are protected against microbial slime. Each dripper is impregnated with an antimicrobial agent to resist biological build-up.

Netafim drippers are continuously self-cleaning during operation, not just at the beginning and end of a cycle. The result is dependable, clog-free operation, year after year.

DRIPPER FLOW RATE VS. PRESSURE



Between 0 and 7 psi, the dripper functions as a turbulent flow emitter, ensuring that the nominal design flow is not exceeded at system start-up.

FLOW PER 100 FEET

DRIPPER SPACING	0.4 GPH DRIPPER		0.6 GPH DRIPPER		0.9 GPH DRIPPER	
	GPH	GPM	GPH	GPM	GPH	GPM
12"	40.0	0.67	61.0	1.02	92.0	1.53
18"	26.7	0.44	41.0	0.68	61.0	1.02
24"	20.0	0.34	31.0	0.51	46.0	0.77

SPECIFYING INFORMATION

SAMPLE MODEL NUMBER

A Bioline Dripline = 08WRAM

08WRAM.6-24 V
(A) (1) (2) (3)

1 DRIPPER FLOW RATE
0.4 GPH = .4
0.6 GPH = .6
0.9 GPH = 1

2 DRIPPER SPACING
12" = 12
18" = 18
24" = 24

3 COIL LENGTH
500' = V500
1,000' = V

BLANK Tubing Model Number: 250' = 08WRAM-250

ORDERING INFORMATION

FLOW RATE	DRIPPER SPACING	COIL LENGTH	MODEL NUMBER
0.4 GPH	12"	1,000' 500'	08WRAM.4-12V 08WRAM.4-12V500
0.4 GPH	18"	1,000' 500'	08WRAM.4-18V 08WRAM.4-18V500
0.4 GPH	24"	1,000' 500'	08WRAM.4-24V 08WRAM.4-24V500
0.6 GPH	12"	1,000' 500'	08WRAM.6-12V 08WRAM.6-12V500
0.6 GPH	18"	1,000' 500'	08WRAM.6-18V 08WRAM.6-18V500
0.6 GPH	24"	1,000' 500'	08WRAM.6-24V 08WRAM.6-24V500
0.9 GPH	12"	1,000' 500'	08WRAM1-12V 08WRAM1-12V500
0.9 GPH	18"	1,000' 500'	08WRAM1-18V 08WRAM1-18V500
0.9 GPH	24"	1,000' 500'	08WRAM1-24V 08WRAM1-24V500
Blank Tubing 17mm		250'	08WRAM-250

BIOLINE FITTINGS

FITTING APPLICATIONS

- Fits Bioline Dripline

FITTING SPECIFICATIONS

- Barbed fittings for a secure fit
- Easy installation without glue or tools
- Allows for easy on-site inspection of proper fitting installation

TLCOUP
Insert Coupling

TLELL
Insert Elbow

TLTEE
Insert Tee

TLCROS
Insert Cross

TL050MA
½" Male Adapter

TL075MA
¾" Male Adapter

TL075FTEE
Combination Tee
Ins x Ins x ¾" FPT

TL2W075MA
2-Way Insert
¾" MPT x Insert

TLIAPE-B
Insert Adapter for 1" or Larger PE (Requires 11mm or 7/16" drill or punch)

TLIAPVC-B
Insert Adapter with Grommet
1½" or larger PVC Pipe

TDBIT16.5
Drill Bit for TLIAPVC Fitting (16.5mm or 21/32")

TLFIG8
Figure 8 Line End

TLS6
6" Soil Staple

FITTING DEFINITIONS

FPT = Female Pipe Thread
MPT = Male Pipe Thread
Ins x Ins = Insert by Insert

TLSOV
Shut-Off Valve
Ins x Ins

TLCV
Inline Check Valve

- Flow Range: 0.9 to 4.4 GPM
- Opening Pressure: 10.2 psi
- Closing Pressure: 5.8 psi
  (13.4 Feet Column of Water)

NETAFIM™

NETAFIM USA
5470 E. Home Ave.
Fresno, CA 93727
CS 888 638 2346
www.netafimusa.com

W064 10/16

WASTEWATER DIVISION

MANUAL DISC FILTERS

RELIABLE, EFFICIENT PLASTIC DISCS CREATE SUPERIOR FILTRATION

3/4"

1"

2" DUAL LITE

PRODUCT ADVANTAGES

- Highly effective multiple disc ring design captures and holds more debris.
- Low friction loss keeps system costs down
- Greater holding capacity of the rings vs. screen filters mean less frequent cleaning.
- Rings are easily removed for fast cleaning without the need for scrubbing.
- Color-coded disc rings make identification of mesh rating fast and easy.

APPLICATIONS

- Wastewater
- Reuse/recycled/reclaimed water
- Spray tanks
- Wherever very effective removal of debris is required
- Works well as stand-alone units or combined to form filter batteries

MESH/MICRON

MESH	MICRON	DISC COLOR
040	400	Blue
080	200	Yellow
120	130	Red
140	115	Black
200	55	Green

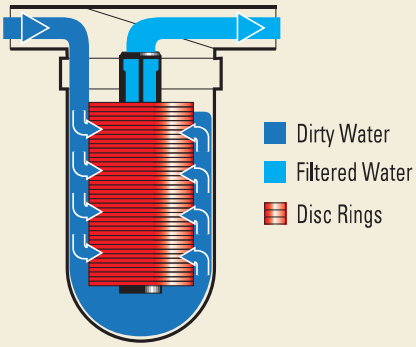
Substitute *** in Model Number for proper mesh.

THE FILTERING PROCESS

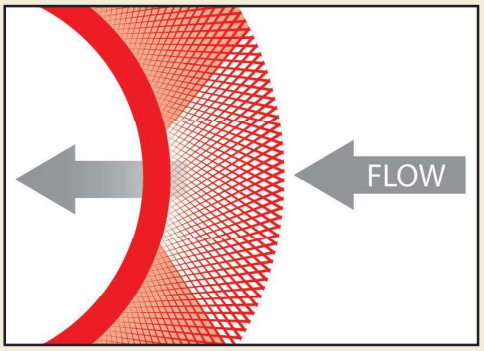
Grooved, compressed plastic disc rings produce a deep filtration process. As dirty water is pumped into the filter and pressure increases on the outside of the filter, the water pressure compresses the rings together tightly.

Grooves in the disc rings crisscross, forming a three dimensional network that traps particles. The number of crisscrossed intersection points on each groove varies, depending on filtration grade. The turbulence in the varying paths and the large number of intersections create an environment where particles are eventually trapped.

This design filters the dirty water thoroughly, not only on the outer surface of the cylindrical disc filter, but through the entire depth of every ring's grooves. The result is a larger, more efficient filtering area (when compared to screen filters) with more debris being captured and cleaner water exiting from the filter.



Top view of disc ring



MANUAL DISC FILTERS

3/4" FILTER	
FLOW RANGE	1 - 12 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	25 sq. in.
FILTERING VOLUME	5.8 cu. in.
LENGTH	5 22/32"
WIDTH	7 15/32"
WEIGHT	.66 lbs.
DISTANCE BETWEEN ENDS	6"
INLET/OUTLET DIAMETER	3/4" Male
MODEL NUMBER	DF075-***

1" FILTER	
FLOW RANGE	5 - 26 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	49 sq. in.
FILTERING VOLUME	27 cu. in.
LENGTH	9 11/32"
WIDTH	6 7/32"
WEIGHT	2.2 lbs.
DISTANCE BETWEEN ENDS	6 7/32"
INLET/OUTLET DIAMETER	1" Male
MODEL NUMBER	DF100-***

1" LONG FILTER	
FLOW RANGE	10 - 35 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	78 sq. in.
FILTERING VOLUME	36 cu. in.
LENGTH	13 13/32"
WIDTH	6 7/32"
WEIGHT	3.11 lbs.
DISTANCE BETWEEN ENDS	6 7/32"
INLET/OUTLET DIAMETER	1" Male
MODEL NUMBER	25A48-***

2" DUAL LITE AND 3" TWIN LITE FILTERS

- Polypropylene components for increased chemical resistance.
- Easy opening orange plastic clamp for access to the discs.
- More competitively priced than previous 2" and 3" models.

2" DUAL LITE FILTER	
FLOW RANGE	40 - 110 GPM
MAXIMUM PRESSURE	115 psi
FILTERING SURFACE AREA	147 sq. in.
FILTERING VOLUME	75.7 cu. in.
LENGTH	16 5/16"
WIDTH	10 1/4"
WEIGHT	6.6 lbs.
DISTANCE BETWEEN ENDS	10 1/4"
INLET/OUTLET DIAMETER	2" Male
MODEL NUMBER	25A2DL-***

3" TWIN LITE FILTER	
FLOW RANGE	80 - 220 GPM
MAXIMUM PRESSURE	115 psi
FILTERING SURFACE AREA	294.5 sq. in.
FILTERING VOLUME	174 cu. in.
LENGTH	28 3/4"
WIDTH	9 14/32"
WEIGHT	17 lbs.
DISTANCE BETWEEN ENDS	12 19/32"
INLET/OUTLET DIAMETER	3" Flanged
MODEL NUMBER	25A3TL-***F

1 ½" FILTER	
FLOW RANGE	10 - 35 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	49 sq. in.
FILTERING VOLUME	27 cu. in.
LENGTH	10 5/8"
WIDTH	7 7/8"
WEIGHT	2.4 lbs.
DISTANCE BETWEEN ENDS	7 7/8"
INLET/OUTLET DIAMETER	1 1/2" Male
MODEL NUMBER	DF150-***

1 ½" LONG FILTER	
FLOW RANGE	10 - 52 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	78 sq. in.
FILTERING VOLUME	36 cu. in.
LENGTH	14 1/2"
WIDTH	7 7/8"
WEIGHT	3.3 lbs.
DISTANCE BETWEEN ENDS	7 7/8"
INLET/OUTLET DIAMETER	1 1/2" Male
MODEL NUMBER	DF150S-***

2" DUAL HP FILTER	
FLOW RANGE	40 - 120 GPM
MAXIMUM PRESSURE	174 psi
FILTERING SURFACE AREA	147 sq. in.
FILTERING VOLUME	75 cu. in.
LENGTH	14 3/4"
WIDTH	10 1/4"
WEIGHT	11 lbs.
DISTANCE BETWEEN ENDS	10 1/4"
INLET/OUTLET DIAMETER	2" Male
MODEL NUMBER	25A30-***

FLANGED GROOVED

3" ANGLE FILTER	
FLOW RANGE	80 - 220 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	287 sq. in.
FILTERING VOLUME	108 cu. in.
LENGTH	24 7/8"
WIDTH	12 3/32"
WEIGHT	31 lbs.
INLET/OUTLET DIAMETER	3"
MODEL NUMBER - FLANGED	25A53-***FNEW
MODEL NUMBER - GROOVED	25A53-***GNEW

4" TWIN FILTER	
FLOW RANGE	160 - 450 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	574 sq. in.
FILTERING VOLUME	216 cu. in.
LENGTH	47"
WIDTH	13"
WEIGHT	52.8 lbs.
DISTANCE BETWEEN ENDS	17 17/32"
INLET/OUTLET DIAMETER	4" Flanged
MODEL NUMBER	25A78-***F

6" TWIN FILTER	
FLOW RANGE	200 - 600 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	574 sq. in.
FILTERING VOLUME	216 cu. in.
LENGTH	47"
WIDTH	13"
WEIGHT	57.2 lbs.
DISTANCE BETWEEN ENDS	17 17/32"
INLET/OUTLET DIAMETER	6" Flanged
MODEL NUMBER	25A80-***F

MANUAL DISC FILTERS

FILTER APPLICATION RECOMMENDATIONS

FLOW RATE (GPM)	HEADLOSS (psi)										
	3/4"	1"	1" SUPER	1 1/2"	1 1/2" SUPER	2" DUAL HP	2" DUAL LITE	3" TWIN LITE	3" ANGLE	4" TWIN	6" TWIN
5	0.60	0.25									
10	2.50	0.60									
13	3.40	1.34									
17	5.87	2.10									
22		3.24	1.10	1.10							
26			1.50	1.30	1.50						
31			2.10	1.70	2.10						
35			2.50	2.30	2.50						
44					4.20	0.30	0.30				
66						0.63	0.63				
88						1.03	1.03	0.64	0.44		
110						1.47	1.47	0.98	0.58		
132								1.37	0.73		
154								1.80	0.88		
176								2.28	1.03		
198									1.32		
220									1.61		
242											
264											
286											
308										1.40	1.00
330										1.50	1.20
350										1.60	1.30
400										2.00	1.50
500											2.00
600											3.00

CHART LEGEND

0.00	Effluent (incomplete biological treatment) - rivers and canals (high biological load) reservoirs (hot climate, insufficient sedimentation)
0.00	Effluent (effective sedimentation, complete biological treatment) - rivers and canals (low biological load) reservoirs (cold climate, good sedimentation)
0.00	Municipal supply or well water (well maintained with no presence of iron or magnesium)

The losses shown are for filters with 140 Mesh

FILTERING VOLUME AND FILTERING SURFACE

FILTER SIZE	3/4"	1"	1" SUPER	1 1/2"	1 1/2" SUPER	2" DUAL HP	2" DUAL LITE	3" TWIN LITE	3" ANGLE	4" TWIN	6" TWIN
FILTERING VOLUME (CU IN)	5.8	27	36	27	36	75	75	150	54	108	108
FILTERING SURFACE (SQ IN)	25	49	78	49	78	148	148	291	287	574	574

ORDERING INFORMATION

FILTER SIZE	MODEL NUMBER
3/4"	DF075-***
1"	DF100-***
1" LONG	25A48-***
1 1/2"	DF150-***
1 1/2" LONG	DF150S-***
2" DUAL HP	25A30-***
2" DUAL LITE	25A2DL-***
3" TWIN LITE	25A3TL-***F
3" ANGLE FLANGED	25A53-***FNEW
3" ANGLE GROOVED	25A53-***GNEW
4" TWIN FLANGED	25A78-***F
6" TWIN FLANGED	25A80-***F

Substitute *** for proper mesh size.

SPECIFICATIONS

- Disc Rings: Polypropylene
- O-Rings: EPDM Rubber
- Clamp: Stainless Steel (except 2" Dual Lite and 3" Twin Lite which is Plastic)
- Filter Body and Cover: Reinforced Polyamide (except 2" Dual Lite and 3" Twin Lite which is Polypropylene)
- Temperature Range: -40° to 160° F
- Maximum Pressure: 115 and 174 psi

NETAFIM™

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W061 2/13

EFFLUENT PUMPS

Little GIANT®

C1 SERIES - 1/2 HP

APPLICATIONS

Gray water pumping, filtered effluent service water pumping,
water reclamation projects such as pumping from rain catchment basins,
aeration and other fountain or pond applications, agriculture and livestock water pumping

FEATURES

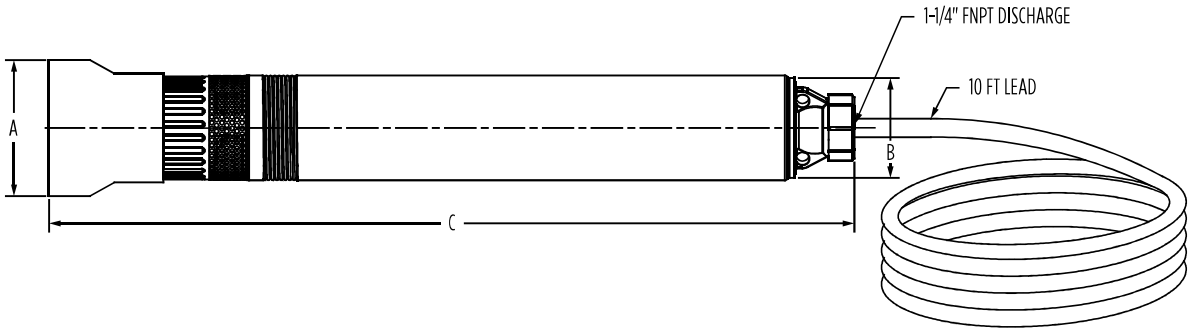
- Supplied with a removable 5" base for secure and reliable mounting
- Bottom suction design
- Robust thermoplastic discharge head design resists breakage during installation and operation
- Single shell housing design provides a compact unit while ensuring cool and quiet operation
- Hydraulic components molded from high quality engineered thermoplastics
- Optimized hydraulic design allows for increased performance and decreased power usage
- All metal components are made of high grade stainless steel for corrosion resistance
- Available with a high quality 115 V or 230 V, 1/2 hp motor
- Fluid flows of 10, 20, and 30 gpm, with a maximum shut-off pressure of 100 psi
- Heavy-duty 600 V 10 foot SJOOW jacketed lead

SERIES SPECIFICATIONS

Item No	Model	HP	Volts	Hz	Stages	Amps	Watts	Wire	Min. Shut-Off Head		Min. Head @ Rated Flow		Max GPM	Min. Head @ Max. GPM		Max. Amps
									PSI	FT	PSI	FT		PSI	FT	
90301005	10C1-05P4-2W115	1/2	115	60	7	9.0	920	2	93	215	50	115	14	22	50	10
90301010	10C1-05P4-2W230	1/2	230	60	7	4.5	920	2	93	215	50	115	14	22	50	5
90302005	20C1-05P4-2W115	1/2	115	60	5	9.0	920	2	56	130	34	78	28	9	20	10
90302010	20C1-05P4-2W230	1/2	230	60	5	4.5	920	2	56	130	34	78	28	9	20	5
90302015	20XC1-05P4-2W115	1/2	115	60	6	9.0	920	2	68	156	37	85	28	9	21	10
90302020	20XC1-05P4-2W230	1/2	230	60	6	4.5	920	2	68	156	37	85	28	9	21	5
90303005	30C1-05P4-2W115	1/2	115	60	4	9.0	920	2	39	89	19	45	35	13	29	10
90303010	30C1-05P4-2W230	1/2	230	60	4	4.5	920	2	39	89	19	45	35	13	29	50

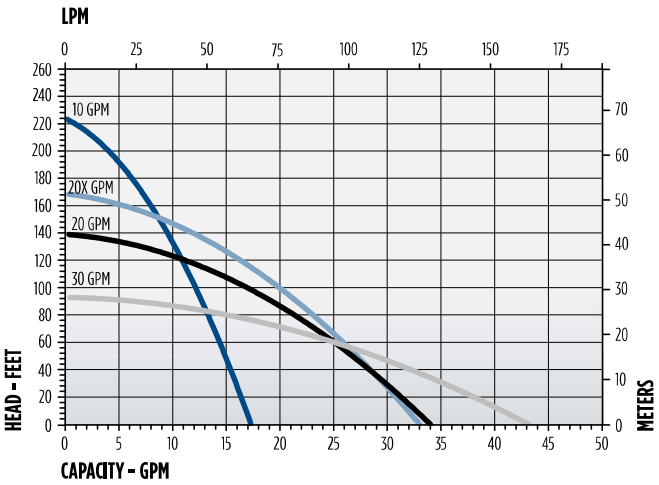
C1 SERIES - 1/2 HP

ENGINEERING DATA



Item No	Model	A	B	C
90301005	10C1-05P4-2W115	5″ 12.70 cm	3.9″ 9.91 cm	26″ 66.04 cm
90301010	10C1-05P4-2W230	5″ 12.70 cm	3.9″ 9.91 cm	26″ 66.04 cm
90302005	20C1-05P4-2W115	5″ 12.70 cm	3.9″ 9.91 cm	26″ 66.04 cm
90302010	20C1-05P4-2W230	5″ 12.70 cm	3.9″ 9.91 cm	26″ 66.04 cm
90302015	20XC1-05P4-2W115	5″ 12.70 cm	3.9″ 9.91 cm	26″ 66.04 cm
90302020	20XC1-05P4-2W230	5″ 12.70 cm	3.9″ 9.91 cm	26″ 66.04 cm
90303005	30C1-05P4-2W115	5″ 12.70 cm	3.9″ 9.91 cm	26″ 66.04 cm
90303010	30C1-05P4-2W230	5″ 12.70 cm	3.9″ 9.91 cm	26″ 66.04 cm

PERFORMANCE DATA



Project:

Location:

Product Type:

Contact/Phone:

Model #:

FM1D20 Series

One Channel Panel Mount

The FM1D20 Series One Channel Electronic Time Switches are compact electronic 24-Hour/7-Day modules with heavy-duty relay contacts for switching low or line voltage loads. The timers are applicable for time-of-day control of pumps, fans, heaters, HVAC control circuits, lighting, machinery and many other types of commercial, industrial, and agricultural equipment.

FM1D20-120

Features

- 24-Hour or 7-Day applications
- 20 setpoint programs
- 3 preset adjustable block programs
- Easy-to-follow menu driven programming
- Manual override with status indication
- Battery backup
- Large LCD

Ratings

Size:	2.37" x 2.37" (60.1 mm x 60.1 mm)
Power Consumption:	4VA
Supply Voltage:	24, 120, 240 VAC
Switch Rating:	SPDT relay
N.O. Contact:	½ HP, 120 VAC 1 HP, 240 VAC 12A, Ballast 120 VAC 8A, Ballast 240 VAC 720 VA, 240 VAC Pilot Duty 360 VA, 120 VAC Pilot Duty 600W, Tungsten 120 VAC 1000W, Tungsten 240 VAC
N.C. Contact:	16A, 277 VAC Resistive 8A, 24 VDC Pilot Duty 360 VA, 120 VAC Pilot Duty
Wiring Connections:	¼" quick connect terminals
Operating Temperature:	-13ºF to 131ºF (-25ºC to 55ºC) (limited display function at -13˚F)
Shipping Weight:	.10 lbs
Warranty:	Limited 1 year

CALIFORNIA TITLE 24 COMPLIANT

c UL us

#E10694

FM1D20 Series

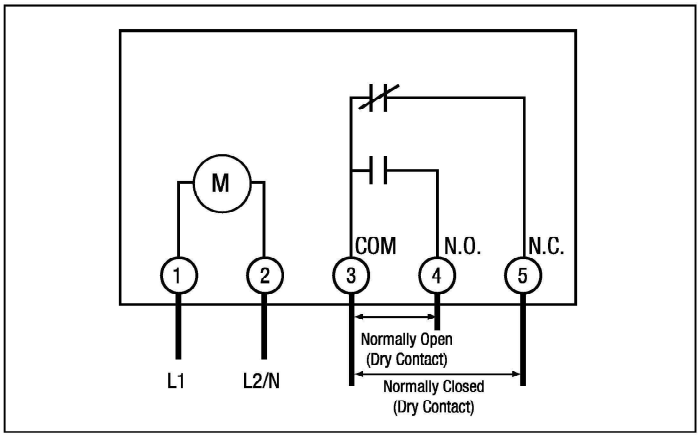
Model Number	Voltage	Programs	Mounting
FM1D20-24*	24 VDC, 50/60Hz	20	Panel
FM1D20-120	120 VAC, 50/60Hz	20	Panel
FM1D20-240	240 VAC, 50/60Hz	20	Panel

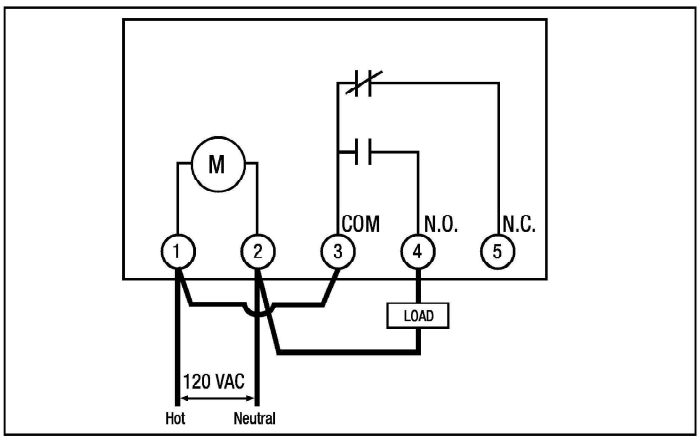
*24V model will operate on AC or DC

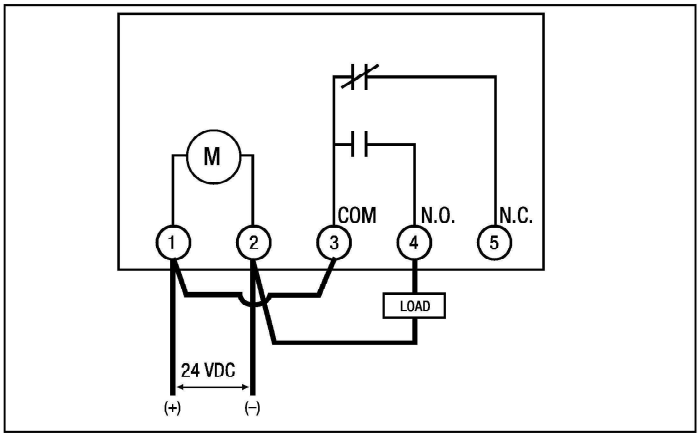
Specification

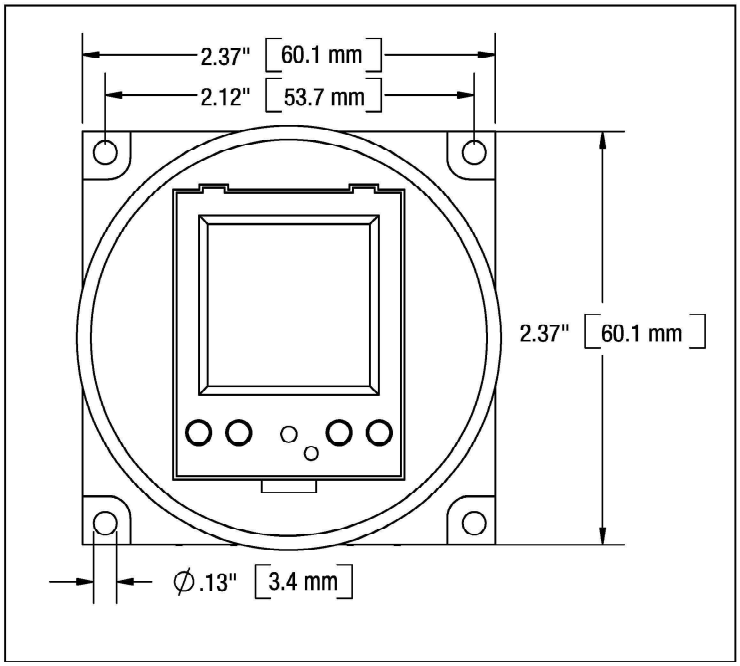
Furnish and install a Grässlin FM1D20____24-Hour/7-Day electronic time switch. This 1-circuit control shall have 24-Hour/7-Day programming, 10 ON and 10 OFF setpoint programs, and 3 preset block programs to allow a selection of any combination of days for different weekday schedules. The LCD shall display time of day in AM/PM or 24-Hour (military time) format. A Daylight Saving Time adjustment button shall also be provided. The time switch will be programmable to-the-minute and also offer a manual override for temporary ON or OFF to the next scheduled event. The LCD shall provide load status indication. The SPDT relay output will be rated for 16A Resistive @277 VAC. Reserve carryover of 7 years (non-replaceable, non-rechargeable battery).

Diagrams









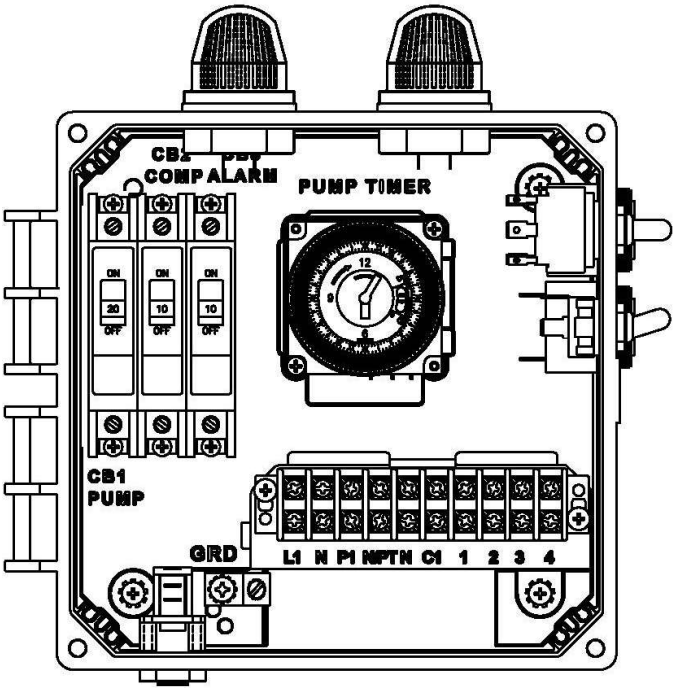
SEPTIC PRODUCTS INC

CONTROL PANEL

"50B138-AAV-PT" Aerobic Control Panel

Features & Benefits

- Circuit Breakers for Pump, Compressor & Alarm Circuits
- 24 Hr Timer w/15 minute intervals
- Large & Easy to Access Terminal Block
- Externally Mounted Run/Mute/Test Switch w/UV resistant sealing boot
- Externally Mounted Audible Alarm
- Rugged UV resistant Externally Mounted Alarm Light
- Durable Weather Resistant Hinged Poly Enclosure
- Engraved Back Panel
- Ground Lug
- Easily Replaceable Components
- Nema 4x Rating
- Color Coded Internal Wiring
- Works with most Aerobic Treatment Systems
- Provided with Wiring Schematic and Detailed Connection Diagram for Installer
- Mounting Feet for Enclosure
- Two year limited control panel warranty
- External Pump Test Switch



(50B138-AAV-PT SHOWN)

NOTE: Comp. alarm switch located on enclosure door

UL LISTED C UL

Available Options

- Internally Mounted Air Pressure Switch
- Auto-Dialer
- Locking Stainless Steel Latch
- Repeat Cycle Timer Option
- Mercury or Mechanical Float Switches for the Pump and High Water Alarm Circuits

Note: Consult the factory for other available options. Also some options may require an increase in the enclosure size.

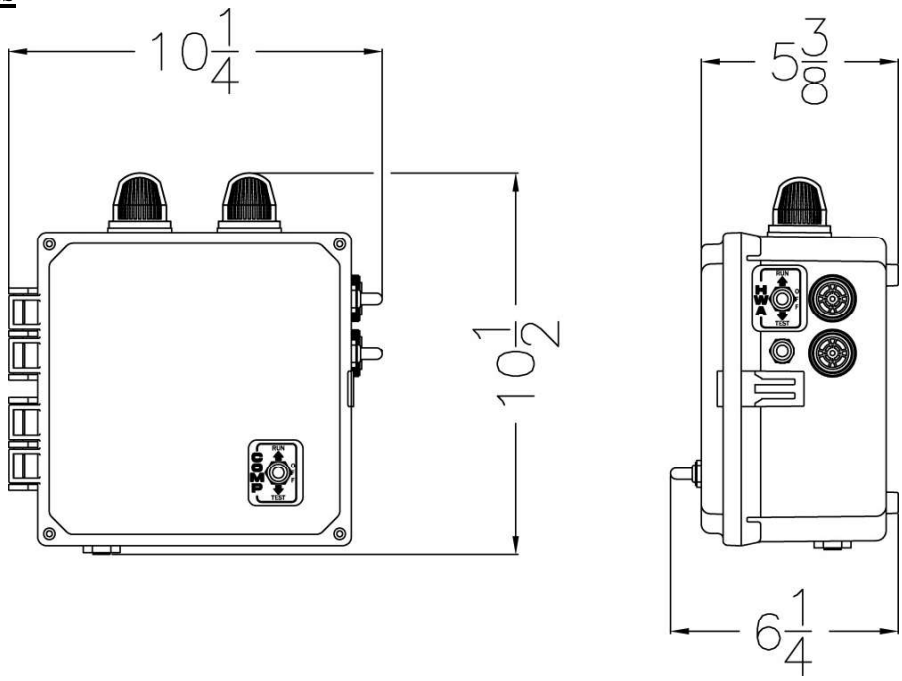
Septic Products, Inc. 1378 Twp Rd Ashland, Ohio 44805 Ph: (419)282-5933 Fax: (419)282-5943

CONTROL PANEL

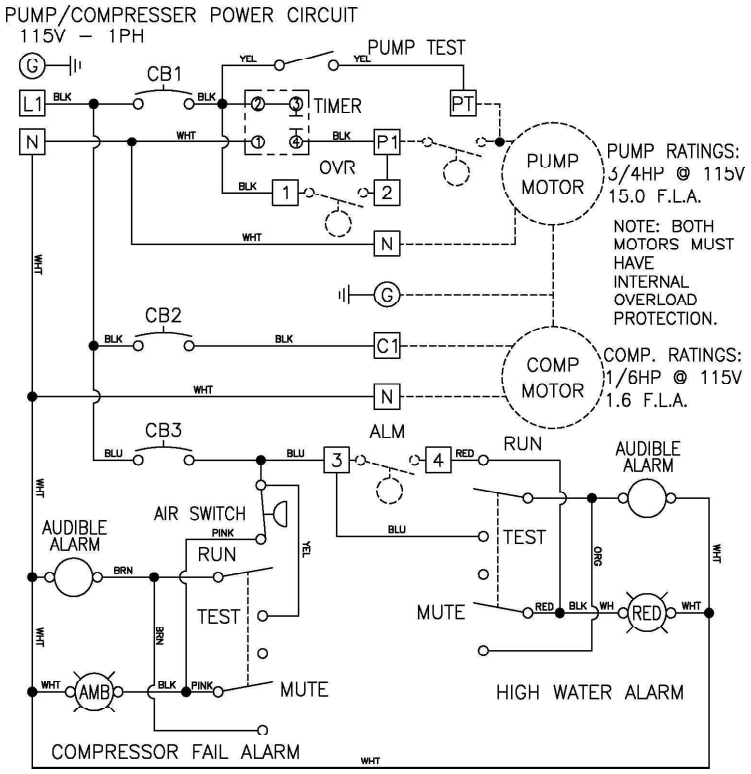
SEPTIC PRODUCTS INC

"50B138-AAV-PT" Aerobic Control Panel

Panel Dimensions



Wiring Schematic

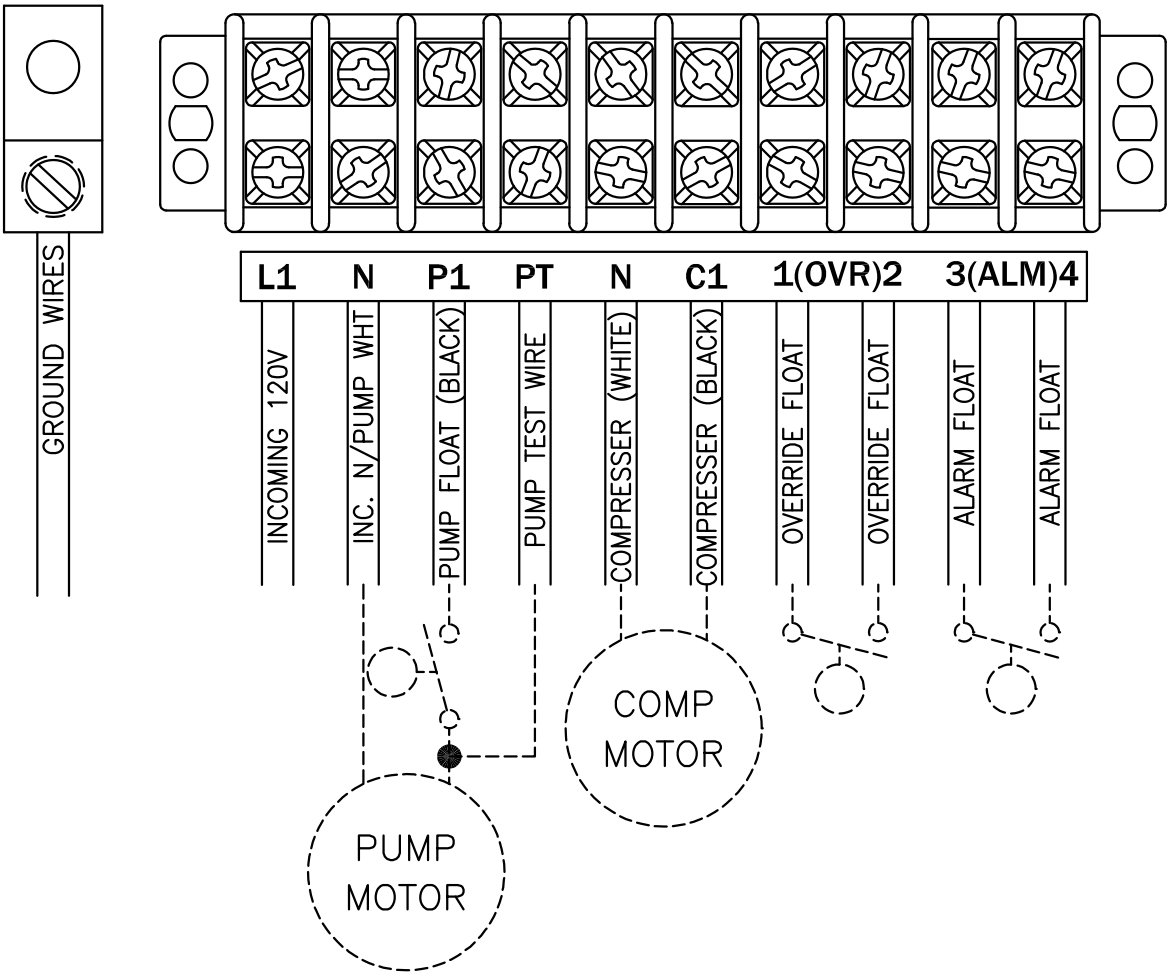


Septic Products, Inc. 1378 Twp Rd 743 Ashland, Ohio 44805 Ph: (419)282-5933 Fax: (419)282-5943

TIGHTENING TORQUE FOR TERMINAL BLOCK IS 9 in–lbs.

MODEL NO.
AAV–PT

CONNECTION DIAGRAM



SEPTIC PRODUCTS INC

CHANGES		TOLERANCES	DRAWN BY	DATE
F		DECIMALS .XXX = ±.005 .XX = ±.010 FRACTIONAL X/X = ±.1/64 ANGLES X° = ±1/2°	D. MIDDLETON	10/22/07
E			MATERIAL SPECIFICATION: AS NOTED	
D				
C				
B				
A				

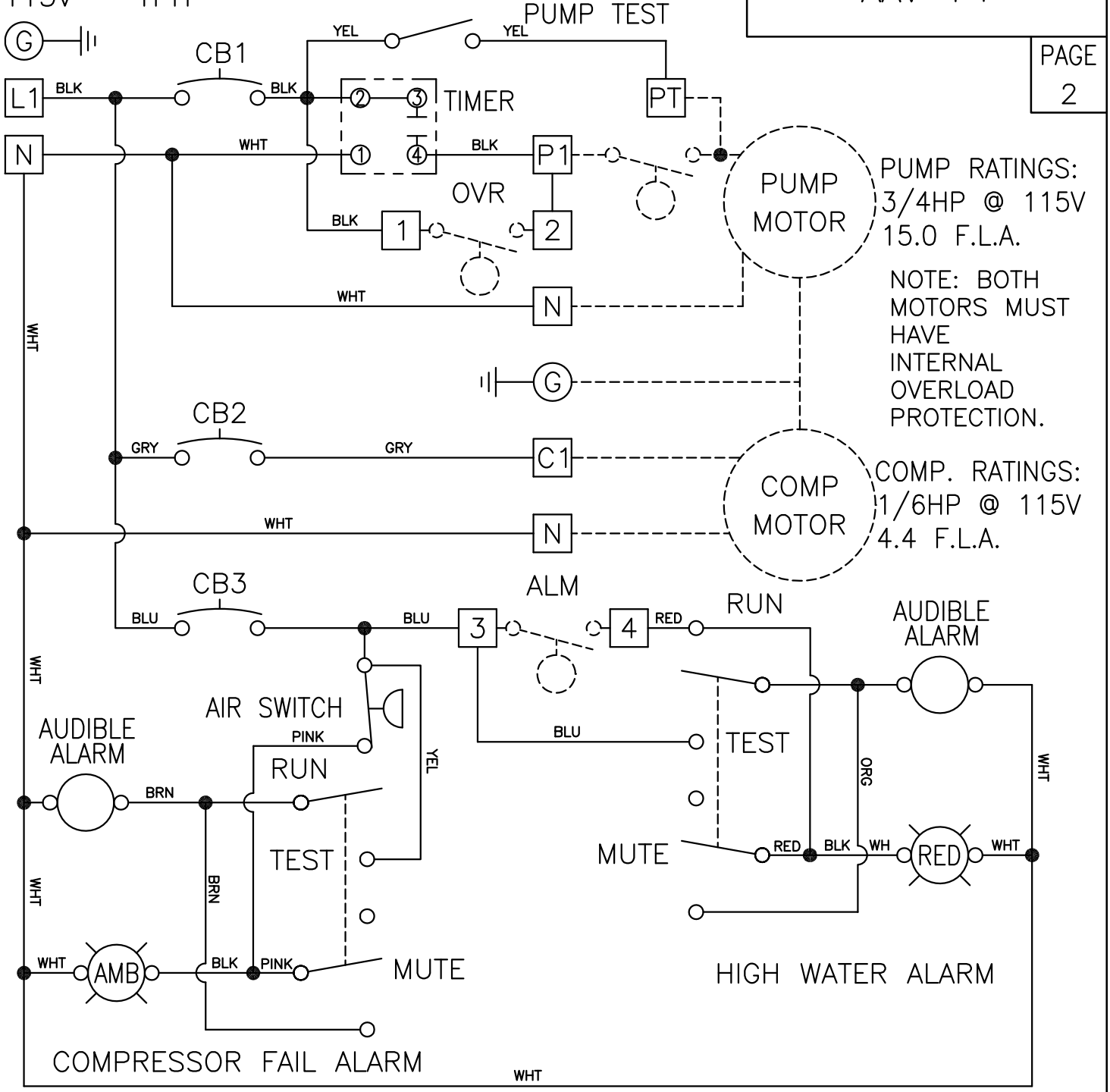
POWER CONNECTION DIAGRAM

SCALE:	PART NO.
FULL	50B138

PUMP/COMPRESSER POWER CIRCUIT
115V – 1PH

MODEL NO.
AAV–PT

PAGE 2



NOTES: MAIN PANEL DISCONNECT MUST BE PROVIDED BY INSTALLER.
DASHED LINES INDICATE ITEMS NOT CONTAINED IN THE PANEL.
FIELD WIRING MUST BE A MINIMUM OF 60°C COPPER WIRE.
REQUIRED TORQUE FOR TERMINAL BLOCK SCREWS IS 9 in–lbs.

SEPTIC PRODUCTS INC

CHANGES		TOLERANCES	DRAWN BY	DATE
F		DECIMALS .XXX = ±.005 .XX = ±.010 FRACTIONAL X/X = ±.1/64 ANGLES X° = ±1/2°	D. MIDDLETON	03/05/08
E			MATERIAL SPECIFICATION: AS NOTED	
D				
C				
B				
A				

SCHEMATIC, ELECTRICAL W/TIMER & AIR SWITCH

SCALE:	PART NO.
FULL	50B138

Rick Figueroa
Chair

Thomas F. Butler
Vice Chair

Gerald R. Callas, M.D., F.A.S.A.
Nora Castañeda
Sujeeth Draksharam
Lori High, R.N., N.P., Retired
Gary F. Wesson, D.D.S., M.S.

Registered Professional Sanitarian

PATRICK BRIAN MAHAFFEY

License Number: 5194

The person named above is licensed by the Texas Department of Licensing and Regulation.

License Expires: August 23, 2026

Courtney Arbour
Executive Director

TCEQ Search Licensing or Registration Information

License Detail

To report a change of address, phone number, or email address, please fill out the form located at http://www.tceq.texas.gov/licensing/forms/contactupdate.

CN: CN606075752
Name: MAHAFFEY, PATRICK
Address: PO BOX 17381
City: SAN ANTONIO
State: TX
ZIP: 78217-0381
County: BEXAR
Work Phone: 210-668-2555

License(s)

There were 1 licenses found.

Program	License Type and Level	License Number	Last Issued Date	Exp. Date	License Status	CE Hours
OSSFOL	OSSF SITE EVALUATOR	OS0037816	01/04/2023	01/31/2026	CURRENT	0

Note: The number of CE hours needed in order to renew a license is based on the term (length) of each license. Please go to the program page for the license you hold to determine the number of CE hours needed and to view the latest information and renewal requirements for your license.

Application(s) within the Last 2 Years

There were 1 applications found.

Program	Type and Level	App. Type	App. Status	App. Review Date	App. Expiration Date	Deficiency Letter Date	Total Hours
OSSFOL	OSSF SITE EVALUATOR	NEW	LICISSUED	01/04/2023	03/08/2023	No Deficiency	17

Course(s)

There were 1 courses found. **Note:** You may see the same course listed multiple times. This occurs because the course counted towards multiple license programs.

Program	Course Title	Course Code	Hours	Date	Provider
OSSFOL	CORE OSSF - SITE EVALUATOR (TEEX)	419	17.0	12/08/2022	TEEX ITSI

Note: Approved training providers are responsible for submitting approved training to TCEQ. Please allow 30 days from the last date of the training session for a record to appear in the search results. If a course does not appear in your training record after that time, please contact the training provider of the missing course. You may find contact information for approved training providers at https://www.tceq.texas.gov/licensing/training/AllTrainingProviders.

TCEQ Search Licensing or Registration Information

License Detail

To report a change of address, phone number, or email address, please fill out the form located at https://www.tceq.texas.gov/licensing/forms/contactupdate.

CN: CN605672450
Name: RODRIGUEZ, JUAN SERGIO
State: TX
County: HIDALGO

License(s)

There were 2 licenses found.

Program	License Type and Level	License Number	Last Issued Date	Exp. Date	License Status	CE Hours
OSSFOL	OSSF INSTALLER II	OS0037635	11/04/2022	11/30/2025	CURRENT	0
OSSFOL	OSSF INSTALLER I	OS0034731	08/28/2019	08/31/2022	EXPIRED	N/A

Note: The number of CE hours needed in order to renew a license is based on the term (length) of each license. Please go to the program page for the license you hold to determine the number of CE hours needed and to view the latest information and renewal requirements for your license.

Application(s) within the Last 2 Years

There were 1 applications found.

Program	Type and Level	App. Type	App. Status	App. Review Date	App. Expiration Date	Deficiency Letter Date	Total Hours
OSSFOL	OSSF INSTALLER II NEW	LICISSUED	11/04/2022	09/21/2023		No Deficiency	33

Course(s)

There were 2 courses found. **Note:** You may see the same course listed multiple times. This occurs because the course counted towards multiple license programs.

Program	Course Title	Course Code	Hours	Date	Provider
OSSFOL	ON-SITE INSTALLER II	418	20.0	06/17/2022	TEEX ITSI
OSSFOL	ON-SITE INSTALLER I	417	13.0	08/09/2019	TEEX ITSI

Note: Approved training providers are responsible for submitting approved training to TCEQ. Please allow 30 days from the last date of the training session for a record to appear in the search results. If a course does not appear in your training record after that time, please contact the training provider of the missing course. You may find contact information for approved training providers at https://www.tceq.texas.gov/licensing/training/AllTrainingProviders.

COMAL COUNTY

ENGINEER'S OFFICE

May 15, 2025

LWI Real Estate Solutions, LLC
410 Bob White Ln
New Braunfels, TX 78132

Re: Assigned Address

To Whom It May Concern:

Please be advised the request for a physical address on the property referenced below has been approved. The address assigned to the property is:

Property ID	Legal Description	Assigned Address
470170	CANYON SPRINGS RESORT 4, BLOCK 47, LOT 19B	1310 MOUNTAIN TOP LOOP CANYON LAKE, TX 78133

Please display this address where it is visible from the road with 6" or larger reflective numbers so emergency personnel can easily locate the property should there be an emergency. Check with your local post office to verify the correct city and zip code before using the assigned address for mailing purposes. If you receive mail at a post office box, your mailing address will not change. In this case the address listed above will be used for location purposes only.

If you have questions or need further assistance, please let us know.

Sincerely,

Avery Helms
GIS Technician- Address Coordinator

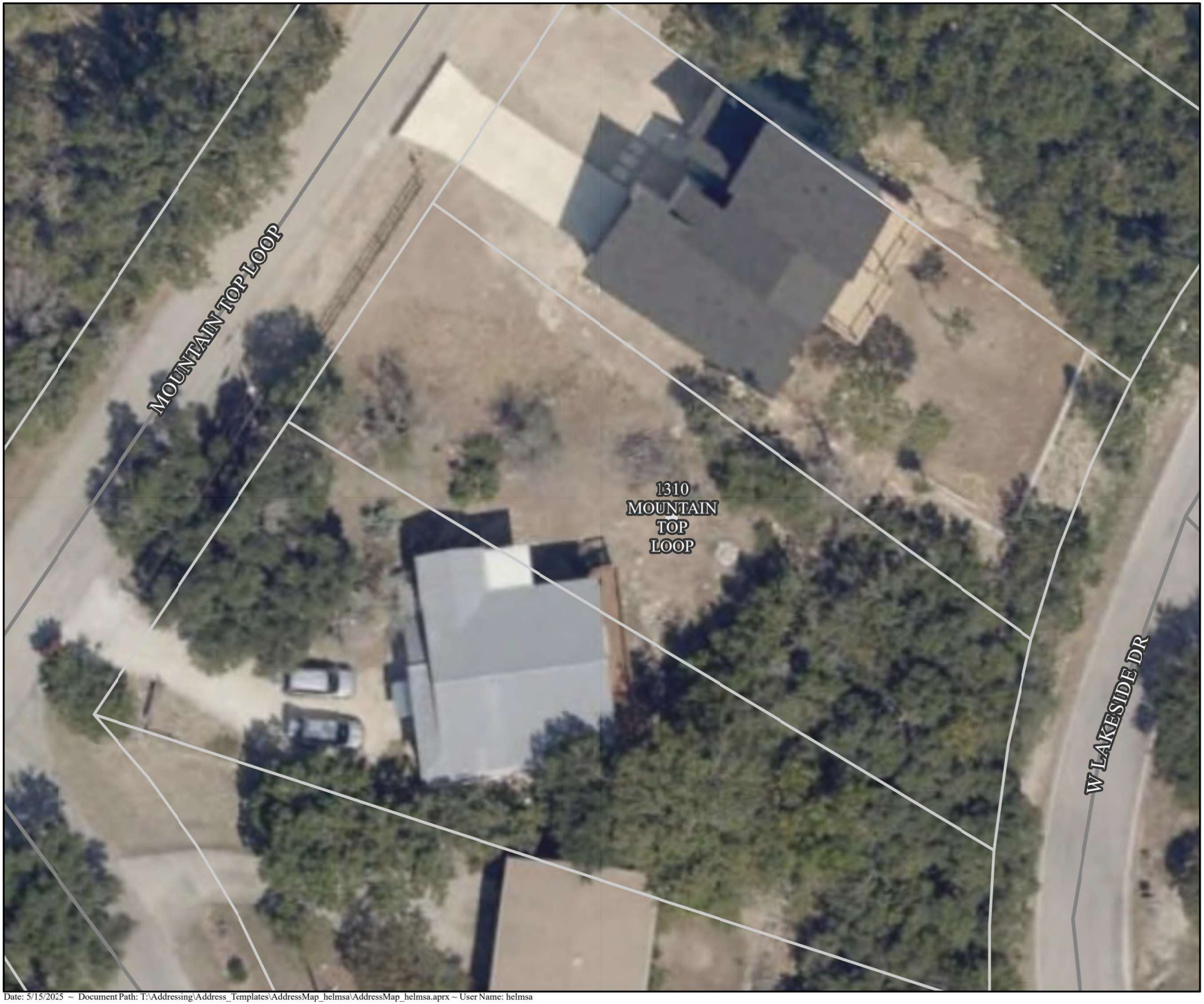
Cc:

- Comal Appraisal District
- Bexar Metro 9-1-1
- United States Postal Service
- PEC

195 David Jonas Dr, New Braunfels, Texas, 78132 – Phone (830) 608-2090 – Website: www.cceo.org

ASSIGNED ADDRESS: 1310 MOUNTAIN TOP LOOP CANYON LAKE, TX 78133

COMAL COUNTY
ENGINEER'S OFFICE



Legend

- Address
- Street
- Parcel

NOTES:

PROPERTY ID:
470170

LEGAL DESCRIPTION:
CANYON SPRINGS RESORT 4,
BLOCK 47, LOT 19B

N

SCALE: 1" = 30'

For information concerning the source of the data, please contact:
Comal County Engineer's Office
195 David Jonas Drive
New Braunfels, TX 78132
(830) 608 - 2090

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

Date: 5/15/2025 ~ Document Path: T:\Addressing\Address_Templates\AddressMap_helmsa\AddressMap_helmsa.aprx ~ User Name: helmsa

Comal AD Property Search

Property Details

Account		
Property ID:	16144	**Geographic ID:** 130380489500
Type:	R	**Zoning:**
Property Use:		
Location		
Situs Address:	1302 MOUNTAIN TOP LOOP CANYON LAKE, TX 78133	
Map ID:	4G	**Mapsco:**
Legal Description:	CANYON SPRINGS RESORT 4, BLOCK 47, LOT 19A	
Abstract/Subdivision:	130380-4	
Neighborhood:	(355A207) CANYON SPRINGS RESORT 2	
Owner		
Owner ID:	1113922	
Name:	WHITE BARN HOME BUYERS LLC	
Agent:		
Mailing Address:	4339 MILLSTEAD ST SAN ANTONIO, TX 78230	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)

Improvement Non-Homesite Value:	$280,590 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$82,900 (+)
Agricultural Market Valuation:	$0 (+)
Market Value:	$363,490 (=)
Agricultural Value Loss:	$0 (-)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Appraised Value:	$363,490
Ag Use Value:	$0

Information provided for research purposes only. Legal descriptions and acreage amounts are for Appraisal District use only and should be verified prior to using for legal purpose and or documents. Please contact the Appraisal District to verify all information for accuracy.

Property Taxing Jurisdiction

Owner: WHITE BARN HOME BUYERS LLC **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax
046	COMAL COUNTY	$363,490	$363,490	$824.09
046LR	COMAL COUNTY LATERAL ROAD	$363,490	$363,490	$136.36
ES2	(ESD2) COMAL COUNTY EMERGENCY SERVICES DISTRICT NO. 2 (EMS)	$363,490	$363,490	$208.67
ES3	(ESD3) COMAL COUNTY EMERGENCY SERVICES DISTRICT NO. 3 (FIRE)	$363,490	$363,490	$236.92

SCIS	COMAL ISD	$363,490	$363,490	$3,950.77

Property Improvement - Building

Description: RESIDENTIAL **Type:** RESIDENTIAL **Value:** $280,590

Type	Description	Class CD	Year Built	SQFT
RES	Residential 1 Story	FAIR	1978	1412
WD	Wood Deck	*	0	228
SP	Screen Porch	*	0	120
AGU1	Attached Garage - Unfinished	*	0	836
SEP1	Septic System	*	0	1

Property Land

Type	Description	Acreage	Sqft	Eff Front	Eff Depth	Market Value	Prod. Value
WTRVIEW	water view	0.26	11,470.00	62.00	185.00	$82,900	$0

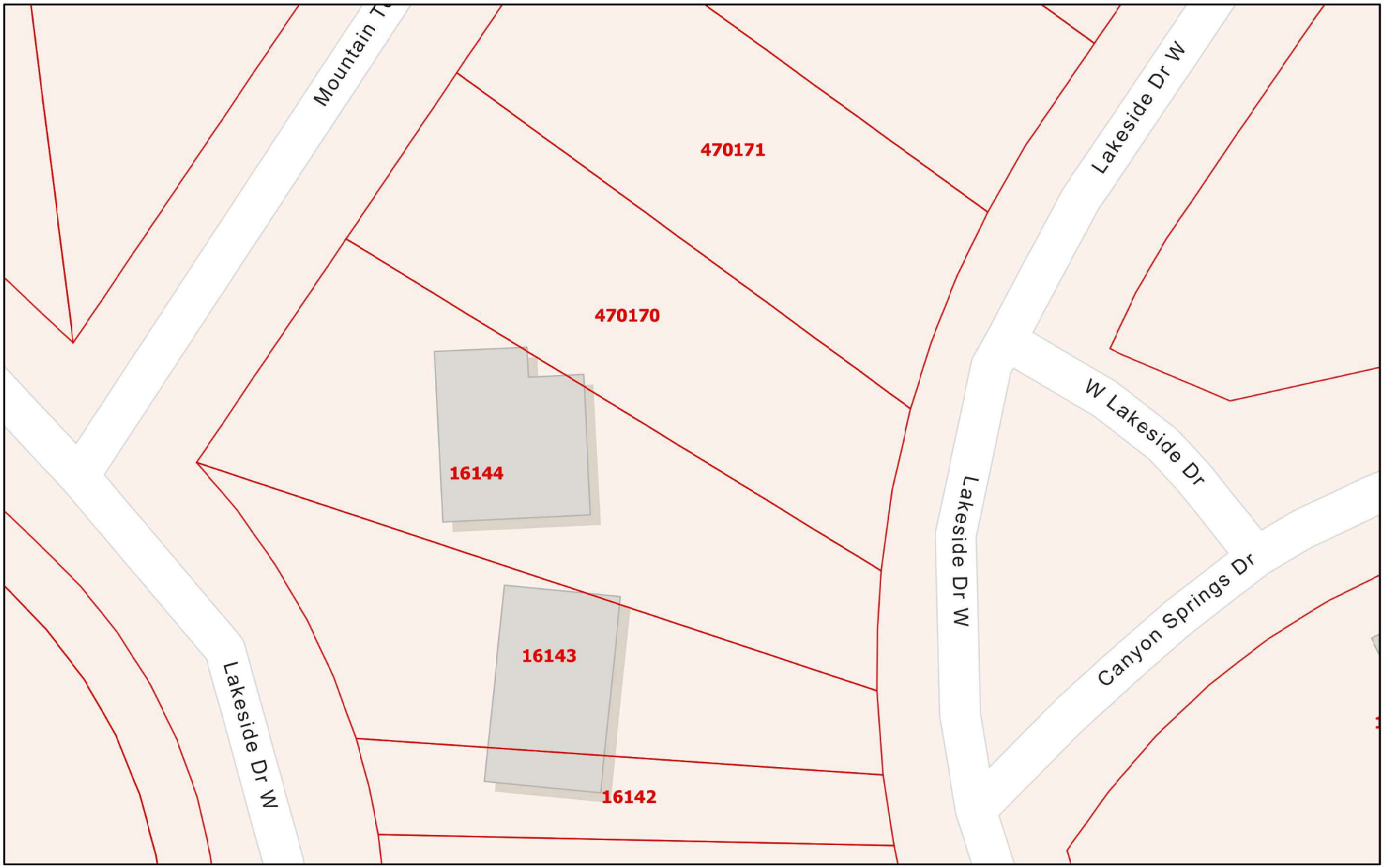
Property Roll Value History

Year	Improvements	Land Market	Ag Valuation	HS Cap Loss	Appraised
2025	$280,590	$82,900	$0	$0	$363,490
2024	$246,158	$82,900	$0	$0	$329,058
2023	$195,872	$200,740	$0	$0	$396,612
2022	$209,679	$200,740	$0	$0	$410,419
2021	$149,480	$25,800	$0	$0	$175,280
2020	$149,500	$25,800	$0	$0	$175,300
2019	$157,840	$25,800	$0	$0	$183,640
2018	$129,300	$25,800	$0	$0	$155,100
2017	$139,860	$25,800	$0	$0	$165,660

Property Deed History

Deed Date	Type	Description	Grantor	Grantee	Volume	Page	Number
10/1/2024	WD	WARRANTY DEED	OINK PROPERTIES LLC	WHITE BARN HOME BUYERS LLC	202406033512		202406033512
8/31/2023	ASMPT	ASSUMPTION WARRANTY DEED	MURPHY HOME BUYERS LLC	OINK PROPERTIES LLC	202306028073		202306028073
8/2/2022	WDVL	WD W/VENDORS LIEN	HAMILTON WILLIAM	MURPHY HOME BUYERS LLC	202206036539		202206036539

Comal; 1302 Mountain Top Loop



5/22/2025, 3:41:11 PM

Parcels

Abstracts

Flood Hazard Area

X - Area of minimal flood hazard

1:564

0 0 0.01 0.02 mi

0 0.01 0.01 0.02 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Comal County Appraisal District, BIS Consulting - www.bisconsulting.com

COMAL COUNTY
ENGINEER'S OFFICE

Address: 1310 MOUNTAIN TOP LOOP

Legal Description: CANYON SPRINGS RESORT 4, LOT 19B, BLOCK 47

Dear Property Owner & Agent,
Thank you for your submission. We have reviewed the planning materials for the referenced permit application, and unfortunately, they are insufficient. To proceed with processing this permit, we require the following:

118828.pdf Markup Summary 9-16-2025

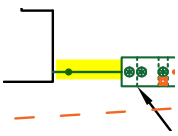
Unchecked (5)

Subject: Line
Page Label: 1
Checkmark: Unchecked
Author: Brandon Mark Olvera
Date: 9/16/2025 8:05:17 AM
Response:

Our inspector noted that the last line is near a slope were seeps may occur.

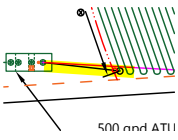
Subject: Line
Page Label: 1
Checkmark: Unchecked
Author: Brandon Mark Olvera
Date: 9/16/2025 8:05:12 AM
Response:

Our inspector noted that the tank manufacture has changed.



Subject: Line
Page Label: 15
Checkmark: Unchecked
Author: Brandon Mark Olvera
Date: 9/16/2025 8:02:09 AM
Response:

What is the length of the tightline between the structure and ATU?



Subject: Line
Page Label: 15
Checkmark: Unchecked
Author: Brandon Mark Olvera
Date: 9/15/2025 4:26:31 PM
Response:

What are the lengths of the supply and return line?

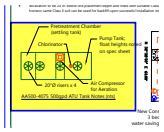
195 David Jonas Dr, New Braunfels, Texas 78132
(830) 608-2090

COMAL COUNTY
ENGINEER'S OFFICE

Address: 1310 MOUNTAIN TOP LOOP

Legal Description: _____

Dear Property Owner & Agent,
Thank you for your submission. We have reviewed the planning materials for the referenced permit application, and unfortunately, they are insufficient. To proceed with processing this permit, we require the following:



Subject: Rectangle
Page Label: 15
Checkmark: Unchecked
Author: Brandon Mark Olvera
Date: 9/16/2025 8:01:04 AM
Response:

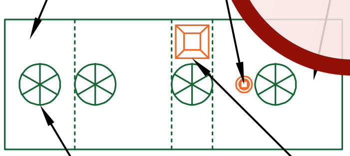
Our inspector noted that the tank manufacture has changed.

195 David Jonas Dr, New Braunfels, Texas 78132
(830) 608-2090

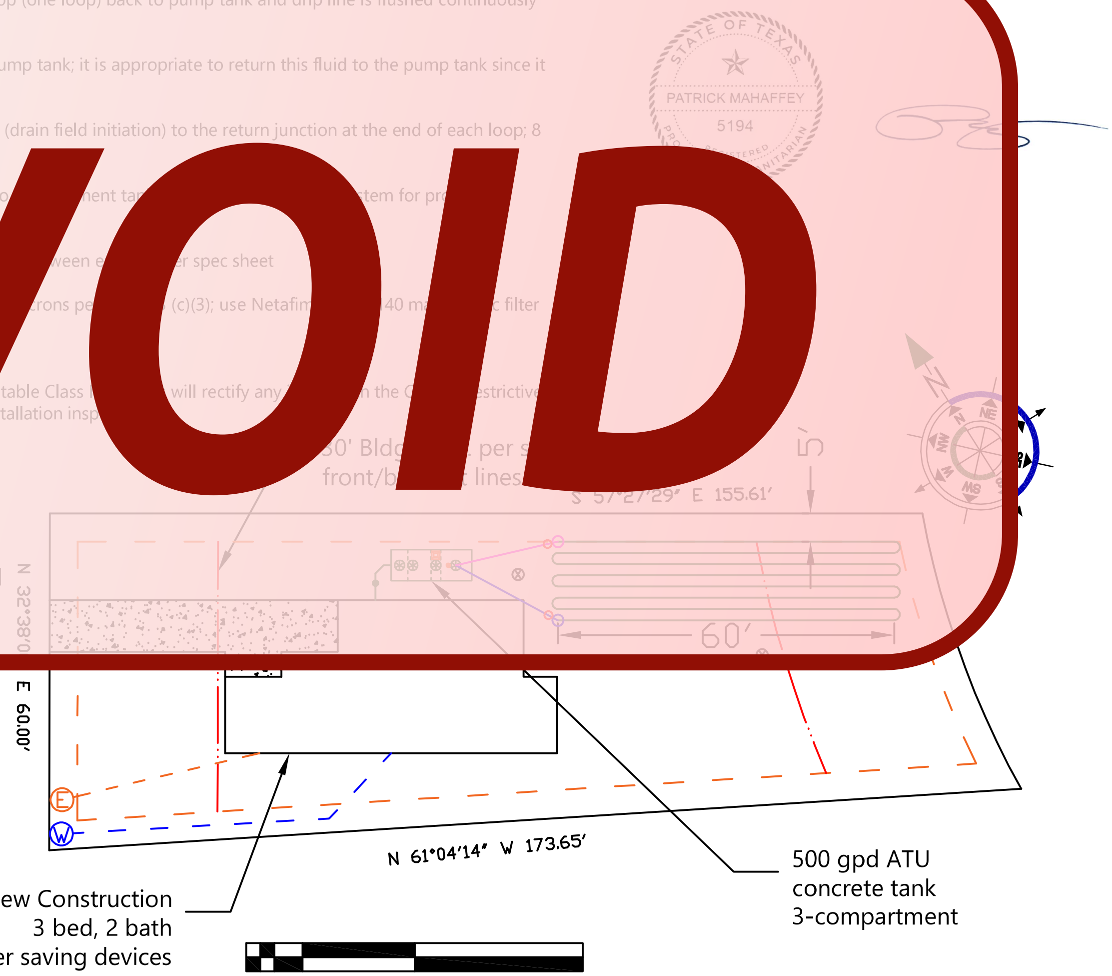
General Notes:

- all excavation and buried materials to be outside of any easements and setbacks
- configuration subject to change via installer but overall prescribed system to remain same
- setbacks/easements/topography obtained from provided plat or survey; perform own due diligence to confirm accuracy
- all inlet piping to be SCH-40 PVC w/ watertight connections; no less than ⅛" fall per 1' of piping
- all components and construction act[illegible]
- return line is installed from [m]anifold at discharge end of each drip loop (one loop) back to pump tank and drip line is flushed continuously during each pump cycle
- a control valve and pre[ss]ure gauge is installed on return line at the pump tank; it is appropriate to return this fluid to the pump tank since it maintains same quality [o]f discharge line
- loop consists of 480 ft. [o]f drip line from beginning discharge location (drain field initiation) to the return junction at the end of each loop; 8 rows at 60 ft. in length [e]ach
- unfiltered discharge fr[om] filter within pump tank [illegible] bed back into [illegible] ment ta[nk] [illegible] tem for pr[illegible] disinfection again unti[l i]t passes through filter su[illegible]y
- dip lines laid in paralle[l] spaced at 2 ft. apart with [illegible] spacing a[t] [illegible] ween e[illegible] er spec sheet
- filtering device should [b]e capable of filtering part[illegible] er tha[n] [illegible] crons pe[r] [illegible] (c)(3); use Netafim [illegible] 40 ma[illegible] c filter
- use Franklin Electric C1 [S]eries effluent pump mode[l] [illegible] 05P4
- excavation to be 24 in. [b]elow line placement depth [illegible] e[illegible] itable Class [illegible] will rectify any [illegible] n the C[illegible] estrictive horizon; same Class II s[o]il can be used for backfill u[illegible] nstallation insp[illegible]

Legend	
Water Meter	Ⓦ
Electric Pole	Ⓔ
Test Hole	⊗
Septic Tank	○ ○
Underground Line(s)	— — — — — —



AA500-4075 500gpd ATU Tank Notes (nts)



General Notes

Lot 19B, Blk 47
Canyon Springs
Resort 4

0.2073 AC

New Construction
3 Bed, 2 Bath
~1,300 ft²
Living Area

ATU System:
500 gpd
3–Compartment
Concrete Tank

Drip Irrigation
960 ft² minimum
960 ft² design

Spec Sheets
Included

ALAMO CITY SEPTICS

Patrick Mahaffey
RS 5194
SE OS00037816

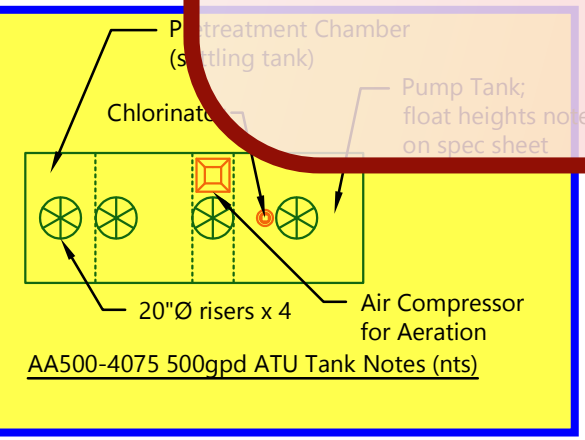
1310 Mountain Top Loop
78133
Owner:
LWI Real Estate
Solutions LLC

Project	Sheet
Date 07/08/2025	
Scale	

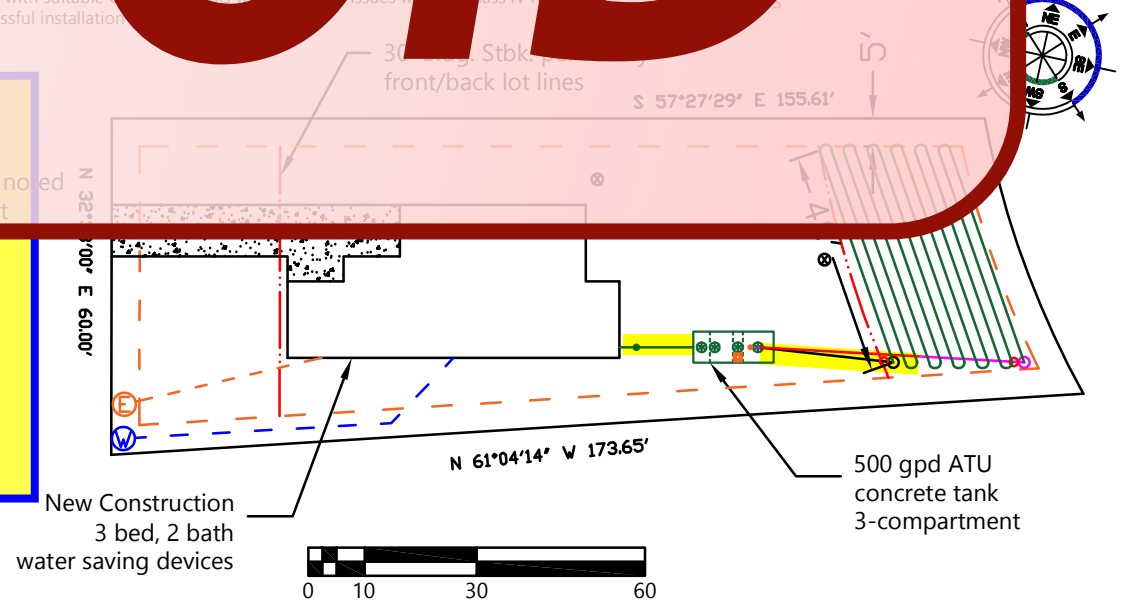
General Notes:

- all excavation and buried materials to be outside of any easements and setbacks
- configuration subject to change via installer but overall prescribed system to remain same
- setbacks/easements/topography obtained from provided plat or survey; perform own due diligence to confirm accuracy
- all inlet piping to be SCH-40 PVC w/ watertight connections; no less than ¼" fall per 1' of piping
- all components and construction activity shall be performed to TCEQ Ch. 285 guidelines
- return line is installed from manifold at discharge end of each drip loop (one loop) back to pump tank and drip line is flushed continuously during each pump cycle
- a control valve and pressure gauge is installed on return line at the pump tank; it is appropriate to return this fluid to the pump tank since it maintains same quality of discharge line
- loop consists of 480 ft. of drip line from discharge location field initiates at junction at the each loop 12 rows at 40 ft in length each
- unfiltered discharge from filter within pump is plumbed to pretreatment tank and sent back through system for disinfection again until it passes through successfully
- dip lines laid in parallel spaced at 2 ft. apart emitter every 2 ft. between emitters per spec sheet
- filtering device should be capable of filtering to 100 micron per 285.33 (c)(3); use OF100
- use Franklin Electric C1 Series effluent pump 4-2W115
- excavation to be 24 in. below line placement backfilled with suitable this will issues with Class IV horizon; same Class II soil can be used for backfill successful installation

Legend	
Water Meter	W
Electric Pole	E
Test Hole	⊗
Septic Tank	
Underground Line(s)	— — — — —



AA500-4075 500gpd ATU Tank Notes (nts)



General Notes

Lot 19B, Blk 47
Canyon Springs
Resort 4

0.2073 AC

New Construction
3 Bed, 2 Bath
~1,300 ft²
Living Area

ATU System:
500 gpd
3-Compartment
Concrete Tank

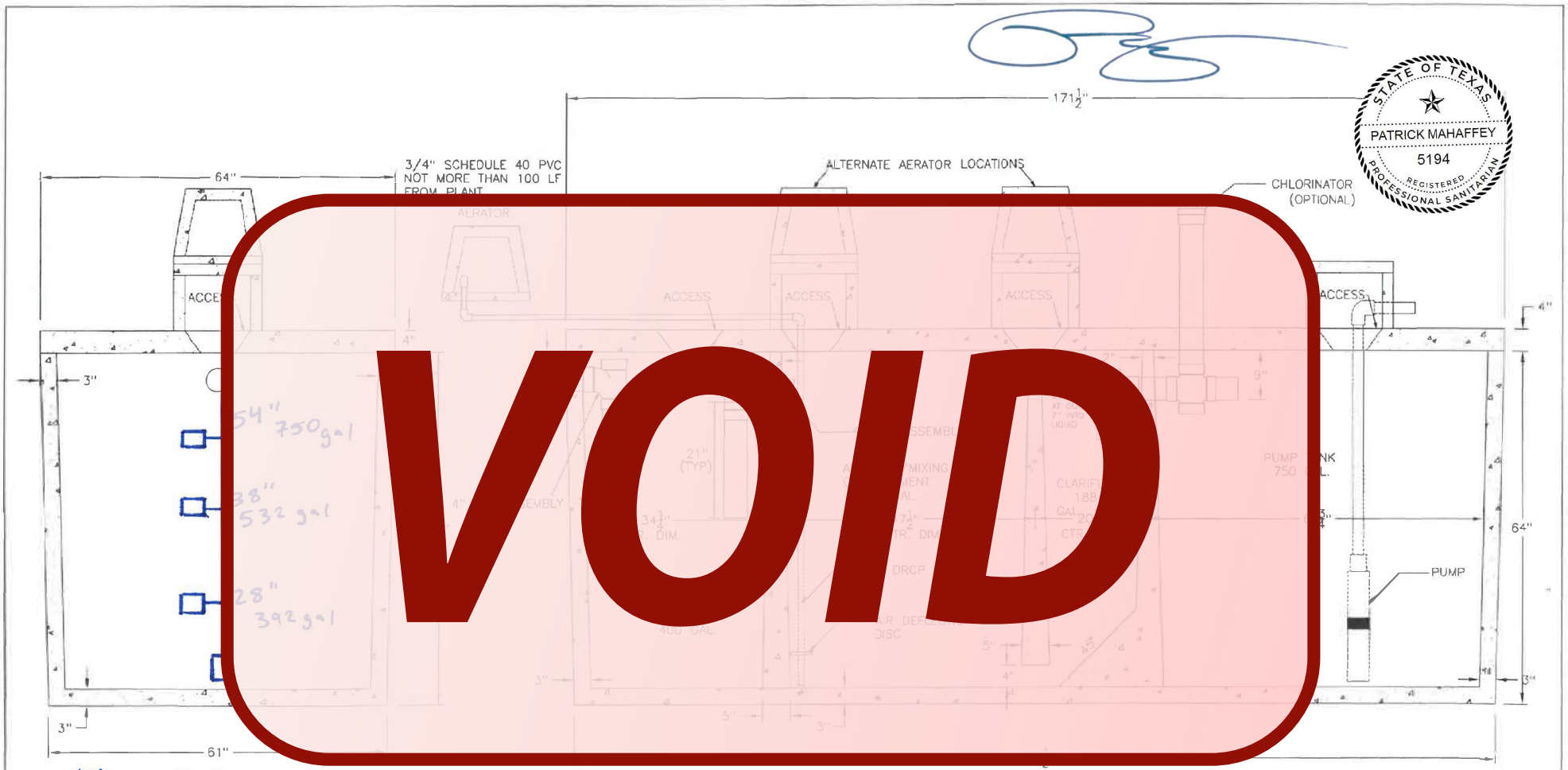
Drip Irrigation
960 ft² minimum
960 ft² design

Spec Sheets
Included

ALAMO CITY SEPTICS
Patrick Mahaffey
RS 5194
SE OS00037816

1310 Mountain Top Loop
78133
Owner:
LWI Real Estate
Solutions LLC

Project
Sheet
Date
09/11/2025
Scale



VOID

ALL DIMENSIONS IN INCHES

ECOLOGICAL TANKS, INC 2247 HWY 151 NORTH DOWNSVILLE, LA 71234 318-644-0397 OFFICE 318-644-7257 FAX	**Model AA500-4075**	Total Volume: 1898 Gal.	Treatment Capacity: 500 GPD			BOD Loading: 1.25 #/Day
		ENG: RD	REV: 0	SCALE: NTS	DATE 1/31/06	DRAWING NO. AA500-4075w.DWG

COMAL COUNTY
ENGINEER'S OFFICE

195 David Jonas Dr, New Braunfels, Texas 78132 (830)608-2090

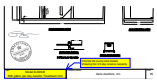
Address: 1310 MOUNTAIN TOP LOOP

Legal Description: CANYON SPRINGS RESORT 4, LOT 19B, BLOCK 47

Dear Property Owner & Agent,
Thank you for your submission. We have reviewed the planning materials for the referenced permit application, and unfortunately, they are insufficient. To proceed with processing this permit, we require the following:

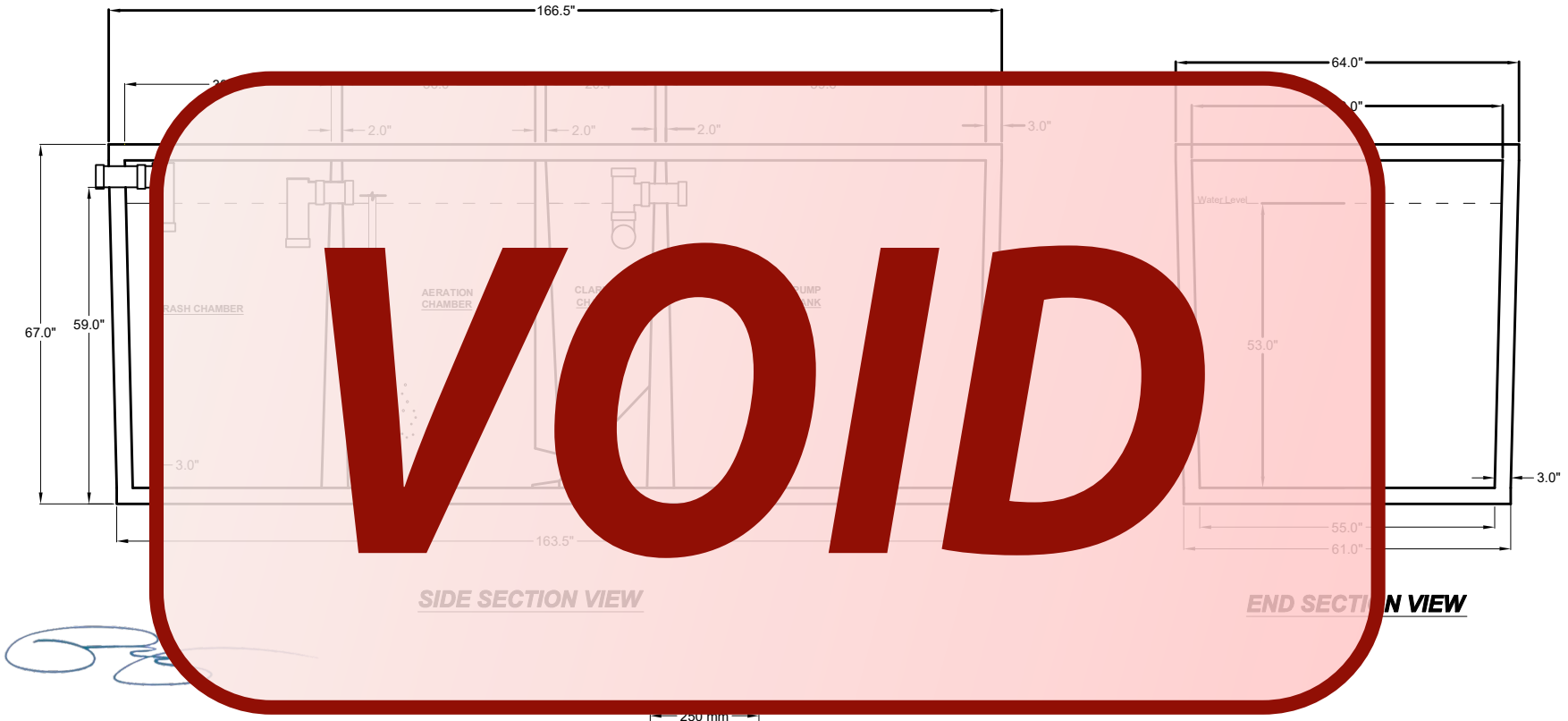
118828.pdf Markup Summary 9-22-2025

Group (1)



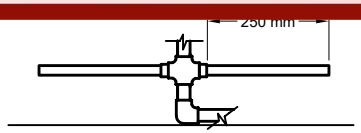
Subject: Group
Page Label: 16
Checkmark: Unchecked
Author: Brandon Mark Olvera
Date: 9/22/2025 2:55:59 PM

| Brandon Olvera | Designated Representative OS0034792 |
| t: 830-608-2090 | e: olverb@co.comal.tx.us |



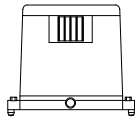
SIDE SECTION VIEW

END SECTION VIEW



DIFFUSER DETAIL

2 diffusers per downpipe



Single-Port Aerator

Provide the pump tank details showing the 1/3 day reserve capacity.

Title:	Company Name:	Date:
Model D-600-M 600 gallon per day Aerobic Treatment Unit	Aeris Aerobics, Inc.	05-18-21

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

General Warranty Deed

Date: April 25, 2025

Grantor: WHITE BARN HOME BUYERS LLC, a Texas limited liability company, whose address is

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Grantee: LWI REAL ESTATE SOLUTIONS, LLC, a Texas limited liability company, whose address is PO Box 310225, New Braunfels, TX 78131

Consideration: Cash and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged.

Property (including any improvements): Lot 19B, Block 47, CANYON SPRINGS RESORT, UNIT NO. 4, according to a map or plat recorded in Volume 2, Page 1, Map and Plat Records of Comal County, Texas.

Reservations from Conveyance: None.

Exceptions to Conveyance and Warranty: Restrictive covenants recorded in/under Volume 121, Page 145, Volume 161, Page 583, Deed Records, Comal County, Texas, and Clerk's File Nos. 200606053796, 201506022296, 201606006346, 201906002818 and 201906002819, Real Property Records, Comal County, Texas; standby fees, taxes and assessments by any taxing authority for the year 2025, and subsequent years; and subsequent taxes and assessments by any taxing authority for prior years due to change in land usage or ownership, but not those taxes or assessments for prior years because of an exemption granted to a previous owner of the property under Section 11.13, Texas Tax Code, or because of improvements not assessed for a previous tax year; any discrepancies, conflicts, or shortages in area or boundary lines, or any encroachments or protrusions, or any overlapping of improvements; and the following matters and all terms of the documents creating or offering evidence of the matters: (a) Rights of parties in possession, (b) Intentionally deleted, (c) Intentionally omitted, (d) All leases, grants, exceptions or reservations of coal, lignite, oil, gas and other minerals, together with all rights, privileges, and immunities relating thereto, appearing in the Public Records, (e) All conveyances, contracts, deeds, reservations, exceptions, limitations, leases, and similar interests in or to any geothermal energy and associated resources below the surface of land, together with all rights, privileges, and immunities relating thereto, appearing in the Public Records, (f) Building lines and/or easements as shown on the illegible plat recorded in Volume 2, Page 1, Map and Plat Records, Comal County, Texas, (g) Easement and/or Right of Way from Canyon Springs Resort, Inc. to Pedernales Electric Cooperative, Inc. by instrument dated June 1, 1960, filed August 14,

1964, recorded in/under Volume 140, Page 31, Deed Records, Comal County, Texas, (h) Easement and/or Right of Way from Canyon Springs Resort, Inc. to Pedernales Electric Cooperative, Inc. by instrument dated September 28, 1964, filed September 30, 1964, recorded in/under Volume 140, Page 569, Deed Records, Comal County, Texas, (i) Easement and/or Right of Way from Canyon Springs Resort, Inc. to The County of Comal by instrument dated January 6, 1966, filed January 10, 1966, recorded in/under Volume 147, Page 412, Deed Records, Comal County, Texas, (j) Easement and/or Right of Way from Canyon Springs Resort, Inc. to Pedernales Electric Cooperative, Inc. by instrument dated July 14, 1965, filed January 13, 1966, recorded in/under Volume 147, Page 451, Deed Records, Comal County, Texas, (k) Terms, conditions, provisions and stipulations of Affidavit of Certified Utility Service Map Area dated December 20, 2006, filed December 20, 2006, recorded in/under Clerk's File No. 200606053796, Real Property Records, Comal County, Texas, (l) Covenants, conditions, restrictions, easements, assessments and liens and all other matters as set forth in the document Entitled: Deed of Restrictions; Recording Date: September 20, 1960; Recording No: in/under Volume 121, Page 145, Real Property Records, Comal County, Texas, (m) Covenants, conditions, restrictions, easements, assessments and liens and all other matters as set forth in the document Entitled: Deed of Restrictions; Recording Date: March 5, 1968; Recording No: in/under Volume 161, Page 583, Real Property Records, Comal County, Texas, (n) Private transfer fee as set forth in the document Entitled: Notice of Private Transfer Fee Obligation; Recording Date: February 12, 2016; Recording No: in/under Clerk's File No. 201606006346, Real Property Records, Comal County, Texas, and (o) Any rights, interests, or claims which may exist or arise by reason of the following matters disclosed by survey, Dated: April 3, 2025; Prepared by: Texas Engineering & Surveying, Inc., certified by S. B. David Shrestha, R.P.L.S. No. 5920; Matters shown: 1. Fence does not follow property line(s); 2. Fence encroaches into easement(s); 3. Structure from adjoining property encroaches into the subject property; 4. Structure from adjoining property encroaches into building setback line(s); 5. Structure from adjoining property encroaches into easement(s).

Grantor, for the Consideration and subject to the Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Exceptions to Conveyance and Warranty.

When the context requires, singular nouns and pronouns include the plural.

WHITE BARN HOME BUYERS LLC,
a Texas limited liability company

By: _____ [signature]
_____ [printed name]
Its: _____ [title]

STATE OF TEXAS §

COUNTY OF Bexar §

This instrument was acknowledged before me on the 25th day of April, 2025, by Aaron Bini, a manager member of WHITE BARN HOME BUYERS LLC, a Texas limited liability company.

Notary Public, State of Texas

KATRINA WHITE
Notary Public, State of Texas
Comm. Expires 08-17-2028
Notary ID 129080055

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
04/30/2025 03:04:46 PM
TRACY 3 Pages(s)
202506012584

Bobbie Koepp