

# Comal County Environmental Health

## OSSF Inspection Sheet

Installer Name: \_\_\_\_\_

OSSF Installer #: \_\_\_\_\_

1st Inspection Date: \_\_\_\_\_

2nd Inspection Date: \_\_\_\_\_

3rd Inspection Date: \_\_\_\_\_

Inspector Name: \_\_\_\_\_

Inspector Name: \_\_\_\_\_

Inspector Name: \_\_\_\_\_

Permit#:

Address:

| 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 |        | 285.31(a)<br>285.30(b)(1)(A)(iv)<br>285.30(b)(1)(A)(v)<br>285.30(b)(1)(A)(iii)<br>285.30(b)(1)(A)(ii)<br>285.30(b)(1)(A)(i)                                                                                                                                                           |       |           |           |           |
| 2   | SITE AND SOIL CONDITIONS & SETBACK DISTANCES Setback Distances Meet Minimum Standards                              |        | 285.91(10)<br>285.30(b)(4)<br>285.31(d)                                                                                                                                                                                                                                               |       |           |           |           |
| 3   | SEWER PIPE Proper Type Pipe from Structure to Disposal System (Cast Iron, Ductile Iron, Sch. 40, SDR 26)           |        | 285.32(a)(1)                                                                                                                                                                                                                                                                          |       |           |           |           |
| 4   | SEWER PIPE Slope from the Sewer to the Tank at least 1/8 Inch Per Foot                                             |        | 285.32(a)(3)                                                                                                                                                                                                                                                                          |       |           |           |           |
| 5   | SEWER PIPE Two Way Sanitary - Type Cleanout Properly Installed (Add. C/O Every 100' &/or 90 degree bends)          |        | 285.32(a)(5)                                                                                                                                                                                                                                                                          |       |           |           |           |
| 6   | PRETREATMENT Installed (if required) TCEQ Approved List PRETREATMENT Septic Tank(s) Meet Minimum Requirements      |        | 285.32(b)(1)(G)<br>285.32(b)(1)(E)(iii)<br>285.32(b)(1)(E)(iv)<br>285.32(b)(1)(F)<br>285.32(b)(1)(B)<br>285.32(b)(1)(C)(i)<br>285.32(b)(1)(C)(ii)<br>285.32(b)(1)(D)<br>285.32(b)(1)(E)<br>285.32(b)(1)(A)<br>285.32(b)(1)(E)(ii)(II)<br>285.32(b)(1)(E)(i)<br>285.32(b)(1)(E)(ii)(I) |       |           |           |           |
| 7   | PRETREATMENT Grease Interceptors if required for commercial                                                        |        | 285.34(d)                                                                                                                                                                                                                                                                             |       |           |           |           |

Inspector Notes:

**Comal County Environmental Health  
OSSF Inspection Sheet**

| No. | Description                                                                                                                                                                                                                               | Answer | Citations                                                                                                                                                                                                                                                                               | Notes | 1st Insp. | 2nd Insp. | 3rd Insp. |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-----------|-----------|
| 8   | SEPTIC TANK Tank(s) Clearly Marked SEPTIC TANK If Single Tank, 2 Compartments Provided with Baffle SEPTIC TANK Inlet Flowline Greater than 3" and " T " Provided on Inlet and Outlet SEPTIC TANK Septic Tank(s) Meet Minimum Requirements |        | 285.32(b)(1)<br>(E) 285.91(2) 285.32(b)(1)<br>(F) 285.32(b)(1)(E)<br>(iii) 285.32(b)(1)(E)(ii)<br>(II) 285.32(b)(1)(E)(ii)<br>(I) 285.32(b)(1)(E)<br>(i) 285.32(b)(1)<br>(D) 285.32(b)(1)(C)<br>(ii) 285.32(b)(1)(C)<br>(i) 285.32(b)(1)<br>(B) 285.32(b)(1)<br>(A) 285.32(b)(1)(E)(iv) |       |           |           |           |
| 9   | ALL TANKS Installed on 4" Sand Cushion/ Proper Backfill Used                                                                                                                                                                              |        | 285.32(b)(1)(F)<br>285.32(b)(1)(G)<br>285.34(b)                                                                                                                                                                                                                                         |       |           |           |           |
| 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 provided SEPTIC TANK Riser permanently fastened to lid or cast into tank SEPTIC TANK Riser cap protected against unauthorized intrusions                                                           |        | 285.38(d)<br>285.38(e)                                                                                                                                                                                                                                                                  |       |           |           |           |
| 12  | SEPTIC TANK Tank Volume Installed                                                                                                                                                                                                         |        |                                                                                                                                                                                                                                                                                         |       |           |           |           |
| 13  | PUMP TANK Volume Installed                                                                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                         |       |           |           |           |
| 14  | AEROBIC TREATMENT UNIT Size Installed                                                                                                                                                                                                     |        |                                                                                                                                                                                                                                                                                         |       |           |           |           |
| 15  | AEROBIC TREATMENT UNIT Manufacturer<br>AEROBIC TREATMENT UNIT Model Number                                                                                                                                                                |        |                                                                                                                                                                                                                                                                                         |       |           |           |           |
| 16  | DISPOSAL SYSTEM Absorptive                                                                                                                                                                                                                |        | 285.33(a)(4)<br>285.33(a)(1)<br>285.33(a)(2)<br>285.33(a)(3)                                                                                                                                                                                                                            |       |           |           |           |
| 17  | DISPOSAL SYSTEM Leaching Chamber                                                                                                                                                                                                          |        | 285.33(a)(1)<br>285.33(a)(3)<br>285.33(a)(4)<br>285.33(a)(2)                                                                                                                                                                                                                            |       |           |           |           |
| 18  | DISPOSAL SYSTEM Evapo-transpirative                                                                                                                                                                                                       |        | 285.33(a)(3)<br>285.33(a)(4)<br>285.33(a)(1)<br>285.33(a)(2)                                                                                                                                                                                                                            |       |           |           |           |

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| No. | Description                                                                                                                                                           | Answer | Citations                                                    | Notes | 1st Insp. | 2nd Insp. | 3rd Insp. |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------|-------|-----------|-----------|-----------|
| 19  | DISPOSAL SYSTEM Drip Irrigation                                                                                                                                       |        | 285.33(c)(3)(A)-(F)                                          |       |           |           |           |
| 20  | DISPOSAL SYSTEM Soil Substitution                                                                                                                                     |        | 285.33(d)(4)                                                 |       |           |           |           |
| 21  | DISPOSAL SYSTEM Pumped Effluent                                                                                                                                       |        | 285.33(a)(4)<br>285.33(a)(3)<br>285.33(a)(1)<br>285.33(a)(2) |       |           |           |           |
| 22  | DISPOSAL SYSTEM Gravelless Pipe                                                                                                                                       |        | 285.33(a)(3)<br>285.33(a)(2)<br>285.33(a)(4)<br>285.33(a)(1) |       |           |           |           |
| 23  | DISPOSAL SYSTEM Mound                                                                                                                                                 |        | 285.33(a)(3)<br>285.33(a)(1)<br>285.33(a)(2)<br>285.33(a)(4) |       |           |           |           |
| 24  | DISPOSAL SYSTEM Other (describe) (Approved Design)                                                                                                                    |        | 285.33(d)(6)<br>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<br>DRAINFIELD Excavation Depth<br>DRAINFIELD Excavation Separation<br>DRAINFIELD Depth of Porous Media<br>DRAINFIELD Type of Porous Media |        |                                                              |       |           |           |           |
| 29  | DRAINFIELD Pipe and Gravel - Geotextile Fabric in Place                                                                                                               |        | 285.33(b)(1)(E)                                              |       |           |           |           |
| 30  | DRAINFIELD Leaching Chambers<br>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)                                           |       |           |           |           |

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|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------|-------|-----------|-----------|-----------|
| 32  | EFFLUENT DISPOSAL SYSTEM Utilized Only by Single Family Dwelling<br>EFFLUENT DISPOSAL SYSTEM Topographic Slopes < 2.0%<br>EFFLUENT DISPOSAL SYSTEM Adequate Length of Drain Field ( 1000 Linear ft. for 2 bedrooms or Less & an additional 400 ft. for each additional bedroom )<br>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<br>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)<br>285.33(b)(3)(A)<br>285.33(b)(3)(B)285.91(13)<br>285.33(b)(3)(D)<br>285.33(b)(3)(F) |       |           |           |           |
| 33  | AEROBIC TREATMENT UNIT Is Aerobic Unit Installed According to Approved Guidelines.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        | 285.32(c)(1)                                                                                          |       |           |           |           |
| 34  | AEROBIC TREATMENT UNIT Inspection/Clean Out Port & Risers Provided<br>AEROBIC TREATMENT UNIT Secondary restraint system provided<br>AEROBIC TREATMENT UNIT Riser permanently fastened to lid or cast into tank<br>AEROBIC TREATMENT UNIT Riser cap protected against unauthorized intrusions                                                                                                                                                                                                                                                                                     |        |                                                                                                       |       |           |           |           |
| 35  | AEROBIC TREATMENT UNIT Chlorinator Properly Installed with Chlorine Tablets in Place.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |        |                                                                                                       |       |           |           |           |
| 36  | PUMP TANK Is the Pump Tank an approved concrete tank or other acceptable materials & construction<br>PUMP TANK Sampling Port Provided in the Treated Effluent Line<br>PUMP TANK Check Valve and/or Anti- Siphon Device Present When Required<br>PUMP TANK Audible and Visual High Water Alarm Installed on Separate Circuit From Pump                                                                                                                                                                                                                                            |        |                                                                                                       |       |           |           |           |
| 37  | PUMP TANK Inspection/Clean Out Port & Risers Provided<br>PUMP TANK Secondary restraint system provided<br>PUMP TANK Riser permanently fastened to lid or cast into tank<br>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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |                                                                                                       |       |           |           |           |

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



# COMAL COUNTY

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## ENGINEER'S OFFICE

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

Permit Number: 118315  
Issued This Date: 02/20/2025  
This permit is hereby given to: GRACE LANE HOMES, INC.

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

712 FIREFLY DR  
CANYON LAKE, TX 78133

Subdivision: CANYON LKAE FOREST  
Unit: 3  
Lot: 1168  
Block: 0  
Acreage: 0.2400

#### 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

**Revised**  
**Efrain Gallegos**

10/17/2025 11:19:43 AM

February 27, 2025

Grace Lane Homes  
1652 Rebecca Ranch Rd  
Canyon Lake, TX 78133

Re: Physical Address Change Notice

To Whom It May Concern:

Please be advised the physical address for the following property has been established to replace the address previously assigned. The new physical address assigned to the property is as follows:

| Property ID | Legal Description                 | Previous Address<br><small>NO LONGER VALID</small> | New Assigned Address                       |
|-------------|-----------------------------------|----------------------------------------------------|--------------------------------------------|
| 9341        | CANYON LAKE FOREST 3,<br>LOT 1168 | 684 FIREFLY DR<br>CANYON LAKE, TX<br>78133         | 712 FIREFLY DR<br>CANYON LAKE, TX<br>78133 |

Please ensure any utility services established with the previous address are updated to reflect the current address. Please display this address where it is visible from the road with reflective numbers so emergency personnel can easily locate the property should there be an emergency. **Please 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.

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

# Revised

## Efrain Gallegos

10/17/2025 11:21:52 AM

### ON-SITE SEWAGE FACILITY APPLICATION

195 DAVID JONAS DR  
NEW BRAUNFELS, TX 78132  
(830) 608-2090

www.ccfd.org

Date December 18, 2024

Permit Number 118315

#### 1. APPLICANT / AGENT INFORMATION

Owner Name GRACE LANE HOMES, INC  
Mailing Address 1652 REBECCA RANCH ROAD  
City, State, Zip CANYON LAKE TEXAS 78133  
Phone # 210-218-8222  
Email michelle@gracelanehomes.com

Agent Name GREG JOHNSON, P.E.  
Agent Address 170 HOLLOW OAK  
City, State, Zip NEW BRAUNFELS TEXAS 78132  
Phone # 830-905-2778  
Email gregjohnsonpe@yahoo.com

#### 2. LOCATION

Subdivision Name CANYON LAKE FOREST Unit 3 Lot 1168 Block   
Survey Name / Abstract Number  Acreage   
Address 712 FIREFLY DR 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 1315

☐ 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: \$ 360,000 (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 ☐ Rainwater Collection

#### 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.

Signature of Owner Michelle Barnes

Date 1/14/25



COMALCOUNTY  
ENGINEER'S OFFICE

## ON-SITE SEWAGE FACILITY APPLICATION

CANYON LAKE FOREST, UNIT 3, LOT 1168

195 DAVID JONAS DR  
NEW BRAUNFELS, TX 78132  
(830) 608-2090  
[WWW.CCEO.ORG](http://WWW.CCEO.ORG)

Planning Materials & Site Evaluation as Required Completed By GREG W. JOHNSON, P.E.

System Description PROPRIETARY; AEROBIC TREATMENT AND DRIP TUBING

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

Tank Size(s) (Gallons) NUWATER B-550-PC Absorption/Application Area (Sq Ft) 2000

Gallons Per Day (As Per TCEQ Table 111) 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.)

Is there at least one acre per single family dwelling as per 285.40(c)(1)? ☐ Yes ☒ No

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

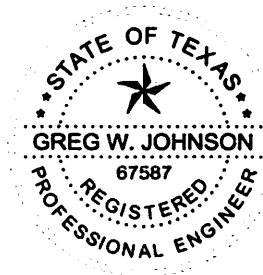
(if yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

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 UP has been approved by the appropriate reg

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

If yes, indicate the city: \_\_\_\_\_



**FIRM #2585**

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.

\_\_\_\_\_  
Signature of Designer

December 30, 2024  
Date

**AFFIDAVIT****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.

**I**

The Texas Health and Safety Code, Chapter 366 authorizes the Texas Commission on Environmental Quality (TCEQ) 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 OSSFs 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.

**II**

An OSSF requiring a maintenance contract, according to 30 Texas Administrative Code §285.91(12) will be installed on the property described as (insert legal description):

3 UNIT/PHASE/SECTION \_\_\_\_\_ BLOCK 1168 LOT \_\_\_\_\_ CANYON LAKE FOREST SUBDIVISION

IF NOT IN SUBDIVISION: \_\_\_\_\_ ACREAGE \_\_\_\_\_ SURVEY

The property is owned by (insert owner's full name): GRACE LANE HOMES, INC., a Texas corporation

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 January, 2025

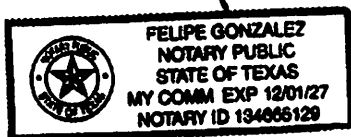
Michelle Uribe Bermes  
Owner(s) signature(s)

MICHELLE URIBE BERMES - MANAGER

Owner (s) Printed name (s)

Michelle Uribe Bermes SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 16 DAY OF January, 2025

[Signature]  
Notary Public Signature



(Notary Seal Here)

Filed and Recorded  
Official Public Records  
Bobbie Koepp, County Clerk  
Comal County, Texas  
01/22/2025 02:37:30 PM  
MARY 1 Pages(s)  
202506002009



Bobbie Koepp

# Revised

## Efrain Gallegos

10/17/2025 11:21:55 AM

Maintenance Service Provider  
15188 FM 306  
Canyon Lake, TX 78133  
Office (830)964-2365



CANYON LAKE FOREST, UNIT 3, LOT 1168

| <u>SERVICE ADDRESS</u>                   | <u>INSTALLER</u> | <u>TERM</u> |
|------------------------------------------|------------------|-------------|
| 712 FIREFLY DRIVE, CANYON LAKE, TX 78133 | JOE MITCHELL     | 2 year      |

### Routine Maintenance and Inspection Agreement

This Work for Hire Agreement (hereinafter referred to as this "Agreement") is entered into by and between ; (referred to as "Client") and Aerobic Services of South Texas (Thomas W. Hampton MP349) (hereinafter referred to as "Contractor") located at 15188 FM 306 Canyon Lake, Texas 78133 (830) 964-2365. By this Agreement the Contractor agrees to render professional service, as described herein, and the Client agrees to fulfill the terms of this Agreement as described herein. This contract will provide for all required inspections, testing and service for your Aerobic Treatment System. The policy will include the following:

1. 3 inspections a year/services calls (at least one every 4 months), for a total of 6 over the two year period including inspection, adjustment and servicing of the mechanical, electrical and other applicable component parts to ensure proper function. This includes inspecting the control panel, air pumps, air filters, diffuser operation. Any alarm situation affecting the proper function of the Aerobic process will be addressed within a 48-hour time frame. Repair work on non-warranty parts will include price for parts & labor. The prices will be quoted before work is performed.
2. An effluent quality inspection consisting of a visual check for color, turbidity, scum overflow and examination for odors. A test for chlorine residual and pH will be taken and reported as necessary.
3. If any improper operation is observed, which cannot be corrected at the time of the service visit, you will be notified immediately in writing of the conditions and estimated date of correction.
4. The Property Owner is responsible for the chlorine; it must be filled before or during the service visit.
5. Any additional visits, inspections or sample collection required by specific Municipalities, Water/River Authorities, and County Agencies the TCEQ or any other authorized regulatory agency in your jurisdiction will be covered by this policy. BOD and TSS testing is covered by this contract.

The Property Owner Manual must be strictly followed or warranties are subject to invalidation. Pumping of sludge build-up is not covered by this policy and will result in additional charges.

### ACCESS BY CONTRACTOR

The Contractor or anyone authorized by the Contractor may enter the property at reasonable times without prior notice for the purpose of the above described Services. The contractor may access the System components including the tanks by means of excavation for the purpose of evaluations if necessary. Soil Is to be replaced with the excavated material as best as possible.

### Termination of Agreement

Either party may terminate this agreement within ten days with a written notice in the event of substantial failure to perform in accordance with its terms by the other party without fault of the terminating party. If this Agreement is so terminated, the Contractor will immediately notify the appropriate health authority of the termination.

# Revised

## Efrain Gallegos

10/17/2025 11:21:57 AM

### Limit of Liability

In no event shall the Contractor be liable for indirect, consequential, incidental or punitive damages, whether in contract tort or any other theory. In no event shall the Contractor's liability for direct damages exceed the price for the services described in this Agreement.

### Dispute Resolution

If a dispute between the Client and the Contractor arises that cannot be settled in good faith negotiations then the parties shall choose a mutually acceptable arbitrator and shall share the cost of the arbitration services equally.

### Entire Agreement

This Agreement contains the entire agreement of the parties, and there are no other promises or conditions in any other agreement either oral or written.

### Severability

If any provision of this Agreement shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court finds that any provision of this agreement is invalid or unenforceable, but that by limiting such provision it would become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.

### Property Owner

#### Name

GRACE LANE HOMES, INC.

#### Email

michelle@gracelanehomes.com

#### Service Address

712 FIREFLY DRIVE, CANYON LAKE, TX 78133

#### Phone

210-218-8222

X Michelle Barnes  
SIGNATURE

EFFECTIVE DATE \_\_\_\_\_

EXPIRED DATE \_\_\_\_\_

### SERVICE PROVIDER

Aerobic Services of South Texas LLC

15188 FM 306 Canyon Lake, TX 786133

(830) 964-2365

Thomas Hampton

Signature of Service Provider and License #  
[Thomas Hampton, OS0024597 / MP0000349]



\*The effective date of this initial maintenance contract shall be the date license to operate is issued.

**ON-SITE SEWERAGE FACILITY  
SOIL EVALUATION REPORT INFORMATION**

Date Soil Survey Performed: December 19, 2024

Site Location: CANYON LAKE FOREST, UNIT 3, LOT 1168

Proposed Excavation Depth: N/A

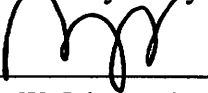
**Requirements:**

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

| SOIL BORING NUMBER <u>          </u> SURFACE EVALUATION |                  |                  |                    |                                       |                           |              |
|---------------------------------------------------------|------------------|------------------|--------------------|---------------------------------------|---------------------------|--------------|
| Depth<br>(Feet)                                         | Texture<br>Class | Soil<br>Texture  | Gravel<br>Analysis | Drainage<br>(Mottles/<br>Water Table) | Restrictive<br>Horizon    | Observations |
| 0                                                       | <b>III</b>       | <b>CLAY LOAM</b> | <b>N/A</b>         | <b>NONE<br/>OBSERVED</b>              | <b>LIMESTONE<br/>@ 8"</b> | <b>BROWN</b> |
| 1                                                       |                  |                  |                    |                                       |                           |              |
| 2                                                       |                  |                  |                    |                                       |                           |              |
| 3                                                       |                  |                  |                    |                                       |                           |              |
| 4                                                       |                  |                  |                    |                                       |                           |              |
| 5                                                       |                  |                  |                    |                                       |                           |              |

| SOIL BORING NUMBER <u>          </u> SURFACE EVALUATION |                  |                 |                    |                                       |                        |              |
|---------------------------------------------------------|------------------|-----------------|--------------------|---------------------------------------|------------------------|--------------|
| Depth<br>(Feet)                                         | Texture<br>Class | Soil<br>Texture | Gravel<br>Analysis | Drainage<br>(Mottles/<br>Water Table) | Restrictive<br>Horizon | Observations |
| 0                                                       | <b>SAME</b>      |                 | <b>AS</b>          |                                       | <b>ABOVE</b>           |              |
| 1                                                       |                  |                 |                    |                                       |                        |              |
| 2                                                       |                  |                 |                    |                                       |                        |              |
| 3                                                       |                  |                 |                    |                                       |                        |              |
| 4                                                       |                  |                 |                    |                                       |                        |              |
| 5                                                       |                  |                 |                    |                                       |                        |              |

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

  
\_\_\_\_\_  
Greg W. Johnson, P.E. 67587-F2585, S.E. 11561

12/19/24  
\_\_\_\_\_  
Date

**Date: December 20, 2024**

Name: **GRACE LANE HOMES, INC.**  
Address: **1652 REBECCA RANCH ROAD**  
City: **CANYON LAKE** State: **TEXAS**  
Zip Code: **78133** Phone: **(210) 219-8222**

Name: Greg W. Johnson, P.E., R.S., S.E. 11561  
 Address: 170 Hollow Oak  
 City: New Braunfels State: Texas  
 Zip Code: 78132 Phone & Fax (830)905-2778

Lot 1168 Unit 3 Blk \_\_\_\_ Subd. CANYON LAKE FOREST  
Street Address: 7121 FIREFLY DRIVE  
City: CANYON LAKE Zip Code: 78133  
Additional Info.: \_\_\_\_\_

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_  
 Zip Code: \_\_\_\_\_ Phone: \_\_\_\_\_

**FIRM #2585**

# Revised

## Efrain Gallegos

10/17/2025 11:22:03 AM

**AEROBIC TREATMENT  
DRIP TUBING SYSTEM  
DESIGNED FOR:  
GRACE LANE HOMES, INC  
1652 REBECCA RANCH ROAD  
CANYON LAKE, TX 78133**

**SITE DESCRIPTION:**

Located in Canyon Lake Forest, Unit 3, Lot 1168, at 712 Firefly Drive, the proposed system will serve a three bedroom residence (1315 sf.) situated in an area with shallow Type III soil as described in the Soil Evaluation Report. Native grasses and oak trees were found throughout this property. An aerobic treatment plant utilizing drip irrigation was chosen as the most appropriate system to serve the conditions on this lot.

**PROPOSED SYSTEM:**

A 3-inch SCH-40 pipe discharges from the residence into a NuWater B-550 600gpd aerobic plant containing a 353-gallon pretreatment tank, an aerobic treatment plant, and a 768-gallon pump chamber containing a submersible (FPS E-Series 20FE05P42W115) well pump. The well pump is activated by a time controller allowing the distribution ten times per day with an 8 minute run time with float setting at 240 gallons. A high level audible and visual alarm will activate should the pump fail. Distribution is through a self flushing 100 micron disc filter (Arkal) then through a 1" SCH-40 manifold to a 2000 sf. drip tubing field, with *Netifim Bioline* drip lines set approximately two feet apart with **0.61 gph** emitters set every two feet, as per the attached schematic. A pressure regulator PMR-MF 30psi installed in the pump tank on the manifold to the field will maintain pressure at 30 psi. A 1" SCH-40 return line is installed to continuously flush the system to the pump tank by throttling a 1" ball valve to the pump tank. Solids caught in the disc filter are continuously flushed each cycle back to the pump tank. Vacuum breakers installed at the highest point on each manifold will prevent siphoning of effluent from higher to lower parts of the field. Field area will be scarified and built up with 4" of Type II or Type III soil, then the drip tubing will be laid and capped with 6" of Type II or Type III soil (**NOT SAND**). **A minimum of 12" required between rock/tank and drip lines.** The field area will be sodded with grass prior to system startup. **Risers are required on tank inspection ports as per 30 TAC 285.38 (9/1/2023). This includes access limitation (<65lbs lid or hardware secured lid), inspection and cleanout ports shall have risers over the port openings which extend to a minimum of two inches above grade. A secondary plug, cap, or other suitable restraint system shall be provided below the riser cap to prevent tank entry if the cap is unknowingly damaged or removed.**

**Revised**

**Efrain Gallegos**

10/17/2025 11:22:06 AM

**Greg W. Johnson, P.E.**

170 Hollow Oak  
New Braunfels, Texas 78132  
830/905-2778

October 15, 2025

Comal County Office of Environmental Health  
195 David Jonas Drive  
New Braunfels, Texas 78132-3760

RE: Septic Design #118315  
712 Firefly Drive  
Canyon Lake Forest, Unit 3, Lot 1168  
Canyon Lake, TX 78133  
Grace Lane Homes, Inc.

Efrain,

A portion of the waterline is as close as four feet from the proposed drip field and aerobic tank. A variance is required to Chapter 285 Table X. Equivalent protection will be maintained by sleeving the water service line with SCH-40 PVC within ten feet of the proposed drip field. I hereby request a variance to Chapter 285 Table X. Additionally, effluent line along driveway to be sleeved with Sch-40 PVC.

If I can be of further assistance please contact me.

Respectfully yours,



Greg W. Johnson, P.E., F#2585



INSTALL 2000sf OF  
FIELD USING 1000' OF  
DRIP TUBING. THERE  
SHALL BE NO PARKING,  
DRIVING OR STORAGE  
ON THE SEPTIC FIELD  
AT ANY TIME FOR ANY  
REASON.

\*USE TWO WAY CLEAN  
OUT  
\*\*USE SCH-40 OR  
SDR-26 TO TANK

X= TEST HOLE

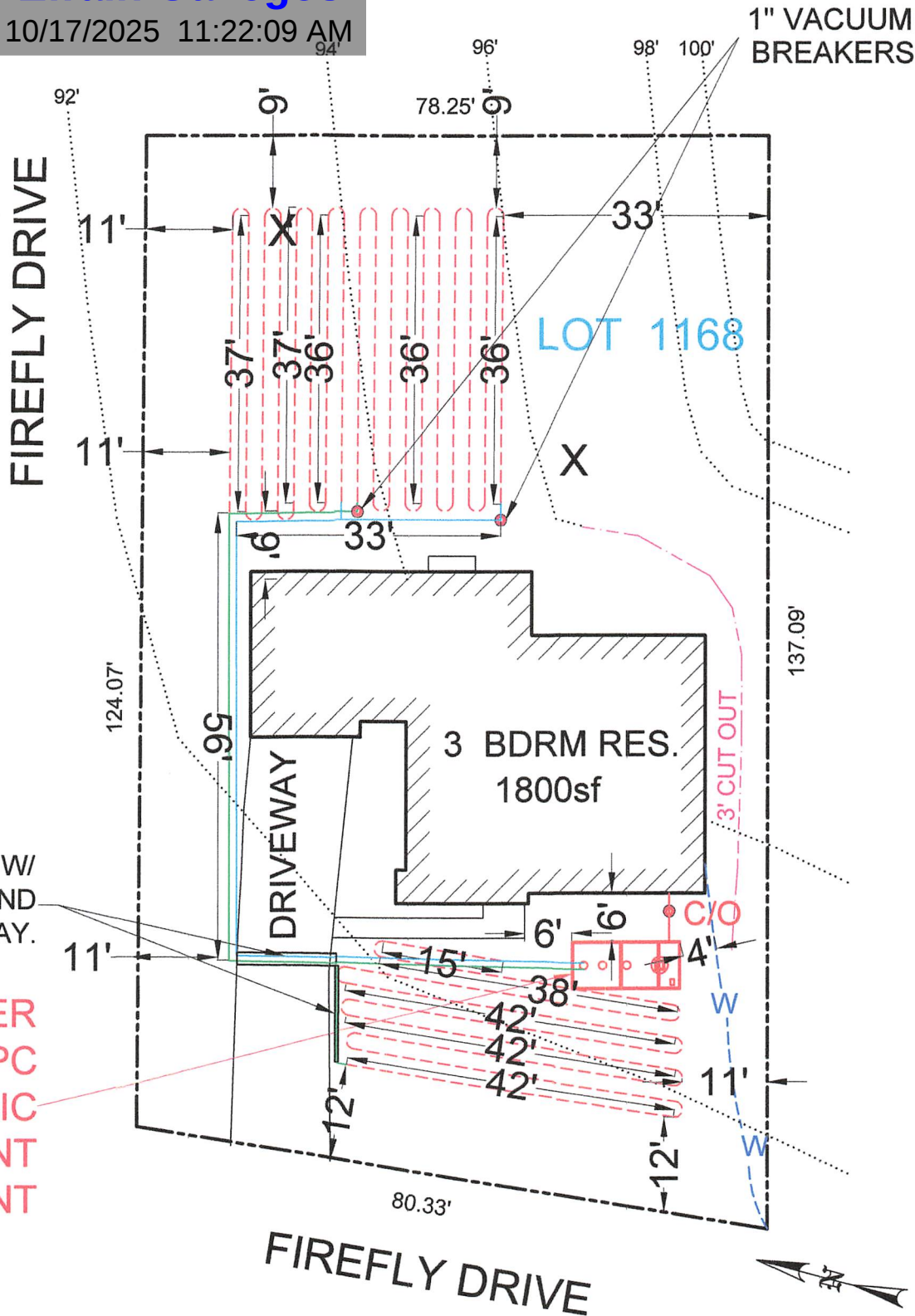
| DRIP TUBING |        |        |       |
|-------------|--------|--------|-------|
| ZONE 1      | ZONE 2 | ZONE 3 | TOTAL |
| 36          | 36     | 15     |       |
| 36          | 36     | 38     |       |
| 36          | 36     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          |        | 42     |       |
| 36          |        |        |       |
| 360         | 293    | 347    | 1000  |

SLEEVE EFFLUENT LINE W/  
SCH-40 UNDER AND  
ADJACENT TO DRIVEWAY.

NUWATER  
B 550 PC  
AEROBIC  
TREATMENT  
PLANT

Revised  
Efrain Gallegos

10/17/2025 11:22:09 AM



|                                             |                       |                         |                     |
|---------------------------------------------|-----------------------|-------------------------|---------------------|
| OWNER: GRACE LANE HOMES, INC.               |                       | DRAWN BY: EJS III / GWJ |                     |
| STREET ADDRESS: 712 FIREFLY DRIVE           |                       |                         |                     |
| LEGAL DESC: CANYON LAKE FOREST              | UNIT/SECTION/PHASE: 3 | BLOCK:                  | LOT: 1168           |
| PREPARED BY: GREG W. JOHNSON, P.E. F#002585 | SCALE: 1"=20'         | DATE: 12/20/2024        | REVISED: 10/15/2025 |

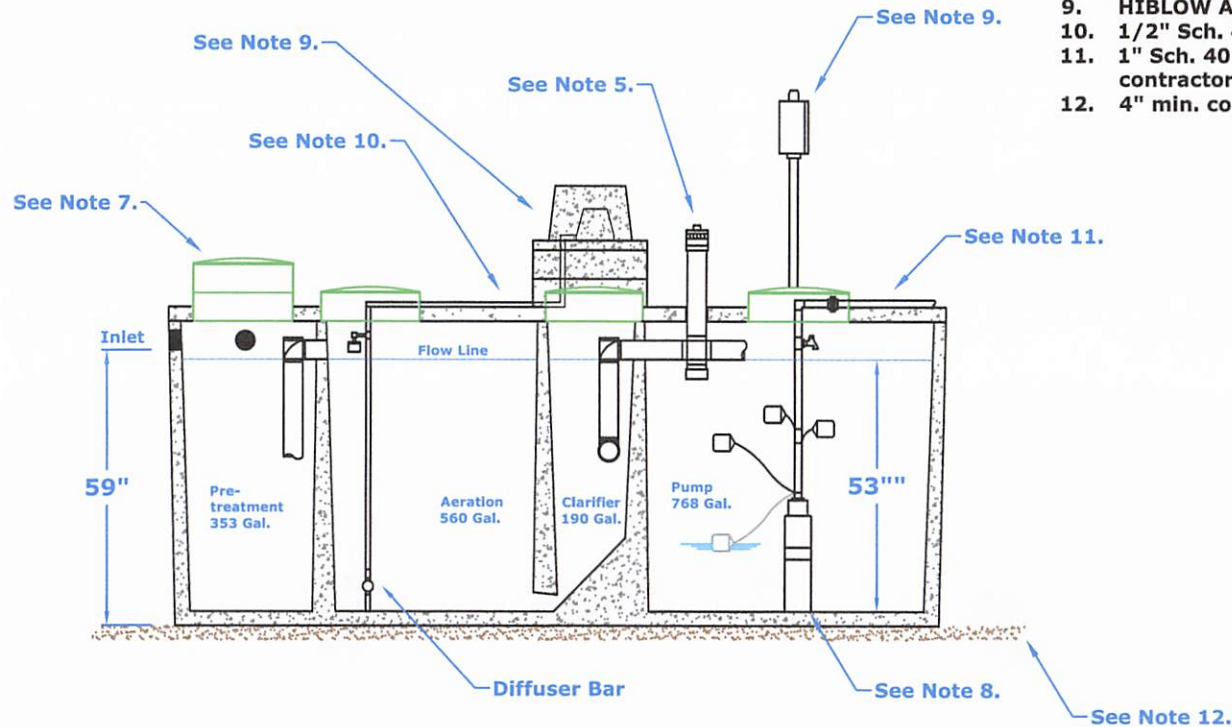
# Assembly Details

OSSF



## GENERAL NOTES:

1. Plant structure material to be precast concrete and steel.
2. Maximum burial depth is 30" from slab top to grade.
3. Weight = 14,900 lbs.
4. Treatment capacity is 600 GPD. Pump compartment set-up for a 360 GPD Flow Rate (4 bedroom, < 4,000 sq/ft living area). Please specify for additional set-up requirements. BOD Loading = 1.62 lbs. per day.
5. Standard tablet chlorinator or Optional Liquid chlorinator. NSF approved chlorinators (tablet & liquid) available.
6. Bio-Robix B-550 Control Center w/ Timer for night spray application. Optional Micro Dose (min/sec) timer available for drip applications. Electrical Requirement to be 115 Volts, 60 Hz, Single Phase, 30 AMP, Grounded Receptacle.
7. 20" Ø access riser w/ lid (Typical 4). Optional extension risers available.
8. 20 GPM 1/2 HP, high head effluent pump.
9. HIBLOW Air Compressor w/ concrete housing.
10. 1/2" Sch. 40 PVC Air Line (Max. 50 Lft from Plant).
11. 1" Sch. 40 PVC pipe to distribution system provided by contractor.
12. 4" min. compacted sand or gravel pad by Contractor



## DIMENSIONS:

Outside Height: 67"  
Outside Width: 63"  
Outside Length: 164"

## MINIMUM EXCAVATION DIMENSIONS:

Width: 76"  
Length: 176"

**NuWater B-550 (600 GPD)  
Aerobic Treatment Plant (Assembled)**

Model: B-550-PC-400PT

March, 2012 - Rev 1  
By: A.S.

## Scale:

\* All Dimensions subject to allowable specification tolerances.

Dwg. #: ADV-B550-3

**Advantage**  
Wastewater Solutions llc

Advantage Wastewater Solutions llc.  
444 A Old Hwy No 9  
Comfort, TX 78013  
830-995-3189  
fax 830-995-4051

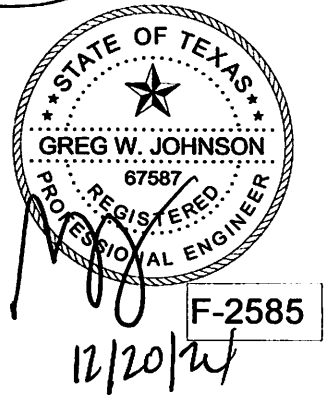
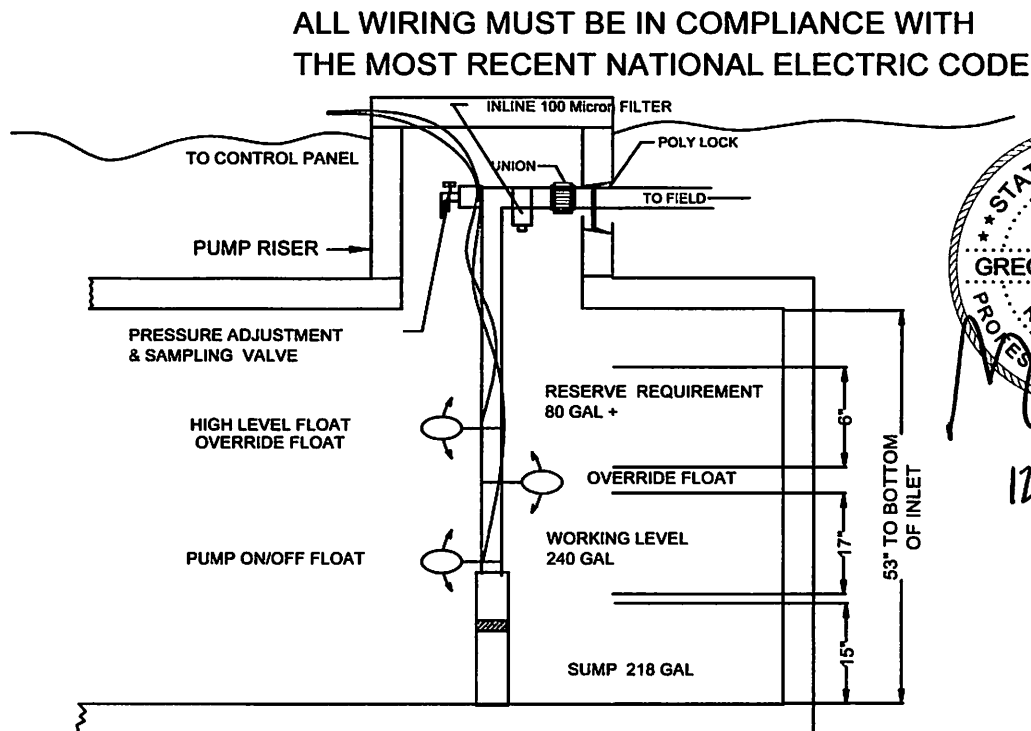
## TANK NOTES:

Tanks must be set to allow a minimum of 1/8" per foot fall from the residence.

Tightlines to the tank shall be SCH-40 PVC.

A two way sanitary tee is required between residence and tank.

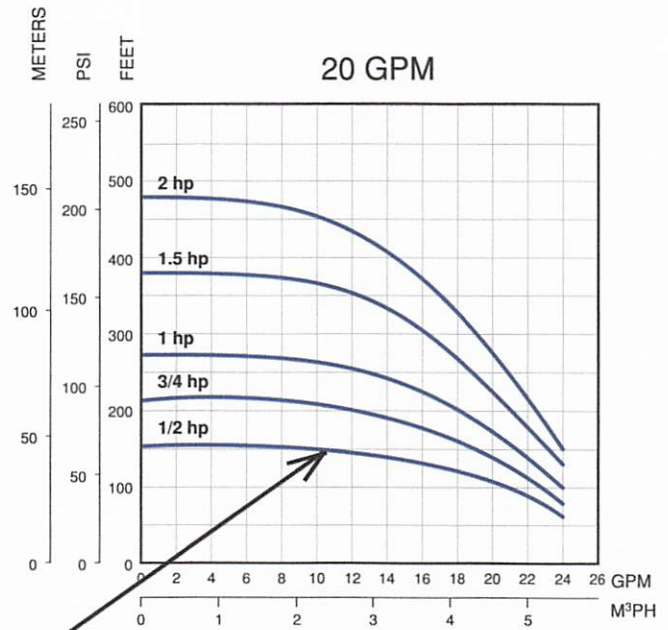
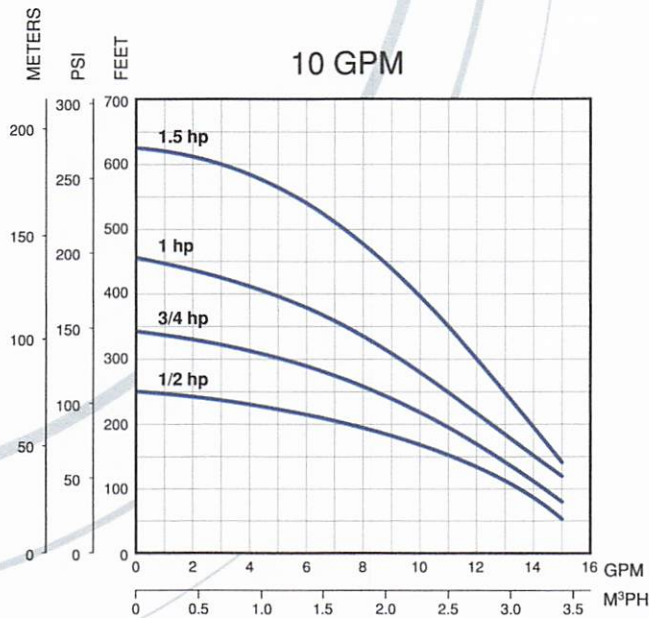
A minimum of 4" of sand, sandy loam, clay loam free of rock shall be placed under and around tanks



**TYPICAL PUMP TANK CONFIGURATION  
NU-WATER 550PC -400PT 768 GAL PUMP TANK**

# Environmental Series Pumps

## Thermoplastic Performance



## Thermoplastic Units Ordering Information

### 1/2 - 1.5 HP Single-Phase Units

| Order No. | Model          | GPM | HP  | Volt | Wire | Wt. |
|-----------|----------------|-----|-----|------|------|-----|
| 94741005  | 10FE05P4-2W115 | 10  | 1/2 | 115  | 2    | 24  |
| 94741010  | 10FE05P4-2W230 | 10  | 1/2 | 230  | 2    | 24  |
| 94741015  | 10FE07P4-2W230 | 10  | 3/4 | 230  | 2    | 28  |
| 94741020  | 10FE1P4-2W230  | 10  | 1   | 230  | 2    | 31  |
| 94741025  | 10FE15P4-2W230 | 10  | 1.5 | 230  | 2    | 46  |
| 94742005  | 20FE05P4-2W115 | 20  | 1/2 | 115  | 2    | 25  |
| 94742010  | 20FE05P4-2W230 | 20  | 1/2 | 230  | 2    | 25  |
| 94742015  | 20FE07P4-2W230 | 20  | 3/4 | 230  | 2    | 28  |
| 94742020  | 20FE1P4-2W230  | 20  | 1   | 230  | 2    | 31  |
| 94742025  | 20FE15P4-2W230 | 20  | 1.5 | 230  | 2    | 40  |

### Thermoplastic 1/2 - 2 HP Pump Ends

| Order No. | Model       | GPM | HP  | Volt | Wire | Wt. |
|-----------|-------------|-----|-----|------|------|-----|
| 94751005  | 10FE05P4-PE | 10  | 1/2 | N/A  | N/A  | 6   |
| 94751010  | 10FE07P4-PE | 10  | 3/4 | N/A  | N/A  | 7   |
| 94751015  | 10FE1P4-PE  | 10  | 1   | N/A  | N/A  | 8   |
| 94751020  | 10FE15P4-PE | 10  | 1.5 | N/A  | N/A  | 12  |
| 94752005  | 20FE05P4-PE | 20  | 1/2 | N/A  | N/A  | 6   |
| 94752010  | 20FE07P4-PE | 20  | 3/4 | N/A  | N/A  | 7   |
| 94752015  | 20FE1P4-PE  | 20  | 1   | N/A  | N/A  | 8   |
| 94752020  | 20FE15P4-PE | 20  | 1.5 | N/A  | N/A  | 10  |
| 94752025  | 20FE2P4-PE  | 20  | 2   | N/A  | N/A  | 11  |

# Arkal 1" Super Filter

Catalog No. 1102 0 \_ \_ \_

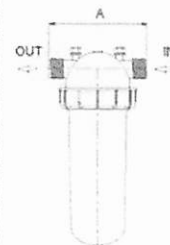
## Features

- ♦ A "T" shaped filter with two 1" male threads.
- ♦ A "T" volume filter for in-line installation on 1" pipelines.
- ♦ The filter prevents clogging due to its enlarged filtering area that collects sediments and particles.
- ♦ Manufactured entirely from fiber reinforced plastic.
- ♦ A cylindrical column of grooved discs constitutes the filter element.
- ♦ Spring keeps the discs compressed.
- ♦ Screw-on filter cover.
- ♦ Filter discs are available in various filtration grades.



## Technical Data

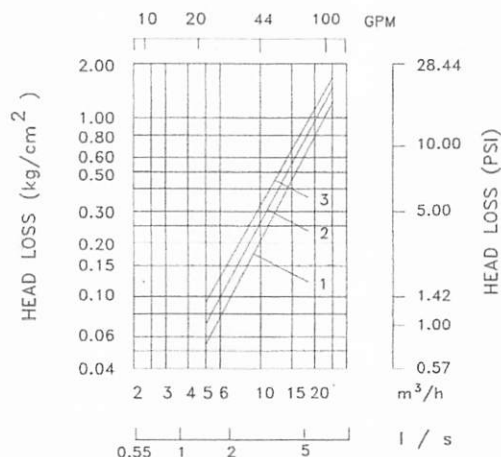
| Inlet/outlet diameter              | 1" BSPT (male)                  | 1" NPT (male)        |
|------------------------------------|---------------------------------|----------------------|
|                                    | 25.0 mm – nominal diameter      |                      |
|                                    | 33.6 mm – pipe diameter (O. D.) |                      |
| Maximum pressure                   | 10 atm                          | 145 psi              |
| Maximum flow rate                  | 8 m <sup>3</sup> /h (1.7 l/sec) | 35 gpm               |
| General filtration area            | 500 cm <sup>2</sup>             | 77.5 in <sup>2</sup> |
| Filtration volume                  | 600 cm <sup>3</sup>             | 37 in <sup>3</sup>   |
| Filter length L                    | 340 mm                          | 13 13/32"            |
| Filter width W                     | 130 mm                          | 5 3/32"              |
| Distance between end connections A | 158 mm                          | 6 7/32"              |
| Weight                             | 1.420 kg                        | 3.13 lbs.            |
| Maximum temperature                | 70° C                           | 158 °F               |
| pH                                 | 5-11                            | 5-11                 |



## Filtration Grades

- Blue (400 micron / 40 mesh)
- Yellow (200 micron / 80 mesh)
- Red (130 micron / 120 mesh)
- Black (100 micron / 140 mesh)
- Green (55 micron)

## Head Loss Chart



# PMR-MF

## PRESSURE-MASTER REGULATOR - MEDIUM FLOW

### Specifications

The pressure regulator shall be capable of operating at a constant, factory preset, non-adjustable outlet pressure of 6, 10, 12, 15, 20, 25, 30, 35, 40, 50, or 60 PSI (0.41, 0.69, 0.83, 1.03, 1.38, 1.72, 2.07, 2.41, 2.76, 3.45, or 4.14 bar) with a flow range between:

- 4 - 16 GPM (909 - 3634 L/hr) for 6 - 10 PSI models or
- 2 - 20 GPM (454 - 4542 L/hr) for 12 - 60 PSI models.

The pressure regulator shall maintain the nominal pressure at a minimum of 5 PSI (0.34 bar) above model inlet pressure and a maximum of 80 PSI (5.52 bar) above nominal model pressure\*. Refer to the PRU performance curve to establish specific outlet pressures based on relative inlet pressure and flow rate. Always install downstream from all shut off valves. Recommended for outdoor use only. Not NSF certified.

All pressure regulator models shall be equipped with one of these inlet-x-outlet configurations:

#### Inlet

- ¾-inch Female National Pipe Thread (FNPT)
- 1-inch Female National Pipe Thread (FNPT)
- 1-inch Female British Standard Pipe Thread (FBSPT)

#### Outlet

- ¾-inch Female National Pipe Thread (FNPT)
- 1-inch Female National Pipe Thread (FNPT)
- 1-inch Female British Standard Pipe Thread (FBSPT)

The upper housing, lower housing, and internal molded parts shall be of engineering-grade thermoplastics with internal elastomeric seals and a reinforced elastomeric diaphragm. Regulation shall be accomplished by a fixed stainless steel compression spring, which shall be enclosed in a chamber isolated from the normal water passage.

Outlet pressure and flow shall be clearly marked on each regulator.

The pressure regulator shall carry a two-year manufacturer's warranty on materials, workmanship, and performance. Each pressure regulator shall be water tested for accuracy before departing the manufacturing facility.

The pressure regulator shall be manufactured by Senninger Irrigation in Clermont, Florida. Senninger is a Hunter Industries Company.

### Physical

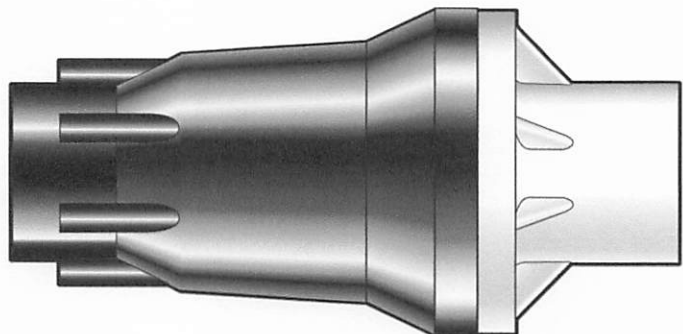
#### ¾" FNPT x ¾" FNPT model (shown on right)

- Overall Length 5.2 inches (13.1 cm)
- Overall Width 2.5 inches (6.4 cm)

#### 1" FNPT x 1" FNPT model

#### 1" FBSPT x 1" FBSPT model

- Overall Length 5.8 inches (14.6 cm)
- Overall Width 2.5 inches (6.4 cm)



\* Please consult factory for applications outside of recommended guidelines.



# PMR-MF

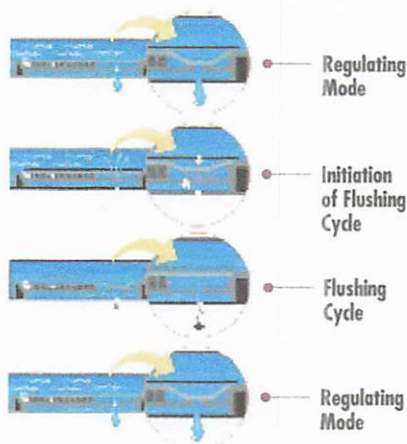
## PRESSURE-MASTER REGULATOR - MEDIUM FLOW

### Model Numbers

| Model #   | Flow Range                      | Preset Operating Pressure | Maximum Inlet Pressure |
|-----------|---------------------------------|---------------------------|------------------------|
| PMR-6 MF  | 4 - 16 GPM<br>(909 - 3634 L/hr) | 6 PSI<br>(0.41 bar)       | 80 psi<br>(5.51 bar)   |
| PMR-10 MF | 4 - 16 GPM<br>(909 - 3634 L/hr) | 10 PSI<br>(0.69 bar)      | 90 psi<br>(6.20 bar)   |
| PMR-12 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 12 PSI<br>(0.83 bar)      | 90 psi<br>(6.20 bar)   |
| PMR-15 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 15 PSI<br>(1.03 bar)      | 95 psi<br>(6.55 bar)   |
| PMR-20 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 20 PSI<br>(1.38 bar)      | 100 psi<br>(6.89 bar)  |
| PMR-25 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 25 PSI<br>(1.72 bar)      | 105 psi<br>(7.24 bar)  |
| PMR-30 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 30 PSI<br>(2.07 bar)      | 110 psi<br>(7.58 bar)  |
| PMR-35 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 35 PSI<br>(2.41 bar)      | 115 psi<br>(7.93 bar)  |
| PMR-40 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 40 PSI<br>(2.76 bar)      | 120 psi<br>(8.27 bar)  |
| PMR-50 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 50 PSI<br>(3.45 bar)      | 130 psi<br>(8.96 bar)  |
| PMR-60 MF | 2 - 20 GPM<br>(454 - 4542 L/hr) | 60 PSI<br>(4.14 bar)      | 140 psi<br>(9.65 bar)  |

# Bioline® Dripperline

## Pressure Compensating Dripperline for Wastewater



Bioline's Self-Cleaning, Pressure Compensating Dripper is a fully self-contained unit molded to the interior wall of the dripper tubing.

As shown at left, Bioline is 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.



## Product Advantages

### The Proven Performer

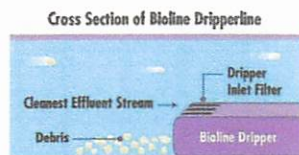
- Tens of millions of feet used in wastewater today.
- Bioline is permitted in every state allowing drip disposal.
- Backed by the largest, most quality-driven manufacturer of drip products in the U.S.
- Preferred choice of major wastewater designers and regulators.
- Proven track record of success for many years of hard use in wastewater applications.

### Quality Manufacturing with Specifications Designed to Meet Your Needs

- Pressure compensating drippers assure the highest application uniformity - even on sloped or rolling terrain.
- Excellent uniformity with runs of 400 feet or more - reducing installation costs.
- Highest quality-control standards in the industry: Cv of 0.25 (coefficient of manufacturer's variation).
- A selection of flows and spacings to satisfy the designer's demand for almost any application rate.

### Long-Term Reliability

- Protection against plugging:
  - Dripper inlet raised 0.27" above wall of tubing to prevent sediment from entering dripper.
  - Drippers impregnated with Vinyzene to prevent buildup of microbial slime.
  - Unique self-flushing mechanism passes small particles before they can build up.



### Root Safe

- A physical barrier on each Bioline dripper helps prevent root intrusion.
- Protection never wears out - never depletes - releases nothing to the environment.
- Working reliably for up to 15 years in subsurface wastewater installations.
- Additional security of chemical root inhibition with Techfilter - supplies Trifluralin to the entire system, effectively inhibiting root growth to the dripper outlets.



## Applications

- For domestic strength wastewater disposal.
- Installed following a treatment process.
- Can be successfully used on straight septic effluent with proper design, filtration and operation.
- Suitable for reuse applications using municipally treated effluent designated for irrigation water.

## Specifications

Wall thickness (mil): 45\*

Nominal flow rates (GPH): .4, .6, .9\*

Common spacings: 12", 18", 24"\*

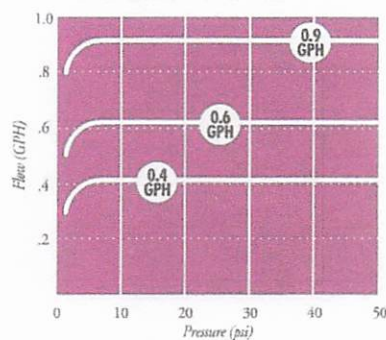
Recommended filtration: 120 mesh

Inside diameter: .570"

Color: Purple tubing indicates non-potable source

\*Additional flows, spacings, and pipe sizes available by request. Please contact Netafim USA Customer Service for details.

BIOLINE Flow Rate vs. Pressure



### NETAFIM USA

5470 E. Home Ave. • Fresno, CA 93727  
 888.638.2346 • 559.453.6800  
 FAX 800.695.4753  
[www.netafimusa.com](http://www.netafimusa.com)

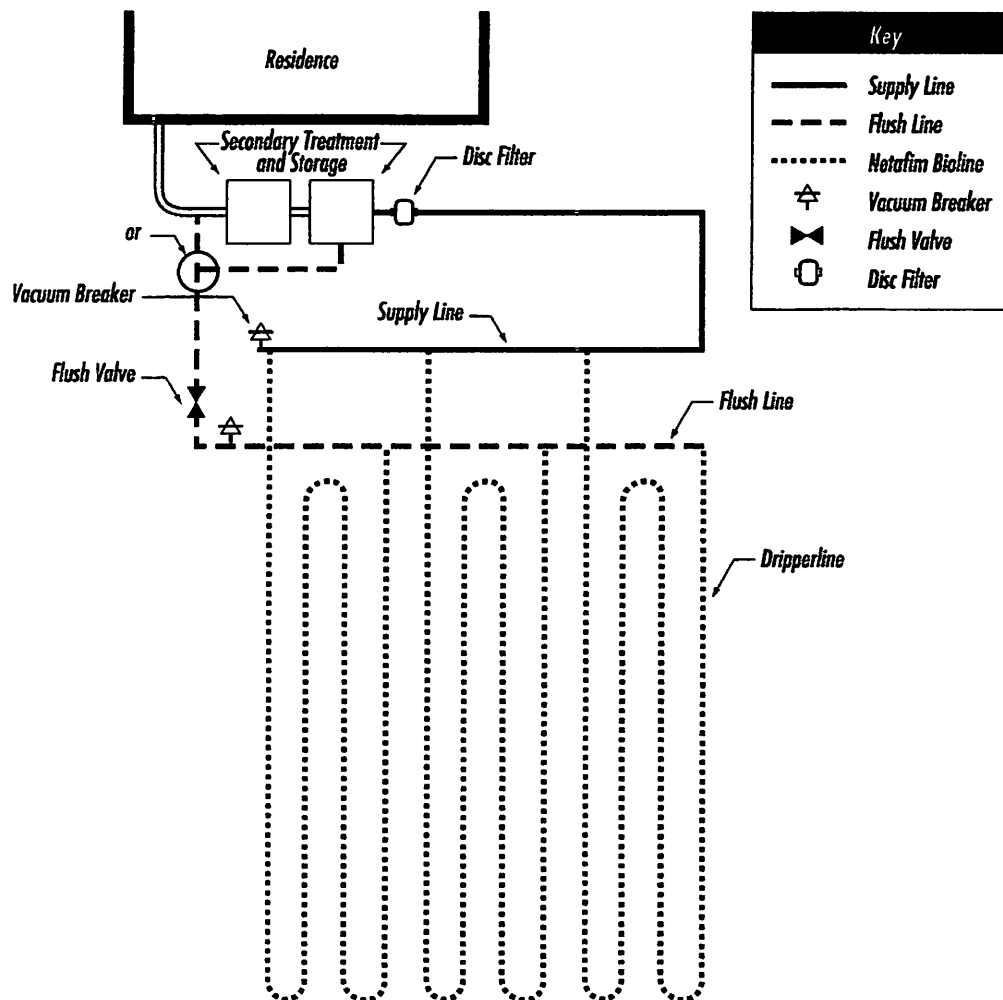
# NETAFIM WASTEWATER DISPERSAL SYSTEM DESIGN GUIDE

## SAMPLE DESIGNS

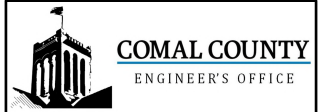
### SINGLE TRENCH LAYOUT

Rectangular field with supply and flush manifold on same side and in same trench;

- Locate supply and flush manifold in same trench
- Dripperlines are looped at the end opposite the supply and flush manifolds
- The longest Bioline length should not exceed 400 ft. Drip fields 200 ft. in length might loop the Bioline once; drip dispersal fields under 100 ft. might be looped twice, as illustrated



ASSIGNED ADDRESS: 712 FIREFLY DR CANYON LAKE, TX 78133



**Revised**  
**Efrain Gallegos**

10/17/2025 11:20:21 AM



## Legend

- Address
- Street
- Parcel

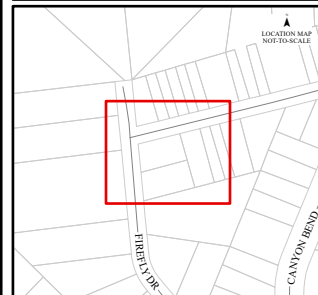
### NOTES:

PROPERTY ID:  
9341

LEGAL DESCRIPTION:  
CANYON LAKE FOREST 3,  
LOT 1168

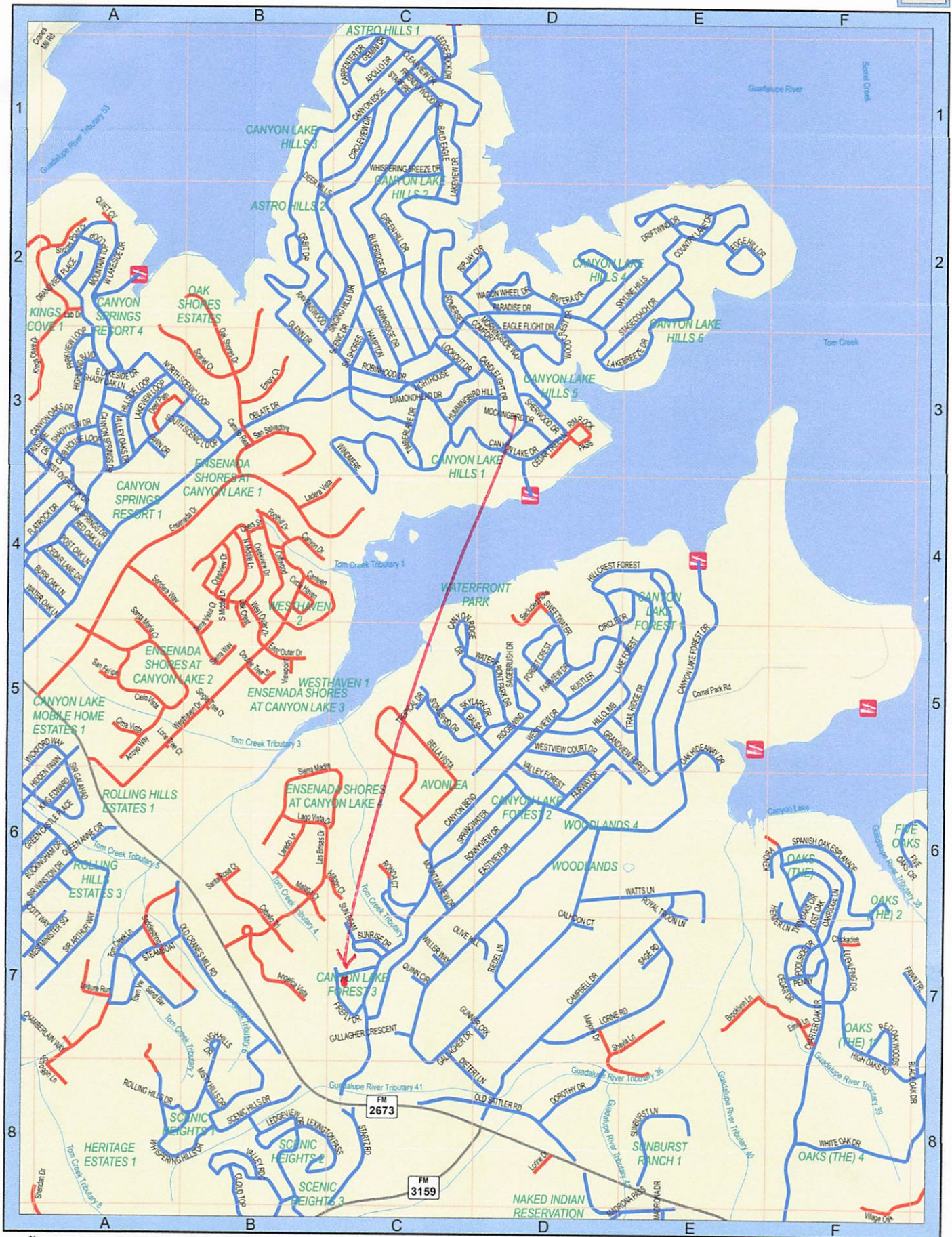


SCALE: 1" = 40'

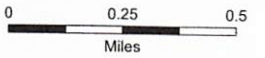


For information concerning the source of the data, please contact:  
Comal County Engineer's Office  
195 David Jonas Drive  
New Braunfels, TX 78132  
(830) 608 - 2090

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.



SEE PAGE 30



**From:** [Ritzen,Brenda](#)  
**To:** [Greg Johnson](#)  
**Cc:** [Joe \(Joseph D.\) Mitchell](#)  
**Subject:** RE: 684 FIREFLY DR - GRACE LANE HOMES 3118315  
**Date:** Tuesday, August 5, 2025 1:59:00 PM  
**Attachments:** [image001.png](#)

---

Greg,

The permit file has been updated.

Thank you,



**Brenda Ritzen**  
Environmental Health Coordinator  
195 David Jonas Dr.  
New Braunfels, TX 78132  
DR:OS00007722  
830-608-2090  
[www.cceo.org](http://www.cceo.org)

---

**From:** Greg Johnson <gregjohnsonpe@yahoo.com>  
**Sent:** Tuesday, August 5, 2025 12:11 PM  
**To:** Ritzen,Brenda <rabbjr@co.comal.tx.us>  
**Cc:** Joe (Joseph D.) Mitchell <aalts98@hotmail.com>  
**Subject:** 684 FIREFLY DR - GRACE LANE HOMES 3118315

**This email originated from outside of the organization.**

**Do not click links or open attachments unless you recognize the sender and know the content is safe.**

*- Comal IT*

---

REVISED.  
THX,  
GREG

Send for Greg W. Johnson, P.E.,R.S.)  
170 Hollow Oak  
New Braunfels, TX 78132

The site plan shows a property bounded by Firefly Drive on the north and south. A large rectangular area in the north is labeled "VOID" in a red box. To the south of the void is a "3 BDRM RES. 1800sf" with an attached "DRIVEWAY". A "3' CUT OUT" is indicated on the east boundary. A "C/O" (corner offset) is shown at the southeast corner. Various dimensions are provided for setbacks and lot measurements. A north arrow is located in the bottom right corner.

**From:** [Ritzen,Brenda](#)  
**To:** [michelle@gracelanehomes.com](mailto:michelle@gracelanehomes.com); "[gregjohnsonpe@yahoo.com](mailto:gregjohnsonpe@yahoo.com)"  
**Subject:** Permit 118315  
**Date:** Thursday, February 13, 2025 8:36:00 AM  
**Attachments:** [image001.png](#)

---

**Re: Grace Lane Homes, Inc.  
Canyon Lake Forest Unit 3 Lot 1168  
Application for Permit for Authorization to Construct an On-Site  
Sewage Facility (OSSF)**

**Owner / Agent :**

**The following information is needed before I can continue processing the  
referenced permit submittal:**

1. ✓ There does not appear to be the 2000 sq. ft. of drip tubing as indicated on the design.
2. ✓ A preliminary inspection is scheduled for today. Additional comments may be necessary when complete.
3. Revise as needed and resubmit.

**Thank you,**



**Brenda Ritzen**  
Environmental Health Coordinator  
195 David Jonas Dr.  
New Braunfels, TX 78132  
DR:OS00007722  
830-608-2090  
[www.cceo.org](http://www.cceo.org)

**From:** [Ritzen,Brenda](#)  
**To:** [Greg Johnson](#)  
**Cc:** [michelle@gracelanehomes.com](mailto:michelle@gracelanehomes.com); [Joe \(Joseph D.\) Mitchell](#)  
**Subject:** RE: Permit 118315  
**Date:** Thursday, February 13, 2025 1:44:00 PM  
**Attachments:** [image001.png](#)

---

Greg,

I have updated the permit file. I will await results of the preliminary inspection before further processing of the permit submittal.

Thank you,



**Brenda Ritzen**  
Environmental Health Coordinator  
195 David Jonas Dr.  
New Braunfels, TX 78132  
DR:OS00007722  
830-608-2090  
[www.cceo.org](http://www.cceo.org)

---

**From:** Greg Johnson <gregjohnsonpe@yahoo.com>  
**Sent:** Thursday, February 13, 2025 10:14 AM  
**To:** Ritzen,Brenda <rabbjr@co.comal.tx.us>  
**Cc:** michelle@gracelanehomes.com; Joe (Joseph D.) Mitchell <aalts98@hotmail.com>  
**Subject:** Re: Permit 118315

**This email originated from outside of the organization.**

**Do not click links or open attachments unless you recognize the sender and know the content is safe.**

*- Comal IT*

---

See attached including drip zone lengths and totals.

Thx,  
Greg

Send for Greg W. Johnson, P.E., R.S.)

170 Hollow Oak

New Braunfels, TX 78132

INSTALL 2000sf OF  
FIELD USING 1000' OF  
DRIP TUBING. THERE  
SHALL BE NO PARKING,  
DRIVING OR STORAGE  
ON THE SEPTIC FIELD  
AT ANY TIME FOR ANY  
REASON.

\*USE TWO WAY CLEAN  
OUT  
\*\*USE SCH-40 OR  
SDR-26 TO TANK

X= TEST HOLE

**VOID**

1" VACUUM  
BREAKERS

FIREFLY DRIVE

LOT 1168

SLEEVE SEPTIC LINE W/  
SCH-40 UNDER  
DRIVEWAY.

NUWATER  
B 550 PC  
AEROBIC  
TREATMENT  
PLANT

**VOID**

FIREFLY DRIVE



|                                             |  |               |                       |                         |                     |
|---------------------------------------------|--|---------------|-----------------------|-------------------------|---------------------|
| OWNER: GRACE LANE HOMES, INC.               |  |               |                       | DRAWN BY: EJS III / GW. |                     |
| STREET ADDRESS: 684 FIREFLY DRIVE           |  |               |                       |                         |                     |
| LEGAL DESC: CANYON LAKE FOREST              |  |               | UNIT/SECTION/PHASE: 3 | BLOCK:                  | LOT: 1168           |
| PREPARED BY: GREG W. JOHNSON, P.E. F#002585 |  | SCALE: 1"=20' | DATE: 12/20/2024      |                         | REVISED: 12/30/2024 |

# 118315

INSTALL 2000sf OF  
FIELD USING 1000' OF  
DRIP TUBING. THERE  
SHALL BE NO PARKING,  
DRIVING OR STORAGE  
ON THE SEPTIC FIELD  
AT ANY TIME FOR ANY  
REASON.

\*USE TWO WAY CLEAN  
OUT  
\*\*USE SCH-40 OR  
SDR-26 TO TANK

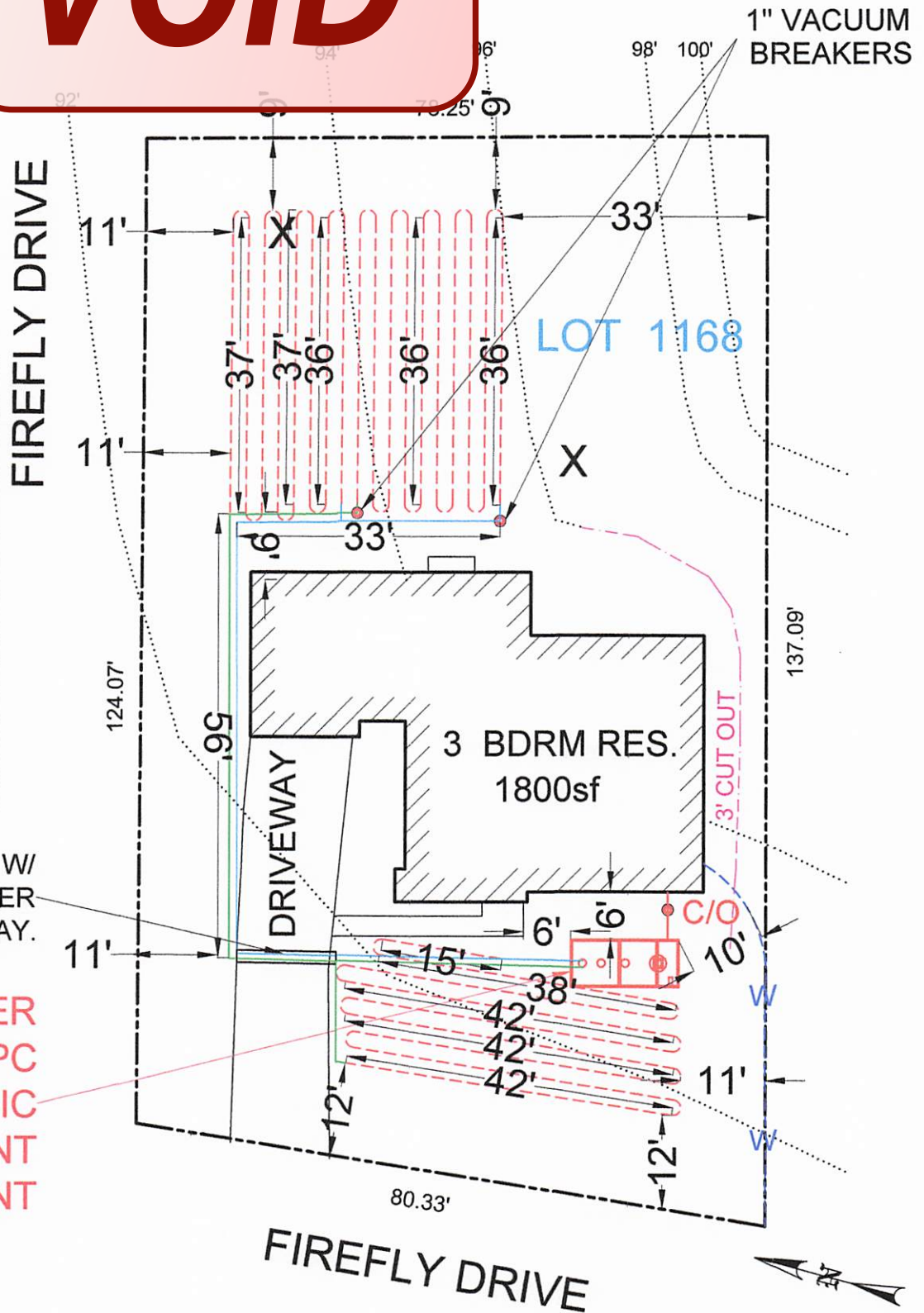
X= TEST HOLE

| DRIP TUBING |        |        |       |
|-------------|--------|--------|-------|
| ZONE 1      | ZONE 2 | ZONE 3 | TOTAL |
| 36          | 36     | 15     |       |
| 36          | 36     | 38     |       |
| 36          | 36     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          |        | 42     |       |
| 36          |        |        |       |
| 360         | 293    | 347    | 1000  |

SLEEVE SEPTIC LINE W/  
SCH-40 UNDER  
DRIVEWAY.

NUWATER  
B 550 PC  
AEROBIC  
TREATMENT  
PLANT

REVISED  
09 p.m. April 01, 2025  
**VOID**



|                                             |  |                       |                         |                   |
|---------------------------------------------|--|-----------------------|-------------------------|-------------------|
| OWNER: GRACE LANE HOMES, INC.               |  |                       | DRAWN BY: EJS III / GW. |                   |
| STREET ADDRESS: 684 FIREFLY DRIVE           |  |                       |                         |                   |
| LEGAL DESC: CANYON LAKE FOREST              |  | UNIT/SECTION/PHASE: 3 | BLOCK:                  | LOT: 1168         |
| PREPARED BY: GREG W. JOHNSON, P.E. F#002585 |  | SCALE: 1"=20'         | DATE: 12/20/2024        | REVISED: 8/3/2025 |



COMAL COUNTY  
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

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

Date December 8, 2024

Permit Number 118315

1. APPLICANT / AGENT INFORMATION

Owner Name GRACE LANE HOMES, INC. Agent Name GREG JOHNSON, P.E.  
Mailing Address 652 REBECCA RANCH ROAD Agent Address 170 HOLLOW OAK  
City, State, Zip CANYON LAKE TEXAS 78133 City, State, Zip NEW BRAUNFELS TEXAS 78132  
Phone # 210-218-8222 Phone # 830-905-2778  
Email michelle@gracelanehomes.com Email gregjohnsonpe@yahoo.com

2. LOCATION

Subdivision Name CANYON LAKE FOREST Unit 3 Lot 1168 Block  
Survey Name / Abstract Number Acreage  
Address 684 FIREFLY DR 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 1315

☐ 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: \$ 360,000 (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 ☐ Rainwater Collection

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.

Signature of Owner

Date

Page 1 of 2

Revised January 2021

Maintenance Service Provider



**VOID**

INSTALLER

TERM

JOE MITCHELL

2 year

**Routine Maintenance and Inspection Agreement**

This Work for Hire Agreement (hereinafter referred to as this "Agreement") is entered into by and between ; (referred to as "Client") and Aerobic Services of South Texas (Thomas W. Hampton MP349) (hereinafter referred to as "Contractor") located at 15188 FM 306 Canyon Lake, Texas 78133 (830) 964-2365. By this Agreement the Contractor agrees to render professional service, as described herein, and the Client agrees to fulfill the terms of this Agreement as described herein. This contract will provide for all required inspections, testing and service for your Aerobic Treatment System. The policy will include the following:

1. 3 inspections a year/services calls (at least one every 4 months), for a total of 6 over the two year period including inspection, adjustment and servicing of the mechanical, electrical and other applicable component parts to ensure proper function. This includes inspecting the control panel, air pumps, air filters, diffuser operation. Any alarm situation affecting the proper function of the Aerobic process will be addressed within a 48-hour time frame. Repair work on non-warranty parts will include price for parts & labor. The prices will be quoted before work is performed.
2. An effluent quality inspection consisting of a visual check for color, turbidity, scum overflow and examination for odors. A test for chlorine residual and pH will be taken and reported as necessary.
3. If any improper operation is observed, which cannot be corrected at the time of the service visit, you will be notified immediately in writing of the conditions and estimated date of correction.
4. The Property Owner is responsible for the chlorine; it must be filled before or during the service visit.
5. Any additional visits, inspections or sample collection required by specific Municipalities, Water/River Authorities, and County Agencies the TCEQ or any other authorized regulatory agency in your jurisdiction will be covered by this policy. BOD and TSS testing is covered by this contract.

The Property Owner Manual must be strictly followed or warranties are subject to invalidation. Pumping of sludge build-up is not covered by this policy and will result in additional charges.

**ACCESS BY CONTRACTOR**

The Contractor or anyone authorized by the Contractor may enter the property at reasonable times without prior notice for the purpose of the above described Services. The contractor may access the System components including the tanks by means of excavation for the purpose of evaluations if necessary. Soil Is to be replaced with the excavated material as best as possible.

**Termination of Agreement**

Either party may terminate this agreement within ten days with a written notice in the event of substantial failure to perform in accordance with its terms by the other party without fault of the terminating party. If this Agreement is so terminated, the Contractor will immediately notify the appropriate health authority of the termination.

Limit of Liability

In no event shall the Contractor be liable for indirect, consequential, incidental or punitive damages, whether in contract tort or any other theory. In no event shall the Contractor's liability for direct damages exceed the price for the services described in this Agreement.

Dispute Resolution

If a dispute arises between the Client and the Contractor that cannot be settled in good faith negotiations then the parties shall use a mutual selection arbitrator and shall share the cost of the arbitration services equally.

Entire Agreement

This Agreement contains the entire agreement of the parties, and there are no other promises or conditions in any other agreement either oral or written.

Severability

If any provision of this Agreement shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court finds that any provision of this agreement is invalid or unenforceable, but that by limiting such provision it would become valid and enforceable, then such provision shall be deemed to be written, construed, and enforced as so limited.

Property Owner

Name

GRACE LANE HOMES, INC.

Email

michelle@gracelanehomes.com

Service Address

684 FIREFLY DRIVE, CANYON LAKE, TX 78133

Phone

210-218-8222

X Michelle Barnes  
SIGNATURE

EFFECTIVE DATE \_\_\_\_\_

EXPIRED DATE \_\_\_\_\_

SERVICE PROVIDER

Aerobic Services of South Texas LLC

15188 FM 306 Canyon Lake, TX 786133

(830) 964-2365

Thomas H. Hampton

Signature of Service Provider and License #  
[Thomas Hampton, OS0024597 / MP0000349]



\*The effective date of this initial maintenance contract shall be the date license to operate is issued.

# OSSF SOIL EVALUATION REPORT INFORMATION

Date: December 20, 2024

## Applicant Information:

Name: GRACE LANE HOMES, INC.  
Address: 1652 REBECCA RANCH ROAD  
City: CANYON LAKE State: TEXAS  
Zip Code: 78133 Phone: (210) 219-8222

## Site Evaluator Information:

Name: Greg W. Johnson, P.E., R.S., S.E. 11561  
Address: 170 Hollow Oak  
City: New Braunfels State: Texas  
Zip Code: 78132 Phone & Fax (830)905-2778

## Property Location:

Lot 116 Unit 3 Block S 44 Canyon Lake Forest  
Street Address: 1652 Rebecca Ranch Road  
City: Canyon Lake Zip Code: 78133  
Additional Info: \_\_\_\_\_

## Installer Information:

Name: \_\_\_\_\_  
Company: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_  
Zip Code: \_\_\_\_\_ Phone: \_\_\_\_\_

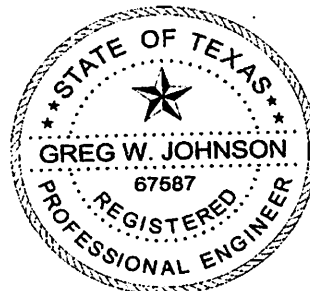
Topography: Slope within proposed disposal area: \_\_\_\_\_ to 10 %

|                                                         |     |    |          |
|---------------------------------------------------------|-----|----|----------|
| Presence of 100 yr. Flood Zone:                         | YES | NO | <u>X</u> |
| Existing or proposed water well in nearby area.         | YES | NO | <u>X</u> |
| Presence of adjacent ponds, streams, water impoundments | YES | NO | <u>X</u> |
| Presence of upper water shed                            | YES | NO | <u>X</u> |
| Organized sewage service available to lot               | YES | NO | <u>X</u> |

I HAVE PERFORMED A THOROUGH INVESTIGATION BEING A REGISTERED PROFESSIONAL ENGINEER AND SITE EVALUATOR IN ACCORDANCE WITH CHAPTER 285, SUBCHAPTER D, §285.30, & §285.40 (REGARDING RECHARGE FEATURES), TEXAS COMMISSION OF ENVIRONMENTAL QUALITY (EFFECTIVE DECEMBER 29, 2016).

  
\_\_\_\_\_  
GREG W. JOHNSON, P.E. 67587 - S.E. 11561

12/20/24  
\_\_\_\_\_  
DATE



**FIRM #2585**

**AEROBIC TREATMENT  
DRIP TUBING SYSTEM  
DESIGNED FOR:  
GRACE LANE HOMES, INC  
1652 REBECCA RANCH ROAD  
CANYON LAKE, TX 78133**

**SITE DESCRIPTION:**

Located in Canyon Lake, Texas, the proposed system will serve a three bedroom residence (13 bedrooms) situated on an area with shallow Type III soil as described in the Soil Evaluation Report. The property is heavily wooded with grasses and oak trees were found throughout this property. An aerobic treatment plant utilizing drip irrigation was chosen as the most appropriate system to serve the conditions on this lot.

**PROPOSED SYSTEM:**

A 3-inch SCH-40 pipe discharges from the residence into a NuWater B-550 600gpd aerobic plant containing a 353-gallon pretreatment tank, an aerobic treatment plant, and a 768-gallon pump chamber containing a submersible (FPS E-Series 20FE05P42W115) well pump. The well pump is activated by a time controller allowing the distribution ten times per day with an 8 minute run time with float setting at 240 gallons. A high level audible and visual alarm will activate should the pump fail. Distribution is through a self flushing 100 micron disc filter (Arkal) then through a 1" SCH-40 manifold to a 2000 sf. drip tubing field, with *Netifim Bioline* drip lines set approximately two feet apart with *0.61 gph* emitters set every two feet, as per the attached schematic. A pressure regulator PMR-MF 30psi installed in the pump tank on the manifold to the field will maintain pressure at 30 psi. A 1" SCH-40 return line is installed to continuously flush the system to the pump tank by throttling a 1" ball valve to the pump tank. Solids caught in the disc filter are continuously flushed each cycle back to the pump tank. Vacuum breakers installed at the highest point on each manifold will prevent siphoning of effluent from higher to lower parts of the field. Field area will be scarified and built up with 4" of Type II or Type III soil, then the drip tubing will be laid and capped with 6" of Type II or Type III soil (*NOT SAND*). *A minimum of 12" required between rock/tank and drip lines.* The field area will be sodded with grass prior to system startup. **Risers are required on tank inspection ports as per 30 TAC 285.38 (9/1/2023). This includes access limitation (<65lbs lid or hardware secured lid), inspection and cleanout ports shall have risers over the port openings which extend to a minimum of two inches above grade. A secondary plug, cap, or other suitable restraint system shall be provided below the riser cap to prevent tank entry if the cap is unknowingly damaged or removed.**

**DESIGN SPECIFICATIONS:**

Daily waste flow: 240 GPD Table III

Pretreatment tank size: 353 Gal

Plant Size: NuWater B550 600gpd (TCEQ Approved)

Pump tank size: 768 Gal

Reserve capacity after High Level: 80 Gal

Application Rate:  $R_a = 0.2 \text{ gal/sf}$

Total absorption area:  $Q/R_a = 240 \text{ GPD} / 0.2 = 1200 \text{ sf}$  (Actual 2000 sf.)

Total linear feet drip tubing: 1000' Netifilm inline drip tubing .61 GPH

Pump requirement: 500 emitters @ .61 gph @ 30 psi = 5.0833gpm

Pump Requirement (cont.): FPS E Series 20FE05P42W115 submersible well pump

MINIMUM SCOUR VELOCITY (MSV) > 2 FPS

IN DRIP TUBING W/ NOM. DIA. 0.55" ID

$$\text{MSV} = 2 \text{ FPS } (\pi d^2 / 4) * 7.48 \text{ gal/cf} * 60 \text{ sec/min}$$

$$\text{MSV} = 2(3.14159((.55/12)^2/4)*7.48*60$$

$$\text{MSV} = 1.5 \text{ gpm PER LINE} * 3 \text{ LINES} = 4.5 \text{ GPM MIN FLOW RATE}$$

IN RETURN MANIFOLD W/ NOM. DIA 1.049" ID

$$\text{MSV} = 2 \text{ FPS } (\pi d^2 / 4) * 7.48 \text{ gal/cf} * 60 \text{ sec/min}$$

$$\text{MSV} = 2(3.14159((1.049/12)^2/4)*7.48*60$$

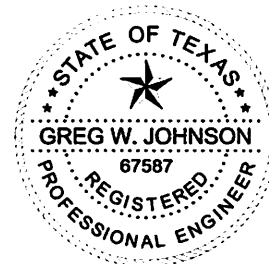
$$\text{MSV} = 5.4 \text{ GPM}$$

**PIPE AND FITTINGS:**

All pipes and fittings in this drip tubing system shall be 1" schedule 40 PVC. All joints shall be sealed with approved solvent-type PVC cement. Clipper type cutters are recommended to prevent PVC burrs during cutting of pipes causing possible plugging.

Designed in accordance with Chapter 285, Subchapter D, §285.30 and §285.40 Texas Commission On Environmental Quality. (Effective December 29,2016)

 12/20/24  
Greg W. Johnson, P.E. No. 67587 / F-2585  
170 Hollow Oak  
New Braunfels, Texas 78132  
830/905-2778



Revised

Efrain Gallegos

10/17/2025 12:22 PM

**VOID**

October 15, 2025

Greg W. Johnson, P.E.

170 Hollow Oak  
New Braunfels, Texas 78132  
830/905-2778

Comal County Office of Environmental Health  
195 David Jonas Drive  
New Braunfels, Texas 78132-3760

RE: Septic Design #118315  
684 Firefly Drive  
Canyon Lake Forest, Unit 3, Lot 1168  
Canyon Lake, TX 78133  
Grace Lane Homes, Inc.

Efrain,

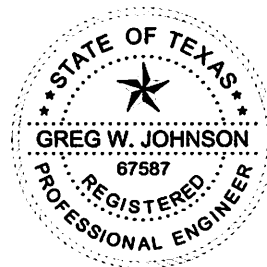
A portion of the waterline is as close as four feet from the proposed drip field and aerobic tank. A variance is required to Chapter 285 Table X. Equivalent protection will be maintained by sleeving the water service line with SCH-40 PVC within ten feet of the proposed drip field. I hereby request a variance to Chapter 285 Table X. Additionally, effluent line along driveway to be sleeved with Sch-40 PVC.

If I can be of further assistance please contact me.

Respectfully yours,



Greg W. Johnson, P.E., F#2585



INSTALL 2000sf OF  
FIELD USING 1000' OF  
DRIP TUBING. THERE  
SHALL BE NO PARKING,  
DRIVING OR STORAGE  
ON THE SEPTIC FIELD  
AT ANY TIME FOR ANY  
REASON.

\*USE TWO WAY CLEAN  
OUT

\*\*USE SCH-40 OR  
SDR-26 TO TANK

X= TEST HOLE

**Revised**  
**Efrain Gallegos**

10/17/2025 8:24:26 AM

**VOID**

1" VACUUM  
BREAKERS

LOT 1168

| DRIP TUBING |        |        |       |
|-------------|--------|--------|-------|
| ZONE 1      | ZONE 2 | ZONE 3 | TOTAL |
| 36          | 36     | 15     |       |
| 36          | 36     | 38     |       |
| 36          | 36     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          | 37     | 42     |       |
| 36          |        | 42     |       |
| 360         | 293    | 347    | 1000  |

SLEEVE EFFLUENT LINE W/  
SCH-40 UNDER AND  
ADJACENT TO DRIVEWAY.

NUWATER  
B 550 PC  
AEROBIC  
TREATMENT  
PLANT



|                                             |                       |                         |                     |
|---------------------------------------------|-----------------------|-------------------------|---------------------|
| OWNER: GRACE LANE HOMES, INC.               |                       | DRAWN BY: EJS III / GWJ |                     |
| STREET ADDRESS: 684 FIREFLY DRIVE           |                       |                         |                     |
| LEGAL DESC: CANYON LAKE FOREST              | UNIT/SECTION/PHASE: 3 | BLOCK:                  | LOT: 1168           |
| PREPARED BY: GREG W. JOHNSON, P.E. F#002585 | SCALE: 1"=20'         | DATE: 12/20/2024        | REVISED: 10/15/2025 |

**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:** March 1, 2024

**Grantor:** KENNETH HARDIN PEDERSON, a married person owning, occupying and claiming other property as homestead

**Grantor's Mailing Address:** 24811 Kennington Way, Spring, TX 77389

**Grantee:** GRACE LANE HOMES, INC., a Texas corporation

**Grantee's Mailing Address, and after Recording, Return to:** 1652 Rebecca Ranch Rd., Canyon Lake, TX 78133

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

**Property (including any improvements):**

Lot 1168, Canyon Lake Forest 3, an addition to Comal County, Texas, as shown on the plat thereof recorded in Volume 1, Page 75, of the Map and Plat Records of Comal County, Texas.

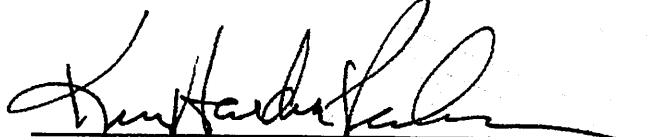
**Reservations from Conveyance:** None

**Exceptions to Conveyance and Warranty:** Validly existing easements, rights-of-way, and prescriptive rights, whether of record or not; all presently recorded and validly existing instruments, other than conveyances of the surface fee estate, that affect the Property; and taxes for 2024, which Grantee assumes and agrees to pay, but not subsequent assessments for that and prior years due to change in land usage, ownership, or both, the payment of which Grantor assumes.

Grantor, for the Consideration and subject to the Reservations from Conveyance and 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 Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

The Contract between Grantor as the Seller and Grantee as the Buyer, if any, may contain limitations as to warranty or other agreed matters; to the extent that such Contract provides for limitations or other agreed matters that will survive the closing and this conveyance, then such limitations or other agreed matters are hereby deemed incorporated by reference. The warranty of title contained in this Deed is hereby expressly excluded from the limitations or other agreed matters referenced in this paragraph.

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

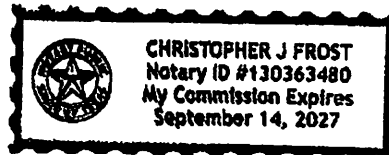
  
KENNETH HARDIN PEDERSON

STATE OF TEXAS )

COUNTY OF Harris )

This instrument was acknowledged before me on March 1<sup>st</sup>, 2024 by KENNETH HARDIN PEDERSON.

  
\_\_\_\_\_  
Notary Public, State of Texas



Filed and Recorded  
Official Public Records  
Bobbie Koepp, County Clerk  
Comal County, Texas  
03/04/2024 12:50:08 PM  
LAURA 2 Pages(s)  
202406006556

 Bobbie Koepp



**COMAL COUNTY**  
ENGINEER'S OFFICE

**OSSF DEVELOPMENT APPLICATION  
CHECKLIST**

*Staff will complete shaded items*

|                      |                 |                      |
|----------------------|-----------------|----------------------|
|                      |                 | 118315               |
| <i>Date Received</i> | <i>Initials</i> | <i>Permit Number</i> |

**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.**

\_\_\_\_\_  
Signature of Applicant

01/22/2025

\_\_\_\_\_  
Date

\_\_\_ COMPLETE APPLICATION

Check No. \_\_\_\_\_ Receipt No. \_\_\_\_\_

INCOMPLETE APPLICATION

\_\_\_ (Missing Items Circled, Application Refused)