COMAL COUNTY

ENGINEER'S OFFICE

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

Permit Number:	118741
Issued This Date:	06/13/2025
This permit is hereby given to:	Bryan & Kimberly Miller

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

1151 CANYON RANCH DR
CANYON LAKE, TX 78133

Subdivision:	M. Suche Survey 703 Abstract 549
Unit:	0
Lot:	0
Block:	0
Acreage:	0.7400

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.

Preliminary Field Check For Drip Systems

DATE: 6/12/2025

INSPECTOR: Gallegos

OBSERVATION: Site appears to match site eval.

RECEIVED
By Kathy Griffin at 9:48 am, Jun 11, 2025

COMAL COUNTY
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

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

Date _____ Permit Number 118741

1. APPLICANT / AGENT INFORMATION

Owner Name	Bryan and Kimberly Miller	Agent Name	David Winters Septics LLC.
Mailing Address	1417 Mountain View Dr	Agent Address	P.O Box 195
City, State, Zip	Canyon Lake, TX 78133	City, State, Zip	Spring Branch, TX 78070
Phone #	361-229-3483	Phone #	830-935-2477
Email	bryan_kim.miller@yahoo.com	Email	Wintersseptics@gvtc.com

2. LOCATION

Subdivision Name _____ Lot _____ Block _____

Survey Name / Abstract Number A-549 SUR-703 M. SUCHE Acreage .738

Address 1151 Canyon Ranch City Canyon Lake State TX Zip 78133

3. TYPE OF DEVELOPMENT

☒ Single Family Residential

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

Number of Bedrooms 4

Indicate Sq Ft of Living Area 1904

☐ 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: $ 173,000.00 (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

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 6-10-2025

Revised January 2021

COMAL COUNTY
ENGINEER'S OFFICE

ON-SITE SEWAGE FACILITY APPLICATION

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

Planning Materials & Site Evaluation as Required Completed By Garrett R. Winters R.S #5213

System Description Aerobic System W/ Drip Irrigation

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

Tank Size(s) (Gallons) 600GPD Absorption/Application Area (Sq Ft) 1780

Gallons Per Day (As Per TCEQ Table III) 300

(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

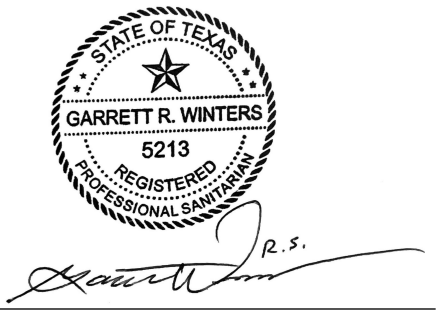
(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

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 CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? ◯ Yes ◉ No

If yes, indicate the city: _____



By signing this application, I certify that:

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

Signature of Designer

6/4/2025
Date

Revised March 2024

COUNTY OF COMAL
STATE OF TEXAS

AFFIDAVIT TO THE PUBLIC

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

According to Texas Commission on Environmental Quality (TCEQ) Rules for On-Site Sewage Facilities (OSSFs), 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, give 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 owners 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):

Tract 3, 32,081 sq. ft of land part of the Moritiz Suche Survey, No. 703 Patent No. 203, Volume No. 34, Abstract No. 549, Situated in Comal County, Texas

The property is owned by (Insert owner's full name):

BRYAN MILLER AND KIMBERLY MILLER

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 OSSF may be obtained from **Comal County Engineer's Office.**

WITNESS BY HAND(S) ON THIS 10th DAY OF June, 2025

Owner(s) signature(s)

Bryan Michael Miller
Kimberly Miller
(PRINTED NAME)

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 10th DAY OF June 2025

Emily N Heidelberg
Notary Public, State of Texas
Notary's Printed Name: Emily N Heidelberg
My Commission Expires: 09/12/2028

EMILY N. HEIDELBERG
NOTARY PUBLIC
STATE OF TEXAS
ID# 135085164
EXPIRES 9-12-2028

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
06/10/2025 04:23:04 PM
TAMMY 2 Pages(s)
202506017696

Bobbie Koepp

DAVID WINTERS SEPTICS, LLC
PO BOX 195
SPRING BRANCH, TX 78070
830-935-2477 OFFICE
830-935-2477 FAX
wintersseptics@gvtc.com

Routine Maintenance and Inspection Agreement

This Work-for-Hire Agreement (hereafter referred to as this "Agreement") is entered into, by, and between Bryan and Kimberly Miller (referred to as "Client") and David Winters Septic's, LLC, Inc. (hereafter referred to as "Contractor") located at 1151 Canyon Ranch Date beginning on Issue Date of License to Operate and contract ending 2 years from Issue Date of License to Operate
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 agreement will provide for all required inspections, testing, and service for your Aerobic Treatment System. The policy will include the following:

1. Three (3) inspections per year/service calls (at least one every four months), for a total of six (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 control panel, air pumps, air filters, diffuser operation, and replacing or repairing any component not found to be functioning correctly. Any alarm situations affecting the proper function of the Aerobic process will be addressed within a 48-hour time frame. This contract does not include labor on warranty and non-warranty parts.

2. An effluent quality inspection consisting of a visual check of 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 on your inspection report.

4. The Client is responsible for the chlorine tablets and/or liquid chlorine; they 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 not be covered by this policy.

At the conclusion of the initial service policy, our company will make available, for purchase on an annual basis, a continuing service policy cover NORMAL inspection, maintenance and repair.

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

This agreement does not cover any labor or parts for items which must be replaced due to acts of God, i.e., lightning strikes, high winds, flooding, freezing.

This agreement DOES NOT COVER materials or parts which must be replaced due to misuse or abuse of the system. These include but are not limited to: Sewage flows exceeding the recommended daily hydraulic design capabilities, Disposal of Non-Biodegradable materials, such as chemicals, grease or oil, sanitary napkins, tampons, baby wipes, disposable diapers, Clogs in the line between the house and the tank.

This agreement DOES NOT COVER LABOR OR PARTS for out- of- warranty items.

Service calls made outside of the regular maintenance schedule are subject to a **$75.00 SERVICE CALL FEE** due at the time of service.

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 service described above.

PAYMENT AGREEMENT
The client will pay compensation to the contractor for the services in the amount of First 2 years included with new install. This compensation shall be payable in one lump sum payment upon acceptance of this agreement. Payments not received within 30 days of the above described due date will be subject to a $25.00 late penalty.

TERMINATION OF THIS AGREEMENT
Either party may terminate this agreement within 10 days of written notice in the event of substantial failure to perform in accordance with its terms by other party without fault of the terminating party. If this agreement is terminated, the contractor will immediately notify the appropriate health authority.

LIMIT OF LIABILTY
The Contractor will not be liable for indirect, consequential, incidental or punitive damages, whether in contract 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.

Permit # __ _____

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

Client

Bryan and Kimberly Miller
Name

1151 Canyon Ranch
Address

Canyon Lake TX 78133
City/State/Zip Code

361-229-3483
Phone

bryan_kim.miller@yahoo.com
Email address

Signature of Client

Contractor

David Winters Septics LLC.

1550 Oak Meadows

Canyon Lake, Texas 78133

Office- 830-935-2477 Email-Wintersseptics@gvtc.com

By

Signature of Contractor

Maintenance Provider #-MP0001686

OSSF Soil & Site Evaluation

Page 1 (Soil & Site Evaluation) **Date Performed:** 6 / 4 / 2025

Property Owner: MILLER BRYAN & KIMBERLY

Site Location: 1151 CANYON RANCH DR. CANYON LAKE, TX 78133 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 borings or dug pits must be shown on the site drawing. For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed disposal field excavation depth. For surface disposal, the surface horizon must be evaluated. Describe each soil horizon and identify any restrictive features on this form. Indicate depths where features appear.

Soil Boring Number:					
Depth (Feet)	**Texture Class**	**Gravel Analysis (If Applicable)**	**Drainage (Mottles/ Water Table)**	**Restrictive Horizon**	**Observations**
1 FT.	III	<30%	None Observed	12+" TO RH	CLAY LOAM CLASS III SOIL
2 FT.					
3 FT.					
4 FT.					
5 FT.					

Soil Boring Number:					
Depth (Feet)	**Texture Class**	**Gravel Analysis (If Applicable)**	**Drainage (Mottles/ Water Table)**	**Restrictive Horizon**	**Observations**
1 FT.					
2 FT.		SAME AS	TH1		
3 FT.					
4 FT.					
5 FT.					

FEATURES OF SITE AREA

Presence of 100 year flood zone ☐ Yes ☑ No

Presence of upper water shed ☐ Yes ☑ No

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

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

Ground Slope 2 %

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

P.S.

(Signature of person performing evaluation) 06/04/25 (Date) OS#0037882 Registration Number and Type

GW Septic Designs

On-Site Sewage Facility Application and Design

Prepared By:
Garrett R. Winters
Registered Professional Sanitarian
R.S# 5213

Contact Information
Phone: (210) 854-2673
Email: Gwinterssseptics@gmail.com

Owner/Site Location

Owner/Builder: MILLER BRYAN & KIMBERLY
Address: 1151 CANYON RANCH. CANYON LAKE, TX 78133
LEGAL DESCRIPTION: A-549 SUR-703 M SUCHE, ACRES .738
DATE: 6/4/2025

LOT DESCRIPTION

The proposed method of wastewater treatment is aerobic treatment with Drip irrigation. The sizing of the OSSF was determined as specified in the Texas Commission on Environmental Quality (TCEQ) CHAPTER 285.33 (C)(2). Water saving devices are assumed for the septic system design. This site is not within the 100-Year flood plain (see site plan). Water to the property will be serviced by a public water supply. All parts of the system will maintain at least a 10-foot setback from all water lines and 5-foot from property lines.

This design was performed in conformance with Chapter 285 of the Texas Commission on Environmental Quality. I have performed a thorough site visit of the proposed lot as a Professional Registered Sanitarian and Site Evaluator in accordance with Chapter 285, Subchapter D, regarding Recharge Features, of the Texas Commission on Environmental Quality

System Summary

This design was performed in conformance with Chapter 285 of Texas Commission on Environmental Quality.

- 600gpd Aerobic DRIP treatment unit
- Control Dosing Timer
- 20gpm submersible effluent pump
- Aerator
- SCH40 PVC Sewer line
- 1” purple PVC SCH40 supply/return manifold
- NETAFIM Arkal 100-micron disk filter
- Pressure Gauge
- 40PSI pressure regulator - Model PMR40MF
- Vacuum Breakers installed at the highest points of the drip field.
- Spin lock connections
- Drip Tubing (Netafim Bioline)
- Visual and audio alarms monitoring high water and aerator failure placed in a noticeable location.

Wastewater Design Flow

Structure: 1,904SF SINGLE FAMILY RESIDENCE
# of Bedrooms: 4
Wastewater Usage Rate: 300GPD
Application Rate: 0.2
Application Area Required: 1500SF
Actual Application Area: 1780SF

System Components

Pretreatment Tank: 500gal
Pump Tank: 800gal
Aeration Tank: 600gpd
Pump: C1 20gpm submersible pump (Model no. 20C1-05P4-2W115 or equivalent)
Pump tank reserve minimum: 100gal

Potable Water Lines

Potable water lines must be at a minimum distance of 10 feet from OSSF components. If a water line is within 10 feet, it must be sleeved with 2" SCH40 PVC Pipe in order to provide equivalent protection of a 10' separation in compliance with TAC chapter 290, Subchapter D, Rules for Public Drinking Water Systems.

Electrical Components

All electrical wiring shall conform to the requirements of the National Electric Code (1999) or under any other standards approved by the executive director. Additionally, all external wiring shall be installed in approved, rigid, non-metallic gray code electrical conduit. The conduit shall be buried according to the requirements in the National Electric Code and terminated at a main circuit breaker panel or sub-panel. Connections shall be in approved junction boxes. All electrical components shall have an electrical disconnect within direct vision from the place where the electrical device is being serviced. Electrical disconnects must be weatherproof (approved for outdoor use) and have maintenance lockout provisions.

Installation

A 3” or 4” solid-wall SCH40 or SDR 26 PVC pipe with a minimum downward slope of 1/8 inch per foot will be installed between the tank and house. A 2-way cleanout must be included in the line between the house and tank. All piping from house-to-tank and tank-to-drain field must be bedded with class Ib, II, or III soils containing less than 30% gravel. The bottom of the excavation for the tank shall be level and free of large rocks/debris, the tanks shall then be bedded with a 4”-6” layer of sand, sandy loam, 3/4 dust or pea gravel. All openings in the tank are to be sealed to prevent the escape of wastewater. For all OSSF’s permitted on or after September 1, 2023, 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. 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. Risers must be fitted with removable watertight caps and protected against unauthorized intrusions. Acceptable protective measures include: a padlock and a cover that can be removed with tools.

LANDSCAPING

The native vegetation in the distribution area should consist of low-level shrubs, plains grass, bluestem, or Bermuda. The entire area of the drip disposal must be covered with a ground cover such as grass seed or sod prior to the final inspection. The native soil in the proposed drip field is to be scarified, the location of an individual sewage system shall not be in a poorly drained or filled area, or in any area where seasonal flooding/seeping occurs, without prior written approval. Stormwater runoff should not be allowed to flow over the drip field or tanks. Berms, swales and/or rain gutters should be installed by the owner/contractor to minimize erosion and field saturation. If the slope in the drain field area is greater than 30% or is complex, the area is unsuitable for the disposal method, suitable fill shall be brought into the field area to meet this requirement. *The drip field shall then either be seeded and covered with Curlex or sodded.*

As the septic designer for this project, responsibility is limited to the design and layout of the septic system based on the conditions at the time of design. There can be no liability for any drainage issues or system performance problems arising from construction activities or modifications made by contractors or other parties after the design has been finalized. It is essential for all parties to consult with qualified professionals before making changes that could impact on the system.

Maintenance Contract

For any OSSF with a pump, the installer shall provide the Designated Representative with proof of an executed two-year full-service maintenance contract as required by the TCEQ. The maintenance company will verify that the system is operating properly and that they will provide on-going maintenance of the installation. The initial contract will be for a minimum of 2 years. A maintenance contract will authorize the Maintenance Company to maintain and repair the system as needed. The owner must continuously maintain a signed written contract with a valid maintenance company and shall submit a copy of the contract to the permitting authority at least 30 days prior to the date service will cease.

Maintenance & Operations

***Water Conservation**:* Proper water management is essential to prevent septic system failure. To promote water efficiency, the use of low-flow toilets (1.6 gallons per flush or less) and water-saving showerheads and faucets is mandatory. Additionally, any leaking fixtures should be promptly repaired or replaced to ensure optimal system performance.

***Garbage Disposal**:* The use of a garbage disposal is discouraged, as it increases the presence of fats, grease, and floating solids within the septic tank, which can clog the system's lines and disrupt normal operation.

***Septic Tank Maintenance**:* Septic tanks require regular pumping to function effectively. It is recommended that tanks be pumped annually by a licensed pumping service. In the event of an alarm condition, discontinue use of the system until the pumping chamber is serviced, and a qualified maintenance provider or licensed installer addresses the necessary repairs.

***Appropriate Waste Disposal**:* The system is designed exclusively for treating and disposing of domestic wastewater. The disposal of products such as commercial enzymes, yeast, or water softener backflush through the system is prohibited, as they may interfere with the treatment and disposal processes.

***Vegetation and Drain Field Maintenance**:* The presence of vegetation on the drain field is crucial for system functionality. Erosion control measures should be applied immediately to disturbed or imported soils upon system completion to minimize erosion. Ground cover must be maintained, as it supports plant transpiration and stabilizes the soil. If vegetation dies, it should be promptly replaced to maintain
system efficiency. Any settling of the soil that causes ponding or surface water channeling should be addressed by replacing the material with quality sandy loam, which should be compacted and revegetated. Proper drainage and maintenance of vegetation prevent the formation of furrows and ensure the long-term viability of the drain field. Berms, swales, and retaining walls originally designed for the system must be preserved. The final landscaping must not interfere with the protection of the disposal fields or septic tanks. It is important to note that clay-backed sod is not recommended for this type of drain field. Furthermore, no structures (such as sidewalks, patios, or decks) should be placed over the disposal fields, and no traffic should be allowed over any components of the septic system.

***Surface Water Management**:* To prevent infiltration of surface water into the treatment tanks, proper drainage must be maintained. If tanks are located downhill, berms or tank lid risers should be used to direct surface water away. Standing water over the tanks should be avoided, as it can cause tanks to fill excessively, leading to potential flooding of the drain field and additional strain on the system's pump, which may accelerate system failure. Gutters may be required to divert water from the disposal area.

***Surface Water Management**:* To prevent infiltration of surface water into the treatment tanks, proper drainage must be maintained. If tanks are located downhill, berms or tank lid risers should be used to direct surface water away. Standing water over the tanks should be avoided, as it can cause tanks to fill excessively, leading to potential flooding of the drain field and additional strain on the system's pump, which may accelerate system failure. Gutters may be required to divert water from the disposal area.

System Flushing and Maintenance*:* Regular flushing under full system pressure is vital for the proper operation and longevity of the system. Over time, biomat can accumulate in dripper lines and emitters, leading to clogs. Frequent flushing helps to dislodge the biomat and reduce debris buildup. Dripper lines and filters should be cleaned on a routine basis. If the lines become sluggish or filters frequently clog, it may be necessary to install a larger filter or an automatic backwashing system. It is important to monitor the pressure within the dripper lines and ensure the pressure regulator valve is properly adjusted. If a flow meter is installed, check the flow rates regularly. Any adjustments or maintenance should be performed in consultation with your maintenance provider. Routine inspections are required and will be conducted by your installer or maintenance provider for the first two years. After the two-year maintenance period, it will be the homeowner's responsibility to engage a maintenance provider for continued scheduled upkeep of the system.

Affidavit

Prior to issuance of a permit, a certified copy of an affidavit must be submitted to the County Clerk's office. The affidavit is a recorded file in reference to the real property deed on which the surface application is installed on the property. The permit issued to the previous owner of the property being transferred to the new owner in accordance with §285.20(5) of the TCEQ OSSF Rules. The permit will be issued in the name of the owner of the OSSF. Permits shall be transferred to the new owner automatically upon legal sale of the OSSF. The transfer of an OSSF permit under this section shall occur upon actual transfer of the property on which the OSSF is located unless the ownership of the OSSF has been severed from the property.

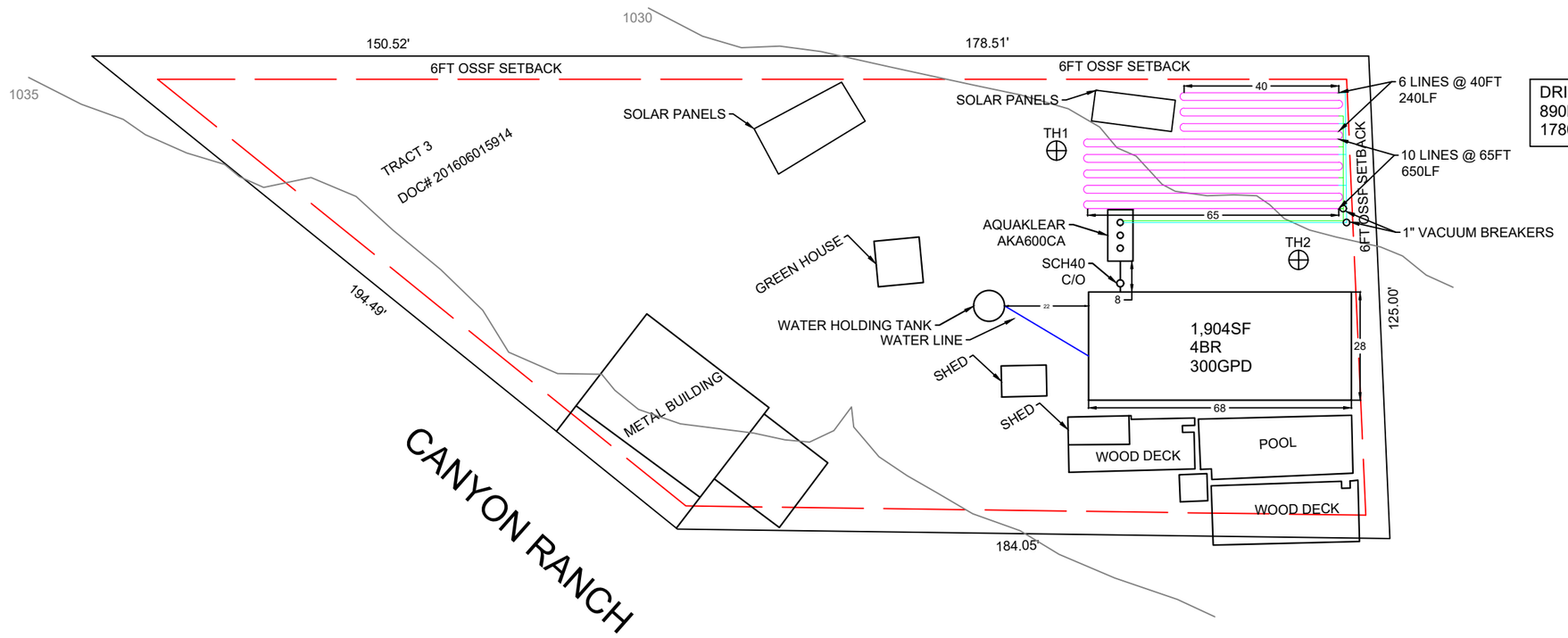
Proposed System

A 3- or 4-inch SCH-40 pipe discharges from the residence into an Aquaklear AKA600CA aerobic treatment plant (600 gpd), which includes a 500-gallon pretreatment tank and an 800-gallon pump chamber. A threaded union will be installed in the pump tank on the supply manifold, and a pressure regulator will be set to maintain a pressure of 40psi. The pump chamber houses a 0.5 HP Franklin C1-Series-20XC1-05P4-2W115 submersible well pump (or equivalent). Distribution is facilitated through a self-flushing 100-micron Arkal Disk filter and then through a 1-inch SCH-40 manifold to a minimum of 1,780 square feet of drip tubing field. This field will use Netifim Bioline drip lines, spaced approximately two feet apart, with 0.61 gph emitters set every two feet, as per the attached schematic. A 1-inch SCH-40 return line is installed to periodically flush the system. Solids collected in the disk filter will be flushed back to the pretreatment tank during each cycle. Vacuum breakers installed at the highest point on each manifold will prevent siphoning of effluent from higher to lower areas of the field. The field area will be scarified and built up with ***0 inches*** of imported Type II or Type III soil (not sand) and capped with ***6 inches***. ***The drip field will then be seeded and covered with Curlex or sodded.***

The following design is intended to follow and meet the TCEQ 30 TAC 285 OSSF Regulations. The performance of this system cannot be guaranteed even though all provisions of 30 TAC 285 have been met or exceeded.

FLOOD PLAIN: AFTER CAREFUL EXAMINATION AND STUDY OF AVAILABLE DATA (INCLUDING FEMA PANEL ZONE X (AREA OF MINIMAL FLOOD HAZARD) I HAVE DETERMINED, TO THE BEST OF MY ABILITY, THAT NEITHER THE HOUSE NOR THE SEPTIC IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN.

OSSF INFORMATION
- STRUCTURE: 1,904SF SINGLE FAMILY RESIDENCE
- BEDROOMS: 4
- DAILY WASTEFLOW: 300GPD
- TANK MANUFACTURER: AQUAKLEAR AKA600CA
- MINIMUM DRIP FIELD COVERAGE: 1500SF
- ACTUAL COVERAGE AREA: 1780SF



DRIP FIELD
890LF
1780SF

NOTES
- ALL POTABLE WATER LINES SHALL BE A MINIMUM OF 10 FEET FROM ANY PART OF THE OSSF
- TANK SEWER PIPE MUST HAVE AT MINIMUM .25" FALL PER 1'
- USE 3" OR 4" SCH40 PIPE TO CONNECT STRUCTURE TO TANK
- VACUUM BREAKERS ARE TO BE PLACED AT THE HIGHEST POINT ON THE SUPPLY AND RETURN LINES
- NO VEHICLE TRAFFIC IS TO BE ON ANY PART OF THE DISPOSAL AREA
- SYSTEM SHALL INCLUDE AUDIO AND VISUAL ALARMS TO INDICATE HIGH WATER AND AIR
- ALL PIPES SHALL BE SCHEDULE 40 PVC OR APPROVED EQUAL, UNLESS NOTED OTHERWISE. ALL JOINTS SHALL BE CLEANED WITH THE APPROPRIATE SOLVENT AND GLUED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION
- ONLY GOOD QUALITY SANDY LOAM SHALL BE APPLIED OVER THE DISPOSAL FIELDS. CLASS IV CLAY IS UNACCEPTABLE AND WILL CAUSE SYSTEM FAILURE. SANDY LOAM SHALL BE DEFINED AS SHOWN IN TABLE VI (USDA SOIL TEXTURAL CLASSIFICATIONS) OF THE RULES AND REGULATIONS OF THE TCEQ. THE INSTALLER IS RESPONSIBLE FOR VERIFYING THE QUALITY OF EACH LOAD OF LOAM PLACED ON THE SYSTEM.
- STORM WATER (RAINFALL RUNOFF) SHOULD NOT BE ALLOWED TO FLOW OVER THE DISPOSAL FIELDS OR THE TANKS. DIVERSION BERMS, SWALES AND/OR RAIN GUTTERS SHOULD BE INSTALLED AS NECESSARY TO PREVENT SUCH RUNOFF.
- THIS DISPOSAL SYSTEM HAS BEEN DESIGNED TO OPERATE PROPERLY AT SPECIFICATIONS NOTED IN THESE PLANS. ALTERATIONS TO THE SYSTEM BY THE OWNER, INCLUDING BUT NOT LIMITED TO LANDSCAPING, DRAINAGE, BUILDING AND/OR WATER USAGE, MAY CAUSE PREMATURE FAILURE AND SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER
- THIS SITE PLAN IS EXPRESSLY INTENDED FOR ON-SITE SEWAGE FACILITY (OSSF) USE ONLY AND SHOULD NOT BE UTILIZED OR CONSTRUCTED FOR SURVEYING PURPOSES. ITS PURPOSE IS TO ACCURATELY REPRESENT THE LAYOUT AND DESIGN OF THE SEWAGE SYSTEM WITHIN THE SPECIFIED PROPERTY BOUNDARIES FOR REGULATORY AND OPERATIONAL COMPLIANCE.

PREPARED BY: GARRETT R. WINTERS
R.S #5213

OWNER: MILLER BRYAN & KIMBERLY

ADDRESS: 1151 CANYON RANCH DR.
CANYON LAKE, TX 78133
LEGAL DESCRIPTION: A-549 SUR-703
M SUCHE, ACRES .738

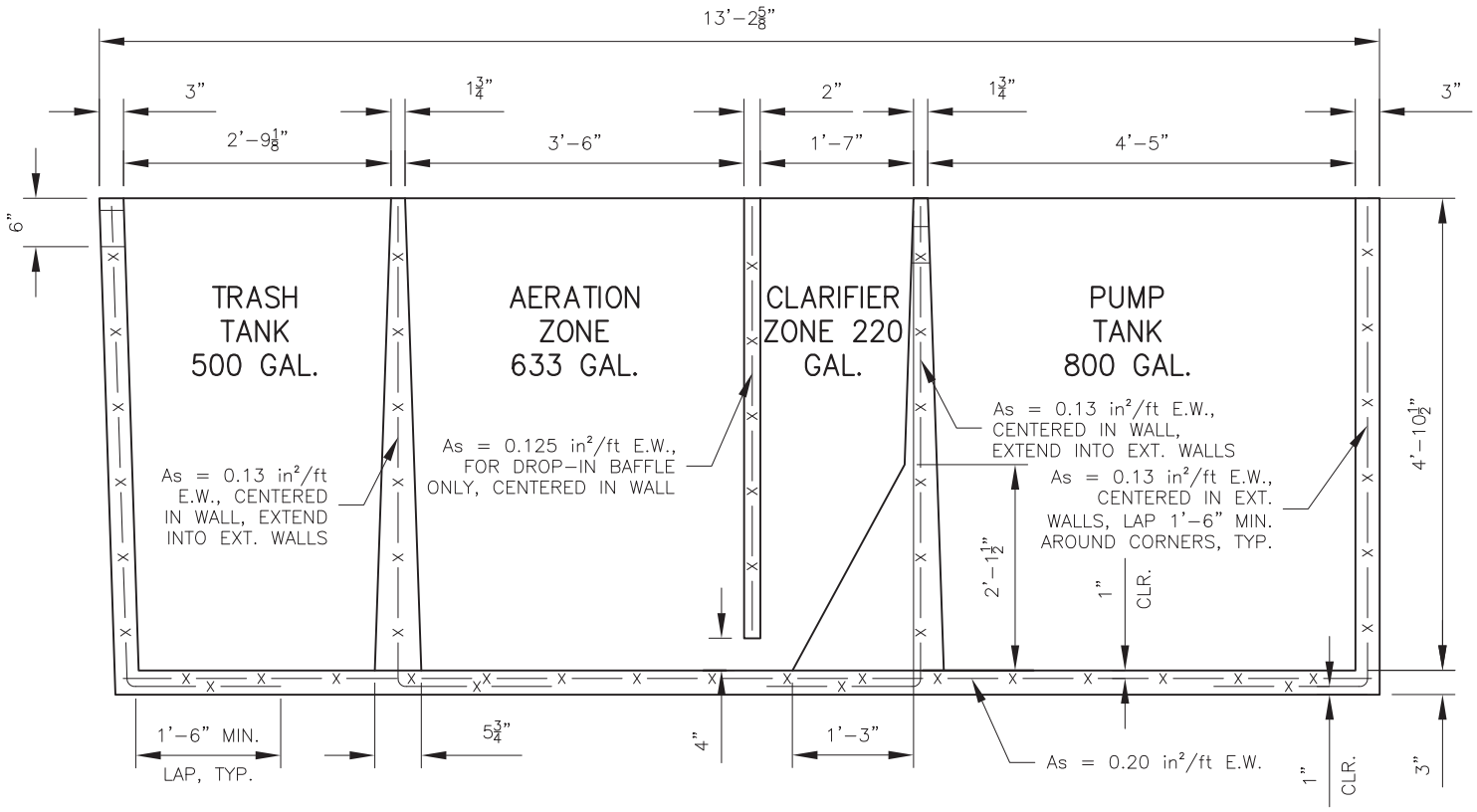
DATE	DESCRIPTION	REV#

GW Designs

SCALE:1"- 35'

DATE: 6/4/2025

STATE OF TEXAS
GARRETT R. WINTERS
5213
REGISTERED
PROFESSIONAL SANITARIAN
R.S.



REINFORCING SECTION

PUMP FLOAT SETTINGS FOR: 300GPD

Volume	800.0	gallons
Water Depth	50.5	inches
Volume / Vertical Inch	**15.84**	**gal/in**

Min. Reserve Volume	**1/3**	**of Q**	**100**	**gal/day**
Pump OFF	10	inches =	158.4	gallons
Pump ON	12	inches =	31.7	gallons
High Water ALARM	32	inches =	316.8	gallons
RESERVE	**50.5**	**inches =**	**293.1**	**gallons**

STATE OF TEXAS
GARRETT R. WINTERS
5213
REGISTERED
PROFESSIONAL SANITARIAN
P.E.

REV.NO.	DATE	REVISION

PREPARED FOR:

DAVID WINTERS SEPTIC
P.O. BOX 195
SPRINF BRANCH, TX 78070

PREPARED BY:

DELTA
SPECIALTY PRECAST CONCRETE ENGINEERS
860 HOOPER ROAD, ENDWELL, NY 13760-1564
PHONE(607)231-6600 FAX(607)231-6650

DATE: 09/20/2021
SCALE: N.T.S.
SHEET TITLE: REINFORCING SECTION
DRWN BY: CCFH
CKD BY:
PROJECT: AQUAKLEAR WASTEWATER TREATMENT SYSTEM MODEL AKA600CA
CONTRACTOR:
DWG. I.D. RS-02
DELTA PROJ. NO.: 2021.750.001
SHT. NO. 2 OF 2

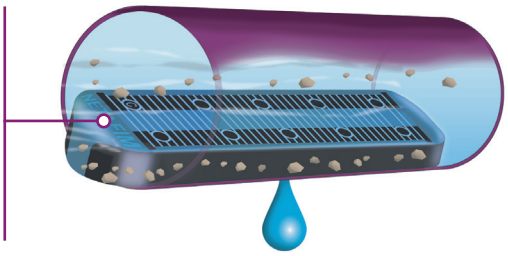
WASTEWATER DIVISION

BIOLINE® DRIPLINE

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

CROSS SECTION OF BIOLINE DRIPLINE

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



PRODUCT ADVANTAGES

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

APPLICATIONS

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

SPECIFICATIONS

- Dripper flow rates: 0.4, 0.6 or 0.9 GPH
- Dripper spacings: 12", 18" or 24" dripper spacings and blank tubing
- Pressure compensation range: 7 to 58 psi (stainless steel clamps recommended above 50 psi)
- Maximum recommended system pressure: 50 psi
- Tubing diameter: 0.66" OD, 0.57" ID
- Tubing color: Purple color indicates non-potable
- Coil lengths: 500' or 1,000' (Blank tubing in 250')
- Recommended filtration: 120 mesh
- Bending radius: 7"
- UV resistant
- Tubing material: Linear low-density polyethylene

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

BIOLINE DRIPLINE

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 3.0 fps FLUSH VELOCITY

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

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

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

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.5 fps FLUSH VELOCITY

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

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

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

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 2.0 fps FLUSH VELOCITY

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

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

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

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.5 fps FLUSH VELOCITY

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

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

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

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 1.0 fps FLUSH VELOCITY

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

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

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

MAXIMUM LENGTH OF A SINGLE LATERAL WITH 0.5 fps FLUSH VELOCITY

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

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

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

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

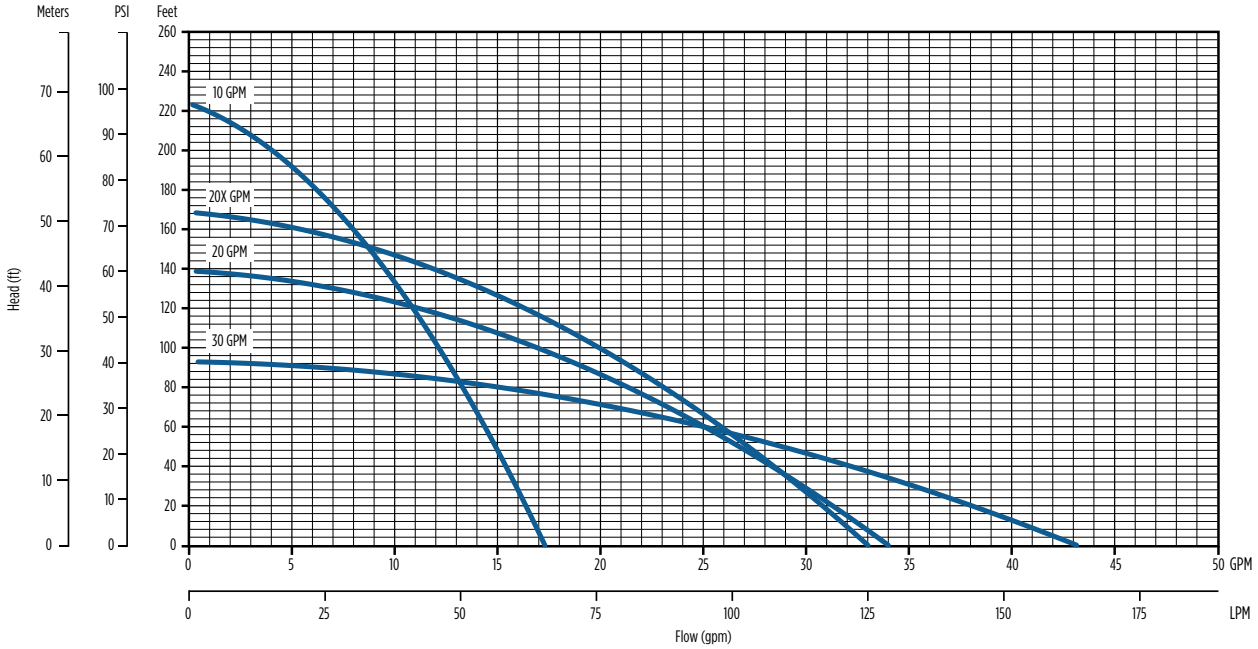
Notes:
1. Refer to local regulations for information on flushing velocities that may be written into codes.
2. Netafim does not endorse a specific flushing velocity.
3. Flushing velocities should be determined based on regulations, quality of effluent, and type of flushing control.
4. Using a flushing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

C1 SERIES
CISTERN PUMPS

Designed for use in gray water and filtered effluent service applications, the C1 Series cistern pump provides high performance and long life in less than ideal water conditions. Able to pass solids up to 1/8" without having a negative effect on the internal hydraulic components, the pump features a unique bottom suction design allowing for maximum fluid drawdown without compromising durability or overall life, and it does not require the use of a flow induction sleeve. Intended specifically for use in a cistern or tank, C1 Series pumps are suitable for use in agricultural, residential, and commercial installations.

Franklin Electric

C1 SERIES FAMILY CURVE



FEATURES

- Supplied with a removable 5" base for secure and reliable mounting
- Bottom suction design
- Robust thermoplastic discharge head design resists breakage during installation and operation
- Standard backflow prevention through a built-in, but removable, check valve.
- Single shell housing design provides a compact unit while ensuring cool and quiet operation
- Hydraulic components molded from high quality engineered thermoplastics
- Optimized hydraulic design allows for increased performance and decreased power usage
- All metal components are made of high grade stainless steel for corrosion resistance
- Available with a high quality 115 V or 230 V, 1/2 hp motor
- Fluid flows of 10, 20, and 30 gpm, with a max shut-off pressure of over 100 psi
- Heavy-duty 300 V 10 foot SJOOW jacketed lead

APPLICATIONS

- Gray water pumping
- Filtered effluent service water pumping
- Water reclamation projects such as pumping from rain catchment basins
- Aeration and other foundation or pond applications
- Agriculture and livestock water pumping

ORDERING INFORMATION

GPM	HP	Volts	Stage	Model No.	Order No.	Length (in)	Weight (lbs)
10	1/2	115	6	10C1-05P4-2W115	90301005	26	17
		230	6	10C1-05P4-2W230	90301010	26	17
20		115	4	20C1-05P4-2W115	90302005	25	16
		230	4	20C1-05P4-2W230	90302010	25	16
20X		115	5	20XC1-05P4-2W115	90302015	26	17
		230	5	20XC1-05P4-2W230	90302020	26	17
30		115	3	30C1-05P4-2W115	90303005	25	16
		230	3	30C1-05P4-2W230	90303010	25	16

NOTE: All units have 10 foot long SJOOW leads

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 Model Numbers Chart on page 2 for outlet flow based on the model. 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	Outlet
¾-inch Female National Pipe Thread (FNPT)	¾-inch Female National Pipe Thread (FNPT)
1-inch Female National Pipe Thread (FNPT)	1-inch Female National Pipe Thread (FNPT)
1-inch Female British Standard Pipe Thread (FBSPT)	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.

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

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

Physical

3/4″ FNPT x 3/4″ FNPT model *(shown on right)*

Overall Length 5.2 inches (13.1 cm)

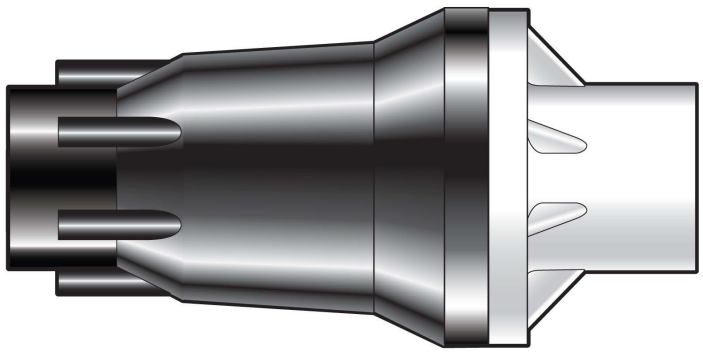
Overall Width 2.5 inches (6.4 cm)

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)



PMR-MF

PRESSURE-MASTER REGULATOR - MEDIUM FLOW

Model Numbers

Model #	Flow Range	Preset Operating Pressure	Maximum Inlet Pressure
PMR06MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR06MF4F4FV (1″ F x 1″ F NPT) or PMR06MF4F3FV (1″ F x 3/4″ F NPT)	4 - 16 GPM (909 - 3634 L/hr)	6 PSI (0.41 bar)	80 psi (5.51 bar)
PMR10MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR10MF4F4FV (1″ F x 1″ F NPT) or PMR10MF4F3FV (1″ F x 3/4″ F NPT)	4 - 16 GPM (909 - 3634 L/hr)	10 PSI (0.69 bar)	90 psi (6.20 bar)
PMR12MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR12MF4F4FV (1″ F x 1″ F NPT) or PMR12MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	12 PSI (0.83 bar)	90 psi (6.20 bar)
PMR15MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR15MF4F4FV (1″ F x 1″ F NPT) or PMR15MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	15 PSI (1.03 bar)	95 psi (6.55 bar)
PMR20MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR20MF4F4FV (1″ F x 1″ F NPT) or PMR20MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	20 PSI (1.38 bar)	100 psi (6.89 bar)
PMR25MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR25MF4F4FV (1″ F x 1″ F NPT) or PMR25MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	25 PSI (1.72 bar)	105 psi (7.24 bar)
PMR30MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR30MF4F4FV (1″ F x 1″ F NPT) or PMR30MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	30 PSI (2.07 bar)	110 psi (7.58 bar)
PMR35MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR35MF4F4FV (1″ F x 1″ F NPT) or PMR35MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	35 PSI (2.41 bar)	115 psi (7.93 bar)
PMR40MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR40MF4F4FV (1″ F x 1″ F NPT) or PMR40MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	40 PSI (2.76 bar)	120 psi (8.27 bar)
PMR50MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR50MF4F4FV (1″ F x 1″ F NPT) or PMR50MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	50 PSI (3.45 bar)	130 psi (8.96 bar)
PMR60MF3F3FV (3/4″ F x 3/4″ F NPT) or PMR60MF4F4FV (1″ F x 1″ F NPT) or PMR60MF4F3FV (1″ F x 3/4″ F NPT)	2 - 20 GPM (454 - 4542 L/hr)	60 PSI (4.14 bar)	140 psi (9.65 bar)

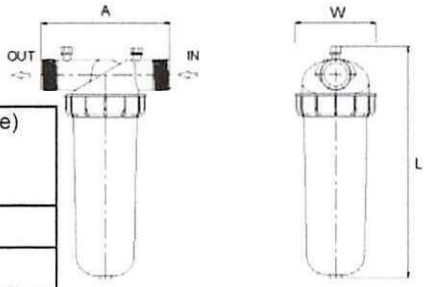
ARKAL
FILTRATION SYSTEMS

Arkal 1½" Super Filter

Catalog No. 1152 0_ _ _

Features

- A "T" shaped filter with two 1½" male threads.
- A "T" volume filter for in-line installation on 1½" 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.
- A sealing spring keeps the discs compressed.
- Screw-on filter cover.
- Filter discs are available in various filtration grades.



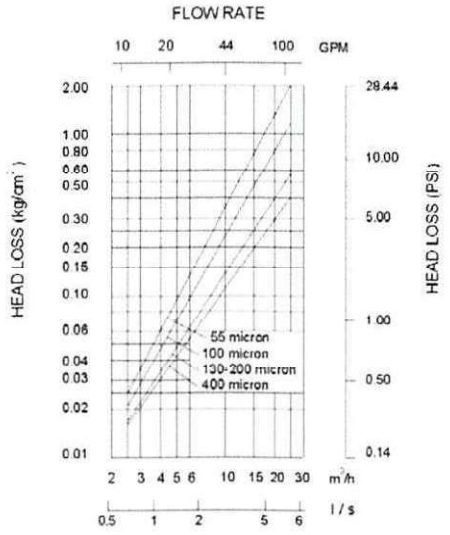
Technical Data

Inlet/outlet diameter	1½" BSPT (male) 40 mm – nominal diameter 48.2 mm – pipe diameter (O. D.)	1½" NPT (male)
Maximum pressure	10 atm	145 psi
Maximum flow rate	12 m^3/h (2.22 l/sec)	52.8 gpm
General filtration area	500 cm^2	77.5 in^2
Filtration volume	600 cm^3	37 in^3
Filter length L	350 mm	13 25/32"
Filter width W	130 mm	5 3/32"
Distance between end connections A	200 mm	7 7/8"
Weight	1.51 kg	3.32 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)

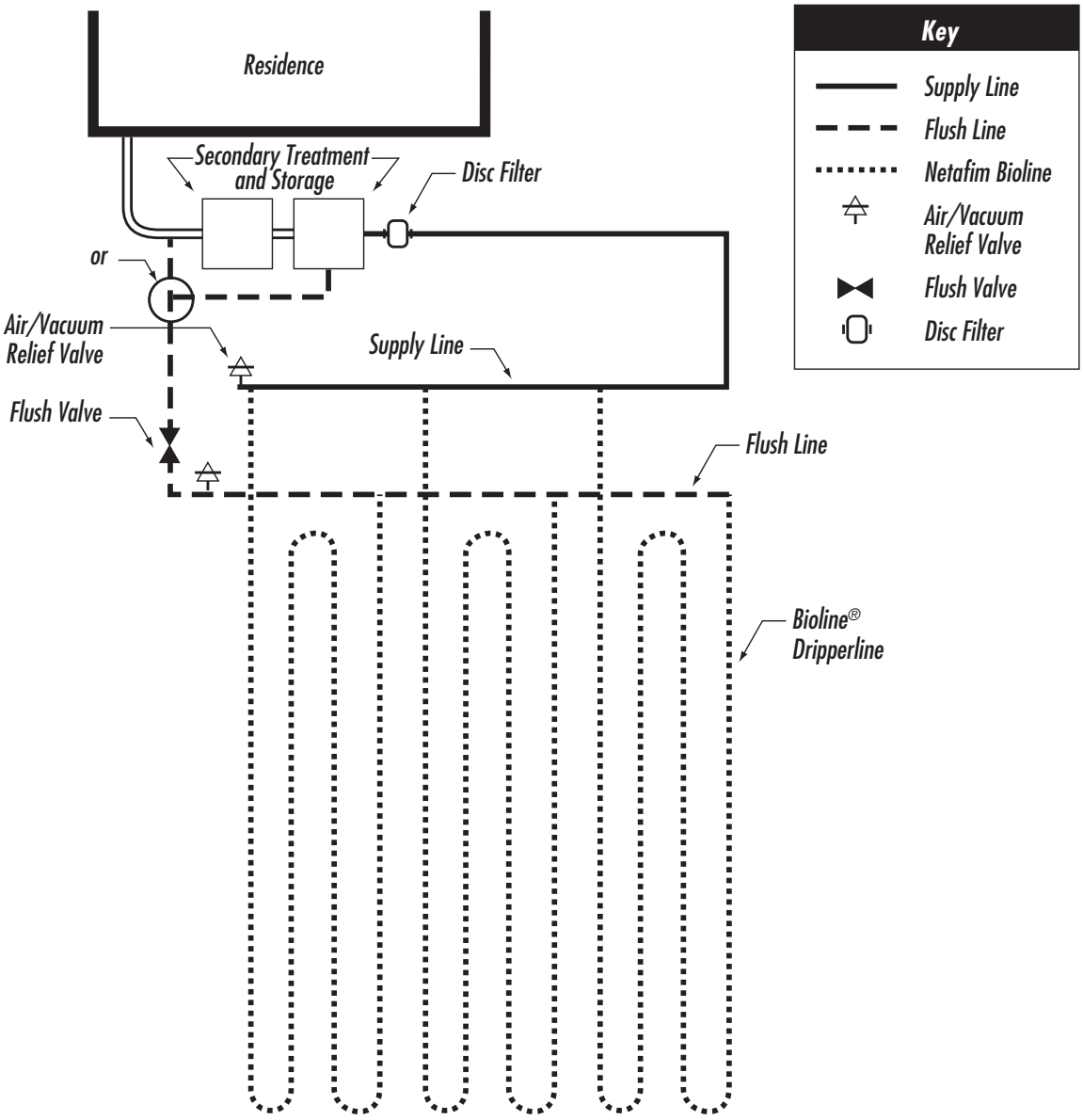
Head Loss Chart



SINGLE TRENCH LAYOUT

Rectangular field with supply and flush manifolds on the same side and in the same trench:

- Locate the supply and flush manifolds in the same trench
- Dripperlines are looped at the halfway point of their run and returned to flush manifold
- Bioline® laterals should never exceed recommended lengths



Comal County Web Map

6/4/2025, 8:25:36 AM

1:753

TCEQ Contributing Zone

Addresses

Streets

Parcels

Scaled County Boundary

Permits

S Septic

P Piprow/Driveway

F Floodplain

U Utility

County Maintained Roads

0 0.01 0.01 0.03 mi

0 0.01 0.03 0.05 km

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.

FILED BY ATC
VENTURA PLAZA
GF # 4008161457ZK

General Warranty Deed

Date: April 15 2016

Grantor: Secure Real Estate, Inc., a Texas corporation

Grantor's Mailing Address:

459 Kingston Rd.
Jefferson, Texas 75657

Grantee: Bryan Miller and Kimberly Miller

Grantee's Mailing Address:

3303 Yoakum Trail
San Antonio, Texas 78253

Consideration:

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

Property (including any improvements):

Three tracts of land out of the Moritz Suche Survey No. 703, situated in Comal County, Texas, and being more particularly described in Exhibit "A" attached hereto and made a part hereof for all purposes.

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 2016, which Grantee assumes and agrees to pay, and subsequent assessments for that and prior years due to change in land usage, ownership, or both, the payment of which Grantee 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.

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

Secure Real Estate, Inc., a Texas corporation,

Richard Allen Hughes, President

STATE OF TEXAS)

COUNTY OF MARION)

This instrument was acknowledged before me on April 15th, 2016, by Richard Allen Hughes, as the President of Secure Real Estate, Inc., a Texas corporation, on behalf of said corporation.

Notary Public, State of Texas
My commission expires: May 5, 2018

KIRSTIE E PRICE
Notary Public
STATE OF TEXAS
ID#12568425-9
My Comm. Exp. May 05, 2018

PREPARED IN THE OFFICE OF:

David L. Ricker
P. O. Box 1571
Boerne, Texas 78006
Tel: (210) 737-6097
Fax: (210) 690-3635

AFTER RECORDING RETURN TO:

Alamo Title Company
434 N. Loop 1604 West, #2208
San Antonio, Texas 78232

TRACT 1

22,500 square feet of land, part of the Moritz Suche Survey No. 703, Patent No. 203, Volume 34, Abstract No. 549, situated in Comal County, Texas, and is described by metes and bounds as follows, to-wit:

BEGINNING at a steel bar for the N.W. corner of Lot No. 764 of Canyon Lake Shores, Unit No. 5, a Subdivision situated on Canyon Lake, Comal County, Texas, for the S.W. corner of this tract of land; THENCE N. 29° 59' E. 125.0 feet to a steel bar set for the N.W. corner of this tract of land; THENCE S. 60°01' E. 180.0 feet to a steel bar set for the N.E. corner of this tract; THENCE S. 29°59' W. 125.0 feet to a steel bar for the N.E. corner of Lot No. 766 of Canyon Lake Shores, Unit No. 5, for the S.E. corner of this tract of land; THENCE with the North lines of Lots Nos. 766, 765 and 764, N. 60°01' W. 180.0 feet to the PLACE OF BEGINNING.

TRACT 2

7,500 square feet of land, part of the Mortiz Suche Survey No. 703, Patent No. 203, Volume 34, Abstract No. 549, situated in Comal County, Texas, and is described by metes and bounds as follows, to-wit:

BEGINNING at a steel bar for the N.W. corner of Lot No. 763 of Canyon Lake Shores, Unit No. 5, a Subdivision situated on Canyon Lake, Comal County, Texas, for the S.W. corner of this tract of land; THENCE N. 29°59' E. 125.0 feet to a steel bar set for the N.W. corner of this tract; THENCE S. 56°25' E. 3.0 feet to a steel bar; THENCE S. 60° 01' E. 57.0 feet to a steel bar set for the N.E. corner of this tract of land; THENCE S. 29°59' W. 125.0 feet to a steel bar for the N.E. corner of Lot No. 763 of Canyon Lake Shores, Unit No. 5, for the S.E. corner of this tract; THENCE with the North line of Lot No. 763, N. 60° 01' W. 60.0 feet to the PLACE OF BEGINNING.

TRACT 3

32,081 square feet of land, part of the Moritz Suche Survey No. 703, Patent No. 203, Volume 34, Abstract No. 549, situated in Comal County, Texas, and is described by metes and bounds as follows, to-wit:

BEGINNING at a steel bar set in the East line of a street for the N.W. corner of Lot No. 762 of Canyon Lake Shores, Unit No. 5, a Subdivision situated on Canyon Lake, Comal County, Texas for the S.W. corner of this tract; THENCE with East line of said street, N. 18°13' W. 194.6 feet to a steel bar set for the N.W. corner of this tract; THENCE S. 58°07' E. 150.9 feet to a steel bar set for corner; THENCE S. 56°25' E. 178.3 feet to a steel bar set for the N.E. corner of this tract; THENCE S. 29° 59' W. 125.0 feet to a steel bar for the N.E. corner of Lot No. 762 of Canyon Lake Shores, Unit No. 5, for the S.E. corner of this tract; THENCE with the North line of Lot No. 762, N. 56°25' W. 184.1 feet to the PLACE OF BEGINNING.

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
04/19/2016 09:47:23 AM
LAURA 5 Pages(s)
201606015914

County Court of Comal County, Texas

Bobbie Koepp

RECEIVED
By Kathy Griffin at 9:48 am, Jun 11, 2025

COMAL COUNTY
ENGINEER'S OFFICE

OSSF DEVELOPMENT APPLICATION CHECKLIST

Staff will complete shaded items

Date Received	Initials	Permit Number
		118741

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.

By: [signature] Signature of Applicant

6.10.2025 Date

___ COMPLETE APPLICATION

Check No. _____ Receipt No._____

___ INCOMPLETE APPLICATION
(Missing Items Circled, Application Refeused)

Revised: September 2019

CCEO
COPY

1187441

FILED FOR RECORD
1980 JUN 26 PM 12: 14
IRENE S. KUHN
COUNTY CLERK COMAL COUNTY
BY Charlene Motte
17.00 Pd.

191273

VOL 297 PAGE 482

WARRANTY DEED WITH VENDOR'S LIEN

THE STATE OF TEXAS §
§
COUNTIES OF COMAL §
AND BEXAR §

KNOW ALL MEN BY THESE PRESENTS:

That LAKECROFT, INC., a Texas corporation of Bexar County, Texas, for and in consideration of the sum of TEN DOLLARS ($10.00), and other valuable consideration to it in hand paid by the Grantee herein named, the receipt of which is hereby acknowledged, and the further consideration of the execution and delivery by Grantee of its one certain Promissory Note of even date herewith in the principal sum of SIXTEEN THOUSAND EIGHT HUNDRED AND NO/100 DOLLARS ($16,800.00), payable to the order of Grantor in installments and bearing interest as therein provided, the payment of which Note is secured by the Vendor's Lien herein retained, and is additionally secured by a Deed of Trust of even date herewith to E.B. BRANCH, Trustee, has GRANTED, SOLD and CONVEYED and by these presents does GRANT, SELL and CONVEY unto SECURE REAL ESTATE, INC., a Texas corporation, all of the following described real property, to-wit:

That certain real property in Comal and Bexar Counties, Texas, described in Exhibit "A" attached hereto and made a part hereof.

This conveyance, as to each of the lots and tracts described in Exhibit "A", is made subject to the easements, assessments, reservations, and subdivision restrictions set forth following the description of said lots and tracts in Exhibit "A".

Ad valorem taxes on the above described properties have been prorated, and Grantee assumes payment of same.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantee, its successors and assigns forever; and Grantor does hereby bind itself and its successors to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantee its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof.

BUT it is expressly agreed that the Vendor's Lien, as well as the Superior Title in and to the above described premises, is retained against the above described property, premises and improvements until the above described note and all interest thereon are fully paid according to the face, tenor, effect and reading thereof, when this Deed shall become absolute.

EXECUTED this 1st day of December, 1979.

LAKECROFT, INC.

By _____
B.J. SLEDGE, JR., President

ATTEST:

_____
Secretary

THE STATE OF TEXAS §
§
COUNTY OF BEXAR §

BEFORE ME, the undersigned authority, on this day personally appeared B.J. SLEDGE, JR., President of LAKECROFT, INC., a corporation, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed, in the capacity therein stated and as the act and deed of said corporation.

GIVEN under my hand and seal of office on this the 1st day of December, 1979.

Arlette Wilkinson
Notary Public in and for
Bexar County, Texas.

My Commission Expires: 5/31/81

ARLETTE WILKINSON
Notary Public, Bexar County, Texas

CCEO
COPY

COMAL COUNTY

(a) Lots 615 and 616 in CANYON LAKE SHORES, UNIT NO. 5, a Subdivision in Comal County, Texas, according to Plat recorded in Volume 1, Page 49, Map and Plat Records of Comal County, Texas.

This conveyance of the above described lots in CANYON LAKE SHORES, UNIT NO. 5 is made subject to restrictions, easements, covenants, and mineral conveyances and reservations of record affecting the title to said property, and the restrictions, covenants, easements, assessments and reservations set forth in Exhibit "A-1" attached hereto and made a part hereof the same as if copied here in full, which are covenants running with the land and binding upon Grantee and all persons claiming under Grantee.

(b) 22,500 square feet of land, part of the Moritz Suche Survey No. 703, Patent No. 203, Volume 34, Abstract No. 549, situated in Comal County, Texas, and is described by metes and bounds as follows, to-wit:

BEGINNING at a steel bar for the N.W. corner of Lot No. 764 of Canyon Lake Shores, Unit No. 5, a Subdivision situated on Canyon Lake, Comal County, Texas, for the S.W. corner of this tract of land; THENCE N. 29° 59' E. 125.0 feet to a steel bar set for the N.W. corner of this tract of land; THENCE S. 60°01' E. 180.0 feet to a steel bar set for the N.E. corner of this tract; THENCE S. 29°59' W. 125.0 feet to a steel bar for the N.E. corner of Lot No. 766 of Canyon Lake Shores, Unit No. 5, for the S.E. corner of this tract of land; THENCE with the North lines of Lots Nos. 766, 765 and 764, N. 60°01' W. 180.0 feet to the PLACE OF BEGINNING.

(c) 7,500 square feet of land, part of the Moritz Suche Survey No. 703, Patent No. 203, Volume 34, Abstract No. 549, situated in Comal County, Texas, and is described by metes and bounds as follows, to-wit:

BEGINNING at a steel bar for the N.W. corner of Lot No. 763 of Canyon Lake Shores, Unit No. 5, a Subdivision situated on Canyon Lake, Comal County, Texas, for the S.W. corner of this tract of land; THENCE N. 29°59' E. 125.0 feet to a steel bar set for the N.W. corner of this tract; THENCE S. 56°25' E. 3.0 feet to a steel bar; THENCE S. 60° 01' E. 57.0 feet to a steel bar set for the N.E. corner of this tract of land; THENCE S. 29°59' W. 125.0 feet to a steel bar for the N.E. corner of Lot No. 763 of Canyon Lake Shores, Unit No. 5, for the S.E. corner of this tract; THENCE with the North line of Lot No. 763, N. 60° 01' W. 60.0 feet to the PLACE OF BEGINNING.

(d) 32,081 square feet of land, part of the Moritz Suche Survey No. 703, Patent No. 203, Volume 34, Abstract No. 549, situated in Comal County, Texas, and is described by metes and bounds as follows, to-wit:

BEGINNING at a steel bar set in the East line of a street for the N.W. corner of Lot No. 762 of Canyon Lake Shores, Unit No. 5, a Subdivision situated on Canyon Lake, Comal County, Texas for the S.W. corner of this tract; THENCE with East line of said street, N. 18°13' W. 194.6 feet to

a steel bar set for the N.W. corner of this tract; THENCE S. 58°07' E. 150.9 feet to a steel bar set for corner; THENCE S. 56°25' E. 178.3 feet to a steel bar set for the N.E. corner of this tract; THENCE S. 29° 59' W. 125.0 feet to a steel bar for the N.E. corner of Lot No. 762 of Canyon Lake Shores, Unit No. 5, for the S.E. corner of this tract; THENCE with the North line of Lot No. 762, N. 56°25' W. 184.1 feet to the PLACE OF BEGINNING.

(e) 28,825 square feet of land, part of the A.S. Cunningham Survey No. 701, Patent No. 154, Volume 19, Abstract No. 102, situated in Comal County, Texas, and is described by metes and bounds as follows, to-wit:

BEGINNING at a steel bar set 596.0 feet N. 2°59' W. from the N.W. corner of Lot No. 687 of Canyon Lake Shores, Unit No. 5, a Subdivision situated on Canyon Lake, Comal County, Texas, for the S.W. corner of this tract of land; THENCE N. 2°59' W. 230.6 feet to a steel bar set for the N.W. corner of this tract of land; THENCE N. 87°01' E. 125.0 feet to a steel bar set for the N.E. corner of this tract of land; THENCE S. 2°59' E. 230.6 feet to a steel bar set for the S.E. corner of this tract of land; THENCE S. 87°01' W. 125.0 feet to the PLACE OF BEGINNING.

This conveyance of the land described in Paragraphs (b), (c), (d), and (e), next above, is made subject to restrictions, easements, covenants, and mineral conveyances and reservations, if any, affecting the title to said property, to the extent, and only to the extent, that the same may still be in force and effect, shown of record in the office of the County Clerk of Comal County, Texas, and to the restrictions, covenants, easements, assessments and reservations set forth in Exhibit "A-1" attached hereto and made a part hereof the same as if copied here in full, which are covenants running with the land and binding upon Grantee and all persons claiming under Grantee.

(f) Lots 199, 305, 376, 389, and 422 in CANYON LAKE HILLS, UNIT 1, a Subdivision in Comal County, Texas, according to Plat recorded in Volume 2, Page 17, Map and Plat Records of Comal County, Texas.

(g) Lots 901, 1079, and 1082 in CANYON LAKE HILLS, UNIT 2, a Subdivision in Comal County, Texas, according to Plat recorded in Volume 2, Page 18, Map and Plat Records of Comal County, Texas.

(h) Lots 1306, 1307, 1321, and 1649 in CANYON LAKE HILLS, UNIT 3, a Subdivision in Comal County, Texas, according to Plat recorded in Volume 2, Page 19, Map and Plat Records of Comal County, Texas.

(i) Lots 1746 and 1979 in CANYON LAKE HILLS, UNIT 4, a Subdivision in Comal County, Texas, according to Plat recorded in Volume 2, Page 37, Map and Plat Records of Comal County, Texas.

This conveyance of the above described lots in Canyon Lake Hills in Comal County, Texas, is made subject to restrictions, easements, covenants, and mineral conveyances

and restrictions, if any, affecting the title to said lots, to the extent, and only to the extent, that the same may still be in force and effect, shown of record in the office of the County Clerk of Comal County, Texas; and to the easements, assessments, reservations, and Subdivision restrictions set forth in Exhibit "A-2" attached hereto and made a part hereof the same as if copied here in full.

(j) Lots 68, 111, 278, 294, 402, 482, 488, and 543 in WHISPERING HILLS, a Subdivision in Comal County, Texas, according to Plat recorded in Volume 4, Pages 20-27, Map and Plat Records of Comal County, Texas.

This conveyance of the above described lots in Whispering Hills is made subject to restrictions, easements, covenants, mineral conveyances and reservations, if any, affecting the title to said lots, to the extent, and only to the extent, that the same may still be in force and effect, shown of record in the office of the County Clerk of Comal County, Texas; and to the easements, assessments, reservations, and Subdivision restrictions set forth in Exhibit "A-3" attached hereto and made a part hereof the same as if copied here in full.

BEXAR COUNTY

(a) Lot 2, Block 6; Lots 8 and 19, Block 14; and Lots 14 and 15, Block 17, in OAKS NORTH MOBILE ESTATES, a Subdivision in Bexar County, Texas, according to Plat recorded in Volume 6100, Page 208, Map and Plat Records of Bexar County, Texas.

This conveyance of the above described lots in Oaks North Mobile Estates is made subject to and burdened with the restrictions, covenants, conditions, easements, assessments, and reservations set forth in instrument entitled "Restrictions - Oaks North Mobile Estates" recorded in Volume 7585, Page 127, Deed Records of Bexar County, Texas.

An assessment of $20.00 per year shall run against each of the above described lots in Oaks North Mobile Estates for the maintenance of the park-recreation area, and for operating costs according to rules and regulations of Grantor. The decision of Grantor, its nominee or designee with respect to the use and expenditure of such funds shall be conclusive and the Grantee shall have no right to dictate how such funds shall be used. Such assessment shall be and is hereby secured by a lien on each of the above described lots, and shall be payable to Grantor in San Antonio, Bexar County, Texas, on the 1st day of June of each year, commencing June 1, 1980, or to such other persons as Grantor may designate by instrument filed of record in the office of the County Clerk of Bexar County, Texas.

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1. All lots shall be used solely for residential purposes, except lots designated for business purposes, provided, however, no business shall be conducted on any of these lots which is noxious or harmful by reason of the emission of odor, dust, smoke, gas fumes, noise or vibration; and provided further that the Grantor expressly reserves the right until January 1, 1970, to vary the use of any property notwithstanding the above restrictions, should Grantor in its sole judgement deem it in the best interests of the subdivision to grant such variance or variances so as to permit the use for business purposes of a lot restricted to residential use. The granting of any such variance by the Grantor shall be specifically stated in both the contract of sale and in the Grantor's deed conveying said lot or lots.

2. Lots designated as business may be used either for residential or business purposes provided, however, that if used for a business the nature and purpose of the business use shall first be approved in writing by Grantor, his successors, assigns or designees. No lot may be subdivided unless written approval is given by the Grantor, his assigns or designees. However, one house may be built on each one-half (½) acre tract and sold as such.

3. No building other than a single family residence containing not less than 600 square feet, exclusive of open porches, breezeways, carports and garages, shall be erected or constructed on any residential lot in Canyon Lake Shores and no garage may be erected except simultaneously with or subsequent to erection of residence. All buildings must be completed not later than six (6) months after laying foundation and no structures or house trailers of any kind may be moved on to the property. Servants quarters and guest houses may be constructed on the rear one-third of said lots after completion of permanent residence.

4. No improvements shall be erected or constructed on any lot in Canyon Lake Shores nearer than 25 feet to the front property line nor nearer than 5 feet to the side property line, except that in the case of corner lots, no improvements shall be erected or constructed within 10 feet of side property lines adjacent to streets. In lots 100 feet or less in depth, the 25 foot setback may be 15 feet.

5. Motels and tourist courts shall be deemed to be a business use.

6. No building or structure shall be erected or constructed on any lot until the building plans, specifications, plot plan and external design have first been approved in writing by the Grantor or by such nominee or nominees as it may designate in writing.

7. No building or structure shall be occupied or used until the exterior thereof is completely finished with not less than two coats of paint. No outside toilet shall be installed or maintained on any premises and all plumbing shall be connected with a sanitary sewer or septic tank approved by the State and Local Departments of Health.

8. An assessment of $7.00 per month per lot owner, (which may be paid monthly, semi-annually, or annually), shall run against each lot in said subdivision for the use and maintenance of the park and recreation area and operating costs according to rules and regulations of Grantor. Such assessment shall be and is hereby secured by a lien on each lot respectively, and shall be payable to the Grantor in San Antonio, Texas, on the 1st day of June of each year, commencing June 1, 1970, or to such other persons as Grantor may designate by instrument filed of record in the Office of the County Clerk of Comal County, Texas. In cases where one owner owns more than one (1) lot, there will be only one(1) assessment for such owner. Provided, however, that if such an owner should sell one or more of his said lots to a party who theretofore did not own property in Canyon Lake Shores, then said lot or lots so transferred shall thereafter be subject to the lien provided for in Covenant 8. The title in fee simple to land designated as park and recreation area, etc. is to be retained by the Grantor, its successors and assigns, and the Grantee, his heirs, successors, executors, administrators and assigns, further agrees that the use of the park and recreation area, etc. is subject to the approval of the user for membership in Canyon Lake Colony Club as hereinafter provided, and to the Grantor's, its successors and assigns rules or regulations now in force, or which may from time to time be made by the Grantor.

9. No part of the said premises shall be used or occupied by any person or persons unless such person or persons shall be approved for membership in the Canyon Lake Colony Club.

10. All approved members of the Canyon Lake Colony Club and their families shall have leasers and servets to the lake, park and beach area, etc. as shown on plats of Canyon Lake Shores, subject to rules and regulations of Grantor but all others must have written approval of said Grantor. The lake, park and recreation areas, etc. shall be available for use to approved members and their families at their own risk. Use of the lake and easement area is also subject to the rules and regulations as set forth by the Army Corps of Engineers, etc.

11. No noxious, offensive, unlawful or immoral use shall be made of the premises.

12. All covenants and restrictions shall be binding upon the Grantee or his successors, heirs and assigns. Said covenants and restrictions are for the benefit of the entire subdivision.

13. The Grantor reserves to itself, its successors and assigns an easement or right-of-way over a strip along the side, front and rear boundary lines of the lot or lots hereby conveyed, for the purpose of installation or maintenance of utilities, including but not limited to gas, water, electricity, telephone, drainage and sewerage and any appurtenances to the supply lines therefore, including the right to remove and/or trim trees, shrubs or plants. This reservation is for the purpose of providing for the practical installation of such utilities as and when any public or private authority or utility company may desire to serve said lots with no obligation to Grantor to supply such services.

14. All lots are subject to easements and restrictions of record and are subject to any applicable zoning rules and regulations.

15. Grantor reserves unto itself, its successors and assigns, and excludes from this conveyance a one-sixteenth (1/16) nonparticipating royalty interest in all minerals of every kind that may be produced from the land hereby conveyed, same being one-half (½) of the usual one-eighth (⅛) landowner's royalty.

16. Invalidation of any one of these covenants or restrictions by judgement of any Court shall in no wise affect any of the other provisions which shall remain in full force and effect.

EXHIBIT "A-1"

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COPY

1. All lots shall be used solely for residential purposes, except lots designated for business purposes provided, however, no business shall be conducted on any of these lots which is noxious or harmful by reason of the emission of odor, dust, smoke, gas fumes, noise or vibration.

2. Lots designated as business may be used either for residential or business purposes provided, however, that if used for a business the nature and purpose of the business use shall first be approved in writing by Grantor, his successors, assigns or designees. No lot may be subdivided unless written approval is given by the Grantor, his assignees or designees. However, one house may be built on each one-half (½) acre lot and sold as such.

3. No building other than a single family residence containing not less than 900 square feet, exclusive of open porches, breezeways, carports and garages, shall be erected or constructed on any residential lot in Canyon Lake Hills and no garage may be erected except simultaneously with or subsequent to erection of residence. All buildings must be completed not later than six (6) months after laying foundations and no structures or house trailers of any kind may be moved on to the property. Servants quarters and guest houses may be constructed on the rear one-third of said lots after completion of permanent residence.

4. No improvements shall be erected or constructed on any lot in Canyon Lake Hills nearer than thirty (30) feet to the front property line nor nearer than five (5) feet to the side property line, except that in the case of corner lots, no improvements shall be erected or constructed within ten (10) feet of side property lines adjacent to streets. In lots 150 feet or less in depth, the 30 foot setback may be 10 feet. No material of any kind shall be placed or stored on any lot unless construction of a permanent residence or permissible business has been commenced and is under way. No used material shall be stored on any lot or used in any construction. In the event materials of any kind are placed on the property which are in the opinion of the Grantor, in violation of the above stipulation and agreement, Grantor may notify Grantee by mail of such violations, and if the violation is not corrected and the subject material is not removed within ten days after the mailing of such notice, Grantor may remove said material from the property, dispose of such material, and charge Grantee with removal and disposition costs, and Grantor shall have no liability to Grantee by virtue of the exercise of such right of removal.

5. Motels and tourist courts shall be deemed to be a business use.

6. No building or structure shall be erected or constructed on any lot until the building plans, specifications, plot plans and external design have first been approved in writing by Grantor, or by such nominee or nominees as Grantor may designate in writing. To preserve the value and beauty of Canyon Lake Hills, no trees on the above described property shall be cut down or destroyed without the Grantor's prior written approval. No building or structure shall be occupied or used until the exterior thereof is completely finished. No trailer, basement, tent, shack, garage, barn or other outbuilding erected on any of said lots shall at any time be used as a residence temporarily or permanently, nor shall any structure of a temporary character be used as a residence.

7. No building or structure shall be occupied or used until all exterior portions thereof constructed of lumber shall be finished with not less than two coats of paint. No outside toilet shall be installed or maintained on any lot and all plumbing shall be connected with a sanitary sewer or septic tank approved by the State and local Departments of Health. Before any work is done pertaining to the location of utilities, buildings, etc., approval of such location must be first obtained from the Grantor and the local Department of Health.

8. No noxious, offensive, unlawful or immoral use shall be made of any premise.

9. An assessment of $2.00 per month per lot owner (which may be paid monthly, semi-annually, or annually), shall run against each lot in said subdivision for the care and maintenance of the park-recreation area and operating costs according to rules and regulations of Grantor. The decision of the Grantor, its nominee or nominees with respect to the use, expenditure of such funds shall be conclusive and the Grantee shall have no right to dictate how such funds shall be used. Such assessment shall be and is hereby secured by a lien on each lot respectively, and shall be payable to the Grantor in San Antonio, Texas, on the 1st day of June of each year, commencing June 1, 19__, or to such other persons as Grantor may designate by instrument filed of record in the Office of the County Clerk of Comal County, Texas. In cases where one owner owns more than one (1) lot, there will be only one (1) assessment for such owner. Provided, however, that if such an owner should sell one or more of his said lots to a party who theretofore did not own property in Canyon Lake Hills, then said lot or lots so transferred shall thereafter be subject to the fee provided for in Covenant 9. The title to the single or land designated as park-recreation area, is to be retained by the Grantor, its successors or assigns, and the Grantee, his heirs, successors, grantees, administrators or assigns, further agrees that the use of the park-recreational area is subject to the approval of the user by the Grantor, its successors or assigns, rules or regulations now in force or which may from time to time be made by the Grantor, its successors or assigns and shall be binding upon the Grantee, his successors or assigns.

10. No livestock of any kind shall be raised, bred, or kept on any lot. Dogs, cats, or other household pets may be kept provided that they are not kept, bred, or maintained for any commercial purpose.

11. No lot shall be used or maintained as a dumping ground for rubbish. Trash, garbage or other waste shall not be kept except in sanitary containers. All incinerators or other equipment for the storage or disposal of such material shall be kept in a clean sanitary condition. No junk, wrecking or auto storage yards shall be located on any lot. No advertising or "For Sale" sign shall be erected on any lot without written approval of Grantor.

12. All property owners and their families shall have ingress and egress to the lake and park-recreation area, as shown by plats of Canyon Lake Hills, subject to rules and regulations of Grantor, but all others must have written approval of said Grantor. Use of lake and park-recreation area shall be at users own risk. Use of the lake and easement area is also subject to the rules and regulations as set forth by the Army Corps of Engineers, etc.

13. It is expressly understood that the Grantor does not make any representation as to the water level to be maintained in the lake to be created by the construction of Canyon Lake Dam, which water level will vary from time to time.

14. All covenants and restrictions shall be binding upon the Grantee or his successors, heirs and assigns. Said covenants and restrictions are for the benefit of the entire subdivision.

15. The Grantor reserves to itself, its successors and assigns an easement or right-of-way over a 5 ft. strip along the side, front and rear boundary lines of the lot or lots hereby conveyed, for the purpose of installation or maintenance of utilities, including but not limited to gas, water, electricity, telephone, drainage and sewerage and any appurtenance to the supply lines therefor, including the right to remove and/or trim trees, shrubs or plants. This reservation is for the purpose of providing for the practical installation of such utilities as and when any public or private authority or utility company may desire to serve said lots with no obligation to Grantor to supply such service.

16. All lots are subject to easements and restrictions now of record and not subject to any applicable zoning rules and regulations.

17. Grantor reserves unto itself, its successors and assigns, and excludes from this conveyance a one-sixteenth (1/16) nonparticipating royalty interest in all minerals of every kind that may be produced from the land hereby conveyed, same being one-half (½) of the usual one-eighth (⅛) landowner's royalty.

18. That an assessment, for the purpose of bringing water to each lot, of $2.00 per foot for footage along the front property line shall run against each lot and part thereof in said subdivision, and an assessment on the same basis shall run against each tract of land sold in said subdivision by metes and bounds description. Such assessment shall be paid to and is hereby secured by a lien on each lot or tract, respectively; and if and when the Grantor, its successors or assigns, shall construct a water main in the street and/or easement running by said lot or tract and water is made available to same, said assessment aforesaid shall become due and payable to Grantor, its successors and assigns, in San Antonio, Texas, at the time the water supply is made available to said property. Said assessment may be arranged on a satisfactory monthly payment basis.

19. Invalidation of any one of these covenants or restrictions by judgment of any Court shall in no way affect any of the other provisions which shall remain in full force and effect.

EXHIBIT "A-2"

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1. All tracts shall be used solely for residential purposes, except tracts designated for business purposes provided, however, no business shall be conducted on any of these tracts which is noxious or harmful by reason of the emission of odor, dust, smoke, gas fumes, noise or vibration, and provided further that the Grantor expressly reserves the right until January 1, 1975 to vary the use of any property notwithstanding the restrictions embodied in this conveyance, should Grantor in its sole judgment deem it in the best interests of the property to grant such variances. The granting of any such variance by the Grantor shall be specifically stated in both the contract of sale and in the Grantor's deed conveying said tract or tracts.

2. Tracts designated as business may be used either for residential or business purposes provided, however, that if used for a business the nature and purpose of the business use shall first be approved in writing by Grantor, its successors, assigns or designees. No tract may be subdivided unless written approval is given by the Grantor, its assignees or designees.

3. No building other than a single family residence containing not less than 1100 square feet, exclusive of open porches, breezeways, carports and garages, and having not less than 2/3 of its exterior walls constructed of masonry i.e. brick, rock, concrete or concrete products shall be erected or constructed on any residential tract and no garage may be erected except simultaneously with or subsequent to erection of residence. All buildings must be completed not later than six (6) months after laying foundations and no structures or house trailers of any kind may be moved on to the property. Servants quarters and guest houses may be constructed to the rear of permanent residence. All buildings must be completely enclosed from ground level to the lower portion of outside walls so as to maintain a neat appearance and conceal posts or piers from outside view.

4. No improvements shall be erected or constructed on any tract nearer than fifty (50) feet to the front property line nor nearer than five (5) feet to the side property line except that in the case of corner tracts no improvements shall be erected or constructed within ten (10) feet of side property line adjacent to the streets. No material of any kind shall be placed or stored on the property unless construction of a permanent residence has been commenced and is underway. No used material shall be stored on the property or used in any construction. In the event materials of any kind are placed on the property which are, in the opinion of the Grantor, in violation of the above stipulations and agreement, Grantor may notify Grantee by mail of such violation and if the violation is not corrected and the subject material is not removed within ten (10) days after the mailing of such notice, Grantee agrees that Grantor may remove said material from the property, dispose of said materials and charge Grantee with removal costs, the exercise of which right of removal shall leave Grantor free of any liability to Grantee.

5. No building or structure shall be erected or constructed on any tract until the building plans, specifications, plot plans and external designs have first been approved in writing by the Grantor, or by such nominee or nominees as it may designate in writing.

6. Shooting of fire arms or hunting for birds or wild game of any kind on any tract is strictly prohibited.

7. No building or structure shall be occupied or used until the exterior thereof is completely finished in accordance with paragraph 3 above and any structure or part thereof constructed of lumber shall be finished with not less than two coats of paint. No outside toilet shall be installed or maintained on any premises and all plumbing shall be connected with a sanitary sewer or septic tank approved by the State and Local Departments of Health. Before any work is done pertaining to the location of utilities, buildings, etc., approval of said location must be first obtained from the Grantor and the local Department of Health. No removal of trees nor excavation of any other materials other than for land-scaping, construction of buildings, driveways, etc., will be permitted without the written permission of Grantor.

8. An assessment of $15.00 per year per tract owner (which may be paid semi-annually or annually) shall run against each tract in said property for use and maintenance and operating costs according to rules and regulations of Grantor. The decision of the Grantor, its nominee or assignee with respect to the use and expenditure of such funds shall be conclusive and the Grantee shall have no right to dictate how such funds shall be used. Such assessment shall be and is hereby secured by a lien on each tract respectively, and shall be payable to the Grantor in San Antonio, Texas, on the 1st day of June of each year, commencing June 1, 19 80, or to such other persons as Grantor may designate by instrument filed of record in the Office of the County Clerk of Comal County, Texas. In cases where one owner owns more than one (1) tract there will be only one (1) assessment for such owner. Provided, however, that if such an owner should sell one or more of his tracts to a party who theretofore did not own property, then said tract or tracts so transferred shall thereafter be subject to the lien provided herein.

9. No noxious, offensive, unlawful or immoral use shall be made of the premises.

10. No hogs or goats of any kind shall be raised, bred or kept on any tract; dogs, cats, or other household pets may be kept provided that they are not kept, bred, or maintained for any commercial purpose.

11. All covenants and restrictions shall be binding upon the Grantee or their successors, heirs or assigns. Said covenants and restrictions are for the benefit of the entire property.

12. The Grantor reserves to itself, its successors and assigns an easement or right-of-way over a 5 foot strip along the side, front and rear boundary lines of the tract or tracts hereby conveyed, for the purpose of installation or maintenance of public utilities; including but not limited to gas, water, electricity, telephone, drainage and sewerage and any appurtenances to the supply lines thereof, including the right to remove and/or trim trees, shrubs or plants. This reservation is for the purpose of providing for the practical installation of such utilities as and when any public or private authority or utility company may desire to serve said tracts with no obligation to Grantor to supply such services. Should a utility pipe line be installed in the rear property easement as herein reserved, Grantee agrees to install a gate in any fence that shall be constructed on such easement for utility company access to such pipe line.

13. All tracts are subject to easements and restrictions of record and are subject to any applicable zoning rules and regulations.

14. All minerals in, on and under the above described property are excepted from this conveyance and are hereby reserved to Grantor.

15. No tract shall be used or maintained as a dumping ground for rubbish. Trash, garbage or other waste shall not be kept except in sanitary containers. All incinerators or other equipment for the storage or disposal of such material shall be kept in a clean and sanitary condition. No junk or wrecking yards shall be located on any tract.

16. These restrictions are to run with the land until June 1, 1998 provided, however, that the record owners of a majority of the tracts shall have the power through a duly recorded written instrument to extend this covenant for successive ten (10) year periods from and after June 1, 1995.

17. Invalidation of any one of these covenants or restrictions by judgment of any Court shall in no wise affect any of the other provisions which shall remain in full force and effect.

EXHIBIT "A-3"