COMAL COUNTY

ENGINEER'S OFFICE

License to Operate On-Site Sewage Treatment and Disposal Facility

Issued This Date: **02/11/2020** Permit Number: **109706**

Location Description: 333 RAVENSWOOD
CANYON LAKE, TX 78133

Subdivision:	Canyon Lake Hills
Unit:	3
Lot:	1585
Block:	
Acreage:	

Type of System: Aerobic
Drip Irrigation

Issued to: Whittler Spec Homes, LLC

This license is authorization for the owner to operate and maintain a private facility at the location described in accordance to the rules and regulations for on-site sewerage facilities of Comal County, Texas, and the Texas Commission on Environmental Quality.

The license grants permission to operate the facility. It does not guarantee successful operation. It is the responsibility of the owner to maintain and operate the facility in a satisfactory manner.

Alterations to this permit including, but not limited to:

- Increase in the square feet of living area
- Increase in the number of bedrooms
- A change of use (i.e. residential to commercial)
- Relocation of system components (including the relocation of spray heads)
- Installation of landscaping
- Adding new structures to the system

may require a new permit. **It is the responsibility of the owner to apply for a new permit, if applicable.**

Inspection and licensing of a facility indicates only that the facility meets certain minimum requirements. It does not impede any governmental entity in taking the proper steps to prevent or control pollution, to abate nuisance, or to protect the public health.

This license to operate is valid for an indefinite period. The holder may transfer it to a succeeding owner, provided the facility has not been remodeled and is functioning properly.

Licensing Authority
Comal County Environmental Health

James F Connard OS0032485
ENVIRONMENTAL HEALTH INSPECTOR

OS0007722
ENVIRONMENTAL HEALTH COORDINATOR

Comal County Environmental Health
OSSF Inspection Sheet

Installer Name: SWOYER OSSF Installer #: OS0026238

1st Inspection Date: 1/6/2020 2nd Inspection Date: 1/21/20 3rd Inspection Date: 2/11/2020 FINAL

Inspector Name: CONNOR Inspector Name: mike t Inspector Name: CONNOR

Permit#: 109706 Address: 333 RAVENSWOOD CANYON LAKE HILLS

No.	Description	Anwser	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
1	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Site and Soil Conditions Consistent with Submitted Planning Materials	X	285.31(a) 285.30(b)(1)(A)(iv) 285.30(b)(1)(A)(v) 285.30(b)(1)(A)(iii) 285.30(b)(1)(A)(ii) 285.30(b)(1)(A)(i)		X	1/21/20	
2	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Setback Distances Meet Minimum Standards	X	285.91(10) 285.30(b)(4) 285.31(d)		X		
3	SEWER PIPE Proper Type Pipe from Structure to Disposal System (Cast Iron, Ductile Iron, Sch. 40, SDR 26)	X	285.32(a)(1)		X		
4	SEWER PIPE Slope from the Sewer to the Tank at least 1/8 Inch Per Foot	X	285.32(a)(3)		X		
5	SEWER PIPE Two Way Sanitary - Type Cleanout Properly Installed (Add. C/O Every 100' &/or 90 degree bends)	X	285.32(a)(5)		X		
6	PRETREATMENT Installed (if required) TCEQ Approved List PRETREATMENT Septic Tank(s) Meet Minimum Requirements		285.32(b)(1)(G)285.32(b)(1)(E)(iii) 285.32(b)(1)(E)(iv) 285.32(b)(1)(F) 285.32(b)(1)(B) 285.32(b)(1)(C)(i) 285.32(b)(1)(C)(ii) 285.32(b)(1)(D) 285.32(b)(1)(E) 285.32(b)(1)(A) 285.32(b)(1)(E)(ii)(II) 285.32(b)(1)(E)(i) 285.32(b)(1)(E)(ii)(I)				
7	PRETREATMENT Grease Interceptors if required for commercial		285.34(d)				

TANK SET. LEVEL. NO LEAKS. COVER. NO DRIP INSTALLATION DONE.

MT- 1/21/20
operational ✓
Ready For Cover.

2/11/2020 JC COVERED, BUT CURLEX USED. DESIGN CALLS FOR SOD. REVISION NEEDED.

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Anwser	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
8	SEPTIC TANK Tank(s) Clearly Marked SEPTIC TANK If SingleTank, 2 Compartments Provided with Baffle SEPTIC TANK Inlet Flowline Greater than 3" and " T " Provided on Inlet and Outlet SEPTIC TANK Septic Tank(s) Meet Minimum Requirements		285.32(b)(1)(E) 285.91(2) 285.32(b)(1)(F) 285.32(b)(1)(E)(iii) 285.32(b)(1)(E)(ii)(II) 285.32(b)(1)(E)(ii)(I) 285.32(b)(1)(E)(i) 285.32(b)(1)(D) 285.32(b)(1)(C)(ii) 285.32(b)(1)(C)(i) 285.32(b)(1)(B) 285.32(b)(1)(A) 285.32(b)(1)(E)(iv)				
9	ALL TANKS Installed on 4" Sand Cushion/ Proper Backfill Used	X	285.32(b)(1)(F) 285.32(b)(1)(G) 285.34(b)		X	1/21/20	
10	SEPTIC TANK Inspection / Clean Out Port & Risers Provided on Tanks Buried Greater than 12" Sealed and Capped		285.38(d)				
11	SEPTIC TANK Secondary restraint system provided SEPTIC TANK Riser permanently fastened to lid or cast into tank SEPTIC TANK Riser cap protected against unauthorized intrusions		285.38(d) 285.38(e)				
12	SEPTIC TANK Tank Volume Installed						
13	PUMP TANK Volume Installed						
14	AEROBIC TREATMENT UNIT Size Installed	X			X	1/20/21	
15	AEROBIC TREATMENT UNIT Manufacturer AEROBIC TREATMENT UNIT Model Number	X X		MAXX AIR 600	X X	|	
16	DISPOSAL SYSTEM Absorptive		285.33(a)(4) 285.33(a)(1) 285.33(a)(2) 285.33(a)(3)				
17	DISPOSAL SYSTEM Leaching Chamber		285.33(a)(1) 285.33(a)(3) 285.33(a)(4) 285.33(a)(2)				
18	DISPOSAL SYSTEM Evapo-transpirative		285.33(a)(3) 285.33(a)(4) 285.33(a)(1) 285.33(a)(2)				

Comal County Environmental Health
OSSF Inspection Sheet

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

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Anwser	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
32	EFFLUENT DISPOSAL SYSTEM Utilized Only by Single Family Dwelling EFFLUENT DISPOSAL SYSTEM Topographic Slopes < 2.0% EFFLUENT DISPOSAL SYSTEM Adequate Length of Drain Field (1000 Linear ft. for 2 bedrooms or Less & an additional 400 ft. for each additional bedroom) EFFLUENT DISPOSAL SYSTEM Lateral Depth of 18 inches to 3 ft. & Vertical Separation of 1ft on bottom and 2 ft. to restrictive horizon and ground water respectfully EFFLUENT DISPOSAL SYSTEM Lateral Drain Pipe (1.25 - 1.5" dia.) & Pipe Holes (3/16 - 1/4" dia. Hole Size) 5 ft. Apart		285.33(b)(3)(A) 285.33(b)(3)(A) 285.33(b)(3)(B) 285.91(13) 285.33(b)(3)(D) 285.33(b)(3)(F)				
33	**AEROBIC TREATMENT UNIT Is Aerobic Unit Installed According to Approved Guidelines.**	X	285.32(c)(1)		X	1/21/20	
34	**AEROBIC TREATMENT UNIT Inspection/Clean Out Port & Risers Provided** **AEROBIC TREATMENT UNIT Secondary restraint system provided AEROBIC TREATMENT UNIT Riser permanently fastened to lid or cast into tank** **AEROBIC TREATMENT UNIT Riser cap protected against unauthorized intrusions**	X X X X			X X X X		
35	**AEROBIC TREATMENT UNIT Chlorinator Properly Installed with Chlorine Tablets in Place.**	X					
36	PUMP TANK Is the Pump Tank an approved concrete tank or other acceptable materials & construction PUMP TANK Sampling Port Provided in the Treated Effluent Line PUMP TANK Check Valve and/or Anti- Siphon Device Present When Required PUMP TANK Audible and Visual High Water Alarm Installed on Separate Circuit From Pump						
37	PUMP TANK Inspection/Clean Out Port & Risers Provided PUMP TANK Secondary restraint system provided PUMP TANK Riser permanently fastened to lid or cast into tank PUMP TANK Riser cap protected against unauthorized intrusions						
38	PUMP TANK Secondary restraint system provided						
39	PUMP TANK Electrical Connections in Approved Junction Boxes / Wiring Buried						

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No.	Description	Anwser	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
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41	APPLICATION AREA Low Angle Nozzles Used / Pressure is as required APPLICATION AREA Acceptable Area, nothing within 10 ft of sprinkler heads? APPLICATION AREA The Landscape Plan is as Designed	X	285.33(d)(2)(G)(i) 285.33(d)(2)(A) 285.33(d)(2)(F)	DESIGN CALLED FOR SOD CURLEX USED			X
42	APPLICATION AREA Area Installed						
43	PUMP TANK Meets Minimum Reserve Capacity Requirements						
44	PUMP TANK Material Type & Manufacturer						
45	PUMP TANK Type/Size of Pump Installed						

Comal County Environmental Health
OSSF Inspection Sheet

Installer Name: SWOYER **OSSF Installer #:** OS0026238

1st Inspection Date: 1/6/2020 **2nd Inspection Date:** _____ **3rd Inspection Date:** _____

Inspector Name: CONNOR **Inspector Name:** _____ **Inspector Name:** _____

Permit#: 109706 **Address:** 333 RAVENSWOOD CANYON LAKE HILLS

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2	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Setback Distances Meet Minimum Standards	X	285.91(10) 285.30(b)(4) 285.31(d)		X		
3	SEWER PIPE Proper Type Pipe from Structure to Disposal System (Cast Iron, Ductile Iron, Sch. 40, SDR 26)	X	285.32(a)(1)		X		
4	SEWER PIPE Slope from the Sewer to the Tank at least 1/8 Inch Per Foot	X	285.32(a)(3)		X		
5	SEWER PIPE Two Way Sanitary - Type Cleanout Properly Installed (Add. C/O Every 100' &/or 90 degree bends)	X	285.32(a)(5)		X		
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9	ALL TANKS Installed on 4" Sand Cushion/ Proper Backfill Used	X	285.32(b)(1)(F) 285.32(b)(1)(G) 285.34(b)		X		
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OSSF Inspection Sheet

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43	PUMP TANK Meets Minimum Reserve Capacity Requirements						
44	PUMP TANK Material Type & Manufacturer						
45	PUMP TANK Type/Size of Pump Installed						

Comal County

OFFICE OF COMAL COUNTY ENGINEER

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

Permit Number:	109706
Issued This Date:	09/18/2019
This permit is hereby given to:	Whittler Spec Homes, LLC

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

333 RAVENSWOOD
CANYON LAKE, TX 78133

Subdivision:	Canyon Lake Hills
Unit:	3
Lot:	1585
Block:	
Acreage:	

APPROVED MINIMUM SIZES AS PER ATTACHED DESIGN

Type of System:	Aerobic
	Drip Irrigation

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

Call (830) 608-2090 to schedule inspections.

* * * COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH * * *

APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

Date _____ Permit # 109706

Owner Name	WHITTLER SPEC HOMES LLC	Agent Name	
Mailing Address	c/o 23011 FM 306	Agent Address	
City, State, Zip	CANYON LAKE, TX 78133	City, State, Zip	
Phone #	830-935-4936	Phone #	
Email	katelyn@paulswoyerseptics.com	Email	

All correspondence should be sent to: ☐ Owner ☐ Agent ☒ Both Method: ☐ Mail ☒ Email

Subdivision Name Canyon Lake Hills Unit 3 Lot 1585 Block _____

Acreage/Legal _____

Street Name/Address 333 Ravenswood City Canyon Lake Zip 78133

Type of Development:

☒ Single Family Residential

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

Number of Bedrooms 3

Indicate Sq Ft of Living Area 1346

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☐ 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: $ 180,000.00 (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

Are Water Saving Devices Being Utilized Within the Residence? ☒ Yes ☐ No

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.
- 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 8/27/2019

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

* * * COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH * * *

APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

Planning Materials & Site Evaluation as Required Completed By John J. Haag, P.E.

System Description Proprietary aerobic treatment with drip system disposal

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

Tank Size(s) (Gallons) Maxx Air M-600 Absorption/Application Area (Sq Ft) 1200 min.

Gallons Per Day (As Per TCEQ Table III) 240

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

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

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

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

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

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

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

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

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

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

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

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

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

If yes, indicate the city:

I certify that the information provided above is true and correct to the best of my knowledge.

Signature of Designer

Date 04/19/18

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

Revised March 2015

AFFIDAVIT

201906032543 09/12/2019 01:18:27 PM 1/1

THE COUNTY OF COMAL
STATE OF TEXAS

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

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

I

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

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II

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

3 **UNIT/PHASE/SECTION** _____ **BLOCK** 1585 **LOT** Canyon Lake Hills **SUBDIVISION**

IF NOT IN SUBDIVISION: _____ **ACREAGE** _____ **SURVEY**

The property is owned by **(insert owner's full name):** WHITTLER SPEC HOMES LLC

This OSSF must be covered by a continuous maintenance contract for the first two years. After the initial two-year service policy, the owner of an aerobic treatment system for a single family residence shall either obtain a maintenance contract within 30 days or maintain the system personally.

Upon sale or transfer of the above-described property, the permit for the OSSF shall be transferred to the buyer or new owner. A copy of the planning materials for the OSSF can be obtained from the Comal County Engineer's Office.

WITNESS BY HAND(S) ON THIS 27th **DAY OF** August ,20 19

X _____ John Whittler (Owner)

Owner(s) signature(s) Owner (s) Printed name (s)

John Whittler

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 27th **DAY OF** August ,20 19

Katelyn Neumann
Notary Public Signature

KATELYN NICOLE NEUMANN
Notary Public, State of Texas
Comm. Expires 04-23-2023
Notary ID 131984094

(Notary Seal Here)

THIS AREA FOR COMAL COUNTY CLERK RECORDING PURPOSES ONLY

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
09/12/2019 01:18:27 PM
TERRI 1 Page(s)
201906032543

Bobbie Koepp

PAUL SWOYER SEPTIC SUPPLY & SERVICE
23011 FM 306
CANYON LAKE, TX 78133

MP#0001708
CHRISTOPHER RYAN SEIDENSTICKER

PROPERTY LEGAL DESCRIPTION:

_____

_____

_____

Customer: WHITTLER SPEC HOMES LLC

Site Address: 333 Ravenswood

City/State: Canyon Lake, TX **Zip:** 78133

County: COMAL **Permit#:** _____

Phone Number: _____

E-mail: _____

I. General: This On-Site Sewage Facility Service Agreement (hereinafter referred to as "Agreement") is entered into by and between WHITTLER SPEC HOMES LLC, (hereinafter referred to as "Client") and PS Supply & Service LLC. (hereinafter referred to as "Contractor"). By this agreement, Contractor agrees to render services, as described herein (the "Services"), and the client agrees to fulfill his/her/their responsibilities under this agreement herein.

II. Effective Dates: This agreement commences on the date of License to Operate is issued for Three (3) years.

Date of License to Operate: LTO Last Date of Service: 3 yrs from LTO

III. Services by Contractor: Contractor will provide the following Services:

1. Inspect and perform routine maintenance on the On-Site Sewage Facility ("OSSF") in compliance with the code, regulations, and/or rules of the Texas Commission on Environmental Quality ("TCEQ") and county in which the OSSF is located (the "County") and the manufacturer's requirements, at a frequency of approximately once every four (4) months.

2. Report to the appropriate regulatory authority and to Client, as required by the State of Texas' on-site rules and, if required, TCEQ or County rules. All findings must be reported to the appropriate regulatory authority within 14 days.

3. Notify Client and repair any components of the OSSF that are found to be in need of repair during the inspection. If warranty, you just do it. If not, Client will be responsible. Repairs will be made so brought up to compliance and bill forward.

4. Visit site in response to Client's request for unscheduled service within two business days from the date of Contractor's actual receipt of Client's request. Unscheduled service visits are not included in the fee agreement herein and will be billed to the client in addition to fees under this Agreement.

5. Provide notification of arrival to site to the Client or to site personnel. Additionally, Contractor will leave written notification of the visit at the site or with site personnel upon completion of inspection, and forward such notice to the appropriate regulatory authority within fourteen (14) days.

IV. Payment(s): Client shall pay to Contractor included w/ septic, for the Services describe herein (the "Inspection and Routine Maintenance Fee"), excepting those described in Section III (4), or Section IX, herein. The Fee does not include equipment, parts or labor supplied for anything beyond routine inspection and routine maintenance. Payments for such additional services are due at the time services are provided or rendered. Payments not received within thirty (30) days from the due date will be subject the greater of a $20.00 late penalty or 1.5% carrying charge on the original balance for each month or portion thereof a balance in past due. If for any reason such charges are found to be usurious by a court of competent jurisdiction, such charges shall be reduced to the maximum allowable by law. By signing this contract, Client authorizes Contractor to remove any parts installed, but not paid in full at the end of the thirty (30) days. Client agrees to pay for any labor cost associated with the installation and the reasonable cost of removal of said parts.

Client: _____ Contractor: _____

V. Client's Responsibilities: Client is responsible for each and all of the following:

1. To maintain chlorinator and provide proper chlorine supply, if OSSF is so equipped.
2. To provide all necessary yard or lawn maintenance and removal of obstacles as needed to allow the OSSF to function properly, and to allow Contractor ready access to all parts of the OSSF.
3. To maintain a current license to operate, and abide by the conditions and limitations of that license and all requirements for on-site sewage facilities from the State and local regulatory agency.
4. To maintain the OSSF in accordance with manufacturer's recommendations.
5. To immediately notify Contractor and Agency of any and all problems with, the OSSF, including failure thereof.
6. Upon receipt of any written notification of required services from Contractor, to contact Contractor and authorize the required service. If Client elects a different contractor to perform the required service, Client is responsible for ensuring the substitute contractor holds the proper license (Installer II) and is certified by the manufacturer. Additionally, Client shall be responsible for ensuring proper notification is given to the appropriate regulatory authority, as required by the State and/or local regulatory authority rules.
7. To provide Contractor with water usage records, upon request, for evaluation by Contractor of the OSSF performance.
8. To pay required sampling charges for samples collected for testing (e.g. Biological Oxygen Demand/Total Suspended Solids ("BOD/TSS") that may be required on the OSSF.
9. To prevent backwash from water treatment or water conditioning equipment to enter the OSSF.
10. To provide, at Client's expense, for pumping of tanks as needed.
11. To maintain site drainage sufficient to prevent adverse effects on the OSSF.
12. To promptly and fully pay Contractor's bills, fees, or invoices as described herein.

VI. Access by Contractor: Client agrees to allow Contractor, or personnel authorized by the Contractor, to enter the property at reasonable times without prior notice for the purpose of performing the Services described herein. Such entry shall include access to the OSSF electrical and physical components, including tanks, by means of manways or risers for the purpose of evaluations required by the manufacturer, and/or regulatory authority rules. If such manways or risers are not in place, Client shall allow and be responsible for payment of required excavation, including labor and materials, necessary to allow access to the OSSF or any required components. Such excavation shall be billed at the rate of $75.00 per hour for labor, plus materials billed at list price. Contractor shall make only those efforts reasonable under the circumstances to replace excavated soil.

VII. Application or Transfer of Payment: The fees paid for this agreement may transfer to any subsequent owner(s) of the property on which the OSSF is located. The subsequent owner(s) must sign a similar agreement authorizing Contractor to perform the above-described Services, and accepting Client's responsibilities. The replacement Agreement must be signed and received within 30 days of transfer of ownership. Contractor will apply all funds received from Client first to any past due obligations arising from this Agreement including late charges, return check charges, and charges for repairs or services not paid within 30 days of invoicing. The consumption of the payment in this manner may lead to termination of the agreement by Contractor

VIII. Termination of Agreement: This agreement may be terminated by either party with 30 days written notice. If this agreement is so terminated by Client, Contractor shall be paid at the rate of $75.00 per hour for any worked performed or required, but not yet paid. If terminated by Contractor, all amounts outstanding shall be due within thirty days of termination. The party terminating will immediately notify the other party, the equipment manufacturer, and the regulatory agency of the termination.

IX. Limitation of Liability: In no event shall Contractor be liable for indirect, consequential, incidental or punitive damages, whether in contract, tort, or any other theory of liability. In no event shall the Contractor's liability for direct damages exceed payments by the Client under this Agreement.

X. Severability and Reformation: If any provision in this Agreement shall be held to be invalid or unenforceable for any reason, it shall be reformed to the minimum extent necessary to effect the intent of the Parties. If any provision is such that it cannot reasonably be reformed, it shall be struck from this Agreement and the remaining provisions shall continue to be valid and enforceable.

XI. Performance of Agreement: Commencement of performance by Contractor under this agreement is contingent on the following conditions: (1) Contractor receiving a fully executed original copy of this agreement. (2) Contractor receiving payment in full of the fee(s) described herein. If the above conditions are not met, then Contractor is from any obligation to perform any portion of this agreement.

XII. Modification. This Agreement may not be changed or modified except by an instrument in writing, signed by both Contractor and Client.

XIII. Waiver. Except as otherwise noted in this Agreement, the waiver by other party of a breach of any provision of this Agreement shall not operate or be construed as a continuing waiver or as a consent to or waiver of any subsequent breach hereof.

Client: _____ Contractor: _____

XIV. **Headings.** The Article and Section headings in this Agreement are for the convenience of reference only and do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof.

XV. **GOVERNING LAW AND CHOICE OF VENUE.** EACH OF THE PARTIES HERETO HEREBY CONSENTS TO THE EXCLUSIVE JURISDICTION OF THE COURTS OF THE STATE OF TEXAS, COUNTY OF COMAL, AND TO THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS – SAN ANTONIO DIVISION, AS WELL AS TO THE JURISDICTION OF ALL COURTS TO WHICH AN APPEAL MAY BE TAKEN FROM SUCH COURTS, FOR THE PURPOSE OF ANY SUIT, ACTION, OR OTHER PROCEEDING ARISING OUT OF, OR IN CONNECTION WITH, THIS AGREEMENT OR ANY OF THE TRANSACTIONS CONTEMPLATED HEREBY, INCLUDING, WITHOUT LIMITATION, ANY PROCEEDING RELATING TO ANCILLARY MEASURES IN AID OF ARBITRATION, PROVISIONAL REMEDIES AND INTERIM RELIEF, OR ANY PROCEEDING TO ENFORCE ANY ARBITRAL DECISION OR AWARD. EACH PARTY HERETO EXPRESSLY WAIVES ANY AND ALL RIGHTS TO BRING ANY SUIT, ACTION, OR OTHER PROCEEDING IN OR BEFORE ANY COURT OR TRIBUNAL OTHER THAN COURTS OF THE STATE OF TEXAS, COUNTY OF COMAL, AND COVENANTS THAT IT SHALL NOT SEEK IN ANY MANNER TO PROSECUTE OR DEFEND ANY DISPUTE OTHER THAN AS SET FORTH IN THIS ARTICLE XVI OR TO CHALLENGE OR SET ASIDE ANY DECISION, AWARD, OR JUDGMENT OBTAINED IN ACCORDANCE WITH THE PROVISIONS HEREOF. EACH OF THE PARTIES HERETO HEREBY EXPRESSLY WAIVES ANY AND ALL OBJECTIONS IT MAY HAVE TO VENUE, INCLUDING, WITHOUT LIMITATION, THE INCONVENIENCE OF SUCH FORUM, IN ANY OF SUCH COURTS.

XVI. **JURY TRIAL WAIVER. THE PARTIES HEREBY UNCONDITIONALLY WAIVE THEIR RIGHT TO A JURY TRIAL OF ANY AND ALL CLAIMS OR CAUSES OF ACTION ARISING FROM OR RELATING TO THEIR RELATIONSHIP. THE PARTIES ACKNOWLEDGE THAT A RIGHT TO A JURY IS A CONSTITUTIONAL RIGHT, THAT THEY HAVE HAD AN OPPORTUNITY TO CONSULT WITH INDEPENDENT COUNSEL, AND THAT THIS JURY WAIVER HAS BEEN ENTERED INTO KNOWINGLY AND VOLUNTARILY BY ALL PARTIES TO THIS AGREEMENT. IN THE EVENT OF LITIGATION, THIS AGREEMENT MAY BE FILED AS A WRITTEN CONSENT TO A TRIAL BY THE COURT.**

MP#0001708
CHRISTOPHER RYAN SEIDENSTICKER

Approved by Contractor: _____

Approved by Client: _____

XVII. **Reservation of Rights.** Contractor reserves all rights not specifically granted herein.

XVIII. **Counterparts.** This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original but all of which together will constitute one and the same instrument.

XIX. **Counsel.** Contractor has previously recommended that Client engage counsel to assist him/her/it in reviewing this Agreement and all other matters relating to it. Contractor and Client shall each bear his/her/its own costs and expenses in connection with the negotiation and documentation of this Agreement.

XX. **Entire Agreement:** This agreement contains the entire agreement of the parties, and there are no promises or conditions in any other agreement, oral or written. The Parties expressly disclaim reliance on any prior statements, oral or written, by either party not expressly provided for herein.

Client: _____ Contractor: _____

ON-SITE SEWAGE FACILITY (OSSF)
SITE EVALUATION FORM

RECEIVED
APR 19 2018
COUNTY ENGINEER

1. OWNER INFORMATION
Property Owner's Full Legal Name: Seaside Ventures, LLC

2. PROPERTY INFORMATION				
City: Canyon Lake		Zip Code: 78133		
Legal Description:				
Lot: 1585	Block:	Subdivision: Canyon Lake Hills	Sec:	Unit: 3
If not located in subdivision: Survey:				
	Abstract:		Recorded (Vol/Pg):	

3. SITE EVALUATION INFORMATION:	
Name of Site Evaluator: John J. Haag	PE #: 90158
Date Performed: 04/05/18	Proposed Excavation Depth: Surface

4. REQUIREMENTS:

- At least two soil evaluations must be performed on the site at opposite ends of the proposed disposal area. Locations of soil evaluations must be shown on the application site drawing or designer's site drawing.
- For subsurface disposal, soil evaluations must be performed to a depth of at least 2 feet below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.

Soil Profile Hole Number: 1

Depth (ft.)	Textural Class	Gravel Analysis	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations
0	Rock	<30%	No	Yes	Limestone @ surface
1					
2					
3					
4					
5					

RECEIVED
SEP 16 2019
COUNTY ENGINEER

ON-SITE SEWAGE FACILITY (OSSF)
SITE EVALUATION FORM

Soil Profile Hole Number: 2					
Depth (ft.)	Textural Class	Gravel Analysis	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations
0 8"	Rock	<30%	No	Yes	Type III to 8" then limestone
1					
2					
3					
4					
5					

RECEIVED
APR 19 2018
COUNTY ENGINEER

5. FEATURES OF SITE AREA:

RECEIVED
SEP 16 2019
COUNTY ENGR

Presence of 100 year flood zone:	☐ Yes	☒ No
Presence of adjacent ponds, streams or water impoundments	☐ Yes	☒ No
Existing or proposed water well in nearby area	☐ Yes	☒ No
Organized sewage available to lot or tract	☐ Yes	☒ No
Recharge features within 150 feet	☐ Yes	☒ No

6. I certify that the above statements are true and correct and are based on my own field observations.

STATE OF TEXAS
JOHN J. HAAG
90158
LICENSED
PROFESSIONAL ENGINEER

04/19/18
Haag Engineering Consultants, Inc.
Firm No.: F-5789

REVISED
4:03 pm, Feb 11, 2020

AEROBIC TREATMENT
DRIP TUBING SYSTEM
FOR:
LOT 1585
CANYON LAKE HILLS, UNIT 3

SITE DESCRIPTION:

Located in Canyon Lake Hills, lot 1585, the proposed system will serve at 3 bedroom, 1346 s.f. residence situated on soils per the Site Evaluation report. An aerobic treatment plant utilizing drip irrigation was chosen as the most appropriate system to serve the conditions on this lot.

PROPOSED SYSTEM:

A 3 or 4 inch SCH-40 pipe discharges from the residence into a Maxx Air M-600 (600 gpd) aerobic treatment plant containing a 353 gallon pretreatment tank and a 768 gallon pump chamber. The pump chamber contains a 0.5 HP Franklin C1-Series-20XC1-05P4-2W115 submersible well pump. The well pump is activated by a time controller allowing the distribution ten times per day with an 8 minute run time with the float setting at min. 240 gallons. A high level audible and visual alarm will activate should the pump fail. Distribution is through a self-flushing 100 micron Arkal Disk filter then through a 1" SCH-40 manifold to a minimum 1200 sf drip tubing field with Netifim Bioline drip lines approximately two feet apart with 0.61 gph emitters set every two feet as per the attached schematic. A pressure regulator Model PMR30MF 30psi installed in the pump tank on the manifold to the field will maintain pressure at 30 psi. A 1" SCH-40 return line is installed to periodically flush the system by cycling a 1" ball valve. Solids caught in the spin filter are flushed each cycle back to the trash tank. Agricultural Products, Inc. (Model #VBK-1) 1" PVC vacuum breakers installed on the highest point on each manifold will prevent siphoning of effluent from higher to lower parts in the field. Field area will be scarified and then built up so that approximately 12" of Type II or III soil is above any bedrock or type IV soils then the drip tubing will be laid and capped with approximately 6" of Type II or Type III soil (NOT SAND). The field area shall be completely covered with erosion control mat then seeded with grass prior to system startup. Tank must have at grade risers on each opening with watertight caps that must be 65# or have a padlock or can only be removed with tools. A secondary plug, cap or suitable restraint must be provided below riser cap to prevent tank entry should the cap be damaged or removed.

DESIGN SPECIFICATIONS:

Daily flow = Q=240 gpd
Pretreatment tank size: 363 gal
Plant size: Maxx Air M-600 (600 gpd) (TCEQ approved)
Pump tank size: 768 gal
Min. Reserve capacity after high level: 80 gal (1/3 day req'd)
Application rate: Ra=0.2 gal/sf
Total absorption area: Q/Ra = min. 1200 sf (1392 sf actual)
Total linear feet of drip tubing: 696' Netifim Bioline drip tubing 0.61 gph
Pump requirement: 348 emitters @ 0.61 gph @ 30 psi = 3.54 gpm
Pump requirement (cont.): 0.5 HP Franklin C1-Series-20AC1-05P4-2W115

REVISED
4:03 pm, Feb 11, 2020

MINIMUM SCOUR VELOCITY (MSV) >2 fps
In drip tubing with nom. dia. 0.57" ID
MSV = 2 fps (pi*d^2)/4*7.48 gal/cf*60 sec/min
MSV = 2(3.14159(.57/12)^2)/4)*7.48*60
MSV = 1.59 gpm/line * 4 lines = 6.36 gpm min. flow rate
In return manifold with nom. Dia. 1.049" ID
MSV = 2 fps (pi*d^2)/4*7.48 gal/cf*60 sec/min
MSV = 2(3.14159(1.049/12)^2)/4)*7.48*60
MSV = 5.4 gpm

PIPE AND FITTINGS:

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

Designed in accordance with Chapter 285, Subchapter D, §285 and §285.40 Texas Commission on Environmental Quality (Revised March 2013).

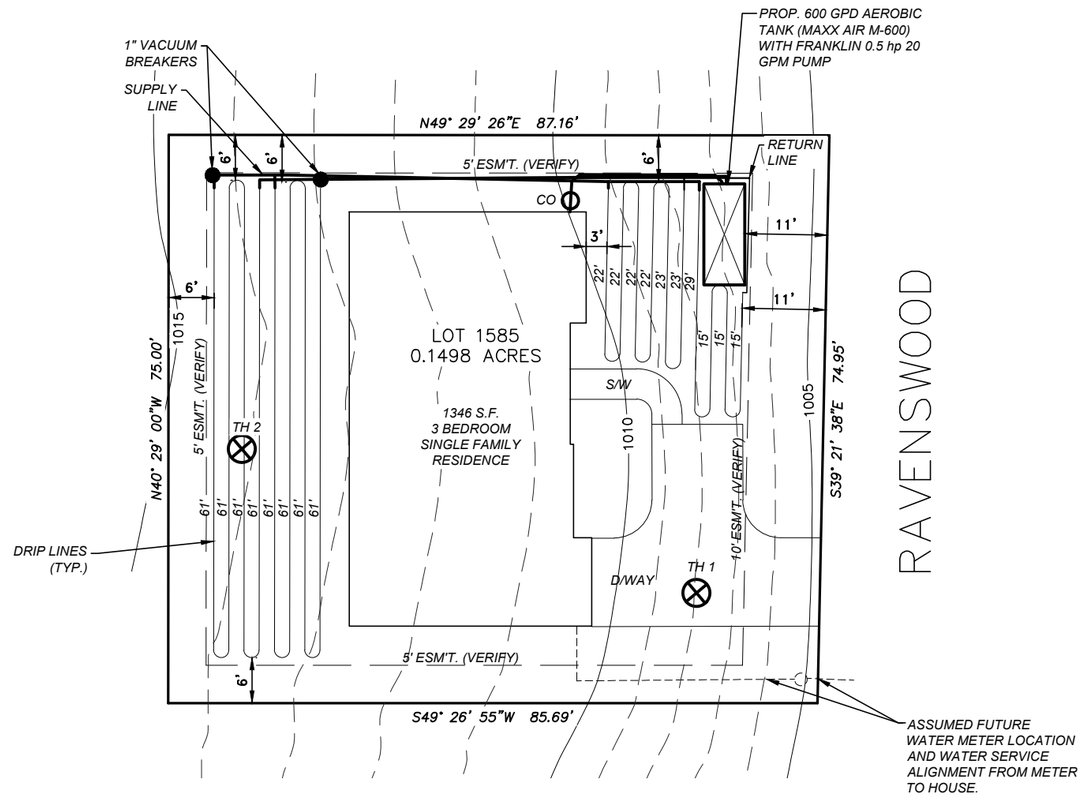
02/11/2020

Haag Engineering Consultants, Inc.
Firm No.: F-5786

REVISED
4:03 pm, Feb 11, 2020

GENERAL NOTES:

1. NO VEHICULAR TRAFFIC IS ALLOWED ON ANY PORTION OF THE DISPOSAL SYSTEM, UNLESS THE DESIGN SPECIFIES OTHERWISE.
2. PIPE ALIGNMENT TO THE DISPOSAL BEDS MAY BE ALTERED AS REQUIRED. ANY CHANGE FROM THE PLANS MUST BE APPROVED BY THE ENGINEER AND THE APPROPRIATE GOVERNMENTAL AGENCY(IES).
3. CONTRACTOR SHALL PROTECT TREES WHICH ARE NOT IN THE EXCAVATED CONSTRUCTION AREAS. CONTRACTOR SHALL MINIMIZE ROOT DAMAGE AND REASONABLY ADHERE TO THE DESIGN.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING A MINIMUM OF 1/4" PER FOOT OF FALL FROM THE BUILDING TO THE SEPTIC TANK.
5. NOT AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED OVER THE DISPOSAL AREAS. ANY WATERING IN THESE AREAS SHALL BE DONE BY HAND AND ONLY WHEN REQUIRED TO MAINTAIN GRASS COVER.
6. ALL CONSTRUCTION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY - TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AND ANY APPLICABLE LOCAL BUILDING AND SAFETY CODES.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS SYSTEM.
8. THE DRIP FIELD SHALL BE VEGETATED WITH EITHER ST. AUGUSTINE OR BERMUDA SOD.
9. FIELDS MUST BE MOWED AT REGULAR INTERVALS. FAILURE TO PROPERLY MAINTAIN VEGETATIVE COVER MAY RESULT IN SYSTEM FAILURE AND SHALL BE THE RESPONSIBILITY OF THE OWNER.
10. 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.
11. ALL POTABLE WATER LINES SHALL BE A MINIMUM OF 10 FEET FROM ANY DISPOSAL SYSTEM OR SEWERAGE PIPE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF WATER LINES LESS THAN 10 FEET FROM THE DISPOSAL AREA.
12. HIGH WATER ALARM SHALL BE LOCATED IN A NOTICEABLE LOCATION. THE ALARM SHALL BE A VISUAL AND AUDIBLE ALARM AND WIRED ON A SEPARATE CIRCUIT FROM THE PUMPS. ALL EXTERIOR CONTROLS AND CONNECTIONS SHALL BE ENCLOSED IN A WEATHER-PROOF HOUSING. ELECTRICAL CONSTRUCTION SHALL COMPLY WITH ALL LOCAL ELECTRICAL AND BUILDING CODES.
13. NO EXCAVATION IS PERMITTED NEAR THE DISPOSAL FIELDS THAT WILL RESULT IN THE NONCOMPLIANCE OF APPLICABLE SETBACKS STATED IN THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY.
14. ONLY GOOD QUALITY SANDY LOAM SHALL BE APPLIED OVER THE DISPOSAL FIELDS. CLAY LOAM 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.
15. 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.
16. THE CONTRACTOR IS RESPONSIBLE FOR STAKING AND VERIFYING THE GRADES PRIOR TO EXCAVATION. ANY DISCREPANCIES OF MORE THAN 6 INCHES SHALL BE REPORTED TO THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL NOT DEVIATE FROM THESE PLANS WITHOUT THE WRITTEN CONSENT OF THE APPROPRIATE AUTHORITY AND THE ENGINEER.
17. WATER SOFTENER AND/OR AIR CONDITIONING DRAIN LINES SHALL NOT BE CONNECTED TO THE SEPTIC TANK.
18. CONTRACTOR SHALL REPORT TO THE ENGINEER ANY ELEVATION DIFFERENCES GREATER THAN 4 FEET BETWEEN THE HIGHEST AND LOWEST TRENCH IN THE FIELD. THIS SHOULD BE CHECKED PRIOR TO INSTALLING THE LATERALS AND MANIFOLD.
19. 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.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PLUMBING FIXTURES ARE CONNECTED TO THE DESIGNATED SEPTIC TANK(S). LOW FLOW TOILETS (1.6 GAL), SHOWERHEADS AND FAUCETS SHALL BE USED IN THE STRUCTURES.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR JOBSITE SAFETY AND PROTECTION OF THE PUBLIC FROM INJURY DURING CONSTRUCTION. THE OWNER SHALL BE RESPONSIBLE FOR THE PREVENTION OF PERSONAL INJURY TO ANYONE ON OR NEAR THE DISPOSAL SYSTEM.
22. CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL TANKS HAVE ADEQUATE STRENGTH AND INTEGRITY TO PERFORM SATISFACTORILY AS SHOWN ON THESE PLANS.
23. THE WASTEWATER FLOW TO THE SEPTIC SYSTEM SHALL NOT EXCEED THE DESIGN FLOW SHOWN ON THIS PLAN.



THE DRIP DISPOSAL FIELD AREA SHALL BE SCARIFIED AND THEN BUILT UP SO THAT APPROXIMATELY 12" OF TYPE II OR III SOIL (NOT SAND) IS ABOVE ANY BEDROCK OR TYPE IV SOILS THEN THE DRIP TUBING SHALL BE LAID ON TOP AND THEN CAPPED WITH APPROXIMATELY 6" OF TYPE II OR TYPE III SOIL (NOT SAND). THE FIELD AREA SHALL BE COMPLETELY COVERED WITH EROSION CONTROL MAT AND THEN SEEDED WITH GRASS PRIOR TO SYSTEM STARTUP.

ADD'L. NOTES:

1. DESIGN DAILY WASTEWATER FLOW = 240 GPD (WATER SAVING DEVICES WERE ASSUMED FOR SEPTIC SYSTEM DESIGN).
2. TOPOGRAPHIC DATA SOURCE: FEMA 2011 DATA
3. INSTALLER SHALL VERIFY ALL EASEMENTS, SETBACKS AND PROPERTY LINE BEARINGS AND DISTANCES PRIOR TO CONSTRUCTION.

1" = 20'

STATE OF TEXAS
JOHN J. HAAG
90158
LICENSED
PROFESSIONAL ENGINEER

02/11/20

OSSF LAYOUT
LOT 1585, RAVENSWOOD
CANYON LAKE HILLS, UNIT 3
CANYON LAKE, TEXAS

NOTE: OSSF IS NOT WITHIN FEMA 100 YEAR FLOODPLAIN OR EDWARDS AQUIFER RECHARGE ZONE.

SITE EVALUATION BY JOHN J. HAAG, P.E. ON 04/05/18

DRAWN BY:	JJH
CHECKED BY:	JJH
DATE:	02/11/20
JOB NO.	CAWLEY18001

SHEET 1 OF 1

HAAG ENGINEERING CONSULTANTS
15831 SECRET TRAILS
SAN ANTONIO, TEXAS 78247
FIRM: F-5789
TEL: (210) 705-4268
FAX: (210) 855-8383

Pump float settings for 240 gpd design flow and min. 80 gal reserve:

Pump off position: 12 inches above tank bottom (166.90 gal)

Pump on position: 29 inches above tank bottom (409.90 gal)

Alarm on position: 36 inches above tank bottom (512.22 gal)

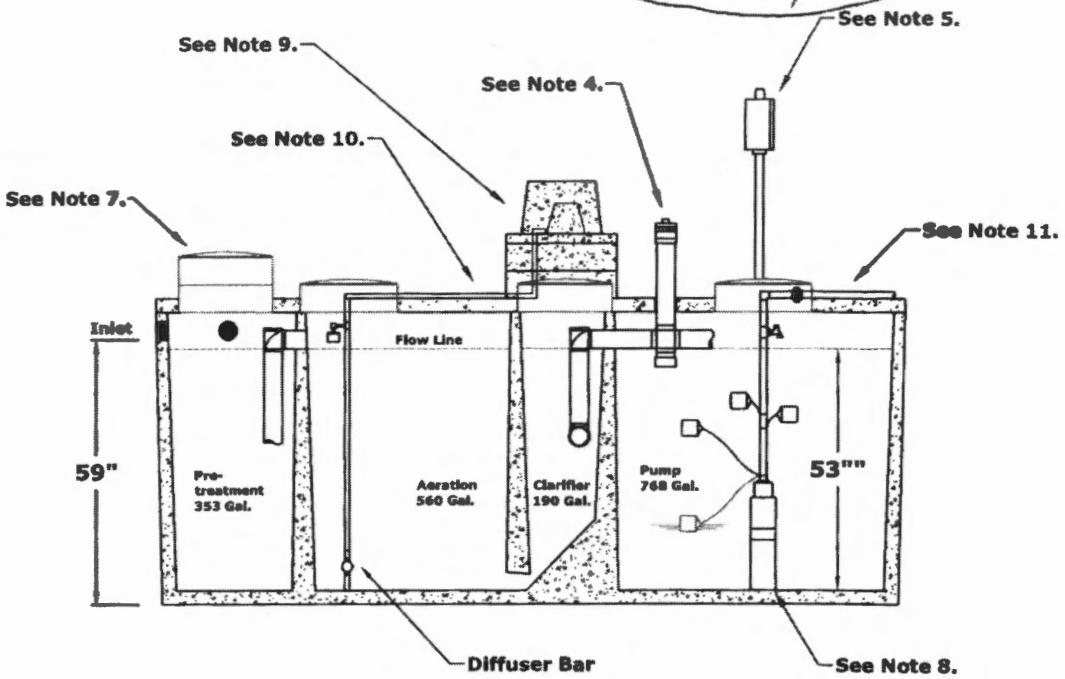
254.04 gal reserve capacity at approx. 53 inches above tank bottom

STATE OF TEXAS
JOHN J. HAAG
90158
LICENSED
PROFESSIONAL ENGINEER

04/19/18

GENERAL NOTES:

1. **Plant structure material to be precast concrete and steel.**
2. **Weight = 14,900 lbs.**
3. **Treatment capacity is 600 GPD. BOD Loading = 1.62 lbs. per day.**
4. **Standard tablet chlorinator or Optional Liquid chlorinator. NSF approved chlorinators (tablet & liquid) available.**
5. **Control Center w/ Timer for night spray application. .**
7. **20" Ø acess riser w/ lid (Typical 4). Optional extension risers available.**
8. **20 GPM 1/2 HP, high head effluent pump.**
9. **Air Compressor w/ concrete housing.**
10. **1/2" Sch. 40 PVC Air Line (Max. 50 Lft from Plant).**
11. **1" Sch. 40 PVC pipe to distribution system provided by contractor.**



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

MINIMUM EXCAVATION DIMENSIONS:
Width: 76"
Length: 176"

RECEIVED
APR 19 2018
COUNTY ENGINEER

Maxx Air M-600 (600 GPD) Aerobic Treatment Plant (Assembled)

Dec, 2013
By: A.S.

Scale:
* All Dimensions subject to allowable specification tolerances.

Dwg. #: ADV-B550-3

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

C1 SERIES
CISTERN PUMPS

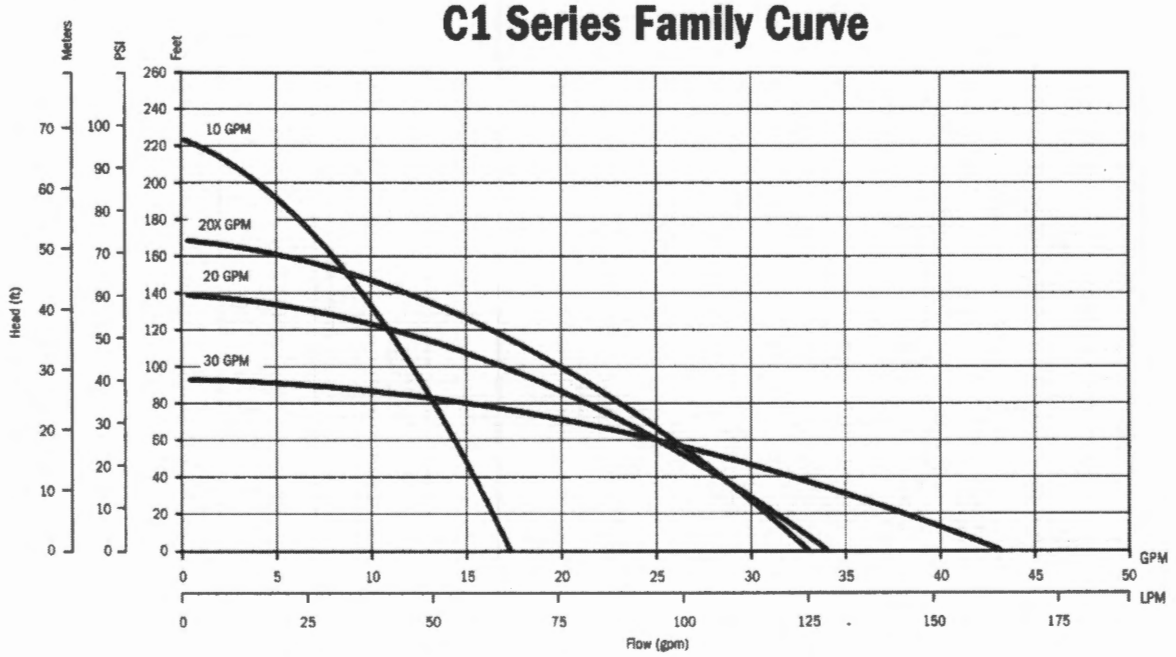
Designed for use in gray water / filtered effluent service applications, the C1 Series cistern pump provides high performance and long life in less than ideal water conditions. The C1 Series pump is able to pass solids up to 1/8" without having a negative effect on the internal hydraulic components.

The pump's unique bottom suction design allows 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.

franklinwater.com

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
- 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, ½ hp motor
- Fluid flows of 10, 20, and 30 gpm, with a max shut-off pressure of over 100 psi
- Heavy duty 600 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

C1 Series Pumps

GPM	HP	Volts	Stage	Model No.	Order No.	Length (in)	Weight (lbs)
10	1/2	115	7	10C1-05P4-2W115	90301005	26	17
		230	7	10C1-05P4-2W230	90301010	26	17
20		115	5	20C1-05P4-2W115	90302005	25	16
		230	5	20C1-05P4-2W230	90302010	25	16
20X		115	6	20XC1-05P4-2W115	90302015	26	17
		230	6	20XC1-05P4-2W230	90302020	26	17
30		115	4	30C1-05P4-2W115	90303005	25	16
		230	4	30C1-05P4-2W230	90303010	25	16

Note: All units have 10 foot long SJOOW leads.

NETAFIM™

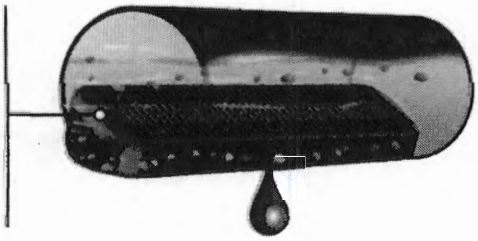
WASTEWATER DIVISION

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	86	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	159	288	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 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	368	308	251	453	383	313
	35	316	262	210	437	365	295	543	455	368
	40	337	280	223	469	391	313	583	487	383
	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 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 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	168	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 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	181	164	269	233	201
	25	221	190	157	302	251	210	369	321	270
	35	269	229	187	370	316	260	455	391	324
	40	290	246	200	399	340	276	488	421	347
	45	310	261	212	427	362	289	527	448	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 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	539	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	406	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.

NETAFIM™

MAINTENANCE AND CLEANING

ASSEMBLY

1. Verify that spring is in place inside the filter cover.
2. Insert filter element and make sure it is seated correctly.
3. Replace cover.
4. Tighten filter cover securely by turning the fixing nut clockwise and do not overtighten.

WINTERIZATION

Drain all the water from the filter to avoid cracking due to freezing.

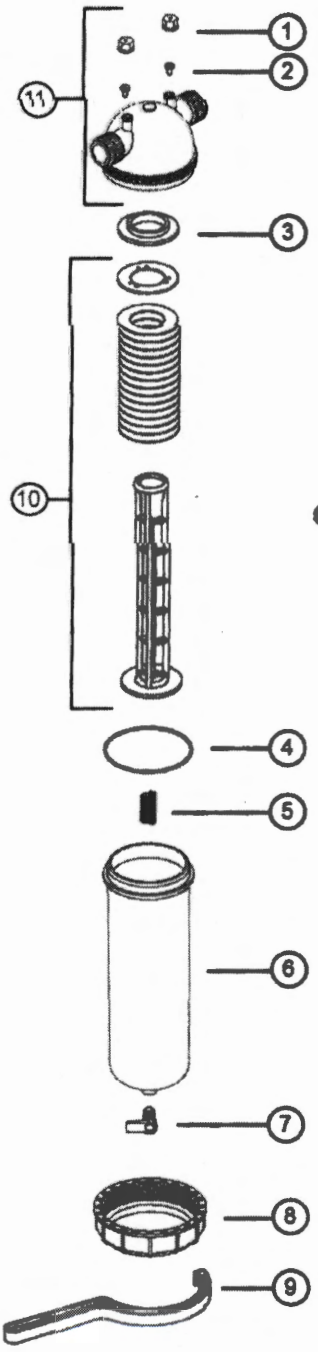
PARTS BREAKDOWN - 1" SUPER/LONG FILTER

KEY	MODEL NUMBER	DESCRIPTION	MATERIALS
1	SEE # 11	GAUGE PORT NUT	R.PP
2	SEE # 11	GAUGE PORT SEAL	EPDM
3	-	FILTER ADAPTER RING	R.PA
4	25AP531140	COVER O RING	NR
5	25AP50440011	COMPRESSION SPRING	SS
6	25AP23113	FILTER COVER	R.PA
7	-	1/4" TAP (OPTIONAL)	BRASS
8	25AP231131	FIXING NUT	R.PA
9	25AP131199	FILTER WRENCH	R.PA
10	25AP21121-***	RING SET WITH SPINE	PP
11	25AP25000101	FILTER BODY COMPLETE	-

Substitute *** for proper mesh size.

MATERIALS KEY

CODE	MATERIAL
SS	STAINLESS STEEL
PP	POLYPROPYLENE
NR	NITRILE RUBBER
R.PP	REINFORCED POLYPROPYLENE
R.PA	REINFORCED POLYAMIDE
EPDM	ETH. PROPY. RUBBER



NETAFIM™
GROW MORE WITH LESS

5470 E. Home Ave.
Fresno, CA 93727
888.638.2346 • 559.453.6800
FAX 800.695.4753
www.netafimusa.com

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REVISED
1:27 pm, Apr 25, 2018

AEROBIC TREATMENT
DRIP TUBING SYSTEM
FOR:
LOT 1585
CANYON LAKE HILLS, UNIT 3

!

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SITE DESCRIPTION:

Located in Canyon Lake Hills, lot 1585, the proposed system will serve at 3 bedroom, 1346 s.f. residence situated on soils per the Site Evaluation report. An aerobic treatment plant utilizing drip irrigation was chosen as the most appropriate system to serve the conditions on this lot.

PROPOSED SYSTEM:

A 3 or 4 inch SCH-40 pipe discharges from the residence into a Maxx Air M-600 (600 gpd) aerobic treatment plant containing a 353 gallon pretreatment tank and a 768 gallon pump chamber. The pump chamber contains a 0.5 HP Franklin C1-Series-20X submersible well pump. The well pump is activated by a time controller allowing the distribution ten times per day with an 8 minute run time with the float setting at min. 240 gallons. A high level audible and visual alarm will activate should the pump fail. Distribution is through a self-flushing 100 micron Arkal Disk filter then through a 1" SCH-40 manifold to a minimum 1200 sf drip tubing field with Netifim Bioline drip lines approximately two feet apart with 0.61 gph emitters set every two feet as per the attached schematic. A pressure regulator Model PMR30MF 30psi installed in the pump tank on the manifold to the field will maintain pressure at 30 psi. A 1" SCH-40 return line is installed to periodically flush the system by cycling a 1" ball valve. Solids caught in the spin filter are flushed each cycle back to the trash tank. Agricultural Products, Inc. (Model #VBK-1) 1" PVC vacuum breakers installed on the highest point on each manifold will prevent siphoning of effluent from higher to lower parts in the field. Field area will be scarified and then built up so that approximately 12" of Type II or III soil is above any bedrock or type IV soils then the drip tubing will be laid and capped with approximately 6" of Type II or Type III soil (NOT SAND). The field area will be sodded with grass prior to system startup. Tank must have at grade risers on each opening with watertight caps that must be 65# or have a padlock or can only be removed with tools. A secondary plug, cap or suitable restraint must be provided below riser cap to prevent tank entry should the cap be damaged or removed.

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DESIGN SPECIFICATIONS:

Daily flow = Q=240 gpd
Pretreatment tank size: 363 gal
Plant size: Maxx Air M-600 (600 gpd) (TCEQ approved)
Pump tank size: 768 gal
Min. Reserve capacity after high level: 80 gal (1/3 day req'd)
Application rate: Ra=0.2 gal/sf
Total absorption area: Q/Ra = min. 1200 sf (1392 sf actual)
Total linear feet of drip tubing: 696' Netifim Bioline drip tubing 0.61 gph
Pump requirement: 348 emitters @ 0.61 gph @ 30 psi = 3.54 gpm
Pump requirement (cont.): 0.5 HP Franklin C1-Series-20AC1-05P4-2W115

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1:27 pm, Apr 25, 2018

MINIMUM SCOUR VELOCITY (MSV) >2 fps
In drip tubing with nom. dia. 0.57" ID
MSV = 2 fps (pi*d^2)/4*7.48 gal/cf*60 sec/min
MSV = 2(3.14159(.57/12)^2)/4)*7.48*60
MSV = 1.59 gpm/line * 3 lines = 4.77 gpm min. flow rate
In return manifold with nom. Dia. 1.049" ID
MSV = 2 fps (pi*d^2)/4*7.48 gal/cf*60 sec/min
MSV = 2(3.14159(1.049/12)^2)/4)*7.48*60
MSV = 5.4 gpm

PIPE AND FITTINGS:

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

Designed in accordance with Chapter 285, Subchapter D, §285 and §285.40 Texas Commission on Environmental Quality (Revised March 2013).

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04/19/18

Haag Engineering Consultants, Inc.
Firm No.: F-5786

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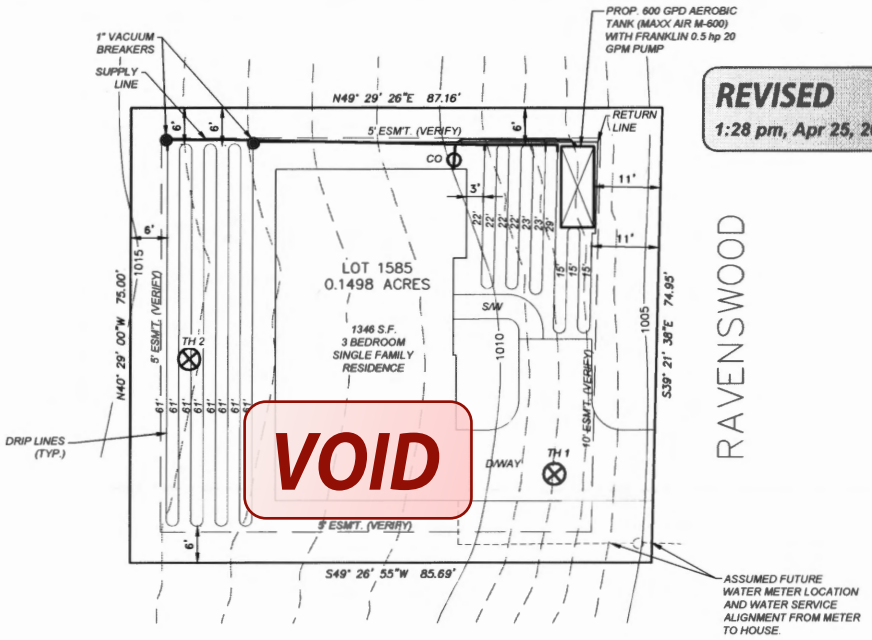
GENERAL NOTES:

1. NO VEHICULAR TRAFFIC IS ALLOWED ON ANY PORTION OF THE DISPOSAL SYSTEM, UNLESS THE DESIGN SPECIFIES OTHERWISE.
2. PIPE ALIGNMENT TO THE DISPOSAL BEDS MAY BE ALTERED AS REQUIRED. ANY CHANGE FROM THE PLANS MUST BE APPROVED BY THE ENGINEER AND THE APPROPRIATE GOVERNMENTAL AGENCY(IES).
3. CONTRACTOR SHALL PROTECT TREES WHICH ARE NOT IN THE EXCAVATED CONSTRUCTION AREAS. CONTRACTOR SHALL MINIMIZE ROOT DAMAGE AND REASONABLY ADHERE TO THE DESIGN.
4. CONTRACTOR IS RESPONSIBLE FOR VERIFYING A MINIMUM OF 1/4" PER FOOT OF FALL FROM THE BUILDING TO THE SEPTIC TANK.
5. NOT AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED OVER THE DISPOSAL AREAS. ANY WATERING IN THESE AREAS SHALL BE DONE BY HAND AND ONLY WHEN REQUIRED TO MAINTAIN GRASS COVER.
6. ALL CONSTRUCTION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY - TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AND ANY APPLICABLE LOCAL BUILDING AND SAFETY CODES.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE CONSTRUCTION OF THIS SYSTEM.
8. THE DRIP FIELD SHALL BE VEGETATED WITH EITHER ST. AUGUSTINE OR BERMUDA SOD.
9. FIELDS MUST BE MOWED AT REGULAR INTERVALS. FAILURE TO PROPERLY MAINTAIN VEGETATIVE COVER MAY RESULT IN SYSTEM FAILURE AND SHALL BE THE RESPONSIBILITY OF THE OWNER.
10. 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.
11. ALL POTABLE WATER LINES SHALL BE A MINIMUM OF 10 FEET FROM ANY DISPOSAL SYSTEM OR SEWERAGE PIPE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF WATER LINES LESS THAN 10 FEET FROM THE DISPOSAL AREA.
12. HIGH WATER ALARM SHALL BE LOCATED IN A NOTICEABLE LOCATION. THE ALARM SHALL BE A VISUAL AND AUDIBLE ALARM AND WIRED ON A SEPARATE CIRCUIT FROM THE PUMPS. ALL EXTERIOR CONTROLS AND CONNECTIONS SHALL BE ENCLOSED IN A WEATHER-PROOF HOUSING. ELECTRICAL CONSTRUCTION SHALL COMPLY WITH ALL LOCAL ELECTRICAL AND BUILDING CODES.
13. NO EXCAVATION IS PERMITTED NEAR THE DISPOSAL FIELDS THAT WILL RESULT IN THE NONCOMPLIANCE OF APPLICABLE SETBACKS STATED IN THE RULES AND REGULATIONS OF THE APPROPRIATE AUTHORITY.
14. ONLY GOOD QUALITY SANDY LOAM SHALL BE APPLIED OVER THE DISPOSAL FIELDS. CLAY LOAM 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.
15. 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.
16. THE CONTRACTOR IS RESPONSIBLE FOR STAKING AND VERIFYING THE GRADES PRIOR TO EXCAVATION. ANY DISCREPANCIES OF MORE THAN 6 INCHES SHALL BE REPORTED TO THE ENGINEER PRIOR TO EXCAVATION. THE CONTRACTOR SHALL NOT DEVIATE FROM THESE PLANS WITHOUT THE WRITTEN CONSENT OF THE APPROPRIATE AUTHORITY AND THE ENGINEER.
17. WATER SOFTENER AND/OR AIR CONDITIONING DRAIN LINES SHALL NOT BE CONNECTED TO THE SEPTIC TANK.
18. CONTRACTOR SHALL REPORT TO THE ENGINEER ANY ELEVATION DIFFERENCES GREATER THAN 4 FEET BETWEEN THE HIGHEST AND LOWEST TRENCH IN THE FIELD. THIS SHOULD BE CHECKED PRIOR TO INSTALLING THE LATERALS AND MANIFOLD.
19. 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.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PLUMBING FIXTURES ARE CONNECTED TO THE DESIGNATED SEPTIC TANK(S). LOW FLOW TOILETS (1.6 GAL). SHOWERHEADS AND FAUCETS SHALL BE USED IN THE STRUCTURES.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR JOBSITE SAFETY AND PROTECTION OF THE PUBLIC FROM INJURY DURING CONSTRUCTION. THE OWNER SHALL BE RESPONSIBLE FOR THE PREVENTION OF PERSONAL INJURY TO ANYONE ON OR NEAR THE DISPOSAL SYSTEM.
22. CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL TANKS HAVE ADEQUATE STRENGTH AND INTEGRITY TO PERFORM SATISFACTORILY AS SHOWN ON THESE PLANS.
23. THE WASTEWATER FLOW TO THE SEPTIC SYSTEM SHALL NOT EXCEED THE DESIGN FLOW SHOWN ON THIS PLAN.



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1:28 pm, Apr 25, 2018

ADD'L. NOTES:

1. DESIGN DAILY WASTEWATER FLOW = 240 GPD (WATER SAVING DEVICES WERE ASSUMED FOR SEPTIC SYSTEM DESIGN).
2. TOPOGRAPHIC DATA SOURCE: FEMA 2011 DATA
3. INSTALLER SHALL VERIFY ALL EASEMENTS, SETBACKS AND PROPERTY LINE BEARINGS AND DISTANCES PRIOR TO CONSTRUCTION.

1" = 20'

STATE OF TEXAS
JOHN J. HAAG
90158
LICENSED
PROFESSIONAL ENGINEER

04/25/18

OSSF LAYOUT
LOT 1585, RAVENSWOOD
CANYON LAKE HILLS, UNIT 3
CANYON LAKE, TEXAS

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NOTE: OSSF IS NOT WITHIN FEMA 100 YEAR FLOODPLAIN OR EDWARDS AQUIFER RECHARGE ZONE.

SITE EVALUATION BY JOHN J. HAAG, P.E. ON 04/05/18

DRAWN BY:	JJH
CHECKED BY:	JJH
DATE:	04/25/18
JOB NO.	CAWLEY18001

SHEET 1 OF 1

HAAG ENGINEERING CONSULTANTS
15831 SECRET TRAILS
SAN ANTONIO, TEXAS 78247
FIRM: F-5789
TEL: (210) 705-4268
FAX: (210) 855-8383

STC 248706 VN

General Warranty Deed

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.

Date: July 27, 2018

Grantor: SEASIDE VENTURES, LLC, a Texas limited liability company

Grantor's Mailing Address: 3552 Comal Springs, Canyon Lake, TX 78133

Grantee: WHITTLER SPEC HOMES LLC, a Texas limited liability company

Grantee's Mailing Address: 381 Big Sky Drive, New Braunfels, TX 78132

Consideration: Cash and other valuable consideration.

Property (including any improvements):

Lot 1585, CANYON LAKE HILLS, UNIT NO. 3, Comal County, Texas, according to plat thereof recorded in Volume 2, Page(s) 19, Map and Plat Records of Comal County, Texas;

Reservations from Conveyance: NONE.

Exceptions to Conveyance and Warranty: Any and all restrictions, covenants, conditions, reservations, mineral leases, interests, agreements and easements, shown of record in the hereinabove mentioned County and State and to all zoning laws, regulations and ordinances of municipal and/or governmental authorities, if any, but only to the extent that they are still in effect relating to the hereinabove described property, and further subject to all stand by fees, taxes and assessments by any taxing authority for the current and subsequent years, and subsequent taxes and assessments for prior years due to changes in land usage or ownership and all matters reflected on the hereinabove mentioned plat.

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.

SEASIDE VENTURES, LLC, a Texas limited liability company

By: Cheri Hubler

CHERI HUBLER, Manager

ACKNOWLEDGMENT

STATE OF TEXAS §
§
COUNTY OF COMAL §

This instrument was acknowledged before me on the 26th day of July, 2018, by CHERI HUBLER, Manager of SEASIDE VENTURES, LLC, a Texas limited liability company, on behalf of said limited liability company.

VIKKI NELSON
Notary Public
STATE OF TEXAS
My Comm. Exp. 09/07/2019
ID# 12873019-5

Notary Public in and for the State of Texas

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
07/30/2018 08:51:00 AM
LAURA 2 Pages(s)
201806029409

Bobbie Koepp

AFTER RECORDING RETURN TO:

WITTLER SPEC HOMES, LLC
381 Big Sky Drive
New Braunfels, TX 78132

PREPARED IN THE LAW OFFICES OF:

THE HOUGHAM LAW FIRM
5152 Fredericksburg Road, Ste. 280A
San Antonio, Texas 78229
Telephone No. (210) 375-7570

COUNTY OF COMAL **COUNTY ENGINEER'S OFFICE**

OSSF DEVELOPMENT APPLICATION CHECKLIST

Staff will complete shaded

items Date Received *Initials*

Permit Number

Instructions:

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

OSSF Permit

- ✓ Completed Application for Permit for Authorization to Construct an On-Site Sewage Facility and License to Operate
- ✓ Site/Soil Evaluation Completed by a Certified Site Evaluator or a Professional Engineer
- ✓ Planning Materials of the OSSF as Required by the TCEQ Rules for OSSF Chapter 285. Planning Materials shall consist of a scaled design and all system specifications.
- ✓ Required Permit Fee
- ✓ 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.

J R Cattle

Signature of Applicant

8/27/2019

Date

____COMPLETE APPLICATION

Check No._____ Receipt No. _____

____INCOMPLETE APPLICATION

(Missing Items Circled, Application Refused)

Revised: January 2015

PS Septic Supply & Service
23011 FM 306
Canyon Lake, TX 78133

(830) 850-0080
Fax: (830) 935-4932

Permit #: 107415

To: Paul Swoyer Septics, LLC
333 Ravenswood
Canyon Lake, TX 78133

Tech: Not Assigned
Brand/Mfg.: MAXX AIR -
System S/N
Aerator and S/N

Site: 333 Ravenswood, Canyon Lake
Agency: Comal County
County: Comal County
Subdivision: Canyon Lake Hills

Contract: 2/13/2020 - 2/13/2023
Inspections per year: 3
Service Due: **6/13/2020**
Alt Phone
Warranty Ending
Installed
Phone
Cell
Work

Inspection Type: _____ Inspection # ____ of ____ for the contract year

Item	Operational	Inoperative	N/A
Aerator:			X
Irrigation pump:	X		
Air compressor:	X		
Disinfection device:			X
Chlorine supply:			X
Spray field vegetation:	X		
Sprinkler / Drip backwash:	X		
Photocell Test:			
Autodialer:			X

Water Meter Reading: _____ CFM: _____ PSI: _____

sludge 1-6"
2-0"
3-0"

Test Results and observations: (As Required)
Fecal Coliform: _____
Chlorine Residual: N4 DSP
Test Method: _____
BOD: _____
TSS: _____
Commercial Lab: _____
Date Submitted: _____

Repairs made: Y / N

Repairs and Comments:
Scum 0"

Inspector: _____ Date _____

Area: / 0
GPS: 29.8810 -98. 2747 ID = 565

Printed 6/23/2020

333 Ravenswood | Canyon Lake

PS Septic Supply & Service
23011 FM 306
Canyon Lake, TX 78133

Phone: (830) 850-0080
Fax: (830) 935-4932

To: Home Owner
333 Ravenswood
Canyon Lake, TX 78133

Printed:10/27/2020
Site: 333 Ravenswood
Canyon Lake, TX 78133

Permit #: ~~107415~~ 109706
Agency: Comal County
County: Comal County
Mfg / Brand: - MAXX AIR
Treatment Type: Aerobic
Disposal: Drip Emitters

Sub: Canyon Lake Hills

Customer ID: 565
Contract Dates: 2/13/2020 - 2/13/2023
Scheduled Date: 10/13/2020
Inspection 2 of 9

GPS Coordinates - Latitude: 29.8810 Longitude: -98.2747

Service Type: Scheduled Inspection
Visit Date: 10/26/2020
Method: Grab
Technician: Ryan Seidensticker
Maint. Provider: Ryan Seidensticker

☑ This counts as a type of "Scheduled Inspection"
Entered By:

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational
Chlorine Supply: Operational

Sludge Levels
For Tank 1: 8

Tank Lid / Riser: Secured

Sprinkler Drip Backwash: Good

Electric Circuits: Operational
Distribution System: Operational
Sprayfield Veg: Operational

Color: Good
Odor: Good

Alarm: Operational

Comments
Scum on pretreatment: 1/2" - Technician Secured the Tank Lid and/or Riser prior to leaving location.

☑ **Service Completed**

Insp ID #:6323

Owner signature: _____

Provider: *Christopher Ryan Seidensticker*
PS Septic Supply & Service
License Info: MP0001708 Expires:

Technician: *Christopher Ryan Seidensticker*
PS Septic Supply & Service
License Info: MP0001708 Expires: 9/1/2023

PS Septic Supply & Service
23011 FM 306
Canyon Lake, TX 78133

Phone: (830) 850-0080
Fax: (830) 935-4932

To: Home Owner
333 Ravenswood
Canyon Lake, TX 78133

Printed:3/5/2021
Site: 333 Ravenswood
Canyon Lake, TX 78133

Permit #: **109706**
Agency: Comal County
County: Comal County
Mfg / Brand: - MAXX AIR
Treatment Type: Aerobic
Disposal: Drip Emitters

Sub: Canyon Lake Hills

Customer ID: 565
Contract Dates: 2/13/2020 - 2/13/2023
Scheduled Date 2/13/2021
Inspection 3 of 9

GPS Coordinates - Latitude: 29.8810 Longitude: -98.2747

Service Type: Scheduled Inspection
Visit Date: 3/4/2021
Method: Grab
Technician: Landon Gronvold
Maint. Provider: Ryan Seidensticker

☑ This counts as a type of "Scheduled Inspection"
Entered By:

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational

Sludge Levels
For Tank 1: 14
For Tank 2: 1

Tank Lid / Riser: Secured

Sprinkler Drip Backwash: Good

Electric Circuits: Operational
Distribution System: Operational
Sprayfield Veg: Operational

Color: Good
Odor: Good

Alarm: Operational

Comments
Scum on pretreatment:0" - Technician Secured the Tank Lid and/or Riser prior to leaving location.

☑ **Service Completed**

Owner signature: _____

Insp ID #:8287

Provider: *Christopher Ryan Seidensticker*
PS Septic Supply & Service

License Info: MP0001708 Expires:

License Info: MT0001995 Expires: 10/31/2021

PS Septic Supply & Service
23011 FM 306
Canyon Lake, TX 78133

Phone: (830) 850-0080
Fax: (830) 935-4932

To: Kevin Schroeder
333 Ravenswood
Canyon Lake, TX 78133

Printed:10/20/2021
Site: 333 Ravenswood
Canyon Lake, TX 78133
(830) 660-7287

Permit #: **109706**
Agency: Comal County
County: Comal County
Mfg / Brand: - MAXX AIR
Treatment Type: Aerobic
Disposal: Drip Emitters

Sub: Canyon Lake Hills

Customer ID: 565
Contract Dates: 2/13/2020 - 2/13/2023
Scheduled Date: 10/13/2021 Inspection 5 of 9

GPS Coordinates - Latitude: 29.8810 Longitude: -98.2747

Service Type: Scheduled Inspection
Visit Date: 10/20/2021
Method: Grab
Technician: Not Assigned
Maint. Provider: Ryan Seidensticker

☑ This counts as a type of "Scheduled Inspection"
Entered By:

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational

Sludge Levels
For Tank 1: 12
For Tank 2: 1
For Tank 3: 6

Tank Lid / Riser: Secured
Insp. Port / Plug: Secured

Electric Circuits: Operational
Distribution System: Operational
Sprayfield Veg: Operational

Alarm: Operational

Comments

☑ **Service Completed**

Scum on pretreatment 1"
cleaned drip filter and backflushed drip field
- Technician Secured the Tank Lid and/or Riser prior to leaving location. - Inspection Port Plug was noted as Secured prior to leaving.

Insp ID #:12442

Provider: *Christopher Ryan Seidensticker*
PS Septic Supply & Service
License Info: MP0001708 Expires:

PS Septic Supply & Service
23011 FM 306
Canyon Lake, TX 78133

Phone: (830) 850-0080
Fax: (830) 935-4932

To: Kevin Schroeder
333 Ravenswood
Canyon Lake, TX 78133

Printed:2/2/2022
Site: 333 Ravenswood
Canyon Lake, TX 78133
(830) 660-7287

Permit #: **109706**
Agency: Comal County
County: Comal County
Mfg / Brand: - MAXX AIR
Treatment Type: Aerobic
Disposal: Drip Emitters

Sub: Canyon Lake Hills

Customer ID: 565
Contract Dates: 2/13/2020 - 2/13/2023
Scheduled Date: 2/13/2022 Inspection 6 of 9

GPS Coordinates - Latitude: 29.8810 Longitude: -98.2747

Service Type: Scheduled Inspection
Visit Date: 2/1/2022
Method: Grab
Technician: Not Assigned
Maint. Provider: Ryan Seidensticker

☑ This counts as a type of "Scheduled Inspection"
Entered By: Michelle Irvin

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational

Sludge Levels
For Tank 1: 6
For Tank 2: 4
For Tank 3: 4

Tank Lid / Riser: Secured

Sprinkler Drip Backwash: Good

Electric Circuits: Operational
Distribution System: Operational
Sprayfield Veg: Operational

Color: Good
Odor: Good

Alarm: Operational

Comments

☑ **Service Completed**

Scum = 2"
Tee is cracked where the pressure gauge is at.
- Technician Secured the Tank Lid and/or Riser prior to leaving location.

Insp ID #:14983

Provider: *Christopher Ryan Seidensticker*
PS Septic Supply & Service
License Info: MP0001708 Expires:

PS Septic Supply & Service
23011 FM 306
Canyon Lake, TX 78133

Phone: (830) 850-0080
Fax: (830) 935-4932

To: Kevin Schroeder
333 Ravenswood
Canyon Lake, TX 78133

Printed:6/6/2022
Site: 333 Ravenswood
Canyon Lake, TX 78133
(830) 660-7287

Permit #: **109706**
Agency: Comal County
County: Comal County
Mfg / Brand: - MAXX AIR
Treatment Type: Aerobic
Disposal: Drip Emitters

Sub: Canyon Lake Hills

Customer ID: 565
Contract Dates: 2/13/2020 - 2/13/2023
Scheduled Date: 6/13/2022
Inspection 7 of 9

GPS Coordinates - Latitude: 29.8810 Longitude: -98.2747

Service Type: Scheduled Inspection
Visit Date: 6/3/2022
Method: Grab
Technician: Not Assigned
Maint. Provider: Ryan Seidensticker

☑ This counts as a type of "Scheduled Inspection"
Entered By: Michelle Irvin

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational

Sludge Levels
For Tank 1: 12
For Tank 3: 5

Tank Lid / Riser: Secured

Sprinkler Drip Backwash: Good

Electric Circuits: Operational
Distribution System: Operational
Sprayfield Veg: Operational

Color: Good
Odor: Good

Alarm: Operational

Comments
Scum = 1" - Technician Secured the Tank Lid and/or Riser prior to leaving location.

☑ **Service Completed**

Insp ID #:18351

Provider: *Christopher Ryan Seidensticker*
PS Septic Supply & Service
License Info: MP0001708 Expires:

PS Septic Supply & Service
23011 FM 306
Canyon Lake, TX 78133

Phone: (830) 850-0080
Fax: (830) 935-4932

Printed:9/29/2022 Insp ID #:21329 Permit #: **109706**

To: Kevin Schroeder
333 Ravenswood
Canyon Lake, TX 78133

Main Phone: (830) 660-7287
Work:
Cell Phone:
Alt Cell:
Customer ID: 565
Contract Dates: 2/13/2020 - 2/13/2023
Scheduled Date: 10/13/2022 Inspection 8 of 9

Agency: Comal County
County: Comal County
Sub: Canyon Lake Hills
Mfg / Brand: - MAXX AIR
Treatment Type: Aerobic
Disposal: Drip Emitters

GPS Coordinates: Latitude: 29.8810 Longitude: -98.2747

Service Type: Scheduled Inspection
Visit Date: 9/29/2022
Method: Grab
Technician: Not Assigned
Maint. Provider: Ryan Seidensticker

☑ This counts as a type of "Scheduled Inspection"
Entered By: Ryan Seidensticker
☑ Copy emailed to Customer
Customer Emailed: 9/29/2022

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational

Sludge Levels
For Tank 1: 18
For Tank 4: 4

Electric Circuits: Operational
Distribution System: Operational
Sprayfield Veg: Operational

Alarm: Operational

Tank Lid / Riser: Secured
Insp. Port / Plug: Secured

Comments

☑ **Service Completed**

Scum on pretreatment 0" cleaned drip filter and backflushed drip field - Technician Secured the Tank Lid and/or Riser prior to leaving location. - Inspection Port Plug was noted as Secured prior to leaving. - Inspection Port Plug was noted as Secured prior to leaving. - Copy emailed to the customer on 9/29/2022.

Site: 333 Ravenswood, Canyon Lake, TX 78133

Provider: *Christopher Ryan Seidensticker*
PS Septic Supply & Service
License Info: MP0001708 Expires:

Luna Environmental
4222 FM 482
New Braunfels, TX 78132

(830) 312-8776
sherrie@lunaenvironmental.com

Printed:8/4/2023

Permit: 109706

Site: 333 Ravenswood, Canyon Lake, TX 78133
Main Phone: 8306607287

Kevin Schroeder
333 Ravenswood
Canyon Lake, TX 78133

Agency: Comal County
County: Comal County
Subdivision: Canyon Lake Hills

System Info: MFG: Brand: MAXX AIR
Customer ID: 1964
Treatment Type: Aerobic
Disposal Type: Drip Emitters
Insp ID: 30977
Installed: 2/11/2020
Warranty Expiration: 2/11/2023

Visit Details <-------->

Visit Date: 8/3/2023
Entered By: Nicole Loria
GPS Lat: 29.8810 GPS Long: -98.2747
Scheduled Date: 6/13/2023
Contract Starts: 2/13/2023
Customer Emailed: 8/4/2023
Entered On: 8/4/2023
Contract Ends: 2/13/2024

Visit Results

Service Type: Scheduled Inspection
Count: Inspection 1 of 3
Method: Grab
License # Expires
Technician: Not Assigned
Provider: Luna Environmental, LLC
☑ Service Completed

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational

Sludge Level Tank 1: 6
Sludge Level Tank 2: N/A
Sludge Level Tank 3: 14

Tank Lid / Riser: Secured
Insp. Port / Plug: Secured

Electric Circuits: Operational
Distribution System: Operational
Drip/Sprayfield Veg: Operational

Alarm: Operational

PSI Pressure: 1.9

Comments

- Scum on pretreatment 0 - Cleaned drip filter & backflushed drip field - Technician Secured the Tank Lid and/or Riser prior to leaving location. - Inspection Port Plug was noted as Secured prior to leaving. - Copy emailed to the customer on 8/4/2023.

Luna Environmental
4222 FM 482
New Braunfels, TX 78132

(830) 312-8776
sherrie@lunaenvironmental.com

Printed:10/4/2023

Permit: 109706

Site: 333 Ravenswood, Canyon Lake, TX 78133
Main Phone: 8306607287

Kevin Schroeder
333 Ravenswood
Canyon Lake, TX 78133

Agency: Comal County
County: Comal County
Subdivision: Canyon Lake Hills

System Info: MFG: Brand: MAXX AIR
Customer ID: 1964
Treatment Type: Aerobic
Disposal Type: Drip Emitters
Insp ID: 33855
Installed: 2/11/2020
Warranty Expiration: 2/11/2023

Visit Details <-------->

Visit Date: 10/3/2023
Entered By: Nicole Loria
GPS Lat: 29.8810 GPS Long: -98.2747
Scheduled Date: 10/13/2023
Contract Starts: 2/13/2023
Customer Emailed: 10/4/2023
Entered On: 10/4/2023
Contract Ends: 2/13/2024

Visit Results

Service Type: Scheduled Inspection
Count: Inspection 2 of 3
Method: Grab
License # Expires
Technician: Not Assigned
Provider: Luna Environmental, LLC
☑ Service Completed

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational

Sludge Level Tank 1: 24
Sludge Level Tank 2: N/A
Sludge Level Tank 3: 36
Sludge Level Tank 4: 3

Tank Lid / Riser: Secured
Insp. Port / Plug: Secured

Electric Circuits: Operational
Distribution System: Operational
Drip/Sprayfield Veg: Operational

Alarm: Operational

PSI Pressure: 2.8

Comments

- Scum on pretreatment 0 - Cleaned drip filter & backflushed drip field - Technician Secured the Tank Lid and/or Riser prior to leaving location. - Inspection Port Plug was noted as Secured prior to leaving. - Copy emailed to the customer on 10/4/2023.