LCRA
ENERGY • WATER • COMMUNITY SERVICES

ON-SITE SEWAGE FACILITY (OSSF)
PERMIT TO OPERATE

Date: 5/8/17 **LCRA Application Number:** 22367
Name of Property Owner: Manuel Joseph
OSSF Installer Name & Registration #: Craig Corbis #29857
Property Address: 205 Palazza Dr
Subdivision: Bella Montagna
Section: _____, **Block:** _____, **Lot:** 53

This OSSF is approved to serve a:
X 5 **bedroom,** 5500 **sq. ft. residence generating** 420 **gallons per day.**

___ **commercial facility generating not more than** _____ **gallons per day.**
___ **other** _____

____**Yes** X **No: Aerobic Treatment Unit**
NOTE: This OSSF is required by LCRA to have a current maintenance service contract for the initial two-year period. After the initial two-year period, system maintenance must be provided by either a valid maintenance provider, or the property owner as provided by Texas Commission on Environmental Quality (TCEQ) and LCRA Rules.

If checked, the following variance(s) were requested and granted on this project:
Reduced setback to: _____ **property line,** _____ **easement,** _____ **foundation,**
_____**surface improvement (describe)** _____
___ **A standard drainfield was installed within soils containing > 30% gravel by volume.**
___ **A sand filter was installed below the drainfield, rather than preceding it.**
OFF Waterlot

The above referenced OSSF was inspected on 5/8/17 **for compliance with the TCEQ and LCRA Rules and the data set forth within the Authorization to Construct. On the date inspected, the facility was found to be in compliance with these requirements. This permit to operate is null and void if the OSSF is altered by an increase in the volume of permitted flow, a change in the nature of the influent, a change from the planning materials, a change in the OSSF's construction, or an OSSF increase or alteration. Acceptance of this permit to operate the system constitutes an agreement to abide by the terms and conditions specified in the most current version of the LCRA OSSF Rules & TCEQ regulations. This permit does not extend to the facility materials, workmanship or fabrication so as to express or imply to the owner or facility installer any warranty by or rights against LCRA. An Authorization to Construct must be obtained from LCRA prior to any repair work or modification being performed on this OSSF.**

Bradley J. Mull / 5/8/17 OP#0500032599
LCRA OSSF Inspector/Designated Representative #

Original (Customer Copy) **Yellow (Office Copy)** **Form 1109IL (07/21/10)**

Application No. 22362

LCRA ENERGY • WATER • COMMUNITY SERVICES

Date 5/8/17

LCRA OSSF CONSTRUCTION INSPECTION REPORT

Trip #: 1 Inspector Name & DR #: Bradley J. Marshall DR#0500323G

Property Owner: Manuel Joseph

Property Location: 205 Palazza Dr

Installer Name and TCEQ Certification #: Craig Curtis # 29837
Trent Hogan # 30546

SEPTIC/TREATMENT /PUMP TANK

Tank 1 Capacity: 1500 gal Type: Plastic Manufacturer: Infiltrator Brand: Dud

Tank 2 Capacity: _____ Type: _____ Manufacturer: _____ Brand: _____

Tank 3 Capacity: _____ Type: _____ Manufacturer: _____ Brand: _____

Tank 4 Capacity: _____ Type: _____ Manufacturer: _____ Brand: _____

Two way clean out in place, Inlet and outlet "T" in place
Safetyends in place Inlet and outlet seals

#1 Pump Make/Model: _____ Audio/Visual High Water Alarm: _____

#2 Pump Make/Model: _____ Audio/Visual High Water Alarm: _____

SEWER LINE Size/Material 3" Schedule 40 Slope 1/8"

DRAINFIELD INFORMATION

Minimum Sq. Ft. Required 1600SF Actual Sq. Ft. Provided 1640 SF Media Type Quick 4 infiltrator Depth 23-24"

☐ Trenches (absorption) Distance Between: 4 Trench Width: 3 Total Linear Feet: 328

☐ Beds – Absorption or ET (circle one)

Dimension of Bed 1 _____ X _____ Bed 2 _____ X _____ Bed 3 _____ X _____ Bed 4 _____ X _____

☐ Drip Irrigation Linear Feet – Field 1: _____ Field 2: _____ Field 3: _____ Field 4: _____ Line Spacing: _____

☐ Surface Irrigation Irrigation area of Sprinkler Head

# of Sprinklers _____ SH1 _____ SH2 _____ SH3 _____ SH4 _____ SH5 _____ SH6 _____ SH7 _____

Trenches are level

Other: _____

Please contact 1-800-776-5272 ext.3216 or 512-578-3216 if you have any questions regarding this report

Lower Colorado River Authority
Post Office Box 220 Austin, Texas 78767 · (512) 473-3216

AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY
Permit #: 22562

Location: 205 PALAZZA ALTO DRIVE, LAKEWAY TX 78734
BELLA MONTAGNA Block: Lot: 53
Owner: JOSEPH, MANUEL
Mailing address: [redacted]

Permit Date: 1/7/2016
Phone: [redacted]

This serves to notify all persons that the on-site sewage facility (OSSF) application, related technical data, and the appropriate fee have been received by LCRA from the property owner. The application has been reviewed for technical and administrative consideration against standards set forth by LCRA. The permit may have some special provisions attached that are very important to note. Approval is hereby granted for the construction as shown on the submitted plans.

ANY MODIFICATIONS TO SUBMITTED PLANS REQUIRE APPROVAL BY LCRA PRIOR TO INSTALLATION. OPERATION OF AN OSSF WITHOUT A LICENSE IS A VIOLATION OF LAW AND CAN RESULT IN ENFORCEMENT ACTION.

All on-site sewage systems must be installed by a Texas Commission on Environmental Quality licensed Installer. An owner installing his/her own system is exempt from this requirement. However, the owner must obtain applicable requirements from LCRA before beginning construction. It is the owner's responsibility to verify that an installer is licensed by the TCEQ prior to allowing the system installation

Temporary erosion controls must be provided and maintained during construction of the OSSF and until the Site has been permanently stabilized per the LCRA Highland Lakes Watershed Ordinance. Please call 1-800-776-5272, extension 2324 or visit http://www.lcra.org/water/quality/watershed-management-ordinance for more information.

You or your installer must contact LCRA 24 hours prior to completion in order to arrange the required facility inspection(s). The authorization to construct is valid for 12 months from the issue date. If a final inspection has not been performed within 12 months of issue, a new application and fee will be required.

To schedule an inspection, call 1-800-776-5272, Ext. 4091 or local to Austin using (512) 473-4091. Please note that calling for an inspection from a cell phone may not be received clearly or at all. Inspections requested earlier in the day will be given a scheduling priority over those called in later in the day.

Should you have any questions, please call us at 1-800-776-5272, extension 3216. By referencing the permit/license number, you will help us assist you more efficiently.

Danny Sims DR Weber 1-07-2016
Agency Official Date

Special Provisions

Permit #: 22562

1. This permit is issued for a single family dwelling with 5 bedrooms and less than 5500 square feet of heated living area. The OSSF is designed to treat and dispose of 420 gallons of sewage per day.

2. Based on the approved plans, a minimum of 1600 square feet of leaching chamber disposal area and minimum 1250 gallon septic tank are required for this system.

3. The OSSF was designed for a 6 bedroom equivalent. LCRA has no objections to the larger sizing.

4. Septic tanks buried more than 12 inches below ground shall have risers over the port openings which extend from the tank surface to no more than six inches below the ground. Risers must be permanently fastened to the tank lid or cast into the tank and the connection must be watertight. Risers must be fitted with removable watertight caps and protected against unauthorized intrusions. Acceptable protective measures include: a padlock, a cover that can be removed with tools or a cover having a minimum net weight of 65 pounds set into a recess of the tank lid. Risers must be able to withstand the pressures created by the surrounding soil. Risers and caps exposed to sunlight must have ultraviolet light protection. A secondary plug, cap, or other suitable restraint system that shall be provided below the riser cap to prevent tank entry if the cap is unknowingly damaged or removed.

5. The installation of low-flow devices is required. Low-flow toilets with a flushing capacity of 1.3 gallons or less, showerheads with a flow of 2 gallons per minute or less at 80 psi, and faucet aerators are required. The toilets and showerheads shall be designated by EPA as Water Sense certified. An inspection of the low-flow devices is required prior to final approval.

LCRA OSSF Inspector: Jaime Maynard Aug 7172

DATE: 12/16/2015

LCRA OSSF SITE EVALUATION REPORT

X New System ____ Modification Application Number: 22562

Type of System: Leaching Chamber

Property Owner's Name: Manuel Joseph

Property Location: 205 Palazza Alta

X Annex ____ Water Quality Zone ____ Restricted Zone

Soil Class: Profile Hole #1 ___ Ib ___ II X III ___ IV

Profile Hole #2 ___ Ib ___ II ___ III ___ IV

Soil Analysis Verification and Profile Hole Conditions: PH 1: 0-10" dark brown silty clay loam over tan/yellow calcareous silty/sandy clay loam to 64" standing water at 56"; PH 2 same but no standing water

Slope Conditions: 2-5% in area of drainfield

Groundwater Present: X Yes If yes, at what depth 56"

___ No

ENTERED KV 12.18

Conditions to Verify:

X Maintain setback from foundations, property lines, easements with drainfield and tank (5 feet).
X Maintain setback from water supply lines (10 feet).
X Maintain setback from water well (100 feet)/(150 feet) from public water well
___ Waiver to cross road required
___ Split trench system required

X RECOMMENDED FOR APPROVAL

Access to drainfield via Lot 48 - just North of 412 Bella Montagna Circle

___ PROPOSAL REJECTED

Inspector contacted property owner due to rejection of proposal on _____ (date)

Other Conditions: ① 32" MAX drainfield trench depth due to standing water in PH#1

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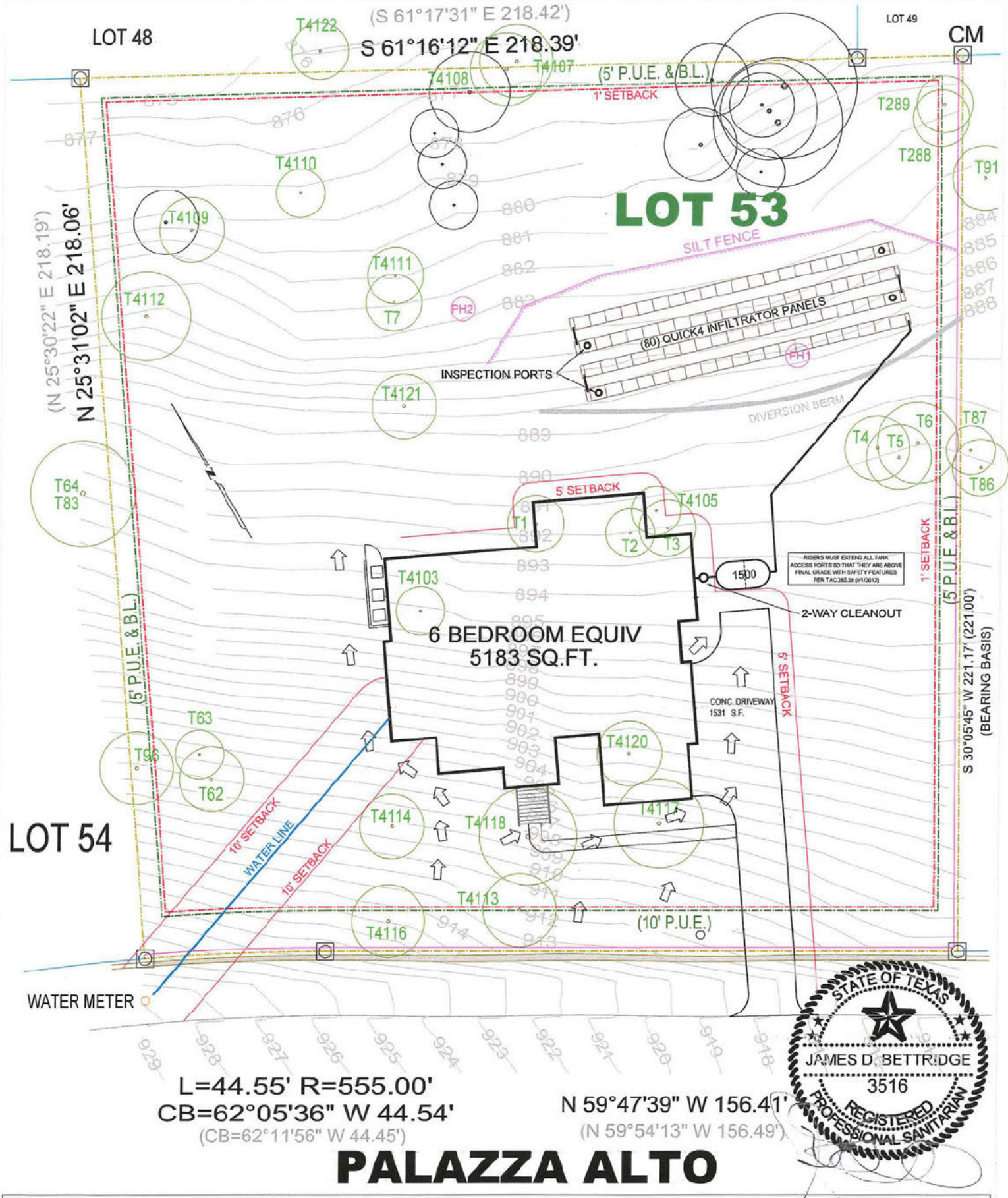
OSSF #1107T.6/99

22562



PALAZZA ALTO

SHEET:	SCALE:	DRAWN BY:	JOB/BID #:	DATE
1 OF 2	1" / 30'	JDB	5817	12-04-15

PROJECT:
205 PALAZZA ALTO
LOT 53
BELLA MONTAGNA

SHEET DESCRIPTION:
OSSF DESIGN

JIM BETTRIDGE, R.S.
128 HIGHLANDER
AUSTIN, TX 78734
(512) 261-4295

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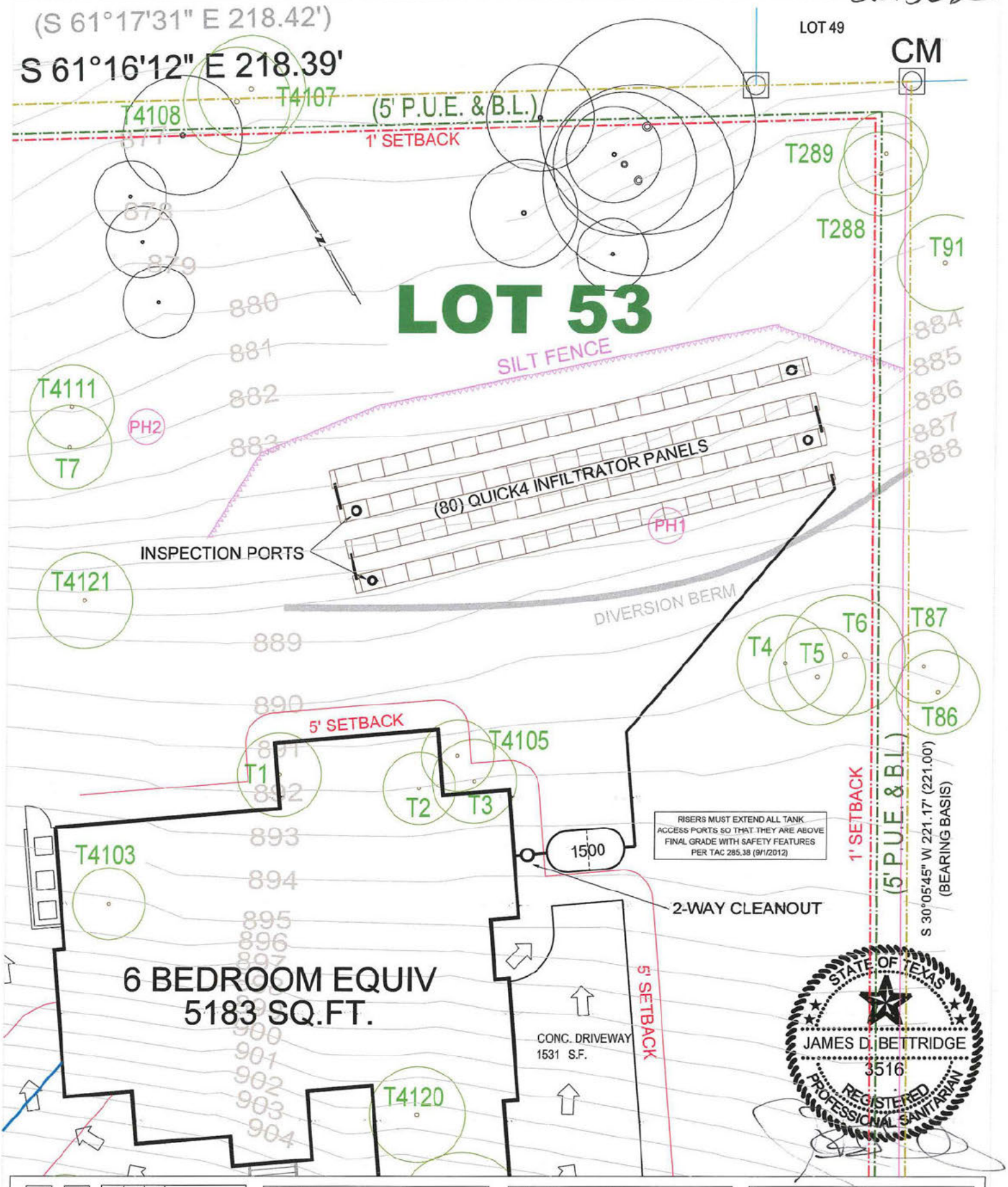
DEC - 8 2015

22562



SHEET:	SCALE:	DRAWN BY:	JOB/BID #:	DATE:
2 OF 2	1" / 20'	JDB	5817	12-04-15

PROJECT:
205 PALAZZA ALTO
LOT 53
BELLA MONTAGNA

SHEET DESCRIPTION:
OSSF DESIGN

JIM BETTRIDGE, R.S.
128 HIGHLANDER
AUSTIN, TX 78734
(512) 261-4295

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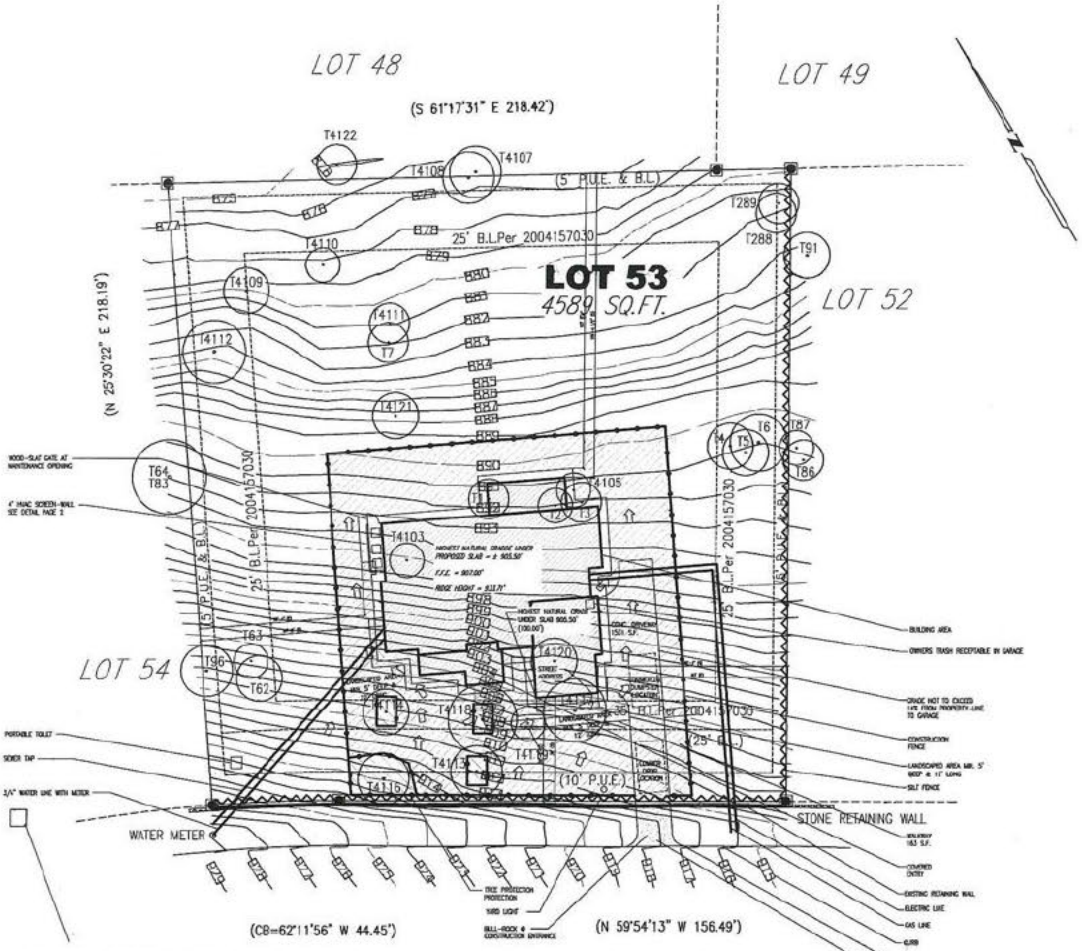

TEMPORARY BENCHMARK: SQUARE FOUND ON CONCRETE TRANSFORMER PAD, ELEVATION = 933.10' NAVD88

TAG NO.	TREE DESCRIPTION
1	7" OAK TREE
2	6" OAK TREE
3	7" OAK TREE
4	8" OAK TREE
5	8" OAK TREE
6	10" OAK TREE
7	7" OAK TREE
62	8" OAK TREE
63	6" OAK TREE
64/84	13" TWIN OAK TREE
86	7" OAK TREE
87	6" OAK TREE
91	8" OAK TREE
288	7" OAK TREE
289	7" OAK TREE
4103	6" OAK TREE
4105	6" OAK TREE
4107	9" OAK TREE
4108	9" OAK TREE
4109	8" OAK TREE

TAG NO.	TREE DESCRIPTION
4110	6" OAK TREE
4111	7" OAK TREE
4112	11" TWIN OAK TREE
4113	9" OAK TREE
4114	8" OAK TREE
4116	9" OAK TREE
4117	11" OAK TREE
4118	12" TWIN OAK TREE
4119	6" OAK TREE
4120	8" OAK TREE
4121	8" OAK TREE
4122	7" OAK TREE

PALAZZA ALTO

(50' R.O.W.)

AREA CALCULATIONS

CONSTRUCTION ACTIVITY

TREE PROTECTION

5' WIDE X 12' LONG LANDSCAPE BUFFER

CONSTRUCTION FENCE

SILT FENCE

LEGEND

- 1/2" REBAR FOUND
- 1/2" CAPPED REBAR SET
- 1/2" IRON PIPE FOUND
- 60D NAIL FOUND
- 60D NAIL SET
- CAPPED REBAR FOUND
- "X" SET IN CONCRETE
- "X" FOUND IN CONCRETE
- SPINDLE FOUND
- PUNCH HOLE FOUND
- CHAIN LINK FENCE
- WOOD FENCE
- METAL FENCE
- B.L. BUILDING LINE
- P.U.E. PUBLIC UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- ( ) PER PLAT
- C.M. CONTROL MONUMENT
- R.O.W. RIGHT OF WAY
- P.O.B. PLACE OF BEGINNING
- OH OVERHEAD ELECTRIC
- POWER POLE
- AIR CONDITIONER

40' 0 40'

PARTNERS IN BUILDING

1803 R.R. 620 NORTH
AUSTIN, TEXAS 78734
[redacted]
FAX (512) 266-6705

LOT: 53
BLOCK: --
SECTION: --
SUBDIVISION: BELLA MONTAGNA
ADDRESS: 205 PALAZZA ALTO
SCALE: 1"=20'
DATE: 11/17/15

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P.O. Box 220 S-204P, Austin, TX 78767
512-578-3216 or 800-776-5272, Ext. 3216
Fax 512-578-3501

LCRA
ENERGY - WATER - COMMUNITY SERVICES

2643 N. Wirtz Dam Road, Marble Falls, TX 78654
Fax 830-693-6242

SOIL ANALYSIS FOR AN ON-SITE SEWAGE FACILITY

The following information must be submitted with the application package for review by LCRA. Failure to include or address all of the following items may result in approval delays.

Site Information		Site Evaluator	
Name of Owner	MANUEL JOSEPH	Name	JIM BETTRIDGE
Site Address	205 PALAZZA ALTO DR	Address	128 HIGHLANDER
City, State, ZIP	LAKEWAY TX 78734	City, State, ZIP	AUSTIN TX 78734
Phone No.		Phone No.	512-814-7020
County	TRAVIS	County	TRAVIS

SITE EVALUATION: A minimum of two backhoe pits must be excavated at opposite ends of the proposed disposal area. The pits must be excavated to a depth of 2 feet below the proposed excavation, or to a restrictive horizon, whichever is less. The pit locations must be indicated. The site evaluation report shall include a groundwater evaluation, a surface drainage analysis and all applicable minimum separation requirements.

Backhoe Pit No.: PH1

Depth ~~(Feet)~~		Soil Class	Gravel Analysis	Restrictive Horizon	Groundwater	Topography	Flood Hazard
0	0-12"	III	< 20%	NONE	NONE	15%	NONE
1	12"-65"	III	"	"	"	"	"
2							
3							
4							
5							

Backhoe Pit No.: PH2

Depth ~~(Feet)~~		Soil Class	Gravel Analysis	Restrictive Horizon	Groundwater	Topography	Flood Hazard
0	0-12"	III	< 20%	NONE		15%	NONE
1	12"-50"	III	"	"		"	"
2	50"-62"	III	"	"	EVIDENCE @ 50"	"	"
3							
4							
5							

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

Site Evaluator

Dec 4, 2015
Date

Last Updated: 6/2014

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22562

Site Description:

205 Palazza Alto Drive
Lot 53
Bella Montagna Estates

5 Bedrooms
5183 Sq. Ft.
420 Gallons per Day

December 4, 2015

System design by:

James Bettridge, R.S.
128 Highlander
Austin, Texas 78734
(512) 261-4295
(512) 261-0012 fax

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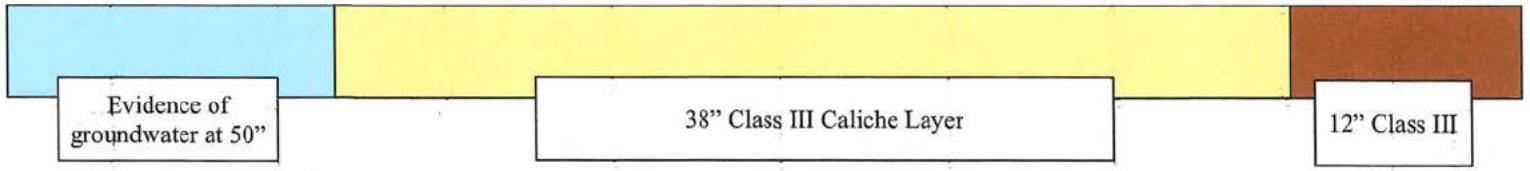
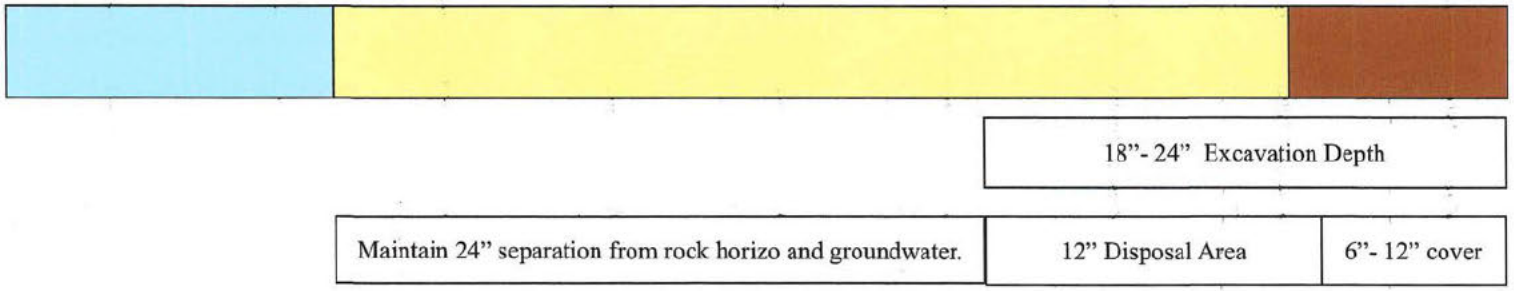
Existing soil conditions



Proposed Installation



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TANK AND DRAINFIELD CALCULATIONS

Q = 420 GALLONS/DAY (With Water Saving Devices)

SEPTIC TANK VOLUME = 1000 GALLONS (2 CHAMBERS)

SOIL CLASS = III
Ra = 0.2

ABSORPTIVE AREA:

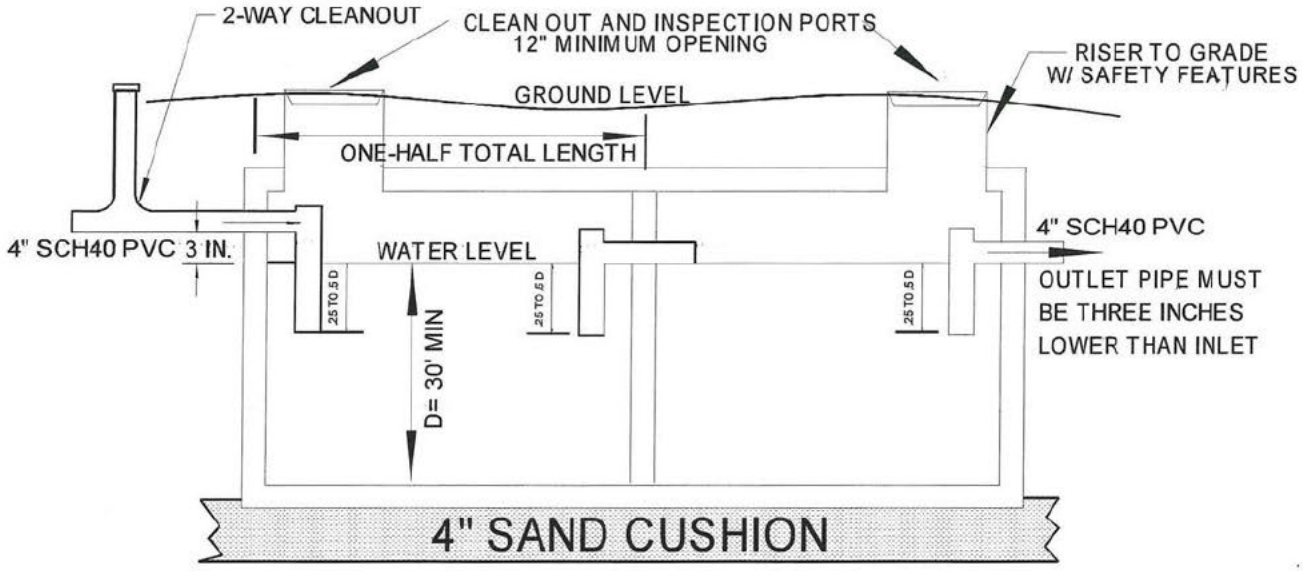
ABSORPTIVE AREA = 2100
EXCAVATION LENGTH WITH 3' WIDTH = 420

DRAINFIELD REDUCTION:

420 X 0.75 = 315
25% DRAINFIELD REDUCTION FOR LEACHING CHAMBERS
WITH QUICK4 INFILTRATOR LEACHING CHAMBERS (4' X 3' X 1')
AND QUICK4 END CAPS (1' X 3' X 1')
TOTAL CHAMBERS = 80
TOTAL ENDCAPS = 8
TOTAL CREDIT = 320 LINEAR FEET

22562

1500 GALLON TWO COMPARTMENT TANK



SEPTIC TANK/SEWER LINE DETAIL:

- MUST BE SCH 40 (OR OTHER APPROVED MATERIAL) AND 3" OR LARGER I.D.
- MUST HAVE 1/8" OR GREATER FALL PER FOOT.
- MUST HAVE A 2-WAY CLEANOUT BETWEEN HOUSE AND TANK AND EVERY 50' IF A LONGER SEWER LINE IS USED.
- MUST NOT HAVE 90 DEGREE ELBOWS (TWO 45'S MAY BE USED INSTEAD).
- TEE'S MUST BE INSTALLED ON THE INLET AND OUTLET INSIDE OF TANK.
- PIPE MUST BE BEDDED IN 4" CLASS IB, II OR III WITH LESS THAN 30% GRAVEL

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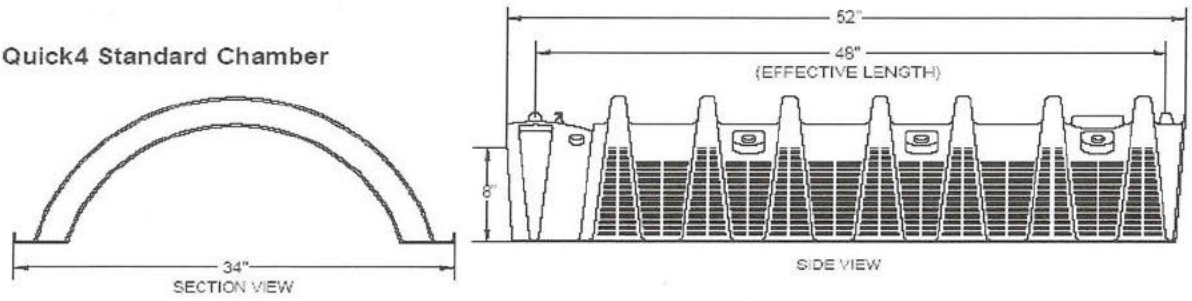
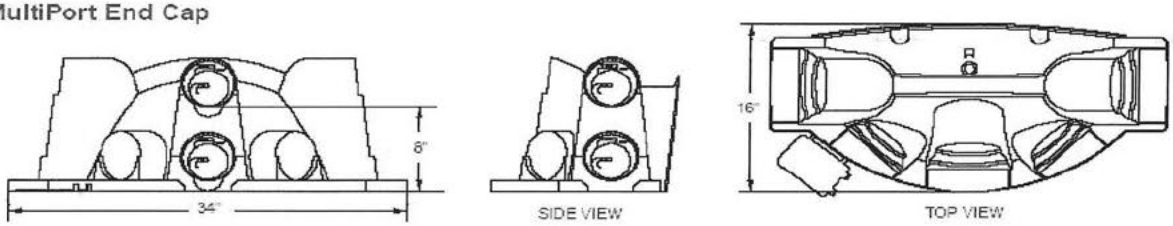
Quick4™
STANDARD CHAMBER

Quick4 Standard Chamber



MultiPort End Cap



Quick4 Standard Chamber Nominal Specifications	
Size (W x L x H)	34" x 52" x 12"
Effective Length	48"
Invert Height	8"

MultiPort End Cap Nominal Specifications	
Size (W x L x H)	34" x 16" x 12"
Invert Height	8" or 1.25"

INFILTRATOR SYSTEMS, INC. STANDARD LIMITED WARRANTY

(a) The structural integrity of each chamber, end plate, wedge and other accessory manufactured by Infiltrator ("Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date that the septic permit is issued for the septic system containing the Units; provided, however, that if a septic permit is not required by applicable law, the warranty period will begin upon the date that installation of the septic system commences. To exercise its warranty rights, Holder must notify Infiltrator in writing at its Corporate Headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for Units determined by Infiltrator to be covered by this Limited Warranty. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b) THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(c) This Limited Warranty shall be void if any part of the chamber system is manufactured by anyone other than Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty.

Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change or extend this Limited Warranty. No warranty applies to any party other than the original Holder.

* * * * * * *

The above represents the Standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's Corporate Headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

INFILTRATOR® SYSTEMS INC
Environmental Onsite Wastewater Solutions™
6 Business Park Road • P.O. Box 768
Old Saybrook, CT 06475
860-577-7000 • FAX 860-577-7001
800-221-4436
www.infiltratorsystems.com

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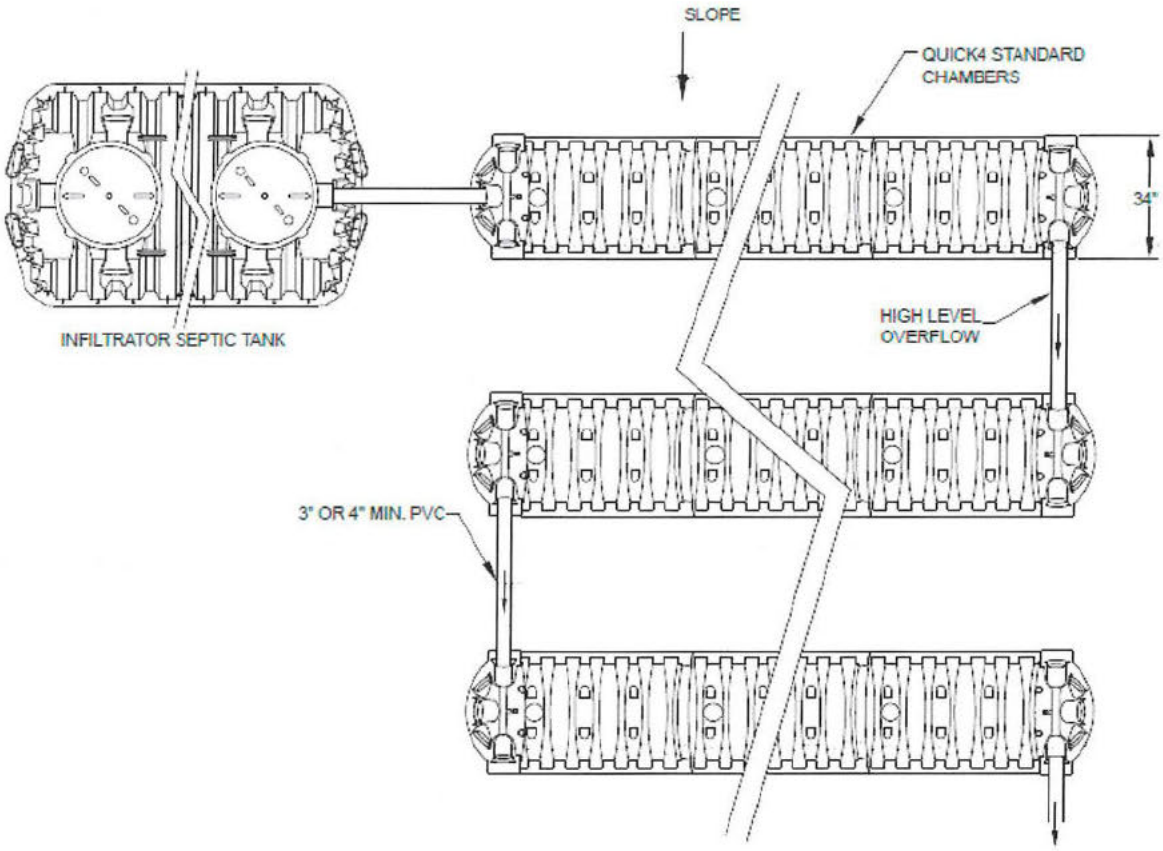
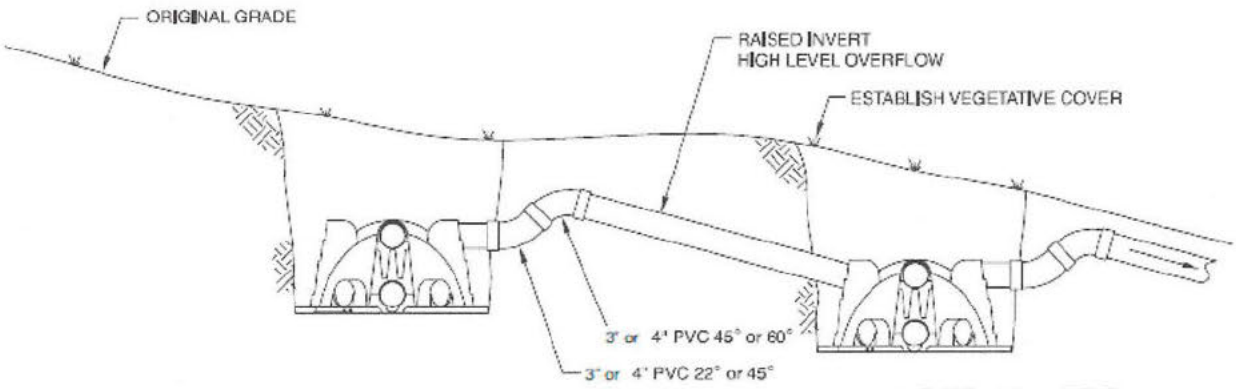


SERIAL DISTRIBUTION SYSTEM ON SLOPING TERRAIN



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Requirements for Excavating and Preparing the Site.

1) Stake out the location of all trenches and lines. Set the elevations of the tank, piping, and trench bottom.
2) Excavate and level 3-tool wide trenches with proper center-to-center separation. Make sure the trenches are level or have the prescribed slope.
3) Rake the bottom and sides if smearing has occurred while excavating. Remove any large stones or other debris. Do not use the teeth of the bucket in lieu of raking to rip the trench bottom.
   NOTE: *Raking to eliminate smearing is not necessary in sandy soils.*
4) Verify that the trench bottom is level using a transit, 4-foot level, or laser.

Requirements for Attaching the End Plates.

1) Screw in the 6" x 8" splash plate at the bottom of the open end plate so that it protrudes into the chamber.
2) Secure the open end plate to the end of the chamber by inserting the tabs on one side of the plate into the slots located on the flange of the chamber. Hold these in place and firmly tap the other side of the end plate until it snaps into the locked position.
3) Optional: Insert 2" screws on either side of the inlet opening on the chamber flange. Tighten each screw until the end plate is firmly secured.
4) Attach the closed end plate to the last chamber in the trench as described in step 2.

Requirements for Installing the Chambers.

1) Check the header pipe to be sure that it is level.
2) Set the inlet pipe invert at 7-1/4" from the bottom of the trench to the bottom of the inlet when installing Standard Infiltrator chambers.
   NOTE: *When using High Capacity Infiltrator chambers, set the pipe invert at 11".*
3) Place the first chamber with the open end plate at the beginning of the trench.
4) Insert the inlet pipe into the end of the chamber. The pipe will only go into the unit 1" before it reaches a stop.
5) Check the first installed chamber to be sure that it is level or has the prescribed slope.
6) Secure the inlet pipe to the chamber with a screw at the 12 o'clock position.
7) Lift and place the end of the next chamber onto the previous one at a 45° angle, lining up the notches on the center end of the chamber and lowering it to the ground to engage the patented interlocks.
8) Continue interlocking the chambers until you have installed the correct number for that trench. The last chamber in the trench is typically the one with a closed end plate. As you install the chambers, verify that they are level or have the prescribed slope.
9) Fill the sidewall area, starting at the joints where one chamber interlocks with another, by

pulling soil from the sides of the trench with a shovel. Continue backfilling the remainder of the sidewall area. Be sure the fill covers the louvers.

10) Pack down the fill by walking along the edges of the trench. This step is important in assuring correct structural support.
11) Proceed to the next trench and begin with step 1.

Requirements for Installing the Inspection Ports.

1) Using a hole saw or router, create an opening in the pre-marked area located in the center top of the chamber. Be sure to use a hole saw that matches the size and type of pipe that is being installed.
2) Glue a 6" long piece of pipe into a coupling.
3) Insert the 6" piece of pipe into the opening at the top of the chamber so the coupling sits on the chamber.
4) Insert another piece of pipe into the coupling and cut it at or above grade.
5) Attach a cap or threaded cleanout assembly onto the protruding pipe.
6) A small valve-cover box may be used if the inspection port is below the desired grade.

Requirements for Covering the System.

Before backfilling, the system must be inspected by a health official or other official as state and local laws may require.

1) Backfill the trench by pushing Class II soil free of rocks larger than one inch onto the units. Keep a minimum of 12" of compacted cover over the chambers before driving over the system.
2) It is best to leave several inches of soil above ground level to allow for settling. This ensures that runoff water is diverted away from the system. After the system is covered, the site should be seeded or sodded to prevent erosion.

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On-Site Sewerage Facility Maintenance and Water Conservation Measures

1) Maintenance and management practices.

a) An OSSF should not be treated as if it were a normal city sewer system.

b) The use of in-sink garbage grinders and grease discarding should be avoided. In-sink garbage grinders can cause a rapid buildup of sludge or scum resulting in a requirement for more frequent cleaning and possible system failure. In general, non-soluble solids (no matter how small you grind them) will build up in the system and require removal. Keeping them from going down the drain you will reduce the need pumping.

c) Chemicals, solvents or paint should never be introduced to the system. In general, anything that could harm, dissolve or clog the plastic piping, pump, wiring or small orifices in your system.

d) Do not use the toilet to dispose of cleaning tissues, cigarette butts, or other trash. This disposal practice will waste water and also impose an undesired solids load on the treatment system.

e) Septic tanks shall be cleaned before sludge accumulates to a point where it approaches the bottom of the outlet device. If sludge or scum accumulates to this point, solids will leave the tank with the liquid and possibly cause clogging of the perforations in the drainfield line resulting in sewage surfacing or backing up into the house through the plumbing fixtures.

f) Since it is not practical for the average homeowner to inspect his tank and determine the need for cleaning, a regular schedule of cleaning the tank at two-to-three year intervals should be established. Commercial cleaners are equipped to readily perform the cleaning operation. Owners of septic tank systems shall engage only persons registered with the TNRCC to transport the septic tank cleanings. It is important that if a filter was installed in your system it be checked and cleaned regularly.

g) Do not build driveways, storage buildings, or other structures over the treatment works or its disposal field.

h) Chemical additives or the so-called enzymes are not necessary for the operation of a septic tank. Some of these additives may even be harmful to the tank's operation.

i) Soaps, detergents, bleaches, drain cleaners, and other household cleaning materials will very seldom affect the operation of the system. However, moderation should be exercised in the use of such materials.

j) It is not advisable to allow water softener back flush to enter into any portion of the OSSF. The system is not designed to handle the extra load, and the brine will rapidly corrode your pump.

k) The liquid from the OSSF is still heavily laden with bacteria. The surfacing of this liquid constitutes a hazard to the health of those that might come into contact with it. If the system alarm is activated or if you experience surfacing, it is important to contact the installer. The alarm may be silenced, but the system is only designed to handle a days flow before surfacing and backing up may occur. Even an intermittent alarm is an indication of an impending problem.

l) If necessary to install irrigation to maintain vegetative growth, no piping should be within 10 feet of drainfield and zoned separate from the rest of the irrigation system. The significance is to not over saturate the field. If the field is saturated by over watering, it may result in surfacing and failure.

m) Digging in the field area can result in exposure to OSSF liquids and should be avoided.

n) Planting in the field area should be avoided. Root intrusion, excessive shade, or damming of disposal field may result in failure or reduced field capacity. The field will operate most effectively if it has solid grass cover, minimal shade and unrestricted air flow.

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2) Water conservation measures/practices.

Note: It is important to realize that your system was installed for average daily use according to the size and number of bedrooms in your home. It is expected that the number of inhabitants not be more than the number of bedrooms plus one. Frequent field switching and water conservation measures may be crucial to avoid failure due to overloading the system.

a) Showers usually use less water than baths. Install a water saving shower head that uses less than two and ½ gallons per minute and saves both water and energy.

b) If you take a tub bath, reduce the level of water in the tub from the level to which you customarily fill it.

c) Leaky faucets and faulty toilet fill-up mechanisms should be repaired as quickly as possible.

d) Check toilets for leaks that may not be apparent. Add a few drops of food coloring to the tank. Do not flush. If the color appears in the bowl within a few minutes, the toilet fill or ball-cock valve needs to be adjusted to prevent water from overflowing the stand pipe or the flapper at the bottom of the toilet tank needs to be replaced.

e) Reduce the amount of water used for flushing the toilet by installing one of the following: a new toilet (1.6 gallon); a toilet tank dam; or filling and capping one-quart plastic bottles with water (usually one is all that will fit in smaller toilet tanks) and lowering them into the tank of the existing 3.5 gallon or larger toilet. Do not use bricks since they may crumble and cause damage to the fixture.

f) Try to run the dishwasher with a full load, whenever possible.

g) Avoid running the water continuously for brushing teeth, washing hands, rinsing kitchen utensils or for cleaning vegetables.

h) Use faucet aerators that restrict flow to no more than 2.2 gallons per minute to reduce water consumption.

i) Keep a container of drinking water in the refrigerator instead of running the faucet until the water turns cool.

j) Insulate all hot water pipes and/or install a system that circulates the hot water to avoid long delays of wasted water while waiting for the heated water. If filling a tub run only the hot water into a stopped tub till the water in the tub gets warm. Rather than running water down the drain waiting for hot water only to mix it with cold water once it arrives.

k) Ask your city, county, or local government about their programs to conserve water and how they can help you save water.