BROWN REYNOLDS WATFORD
ARCHITECTS
175 CENTURY SQUARE DRIVE
SUITE 350
COLLEGE STATION, TEXAS 77840
979-694-1791
WWW.BRWARCH.COM

REGISTERED ARCHITECT
RAY W. HOLLIDAY
18834
STATE OF TEXAS
12/14/18

ADDENDUM NO. 4

FIRE STATION NO 6
GEORGETOWN, TEXAS

DATE: December 14, 2018

PROJECT NO: 217079.00.00

The Construction Documents on the above referenced project, dated 11/16/2017, shall be revised as follows:

DRAWINGS:

Item No. 1(Drawing Sheet G1.1) In the Index of Drawings, there is no Sheet E1.1.

Item No. 2 (Drawing Sheet AS1.1) Flagpoles. Per Drawing Sheet AS1.1, there are two flagpoles for Fire Station No. 6. Aps per Specification Section 10 75 00, each pole shall be 25'-0" in height.

Item No. 3 (Drawing Sheet C3.0) An un-labeled box has been removed adjacent to the water meter box. Please reference Drawing Sheets C5.0 & C5.1 for City of Georgetown Water Details. See Attached Revised **Drawing Sheet C3.0**

Item No. 4 (Drawing Sheet C3.0) Site Utility Plan: Sanitary System. All Sanitary Sewer Lines from the building are connecting directly to the Onsite Sanitary Sewage System design by Brandon Couch. See Attached **On-Site Wastewater Disposal System.**

Item No. 5 (Drawing Sheet L1.2) Add Alternate 7. The Legend as located on Drawing L1.2 shows a cross hatch to represent Add Alternate 7, for additional spray head irrigation outside the driveways on the site. All sleeves crossing under the driveways shall be included in the base bids, as they are necessary to serve base bid irrigation areas.

Item No. 6 (Drawing Sheet A1.1) Detail 1. Sleeping Rooms 123 and 124 shall include millwork lockers like the other sleeping rooms. Please reference Interior Elevation Detail 22/A3.3 for additional information regarding the requirements.

Item No. 7 (Drawing Sheet A3.1) Window Types. The dimensions were cut off in the drawing of Window Type E. The detail has been attached to this addendum. See Attached **Drawing AD4.1**

Item No. 8 (Drawing Sheet A3.3) Detail 21. The countertop in the utility room, as shown in Detail 21, should be Solid Surface (Quartz) as Detailed in Millwork Section Detail 1/A3.4, in lieu of PL1.

Item No. 9 (Drawing Sheet A4.2) Window Shades. The window shades, as shown to be located in rooms 102 and 103, shall be mounted at the "Applied Metal Muntin", not at the top of the arching window. Therefore, the shade will be straight not arched.

Item No. 10(Drawing Sheet A5.0) Monument Sign. Letters, as located in the Cast Stone Signage Panel, are Keynoted as 0470.12, denoting that they are Recessed Cast Lettering. Other characters, which are metal and backlit are noted with Keynote 1010.18.

Item No. 11 (Drawing Sheet MEP1.1) Site Plan. For the 2 motorized gates:
Utilize 20 amp breaker on circuit C-9, with #10 wire for 1st gate operator location.
Utilize 20 amp breaker on circuit C-11 with #10 wire for 2nd gate operator location.
Include 1" dia. Conduits with pull string for all communication wiring required for both gate controls.

Item No. 12 (Drawing Sheet E1.2) Lighting Fixture Schedule has been modified to read as follows:

FA	REMOVE FAN FROM SCOPE OF PROJECT
J2	FOCAL POINT – FEQ2 22 AC 4500LH 35K 1C 120 F WH
J2E	FOCAL POINT – FEQ2 22 AC 4500LH 35K 1C 120 F EM WH
L	LITHONIA – CLX L48 SEF FDL MVOLT NO-DIMMING 35K 80CRI SPD WH THCLXWH
LE	LITHONIA – CLX L48 SEF FDL MVOLT NO-DIMMING 35K 80CRI PS1050 SPD WH THCLXWH
M	EUREKA – FOCUS 4547 LED.18 35 38 120V DV RC BLKE with WALL MOUNTED DIMMER
R	LITHONIA – LDN6 35/10 L06 AR LD MVOLT NON DIMMING DRIVER
RE	LITHONIA – LDN6 35/10 L06 AR LD MVOLT NON DIMMING DRIVER EL
UG	REMOVE LIGHT FROM SCOPE OF PROJECT
V2	INDY – L6 45LM 35K 120 G4 90CRI DRIVER NL HW CS TRIM FM IFMA6 with nLIGHT CONTROLS and provide with INVERTER BATTERY BACKUP for two (2) of the luminaires.
W	INCLUDE WALL MOUNTED DIMMING TO 1% in Day Room.
WE	INCLUDE WALL MOUNTED DIMMING TO 1% in Day Room.
Z	LITHONIA – LDN6 35/10 L06 AR LSS MVOLT EZ1 NPS80EZ
ZE	LITHONIA – LDN6 35/10 L06 AR LSS MVOLT EZ1 EL NPS80EZ

NOTE: LIGHTING FIXTURE PACKAGE, IN ITS ENTIRETY, SHALL BE COMPLETELY INSTALLED, INCLUDING ALL FIXTURES, CABLING, CONDUCTORS, CONDUITS, DRIVERS, CONTROLS, MOUNTING DEVICES, ETC., FOR A COMPLETE AND FULLY FUNCTIONAL LIGHTING SYSTEM.

Item No. 13 (Drawing Sheet E1.2) Lighting Floorplan has been modified as follows:

1. Detail 1, Both north and south Patio's outside Workout Room, Replace D and DE with R and RE respectively.
2. Detail 1, Kitchen & Dining, Replace V and VE with J and JE respectively.
3. Detail 1, Dayroom, Replace V and VE with Z and ZE respectively.
4. Detail 1, Workout, Replace J1 and J1E with J2 and J2E respectively.
5. Detail 1, All six (6) Sleeping Rooms shall have two (2) M light fixtures for reading lights. Each fixture shall have individual wall mounted dimming control near light.
6. Detail 1, Lobby, Two (2) of the V2 luminaires shall have inverter battery backup.

SPECIFICATIONS:

Item No. 14 (Specification Section 04 43 00) Stone Masonry- Part 2.01 B7- The Cut Accent Stone, as described in the Stone Masonry Specification, locations are shown on Drawing Sheet A2.1, and identified in the Legend on that sheet.

Item No. 15 (Specification Section 04 72 00) Cast Stone Masonry- The locations of the cast stone may be found on Drawing Sheets AS1.1 & AS1.2.

Item No. 16 (Specification Section 08 71 00) Doors 109A & 109B- Per Manufacturer's (Schlage) application guidelines, LM9300 is designed for Tornado Applications and complies with ICC500 Tornado Shelter Guidelines. The hardware set for Doors 109A & 109B shall fully comply with ICC500 Tornado Shelter Guidelines.

Item No. 17 (Specification Section 10 14 00) Illuminated Letters and Numbers. The Character Material, as described in Dimensional Characters Section 2.03D shall be Aluminum, in lieu of Stainless.

Item No. 18 (Specification Section 10 14 00) There are no Cast Metal Letters in this project. Letters and Numbers shall be fabricated and backlit, where noted.

Item No. 19 (Specification Section 10 75 00) Wall Mounted Flagpoles. There are no wall mounted flagpoles in the scope of this project.

CLARIFICATION:

Item No. 20 (Bid and Proposal Package Submission) Addendum 2 Item 12 shall be revised with this Addendum. The City of Georgetown **Does Not Accept** submissions digitally. In the bid document, (Section II, Item B), 5 printed copies (1 original and 4 duplicate) plus 1 digital copy (CD/DVD/thumb drive) of proposals **MUST** be provided. The Price portion (Tab E) may be turned in as only one original, to allow for any last-minute changes to cost.

Item No. 21 (Wage Rates). The wage rates for this project may be found at the following website: https://wdol.gov/wdol/scafiles/davisbacon/tx327.dvb

SUBSTITUTIONS:

Item No. 22 (07 21 29) Alternate 6 Sprayed Foam Thermal Insulation. Sealtite OC+ Light Density Open Cell Foam is an acceptable substitution for specified Sprayed Foam Thermal Insulation.

Item No. 23 (08 36 13) Upward Acting Sectional Doors. Wayne Dalton Commercial Doors Models 451/452 Aluminum Full – View are NOT an acceptable substitution for the specified doors.

Attachments: Drawing AD4.1, Drawing Sheet C3.0, On-Site Wastewater Disposal System

END OF ADDENDUM NO.4 *

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2700 EARL RUDDER FRWY SOUTH
SUITE 4000
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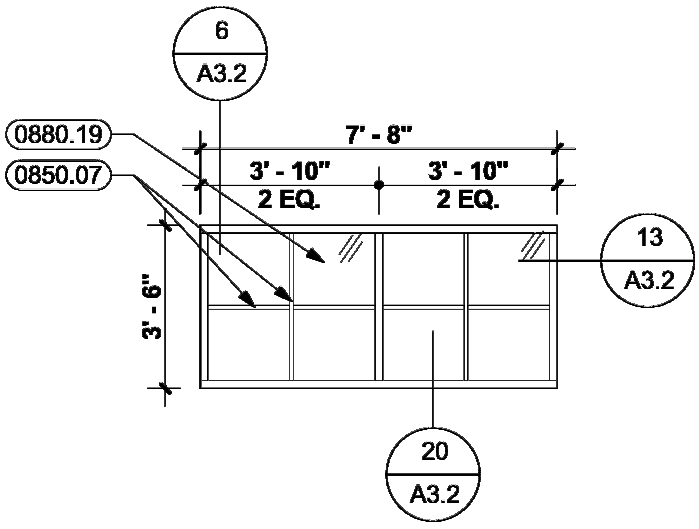
ADDENDUM DRAWING

DRAWING NO.

AD4.1

DATE: DECEMBER 13, 2018
PROJECT: GEORGETOWN FIRE STATION 6
PROJECT NUMBER: 217079.00
SUBJECT: WINDOW DETAIL



E ALUMINUM STOREFRONT

GENERAL NOTES:

1. IN ADDITION TO THE OTHER NOTIFICATIONS REQUIRED BY THE SPECIFICATIONS AND CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE CITY OF GEORGETOWN AT (512)930-3648, AND STRAND ASSOCIATES, AT (979)836-7937, WHEN THE FOLLOWING PHASES OF CONSTRUCTION ARE ABOUT TO BEGIN:
   (a) 48 HOURS BEFORE ACTUAL WORK BEGINS, AND
   (b) 24 HOURS BEFORE ANY REQUIRED TESTING.

2. CONTRACTOR SHALL HAVE ALL UNDERGROUND UTILITY LINES LOCATED AT LEAST 48 HOURS BEFORE DIGGING.

3. CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY TO PROVIDE FOR TRAFFIC CONTROL IN ACCORDANCE WITH THE LATEST EDITION OF THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. IN THE EVENT OF STREET CLOSURES, CONTRACTOR SHALL NOTIFY ALL EMERGENCY SERVICE PROVIDERS AT LEAST 24 HOURS PRIOR TO CLOSING STREETS TO TRAFFIC.

4. ALL UNDERGROUND UTILITY LINES SHOWN ON THE PLANS ARE SHOWN FOR THE PURPOSE OF MAKING THE CONTRACTOR AWARE THAT THEY EXIST. NEITHER THE OWNER, NOR THE ENGINEER, GUARANTEES THE ACCURACY THEREOF. ALSO, THE LOCATIONS OF SOME EXISTING UTILITY LINES ARE NOT KNOWN AND THE CONTRACTOR WILL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES DURING CONSTRUCTION. THE FINAL ALIGNMENT OF THE PROPOSED LINES ARE SUBJECT TO MODIFICATION PENDING THE ESTABLISHMENT OF THE EXISTING UTILITY LOCATIONS.

5. ALL EXISTING UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ADDITIONALLY, THE CONTRACTOR MAY BE LIABLE FOR ADDITIONAL DAMAGES SUCH AS LOST GAS, WATER, ETC. OR LOST REVENUE FOR CABLE DAMAGE.

6. ANY PROPERTY BOUNDARY MONUMENTS DISTURBED BY CONTRACTOR SHALL BE REPLACED TO THEIR ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE.

7. CONTRACTOR SHALL MAINTAIN EXISTING ACCESS TO ALL ADJACENT PROPERTIES DURING CONSTRUCTION.

8. THE CONTRACTOR SHALL PERFORM ALL CLEARING AND GRUBBING OPERATIONS REQUIRED TO CONSTRUCT THE NEW IMPROVEMENTS ON THIS PROJECT.

9. THE CONTRACTOR SHALL BE AWARE THAT OVERHEAD POWER AND TELEPHONE LINES MAY EXIST WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT MAINTAIN A MINIMUM SAFE CLEARANCE FROM ALL ENERGIZED POWER LINES.

10. THE CONTRACTOR SHALL PROTECT EXISTING YARDS, DRIVES, CURBS, MAIL BOXES, SIGNS, CULVERTS, ETC. FROM DAMAGE DURING CONSTRUCTION. DAMAGE DONE TO THESE ITEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL MOVE AND REINSTALL SUCH MOVABLE OBJECTS AS MAIL BOXES, TRAFFIC CONTROL DEVICES AND STREET SIGNS AS NECESSARY FOR CONSTRUCTION.

11. THE CONTRACTOR SHALL DISPOSE OF ALL SURPLUS MATERIALS FROM THE PROJECT IN A MANNER ACCEPTABLE TO THE OWNER AND THE ENGINEER AND IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.

12. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED AT ALL WATER BENDS IN ACCORDANCE WITH CITY OF GEORGETOWN CONSTRUCTION STANDARDS AND DETAILS. NO SEPARATE PAYMENT WILL BE MADE FOR THRUST BLOCKING AND THE COST OF SAME SHALL BE INCLUDED IN THE LUMP SUM PRICE FOR LINE WORK. CONTRACTOR SHALL EXERCISE CARE NOT TO GET CONCRETE USED FOR THRUST BLOCKING ON BOLTS AND GLANDS OF FITTINGS.

13. ALL PVC WATER LINES SHALL BE INSTALLED WITH TRACE WIRE PER CITY OF GEORGETOWN TECHNICAL SPECIFICATIONS.

14. ALL WORK TO MEET CITY OF GEORGETOWN REQUIREMENTS.

15. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ALL VALVE BOXES, METER BOXES, FIRE HYDRANTS, MANHOLES & CLEANOUTS TO FINISHED GRADE.

16. SEE ARCHITECTURAL SHEETS FOR EXISTING TREE PRESERVATION REQUIREMENTS.

17. SEE LANDSCAPING SHEETS FOR LOCATION OF ALL PROPOSED LANDSCAPING IMPROVEMENTS.

18. WATER PRESSURE AT FINISHED FLOOR ELEVATION IS 85.73 PSI. WATER PRESSURE IS NOT TO EXCEED 80 PSI PER CITY OF GEORGETOWN BUILDING CODE REQUIREMENTS. CONTRACTOR TO INSTALL WATER PRESSURE REDUCING VALVE (SEE NOTE 19 UNDER "WATER LEGEND" FOR TYPE AND INSTALLATION LOCATION.

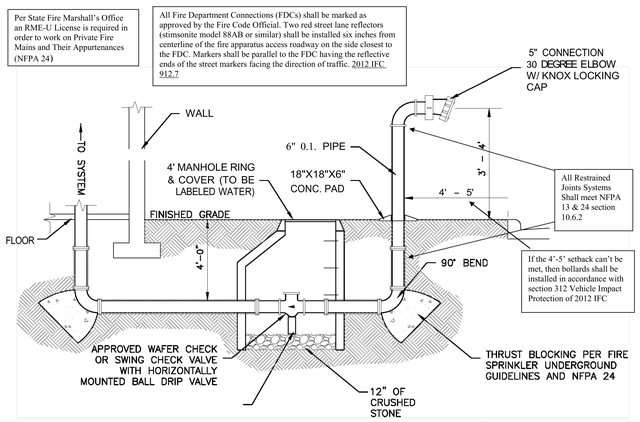
WATER LEGEND

1. REMOVE AND DISPOSE OF EXISTING METER BOXES. IF METERS ARE PRESENT, RETURN TO CITY OF GEORGETOWN. CAP EXISTING WATER SERVICE TAP ON 24 WATER LINE.
2. INSTALL 6" TAPPING SLEEVE AND VALVE & VALVE BOX ON EX. 24" WATER LINE. (– / C5.0)
3. INSTALL 4" WATER METER. WATER METER TO BE PROVIDED BY THE CITY OF GEORGETOWN.
4. IRRIGATION TAP WILL NEED TO BE SIZED ONCE IRRIGATION SYSTEM IS DESIGNED BY A LICENSED IRRIGATION DESIGNER DURING BIDDING/CONSTRUCTION. OWNER TO PAY TAP FEE.
5. 6" 45° BEND
6. 6" CL. 150 C-900 PVC WATER LINE
7. 2" SCH. 40 PVC WATER LINE
8. 6"x2" TEE
9. 6" 90° BEND
10. INSTALL CUSTOMER CUT-OFF VALVE (W20 / C5.0)
11. CONNECT TO 6" STUB-OUT FROM BUILDING (FIRE SUPPLY). REF. MEP PLANS FOR CONTINUATION OF LINE INSIDE BUILDING.
12. CONNECT TO 2" STUB-OUT FROM BUILDING (DOMESTIC SUPPLY). REF. MEP PLANS FOR CONTINUATION OF LINE INSIDE BUILDING.
13. EXISTING FIRE HYDRANT TO REMAIN.
14. INSTALL REMOTE FIRE DEPARTMENT CONNECTION
15. FIRE WATER LINE TO FIRE DEPARTMENT CONNECTION TO BE SIZED BY FIRE SPRINKLER DESIGNER
16. STANDARDIZED OS&Y TO BE LOCATED AT THE BUILDING REF. MEP PLANS
17. RPZ BACKFLOW PREVENTER TO BE INSTALLED IN BUILDING ON FIRE LINE REF. MEP PLANS
18. IRRIGATION REDUCED PRESSURE ZONE BACKFLOW PREVENTER AND METER REF. LANDSCAPE PLANS
19. INSTALL WATTS MODEL NO. LF223SHP WATER PRESSURE REDUCING VALVE OR APPROVED EQUAL AND OLDCASTLE VALVE BOX MODEL NO. 1324BCF WITH FLUSH SOLID COVER LID OR APPROVED EQUAL

ESTIMATED WATER USAGE:

THIS FIRE STATION WILL HOUSE SIX (6) EMPLOYEES FOR A 24 HOUR DURATION. WE HAVE CALCULATED (100) GALLONS PER DAY TIMES SIX (6) EMPLOYEES EQUALS (600) GPD.

CALCULATED WATER DEMAND = 58 GPM



FIRE DEPARTMENT CONNECTION

NOT TO SCALE

BROWN REYNOLDS WATFORD ARCHITECTS
2700 EARL RUDDER FRWY SOUTH
SUITE 1000
COLLEGE STATION, TEXAS 77845
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TBPE No. F-8405

ROBERT C. SCHMIDT 50465 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

Robert C. Schmidt 12/13/18

STRAND ASSOCIATES®

STRAND JOB # 3935.034

DATE 5/14/2018

DRAWN BY Author

CHECKED BY Checker

BRW PROJECT NUMBER 217079.00

CITY OF GEORGETOWN
GEORGETOWN FIRE STATION No. 6
6700 R.M. 2338
GEORGETOWN, TX. 78626

NO.	REVISION	DATE
1	IRRIGATION CONNECTION/CALLOUTS	12/13/2018

C3.0

SITE UTILITY PLAN

On-Site Wastewater Disposal System

For

Georgetown Fire Station No. 6
c/o
BRW Architects

Site
6700 RM 2338
Lot 1R, Block A
Replat of Lots A & B, Block A of the Resubdivision of Lot 1A,
Block A, Amended Plat of Lots 1, 2, & 3, Block A, Four-T Ranch Section One
Georgetown, Texas

Permit # 2018-####

An Aerobic OSSF with Drip Irrigation Disposal Field
for
9,700 sq. ft.
Fire & Rescue Station
with water saving devices

Design By:
Brandon L. Couch, R.S.
2314 Rock Ledge Drive
Georgetown, Texas 78626
(512) 630-8600

July 31, 2018

Design Calculation & Notes
For 6700 RM 2338

System Destination:

Owner/Client: Georgetown Fire Station No. 6 c/o BRW Architects
Location: Lot 1R, Block A, Replat of Lots A & B, Block A of the Resubdivision of Lot 1A, Block A, Amended Plat of Lots 1, 2, & 3, Block A, Four-T Ranch Section One, Georgetown
Design capacity for Fire & Rescue Station of 8,400 sq. ft. with water-saving devices
6 employees for 24-hr staffing (100-gpd per employee)
Showers, laundry, and food service for 24-hr. employees
System not to include floor drains or wash down for apparatus/training area
Residential strength (180-300 mg/L BOD_5) wastewater expected
Minimum required capacity 600-gpd; Designed max (minimum + ~18%) = 710 GPD (Q)
Use of under sink grease interceptor required to prolong life of system.
LIMITATION OF OPERATION: System has been designed for a maximum operational capacity. It is the responsibility of the users of the facility to closely regulate their operations so as not to exceed this limitation. The facility should not be used in a commercial capacity for food service beyond occupants

Inspection Schedule:

Independent of permitting authority Schedule to must be adhered to demonstrate compliance with design

Preconstruction Meeting: Review design with designer to resolve any questions
Plumbing Inspection: Designer to inspect system when before covering when all piping and mechanical components in place
Final: Designer to inspect final landscaping

Proposed System:

Install an aerobic pre-treatment system with a drip irrigation type drainfield on this site. The aerobic unit must be NSF approved and meet all state and local requirements for effluent quality.

Selection Criteria:

This type of system was chosen due poor soils and site limitations.

Design Ideology:

Primary treatment of effluent will be accomplished using a NSF approved aerobic treatment unit. Treated effluent will then be distributed evenly over the disposal field area. Drip irrigation will be the method of effluent dispersal and disposal. **Class III clay loam will be imported to ensure a suitable area for surface vegetation.**

Drain Field Calculations:

The designed load for this system is 710 GPD
Drip irrigation requires 710/0.10 (R_a for Class IV soil) = 7100 sq. ft. field area

a) Field Area = 7148 sq. ft. (4 sf/emitter)
b) Total Amount of Emitter Line = 3578 ft. (5 zones: largest 879')
c) Number of Emitters = 1787 (4 zones: 439 largest zone)
d) Flow Rate = 0.6 GPH @ 25 PSI
e) Total Flow (5 zones) = 439 x 0.6 GPH /60 = 4.39 GPM (largest)
f) Minimum Spacing of Emitter lines = 24"
g) Total Daily Irrigation Time = 710 GPD/3.57 (avg) GPM = 199 minutes/day
h) Aerobic treatment system = Aqua-Aire treatment system including: Aerobic unit, Aerator mechanism, Electronic controls in a weatherproof box
i) Pressure Gauge = A pressure gauge/ball valve will be installed to regulate flow to irrigation heads for a pressure setting of not greater than 41 PSI (at pump)
j) Collection port = An unthreaded hose bib or equivalent shall be installed in the pump chamber to facilitate sampling of effluent on a periodic basis.
k) Emitter Lines = Netafim 0.6 GPH Bioline pressure compensating drip lines

***Important Installer Note: Wastewater gases are corrosive. Do not use components in the pump tank that are subject to oxidation such as metal clamps, brass fittings, or hose bibs, etc. as they will deteriorate. Use plastic binders, PVC fittings, etc. Use airtight seals on electric splices in the pump tank if any. Be sure to silicone seal any route by which chorine gas might reach control panels such as electrical conduits from the pump tank. IN CASES OF SHALLOW GROUNDWATER, BE SURE TO SET TANKS AS SHALLOW AS POSSIBLE AND SILICONE SEAL ALL JOINTS AND AROUND THE TANK LID TO PREVENT SEEPAGE.**

Pump Timer: (Crouzet Micro Repeat Cycle Timer)

A repeat cycle timer with 15 applications per day (3.57 GPM (avg) x 14.0 min = 49.98 gallons/dose) (rest cycle 1 hr 22 min)

Tank Data:

Grease Trap:	Trapzilla TZ-400-ECA Oil/Grease Separator (400lbs/75 gpm) (sized by MEP)
Trash tank:	1500-gallon Buchanan single compartment (concrete)
Pre-treatment tank:	Aqua-Aire AA1500 aerobic unit (capacity 1500 gpd)
Pump tank:	1750 gallon Buchanan single compartment (concrete)

Installation Note: Tanks are to be installed with a minimum separation of five feet from the foundation. The tank is to be level (+/- 1") and is to be set on a minimum of four inches of washed sand. A clean-out shall be installed between each foundation and septic tank or every 50'. Piping min. 4" I.D. SCH 40 PVC with 1/8" fall per foot.

Pump Chamber Data

A 1750-gallon concrete chamber

Inlet @ 53" above the floor (Outlet sealed, pump effluent through top port or riser)
Volume per inch = 35 gallons/inch (50" outlet)
Minimum 710 gallons of pump flow above alarm = 710/35.00 = ≈ 21" volume
Alarm on at 32 inches above the floor (leaving 735.00 gallons for alarm volume)
Start Pump @ 15 inches above the floor (595 gallons to alarm on)
Stop Pump @ 12 inches above the floor

Alarm System:

An audio/visual high water alarm (red light) will be installed on this system. ETI Model 217 (timed pump control) or equal. RMSYS 100 attached autodialer to notify maintenance company of alarm codes requested by owner. The alarm/light will be installed in a highly visible location as near the pump tank as possible. Aerator failure alarm to shutdown field pump. Immediate attention needed for alarms to prevent needing pump out of entire system.

NOTE TO BUILDER: Please be sure to run power and phone to the control panel area.

Drain Field Data:

Each field area shall contain up to **4** emitter lines of up to **321'** each placed parallel to the contour and spaced a **minimum of 24"** apart (see site plan). The supply and return lines will be connected to the system with sch. 40 pvc supply line. Continuous flushing of filter maintained by a 1/8" port (or valve); continuous flush will empty in to pump tank. The main return line shall empty into the trash tank.

a) **Filter**: (at least 100 microns) shall be installed on the supply line. Suggested model **1" ARKAL-1** with a filtrate return to the trash tank.

b) **Vacuum Breaks**: **API VBKB-1-** Vacuum breakers installed at the high points on supply and return lines protect the system from sucking dirt back into the drip line due to back siphoning or back pressure with position elevation so as not to drain when not pressurized

c) **Flush Valves**: **generic 1" PVC ball valve** must be flushed frequently.

d) **Indexing Valve**: K-rain 4605-RCW w/check and ball valves to each zone

Disposal Field Finish:

1. No evidence of groundwater.
2. No Recharge Features within 150' of system (see site plan note).

3. The drip irrigation system area shall be located in a relatively open area at *least 100' away from any well, 10' from breaks in grade, and 5' from any property line (1' from improvements; 25' from pond)*.
4. The field will be installed into a scarified area with soil pad, lines and 8" of soil above the lines. (scarified area, lines, 8" soil). **COVER (6") OR REMOVE EXPOSED ROCK**. Imported soil should be integrated into the native soils to improve absorption (tilling recommended).
5. The field area must be seeded, hydromulched or sodded (loam back only) immediately after installation. The field edges will maintain a 3:1 run to rise ratio. Additional soil to be added a base of field to provide additional absorption for any low head drainage.
6. The field shall be maintained at all times (mowed).

Pump Data:

Design Goals: Provide 4.39 GPM to 4 emitter lines at 25 PSI.

Flushing velocity 4.39 + 1.6(4) = 10.79 GPM (~2.38 ft/s in return line) (minimum 2'/sec)

Elevation	7.00'
Pressure (25 PSI)	57.75'
Loss in 1"supply pipe (130') x 1.2 (fittings)	10.60'
Loss in 1" return pipe (130') x 1.2 (fittings)	4.03'
Loss at Filter & Valves	9.24'
Misc. losses	5.00'
Total Head	93.62 (41 PSI)

Pump Selection: Sta-rite STEP plus D "Dominator" 20GPM 1¼" discharge submersible pump, ½ hp, 115 volt, 60 Hz. (Selected pump delivers 25 GPM at against 80' head pressure)

Construction Notes:

- Installer shall be responsible to comply with TCEQ and local codes for proper OSSF installation.
- The owner or contractor is to be responsible for identifying all property lines, easements, wells and other related improvements either actual or proposed and verify that the septic system installation does not violate any regulation or law. Water lines shall be a minimum of 10' from any OSSF drainfield.
- All roof and surface drainage shall be diverted from fields by guttering, berms, swales, etc.
- It is required that water conserving methods be used with this system, including low flush toilets (1.6 gallons), pressure reducing faucet aerators and shower heads to reduce overloading the field areas.
- Should seepage or other underground water be found that was not found in the examination of the profile hole, stop all construction and notify the design engineer and/or the environmental permitting agency.
- Homeowner/contractor is hereby aware that is illegal to allow water softener discharge to enter the treatment unit. It will cause corrosion of the electrical components, shorten the life of the pumps and floats, and void equipment warranties. Softener discharge may be routed to the pump tank with use of demand initiated recharge (DIR) controller.
- Liquid input into this septic system shall not exceed **710** gallons per day. Daily average flow should be less than 75% of max capacity or 552-gallons per day.

Design Maintenance and Limitations:

This OSSF design is intended to meet minimum state requirements for OSSF as of 12/5/2012. The owner should be aware that a septic system is a system of "limited" capacity and will not stand up to prolonged abuse. Any of the guidelines below which are not followed amount to abuse of the septic system constitutes agreement by the homeowner to regulate use of this system so as to maintain its integrity.

The owner is to be responsible for properly maintaining this aerobic system.

To keep your aerobic sewage system in peak condition the following steps should be taken:

- Keep the field areas mowed and in good condition in order to encourage peak transpiration.
- Do not allow excess water to enter your drainfield (sprinkler systems, run-off, etc) Leaky faucets and toilets must be repaired immediately.
- Avoid the use of garbage disposals to dispose of kitchen waste.
- The property owner must not use any additives to septic tanks, i.e., commercial enzymes, yeast, etc. Do not let harsh chemicals, grease, high sudsing detergents, discharge from water softeners,

disinfectants or any other bactericides enter the system. **This is an aerobic "living" system, and additives can upset the natural bacterial balance.**

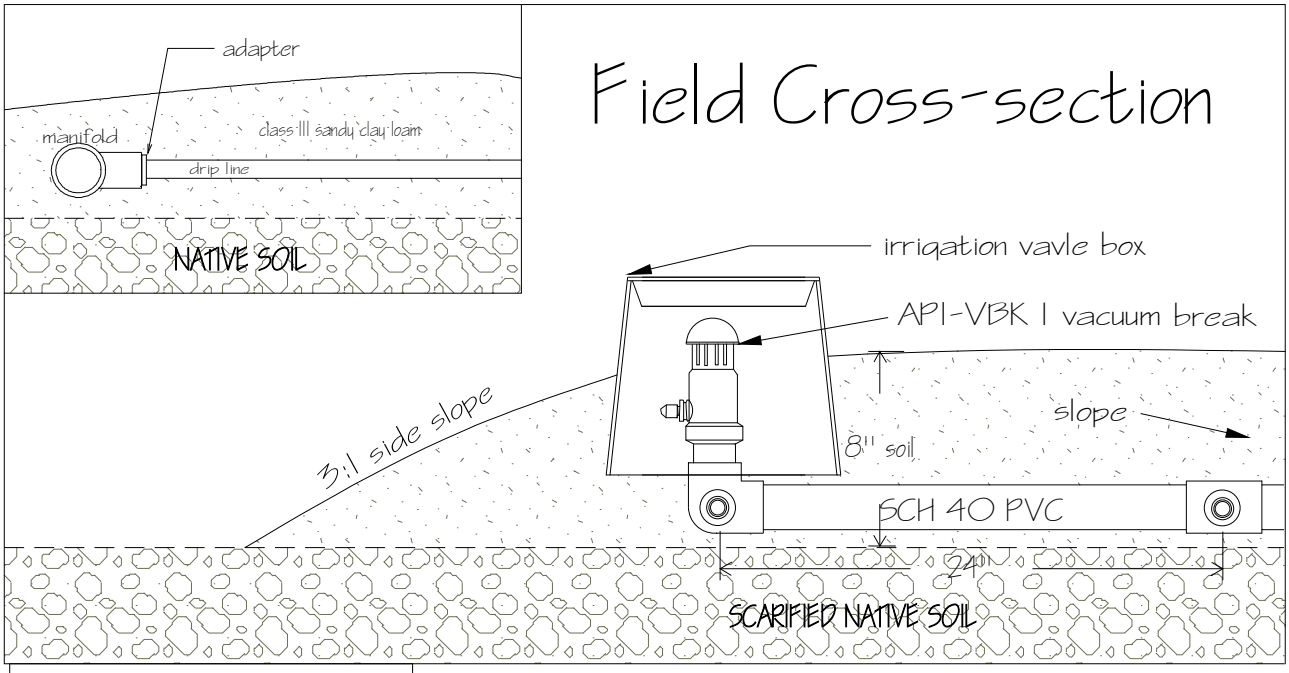
- Avoid flushing paper products or items not intended for septic use (i.e. toilet paper only).
- Be sure to pump out your trash tank (see schematic drawing) every 2 to 3 years to avoid excessive sludge build-up. Excessive build up reduces storage volume in your tank and can damage your drainfield.
- Do not allow vehicles or heavy equipment to drive over the irrigation fields or tanks.
- If any problem persists, such as frequent high water alarms or surfacing of septic water in your yard, call your OSFF service maintenance company for consultation or repair service.
- **Important!! The homeowner must leave the aerator for the aerobic unit running at all times**.

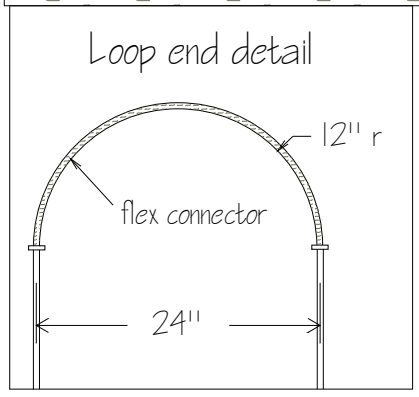
Note: This design in no way constitutes a warranty, extension of warranty, and/or guarantee of system operation or function. Owner is ultimately responsible for the system upkeep (retaining maintenance, reporting problems, monitoring flow, etc.). While the designer has made diligent effort to preserve vegetation and the landscape, the designer is not responsible for any losses (trees, landscaping, etc.) due to installation, operation, and/or system failure.

Information about Your Professional Maintenance Contract:

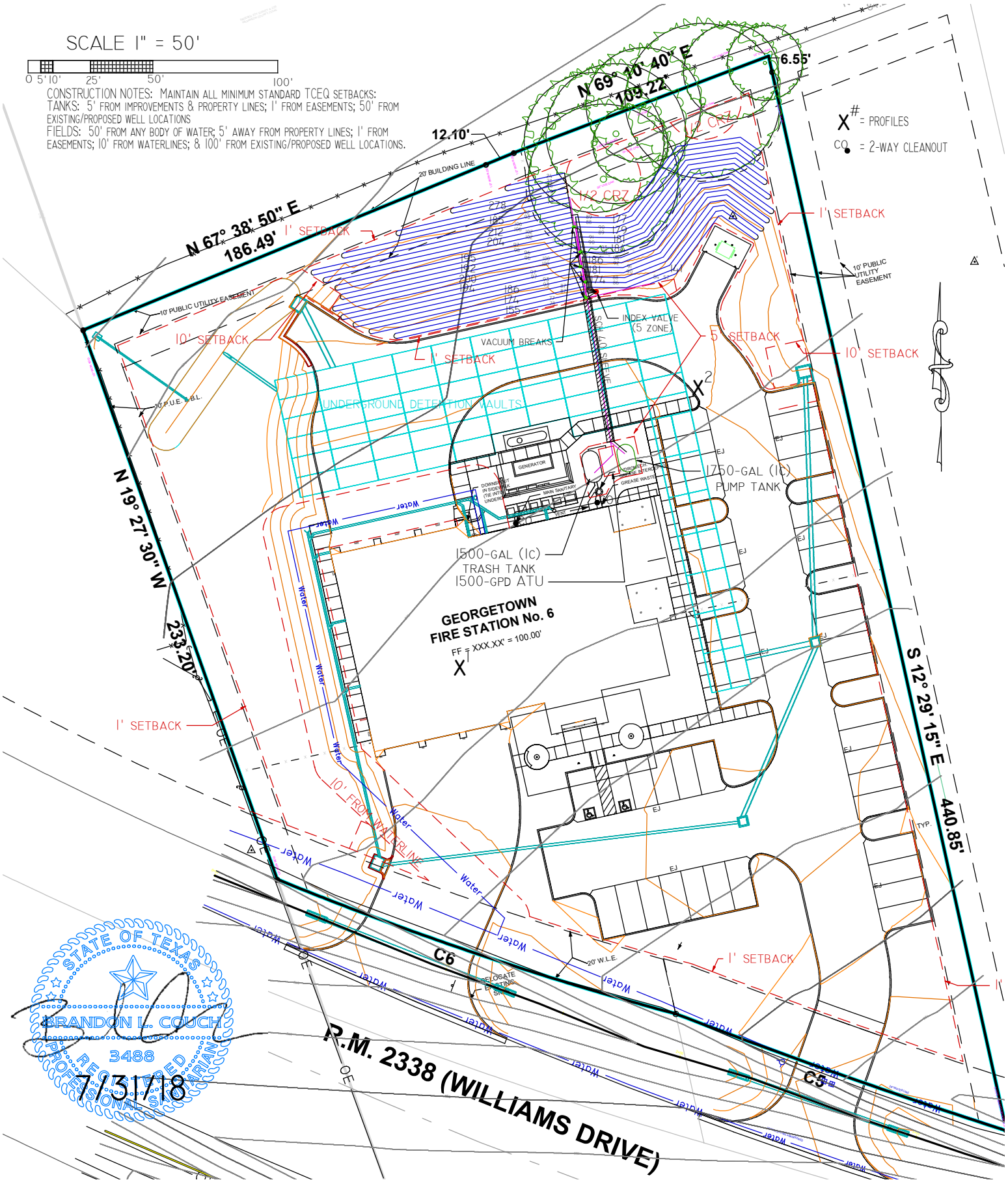
Homeowners with aerobic sewage systems are required by rule to maintain a "service" agreement. Your installer is to include an initial 2-year service agreement in the construction bid. The service agreement shall indicate at least two annual inspections and inspections shall provide service as recommended by the aerobic unit manufacturer and/or as required by the licensing authority. A written inspection report is to be issued to the owner and the licensing authority for each inspection performed.

If there is any question as to the implementation of these plans or any contemplation toward making significant changes to implement installation, contact the designer- Brandon L. Couch R.S. (512) 630-8600

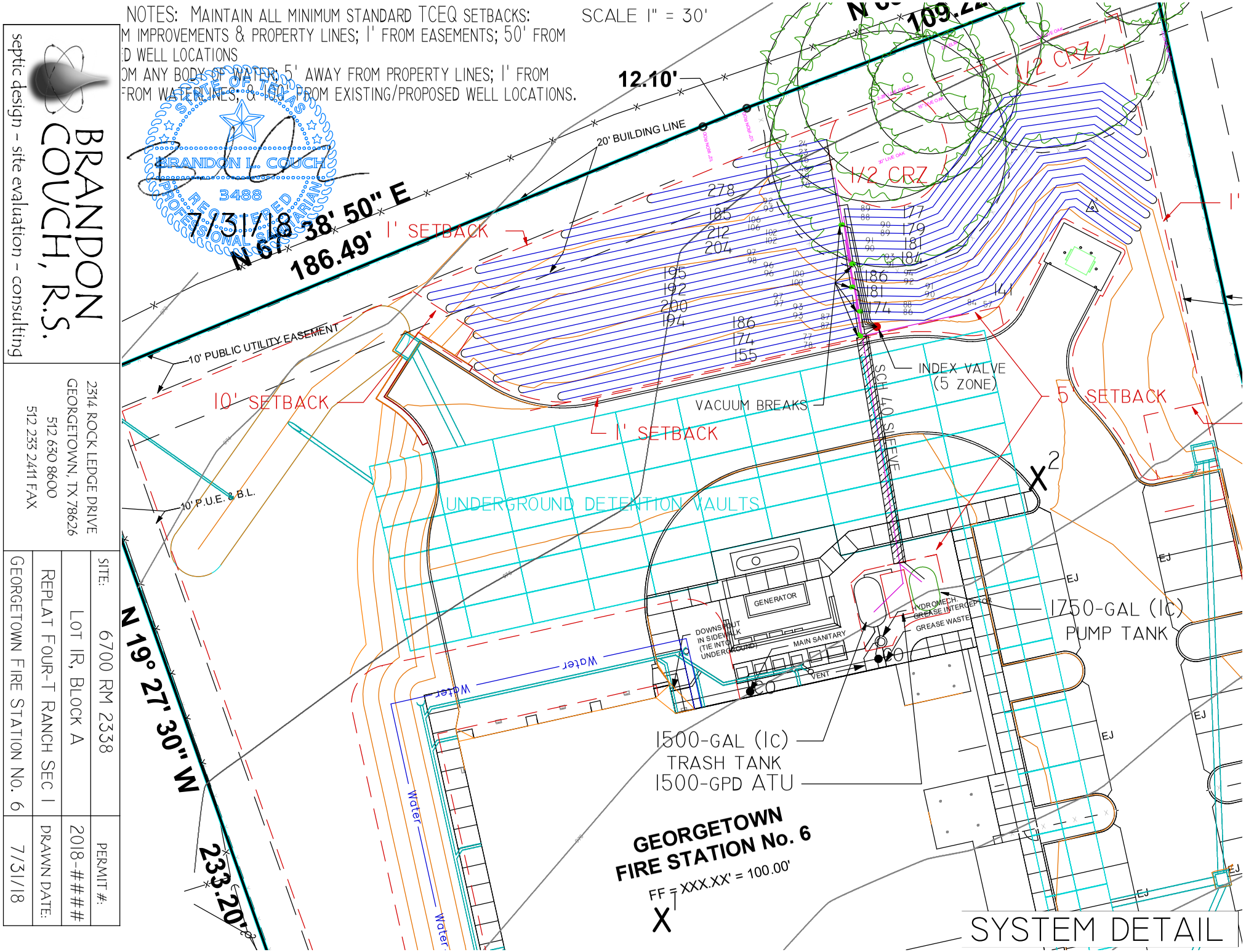




Permit # 2018-####



BRANDON COUCH, R.S. septic design - site evaluation - consulting	2314 ROCK LEDGE DRIVE GEORGETOWN, TX 78626 512 630 8600 512 233 2411 FAX	SITE: 6700 RM 2338	PERMIT #:
		LOT 1R, BLOCK A	2018-####
		REPLAT FOUR-T RANCH SEC 1	DRAWN DATE:
		GEORGETOWN FIRE STATION NO. 6	7/31/18



BRANDON COUCH, R.S.

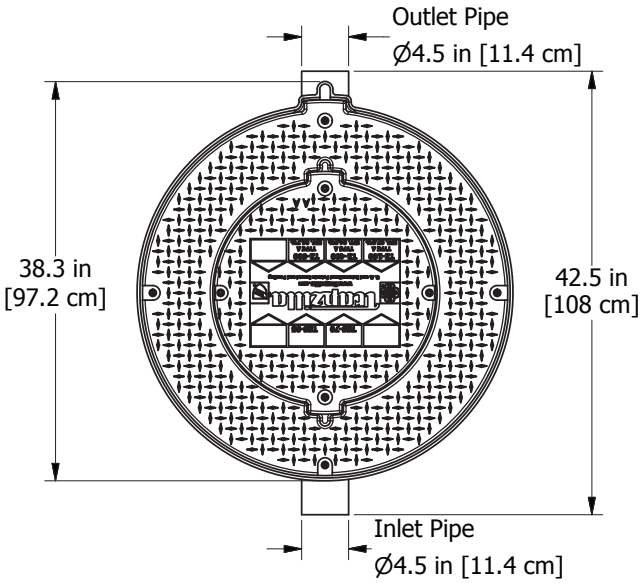
septic design - site evaluation - consulting

2314 ROCK LEDGE DRIVE
GEORGETOWN, TX 78626
512 630 8600
512 233 2411 FAX

SITE:	6700 RM 2338
	LOT 1R, BLOCK A
	REPLAT FOUR-T RANCH SEC 1
	GEORGETOWN FIRE STATION No. 6
PERMIT #:	2018-####
DRAWN DATE:	7/31/18

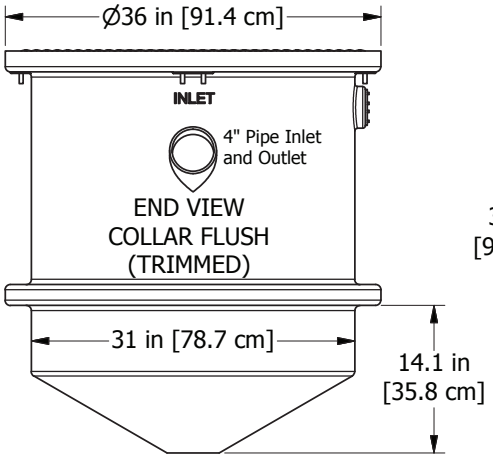
Trapzilla® Grease Trap System

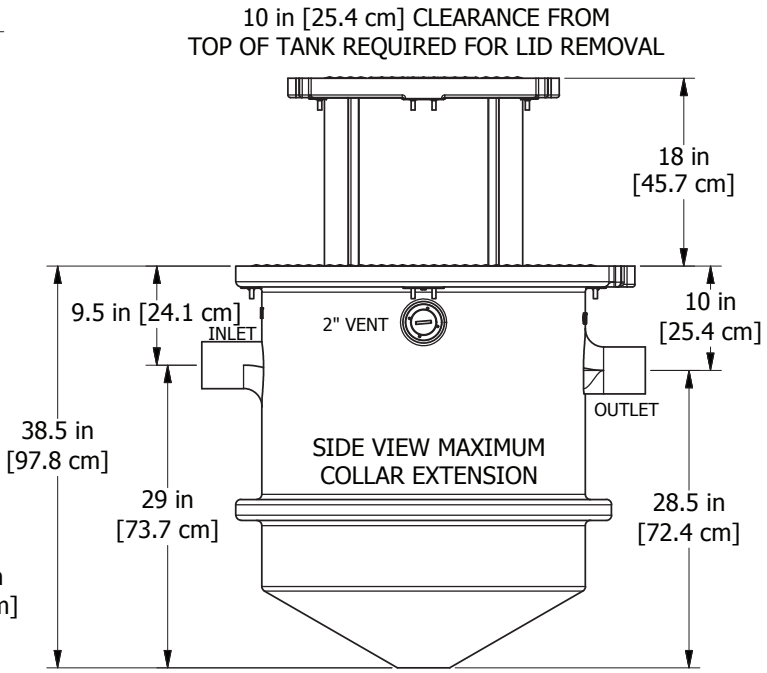
TZ-400-ECA Specifications



FEATURES:

- **Offers a flat grease separation curve**
- **Constructed of corrosion resistant materials suitable for installation in virtually any location.**
- **Compact footprint.**
- **Includes one ECALA-TZ-18 Extension Collar Adapter Lid Assembly for in-ground installation.**





TECHNICAL DATA

Materials:	Rotationally Molded Polyethylene
Maximum Inlet Flow Rate:	75 GPM (4.73 l/s)
Grease Retention Capacity:	400+ Pounds (181+ Kg)

Conforms to ASME Standard
ASME A112.14.3-2000

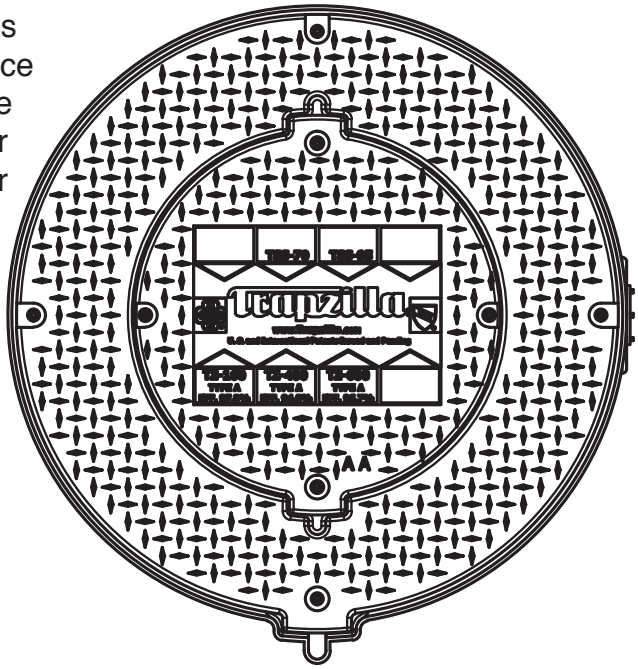
Trapzilla® Grease Trap System

TZ-400-ECA Specifications

INSTALLATION INFORMATION

Suggested Minimum Footprint Dimensions

The Trapzilla® requires 6” (15.2 cm) of clearance all the way around the lid from walls or other structures to allow for servicing.



DO . . .

READ instruction manual included with system before doing anything.

Install unit allowing for the minimum clearances shown.

Make piping connections with rubber “No Hub” connectors.

Keep outlet piping as straight as possible. Use only “sweep” connections.

Install vent on outlet piping.

If installing with other Trapzilla products, include cleanout ports between each unit.

DON’T . . .

Install “P” trap on outlet connection of tank. (Note: the unit already has an internal gas trap).

Reduce pipe size on outlet piping.

NOTE: Drawing for reference only. Equipment must be installed in compliance with all applicable laws, regulations and codes, including plumbing codes. Installation should be performed by a qualified plumber.

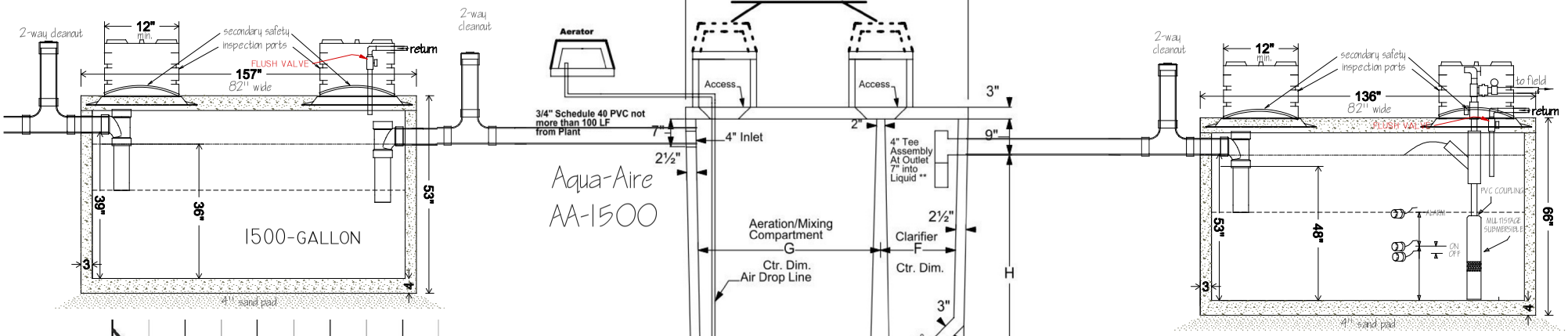
Job Specification:

Grease and oils separator(s) shall be Thermaco **Trapzilla** hydromechanical grease/oil interceptor system(s) as manufactured by Thermaco, Inc., Asheboro, North Carolina as noted on plans.

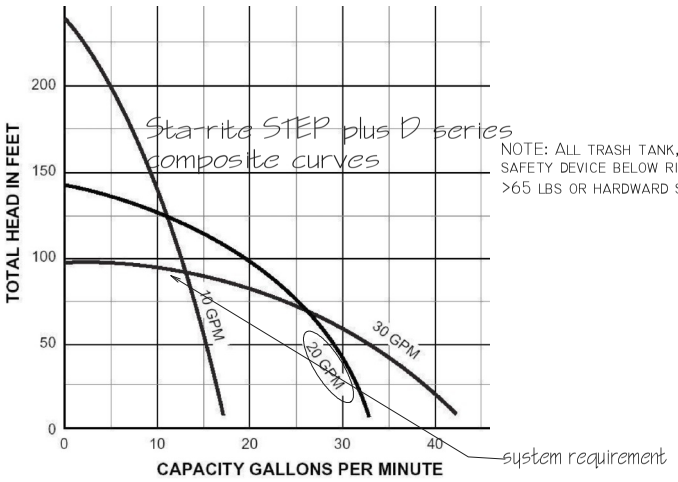
Separator Specifications:

Furnish and install ___ Thermaco **Trapzilla** Model No. TZ-400-ECA, linear low-density rotationally molded polyethylene grease and oil separator(s) for in-ground installation, shall be ASME A112.14.3 Rated at 75 gallons (4.73 l/s) per minute peak flow, 400+ pounds (181+ Kg) of grease storage capacity with a flat grease separation efficiency curve, crush-resistant cylindrical walls, fully removable lid for access by grease pump truck for grease and solids removal, integral non-floatation anchor ring for in-ground installation, integral horizontal baffle, laminar inlet flow diverter, separate storage compartments for grease and solids, and including as an integral part of the unit an integral gas trap and a fully removable polyethylene self-positioning keyed cover equipped with sealed thread fasteners. Includes one extension collar assembly, linear low-density rotationally molded polyethylene in two pieces for field adjustability to optimal installation depth.

Cross-sections



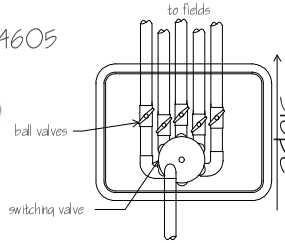
1750 gal. Pump tank
Alarm on @ 32"
Pump on @ 15"
Pump off @ 12"



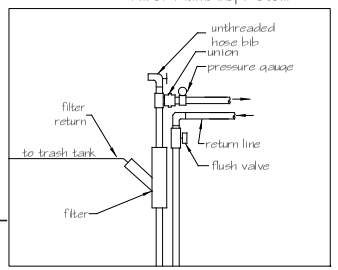
NOTE: ALL TRASH TANK, ATU, & PUMP TANK RISERS TO GRADE WITH SECONDARY SAFETY DEVICE BELOW RISER LID REQUIRED. RISER LIDS MUST BE >65 LBS OR HARDWARD SECURED.

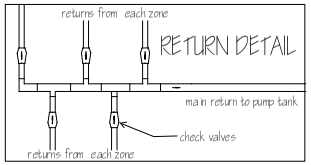
Valve Box

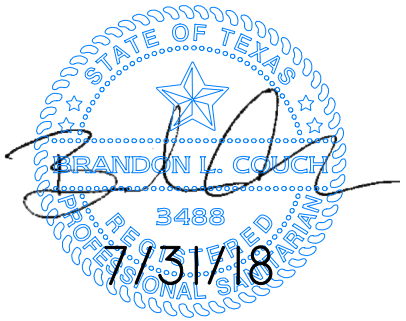
K-rain RCW 4605



Riser Plumbing Detail







7/31/18

SUBDIVISION REVIEW

TO: WCCHD

FROM: BRANDON COUCH, R.S.

SITE: REPLAT OF LOTS A & B, BLOCK A OF THE RESUBDIVISION OF LOT 1A, BLOCK A, AMENDED PLAT OF LOTS 1, 2, & 3, BLOCK A, FOUR-T RANCH SECTION ONE

DATE: 9/14/2017 **INSPECTION ON 7/30/2017**

Replat of Lots A & B, Block A of the Resubdivision of Lot 1A, Block A, Amended Plat of Lots 1, 2, & 3, Block A, Four-T Ranch Section One
2.14 Acres of
Frederick Foy Survey, Abstract 229
Williamson Country

Findings

The site plan of the property, including location of profile holes, is attached.

Directions to the property: Locator Map on Preliminary Plat.

EARZ issues: This tract is located within the Edwards Aquifer Recharge Zone. No construction in the subdivision may begin until the Texas Commission on Environmental Quality (TCEQ) has approved, in writing, the Water Pollution Abatement Plan (WPAP) (or waived requirements).

Flood Plain: No portions of this subdivision lie within the FEMA 100-year flood plain.

Lot Size is labeled on the attached subdivision layout.

Water service provided by public water supplier; letter of capacity to be supplied by owner.

Soil Profile Summary: The average soils found were class IV clays over class III silty clay loams and fractured rock. Individual soil profile can be found on the attached sheet. Findings were generally consistent with USDA Soil Survey Data (enclosed) for top soils.

Subdivision Features: The subdivision will be served by public water supply. No area of pooling was found. The area is moderately sloping (<10%) from north to south toward the road (positive drainage exists). No recharge features were observed within 150' of subdivision boundaries.

Profile Holes:

Locations Marked on Survey

Profile Hole #1:

Total Depth: 20" (grassy surface)

0-12": Class IV Brown Silty Clay with root penetration; no mottles, ground water or redox features. Rock and gravel (<30%). Restrictive horizon.

12-20": Class III Tan-White Silty Clay Loam (blocky) with root penetration; no mottles, no ground water or redox features. Some gravel (<30%). No Restrictive horizon

20": Fractured Rock; Termination

Profile Hole #2:

Total Depth: 24" (grassy surface)

0-14": Class IV Brown Silty Clay with root penetration; no mottles, ground water or redox features. Rock and gravel (<30%). Restrictive horizon.

14-24": Class III Tan-White Silty Clay Loam (blocky) with root penetration; no mottles, no ground water or redox features. Rocky with gravel (>30%<30%). Restrictive horizon

24": Fractured Rock; Termination

OSSF Types: After consideration of the soil conditions in the majority of the subdivision, the following types of systems are recommended:
Aerobic systems with:

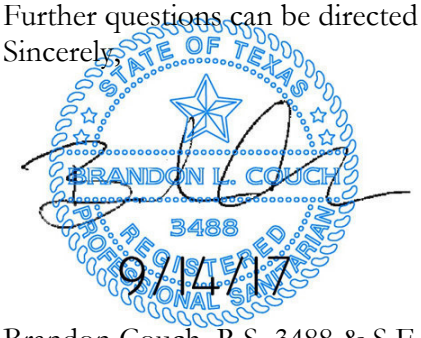
- spray irrigation (where lot size & placement permits): simple replacement area, not depended on soil penetration;
- drip/mound hybrids: requires replacement area, can be used with shallow soils;
- lined evapotranspiration (ET) beds: requires replacement area.
- mound disposal fields: requires replacement area, and basal area.

Septic tanks with:

- lined ET beds (see above)
- drip/mound hybrids (see above)
- mound disposal fields (see above)

Based on the soil profile analyzed, the site cannot be recommended for usage of conventional disposal methods (gravity fed systems including leaching chambers, gravel & pipe, etc.), other treatment and distribution methods may be more appropriate and/or effective given clay and shallows soils. The lot is adequate to support an OSSF and replacement area for average sized residences. Careful evaluation should be made for lot when siting a home (or business, as this lot may be for non-residential use).

Further questions can be directed to Brandon Couch, R.S. at 512.630.8600.
Sincerely,



Brandon Couch, R.S. 3488 & S.E. 8636

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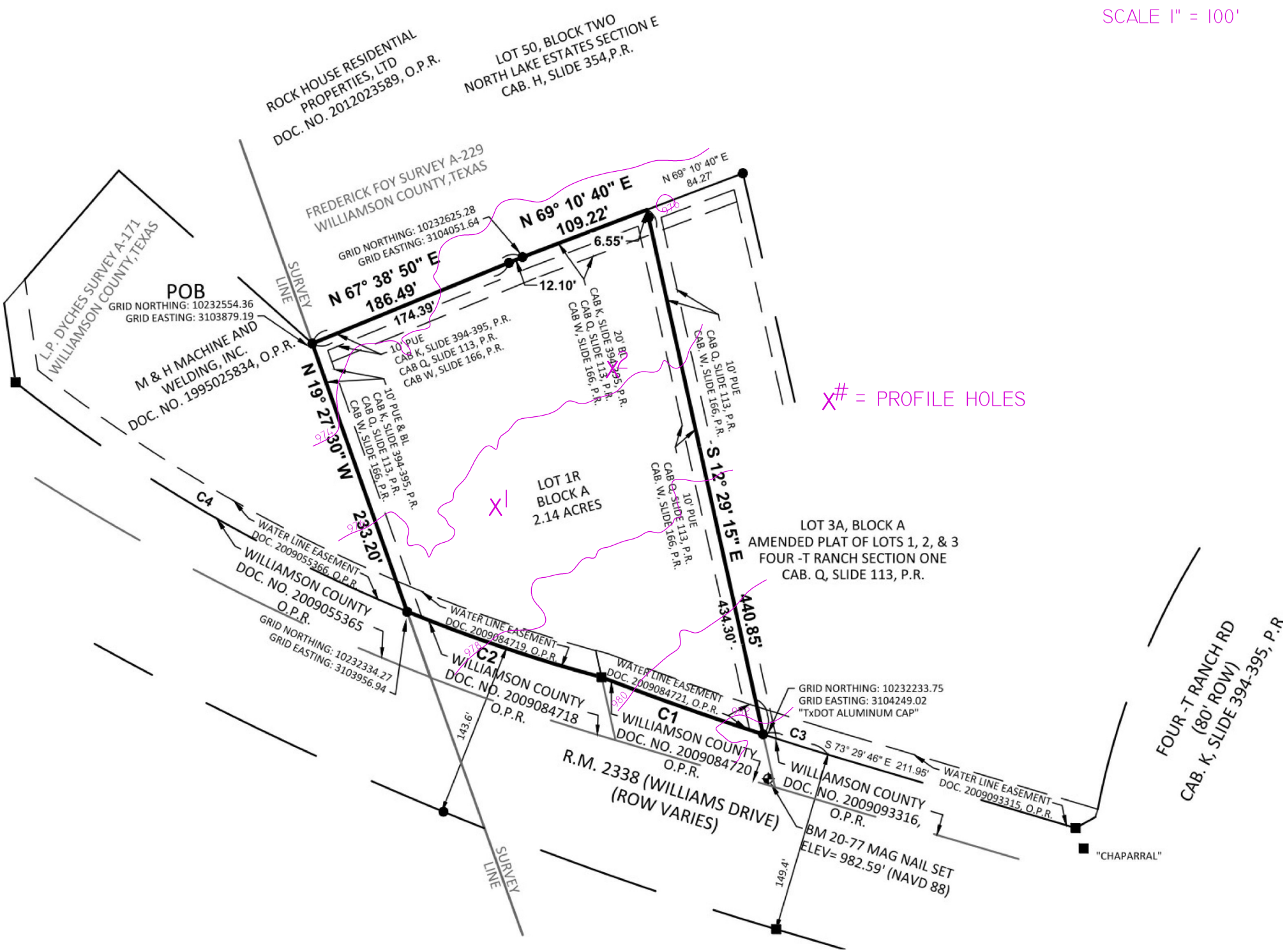
SCALE 1" = 100'
ROCK HOUSE RESIDENTIAL PROPERTIES, LTD DOC. NO. 2012023589, O.P.R.
LOT 50, BLOCK TWO NORTH LAKE ESTATES SECTION E CAB. H, SLIDE 354,P.R.
FREDERICK FOY SURVEY A-229 WILLIAMSON COUNTY,TEXAS
L.P. DYCHES SURVEY A-171 WILLIAMSON COUNTY,TEXAS
POB
GRID NORTHING: 10232554.36
GRID EASTING: 3103879.19
SURVEY LINE
M & H MACHINE AND WELDING, INC. DOC. NO. 1995025834, O.P.R.
GRID NORTHING: 10232625.28
GRID EASTING: 3104051.64
N 67° 38' 50" E
186.49'
174.39'
N 69° 10' 40" E
109.22'
6.55'
12.10'
N 69° 10' 40" E
84.27'
N 19° 27' 30" W
233.20'
S 12° 29' 15" E
434.30'
440.85'
10' PUE
CAB K, SLIDE 394-395, P.R.
CAB Q, SLIDE 113, P.R.
CAB W, SLIDE 166, P.R.
10' PUE & BL
CAB K, SLIDE 394-395, P.R.
CAB Q, SLIDE 113, P.R.
CAB W, SLIDE 166, P.R.
20' BL
CAB K, SLIDE 394-395, P.R.
CAB Q, SLIDE 113, P.R.
CAB W, SLIDE 166, P.R.
X# = PROFILE HOLES
X1
LOT 1R
BLOCK A
2.14 ACRES
LOT 3A, BLOCK A
AMENDED PLAT OF LOTS 1, 2, & 3
FOUR -T RANCH SECTION ONE
CAB. Q, SLIDE 113, P.R.
C1
C2
C3
C4
WATER LINE EASEMENT
DOC. 2009055366, O.P.R.
WATER LINE EASEMENT
DOC. 2009084719, O.P.R.
WATER LINE EASEMENT
DOC. 2009084721, O.P.R.
WATER LINE EASEMENT
DOC. 2009093315, O.P.R.
WILLIAMSON COUNTY
DOC. NO. 2009055365
O.P.R.
GRID NORTHING: 10232334.27
GRID EASTING: 3103956.94
WILLIAMSON COUNTY
DOC. NO. 2009084718
O.P.R.
WILLIAMSON COUNTY
DOC. NO. 2009084720
O.P.R.
WILLIAMSON COUNTY
DOC. NO. 2009093316,
O.P.R.
S 73° 29' 46" E 211.95'
GRID NORTHING: 10232233.75
GRID EASTING: 3104249.02
"TxDOT ALUMINUM CAP"
143.6'
149.4'
R.M. 2338 (WILLIAMS DRIVE)
(ROW VARIES)
BM 20-77 MAG NAIL SET
ELEV= 982.59' (NAVD 88)
"CHAPARRAL"
FOUR -T RANCH RD
(80' ROW)
CAB. K, SLIDE 394-395, P.R