



11/9/05 08:04 AM

Williamson County and Cities Health District NOTICE OF APPROVAL TO OPERATE AN OSSF

THIS IS TO CERTIFY that the on site sewage facility located at:

OSSF #: **2005 - 1033**

400 CR 483, Taylor TX 76574

Grid:

W. J. COWAN SURVEY, A-146

Block:

Lot:

☐ Routine Maint

meets or exceeds the basic requirements established by the District.

LICENSE TO OPERATE this facility is hereby granted to the owner. This license simply grants permission to operate this facility; it does not guarantee its successful operation. Routine maintenance and proper functioning are the sole responsibility of the owner. KEEP THIS LICENSE with important papers. You may need it when selling your house or if a malfunction occurs.

THIS LICENSE REMAINS in effect until such time as there is evidence that this facility is not operating properly and may constitute a threat to the health of the people of Williamson County.

Tank Type: Concrete Oval

Valve: K Rain

Max Flow: 300 gal/day

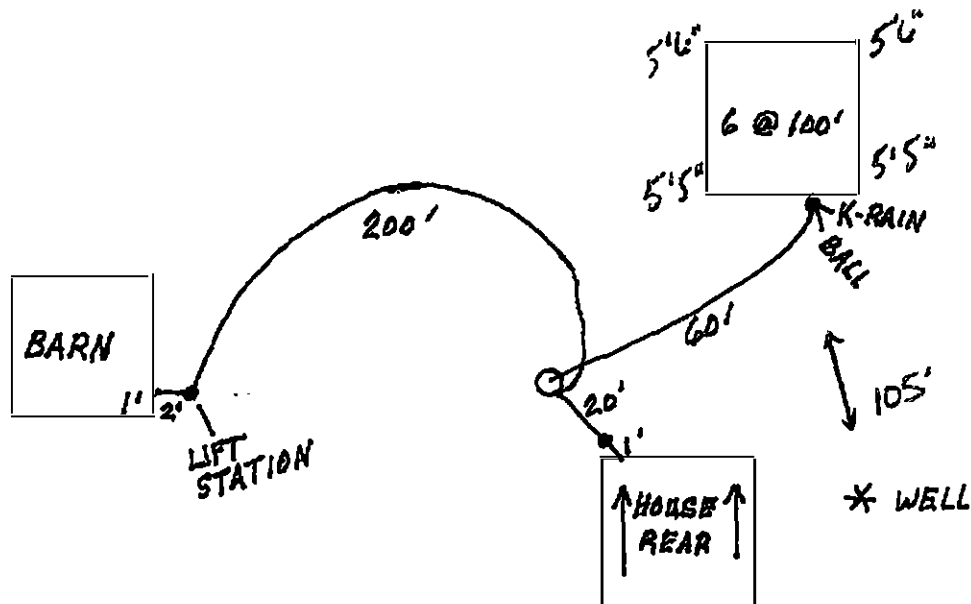
Tank Size: 1000 gallons

Drainfield Size: 3000 sq. ft.

Installed By: Brian Klepiz

Engineered By: BRANDON COUCH, RS

DRAWING OF SYSTEM (Not to scale):



m - 12/14/05
DATE OF FINAL
INSPECTION: 11/8/05

ISSUED THIS DATE: 11-30-05

J. E. McArthur
INSPECTOR

OS 8626

[Signature]
DIRECTOR, ENVIRONMENTAL SERVICE

OS 7173

1ST inspection 11-3-05 2ND inspection F 11/4/05 11-8-05
Am (pm + possible)
845-1939 call phase
F
OSSF# 05-1033

WILLIAMSON COUNTY AND CITIES HEALTH DISTRICT
ALTERNATIVE SEPTIC SYSTEM INSPECTION - FIELD NOTES

Location: 400 CR 483
No. of Bedrooms: _____ Installer: B. Klepzig 5095

I. TANK TYPE:

1. Concrete ☒ Type: A. Box _____ B. Oval ☒ C. Pump Tank _____
2. Gallon Capacity 1500 gal 3. Gallon Capacity _____
4. Other _____

II. SOIL DISPOSAL FIELDS:

1. Type: A. Trenches ☒ B. Mound _____ C. Aerobic _____ D. Drip _____
2. Setbacks: A. Tank to well 150' B. Absorption Field to well 105' C. Field to property line ACROSS
3. Dimensions of Fields: A. Field #1 6 100' = _____ Ft²
B. Field #2 _____ 'x _____ ' = _____ Ft² Total 3000 Ft²
C. Depth of Fields 18" to 24"
4. Gravel on Site: ☒ Amount 140 Yards, estimated.
5. Sand on Site: 1/2 Amount 1/2 Yards estimated, Sandy Loam 1/2 Yards estimated.
6. Type of Diversion Valve K-Rain, Type of Pressure Valve Ball

III. GENERAL CONDITIONS AND WORKMANSHIP OPEN PIT: Date: 11-3-05 Inspector: Dm

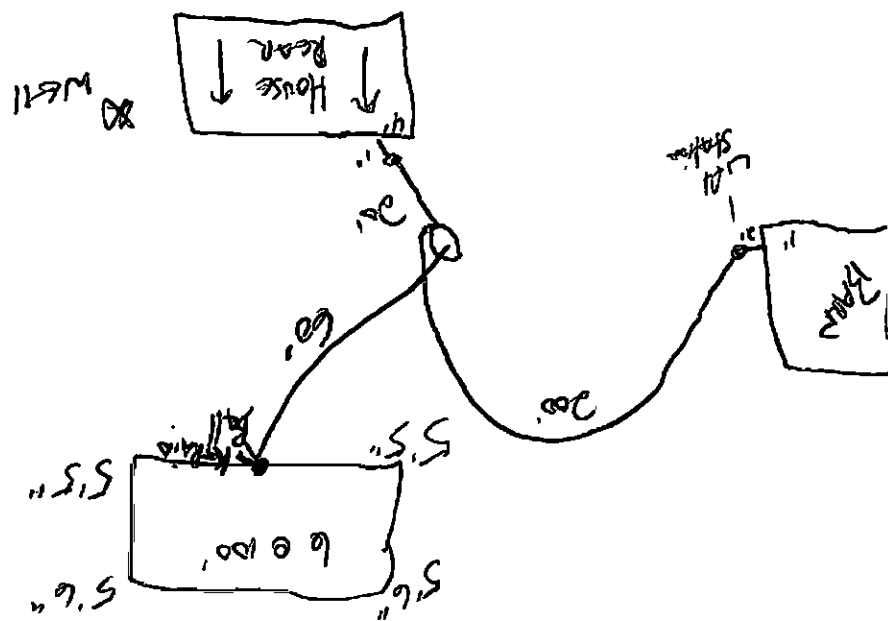
- | | Yes | No |
|--|-------------------------------------|--------------------------|
| 1. Solid lines from house glued in place. Schedule 40 equivalent | ☒ | ☐ |
| 2. All needed clean-outs in place | ☒ | ☐ |
| 3. Holes around inlet and outlet grouted or sealed | ☒ | ☐ |
| 4. Tank is watertight (filled to flow line) | ☒ | ☐ |
| 5. T's installed in tank with manufactured effluent filter | ☒ | ☐ |
| 6. Correct number and spacing of holes in the pipe | ☒ | ☐ |
| 7. Bed or trench bottom essentially level | ☒ | ☐ |
| 8. Evidence of seeps or shallow groundwater | ☒ | ☐ |
| 9. Backfill material and gravel cover on site | ☒ | ☐ |
- APPROVED
11-3-05
Dm
OS 8626

HEAD PRESSURE/ LANDSCAPE INSPECTION: Date: 11-7-05 Inspector: Dm

- | | Yes | No |
|---|-------------------------------------|--------------------------|
| 1. Schedule 40 pipe from tank to valve and beds | ☒ | ☐ |
| 2. Pipe and field covered with gravel | ☒ | ☐ |
| 3. Head pressure set | ☒ | ☐ |
| 4. Soil conditions dry during installation | ☒ | ☐ |
| 5. Pump and Alarm are working | ☒ | ☐ |
| 6. The fields are mounded 4" and 6" | ☒ | ☐ |
| 7. The fields are seeded or mulched | ☒ | ☐ |
| 8. Berm in place (if needed) | ☒ | ☐ |
- APPROVED
11-7-05
Dm
OS 8626

FINAL SYSTEM APPROVAL: YES Approved 11-8-05 Dm

IV. REMARKS: pump stop 11-8-05 Dm Before next inspection.
11-8-05 TNB





Williamson County and Cities Health District

303 Main St.
Georgetown TX 78626-
(512) 930-4390

PERMIT TO CONSTRUCT

**** VALID FOR ONE YEAR FROM DATE OF PURCHASE ****

Date: 10/28/05

m - 10/31/05

Permit #: **2005 - 1033**

Date purchased: **3/21/05**

Expiration date: **3/21/06**

Owner's Name: **RHOADES, ROBERT E. & KAREN W.**

400 CR 483. Tavior TX 76574

W. J. COWAN SURVEY. A-146

Block:

Lot:

AUTHORIZATION IS HEREBY GIVEN TO CONSTRUCT AN ON-SITE SEWAGE FACILITY ON THE ABOVE DESCRIBED PROPERTY WITH THE FOLLOWING SPECIFICATIONS:

Tank Capacity: 1000 gallons

Pump tank reserve capacity: 305 gallons

Design Flow: 300 gpd

Drainfield: LPD

Drainfield / Sprayfield Size: 3000 sq. ft.

SEE ALSO ADDITIONAL DESIGN REQUIREMENT

Designed By: BRANDON COUCH, RS

Refer to the designer's latest plans for system specification

Plan Date: 10/4/05

Latest Approved Revision Date: 10/17/05

Contact the WCCHD and designer for required inspections.

NOTE The on-site sewage facility construction must meet all TCEQ Regulations and the WCCHD Rules for On-Site Sewage Facilities. If unforeseen and/or adverse conditions are encountered (including, but not limited to excessive rock, seepage, or high water table) stop construction and contact the WCCHD. A revised construction permit may be issued.

The approval of this OSSF design does not include water softeners or water treatment equipment and appliances - reference Chapter 285.37.

Paul E. Walter, 85 8032

Signed

10-28-05

Date

* THIS PERMIT IS NON-TRANSFERABLE.

10/28/05 10:36 AM R-69

WCCHD CHECK LIST FOR PROFESSIONAL DESIGNS - ON SITE SEWAGE FACILITIES

DATE: 10-4-05 OWNER: Robert + Karen Rhoades OSSF #: 05-1033
 LOCATION: 400 CR 483 ; Taylor
 DESIGNER: Brandon Canady, P.E. SITE EVALUATOR: same
 Commercial?: No
 Type of System: LPD Bedrooms on Permit: 3 Sq Ft: 3144
 Wastewater Design Flow (Gal/Day): 300 Bedrooms on Design: 4 Sq Ft: 3200
 Soil/Surface Application Rate: 0.1 Equivalent Bedrooms: 4

SITE EVALUATION (Most restrictive conditions)

Class of Native Soil: IR SLR required: complete
 Restrictive layers (Rock, Clay, etc...): → Depth: 56" bottom Flood Plain addressed: Exempt
 Evidence of Groundwater: No → Depth: - EARZ Addressed: Yes
 NOT APPROVED by Field Inspector: DEM 10-5-05 (needed report) APPROVED by Field Inspector: OK PRN

TREATMENT PROCESS

Septic / Trash Tank (gallons): 1-1500 gallon 3 compartment Buchanan tank
1000(2/c) Pump Tank (gallons): 500(1/c)

DISPOSAL PROCESS

Drain Field (Linear Feet): 600 Drain Field (Square Feet): 3000
 Depth Min/Max (Inches): 18 / 32 Width Min/Max (Inches): 36 / 36
 Diversion Valve: K-Rain RCLW 6402 (2 zones) Pressure Valve: Ball
 Gravel Size & Depth: 3/4-2" + 12" min Backfill Class/Height above grade: 15 or 10 / 6" min

DOSING & DISTRIBUTION

Dosing Rate (gal/minute): ~30 Dosing Volume (gallons): ~83
 Reserve capacity in pump tank (gal): 305 Head Pressure: 2'
 Check Valve: Yes (in pump basin) Syphon Hole: Yes (in pump basin); Yes (in pump tank)

EQUIPMENT SPECIFICATIONS

*SEE TEXT + X-SECTION FOR INFO ON PUMP BASIN @ BARN High Water Alarm: addressed/shown *Audible: Yes Visual: Yes
 Pump Size (hp) / Model: 1/2 hp Liberty 250 54-105 *Pump on separate circuit from alarm? Yes
 Filtration / Model: Vicaco (optional) *Required for small pump basin @ barn + pump tank

CONSTRUCTION PLAN (SITE PLAN/CROSS SECTIONS)

Contour lines/slope - esp in disposal area: 2-3% Well locations shown: Yes Water line shown: OK
 Profile Holes shown and near drain field: Yes Property lines shown: Yes Setbacks shown/stated: Yes / OK
 Float settings (Inches & gal) in pump tank: 560 mm Cross section of tanks: Yes Cross Sections Labeled: OK
 Landscape/Vegetation Notes: 80d or 50d

CONTRACTUAL / ADMINISTRATIVE

Signed/Sealed/Dated by designer: Yes Fees Due: Yes No

Supply Line Diameter (Inches):	2.00	Manifold	Trench	Length	# Holes	Trench	Length	# Holes	Manifold
Lateral Diameter (Inches):	1.00	2" →	1A	100'	25	1B	100'	25	2" →
Hole Size (Inches):	5/32	2" →	2A	100'	24	2B	100'	24	2" →
Hole Spacing:	Varies	1.25" →	3A	100'	23	3B	100'	23	1.25" →
Pipe separation:	3.5' (=6.5' O.C.)								
Minimum Dosing Volume met:	Yes								

ADDITIONAL NOTES:

DESIGN APPROVED:

YES
 OK PRN
 10-28-05

10/17/05
 \$100.00 due for additional design review
 See letter OK 10-28-05 PRN

Paul J. Whitten 10-14-05
 055032 Inspector / Date



October 17, 2005

m - 10/17/05

Robert & Karen Rhoades
635 W. Front Street
Hutto, TX 78634

RE: PROFESSIONAL DESIGN FOR 400 CR 483, W. J. COWAN SURVEY, A-146, 10.00 ACRES,
TAYLOR, TX, OSSF# 2005-1033.

Mr. & Mrs. Rhoades:

On October 4, 2005, the Williamson County & Cities Health District received a re-design submittal for OSSF # 2005-1033 from Brandon Couch, R.S. The design is not approved and authorization to construct cannot be given at this time for the following reasons:

- OK PTW 10-28-05*
- At this time, there ~~is~~ *10/17/05* \$100.00 due for the additional design review that was reviewed for your application.
 - ✓ In order to complete the Single Lot Review for this property, please submit a service commitment letter from the company that is serving water to this property.
 - ✓ Please provide a signed letter from the owner concerning the use of the bathroom in the barn for convenience use only by the owner. This structure cannot be occupied as a residence or additional living space (i.e. a bedroom).
 - ✓ Please show profile hole #4 on the site plan.
 - ✓ Please specify the proper abandonment procedures of the old system, per TAC 285.36.

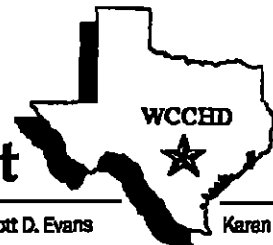
Once all required criteria have been submitted to this office, authorization to construct will be granted. If you have any questions concerning this matter, please contact this office.

Sincerely,

Paul T. Walter, OS 8032
Environmental Services

C: Brandon Couch, R.S.

2005-1033



Williamson County & Cities Health District

Board of Health: Mary Faith Sterk, Chair • Margaret R. Fink • Katherine M. Galloway • Tim Mikasle • Lettie A. Lee • Scott D. Evans

Karen Wilson, Director

your public health department

Date:
To: Public
Re: OSSF Requirements for Single Lot Subdivisions
From: Environmental Services

2005-1033

Lots that have not been "legally" subdivided or have not completed an Environmental Review must submit information regarding site suitability for on-site sewage facilities as required by the Texas Natural Resource Conservation Commission (TNRCC). OSSF permits will not be granted unless the following information has been submitted to this office.

- OK ☐ Provide a copy of a professional survey of the property that addresses floodplain and square footage of lot. All existing structures with water & electric service must be shown on the survey or OSSF design.
- OK ☐ Provide a map to property in relationship to major roads.

A qualified Site Evaluator can generally provide the additional items mentioned below.

- OK ☒ Indicate if property is or is not located within the Edwards Aquifer Recharge Zone.
- OK ☒ Provide a drainage plan. This report must include how drainage patterns will or will not affect the proper function of the OSSF. This report must show any drainage improvements needed to ensure that the lot would have positive drainage, meaning that water will not pool on lot. The report must state if positive drainage already exists.
- OK ☐ Indicate if the lot is served by private wells, public wells, or a public water supply. A minimum of 1 acre of surface area is required for each house if served by public water. A minimum of 2 acres of surface area is required per residence if served by private well.
- OK ☒ If lot is to be served by a water company, then a letter will be needed from the Water Company stating that they have the capability and capacity to serve water to said lot.
- OK ☐ If lot is to be served by wells, the well locations must be located on the survey with the required 100-foot sanitary easement labeled. Wells must be located 50 feet from all property lines. If the sanitary easement encroaches neighboring properties, a letter of easement acceptance is required from affected property owner.
- OK ☐ Provide a topographic map or state direction and percentage of slope on the lot. Additional topographic information may be required depending on the nature of the lot and system location.
- OK ☐ A subsoil and groundwater report must be submitted that indicates the depth and type of soils, depth to rock or other restrictive layers, depth to groundwater or evidence of groundwater (mottling). Two test holes are required for the installation of septic system. These holes are to be a depth of at least 5 feet and must be left uncovered for Williamson County Inspectors to evaluate.
- OK ☐ Provide a report detailing the types of OSSF to be considered for this lot.
- OK ☐ Indicate 75-foot setbacks from creeks, lakes, drainage-ways, and drainage easements. Indicate 25-foot setbacks from breaks in grade. Indicate 150-foot setbacks from recharge features.

Once all required criteria have been submitted to this office, the design can be reviewed for approval. If you have any questions concerning this matter, please contact this office.

OK ☒ COMPLETE
9-13-05
PTW 056032
OK PTW
10-28-05

2005 - 1033

OSSF SOIL EVALUATION

Date Performed: 10/7/05

Property Location: 400 CR 483

Proposed Excavation Depth: 5'

Brandon Couch, R.S. S.E.# OS8636

Requirements:

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.

Location of soil boring or dug pits must be shown on the site drawing.

For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed excavation depth, or to restrictive horizon. For surface disposal, the surface horizon must be evaluated.

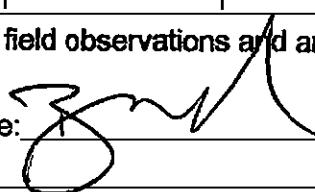
Describe each soil horizon and identify any restrictive features on the form. Indicate depths of features.

Soil Boring Number: # 4					
Depth (inches)	Texture & Classification	Structure (class III)	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations/Notes
0"	N Silty Clay ↓ 56"	—	No/Ns	yes	Dk. Brown heavy organics
12"					
24"					
36"					
48"					
60"					

Soil Boring Number:					
Depth (inches)	Texture & Classification	Structure (class III)	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations/Notes
0"					
12"					
24"					
36"					
48"					
60"					

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

Brandon Couch, R.S. S.E. #OS8636

Signature: 

OCT 12 2005

DATE: 10/7/05

Applicant Information:

Name: _____
Address: _____
City: _____ State: _____
Zip: _____ Phone: _____ Fax: _____

Property Location:

Lot: _____ Block: _____ Subdivision: _____
County: Williamson Unincorporated? (Y) or N
City: Taylor Zip: _____
Additional Info: _____

S.E. #OS8636
Brandon Couch, R.S.
2314 Rock Ledge Drive
Georgetown, TX 78626
(512) 630-8600
(512) 233-2411 fax

Installer Information:

Name: _____
Address: _____
City: _____ State: _____
Zip: _____ Phone: _____ Fax: _____

Schematic of Lot or Tract

Show:

Compass North, adjacent streets, property lines, property dimensions, location of buildings, easements, swimming pools, water lines, and other structures where known.

Location of existing or proposed water wells on property or within 150' of proposed soil absorption or irrigation area.

Indicate slope or provide contour lines from the structure to farthest location of proposed soil absorption or irrigation area.

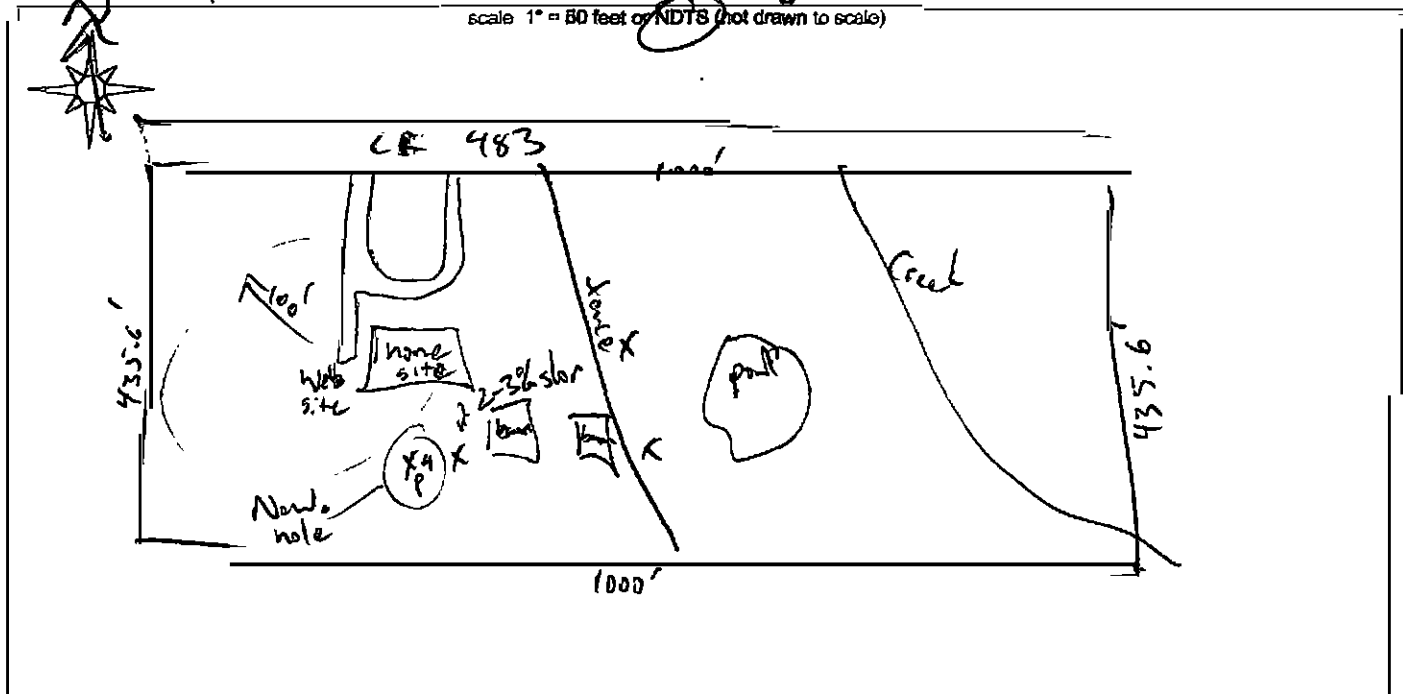
Location of soil boring/dug pits (show location with respect to a known reference point).

Location of natural, constructed, or proposed drainage ways, (streams, ponds, lakes, rivers, high tide area) water impoundments, out or fill bank, sharp slopes and breaks.

Lot Size: 1.0 acres

Site Drawing

scale 1" = 80 feet or NDTs (not drawn to scale)



Based on this site evaluation, the following systems may be utilized:

☐ Conventional	☒ ET	☒ Drip
☐ Leaching Chamber	☐ Soil Substitution	☒ Mound
☐ Graveless	☒ LPD	☒ Surface Irrigation

Features of Site Area

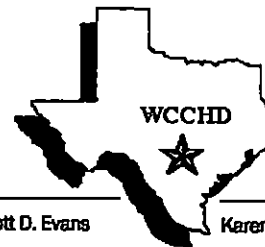
Presence of 100 year flood zone	Yes _____	No <u>X</u> _____
Presence of upper water shed	Yes _____	No <u>X</u> _____
Presence of adjacent ponds, streams, water impoundments	Yes <u>X</u> _____	No _____
Existing or proposed water well within 150' OSSF	Yes <u>X</u> _____	No _____
Organized sewage service available to lot or tract	Yes _____	No <u>X</u> _____
EARZ features within 150' of OSSF	Yes _____	No <u>X</u> _____
Evidence of groundwater	Yes _____	No <u>X</u> _____

Brandon Couch, R.S.

Signature: [Signature]

S.E. #OS8636

Williamson County & Cities Health District



Board of Health: Mary Faith Sterk, Chair • Margaret R. Fink • Katherine M. Galloway • Tim Mikeska • Lettie A. Lee • Scott D. Evans

Karen Wilson, Director

October 6, 2005

your public health department

Robert & Karen Rhoades
635 W. Front Street
Hutto, TX. 78634

M - 10/6/05

(OSSF) PERMIT #: 2005-1033 @ 400 CR 483, Taylor, TX, 76574

Site Evaluator : Brandon Couch _____ SE received (date): October 4, 2005

A site evaluation was received for this OSSF application. The site evaluation **IS / (IS NOT)** approved (circle one).

Please submit the following:

Soil Analysis

- ☐ Profile holes must be in area of OSSF field
- ☐ Holes at least 2' deeper than the proposed drain field
- ☐ State horizon depths in inches
- ☐ Provide gravel analysis
- ☐ Provide textural class of soil for each horizon
- ☐ Provide coloration for each horizon

Groundwater

- ☐ State whether or not there is EVIDENCE of groundwater and at what depth in inches. Evidence includes streaking, mottling, redox features, etc...
- ☐ If water is present, state the depth in inches and whether the water is clear or muddy

Topography

- ☐ Indicate slope and direction or contours
- ☐ Show drainage ways, easements, creeks, ponds, etc...
- ☐ Show breaks in grade
- ☐ Note surface pooling

Vegetation

- ☐ Note vegetation in the area of the drain field

Flood Hazard

- ☐ Indicate if OSSF is in Flood Plain or Flood Way
- ☐ Show Flood Plain or Flood Way on site diagram

Edwards Aquifer Recharge Zone (EARZ)

- ☐ Indicate if site is in the EARZ
- ☐ Certify that no EARZ recharge features are within 150' of the OSSF

Further comments & Notes:

The site evaluation could not be approved only one profile was address by the deslgnar. WCCHD has performed a evaluation on two holes in the purposed area. This second hole should have a soil evaluation performed by the designer. The file has been returned to pending awaiting the evaluation.

Sincerely,

OS8626 Douglas Earl McPeters

(Printed)

D. E. McPeters

(Signed)

OS 8626

SITE EVALUATION VERIFICATION SHEET

THE PROPERTY OWNER IS RESPONSIBLE FOR THE FINAL OSSF DESIGN. DESIGNS MUST MEET MINIMUM REQUIREMENTS. THE PROPER PERFORMANCE OF AN ON-SITE SEWAGE FACILITY CANNOT BE GUARANTEED. PROPERTY OWNERS ARE ENCOURAGED TO OBTAIN A DESIGN FROM A PROFESSIONAL DESIGNER. PROPER LANDSCAPE AND DRAINAGE DIVERSION IS THE RESPONSIBILITY OF THE OWNER.

TYPE OF OSSF ALLOWED (Based on Approved Site Evaluation):

- ☐ Absorption beds/trenches *
 or ☐ Evapotranspiration beds *
 or ☐ Alternative System needed. Contact a Professional Engineer or Registered Sanitarian.

*(Standard absorption beds or ET beds may be designed by an Engineer, Sanitarian, Installer II or the homeowner.)

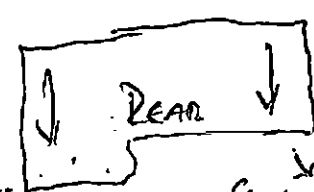
MINIMUM SETBACK DISTANCES: TANK – 5 ft. from house, 5 ft. from property line, 50 ft. from water well. FIELD – 5 ft. from house, 5 ft. from property line, 100 ft. from water well, 10 ft. from water line, 75 ft. from body of water.

OTHER: _____

ALL VARIANCE REQUESTS MUST BE APPROVED PRIOR TO INSPECTION.

PIPE & GRAVEL: Tank connected to house and valve; cleanout between structure and tank; fittings in place; full of clean water to flow line. Schedule 40 equivalent, 1/8" per foot fall from house to tank; 1" per 100' from tank to valve. Filter required at outlet; cleanout between tank & valve within 1' of tank outlet. Fields/trenches excavated, level, 12" lower than tank flow line; 18"-36" deep. Gravel & pipe in place; voids left for inspection. Distribution pipes must be level with 6" of gravel below pipes. Total gravel required is 12". Monitor wells at far ends of fields. Filter fabric, all sand & sandy loam **MUST** be on site.

LANDSCAPE INSPECTION: Properly backfilled with sand & sandy loam. Area over fields/trenches **MUST** be mounded 4" or more. Grass must be planted over this area.

EVALUATION OF PROFILE HOLE #1		WCCHD USE	
DEPTH	SOIL DESCRIPTION	APPROVAL OF SITE EVALUATION: YES ☐ NO ☒	(IF YES, PLEASE SUBMIT DESIGN ACCORDING TO TYPE OF OSSF ALLOWED)
10"	Dk Brown clay <i>III</i>		Explanation: OS 8626
20"			
30"			
40"			
50"			
60"	Bottom		 Sewer Pipe OLD SYSTEM? CONCRETE TRENCH
70"			
EVALUATION OF PROFILE HOLE #2			
DEPTH	SOIL DESCRIPTION		
10"	Dk. Brown clay <i>III</i>	No Evidence of Groundwater Hole dug on-site by wall to wall Per Den PI 100' PD Cotton Field	
20"			
30"			
40"			
50"			
60"	Bottom	NO CONSTRUCTION MAY BEGIN UNTIL A DESIGN IS APPROVED BY THE WCCHD. IF GROUNDWATER IS ENCOUNTERED, STOP CONSTRUCTION AND CONTACT OUR OFFICE.	
70"			
		INSPECTOR <u>JLm</u>	DATE <u>10-5-05</u>

OSSF# 2005-1033

OSSF SOIL EVALUATION

Date Performed: 9/22/05

Property Location: 400 CR 483

Proposed Excavation Depth: 5'

Brandon Couch, R.S. S.E.# OS8636

Requirements:

At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.

Location of soil boring or dug pits must be shown on the site drawing.

For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed excavation depth, or to restrictive horizon. For surface disposal, the surface horizon must be evaluated.

Describe each soil horizon and identify any restrictive features on the form. Indicate depths of features.

RECEIVED

OCT 04 2005

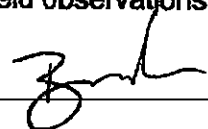
W. COUCH ENV

Soil Boring Number: 1					
Depth (inches)	Texture & Classification	Structure (class III)	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations/Notes
0"	IV				
12"					
24"	Silty	—	No/No	Yes	Brown
36"	Clay				
48"					
60"	64"				

Soil Boring Number: 2					
Depth (inches)	Texture & Classification	Structure (class III)	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations/Notes
0"	IV Clay	—	No/No	yes	Brown
12"	10"				
24"	III				
36"	Silty Clay	blocky	No/No	No, Marginal	1/2 calc carbonds
48"	Loam				
60"	56"				

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

Brandon Couch, R.S. S.E. #OS8636

Signature: 

DATE: 9/22/05
Applicant Information:

Name: _____
Address: _____
City: _____ State: _____
Zip: _____ Phone: _____ Fax: _____

Property Location:

Lot: _____ Block: _____ Subdivision: _____
County: Williamson Unincorporated? ☒ or N
City: Taylor Zip: _____
Additional Info: 400 CR 483

S.E. #OS8636
Brandon Couch, R.S.
2314 Rock Ledge Drive
Georgetown, TX 78626
(512) 630-8600
(512) 233-2411 fax

Installer Information:

Name: _____
Address: _____
City: _____ State: _____
Zip: _____ Phone: _____ Fax: _____

Schematic of Lot or Tract

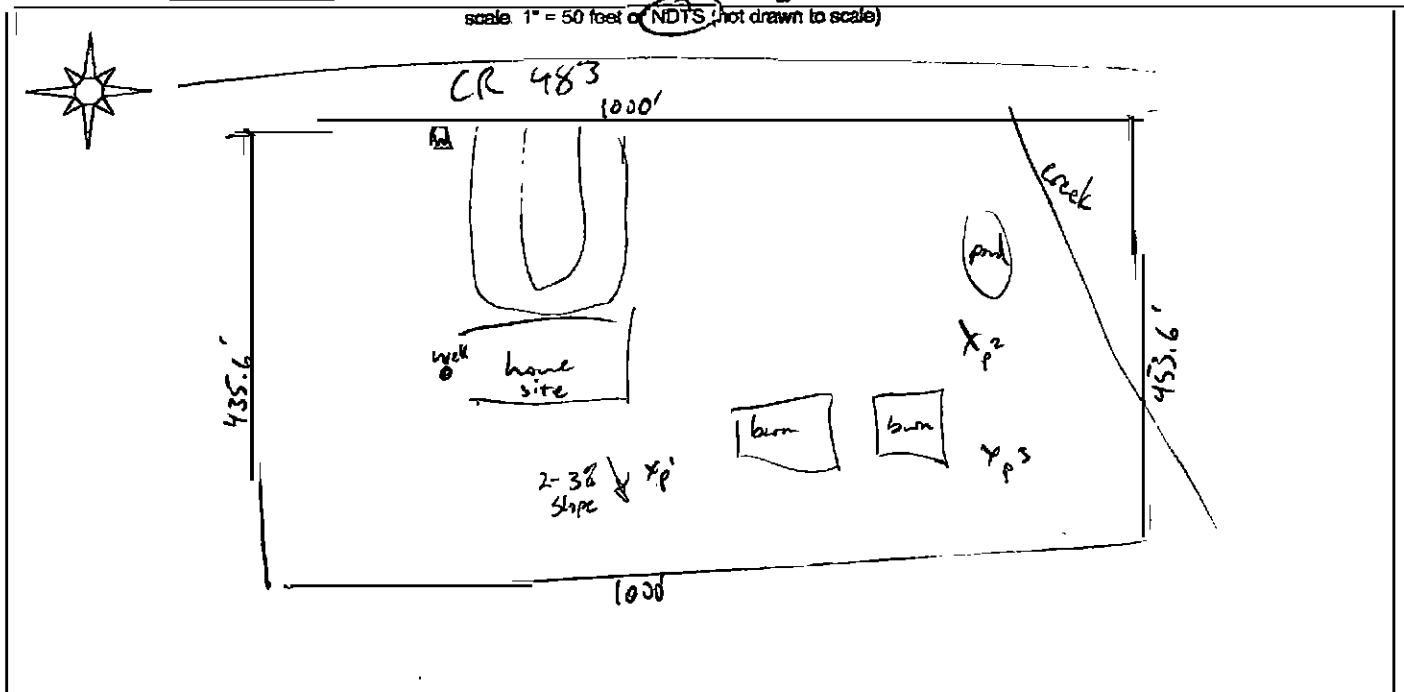
Show:

Compass North, adjacent streets, property lines, property dimensions, location of buildings, easements, swimming pools, water lines, and other structures where known.
Location of existing or proposed water wells on property or within 150' of proposed soil absorption or irrigation area.
Indicate slope or provide contour lines from the structure to farthest location of proposed soil absorption or irrigation area.
Location of soil boring/dug pits (show location with respect to a known reference point).
Location of natural, constructed, or proposed drainage ways, (streams, ponds, lakes, rivers, high tide area) water impoundments, cut or fill bank, sharp slopes and breaks.

Lot Size: 10 acres

Site Drawing

scale: 1" = 50 feet or (NDTS) (not drawn to scale)



Based on this site evaluation, the following systems may be utilized:

- | | | |
|---|--|--|
| ☐ Conventional | ☐ ET | ☒ Drip |
| ☐ Leaching Chamber | ☐ Soil Substitution | ☒ Mound |
| ☐ Graveless | ☒ PLPD | ☒ Surface Irrigation |

Features of Site Area

Presence of 100 year flood zone	Yes _____	No <u>x</u> _____
Presence of upper water shed	Yes _____	No <u>✓</u> _____
Presence of adjacent ponds, streams, water impoundments	Yes _____	No _____
Existing or proposed water well within 150' OSSF	Yes <u>x</u> _____	No _____
Organized sewage service available to lot or tract	Yes _____	No <u>x</u> _____
EARZ features within 150' of OSSF	Yes _____	No <u>x</u> _____
Evidence of groundwater	Yes _____	No <u>x</u> _____

Brandon Couch, R.S.

Signature: [Signature]

S.E. #OS8636



September 16, 2005

Robert & Karen Rhoades
635 W. Front Street
Hutto, TX 78634

RE: PROFESSIONAL DESIGN FOR 400 CR 483, W. J. COWAN SURVEY, A-146, 10.00 ACRES,
TAYLOR, TX, OSSF# 2005-1033.

Mr. & Mrs. Rhoades:

On August 23, 2005, the Williamson County & Cities Health District received a design submittal for OSSF # 2005-1033 from Brandon Couch, R.S. The design is not approved and authorization to construct cannot be given at this time for the following reasons:

- I was informed by the installer and the designer that the proposed septic system for this permit application may be changed to a Low Pressure Dose system. If this is the case then profile holes will need to be excavated, a report will need to be submitted and an inspection scheduled. There will be \$80.00 for the additional inspection by this office.

If the proposed system is not changed, then the following items will need to be addressed:

A notarized Affidavit, which has been filed with deed records, must be submitted to this office before any inspections on the installation will be performed.

An additional \$100 is due for this design. The permit purchase price for an engineer-designed system requiring routine maintenance is \$510. \$410 has been received to date.

A completed maintenance agreement must be submitted to this office. The maintenance agreement must comply with the TNRCC Rules for OSSF's. The maintenance contract must be signed and dated by the property owner and the maintenance contractor.

A second monitoring contract must be submitted, including the monitoring company dial in number and signature of provider. It will be acceptable to include the items for the second maintenance-monitoring contract with original maintenance agreement.

Norweco has there own control panel, pump and float chart for the Singulair system. You do not necessarily have to use there components, but I thought I would let you know. If you need more detail concerning this item please contact me.

The following items need to be addressed for either proposal:

In order to complete the Single Lot Review, please indicate if the property is or is not located within the Edwards Aquifer Recharge Zone.

In addition, please provide a drainage plan for the lot. This report must include how drainage patterns will or will not affect the proper function of the OSSF. This report must show any drainage improvements needed to ensure that the lot would have positive drainage, meaning that water will not pool on the lot. The report must state if positive drainage already exists.

- There is conflicting information in the design concerning the water service for this property. The permit indicates that the house will be served by public water. However, the design shows a well serving the house. Which information is correct? If the house will be served by public water, then a service commitment letter from the provider will need to be submitted.

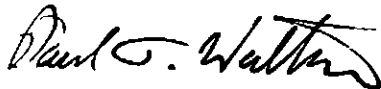
- Please provide a signed letter from the owner concerning the use of the bathroom in the barn for convenience use only by the owner. This structure cannot be occupied as a residence or additional living space (i.e. a bedroom).

OK PM ✓
10-14-05

Please determine a flow for the pump basin and provide a full day of reserve capacity above the alarm-on for this flow. I previously discussed this with Brandon.

Once all required criteria have been submitted to this office, authorization to construct will be granted. If you have any questions concerning this matter, please contact this office.

Sincerely,



Paul T. Walter, OS 8032
Environmental Services

C: Brandon Couch, R.S.

WCCHD CHECK LIST FOR PROFESSIONAL DESIGNS - ON SITE SEWAGE FACILITIES

DATE: 8-23-05 OWNER: Robert + Karen Rhoades OSSF #: 05-1033
 LOCATION: 400 CR 483 ; Taylor
 DESIGNER: Brandon Couch, R.S. SITE EVALUATOR: same
 Commercial?: No
 Type of System: Surface Irrigation Bedrooms on Permit: 3 Sq Ft: 3144
 Wastewater Design Flow (Gal/Day): 300 Bedrooms on Design: 4 Sq Ft: 3200
 Soil/Surface Application Rate: 0.064 Equivalent Bedrooms: _____

SITE EVALUATION (Most restrictive conditions)

Class of Native Soil: IV SLR required: _____
 Restrictive layers (Rock, Clay, etc...): _____ → Depth: 18" bottom Flood Plain addressed: Exempt
 Evidence of Groundwater: No → Depth: _____ EARZ Addressed: Yes
 NOT APPROVED by Field Inspector: DEF 9-7-05 APPROVED by Field Inspector: _____

TREATMENT PROCESS

Septic / Trash Tank (gallons): included in ATU Pump Tank (gallons): included in ATU
 Secondary Treatment (gal/day): 500 ATU Model/Tank specifications: Norweco Singlair

DISPOSAL PROCESS

Drain Field (Linear Feet): - Drain/Spray Field (Square Feet): 4926
 Depth Min/Max (Inches): - 1 - Pressure Valve: Gate
 Diversion Valve: N/A Pressure Reducer: N/A
 Pressure Gauge: Yes Backfill Class/Height above grade: 4" min / native

DOSING & DISTRIBUTION

Dosing Rate (gal/minute): ~6.0 Dosing Volume (gallons): 300
 Reserve capacity in pump tank (gal): _____ Head Pressure: 43 psi @ pump (~30 psi @ heads)
 Check Valve: _____ Syphon Hole: _____

EQUIPMENT SPECIFICATIONS

High Water Alarm: _____ Audible: _____ Visual: _____
 Pump Size (hp) / Model: _____ Pump on separate circuit from alarm? _____
 Disinfection / Model: UV / Norweco in-line tablet Filtration / Model: APF - 4.2-100 (100µ)
 Vacuum Breaker specs: N/A Flush Valve specs: N/A
 Control Panel specs: _____ Auto Dialer specs: _____
 Auto Shutoff? _____ Auto Notification? _____
 Emitter line specified: N/A Night Spray only? Yes
 Dial In Number: _____ Purple Pipe? Yes
 Spray or Drip Field Notes: Install 2 1/2" Pro Plus RCW grey heads w/ #3 low angle nozzles
Set both heads @ 22' radius + 360° rotation (no overlap)

CONSTRUCTION PLAN (SITE PLAN/CROSS SECTIONS)

Contour lines/slope - esp. in disposal area: 40% Well locations shown: Yes Water line shown: Yes
 Profile Holes shown and near drain field: Yes Property lines shown: Yes Setbacks shown/stated: Yes
 Float settings (inches & gal) in pump tank: _____ Cross section of tanks: Yes Cross Sections Labeled: OK
 Landscape/Vegetation Notes: seed, mulch or sod - cover any exposed rock

CONTRACTURAL / ADMINISTRATIVE

Signed/Sealed/Dated by designer: Yes Fees Due: Yes
 Affidavits: _____ Maintenance Sheet: _____
 Maintenance Contract: _____ Monitoring Agreement: _____

ADDITIONAL NOTES:

DESIGN APPROVED:

YES

NO

SC
 legal lot
 Pump basin?

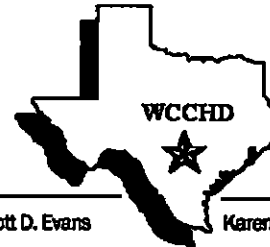
Paul J. Watten 8-13-05
05 6032 Inspector / Date

cover page specs b/c

• 100.00 due for aerobic sys. permit
 • Need APF
 • Need MTC + MON
 • SLR from
 • Need letter from owner regarding H₂O connects + convenience
 use of system in barn
 • Conflict on H₂O service ...
 • Norweco has own control panel
 • " " " pump
 • " " " float chart

cover page specs Drip

Williamson County & Cities Health District



Board of Health: Mary Faith Sterk, Chair • Margaret R. Fink • Katharine M. Galloway • Tim Mikaska • Lettie A. Lee • Scott D. Evans

Karen Wilson, Director

September 7, 2005

your public health department

m - 9/9/05

Robert & Karen Rhoades
635 W. Front Street
Hutto, TX. 78634

(OSSF) PERMIT #: 2005-1033 @ 400 CR 483, Taylor, TX. 76574

Site Evaluator : Brandon Couch _____ SE received (date): August 25, 2005

A site evaluation was received for this OSSF application. The site evaluation IS / IS NOT approved (circle one).

Please submit the following:

Soil Analysis

- ☐ Profile holes must be in area of OSSF field
- ☐ Holes at least 2' deeper than the proposed drain field
- ☐ State horizon depths in inches
- ☐ Provide gravel analysis
- ☐ Provide textural class of soil for each horizon
- ☐ Provide coloration for each horizon

Groundwater

- ☐ State whether or not there is EVIDENCE of groundwater and at what depth in inches. Evidence includes streaking, mottling, redox features, etc...
- ☐ If water is present, state the depth in inches and whether the water is clear or muddy

Topography

- ☐ Indicate slope and direction or contours
- ☐ Show drainage ways, easements, creeks, ponds, etc...
- ☐ Show breaks in grade
- ☐ Note surface pooling

Vegetation

- ☐ Note vegetation in the area of the drain field

Flood Hazard

- ☐ Indicate if OSSF is in Flood Plain or Flood Way
- ☐ Show Flood Plain or Flood Way on site diagram

Edwards Aquifer Recharge Zone (EARZ)

- ☐ Indicate if site is in the EARZ
- ☐ Certify that no EARZ recharge features are within 150' of the OSSF

Further comments & Notes:

The site evaluation could not be approved, no profile holes were found @ the time of the site evaluation. This design can be reviewed without this step and the design has been forwarded to Paul Walter of the design review staff on 09/07/05. If another site visit is required, there will be a \$80 fee.

Sincerely,

9/20/05

OS8626 Douglas Earl McPeters _____ (Printed)

D.E. McPeters _____ (Signed)

OS 8626

WCCHD 400 CR 483 S/E DATE: 8-25-05 GRID # _____ OSSF # 05-1033

SITE EVALUATION VERIFICATION SHEET

THE PROPERTY OWNER IS RESPONSIBLE FOR THE FINAL OSSF DESIGN. DESIGNS MUST MEET MINIMUM REQUIREMENTS. THE PROPER PERFORMANCE OF AN ON-SITE SEWAGE FACILITY CANNOT BE GUARANTEED. PROPERTY OWNERS ARE ENCOURAGED TO OBTAIN A DESIGN FROM A PROFESSIONAL DESIGNER. PROPER LANDSCAPE AND DRAINAGE DIVERSION IS THE RESPONSIBILITY OF THE OWNER.

TYPE OF OSSF ALLOWED (Based on Approved Site Evaluation):

- ☐ Absorption beds/trenches *
 or ☐ Evapotranspiration beds *
 or ☐ Alternative System needed. Contact a Professional Engineer or Registered Sanitarian.

*(Standard absorption beds or ET beds may be designed by an Engineer, Sanitarian, Installer II or the homeowner.)

MINIMUM SETBACK DISTANCES: TANK – 5 ft. from house, 5 ft. from property line, 50 ft. from water well. FIELD – 5 ft. from house, 5 ft. from property line, 100 ft. from water well, 10 ft. from water line, 75 ft. from body of water.

OTHER: _____

ALL VARIANCE REQUESTS MUST BE APPROVED PRIOR TO INSPECTION.

PIPE & GRAVEL: Tank connected to house and valve; cleanout between structure and tank; fittings in place; full of clean water to flow line. Schedule 40 equivalent, 1/8" per foot fall from house to tank; 1" per 100' from tank to valve. Filter required at outlet; cleanout between tank & valve within 1' of tank outlet. Fields/trenches excavated, level, 12" lower than tank flow line; 18"-36" deep. Gravel & pipe in place; voids left for inspection. Distribution pipes must be level with 6" of gravel below pipes. Total gravel required is 12". Monitor wells at far ends of fields. Filter fabric, all sand & sandy loam **MUST** be on site.

LANDSCAPE INSPECTION: Properly backfilled with sand & sandy loam. Area over fields/trenches **MUST** be mounded 4" or more. Grass must be planted over this area.

EVALUATION OF PROFILE HOLE #1		WCCHD USE	
DEPTH	SOIL DESCRIPTION	APPROVAL OF SITE EVALUATION: YES ☐ NO ☒	(IF YES, PLEASE SUBMIT DESIGN ACCORDING TO TYPE OF OSSF ALLOWED)
10"	No Profile Holes Found	OS 8626 Explanation: _____	
20"			
30"			
40"			
50"			
60"			
70"			
EVALUATION OF PROFILE HOLE #2		CR. 483	
DEPTH	SOIL DESCRIPTION		
10"	No Profile Holes Found		
20"			
30"			
40"			
50"			
60"			
70"			
NO CONSTRUCTION MAY BEGIN UNTIL A DESIGN IS APPROVED BY THE WCCHD. IF GROUNDWATER IS ENCOUNTERED, STOP CONSTRUCTION AND CONTACT OUR OFFICE.		INSPECTOR <u>D. M.</u> DATE <u>9-7-05</u>	



Williamson County and Cities Health District

303 Main St.

Georgetown TX 78626-

(512) 930-4390

OSSF #: **2005 - 1033**

Grid:

NEW

APPLICATION FOR A LICENSE TO OPERATE AN ON-SITE SEWAGE FACILITY

**** VALID FOR ONE YEAR FROM DATE OF PURCHASE **** This application does not guarantee that a permit to operate an On-Site Sewage Facility will be granted. The WCCHD recommends that construction of the home/structure only begins after the receipt of a Permit to Construct an OSSF. The WCCHD will issue a Permit to Construct the OSSF only after receipt and review of all required planning material.

Date: 3/21/05 Residential 3 Bedrooms 3144 Sq Ft ☐ Well on site ☒ Public Water
Legal W. J. COWAN SURVEY, A-146 ☒ Engineers
Block: Lot: Lot Size: 10.00 AC ☐ Routine Main

Location: 400 CR 483, Taylor TX 76574

Owner: RHOADES, ROBERT E. & KAREN W.

Phone: () 844-1548

Mailing address: 635 W. FRONT STREET, Hutto TX 78634

Fee: \$385.00 Payment: CK 4299/WALL TO WALL, LP

Certificate of Compliance:

Fee: \$25.00 CK 4299/WALL TO WALL, LP

Additional fee: \$80.00 Single Lot Review – OSSF

Total payment: **\$490.00**

Warning:

The flood hazard boundary maps and other flood data used by the County and the Williamson County and Cities Health District (WCCHD) in evaluating flood hazards to proposed developments are considered reasonable and accurate for regulatory purposes. Flood Plain determinations are based solely on the property owner's indication of the proposed home-site/structure. On occasion greater floods can and will occur and flood heights may be increased by man-made and natural causes. The County cannot guarantee the property will not flood. Exempting the property owner from the Flood Plain Management Regulations does not create any liability on the part of the County or the WCCHD or any officer or employee of the County or WCCHD in the event that flooding and/or flood damage does occur. Ultimate responsibility of locating the home/structure outside of the flood plain rests with the property owner. The County recommends the property owner contact a surveyor prior to construction for precise determination.

I acknowledge the above warning. I certify I am the property owner / designated agent, and the above statements are true and correct.

Signature

Date

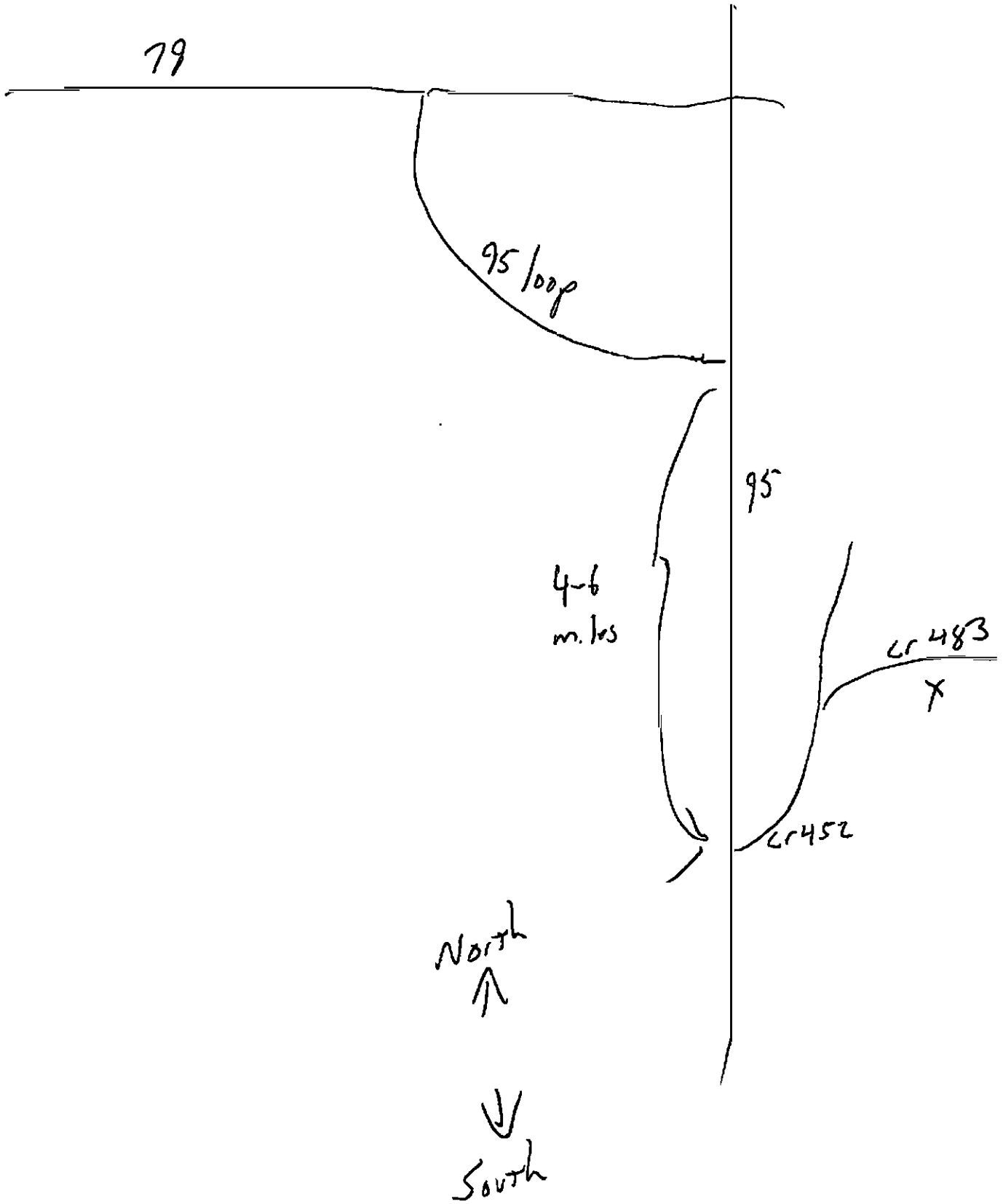
FLOOD PLAIN STATUS = Exempt

Environmental Services Official

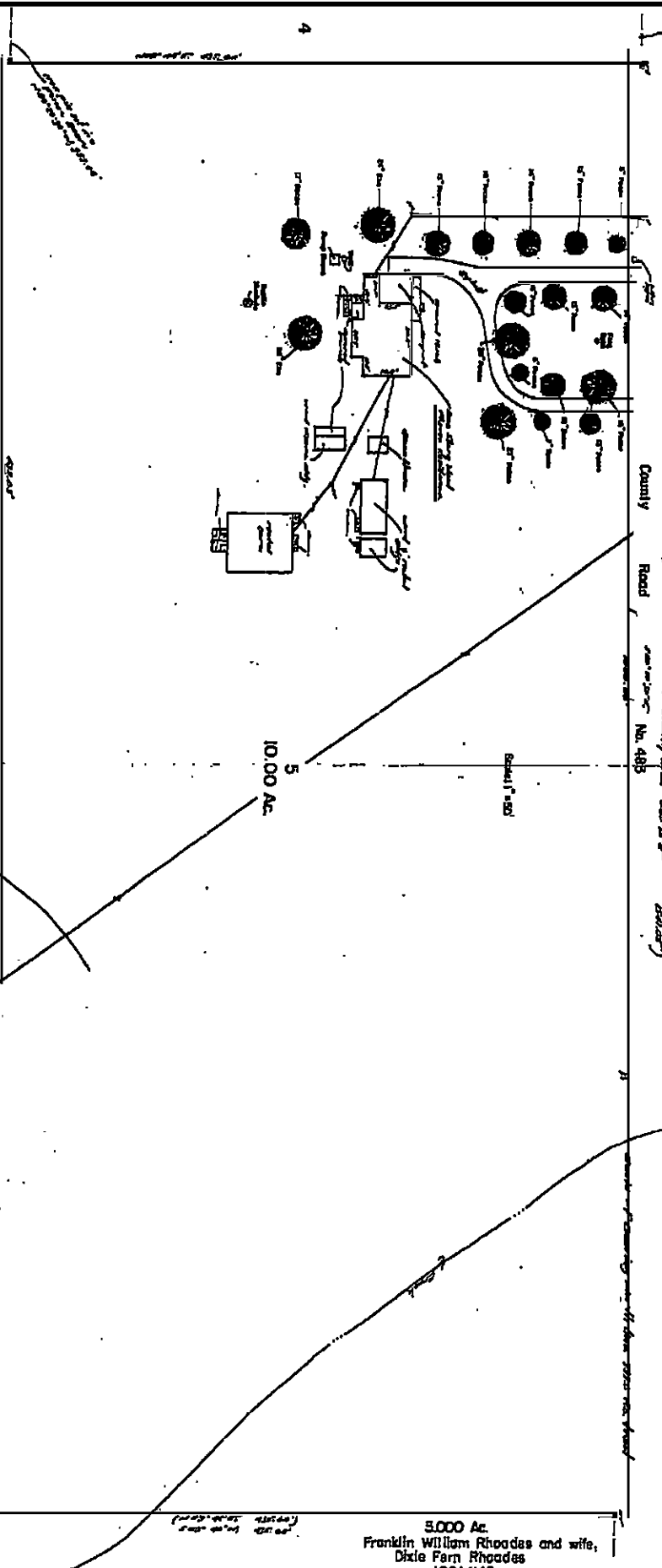
Date

RGK

3/21/05 02:46 PM R-7



The following is a true and correct copy of the original survey as the same appears on the original survey map and as the same appears on the original survey map and as the same appears on the original survey map.



STATE OF TEXAS
 COUNTY OF WILLAMSON
 I, Don H. Bizzell, County Clerk, do hereby certify that the foregoing is a true and correct copy of the original survey as the same appears on the original survey map and as the same appears on the original survey map.

Don H. Bizzell
 County Clerk, Williamson County, Texas



737.5 Ac.
 Robert W. Rhodes
 and
 Marjorie L. Rhodes
 as Co-Trustees of the
 Rhodes Family Farm Trust
 687/237
 737.5 Ac.
 Oll. Don and Marjorie L. Rhodes
 L. W. Priddy and W. E. Schenckling
 481/521 &

This document is a true and correct copy of the original survey as the same appears on the original survey map and as the same appears on the original survey map.

Rhodes Family Farm Trust Tract
 C.E.P.I. & M. Company
 Survey No. 177
 Abstract No. 239
 Williamson County, Texas



Steger & Bizzell Engineering, Inc.
 1700 South Loop West
 Houston, Texas 77058
 281-580-2000

5.000 Ac.
 Franklin William Rhodes and wife,
 Dixie Fern Rhodes
 1021/143

**Warranty Deed**

Date: August 30, 2003

Grantor: 2003 Rhoades Family Farm Trust

Grantor's mailing address (including county):

Franklin W. Rhoades, Trustee of the 2003 Rhoades Family Farm Trust
600 CR 483
Taylor, TX 76574 (Williamson County)

Grantee: Robert E. Rhoades and Karen W. Rhoades, husband and wife

Grantee's mailing address (including county):

210 Morningside Circle
Hutto, TX 78634 (Williamson County)

Consideration: Ten and No/100 Dollars and other valuable considerations

Property (including any improvements):

BEING 10.00 acres of land, situated in the W.J. Cowan Survey, Abstract No. 146, in Williamson County, Texas, said land being a portion of that certain tract of land, called 737.5 acres, as conveyed to Robert W. Rhoades and Marjorie L. Rhoades as Co-Trustees of the Rhoades Family Farm Trust by deed as recorded in Volume 687, Page 237, of the Deed Records of Williamson County, Texas. Surveyed on the ground in the month of January, 2003, under the supervision of Don H. Blizzell, Registered Professional Land Surveyor, and being more particularly described as follows;

BEGINNING at an iron pin set on the south line of County Road No. 483, being the north line of the above-referenced 737.5 acre Rhoades Family Farm Trust tract, for the Northwest corner hereof; said point being S 80° 20' 30" E, 1,953.89 feet from an iron pin set at a fence corner at the intersection of the said south line of County Road No. 483 and the east line of County Road No. 452, for the Northwest corner of the said 737.5 acre Rhoades Family Farm Trust tract;

THENCE, along the said south line of County Road No. 483, S 80° 20' 30" E, 1,000.00 feet to an iron pin found marking the Northwest corner of that certain tract of land, called 5.000 acres, as conveyed to Franklin William Rhoades and wife, Dixie Fern Rhoades, by deed as recorded in Volume 1021, Page 143, of the Official Records of Williamson County, Texas, for the Northeast corner hereof;

THENCE, S 9° 44' W, 435.60 feet to an iron pin set for the Southwest corner of the said 5.000 acre Rhoades tract, for the Southeast corner hereof;

THENCE, N 80° 20' 30" W, at 351.37 feet pass an ironpin set in a fence, for a total distance of 1,000.00 feet, in all, to a point for the Southwest corner hereof; from said point an iron pin set in a fence bears N 80° 20' 30" W, 953.44 feet;

THENCE, N 9° 44' E, 435.60 feet to the Place of BEGINNING and containing 10.00 acres of land.

RECEIVED

OCT 17 2005

WCCO-TV

October 17, 2005

Re: Permit # 2005-1033

To Whom It May Concern:

I, Bob Rhoades, intend on only using the bathroom facility for convenient use only and will not be using it for any commercial purpose.



Bob Rhoades
Homeowner

DATE: 4/6/05

Applicant Information:

Name: Rhoads
Address: 400 CR 483
City: Taylor State: _____
Zip: _____ Phone: _____ Fax: _____

Property Location:

Lot: _____ Block: _____ Subdivision: _____
County: Williamson Unincorporated? ☒ or N
City: Taylor Zip: _____
Additional Info: _____

S.E. #OS8636
Brandon Couch, R.S.
2314 Rock Ledge Drive
Georgetown, TX 78626
(512) 630-8600
(512) 233-2411 fax

Installer Information:

Name: _____
Address: _____
City: _____ State: _____
Zip: _____ Phone: _____ Fax: _____

Schematic of Lot or Tract

Show:

Compass North, adjacent streets, property lines, property dimensions, location of buildings, easements, swimming pools, water lines, and other structures where known.

Location of existing or proposed water wells on property or within 150' of proposed soil absorption or irrigation area.

Indicate slope or provide contour lines from the structure to farthest location of proposed soil absorption or irrigation area.

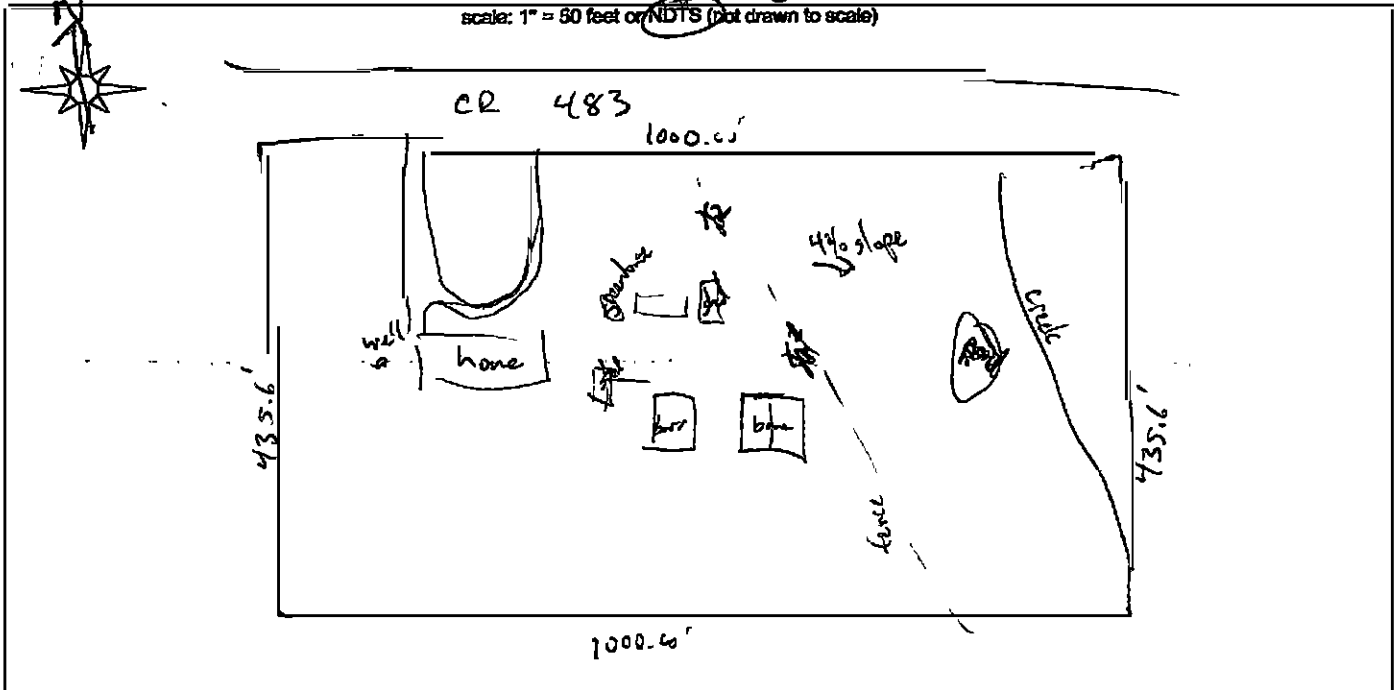
Location of soil boring/dug pits (show location with respect to a known reference point).

Location of natural, constructed, or proposed drainage ways, (streams, ponds, lakes, rivers, high tide area) water impoundments, cut or fill bank, sharp slopes and breaks.

Lot Size: 10 acres

Site Drawing

scale: 1" = 50 feet or NDTs (plot drawn to scale)



Based on this site evaluation, the following systems may be utilized:

- | | | |
|---|--|--|
| ☐ Conventional | ☐ ET | ☒ Drip |
| ☐ Leaching Chamber | ☐ Soil Substitution | ☒ Mound |
| ☐ Graveless | ☐ LPD | ☒ Surface Irrigation |

Features of Site Area

Presence of 100 year flood zone	Yes _____	No ☒
Presence of upper water shed	Yes _____	No ☒
Presence of adjacent ponds, streams, water impoundments	Yes ☒	No _____
Existing or proposed water well within 150' OSSF	Yes ☒	No _____
Organized sewage service available to lot or tract	Yes _____	No ☒
EARZ features within 150' of OSSF	Yes _____	No ☒
Evidence of groundwater	Yes _____	No ☒

Brandon Couch, R.S.

Signature: _____

S.E. #OS8636

OSSF SOIL EVALUATION

1997-10599

Date Performed: 4/10/05

Property Location: 400 CR 483

Proposed Excavation Depth: _____

Brandon Couch, R.S. S.E.# OS8636

Requirements:

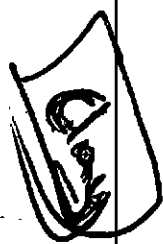
At least two soil excavations must be performed on the site, at opposite ends of the proposed disposal area.

Location of soil boring or dug pits must be shown on the site drawing.

For subsurface disposal, soil evaluations must be performed to a depth of at least two feet below the proposed excavation depth, or to restrictive horizon. For surface disposal, the surface horizon must be evaluated.

Describe each soil horizon and identify any restrictive features on the form. Indicate depths of features.

Soil Boring Number: <u>1</u>					
Depth (inches)	Texture & Classification	Structure (class III)	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations/Notes
0" _____	<u>IV</u>	<u>—</u>	<u>No/Nr</u>	<u>yes</u>	<u>Dk. Brown</u>
12" _____	<u>Clay</u>				
24" _____	<u>16"</u>				
36" _____					
48" _____					
60" _____					



Soil Boring Number: <u>2</u>					
Depth (inches)	Texture & Classification	Structure (class III)	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations/Notes
0" _____	<u>Class IV</u>	<u>—</u>	<u>No/Nb</u>	<u>yes</u>	<u>Dk. Brown</u>
12" _____	<u>Clay</u>				
24" _____	<u>20"</u>				
36" _____					
48" _____					
60" _____					

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

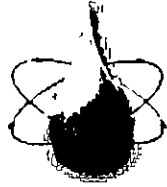
Brandon Couch, R.S. S.E. #OS8636

Signature: _____

RECEIVED

AUG 25 2005

WCLLD-ENV



BRANDON
COUCH, R.S.

septic design-site evaluation-consulting

October 17, 2005

Mr. Paul T. Walter,

Environmental Services
303 Main Street
Georgetown, Texas 78626

Re: OSSF#2005-1033, 400 CR 483, W.J. Cowan Survey, A-146, 10.00 Acres

The following address concerns raised by Paul Walters review of the design for OSSF #2005-1033:

- 10/17/05*
1. The additional \$100 for design review will be paid by the owner.
 2. The owner will provide a letter or proof of service from the water provider.
 3. The owner will provide a letter concerning the use of the barn bathroom.
 4. A site plan with the latest profile hole shown is attached.
 5. The old system on the site will be abandon. The tank will be pumped, crushed and filled with sand.

I hope this helps to clarify my design. If you have any questions, please call or email.

Respectfully,

Brandon Couch, R.S.

RECEIVED

OCT 17 2005

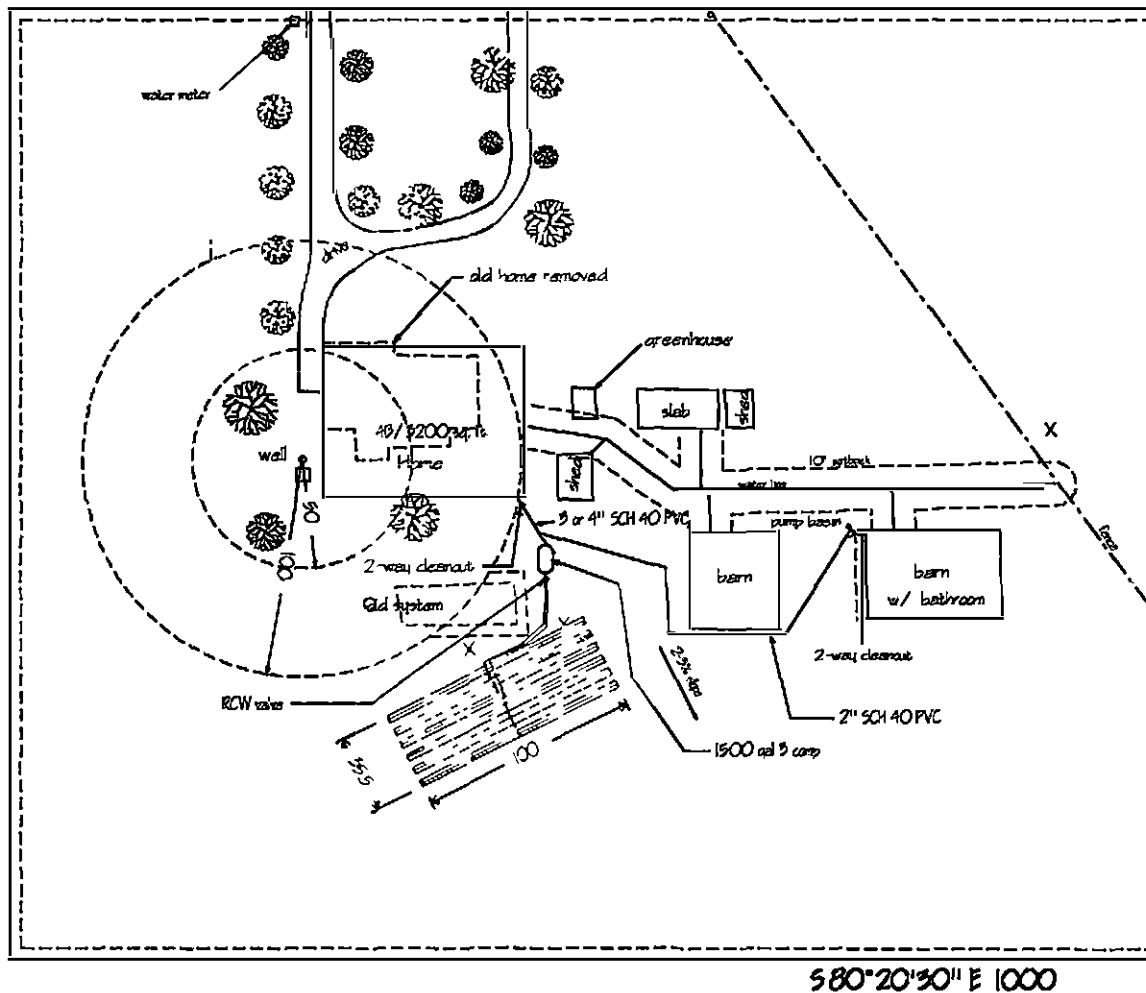
WCCLD-ENV

2314 rock ledge drive, georgetown, texas 78626 • (512) 630-8600

County Rc

580°20'30" E 100

N 9°44'00" E 435.6



580°20'30" E 1000

RECEIVED

OCT 17 2005

WSC-ENV

5/9/24/00 W/1956

pond

creek

50' setback

75' setback

8' setback

100' setback

Scale 1" = 100'

CONSTRUCTION NOTES: Maintain all minimum standard (1000') setbacks:
 FENCE: 5' from any house, property lines, and easements. 50' from any existing/proposed well locations.
 FIELDS: 75' from any creek, stream or lake. 8' from property lines, surface impoundments, and easements. 100' from any existing/proposed structures. 10' from a structure.

X - profiles

59°44'00" W 4356

محمد و الطاهر بن محمد

OCT 17 2005

WOL-D-27



**BRANDON
COUCH, R.S.**

septic design-site evaluation-consulting

October 3, 2005

Mr. Paul T. Walter,

Environmental Services
303 Main Street
Georgetown, Texas 78626

RECEIVED
OCT 04 2005
VOLUME 11

Re: OSSF#2005-1033, 400 CR 483, W.J. Cowan Survey, A-146, 10.00 Acres

The following address concerns raised by Paul Walters review of the design for OSSF #2005-1033:

1. The additional \$80 due will be paid by the owner/agent for the review of the new profile holes.
2. The system type has been changed. The design for a low-pressure dose system is attached. All items concerning the spray irrigation design will be ignored in this response.
3. The property is not within the EARZ (Edwards Aquifer Recharge Zone).
4. The property has positive slope. Current drainage patterns will not affect the performance of the system. There is a planned area of pooling (pond) on the property. A 75' setback from the pond is shown. A creek also runs through the property (additional 75' setback shown).
5. The house will be serviced by a public water supplier and the property has an existing well. The well is used for irrigation.
6. The owner/agent will provide a letter concerning the use of the bathroom in the barn.
7. A flow was determined for the pump basin with float calculations.

Adjusted design with site plan and cross-section attached.

I hope this helps to clarify my design. If you have any questions, please call or email.

Respectfully,

Brandon Couch, R.S.

On-Site Wastewater Disposal System

For

Robert & Karen Rhoades

Site

400 CR 483

10.00 Acres in the WJ Cowan Survey

Abstract No. 146

Taylor, Texas

Williamson County

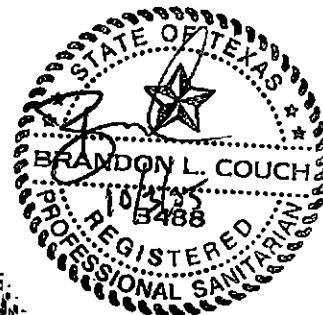
Permit #2005-1033

A Conventional OSSF with Low Pressure Dose Disposal
for a
4 Bedroom Residence
of
3200 sq. ft. with water saving devices

Design By:

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WILLIAMSON COUNTY

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Design Calculation & Notes For 400 CR 483

System Destination:

Owner/Client: : Robert & Karen Rhoades/Klepizig

Location: 400 CR 483, 10.00 Acres out of the W.J. Cowan Survey, Abs. No. 146

Permit # 2005-1033

Design capacity for a 4-bedroom home with water-saving devices

Estimated daily flow 300 gpd

Inspection Schedule:

Inspection schedule must be adhered to in order to demonstrate compliance. This schedule is independent of the local health authority's inspection & requirements.

Pre-construction Meeting: Meet with designer prior to construction with any questions.

Plumbing Inspection: Plumbing, pump, controls, and alarm are in place, operational and exposed.

Final: When system is complete and landscaping is finished.

Proposed System:

Install a conventional septic system with a low-pressure dose drainfield on this site. The septic tank must be constructed to NSF standards.

Selection Criteria:

This type of system was chosen due to its low maintenance characteristics and the restrictive soil type (Class IV clays).

Design Ideology:

Primary treatment of effluent will be accomplished using an approved septic tank. Treated effluent will then be distributed evenly over the disposal field area multiple times a day (as needed). Low-pressure dose will be the method of effluent dispersal and disposal. Design has been equipped with a filter at to prevent solids from entering the pump tank and/or in distribution lines. Class II or class III soils will be imported to ensure a suitable area for surface vegetation. (6" of soil to cover drainfield area)

Drain Field Calculations:

The designed load for this system is 300 GPD

Drain field requires $300/0.1$ (R_d for Class IV soil) = 3000 sq. ft. field area

- a) Field Area = 3000 sq. ft.
- b) Depth of excavation = at min. 18" max 32"
- c) Width of excavation = 36"
- d) Linear ft. of pressured line = $3000/(3'+2) = 600$ ft.
- e) Hole Diameter = $5/32"$ (0.407 GPM)
- f) Approximate Flow Rate per ft = 0.1 GPM/ft x 300 $\approx$ 30 GPM (2 fields of 300')
- g) Fixed Head Losses = $7'$ (elevation) + $2'$ (holes) + $9'$ (valve) + $5'$ (misc.) = $23'$
- h) System Head Losses:

Start	Trans	In 100'	
Head	in ft	Length	
Field 1	23	0.85	
Field 2	23	0.85	
GPM	2" loss	Head(1.2)	TDH
25	1.48	1.51	24.51
30	1.75	1.79	24.79
35	2.35	2.40	25.40
40	3.00	3.08	26.06

- i) Best selection of pump = Liberty 280 1/2 hp pump at 30 GPM
- j) Hole Spacing = see chart

Permit #2005-1033

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- k) Desired Start Head = 2'
- l) Desired Flow per foot = 0.1 GPM
- m) Est. Number of holes = 30 GPM / 0.407 GPM per hole = 73
- n) Filter = Orenco FTS0436-28 or equal (optional)
- o) Septic Tank baffles and T's = 3-compartment Buchanan concrete 1500 gallon tank with
- p) Switching Valve = K-rain RCW 6402 automatic switching valve

Tank Data:

Septic tank:

(First 2 comp.) 1000 gallon of 3-compart 1500 gallon Buchanan Tank (concrete)

Pump chamber:

500-gallon chamber (3rd 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 from house to tanks and from tank to tank must be 3" or 4" SCH 40 PVC.

Pump Tank Data

500-gallon concrete compartment shall be used as the pump chamber.

Inlet @ 36" above the floor (Outlet sealed, pump effluent through top port)

Volume per inch = 13.89 gallons/inch

Minimum 300 gallons of pump flow above alarm = 300/13.89 = $\approx$ 22" volume

Alarm on at 14 inches above the floor (leaving 305.58 gallons for alarm volume)

Start Pump @ 13.5 inches above the floor

Stop Pump @ 7.5 inches above the floor

Pump Data:

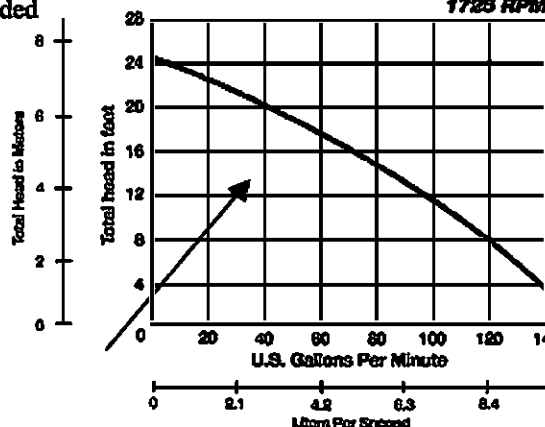
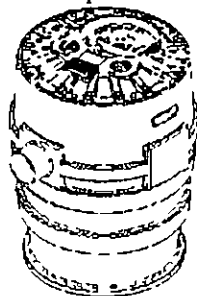
	100' ft	gal/100'	Total
Dosing Volumes			
Supply Line Volume	0.86	16.3	14.02
Lateral Line Volume (x5)	3	4.1	12.3
Desired Dose Volume			61.5
Depth of Desired Dose (inches)			75.52
Doses per Day			6
Dosing Time			4
			2.52
Use 4 dose per day equivalent dose of 83.34 gallons at 6" of tank depth for 2.78 minutes.			
*anti-siphon hole needed (minimum dose = 26.32			

✕

A bathroom will be installed the barn farthest from the house for convenience and should not constitute additional flow for the system. The effluent will be delivered to the treatment unit via 2" PVC from a Liberty 370 Series pump basin with a Liberty LE-51 ½ hp pump (115 V) preassembled package Model P372LE51. 41 gallons basin (20" x 30") (2.05 gal/in). 4.0 GPD (est.). Alarm on at 14", pump on at 13", off at 6" (14.35 gal/dose) Access riser kit recommended. Basin top max 18" below final grade. HW101 or equal audiovisual alarm to be used. Alarm and pump on separate breakers.

Pump Calcs: 3' elevation + 5' misc. + 9' friction in 200' of 2" line @ 40 gpm = 17' head (approx)

Check valve needed and anti-siphon hole needed



OCT 4 2005

2005-1033

Alarm System:

An audio/visual high water alarm (red light) will be installed on this system. HW-101 or equal. The alarm/light will be installed in a highly visible location as near the pump tank as possible (pump and alarm are on separate circuits).

***Important Installer Note:** 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 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.**

Hole Spacing Chart:

Lateral	Length in ft	Hole Spacing	Hole Size	Head in ft	Flow Rate gpm	# of Holes	Total Flow	Bypass 30	Friction Head	Elev. Head 0.16	Head Loss	Manifold 2"
1	100	47.5"	5/32	2.00	0.407	25	10.175	19.825	-0.07	0.16	0.09	2"
2	100	49.57"	5/32	2.09	0.416	24	9.984	9.841	-0.16	0.16	0.00	1.25"
3	100	51.18"	5/32	2.09	0.416	23	9.568	0.273	0.00	0.00	0.00	
TOTAL	300					72	29.727					

Drain Field Data:

Excavation:

- Excavation 36" wide and minimum 18"/maximum 32" deep with bottoms level within an inch
- Excavation lengths as given in chart (in order from top of slope to bottom)
- Piping will be a minimum of 6.5' apart (on centers); trenches 3.5' apart.
- Excavation will be filled with 12" of gravel size ¾" to 2" within 4"- 6" of the top.
- Manifold ditches will be as shallow as possible to prevent drainback along manifold line.

Plumbing:

- 2" Schedule 40 PVC shall be used for main manifold. See chart for manifolds between lines.
- The 6 lines will be made from 1" schedule 40 PVC.
- Lines to be installed with 5/32" holes at chart spaced intervals with the first and last holes at least 2½' from the end of the line. Holes shall face the bottom of the trench.
- Ball valves will be used to insure 2.0' of head pressure to disposal field (to be placed after switching valve at top of field).

Note to Installer: Be sure to clear holes of burrs and debris.

Disposal Field Finish:

- The low-pressure dose system area shall be located in a relatively open area at *least 100' away from any well and 5' from any property lines, home or easements.*
- Cover pipe & gravel with geotextile filter fabric before backfilling*
- The field will be covered with 6-8" of class II or class III soils.
- The field area must be sodded or seeded immediately after installation.
- Field may be slightly mounded so as to discourage pooling and facilitate "wicking" to improve transpiration.
- Runoff from rainwater to be diverted from field area by berm and/or swale.

OCT 04 2005

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.

Permit #2005-1033

- D. 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.
- E. 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.
- F. Homeowner/contractor is hereby aware that water softener discharge will cause corrosion of the electrical components, shorten the life of the pumps and floats, and may void equipment warranties.
- G. Liquid input into this septic system shall not exceed 300 gallons per day.

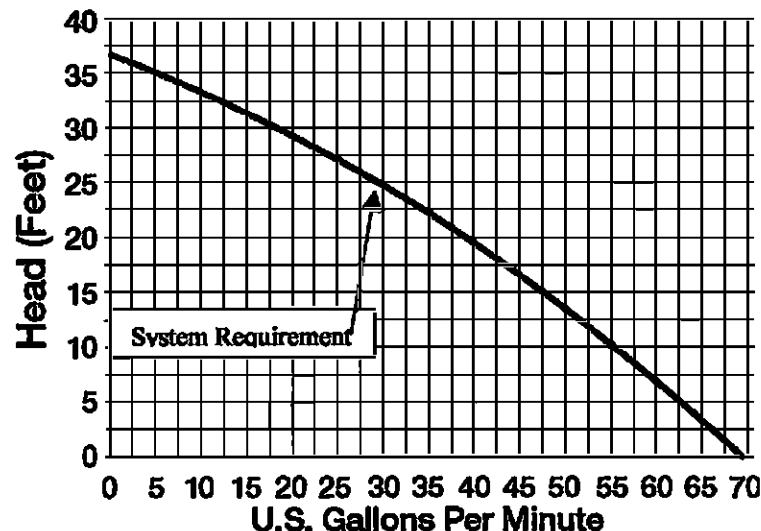
Design Maintenance and Limitations:

This OSSF design is intended to meet minimum state requirements for OSSF as of 1/6/2005. 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 that 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.

- A. The owner is to be responsible for properly maintaining this septic system.
 To keep your sewage system in peak condition the following steps should be taken:
 1. Keep the field areas mowed and in good condition in order to encourage peak transpiration.
 2. Do not allow excess water to enter your drainfield (sprinkler systems, run-off, etc) Leaky faucets and toilets must be repaired immediately.
 3. Avoid the use of garbage disposals to dispose of kitchen waste.
 4. 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 a "living" system, and additives can upset the natural bacterial balance.**
 5. Avoid flushing paper products or items not intended for septic use (i.e. toilet paper only).
 6. Be sure to pump out your septic tank and pump tank 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. Have the filter cleaned and/or replaced each time the tank is pumped. Frequent cleaning of the filter is recommended
 7. Do not allow vehicles or heavy equipment to drive over the irrigation fields or tanks.
 8. If any problem persists, such as frequent high water alarms or surfacing of septic water in your yard, call an OSSF service company for consultation or repair service.

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

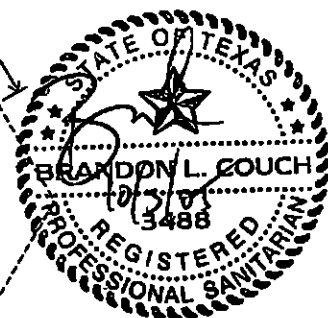
Performance Curve: 280-Series



OCT 04 2005

Permit #2005-1033

Tank & LPD Cross-Sections



OCT 04 2005

