

HFF PRODUCTIONS

27441 Wigwam Trail
Hockley, TX. 77447
936-931-9556

Revised

ON-SITE WASTEWATER SYSTEM CHECK LIST

The following information must be included with all design packages for review by the Texas Commission on Environmental Quality and/or the permitting Authority. Failure to include or address all of the following items may result in approval delays.

- Plans and reports must bear a signature address, telephone number and a dated seal on each page.
- A report must be included in the submittal containing the following information:
 - Basis of design*
 - Soil analysis and site evaluation*
 - System flow diagram and sizing calculations*
 - Material specifications and illustrations*
 - Size and model number of approved aerobic system (if used)*
- Construction drawings must include the following information:
 - o A scaled, legible site plan with boundary description*
 - o The location of all buildings & structures (existing or proposed)*
 - o The location of the wastewater treatment units and disposal area*
 - o Buffer zones and water wells must be identified and located on the site plan.*
 - o The site plan must also include topographical contours for slopes greater than 30 percent.*
 - o Easements and bodies of water (lakes, streams, ponds) must also be identified.*
 - o Installation details such as septic tank configuration, layouts, and cross-sections of drain fields and disposal beds, irrigation systems, pump station including piping and controls.*
 - o Affidavit to the Public for surface application systems recorded by the county.*
 - o Records of testing and frequency for surface applications.*

HOME/BUSINESS OWNER	JAMES HORSTMAN	COUNTY	GRIMES
STREET ADDRESS	11054 MAGNOLIA DRIVE	ACREAGE/LOT SIZE	.5
SURVEY		ABSTRACT	
SUBDIVISION	MILLCREEK ESTATES	SECTION	1
BLOCK	5	LOT	27 & 28

DATE ON SITE	08-16-2007	WATER SUPPLY	PUBLIC
RESIDENTIAL	X	COMMERCIAL	
BEDROOM HOME	2	TYPE OF FACILITY	
LIVING AREA	1400	SQUARE FEET	
PERMANENT RESIDENTS	2	EMPLOYEES	

SYSTEM TYPE	STANDARD PVC	X	GRAVEL-LESS PIPE		LPD	
	SURFACE APPLICATION		DRIP EMITTER		OTHER	

SYSTEM PERMITTED FOR: 180 GPD

This septic system was designed based on the above data and any discrepancies should be discussed with Michelle Hansen prior to installation of the system. Any change to the design may require a redraw fee. HFF Productions, nor its employees, will be held liable for any system malfunctions.



Registered Sanitarian #3769

Michelle L. Hansen
DATE: 8/17/07

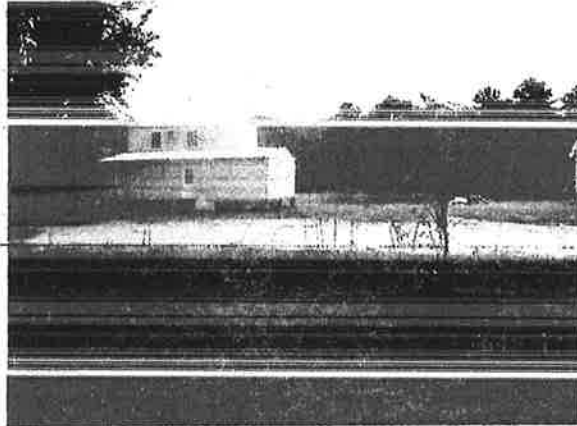


Site Evaluator #OS8894

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SITE EVALUATION



FLOOD HAZARD

OUTSIDE 100-YEAR-FLOOD-PLAIN	X
PARTIALLY IN THE 100 YEAR FLOOD PLAIN	
IN 100 YEAR FLOOD PLAIN	
IN 100-YEAR FLOOD PLAIN AND FLOOD WAY	
FROM DAMEI #	

TOPOGRAPHY

SLOPE	
FLAT >2%	X
SLIGHT <6%	
SEVERE >30%	
VEGETATION	
GRASS/BRUSH	X
LIGHTLY WOODED	
HEAVILY WOODED	
DRAINAGE	
POOR	
ADEQUATE	X
GOOD	

WATER SUPPLY

COMMUNITY	X	COMPANY	PUBLIC
WATER WELL		DRILLER	
YEAR DRILLED			
DEPTH		DIST FROM DISPOSAL AREA	
SIZE		PRESSURE CEMENTED	

ALL WELL REQUIRED DISTANCES MUST BE MAINTAINED
IF NEIGHBORING WELLS EXIST THEY MUST BE SHOWN

LANDSCAPE PLAN

For JAMES HORSTMAN at 11054 MAGNOLIA DRIVE.

Homeowner will maintain existing vegetation and/or seed or sod any bare areas irrigated by the aerobic system at all times. Do not plant any shade trees in this area. Settling of the backfill will occur over time. Owner should continually check for this & fill in any low places to prevent rainfall from pooling on the surface of the drain field. Plant a dense grass or groundcover in the drain field area. Over-seed with winter grasses for absorption during dormant growing seasons. The grass should be kept mowed to allow as much sunlight as possible to reach the ground surface. This aids in the evapo-transpiration of water/wastewater & prevent soil erosion.



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SOIL EVALUATION

PROFILE DEPTH	TEXTURE (USDA)	GRAVEL ANALYSIS (CLASS II & III)	RESTRICTIVE HORIZON	GROUND WATER	COLOR	COMMENTS
0-37"	SANDY-CLAY	NO	NO	.0	YELLOWISH RED	
37-48"	CLAY	NO	YES	0	YELLOWISH RED	

PROFILE DEPTH	TEXTURE (USDA)	GRAVEL ANALYSIS (CLASS II & III)	RESTRICTIVE HORIZON	GROUND WATER	COLOR	COMMENTS
0-38"	SANDY CLAY	NO	NO	0	YELLOWISH RED	
38-48"	CLAY	NO	YES	.0	YELLOWISH RED	

- Normal textures (USDA): Coarse sand/gravel/sand/loamy sand/sandy loam/loam/ sandy clay loam/sandy clay/clay loam/silty clay loam/silty loam/silt or clay/silty clay.
- Normal structures: Massive, Block, Platy

Subsurface horizons with colors of red, yellow, and brown generally indicate good soil aeration and drainage throughout the year. Subsurface horizons that are in colors of gray, olive or blackish colors indicate poor aeration and poor soil drainage. Any soil profile that has the grayish colors indicative of high-water (or mottling) within thirty-six (36) inches of the surface or has ground water visible in the test bore less than forty-eight (48) inches below the ground surface shall be deemed unsuitable for a conventional subsurface disposal due to internal drainage.

X	SOIL TEXTURE	SOIL CLASS	LONG TERM LOADING RATE
	COARSE SAND/GRAVEL	Ia	>.50
	SAND/LOAM SAND	Ib	0.38
	SANDY LOAM/LOAM	II	0.25
	SANDY CLAY/ SANDY CLAY LOAM/CLAY LOAM/SILTY CLAY LOAM/SILT	III	0.20
X	CLAY/SILTY CLAY	IV	0.10

SOIL ANALYSIS	YES	NO
IS THE SOIL SUITABLE FOR A STANDARD SYSTEM		X
INDICATION OF SEASONABLE WATER TABLE		X
DEPTH		

I, MICHELLE L. HANSEN, a Registered Sanitarian did personally conduct this site evaluation on

11054 MAGNOLIA DRIVE

I certify these results are true and correct for the property evaluated.



Registered Sanitarian #3769

Michelle L. Hansen
Michelle L. Hansen
DATE: 8/17/07



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ENGINEERING REPORT FOR ON-SITE WASTEWATER DIPOSAI SYSTEM

DESIGN SPECIFICATION SUMMARY

HOME/BUSINESS OWNER	JAMES HORSTMAN	STREET ADDRESS	11054 MAGNOLIA DRIVE
STRUCTURE	NEW HOME	FACILITY TYPE	RESIDENTIAL
SOIL TYPE -CLASS	III-SANDY CLAY	LOW FLOW FIXTURES	YES
LIVING AREA	1400	TOTAL SQ FT	1400
BEDROOMS (ACTUAL)	2	BEDROOMS (DESIGN)	2

ABSORPTION AREA

GPD	180	LOADING FACTOR, GPD/SQ FT	.20
ABSORPTION AREA REQUIRED, SQ FT	900	ABSORPTION AREA SHOWN, SQ FT	(4 X 50' X 5') + (2 X 17' X 5') 750 + 170 = 920
ABSORPTION AREA REQUIRED, L FT	180	ABSORPTION AREA SHOWN, L FT	184

TANK SIZING

TANK	SIZE(GAL) REQ	SIZE(GAL) To be installed
Septic Trap Tank	2-500	2-500



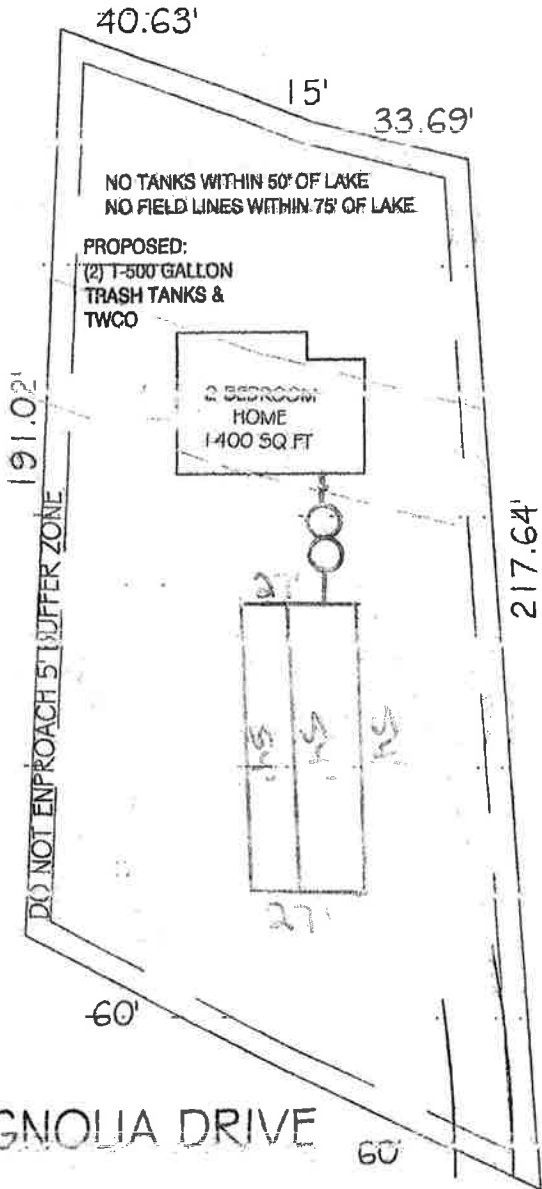
Registered Sanitarian #3769

Michelle L. Hansen
Michelle L. Hansen
DATE: 8/17/07



Site Evaluator #OS8894

LAKE MAGNOLIA

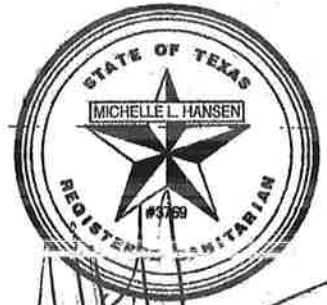


NO TANKS WITHIN 50' OF LAKE
NO FIELD LINES WITHIN 75' OF LAKE

PROPOSED:
(2) T-500 GALLON
TRASH TANKS &
TWCO

2 BEDROOM
HOME
1400 SQ. FT.

DO NOT ENVIROACH 5' BUFFER ZONE



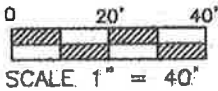
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27441 WIGWAM TRAIL
HOCKLEY, TX. 77447
281-584-5370

JAMES HORSTMAN
11054 MAGNOLIA DRIVE

COUNTY:	GRIMES
ACREAGE:	50
SUBDIVISION:	MILL CREEK ESTATES
SECTION:	1
LOT:	27 & 28
BLOCK:	5
BEDROOMS:	2
LIVING AREA:	1400

DATE:	8-20-07
DRAWN BY:	MLH
DESIGNED BY:	MEH
SCALE:	AS NOTED
TOTAL GPD:	180
APPLICATION RATE:	.20
REQUIRED FIELD LINES:	180 LF
PROVIDED FIELD LINES:	184 LF

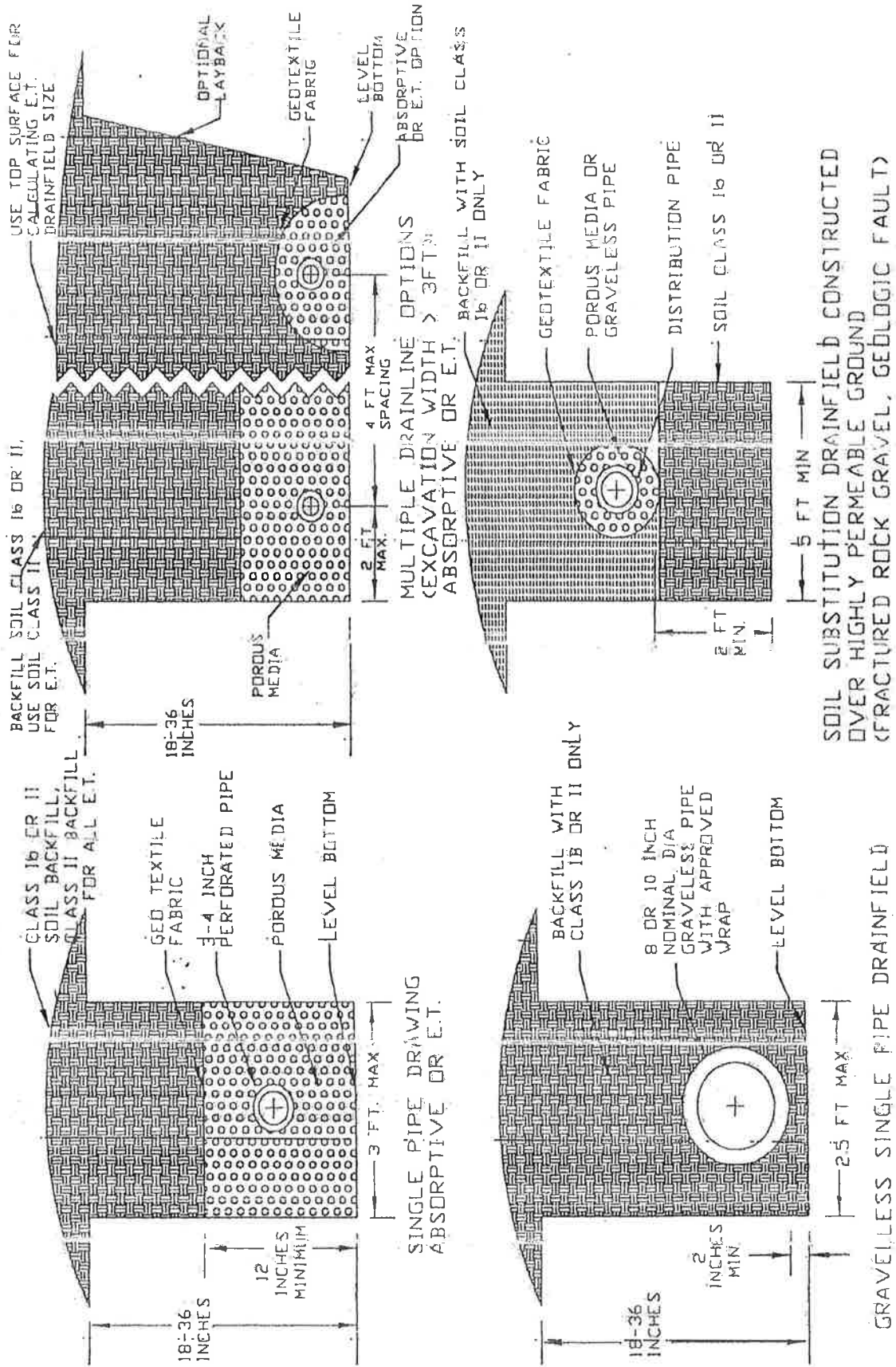
MAGNOLIA DRIVE



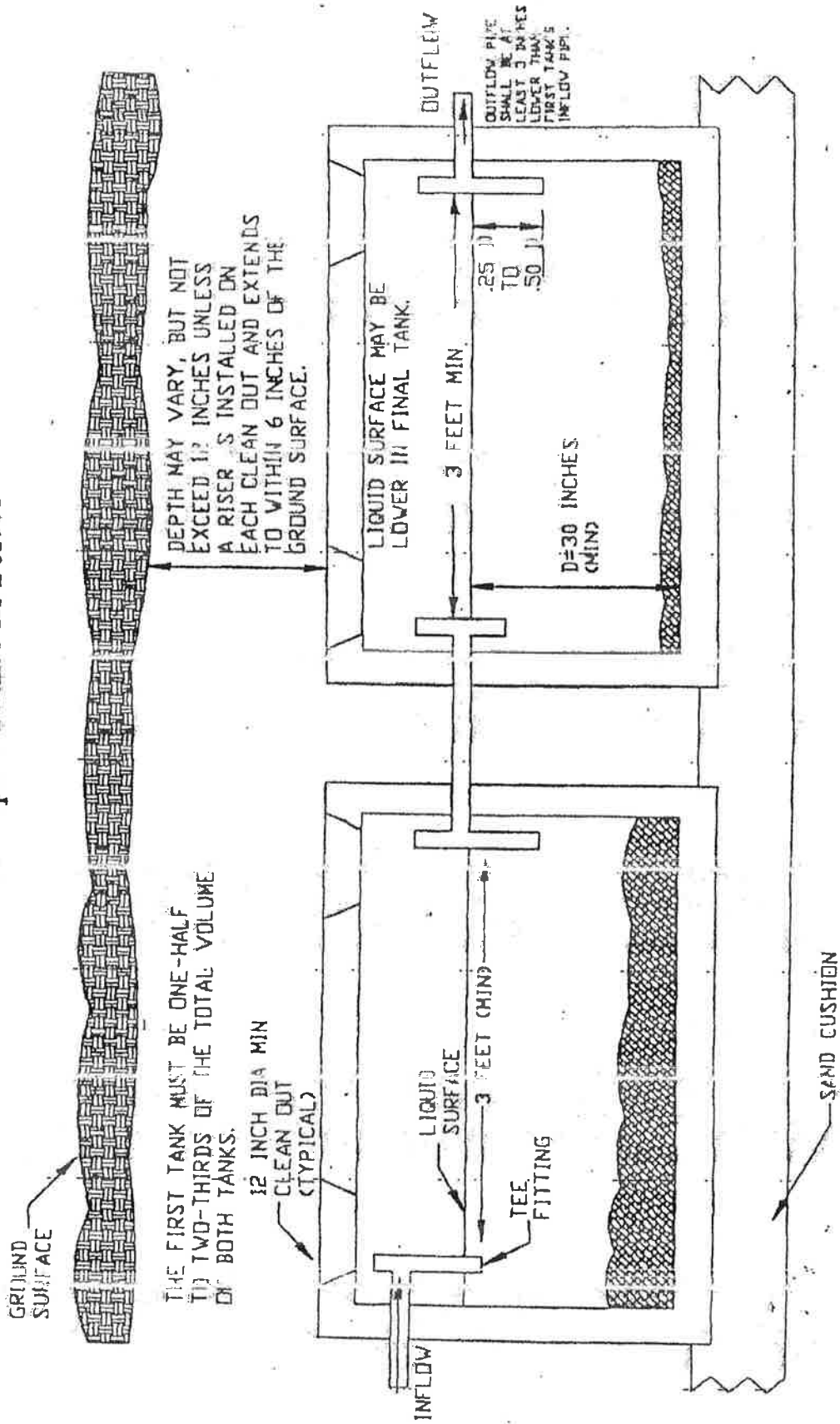
PROPOSED ON-SITE SEWAGE FACILITY	
EQUIPMENT SPECIFICATIONS	
PRETREATMENT TANK	500 GALLON -- PRE-CAST CONCRETE
	500 GALLON -- PRE-CAST CONCRETE
TANK NOTES	
1. ALL CASTINGS FOR TANKS TO BE REINFORCED	
2. (2) T-500 GALLON TRASH TANKS	
3. TANKS NOT BUILT FOR TRAFFIC BEARING LOADS	
4. TANKS INSTALLED IN LINE ON 90° OFFSETS	
MISCELLANEOUS NOTES	
1. MAINTAIN ALL BUFFER ZONES SHOWN ON PLOT	
2. PRIVATE WATER WELL MUST BE A MINIMUM OF 50 FT. FROM SEPTIC TANKS AND 100 FT. FROM EMITTER FIELD, UNLESS IT IS PRESSURE CEMENTED, THEN IT MUST BE 50 FT. FROM SEPTIC TANKS AND EMITTER FIELD.	
BUFFER ZONE NOTES	
1. SEPTIC TANKS MUST BE AT LEAST 5 FT. FROM: -- ANY EASEMENT NOT SHOWN ON DRAWING. -- FROM ANY SLAB.	

GENERAL NOTES:	
1. AN ON-SITE SEWAGE LICENSE MUST BE OBTAINED PRIOR TO INSTALLING THIS WASTEWATER DISPOSAL SYSTEM.	
2. SYSTEM INSTALLATION MUST BE BY A REGISTERED INSTALLER OF ON-SITE SEWAGE FACILITIES AS REQUIRED BY ARTICLE 4477-7E OF VERNONS CIVIL STATUTES OR BY THE OWNER OF THE PROPERTY UNDER USENCE. NO COMPONENT OF THIS SYSTEM SHALL BE COVERED UP WITHOUT COUNTY'S APPROVAL.	
3. IF ANY DISCREPANCIES EXIST BETWEEN THIS DESIGN AND ACTUAL FIELD CONDITIONS IT IS THE INSTALLER'S RESPONSIBILITY TO IMMEDIATELY NOTIFY THE ENGINEER AND THE JURISDICTION PRIOR TO BEGINNING OF CONSTRUCTION	
4. ALL CONSTRUCTION METHODS AND MATERIALS MUST BE IN ACCORDANCE WITH GRIMES COUNTY CODES (2007) UNLESS SPECIFICALLY NOTED ON THESE DRAWINGS AND ARE APPROVED BY THE JURISDICTION.	
5. SITE SHALL BE CAREFULLY FINISH GRADED AFTER CONSTRUCTION OF SYSTEM IS COMPLETED, TO PROVIDE ADEQUATE STORM WATER DRAINAGE. ABSORPTION AREA SHALL BE CROWNED. DRAINAGE SWALES SHALL BE CONSTRUCTED TO ADEQUATELY CONVEY STORM WATER DRAINAGE AWAY FROM ABSORPTION AREA.	
6. HIS SYSTEM INSTALLED AND OPERATED IN ACCORDANCE WITH THIS PLAN SHALL NOT PRESENT A HAZARD TO PUBLIC HEALTH, OR THREATEN PROPOSED OR ADJACENT WATER WELLS.	
7. THERE SHALL BE AT LEAST ONE DAY OF DRY STORAGE VOLUME OF ONE-THIRD THE DAILY FLOW BETWEEN THE ALARM ON LEVEL AND THE INLET TO THE PUMP TANK.	
8. ALL COMPONENTS OF THE SYSTEM MUST BE INSTALLED 10 FT FROM WATERLINES, ACCEPT AT BUILDING CONNECTION. WATERLINE CROSSING MUST BE CONSTRUCTED IN ACCORDANCE WITH 30 TAC 290, 44(e)	
9. PUMP TANK FLOAT ELEVATIONS MUST BE SET IN COMPLIANCE WITH 30 TAC 285.33(d)(2)(3)(4)(1)	

Figure 4
Typical Drainfields - Sectional View



Two Septic Tanks in Series



LINE	BEARING	DISTANCE
L 1	N 38° 00' 29" E	73.00'
L 2	N 54° 15' 34" E	33.45'

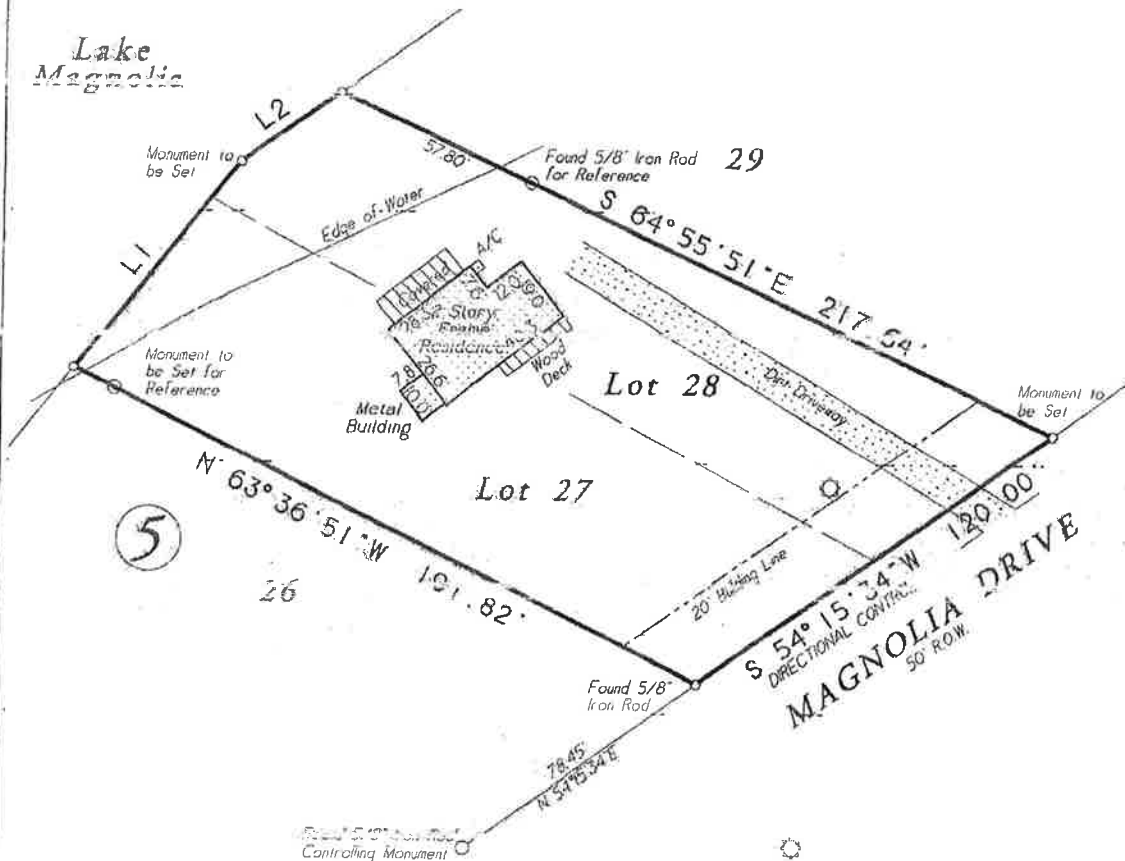
Notes:
 1. Basis of bearings: the Southeast line of the subject property per the recorded plat.
 2. Easements and building lines as shown are per the recorded plat.
 3. Survey performed without the benefit of a title report and may be subject to easements and/or restrictions not shown.

This property lies within ZONE 'X' as SCALED from FEMA Map Panel Number 4885C0500-C dated April 3, 2012.

THIS MEANS THAT THE SUBJECT PROPERTY SCALES OUTSIDE THE 100-YEAR FLOOD PLAIN.

This determination is made strictly according to the FEMA Maps and does not reflect actual on ground flood conditions. Furthermore this company takes no responsibility for such.

Power Pole



Lots Twenty-Seven (27) and Twenty-Eight (28), in Block Five (5), of MILL CREEK ESTATES, Section One (1), a subdivision in Grimes County, Texas, according to the map or plat thereof recorded in Volume 293, Page 192 of the Deed Records of Grimes County, Texas.

Date: May 19, 2016	CF No: n/a
Job No: 16-0221	Scale: 1" = 40'
Address: 11654 Magnolia Drive	Drawn By: PH
City, State: Plantersville, Texas	Zip: 77363
	Rev: 0

C & C Surveying, Inc.
 7424 F.M. 1488, Suite A, Magnolia, Texas 77354
 Office: 281-259-4377 Metro: 281-336-5172
 Fax: 281-356-1935
 Email: onesurveyatatime@sbcglobal.net



RPLS Seal

Certified To: Linda Horstman
 Name: Linda Horstman

I HEREBY CERTIFY THIS SURVEY WAS MADE ON THE GROUND, AND THAT THIS PLAT CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF SURVEY AND THAT THIS PROFESSIONAL SERVICE CONFORMS TO THE TEXAS SOCIETY OF PROFESSIONAL SURVEYORS STANDARDS AND SPECIFICATIONS FOR A CATEGORY IA, CONDITION III SURVEY, AND THAT THERE ARE NO ENCUMBRANCES EXCEPT AS SHOWN.

[Signature]
 Steven L. Crews RPLS # 4141