Site Address: 152 Rushing Water Ln Iron.

CI

IREDELL COUNTY HEALTH DEPARTMENT

STATESVILLE 704-878-5305 MOORESVILLE 704-664-5281

IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM INSPECTION

PERMIT# 37085 PIN# 4730355767 DATE 4-9-07

OWNER OR APPLICANT KEMASABEE LLC PHONE: Business 704-309-9173 Home

ADDRESS 856 3RD AVENUE NW Hickory NC 28601

LOCATION 21 SOUTH (P) NORTH (R) State Park (L) RUSHING WATER ON RT LOT # 14

SUBDIVISION TWIN CREEKS BLOCK / SECTION 1 LOT 14/14A LOT AREA .67 SITE CLASS PS DESIGN FLOW 480 L.T.A.R. .25

Septic Tank: 1000 Gallons; STB 140 Date 7-25-07

Pump Tank: 1000 Gallons; PT 319 Date 3-20-07

Pump Make: Goulds Model 511H Serial No.

Nitrification Field: No Fields 1 Square Feet EL=1440 Linear Feet 320'

No Lines 13 Trench Width 24" Max Trench Bottom Depth 36" Gravel Depth N/A ☐ Gravity ☒ Pressure

☒ New System ☐ Repair ☐ Expansion System Type: I II III (IV) V VI

System Description: LOW PRESS 50:1 RED

Repair System Description: OFFSITE / OUSITE LP50'

Maintenance Agreement Required: ☒ Yes ☐ No

☒ House/Mod. Home ☐ Mobile Home ☐ Business ☐ Other

No. Bedrooms 4 No. Persons No. Employees

Water Supply: ☐ Individual ☒ Public ☐ Community

☐ Slab ☒ Crawl Space ☐ Basement w/plumbing ☐ Basement wo/plumbing

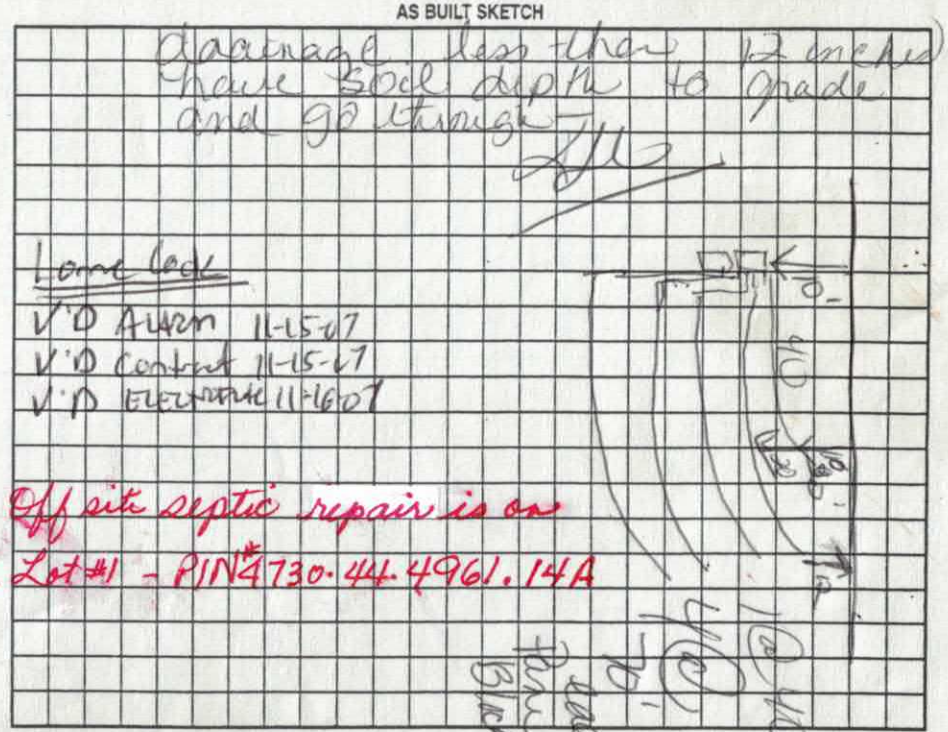
Comments:/Conditions: (1) CALL Adam With Rollins Soil & ENV. BY INSTALLATION & DURING Final For Consultative Visit. (2) Meeting IS ALSO FOR DISCUSSION

Comments:/Conditions: Approved 44' wide x 40' DEEP 4 BEDROOM HOUSE PLAN ON 4-18-07

INITIAL SITE SKETCH

SEE ATTACHED SYSTEM DESIGN BY ROLLINS SOIL & ENVIRONMENTAL SERVICES

AS BUILT SKETCH



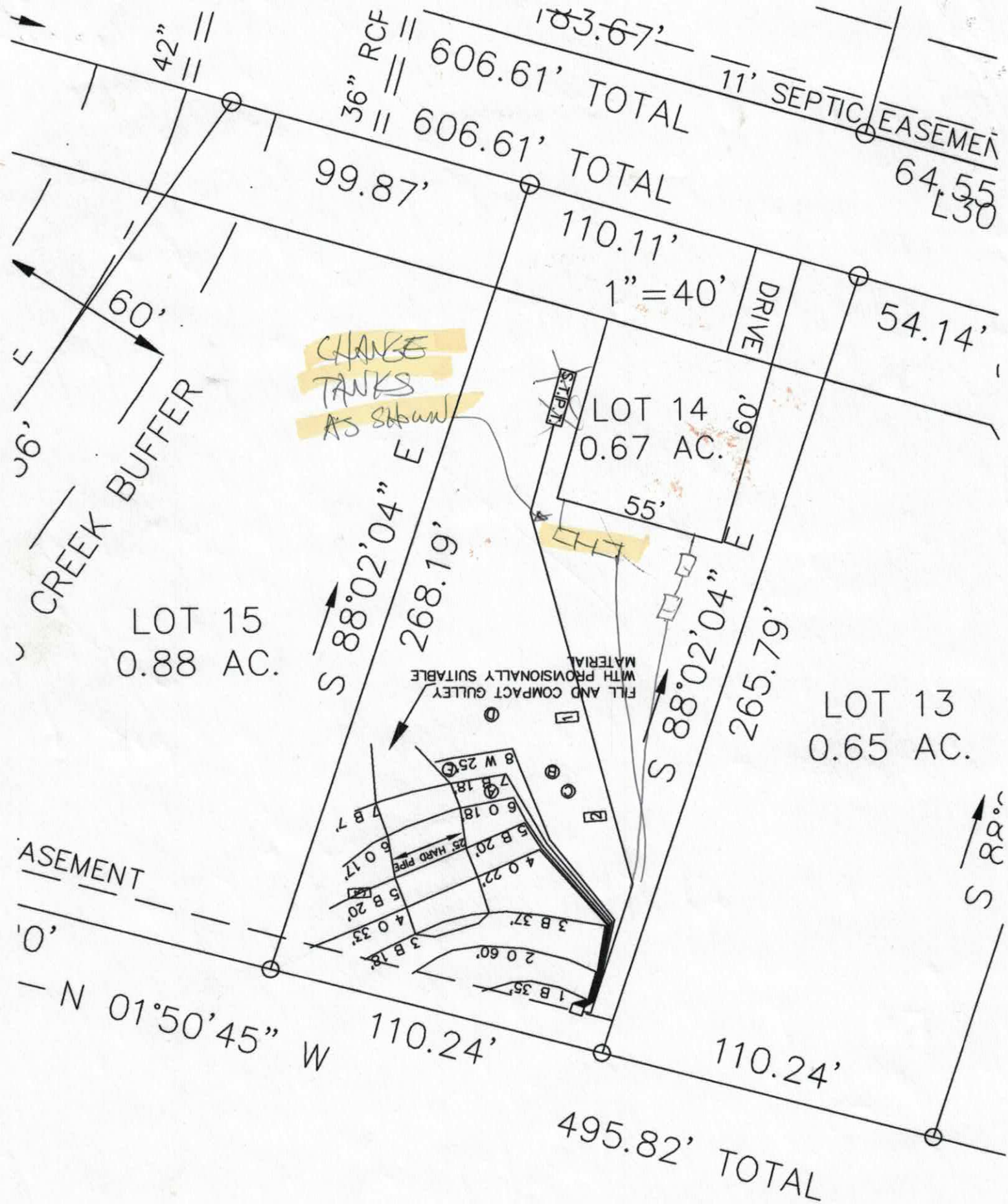
Permit can be suspended or revoked if any false information is supplied toward securing the permit/any unauthorized changes are made to the site/any unauthorized changes are made in the installation of the system. Improvement Permit with plat valid without expiration ☐ Improvement Permit with site plan valid for sixty months ☒ Authorization to Construct is valid for a period equal to that of Improvement Permit – not to exceed sixty months.

Signed: date 4/18/07 Installed by: Gamble Septic Leatherman Septic

Improvement Permit by: date 4-17-07 Operation Permit by: date 11-16-07

Authorization to Construct by: date 4-18-07 Existing System Inspection by: date

HEALTH DEPT. COPY: WHITE OWNER COPY (FINAL): YELLOW OWNER COPY (INITIAL): PINK


42"
36" RCF
606.61' TOTAL
606.61' TOTAL
183.67'
11' SEPTIC EASEMEN
64.55
L30
99.87'
110.11'
1"=40'
DRIVE
54.14'
60'
CREEK BUFFER
CHANGE
TANKS
AS SHOWN
LOT 14
0.67 AC.
60'
55'
S.P.
LOT 15
0.88 AC.
S 88°02'04" E
268.19'
S 88°02'04" E
265.79'
LOT 13
0.65 AC.
FILL AND COMPACT GULLEY
WITH PROVISIONALLY SUITABLE
MATERIAL
25' HARD PIPE
ASEMENT
N 01°50'45" W
110.24'
110.24'
495.82' TOTAL

AMERICAN STAINLESS TUBING INC.
1456/1822
ZONED: M2
PB 47 PG 150
LOT 8
LOT 9
1.24 AC.
LOT 10
1.29 AC.
LOT 11
2.80 AC. TOT.
(0.85 ac. of buildable area)
LOT 12
JOHN CASTRO
CHARLOTTE CASTRO
1690/845
LOT 13
0.65 AC.
LOT 14
0.57 AC.
LOT 15
0.88 AC.
LOT 16
0.45 ac.)
LOT 17
0.47 AC.
LOT 18
0.15 AC.)
LOT 19
0.35 AC.)
LOT 7
SEPTIC EASEMENT FOR LOT 7 (0.62 ac.)
SEPTIC EASEMENT FOR LOT 8 (0.87 ac.)
SEPTIC EASEMENT FOR LOT 16
SEPTIC EASEMENT FOR LOT 15
SEPTIC EASEMENT FOR LOT 14
SEPTIC EASEMENT FOR LOT 13
11' SEPTIC EASEMENT
15' SETBACK (TYP.)
30' CREEK BUFFER
FRONT SETBACK
51' FRONT SETBACK
CREEK
#4 REBAR
S 66°55'17" E 154.67'
S 88°39'09" E 234.05'
S 88°02'04" E 268.19'
S 88°02'04" E 265.79'
S 88°02'04" E 236.49'
N 72°43'05" W 290.00'
S 89°23'53" W 476.56' (TOTAL)
N 81°55'01" E 122.06'
S32°31'36"E 264.01' TOTAL
N 28°07'29" W 166.52'
N 23°42'39" W 228.92' TOTAL
N 27°19'42" W 94.39' TOTAL
N 32°19'09" W 119.22'
N16°18'53"W 282.92' TOT.
S 17°35'10" W 925.88' TOTAL
S 61°28'09" E 103.13'
N 17°16'53" W 117.58'
S 11°38'26" W 157.10'
S 13°47'19" E 225.96'
S 03°55'12" W 204.87'
N 29°32'47" W 169.84'
S 61°28'09" E 127.15'
S 61°28'09" E 138.70'
S 61°28'09" E 171.56'
S 61°28'09" E 109.71'
S 61°28'09" E 160.02' TOT.
S 61°28'09" E 108.04'
S 61°28'09" E 58.89'
S 61°28'09" E 57.69'
S 61°28'09" E 194.84' TOT.
S 61°28'09" E 136.59'
S 61°28'09" E 173.89'
S 61°28'09" E 85.07'
S 61°28'09" E 80.86'
S 61°28'09" E 87.15'
S 61°28'09" E 16.32'
N 61°28'09" W 91.44'
N 61°28'09" W 110.24'
N 61°28'09" W 495.82' TOTAL
N 61°28'09" W 110.24'
N 61°28'09" W 99.87'
N 61°28'09" W 606.61' TOTAL
N 61°28'09" W 606.61' TOTAL
N 61°28'09" W 183.67'
N 61°28'09" W 110.11'
N 61°28'09" W 54.14'
N 61°28'09" W 64.55'
N 61°28'09" W 274.70'
N 61°28'09" W 85.98'
N 61°28'09" W 85.99'
N 61°28'09" W 85.70'
N 61°28'09" W 45.15'
N 61°28'09" W 40.84'
N 61°28'09" W 9.32'
N 61°28'09" W 165.00'
N 61°28'09" W 196.18'
N 61°28'09" W 140.00'
N 61°28'09" W 225.96'
N 61°28'09" W 138.70'
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N 61°28'09" W 80.86'
N 61°28'09" W 87.15'
N 61°28'09" W 16.32'
C49
C50
C51
C52
C53
C54
C55
L41
L42
L43
RBF

ROLLANS ***SOIL & ENVIRONMENTAL SERVICES***

470 North Broad St. Suite D Mooresville, NC 28115 *Phone: (704) 658-1723* *Fax: (704) 658-1724*

Ashley Rollans, NC Licensed Soil Scientist
Mobile: (704) 746-5046
E-mail: Rollansfortcj@aol.com

Brady Freeman, Registered Sanitarian
Mobile: (704) 746-6497
E-mail: bfree209@yahoo.com

Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 4 bedroom single family residence on Lot #14 in Twin Creeks Subdivision, Iredell County, North Carolina.

Contents:

	Page
Information for the Installer	1
Design Information	
Design Specifications	2-3
Layout Specifications	4
System Tapsheet	5
Site Plan/System Plan	6-7
Calculations	8
Profile Descriptions	9

April 4, 2007
Project #: 01-1042
Design By: Rollans Soil & Environmental Services

INFORMATION FOR THE INSTALLER:

The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.

- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to . the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Design precludes foundation drains.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as a PPBPS installation.
- Repair is specified as a PPBPS installation.
- Backfill 4 - 6" of material (County Approved) over panels, rake trench walls, lime side-walls, install trenches 36" wide and have no more than 1/4" fall in 10 feet.
- Gulley must be filled with provisionally suitable material and drain lines must be hard piped though it.

- Supply line must maintain 12" separation above culvert when crossed.

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: Ryon-West Developers

Address: 127B Promenade Dr.
Mooresville, NC 28117
Phone: 704 361 1084
County: Iredell
Location: TWIN CREEKS LOT 14

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow: 480
System Flow: 31.57

Design Specifications

Drainfield Size: 330
Loading Rate (gpd/ft.^{2}): 0.25
Depth of Gravel in Trench: NA (PPBPS)
Gravel Size: NA (PPBPS)
Trench Depth: 30 in.
Trench Width: ~~36 in.~~ 24"
Septic Tank Size: 1000
Pump Tank Size: 1000

Estimated Supply Line Length: 202
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 35.15
Dosing Volume: 185.72
Supply Manifold: N/A
Supply Manifold Length: N/A
Supply Manifold Volume: N/A

Recommended Float Controls: SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel: SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.

Pressure Head: 2 ft.
Friction Head: 4.79
Elevation Head: NA
Total Dynamic Head: 7.81

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 per lateral
Check Valves: In Tank
Anti-Siphon Hole: NA
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

TWIN CREEKS LOT 14

LP PPBPS

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.25
TOTAL AREA TRENCH BOTTOM:	990
TOTAL LATERAL LENGTH:	330
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	320
SUPPLY LINE LENGTH:	202
TOTAL DYNAMIC HEAD:	7.81
MANIFOLD SIZE:	N/A
DOSING VOLUME:	185.72
PUMP TANK DRAW DOWN*:	8.8
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

TWIN CREEKS LOT 14

Project #: 01-1042

LAYOUT FOR 4 BEDROOM HOME

April 4, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		NA			NA		
INSTR. 1							
HOUSE CNR			NA	NA			
P. TANK			NA	NA	NA		
1	*BLUE*			*NA*	*NA*	*35*	*35*
2	*ORANGE*			*NA*	*NA*	*60*	*60*
3	*BLUE*			*NA*	*NA*	*55*	*55*
4	*ORANGE*			*NA*	*NA*	*55*	*55*
5	*BLUE*			*NA*	*NA*	*40*	*40*
6	*ORANGE*			*NA*	*NA*	*35*	*35*
7	*BLUE*			*NA*	*NA*	*25*	*25*
8	*WHITE*			*NA*	*NA*	*25*	*25*
9	PINK			NA	NA	90	90
10	RED			NA	NA	90	90
11	ORANGE			NA	NA	90	90
					Total	600	600

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
** System*	*330*	*0.25*	*MOD.*	*0.25*	*PPBPS*	*LOW PRESSURE*
Repair	270	0.3	MOD.	0.30	PPBPS	LOW PRESSURE

Notes:

** TBM located top of ground at EIP at corner of lot (see site plan)

**TBM is assumed to be 100'

**All measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

LP PPBPS TAPSHEET -TWIN CREEKS LOT 14

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
1	*BLUE*	NA	*35*	0.156	**0.41**	105	8
2	*ORANGE*	NA	*60*	0.156	**0.41**	180	14
3	*BLUE*	NA	*55*	0.156	**0.41**	165	13
4	*ORANGE*	NA	*55*	0.156	**0.41**	165	13
5	*BLUE*	NA	*40*	0.156	**0.41**	120	9
6	*ORANGE*	NA	*35*	0.156	**0.41**	105	8
7	*BLUE*	NA	*25*	0.156	**0.41**	75	6
8	*WHITE*	NA	*25*	0.156	**0.41**	75	6
							77
	total	**feet =**	**330**	**gal/min =**	**31.57**		

Des. Flow	**480**
Pump Run=	**5.88**
soil LTAR	**0.25**
LTAR +5%	**0.2625**
LTAR with mod.	**0.5**
LTAR with mod.. + 5%	**0.525**

.156 equals 5/32 inch hole

CALCULATIONS

Location TWIN CREEKS

Project Number 01-1042

Lot No: Lot 14

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.25	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	202	ft.
Supply Line Volume	35.148	gal.
Required Feet of Line	320	ft.
Amount of Line from Layout	330	ft.
Gallons per Minute	31.57	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume	3.6	gal.
# of Panels	77	
Dosing Volume	185.72	gal.

Note: Dosing Volume based on 33% of # of panels times 3.6 gal/panel

Tank Draw Down	8.8	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.88	minutes
Elevation Head	NA	ft.
Pressure Head	2	ft.
Friction Factor	2.37	ft./100 ft. *(From the interpolater.)*
Friction Head	4.79	ft.
Total Dynamic Head (+15%)	7.81	ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ___ of ___

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #: _____
DATE OF EVALUATION: _____
COUNTY: _____

Twin Creeks Lot 14

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
B 14A		0-32	RC WFSBK	SS,SP,Fr SEXP	common YB	48"	N/A	48"	PS .25 to 48"
		32-48	RY SCL VWFSBK	SS,SP,Fr SEXP	few/common YB; few Chr 3+4 >44" Chr 2 @ 48"				
B 14B		0-4	B SCL Gr	SS,SP,Fr SEXP	Chr 2 >27"	27"	N/A	27"	PS .15 LPP to 27"
		4-13	RC WFSBK/ABK	SS,SP,Fr SEXP	common YB + Chr 3+4				
		13-27	R SCL VWFSBK	SS,SP,Fr SEXP	few/common YB + Chr 3+4 Chr 2 >27"				
B 14C		0-2	Fill			42"	N/A	26"	PS .1 LPP to 26"
		2-26	RC WFABK/SBK	SS,SP,Fr SEXP	common YB				
		26-42	RY SCL VWFSBK	SS,SP,Fr SEXP	common YB few Chr 2 Many Chr 2 >38"				
B 14D		0-30	RC WFSBK/ABK	SS,SP,Fr SEXP	few YB	48"	N/A	N/A	PS .25
		30-48	R SCL/SCL WFSBK	SS,SP,Fr SEXP	few YB				
B 14E		0-29	RC WFSBK	SS,SP,Fr SEXP	N/A	48"	N/A	N/A	PS .25
		29-48	RC WF/MFABK	SS,SP,Fi-Fr SEXP	few YB				

COMMENTS: _____

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet ___ of ___
PROPERTY ID #: _____
COUNTY: _____

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: RHW WEST DVLPS
ADDRESS: 1296 Prindle Dr Apex 27617
APPLICATION DATE
DATE EVALUATED:
PROPOSED FACILITY: 4 BR HSE
PROPOSED DESIGN FLOW (.1949): 480
PROPERTY SIZE:
LOCATION OF SITE: LOT 14 TWIN CREEKS ONSITE
PROPERTY RECORDED: YES
WATER SUPPLY: ☐ Private ☒ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☐ Auger Boring ☒ Pit ☐ Cut
TYPE OF WASTEWATER: ☐ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	13.5% L	0-36	cmed sbk	fsssp scep		40"			PS .25 to 40"
		36-70"	cmed sbk	fsssp scep	2.5Y 4/6/8	24- 40"			
					2.5Y 8/2	@ 40"			
2	17.5% L	0-24"	cmed sbk	fsssp scep	2.5Y 7/6	24" > 12" - 24"			US
		24-65"	cmed sbk	fsssp scep	2.5Y 7/4				
					2.5Y 7/2	24"			
					2.5Y 3/2	24" - 48"		BLACK	
3	12.5%	0-48	cmed sbk	fsssp scep					PS .25
		48-72	cmed sbk	fsssp scep	48"				
					2.5Y 3/2	~~48-72"~~ 48"			
4									

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		
Site LTAR		

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948):
EVALUATED BY: L. COOK, B Trimmer
OTHER(S) PRESENT: Admin

SEE ROLLAND ATTACHED SOILS

COMMENTS:

LOOSE 3.2" on 24" Ditch

LEGEND

use the following standard abbreviations

LANDSCAPE POSITION	GROUP	SOIL TEXTURE	CONVENTIONAL .1955 LTAR*	LPP .1957 LTAR*	MINERALOGY/ CONSISTENCE	STRUCTURE
CC (Concave Slope) CV (Convex Slope) D (Drainage Way) DS (Debris Slump) FP (Flood Plain) FS (Foot Slope) H (Head Slope) L (Linear Slope) N (Nose Slope) R (Ridge) S (Shoulder Slope) T (Terrace)	I	S (Sand) LS (Loamy Sand)	1.2 - 0.8	0.6 - 0.4	NEXP (Non-expansive) SEXP (Slightly Expansive) EXP (Expansive)	G (Single Grain) M (Massive) CR (Crumb) GR (Granular) SBK (Subangular Blocky) ABK (Angular Blocky) PL (Platy) PR (Prismatic)
	II	SL (Sandy Loam) L (Loam)	0.8 - 0.6	0.4 - 0.3		
	III	Si (Silt) SiCL (Silty Clay Loam) CL (Clay Loam) SCL (Sandy Clay Loam) SiL (Silt Loam)	0.6 - 0.3	0.3 - 0.15		
	IV	SC (Sandy Clay) SiC (Silty Clay) C (Clay)	0.4 - 0.1	0.2 - 0.05		
		O (Organic)	None	None		

MOIST	WET
VFR (Very Friable)	NS (Non-sticky)
FR (Friable)	SS (Slightly Sticky)
FI (Firm)	S (Sticky)
VFI (Very Firm v. Very Sticky)	VS (Very Sticky)
EFI (Extremely Firm)	NP (Non-plastic)
	SP (Slightly Plastic)
	P (Plastic)
	VP (Very Plastic)

*Adjust LTAR due to depth, consistence, structure, soil wetness, landscape, position, wastewater flow and quality.

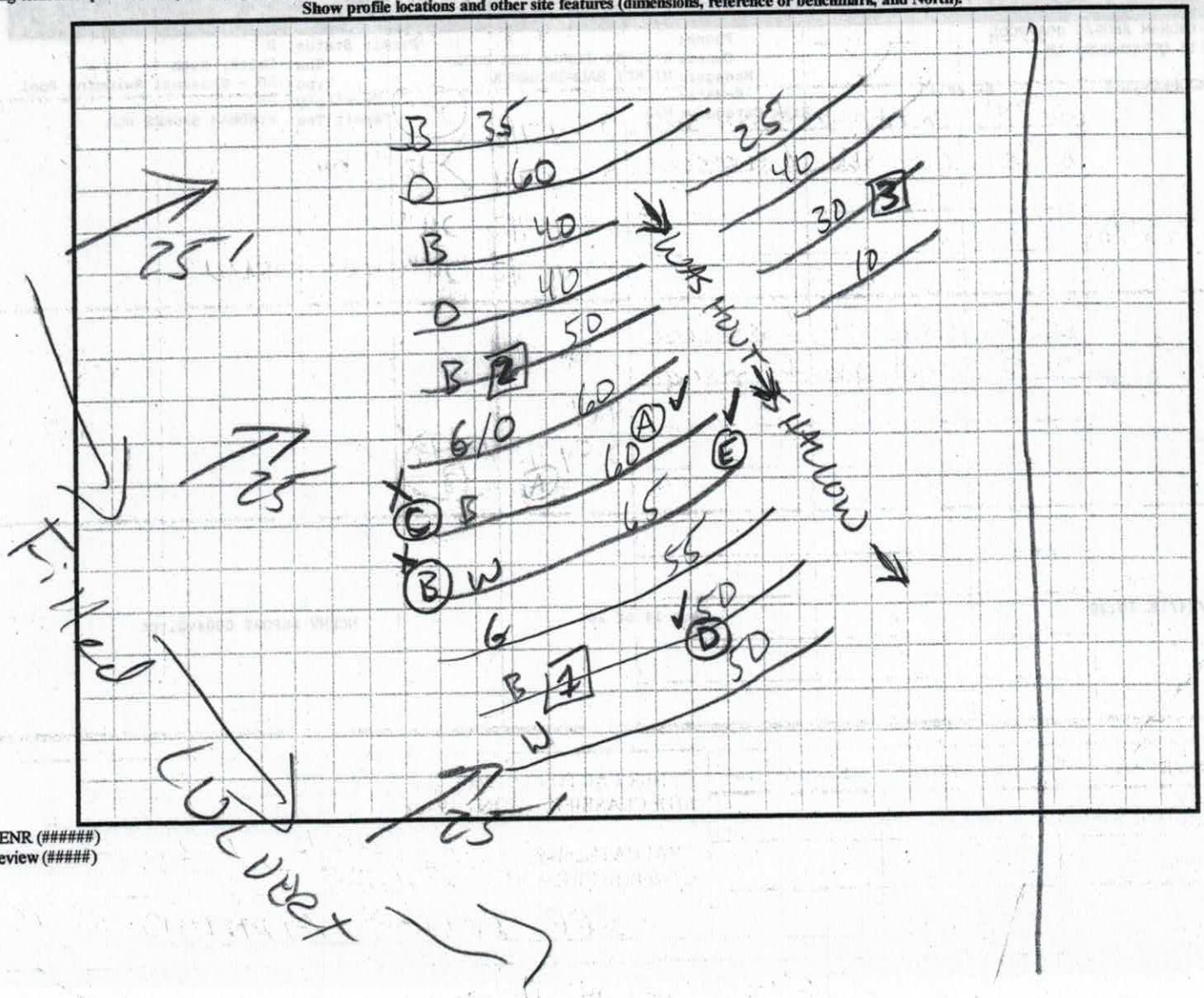
NOTES

HORIZON DEPTH	In inches below natural soil surface
DEPTH OF FILL	In inches from land surface
RESTRICTIVE HORIZON	Thickness and depth from land surface
SAPROLITE	S(suitable) or U(unsuitable)
SOIL WETNESS	Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation
CLASSIFICATION	S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)

Evaluation of saprolite shall be by pits.

Long-term Acceptance Rate (LTAR): gal/day/ft^2

Show profile locations and other site features (dimensions, reference or benchmark, and North).



DENR (######)
Review (#####)

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet ____ of ____
PROPERTY ID #: _____
COUNTY: _____

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: R40V WEST DUMPS
ADDRESS: 178 Promise DR MURPHY 28117
PROPOSED FACILITY: 4BR HSE
LOCATION OF SITE: OFFSITE IN TWO CREEKS

APPLICATION DATE _____
DATE EVALUATED: _____
PROPERTY SIZE: _____
PROPERTY RECORDED: _____

WATER SUPPLY: ☐ Private ☐ Public ☐ Well ☐ Spring ☐ Other _____
EVALUATION METHOD: ☐ Auger Boring ☐ Pit ☐ Cut
TYPE OF WASTEWATER: ☐ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	20% L	0-6	SCL wk gr	fr ns np vs/p		>48"			PS .3
		6-30	C med sbk	fr ss sp vs/p					
		30-48	CL wk sbk	fr ss sp vs/p					
2	20% L	0-6	SCL wk gr	fr ns np vs/p		>48"			PS .3
		6-42	C med sbk	fr ss sp vs/p					
		42-48	CL wk sbk	fr ss sp vs/p					
3									
4									

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		
Site LTAR		

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____
EVALUATED BY: L. COOK
OTHER(S) PRESENT: _____

COMMENTS: _____

LEGEND

use the following standard abbreviations

LANDSCAPE POSITION	GROUP	SOIL TEXTURE	CONVENTIONAL .1955 LTAR*	LPP .1957 LTAR*	MINERALOGY/ CONSISTENCE	STRUCTURE
CC (Concave Slope)	I	S (Sand)	1.2 - 0.8	0.6 - 0.4	NEXP (Non-expansive)	G (Single Grain)
CV (Convex Slope)		LS (Loamy Sand)			SEXP (Slightly Expansive)	M (Massive)
D (Drainage Way)					EXP (Expansive)	CR (Crumb)
DS (Debris Slump)	II	SL (Sandy Loam)	0.8 - 0.6	0.4 - 0.3		GR (Granular)
FP (Flood Plain)		L (Loam)				SBK (Subangular Blocky)
FS (Foot Slope)						ABK (Angular Blocky)
H (Head Slope)	III	Si (Silt)	0.6 - 0.3	0.3 - 0.15		PL (Platy)
L (Linear Slope)		SiCL (Silty Clay Loam)				PR (Prismatic)
N (Nose Slope)		CL (Clay Loam)				
R (Ridge)		SCL (Sandy Clay Loam)			**MOIST**	**WET**
S (Shoulder Slope)		SiL (Silt Loam)				
T (Terrace)					VFR (Very Friable)	NS (Non-sticky)
	IV	SC (Sandy Clay)	0.4 - 0.1	0.2 - 0.05	FR (Friable)	SS (Slightly Sticky)
		SiC (Silty Clay)			FI (Firm)	S (Sticky)
		C (Clay)			VFI (Very Firm v. Very Sticky)	VS (Very Sticky)
		O (Organic)	None	None	EFI (Extremely Firm)	NP (Non-plastic)
						SP (Slightly Plastic)
						P (Plastic)
						VP (Very Plastic)

*Adjust LTAR due to depth, consistence, structure, soil wetness, landscape, position, wastewater flow and quality.

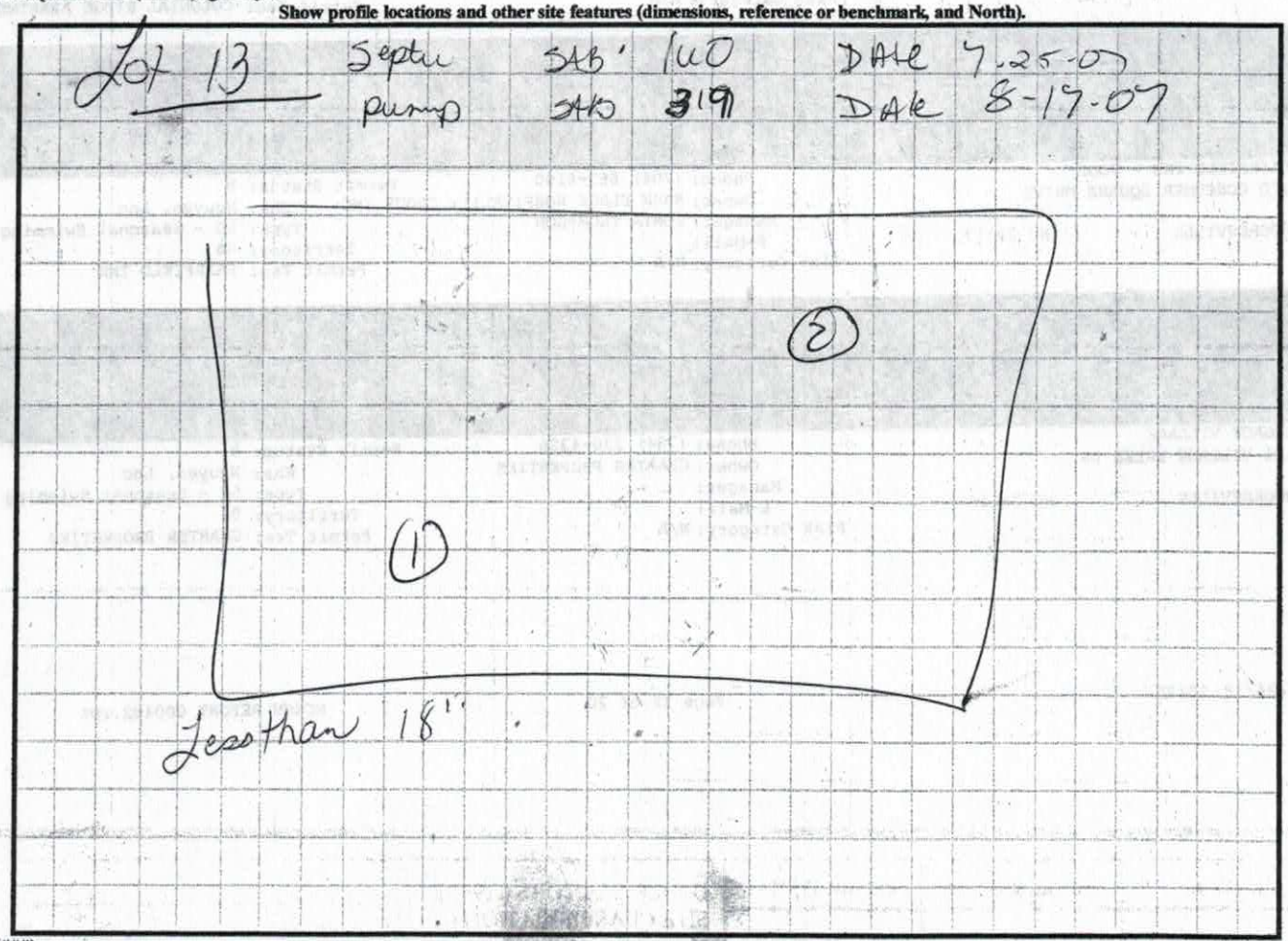
NOTES

HORIZON DEPTH	In inches below natural soil surface
DEPTH OF FILL	In inches from land surface
RESTRICTIVE HORIZON	Thickness and depth from land surface
SAPROLITE	S(suitable) or U(unsuitable)
SOIL WETNESS	Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation
CLASSIFICATION	S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)

Evaluation of saprolite shall be by pits.

Long-term Acceptance Rate (LTAR): gal/day/ft^2

Show profile locations and other site features (dimensions, reference or benchmark, and North).



DENR (######)
Review (#####)

IREDELL COUNTY HEALTH DEPARTMENT

Application For Improvement Permit and/or Authorization To Construct, Existing System Inspection

(THE ABOVE PERMIT DOCUMENTS WILL BECOME INVALID IF INFORMATION PROVIDED ON THIS APPLICATION IS FALSIFIED OR CHANGED, OR IF THE SITE IS ALTERED. THE IMPROVEMENT PERMIT IS VALID FOR EITHER 60 MONTHS OR WITHOUT EXPIRATION DEPENDING UPON DOCUMENTATION SUBMITTED - APPLICATION WITH SITE PLAN 60 MONTHS, APPLICATION WITH COMPLETE, SCALED PLAT WITHOUT EXPIRATION. SEE 15A NCAC 18A .1937(f) FOR DETAILS)

1. APPLICATION FOR: (X) Improvement Permit ( ) Authorization To Construct (X) BOTH ( ) Existing System Inspection

2. Page 2: *Site Plan Worksheet* Form MUST Accompany This Application
   The following optional attachments may also be submitted: (X) Survey Plat, Scaled no more than 1 Inch = 60 Feet
   Place check ( ) beside whichever is submitted if applicable (X) Custom Site Plan, Scaled no more than 1 Inch = 60 Feet

3. **Applicant Information:**

Applicant Name	Mailing Address	Home Phone	Work Phone
Ryan-West Developers	127B Promenade Dr Mooresville NC 28117		704-361-1084
~~Schultz~~ Kennedy Blocks	335 3rd Ave NW Hickory	3860	

Owner Name	Mailing Address	Home Phone	Work Phone

4. **Property Information:**

Street Address	Subdivision Name	Section/Phase and Lot Number
Rushing Water	Twin Creeks	Lot 14

Driving Directions: _____

****

5. **RESIDENTIAL Site Development Information:** *(Check or Complete ALL that apply)*

(X) New, Single Family Residence
( ) New, Multi-Family Residence
( ) Expansion of Existing Septic System
( ) Repair To Failing Septic System

Maximum Number of Bedrooms 4
Maximum Number of Occupants 8
If Expansion, Current Number of Bedrooms ___

(X) Crawl Space Foundation?
( ) Concrete Slab Foundation?
( ) Basement w/Plumbing?
( ) Basement w/out Plumbing?

IF Non- Residential Site Development:
Type of Business _____
Square Footage of Building _____
Maximum Number of Employees _____
Maximum Number of Seats _____

****

6. **Proposed Water Supply:**

( ) New Well ( ) Existing Well ( ) Community Well (X) City Water ( ) Other Public Water

****

7. **Desired Septic System Type:** *(You may rank in order of preference, if any)*

( ) Alternative ( ) Conventional ( ) Innovative ( ) Modified Conventional ( ) Other_____ (X) No Preference

****

8. **Please Answer The Following To The Best of Your Ability:**

( ) Yes (X) No Does the site contain any jurisdictional wetlands?
( ) Yes (X) No Is any non-domestic sewage (i.e. industry) to be generated?
( ) Yes (X) No Is the site subject to approval by any other public agency?

****

I have read this application and certify that the information provided herein is true, complete, and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed.

9. Signature: Robin L. Pruitt — 4/14/07

Property owner or owner's legal representative signature (SIGNATURE REQUIRED) — DATE

IREDELL COUNTY HEATLH DEPARTMENT

PAGE 2: *SITE PLAN WORKSHEET*

SEE THE SAMPLE SITE PLAN BELOW. INCOMPLETE SITE PLANS WILL BE RETURNED TO YOU FOR COMPLETION AND MAY RESULT IN A DELAY IN THE ISSUANCE OF YOUR SEPTIC SYSTEM PERMIT!!!

Place an (X) beside each item as you complete the site plan:

- X — **Property Line measurements are clearly identified…**
- X — **All proposed structures are indicated…** ***SHOW: proposed house or business footprint, wells, water lines, patios, pools and decks, and any other item that will occupy space on the site***
- X — **Front and side setbacks from property line…**
- X — **Preferred driveway location and configuration, preferred well location…**
- X — **Area you prefer your septic system to be placed…**
- X — **North arrow, or other sufficient indicator of direction…**

Circle N/A on the following if appropriate:

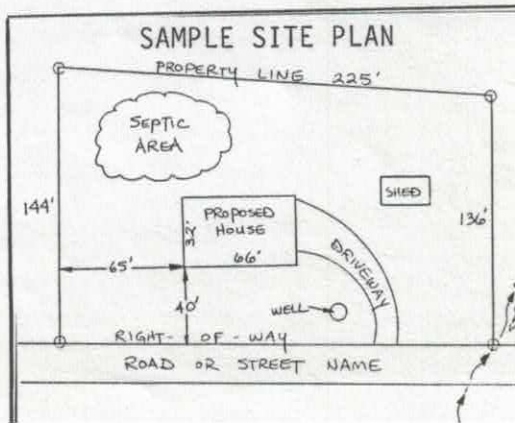
- ___ — **Location of septic systems and wells within 100' of your property…** N/A
- ___ — **Location of easements and rights of ways on your property…** N/A
- ___ — **Location of any designated wetlands on the property…** N/A

Signature: Lori L. Pruitt
Property owner or owner's legal representative signature (SIGNATURE REQUIRED)

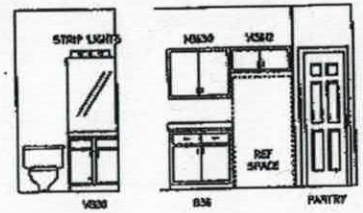
4/4/07
DATE

USE THIS SPACE TO DRAW YOUR SITE PLAN

See Attached Site Plan

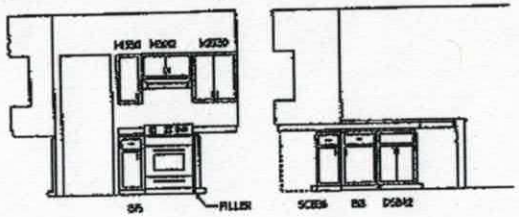


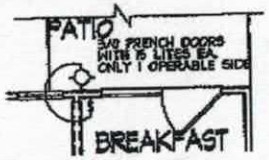
Twin Creeks 14



POWDER
SCALE 1/4"=1'-0"

KITCHEN
SCALE 1/4"=1'-0"





OPT. FRENCH DOORS
SCALE 1/4"=1'-0"

① ADD 2'0" to GARAGE SIDE

② ADD 4'0" to Right Side

③ ADD 4'0" to Front of GARAGE

AREA DATA	
FIRST FLOOR	918
SECOND FLOOR	1067
TOTAL LIVABLE AREA	1985
GARAGE	370
TOTAL SLAB	1,380
OPT. BASEMENT	918

FLOOR PLAN NOTES

ALL LVL BEAMS TO HAVE MINIMUM Fb = 2,600 psi, E = 2,000,000 psi, Fc = 650 psi, Fv = 285 psi.

FINISH DOUBLE LVL BEAMS PER MANUFACTURER'S RECOMMENDATIONS WITH MIN. 2 ROWS OF 16d NAILS AT 12" O.C. USE 3 ROWS OF 16d NAILS AT 8" O.C. FOR 14", 16" AND 18" DEEP BEAMS.

PROVIDE SOLID BLOCKING BETWEEN JOISTS AT ALL COLUMN POINT LOADS, BEARING GIRDERS, AND LOAD BEARING WALLS.

ROOF DESIGN AND CONFIGURATION IS BY OTHERS. BALANCE OF STRUCTURAL DESIGN ASSUMES THAT TRUSSES SPAN CUT TO CUT, FROM TO SPACE WITH 2 POINT BEARING ON EXTERIOR WALLS, UNLESS SHOWN OTHERWISE. "GIRDER GABLE" ROOF TRUSSES MAY SPAN LIFE TO RIGHT.

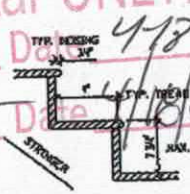
PROVIDE 1/2" GYP. BD. WHERE GARAGE ADJOINS LIVING AREAS.

Approved 4 Bedroom Plan

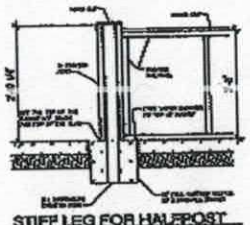
Acknowledgement of Plans Submittal ONLY!

Date 4-18-07

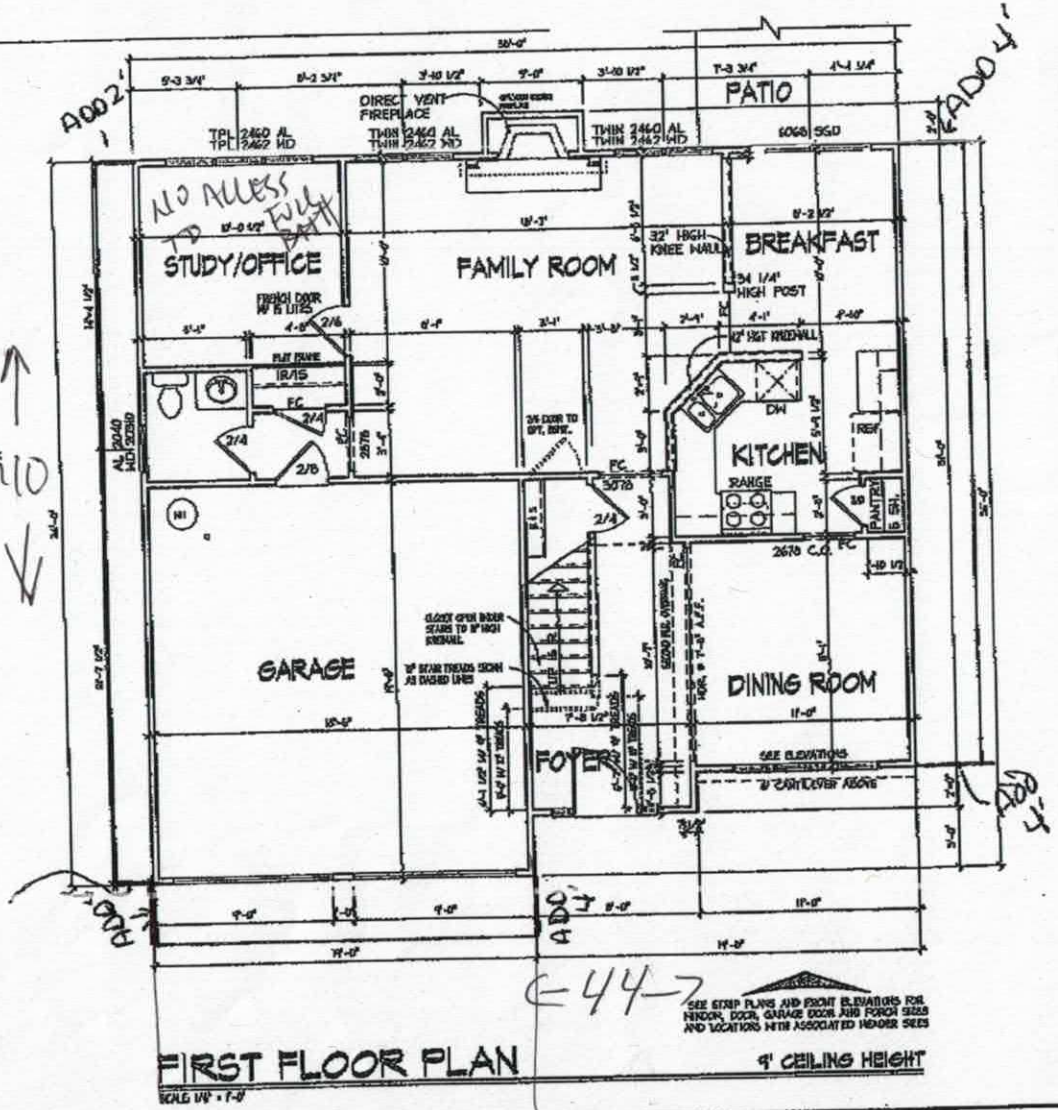
Date 4/18/07



Georgia / North Carolina TREAD & RISER DETAIL



STIFF LEG FOR HALFPOST



FIRST FLOOR PLAN
SCALE 1/4" = 1'-0"

SEE STRIP PLANS AND FRONT ELEVATIONS FOR WINDOW, DOOR, GARAGE DOOR AND PORCH SIZES AND LOCATIONS WITH ASSOCIATED HEADER SIZES

Highland HOME BUILDERS

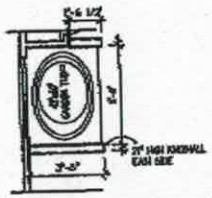
The Melbourne

First Floor Plan

Sheet 7

04/17/2007 14:36 828-294-0992 ABERNETHY PARK PAGE 04/05

Twin Creeks 14



42" TUB LAYOUT

SCALE: 1/4"=1'-0"

SECOND FLOOR PLAN NOTES

ALL LVL BEAMS TO HAVE MINIMUM Fb = 2,800 psi, E = 2,000,000 psi, Fv = 500 psi, Fcal = 2,700 psi, Fv = 285 psi.

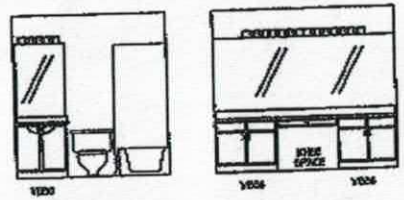
PASTING DOUBLE LVL BEAMS PER MANUFACTURER'S RECOMMENDATIONS WITH 3/8", 2 ROWS OF 16d NAILS AT 12" O.C. USE 3 ROWS OF 16d NAILS AT 12" O.C. FOR 14", 16" AND 18" DEEP BEAMS.

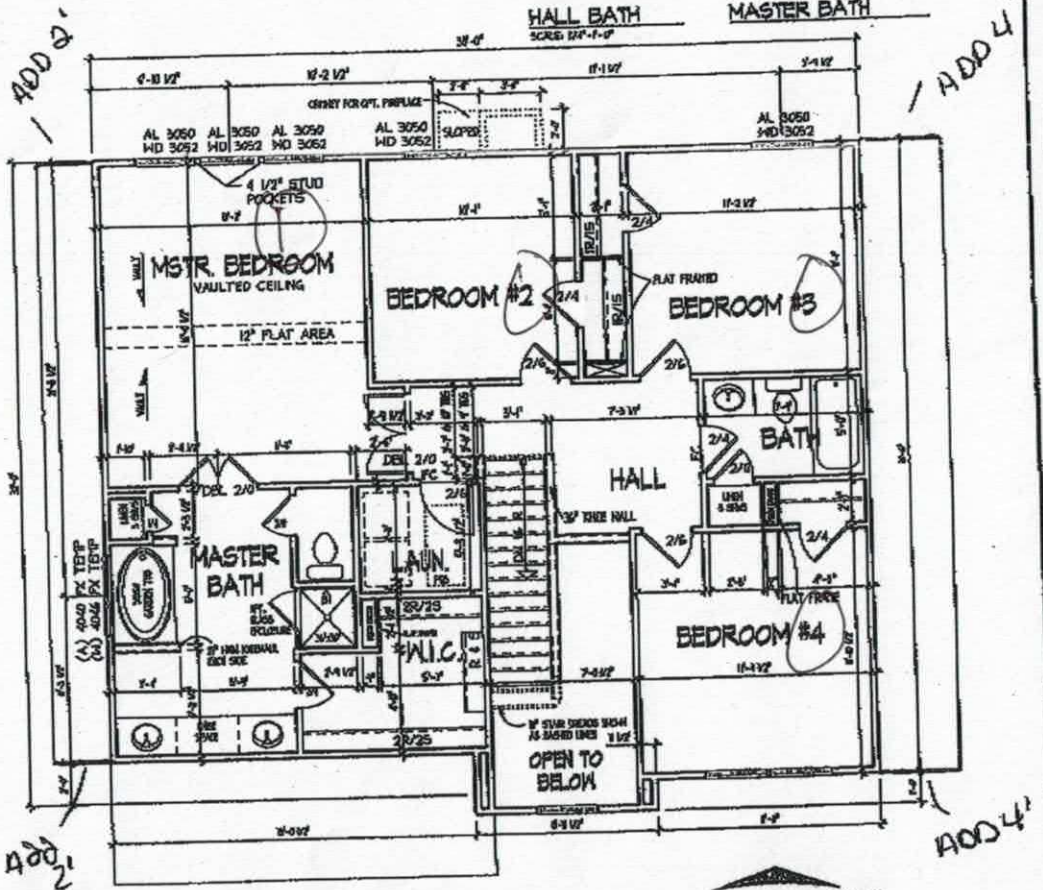
PROVIDE SOLID BLOCKING BETWEEN JOISTS AT ALL COLUMN POINT LOADS, BEAMS, GIRDERS, AND LOAD BEARING WALLS.

ROOF TRUSS SHOP DRAWINGS ARE AVAILABLE AT JOB SITE.

PROVIDE DOUBLE FLOOR JOISTS UNDER ALL PARALLEL PARTITION WALLS THAT DO NOT SUPPORT CONCENTRATED OR UNIFORM STRUCTURAL LOADS.
- ALTERNATIVES -
1. DOUBLE THE ADJACENT JOIST NEAREST IS CLOSEST TO THE PARTITION AND INSTALL FULL DEPTH 2x PERPENDICULAR BLOCKING AT 48" O.C. UNDER THE PARTITION WALL.
2. IF 1½" TRIPLE MICRO LAMINATE IS USED, PROVIDE A DOUBLE JOIST AT A MAX. DISTANCE OF 9" FROM PARTITION WALL (FACE OF WALL TO FACE OF JO)

ROOF DESIGN AND CONFIGURATION IS OF OWNERS. BALANCE OF STRUCTURAL DESIGN ASSUMES THAT TRUSSES SPAN OUT TO OUT, RIGHT TO BACK WITH 3 POINT BEARING ON EXTERIOR WALLS. UNLESS SHOWN OTHERWISE. "REVERSE GABLE" ROOF TRUSSES MAY SPAN LEFT TO RIGHT.





SEE STRIP PLANS AND FRONT ELEVATIONS FOR WINDOW SIZES AND LOCATIONS WITH ASSOCIATED HEADER SIZES

SECOND FLOOR PLAN

SCALE: 1/4" = 1'-0"

8' CEILING HEIGHT

Highland HOME BUILDERS

The Melbourne

Second Floor Plan

Sheet 8

04/17/2007 14:36 828-294-0992 ABERNETHY PARK PAGE 05/05

Iredell County
Planning & Enforcement
227 S. Center St. PO Box 788
Statesville, NC 28687
704-878-3113

Zoning Permit

Printed: 7/18/2006

Permit Number: 137085ZO

Master #: 137085

Associated Permits:

137085ZO	Zoning
137085GR	Grading

Applicant

Name: Kemasabe LLC
Phone: 828-322-3280
Address: 835 3rd Ave NW
Hickory, NC 28601

Parcel

Parcel Number: 4730355767.000
Zoning: RA
Address: 152 Rushing Water Ln.
Troutman, NC 28166
Township: 1500
Area: .67
Subdivision: Twin Creek Estates PH 1
Lot(s): 14
Directions to Parcel: Perth Rd, right State Park, left Rushing Water, preoperty on right

Owners

Name: Foothill Development & Contr
Address:

Contractors

Contractor Type: Building
Name: Kemasabe LLC
Phone: 828-322-3280
Address: 835 3rd Ave NW
Hickory, NC 28601

4411

Fees and Receipts:

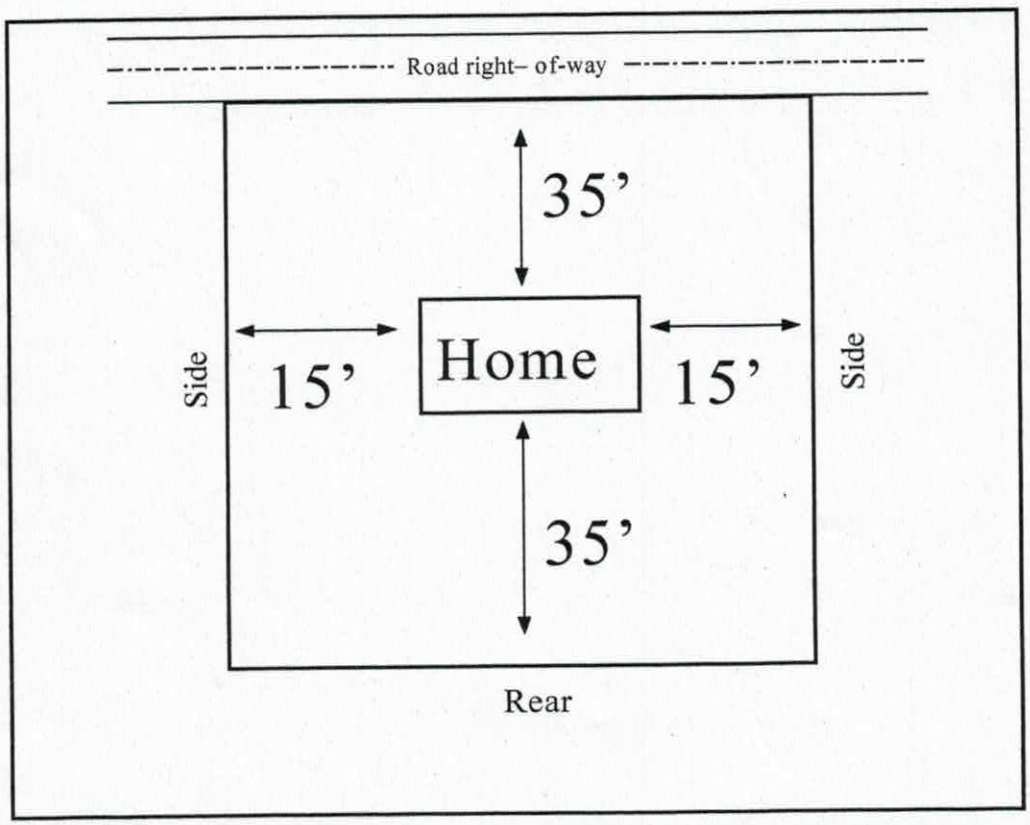
Number	Description	Amount
FEE-131812-06	Zoning - Permit / Inspection	$45.00
FEE-131813-06	Environmental Health - Type I or II System	$350.00
		45
		440

ZONING DISCLAIMER

The applicant certifies that there are no deed restrictions, contractual agreements or governmental regulations of any kind that interfere with or prohibit the use of the property or the use for which this permit is requested. Applicant further acknowledges that the enforcement of deed restrictions, plat conditions, and other contractual agreements will not be undertaken by Iredell County and is the sole responsibility of the affected parties.

Applicant _____ Date 02/16/06

STREET NAME : 152 Rushing Water



In the box above indicate the location of the building's or structure's, their orientation to the front of the lot as indicated, and the setback distances to all property lines and the distances to any other building's or structure's on the lot. Also indicate the size/shape of the lot and the corresponding dimensions when necessary. The front of the lot is the portion which abuts a public right of way or easement.