

MICHAEL ATHANAS & ASSOCIATES
LICENSED SOIL SCIENTIST
1999 CANDLEWICK DRIVE
FORT MILL, S.C. 29715
803-802-4403 (office)
803-802-4402 (fax)

Reference: Data Sheet for the Farms, Lot 558/558A, Section 5, Iredell County, NC
House Footprint: TBD
Water Source: Community Well
Number of Bedrooms: 5/600gpd
Proposed LTAR: Initial 0.3 gpd/ft2, Repair 0.3 gpd/ft2
Suggested System Type: 25% Reduction (5x100'), Repair LP PPBPS
Distribution: Pressure Manifold
Pressure Head: 2'
Flow per Tap: 5.48 gpm
Hole Size &Material: 5, ½" Taps SCH. 80
System Flow: 27.40 gal/min.
Dosing Volume: 228.55 gal/dose
Pump Run Time: 8.34 min
Elevation Head: TBD
Friction Head: TBD
Total Dynamic Head: TBD
Total Linear Footage: 500'
Proposed Trench Depth: 36"
Septic/Pump Tank Size: 1500gal

See attached elevations

Line	Actual Length	Design Length	Elevation
Blue 1	85'	100'	
Pink 2	85'	100'	
Yellow 3	**100'**	**100'**	
Blue 4	**100'**	**100'**	
Pink 5	**100'**	**100'**	
Yellow 6	**100'**	**100'**	
Blue 7	**100'**	**100'**	
Pink 8	100'	100'	
White 9	100'	100'	

Initial System: 500' of 25% Red., B1-P5
ST/PT: 1500gal
House Corner: TBD

Repair System: B1-P2, P8-W9 370' PPBPS
Benchmark: TBD

Comments: Lot 558 is located on Silver Lake Trail, where it pumps to the septic easement 558A, which is located at the intersection of McKendree and Digh Circle. Currently this lot is permitted for a 25% reduction four bedroom residence, the current owners desire a five bedroom residence. MA&A re-shot the septic easement and determined that the slope was less than 2%. Multiple shots were taken from front to back and side to side, using the rise over run equation, no elevations over 1.5% were observed. Based on our elevations of less than 2% over the entire septic area, MA&A is proposing to stack the septic lines on 9' centers to maximize space in order to accommodate a five bedroom residence. Please note elevations will need to be shot and confirmed prior to installation; this house is a basement with plumbing.

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

Sheet _1_ *of* _1_
PROPERTY ID #: _____
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Shaun Beichler/Shawn Gallager APPLICATION DATE: 2-28-13
ADDRESS: DATE EVALUATED: 8-14-12
PROPOSED FACILITY: 5 BR. PROPOSED DESIGN FLOW (.1949): 6000 GPD PROPERTY SIZE: .98ac
LOCATION OF SITE: Digh Rd., Lot 558/558A PROPERTY RECORDED:
WATER SUPPLY: Private ☐ Public ☐ Well ☐ Spring ☐ Other Comm. Well
EVALUATION METHOD: * Auger Boring Pit ☐ Cut TYPE OF WASTEWATER: * Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	
AB 1	LS 0-2%	0-7	Br. CL WSBK	FR SS/SP SEXP		48"			PS .3
		7-40	R C SBK	FR SS/SP SEXP					
		40-48	R CL SBK	FR SS/SP SEXP					
AB 2	LS 0-2%	0-5	Br. CL WSBK	FR SS/SP SEXP		48"			PS .3
		5-38	R C SBK	FR SS/SP SEXP					
		38-48	R CL SBK	FR SS/SP SEXP					
AB 3	LS 0-2%	0-7	Br. SCL WSBK	FR SS/SP SEXP		48"			PS .3
		7-48	R C SBK	FR SS/SP SEXP					
AB 4	LS 0-2%	0-9	Br. SCL WSBK	FR SS/SP SEXP		48"			PS .3
		9-45	R C SBK	FR SS/SP SEXP					
		45-48	R CL WSBK	FR SS/SP SEXP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	1500 sq.ft	1200 ft2
System Type(s)	25% Red.	LP PPBPS
Site LTAR	.3	.3

OTHER FACTORS (.1946): Currently Permitted for a four bedroom.

SITE CLASSIFICATION (.1948): PS

EVALUATED BY: MA & ASSOC.

Approved ICHP 3-1-13

OTHER(S) PRESENT:

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

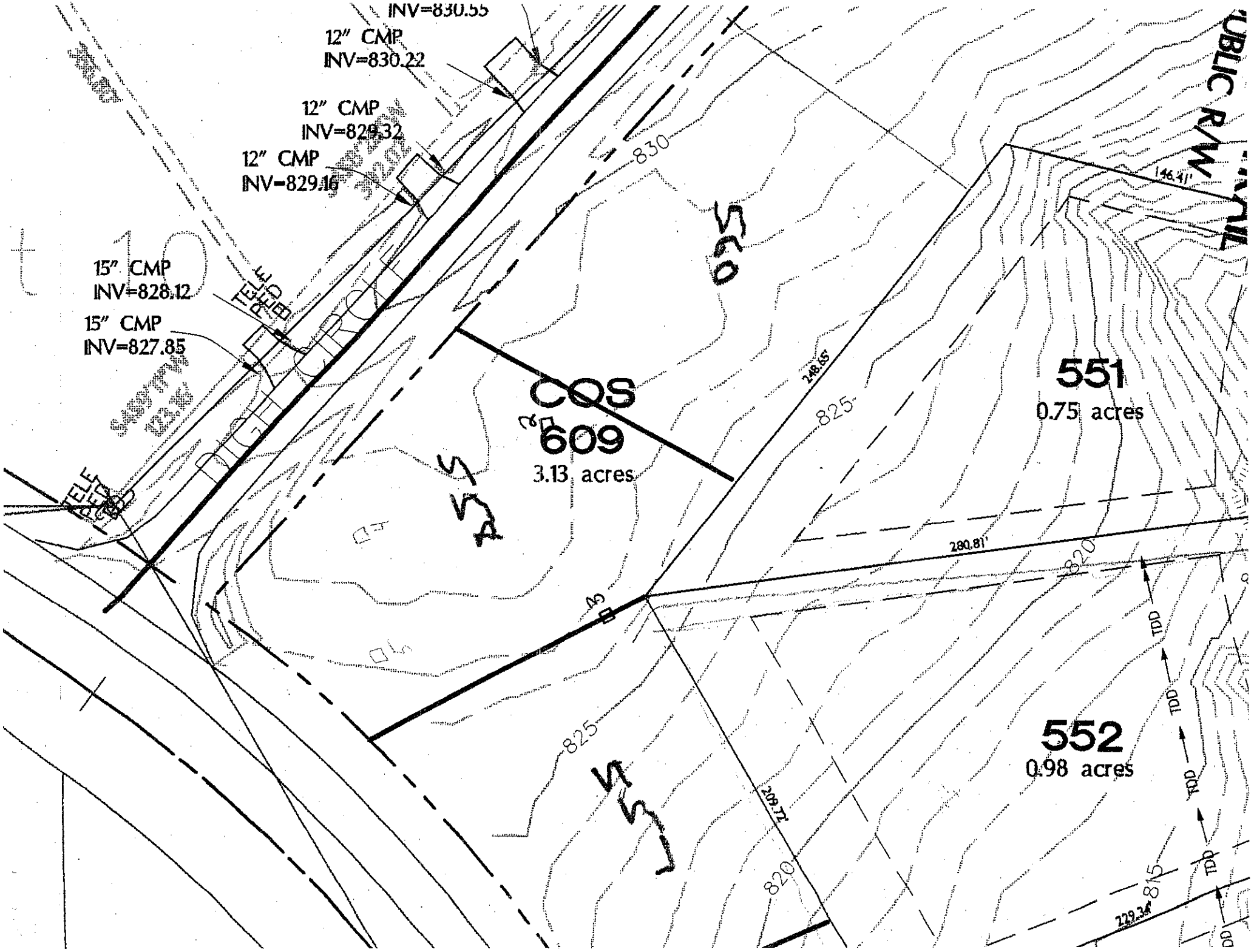
OWNER: Farms V _____ APPLICATION DATE _____
ADDRESS: _____ DATE EVALUATED: _____
PROPOSED FACILITY: House PROPOSED DESIGN FLOW (.1949): 480 PROPERTY SIZE: _____
LOCATION OF SITE: Lot 558 PROPERTY RECORDED: _____
WATER SUPPLY: ☐ Private ☒ Public ☒ Well ☐ Spring ☐ Other _____
EVALUATION METHOD: ☐ Auger Boring ☒ Pit ☐ Cut TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1941 SOIL WETNESS/ COLOR	.1942 SOIL DEPTH	.1935 SAPRO CLASS	.1944 REDOX.	
1	pit #2 L	0-12	Mo SBK SCL	FR ns/np	Br				0.3
		12-32	Mo ABK C	Fi/Fr SS/SP	Red		F SOP		
		32-48	Mo SBK C	Fr SS/SP	Lt Red				
2	pit #3 L	0-20	Mo SBK/ WK ABK C	Fi/Fr SS/SP	Red Br				0.3
		20-39	Mo SBK C	Fr SS/SP	Red				
		39-48	Mo SBK CL	Fr SS/SP	Lt Red		F SOP		
3	#4 S	0-5	mo gr sl	fr ns/np	Br				.25-.3
		5-24	mo SBK C	fr ss/sp	red				
		24-44	Wk Mo ABK C	fr ss/sp	red				
		44-55	wk SBK/ mo ABK CL	fr ss/sp	Red; F F	Vel Br.			
4	#5 L 290	0-4	WK GR SCL	FR SS/SP	DK Br				0.3
		4-22	WK SBK CL	FR SS/SP	Red				
		22-43	Mo ABK C	FR SS/SP	Red				
		43-54	WK ABK/ SBK CL	FR SS/SP	Red				

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

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

COMMENTS: _____


INV=830.55
12" CMP
INV=830.22
12" CMP
INV=829.32
12" CMP
INV=829.16
15" CMP
INV=828.12
15" CMP
INV=827.85
COS
609
3.13 acres
551
0.75 acres
552
0.98 acres
830
825
820
815
248.65'
280.81'
209.71'
229.34'
146.41'
TDD

113 Silver Lake Dr, 28117

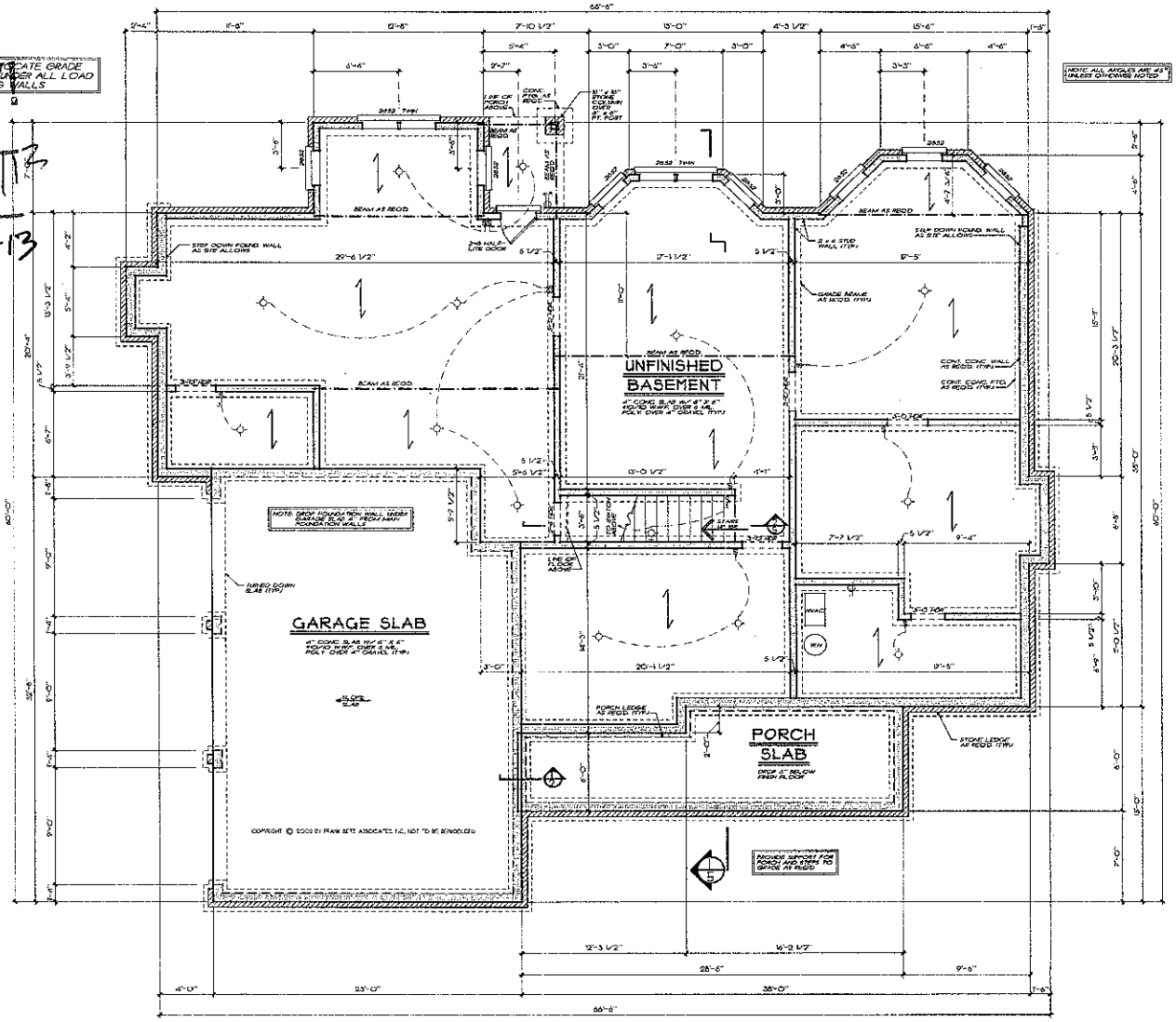
Acknowledgement Of
Plans Submittal ONLY

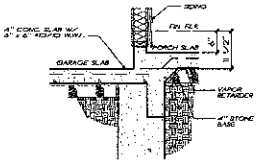
~~Date~~

Date 12/17/13

12-17-13

FRM 558





1/2 SLAB DETAIL

BASEMENT FOUNDATION PLAN

FRANK BETZ ASSOCIATES, INC. ASSUMES NO LIABILITY FOR ANY CHANGES OR MODIFICATIONS MADE TO THESE PLANS BY OTHERS.

REVISIONS	DATE	BY
CLAY SHED	4-18-01	CHP

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HOMEPLANS

BASEMENT FOUND. PLAN

THE WOODCLIFFE

FBA
FRANK BETZ ASSOCIATES, INC.
2405 LAKE PARK DRIVE, SUITE 250
SMYRNA, GEORGIA 30080
(678) 560-1966
www.frankbetz.com

BY: RLD CK: RRW

DATE: 5/29/02

SHEET

2

OF: 5

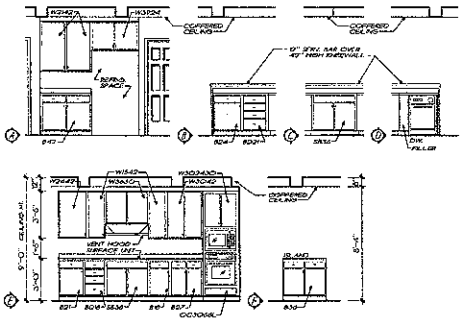
GENERAL NOTES

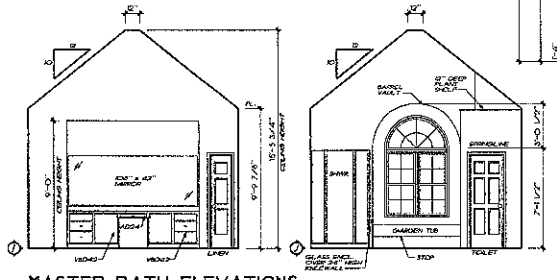
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL CODES GOVERNING SUCH CONSTRUCTION.
2. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE BEFORE COMMENCING WORK. ANY DISCREPANCIES SHALL BE REFERRED TO FRANK BETZ ASSOCIATES, INC. FOR INTERPRETATION AND/OR CORRECTION BEFORE PROCEEDING WITH WORK. CONTRACTOR ASSUMES RESPONSIBILITY FOR ERRORS THAT MAY HAVE BEEN CORRECTED.
3. ALL DIMENSIONS ARE TO FACE OF STUD, UNLESS OTHERWISE NOTED.
4. ALL FOOTINGS TO BE PLACED ABOVE THE LOCAL FROST LINE AND MUST BEAR ON UNDISTURBED, NON - SAMPLE OR COMPACTED SOIL BEARING CAPACITY SHALL BE DETERMINED BY A SOILS ENGINEER OR BUILDING OFFICIAL PRIOR TO EXCAVATION.
5. CONTRACTOR SHALL INSURE COMPATIBILITY OF THE BUILDING WITH ALL SITE IMPROVEMENTS.
6. IF SECTIONAL, TRENCH OR 4' AGAINST ANY FOUNDATION WALL, REINFORCE AS PER CODE.
7. ALL STRUCTURAL AND SITE DETAILS, NOTATIONS SHOULD BE VERIFIED AND UNDERSTOOD BY A REGISTERED ENGINEER OR ARCHITECT. IT IS A GOOD IDEA TO HAVE A REGISTERED ENGINEER VISIT THE SITE DURING CONSTRUCTION TO SEE THAT SOILS, AND WEATHER CONDITIONS MEET LIKE DETAILS. BOTH SOILS AND WEATHER CONDITIONS LIE THE CONTRACTOR IS RESPONSIBLE FOR ALTERATIONS AND ADDITIONAL STRUCTURES, TIE RODS AND SUPPORTS NECESSARY TO INSURE A SOUND AND TRUE FINISHED STRUCTURE.
8. ALL WORK, MATERIALS, EQUIPMENT AND APPLIANCES SHALL BE OF A GOOD GRADE AND QUALITY AND MEET ALL NATIONAL, STATE AND LOCAL BUILDING CODES WHERE APPLICABLE.
9. ALL PLUMBING AND GAS WORK SHALL BE PERFORMED BY LICENSED PLUMBERS AND GAS FITTERS AND MUST COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
10. ALL ELECTRICAL WORK SHALL BE PERFORMED BY LICENSED ELECTRICIANS AND MUST COMPLY WITH ALL LOCAL CODES AND ORDINANCES.

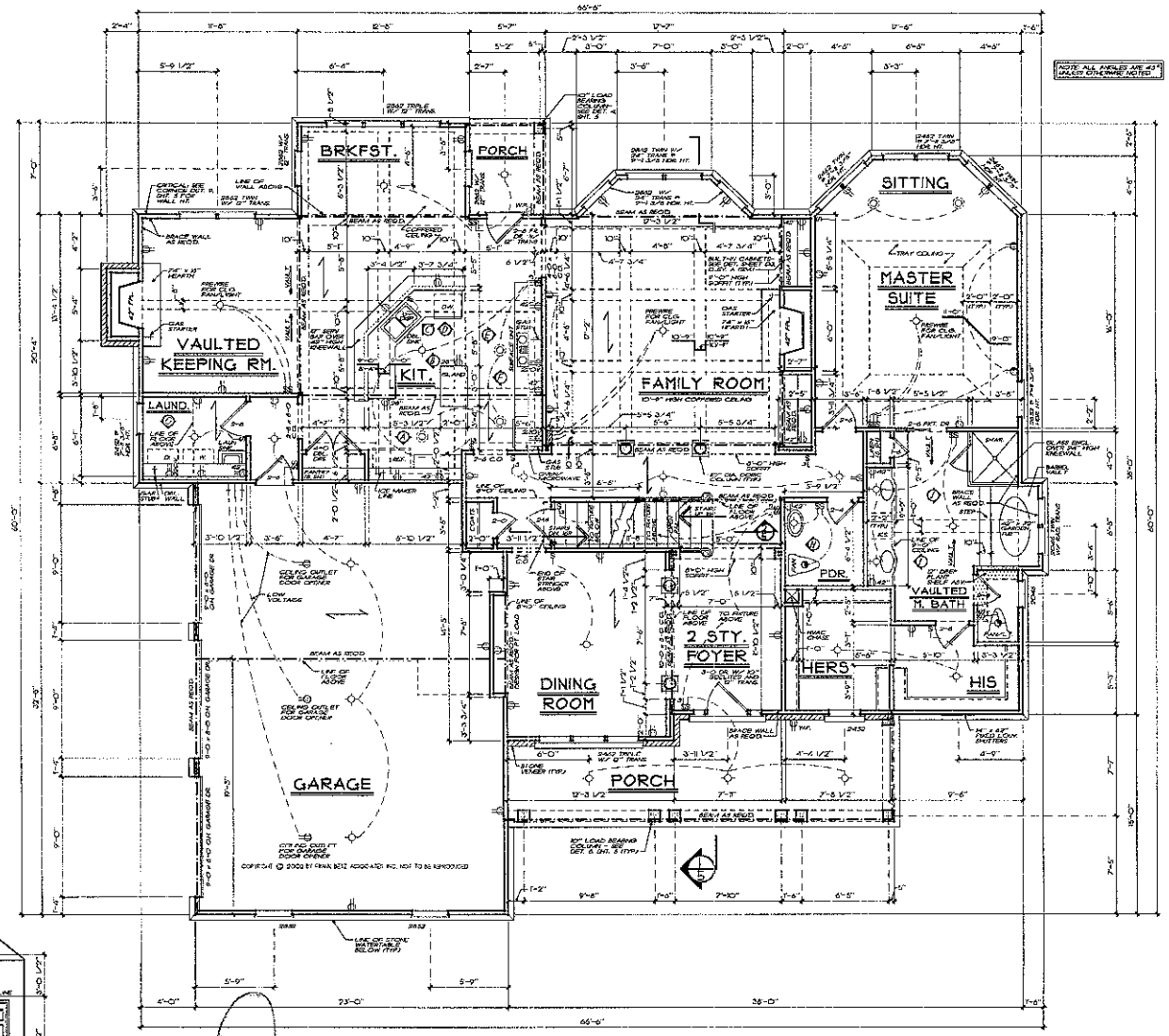
GENERAL FRAMING NOTES

THE FOLLOWING NOTES ARE SUGGESTED MINIMUM REQUIREMENTS ONLY. SEE YOUR LOCAL BUILDING CODES FOR BOOKS, PLEASE VERIFY AND CONFIRM ALL "STRUCTURAL" QUESTIONS WITH A LICENSED ENGINEER OR ARCHITECT. ALL STRUCTURAL DRAWINGS SHOULD CONFORM WITH LOCAL ENGINEERING DIRECTIVES, WHEREVER

1. PROVIDE RIDGE 2" NO. 2 DF/L OR BETTER ON ALL GABLES.
2. ALL JOISTS SHALL BE SIZED AS FOLLOWS: 2X6 @ 16" O.C. MAXIMUM SPAN 10'-0" 2X8 @ 16" O.C. MAXIMUM SPAN 13'-0" 2X10 @ 16" O.C. MAXIMUM SPAN 16'-0" 2X12 @ 16" O.C. MAXIMUM SPAN 19'-0" ALL JOISTS TO BE #2 DF/L OR BETTER
3. PLACE ALL PLYWOOD WITH 1/8" TO 1/4" PLYWOOD NOTCH EXPANSION JOINTS.
4. FRAMING TO INSTALL DOUBLE FLOOR JOISTS UNDER PARTITION WALL PARALLEL TO JOIST DIRECTION.
5. PROVIDE SOLID BLOCKING AT MID-POINT OF SPAN OR 8'-0" MAXIMUM SPACING.
6. ALL EXTERIOR CORNERS (HEADER AND OUTSIDE CORNER) SHALL BE BRACED WITH 2"x10" DOF/L OR #2 HEM/FIR (UNLESS SCHEDULE SHOWS) OR EQUIVALENT. SEE DETAILS AND SCHEDULE FOR ADDITIONAL INFORMATION AT ALL INTERIOR LOAD BEARING OPENINGS. APPROVED DIAGONAL BRACING MAY BE USED IN LIEU OF CORNER BRACING.
7. ALL HEADERS AT OPENINGS IN FRAMED WALLS (UNLESS DOWN THRU ALL LEVELS AND SUPPORTED AT ALL SUBSEQUENT FLOORS AND ALL FOUNDATIONS) SHALL BE SUPPORTED BY A PACKED PILE OF STUDS EQUAL TO THE WIDTH OF THE HEADER.
8. PROVIDE DOUBLE SUB-STRUCTURE AT END SPAN FOR CEILING JOISTS WITH SPAN GREATER THAN 10'-0".
9. PROVIDE COLLAR TIES AT EVERY 1/3 OF VERTICAL DISTANCE BETWEEN RIDGE BOARD AND CEILING JOISTS OR 4'-0" O.C. MAXIMUM.
10. ALL 2X4 STUD WALLS AND FLOOR BOARDS SHALL BE USE "D" BOX NAILING.
11. ROOF SLOPING SHALL BE 1/2" DRY OUTDOOR PLYWOOD.
12. ALL BASEMENT WALLS SHALL BE DESIGNED BY LOCAL ENGINEER AND MEET ALL LOCAL CODES.
13. ALL FRAMED WALL SHALL BE 2X6 AND BRACED ON 2 x 8 STUDS UNLESS OTHERWISE NOTED.







FIRST FLOOR PLAN

SQUARE FOOTAGE	
FIRST FLOOR	2205 SQ. FT.
SECOND FLOOR	1360 SQ. FT.
TOTAL	3565 SQ. FT.
OPT. BONUS	234 SQ. FT.
OPT. BATH	43 SQ. FT.
TOTAL	3442 SQ. FT.

Acknowledgement of Plans Submittal ONLY!

Date 12/17/13

Date 12-17-13

REVISIONS	DATE	BY
CLM #1	7-19-13	CLM
CLM #2	7-29-13	MDT
CLM #3	8-15-13	KLB
CLM #4	9-12-13	MDT

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HOME PLANS
PREFERRED BY TODAY'S BUILDERS

FIRST FLOOR PLAN
K. & B. ELEVATIONS

THE WOODCLIFFE

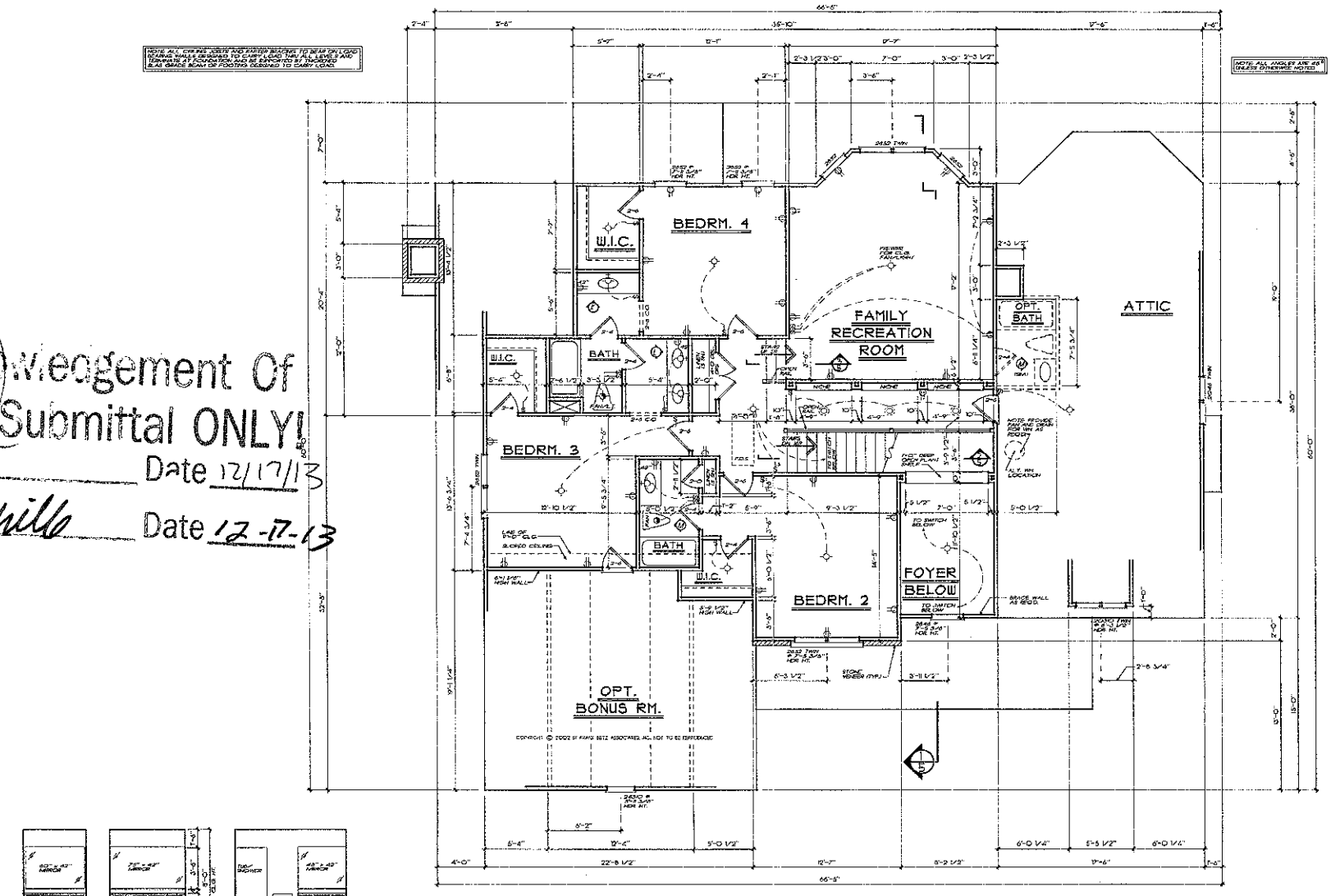
FBA
FRANK BETZ ASSOCIATES, INC.
2401 LAKE PARK DRIVE/SUITE 250
SMYRNA, GEORGIA 30080
770.435.2229
www.frankbetz.com

BY: FLD CK: XXW

DATE: 8-19-13

SHEET: 3

OF: 5



Acknowledgement Of Plans Submittal ONLY!

Date 12/17/13

Date 12-17-13

BATH ELEVATIONS

SECOND FLOOR PLAN

FRANK BETZ ASSOCIATES INC. ASSUMES NO LIABILITY FOR ANY CHANGES OR MODIFICATIONS MADE TO THESE PLANS BY OTHERS

REVISIONS	DATE	BY

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HOME PLANS
EXCEPTIONAL FLOOR PLANS TO SUIT TODAY'S MARKET

SECOND FLOOR PLAN
BATH ELEVATIONS

THE WOODCLIFFE

FBA
FRANK BETZ ASSOCIATES, INC.
2401 LAKE PARK DRIVE/SUITE 200
SMYRNA, GEORGIA 30080
770/431-1666
www.frankbetz.com

BY: RLO CK: RSW

DATE: 12/17/13

SHEET: 4

OF: 5

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

Zoning Permit

Permit Number: 139651ZO

Printed: 12/4/2006

Master #: 139651

Associated Permits:
139651ZO Zoning

Applicant

Name: S&ME INC. ENGINEERING (Toney Jacob **Phone:** 704-662-8625
Address: 105D DENVER BUSINESS PARK DR
Mooresville, NC 28115

Parcel

Parcel Number: 4626581913.558
Address: 000 MCKENDREE RD
MOORESVILLE, NC 28117
Subdivision: The Farms Phase 5

Zoning: RR
Township: 1700
Area: .98
Lot(s): 558

Directions to Parcel: BRAWLEY SCHOOL RD, RIGHT MCKENDREE, PROPERTY ON RIGHT

Owners

Name: CRESCENT RESOURCES INC
Address: P O BOX 1003
CHARLOTTE, NC 282011003

DEVELOPER PERMIT

Contractors

Contractor Type: Enviromental Services
Name: S&ME INC. ENGINEERING (Toney Jacobs) **Phone:** 704-662-8625
Address: 105D DENVER BUSINESS PARK DR
Mooresville, NC 28115

Fees and Receipts:

Number	Description	Amount
FEE-140843-06	Zoning - Permit / Inspection	$45.00
FEE-140844-06	Environmental Health - Type I or II Fast Track	$200.00
	Total Fees:	**$245.00**

IREDELL COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION

02-27-13
pd 350.00 MS

Application for IMPROVEMENT PERMIT , AUTHORIZATION TO CONSTRUCT, or 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 X Authorization To Construct ___ BOTH ___ Existing System Inspection

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

3. Applicant Information:

Applicant Name	Mailing Address	Home Phone #	Alternate Phone #
Jasper Builders	Po Box 3001	704 799 9982	
Owner Name	Mailing Address	Home Phone #	Alternate Phone #
Shawn Beichler	117 Barksdale Ln		

4. Property Information:

Street Address	Subdivision Name	Section/Phase and Lot Number
113 Silver Lake Tr	The Farms	5 / 558

Driving Directions: Brawley School, R onto Mckendree, R onto Digh, R onto Montclaire, R onto Silver Lake Tr

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

(✓) New, Single Family Residence — Maximum Number of Bedrooms 5 — ( ) Crawl Space Foundation?
( ) New, Multi-Family Residence — Maximum Number of Occupants ___ — ( ) Concrete Slab Foundation?
( ) Expansion of Existing Septic System — If Expansion, Current Number of Bedrooms 4 — (✓) Basement w/Plumbing?
( ) Repair To Failing Septic System due to ___ — ( ) Basement w/out Plumbing?
( ) Other Prefer 25% system, Please call when scheduled.

IF Non- Residential Site Development:
Type of Business: Will discuss panel
Square Footage of Building: based on Field
Maximum Number of Employees: measurements.
Maximum Number of Seats:

6. Proposed Water Supply:

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

7. Desired Septic System Type: *(You may rank in order of preference, if any)* ( ) Existing system--installed in N/A (YEAR)

( ) Alternative (✓) Conventional ( ) Innovative ( ) Modified Conventional ( ) Other ___ ( ) No Preference

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

( ) Yes (✓) No Does the site contain any jurisdictional wetlands?
( ) Yes (✓) No Is any non-domestic sewage (i.e. industry) to be generated?
( ) Yes (✓) 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: ___ 1/9/2013
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) DATE

IREDELL COUNTY HEATLH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
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:

____ **Property Line measurements are clearly identified...**
____ **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
____ **Front and side setbacks from property line...**
____ **Preferred driveway location and configuration, preferred well location...**
____ **Area you prefer your septic system to be placed...**
____ **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: _____ 1/9/2013
REQUIRED **property owner or owner's legal representative signature.** **DATE**

USE THIS SPACE TO DRAW YOUR SITE PLAN

Septic System is off-Site