IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 | Mooresville Office (704) 660-3625 | PERMIT # 235257

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

PIN # 4634984649

APPLICANT: DIANA MCCARTHY | APPLICANT ADDRESS: 239 KNOX VIEW LN MOORESVILLE

SITE ADDRESS: 239 KNOX VIEW MOORESVILLE NC 28117 | PHONE: | ALT. PHONE:

SITE DIRECTIONS: LANDRACE - TL 2ND KNOX VIEW - #239 ON RT.

SUBDIVISION: KINGS LANDING | SECTION: - | LOT # 17 | LOT AREA: .83AC | DESIGN FLOW: 480 | L.T.A.R.: .75

Septic Tank	EXISTING	(gal)	STB		Date	☑ New System	☐ Repair	☐ Expansion	System Type: I	II	III	IV	V	VI	☑ Residence	No. Bedrooms	4	Water Supply	
Pump Tank		(gal)	PT		Date	System Description:	PUMP 25% + PANEL								☐ Business	No. Persons	8	☐ Private	
Pump Make	Gald	Model	72HP NE0512H		Serial #	0131781	Repair System Description:		LP PPBPS						☐ Other	No. Employees		☐ Public	
# Nitrification Fields	1	# Lines	6 TOTAL		Linear Ft:	440	Maintenance Agreement Required:	☐ YES	☑ NO						☐ Slab	☑ Crawl Space		☑ Community	
Trench Width	24" NEW	Max. Trench Bottom Depth	36"		Gravel Depth			☐ GRAVITY	☑ PRESSURE						☐ Basement w/plumbing			☐ Basement w/o plumbing	

Comments / Conditions: EXISTING

5/11/2018: Recommend pumping Septic tank every 3-5 years.
Expansion 3 → 4 Bedroom

INITIAL SITE SKETCH

SEE ROLLANS SOIL & ENVIRONMENTAL SERVICES' PLAN

AS BUILT SKETCH

9/28/18: Conveyance line from PM box to new lines OK. Lines not yet installed. PM box needs updated TAP sizes to equally distribute [see page 5] -CC

10/1/18 - new lines checked, tap sizes checked, pressure head set -CC

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. **CONTACT A LOCATOR SERVICE PRIOR TO ANY EXCAVATION**

☐ IMPROVEMENT PERMIT *with plat valid without expiration* ☐ IMPROVEMENT PERMIT *with site plan valid for 60 mos.* ☒ AUTHORIZATION TO CONSTRUCT *valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.*

Owner / Applicant Signature: [signature] Date: 9/6/13

IMPROVEMENT PERMIT by: [signature] Date: 9/6/13

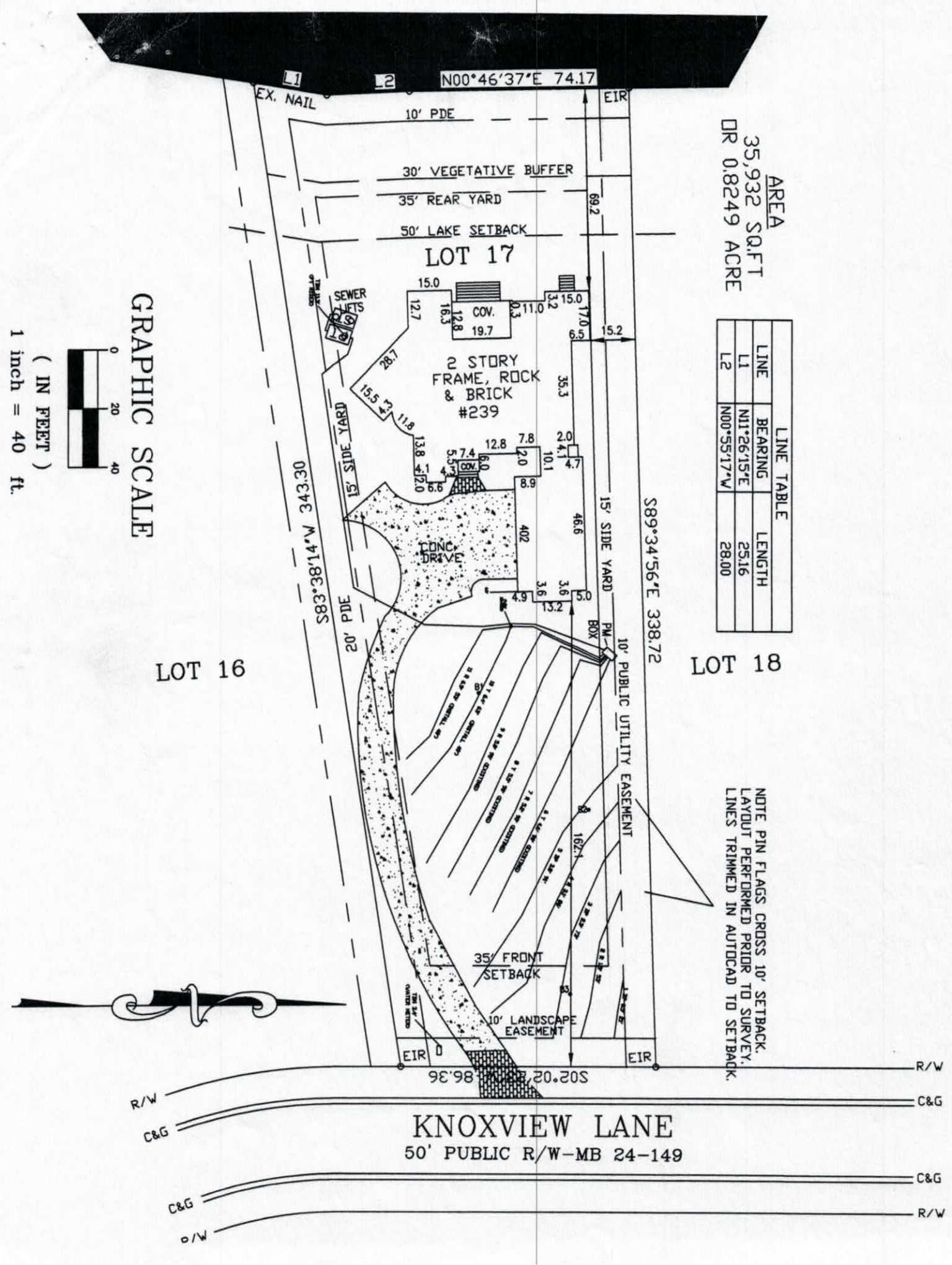
AUTHORIZATION TO CONSTRUCT by: Tom Rusch Date: 5/11/2018

Installed by: Precision excavation (Shane Cashion)

OPERATION PERMIT by: Carla C. Cave Date: 10/1/18

Existing System Inspected by: Date:

Health Dept. Copy - WHITE Applicant (Final Approval) - YELLOW Applicant (Conditional Approval) - PINK


N00°46'37"E 74.17
EX. NAIL
EIR
10' PDE
30' VEGETATIVE BUFFER
35' REAR YARD
50' LAKE SETBACK
LOT 17
AREA
35,932 SQ.FT
OR 0.8249 ACRE
LINE TABLE
LINE | BEARING | LENGTH
L1 | N11°26'15"E | 25.16
L2 | N00°55'17"W | 28.00
SEWER
2 STORY
FRAME, ROCK
& BRICK
#239
COV.
15' SIDE YARD
CONC.
DRIVE
20' PDE
S83°38'14"W 343.30
S89°34'56"E 338.72
15' SIDE YARD
10' PUBLIC UTILITY EASEMENT
PM
BOX
LOT 16
LOT 18
35' FRONT
SETBACK
10' LANDSCAPE
EASEMENT
EIR
EIR
S02°02'20"E 86.36
NOTE PIN FLAGS CROSS 10' SETBACK.
LAYOUT PERFORMED PRIOR TO SURVEY.
LINES TRIMMED IN AUTOCAD TO SETBACK.
GRAPHIC SCALE
0
20
40
(IN FEET)
1 inch = 40 ft.
R/W
C&G
KNOXVIEW LANE
50' PUBLIC R/W-MB 24-149
C&G
C&G
R/W
o/W

PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	Diana McCarthy
Address:	239 Knoxview Lane Mooresville, NC 28117
Phone:	704.995.7083
County:	Iredell
Location:	239 Knoxview Lane
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	480 gpd
System Flow:	38.54

Design Specifications

Drainfield Size:	440
Loading Rate:	0.3
Depth of Gravel in Trench:	NA (25% reduction)
Gravel Size:	NA (25% reduction)
Trench Depth:	36 in.
Trench Width:	24 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	180
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	31.32
Dosing Volume:	201.12
Supply Manifold:	4 in. SCH 80 PVC
Supply Manifold Length:	4 ft. (minimum)
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:	5.45
Elevation Head:	12.70
Total Dynamic Head:	23.18
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 at Pressure Manifold
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services, PA.

239 Knoxview Lane
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	480	
SOIL APPLICATION RATE:	0.3	
TOTAL AREA TRENCH BOTTOM:	1240	
TOTAL LATERAL LENGTH:	440	
NUMBER OF FIELDS:	1	
LATERAL LENGTH REQUIRED PER FIELD:	400	
SUPPLY LINE LENGTH:	180	
TOTAL DYNAMIC HEAD:	23.18	
MANIFOLD SIZE:	4 in.SCH 80 PVC	
DOSING VOLUME:	201.12	
PUMP TANK DRAW DOWN*:	9.6	
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.*

239 Knoxview Lane

Project #: 01-1891

LAYOUT FOR 4 BEDROOM HOME

August 29, 2013

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		3.4			100.00		
INSTR. 1			103.40				
HOUSE CNR				6.50	96.90		
P. TANK				11.30	92.10		
1	DARK PINK			0.50	102.90	21	21
2	RED			1.50	101.90	53	53
3	DARK PINK			2.30	101.10	73	73
4	RED			3.10	100.30	86	86
5	DARK PINK			3.80	99.60	91	91
6	***YELLOW***		***(Existing)***	***4.60***	***98.80***	***90***	***90***
7	***RED***		***(Existing)***	***5.20***	***98.20***	***90***	***90***
8	***YELLOW***		***(Existing)***	***5.50***	***97.90***	***90***	***90***
9	***RED***		***(Existing)***	***5.80***	***97.60***	***90***	***90***
10	***YELLOW***			***6.40***	***97.00***	***63***	***40***
11	***RED***			***6.90***	***96.50***	***53***	***40***
					Total	**800**	**764**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
**** System***	***440***	***0.250***	***ACCEPT.***	***0.300***	***HYBRID***	**PRESSURE**
					25%/PPBPS	**MANIFOLD**
Repair	324	0.300	*MOD.*	0.300	PPBPS	LOW PRESSURE

Notes:

** TBM located on top of water meter (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

**Lines located via Surveyor

PRESSURE MANIFOLD TAPSHEET - 239 Knoxview Lane

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	Trench Ar	Line LTAR
6	*YELLOW*	98.8	*90*	SCH 40 1/2	**7.11**	270	0.19
7	*RED*	98.20	*90*	SCH 40 1/2	**7.11**	270	0.19
8	*YELLOW*	97.90	*90*	SCH 40 1/2	**7.11**	270	0.19
9	*RED*	97.6	*90*	SCH 40 1/2	**7.11**	270	0.19
10&11	*YELLOW/RED*	97/96.5	*80*	SCH 80 3/4	**10.1**	240	0.20
	total	**feet =**	**440**	**gal/min =**	**38.54**		

Des. Flow	**480**
Pump Run=	**5.22**
soil LTAR	**0.3**
LTAR +5%	**0.315**
LTAR with ACCEPTED	**0.4**
LTAR with ACCEPTED + 5%	**0.42**

CALCULATIONS

Location	239 Knoxview Lane	
Project Number	01-1891	
Lot No:	17	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	$^{gpd/ft^2}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	180	ft.
Supply Line Volume	31.32	gal.
Required Feet of Line	400	ft.
Amount of Line from Layout	440	ft.
Gallons per Minute	38.54	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	287.32	gal.
Dosing Volume	201.12	gal.

Note: Dosing Volume based on70% of lateral line volume

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

Tank Draw Down	9.6	*Generic Draw Down of 31 gal.per in.*
Pump Run Time	5.22	minutes
Elevation Head	12.7	ft.
Pressure Head	2	ft.
Friction Factor	3.03	ft./100 ft. *(From the interpolater.)*
Friction Head	5.45	ft.
Total Dynamic Head (+15%)	23.18	ft.

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: Diane McCarthy
ADDRESS: 239 Knox Overlook Mooresville NC 28117
PROPOSED FACILITY: 4BR
PROPOSED DESIGN FLOW (.1949): 480 gpd
LOCATION OF SITE:
APPLICATION DATE
DATE EVALUATED: 7/30/13
PROPERTY SIZE: ± 0.83
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	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
1	L/5%	0-8	B l sr	FrSSSPSESP	f-c gravel	48	-	-	PS
		8-42	Rc mmsbk	" " " "	f sap				0.3
		42-48	Rc l mmsbk	" " " "					
2	L/10%	0-10	B l-cl gr wsbk	FrSSSPSEXP	c. cobble	48	-	-	PS
		10-43	Rc mmsbk	" " " "					0.3
		43-48	Rc l mfsbk	" " " "	f sap				
3	L/15%	0-8	B l sr	FrSSSPSEXP	c gravel	48	-	-	PS
		8-48	Rc mmsbk	" " " "	f sap				0.3
4									

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	HYBRID	PPBPS
Site LTAR	0.35/0.3	0.3

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948):
EVALUATED BY: S. Ashley Rollins, LSS
OTHER(S) PRESENT:

COMMENTS:

RECEIVED APR 30 2019

IREDELL COUNTY HEALTH DEPARTMENT *ENVIRONMENTAL HEALTH DIVISION*

(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)

Paid $105.00

1. APPLICATION FOR: X Improvement Permit X Authorization To Construct ___ Existing System Inspection

Ltd. Relayout # 235257

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:

George Arena	239 Knoxview Lane 28117	george.arena1@gmail.com	704-892-4851	704-574-1250
Applicant Name	Mailing Address		Home Phone #	Alternate Phone #
George Arena	239 Knoxview Lane 28117		704-892-4851	704-574-1250
Owner Name	Mailing Address		Home Phone #	Alternate Phone #

4. Property Information:

239 Knoxview Lane	Kings Landing	17
Street Address	Subdivision Name	Section/Phase and Lot Number

Driving Directions: Off Langtree Road, west of I-77

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

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

Maximum Number of Bedrooms 4
Maximum Number of Occupants ___
If Expansion, Current Number of Bedrooms 3

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

7. Desired Septic System Type: *(You may rank in order of preference, if any)* ( ) EXISTING SYSTEM installed 2004/2005 (Year)

( ) Alternative (X) Conventional ( ) Innovative ( ) Modified Conventional ( ) Other ___

8. Please Answer The Following ( ) Yes (X) No Does the site contain any jurisdictional wetlands?
   To The Best of Your Ability: ( ) 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: George J Arena
Property owner or owner's legal representative signature (SIGNATURE REQUIRED)

4/30/18
DATE

DOCUMENTATION TO AUTHORIZE AN OWNER'S LEGAL REPRESENTATIVE

Applications for permits require the "signature of the owner or owner's legal representative" (15A NCAC 18A .1937). If the owner does not sign the application himself or herself, they can submit any one of the following documents to designate their legal representative:

Power of Attorney; Real Estate Contract; Estate executor; Bankruptcy trustee; Court ordered guardianship

In the absence of the above documentation, the property owner may provide the local health department with documentation that designates a legal representative. A property owner may:

Complete this form to document his or her legal representative, or provide his or her own form that contains the information in this form.

If there are multiple property owners, then all property owners must sign the form that designates a legal representative.

By signing a form that designates a legal representative for purposes of 15A NCAC 18A .1937, the property owner authorizes that representative to act on their behalf in matters pertaining to the application and permitting process, including signing or receiving any application, document or permit. The owner retains full responsibility to meet all permit conditions specified by the local health department.

I, George G. Arena, am the legal owner(s) of the property located at 239 Knoxview Lane, identified as PIN (Parcel Identification Number) 46 3498 4649, located in Iredell County, North Carolina.

I do hereby authorize (**print legal representative/company name**) _____, _____, to act as an agent on my behalf in applying for/signing/obtaining any of the documents described below.

- Application for Improvement Permit (IP) / Authorization to Construct (AC)
- Improvement Permit (IP) / Authorization to Construct (AC)
- Application for soil-site evaluation (new/repair)
- Application/permit for private drinking water well/well abandonment
- Application for Compliance Inspection

I agree to abide by all decisions and/or conditions between the legal representative acting on my behalf and the Iredell County Department of Public Health, Environmental Health Division.

George G. Arena — Signature of Owner(s) — 4/30/18 — Date

Ronda Hart — Signature of Witness — 4/30/18 — Date

Please return this signed form to the appropriate office:

Mooresville - Environmental Health
ronda.hart@co.iredell.nc.us
Fax: 704-662-3239
610 E. Center Avenue, Mooresville, NC 28115

Statesville - Environmental Health
adrienne.shea@co.iredell.nc.us
Fax: 704-871-3483
349 N. Center Street, Statesville, NC 28677

Fast Track

09-04-13 #8500

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 ___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	Work Phone
Diana McCarthy	239 Knox View Lane, Mooresville NC 28117		704 995 7083
Owner Name	Mailing Address	Home Phone	Work Phone
Same			

4. **Property Information:**

Street Address	Subdivision Name	Section/Phase and Lot Number
239 Knox View Lane, Mooresville NC 28117	Kings Landing	Map 2, Lot 17

Driving Directions: I77 S, Rt on Langtree, Lt on Knox View, House on Lt (239)

****

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

( ) New, Single Family Residence
( ) New, Multi-Family Residence
(X) 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 3

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

****

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

( ) Alternative ( ) Conventional ( ) Innovative (X) Modified Conventional (X) Other Accepted w/Pump Existing - Proposed Hybrid. ( ) No Preference

****

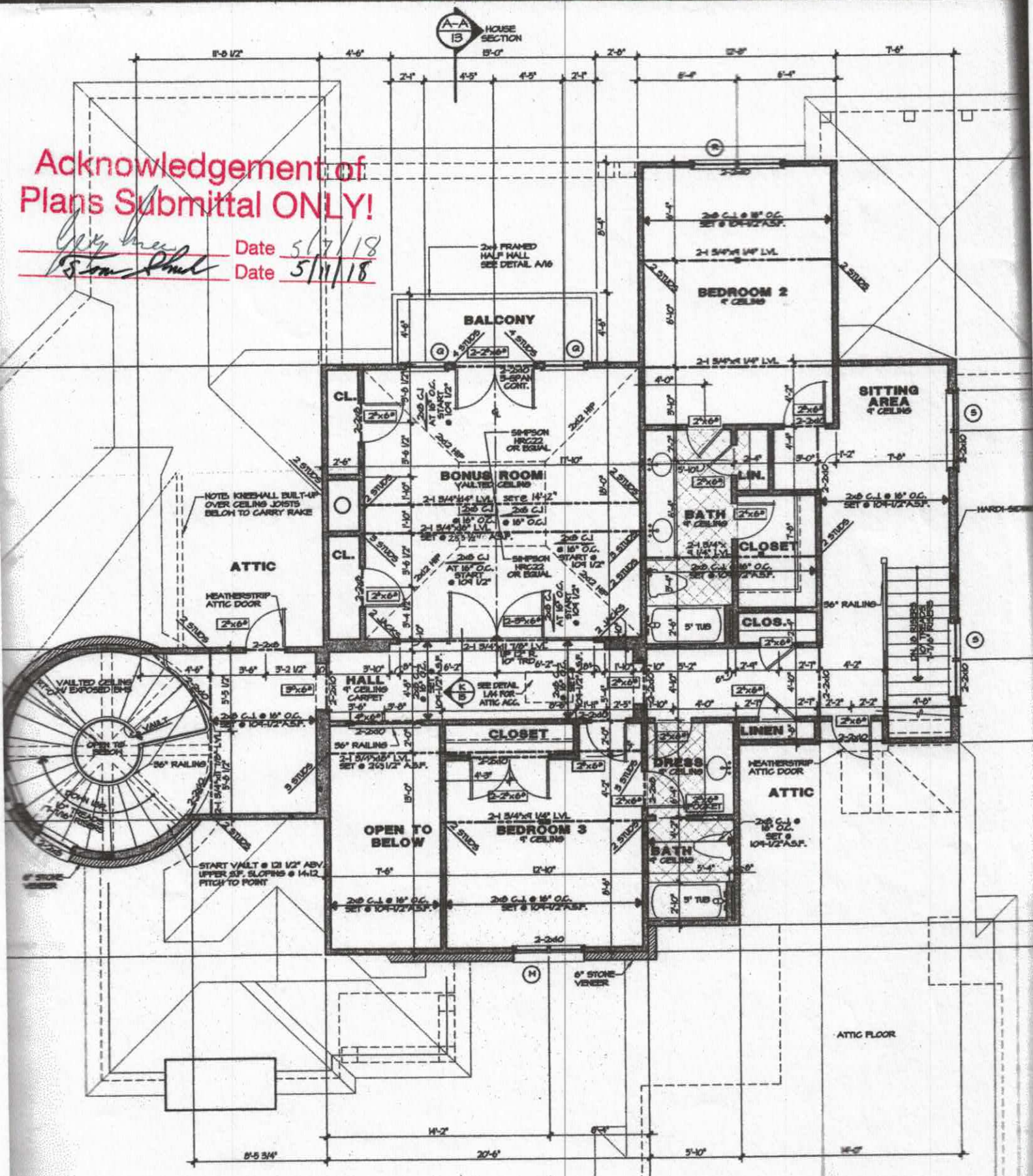
8. **Please Answer The Following To The Best of Your Ability:**

( ) 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?

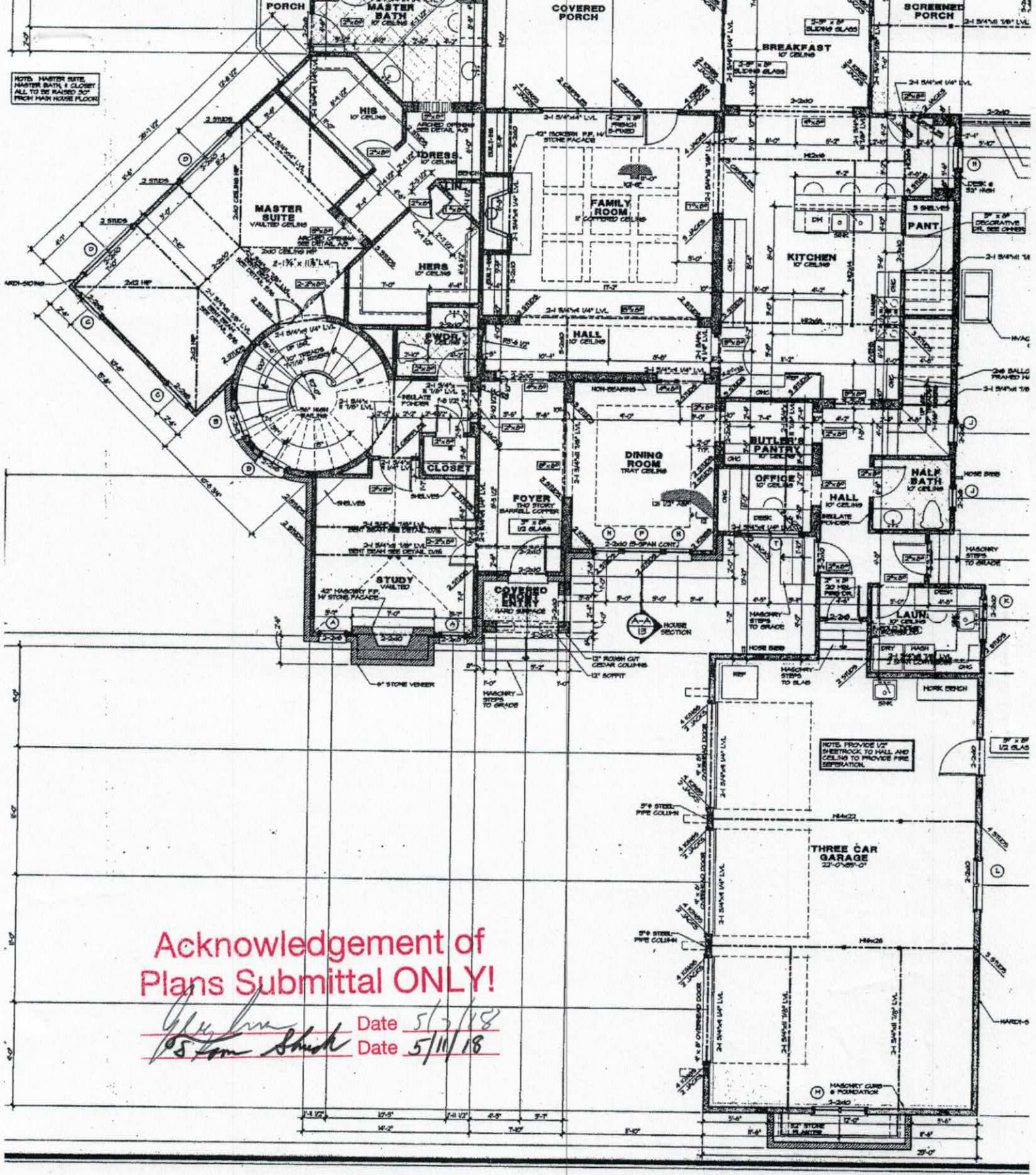
****

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: _____ 9/5/13
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) DATE



Plan is to convert existing bonus room into use as bedroom to allow official sale



Acknowledgement of
Plans Submittal ONLY!

Date 5/7/18

Date 5/11/18

EXISTING HOUSE