

21423 BETHEL CHURCH RD

00171150

12/26/2007

duponbj

Groundwater and Wastewater Services File Imaging Project
May 2007
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CERTIFICATE OF COMPLETION/OPERATION PERMIT

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 1796 B DATE: 2/26/99

TC: 001-711-14 ☒ L ☒ CRT

SERIAL Nº 17978

Name of Owner James C. Stewart Juris.: Cornelius

Address of Property 2423 Bethel Church Rd

Inspection Data:

Tank Material P.C.C.

Total Length of Drainfield 300 ft.

Number of Lines 4 @ 75 ft

Cover Depth 12 inches

Water Supply Source Municipal

Distance to Water Source >50 ft

Excavation Inspected 2/26/99

Tank(s) Inspected 2/26/99

Wash Line Inspected N/A

High Water Alarm Inspected 5/11/99

* See Installation Permit.

PLOT

Design 1500 S.T., 1000 D.T., Inv., 900 S.F., T. CTR# Lavonne Benton

The undersigned has inspected the Septic Tank System described above, and certifies it has been

☒ installed or constructed ☐ altered or repaired

☒ in accordance with the permit issued ☒ as detailed in the plot above

and meets the provisions of 15A NCAC 18A. 1900, "Laws And Rules For Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. This issuance of this

☒ Certificate of Completion ☒ Operation Permit

does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1990 in addition to those listed below under "COMMENTS." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the suspension/revocation of this permit.

COMMENTS: Type III b Pump-to-Chamber

Jeff A. Knight
Environmental Health Specialist

Mecklenburg County services are available without regard to ethnic origin, sex, or disability.

INSTALLATION, CONSTRUCTION, ALTERATION, AND/OR REPAIR APPROVAL

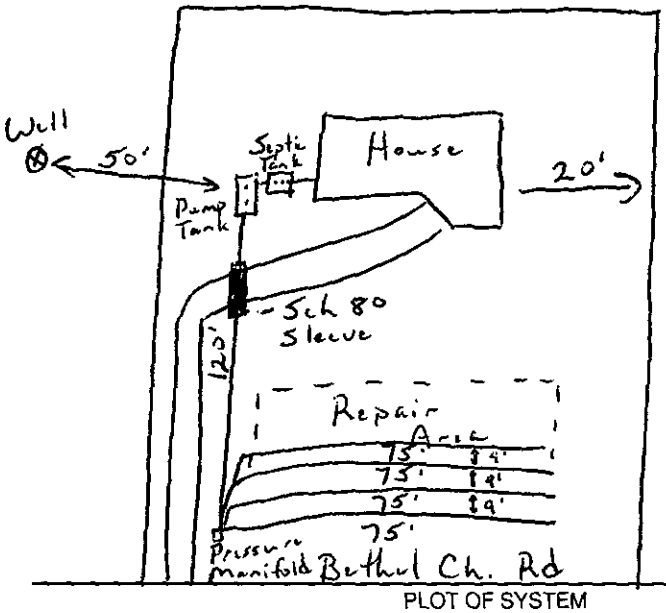
HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 1796 B DATE: 2/18/99

TC: 001-711-14 PL

SERIAL Nº 18047

Permission is hereby given to ✓ (Install or Construct) Alter or Repair the individual septic tank wastewater treatment system with subsurface, soil absorption, effluent discharge as specified herein at the described location. This permit is granted based upon the information supplied in the application dated 8/3/98. All work shall be completed on or before March 18, 1999, after which date this permit shall be null and void. The system shall meet all of the construction requirements of 15A NCAC 18A. 1900 which are in effect on the date of the granting of this permit. A Certificate of Completion or an Operation Permit must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now or hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.



PLOT OF SYSTEM

Liquid Capacity of Septic Tank 1500 gallons

Liquid Capacity of Dosing Tank 1000 gallons

Tank Construction P.C.C.

Trench Depth 30 inches

Absorption and/or Nitrification Lines:

Trench Width 3 feet

Trench Walls Scored and Porous Yes

Total Line Length 300 feet

Number of Lines 4

Depth of Stone N/A inches

Distance from House 5 feet

Distance from Property Line 10 feet

Distance from Well >50 feet

NOTICE: This system shall not be installed while soils are in a wet condition.

NAME OF OWNER James C. Stewart

LOCATION OF PROPERTY 21423 Bethel Ch. Rd, Cornelius

Comments: 1) Keep lines level and on contour. 2) Keep trenches shallow - 30" maximum.

Jeff A. Knight
Environmental Health Specialist

WHITE - HEALTH DEPARTMENT's COPY • CANARY - E.H.S. COPY • PINK - OWNER OR AGENT's COPY

CK 1230 NW

FEE: 100.00 **AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION**
DATE: 9-2-98 **VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE**

DATE: 9-2-98 **PERMIT NO:** 1796-B
PARCEL NO: 001-711-14

JOB LOCATION ADDRESS: 21423 Bethel Church Rd
PROPERTY OWNER: James C. Stewart
BUILDING CONTRACTOR: Robert Gray
SUBDIVISION NAME: Plant Shoes
AUTHORIZATION ISSUED BY: Kelly Rall **DATE:** _____
DEHNR AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NO. _____, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN INSTALLATION, CONSTRUCTION, ALTERATION AND/OR REPAIR APPROVAL MUST BE SECURED **PRIOR** TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. OTHER CONDITIONS: use innovative system
agreement form must be executed and recorded prior to installation approval

OWNER CERTIFICATION

I CERTIFY THAT THERE HAVE BEEN NO ALTERATIONS IN SITE OR SOIL CONDITIONS OR MODIFICATIONS TO FACILITY, WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS FROM THOSE SPECIFIED IN THE ORIGINAL APPLICATION OR ASSOCIATED IMPROVEMENT PERMIT UNLESS AUTHORIZED IN WRITING BY THE MECKLENBURG COUNTY HEALTH DEPARTMENT. I ALSO UNDERSTAND THAT ANY SUCH ALTERATIONS, MODIFICATIONS, OR FALSE INFORMATION ARE GROUNDS FOR REVOCATION OF PERMITS AND AUTHORIZATION TO CONSTRUCT.

x Robert E. Gray 9/2/98
SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE DATE

Permit Number: 1796-B

CONDITIONS OF IMPROVEMENT PERMIT

Tax Number: 001-711-14

- The IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be NO grading, filling or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is NOT transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

Basement	___ Yes	✓ No	___ Partial Basement	
Type Primary Wastewater System Type (circle one): I II III IV V VI	___ Conventional ___ Prefabricated, permeable block panel system ___ Shallow Placed Conventional	___ Low Pressure Pipe ___ Large Diameter Pipe ___ Fill ___ Other	✓ Innovative or Experimental: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1	
.3 Long-term acceptance rate	360 Max gallons/day wastewater flow	900 Absorption Area (sq ft)	9 Trench spacing (min. on centers)	
No Serviced by private well	1500 Gallon septic tank	300 Total trench length (ft)	___ Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)	
3 Bedrooms in residence	1000 Gallon pump tank	N/A Depth of stone		
Any surface waters present: yes Type: Lake Norman Minimum separation distance: 50' ±				
Site modifications required: no				
Additional Conditions: use innovative system agreement forms must be executed and recorded prior to installation approval				
Repair Area System Type Type (circle one): I II (III) IV V VI	___ Conventional ___ Prefabricated, permeable block panel system ___ Shallow Placed Conventional	___ Low Pressure Pipe ___ Large Diameter Pipe ___ Fill ___ Other	✓ Innovative or Experimental: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1	
900 Absorption Area (Sq ft) 300 Total Trench Length (Ft)	N/A Depth of Stone Trench	9 Trench spacing (min. on centers)	24" Maximum Trench Depth	
For existing system, enter the year originally installed:				

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department has approved the Request for the Job Location contained in this document. This approval is granted in accordance with the provisions of Laws and Rules For Sewage, Treatment and Disposal in effect at the time of issuance of the permit and is subject to the following provisions:

- No work shall be conducted on the septic tank system until an Installation, Construction, Alteration and/or Repair Approval is granted by this Department.
- This Improvement permit is transferable.

DEHNR Authorized Agent — Date: 9-2-98

Owner/Agent Signature — Date: 9/2/98

MECKLENBURG COUNTY
HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR.
SUITE 211
700 N. TRYON ST.
CHARLOTTE, N.C. 28202.
(704) 336-5102

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL, HEALTH,
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

IWWS-100195

CK # 1207

FEE: 100.00
DATE: 8/3/98 SC

APPLICATION FOR IMPROVEMENT PERMIT FOR RESIDENTIAL SITE INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM

[ ] CRT

TYPE APPLICATION: ✓ NEW SYSTEM __ EXPANSION/ ALTERATION OF EXISTING SYSTEM __ REPAIR OF EXISTING SYSTEM

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

FILE #: 1796B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 001-711-14

STREET ADDRESS: 21423 Berea Church Rd

SUBDIVISION OR MOBILE HOME PARK NAME: Placid Shores

LOT NUMBER: LOT #3

TYPE OF BUILDING (CHECK ONE):

__ SINGLE MOBILE HOME(S)
__ DOUBLE WIDE (D)
✓ HOUSE (H)
__ MODULAR HOME (M)
__ MULTIPLE FAMILY (U)
__ OTHER (O)

TOWNSHIP (CHECK ONE):

__ 0 MECKLENBURG
__ 1 CHARLOTTE
__ 2 DAVIDSON
✓ 3 CORNELIUS
__ 4 PINEVILLE
__ 5 MATTHEWS
__ 6 HUNTERSVILLE
__ 7 MINT HILL

HEATED SQUARE FOOTAGE: 3200

NUMBER OF BEDROOMS: 3 NUMBER OF OCCUPANTS: 3

CLOSING DATE _____

FOUNDATION FOR RESIDENCE:

__ WITHOUT BASEMENT
__ ON SLAB
✓ CRAWL SPACE
__ WITH BASEMENT /PLUMBING
__ WITH BASEMENT /NO PLUMBING

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION: N/A

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE: __ YES ✓ NO TYPE: _____

WATER SUPPLY (CHECK ONE):

__ COMMUNITY (C)
__ SHARED WELL (S)
✓ MUNICIPAL (M)
__ OTHER 'SPRINGS' (O)
__ PRIVATE WELL (P)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

BURIED CABLES, LANDFILLS, STUMPHOLES	__ YES ✓ NO	WELL, SPRINGS OR WATERLINES	__ YES ✓ NO
EXISTING WASTEWATER SYSTEMS	__ YES ✓ NO	DESIGNATED WETLANDS	__ YES ✓ NO
EASTMENTS OR RIGHT-OF-WAYS	__ YES ✓ NO		

PROPERTY OWNER:	LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:
NAME: (LAST) STEWART (FIRST) JAMES (MI) C	NAME: (LAST) DOAG (FIRST) ROBERT (MI) E
ADDRESS: 21423 Berea Church Rd	DAYTIME PHONE: ( ) 33-9480
CITY: Cornelius STATE: NC ZIP: 28031	
DAYTIME PHONE: ( ) 527-5383	

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 7-9-98

An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

SIGNED: _____ DATE: 8/3/98

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

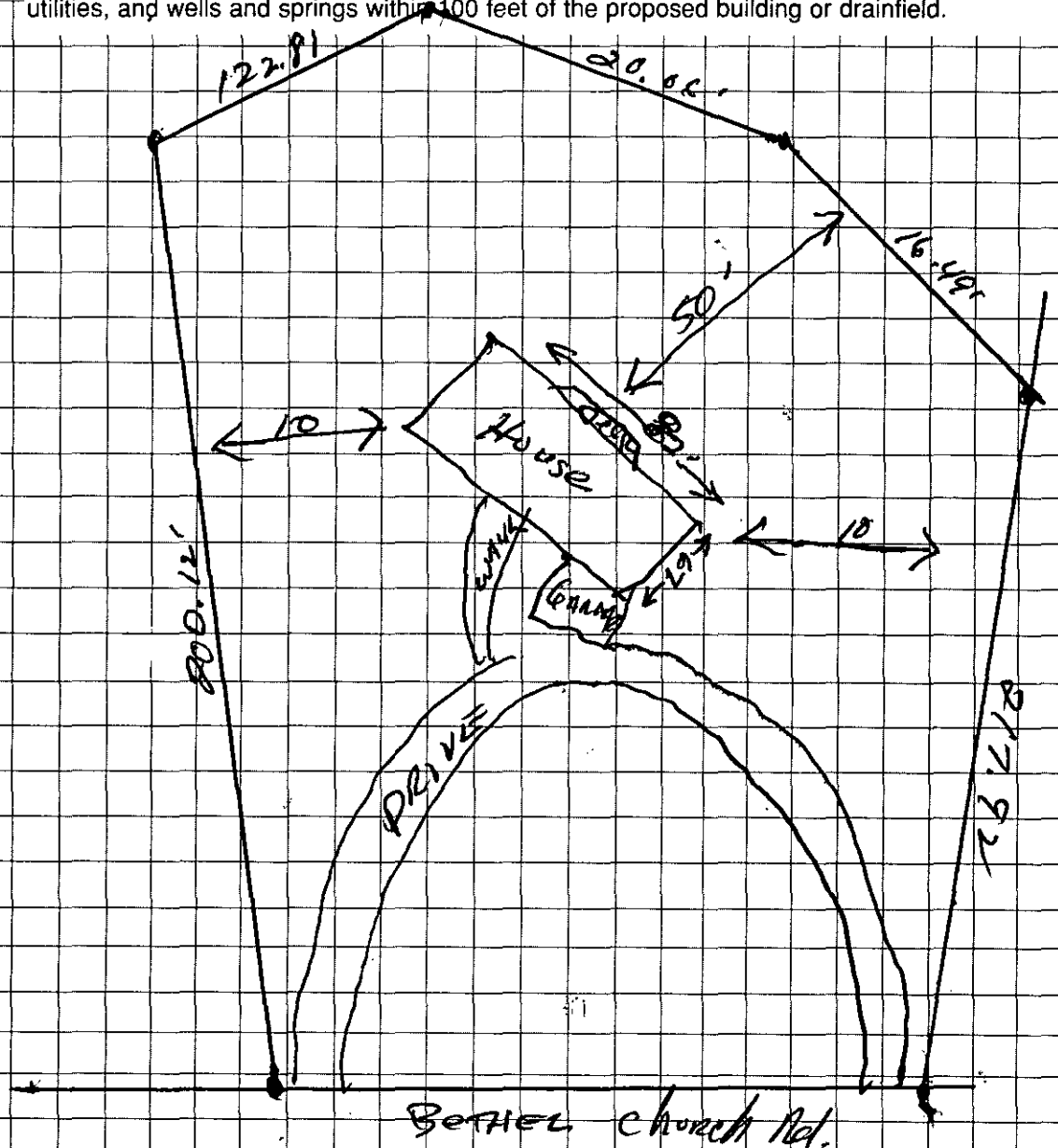
PROPOSED PLOT PLAN

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON STREET
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 1796B

TC: 001-711-14

Draw in and name all roads adjoining the property. Draw in and accurately dimension the lot concerned. Accurately indicate property boundaries proposed and/or existing structures and driveways, underground utilities, and wells and springs within 100 feet of the proposed building or drainfield.



OWNER/AGENT SIGNATURE Robert Perry

DATE 8-3-98

APPROVAL DATE

White - Health Department's Copy Canary - E.H.S. Copy Pink - Owner's Copy

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

WASTEWATER TREATMENT AND DISPOSAL SYSTEM DESIGN AGREEMENT: 15A NCAC 18A .1948 AND ANY OF THE FOLLOWING RULES: .1956; .1957(a); .1957(b); or .1957(c); OR .1969

FILE # 17968
PARCEL # 001-711-14

The undersigned, CAM STEWART, owner of property located at 21423 ~~[illegible]~~ BETHEL CHURCH RD, (the "site") and described in an instrument recorded in Book _____ at Page _____, Mecklenburg Public Registry, hereby acknowledges that the undersigned applied to the Mecklenburg County Health Department (the "Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 15A NCAC 18A .1900 et seq.; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data, and other information which indicate to the Department that the septic tank system proposed by the undersigned is allowed by the rules; and that the Department therefore reclassified the site as "provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

The undersigned further acknowledges that the proper design, construction, operation and maintenance of such septic tank system is the responsibility of the designer, owner, developer, installer, or user of the system, as applicable, and that neither the Department nor its officials, employees, or agents warrant or guarantee that the said system installed pursuant to the permit issued by the Department will function in a satisfactory manner for any given period of time or that the Department, its officials, employees or agents assume any liability for any damages of any kind which are caused, or which may be caused, by a malfunction of such system.

The undersigned further acknowledges that the following conditions will apply to the site:

- Any changes on the property may make the Improvement Permit Null and void and may make the Improvement Permit subject to revocation.

FILE COPY
FILED FOR REGISTRATION
DATE 5ul 99
BOOK 10464
STAMPS
DOC. FEE
TIME 12:57
REC FEE 11.00
JUDITH A. GIBSON CAMPBELL
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC

This instrument was prepared by: Robert E. Dorr
Mail after recording to: 20026 Stearcutter Pt. Dr
Cornelius, NC 28031

RBCWM 24751_1/8-30-95

- Do not grade, cut, fill, pave, construct a building or deck, dig a well, install a swimming pool or otherwise cover or disturb the soil (except for planting and maintaining grass or other ground covers) in a manner which will adversely affect the repair area or area where the septic tank system is located.

- When a private certified operator is required, no improvement permit for the designated repair shall be issued unless there is a private certified operator to carry out this management program in the service area where the proposed system is to be located. (Refer to Rule .1961, "Maintenance of Sewage Systems," for further information.)

- Additional fees will be required according to the Mecklenburg County user fee schedule applicable at the time for the issuance of a repair permit for any subsequent repairs to the sewage treatment and disposal system or for installation of a replacement system.

- At the time repairs to the sewage treatment and disposal system are to be made or a replacement system installed, the regulations in effect at that time will govern the repairs or installation of a replacement system.

The undersigned further agrees for himself, his heirs and assigns that he shall indemnify and hold harmless the Department, its employees, and officials, as well as Mecklenburg County and its employees and officials, for any damages or other claims of any person or persons whatsoever arising out of the installation, operation, or failure of said septic tank system.

Use of the singular masculine pronoun forms herein shall be deemed to also include the plural and feminine forms as the context may require.

This document shall be placed on the public records of the Register of Deeds of Mecklenburg County and indexed therein under the Grantor Index in the name or names of the undersigned, and the foregoing acknowledgements shall henceforth be binding on all persons claiming any right, title, or interest in the site.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, this 11 day of MAY, 1999.

STATE OF NORTH CAROLINA
COUNTY OF Rowan

I, Matthew M. Page, a Notary Public for said County and State, do hereby certify that Robert E. Drag personally came before me this day and acknowledged that he is _____ Secretary of Advance Builders _____, a North Carolina corporation, and that by authority duly given and as the act and deed of said corporation, the foregoing instrument was signed in its name by its Robert E Drag President, sealed with its corporate seal and attested by _____ as its Robert E Drag Secretary.

WITNESS my hand and notarial seal, this 11 day of May, 1999.

Matthew M. Page
Notary Public

My Commission Expires:
2/11/2003

RBCWM:24751_1/8-30-95

Advance Builders, Inc.
(Corporate Name)

By: Robert E. Drage

President

ATTEST: Robert E. Drage

Secretary

(Corporate Seal)

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

STATE OF NORTH CAROLINA
COUNTY OF Rowan

I, Matthew M. Page, a Notary Public for said County and State, do hereby certify that Robert E. Drage personally appeared before me this date and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and notarial seal, this 11 day of May, 1997.

Matthew M. Page
Notary Public

My Commission Expires:
2/11/2003

Mecklenburg County
Health Department

March 5, 1999

Bob Drag
Advance Builders
20026 Shearwater Point Drive
Cornelius, NC 28031

Re: 21423 Bethel Church Road
File: 1796B
Parcel: 001-711-14

Dear Mr. Drag:

At your request an inspection was made at the above referenced property to facilitate the issuance of an Operation Permit for Sewage Treatment and Disposal System. During the inspection it was found that the following items did not meet the regulations set forth in the "Laws and Rules for Sewage Treatment and Disposal Systems, 15 A NCAC 18A .1900; .1952 Septic Tank, Dosing Tank and Lift Station Design." Our comments follow:

1. (6) Pump and control circuits shall be provided with manual circuit disconnects within a watertight, corrosion-resistant, outside enclosure (NEMA 4X or equivalent) adjacent to the pump tank, securely mounted at least 12 inches above the finished grade. The pump(s) shall be manually operable without requiring the use of special tools or entrance into the tank for testing purposes. Conductors shall be conveyed o the disconnect enclosure through waterproof, gasproof, and corrosion-resistant conduits, with no splices or junction boxes provided inside the tank. Wire grips, duct seal, or other suitable material shall be sued to seal around wire and wire conduit openings inside the pump tank and disconnect enclosure.

2. (9) The pump tank shall have a properly functioning high-water alarm. The alarm circuit shall be supplied ahead of any pump overload and short circuit protective devices. The alarm shall be audible and visible by system users and weatherproof if installed outdoors in a enclosure (NEMA 4X or equivalent).

3. Mecklenburg County Individual Water and Wastewater systems Program policy requires that a simplex duplex control panel (pump controls and high water alarm in one unit) be installed in order to meet the aforementioned regulations.

The above mentioned items must be installed and inspected prior to the Operation Permit being issued. The Operation Permit is required for the Certificate of Occupancy and the permanent electric hook-ups. Please schedule the inspections at least five (5) working days in advance to ensure no delays in the Operation Permit issuance.

Also, the agreement forms for using an innovative system must be signed before the Operation Permit can be issued.

Please call me at 336-8993 to discuss any question you may have concerning this matter.

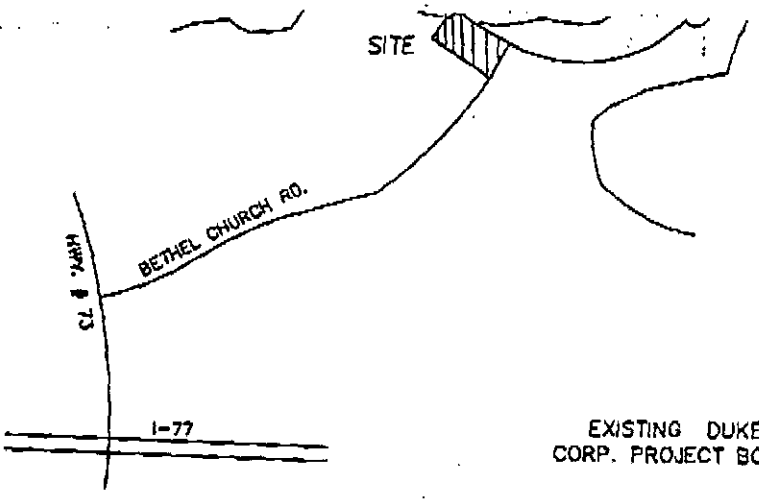
Sincerely,

Jeff A. Knight

Jeff A. Knight, R.S.
Individual Water and Wastewater Systems

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 1

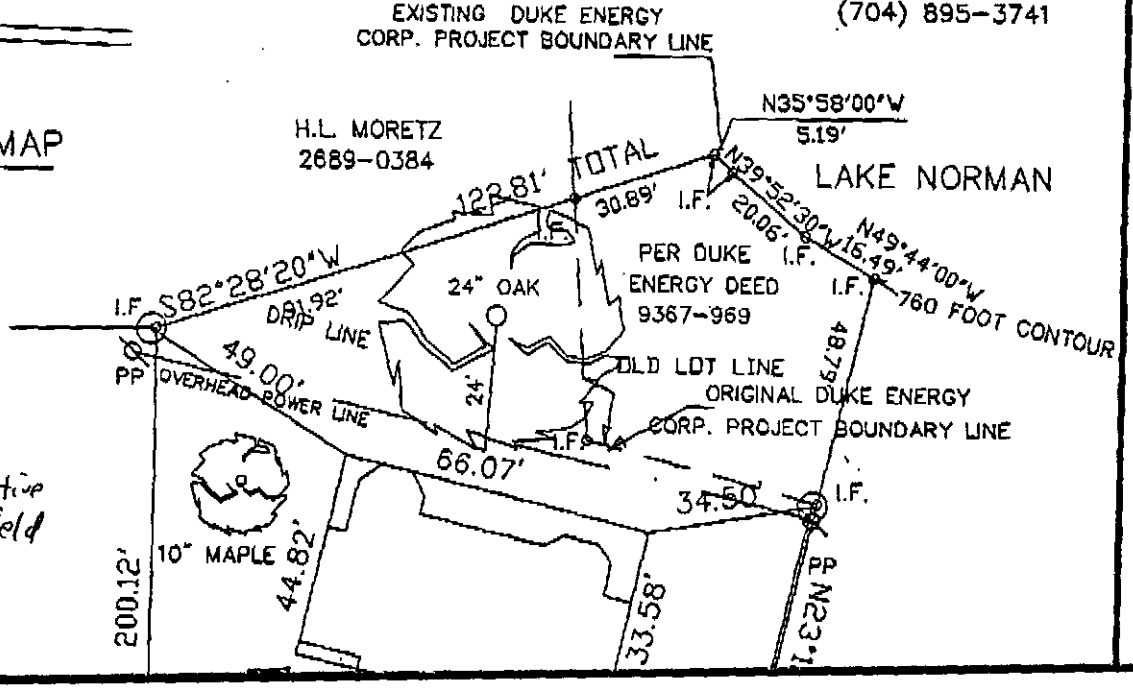
To KELLY RANDALL	From CRAIG C. LONG
Co. COUNTY	Co.
Dept.	Phone # 336-3122
Fax # 336-6894	Fax # 336-



LOCATION MAP
NO SCALE

NORTH CAROLINA REGISTERED SEAL L-2993 LAND SURVEYOR CRAIG L. LONG

CRAIG L. LONG R.L.S.
7535 WINDALIERE DRIVE
CORNELIUS, N.C. 28031
(704) 895-3741



1500 ST
1000 OT
P1
300 ln ft innovative drainfield

H.E. KNOX
9070-0811

40' scale

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

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

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

#2
1996
001-711-14

OWNER: Calvin McConnell
ADDRESS: 1732 Yellow House Cornelius
PROPOSED FACILITY: residence
LOCATION OF SITE: Beaverdam Rd
APPLICANT: ___
APPLICATION DATE: ___
PROPOSED DESIGN FLOW (.1949): 480gpd
DATE EVALUATED: ___
PROPERTY SIZE: .5
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 % (3-8% 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 & LT
1	LS	0-4"	gr/scl	Fr/SEXP/SS/SP	748" TO soil wetness	48"	N/A	None	PS .39/P2 LL
		4-48"	SBK/C	Fi/SEXP/SP					
2	LS	0-6"	gr/scl	Fr/SEXP/SS/SP	748" TO soil wetness	48"	N/A	None	PS .39/P2 LL
		6-48"	SBK/c	Fi/SEXP/SP					
3	LS	0-5"	gr/scl	Fr/SEXP/SS/SP	748" TO soil wetness	48"	N/A	None	PS .39/P2 LL
		5-46"	SBK/C	Fi/SEXP/SP					
4	LS	0-3"	gr/scl	Fr/SEXP/SS/SP	748" TO soil wetness	48"	N/A	None	PS .39/P2 LL
		3-48"	SBK/SC	Fi/SEXP/SP					
		Boring #4 mark		5-20-98 AM					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	45	45
System Type(s)		

OTHER FACTORS (.1946): ___
SITE CLASSIFICATION (.1948): Unsuitable
EVALUATED BY: W. R. Merrill 3-19-98
OTHER(S) PRESENT: LSS

OMMENTS: May not be 1006 Repair

LEGEND

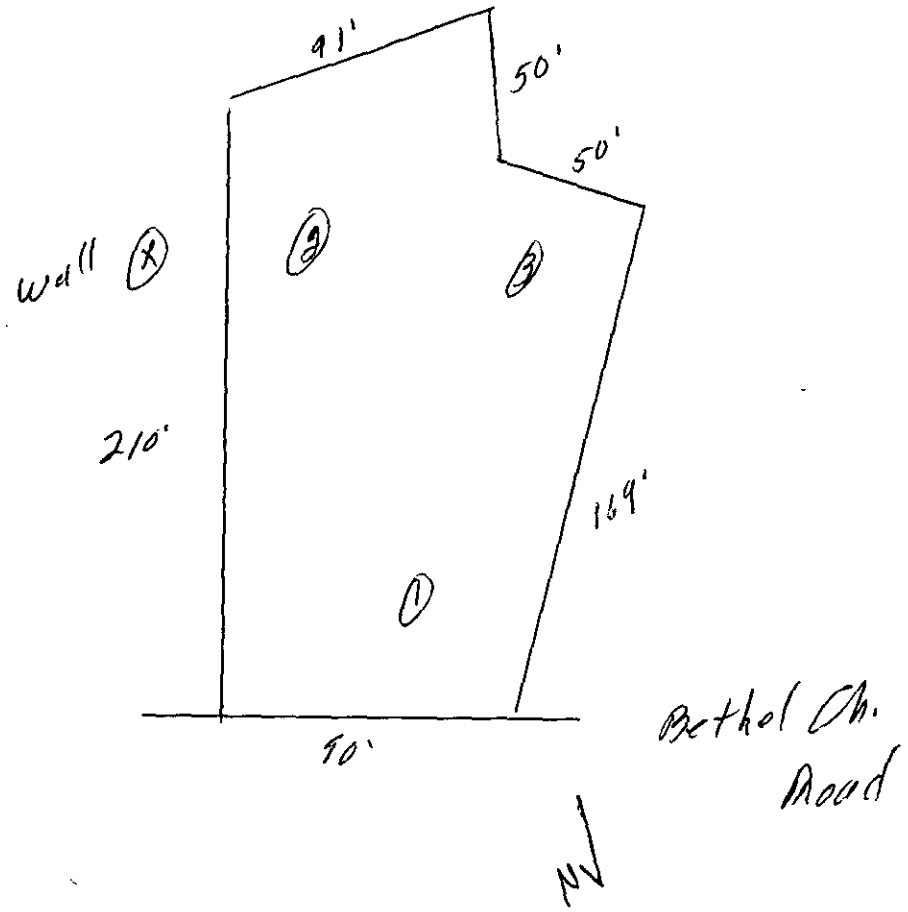
use the following standard abbreviations

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

OTES	
ORIZON DEPTH	In inches below natural soil surface
EPTH OF FILL	In inches from land surface
ESTRICTIVE HORIZON	Thickness and depth from land surface
PROLITE	S(suitable) or U(unsuitable)
OIL 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
LASSIFICATION	S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)

valuation of saprolite shall be by pits.
ong-term Acceptance Rate (LTAR): gal/day/ft²

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

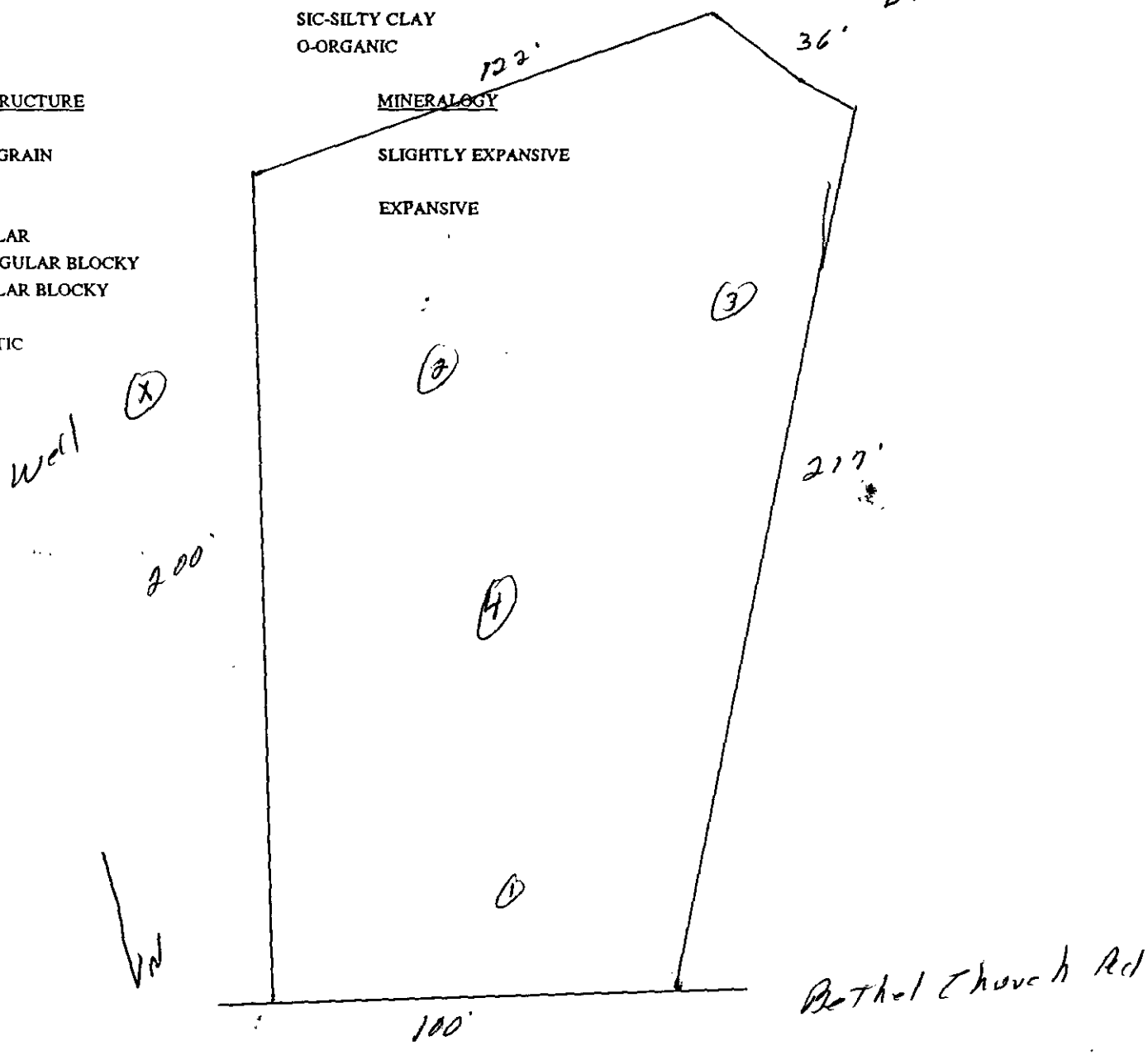


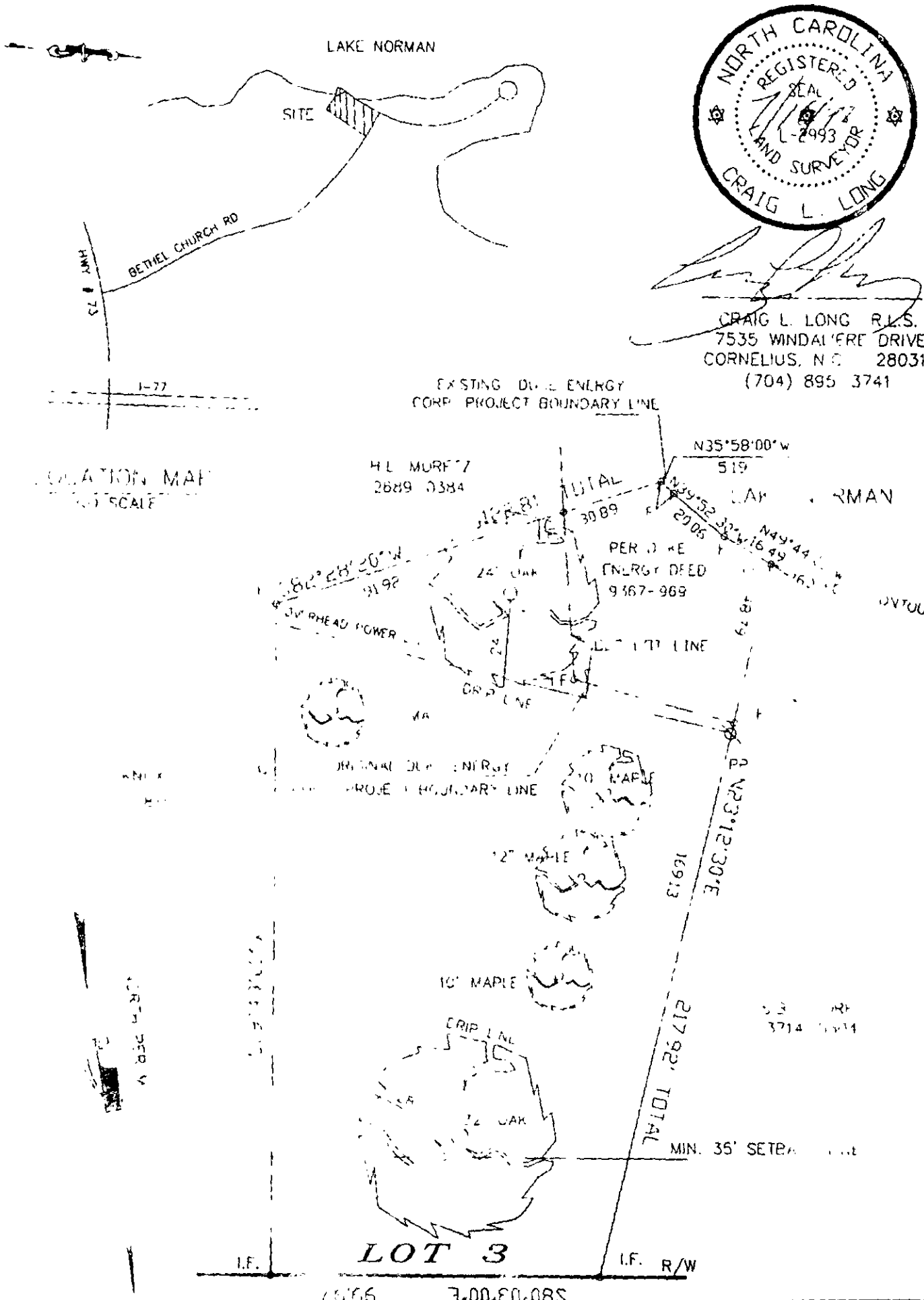
FILE # 17960

COMMENTS NOC Repair - Shelter revised to reflect new property line - 6-7-95 WAM

LANDSCAPE POSITION	GROUP	TEXTURE	.1955 LTAR	CONSISTENCE MOIST	CONSISTENCE WET
R-RIDGE	I	S-SAND	1.2-0.8		
S-SHOULDER SLOPE		LS-LOAMY SAND		VFR-VERY FRIABLE	NS-NON-STICKY
L-LINEAR SLOPE				FR-FRIABLE	SS-SLIGHTLYSTICKY
FS-FOOT SLOPE	II	SL-SANDY LOAM	0.8-0.6	FI-FIRM	S-STICKY
N-NOSE SLOPE		L-LOAM		VFI-VERY FIRM	VS-VERY STICKY
H-HEAD SLOPE				EFI-EXTREMELY FIRM	NP-NON-PLASTIC
CC-CONCLAVE SLOPE	III	SI-SILT	0.6-0.3		SP-SLIGHTLYSTICKY
CV-CONVEX SLOPE		SICL-SILTY CLAY LOAM			P-PLASTIC
T-TERRACE		CL-CLAY LOAM			VP-VERY PLASTIC
FP-FLOOD PLAIN		SCL-SANDY CLAY LOAM			
	IV	SC-SANDY CLAY	0.4-0.1		
		SIC-SILTY CLAY			
		O-ORGANIC			

STRUCTURE	MINERALOGY
SG-SINGLE GRAIN	SLIGHTLY EXPANSIVE
M-MASSIVE	
CR-CRUMB	EXPANSIVE
GR-GRANULAR	
SBK-SUBANGULAR BLOCKY	
ABK-ANGULAR BLOCKY	
PL-PLATY	
PR-PRISMATIC	




LAKE NORMAN
SITE
BETHEL CHURCH RD
HWY # 73
I-77
NORTH CAROLINA
REGISTERED
SEAL
L-2993
LAND SURVEYOR
CRAIG L. LONG
CRAIG L. LONG R.L.S.
7535 WINDAMERE DRIVE
CORNELIUS, N.C. 28031
(704) 895-3741
EXISTING DUKE ENERGY
CORP. PROJECT BOUNDARY LINE
N35°58'00"W
519
H.L. MURFEY
2689 0384
TOTAL
3089
N44°52'30"W
2006
N44°44'16"W
1649
PER DUKE
ENERGY DEED
9367-969
24" OAK
OVERHEAD POWER
91.92
N82°54'20"W
ORIP LINE
ORIGINAL DUKE ENERGY
PROJECT BOUNDARY LINE
12" MAPLE
16" MAPLE
N23°12'30"E
1691.3
TOTAL 2,217.2
MIN. 35' SETBACK
LOT 3
I.F.
I.F. R/W
S80°03'00"E

EDGE OF PAVEMENT

BETHEL CHURCH RD.

20' E.P./E.P. 60' R/W

27,688.33 SQ. FT.
0.6356 ACRES

SURVEY

14

F.k 1780

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

PROPERTY ID #: Sheet ___ of ___
COUNTY:

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

#2
1096B
001-711-14

OWNER: Calvin McConnell
ADDRESS: 1932 Fellow Road, Cornelius
PROPOSED FACILITY: residence
LOCATION OF SITE: Beatties Ford Rd

APPLICANT:
APPLICATION DATE:
PROPOSED DESIGN FLOW (.1949): 480gpd

DATE EVALUATED:
PROPERTY SIZE: .5
PROPERTY RECORDED:

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

PROFILE #	3-8% slope .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 & LT
1	LS	0-4"	gr/scl	Fr/SEXPl SS/SP	746" TO soil wetness	48"	N/A	None	PS .39/P2 LE
		4-46"	SBK/c	Fi/SEXPl SlP					
2	LS	0-6"	gr/scl	Fr/SEXPlSS/SP	746" TO soil wetness	48"	N/A	None	PS .39/P2 LE
		6-46"	SBK/c	Fi/SEXPlSlP					
3	LS	0-5"	gr/scl	Fr/SEXPlSS/SP	748" TO soil wetness	46"	N/A	None	PS .39/P2 LE
		5-46"	SBK/c	Fi/SEXPlSlP					
4	LS	0-3"	gr/scl	Fr/SEXPlSS/SP	746" TO soil wetness	48"	N/A	None	PS .39/P2 LE
		3-48"	SBK/sc	Fi/SEXPlSlP					
		Boring #4 moist		8-20-98					
				Mottling					

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

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): Unsuitable
EVALUATED BY: [signature] 3-14-99
OTHER(S) PRESENT:

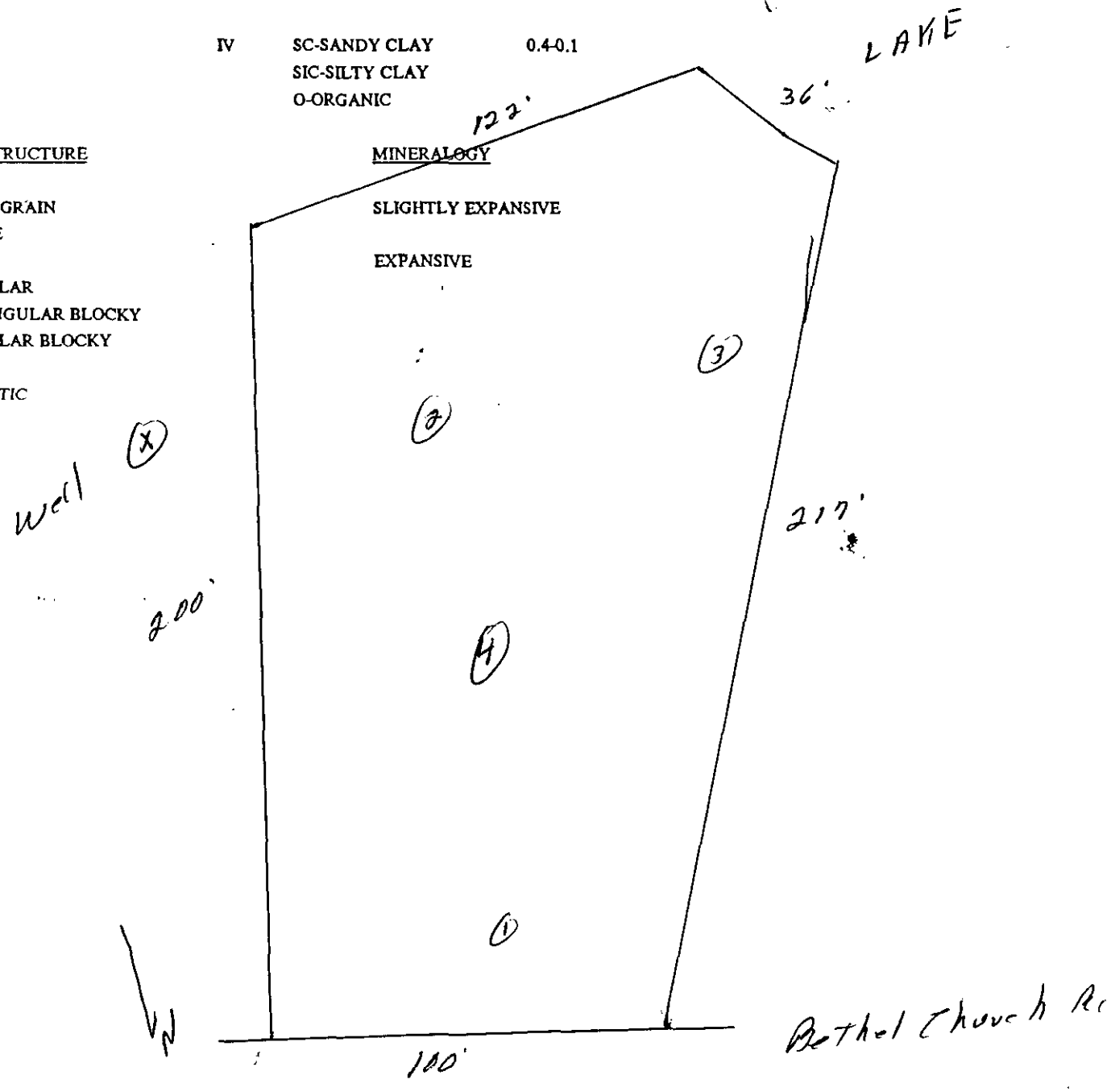
FILE # 17962

COMMENTS 100% Repair - Sketch revised to reflect new property line - 6-21-96 WAM

LANDSCAPE POSITION	GROUP	TEXTURE	.1955 LTAR
R-RIDGE	I	S-SAND	1.2-0.8
S-SHOULDER SLOPE		LS-LOAMY SAND	
L-LINEAR SLOPE			
FS-FOOT SLOPE	II	SL-SANDY LOAM	0.8-0.6
N-NOSE SLOPE		L-LOAM	
H-HEAD SLOPE			
CC-CONCLAVE SLOPE	III	SI-SILT	0.6-0.3
CV-CONVEX SLOPE		SICL-SILTY CLAY LOAM	
T-TERRACE		CL-CLAY LOAM	
FP-FLOOD PLAIN		SCL-SANDY CLAY LOAM	
	IV	SC-SANDY CLAY	0.4-0.1
		SIC-SILTY CLAY	
		O-ORGANIC	

CONSISTENCE	
MOIST	WET
VFR-VERY FRIABLE	NS-NON-STICKY
FR-FRIABLE	SS-SLIGHTLYSTICKY
FI-FIRM	S-STICKY
VFI-VERY FIRM	VS-VERY STICKY
EFI-EXTREMELY FIRM	NP-NON-PLASTIC
	SP-SLIGHTLYSTICKY
	P-PLASTIC
	VP-VERY PLASTIC

STRUCTURE	MINERALOGY
SG-SINGLE GRAIN	SLIGHTLY EXPANSIVE
M-MASSIVE	
CR-CRUMB	EXPANSIVE
GR-GRANULAR	
SBK-SUBANGULAR BLOCKY	
ABK-ANGULAR BLOCKY	
PL-PLATY	
PR-PRISMATIC	



MENTS: May not be 100% Repair

LEGEND

use the following standard abbreviations

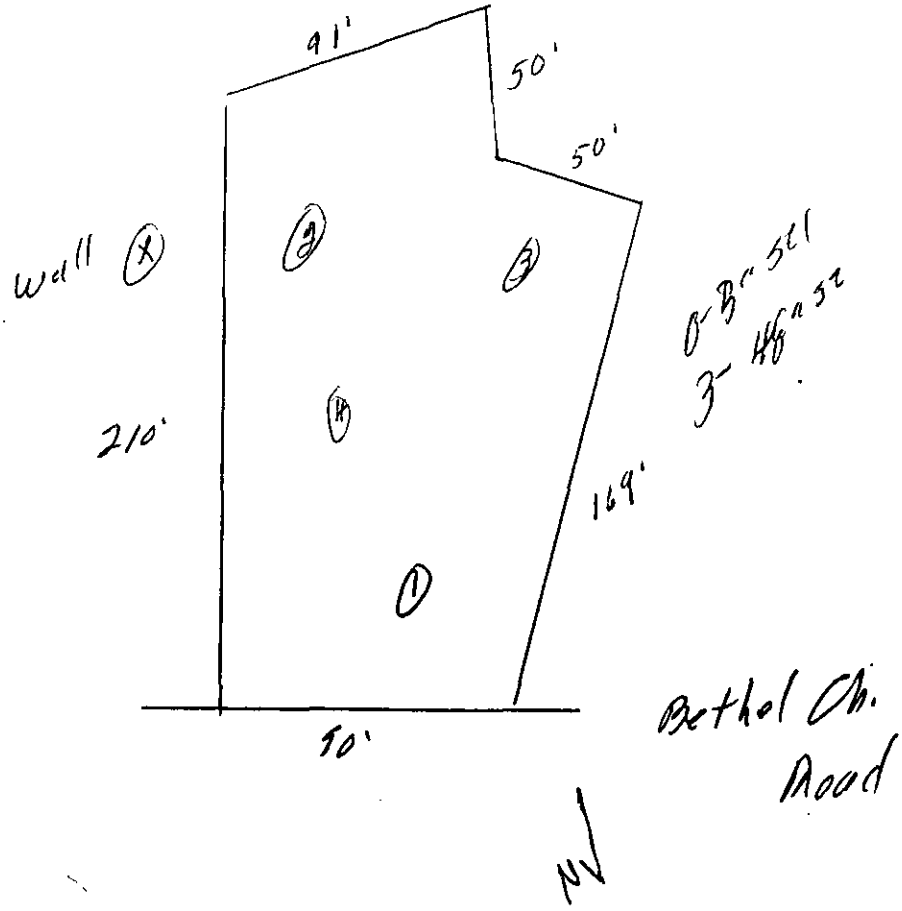
LANDSCAPE POSITION	GROUP	SOIL TEXTURE	CONVENTIONAL ,1955 LTAR	LPP ,1957 LTAR	MINERALOGY/ CONSISTENCE	STRUCTURE
C (Concave Slope)	I	S (Sand)	1.2 - 0.8	0.6 - 0.4	NEXP (Non-expansive)	G (Single Grain)
V (Convex Slope)		LS (Loamy Sand)			SEXP (Slightly Expansive)	M (Massive)
(Drainage Way)					EXP (Expansive)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

OTES

ORIZON DEPTH	In inches below natural soil surface
EPTH OF FILL	In inches from land surface
ESTRICTIVE HORIZON	Thickness and depth from land surface
APROLITE	S(suitable) or U(unsuitable)
OIL 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
LASSIFICATION	S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)

valuation of saprolite shall be by pits.
ong-term Acceptance Rate (LTAR): gal/day/ft²

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



FEE: 100.00
DATE: 8/3/98 SC

APPLICATION FOR IMPROVEMENT PERMIT FOR RESIDENTIAL SITE INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM

#2460
1 1 CRT

TYPE APPLICATION: ✓ NEW SYSTEM __ EXPANSION/ ALTERATION OF EXISTING SYSTEM __ REPAIR OF EXISTING SYSTEM

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

COPY

FILE #: 1796B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 001-711-14

STREET ADDRESS: 21423 Bethel Church Rd

SUBDIVISION OR MOBILE HOME PARK NAME: Plaid Stones

LOT NUMBER: Lot #3

TYPE OF BUILDING (CHECK ONE):

__ SINGLE MOBILE HOME(S) __ MODULAR HOME (M)
__ DOUBLE WIDE (D) __ MULTIPLE FAMILY (U)
✓ HOUSE (H) __ OTHER (O)

TOWNSHIP (CHECK ONE):

__ 0 MECKLENBURG __ 4 PINEVILLE
__ 1 CHARLOTTE __ 5 MATTHEWS
__ 2 DAVIDSON __ 6 HUNTERSVILLE
✓ 3 CORNELIUS __ 7 MINT HILL

HEATED SQUARE FOOTAGE: 3200

NUMBER OF BEDROOMS: 3 NUMBER OF OCCUPANTS: 3

CLOSING DATE _____

Lot rechecked 6-20-98 additions made to soil report already in file - WAM 6-21-98

FOUNDATION FOR RESIDENCE:

__ WITHOUT BASEMENT __ WITH BASEMENT /PLUMBING
__ ON SLAB
✓ CRAWL SPACE __ WITH BASEMENT /NO PLUMBING

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION:

N/A

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE: __ YES ✓ NO TYPE: _____

WATER SUPPLY (CHECK ONE):

__ COMMUNITY (C) ✓ MUNICIPAL (M) __ PRIVATE WELL (P)
__ SHARED WELL (S) __ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

BURIED CABLES, LANDFILLS, STUMPHOLES __ YES ✓ NO
EXISTING WASTEWATER SYSTEMS __ YES ✓ NO
EASTMENTS OR RIGHT-OF-WAYS __ YES ✓ NO
WELL, SPRINGS OR WATERLINES __ YES ✓ NO
DESIGNATED WETLANDS __ YES ✓ NO

PROPERTY OWNER:	LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:
NAME: Stewart James C (LAST) (FIRST) (MI)	NAME: Dreg Robert E (LAST) (FIRST) (MI)
ADDRESS: 21423 Bethel Church Rd	DAYTIME PHONE: ( ) 283-9480
CITY: Cornelius STATE: NC ZIP: 28031	
DAYTIME PHONE: ( ) 527-5383	

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 7-9-98

An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

SIGNED: [signature] DATE: 8/3/98

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

100.02 ED

DATE: 2-28-97

Ck #3024

APPLICATION FOR IMPROVEMENT PERMIT FOR RESIDENTIAL SITE INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM

[ ] CRT

TYPE APPLICATION: __ NEW SYSTEM __ EXPANSION/ ALTERATION OF EXISTING SYSTEM __ REPAIR OF EXISTING SYSTEM

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

FILE #: 1796B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 001 711 - 14

STREET ADDRESS: Bethel Ch. Rd.

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER: # 3

TYPE OF BUILDING (CHECK ONE):

__ SINGLE MOBILE HOME(S)
__ DOUBLE WIDE (D)
✓ HOUSE (H)
__ MODULAR HOME (M)
__ MULTIPLE FAMILY (U)
__ OTHER (O)

HEATED SQUARE FOOTAGE: 3,000

NUMBER OF BEDROOMS: 4 NUMBER OF OCCUPANTS:

FOUNDATION FOR RESIDENCE: CRAWL

__ WITHOUT BASEMENT
__ ON SLAB
✓ CRAWL SPACE
__ WITH BASEMENT /PLUMBING
__ WITH BASEMENT /NO PLUMBING

TOWNSHIP (CHECK ONE):

✓ 0 MECKLENBURG
__ 1 CHARLOTTE
__ 2 DAVIDSON
__ 3 CORNELIUS
__ 4 PINEVILLE
__ 5 MATTHEWS
__ 6 HUNTERSVILLE
__ 7 MINT HILL

CLOSING DATE_____

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION:

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE: __ YES __ NO TYPE: _____

WATER SUPPLY (CHECK ONE):
__ COMMUNITY (C)
__ MUNICIPAL (M)
__ PRIVATE WELL (P) ?
__ SHARED WELL (S)
__ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

BURIED CABLES, LANDFILLS, STUMPHOLES __ YES ✓ NO
EXISTING WASTEWATER SYSTEMS __ YES ✓ NO
EASTMENTS OR RIGHT-OF-WAYS __ YES ✓ NO
WELL, SPRINGS OR WATERLINES __ YES ✓ NO
DESIGNATED WETLANDS __ YES ✓ NO

PROPERTY OWNER:

NAME: McConnell Calvin Murry
(LAST) (FIRST) (MI)

ADDRESS: 1932 Jetton Rd

CITY: Cornelius STATE: NC ZIP: 28031

DAYTIME PHONE: ( ) -

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME:
(LAST) GLADDEN (FIRST) LOREDO (MI) H. JR.

DAYTIME PHONE: (704) 597 - 5413

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____

An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

SIGNED: L. H. Gladden Jr DATE: 2-27-97

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

CHK # 1207

FEE: 100.00
DATE: 8/3/98 SC

APPLICATION FOR IMPROVEMENT PERMIT FOR RESIDENTIAL SITE INDIVIDUAL WATER AND WASTEWATER SYSTEMS PROGRAM

#2

1 1 CRT

TYPE APPLICATION: ✓ NEW SYSTEM __ EXPANSION/ ALTERATION OF EXISTING SYSTEM __ REPAIR OF EXISTING SYSTEM

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

COPY

FILE #: 17962

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 001-711-14

STREET ADDRESS: 21423 Bethel Church Rd

SUBDIVISION OR MOBILE HOME PARK NAME: Plaid Stones

LOT NUMBER: LOT #3

TYPE OF BUILDING (CHECK ONE):

__ SINGLE MOBILE HOME(S)
__ DOUBLE WIDE (D)
✓ HOUSE (H)
__ MODULAR HOME (M)
__ MULTIPLE FAMILY (U)
__ OTHER (O)

TOWNSHIP (CHECK ONE):

__ 0 MECKLENBURG
__ 1 CHARLOTTE
__ 2 DAVIDSON
✓ 3 CORNELIUS
__ 4 PINEVILLE
__ 5 MATTHEWS
__ 6 HUNTERSVILLE
__ 7 MINT HILL

HEATED SQUARE FOOTAGE: 3200

NUMBER OF BEDROOMS: 3 NUMBER OF OCCUPANTS: 3

FOUNDATION FOR RESIDENCE:

__ WITHOUT BASEMENT
__ ON SLAB
✓ CRAWL SPACE
__ WITH BASEMENT /PLUMBING
__ WITH BASEMENT /NO PLUMBING

CLOSING DATE _____

Lot reselected 6-20-98. Addendum made to soil report already in file - WAM 6-21-98

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION:

N/A

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE: __ YES ✓ NO TYPE: _____

WATER SUPPLY (CHECK ONE):

__ COMMUNITY (C)
✓ MUNICIPAL (M)
__ PRIVATE WELL (P)
__ SHARED WELL (S)
__ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

BURIED CABLES, LANDFILLS, STUMPHOLES __ YES ✓ NO
EXISTING WASTEWATER SYSTEMS __ YES ✓ NO
EASTMENTS OR RIGHT-OF-WAYS __ YES ✓ NO
WELL, SPRINGS OR WATERLINES __ YES ✓ NO
DESIGNATED WETLANDS __ YES ✓ NO

PROPERTY OWNER:	LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:
NAME: STEWART (LAST) JAMES (FIRST) C (MI)	NAME: DRAG (LAST) ROBERT (FIRST) E (MI)
ADDRESS: 21423 Bethel Church Rd	DAYTIME PHONE: ( ) 33-9480
CITY: Cornelius STATE: NC ZIP: 28031	
DAYTIME PHONE: ( ) 527-5383	

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 7-9-98

An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

SIGNED: _____ DATE: 8/3/98

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

PROPOSED PLOT PLAN

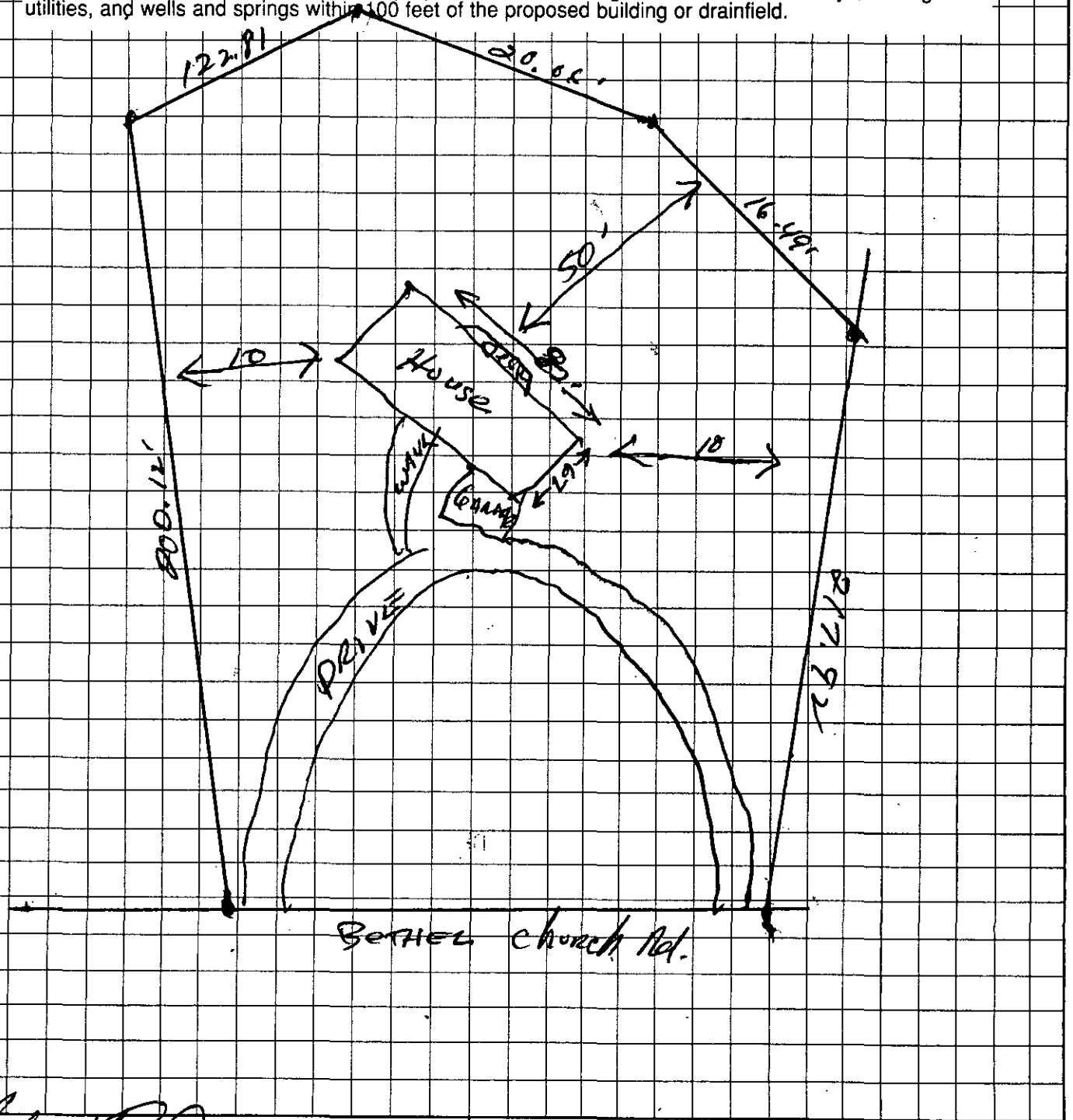
COPY

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON STREET
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: 1796B

TC: 001-711-14

Draw in and name all roads adjoining the property. Draw in and accurately dimension the lot concerned. Accurately indicate property boundaries proposed and/or existing structures and driveways, underground utilities, and wells and springs within 100 feet of the proposed building or drainfield.



OWNER/AGENT SIGNATURE Robert Ray

DATE 8-3-98

APPROVAL DATE

White - Health Department's Copy

Canary - E.H.S. Copy

Pink - Owner's Copy

Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 1796B WASPS App #: _____

Primary ES assigned to project: Jeremy Michelove

Secondary ES assigned to project: _____

Project Type: New System ☐ Alteration ☐ Repair ☐ Modified Plot Plan ☐ USE EXISTING ☑

I. File Review:

Rule or Law				
	Permit Application			
.1937(d)	Is the Application complete	Yes ☑	No ☐	N/A ☐
.1937(d)	Is there a Site plan/Plat with application	Yes ☑	No ☐	N/A ☐
.1937(d)	Is the Facility shown?	Yes ☑	No ☐	N/A ☐
.1937(d)	Are appurtenances shown	Yes ☑	No ☐	N/A ☐
	Site Evaluation Information			
.1939 (a)(1)	Topography and Landscape Position Recorded?	Yes ☐	No ☐	N/A ☐
.1940 (a-g)	Slope % Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(2)	Texture Class Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(2)	Structure type Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(2)	Consistence Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(2)	Mineralogy Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(3)	Soil Wetness Condition Recorded?	Yes ☐	No ☐	N/A ☐
.1939 (a)(4)	Soil Depth to Rock or Parent Material Recorded When Encountered	Yes ☐	No ☐	N/A ☐
.1939 (a)(5)	Depth to Restrictive Horizons Recorded When Encountered?	Yes ☐	No ☐	N/A ☐
.1939 (a)(6)	Sufficient Available Space Recorded?	Yes ☐	No ☐	N/A ☐
.1937(m)	Are the Profile Locations Shown?			
.1939(a)	Are the S/PS Profiles in system & in repair area?	Yes ☐	No ☐	N/A ☐
& .1945(b)	Number of auger borings made: _____ Were sufficient auger borings made?	Yes ☐	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR	Yes ☐	No ☐	N/A ☐
	Improvement Permit/Construction Authorization			
.1937(g)	Proposed System Type stated-Initial	Yes ☐	No ☐	N/A ☐
130A-336(a) .1945(b)	Proposed System Type stated-Repair	Yes ☐	No ☐	N/A ☐
130A-336 (a)(3)	System location identifiable by setbacks - Initial	Yes ☐	No ☐	N/A ☐
.1937(g)	System components shown – Initial	Yes ☐	No ☐	N/A ☐
.1945(b) .1945(b)	Repair area shown	Yes ☐	No ☐	N/A ☐
.1937 (f)(g)	Does System design match facility, flow & WWcharacteristics?	Yes ☐	No ☐	N/A ☐
.1937 (f)(g)	Is System design consistent with soil/site conditions?	Yes ☐	No ☐	N/A ☐
.1937 (f)(g)	Is the System located in the approved area?	Yes ☐	No ☐	N/A ☐
130A-336(a)	Is the Design flow (gpd) indicated?	Yes ☐	No ☐	N/A ☐

130A-336(a)	Number of Bedrooms, employees, seats, etc. indicated?	Yes ☐	No ☐	N/A ☐
.1937(g)	Trench depth indicated?	Yes ☐	No ☐	N/A ☐
.1937(g)	Trench width indicated?	Yes ☐	No ☐	N/A ☐
.1937(g)	Trench length indicated?	Yes ☐	No ☐	N/A ☐
130A-336(a)(1)	Proposed/existing well shown?	Yes ☐	No ☐	N/A ☐
130A-336(a)(1)	Property line lengths shown?	Yes ☐	No ☐	N/A ☐
130A-336(a)	Facility/appurtenance setbacks shown from fixed points?	Yes ☐	No ☐	N/A ☐
	Operation Permit			
.1937(i)	System type as described in table V(a) of rule .1961	Yes ☐	No ☐	N/A ☐
.1937(i)	Conditions for system performance, operation, maintenance, monitoring and reporting.	Yes ☐	No ☐	N/A ☐

IL WASPS Review:

Construction authorization issued	Yes ☐	No ☐	N/A ☐
Installation approval issued	Yes ☐	No ☐	N/A ☐
Operation permit issued	Yes ☐	No ☐	N/A ☐
Other related documentation	Yes ☐	No ☐	N/A ☐

Items requiring correction/modification: _____

Comments:

USE EXISTING

IA issued date: _____

OP issued date: _____

Review performed by: JAM Date performed: 4-18-2012

1796B
or
21478

MECKLENBURG COUNTY
HEALTH DEPARTMENT

APPLICATION FOR APPROVAL TO USE AN EXISTING
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM / WATER SUPPLY WELL

APPLICATION TYPE: ☒ SEPTIC ONLY ○ WELL ONLY ○ SEPTIC & WELL
○ ADDITION OR RENOVATION WITH OCCUPANCY INCREASE
☒ ADDITION OR RENOVATION WITH NO OCCUPANCY INCREASE
○ EXCHANGE MOBILE HOME (SAME # BEDROOMS)
○ COMMERCIAL OR INDUSTRIAL

PERSON FILING APPLICATION:
NAME: Integrated Custom Builders
ADDRESS: P.O. Box 1423
CITY: Cornelius
STATE: NC ZIP: 28031
PHONE: 704-400-7694
ALTERNATE PHONE: 704-506-9484
E-MAIL: shanlerh@bellsouth.net

PROPERTY OWNER: ☐ SAME AS PERSON FILING APPLICATION
NAME: Cam Stewart & Heidi Stewart
ADDRESS: 21423 Bethel Church Rd
CITY: Cornelius
STATE: NC ZIP: 28031
PHONE: 704-743-7767
ALTERNATE PHONE: 704-591-5800
E-MAIL: hlw6767@yahoo.com

JOB LOCATION INFORMATION
TAX PARCEL #: 00171150
STREET ADDRESS: 21423 Bethel Church Rd
CITY: Cornelius
STATE: NC **ZIP:** 28031

SUBDIVISION OR MOBILE HOME PARK NAME: N/A
LOT #: N/A

WATER SUPPLY:
☒ MUNICIPAL ○ PRIVATE WELL ○ PUBLIC WELL ○ SHARED WELL ○ OTHER _____

RESIDENTIAL PROPERTY TYPE: ○ N/A
☒ HOUSE ○ MODULAR HOME ○ MULTIPLE FAMILY
○ SINGLE MOBILE HOME ○ DOUBLE WIDE
○ OTHER _____

OCCUPANCY (both fields are required):
NUMBER OF BEDROOMS: 3
NUMBER OF OCCUPANTS: 5

COMMERCIAL / INDUSTRIAL PROPERTY TYPE: ☒ N/A
TYPE OF BUSINESS: _____
EMPLOYEES PER SHIFT: _____
OF SHIFTS: _____
INDUSTRIAL WASTES? ○ YES ○ NO
UNDERGROUND STORAGE TANKS? ○ YES ○ NO

ADDITION/RENOVATION TYPE ATTACHED TO EXISTING STRUCTURE:
☐ BEDROOM ☐ BATHROOM ☐ KITCHEN ☐ DINING ROOM ☐ LIVING ROOM ☐ DEN
☒ GARAGE ☐ SUNROOM ☐ PORCH ☐ DECK ☒ OTHER Addition to Existing Master Bath + Closet

ADDITION/RENOVATION TYPE DETACHED FROM EXISTING STRUCTURE:
☐ DETACHED GARAGE ☐ DETACHED GARAGE WITH PLUMBING ☐ POOL HOUSE ☐ SHOP ☐ BARN
☐ STORAGE SHED ☐ DETACHED PORCH / DECK ☐ OTHER _____

*The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Shanler Helderman VP — Owner's/Agent's Signature
4/16/12 — Date

A PROPOSED PLOT PLAN (see page 2) is required to be submitted with each application.

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

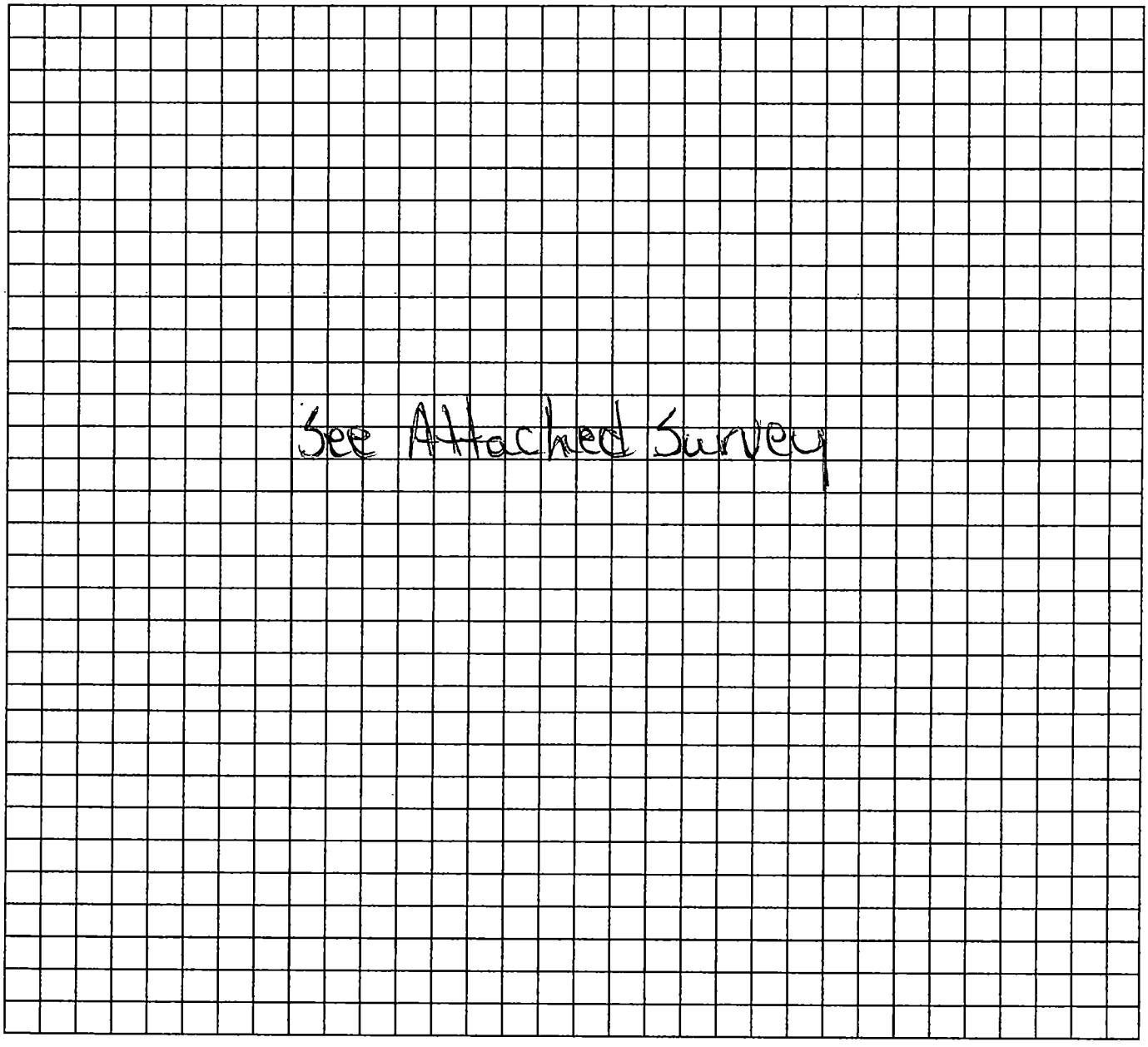
Revised on: 01/03/11

File #: _____

PROPOSED PLOT PLAN

A drawing showing the locations of the following items is required: existing and proposed property lines with dimensions, easements or right-of-ways, proposed building pad(s) or existing building footprint(s), all appurtenances (garage, driveway, deck, pool, etc.), location of existing or proposed well(s), location of existing or proposed sewer lines and sewage disposal systems, surface water bodies, and any aboveground or underground storage tanks. Provide names for all roads that adjoin the property.

Street Address: 21423 Bethel Church Rd Tax Parcel #: 00171150



*The undersigned, an authorized agent of the Mecklenburg County Health Department, certifies that the Department has approved the Request for the "Job Location" contained in this document. This approval is granted in accordance with the provisions of Laws and Rules for Sanitary Sewage Collection, Treatment, and Disposal and Water Supply Wells in effect at the time of issuance of the permit and is subject to the following provisions:

- No work shall be conducted on the septic tank system until an installation, construction, alteration and/or repair approval is granted by this Department.
- This permit is not transferable.
- Addition/Renovation approval valid 1 year from issuance date
- Mobile home exchange approval valid 6 months from issuance date

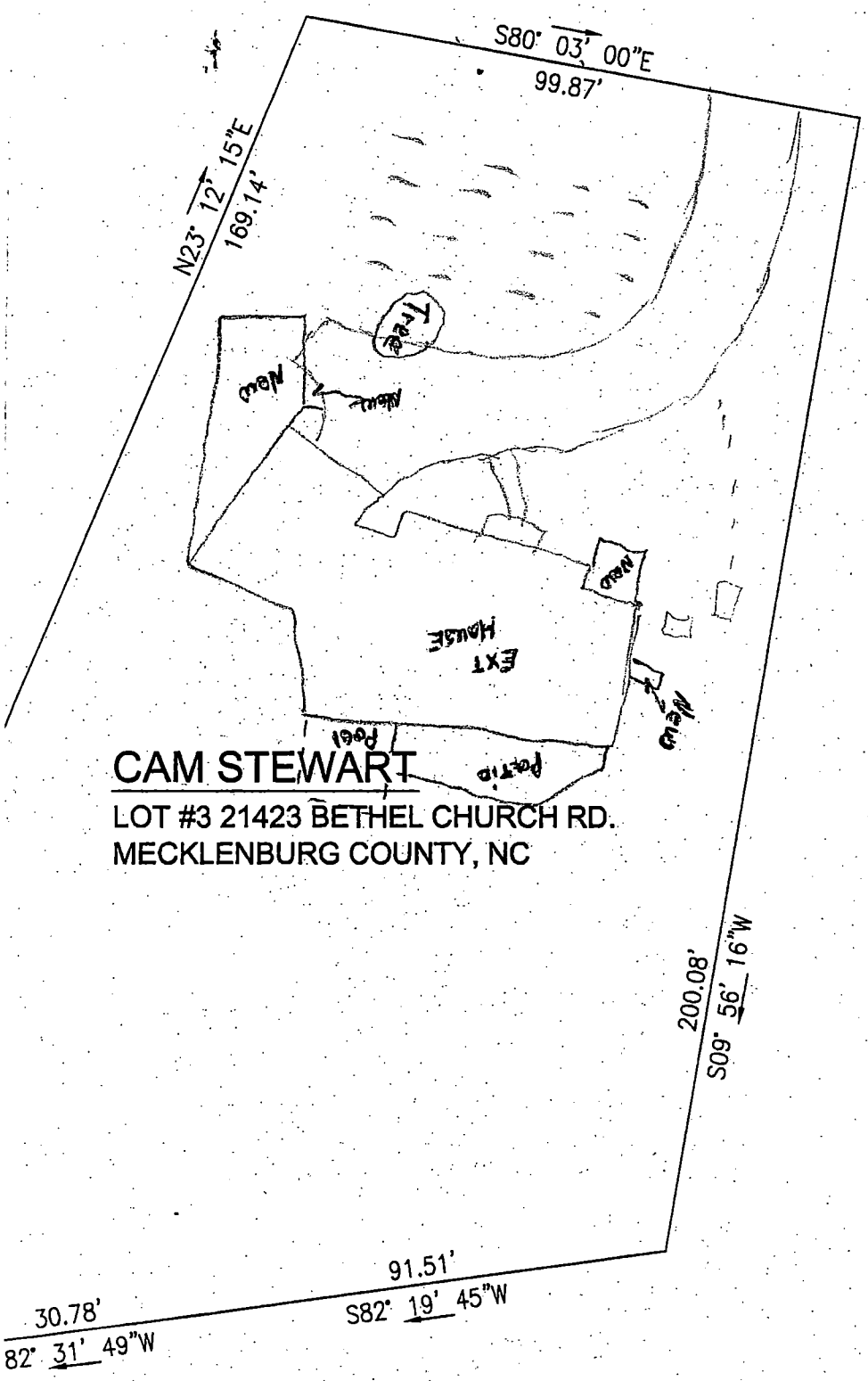
O.K. to UES TO Expand The Master Bath & Closet and a Garage addition w/ Bonus Room.

REHS Signature

Date 4/17/12

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST. SUITE 211 CHARLOTTE, NC 28202, OFFICE: 704-336-5103, FAX: 704-336-6894

Revised on: 01/03/11



CAM STEWART

LOT #3 21423 BETHEL CHURCH RD.
MECKLENBURG COUNTY, NC

LOCATION PLAN

SCALE: 1"=30'

NOTE: ALL PROPERITY PROJECTION LINES ARE ESTIMATED OWNER IS RESPONSIBLE FOR EXACT LOCATION OF PROJECTION LINE AND 1/3 OF COVE TO COMPLY WITH ALL DUKE POWER AND COUNTY REGULATIONS. PIER ENVELOP IS NO LONGER RECOGNIZE BY LOCAL OFFICIALS OR DUKE POWER.

DES
PRO 0
DR
CHE
12

NORTH CAROLINA PROFESSIONAL SEAL 9255 ENGINEER JOHN C. DARDEN, JR. 12/24/08

APPROVED FOR CONTRACT

OWNER DATE

DATE

DATE

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REVISIONS

NO.	DATE	DESCRIPTION	BY	CHKD.

30 Lot #3 21423 Bethel Church Rd.dwg, 12/23/2008 11:24:30 AM

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	04/16/12	**Amount:**	100.00
Receipt #:	77968	**Tendered:**	100.00
Check / Auth #:	CHECK 1994	**Returned:**	100.00
Received By:	MULLIVR		

Account Information

Account #: 200000
Contractor: INTEGRATED CUSTOM BUILDERS IN
Attn:
Address: PO BOX 1423
Address:
City/State/Zip: CORNELIUS, NC 28031

Item	Description	Permit#	Quantity	Unit Price	Total Price
0705	MH Exc/Add/Repl w/o System Mod PN 00171150 21423 BETHEL CHURCH RD		1	100.00	100.00

Security features are included. Details on back.

1994

PEOPLES BANK
DENVER, NC 28037
66-486/531

INTEGRATED CUSTOM BUILDERS, INC.
PO BOX 1423
CORNELUIS, NC 28031

April 16, 2012

Pay to the Order of Mecklenburg County $ 100.00

One Hundred dollars + no/100 Dollars

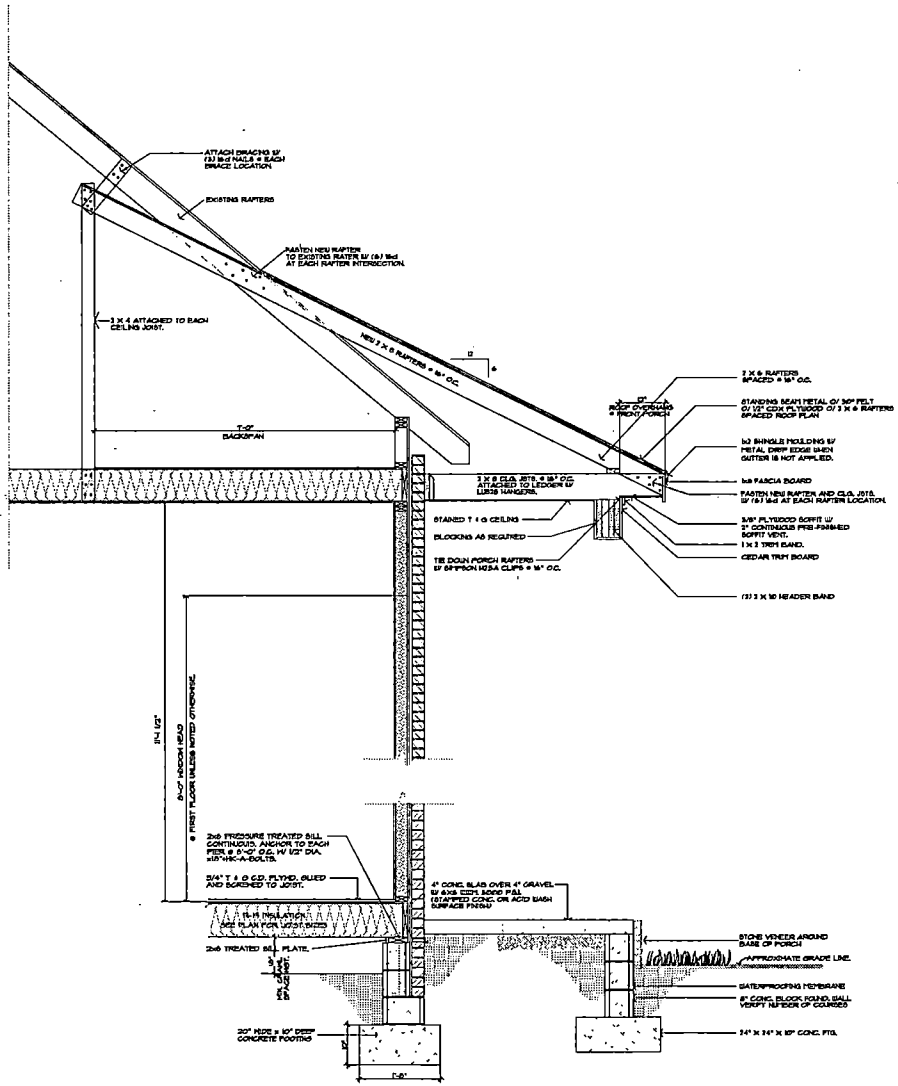
For Stewart Res. - Approval for use to an Existing waste water system

Charles Heldeman MP

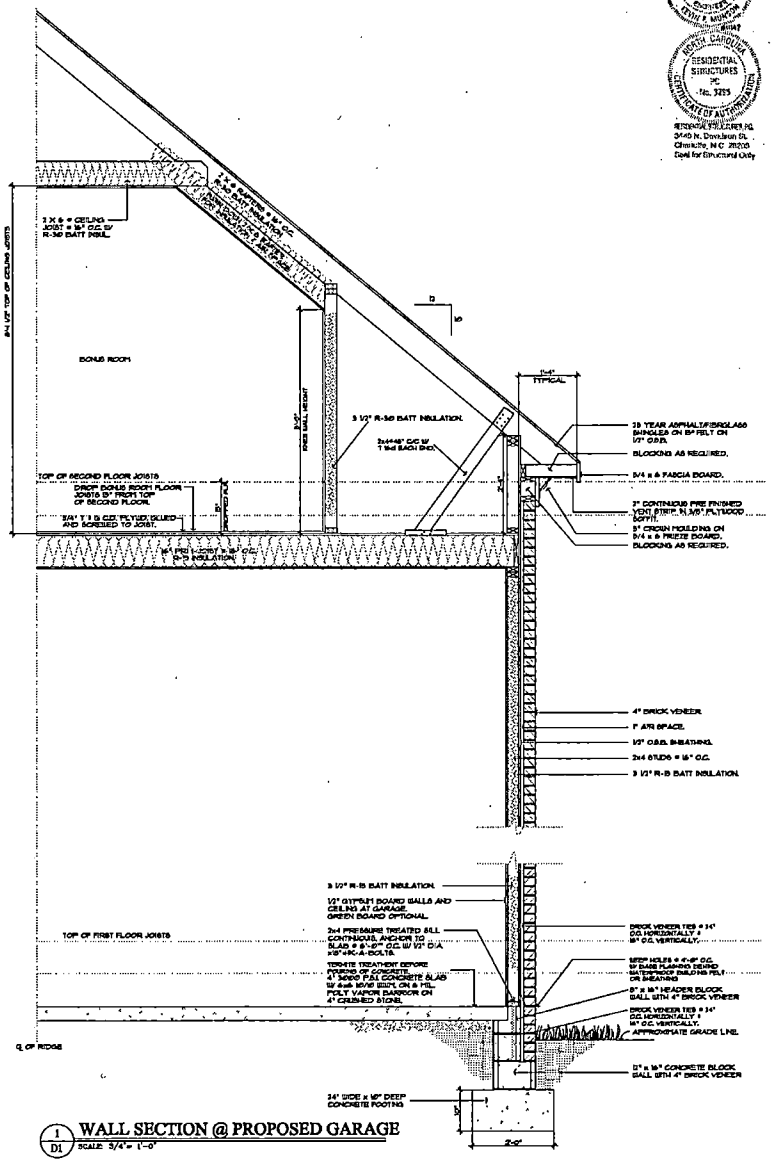
⑈001994⑈ ⑆053104869⑆ 53488258 5⑈

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance



2/D1 SECTION @ FRONT PORCH
SCALE: 3/4"= 1'-0"



1/D1 WALL SECTION @ PROPOSED GARAGE
SCALE: 3/4"= 1'-0"

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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 29240 JOSHUA SCOTT KEVIN E. MORRISON
NORTH CAROLINA RESIDENTIAL STRUCTURES PE No. 3255 CERTIFICATE OF AUTHORIZATION
RESPONSIBLE FOR: LETTER PG 3440 N. Davidson St. Charlotte, N.C. 28205 Seal for Structural Only

Crowe Design & Associates
P.O. Box 1346 Cornelius, NC 28031 (704) 894-9364

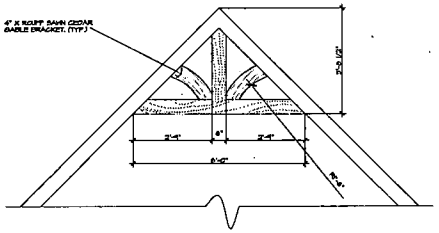
21423 BETHAL CHURCH RD.
Stewart Addition
CORNELIUS, NORTH CAROLINA

Integrated Custom Builders
P.O. Box 1472
Cornelius, NC 28031
(704) 596-9464

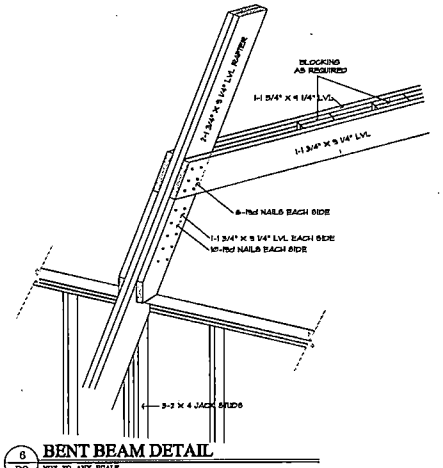
⚠ APRIL 15, 2012

DETAILS/SECTIONS

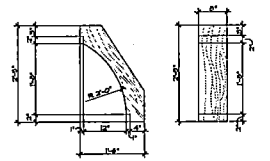
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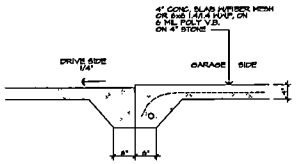
7 / D2 GABLE END BRACKET DETAIL
SCALE: 1/2" = 1'-0"



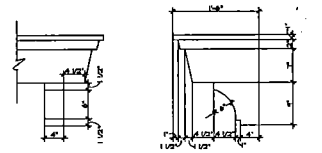
6 / D2 BENT BEAM DETAIL
NOT TO ANY SCALE



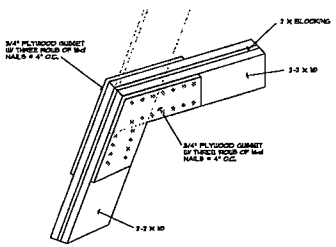
5 / D2 CEDAR BRACKET DETAIL
SCALE: 3/4" = 1'-0"



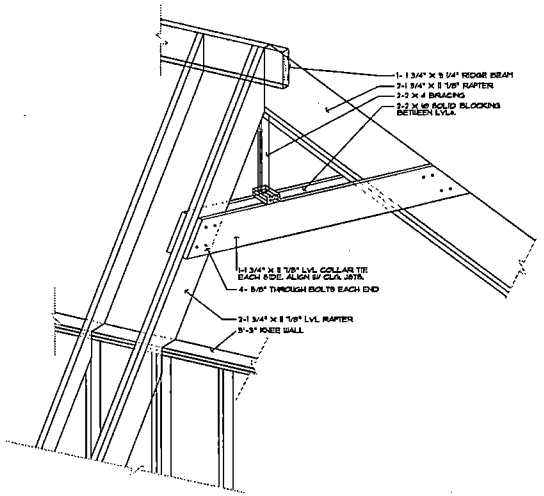
8 / D2 GARAGE / DRIVE JOINT
SCALE: 3/4" = 1'-0"



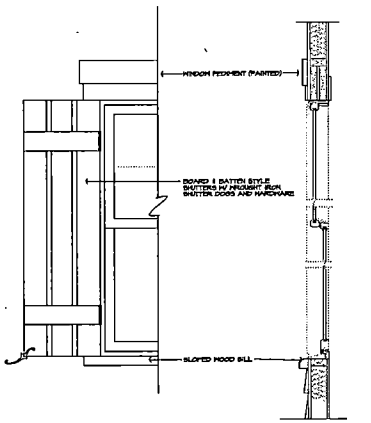
4 / D2 PLANTER BOX DETAIL
SCALE: 1" = 1'-0"



3 / D2 BENT BEAM DETAIL
NOT TO ANY SCALE



2 / D2 BENT BEAM DETAIL
NOT TO ANY SCALE



1 / D2 TYP. WINDOW TRIM DETAIL
SCALE: 1" = 1'-0"

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29240 MICHAEL T. MUSSELMAN
NORTH CAROLINA RESIDENTIAL STRUCTURES PC No. 3295 CERTIFICATE OF AUTHENTICATION
RESIDENTIAL STRUCTURES PC
3440 N. Davidson St.
Charlotte, N.C. 28205
Seal for Structural Only

Crowe Design & Associates
P.O. Box 1346 Cornelius, NC 28031 (704) 894-4384

21423 BETHAL CHURCH RD.
Stewart Addition
CORNELIUS, NORTH CAROLINA

Integrated Custom Builders
P.O. Box 1423
Cornelius, NC 28031
(704) 506-5464

⚠ APRIL 15, 2012

DETAILS/SECTIONS

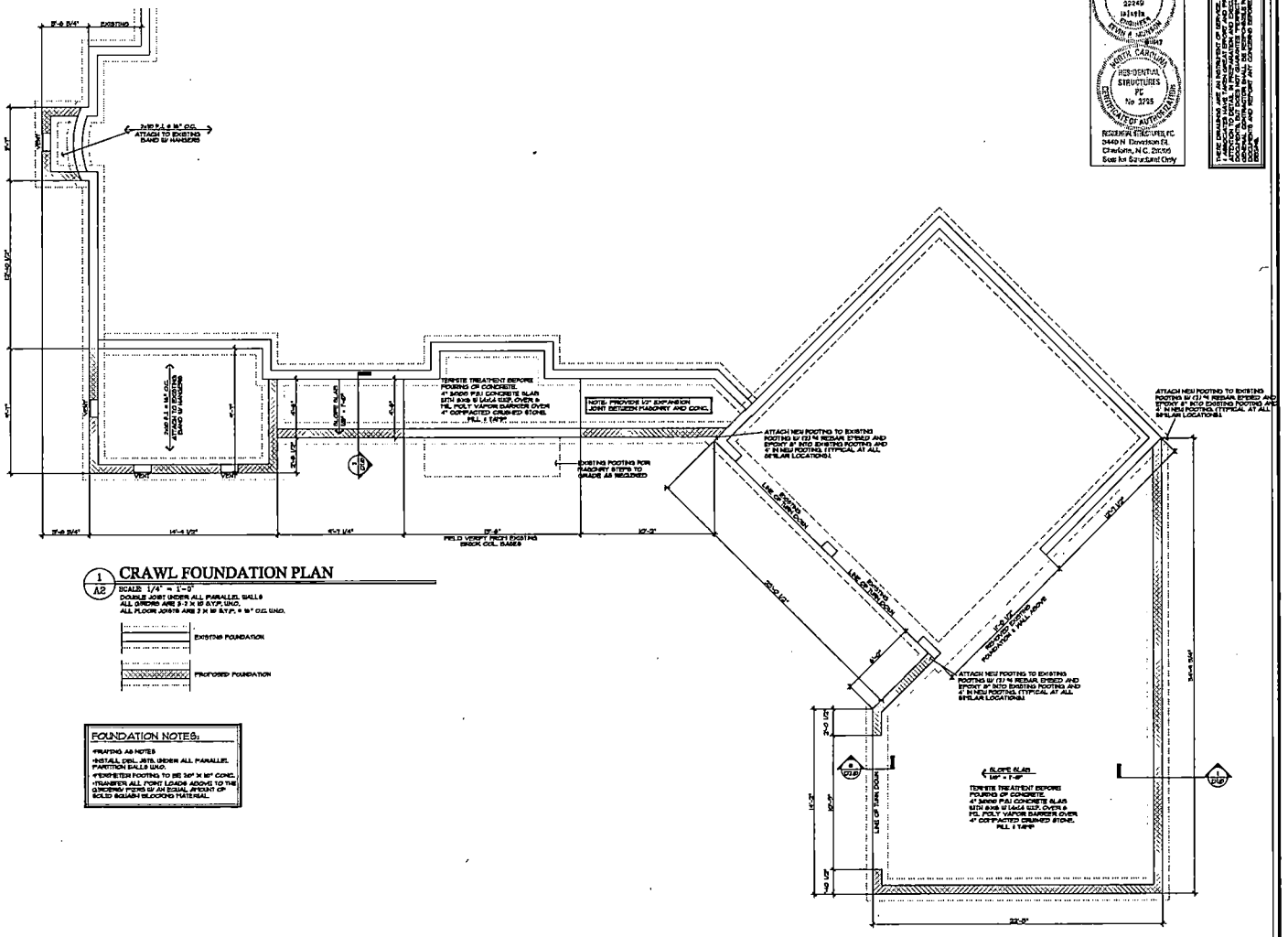
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RESIDENTIAL FOUNDATION NOTES

REVISED AUGUST 21, 2007

1. SOIL BEARING CAPACITY ASSUMED AS 2000 PSF UNLESS NOTED OTHERWISE OR AS DETERMINED BY STANDARD PENETROMETER TEST.
2. ALL CONTINUOUS WALL FOOTINGS FOR ONE AND TWO STORY HOUSES AREA 16" THICK X 24" WIDE. REINFORCING IN FOOTINGS SHOULD BE (2) #4 REBAR IF NOTED ON PLANS. REINFORCEMENT NOT REQUIRED BY CODE.
3. ALL INTERIOR PIERS ARE 8" X 16" CMU UP TO A MAXIMUM HEIGHT TO SIT, ALL PIERS OVER 67" HIGH MUST BE FILLED WITH TYPE "M" MORTAR. MAXIMUM UNBRACED PIER 8" X 16" FILLED 79"H TO 8'-0" FROM LANDING THAN 8" X 16" ARE NOTED ON PLANS. PIER CAP SLOORS SHOULD BE 8" OF SOLID MASONRY.
4. FOOTINGS FOR 8" X 16" PIERS ARE 8" X 16" X 8" UNLESS NOTED OTHERWISE, REINFORCING TO BE AS NOTED ON PLANS.
5. CONCRETE SHALL BE 3000 PSI IN 28 DAYS UNLESS NOTED OTHERWISE. NO CONCRETE SHALL BE POURED IN TEMPERATURES BELOW 40 DEGREES FAHRENHEIT UNLESS HEAT TO BE PROVIDED DURING CURING FOR TWO DAYS. THE BOTTOM OF ALL FOOTINGS MUST BE 24" BELOW GRADE.
6. ALL REBAR SPLICES SHALL BE A MINIMUM OF 2'-0" UNLESS OTHERWISE NOTED.
7. ANY SPECIAL FOUNDATIONS FOR STRUCTURES SHALL BE DESIGNED BY LICENSED PROFESSIONAL ENGINEER UPON RECEIVING SOIL CAPACITY SPECIFICATIONS FOR ALL SOIL CONFORMING TO SUPPORT THE STRUCTURE.
8. CHIMNEY FOOTING SIZES ARE SHOWN IN THE STRUCTURAL DESIGN DRAWINGS.
9. FOUNDATION WALLS BACKFILLED WITH DIRT AND SUPPORTING STRUCTURAL FRAMING SHALL BE CONSTRUCTED AS SHOWN ON DETAIL SHEET.
10. SPECIAL RETAINING WALL DESIGNS TO BE SHOWN ON DETAIL SHEETS.
11. ALL FILL HEIGHT FOUNDATION WALLS ARE SHOWN ON STRUCTURAL DETAIL SHEET.
12. ALL MASONRY CRAWSPACE WALL CONSTRUCTION MUST BE INSPECTED BY THE COUNTY BUILDING OFFICIAL, ARCHITECT, OR ENGINEER FOR COMPLIANCE WITH STRUCTURAL SPECIFICATIONS.
13. WHERE FULL HEIGHT FOUNDATION OR RAMPFOOT WALLS RUN PARALLEL TO FLOOR FRAMING, BLOCKING PLAN SHE PROVIDED BETWEEN JOISTS AT 2'-0" O/C FOR NOT LESS THAN SIX JOIST SPACINGS OUT FROM WALL.
14. DETAILS OF ANY EARTH RETAINING STRUCTURES NOT ATTACHED TO THE HOUSE STRUCTURE WILL BE SHOWN ON SEPERATE DETAIL SHEETS.

NOTE: ALL POINT LOADS FROM ROOF RAFTERS, JACK STUDS, BEAM SUPPORTS + SHEAR WALLS OR 4 STL. - CANNOT RELAY ON SHEATHING ALONE, BLOCKING BELOW, TO OR BETTER THAN THE POINT LOAD ABOVE MUST BE CARRIED THROUGH ALL CONSTRUCTION TO THE FOUNDATION.



1/A2 CRAWL FOUNDATION PLAN

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

DOUBLE JOIST UNDER ALL PARALLEL WALLS
ALL GIRDERS ARE 3 - 2 X 10 (LVP, UNO.
ALL FLOOR JOISTS ARE 2 X 10" (LVP.) @ 16" O.C. UNO.

EXISTING FOUNDATION

PROPOSED FOUNDATION

FOUNDATION NOTES:

- FRAMING AS NOTED
- INSTALL DBL. JSTS. UNDER ALL PARALLEL PARTITION WALLS U.N.O.
- TERMITE TREATING TO BE 36" X 16" CONC.
- TRANSFER ALL POINT LOADS ABOVE TO THE FOUNDATION WALL BELOW BY AN EQUAL AMOUNT OF SOLID SOLIDLY BLOCKING MATERIAL

ADDITIONAL NOTES

1. ALL PARTS OF THESE PLANS ARE COPYRIGHTED WITH THE REGISTER OF COPYRIGHTS, LIBRARY OF CONGRESS WASHINGTON D.C. AND MAY NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT CONCENT OF CROWE DESIGN & ASSOCIATES.
2. CROWE DESIGN IS A PROFESSIONAL RESIDENTIAL DESIGN FIRM LOCATED IN CONCORD, NORTH CAROLINA. BECAUSE SITE CONDITIONS MAY VARY, CROWE DESIGN CANNOT WARRANT THE SUITABILITY OF THESE PLANS FOR USE ON YOUR SPECIFIC SITE. CONSTRUCTION FROM THESE PLANS SHOULD NOT BE UNDERTAKEN WITHOUT THE ASSISTANCE OF A PROFESSIONAL CONTRACTOR.
3. ALL FEDERAL, STATE AND LOCAL CODES, ORDINANCES AND REGULATION SHALL BE CONSIDERED AS PART OF THESE DRAWINGS AND DETAILS FOR THIS BUILDING AND SHALL TAKE PREFERENCE OVER ANYTHING SHOWN, DESCRIBED OR IMPLIED WHERE VARIANCES OCCUR.
4. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND COORDINATE ANY CORRECTIONS OR REVISIONS WITH THE OWNER AND DESIGNER. CROWE DESIGN WILL ASSUME NO LIABILITY FOR DIMENSIONAL ERRORS ONCE CONSTRUCTION BEGINS.

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 22349 JAMES CROWE II REVISED 4 JUNE 2008 NORTH CAROLINA RESIDENTIAL STRUCTURES PE No. 3795 CERTIFICATE OF AUTHORIZATION RESIDENTIAL STRUCTURES, P.C. 3449 N. Davidson St. Charlotte, N.C. 28205 State for Standard Only

THESE DRAWINGS ARE AN INSTRUMENT OF SERVICE. CROWE DESIGN & ASSOCIATES, P.C. RETAINS ALL COMMON LAW, STATUTORY AND OTHER RIGHTS, INCLUDING COPYRIGHTS TO DETAIL & PRESENTATION AND DESCRIPTION OF THESE DRAWINGS. THESE DRAWINGS ARE NOT TO BE USED FOR ANY PURPOSE OTHER THAN THE ONE FOR WHICH THEY WERE PREPARED. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEW OF THESE DRAWINGS AND FOR ANY CONFLICTS BEFORE CONSTRUCTION BEGINS.

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NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS

SEAL 2011 A 3795 PROFESSIONAL ENGINEER

Crowe Design & Associates
P.O. Box 1342 Concord, NC 28021 (704) 933-4384

21423 BETHAL CHURCH RD.
Stewart's Addition
CORNELIUS, NORTH CAROLINA

Integrated Custom Builders
P.O. Box 1423
Cornelius, NC 28031
(704) 506-9484

⚠ APRIL 18, 2012

PROPOSED CRAWL SPACE FOUNDATION PLAN

A2.0

FRAMING CONSTRUCTION NOTES

REVISED AUGUST 17, 2007

1. CRAWL GIRDERS AND BAND WITH 4" CENTAIN SILL AND PIER CONSTRUCTION SHALL BE 2-2x10 SOUTHERN YELLOW PINE #1 UNLESS NOTED OTHERWISE. MAXIMUM CLEAR SPAN TO BE 4'-8" (8'-0" O.C. SPACING OF PIERS).

   TO AVOID OBJECTIONABLE CRACKING IN FINISHED HARDWOOD FLOORS OVER ANY GIRDERS, USE THE FOLLOWING PROCEDURE:

   A. NAILING
      i. ALL FLOOR JOISTS MUST BE TOENAILED TO THEIR SUPPORT GIRDERS WITH A MINIMUM OF 3-8d NAILS AT EACH END. LADDERBACKS WILL HELP AND REDUCE THE TORSUAL REFRACTIVE, NO END NAILING THROUGH TIE GIRDER OR BAND IS PERMITTED.
      ii. IF DROPPED GIRDERS ARE USED, END LAP ALL JOISTS AND SIDE NAIL EACH WITH A MINIMUM OF 3-8d NAILS AT EACH END OF EACH JOIST, LEDGER STRIPS NAILED WITH 3-8d NAILS AT EACH JOIST END, SPACED 3" APART.
      iii. NAIL MULTIPLE 2 MEMBER BUILT UP GIRDERS WITH TWO ROWS OF 16d NAILS STAGGERED AT 32" O.C., 2" DOWN FROM THE TOP AND 2" UP FROM THE BOTTOM WITH 3-16d NAILS AT EACH END OF EACH PIECE IN THE JOINT THROUGH THE MEMBERS MAKING UP THE MULTIPLE GIRDER.
      iv. THIS NAILING PATTERN WILL INSURE A TIGHT FLOOR FROM OUTSIDE OF HOUSE TO OUTSIDE SO THAT WHEN THE FRAMING SHRINKS DURING THE FIRST HEATING SEASON, THE SHRINKAGE WILL BE UNIFORMLY DISTRIBUTED OVER THE ENTIRE FLOOR. IF THE GIRDER NAILING PATTERN IS OMITTED, WHEN THE SHRINKAGE WILL ACCUMULATE OVER THE GIRDERS AND AN OBJECTIONABLE CRACK WILL DEVELOP IN THE FINISHED HARDWOOD FLOOR OVER THE GIRDER LINE.
   B. AT ALL GIRDERS WHERE THE JOISTS CHANGE DIRECTION, INSTALL BRIDGING AT 6' O.C. FOR A DISTANCE OF 6X JOIST SPACING BEYOND ANY JOIST DIRECTION CHANGE. THIS WILL INSURE SHRINKAGE DISTRIBUTION OVER THE FLOOR AND NOT LET IT ACCUMULATE AT THE GIRDER.
   C. THERE MUST BE WOOD BLOCKING THRU BOLTED TO THE STEEL BEAM WITH JOISTS TOENAILED OR ATTACHED TO THE BEAM WITH METAL HANGERS UNDER ANY HARDWOOD FLOORS THAT PASS OVER A STEEL BEAM SUPPORTING FLOOR JOISTS. THIS CONDITION often exists BASEMENT AREAS.
2. ALL OTHER LUMBER MAY BE #1/#2 OR STUD UNLESS NOTED OTHERWISE.
3. STEEL BEAMS MUST HAVE 3-2x4 STUD JACKS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE.
4. LVL BEAMS MUST HAVE 3-2x4 STUD JACKS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE.
5. MASONRY LINTELS:
   A. FOR SPANS UP TO 6'- USE 3 1/2" X 3 1/2" X 1/4" STEEL ANGLES.
   B. FOR SPANS FROM 6' TO 10'- USE 8" X 2 1/2" X 5/16" STEEL ANGLES.
   C. FOR SPANS FROM 9' TO 12', USE A PAIR OF 5 GAUGE LINTELS IN EACH OF THE FIRST 3 COURSES OF BRICK ON A 8" X 3 1/2" X 5/16" STEEL ANGLE LAP ALL 4 GAUGE BARS UNLESS OTHERWISE NOTED AND EXTEND LINTELS 8" MINIMUM INTO JAMBS. TEMPORARILY SUPPORT STEEL ANGLES BEFORE LAYING MASONRY. SHORING MAY BE REMOVED FIVE DAYS FOLLOWING INSTALLATION OF MASONRY.
   D. WHEN STRUCTURAL STEEL BEAMS WITH BOTTOM PLATES ARE USED TO SUPPORT MASONRY, THE BOTTOM PLATE MUST EXTEND THE FULL LENGTH OF STEEL. BEAM THIS PROVIDES SUPPORT TO THE ENDS OF THE PLATE BY BEARING ON THE ADJACENT MASONRY JAMBS. THE BEAM SHOULD BE TEMPORARILY SHORED PRIOR TO LAYING THE MASONRY. THE SHORING MAY BE REMOVED FIVE DAYS AFTER LAYING THE MASONRY.
6. ALL BRICK VENEER OVER LOWER ROOFS (BRICK, CLIPPED) MUST HAVE A STRUCTURAL ANGLE LAG SCREWED TO ADJACENT STUD WALL IN ACCORDANCE WITH DETAIL WITH STEEL BRICK STOPS TO PREVENT SLIDING OF BRICK.
7. ALL RAFTER BRACES MUST HAVE 2 STUDS FROM PLATE THROUGH ALL FLOORS TO FOUNDATION OR SUPPORTING BEAM (ELSE) NO BRACES SHALL BE ATTACHED TO TOP SOLE PLATE WITHOUT STUDS DIRECTLY UNDER THEM.
8. LOOSE PARTITIONS PARALLEL BETWEEN FLOOR JOISTS OR TRUSSES, 2"x4" LADDERS @ 16" O.C. MUST BE PLACED PERPENDICULAR TO THE TRUSSES TO SUPPORT THE PLYWOOD DECKING.
9. ALL WOOD I-JOISTS AND OPEN JOISTS MUST BE BRACED IN ACCORDANCE WITH MANUFACTURERS DIRECTIONS PLUS DETAILS SHOWN ON PLANS. LOAD BEARING PARTITIONS, JACKS, BEAMS AND COLUMN SUPPORTS MUST BE SOLID BLOCKED THROUGH FLOOR TO JOISTS, TRUSSES, AND PLYWOOD CANNOT CARRY CONCENTRATED POINT LOADS. ALL POINT LOADS MUST BE CARRIED TO FOUNDATIONS WITH BLOCKING AND/OR BEAMS.
10. ALL STEEL COLUMNS SHALL REST ON CONCRETE, MASONRY, OR STEEL ONLY. AN ADEQUATELY-SIZED BASE PLATE SHALL BE USED TO SPREAD THE COLUMN LOAD ACROSS THE BEARING SURFACE AREAS SO AS NOT TO EXCEED THE ALLOWABLE COMPRESSIVE STRESS. BEAMS THAT REST ON TOP OF STEEL COLUMNS SHALL BE WELDED TO THE COLUMN. BASE PLATE SHALL BE BOLTED WITH FOUR 1/2" DIAMETER ANCHOR BOLTS OR EXPANSION BOLTS TO CONCRETE OR MASONRY.
11. UNLESS NOTED OTHERWISE ON THE PLANS, ALL EXTERIOR FACING STUD WALLS TALLER THAN 10' SHALL BE CONSTRUCTED AS FOLLOWS:
   A. WALLS 10' TO 21' HIGH, BALLOON FRAME 2X4 STUDS @ 12" O.C. WITH 1/2" CDX SHEATHING AND 2 KING STUDS ON EACH SIDE OF EACH OPENING NAILED SECURELY TO THE HEADER.
   B. WALLS 12' TO 20' HIGH, BALLOON FRAME 2X6 STUDS @ 16" O.C. (1/2" CDX SHEATHING REQUIRED FOR WALL HEIGHTS 17'). PROVIDE 3-1 3/4" X 9 1/4" LVL KING STUDS ON EACH SIDE OF OPENINGS 9' TO 8' WIDE AND 3-2x6 KING STUDS FOR OPENINGS LESS THAN 8' WIDE. FASTEN KING STUDS SECURELY TO ALL HEADERS WITH A MINIMUM OF 8-16d NAILS OR 4-5/8" DIAMETER LAG SCREWS EMBEDDED A MINIMUM OF 4" INTO THE HEADER.
   C. GABLE END WALLS OF ROOFS WITH VAULTED CEILING JOISTS, BALLOON FRAME WALL AND PROVIDE TRIPLE KING STUDS ON EACH SIDE OF OPENINGS, NAILED SECURELY TO THE HEADER.
   D. TWO-STORY HIGH FOYER WALLS LESS THAN 9' WIDE, ENTERED 9 1/2" X 9 1/4" PARALLAM PSL HEADER WITH 3-2x4 FLAT PLATES ACROSS THE ENTIRE WALL. LOCATE THIS BEAM NEAR MID-HEIGHT OF THE WALL AT ONE NEAR FIRST FLOOR TOP PLATE.

NOTE: SEE SPECIAL DESIGN OR ENGINEER FOR WALLS TALLER THAN 30', WHEN OPENINGS IN HIGH WALLS EXCEED 9' IN WIDTH, OR IF THE WALL CANNOT BE CONSTRUCTED USING ANY OF THE METHODS MENTIONED.

12. CONTINUOUS 2x6 DIAGONAL BRACE SHALL BE NAILED TO DIAGONAL OR VERTICAL WEB MEMBERS OF ALL OPEN WEB FLOOR TRUSSES OVER 10' LONG. THEY SHALL BE INSTALLED NEAR MID-SPAN AS A LOAD DISTRIBUTION MEMBER. IF THE 2x6 DIAGONAL IS NOT CONTINUOUS, LAP ENDS OF DIAGONAL ONE TRUSS SPACE.
13. LOWER STUD WALLS FOR BUILDING OVER TWO STORIES, BUT NOT MORE THAN THREE STORIES:
   A. INTERIOR WALLS
      i. LOAD BEARING ——— 2x6 @ 12" O.C.
      ii. NON LOAD BEARING ——— 2x4 @ 16" O.C.
   B. EXTERIOR WALLS
      USE 2x6 @ 16" O.C. WITH 1/2" X 4' X 8' PLYWOOD SHEATHING AT ALL CORNERS AND EVERY 20' (OR USE 2x4 @ 12" O.C. WITH 1/2" PLYWOOD SHEATHING SOLID ON WALLS.
14. HEADERS SHALL BE AS SHOWN UNLESS NOTED DIFFERENTLY ON PLANS.
   A. INTERIOR
      i. SPANS UP TO 7'-6" ——— 3-2x8'S
      ii. SPANS 7'-6" TO 9'-6" ——— 3-2x10'S
      iii. SPANS 9'-6" TO 12'-6" ——— 3-2x12'S
      iv. SPANS 6'-6" OR MORE ——— SEE PLAN
   B. EXTERIOR
      i. SPANS UP TO 7'-0" ——— 3-2x8'S
      ii. SPANS 7'-0" TO 9'-0" ——— 3-2x10'S
      iii. SPANS 9'-0" TO 11'-0" ——— 3-2x12'S
      iv. SPANS 9'-0" OR MORE ——— SEE PLAN

   HEADERS UNDER THAN 8' SHALL HAVE A MINIMUM OF 3-2X4 KING STUDS ON EACH SIDE U.N.O.
15. WHEN CEILING JOISTS ARE PARALLEL TO AN EXTERIOR WALL AND RAFTERS BEAM ON THAT EXTERIOR STUD WALL TOP PLATE, TIE THE RAFTERS NEAR THE TOP PLATE TO CEILING JOISTS WITH 2x6 NOGS A MINIMUM OF 6' LONG AT 4' ON CENTER ACROSS THE TOP OF THE CEILING JOISTS.
16. AT ALL BAY WINDOWS, EACH PANEL SHALL BE NAILED TO EACH ADJACENT PANEL WITH 8-16d NAILS OR TIED TOGETHER WITH METAL STRAPPING NAILED AT FOUR LOCATIONS BETWEEN FLOORS WITH A MINIMUM OF 2-16d NAILS INTO EACH PANEL. AT EACH STRAP, TIES SHALL AVOID VERTICAL CRACKING IN PANEL JOISTS DUE TO HORIZONTAL OSCILLATING PANELS.
17. AT ALL STAIRS, EVERY STUD AT EACH STRINGER MUST BE NAILED TO EACH STRINGER WITH A MINIMUM OF 2-16d NAILS. THIS WILL AVOID CRACKING BETWEEN SHEETROCK AND TOP OF BASE MOLDING DUE TO VERTICAL OSCILLATION OF STAIR STRINGERS.
18. STEEL PIER COLUMNS MUST BE IN CONTACT WITH THE UPPORTED MEMBER AND CONTINUED SOLID TO THE SUPPORTING MASONRY OR CONCRETE FOUNDATION. NO INTERMEDIATE WOOD BLOCKING SHOULD BE USED AS IT WILL CRUSH.

ADDITIONAL NOTES

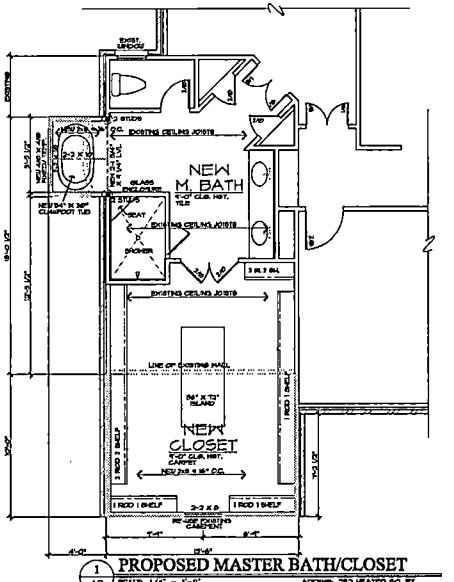
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NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER — SEAL — 29249 — DAVID A. LIGHT — ENGINEER

NORTH CAROLINA RESIDENTIAL STRUCTURES PC No. 3235 — CERTIFICATE OF AUTHORIZATION

RESERVOIR ENGINEERING, PC
2440 N. Davidson St.
Charlotte, N.C. 28205
Seal for Structural Only

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1 / A3 PROPOSED MASTER BATH/CLOSET

SCALE: 1/4" = 1'-0" — ADDING 252 HEATED SQ. FT.

REMOVED WALL
EXISTING WALL
NEW 2 1/2" WALL

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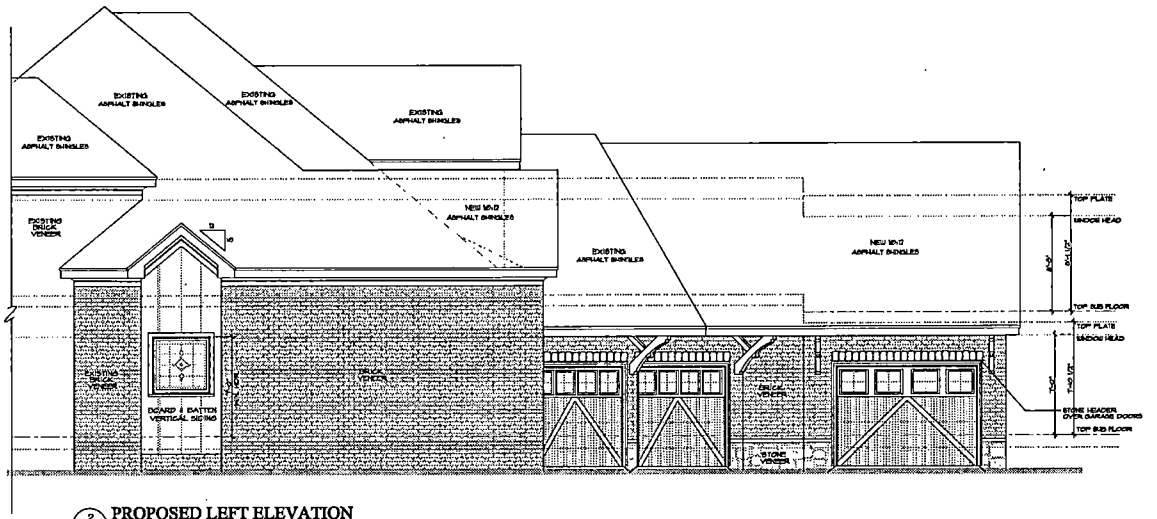
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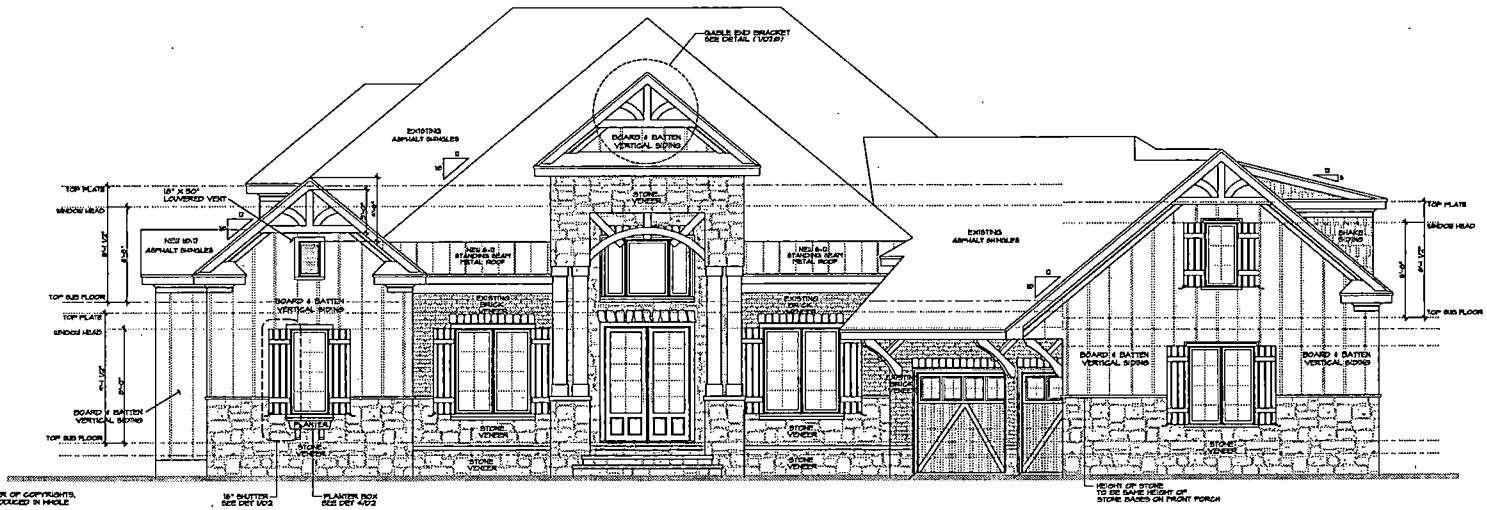
1 APRIL 13, 2012

PROPOSED MASTER BATH FLOOR PLAN

A3.0



2 / A1 **PROPOSED LEFT ELEVATION**
SCALE 1/4" = 1'-0"



1 / A1 **PROPOSED FRONT ELEVATION**
SCALE 1/4" = 1'-0"

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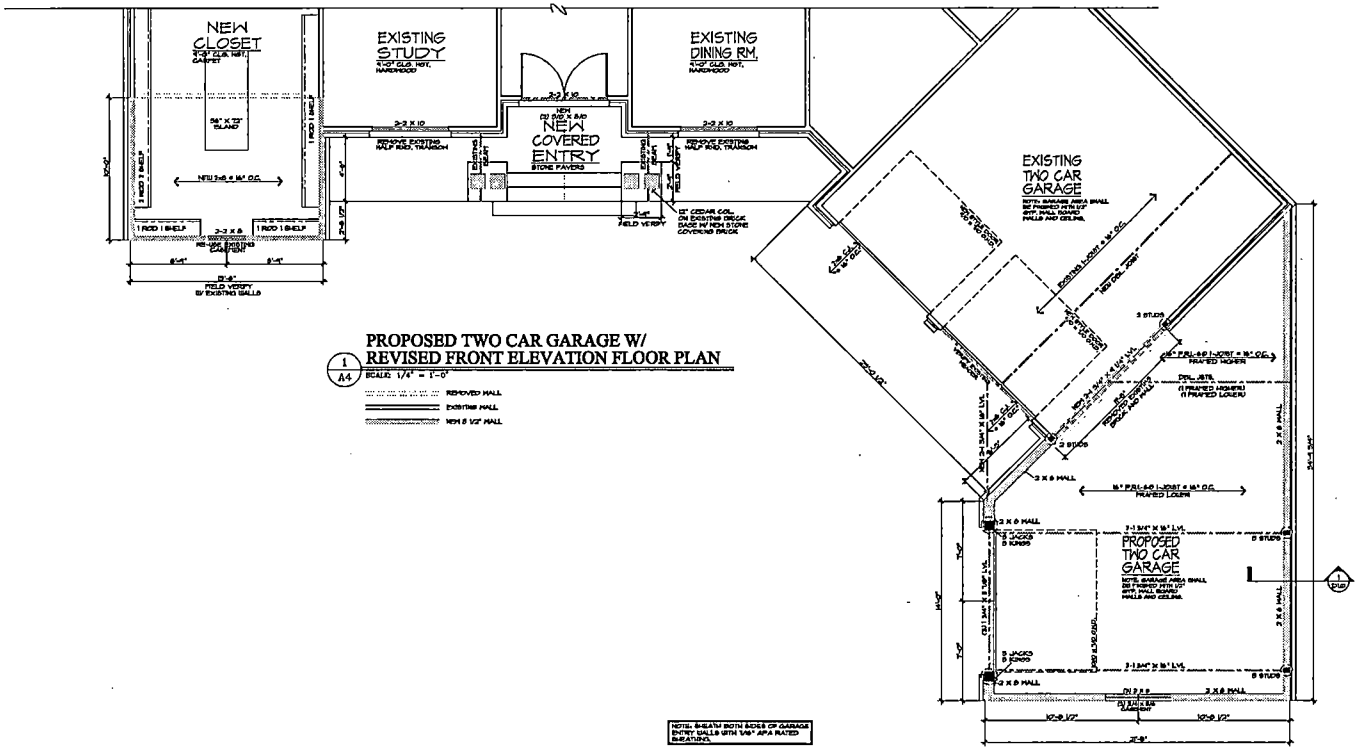
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Integrated Custom Builders
P.O. Box 1423
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APRIL 15, 2012

PROPOSED FRONT/LEFT ELEVATIONS

A1.0



PROPOSED TWO CAR GARAGE W/ REVISED FRONT ELEVATION FLOOR PLAN

1/A4 SCALE: 1/4" = 1'-0"

REMOVED WALL
EXISTING WALL
NEW 6 1/2" WALL

NOTE: SHEATH BOTH SIDES OF GARAGE ENTRY WALLS WITH 1/2" APA RATED SHEATHING.

EXTERIOR WALL HGT. (H)	STUD SIZE/SPACING
H ≤ 10'-0"	2 X 4 @ 16" O.C.
10'-0" < H ≤ 11'-0"	2 X 4 @ 12" O.C.
11'-0" < H ≤ 12'-0"	2 X 6 @ 16" O.C.
H > 12'-0"	CONSULT ENGINEER

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3. ALL FEDERAL, STATE AND LOCAL CODES, ORDINANCES AND REGULATION SHALL BE CONSIDERED AS PART OF THESE DRAWINGS AND DETAILS FOR THIS BUILDING AND SHALL TAKE PREFERENCE OVER ANYTHING SHOWN, DESCRIBED OR IMPLIED WHERE VARIANCES OCCUR.
4. CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS BEFORE BEGINNING CONSTRUCTION AND COORDINATE ANY CORRECTIONS OR REVISIONS WITH THE OWNER AND DESIGNER. CROWE DESIGN WILL ASSUME NO LIABILITY FOR DIMENSIONAL ERRORS ONCE CONSTRUCTION BEGINS.

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NORTH CAROLINA REGISTERED ARCHITECT 20249 MICHAEL CROWE RENEW 6/30/2013

NORTH CAROLINA RESIDENTIAL STRUCTURES PE No. 2225 CERTIFICATE OF AUTHORIZATION

Crowe Design & Associates
P.O. Box 1148 Cornelius, NC 28031 (704) 895-4344

21423 BETHEL CHURCH RD.
Stewart Addition
CORNELIUS, NORTH CAROLINA

Integrated Custom Builders
P.O. Box 1433
Cornelius, NC 28031
(704) 506-9464

APRIL 15, 2012

PROPOSED TWO CAR GARAGE & REVISED FRONT ELEVATION

A4.0

FRAMING CONSTRUCTION NOTES

REVISED AUGUST 21, 2012

1. CRAWL GIRDERS AND BAND WITH 4" CURTAIN WALL AND PIER CONSTRUCTION SHALL BE 2,500 SOLUTION YIELD PSI 70 UNLESS NOTED OTHERWISE, MAXIMUM CLEAR SPAN TO BE 4'-8" (± -0" O.C. SPACING OF PIERS.

   TO AVOID OBJECTIONABLE CRACKING IN FINISHED HARDWOOD FLOORS OVER ANY GIRDERS, USE THE FOLLOWING PROCEDURE:

   A. NAILING
      i. ALL FLOOR JOISTS MUST BE TOENAILED TO THEIR SUPPORT GIRDERS WITH A MINIMUM OF 3-8d NAILS AT EACH END, LARGER NAILS WILL SPLIT AND REDUCE THE TOENAIL RESTRICTIVE, NO END NAILING THROUGH THE GIRDER OR BAND IS PERMITTED.
      ii. IF DROPPED GIRDERS ARE USED, END LAP ALL JOISTS AND SIDE NAIL EACH WITH A MINIMUM OF 3-16d NAILS AT EACH END OF EACH JOIST, LEDGER STRIPS NAILED WITH 8-16d NAILS AT EACH JOIST END, SPACED 3" APART.
      iii. NAIL MULTIPLE MEMBER BUILT UP GIRDERS WITH TWO ROWS OF 16d NAILS STAGGERED AT 32" O.C., 2" DOWN FROM THE TOP AND 2" UP FROM THE BOTTOM WITH 8-16d NAILS AT EACH END OF EACH PIECE IN THE JOIST THROUGH THE MEMBERS MAKING UP THE MULTIPLE GIRDER.
      iv. THIS NAILING PATTERN WILL ENSURE A TIGHT FLOOR FROM OUTSIDE OF HOUSE TO OUTSIDE AND THAT WHEN THE HEATING SHRINKS DURING THE FIRST HEATING SEASON, THE SHRINKAGE WILL BE UNIFORMLY DISTRIBUTED OVER THE ENTIRE FLOOR, IF THE GIRDER NAILING PATTERN IS OMITTED, THEN THE SHRINKAGE WILL ACCUMULATE OVER THE GIRDERS AND AN OBJECTIONABLE CRACK WILL DEVELOP IN THE FINISHED HARDWOOD FLOOR OVER THE GIRDER LINE.
   B. AT ALL GIRDERS WHERE THE JOISTS CHANGE DIRECTION, INSTALL BRIDGING AT 6' O.C. FOR A MINIMUM OF SIX JOIST SPACINGS BEYOND ANY JOIST DIRECTION CHANGE. THIS WILL INSURE SHRINKAGE DISTRIBUTION OVER THE FLOOR AND NOT LET IT ACCUMULATE AT THE GIRDER.
   C. THERE MUST BE WOOD BLOCKING THRU BOLTED TO THE STEEL BEAM WITH JOISTS TOENAILED OR ATTACHED TO THE BEAM WITH METAL HANGERS UNDER ANY HARDWOOD FLOORS THAT RUNS OVER A STEEL BEAM SUPPORTING FLOOR JOISTS, THIS CONDITION often EXISTS BUMPOUT AREAS.

2. ALL OTHER LUMBER MAY BE SPRUCE #1 UNLESS NOTED OTHERWISE.
3. STEEL BEAMS MUST HAVE 3-2x4 STUD JACKS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE.
4. LVL BEAMS MUST HAVE 3-2x4 STUD JACKS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE.
5. MASONRY LINTELS:
   A. FOR SPANS UP TO 6'-1 USE 3 1/2" X 3 1/2" X 1/4" STEEL ANGLES.
   B. FOR SPANS FROM 6' TO 10'- USE 8" X 3 1/2" X 5/16" STEEL ANGLES.
   C. FOR SPANS FROM 9' TO 15'- USE A PAIR OF 9 GAUGE WIRES IN EACH OF THE FIRST 3 COURSES OF BRICK ON A 8" X 3 1/2" X 5/16" STEEL ANGLE LAP ALL 9 GAUGE WIRE SPLICES 8" MINIMUM AND EXTEND WIRE 8" MINIMUM INTO JOINTS. TEMPORARILY SUPPORT STEEL ANGLE BEFORE LAYING MASONRY, SHORING MAY BE REMOVED FIVE DAYS FOLLOWING INSTALLATION OF MASONRY.
   D. WHEN STRUCTURAL STEEL BEAMS WITH BOTTOM PLATES ARE USED TO SUPPORT MASONRY, THE BOTTOM PLATE MUST EXTEND THE FULL LENGTH OF STEEL BEAM. THIS PROVIDES SUPPORT TO THE ENDS OF THE PLATE BY BEARING ON THE ADJACENT MASONRY JAMBS, THE BEAM SHOULD BE TEMPORARILY SHORED PRIOR TO LAYING THE MASONRY, THE SHORING MAY BE REMOVED FIVE DAYS AFTER LAYING THE MASONRY.
6. ALL BRICK VENEER OVER LOWER ROOFS (BRICK CLIPPED) MUST HAVE A STRUCTURAL ANGLE LAG SCREWED TO ADJACENT STUD WALL IN ACCORDANCE WITH DETAIL, WITH STEEL BRICK STOPS TO PREVENT SLIDING OF BRICK.
7. ALL RAFTER BRACES MUST HAVE 2 STUDS FROM PLATE THROUGH ALL FLOORS TO FOUNDATION OR SUPPORTING BEAM BELOW, NO BRACES SHALL BE SET ATTACHED TO TOP WALL PLATE WITHOUT STUDS DIRECTLY UNDER THEM.
8. WHERE PARTITIONS FALLS BETWEEN FLOOR JOISTS OR TRUSSES, 2"x4" LADDERS @ 16" O.C. MUST BE PLACED PERPENDICULAR TO THE TRUSSES TO SUPPORT THE PLYWOOD DECKING.
9. ALL WOOD I-JOISTS AND OPEN JOISTS MUST BE BRACED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS PLUS DETAILS SHOWN ON PLANS, LOAD BEARING PARTITIONS, JACKS, BEAMS AND COLUMN SUPPORTS MUST BE SOLID IS LOCKED THROUGH FLOOR TO JOISTS, TRUSSES, AND PLYWOOD CANNOT CARRY CONCENTRATED POINT LOADS, ALL POINT LOADS MUST BE CARRIED TO FOUNDATIONS WITH BLOCKING AND/OR BEAMS.
10. ALL STEEL COLUMNS SHALL BEAR ON CONCRETE, MASONRY, OR STEEL ONLY, AN ADEQUATELY-SIZED BASE PLATE SHALL BE USED TO SPREAD THE COLUMN LOAD ACROSS THE BEARING SURFACE AREAS SO AS NOT TO EXCEED ITS ALLOWABLE COMPRESSIVE STRESS, BEAMS THAT BEAR ON TOP OF STEEL COLUMNS SHALL BE WELDED TO THE COLUMN, BASE PLATE SHALL BE BOLTED WITH FOUR 1/2" DIAMETER ANCHOR BOLTS OR EXPANSION BOLTS TO CONCRETE OR MASONRY.
11. UNLESS NOTED OTHERWISE ON THE PLANS, ALL EXTERIOR FACING STUD WALLS TALLER THAN 10' SHALL BE CONSTRUCTED AS FOLLOWS:
   A. WALLS 10' TO 12' HIGH, BALLOON FRAME 2x4 STUDS @ 12" O.C. WITH 1/2" OSB SHEATHING AND 3 KING STUDS ON EACH SIDE OF EACH OPENING NAILED SECURELY TO THE HEADER.
   B. WALLS 12' TO 28' HIGH, BALLOON FRAME 2x6 STUDS @ 16" O.C. (1/2" OSB SHEATHING REQUIRED FOR WALL HEIGHTS ITS PROVIDE 2-2 3/4" X 5 1/4" LVL KING STUDS ON EACH SIDE OF OPENINGS 9' TO 9' WIDE AND 3-1 7/8 KING STUDS FOR OPENINGS LESS THAN 3' WIDE. FASTEN KING STUDS SECURELY TO ALL HEADERS WITH A MINIMUM OF (2-16d NAILS OR 4-3.5" DIAMETER LAG SCREWS EMBEDDED A MINIMUM OF 4" INTO THE HEADER.
   C. GABLE END WALLS OF ROOFS WITH VAULTED CEILING JOISTS, BALLOON FRAME WALL AND PROVIDE TRIPLE KING STUD ON EACH SIDE OF OPENINGS, NAILED SECURELY TO THE HEADER.
   D. TWO-STORY HIGH PIER WALLS LESS THAN 9' WIDE, EXTEND 3 1/2" X 9 1/4" PARALLAM PSL MEMBER WITH 3-2x4 FLAT PLATES ACROSS THE ENTIRE WALL, LOCATE THIS BEAM NEAR MID-HEIGHT OF THE WALL AT OR NEAR FIRST FLOOR TOP PLATE.

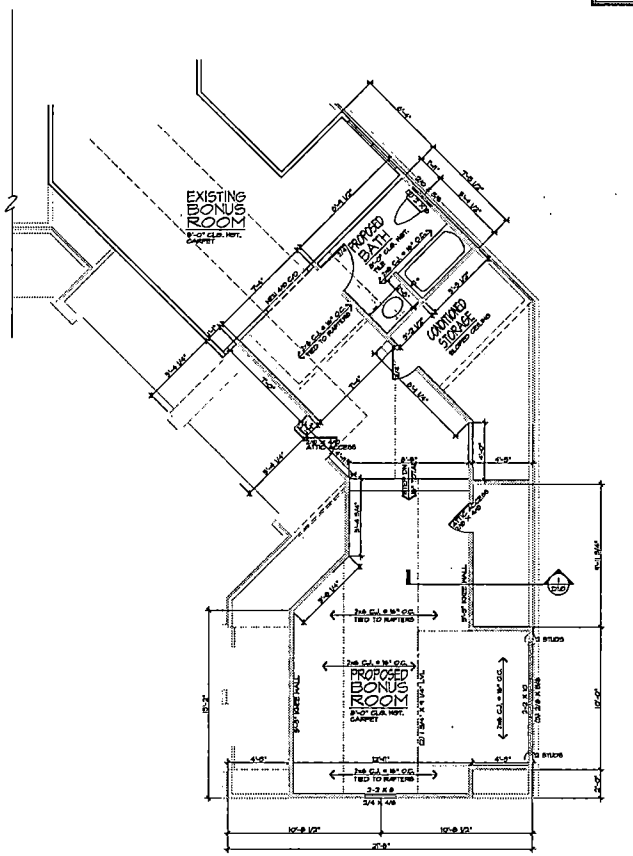
NOTE: SEE SPECIAL DESIGN OR ENGINEER FOR WALLS TALLER THAN 28', ENDS OPENINGS IN HIGH WALLS ENCRED 8" IN WIDTH, OR IF THE WALL CANNOT BE CONSTRUCTED USING ANY OF THE METHODS MENTIONED.

12. CONTINUOUS 2x8 SPREADERS SHALL BE NAILED TO DIAGONAL OR VERTICAL WEB MEMBERS OF ALL OPEN WEB FLOOR TRUSSES OVER 16' LONG, THEY SHALL BE INSTALLED NEAR MID-SPAN AS A LOAD DISTRIBUTION METHOD, IF THE 2x6 SPREADER IS NOT CONTINUOUS, LAP ENDS OF SPREADERS ONE TRUSS SPACE.
13. LOWER STUD WALLS FOR BUILDINGS OVER TWO STORIES, BUT NOT MORE THAN THREE STORIES:
   A. INTERIOR WALLS
      i. LOAD BEARING ——— 2x4 @ 12" O.C.
      ii. NON LOAD BEARING ——— 2x4 @ 16" O.C.
   B. EXTERIOR WALLS
      USE 2x6 @ 16" O.C. WITH 1/2" X 4' X 8' PLYWOOD SHEATHING AT ALL CORNERS AND EVERY 32', OR USE 2x4 @ 8" O.C. WITH 1/2" PLYWOOD SHEATHING SOLID ON WALLS.
14. HEADERS SHALL BE AS SHOWN UNLESS NOTED DIFFERENTLY ON PLANS:
   A. INTERIOR
      i. SPANS UP TO 3'-6" ——— 2-2x6's
      ii. SPANS 3'-6" TO 5'-6" ——— 2-2x8's
      iii. SPANS 5'-6" TO 8'-6" ——— 2-2x10's
      iv. SPANS 8'-6" OR MORE ——— SEE PLAN
   B. EXTERIOR
      i. SPANS UP TO 3'-6" ——— 2-2x6's
      ii. SPANS 3'-6" TO 5'-6" ——— 2-2x8's
      iii. SPANS 5'-6" TO 8'-6" ——— 2-2x10's
      iv. SPANS 8'-6" OR MORE ——— SEE PLAN

   HEADERS UNDER THAN 8' SHALL HAVE A MINIMUM OF 3-2X4 KING STUDS ON EACH SIDE U.N.O.
15. WHEN CEILING JOISTS ARE PARALLEL TO AN EXTERIOR WALL AND RAFTERS BEAR ON THIS EXTERIOR STUD WALL TOP PLATE, TIE THE RAFTERS NEAR ONE TOP PLATE TO CEILING JOISTS WITH 2x6 NOGGE A MINIMUM OF 8' LONG AT 4' ON CENTER ACROSS THE TOP OF THE CEILING JOISTS.
16. AT ALL BAY WINDOWS EACH PANEL SHALL BE NAILED TO EACH ADJACENT PANEL WITH 8-16d NAILS OR TIED TOGETHER WITH METAL STRAPPING NAILED AT FOUR LOCATIONS BETWEEN FLOORS WITH A MINIMUM OF 3-16d NAILS INTO EACH PANEL, AT EACH STRAP, THIS WILL AVOID VERTICAL CRACKING IN PANEL JOISTS DUE TO HORIZONTAL OSCILLATING PANELS.
17. AT ALL STAIRS, EVERY RISD AT EACH STRINGER MUST BE NAILED TO EACH STRINGER WITH A MINIMUM OF 3-16d NAILS, THIS WILL AVOID CRACKING BETWEEN WALLBOARD AND TOP OF BASE HOLDING DUE TO VERTICAL OSCILLATION OF STAIR STRINGERS.
18. STEEL PIPE COLUMNS MUST BE IN CONTACT WITH THE UPPORTED MEMBER AND CONTINUED SOLID TO THE SUPPORTING MASONRY OR CONCRETE FOUNDATION, NO INTERMEDIATE WOOD BLOCKING SHOULD BE USED AS IT WILL CRUSH.

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PROPOSED STORAGE/BONUS RM. OVER NEW TWO-CAR GARAGE

1/A5 SCALE: 1/4" = 1'-0"

ADDING: 305 SQ. FT.
ADDING: 91 SQ. FT. OF CONDITIONED STORAGE.

REMOVED WALL
EXISTING WALL
NEW 2 1/2" WALL

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22245 JAMES A. CROWE

NORTH CAROLINA RESIDENTIAL STRUCTURES PC No. 3295 CERTIFICATE OF AUTHORIZATION

Engineering Structures P.C.
3440 N. Davidson St.
Charlotte, N.C. 28205
Bond for Structural Only

Crowe Design & Associates
P.O. Box 1344 Cornelius, NC 28031 (704) 895-4944

21423 BETHAL CHURCH RD.
Stewart Addition
CORNELIUS, NORTH CAROLINA

Integrated Custom Builders
P.O. Box 1423
Cornelius, NC 28031
(704) 505-9464

APRIL 15, 2012

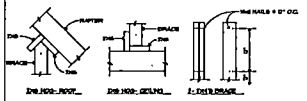
PROPOSED BONUS ROOM OVER NEW GARAGE

A5.0

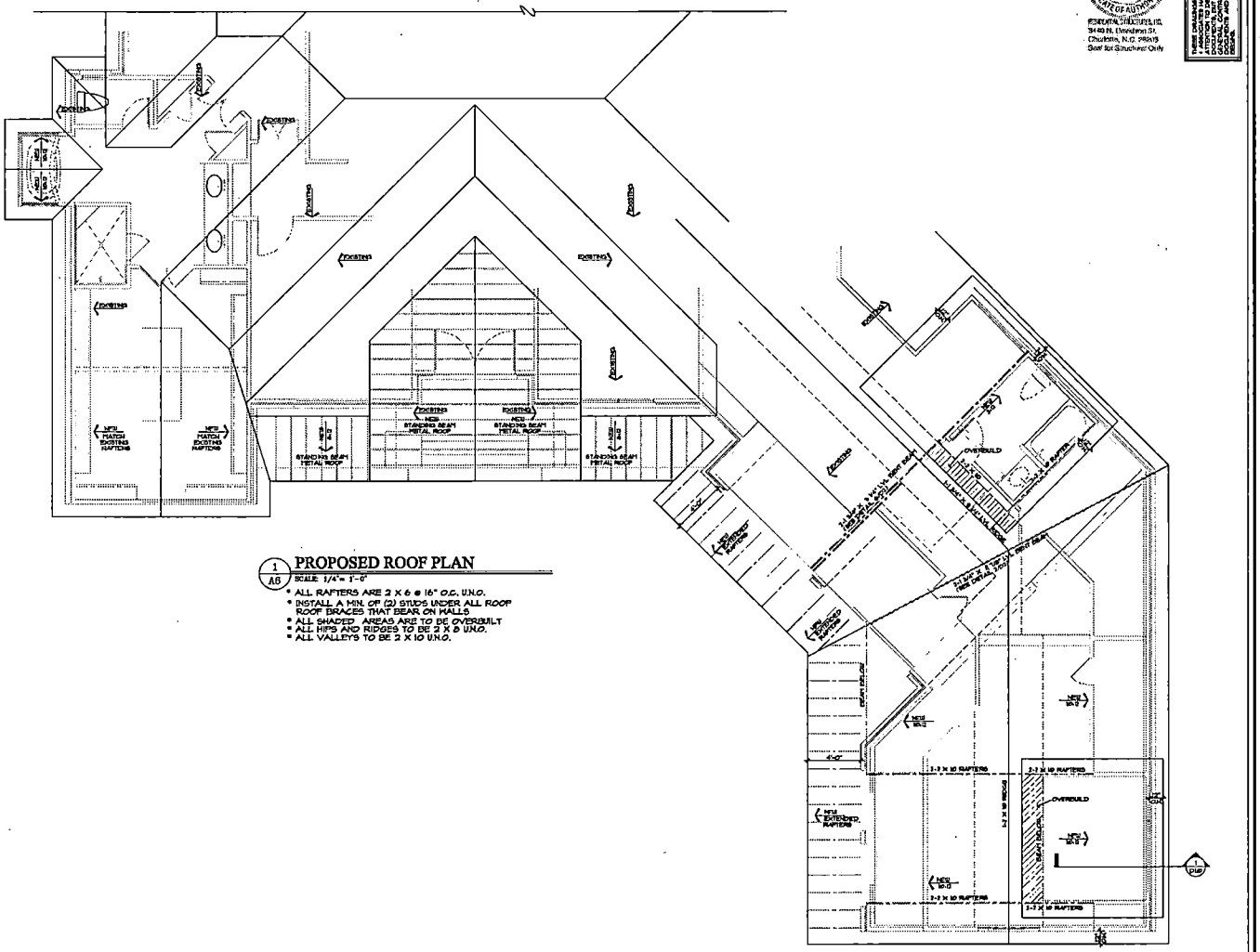
ROOF FRAMING NOTES

REVISED AUGUST 17, 2009

1. RAFTERS, RAILS, SEE SHT. A1.0 - "ALL" FOR SIZING, EXCEPT AS NOTED, THEY ARE TO BE CUT INTO RAFTERS, RESIDENTIAL, UNLESS NOTED OTHERWISE.
2. COLLAR TIES SHALL BE 2x6 @ 48" AT ALL RIDGES UNLESS NOTED OTHERWISE AND LOCATED A MINIMAL 8' BELOW THE RIDGE. COLLAR TIES MAY BE CLOSER TO RIDGE IF ALTERNATE BRACING PROVIDED, VAULTED CEILINGS INCLUDE COLLAR TIE DETAILS.
3. A MINIMUM OF THREE COLLAR TIES SHALL BE USED AT ALL RIDGES EVEN IF NED TIES MUST BE PUT ON OVER SET OF RAFTERS.
4. ALL HIPS AND RIDGES ARE A SIZE LARGER THAN RAFTERS UNLESS NOTED OTHERWISE.
5. ALL HOSE OR CEILING JOISTS OR RAFTERS ARE 2-1"x14" LONG UNLESS NOTED OTHERWISE, RAFTERS MAY BE SPLICED OVER HOSE.
6. GABLE END FRAMING MUST BE BRACED PARALLEL TO RIDGES WITH A MINIMUM OF 2x6 DIAGONAL BRACES @ 8' O.C. ALONG GABLE WALL TO INTERIOR CEILING JOISTS. BRACES TO BEAR ON THE HOSE AND TO GABLE WALL AT APPROXIMATELY MID-HEIGHT OF GABLE WALL. BRACES SHALL BE AT APPROPRIATELY A 45 DEGREE ANGLE. OTHER BRACING MAY BE USED IF IT MEETS WITH DESIGN ENGINEER'S APPROVAL.
7. CARRY BRACES TO PARTITIONS OR BEAMS BELOW. NEVER BRACE RAFTER HOSE TO 2-1 X 6 HOSE ON CEILING JOIST, UNLESS SHOWN ON PLANS.
8. GIRT, NO JOINTS IN 2x4 REPEATED PARALLEL TO RAFTERS MUST BE EXTENDED TO RAFTERS AND CEILING JOISTS AT 4'-0" O.C. MAXIMUM. IF A PURLIN IS USED AND CEILING JOISTS CANNOT TOUCH RAFTERS, THEN GIRT MUST BE BRACED TO THE CEILING JOISTS. PER RESIDENTIAL CONSTRUCTION RESIDENTIAL NOTE 15, REINFORCED COLLAR TIES MAY BE USED INSTEAD IN CERTAIN CASES.
9. ROOF PLAN LEGEND:
   - A. ● - INDICATES LOCATION OF ROOF BRACE POINT AT RAFTER LEVEL.
   - B. ⊕ - ARROW AWAY FROM BRACE POINT INDICATES DIRECTION OF ROOF BRACE TO PARTITION, BEAM, OR OTHER BRACE POINT BELOW.
   - C. ⊖ - ARROW INTO BRACE POINT INDICATES A VERTICAL OR ALMOST VERTICAL ROOF BRACE TO PARTITION, BEAM, OR OTHER BRACE POINT BELOW.
   - D. ALL ROOF BRACES ARE 1-1x4 NAILED WITH 8 PENNY NAILS @ 12" O.C. VERTICALLY FROM TOP TO BOTTOM. BRACES LONGER THAN 10' MUST BE BRACED HORIZONTALLY IN TWO DIRECTIONS AT MID-HEIGHT.
   - E. MAXIMUM SPACING OF ROOF BRACES IS TO BE AS FOLLOWS:
     - i. FOR 2-2x6 HOSE ——— 6'-0" O.C.
     - ii. FOR 2-2x8 HOSE ——— 7'-6" O.C.
10. DETAILS:



11. ROOF TRUSSES TO BE BUILT & DESIGNED FOR PURLIN, RECOMMENDATIONS.
12. ALL FLOOR / CEILING JOISTS TO BE SPAN AT 16" O.C. (U.N.O.)
13. ALL ROOF JOISTS TO BE SPA AT 16" O.C. (U.N.O.)
14. BRACE HOSE WALLS BY DIAGONAL 2x4 @ 48" O/C W/ 3-8d NAILS @ EACH END TYPICAL



1/A6 PROPOSED ROOF PLAN

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

- ALL RAFTERS ARE 2 X 6 @ 16" O.C. U.N.O.
- INSTALL A MIN. OF (2) STUDS UNDER ALL ROOF ROOF BRACES THAT BEAR ON WALLS
- ALL SHADED AREAS ARE TO BE OVERBUILT
- ALL HIPS AND RIDGES TO BE 2 X 8 U.N.O.
- ALL VALLEYS TO BE 2 X 10 U.N.O.

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22049 JAMES E. CROWE II REGISTERED PROFESSIONAL ENGINEER

NORTH CAROLINA RESIDENTIAL STRUCTURES PE No. 3230 CERTIFICATE OF AUTHORIZATION

RESIDENTIAL STRUCTURES, INC. 3440 N. Unionboro St. Chudnhs, N.C. 28025 Seal for Structural Only

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Crowe Design & Associates
P.O. Box 1546 Concord, NC 28026 (704) 786-4354

21423 BETHEL CHURCH RD.
Screened Addition
CORNELIUS, NORTH CAROLINA

Integrated Custom Builders
P.O. Box 1462
Cornelius, NC 28031
(704) 506-3484

⚠ APRIL 15, 2012

PROPOSED ROOF PLAN

A6.0