CW

BLDR - 2023 - 34140 ✓

ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625

PERMIT # OSWP-2023-31376 ✓

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

PIN # 4730-51-2292 ✓

PPLICANT / OWNER: IQ Custom Homes APPLICANT ADDRESS: 301 Watkins Farm Rd Woodleaf NC 27054

TE ADDRESS: 110 EMMALINE CT, TROUTMAN, NC 28166 ✓ PHONE: 980-297-2329 ALT. PHONE:

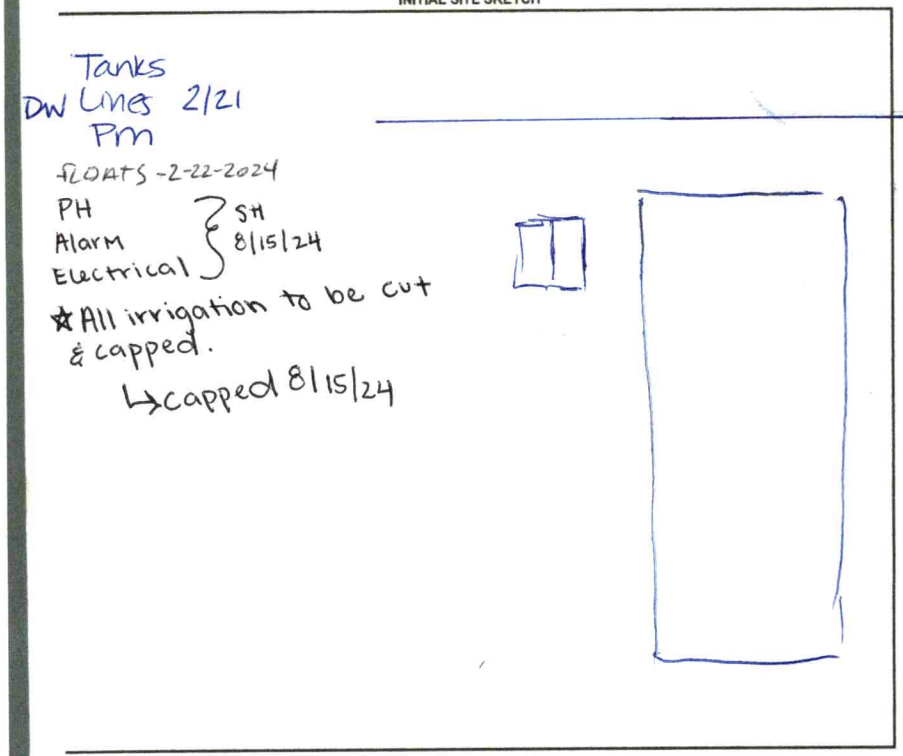
TE DIRECTIONS: State Park Road to Honeycutt to Emmaline SAP CONTROLLED: YES ☐ NO ☑

UBDIVISION: LOUISE HONEYCUTT TROUTMAN ✓ SECTION: LOT #: 2 ✓ LOT AREA: 1.387 DESIGN FLOW: 600 L.T.A.R.: 0.3

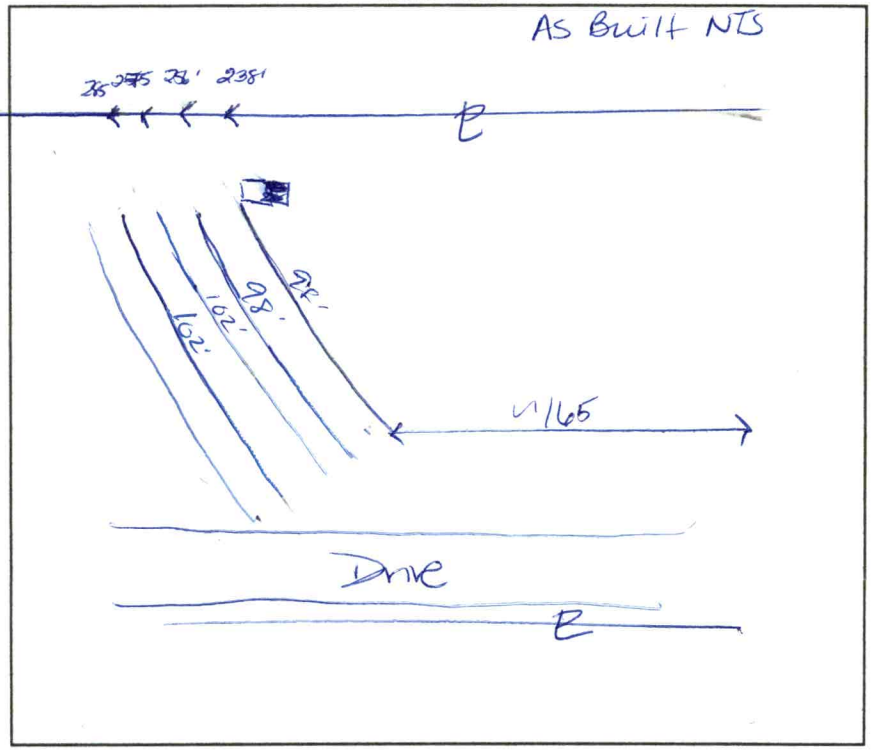
eptic Tank: 1500 (gal)	STB: 964	Date: 12/9/23	☑ New System ☐ Repair ☐ Expansion	System Type: III	☑ Residence	No. Bedrooms: 5	Water Supply: New Well
ump Tank: 1500 (gal)	PT: 353	Date: 9/16/23	System Description: Accepted Pressure Manifold		☐ Business	No. Persons: 10	
ump Make:	Model:	Serial #:	Repair System Description: HPPBPS Pressure Manifold		☐ Other	No. Employees:	
Nitrification Fields: 1	# Lines: 5	Linear Ft.: 500	Maintenance Agreement Required: ☐ YES ☑ NO		☐ Slab	☐ Crawl Space	
ench Width: 36	Trench Bottom Depth (Low side): 26		Gravel Depth:	☐ GRAVITY ☑ PRESSURE	☑ Basement w/ Plumbing	☐ Basement w/o Plumbing	

omments / Conditions: This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) ttached here. This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here.

INITIAL SITE SKETCH



AS BUILT SKETCH



rmit 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.

wner / Applicant Signature: Wendell Overby Date:

IPROVEMENT PERMIT by: Benjamin A. Batts ✓ Date: 8/18/2023

UTHORIZATION TO CONSTRUCT by: Benjamin A. Batts ✓ Date: 8/18/2023

Installed By: Rowan Septic

OPERATION PERMIT by: Sydney Howland ✓ Date: 8/15/24

Existing System Inspected By: Date:

FOR SEPTIC FINAL INSPECTION CALL: 704-664-3703 BETWEEN 8am-9am the day the inspection is needed.

AW

ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625

PERMIT # OSWP-2023-31376

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UBDIVISION: LOUISE HONEYCUTT TROUTMAN SECTION: LOT #: 2 LOT AREA: 1.387 DESIGN FLOW: 600 L.T.A.R.: 0.3

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wner / Applicant Signature: Wendell Overby Date:

IPROVEMENT PERMIT by: Benjamin A Batts Date: 8/18/2023

UTHORIZATION TO CONSTRUCT by: Benjamin A Batts Date: 8/18/2023

Installed By:

OPERATION PERMIT by: Date:

Existing System Inspected By: Date:

FOR SEPTIC FINAL INSPECTION CALL: 704-664-3703 BETWEEN 8am-9am the day the inspection is needed.

NCDHHS

Permit #: OSWP-2023-31376

This Section for Local Health Department Use Only

Initial submittal received: 8/15/2023 (Date) by BB (Initials)

G.S. 130A-335(a3) states the following:

When an applicant for an Improvement Permit submits to a local health department an Improvement Permit application, the permit fee charged by the local health department, the common form developed by the Department, and a soil evaluation pursuant to subsection (a2) of this section, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Improvement Permit includes all of the required components. If the local health department determines that the Improvement Permit is incomplete, the local health department shall notify the applicant of the components needed to complete the Improvement Permit. The applicant may submit additional information to the local health department to cure the deficiencies in the Improvement Permit. The local health department shall make a final determination as to whether the Improvement Permit is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The Department shall develop a common form for use as the Improvement Permit.

The review for completeness of this Improvement Permit was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

_____

_____

Copies of this were sent to the LSS and the Applicant on _____ (Date)

State Authorized Agent: _____ Date: _____

☑ Complete

State Authorized Agent: Benjamin A. Botts Date: 8/18/2023

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This permit is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).

Improvement Permit Expiration Date: 8/18/2028

See attached site sketch

NCDHHS

Permit #: OSWP-2023-3137

This Section for Local Health Department Use Only

Initial submittal received: 8/15/2023 (Date) by BB (Initials)

G.S. 130A-335(a5) states the following:

When an applicant for a Construction Authorization, or an Improvement Permit and Construction Authorization together, submits a Construction Authorization, or an Improvement Permit and Construction Authorization application together, the permit fee charged by the local health department, the common form developed by the Department, and any necessary signed and sealed plans or evaluations conducted by a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Construction Authorization or Improvement Permit and Construction Authorization includes all of the required components. If the local health department determines that the Construction Authorization or Improvement Permit and Construction Authorization is incomplete, the local health department shall notify the applicant of the components needed to complete the Construction Authorization or Improvement Permit and Construction Authorization. The applicant may submit additional information to the local health department to cure the deficiencies in the Construction Authorization or Improvement Permit and Construction Authorization. The local health department shall make a final determination as to whether the Construction Authorization or Improvement Permit and Construction Authorization is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The applicant may apply for the building permit for the project upon the decision of completeness of the Construction Authorization or Improvement Permit and Construction Authorization by the local health department or if the local health department fails to act within five business days. The Authorized On-Site Wastewater Evaluator or licensed engineer submitting the evaluation pursuant to this subsection may request that the local health department revoke or suspend the Construction Authorization or Improvement Permit and Construction Authorization for cause. Upon written request of the Authorized On-Site Wastewater Evaluator or licensed engineer, the local health department shall suspend or revoke the Construction Authorization or Improvement Permit and Construction Authorization pursuant to G.S. 130A-23. The Department shall develop a common form for use as the Construction Authorization.

The review for completeness of this Construction Authorization was conducted in accordance with G.S. 130A-335(a5). This Construction Authorization is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing: _____

_____

Copies of this were sent to the AOWE/PE and the Applicant on _____ (Date)

State Authorized Agent: _____ Date: _____

☑ Complete

State Authorized Agent: Benjamin A Botts Date of Issuance: 8/18/2023

This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here. This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to plans, evaluations, preconstruction conference findings, submittals, or actions from a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator in GS 130A-335(a2), (a5), and (a7). The Department, the Department's authorized agents, and the local health departments shall be responsible and bear liability for their actions and evaluations and other obligations under State law or rule, including the issuance of the operations permit pursuant to GS 130A-337.

Construction Authorization Expiration Date: 8/18/2028

See attached site sketch

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

7/13/2023

Iredell County Environmental Health
Attn: Heath Snow
349 N Center Street
Statesville, NC 28677

Re: Improvement Permit & CA Submittal for 110 Emmaline Ct (Lot #2)

Mr. Snow,

Attached please find sealed soil notes as well as site plans and design related data for a 5 bedroom VPPBPS system using PMANIFOLD distribution.

"The LSS evaluation attached to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3)." "The plans or evaluations attached to this application are to be used to issue a Construction Authorization in accordance with G.S. 130A-335(a2), (a5) and (a6)."

Owner/Applicant: Jason Slagle // Dragon Properties 16 LLC

Signature: _____

Date: 7/13/23

"The LSS Evaluation is being submitted pursuant to and meets requirements of GS 130A-335(a2)." This Improvement Permit is issued pursuant to G.S. 130A-335(a2),(a3), and (a4) using the signed and sealed LSS evaluation attached here". "This AOWE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5)". "This Construction Authorization is issued pursuant to G.S. 130A-335 (a2), and (a5) and (a6) using the signed and sealed plans or evaluations attached here."

Wendell Overby, LSS

Signature: _____

Date: 7/13/2023 Seal:





IREDELL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

DOCUMENTATION TO AUTHORIZE AN OWNER'S LEGAL REPRESENTATIVE

(Check and sign only ONE of the options below)

☐ 1. *** APPLICANT AND OWNER ARE THE SAME. * (Sign here)** Jason Slagle

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.

2. I, Jason Slagle, am the legal owner(s) of the property located

☒ at 110 Emmaline Ct, identified as

PIN (Parcel Identification Number) 4730512292.000, located in Iredell County, North Carolina.

I do hereby authorize (print legal representative/company name) Wendell Overby

Soil & Forestry Services of the Carolinas, PA, 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.

Jason Slagle — Signature of Owner(s)

7/13/23 — Date

Mooresville - Environmental Health

Fax: 704-662-3239

610 E. Center Avenue, Mooresville, NC 28115

Statesville - Environmental Health

ronda.hart@co.iredell.nc.us

Fax: 704-871-3483

349 N. Center Street, Statesville, NC 28677

NCDHHS

Permit #: OSWP-2023-31376

CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)

County: Iredell

PIN/Lot Identifier: 4730512292.000

Issued To: Jason Slagle // IQ Custom Construction

Property Location: 110 EMMALINE CT

AOWE/PE Plans/Evaluations Provided: Yes ☑ No ☐ If yes, name and license number of AOWE/PE: _____

Facility Type: 5 bedroom house

☑ New ☐ Expansion ☐ Repair ☐ System Relocation ☐ Change of Use

Basement? ☑ Yes ☐ No Basement Fixtures? ☑ Yes ☐ No

Type of Wastewater System* ACCEPTED PMANIFOLD (Initial) HPPBPS PMANIFOLD (Repair)

**Please include system classification for proposed wastewater system types in accordance with 15A NCAC 18A .1961 Table V(a)*

Design Daily Flow: 600 GPD Wastewater Strength: ☑ domestic ☐ high strength ☐ industrial process

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? ☐ Yes ☑ No
(if yes, please provide engineering documentation)

Installation Requirements/Conditions

Septic Tank Size: 1500 gallons Total Trench/Bed Length: 500 feet Trench/Bed Spacing: 9 feet on center

Trench/Bed Width: 36 inches LTAR: 0.3 gpd/ft²

Soil Cover: 0 inches Slope Corrected Maximum Trench/Bed Depth‡: 26 inches ***‡ Measured on the downhill side of the trench***

Aggregate Depth: _____inches above pipe _____inches below pipe 12 inches total

Pump Tank Size (if applicable): 1500 gallons Requires more than 1 pump? ☐ Yes ☑ No

Pump Requirements: 22.8 ft. TDH vs. 35.6 GPM Grease Trap Size (if applicable): _____ gallons

Distribution Method: ☐ Serial ☐ D-Box or Parallel ☑ Pressure Manifold(s) ☐ LPP ☐ Other: _____

Artificial Drainage Required: Yes ☐ No ☑ If yes, please specify details: _____

Legal Agreements *(If the answer is "Yes" to any type of legal agreements, please attach a copy of the agreement.)*

Multi-party Agreement Required [.1937(h)]: ☐ Yes ☑ No

Easement, Right-of-Way, or Encroachment Agreement Required [.1938(j)]: ☐ Yes ☑ No

Declaration of Restrictive Covenants: ☐ Yes ☑ No

Pre-Construction Conference Required: Yes ☐ No ☑

Conditions: See design

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

AOWE/PE Print Name: Wendell Overby Expiration Date: 12/31/2023

AOWE/PE Signature: Wendell Overby Date: 7/19/2023

This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).

See attached site sketch

Permit #: OSWP-2023-31376

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK BENTON • Deputy Secretary for Health
SUSAN KANSAGRA • Assistant Secretary for Public Health
Division of Public Health

Submittal Includes: ☑ (a2) Improvement Permit ☑ (a2) Construction Authorization ☐ Fee $_____

IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)

County: Iredell
PIN/Lot Identifier: 4730512292.000
Issued To: Jason Slagle // IQ Custom Construction
Property Location: 110 EMMALINE CT
Subdivision (if applicable) LOUISE HONEYCUTT Lot #: 2 Block: _____ Section: _____
LSS Report Provided: Yes ☑ No ☐
If yes, name and license number of LSS: Wendell Overby #1218
New ☑ Expansion ☐ System Relocation ☐ Change of Use ☐
Proposed Structure: 5 bedroom house
Number of bedrooms: 5 Number of Occupants: 10 Other: _____
Design Wastewater Strength: ☑ domestic ☐ high strength ☐ industrial process
Proposed Design Daily Flow: 600 GPD Proposed LTAR (Initial): 0.3 Proposed LTAR (Repair): 0.3
Proposed Wastewater System Type*: ACCEPTED PMANIFOLD (Initial) Pump Required: ☑ Yes ☐ No ☐ May be required
Proposed Wastewater System Type*: HPPBPS PMANIFOLD (Repair) Pump Required: ☑ Yes ☐ No ☐ May be required
**Please include system classification for proposed wastewater system types in accordance with 15A NCAC 18A .1961 Table V(a)*
Saprolite System (initial): ☐ Yes ☑ No Saprolite System (repair): ☐ Yes ☑ No
Fill System (Initial): ☐ Yes ☑ No If yes, specify: ☐ New ☐ Existing (when adding more than 6 inches of fill to system area provide a fill plan)
Fill System (repair): ☐ Yes ☑ No If yes, specify: ☐ New ☐ Existing (when adding more than 6 inches of fill to system area provide a fill plan)
Usable Soil Depth (Initial): 60 Usable Soil Depth (Repair): 60
Max. Trench Depth (Initial)‡: 26 Max. Trench Depth (Repair)‡: 26 ***‡ Measured on the downhill side of the trench***
Artificial Drainage Required: ☐ Yes ☑ No If yes, please specify details: _____
Type of Water Supply: ☑ Private well ☐ Public well ☐ Shared well ☐ Municipal Supply ☐ Spring ☐ Other: _____
Drainfield location meets requirements of Rule .1945: Yes ☑ No ☐ Drainfield location meets requirements of Rule .1950: Yes ☐ No ☐
Permit valid for: ☑ Five years [site plan submitted pursuant to GS 130A-334(13a)] ☐ No expiration [plat submitted pursuant to GS 130A-334(7a)]

Permit conditions:
See Design

Licensed Soil Scientist Print Name: Wendell Overby
Licensed Soil Scientist Signature: _____ Date: 7/19/2023

The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).

See attached site sketch

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES • DIVISION OF PUBLIC HEALTH
LOCATION: 5605 Six Forks Road, Building 3, Raleigh, NC 27609
MAILING ADDRESS: 1632 Mail Service Center, Raleigh, NC 27699-1632
www.ncdhhs.gov • TEL: 919-707-5854 • FAX: 919-845-3972
AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

I understand that the documentation and fees, as required in G.S. 130A-335(a2), (a3), (a5), and (a6), attached to this application are to be used to issue an Improvement Permit and/or Construction Authorization pursuant to G.S. 130A-335(a2),(a3), and (a5). I understand that authorized county and state officials are granted right of entry to the property indicated on this application to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that if the information in the application for an Improvements Permit and/or Construction Authorization is falsified, changed, or the site is altered, then the Improvement Permit and Construction Authorization shall become invalid.

Applicant Signature: Jason B Kay Date: 8/18/23

Owner's Signature: Jason B Kay Date: 8/18/23

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

usablesoil@gmail.com
980-439-5007
813 Davidson Dr NW
Concord NC 28025
SoilAndForestryServices.com

Project# 23-1076

Septic System Design for a 5 Bedroom House
ACCEPTED using PMANIFOLD distribution
Site location: 110 EMMALINE CT, Lot # 2

Contents	**Page**
Information for the Installer	1
Design Specifications	2
Layout Specifications	3
System Flow	4
Site Plan	5
Pump Specifications	6
Pressure Manifold Specifications	7
Calculations	8
Soil Descriptions	9
Floor Plans	10-20

Jul 2023
Design By: Overby

ACCEPTED using PMANIFOLD distribution
Site location: 110 EMMALINE CT, Lot # 2

* **CALL 811 BEFORE DIGGING**
* The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
* Tanks shall be approved by DHHS, and certification supplied by the that must be considered along with all other considerations.
* The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
* The supply trench shall be compacted to eliminate cavities left during initial fill placement.
* Installation of the system shall be during dry conditions in order to protect the soil
* All fittings shall be pressure rated fittings.
* All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
* Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
* Trenches shall be carefully excavated so the bottom is within 2" from the highest to the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
* All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
* All tanks shall be properly back filled and compacted to prevent slump at a later date.
* Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
* No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used.
* Elevations at pinflag locations should be checked by the installer prior to beginning
* Pump tank riser should be 6" above grade, control panel should be 12" above grade.
* Septic tank riser shall be a minimum of 6" above finished grade.
* **System specified as ACCEPTED type using PMANIFOLD distribution**
* **Repair specified as HPPBPS type using PMANIFOLD distribution**
* **System trench depth specified at 26"**
* **System trenches installed on 9' minimum; 36" wide trenches**
* **Installation does not require a soil cap**

Page 2	DESIGN SPECIFICATIONS	Project #23-1076

ACCEPTED using PMANIFOLD distribution
Site location: 110 EMMALINE CT, Lot # 2

Business (if applicable):	IQ Custom Construction
Contact:	Jason Slagle
Phone:	704-400-6472
Email:	iqcustomconstruction@gmail.com
County:	Iredell
Location:	110 EMMALINE CT
Source of Wastewater Flow:	5 bedroom home
Estimated Daily Wastewater Production:	600 gpd
System Flow:	35.55 gpm
Drain field Size:	500 lf
Lateral Length Required:	500 lf
Loading Rate:	0.3 gpd/ft.^{2}
Trench Depth:	26 in
Trench Width:	36 in
Soil Cap:	0 in
Total Area Trench Bottom:	1500 sf
Septic Tank Size:	1500 gal
Pump Tank Size:	1500 gal
Estimated Supply Line Length:	215 lf
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	37 gal
Dosing Volume:	229 gal
Pump Draw Down:	7.9 in
Pressure Head:	2 ft
Friction Head:	5.3 ft
Elevation Head:	15.0 ft
Total Dynamic Head:	22.8 ft
Threaded Union:	In Tank
Gate Valves:	1 in Tank: 1 @ manifold
Check Valves:	In Tank
Anti-Siphon Hole:	n/a
Recommended Pump:	Zoeller 152 or County Approved Effluent Rated Pump Capable of Delivering 23 ft.of Head at 36 gpm Total Flow

ACCEPTED using PMANIFOLD distribution
Site location: 110 EMMALINE CT, Lot # 2

Daily Flow (gpd) **600** **Jul 2023**

LINE #	FLAG COLOR	BS	HI	FS	ELEV	FLAGGED LENGTH	DESIGN LENGTH
TBM		0.0			100.0		
INSTR. 1			100.0				
			EXTRA				
1	Yellow			2.3	97.7	93	0
			SYSTEM				
2	Blue			3.6	96.4	107	100
3	Pink			5.0	95.0	109	100
4	Red			6.0	94.0	100	100
5	Orange			7.1	92.9	117	100
6	Yellow			8.3	91.7	116	100
			REPAIR				
7	Blue			9.3	90.7	105	55
8	Pink			10.1	89.9	87	87
9	Red			10.8	89.2	72	72
10	Orange			11.6	88.4	49	49
11	Yellow			12.2	87.8	41	41
12	Blue			13.3	86.7	29	29

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	REDUCTION TYPE	DIST	TRENCH DEPTH	SOIL CAP
SYSTEM	500	0.300	ACCEPTED	25%	PMANIFOLD	26	0
REPAIR	333	0.300	HPPBPS	50%	PMANIFOLD	26	0

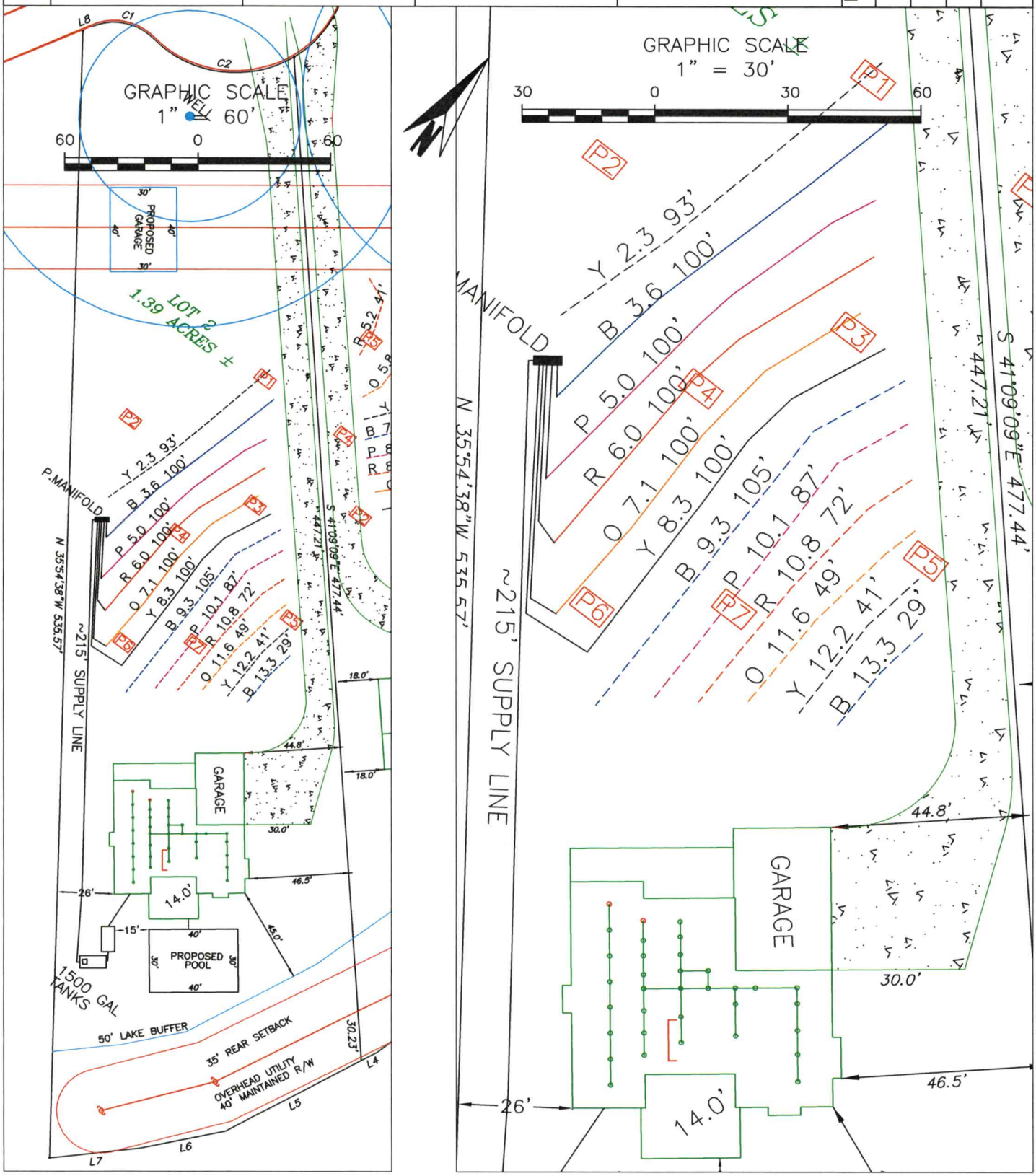
Notes:
**TBM is assumed to be 100'
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS and FS indicate rod readings

ACCEPTED using PMANIFOLD distribution
Site location: 110 EMMALINE CT, Lot # 2

Line #	Color	Elev	Length	Hole Size	Flow/Tap	Line gpd	Line Trench Area	Flow/Line	Line LTAR
2	Blue	3.6	100	SCH 40 1/2	**7.11**	120	300	**0.071**	**0.40**
3	Pink	5.0	100	SCH 40 1/2	**7.11**	120	300	**0.071**	**0.40**
4	Red	6.0	100	SCH 40 1/2	**7.11**	120	300	**0.071**	**0.40**
5	Orange	7.1	100	SCH 40 1/2	**7.11**	120	300	**0.071**	**0.40**
6	Yellow	8.3	100	SCH 40 1/2	**7.11**	120	300	**0.071**	**0.40**
	total	**feet =**	300	**gal/min =**	**35.6**				

Design Flow	**600**	gpd
Pump Run to Dose 600 gpd=	**16.88**	
Soil LTAR	**0.300**	
Accepted LTAR	**0.40**	

SHEET	SHEET TITLE:	PROJECT NAME:			SCALE [1" = 60'] [1' = 30']	FIELD WORK WO	DRAWN BY WO	PROJECT MGR. WO	PROJECT NO. 23-1075
1 OF 1	SEPTIC SYSTEM LAYOUT SKETCH MAP	DRAGON PROPERTIES HONEYCUTT RD LOT 2 IREDELL COUNTY JULY 2023	SOIL & FORESTRY SERVICES OF THE CAROLINAS, PA	Soil & Forestry Services of the Carolinas, PA 813 Davidson Dr NW Concord NC 28025 usablesoil@gmail.com 980-439-5007 soilandforestryservices.com					



151, 152, 153

Dose-Mate



This is our fastest growing line of effluent pumps. The 150 series is truly a workhorse designed for reliability under extreme conditions in an effluent environment. 150 series pump curves cover a wide range of applications. They are well suited to applications with low pressure pipe (LPP) and enhanced flow STEP systems. Zoeller's cool run design and corrosion-resistant, powder coated epoxy finish, in addition to the hermetically sealed, oil-filled motor and non-clogging vortex impeller add up to a long-lasting, trouble-free product.

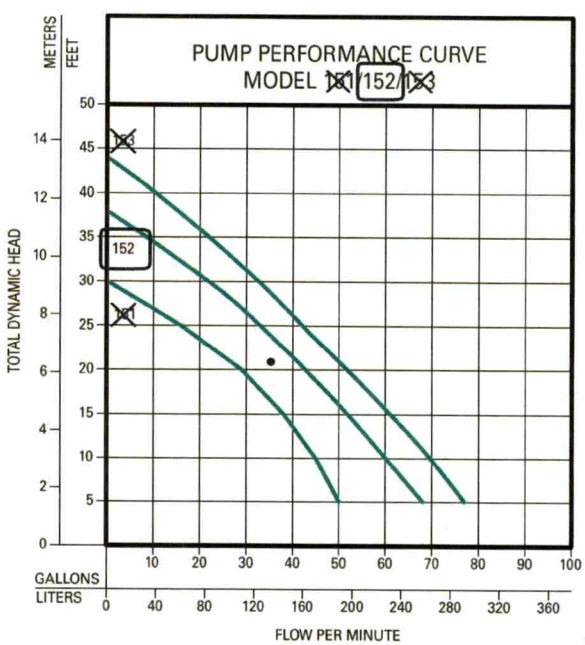
APPLICATIONS:

- STEP or onsite applications
- Light commercial dewatering

SPECIFICATIONS:

- 1-1/2" NPT discharge
- 3/10 HP through 1/2 HP
- Available in nonautomatic or with a variable level piggyback mechanical switch
- 1/2" (12 mm) spherical solids capacity with vortex thermoplastic impeller

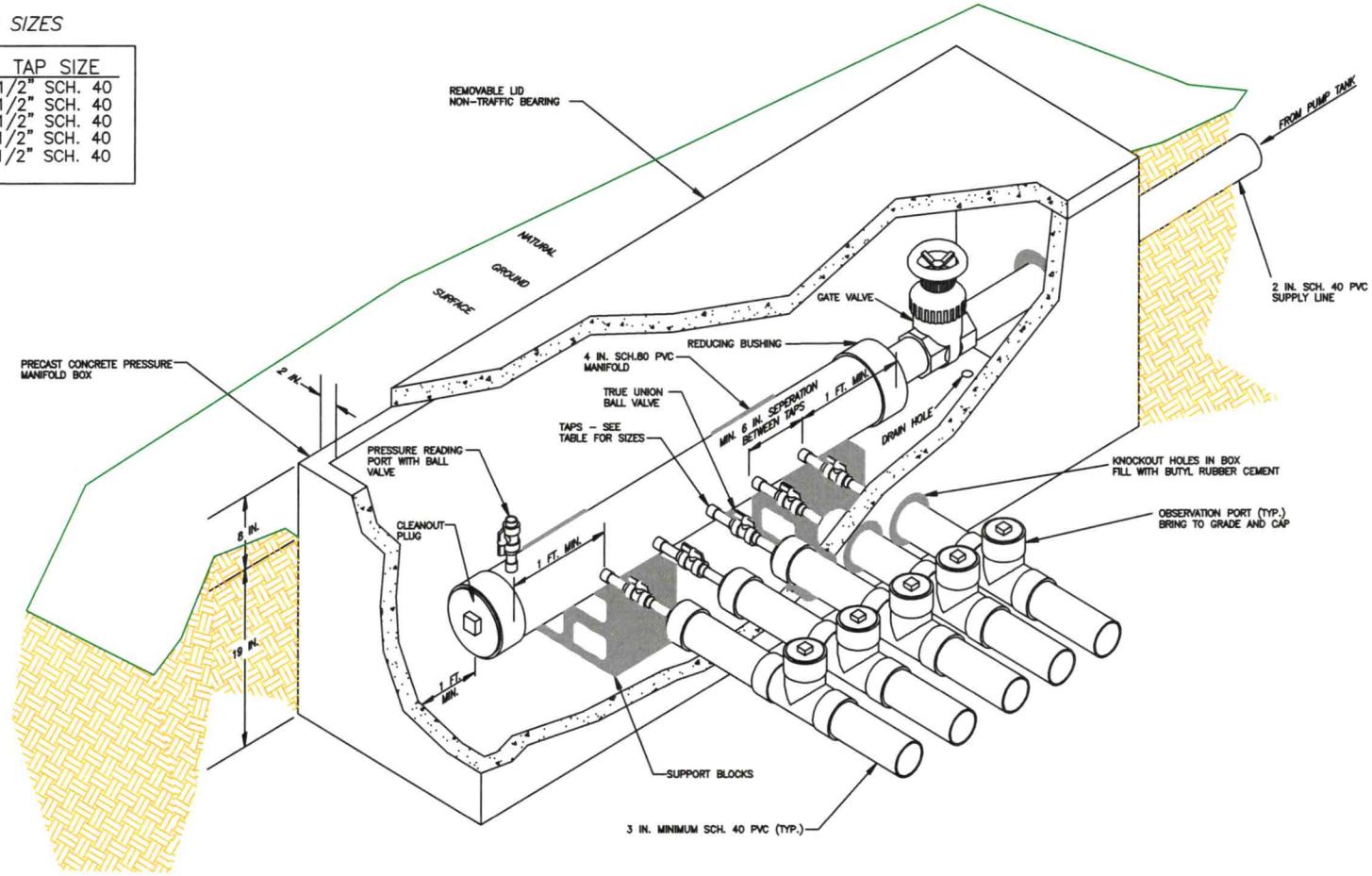
For more information, see Technical Data Sheet FM2784.



PRESSURE MANIFOLD DETAILS
110 EMMALINE CT

TAP SIZES

LINE No.	TAP SIZE
1	1/2" SCH. 40
2	1/2" SCH. 40
3	1/2" SCH. 40
4	1/2" SCH. 40
5	1/2" SCH. 40



Page 8	CALCULATIONS	Project #23-1076

ACCEPTED using PMANIFOLD distribution
Site location: 110 EMMALINE CT, Lot # 2

PROJECT INFO	Designer	Overby
	Project #	23-1076
	Project MM YYYY	Jul 2023
	Project Location	110 EMMALINE CT
	Lot # (if applicable)	2
	Subdivision (if applicable)	LOUISE HONEYCUTT
	Parcel #	4730512292.000
	Lot size (acres)	1.387
	Contact (Owner)	Jason Slagle
	Business (if applicable)	IQ Custom Construction
	Phone	704-400-6472
	Email	igcustomconstruction@gmail.com
	County	Iredell
	Bedrooms	5
	Daily Flow	600
SYSTEM	System LTAR	0.3
	System Type	ACCEPTED
	System Distribution	PMANIFOLD
	System Trench Center Distance (feet)	9
	System Trench Width (inches)	36
	System Trench Depth (inches)	26
	Soil Cap (inches)	0
	Tank Size	1500
	Supply Line Length (feet)	215
	Supply Line Volume (gal)	37
	Supply Line Diameter	2 in. SCH 40 PVC
	Required Feet of Line (system)	500
REPAIR	Repair LTAR	0.3
	Repair Type	HPPBPS
	Repair Distribution	PMANIFOLD
	Repair Trench Center Distance (feet)	9
	Repair Trench Width (inches)	36
	Repair Trench Depth (inches)	26
	Soil Cap (inches)	0
	Tank Size	1500
	Required Feet of Line (repair)	333
SYSTEM PUMP VARIABLES	Amount of Line from Layout (feet)	500
	Gallons per Minute	35.6
	Required Septic Tank Capacity (gal)	1500
	Minimum Standard Tank Size (gal)	1500
	Lateral Line Volume (gal)	327
	Dosing Volume (gal)	229
	Tank Draw Down (inches)	7.9
	Pump Run Time (min)	6.4
	Elevation Head (feet)	15
	Pressure Head (feet)	2
	Friction Factor (ft/100ft from the interpolater)	2.4
	Friction Head (feet)	5.3
	Friction Head +10% (feet)	5.8
	Total Dynamic Head (feet)	22.8
	Pump Recommendation	Zoeller 152

Sheet 1 of #REF!

PROPERTY ID #: 4730512292.000

COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
(complete all fields in full)

OWNER: Jason Slagle // IQ Custom Construction

ADDRESS: 301 Watkins Farm rd

PROPOSED FACILITY: 5 bedroom house

LOCATION OF SITE: 110 EMMALINE CT

APPLICATION DATE:

DATE EVALUATED: 5/17/2023

PROPERTY SIZE: 1.387acres

PROPERTY RECORDED:

WATER SUPPLY: ☑ Private ☑ Well ☐ Spring ☐ Other

EVALUATION METHOD: ☐ Auger Boring ☑ Pit ☐ Cut

TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPR CLASS	.1944 RESTR HORIZ	
1	L / 11%	0 - 3	DB L WFG	FR SS SP	N/A	42	PS	N/A	0.3
		3 - 9	YB SCL WFS	FR SS SP					
		9 - 26	R C WMS	FR SS SP					
		26 - 42	R CL SAP	FR SS SP					
		42 - 60	RB L MASS SAP	FR SS SP					
2	L / 11%	0 - 12	YB SCL WFG	FR SS SP	N/A	60	PS	N/A	0.3
		12 - 36	R C WMS	FR SS SP					
		36 - 60	R CL WFS F SAP	FR SS SP					
3	L / 11%	0 - 8	B L WFG	FR SS SP	N/A	60	N/A	N/A	0.3
		8 - 24	B SC WFS	FR SS SP					
		24 - 48	BR C WMS	FR SS SP					
		48 - 60	BR CL F SAP	FR SS SP					
4	L / 11%	0 - 8	B L WFG	FR SS SP	N/A	60	N/A	N/A	0.3
		8 - 18	YB SC WFS	FR SS SP					
		18 - 60	BR C WMS	FR SS SP					
5	L / 6%	0 - 12	B SCL WFG	FR SS SP	N/A	60	N/A	N/A	0.3
		12 - 38	B SC WFS	FR SS SP					
		38 - 60	RB C WMS	FR SS SP					
6	L / 11%	0 - 3	DB CL	FR SS SP	N/A	42	PS	N/A	0.3
		3 - 23	R C WMS	FR SS SP					
		23 - 42	R CL WFS	FR SS SP					
		42 - 60	RB SIL MASS	FR SS SP					
7	L / 8%	0 - 7	B SCL	FR SS SP	N/A	46	PS	N/A	0.3
		7 - 30	R C WMS	FR SS SP					
		30 - 46	R CL	FR SS SP					
		46 - 60	L SAP MASS	FR SS SP					
		0 -							

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	500	333
System Types(s)	ACCEPTED	HPPBPS
Site LTAR	0.3	0.3

OTHER FACTORS (.1946):

SITE CLASSIFICATION (.1948): PS

EVALUATED BY: OVERBY

OTHER(S) PRESENT:

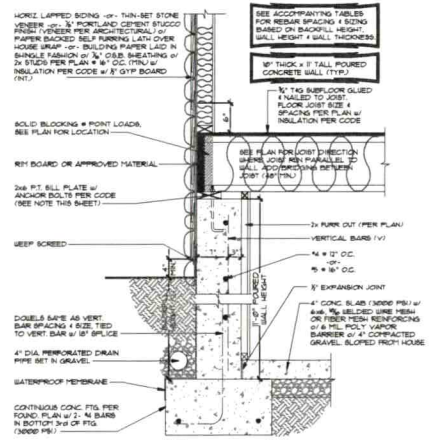
LICENSED SOIL SCIENTIST JAMES WENDELL OVERBY 1215 STATE OF NORTH CAROLINA

COMMENTS:

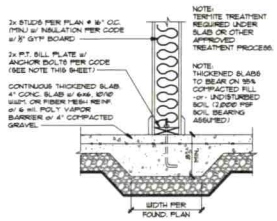
10" POURED CONCRETE FOUNDATION WALL VERTICAL REINFORCEMENT (V)

BACKFILL HEIGHT (Z)	WALL HEIGHT (H) 8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
4'-0"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
4'-6"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
5'-0"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
5'-6"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
6'-0"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
6'-6"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
7'-0"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
7'-6"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
8'-0"	NONE	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
8'-6"	-	NONE	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
9'-0"	-	-	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"	#4 @ 18"
9'-6"	-	-	-	#4 @ 18"	#4 @ 18"	#5 @ 18"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"
10'-0"	-	-	-	-	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#5 @ 18"
10'-6"	-	-	-	-	-	#4 @ 12"	#4 @ 12"	#4 @ 12"	#4 @ 12"	#5 @ 18"	#5 @ 12"
11'-0"	-	-	-	-	-	-	#5 @ 18"	#5 @ 18"	#5 @ 12"	#5 @ 12"	#5 @ 12"
11'-6"	-	-	-	-	-	-	-	#5 @ 12"	#5 @ 12"	#5 @ 12"	#5 @ 12"
12'-0"	-	-	-	-	-	-	-	-	#5 @ 12"	#5 @ 12"	#5 @ 12"
12'-6"	-	-	-	-	-	-	-	-	-	#5 @ 12"	#5 @ 12"
13'-0"	-	-	-	-	-	-	-	-	-	-	#5 @ 12"

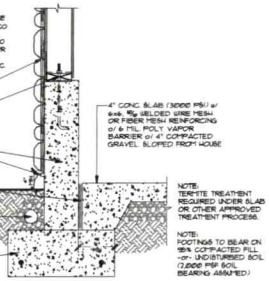
NOTE: ALL FRAMING DEAD LOAD TO BE IN PLACE PRIOR TO PLACING BACKFILL



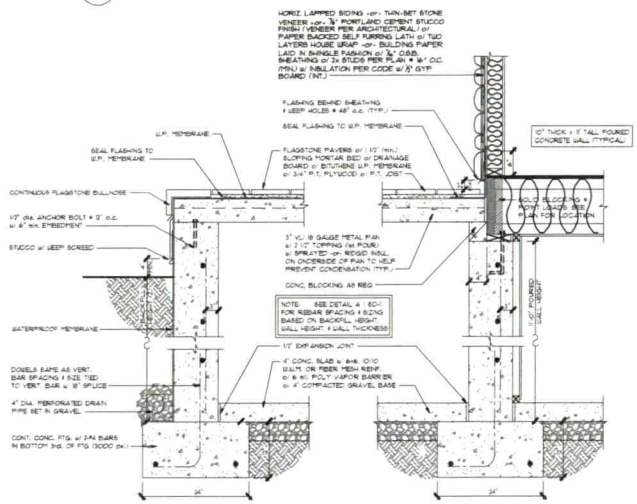
TYPICAL FOUND. DETAIL @ MAIN HOUSE
SCALE: 1" = 1'-0"



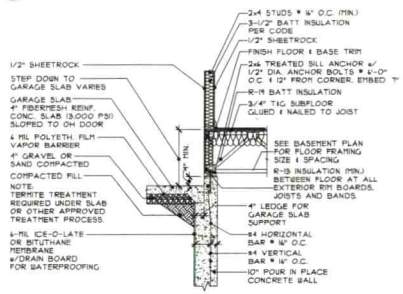
D THICKENED SLAB DETAIL
SCALE: 1" = 1'-0"



B FOUNDATION DETAIL @ GARAGE
SCALE: 1" = 1'-0"



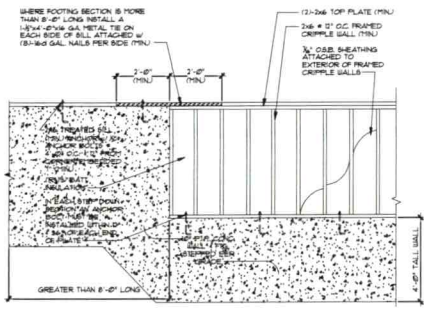
C FOUNDATION DETAIL @ SAFE ROOM / COVERED ENTRY TO MAIN HOUSE
SCALE: 1" = 1'-0"



E FOUNDATION DETAIL @ HOUSE TO GARAGE
SCALE: 1/2" = 1'-0"

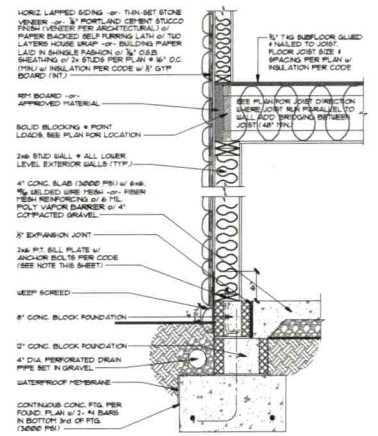
NOTES:

WHEN FOUND. WALL IS STEPPED DOWN BELOW FULL HEIGHT WALL THE LEVEL OF BACK FILL SOIL SHALL NOT EXCEED 9'-0" ABOVE TOP OF SLAB.



ONE STEP ALLOWED FROM FULL HGT. WALL TO 4'-0" HIGH WALL

F TYP. STEPPED 10" CONC. P.I.P. WALL w/ CRIPPLE WALL ABOVE
SCALE: 1/2" = 1'-0"



G FOUNDATION DETAIL @ 6" STUD WALL
SCALE: 1" = 1'-0"

FOUNDATION DETAILS

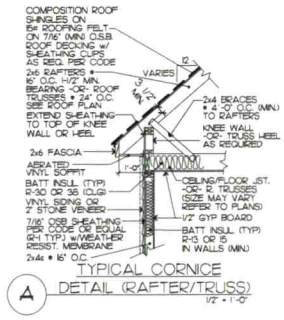
SEAL FOR STRUCTURAL ONLY

PROJECT:
IQ Custom Homes
Brer Fox Trail-Lot 2
Moorseville, NC 28117

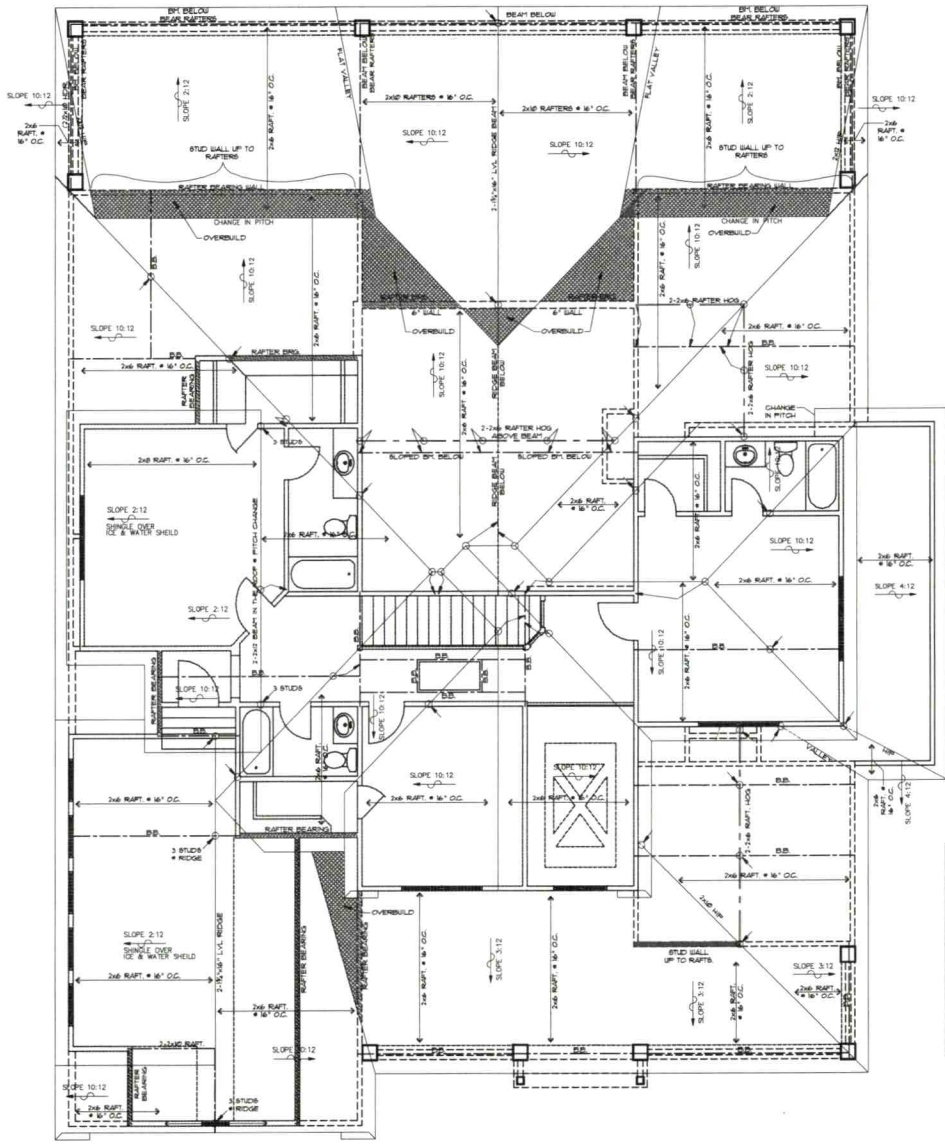
Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scot@SouthernDynamic.com
Website: SouthernDynamic.com

DRAWN BY: S. BROOKS
DATE: July 5, 2023
REVISIONS:

SHEET
SD1



A TYPICAL CORNICE DETAIL (RAFTER/TRUSS)
1/2" = 1'-0"



NOTES

1.) RAFTERS TO BE 2x6's (SPF #2) @ 16" o.c. (U.N.O.)
2.) ALL HIPS & RIDGES TO BE 2x8's (SPF #2) (U.N.O.)
3.) ALL VALLEYS TO BE 2x8's (SPF #2) (U.N.O.)
4.) ALL ROOF PITCHES PER PLAN (U.N.O.)
5.) B.B. = BEAM BELOW
6.) R.B. = RAFTER BEARING
7.) OVERBUILD ALL SHADED AREAS
8.) DESIGNED FOR ASPHALT SHINGLES

ROOF PLAN
SCALE 1/4" = 1'-0"

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PROJECT:
IQ Custom Homes
Brer Fox Trail-Lot 2
Mooresville, NC 28117

Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

DRAWN BY: S. BROOKS
DATE: July 5, 2023
REVISIONS:

SHEET
S4

TYPICAL HANGERS FOR JOIST & BEAMS

MEMBERS	-SIMPSON- HANGER	-USP- HANGER
2x8	LUS28	JUS28
2x10	LUS210	JUS210
2x12	LUS212	JUS212
2-2x8	HUS28-2	JUS28-2
2-2x10	HUS210-2	JUS210-2
2-2x12	HUS212-2	JUS212-2
3-2x8	LUS28-3	JUS28-3
3-2x10	LUS210-3	JUS210-3
3-2x12	HU212-3 MIN.	JUS212-3 MIN.
2-1¾"x9¼" LVL	HGUS414/2	THD14462
2-1¾"x9½" LVL	HGUS414/2	THD14462
2-1¾"x11⅞" LVL	HGUS412	THD14462
2-1¾"x14" LVL	HGUS412	THD14462
2-1¾"x16" LVL	HGUS414	THD14464
2-1¾"x18" LVL	HGUS414	THD14464
2-1¾"x24" LVL	HGUS414	THD14464
3-1¾"x9½" LVL	HGUS88.5x5/10	THD14610
3-1¾"x9¼" LVL	HGUS88.5x5/10	THD14610
3-1¾"x11⅞" LVL	HGUS88.5x5/12	THD14612
3-1¾"x14" LVL	HGUS88.5x5/12	THD14612
3-1¾"x14" LVL	HGUS88.5x5/14	THD14614
3-1¾"x16" LVL	HGUS88.5x5/14	THD14614
3-1¾"x18" LVL	HGUS88.5x5/14	THD14614
3-1¾"x24" LVL	HGUS88.5x5/14	THD14614
4-1¾"x9½" LVL	HGUS1.25/10	THD14710
4-1¾"x9¼" LVL	HGUS1.25/10	THD14710
4-1¾"x11⅞" LVL	HGUS1.25/12	THD14712
4-1¾"x11⅞" LVL	HGUS1.25/12	THD14712
4-1¾"x14" LVL	HGUS1.25/14	THD14714
4-1¾"x16" LVL	HGUS1.25/14	THD14714
4-1¾"x18" LVL	HGUS1.25/14	THD14714

NOTE: ALL HANGERS BY SIMPSON STRONG TIE CO. INC. (BRAND - NAME EQUIVALENTS ACCEPTABLE)

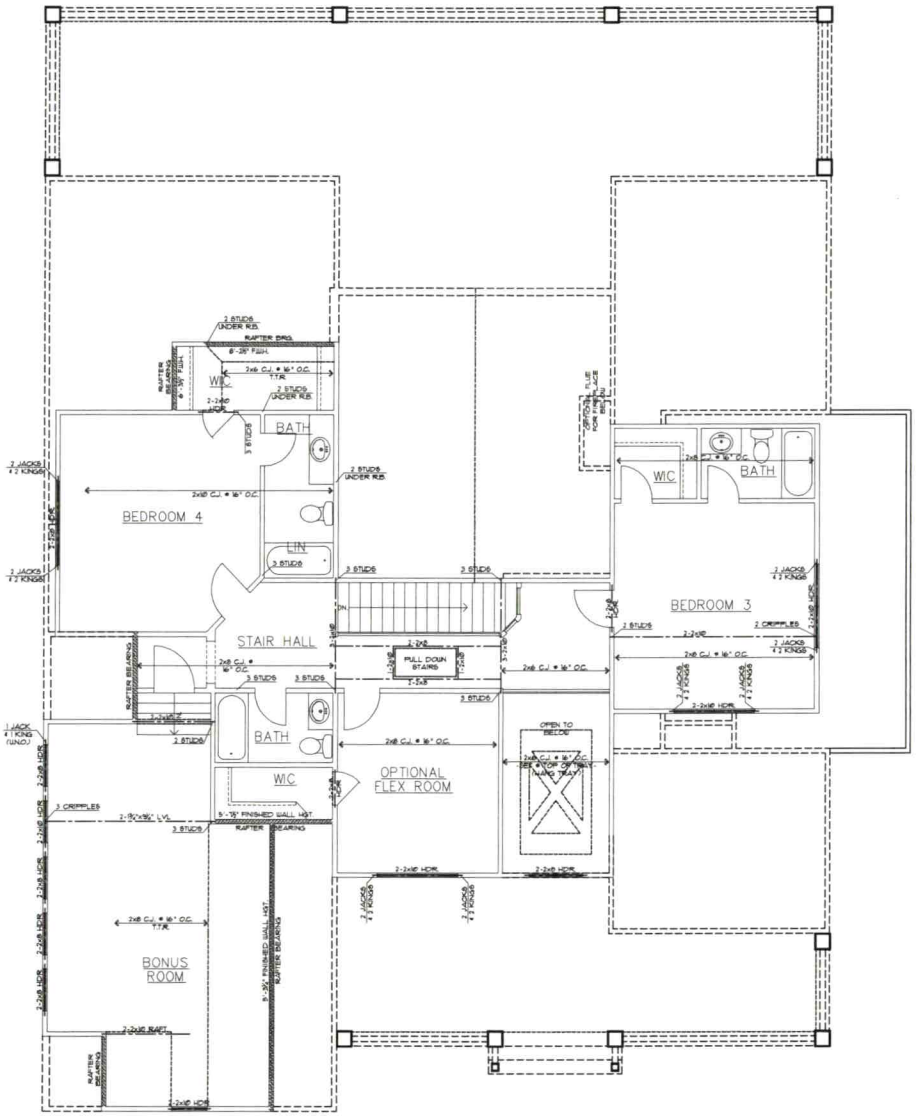
SHEATHING NOTES:

1. THE LATERAL BRACING REQUIREMENTS FOR THIS PLAN HAVE BEEN ACCOUNTED FOR UTILIZING AN ENGINEERED DESIGN AS PERMITTED IN SECTION R602.10.5 OF THE 2018 NCRC.

2. ALL PERIMETER WALLS ARE TO BE FULLY SHEATHED WITH A MINIMUM ½" OSB AND ATTACHED TO THE WALL FRAMING STUDS WITH 6d (2"x0.113") NAILS @ 6" O/C SPACING AT PANEL EDGES AND 12" O/C SPACING AT INTERMEDIATE SUPPORTS.

3. INSTALL BLOCKING ALONG OSB PANEL EDGES. FASTEN PANEL EDGES AT BLOCKING @ 3" O/C AND @ 6" O/C AT INTERMEDIATE FRAMING WHEN LESS THAN 50% BUT GREATER THAN 25% OF WALL IS SHEATHED.

4. SHEATH ALL GABLE END WALLS WITH ½" OSB.



SECOND FLOOR PLAN

SCALE 1/4" = 1'-0"

SEAL FOR STRUCTURAL ONLY

PROJECT:

IQ Custom Homes
Brer Fox Trail-Lot 2
Mooreseville, NC 28117

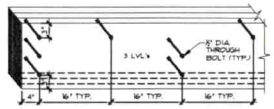
Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

DRAWN BY: S. BROOKS

DATE: July 5, 2023

REVISIONS:

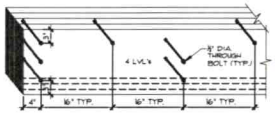
SHEET
S3



TYP. BOLT DETAIL @ 3 PLY LVL

A

SCALE: 1" = 1'-0"



TYP. BOLT DETAIL @ 4 PLY LVL

B

SCALE: 1" = 1'-0"

TYPICAL HANGERS FOR JOIST & BEAMS

MEMBERS	SIMPSON HANGER	USP HANGER
2x8	LUS28	IUS28
2x10	LUS210	IUS210
2x12	LUS212	IUS212
2-2x8	HUS28-2	IUS28-2
2-2x10	HUS210-2	IUS210-2
2-2x12	HUS212-2	IUS212-2
3-2x8	LUS28-3	IUS28-3
3-2x10	HUS210-3	IUS210-3
3-2x12	HUS212-3 MIN.	IUS212-3 MIN.
2-1¾"x9¼" LVL	HGUS542	THD-H442
2-1¾"x9½" LVL	HGUS542	THD-H442
2-1¾"x11⅞" LVL	HGUS542	THD-H442
2-1¾"x14" LVL	HGUS542	THD-H442
2-1¾"x14" LVL	HGUS414	THD-H414
2-1¾"x16" LVL	HGUS414	THD-H414
2-1¾"x18" LVL	HGUS414	THD-H414
2-1¾"x24" LVL	HGUS414	THD-H414
3-1¾"x9¼" LVL	HGUS5.50/10	THD-H610
3-1¾"x9½" LVL	HGUS5.50/10	THD-H610
3-1¾"x11¾" LVL	HGUS5.50/12	THD-H612
3-1¾"x11⅞" LVL	HGUS5.50/12	THD-H612
3-1¾"x14" LVL	HGUS5.50/14	THD-H614
3-1¾"x16" LVL	HGUS5.50/14	THD-H614
3-1¾"x18" LVL	HGUS5.50/14	THD-H614
3-1¾"x24" LVL	HGUS5.50/14	THD-H614
4-1¾"x9¼" LVL	HGUS7.25/10	THD-H7210
4-1¾"x9½" LVL	HGUS7.25/10	THD-H7210
4-1¾"x11¾" LVL	HGUS7.25/12	THD-H7212
4-1¾"x11⅞" LVL	HGUS7.25/12	THD-H7212
4-1¾"x14" LVL	HGUS7.25/14	THD-H7214
4-1¾"x16" LVL	HGUS7.25/14	THD-H7214
4-1¾"x18" LVL	HGUS7.25/14	THD-H7214

NOTE: ALL HANGERS BY SIMPSON STRONG TIE CO, INC. (BRAND - NAME EQUIVALENTS ACCEPTABLE)

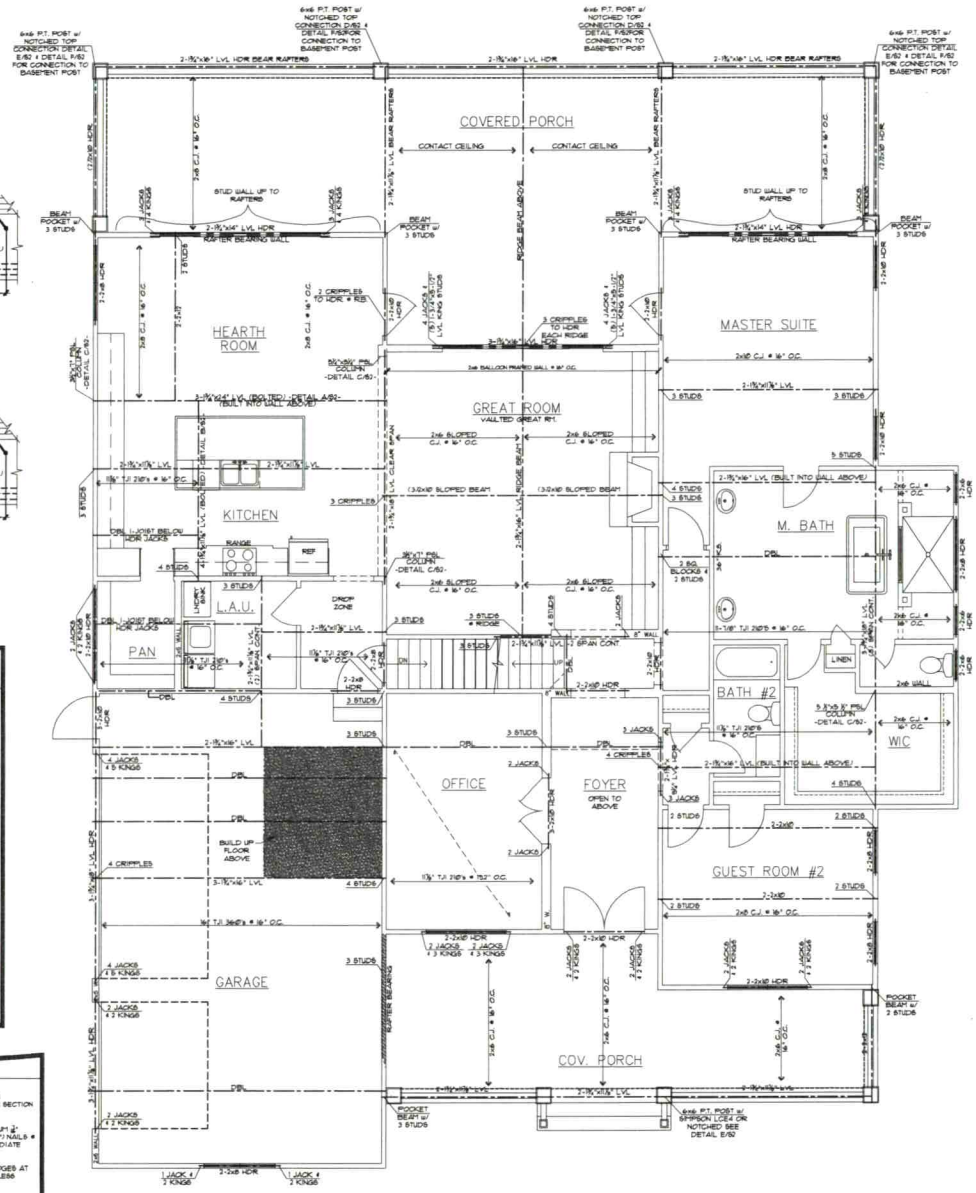
SHEATHING NOTES:

1. THE LATERAL BRACING REQUIREMENTS FOR THIS PLAN HAVE BEEN ACCOUNTED FOR UTILIZING AN ENGINEERED DESIGN AS PERMITTED IN SECTION R602.10.3 OF THE 2018 NCRC.

2. ALL PERIMETER WALLS ARE TO BE FULLY SHEATHED WITH A MINIMUM ½" OSB AND ATTACHED TO THE WALL FRAMING STUDS WITH 8d (2½"x0.131") NAILS @ 6" O/C SPACING AT PANEL EDGES AND 12" O/C SPACING AT INTERMEDIATE SUPPORTS.

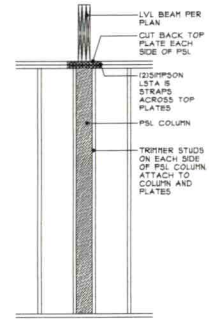
3. INSTALL BLOCKING ALONG OSB PANEL EDGES. FASTEN PANEL EDGES AT BLOCKING @ 3" O/C AND @ 6" O/C AT INTERMEDIATE FRAMING WHEN LESS THAN 50% BUT GREATER THAN 25% OF WALL IS SHEATHED.

4. SHEATH ALL GABLE END WALLS WITH ½" OSB.



FIRST FLOOR PLAN

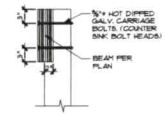
SCALE 1/4" = 1'-0"



TYPICAL PSL COLUMN DETAIL

C

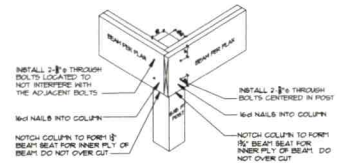
SCALE 1/2" = 1'-0"



MIDDLE NOTCHED TOP CONNECTION DETAIL

D

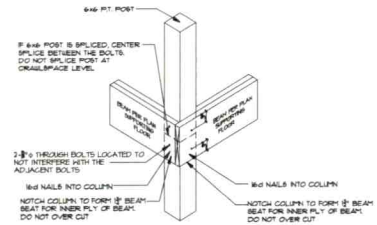
SCALE: 1" = 1'-0"



CORNER NOTCHED TOP CONNECTION DETAIL

E

SCALE: 1" = 1'-0"



PORCH POST CONNECTION DETAIL

F

SCALE: 1" = 1'-0"

SEAL FOR STRUCTURAL ONLY

PROJECT:

IQ Custom Homes
Brer Fox Trail-Lot 2
Mooreseville, NC 28117

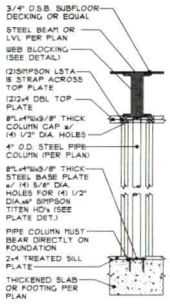
Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

DRAWN BY: S. BROOKS

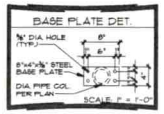
DATE: July 5, 2023

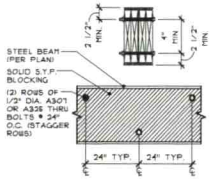
REVISIONS:

SHEET
S2



A STEEL PIPE COLUMN DETAIL
SCALE: 1/2" = 1'-0"

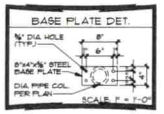




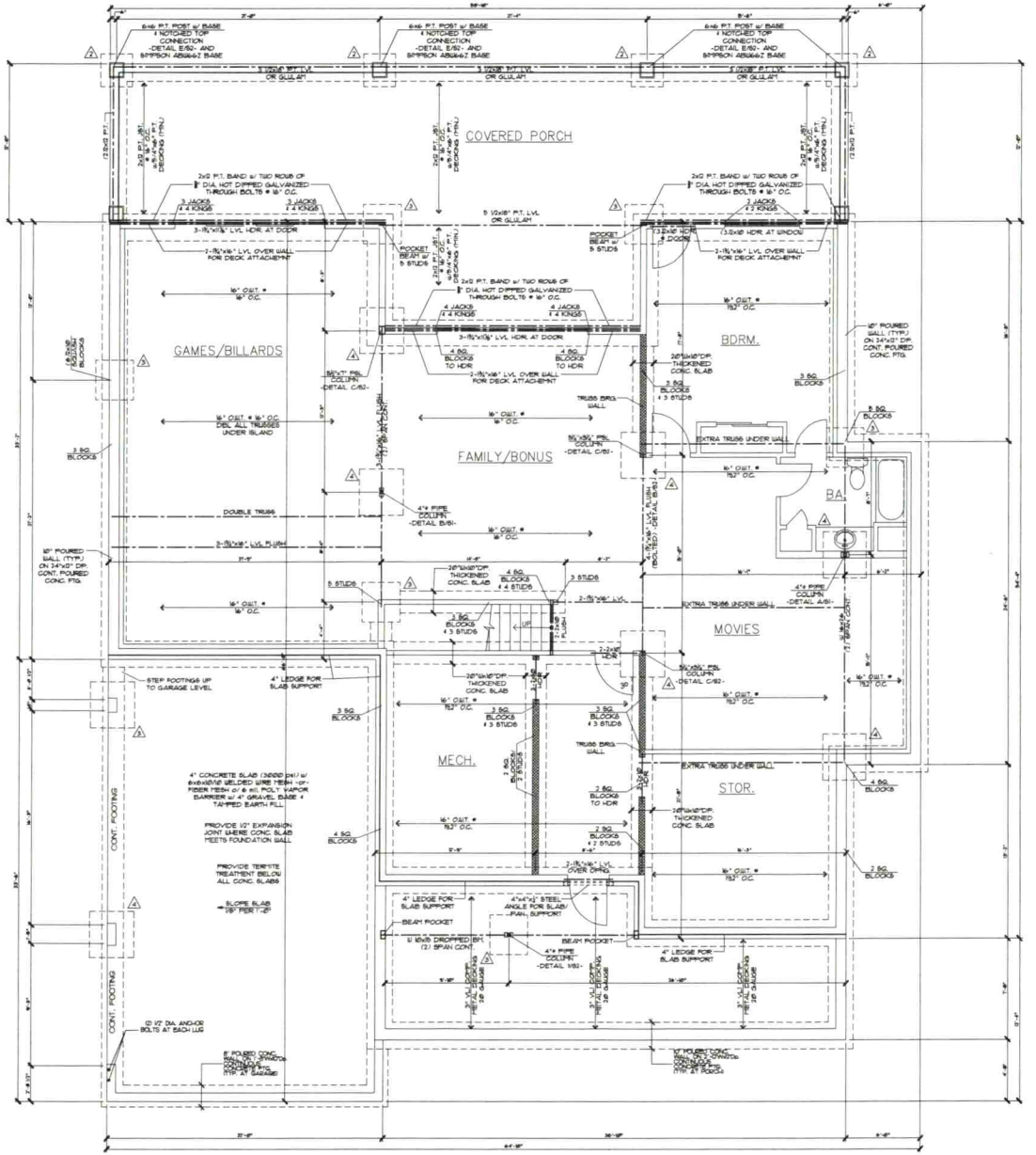
STEEL BEAM WEB BLOCKING DETAIL
SCALE: 2" = 1'-0"



B STEEL PIPE COLUMN DETAIL
SCALE: 1/2" = 1'-0"



FOOTING KEY	
1	24"x24"x10" CONC. FTG.
2	30"x30"x12" CONC. FTG. w/ #4 REBAR @ 6" O.C. E.W.
3	36"x36"x12" CONC. FTG. w/ #4 REBAR @ 6" O.C. E.W.
4	42"x42"x18" CONC. FTG. w/ #5 REBAR @ 6" O.C. E.W.
5	48"x48"x18" CONC. FTG. w/ #5 REBAR @ 6" O.C. E.W.



FOUNDATION PLAN
SCALE 1/4" = 1'-0"

SEAL FOR STRUCTURAL ONLY

PROJECT:
IQ Custom Homes
Brer Fox Trail-Lot 2
Mooreseville, NC 28117

Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

DRAWN BY: S. BROOKS
DATE: July 5, 2023
REVISIONS:

SHEET
S1

RESIDENTIAL STANDARD NOTES

REVISED 10/22/18

DESIGN LOADS:

1. DESIGN LOADS ARE ALL DEAD LOADS PLUS:
   - A. MAIN FLOOR LIVE LOADS (KITCHEN LEVEL)..... 40 PSF
   - B. ALL OTHER FLOOR LIVE LOADS..... 40 PSF
   - C. BALCONIES..... 60 PSF
   - D. DECKS..... 40 PSF
   - E. SUSPENDED GARAGES..... 80 PSF
     - OR 2000 POUND POINT LOAD AT ANY LOCATION
   - F. ATTIC FLOOR LIVE LOADING WITH THE FOLLOWING:
     - a) HABITABLE ATTICS = ATTICS W/ FIXED STAIRS..... 30 PSF
     - b) UNINHABITABLE ATTICS W/ LIMITED STORAGE..... 20 PSF
     - c) UNINHABITABLE ATTICS W/O STORAGE..... 10 PSF
   - G. ROOF LIVE LOAD..... 20 PSF
   - H. WIND LOAD..... 85 MPH
   - I. SNOW LOAD..... 30 PSF
2. BEARING FOR FOOTINGS ON ORIGINAL SOLID GROUND IS ASSUMED TO BE 2000 PSF UNLESS NOTED OTHERWISE.
3. ALL DESIGNS ARE IN ACCORDANCE WITH THE 2018 NORTH CAROLINA RESIDENTIAL CODE.
4. ENGINEERING DESIGN IS FOR STRUCTURAL INFORMATION ONLY. THE ENGINEER OF RECORD DOES NOT ACCEPT RESPONSIBILITY FOR DIMENSION ERRORS, ARCHITECTURAL ERRORS, DETAILING OR WATERPROOFING, PLUMBING, ELECTRICAL OR MECHANICAL INFORMATION OR ANY PART OF THE PLAN NOT RELEVANT TO THE STRUCTURAL INFORMATION.

LUMBER GENERAL NOTES:

1. ALL COMMON FRAMING LUMBER IS TO MEET THE FOLLOWING MINIMUM SPECIFICATIONS AT 19% MOISTURE CONTENT.

MATERIAL	Fb(psi)	Fc(psi)Parallel	Fc(psi)Perp	E(psi)
#2 SPRUCE PINE FIR	875	1650	625	1,600,000
SOUTHERN YELLOW PINE	925	1850	565	1,600,000

2. ALL STRUCTURAL COMPOSITE LUMBER (LVL, LSL, PSL) IS TO MEET THE FOLLOWING MINIMUM SPECIFICATIONS:

APPLICATION	Fb(psi)	Fc(psi)Parallel	Fc(psi)Perp	E(psi)
GIRDERS & BEAMS (LVL, PSL)	2600	2510	750	2,000,000
COLUMNS (LSL) & HEADERS	1700	1830	760	1,300,000

3. ALL GLUE LAMINATED TIMBER (GLU-LAM) IS TO MEET THE FOLLOWING MINIMUM SPECIFICATIONS:

APPLICATION	Fb(psi)	Fc(psi)Parallel	Fc(psi)Perp	E(psi)
GIRDERS & BEAMS (LVL, PSL)	2400	1650	650	1,800,000

4. WHERE THREE (3) 9" OR DEEPER AND ALL FOUR (4) PLY GIRDERS ARE SIDE LOADED JOINTS FRAME INTO THE SIDE AT THE OUTSIDE PLIES. FASTEN ALL PLIES TOGETHER WITH TWO (2) ROWS OF 1/2" DIAMETER BOLTS @ 24" O.C. THE BOLTS SHALL BE LONG ENOUGH TO EXTEND 3" MINIMUM BY A WASHER OF 3-1/2" FROM THE TOP OR BOTTOM OF THE BEAM.
5. BUILT-UP WOOD COLUMNS CONSISTING OF MULTIPLE STUDS SHALL HAVE EACH LAMINATION NAILED WITH 10d NAILS @ 8" O.C.

RESIDENTIAL FOUNDATIONS:

1. ALL CONTINUOUS BALL FOOTINGS ARE 16" WIDE x 8" DP FOR TWO (2) STORY HOUSES AND FOOTINGS FOR THREE (3) STORY BALLS SHALL BE 24" WIDE x 12" DP UNLESS OTHERWISE NOTED. REINFORCING IS TO BE AS NOTED ON PLANS. FOOTINGS ON ORIGINAL SOIL DO NOT NEED STEPPING. FOOTINGS ON ENGINEERED FILL MUST BE INSPECTED ON ANY COMPACTED FILL REGARDLESS OF COMPACTION.
2. ALL INTERIOR PIERS ARE 8" x 16" CMU UP TO A MAXIMUM HEIGHT OF 32". ALL PIERS OVER 32" HIGH MUST BE FILLED WITH TYPE S MORTAR. MAXIMUM HEIGHT FOR 8" x 16" FILLED PIER IS 4'-8". PIERS LARGER THAN 8" x 16" ARE NOTED ON PLANS AND MUST BE FILLED WITH TYPE S MORTAR. PIER CAP IS TO BE 8" OF SOLID MASONRY.
3. FOOTINGS FOR 8" x 16" PIERS ARE 2'-0" x 2'-4" x 8" UNLESS NOTED OTHERWISE. REINFORCING TO BE AS NOTED ON PLANS.
4. CONCRETE SHALL BE 2500 PSI IN 28 DAYS UNLESS NOTED OTHERWISE. NO CONCRETE SHALL BE POURED IN TEMPERATURES BELOW 40 DEGREES FAHRENHEIT UNLESS HEAT TO BE PROVIDED DURING THE CURING FOR TWO DAYS. THE BOTTOM OF ALL FOOTINGS MUST BE A MINIMUM OF 12" BELOW GRADE.
5. ALL REBAR SPLICES SHALL BE A MINIMUM OF 2'-0" UNLESS NOTED OTHERWISE.
6. SAMPLE SLABS ARE SELF-SUPPORTING SLABS-ON-GRADE ACCORDING TO DETAILS AND DO NOT REQUIRE FIRM SOIL FOR SUPPORT. SOIL HUST ONLY BE CAPABLE OF SUPPORTING CONCRETE UNTIL IT HARDENS AND DEVELOPS STRENGTH.
7. CAISSON FOUNDATIONS SHALL BE A MINIMUM OF 12" DIAMETER DRILLED UNREINFORCED CONCRETE CAISSONS. CAISSONS SHALL EXTEND TO A MINIMUM DEPTH PROVIDING 2'-0" PENETRATION INTO GOOD ORIGINAL GROUND AND CAPABLE OF EIGHT (8) TONS SUPPORT CAPACITY BASED ON THE SOILS AND FOOTPRINT OF THE CAISSON SIZE USED. DEPTH OR DRILLING IS LIMITED TO 19'-0". THEREFORE, NO POOR MATERIAL GREATER THAN 9'-0" OF DEPTH IS SUITABLE FOR A CAISSON FOUNDATION. CAISSONS CANNOT BE USED IF WATER RISES IMMEDIATELY INTO A DRILLED HOLE. PILES WILL HAVE TO BE USED IS SUCH CASES.
8. 8" MINIMUM DIAMETER TREATED WOOD PILES WITH A MINIMUM DESIGN LOAD OF EIGHT (8) TONS ARE USED FOR ALL FOUNDATIONS ON UNSUITABLE SOIL DEEPER THAN 9'-0" OR DRILLED CAISSON HOLES. DRIVE PER NORTH CAROLINA OR SOUTH CAROLINA CODE.
9. SIZES AND REINFORCING FOR FOOTING CAPS OVER CAISSONS OR PILES SHALL BE AS SHOWN ON PLANS.
10. CHIMNEY FOOTINGS HAVE A MINIMUM OF 12" PROJECTION LARGER THAN FOOTPRINT BY 12" THICK.
11. FOUNDATION BALL BACKFILLED WITH DIRT WHICH SUPPORTS STRUCTURAL FRAMING SHALL BE CONSTRUCTED AS FOLLOWS:
    - A. FOR EARTH FILL UP TO 4'-0" MAXIMUM HEIGHT. USE 8" CMU OR 8" BRICK WITH BITUTHENE MEMBRANE WATERPROOFING ON EXTERIOR. FOOTING TO BE 12" x 24" OR AS NOTED ON PLAN.
    - B. FOR EARTH FILL 4'-0" TO A MAXIMUM OF 11'-0". USE 12" x 30" THICKEN FOOTING WITH #4 x 18" DOWELS HOOKED IN FOOTING AND PROJECTING 24" ABOVE FOOTING. USE 12" CMU WALLS WITH #4 BARS @ 16" CENTERS. VERTICAL BARS ARE TO BE LOCATED 3" FROM NON-DIRT FILL FACE. LAP ALL SPLICES 24" AND USE DURAWIRE HORIZONTAL REINFORCING EVERY 8" IN CMU JOINTS. INSTALL ONE (1) #3 L-BAR WITH 24" LEGS IN EVERY OTHER CORE HORIZONTALLY AT ALL CORNERS, I.E. #3 CORNER BARS @ 16" O.C. VERTICALLY. FILL ALL OPEN CELLS OF CMU WITH 5000 PSI PEA GRAVEL CONCRETE MIX. INSTALL WATERPROOF BITUTHENE (TERRADAM OR EQUAL).
    - C. IN LIEU OF THE PRECEDING DESIGN, BASEMENT WALLS THAT BE CONSTRUCTED IN ACCORDANCE WITH R404 OF THE CODE. HOWEVER 24" x 24" #3 CORNER BARS BE INSTALLED @ 16" O.C. VERTICALLY REGARDLESS OF THE BALL HEIGHT. EFFECT ALL PRIOR BEFORE BACKFILLING.
12. WHERE FULL-HEIGHT FOUNDATION OR BASEMENT BALLS RUN PARALLEL TO FLOOR FRAMING, BLOCKING MUST BE PROVIDED BETWEEN JOIST SPACES OUT FROM BALL.
13. FOR RETAINING BALLS WITHOUT FRAMING BEING ATTACHED, SEE DETAILS ON PLANS.
14. ALL GARAGE DOOR SIDE PIERS (OR BULGE) LESS THAN THE MINIMUM ALLOWED BY CURRENT CODE STANDARDS SHALL BE CONSTRUCTED PER DETAIL ON PLANS.
15. INTERIOR THICKENED SLAB FOOTINGS WHICH OCCUR IN BASEMENTS TO BE 30" WIDE X 10" DP AND "SLAB ON GRADE" FLOORS ARE 8" WIDE x 4" DP UNLESS NOTED OTHERWISE. THICKENED SLAB FOOTINGS ARE REQUIRED UNDER ALL BEARING BALLS.
16. SHALLOW FOUNDATIONS ARE DESIGNED FOR AN ASSURED SOIL BEARING CAPACITY OF 2000 PSF. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD IF ANY SOILS ARE FOUND TO BE UNSUITABLE FOR THIS BEARING CAPACITY. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING SOIL TESTING TO ENSURE THAT THE BEARING CAPACITY OF THE SOIL MEETS OR EXCEEDS THIS VALUE. ALL FILL IS TO BE COMPACTED TO 95% DENSITY AS MEASURED BY THE STANDARD PROCTOR TEST (ASTM D698).
17. ALL SOILS AND FILL UNDER FLOORS AND/OR WITHIN OR UNDER BUILDINGS SHALL HAVE PRECONSTRUCTION SOIL TREATMENT FOR PROTECTION AGAINST TERMITES. CERTIFICATE OF COMPLIANCE SHALL BE ISSUED TO THE BUILDING DEPARTMENT BY A LICENSED PEST CONTROL COMPANY.
18. ALL FOOTING EXCAVATIONS SHALL BE NEAT, STRAIGHT, AND LEVEL IN THE PROPER ELEVATIONS TO RECEIVE THE CONCRETE. EXCESSIVE VARIATIONS IN THE DIMENSIONS OF FOOTINGS OR SLABS WILL NOT BE PERMITTED. REINFORCING STEEL AND MESH SHALL BE ACCURATELY PLACED AND SUPPORTED TO MAINTAIN THEIR POSITION DURING CONCRETE POURING. ROCK FORMS SHALL BE USED FOR CONCRETE THAT WILL BE EXPOSED.
19. ALL SLAB PENETRATIONS ARE TO BE THE RESPONSIBILITY OF THE CONTRACTOR. PENETRATIONS INTERFERING WITH REINFORCING SHALL BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO THE PLACEMENT OF CONCRETE.
20. ELEVATION DIFFERENCES BETWEEN THE BOTTOM OF ADJACENT FOOTINGS SHALL BE NO MORE THAN 1/2 THEIR HORIZONTAL DISTANCE UNLESS ONE FOOT. DIFFERENTIAL HEIGHTS BETWEEN FOOTINGS CAN BECOME EXCESSIVE WHERE A PIER FOOTING OR GARAGE FOOTING IS NEXT TO A BASEMENT BALL FOOTING.

MATERIALS SPECIFICATIONS:
CONCRETE GENERAL NOTES:

1. EXCEPT WHERE OTHERWISE NOTED, FOR ALL CONCRETE, THE PROPORTION OF CEMENT AGGREGATE AND WATER TO ATTAIN REQUIRED PLASTICITY AND COMPRESSIVE STRENGTH SHALL BE IN ACCORDANCE WITH ACI 318 CODE. CONCRETE SHALL BE 2500 PSI IN 28 DAYS FOR FOOTINGS AND 3000 PSI FOR BALLS, BEAMS, AND COLUMNS, UNLESS NOTED OTHERWISE.
2. BEFORE PLACING CONCRETE, ALL DEBRIS, WATER AND OTHER DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE PLACES TO BE OCCUPIED BY THE CONCRETE. THE PLACING OF ALL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318 AND ASTM C94 REQUIREMENTS. CONCRETE SHALL BE RAPIDLY HANDLED FROM THE MIXER TO FORMS AND DEPOSITED AS NEARLY AS POSSIBLE TO ITS FINAL POSITION TO AVOID SEGREGATION DUE TO REHANDLING. CONCRETE TO BE SPADED AND BORRIED BY HAND AND VIBRATED TO ASSURE CLOSE CONTACT WITH ALL SURFACES OF FORMS AND REINFORCING STEEL AND LEVELED OFF AT PROPER GRADE TO RECEIVE FINISH. ALL CONCRETE SHALL BE PLACED UPON CLEAN, DAMP SURFACES. VIBRATION SHALL BE APPLIED DIRECTLY TO THE CONCRETE AND SHALL BE SUFFICIENT TO CAUSE FLOW OF SETTLEMENT BUT NOT LONG ENOUGH TO CAUSE SEGREGATION OF THE MIX.
3. CONSTRUCTION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH ACI 301. ALL REINFORCING STEEL SHALL BE CONTINUOUS ACROSS JOINTS. IN SLABS ON GRADE, SAW CONTRACTION JOINTS SHALL NOT BE OVER 20'-0" CENTER TO CENTER EACH WAY. JOINTS SHALL BE SAWN A DEPTH OF ONE-FOURTH OF THE SLAB THICKNESS. SAWING OF THE JOINTS SHALL COMMENCE AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT RAVELING WITHOUT EXCESSIVE RAVELING.
4. CONCRETE WHEN DEPOSITED SHALL HAVE A TEMPERATURE NOT BELOW 60° F AND NOT ABOVE 90° F. THE METHODS AND RECOMMENDED PRACTICES AS DESCRIBED IN ACI 306 SHALL BE FOLLOWED FOR COLD WEATHER CONCRETING AND ACI 305 FOR HOT WEATHER CONCRETING.
5. REINFORCING STEEL BARS SHALL BE DEFORMED IN ACCORDANCE WITH ASTM A305 AND/OR A408 AND FORMED OF ASTR A615-18 GRADE 60 STEEL. WELDED WIRE FABRIC REINFORCING TO BE ASTM A185 STEEL WIRE. ACCESSORIES SHALL CONFORM TO THE CRSI "MANUAL OF STANDARD PRACTICE". THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED OVER REINFORCING BARS.
   - A. EXPOSED TO EARTH 3"
   - B. EXPOSED TO WEATHER 1-1/2"
   - C. SLABS NOT EXPOSED TO WEATHER 3/4"
   - D. BEAMS AND COLUMNS 1-1/2"

MASONRY GENERAL NOTES:

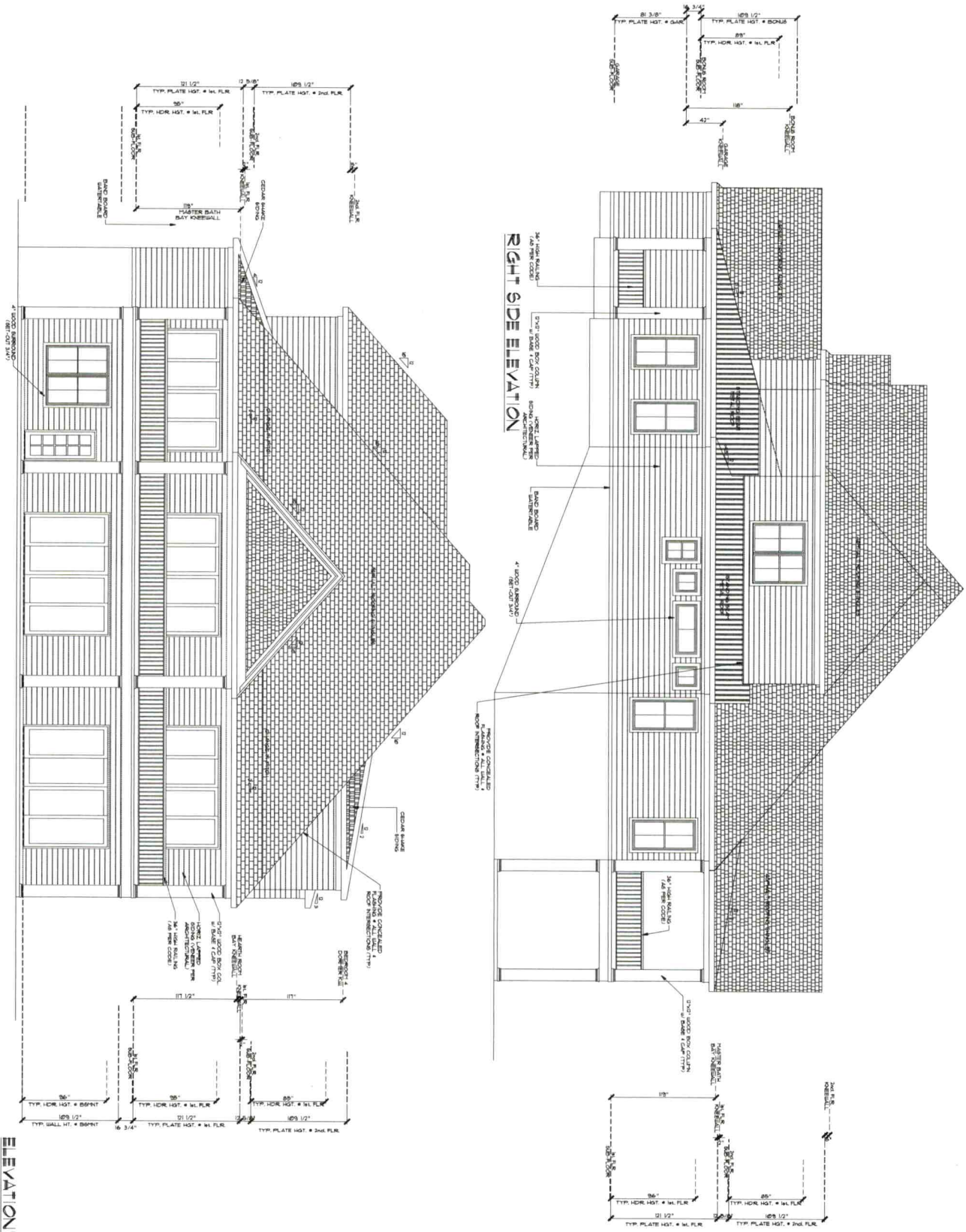
1. MASONRY BALLS ARE TO BE THE SIZES AND IN THE LOCATIONS SHOWN ON THE PLANS AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROVISIONS OF ACI 530.
2. HOLLOW LOAD BEARING UNITS: ASTM C90 MADE WITH LIGHTWEIGHT OF NORMAL WEIGHT AGGREGATES. GRADE N-I UNITS SHALL BE USED FOR EXTERIOR AND FOUNDATION BALLS. GRADE N-I OR S-I UNITS SHALL BE PROVIDED FOR OTHER LOAD BEARING BALLS OR PARTITIONS.
3. CONCRETE BUILDING BRICK: ASTM C55 MADE WITH LIGHTWEIGHT OF NORMAL AGGREGATES. GRADE N-I OR S-I EXCEPT THAT BRICK EXPOSED TO WEATHER SHALL BE N-I.
4. MORTAR: ASTM C270-96, TYPE S PREFACKAGED MORTAR MIX WHICH SHALL NOT CONTAIN ANY NON-DISPERSTITIOUS FILLERS CONTAINED WITH NOT MORE THAN THREE (3) PARTS SAND PER ONE (1) PART MIX.
5. REINFORCING STEEL: ASTM A615 GRADE 60 STEEL DEFORMED BARS WHERE INDICATED ON THE PLANS. WHERE REINFORCING BARS ARE INSTALLED IN THE CELLS OF CONCRETE MASONRY UNITS, THEY SHALL BE SECURED WITH WIRE TIES AT INTERVALS NOT EXCEEDING 24" O.C. TO MAINTAIN THE BARS LOCATION IN THE CELL. THE TOLERANCE FOR SPACING OF VERTICAL BARS IS 12" ALONG THE LENGTH OF THE BALL. THE TOLERANCE FOR THE DISTANCE BETWEEN THE FACE OF THE CONCRETE MASONRY UNIT AND THE CENTER OF THE BAR SHALL NOT EXCEED ±1/2".
6. MORTAR PROTRUSION SHALL BE LESS THAN 1/3". A PROTRUSION OF 1/2" OR GREATER MUST BE REMOVED BEFORE GROUTING.
7. HORIZONTAL JOINT REINFORCEMENT: ASTM A82 FABRICATED FROM COLD DRAWN STEEL WIRE AND HOT DIP ZINC COATED (ASTM A853). IT SHALL CONSIST OF TWO (2) OR MORE PARALLEL LONGITUDINAL WIRES 0.8"S" IN DIAMETER WITH WELD CONNECTED CROSS WIRE 0.1483" IN DIAMETER AT A MINIMUM OF 16" O.C. JOINT REINFORCEMENT IS TO BE INSTALLED IN EVERY OTHER COURSE AND IN THE FIRST TWO (2) COURSES AT THE BOTTOM AND TOP OF BALL OPENINGS AND SHALL EXTEND NOT LESS THAN 24" PAST THE OPENING. SPLICES SHALL OVERLAP NOT LESS THAN 6".
8. EXECUTION: MASONRY UNITS SHALL BE LAID IN A RUNNING BAND PATTERN UNLESS NOTED OTHERWISE. THE BALLS SHALL BE CARRIED UP LEVEL AND PLUMB WITHIN THE TOLERANCES SPECIFIED IN ACI 530.1-96, SECTION 3.3.3.3. IF NONSTANDARD DIMENSIONS ARE ENCOUNTERED, BLOCK SHALL BE CUT WITH A MASONRY SAW TO FIT, NOT BY STRETCHING OR SHRINKING JOINTS. UNFINISHED WORK SHALL BE STEPPED BACK FOR JOINING WITH NEW WORK. TOOTHING WILL NOT BE PERMITTED EXCEPT WHERE SPECIFICALLY APPROVED. DAMAGED UNITS ARE TO BE CUT OUT AND NEW UNITS SET IN PLACE.
9. THE FILLED CELLS AND BOND BEAM BLOCKS OF REINFORCED MASONRY BALLS ARE TO BE FILLED WITH ASTM C476-96 GROUT OR PEA GRAVEL MIX FOR MASONRY WITH MINIMUM COMPRESSIVE STRESS OF 3000 PSI.

FRAMING CONSTRUCTION - OTHER THAN ROOF:

1. CRAWL GIRDERS AND BAND WITH 4" CURTAIN BALL AND PIER CONSTRUCTION SHALL BE THREE (3) 2x10 #2 SPF GIRDERS AND (3) 2x6 #2 SPF BAND UNLESS NOTED OTHERWISE. MAXIMUM CLEAR SPAN IS TO BE 4'-8" (4'-0" O.C. SPACING OF PIERS). ALL GIRDER AND BAND SPLICES ARE TO FALL ONLY ON PIERS.
2. TO AVOID OBJECTIONABLE CRACKING IN FINISHED HARDWOOD FLOORS OVER ANY GIRDERS, USE THE FOLLOWING PROCEDURE.
   - A. NAILING
     - a) ALL FLOOR JOIST MUST BE TOENAILED TO THEIR SUPPORT GIRDERS WITH A MINIMUM OF THREE (3) 8d NAILS AT EACH END. LARGER NAILS BUT STILL AND REMOVE THE TOENAIL RESPECTIVE. NO END NAILING THROUGH THE GIRDER OR BAND IS PERMITTED.
     - b) IF DROPPED GIRDERS ARE USED, END LAP ALL JOISTS AND SIDE NAIL EACH WITH A MINIMUM OF THREE (3) 8d NAILS AT EACH END OF EACH JOIST. LEDGER STRIPS NAIL WITH THREE (3) 8d NAILS THROUGH THE GIRDER OR BAND, SPACED 3' APART.
     - c) NAIL MULTIPLE-MEMBER BUILT UP GIRDERS WITH TWO (2) ROWS OF 16d NAILS STAGGERED * 32" O.C., 2" DOWN FROM THE TOP AND 2" UP FROM BOTTOM WITH THREE (3) 16d NAILS AT EACH END OF EACH PIECE IN THE JOINT THROUGHOUT THE REMAINING LENGTH OF THE GIRDER. d) THE NAILING PATTERN WILL INSURE A TIGHT FLOOR FROM OUTSIDE OF THE HOUSE TO OUTSIDE THAT WHEN THE FRAMING TIMBER DRY OUT AFTER THE FIRST HEATING SEASON THE SHRINKAGE WILL BE UNIFORMLY DISTRIBUTED OVER THE ENTIRE LENGTH OF 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 * 4'-0" O.C. FOR A MINIMUM OF 4' (2 JOIST SPACES) BEYOND ANY JOIST DIRECTION CHANGE. THIS WILL INSURE SHRINKAGE DISTRIBUTION OVER THE FLOOR AND NOT LET IT ACCUMULATE AT THE GIRDER.
   - C. HERE MUST BE GOOD BLOCKING THROUGH BALLS TO THE STEEL BEAM WITH BLOCKS TOENAILED OR ATTACHED TO THE BEAM WITH METAL HANGERS UNDER ANY HARDWOOD FLOORS THAT PASS OVER STEEL BEAM SUPPORTS. FLOOR JOISTS. THIS CONDITION OFTEN EXISTS OVER BASEMENT AREAS.
3. ALL OTHER LUMBER MAY BE SPRUCE #2 UNLESS NOTED OTHERWISE.
4. STEEL BEARS MUST HAVE FIVE (5) 2in STUD JACKS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE. ROOF TRUSS GIRDERS MUST HAVE THREE (3) 2x4 STUD JACKS UNDER EACH END SUPPORT UNLESS NOTED OTHERWISE. ALL STUDS MUST BE NAILED TOGETHER WITH TWO (2) VERTICAL ROWS OF 8d NAILS AT 8" O.C. UNLESS NOTED OTHERWISE.
5. HANGERS: USE SIMPSON FOR SPANS 4'-0" AND MORE, ANCHOR ANGLE TO HEADER WITH 1 ROWS OF 1/4"x1", 4" LONG LAG BOLTS AT 16" O.C.S:
   - A. USE 2nd STRUCTURAL STEEL BEARS WITH BOTTOM PLATES ARE USED TO SUPPORT HABONRY, 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 WORK. THE BEAM SHOULD BE TEMPORARILY SHORED PRIOR TO LAYING THE MASONRY. THE SHORING MAY BE REMOVED FIVE (5) DAYS AFTER LAYING THE HASONRY.
6. ALL BRICK VENEER OVER LOWER ROOFS (BRICK CLIMBS) MUST HAVE A 4"X4"X5/16" STEEL ANGLE LAG SCREWED TO ADJACENT STUD WALL WITH 3"x6"x1/4" STEEL BRICK STOPS TO PREVENT SLIDING. USE BRICK ATTACH ANGLE 6-1/2 ROWS OF 1/16"x4" LAG SCREWS * 16" O.C. INTO DOUBLE 2x4 STUDS OR DOUBLE 2x6 BLOCKING BETWEEN 2x8 RAFTERS OR UNDER EACH END OF ROOF TRUSS. PLACE DOUBLE 2x6 RAFTERS UNDER THE ROOF SHEATHING NAILED TO THE STUDS WITH 30K (6) 16d NAILS AT EACH STUD AND EACH OTHER WITH TWO (2) ROWS OF 16d NAILS AT 12" CENTERS STAGGERED BETWEEN ROWS AND (2) RAFTER TO THE WALL. MAXIMUM UNBRACED LENGTH OF DOUBLE RAFTERS IS 4'-0". IF AN ENGINEERED TRUSS ROOF IS USED, PLACE DOUBLE TRUSSES UNDER ALL BRICK CLIMBS WITH A MAXIMUM DEFLECTION OF L/400. MINIMUM BRICK TIE SPACING FOR A BRICK VENEER ON WOOD STRUCTURES IS 24" VERTICAL AND HORIZONTAL CENTERS. THIS TIE SPACING IS LIMITED TO THREE (3) STORY STRUCTURES. ALL VENEER INSTALLATION IS TO BE IN ACCORDANCE WITH THE GUIDELINES PREPARED BY THE BRICK INDUSTRY ASSOCIATION.
7. ALL RAFTER BRACES MUST HAVE TWO (2) STUDS FROM PLATE THROUGH ALL FLOORS TO FOUNDATION OR SUPPORTING BEAM BELOW. NO BRACES SHALL BE ATTACHED TO TOP PLATE WITHOUT STUDS DIRECTLY UNDER THEM.
8. PROVIDE DOUBLE JOISTS IN FLOOR UNDER PARALLEL PARTITIONS. ALTERNATIVELY, USE SINGLE JOISTS IS TO BE LAID ON LADDER BLOCKS * 16" O.C. BETWEEN ADJACENT JOISTS UNDER NON-LOAD BEARING PARTITIONS.TO SUPPORT THE TONGUE AND GROOVE OSB DECKING. THE LADDERS SHALL BE SUPPORTED BTH A SIMPSON "T" CLIP OR SIMILAR DEVICE.
9. ALL 9000 I-JOISTS AND OPEN JOISTS MUST BE BRACED IN ACCORDANCE WITH MANUFACTURERS DIRECTIONS PLUS DETAILS SHOWN ON PLANS. LOAD BEARING PARTITIONS OVER I-JOISTS, BEAMS AND GIRDERS SUPPORTS MUST BE SOLID BLOCKED THROUGH FLOOR TO A BEAM OR FOUNDATION BELOW. JOISTS, TRUSSES, PLYWOOD AND TAG OSB CONSTRUCTION. CARRY CONCENTRATED POINT LOADS. ALL POINT LOADS MUST BE CARRIED TO FOUNDATION WITH BLOCKING AND/OR BEAMS. (NOTE: ALL BEAMS AND DOUBLE JOISTS, ETC., HAVE BEEN SHOWN FOR A LOAD BEARING PURPOSE. PLACEMENT OF THE LOAD CARRYING MEMBERS SHOWN IN THE PLANS IS LOCATIONS OTHER THAN UNDER THE STRUCTURAL ELEMENT THEY ARE INTENDED TO CARRY IS THE RESPONSIBILITY OF THE CONTRACTOR. EXACT BEAM LOCATIONS ARE NOT TO BE SCALED FROM THE FRAMING PLANS.)
10. CONTINUOUS 2x6 BRIDGING SHALL BE NAILED TO DIAGONAL OR VERTICAL WEB MEMBERS OF ALL OPEN WEB FLOOR TRUSSES OVER 6'-0" LONG. THEY SHALL BE INSTALLED NEAR MID-SPAN OR A LOADED PANEL LOCATION REMBER. IF THE 2x6 BRIDGING IS NOT CONTINUOUS, LAP ENDS OF BRIDGING ONE (1) TRUSS SPACE. UNLESS NOTED OTHERWISE ON THE PLANS, ALL EXTERIOR FACING STUD BALLS TALLER THAN 10'-0" SHALL BE CONSTRUCTED AS FOLLOWS.
    - A. BALLS 10'-0" TO 11'-0" HIGH: BALLOON FRAME 2x4 STUDS * 8" O.C. WITH OSB SHEATHING AND THREE (3) KING STUDS ON EACH SIDE OF EACH OPENING NAILED SECURELY TO THE HEADER.
    - B. BALLS 11'-0" TO 16'-0" HIGH: BALLOON FRAME 2x6 STUDS * 16" O.C. 1/2" OSB SHEATHING. REQUIRED FOR BALL HEIGHTS. PROVIDE TWO (2) OSB FULL HEIGHT OPENINGS LESS THAN 3'-0" WIDE. FASTEN KING STUDS SECURELY TO ALL HEADERS WITH A MINIMUM OF TWELVE (12) 16d NAILS OR FOUR (4) 3/8" DIAMETER LAG SCREWS EMBEDDED A MINIMUM OF 4" INTO THE HEADER.
    - C. GABLE END BALLS OF ROOFS WITH VAULTED CEILING JOISTS: BALLOON FRAME BALL CONSTRUCTED TO ABOVE SPECIFICATIONS AND PROVIDE KING STUDS ON EACH SIDE OF OPENINGS PER PLAN, NAILED SECURELY TO THE HEADER.
    - D. TWO (2) STORY HIGH FOYER BALLS LESS THAN 9"-0" WIDE: EXTEND 9'-1/2" x 9'-1/4" PSL PERMIR WITH THREE (3) 2x4 FLAT PLATES ACROSS THE ENTIRE BALL. LOCATE THE BEAM NEAR MIDHEIGTH OF THE BALL AT OR NEAR FIRST FLOOR TOP PLATE.

NOTE: SEE SPECIAL DESIGN OR ENGINEER FOR BALLS TALLER THAN 16'-0". WHEN OPENINGS IN HIGH BALLS EXCEED 6'-0" IN WIDTH, OR IF THE BALL CANNOT BE CONSTRUCTED USING ANY OF THE METHODS NOTED.

12. LOWER STUD BALLS FOR SUPPORTING TWO (2) FLOORS, ROOF AND CEILING.
    - A. INTERIOR BALLS (10'-0" BALL HEIGHT, MAX.)
      - a) LOAD BEARING..... 2x4 * 12" O.C. OR 2x6 * 16" O.C.
      - b) NON-LOAD BEARING..... 2x4 * 16" O.C.
    - B. EXTERIOR BALLS
      - USE 2x6 * 16" O.C. OR 2X4 * 12" O.C. WITH 7/16" x 4' x 8' OSB SHEATHING ON EXTERIOR FACE OF ALL STUD BALLS.
    - C. WIND LOAD REQUIREMENTS ARE PLAN SPECIFIC UNLESS NOTED OTHERWISE.
13. HEADERS IN LOAD BEARING BALLS SHALL BE AS SHOWN UNLESS NOTED OTHERWISE ON PLANS.
    - A. INTERIOR
      - a) SPANS UP TO 2'-6"..... (2) 2x8
      - b) SPANS 2'-6" TO 3'-6"..... (2) 2x10
      - c) SPANS 3'-6" TO 4'-6"..... (2) 2x12
      - d) SPANS 4'-6" OR MORE..... SEE PLAN
    - B. EXTERIOR
      - a) SPANS UP TO 2'-0"..... (2) 2x8
      - b) SPANS 2'-0" TO 3'-0"..... (2) 2x10
      - c) SPANS 3'-0" TO 4'-0"..... (2) 2x12
      - d) SPANS 5'-0" OR MORE..... SEE PLAN
14. WHEN CEILING JOISTS ARE PARALLEL TO AN EXTERIOR BALL AND RAFTERS BEAR ON THIS EXTERIOR STUD BALL TOP PLATE, TIE THE RAFTERS NEAR THE TOP PLATE TO CEILING JOISTS WITH 2x4 BRACES 4'-0" O.C.
15. AT ALL BAY WINDOWS, BACH PANEL SHALL BE NAILED TO EACH ADJACENT PANEL WITH FIVE (5) 8d NAILS OR TIED TOGETHER WITH METAL STRAPPING NAILED AT FOUR (4) LOCATIONS BETWEEN FLOORS WITH A MINIMUM OF TWO (2) 8d NAILS INTO EACH PANEL AT EACH STRAP.
16. AT ALL STAIRS, EVERY STUD AT EACH STRINGER MUST BE NAILED TO EACH STRINGER WITH A MINIMUM OF TWO (2) 8d NAILS. THIS WILL AVOID CREAKING BETWEEN BALLBOARD AND TOP OF BASE HOLDING DUE TO VERTICAL OSCILLATION OF STAIR STRINGERS. MINIMUM DEPTH OF STRINGERS NOT LESS THE 9-1/2" AT NOTCHES.
17. ROOF TRUSSES THAT HAVE NON-BEARING PARTITIONS PASSING UNDER THEM SHOULD BE SHIPPED AND NAILED TO THE PARTITION PLATES TO AVOID CEILING-BALL CRACKING.
18. ROOF TRUSSES CLOSE TO SIDE BALL FRAMING AND USED AS DEAD WOOD FOR SHEETROCK BOARDS SHOULD BE NAILED TO THE BALL FRAMING TO PREVENT CEILING-BALL CRACKING.
19. GARAGE DOOR SIDE PANELS (LUGS) THAT EXTEND 4"-0" OR MORE IN FRONT OF THE FRONT HOUSE BALL AND ARE LESS THAN MINIMUM ALLOWED BY CURRENT CODE STANDARDS SHALL BE CONSTRUCTED PER DETAIL ON PLANS.
20. ALL STEEL COUPING SHALL BEAR ON CONCRETE MASONRY, OR STEEL ONLY. BEAMS THAT BEAR ON TOP OF STEEL COUPING SHALL BE WELDED TO THE COUPLING. WHERE STEEL COUPING BEAR ON CONCRETE OR MASONRY, UNLESS OTHERWISE NOTED, A 8/8" x 4"x2" x 4"x2" BASE PLATE SHALL BE USED TO SPREAD THE COUPLING LOAD ACROSS THE BEARING SURFACE. BASE PLATES SHALL BE BOLTED WITH FOUR (4) 1/2" DIAMETER ANCHOR BOLTS OR EXPANSION BOLTS TO CONCRETE OR MASONRY.
21. ALL EXTERIOR BALLS TO BE FULL WRAP 7/16" OSB.
22. TILE SHOULD BE INSTALLED ON A FLOOR STRUCTURE PREPARED IN ACCORDANCE WITH THE LATEST INFORMATION AVAILABLE BY THE TILE COUNCIL OF AMERICA. SPECIFIC DEFLECTION REQUIREMENTS APPLY. SOUTHERN DYNAMIC ENGINEERING + DESIGN, PLLC. HAS ONLY SIZED THE STRUCTURE FOR NORMAL FLOOR LOAD DESIGN UNLESS SPECIFICALLY STATED.
23. SEE TABLE R602.3(5) OF THE CODE FOR A FASTENER SCHEDULE FOR STRUCTURAL MEMBERS.
24. WOOD BEAMS SHALL BE SUPPORTED BY METAL HANGERS OF ADEQUATE CAPACITY WHERE FRAMING INTO BEAMS OR LEDGERS. THE ALLOWABLE LOAD CAPACITY OF THE HANGER SHALL BE EQUAL TO OR GREATER THAN THE LOAD SPECIFIED ON THE PLAN. WHERE NO LOAD IS SPECIFIED, THE "LIGHTEST" AVAILABLE HANGER FOR THE APPLICATION IS ACCEPTABLE.
25. ALL STRUCTURAL FRAMING LUMBER EXPOSED DIRECTLY TO THE WEATHER OR BEARING DIRECTLY ON EXTERIOR MASONRY PIERS OR CONCRETE SHALL BE TREATED. ALL WOOD IN CONTACT WITH THE GROUND IS TO BE GROUND CONTACT APPROVED. ALL WOOD EXPOSED DIRECTLY TO THE WEATHER SHALL BE PROTECTED TO PREVENT THE OCCURRENCE OF ROT.
26. UNLESS OTHERWISE DETAILED, ALL STICK BUILT "FALSE CHIMNEYS" SHALL BE CONSTRUCTED WITH 2x4 STUDS * 12" O.C. BALLOON FRAMED FROM THE ATTIC CEILING OR FLOOR. FASTEN 7/16" O.S.B. PLYWOOD ON ALL EXT



SHEET
A5

REVISIONS

DATE
July 5, 2023

DRAWN BY
S. BROOKS

Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

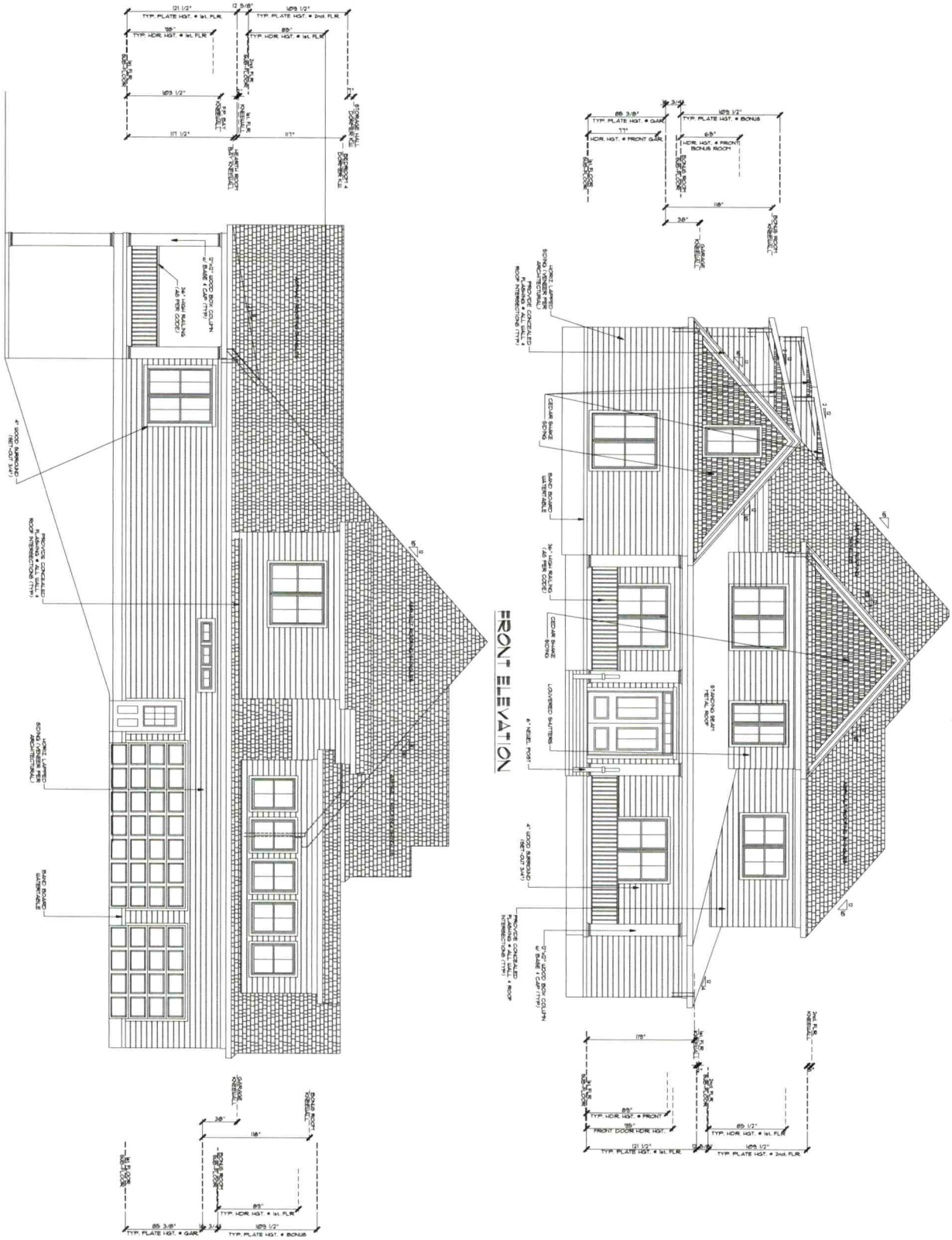
PROJECT:

IQ Custom Homes

Brer Fox Trail-Lot 2

Moorseville, NC 28117

SEAL FOR STRUCTURAL ONLY



ELEVATIONS

SCALE 1/4" = 1'-0"

SHEET
A4

REVISIONS

DATE
JUN 5, 2023

DRAWN BY
S. BROOKS

Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

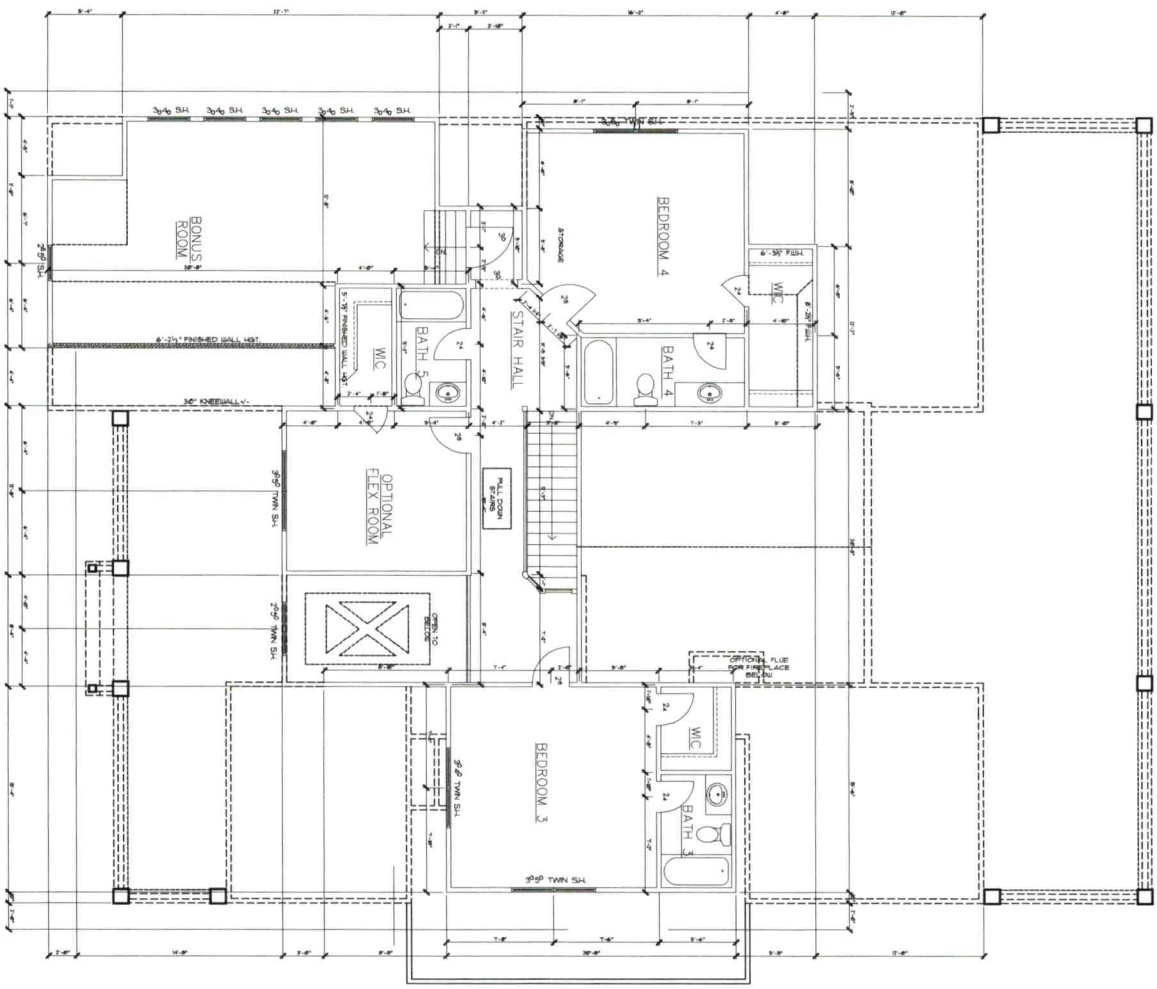
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SECOND FLOOR

SQUARE FOOTAGE	
1st. FLOOR HEATED	2409
2nd. FLOOR HEATED	1855
TOTAL HEATED SQ. FT.	4,264
BASEMENT FLOOR HEATED	1855
BASEMENT MECH/STORAGE	594
BASEMENT BARE ROOM	314
COVERED FRONT PORCH	143
COVERED REAR PORCH	143
BASEMENT COVERED REAR PORCH	143
TOTAL UNHEATED SQ. FT.	1,376
TOTAL UNDER ROOF SQ. FT.	5,640

SHEET A3

REVISIONS

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DRAWN BY: S. BROOKS

Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

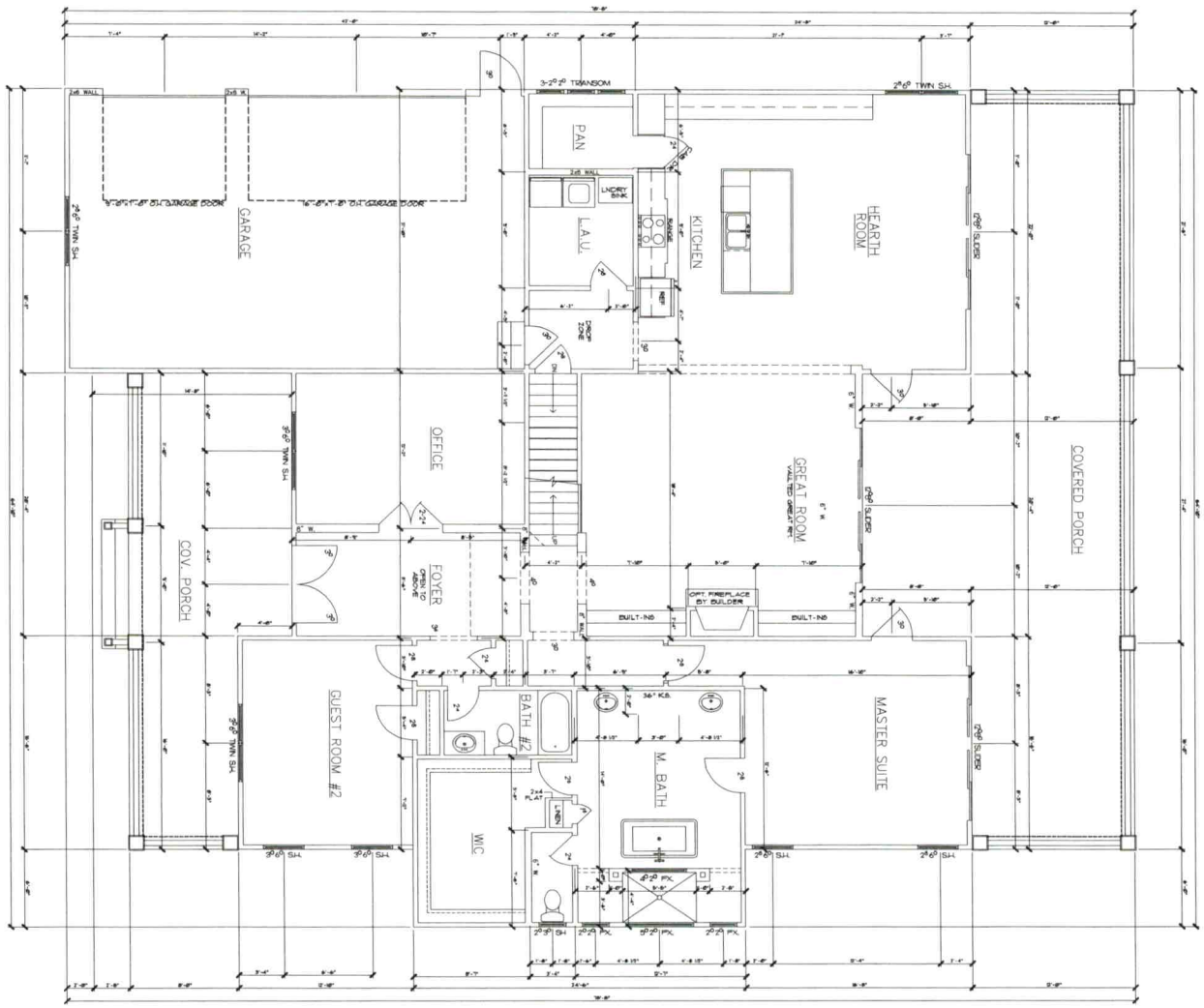
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FIRST FLOOR

SQUARE FOOTAGE	
1ST. FLOOR HEATED	2,408
2ND. FLOOR HEATED	1,860
BASEMENT FLOOR HEATED	1,079
TOTAL HEATED SQ. FT.	5,367
BASEMENT MECH/STORAGE	554
COVERED PORCH	274
COVERED REAR PORCH	153
BASEMENT COVERED REAR PORCH	153
TOTAL UNHEATED SQ. FT.	1,134
TOTAL UNDER ROOF SQ. FT.	9,651

SHEET A2

DRAWN BY: S. BROOKS

DATE: JULY 5, 2023

REVISIONS:

Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

PROJECT:

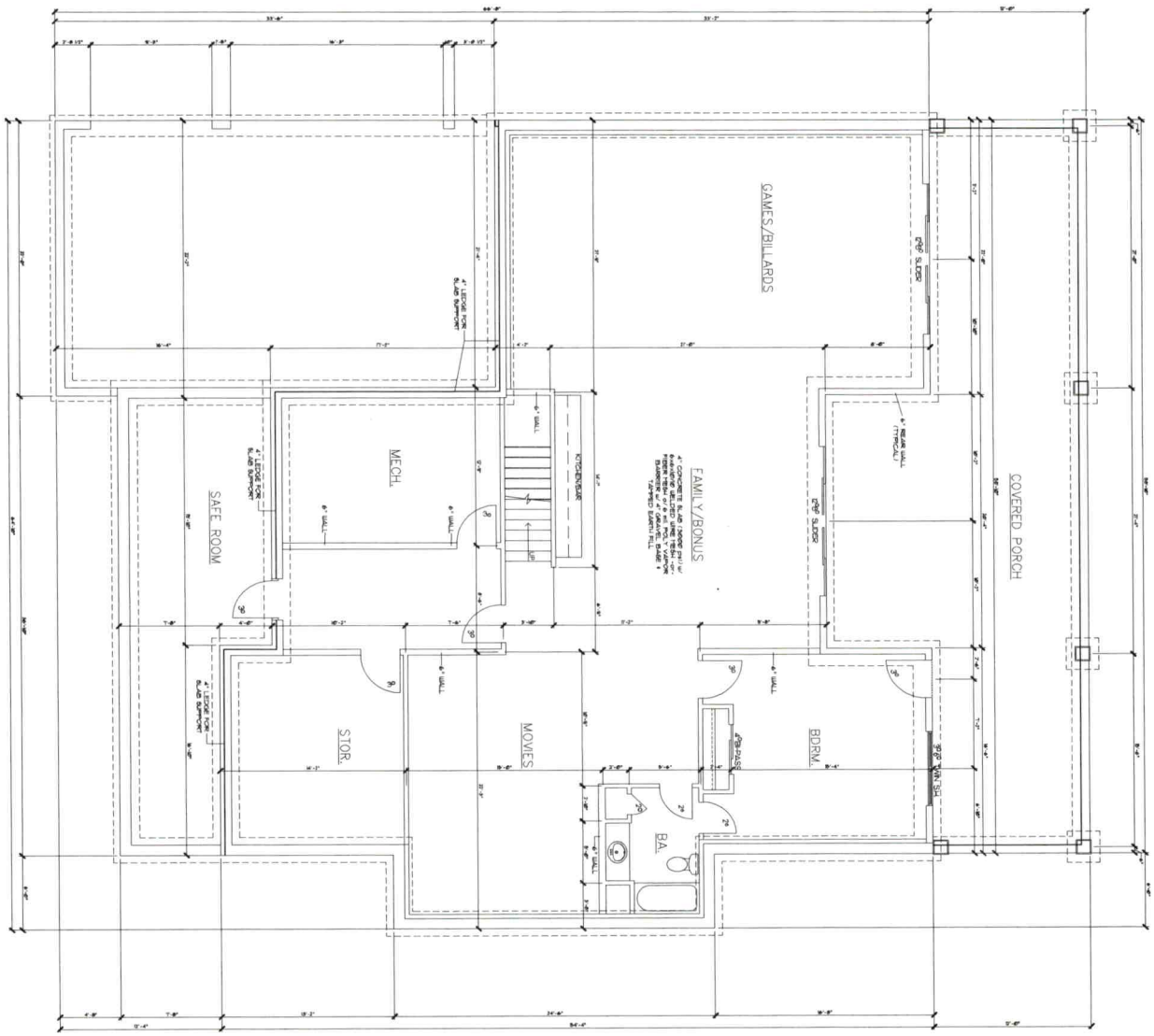
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FOOTING KEY	
1	24"X24"X8" CONC FTG.
2	30"X30"X12" CONC FTG. w/ 4 REBAR x 4'-0" O.C. E.W.
3	36"X36"X12" CONC FTG. w/ 4 REBAR x 4'-0" O.C. E.W.
4	42"X42"X8" CONC FTG. w/ 5 REBAR x 4'-0" O.C. E.W.
5	48"X48"X8" CONC FTG. w/ 5 REBAR x 4'-0" O.C. E.W.



FOUNDATION PLAN

SCALE 1/4" = 1'-0"

SHEET A1

REVISIONS:

DATE: July 5, 2023

DRAWN BY: S. BROOKS

Southern dynamic
Engineering and Design, PLLC
P.O. BOX 87, Waxhaw, NC 28173
Ph: (704) 900-4596 Fax: (704) 749-9439
Email: Scott@SouthernDynamic.com
Website: SouthernDynamic.com

PROJECT:

IQ Custom Homes

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Moorseville, NC 28117

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