

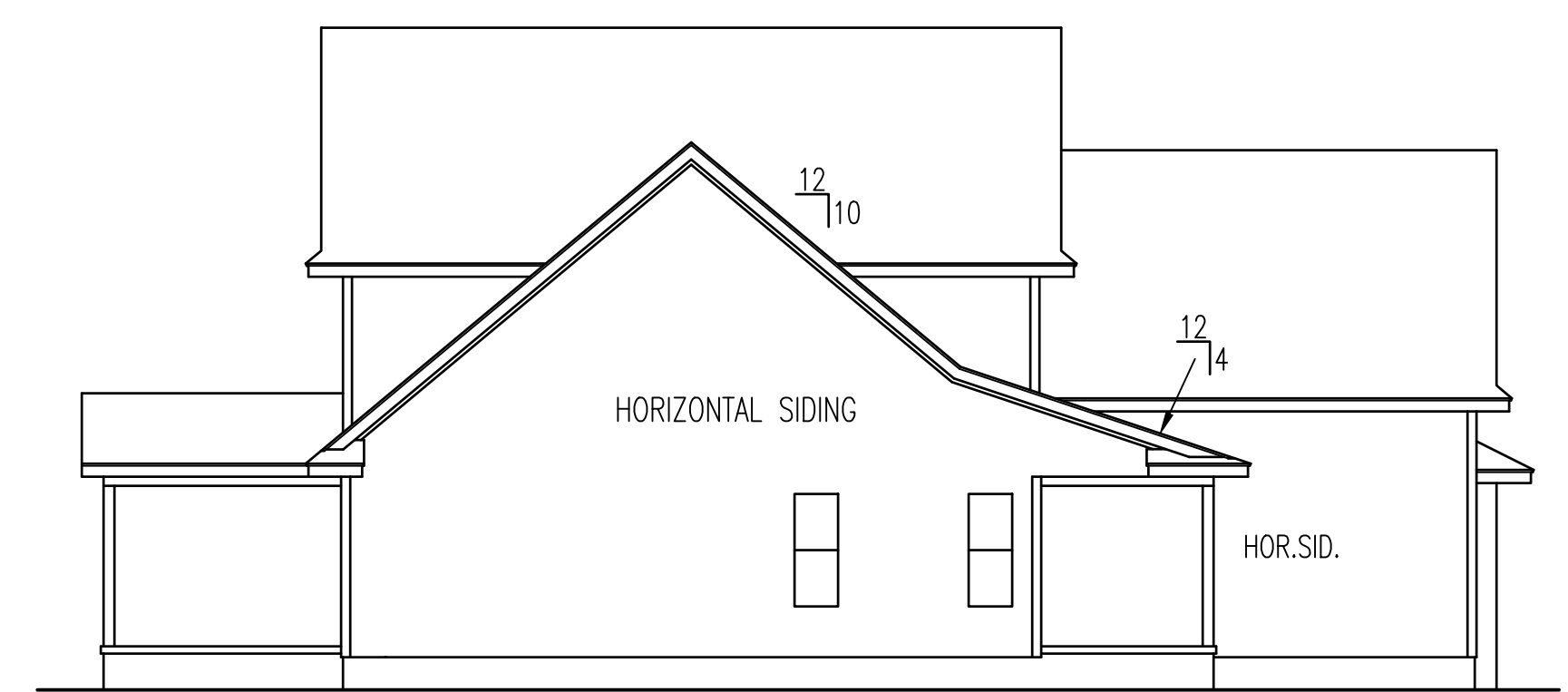
FRONT ELEVATION
SCALE: 1/4" = 1'-0"

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

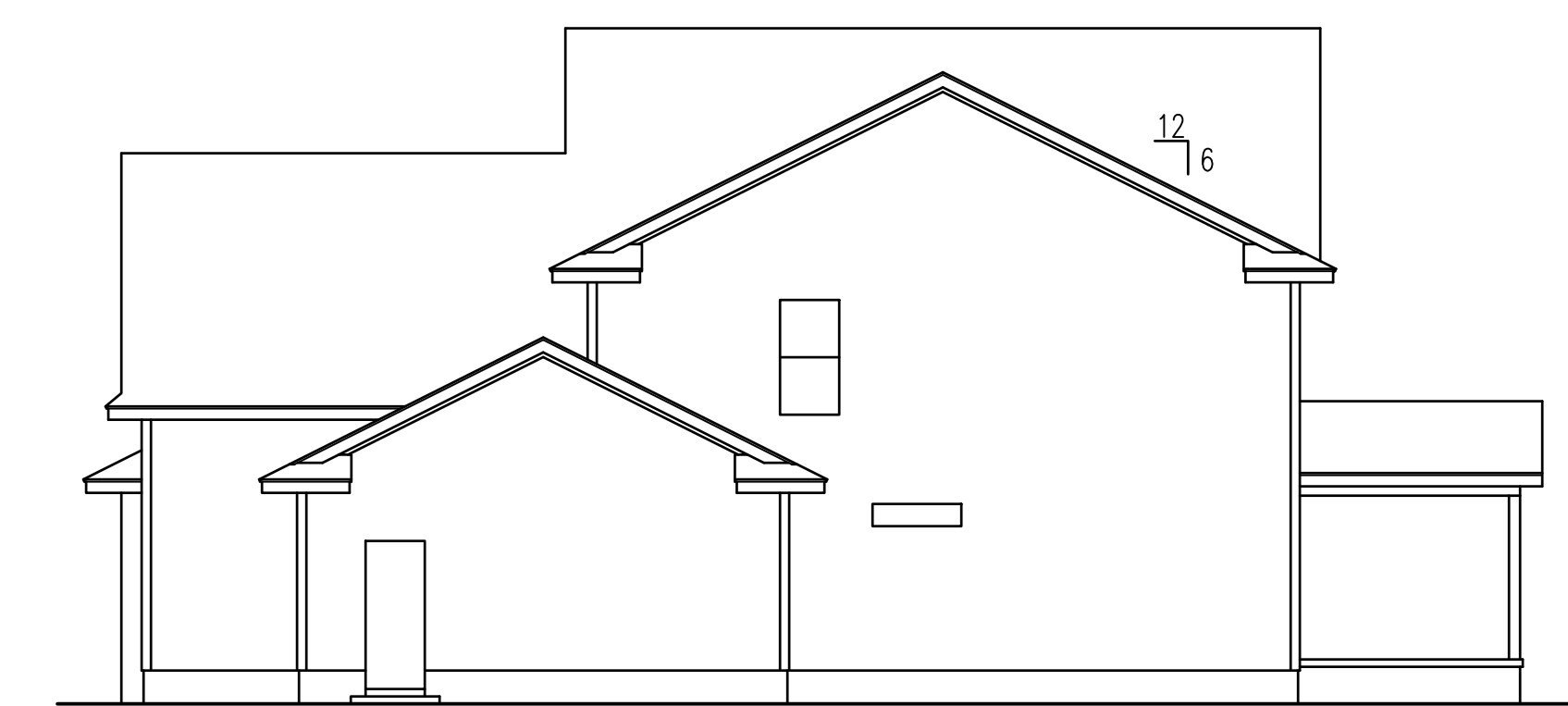
APPROVED
Limited building only review
Permit holder responsible for full compliance with the code

06/22/2021

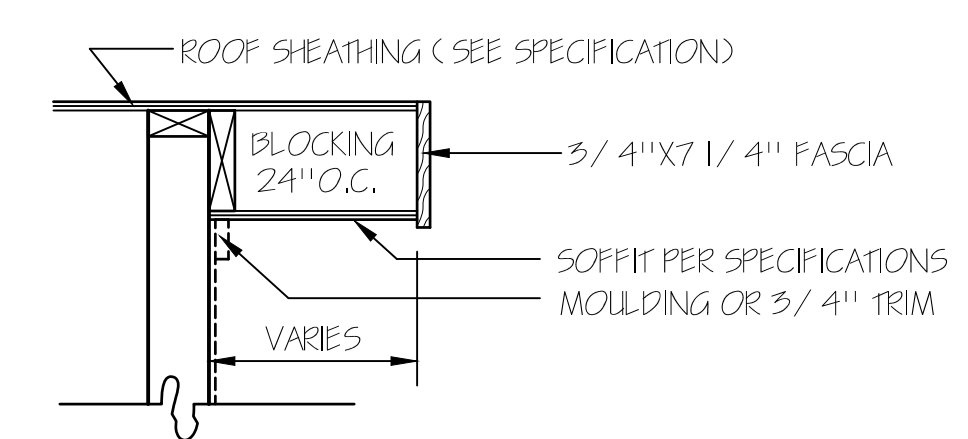
See Notes on foundation page



LEFT ELEVATION



RIGHT ELEVATION



RAKE DETAIL FOR GABLE ENDS



REAR ELEVATION
SCALE: 1/8" = 1'-0"

TM DESIGNS
RESIDENTIAL PLANS BY TINA MCFADDEN
(910) 354-4736 TMDESIGNS2016@GMAIL.COM

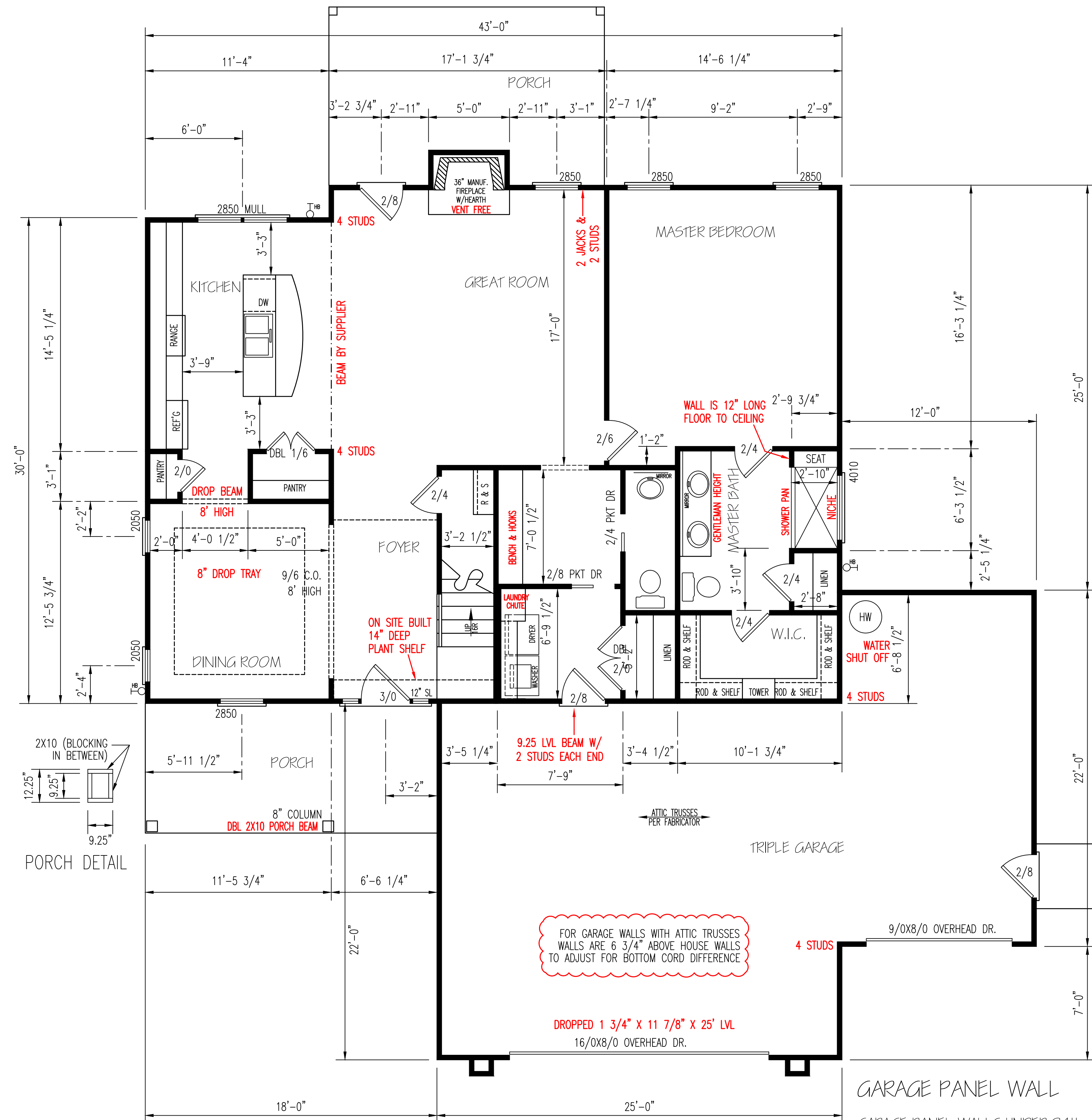
WATERMARK HOMES
EXCLUSIVE RESIDENCE DESIGN FOR:
NAME: CAROLINA PALMETTO III | LOT: 156 BALLARD WOODS

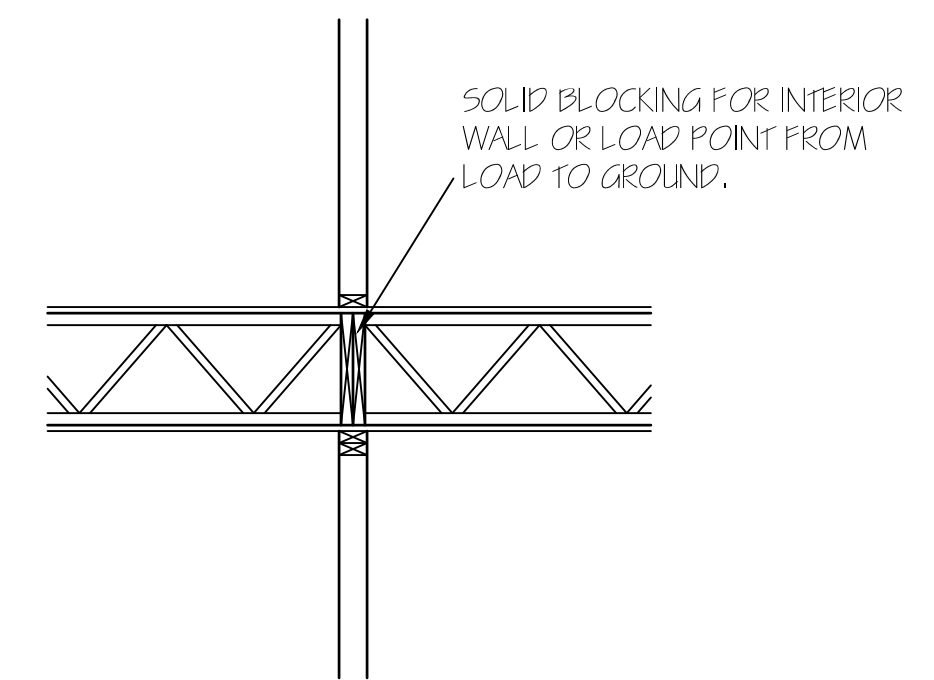
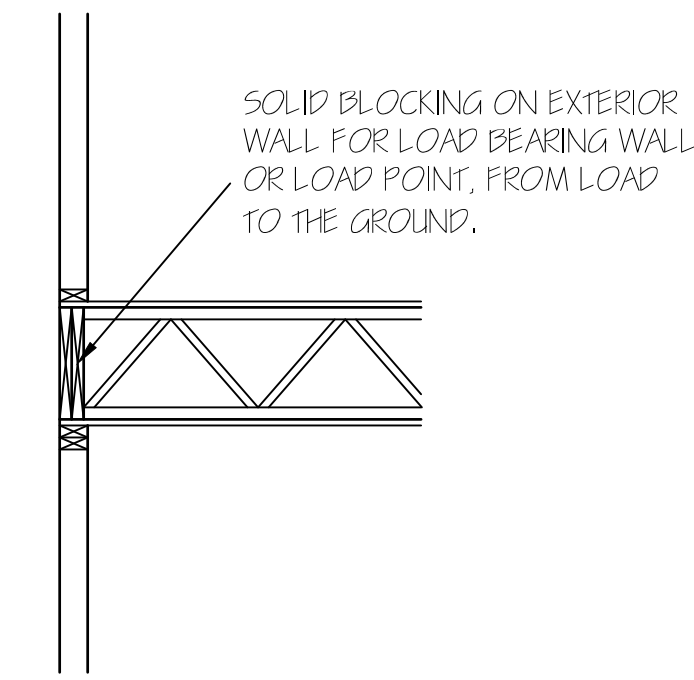
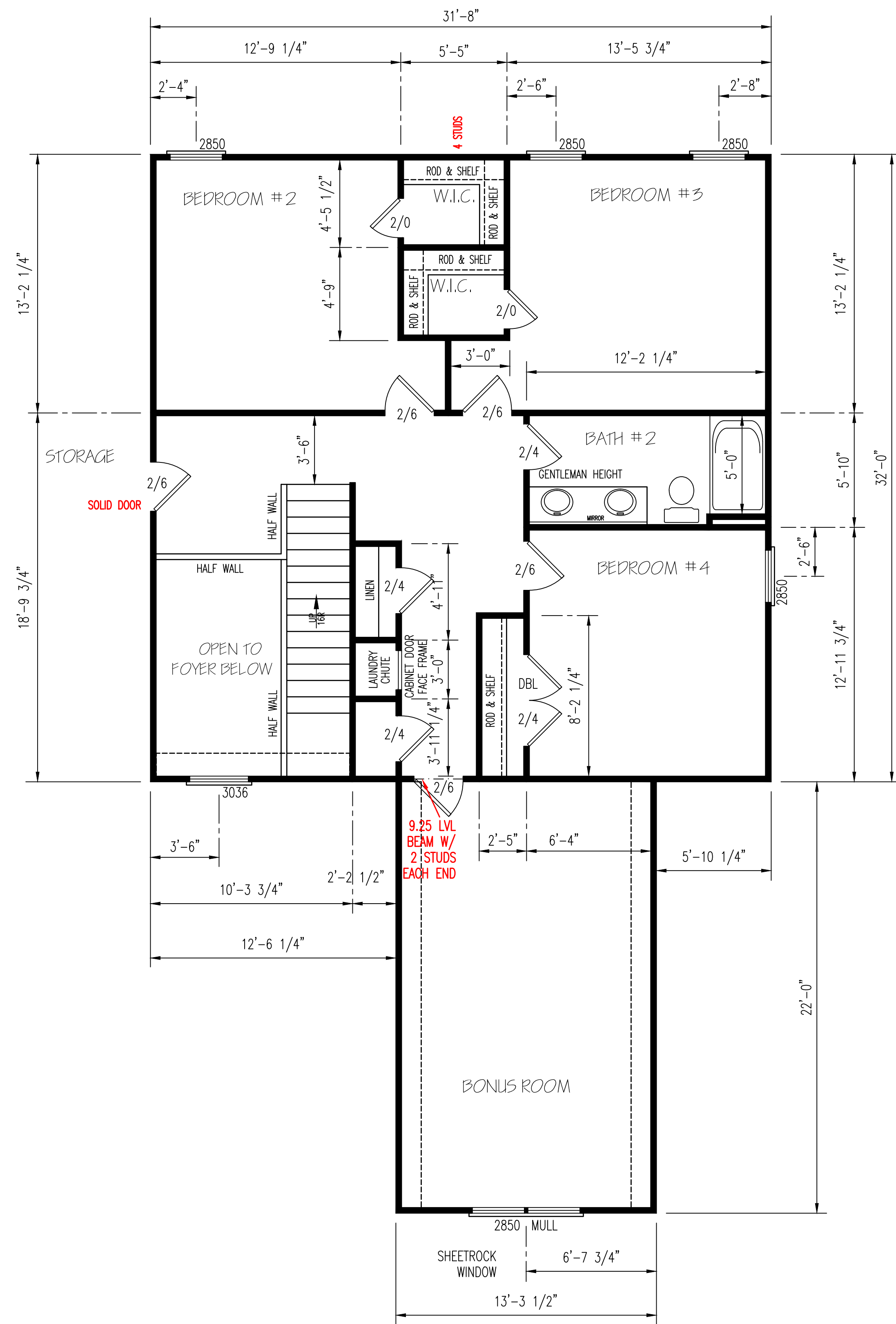
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TM DESIGNS WILL NOT BE LIABLE FOR ANY ERRORS NOT BROUGHT TO THEIR ATTENTION PRIOR TO THE START OF CONSTRUCTION. WHILE EVERY EFFORT WAS MADE IN THE PREPARATION OF THESE DRAWINGS AND DIMENSIONS TO AVOID ERRORS THE OWNER AND / OR BUILDER SHALL VERIFY ALL DIMENSIONS DETAILS, LOCAL AND STATE CODES.
I HEREBY CERTIFY THAT THIS DRAWING MEETS LOCAL CODES, 2012 INTERNATIONAL BUILDING CODES
THIS IS FOR THE CONSTRUCTION OF ONE HOUSE ON A SINGLE LOT, NOT TO BE REUSED

PLAN NUMBER
BG24-A03

OPTION #1

| | | | |
|---|--------|--------|---|
| 1 | GARAGE | R | F |
| | DATE: | 3/5/19 | |



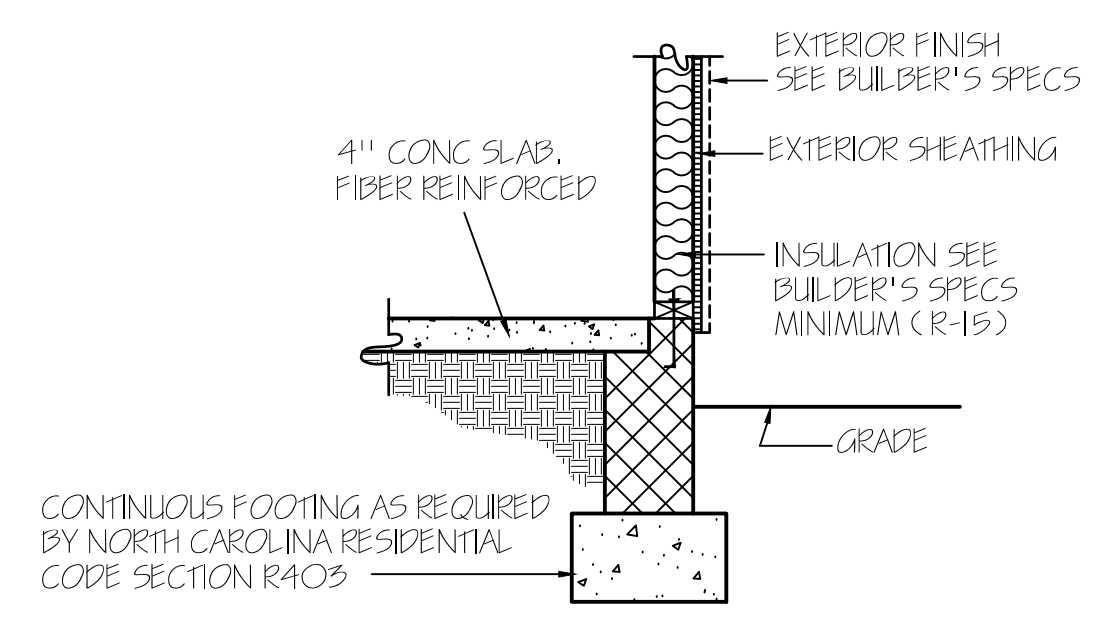
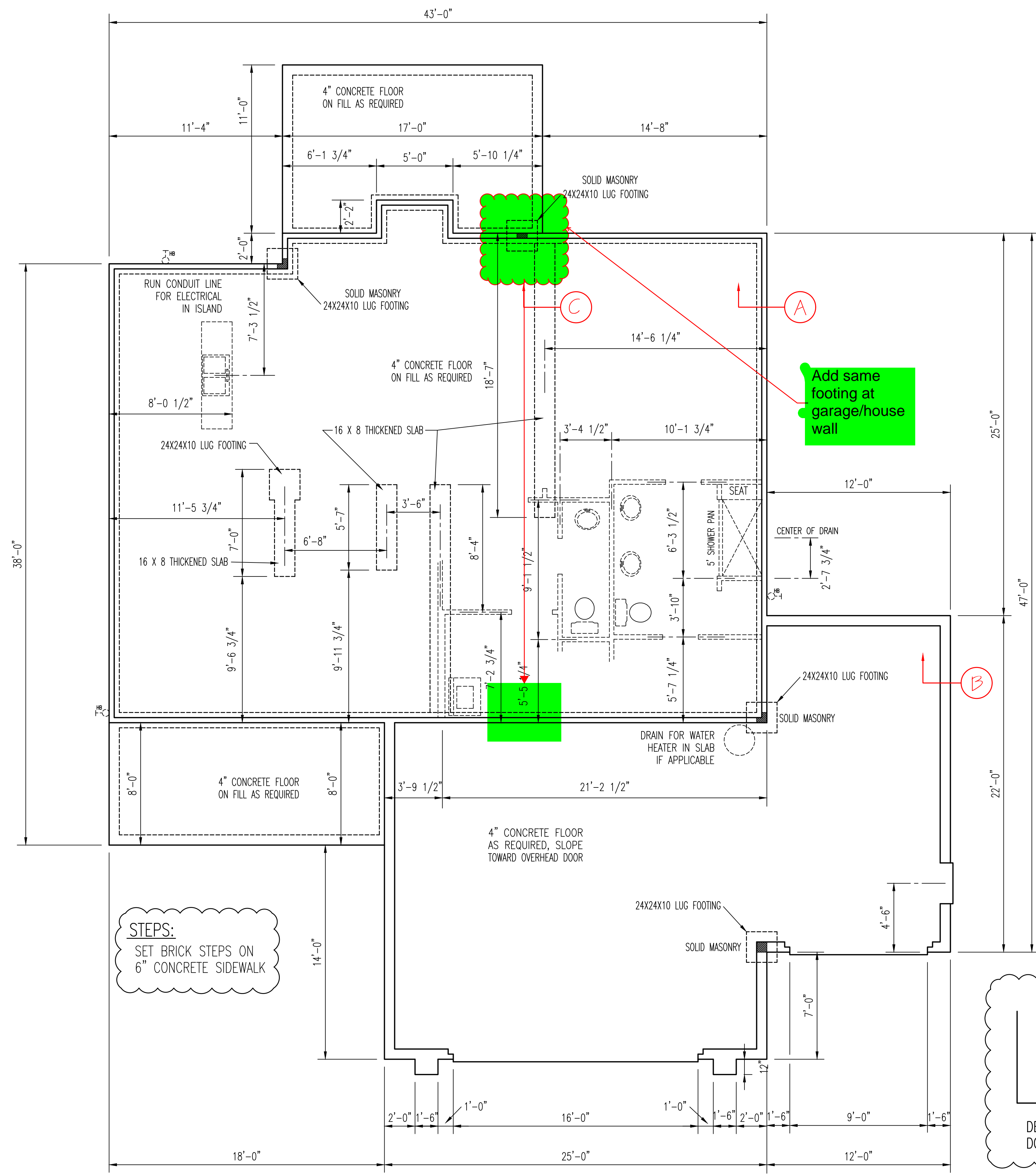


| EXTERIOR WALLS (2) 2X10 HEADERS | | |
|------------------------------------|-------------------|-------|
| CLEAR SPAN FOR HEADER | NUMBER OF STUDS | |
| | JACKS | KINGS |
| ALL DOOR & C.O. BELOW 4' | 1 | 1 |
| ALL DOOR & C.O. 4' TO 7'-11" | 2 | 2 |
| ALL DOOR & C.O. 8' AND ABOVE | SIZED BY ENGINEER | |

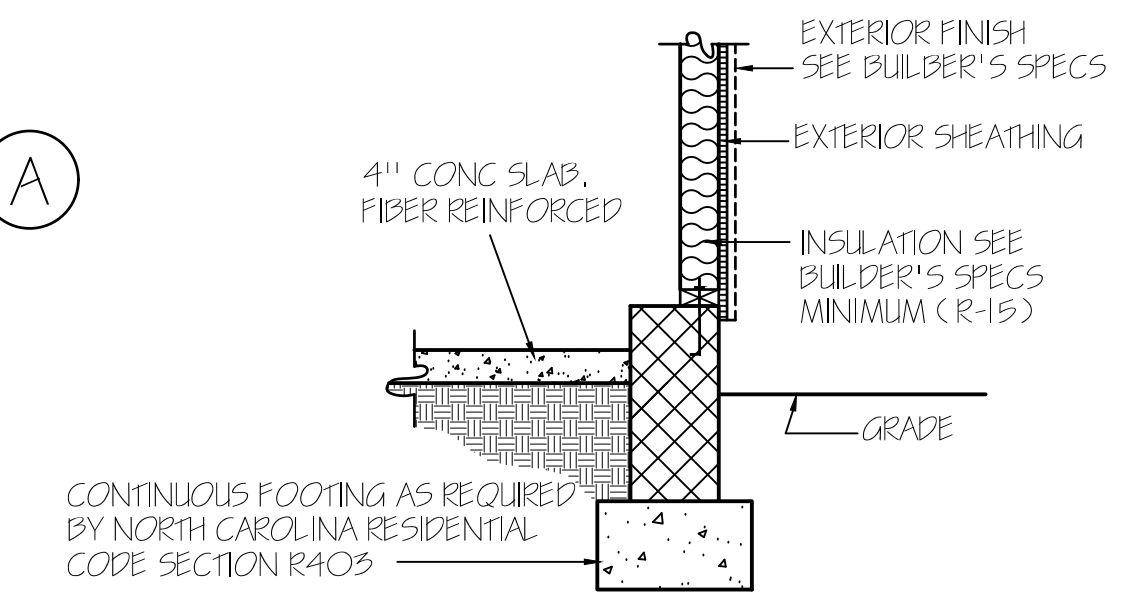
UNLESS NOTED OTHER WISE

HERO PACKAGE

SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



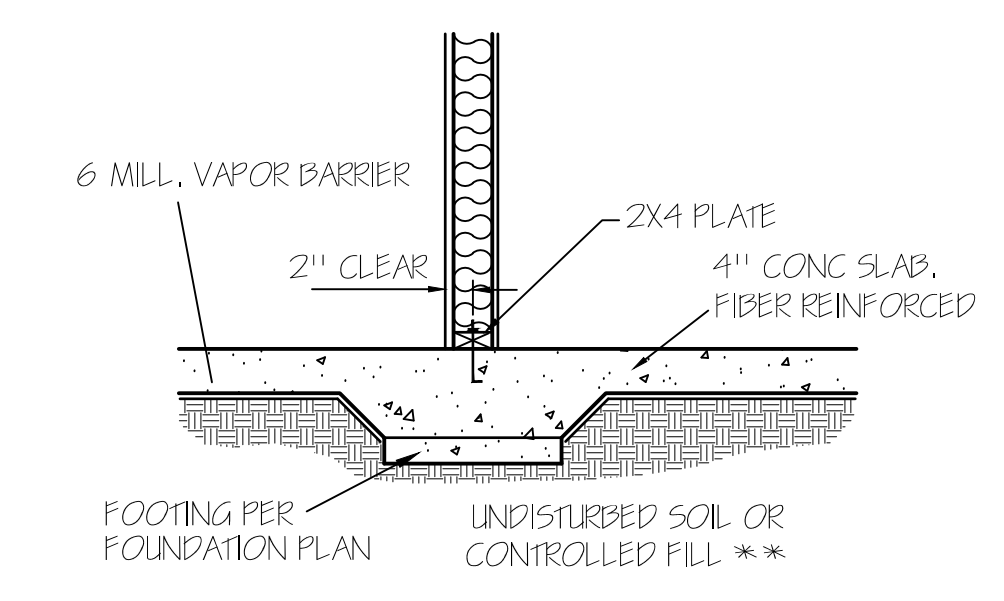
CONCRETE SLAB FLOOR — (A)



GARAGE WALL — (B)

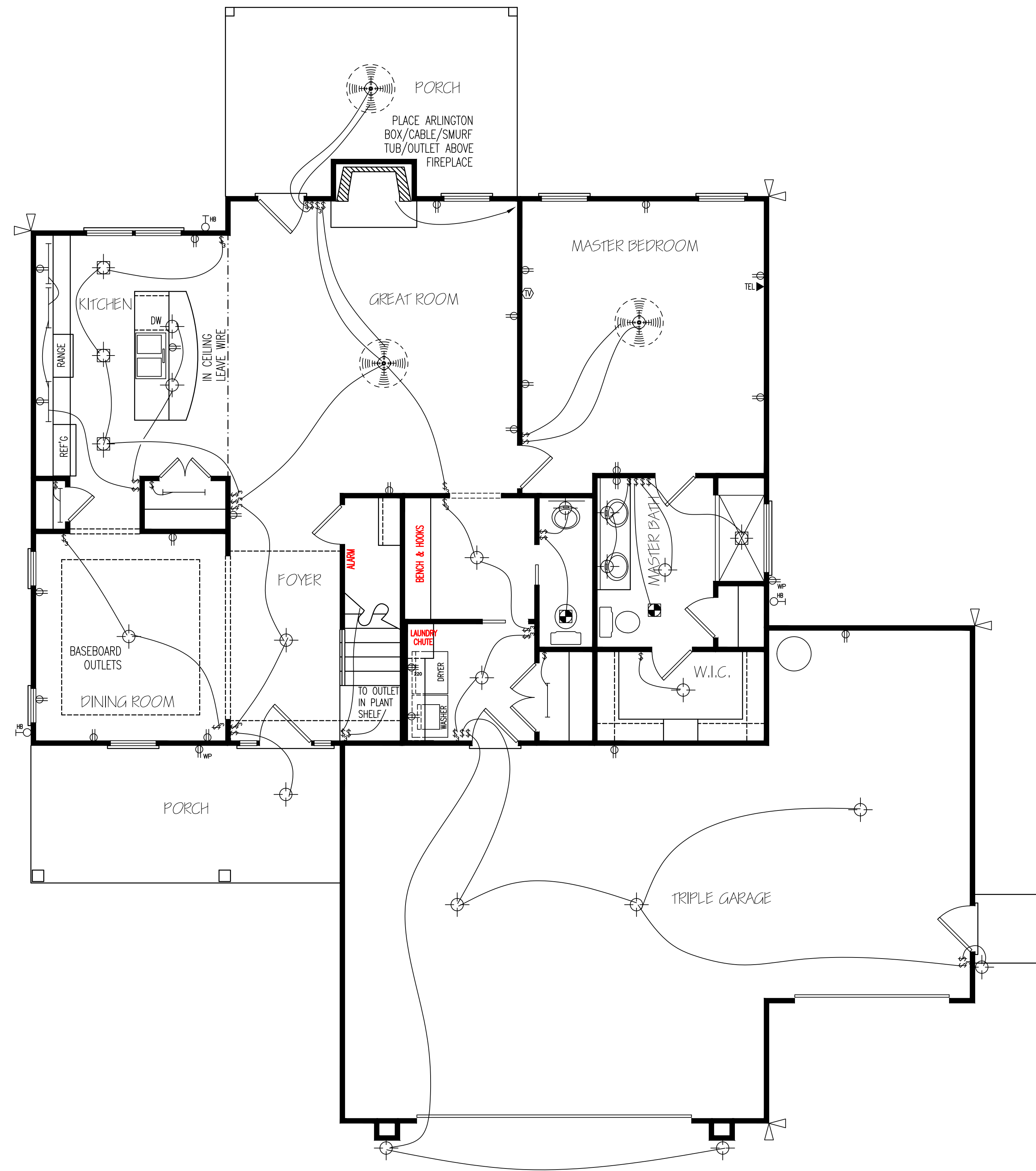
WALL ANCHOR OPTIONS
 USE EITHER ANCHOR BOLTS OR ANCHOR STRAPS
 - ANCHOR BOLTS: 1/2" DIA. BOLTS AT 6'-0" O.C.
 AND NOT MORE THAN 12" FROM CORNERS, EMBEDDED MIN. 7" INTO FOUNDATION

NOTE:
 FOUNDATION DETAILS SHOWN ARE BASED ON ASSUMED SOIL BEARING CAPACITY OF 2000 PSF. LOCAL SITE CONDITIONS MUST BE INVESTIGATED. ALL FOOTING TO BE LOCATED BELOW FROST DEPTH.



LOAD BEARING WALL THICKENED SLAB — (C)

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



NOTE:
 NO SURROUND SOUND SECURITY SYSTEM
 NO CAMERA
 NO UNDER CABINET LIGHTS IN KITCHEN

HERO PACKAGE

FIRST FLOOR ELECTRICAL LAYOUT

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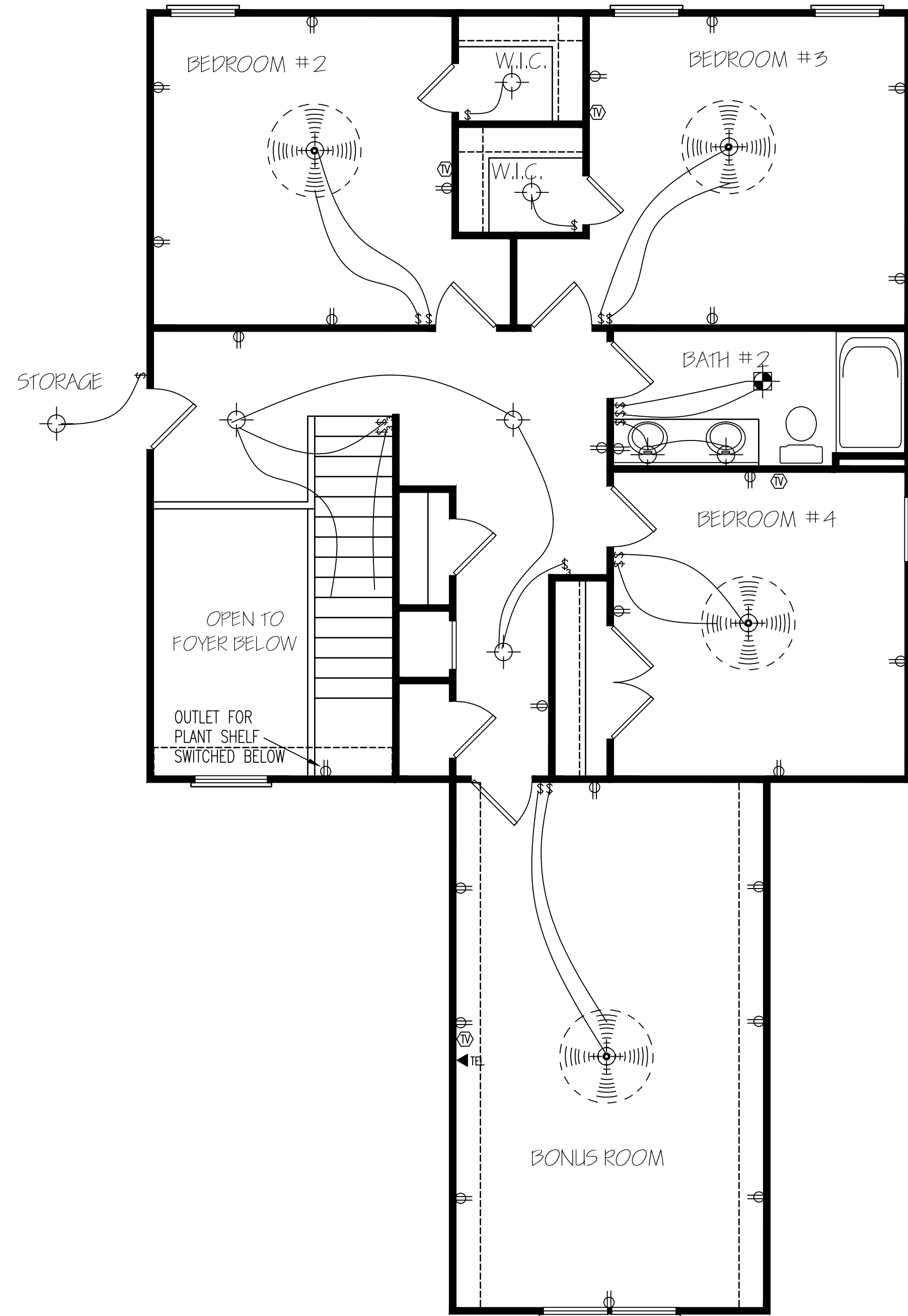
I HEREBY CERTIFY THAT THIS DRAWING MEETS LOCAL CODES, 2012 INTERNATIONAL BUILDING CODES

THIS IS FOR THE CONSTRUCTION OF ONE HOUSE ON A SINGLE LOT, NOT TO BE REUSED

PLAN NUMBER
 BG24-A03

OPTION #1

| | | | |
|-----|--------|---------|---|
| E-1 | GARAGE | R | F |
| | DATE: | 11/4/20 | |



SECOND FLOOR
ELECTRICAL LAYOUT

HERO PACKAGE

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T M DESIGNS WILL NOT BE LIABLE FOR ANY ERRORS NOT BROUGHT TO THEIR ATTENTION PRIOR TO THE START OF CONSTRUCTION, WHILE EVERY EFFORT WAS MADE IN THE PREPARATION OF THESE DRAWINGS AND DIMENSIONS TO AVOID ERRORS THE OWNER AND/OR BUILDER SHALL VERIFY ALL DIMENSIONS, DETAILS, LOCAL AND STATE CODES.

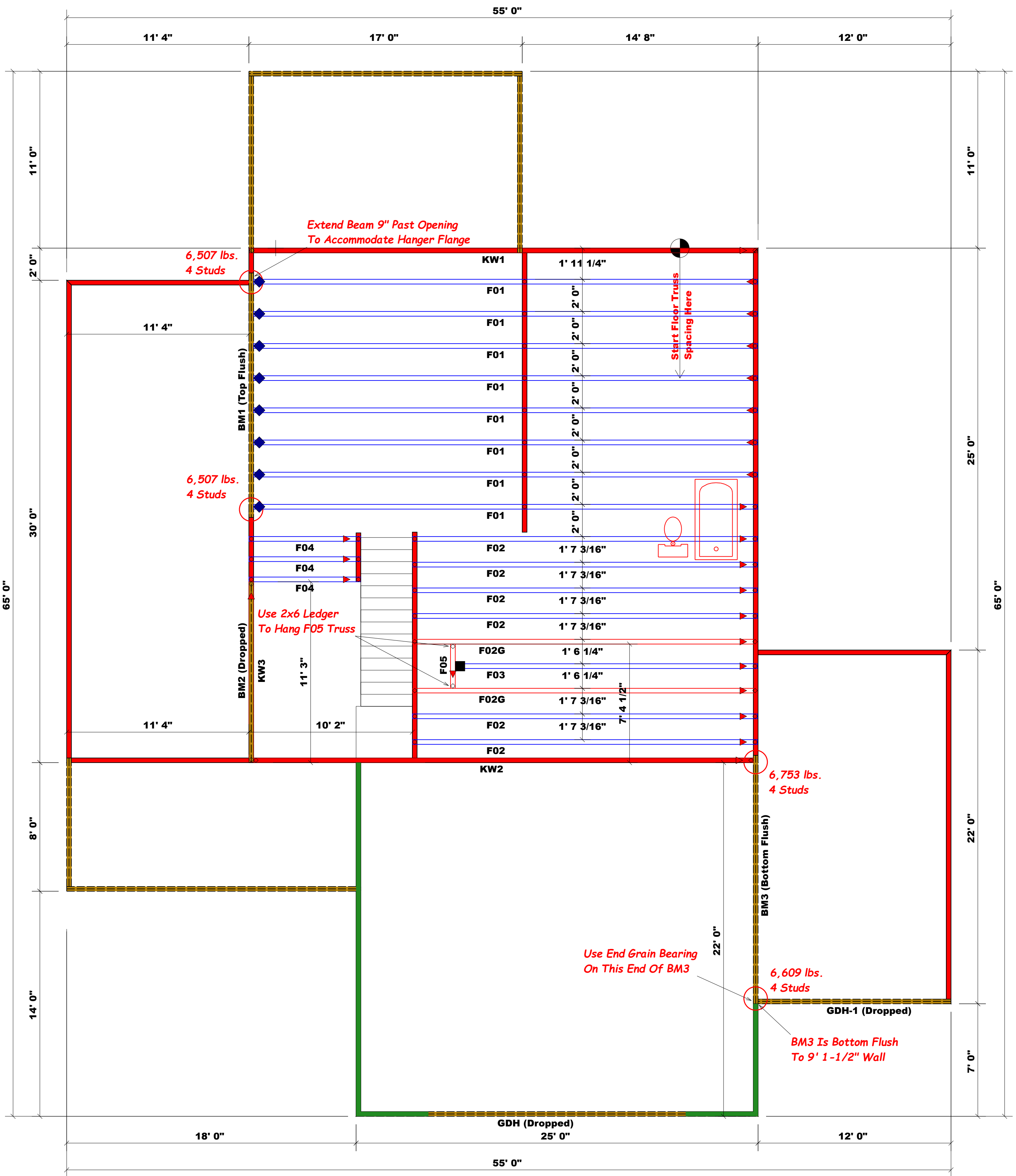
I HEREBY CERTIFY THAT THIS DRAWING MEETS LOCAL CODES, 2012 INTERNATIONAL BUILDING CODES

THIS IS FOR THE CONSTRUCTION OF ONE HOUSE ON A SINGLE LOT, NOT TO BE REUSED

PLAN NUMBER
BG24-A03

OPTION #1

| | | | |
|-----|--------|---------|---|
| E-2 | GARAGE | R | F |
| | DATE: | 11/4/20 | |



Hatch Legend

| | |
|--|----------------------------|
| | Garage Walls Raised 6-3/4" |
|--|----------------------------|

▲ = Denotes Left End of Truss
(Reference Engineered Truss Drawing)
Do Not Erect Trusses Backwards

All Truss Reactions are Less than 3,000 lbs. Unless Noted Otherwise.

-- Denotes Reaction Greater than 3,000 lbs.

Truss Placement Plan
SCALE: NTS

HANGER LEGEND

| | |
|--|---------------------------------|
| | = USP MSH422 / Strap Hanger |
| | = USP JUS414 / Single 4x Hanger |

Beam Legend

| PlotID | Length | Product | Plies | Net Qty |
|--------------------|--------|-----------------------------|-------|---------|
| BM2 (Dropped) | 12' 0" | 1-3/4"x 9-1/4" LVL Kerto-S | 2 | 2 |
| GDH (Dropped) | 25' 0" | 1-3/4"x 11-7/8" LVL Kerto-S | 2 | 2 |
| GDH-1 (Dropped) | 12' 0" | 1-3/4"x 11-7/8" LVL Kerto-S | 2 | 2 |
| BM1 (Top Flush) | 16' 0" | 1-3/4"x 16" LVL Kerto-S | 2 | 2 |
| BM3 (Bottom Flush) | 16' 0" | 1-3/4"x 16" LVL Kerto-S | 2 | 2 |

LOAD CHART FOR JACK STUDS
(BASED ON TABLES R502.5(1) & (2))
NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADS/CORNER

| END REACTION (UP TO) HEADS/CORNER | END REACTION (UP TO) HEADS/CORNER | END REACTION (UP TO) HEADS/CORNER |
|-----------------------------------|-----------------------------------|-----------------------------------|
| 1700 | 2550 | 3400 |
| 3400 | 5100 | 6800 |
| 5100 | 7650 | 10200 |
| 6800 | 10200 | 13600 |
| 8500 | 12750 | 17000 |
| 10200 | 15300 | |
| 11900 | | |
| 13600 | | |
| 15300 | | |

| | |
|------------------|-------------------------------|
| BUILDER | Watermark Homes |
| JOB NAME | Lot 156 Ballard Woods |
| PLAN | The Palmetto III / 3 Car / GR |
| SEAL DATE | 2/15/2021 |
| QUOTE # | Quote # |
| JOB # | J0221-0984 |

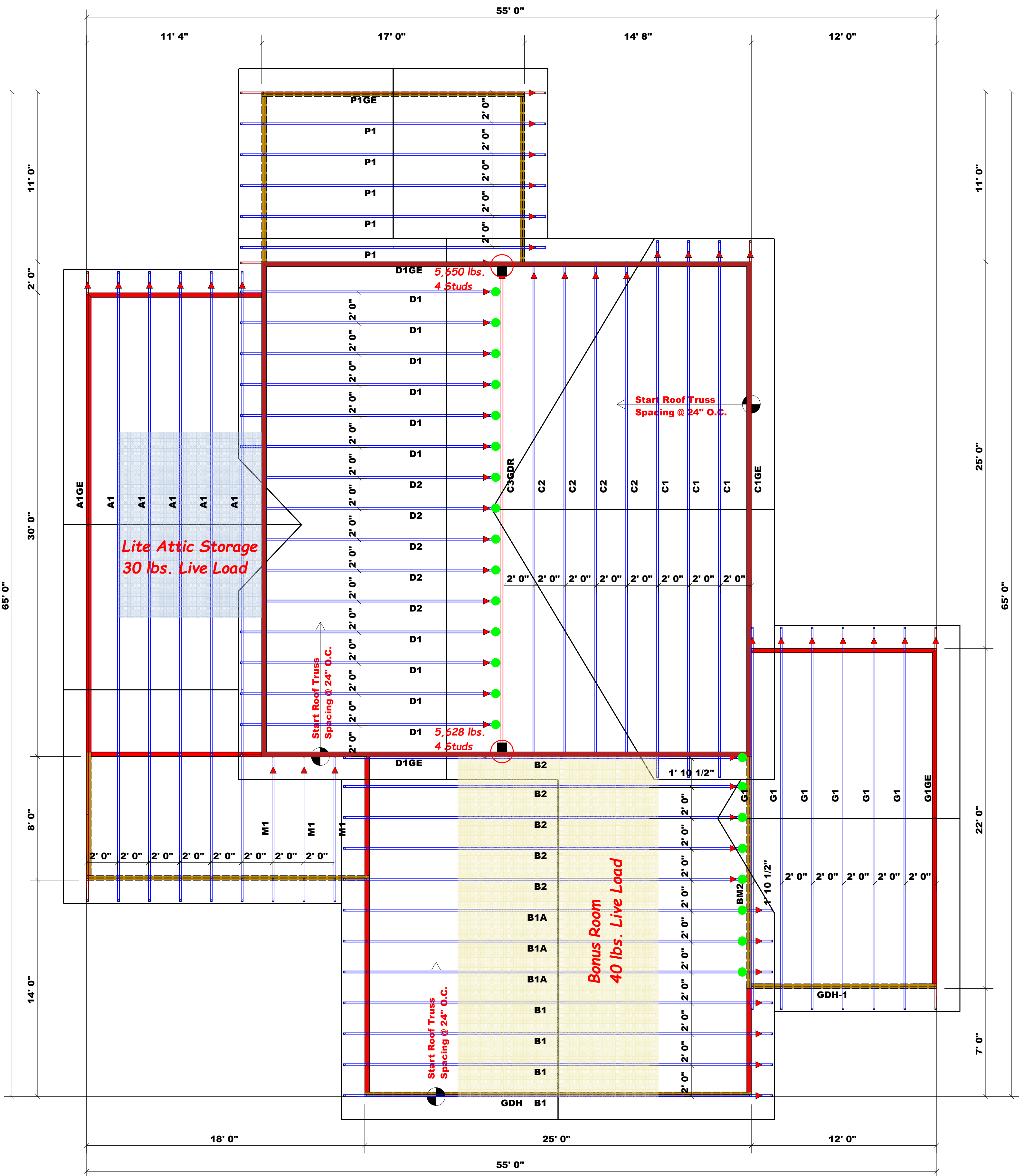
| | |
|-------------------|-----------------------|
| CITY / CO. | Harnett Co. / Harnett |
| ADDRESS | Lot 156 Ballard Woods |
| MODEL | Floor |
| DATE REV. | 2/15/2021 |
| DRAWN BY | Curtis Quick |
| SALES REP. | Anthony Williams |

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

Signature: Curtis Quick
Curtis Quick

comTECH
ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park
Fayetteville, N.C. 28309
Phone: (910) 864-8787
Fax: (910) 864-4444



Hatch Legend

| | |
|--|--|
| | 2nd Floor Bearing Walls @ 8' 1-1/2" |
| | = Denotes Left End of Truss (Reference Engineered Truss Drawing) Do Not Erect Trusses Backwards |

All Truss Reactions are Less than 3,000 lbs. Unless Noted Otherwise.

-- Denotes Reaction Greater than 3,000 lbs.

Truss Placement Plan
SCALE: 1/4" = 1'

HANGER LEGEND

| | |
|--|--------------------------------|
| | = USP LUGT2 / 2-Ply Tie-Down |
| | = USP HUS26 / Single 2x Hanger |

LOAD CHART FOR JACK STUDS
(BASED ON TABLES R502.5(1) & (2))
NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADS/GIRDS

| END REACTION (UP TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) | END REACTION (UP TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) | END REACTION (UP TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) (DOWN TO) |
|--|--|--|
| 1700 | 2550 | 3400 |
| 3400 | 5100 | 6800 |
| 5100 | 7650 | 10200 |
| 6800 | 10200 | 13600 |
| 8500 | 12750 | 17000 |
| 10200 | 15300 | |
| 11900 | | |
| 13600 | | |
| 15300 | | |

| | |
|------------------|-------------------------------|
| BUILDER | Watermark Homes |
| JOB NAME | Lot 156 Ballard Woods |
| PLAN | The Palmetto III / 3 Car / GR |
| SEAL DATE | Plan Date: 3/5/19 |
| QUOTE # | Quote # |
| JOB # | J0221-0985 |

| | |
|-------------------|-----------------------|
| CITY / CO. | Harnett Co. / Harnett |
| ADDRESS | Lot 156 Ballard Woods |
| MODEL | Roof |
| DATE REV. | 2/15/2021 |
| DRAWN BY | Curtis Quick |
| SALES REP. | Anthony Williams |

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package or online @ sbcindustry.com

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

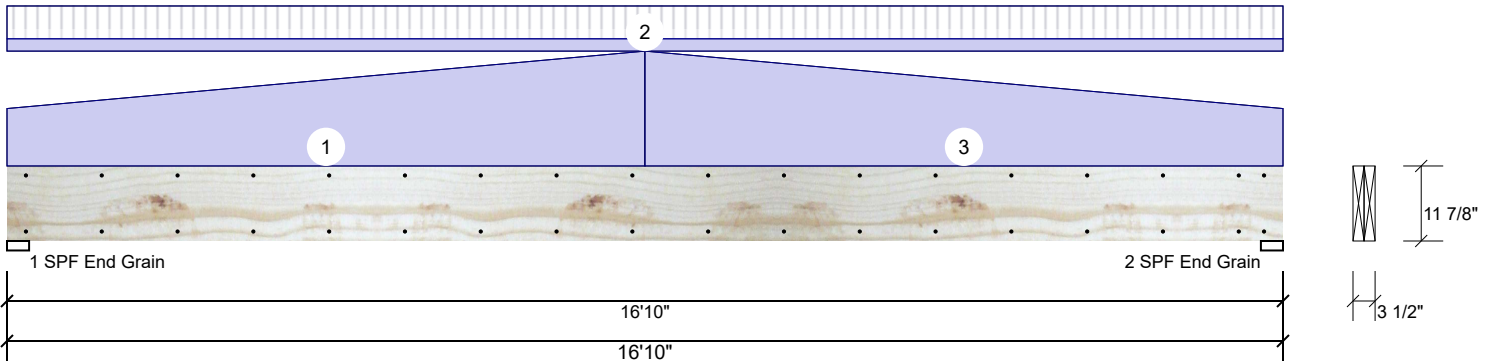
Signature: Curtis Quick
Curtis Quick

ROOF & FLOOR TRUSSES & BEAMS

Reilly Road Industrial Park
Fayetteville, N.C. 28309
Phone: (910) 864-8787
Fax: (910) 864-4444

GDH Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

| | | | |
|---------------------|---------------|----------------|-------------|
| Type: | Girder | Application: | Floor |
| Plies: | 2 | Design Method: | ASD |
| Moisture Condition: | Dry | Building Code: | IBC 2012 |
| Deflection LL: | 480 | Load Sharing: | No |
| Deflection TL: | 360 | Deck: | Not Checked |
| Importance: | Normal | | |
| Temperature: | Temp <= 100°F | | |

Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind | Const |
|-----|------|------|------|------|-------|
| 1 | 505 | 1593 | 0 | 0 | 0 |
| 2 | 505 | 1593 | 0 | 0 | 0 |

Bearings

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|-------------------|--------|------------|------------|-------|----------|-----------|
| 1 - SPF End Grain | 3.500" | 20% | 1593 / 505 | 2098 | L | D+L |
| 2 - SPF End Grain | 3.500" | 20% | 1593 / 505 | 2098 | L | D+L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|--------------|----------------|-----------|---------------|--------------|-------|------|
| Moment | 8972 ft-lb | 8'5" | 19911 ft-lb | 0.451 (45%) | D+L | L |
| Unbraced | 8972 ft-lb | 8'5" | 8974 ft-lb | 1.000 (100%) | D+L | L |
| Shear | 1849 lb | 15'7 3/8" | 8867 lb | 0.209 (21%) | D+L | L |
| LL Defl inch | 0.105 (L/1872) | 8'5 1/16" | 0.409 (L/480) | 0.260 (26%) | L | L |
| TL Defl inch | 0.464 (L/424) | 8'5 1/16" | 0.546 (L/360) | 0.850 (85%) | D+L | L |

Design Notes

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 10'5 1/4" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

| ID | Load Type | Location | Trib Width | Side | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|----|---------------|------------------|------------|------|----------|--------|-----------|----------|-------------|----------|
| 1 | Tapered Start | 0-0-0 | | Top | 105 PLF | 0 PLF | 0 PLF | 0 PLF | 0 PLF | Gable |
| | End | 8-5-0 | | Top | 210 PLF | 0 PLF | 0 PLF | 0 PLF | 0 PLF | |
| 2 | Tie-In | 0-0-0 to 16-10-0 | 1-6-0 | Top | 15 PSF | 40 PSF | 0 PSF | 0 PSF | 0 PSF | Roof |
| 3 | Tapered Start | 8-5-0 | | Top | 210 PLF | 0 PLF | 0 PLF | 0 PLF | 0 PLF | Gable |
| | End | 16-10-0 | | Top | 105 PLF | 0 PLF | 0 PLF | 0 PLF | 0 PLF | |
| | Self Weight | | | | 9 PLF | | | | | |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Metsä Wood
 301 Merritt 7 Building, 2nd Floor
 Norwalk, CT 06851
 (800) 622-5850
 www.metsawood.com/us
 ICC-ES: ESR-3633

Comtech, Inc.
 1001 S. Reilly Road, Suite #639
 Fayetteville, NC
 USA
 28314
 910-864-TRUS



This design is valid until 11/13/2022

GDH Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

| | |
|--------------------------|-----------|
| Capacity | 0.0 % |
| Load | 0.0 PLF |
| Yield Limit per Foot | 163.7 PLF |
| Yield Limit per Fastener | 81.9 lb. |
| Yield Mode | IV |
| Edge Distance | 1 1/2" |
| Min. End Distance | 3" |
| Load Combination | |
| Duration Factor | 1.00 |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/13/2022

Manufacturer Info

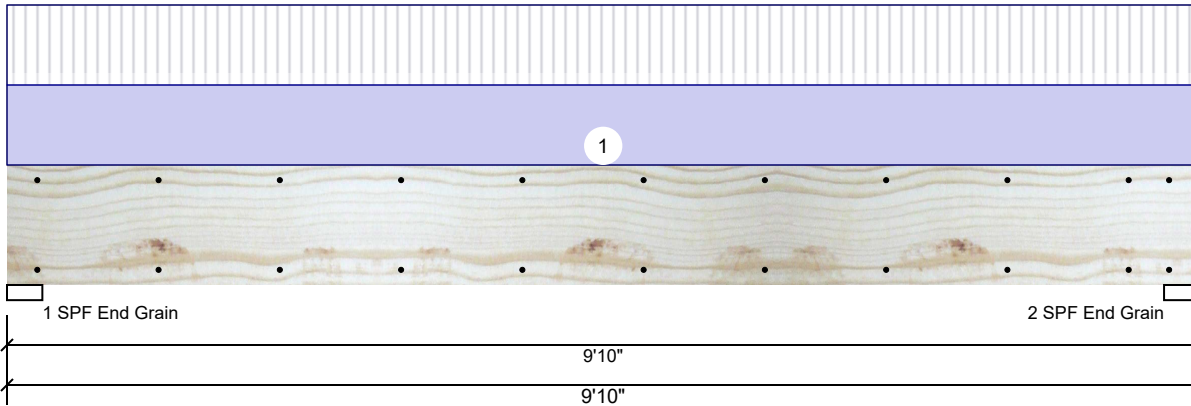
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 Norwalk, CT 06851
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 www.metsawood.com/us
 ICC-ES: ESR-3633

Comtech, Inc.
 1001 S. Reilly Road, Suite #639
 Fayetteville, NC
 USA
 28314
 910-864-TRUS



GDH-1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

| | | | |
|---------------------|---------------|----------------|-------------|
| Type: | Girder | Application: | Floor |
| Plies: | 2 | Design Method: | ASD |
| Moisture Condition: | Dry | Building Code: | IBC 2012 |
| Deflection LL: | 480 | Load Sharing: | No |
| Deflection TL: | 360 | Deck: | Not Checked |
| Importance: | Normal | | |
| Temperature: | Temp <= 100°F | | |

Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind | Const |
|-----|------|------|------|------|-------|
| 1 | 1170 | 1216 | 0 | 0 | 0 |
| 2 | 1170 | 1216 | 0 | 0 | 0 |

Bearings

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|-------------------|--------|------------|-------------|-------|----------|-----------|
| 1 - SPF End Grain | 3.500" | 22% | 1216 / 1170 | 2386 | L | D+L |
| 2 - SPF End Grain | 3.500" | 22% | 1216 / 1170 | 2386 | L | D+L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|--------------|----------------|----------|---------------|-------------|-------|------|
| Moment | 5331 ft-lb | 4'11" | 19911 ft-lb | 0.268 (27%) | D+L | L |
| Unbraced | 5331 ft-lb | 4'11" | 9760 ft-lb | 0.546 (55%) | D+L | L |
| Shear | 1794 lb | 1'2 5/8" | 8867 lb | 0.202 (20%) | D+L | L |
| LL Defl inch | 0.050 (L/2268) | 4'11" | 0.234 (L/480) | 0.210 (21%) | L | L |
| TL Defl inch | 0.101 (L/1113) | 4'11" | 0.312 (L/360) | 0.320 (32%) | D+L | L |

Design Notes

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

| ID | Load Type | Location | Trib Width | Side | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|----|-------------|----------|------------|------|----------|---------|-----------|----------|-------------|----------|
| 1 | Uniform | | | Top | 238 PLF | 238 PLF | 0 PLF | 0 PLF | 0 PLF | G1 |
| | Self Weight | | | | 9 PLF | | | | | |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/13/2022

Manufacturer Info

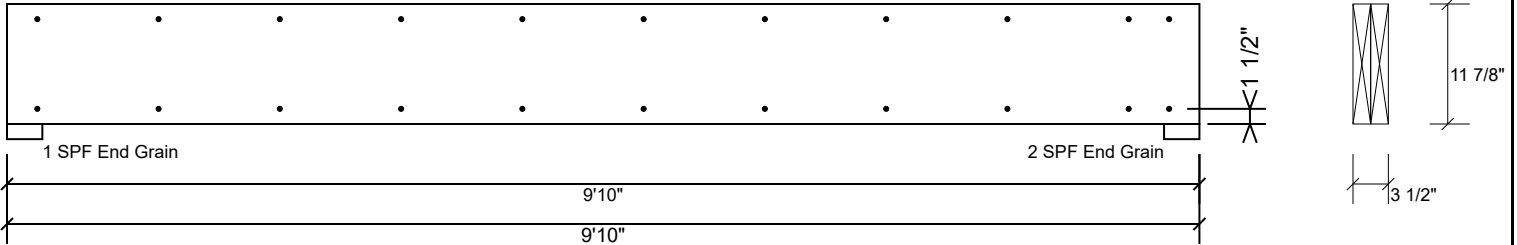
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Comtech, Inc.
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 Fayetteville, NC
 USA
 28314
 910-864-TRUS



GDH-1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

| | |
|--------------------------|-----------|
| Capacity | 0.0 % |
| Load | 0.0 PLF |
| Yield Limit per Foot | 163.7 PLF |
| Yield Limit per Fastener | 81.9 lb. |
| Yield Mode | IV |
| Edge Distance | 1 1/2" |
| Min. End Distance | 3" |
| Load Combination | |
| Duration Factor | 1.00 |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/13/2022

Manufacturer Info

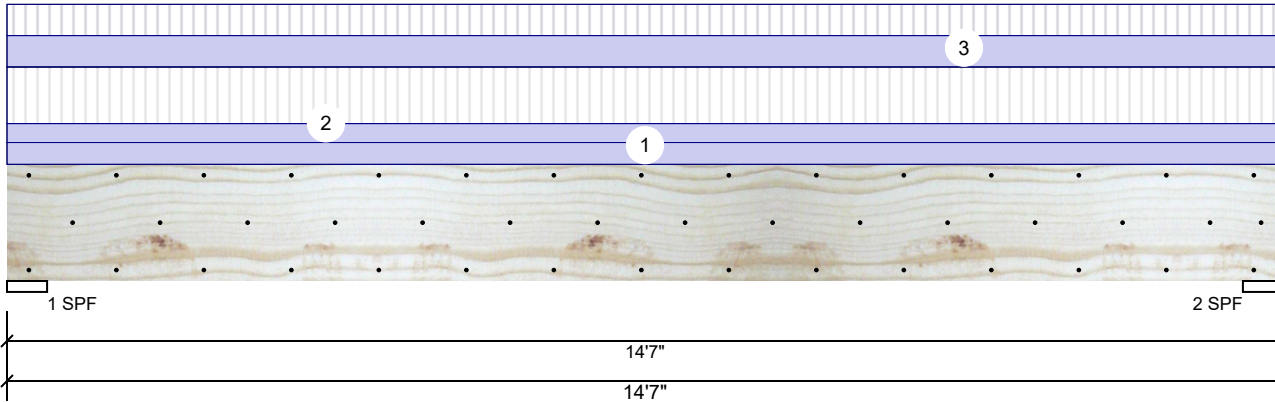
Metsä Wood
 301 Merritt 7 Building, 2nd Floor
 Norwalk, CT 06851
 (800) 622-5850
 www.metsawood.com/us
 ICC-ES: ESR-3633

Comtech, Inc.
 1001 S. Reilly Road, Suite #639
 Fayetteville, NC
 USA
 28314
 910-864-TRUS



BM1 Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

Level: Level



Member Information

| | |
|---------------------|---------------|
| Type: | Girder |
| Plies: | 2 |
| Moisture Condition: | Dry |
| Deflection LL: | 480 |
| Deflection TL: | 360 |
| Importance: | Normal |
| Temperature: | Temp <= 100°F |

| | |
|----------------|-------------|
| Application: | Floor |
| Design Method: | ASD |
| Building Code: | IBC 2012 |
| Load Sharing: | No |
| Deck: | Not Checked |

Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind | Const |
|-----|------|------|------|------|-------|
| 1 | 3529 | 2978 | 0 | 0 | 0 |
| 2 | 3529 | 2978 | 0 | 0 | 0 |

Bearings

| Bearing | Length | Cap. | React D/L | Ib | Total | Ld. Case | Ld. Comb. |
|---------|--------|------|-------------|------|-------|----------|-----------|
| 1 - SPF | 5.500" | 80% | 2978 / 3529 | 6507 | L | D+L | |
| 2 - SPF | 5.500" | 80% | 2978 / 3529 | 6507 | L | D+L | |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|--------------|---------------|-----------|---------------|--------------|-------|------|
| Moment | 21283 ft-lb | 7'3 1/2" | 34565 ft-lb | 0.616 (62%) | D+L | L |
| Unbraced | 21283 ft-lb | 7'3 1/2" | 21385 ft-lb | 0.995 (100%) | D+L | L |
| Shear | 4974 lb | 1'8 5/8" | 11947 lb | 0.416 (42%) | D+L | L |
| LL Defl inch | 0.190 (L/874) | 7'3 9/16" | 0.345 (L/480) | 0.550 (55%) | L | L |
| TL Defl inch | 0.350 (L/474) | 7'3 9/16" | 0.460 (L/360) | 0.760 (76%) | D+L | L |

Design Notes

- 1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 5'3 3/8" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

| ID | Load Type | Location | Trib Width | Side | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|----|-------------|----------|------------|------|----------|---------|-----------|----------|-------------|-------------|
| 1 | Uniform | | | Top | 120 PLF | 0 PLF | 0 PLF | 0 PLF | 0 PLF | Wall |
| 2 | Uniform | | | Top | 104 PLF | 312 PLF | 0 PLF | 0 PLF | 0 PLF | F01 |
| 3 | Uniform | | | Top | 172 PLF | 172 PLF | 0 PLF | 0 PLF | 0 PLF | "D" Trusses |
| | Self Weight | | | | 12 PLF | | | | | |

Notes
 Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber
 1. Dry service conditions, unless noted otherwise
 2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation
 1. LVL beams must not be cut or drilled
 2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
 3. Damaged Beams must not be used
 4. Design assumes top edge is laterally restrained
 5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

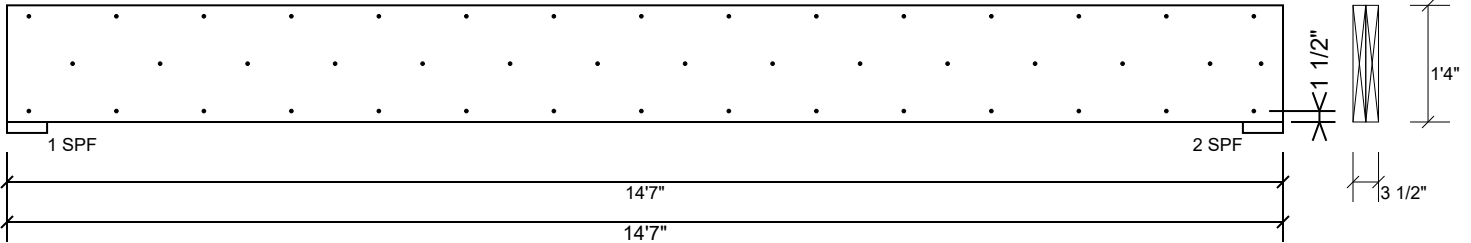
This design is valid until 11/13/2022

Manufacturer Info
 Metsä Wood
 301 Merritt 7 Building, 2nd Floor
 Norwalk, CT 06851
 (800) 622-5850
 www.metsawood.com/us
 ICC-ES: ESR-3633

Comtech, Inc.
 1001 S. Reilly Road, Suite #639
 Fayetteville, NC
 USA
 28314
 910-864-TRUS

BM1 Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

| | |
|--------------------------|-----------|
| Capacity | 0.0 % |
| Load | 0.0 PLF |
| Yield Limit per Foot | 245.6 PLF |
| Yield Limit per Fastener | 81.9 lb. |
| Yield Mode | IV |
| Edge Distance | 1 1/2" |
| Min. End Distance | 3" |
| Load Combination | |
| Duration Factor | 1.00 |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/13/2022

Manufacturer Info

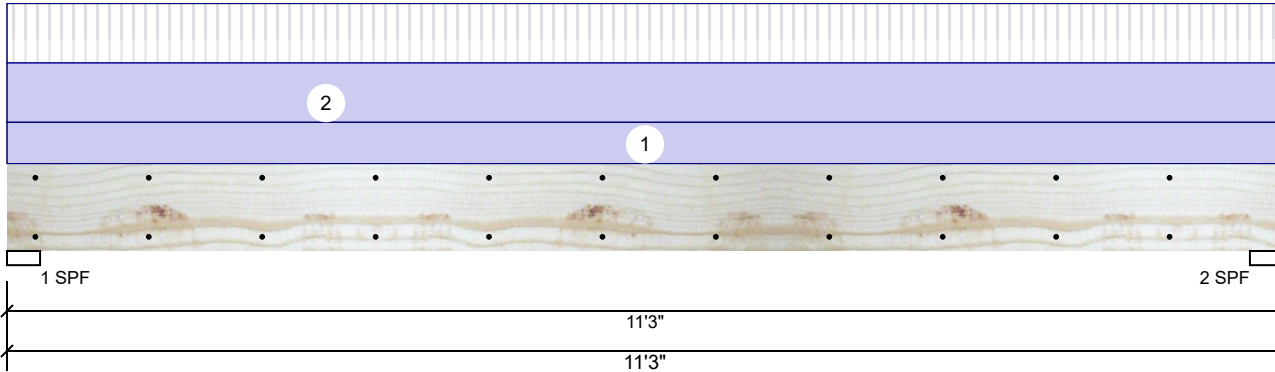
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 ICC-ES: ESR-3633

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 Fayetteville, NC
 USA
 28314
 910-864-TRUS



BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Member Information

| | | | |
|---------------------|---------------|----------------|-------------|
| Type: | Girder | Application: | Floor |
| Plies: | 2 | Design Method: | ASD |
| Moisture Condition: | Dry | Building Code: | IBC 2012 |
| Deflection LL: | 480 | Load Sharing: | No |
| Deflection TL: | 360 | Deck: | Not Checked |
| Importance: | Normal | | |
| Temperature: | Temp <= 100°F | | |

Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind | Const |
|-----|------|------|------|------|-------|
| 1 | 968 | 1683 | 0 | 0 | 0 |
| 2 | 968 | 1683 | 0 | 0 | 0 |

Bearings

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|---------|--------|------------|------------|-------|----------|-----------|
| 1 - SPF | 3.500" | 51% | 1683 / 968 | 2650 | L | D+L |
| 2 - SPF | 3.500" | 51% | 1683 / 968 | 2650 | L | D+L |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|--------------|----------------|----------|---------------|--------------|-------|------|
| Moment | 6859 ft-lb | 5'7 1/2" | 12542 ft-lb | 0.547 (55%) | D+L | L |
| Unbraced | 6859 ft-lb | 5'7 1/2" | 6887 ft-lb | 0.996 (100%) | D+L | L |
| Shear | 2179 lb | 1' | 6907 lb | 0.316 (32%) | D+L | L |
| LL Defl inch | 0.123 (L/1056) | 5'7 1/2" | 0.270 (L/480) | 0.450 (45%) | L | L |
| TL Defl inch | 0.336 (L/386) | 5'7 1/2" | 0.360 (L/360) | 0.930 (93%) | D+L | L |

Design Notes

- 1 Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top braced at bearings.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

| ID | Load Type | Location | Trib Width | Side | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|----|-------------|----------|------------|------|----------|---------|-----------|----------|-------------|----------|
| 1 | Uniform | | | Top | 120 PLF | 0 PLF | 0 PLF | 0 PLF | 0 PLF | Wall |
| 2 | Uniform | | | Top | 172 PLF | 172 PLF | 0 PLF | 0 PLF | 0 PLF | D1 |
| | Self Weight | | | | 7 PLF | | | | | |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/13/2022

Manufacturer Info

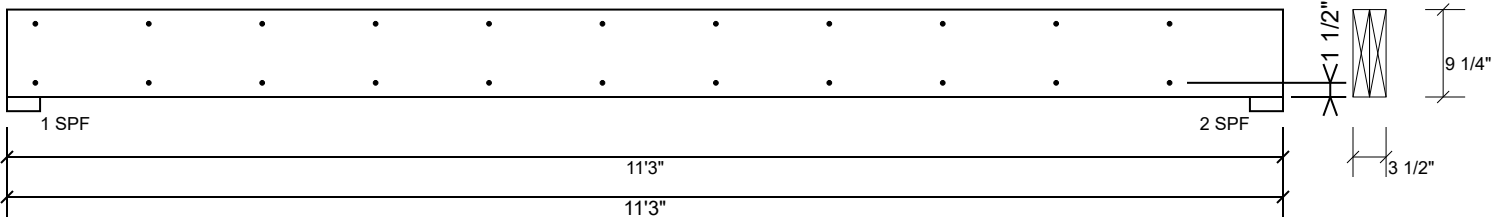
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 Norwalk, CT 06851
 (800) 622-5850
 www.metsawood.com/us
 ICC-ES: ESR-3633

Comtech, Inc.
 1001 S. Reilly Road, Suite #639
 Fayetteville, NC
 USA
 28314
 910-864-TRUS



BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

| | |
|--------------------------|-----------|
| Capacity | 0.0 % |
| Load | 0.0 PLF |
| Yield Limit per Foot | 163.7 PLF |
| Yield Limit per Fastener | 81.9 lb. |
| Yield Mode | IV |
| Edge Distance | 1 1/2" |
| Min. End Distance | 3" |
| Load Combination | |
| Duration Factor | 1.00 |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/13/2022

Manufacturer Info

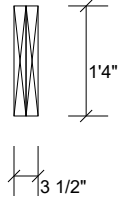
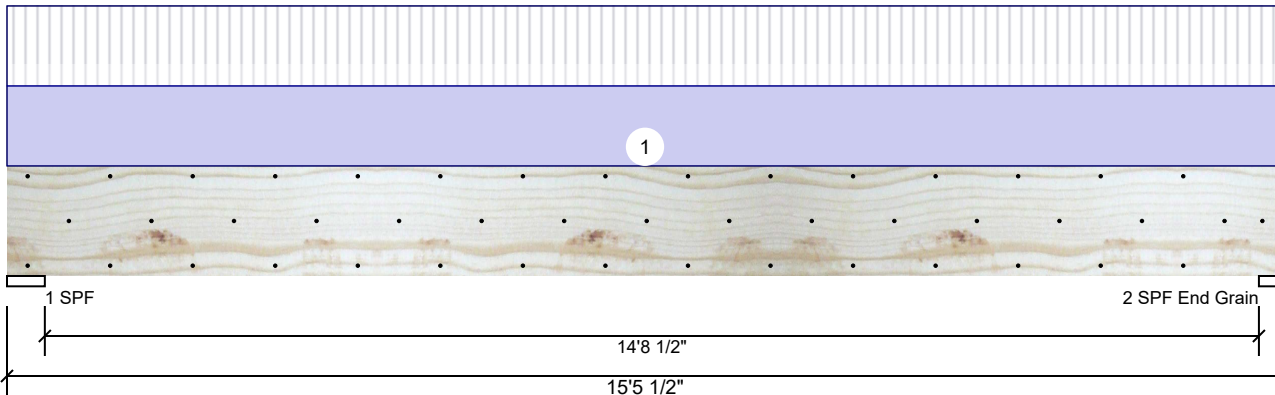
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 28314
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BM3 Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

Level: Level



Member Information

| | | | |
|---------------------|---------------|----------------|-------------|
| Type: | Girder | Application: | Floor |
| Plies: | 2 | Design Method: | ASD |
| Moisture Condition: | Dry | Building Code: | IBC 2012 |
| Deflection LL: | 480 | Load Sharing: | No |
| Deflection TL: | 360 | Deck: | Not Checked |
| Importance: | Normal | | |
| Temperature: | Temp <= 100°F | | |

Reactions UNPATTERNED lb (Uplift)

| Brg | Live | Dead | Snow | Wind | Const |
|-----|------|------|------|------|-------|
| 1 | 3328 | 3425 | 0 | 0 | 0 |
| 2 | 3257 | 3352 | 0 | 0 | 0 |

Bearings

| Bearing | Length | Cap. React | D/L lb | Total | Ld. Case | Ld. Comb. |
|-----------|--------|------------|-------------|-------|----------|-----------|
| 1 - SPF | 5.500" | 83% | 3425 / 3328 | 6753 | L | D+L |
| 2 - SPF | 3.500" | 62% | 3352 / 3257 | 6609 | L | D+L |
| End Grain | | | | | | |

Analysis Results

| Analysis | Actual | Location | Allowed | Capacity | Comb. | Case |
|--------------|---------------|------------|---------------|--------------|-------|------|
| Moment | 23842 ft-lb | 7'9 3/4" | 34565 ft-lb | 0.690 (69%) | D+L | L |
| Unbraced | 23842 ft-lb | 7'9 3/4" | 23902 ft-lb | 0.998 (100%) | D+L | L |
| Shear | 5268 lb | 1'8 5/8" | 11947 lb | 0.441 (44%) | D+L | L |
| LL Defl inch | 0.219 (L/812) | 7'9 13/16" | 0.371 (L/480) | 0.590 (59%) | L | L |
| TL Defl inch | 0.445 (L/400) | 7'9 13/16" | 0.495 (L/360) | 0.900 (90%) | D+L | L |

Design Notes

- 1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 4'7 1/8" o.c.
- 6 Bottom braced at bearings.
- 7 Lateral slenderness ratio based on single ply width.

| ID | Load Type | Location | Trib Width | Side | Dead 0.9 | Live 1 | Snow 1.15 | Wind 1.6 | Const. 1.25 | Comments |
|----|-------------|----------|------------|------|----------|---------|-----------|----------|-------------|-------------|
| 1 | Uniform | | | Top | 426 PLF | 426 PLF | 0 PLF | 0 PLF | 0 PLF | "B" Trusses |
| | Self Weight | | | | 12 PLF | | | | | |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/13/2022

Manufacturer Info

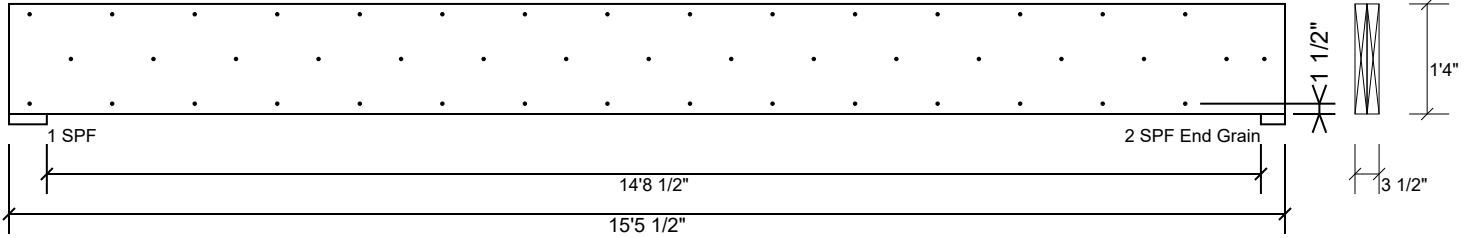
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BM3 Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6"

| | |
|--------------------------|-----------|
| Capacity | 0.0 % |
| Load | 0.0 PLF |
| Yield Limit per Foot | 245.6 PLF |
| Yield Limit per Fastener | 81.9 lb. |
| Yield Mode | IV |
| Edge Distance | 1 1/2" |
| Min. End Distance | 3" |
| Load Combination | |
| Duration Factor | 1.00 |

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive

chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation

6. For flat roofs provide proper drainage to prevent ponding

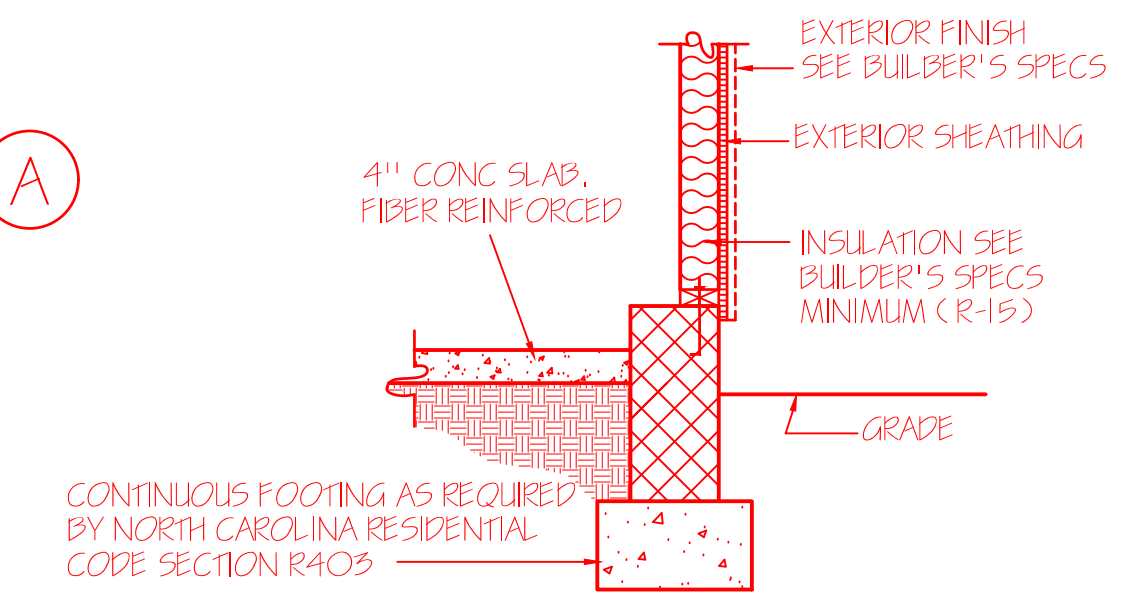
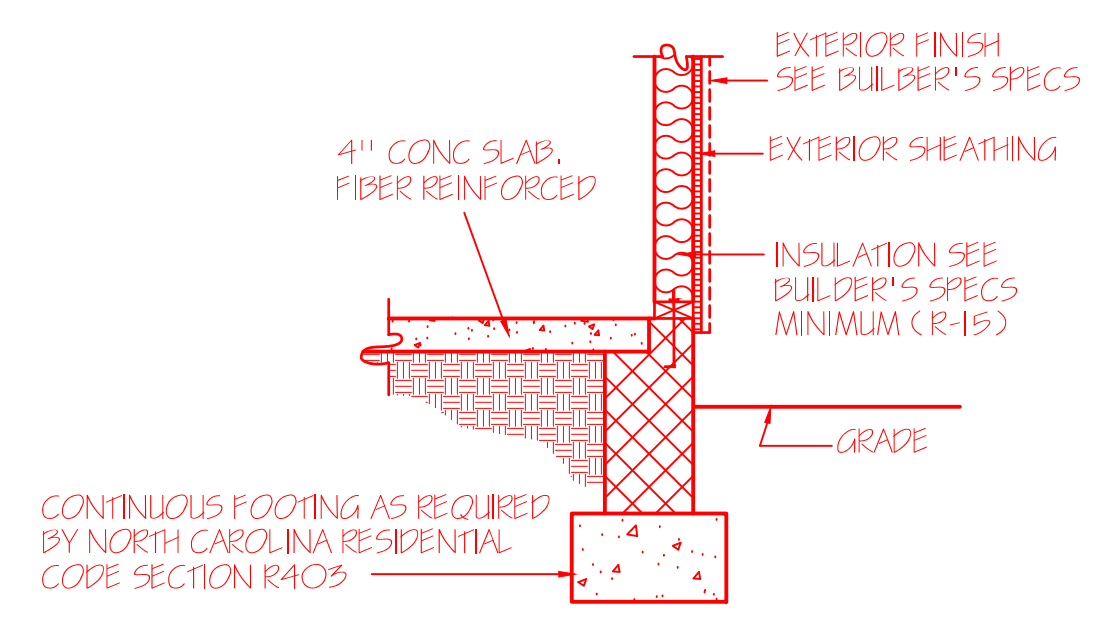
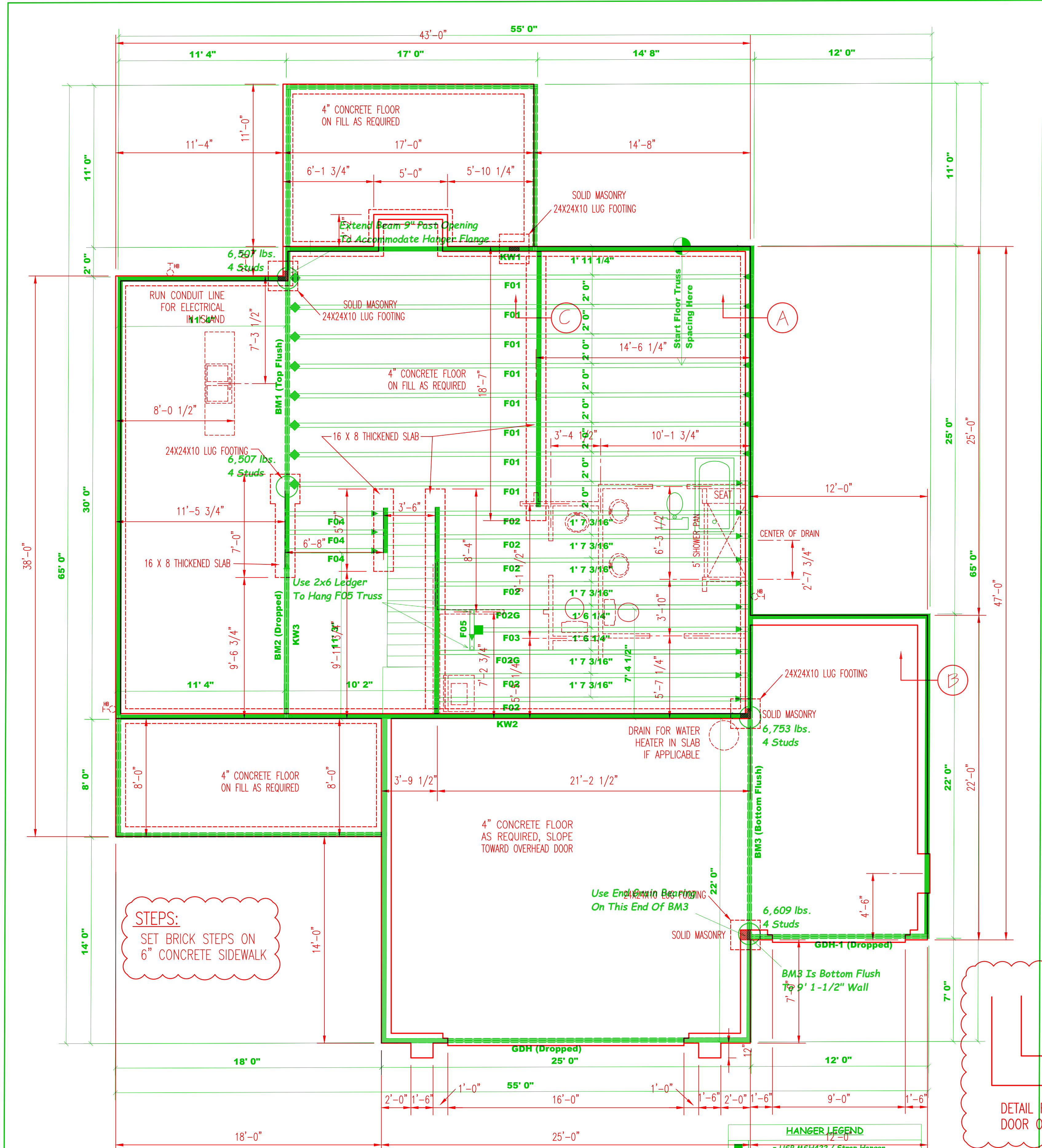
This design is valid until 11/13/2022

Manufacturer Info

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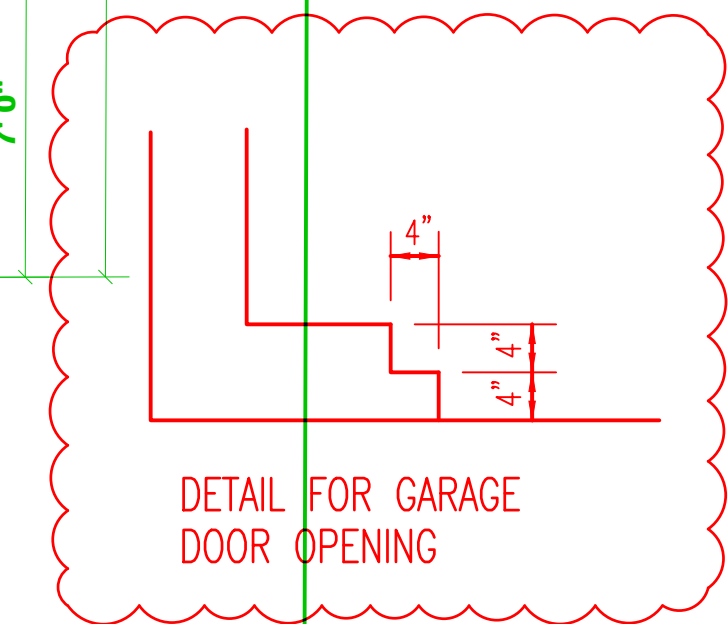
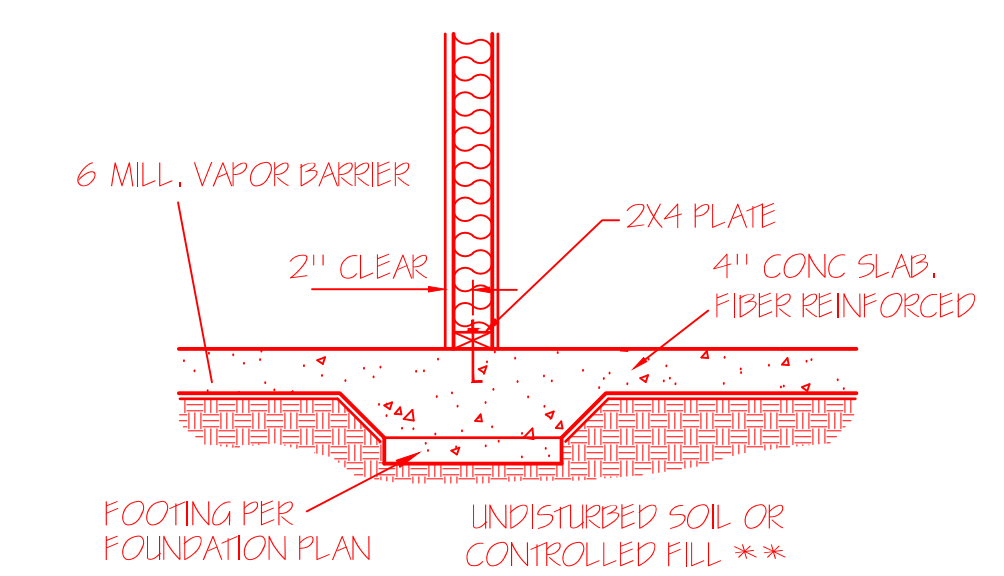
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 USA
 28314
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WALL ANCHOR OPTIONS
USE EITHER ANCHOR BOLTS OR ANCHOR STRAPS
- ANCHOR BOLTS: 1/2" DIA. BOLTS AT 6'-0" O.C. AND NOT MORE THAN 12" FROM CORNERS, EMBEDDED MIN. 7" INTO FOUNDATION

NOTE:
FOUNDATION DETAILS SHOWN ARE BASED ON ASSUMED SOIL BEARING CAPACITY OF 2000 PSF. LOCAL SITE CONDITIONS MUST BE INVESTIGATED. ALL FOOTING TO BE LOCATED BELOW FROST DEPTH.



LOAD CHART FOR 3x6 STUDS
(BASED ON 16" O.C. STUDS)

BUILDER Watermark Homes

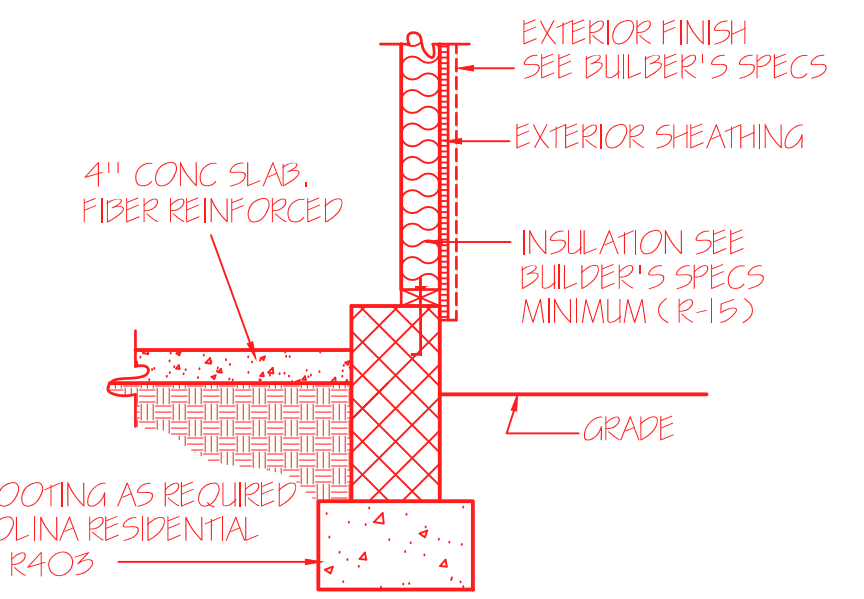
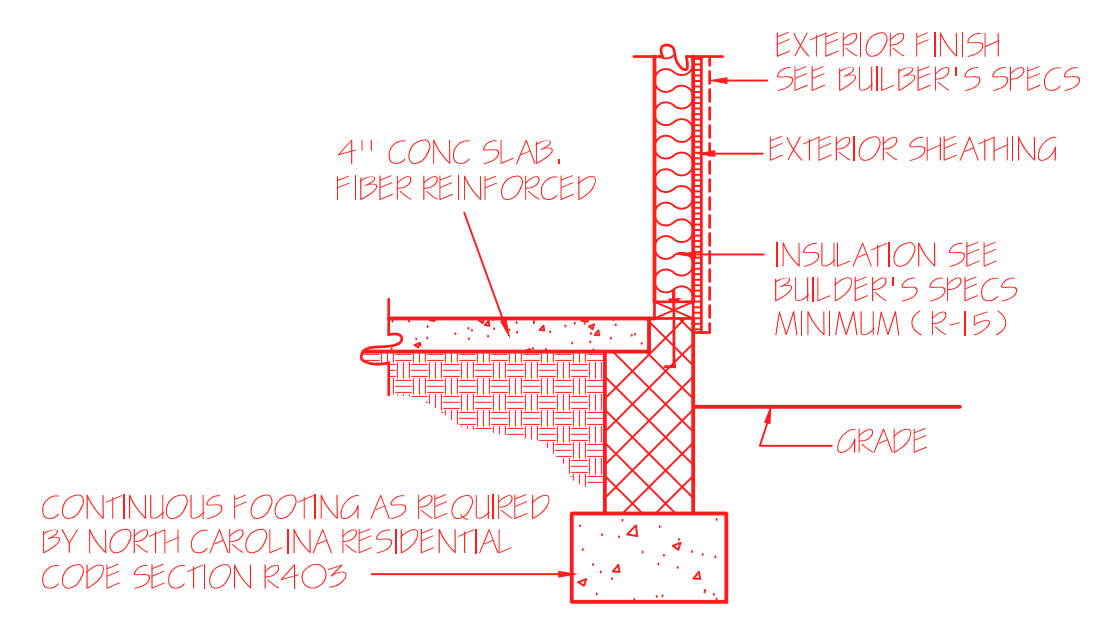
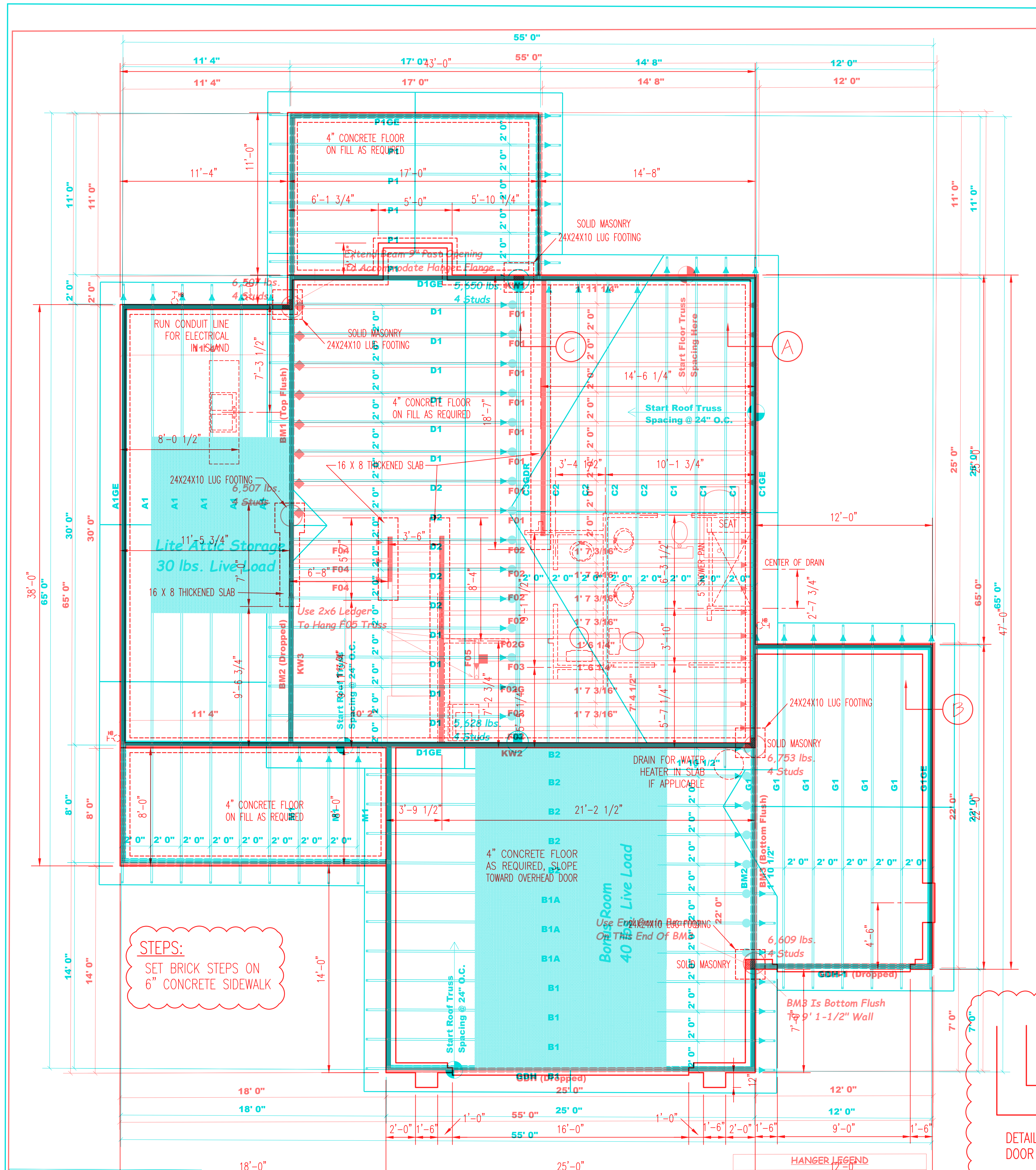
CITY / CO. Harnett Co. / Harnett

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design.

All Truss Reactions are Less than 3,000 lbs. Unless Noted Otherwise.

Truss Placement Plan
SCALE: NTS

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

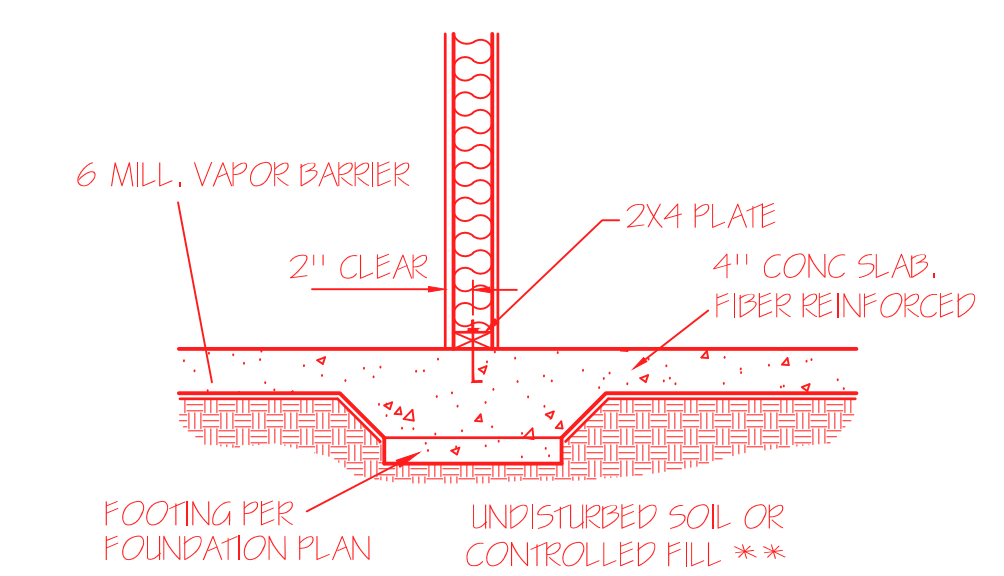


CONCRETE SLAB FLOOR — A

GARAGE WALL — B

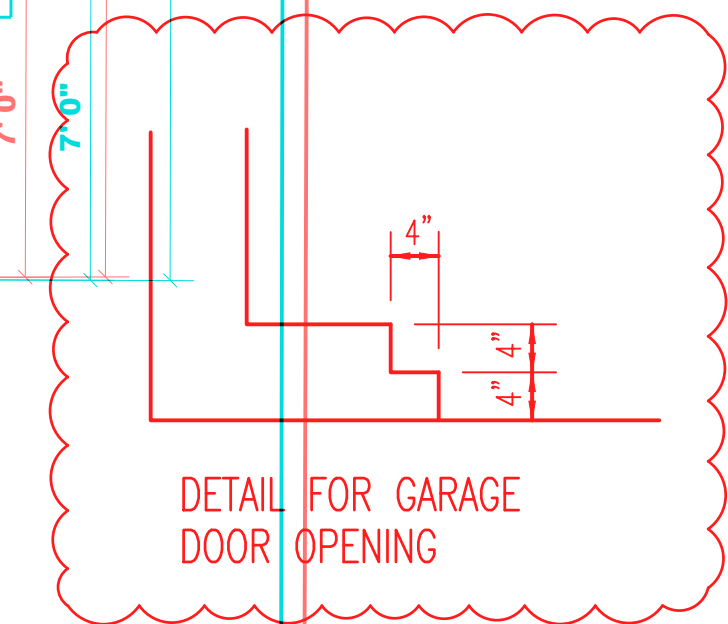
WALL ANCHOR OPTIONS
 USE EITHER ANCHOR BOLTS OR ANCHOR STRAPS
 - ANCHOR BOLTS: 1/2" DIA. BOLTS AT 6'-0" O.C.
 AND NOT MORE THAN 12" FROM CORNERS, EMBEDDED
 MIN. 7" INTO FOUNDATION

NOTE:
 FOUNDATION DETAILS SHOWN ARE BASED ON
 ASSUMED SOIL BEARING CAPACITY OF
 2000 PSF. LOCAL SITE CONDITIONS MUST BE
 INVESTIGATED. ALL FOOTING TO BE LOCATED
 BELOW FROST DEPTH.



LOAD BEARING WALL THICKENED SLAB — C

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



| | | | |
|--|--|---|--|
| Hatch Legend 2nd Floor Bearing Walls @ 8' 1-1/2" Hatch Legend ▲ = Denotes Left End of Truss (Reference Engineered Truss Drawing) Do Not Erect Trusses Backwards ▲ = Denotes Left End of Truss Do Not Erect Trusses Backwards | | Truss Placement Plan SCALE: 1/4" = 1' NTS | |
| HANGER LEGEND = USP MSH422 / Strap Hanger = USP TUS414 / Single 4x Hanger | | Beam Legend = USP LUG 2.7.2-Ply Tie-Down = USP HUS 26 / Single 2x Hanger | |
| Beam Legend BM2 (Dropped) 12'-0" 1-3/4"x 9-1/4" LVL Kerto-S 2 2 GDH (Dropped) = USP HUS 26 / Single 2x Hanger 2 2 GDH-1 (Dropped) 12'-0" 1-3/4"x 11-7/8" LVL Kerto-S 2 2 BM 16" LVL Kerto-S 2 2 BM 16" LVL Kerto-S 2 2 | | Beam Legend = USP LUG 2.7.2-Ply Tie-Down = USP HUS 26 / Single 2x Hanger | |
| Watermark Homes Lot 156 Ballard Woods Watermark Homes | | CITY / CO. Harnett Co. / Harnett | |
| JOB NAME Watermark Homes | | ADDRESS Lot 156 Ballard Woods Harnett Co. / Harnett | |

EXCLUSIVE RESIDENCE DESIGN FOR:
WATERMARK HOMES
 TM DESIGNS
 RESIDENTIAL PLANS BY TINA MCFADDEN
 (910) 354-4736 TMDESIGNS2016@GMAIL.COM
 NAME: CAROLINA PALMETTO III
 LOT: 156 BALLARD WOODS
 PLAN NUMBER
 BG24-A03
 OPTION #1
 3 GARAGE R F
 DATE: 11/4/20

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 THESE DRAWINGS MEET LOCAL CODES, 2012 INTERNATIONAL BUILDING CODES.
 THIS IS FOR THE CONSTRUCTION OF ONE HOUSE ON A SINGLE LOT. NOT TO BE REUSED.

