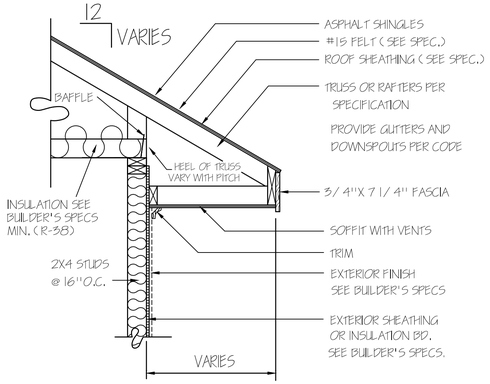
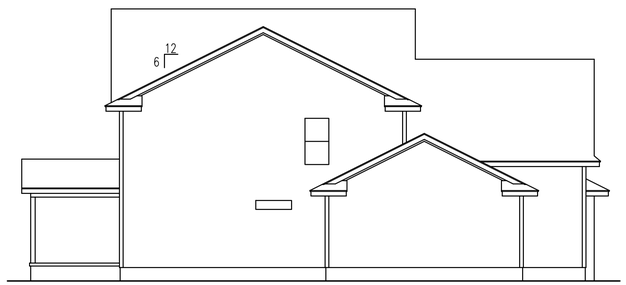


FRONT ELEVATION

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



LEFT ELEVATION

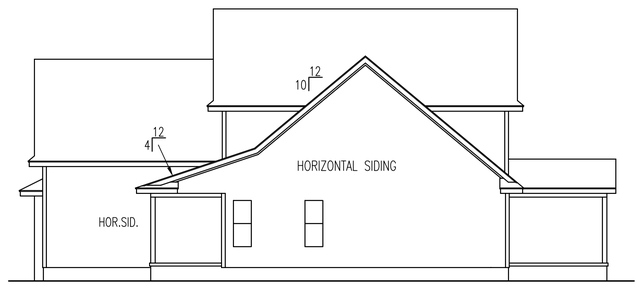
NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

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

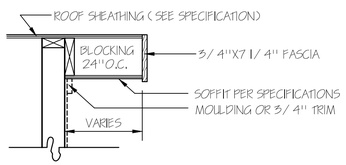
06/24/2021

Harnett COUNTY NORTH CAROLINA

See Foundation Note



RIGHT ELEVATION



RAKE DETAIL FOR GABLE ENDS

REAR ELEVATION

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

EXCLUSIVE RESIDENCE DESIGN FOR:

WATERMARK HOMES

NAME: CAROLINA PALMETTO III | LOT: 74 SOUTH CREEK

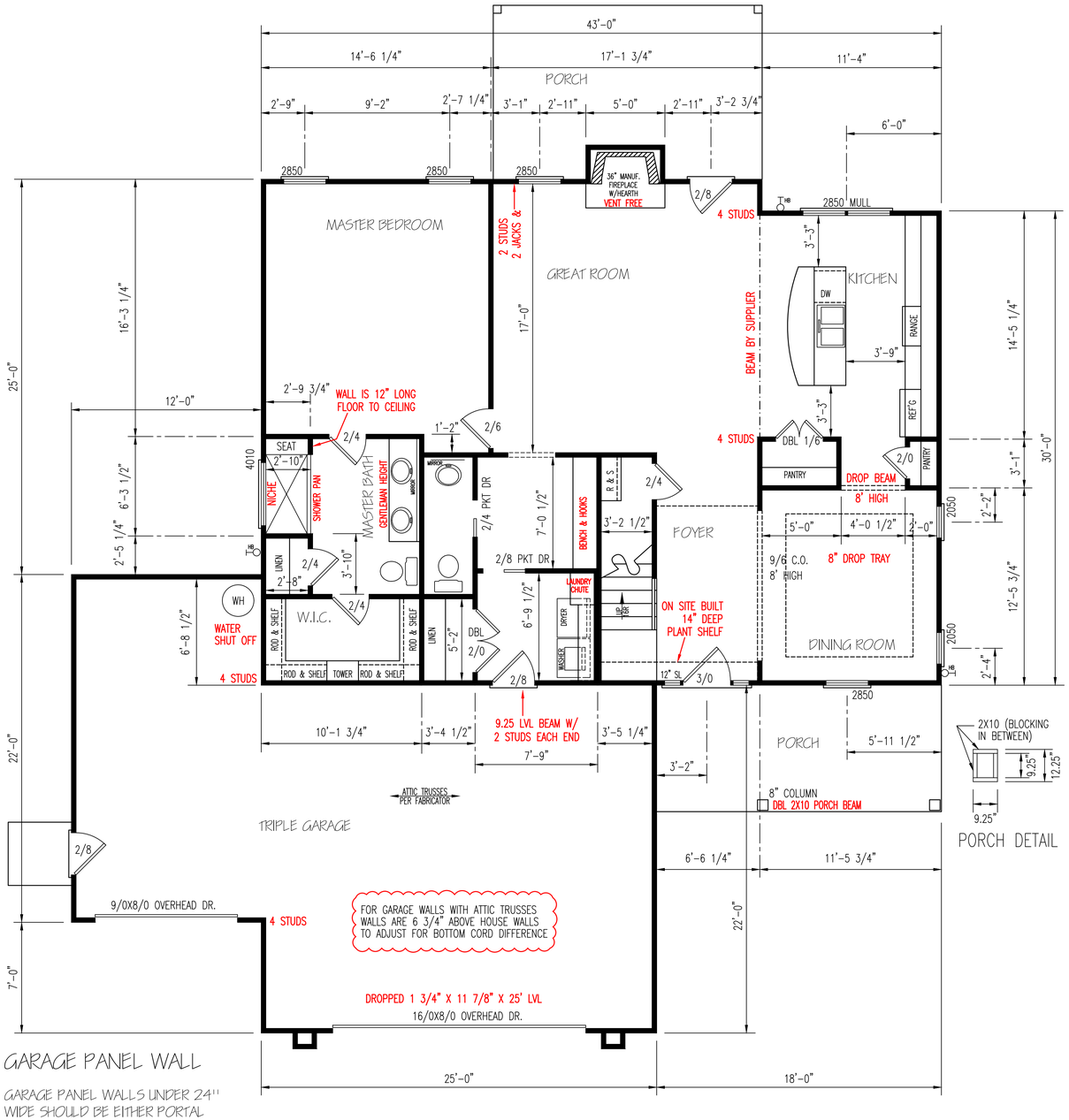
TM DESIGNS
RESIDENTIAL PLANS BY TINA MCFADDEN
(910) 354-4736 TMDESIGNS2016@GMAIL.COM

PLAN NUMBER
BG24-A03

OPTION #1

1 | GARAGE | L | F

DATE: 11/4/20



GARAGE PANEL WALL

GARAGE PANEL WALLS UNDER 24" WIDE SHOULD BE EITHER PORTAL FRAMED OR 7/16" OSB ON BOTH SIDES WITH A NAILING PATTERN OF 3" ON ALL PANEL EDGES AND 6" IN THE FIELD.

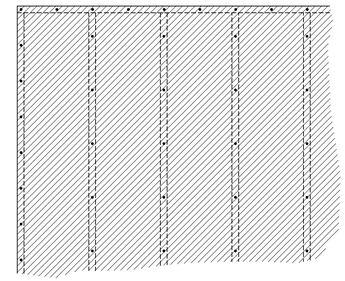
PORCH DETAIL

EXERIOR 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		

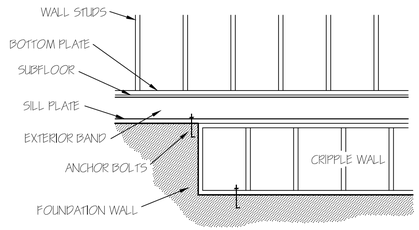
ENERGY TABLE
U FACTOR OF WINDOWS .30
CLIMATE ZONE 3
INSULATION: WALLS 15
CEILING 38
FLOORS 19

NOTE:
CEILINGS ARE 9'-0" UNLESS NOTED.
SET WINDOWS @ 7'-4" UNLESS NOTED.

BRACING METHOD



EXTERIOR WALL TO BE FULLY SHEATHED WITH 7/16" OSB. NAILING PATTERN TO BE 8" ON ALL EDGES AND 12" IN FIELD. WITH 8d NAILS.



FOUNDATION CRIPPLE WALLS SHALL BE FRAMED OF STUDS NOT SMALLER THAN THE STUDDING ABOVE. WHEN EXCEEDING 4 FT. IN HEIGHT, SUCH WALLS SHALL BE FRAMED OF STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY.
CRIPPLE WALLS WITH A STUD HEIGHT LESS THAN 14 INCHES SHALL BE CONTINUOUSLY SHEATHED ON ONE SIDE WITH WOOD STRUCTURAL PANELS FASTENED TO BOTH THE TOP AND BOTTOM PLATES IN ACCORDANCE WITH TABLE R602.3(1), OR CRIPPLE WALLS SHALL BE CONSTRUCTED OF SOLID BLOCKING.

HERO PACKAGE

FIRST FLOOR PLAN

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

HEATED AREA

1ST FL	1353	SQ FT
2ND FL	1182	SQ FT
TOTAL	2535	SQ FT

OTHER AREAS

GARAGE	814	SQ FT
F.PORCH	144	SQ FT
R.PORCH	187	SQ FT

TM DESIGNS
RESIDENTIAL PLANS BY TINA MCFADDEN
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EXCLUSIVE RESIDENCE DESIGN FOR:
WATERMARK HOMES
NAME: CAROLINA PALMETTO III
LOT: 74 SOUTH CREEK

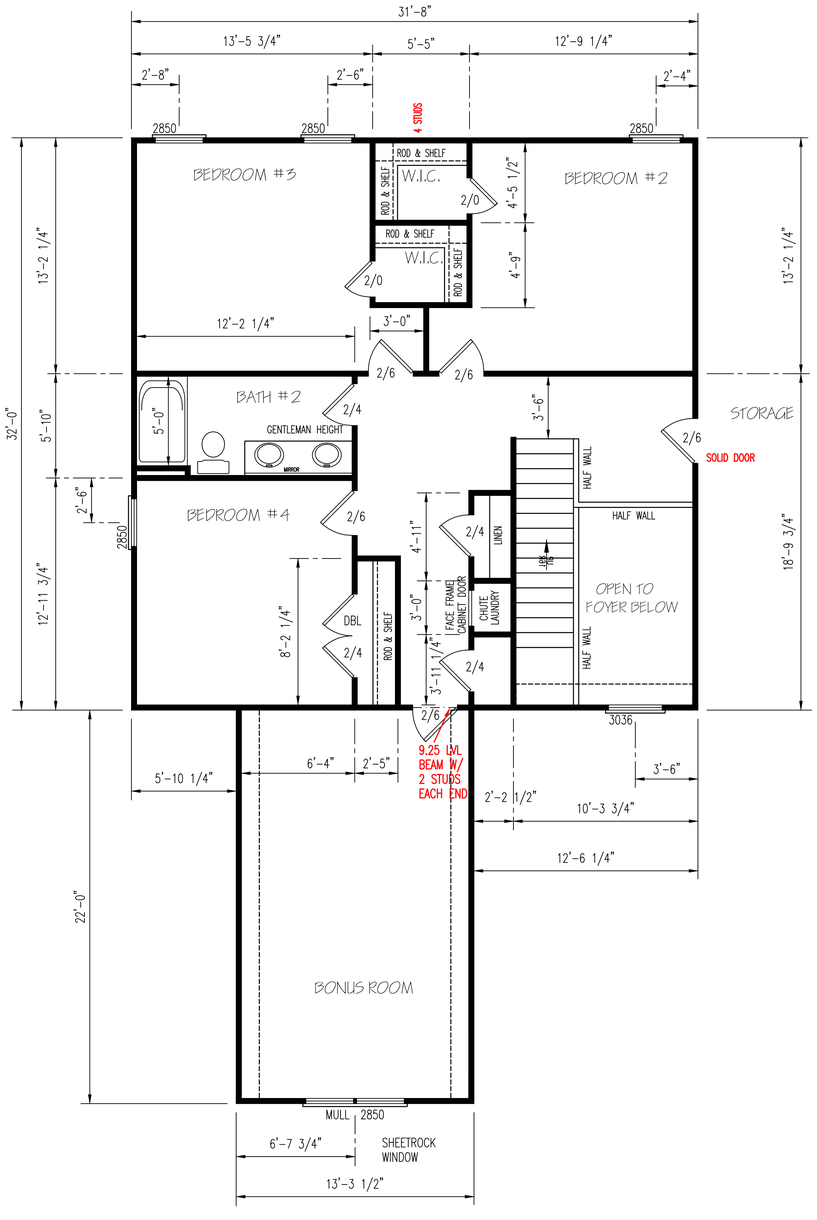
I HEREBY CERTIFY THAT THIS DRAWING MEETS LOCAL CODES, 2012 INTERNATIONAL BUILDING CODES

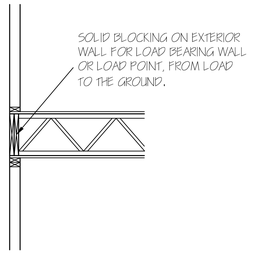
THIS IS FOR THE CONSTRUCTION OF ONE HOUSE ON A SINGLE LOT, NOT TO BE REUSED

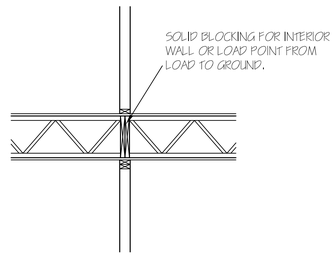
PLAN NUMBER
BG24-A03

OPTION #1

2 A | GARAGE R F | DATE: 11/4/20







EXERIOR 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"

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

EXCLUSIVE RESIDENCE DESIGN FOR:
WATERMARK HOMES

NAME: CAROLINA PALMETTO III

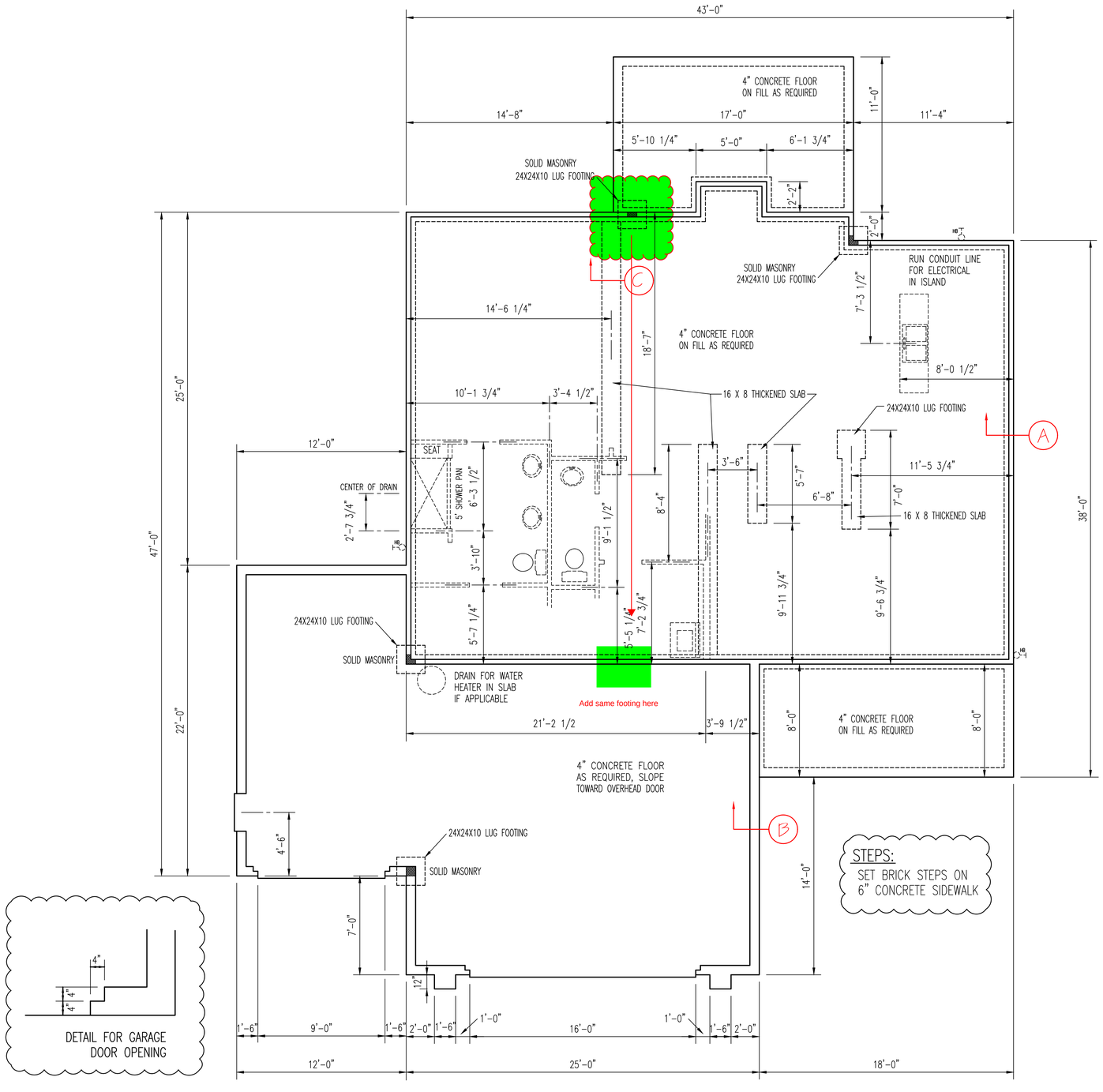
LOT: 74 SOUTH CREEK

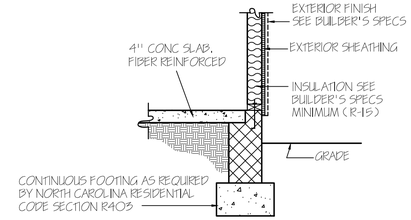
PLAN NUMBER
BG24-A03

OPTION #1

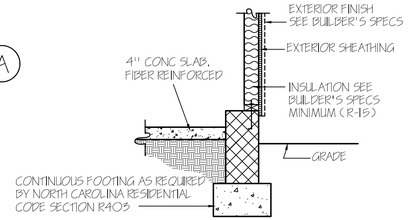
2 B | GARAGE | R | F

DATE: 11/4/20





CONCRETE SLAB FLOOR — A

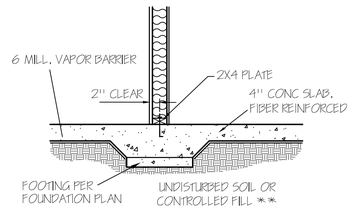


GARAGE WALL — B

WALL ANCHOR OPTIONS

USE EITHER ANCHOR BOLTS OR ANCHOR STRAPS
- ANCHOR BOLTS: 1/2" DIA. BOLTS AT 6'-0" O.C. AND NOT MORE THAT 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"

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

EXCLUSIVE RESIDENCE DESIGN FOR:
WATERMARK HOMES
NAME: CAROLINA PALMETTO III
LOT: 74 SOUTH CREEK

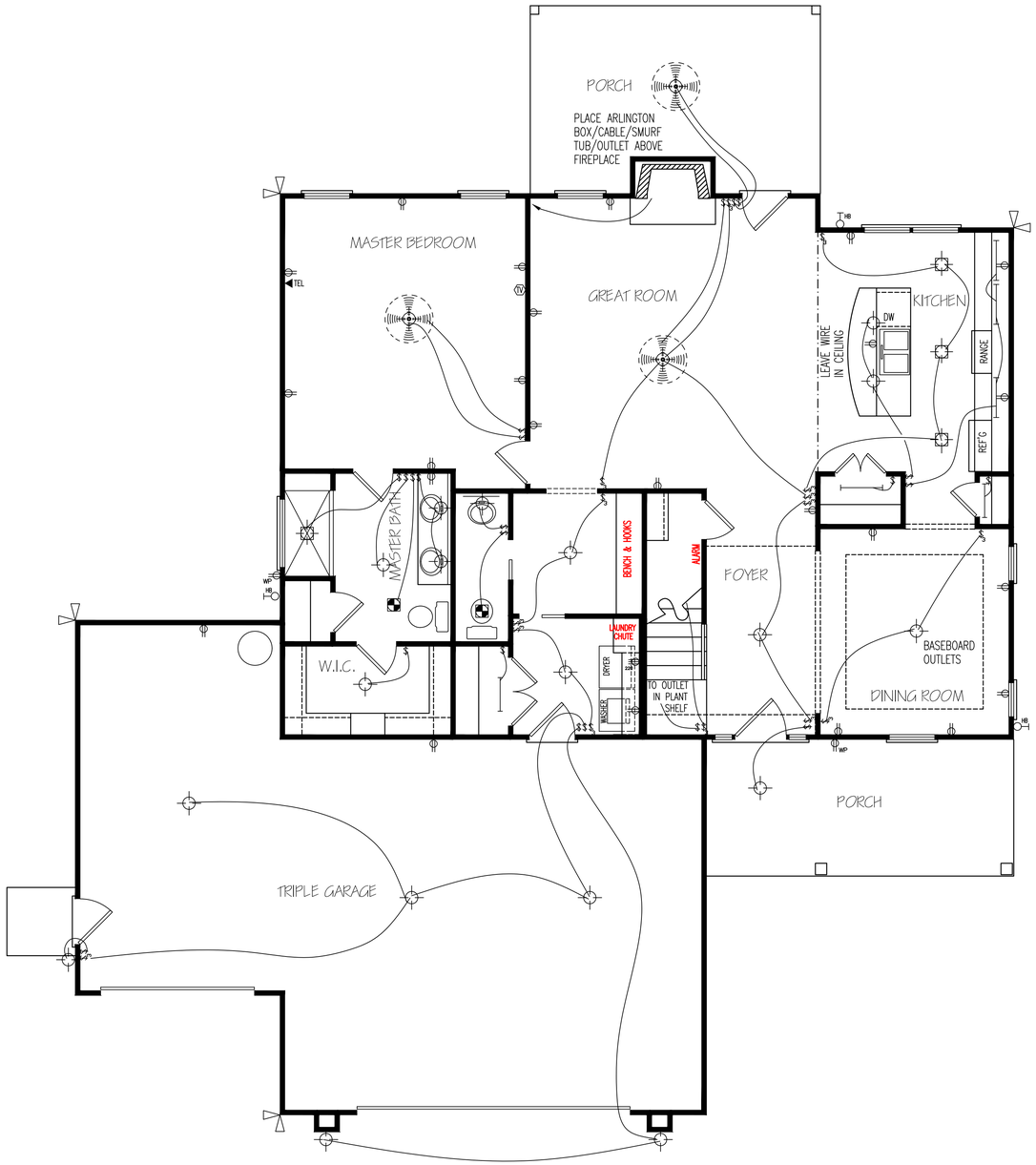
I HEREBY CERTIFY THAT THIS DRAWING MEETS LOCAL CODES, 2012 INTERNATIONAL BUILDING CODES

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

PLAN NUMBER
BG24-A03

OPTION #1

3 | GARAGE | R | F
DATE: 11/4/20



HERO PACKAGE

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

FIRST FLOOR
ELECTRICAL LAYOUT

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

EXCLUSIVE RESIDENCE DESIGN FOR:
WATERMARK HOMES
NAME: CAROLINA PALMETTO III
LOT: 74 SOUTH CREEK

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 RELEASED

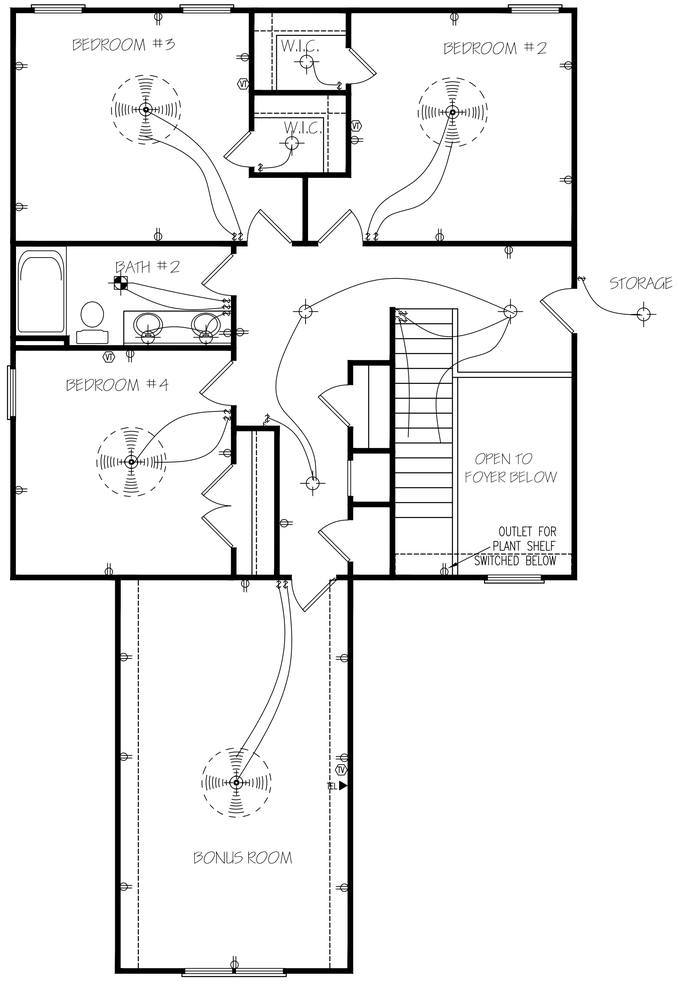
PLAN NUMBER
BG24-A03

OPTION #1

E-1

GARAGE R F

DATE:
11/4/20



HERO PACKAGE

SECOND FLOOR
ELECTRICAL LAYOUT

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

EXCLUSIVE RESIDENCE DESIGN FOR:
WATERMARK HOMES

NAME: CAROLINA PALMETTO III

LOT: 74 SOUTH CREEK

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 RELEED

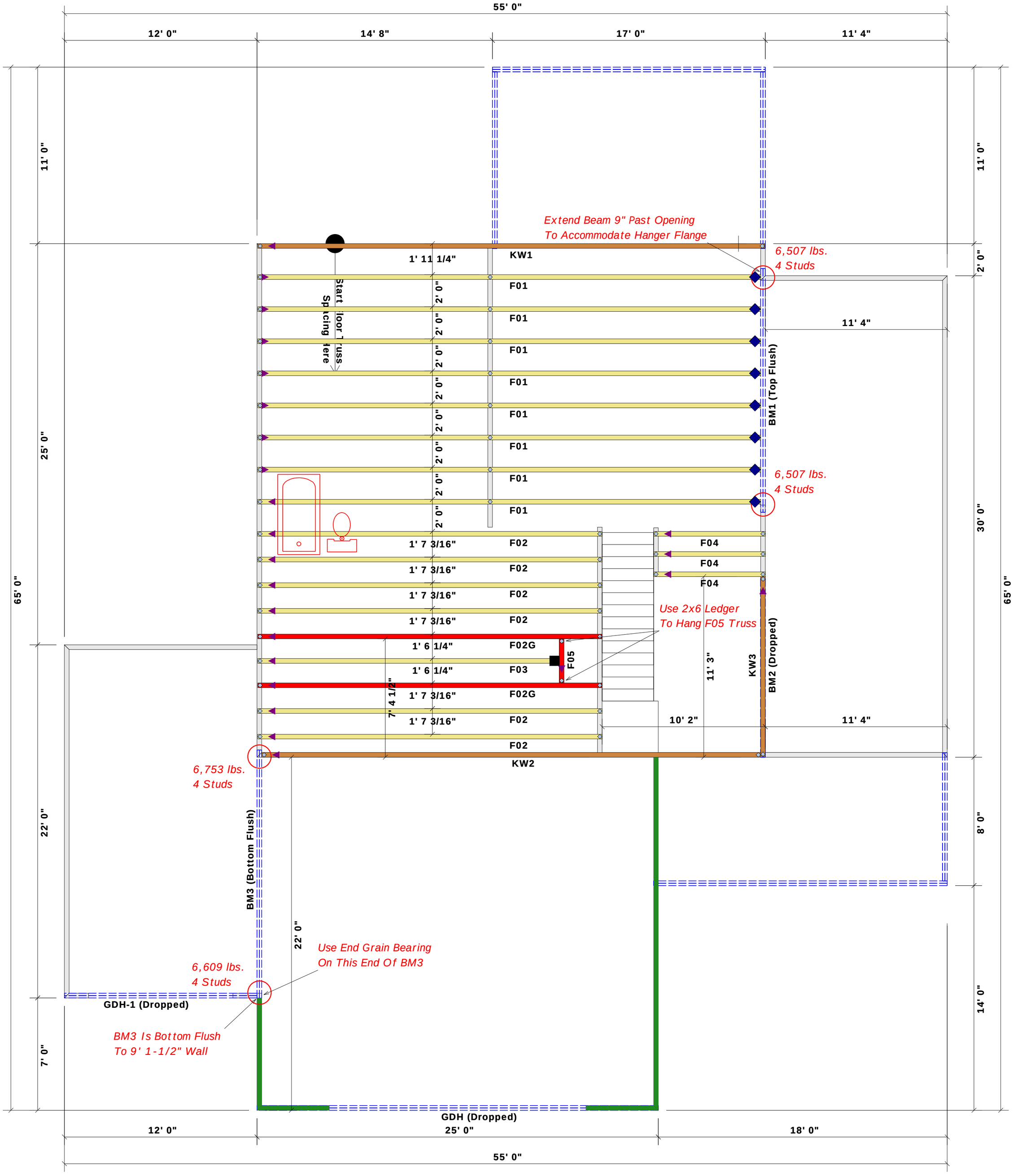
PLAN NUMBER
BG24-A03

OPTION #1

E-2

GARAGE | R | F

DATE: 11/4/20



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

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

LOAD CHART FOR JACK STUDS

(BASED ON F_cp = 625 PSI)

NUMBER OF JACK STUDS REQUIRED FOR EACH END OF HEADER/BEAM

END REACTION (LB. TOT)	REQ'D JACK STUDS FOR EVERY HEADER	END REACTION (LB. TOT)	REQ'D JACK STUDS FOR EVERY HEADER	END REACTION (LB. TOT)	REQ'D JACK STUDS FOR EVERY HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

BUILDER	Watermark Homes	CITY / CO.	Harnett Co. / Harnett
JOB NAME	Lot 74 South Creek	ADDRESS	Lot 74 South Creek
PLAN	The Palmetto III / 3 Car / GR	MODEL	Floor
SEAL DATE	11/4/20	DATE REV.	11/12/20
QUOTE #	Quote #	DRAWN BY	Curtis Quick
JOB #	J1120-5316	SALES REP.	Anthony Williams

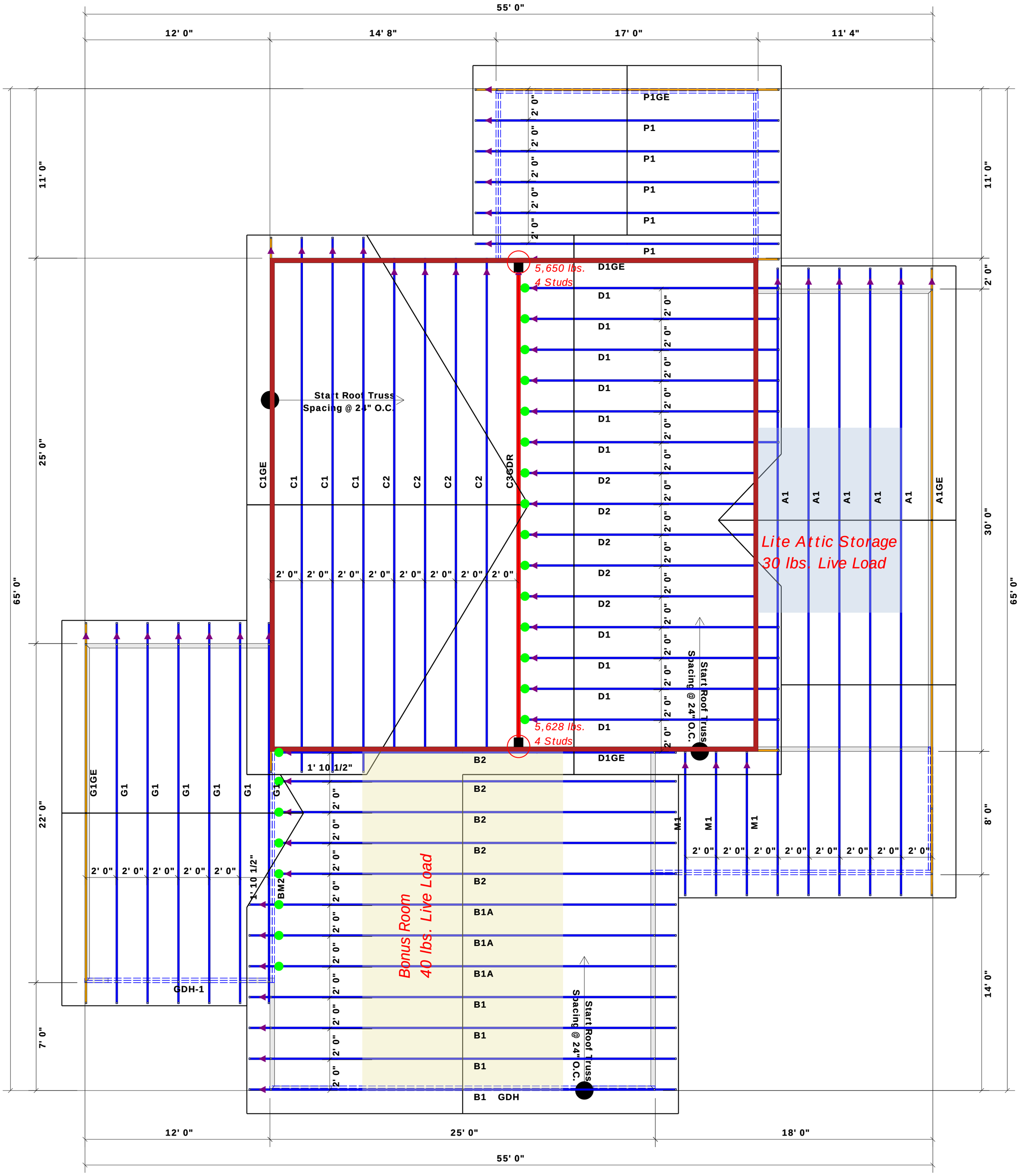
THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer 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) & (3))
NUMBER OF JACK STUDS REQUIRED AT EACH END OF HEADER/GIRDER

LIVE & ACCEPTED (LP. PSF)	REQ'D # JACK STUDS FOR (2) 2 X 4 HEADER	ENCLOSED (LP. PSF)	REQ'D # JACK STUDS FOR (2) 2 X 4 HEADER	LIVE & ACCEPTED (LP. PSF)	REQ'D # JACK STUDS FOR (2) 2 X 6 HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

BUILDER	Watermark Homes	CITY / CO.	Harnett Co. / Harnett
JOB NAME	Lot 74 South Creek	ADDRESS	Lot 74 South Creek
PLAN	The Palmetto III / 3 Car / GR	MODEL	Roof
SEAL DATE	11/4/20	DATE REV.	11/12/20
QUOTE #	Quote #	DRAWN BY	Curtis Quick
JOB #	J1120-5315	SALES REP.	Anthony Williams

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.
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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#.

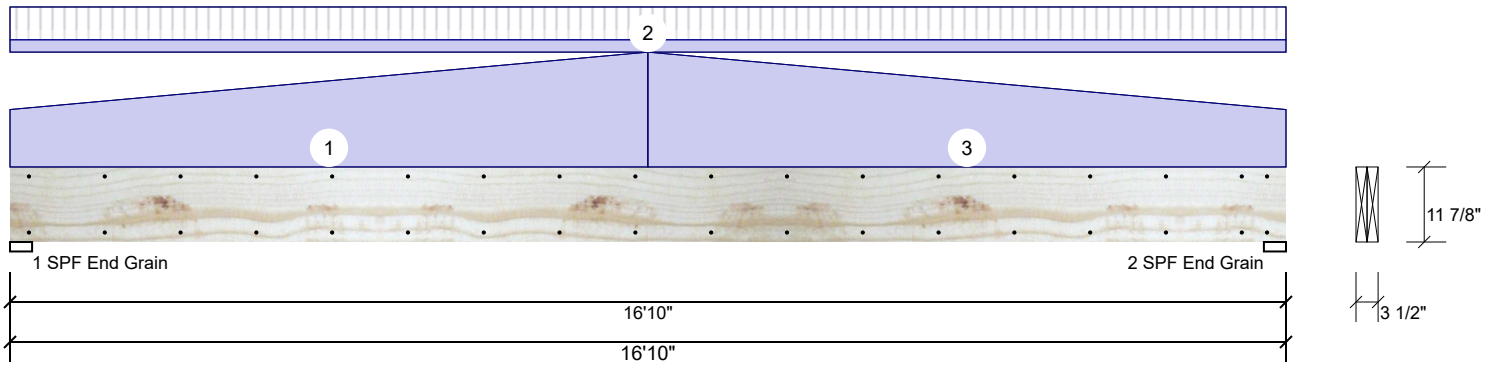
Signature Curtis Quick
Curtis Quick

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

Client:	Watermark Homes	Date:	11/12/2020
Project:		Input by:	Curtis Quick
Address:		Job Name:	Lot 74 South Creek
		Project #:	

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			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			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

This design is valid until 2/26/2023

Manufacturer Info

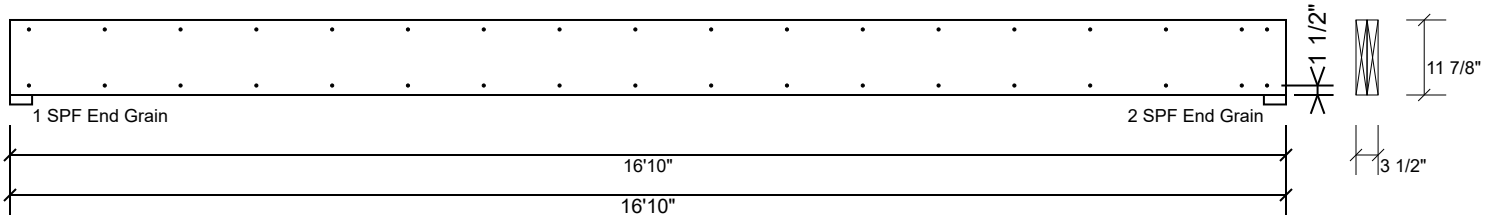
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us
ICC-ES: ESR-3633

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

Client:	Watermark Homes	Date:	11/12/2020
Project:		Input by:	Curtis Quick
Address:		Job Name:	Lot 74 South Creek
		Project #:	

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

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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 2/26/2023

Manufacturer Info

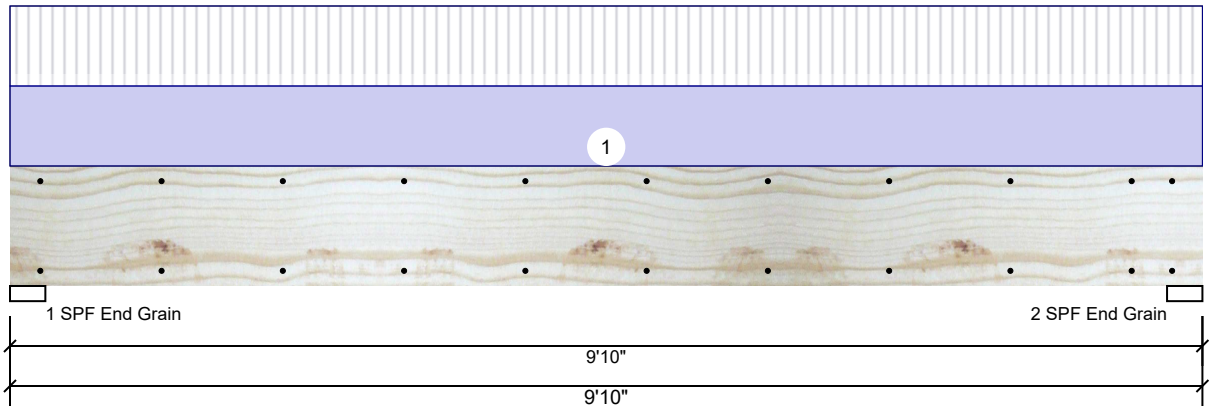
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us
ICC-ES: ESR-3633

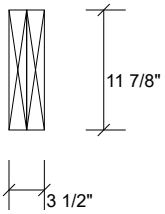
Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:	Watermark Homes	Date:	11/12/2020
Project:		Input by:	Curtis Quick
Address:		Job Name:	Lot 74 South Creek
		Project #:	

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

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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

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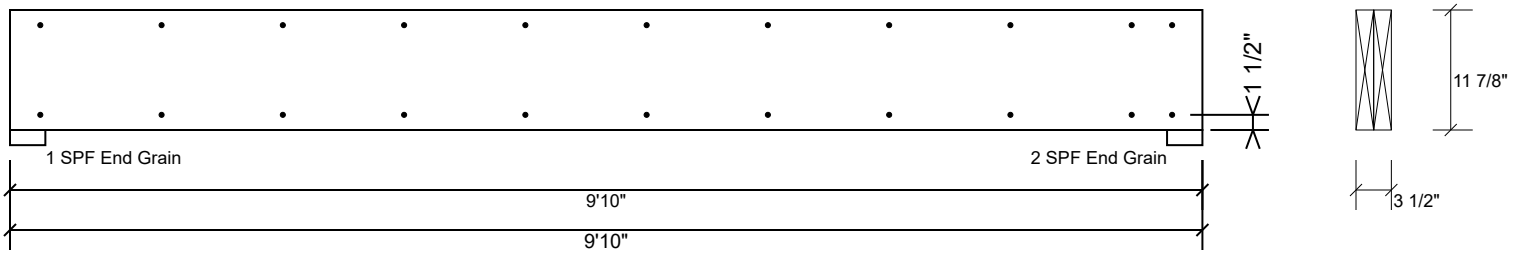
GDH-1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

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

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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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
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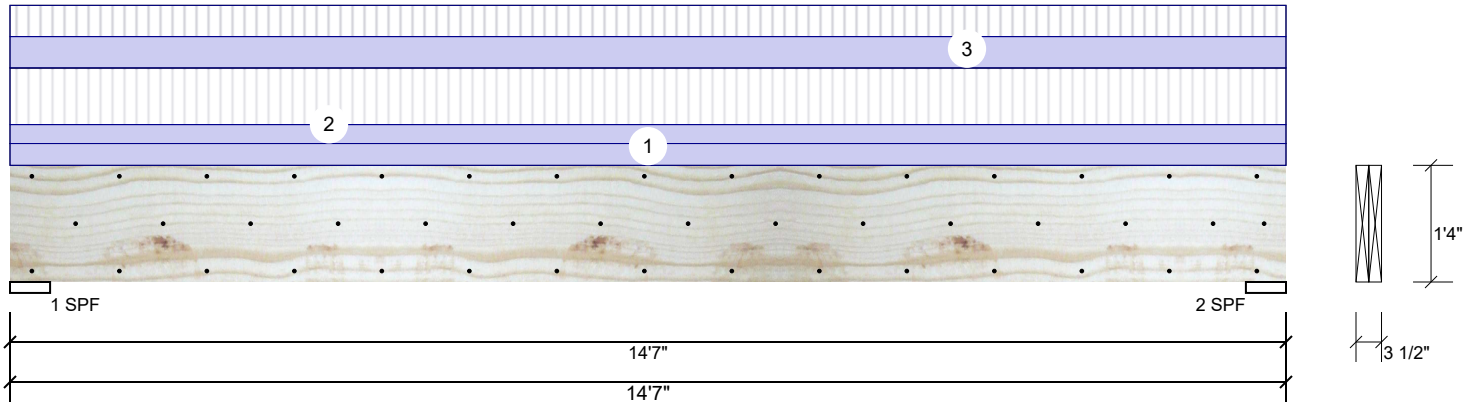
Client:	Watermark Homes	Date:	11/12/2020
Project:		Input by:	Curtis Quick
Address:		Job Name:	Lot 74 South Creek
		Project #:	

BM1 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	3529	2978	0	0	0
2	3529	2978	0	0	0

Bearings

Bearing	Length	Cap.	React D/L lb	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

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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
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Client:	Watermark Homes	Date:	11/12/2020
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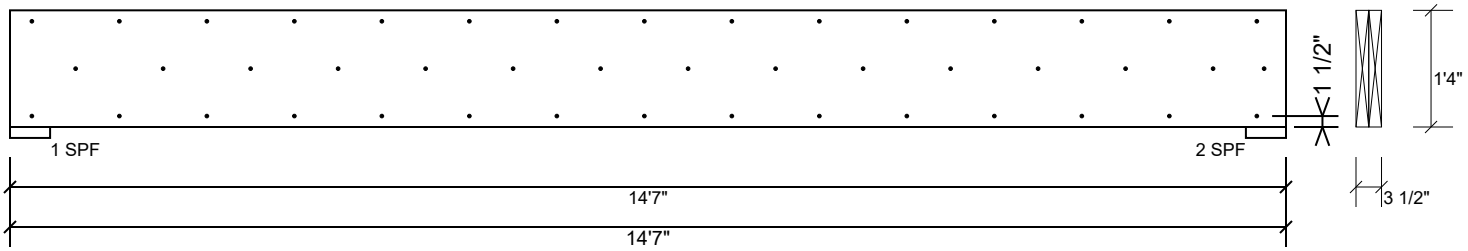
Address:		Job Name:	Lot 74 South Creek
		Project #:	

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
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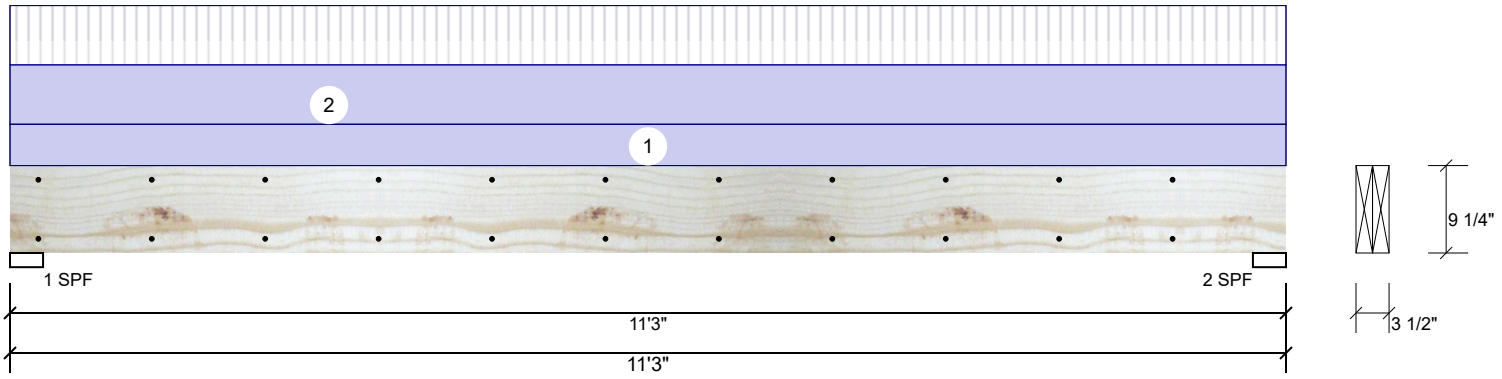
Client:	Watermark Homes	Date:	11/12/2020
Project:		Input by:	Curtis Quick
Address:		Job Name:	Lot 74 South Creek
		Project #:	

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

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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
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Address:		Job Name:	Lot 74 South Creek
		Project #:	

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

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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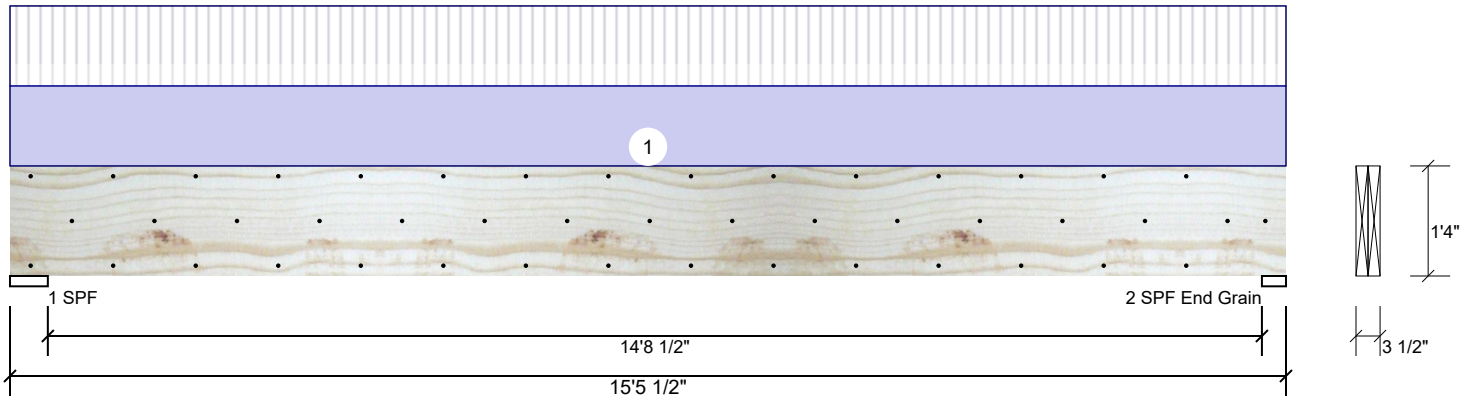
		Project #:	

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 End Grain	3.500"	62%	3352 / 3257	6609	L	D+L

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

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Lumber

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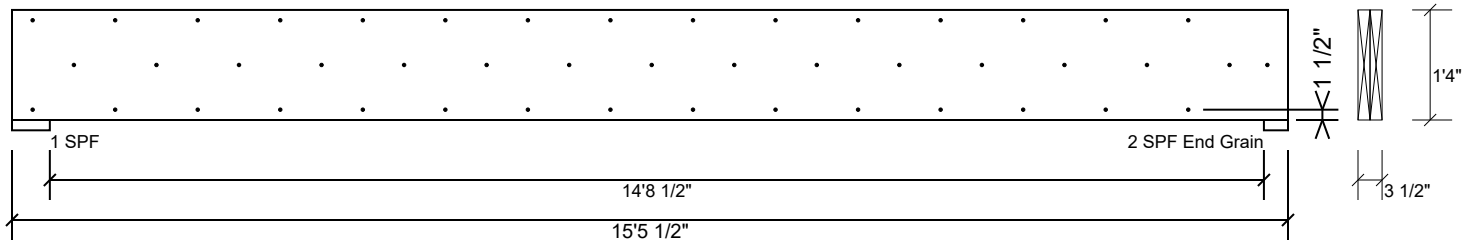
BM3 Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

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

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Lumber

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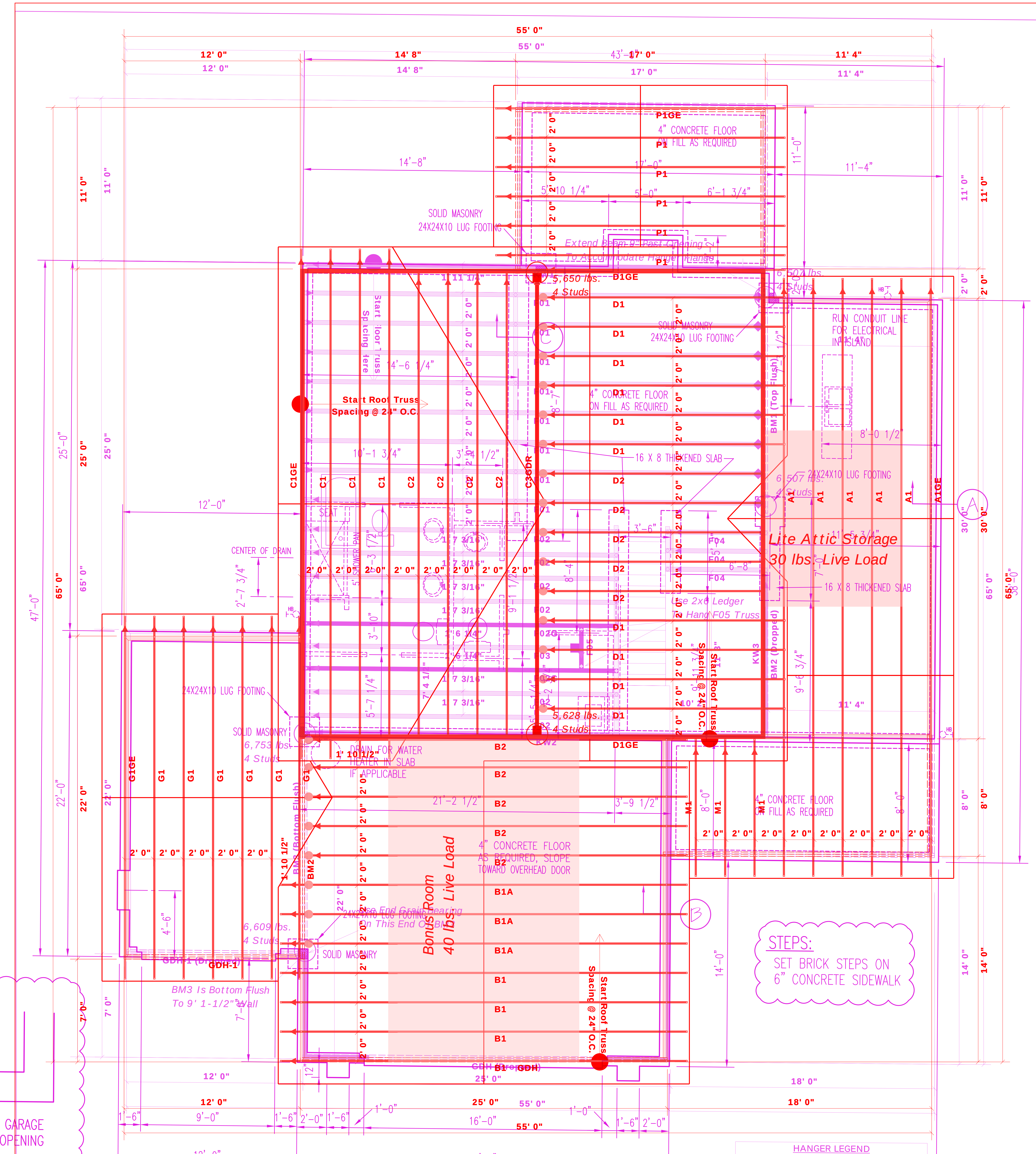

HANGER LEGEND

■	= USP MSH422 / Strap Hanger
◆	= USP JUS414 / Single 4x Hanger

HANGER LEGEND

■	= USP LUGT2 / 2-Ply Tie-Down
●	= USP HUS26 / Single 2x 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

Hatch Legend

Hatch Legend

2nd Floor Bearing Walls @ 8' 1-1/2"

Garage Walls Raised 6-3/4"

▲ = Denotes Left End of Truss (Reference Engineered Truss Drawing)

▲ = Denotes Left End of Truss (Reference Engineered Truss Drawing)

Do Not Erect Trusses Backwards

Do Not Erect Trusses Backwards

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

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

-- Denotes Reaction Greater than 3,000 lbs.

-- Denotes Reaction Greater than 3,000 lbs.

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

Truss Placement Plan
SCALE: NTS

LOAD CHART FOR JACK STUDS

LOAD CHART FOR JACK STUDS

END REACTION (UP TO)	REQ'D STUDS FOR (1) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (3) PLY HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

BUILDER	Watermark Homes	CITY / CO.	Harnett Co. / Harnett
JOB NAME	Lot 74 South Creek	ADDRESS	Lot 74 South Creek
PLAN	The Palmetto III / 3 Car / GR	MODEL	Roof
SEAL DATE	11/4/20	DATE REV.	11/12/20
QUOTE #	Quote #	DRAWN BY	Curtis Quick
JOB #	J1120-5315	SALES REP.	Anthony Williams

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 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

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