



BUILDING INFORMATION

OWNER: RG HOMES	
LOCATION: LOT 55 - QUAIL PONDS SUBDIVISION	
BUILDING SQUARE FOOTAGES:	
MAIN FLOOR AREA	1607
BASEMENT AREA	1647
GARAGE AREA	805
TOTAL LIVING SQ. FT.	3254

TITLE

CS	COVER SHEET		
A1	ELEVATION VIEWS		
A2	ELEVATION VIEWS	S1	STRUCTURAL DETAILS
A3	FOOTING AND FOUNDATION PLAN	S2	STRUCTURAL DETAILS
A4	MAIN FLOOR PLAN	S3	STRUCTURAL DETAILS
A5	FLOOR FRAMING PLAN	S4	ARCH. AND STRUCTURAL NOTES
A6	ROOF FRAMING PLAN	S5	ENERGY CODE DETAILS AND NOTES

CODE INFORMATION

2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL RESIDENTIAL CODE
2021 IECC UTAH
UTAH ADMINISTRATIVE CODE - R156.56

DATE: June 29, 2026

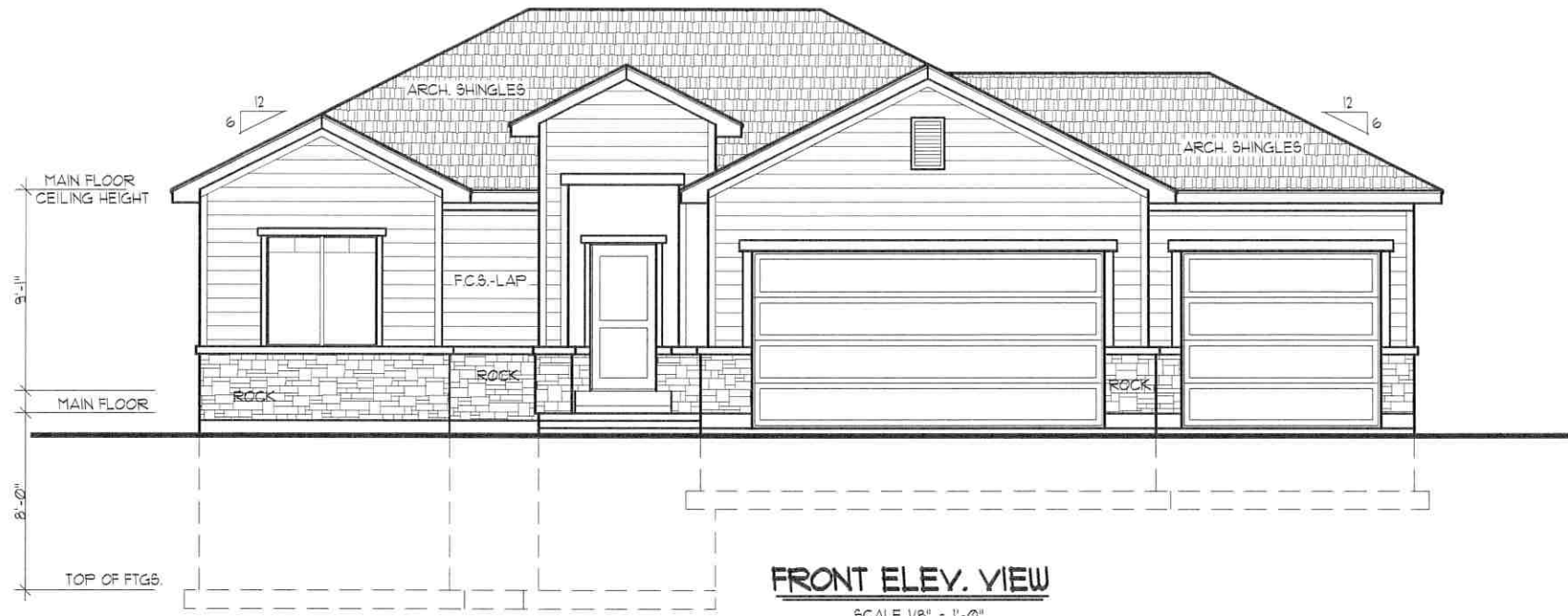
Kustom House Plans

RESIDENTIAL / COMMERCIAL DESIGN & ENGINEERING
NATE KARRAS P.E. (801) 786-0849 email: KustomNK@gmail.com

SCALE
1/8" = 1'-0" 11x17
1/4" = 1'-0" 24x36
PLAN NUMBER
R1607A-26

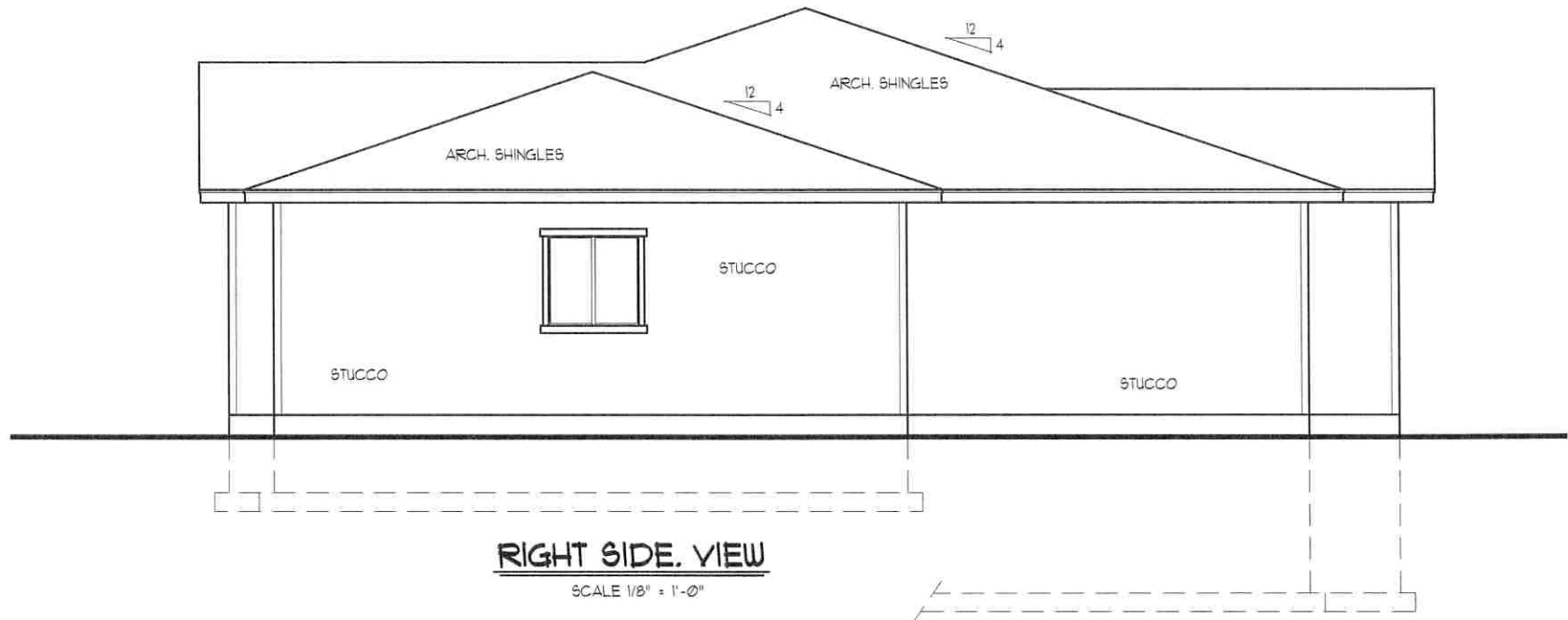
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CS



FRONT ELEV. VIEW
SCALE 1/8" = 1'-0"

BRICK VENEER	R103.1
CORROSION RESISTANT ANCHOR TIES EMBEDDED IN MORTAR OR GROUT AND EXTENDING INTO THE VENEER A MINIMUM OF 1'-1" INCH, WITH NOT LESS THAN 3" MORTAR OR GROUT COVER TO OUTSIDE FACE.	
CORROSION RESISTANT 22 GAGE X 1/8" OR NO. 9 GAGE WIRE SPACED NO MORE THAN 24" O.C. HORIZ. AND VERTICALLY AND SHALL SUPPORT NOT MORE THAN 2.0 SQUARE FEET OF WALL AREA.	
STEEL ANGLE - MIN. 6"x4"x1/2" WITH THE LONG LEG VERTICAL. COMPLY WITH SECTION R103.1.2.1	
ALL STONE AND MASONRY VENEER SHALL COMPLY WITH SECTION R103.1	
ATTIC VENTILATION	R206
ATTIC VENTILATION SHALL COMPLY WITH SECTION R206.	
THE NET FREE VENTILATION SHALL NOT BE LESS THAN 1/150th OF THE AREA OF THE SPACE VENTILATED, EXCEPT THAT THE AREA MAY BE 1/300th PROVIDED THAT AT LEAST 50% OF THE REQUIRED VENTILATING AREA IS LOCATED IN THE UPPER SPACE PORTION OF THE SPACE TO BE VENTILATED AND THE REMAINDER IS PROVIDED BY EAVES OR CORNICE VENTS. IRC R206.	
EXTERIOR WALL COVERING	R103
ALL EXTERIOR COVERINGS SHALL COMPLY WITH SECTION R103	
STUCCO/(EIFS) - INSTALLATION SHALL COMPLY WITH ASTM E 2568	
FIBER CEMENT SIDING - PANEL AND LAP SIDING INSTALLATION SHALL COMPLY WITH ASTM C1186	
VINYL SIDING - INSTALLATION SHALL COMPLY PER ASTM D 3679	
ASPHALT SHINGLES - INSTALLATION SHALL COMPLY WITH ASTM D 225 OR D 3462, CLASS "A"	
BUILDING ADDRESS	IRC R319.1
BUILDING NUMBERS SHALL BE A MIN. 4" HIGH WITH A MINIMUM STROKE WIDTH OF 1/4" INCH.	



RIGHT SIDE VIEW
SCALE 1/8" = 1'-0"



WARNING !
Signature must be in red. Plans and calculations submitted after 45 days from signed date are void.
Plans and calculations are for one time use only on designated lot.

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LOT 55 - QUAIL PONDS SUBDIVISION

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SCALE

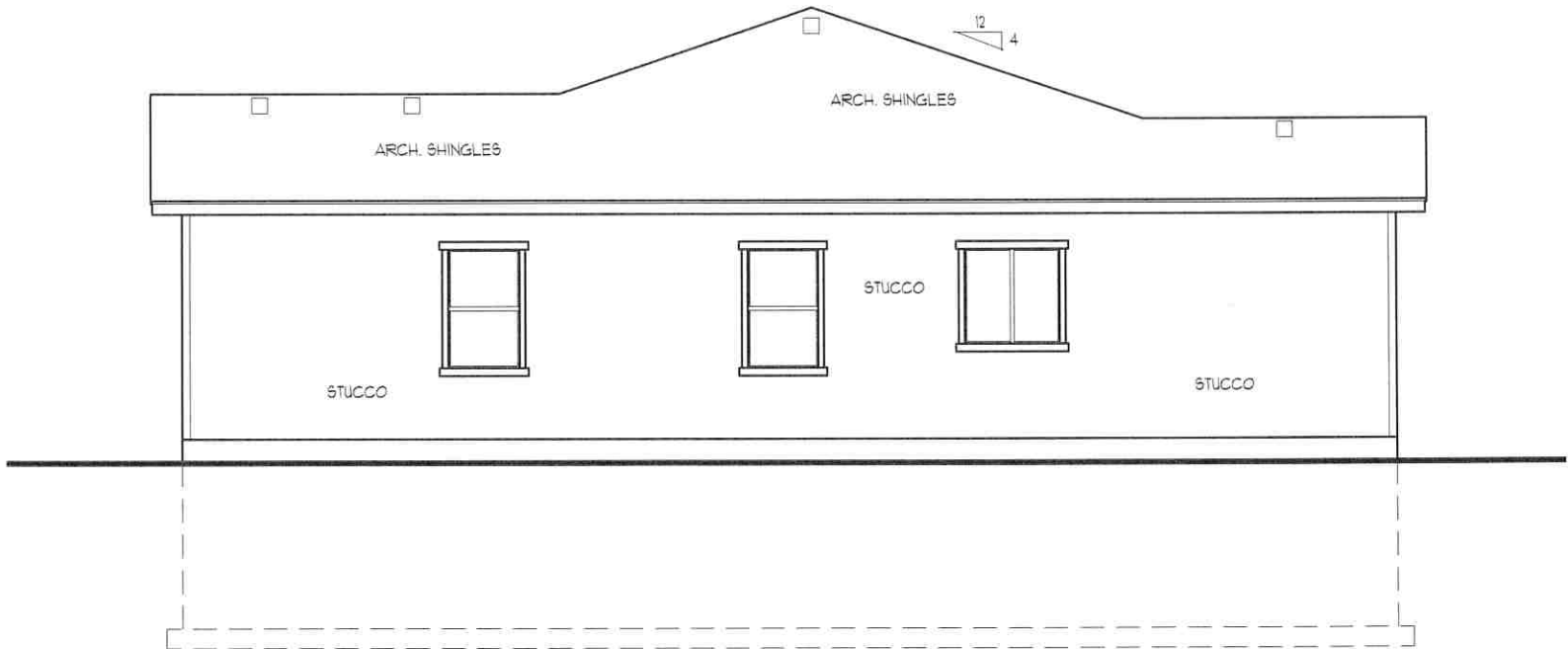
1/8" = 1'-0" 11x17

1/4" = 1'-0" 24x36

PLAN NUMBER

R1607A-26 A1

BRICK VENEER	R103.1
CORROSION RESISTANT ANCHOR TIES EMBEDDED IN MORTAR OR GROUT AND EXTENDING INTO THE VENEER A MINIMUM OF 1-1/4" INCH, WITH NOT LESS THAN 3/4" MORTAR OR GROUT COVER TO OUTSIDE FACE.	
CORROSION RESISTANT 22 GAGE X 7/8" OR NO. 3 GAGE WIRE SPACED NO MORE THAN 24" O.C. HORIZ. AND VERTICALLY, AND SHALL SUPPORT NOT MORE THAN 2.0 SQUARE FEET OF WALL AREA.	
STEEL ANGLE - MIN. 6"x4"x1/2" WITH THE LONG LEG VERTICAL. COMPLY WITH SECTION R103.12.1	
ALL STONE AND MASONRY VENEER SHALL COMPLY WITH SECTION R103.1	
ATTIC VENTILATION	R806
ATTIC VENTILATION SHALL COMPLY WITH SECTION R806.	
THE NET FREE VENTILATION SHALL NOT BE LESS THAN 1/150th OF THE AREA OF THE SPACE VENTILATED, EXCEPT THAT THE AREA MAY BE 1/300th PROVIDED THAT AT LEAST 50% OF THE REQUIRED VENTILATING AREA IS LOCATED IN THE UPPER SPACE PORTION OF THE SPACE TO BE VENTILATED AND THE REMAINDER IS PROVIDED BY EAVES OR CORNICE VENTS. IRC R806.	
EXTERIOR WALL COVERING	R103
ALL EXTERIOR COVERINGS SHALL COMPLY WITH SECTION R103	
STUCCO (EIFS) - INSTALLATION SHALL COMPLY WITH ASTM E 2568	
FIBER CEMENT SIDING - PANEL AND LAP SIDING INSTALLATION SHALL COMPLY WITH ASTM C1186	
VINYL SIDING - INSTALLATION SHALL COMPLY PER ASTM D 3613	
ASPHALT SHINGLES - INSTALLATION SHALL COMPLY WITH ASTM D 225 OR D 3462, CLASS "A"	
BUILDING ADDRESS	IRC R319.1
BUILDING NUMBERS SHALL BE A MIN. 4" HIGH WITH A MINIMUM STROKE WIDTH OF 1/8" INCH.	



LEFT SIDE. VIEW

SCALE 1/8" = 1'-0"



REAR ELEV. VIEW

SCALE 1/8" = 1'-0"





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RG HOMES

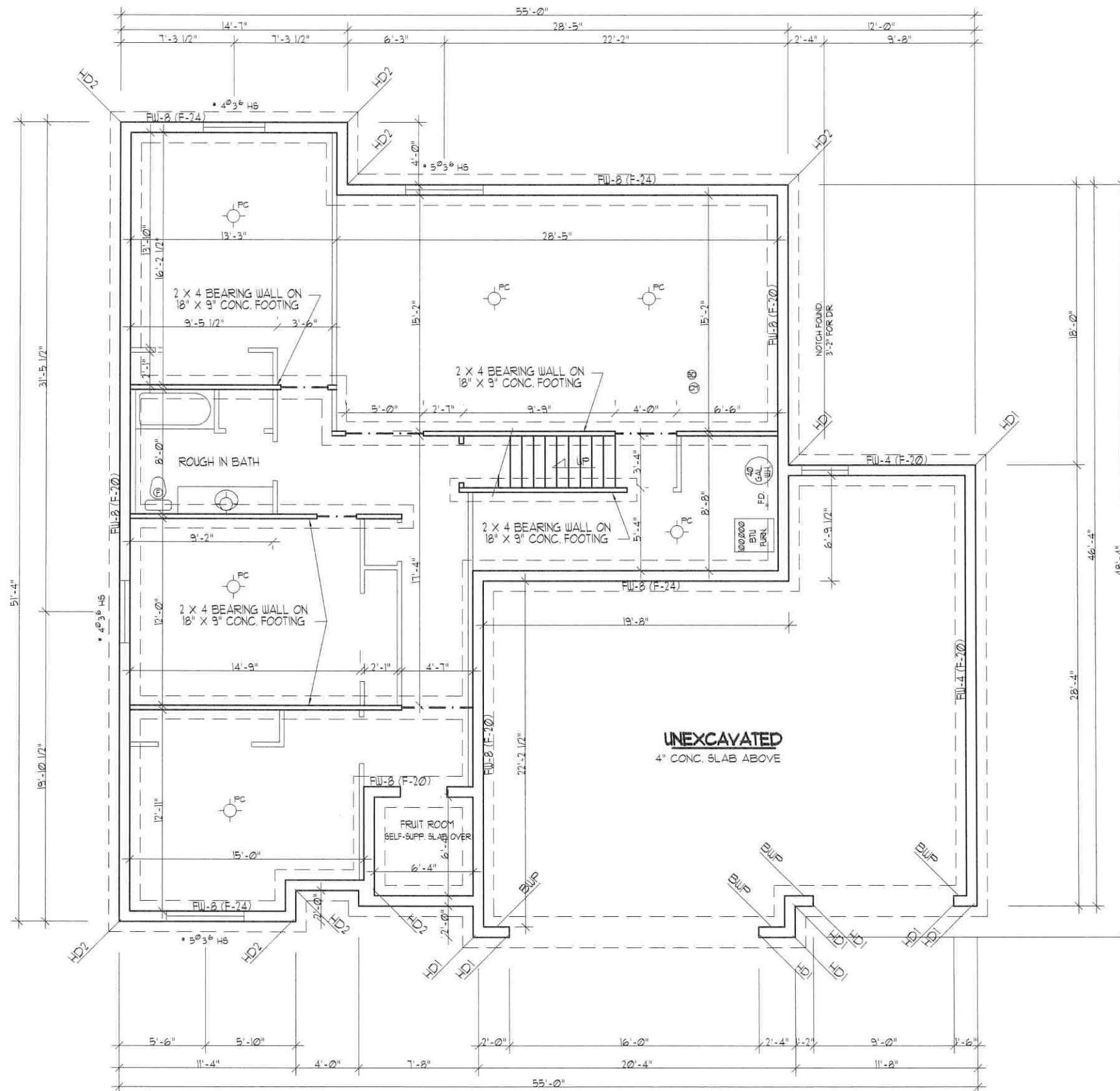
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SCALE		
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1/4" = 1'-0"	24x36	
PLAN NUMBER		
R1607A-26		A2



- NOTES: GENERAL**
1. CONTRACTOR IS TO VERIFY DESIGN, DIMENSIONS AND NOTES PRIOR TO BEGINNING OF CONSTRUCTION.
 2. ALL WORK IS TO BE DONE UNDER THE SUPERVISION OF A LICENSED CONTRACTOR.
 3. ALL WORK IS TO BE DONE UNDER LOCAL AND STATE BUILDING CODES.
 4. ELECTRICAL SHALL BE PER NATIONAL ELECTRIC CODE, LATEST EDITIONS.
 5. HEATING/MECHANICAL WORK SHALL BE PER APPLICABLE CODES, LATEST EDITIONS.
- NOTES: STRUCTURAL**
- SEE STRUCTURAL DETAILS - SHEET S-1, S-2, AND S-3

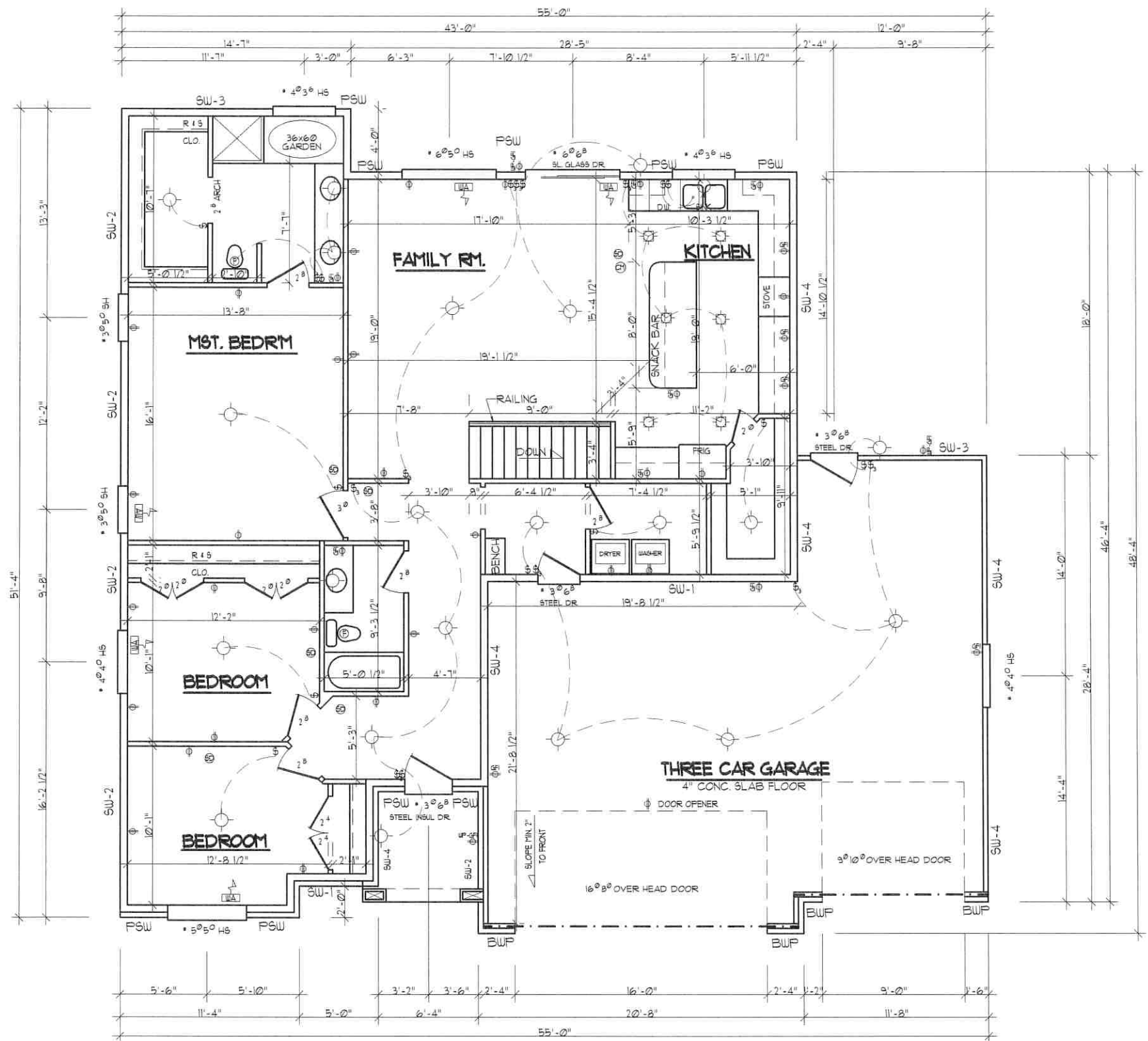


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PLAN NUMBER
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A3

RG HOMES
LOT 55 - QUAIL PONDS SUBDIVISION



MAIN FLOOR PLAN
SCALE 1/8" = 1'-0"
1607 SQ. FT.

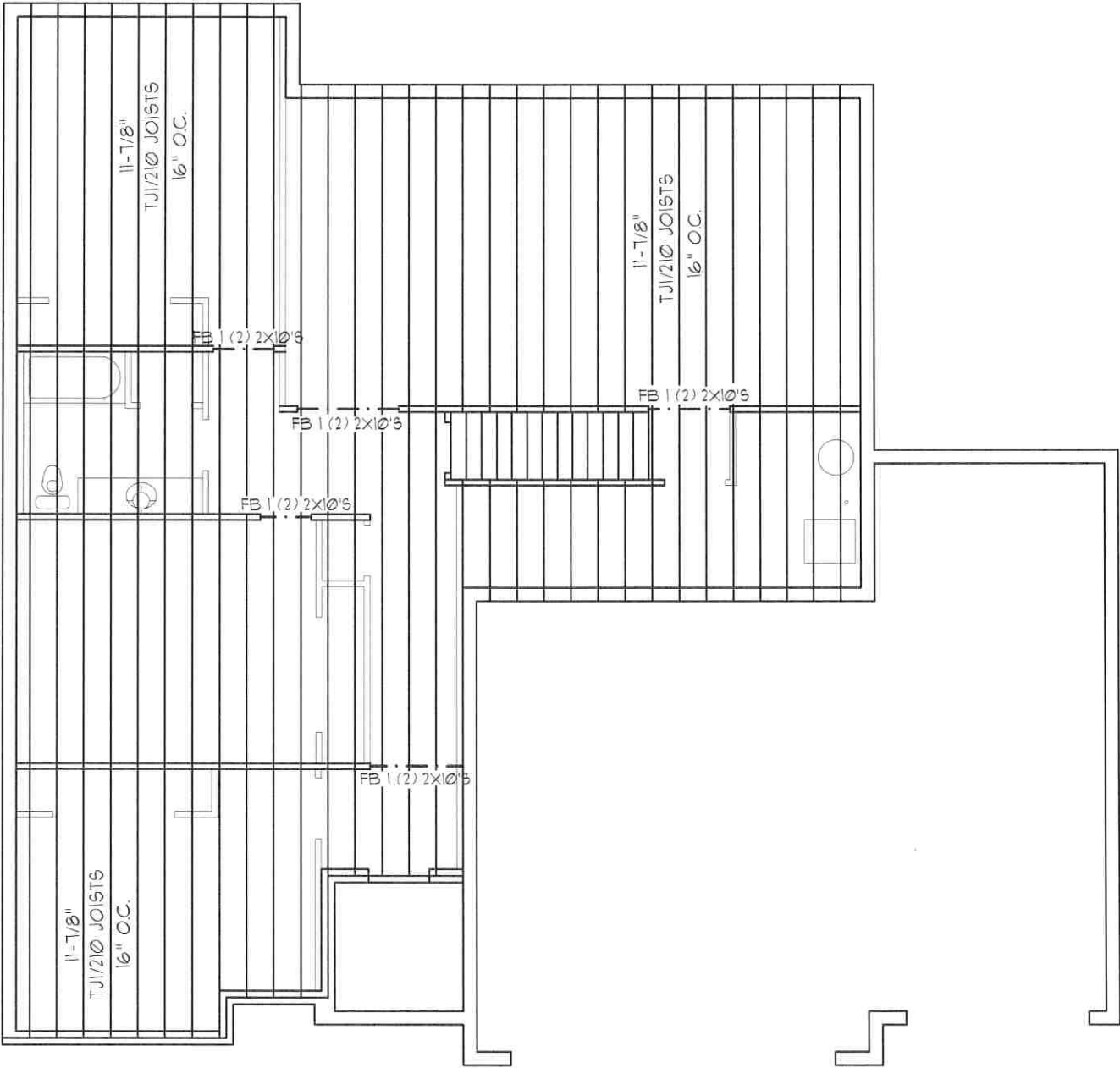
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- SEE STRUCTURAL DETAILS - SHEET S-1, S-2, AND S-3



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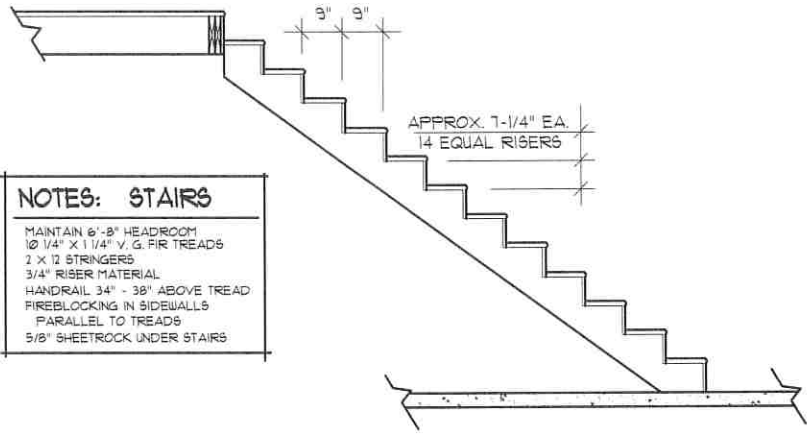
SCALE
1/8" = 1'-0" 11x17
1/4" = 1'-0" 24x36
PLAN NUMBER
R1607A-26 | A4

RG HOMES
LOT 55 - QUAIL PONDS SUBDIVISION



FLOOR FRAMING PLAN
SCALE 1/8" = 1'-0"

- NOTES: GENERAL**
1. CONTRACTOR IS TO VERIFY DESIGN DIMENSIONS AND NOTES PRIOR TO BEGINNING OF CONSTRUCTION.
 2. ALL WORK IS TO BE DONE UNDER THE SUPERVISION OF A LICENSED CONTRACTOR.
 3. ALL WORK IS TO BE DONE UNDER LOCAL AND STATE BUILDING CODES.
 4. ELECTRICAL SHALL BE PER NATIONAL ELECTRIC CODE, LATEST EDITIONS.
 5. HEATING/MECHANICAL WORK SHALL BE PER APPLICABLE CODES, LATEST EDITIONS.
- NOTES: STRUCTURAL**
- SEE STRUCTURAL DETAILS - SHEET S-1, S-2, AND S-3



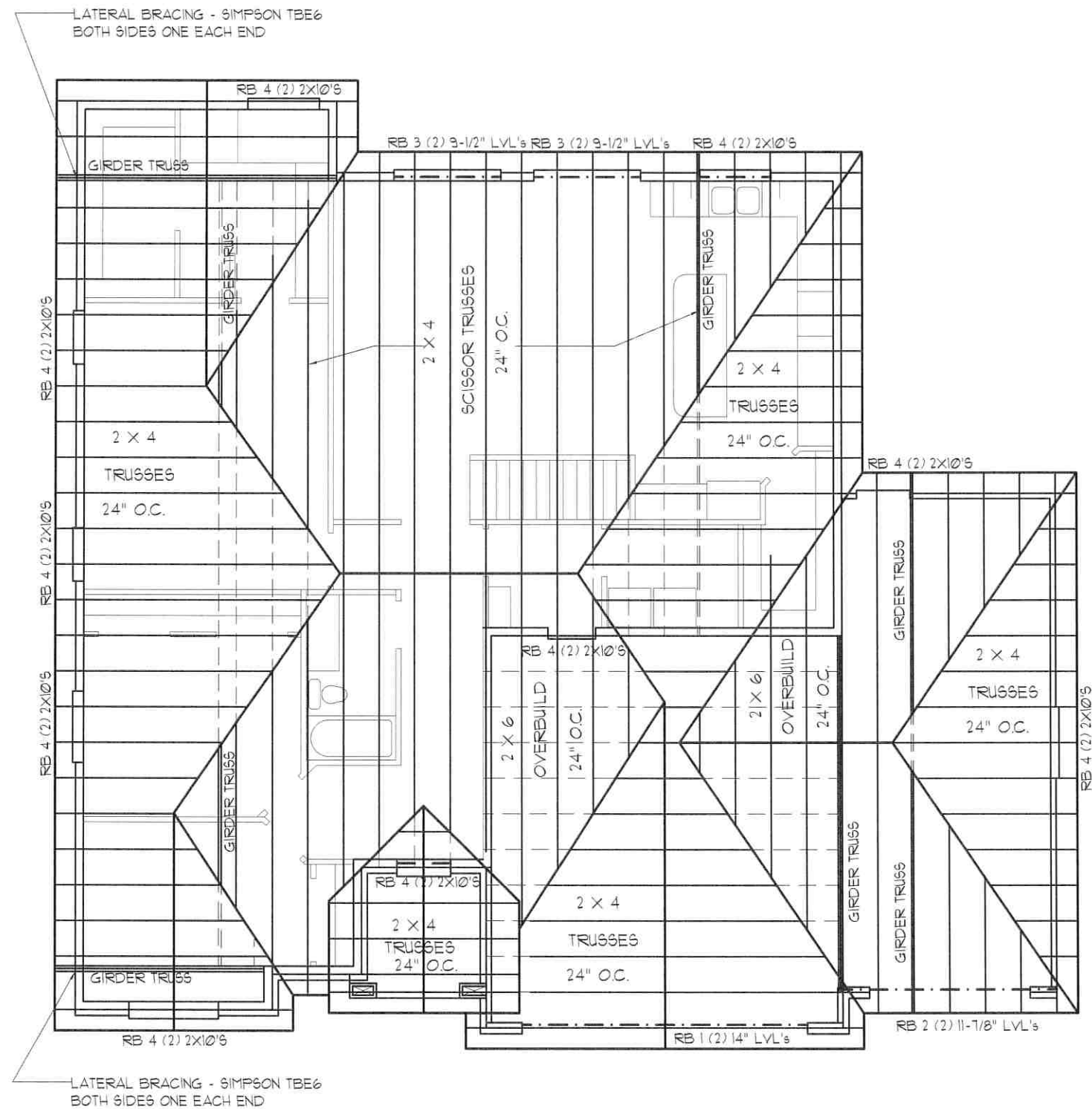
- NOTES: STAIRS**
- MAINTAIN 6'-8" HEADROOM
 - 10 1/4" X 1 1/4" V.G. FIR TREADS
 - 2 X 12 STRINGERS
 - 3/4" RISER MATERIAL
 - HANDRAIL 34" - 38" ABOVE TREAD
 - FIREBLOCKING IN SIDEWALLS
 - PARALLEL TO TREADS
 - 5/8" SHEETROCK UNDER STAIRS

STAIR DETAILS
SCALE 1/2" = 1' - 0"



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SCALE	11x17
1/8" = 1'-0"	24x36
1/4" = 1'-0"	
PLAN NUMBER	A5
R1607A-26	



ROOF FRAMING PLAN
SCALE 1/8" = 1'-0"

NOTES: PRE-MANUFACTUR TRUSSES

PRE-MANUFACTURED TRUSSES SHALL CONFORM WITH SECTION R502.10 AND R502.11.

TRUSS MANUFACTURE SHALL PROVIDE DETAILS AND INSTRUCTION FOR HANDLING, INSTALLING, RESTRAINING, AND BRACING OF TRUSSES BEFORE AND AFTER CONSTRUCTION.

TRUSS DESIGN DRAWINGS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL WHERE REQUIRED BY THE STATUTES OF THE JURISDICTION IN WHICH THE PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH SECTION R106.

NO ALTERATIONS SHALL BE MADE TO THE TRUSSES OR THE TRUSS LAYOUT.

ANY CHANGES TO THE ROOF FRAMING PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER PRIOR TO MANUFACTURING AND OR CONSTRUCTION OF SAID TRUSSES.

TRUSS DESIGN DRAWINGS SHALL COMPLY WITH SECTION R502.11.4 (R502.10.1).

NOTES: GENERAL

1. CONTRACTOR IS TO VERIFY DESIGN DIMENSIONS AND NOTES PRIOR TO BEGINNING OF CONSTRUCTION.

2. ALL WORK IS TO BE DONE UNDER THE SUPERVISION OF A LICENSED CONTRACTOR.

3. ALL WORK IS TO BE DONE UNDER LOCAL AND STATE BUILDING CODES.

4. ELECTRICAL SHALL BE PER NATIONAL ELECTRIC CODE, LATEST EDITIONS.

5. HEATING/MECHANICAL WORK SHALL BE PER APPLICABLE CODES, LATEST EDITIONS.

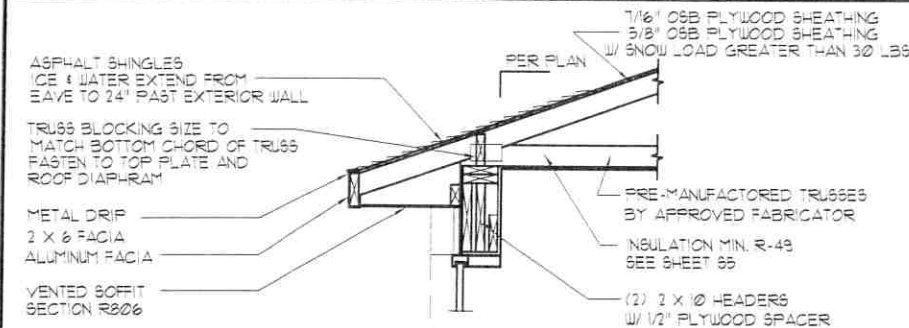
NOTES: STRUCTURAL

SEE STRUCTURAL DETAILS - SHEET S-1, S-2, AND S-3



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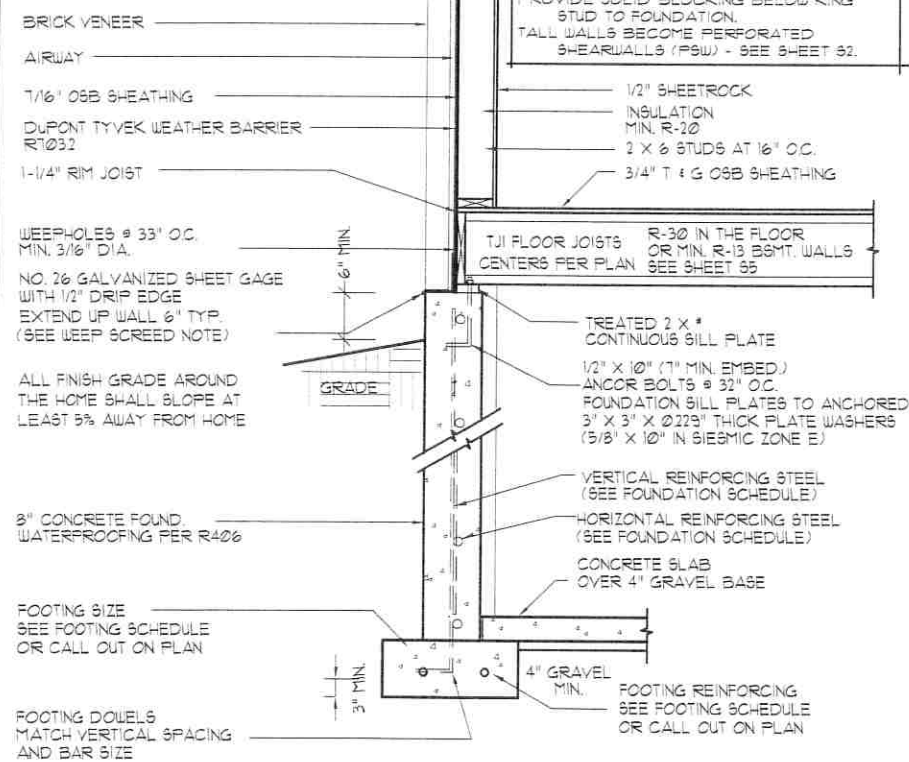


MINIMUM FRAMING WALL HEIGHTS

8'-0" TO 10'-0" WALL HEIGHT 2x4 FRAMING @ 16" O.C.
10'-0" TO 12'-0" WALL HEIGHT 2x4 FRAMING @ 12" O.C.
12'-0" TO 14'-0" WALL HEIGHT 2x6 FRAMING @ 16" O.C.
14'-0" TO 18'-0" WALL HEIGHT 2x6 FRAMING @ 12" O.C.

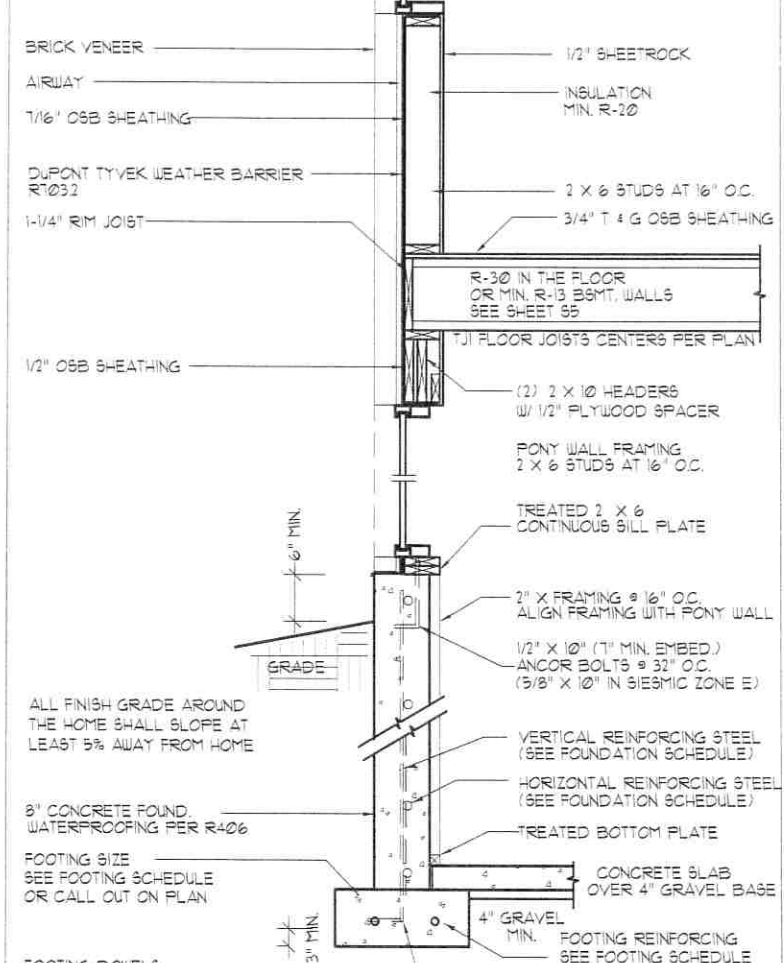
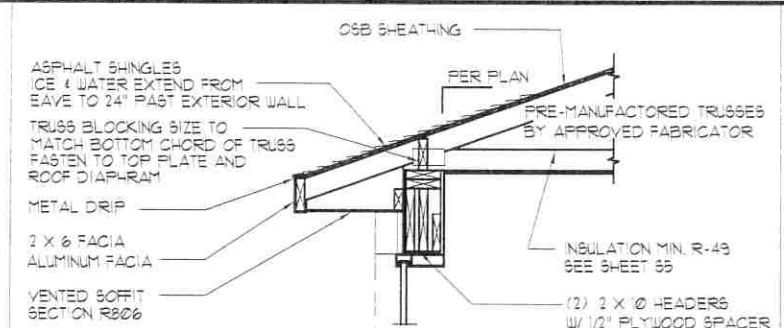
TALL WALL FRAMING

APPLIES TO WALLS OVER 14'-0" FULL HEIGHT STUDS ONLY. HORIZONTAL BLOCKING STAGGERED AT 48" O.C. - SHEATHING 6" O.C. NAILING ALONG BLOCKING. KING STUD ASSEMBLY - 4'-0" AND LESS TWO PLY - 45' TO 6' OPENING THREE PLY 65' TO 3' OPENING FOUR PLY - 95' TO 12' OPENING FIVE PLY. PROVIDE SOLID BLOCKING BELOW KING STUD TO FOUNDATION. TALL WALLS BECOME PERFORATED SHEARWALLS (PSW) - SEE SHEET 32.



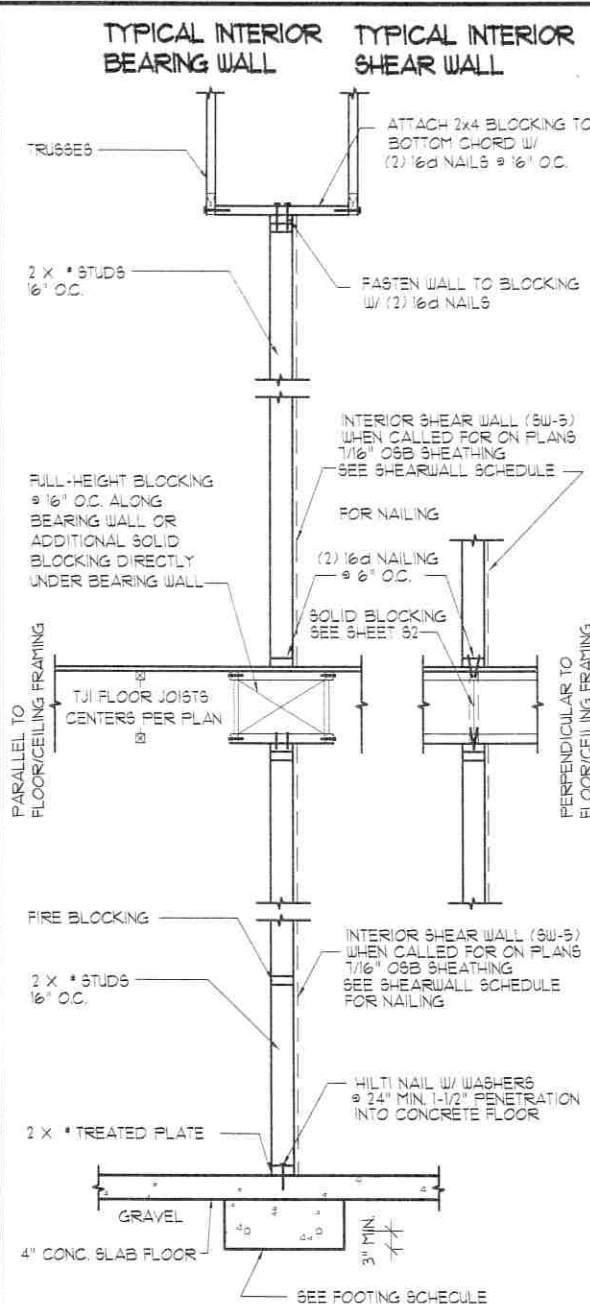
TYPICAL WALL SECTION
SCALE 3/8" = 1' - 0"

CONCRETE Fc = 3000 psi
STEEL Fy = 60000 psi

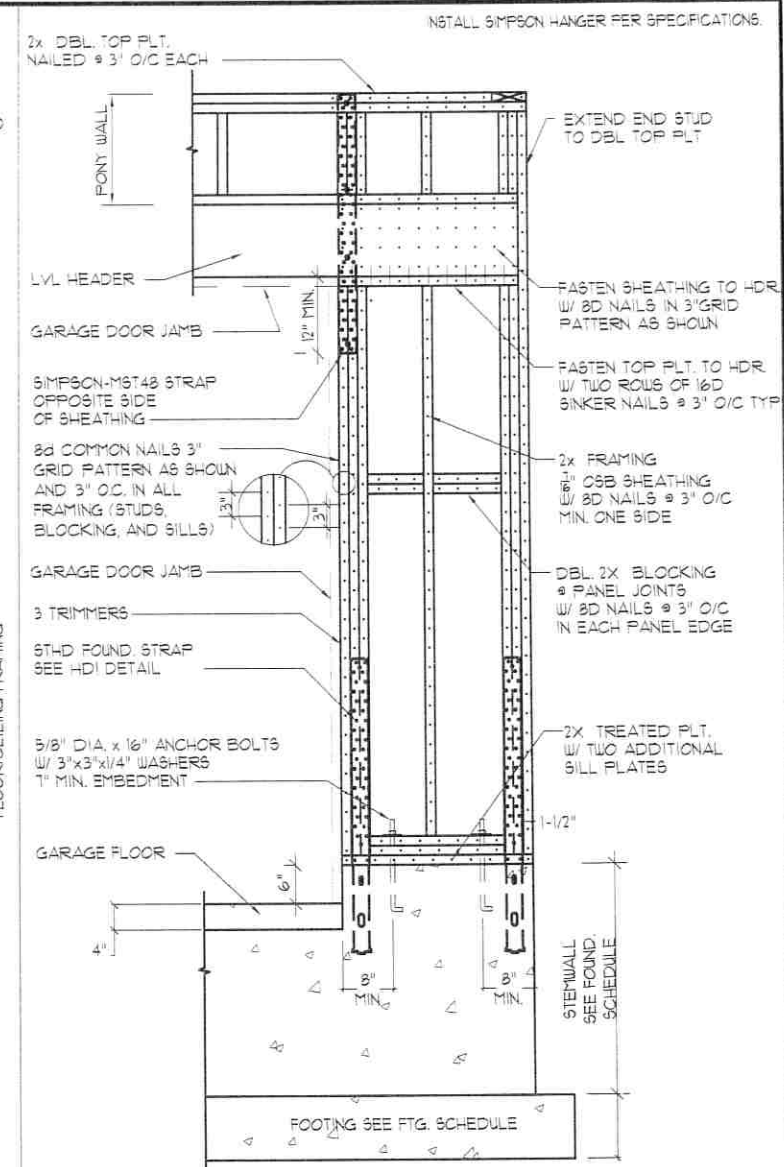


TYPICAL WALL SECTION
SCALE 3/8" = 1' - 0"

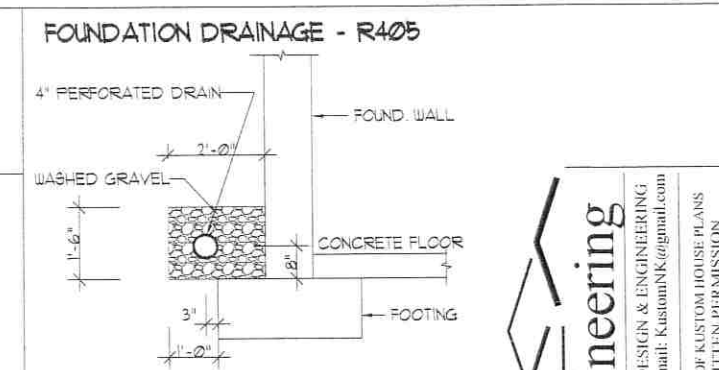
CONCRETE Fc = 3000 psi
STEEL Fy = 60000 psi



TYPICAL INTERIOR BEARING WALL
SCALE 3/8" = 1' - 0"



BRACED WALL PANEL DETAIL (BWP)
NOT TO SCALE



FOUNDATION DRAIN
SCALE - NOT TO SCALE

FOUNDATION WALL SCHEDULE						CONCRETE F _c = 3000 psi STEEL F _y = 60000 psi	
MARK	WALL HEIGHT	WIDTH	REINFORCING STEEL SPACING		NOTES		
			HORIZONTAL BAR	VERTICAL BAR			
FW-3	3'-0"	8"	* 4 BARS @ 3' O.C.	3	* 4 BARS @ 32" O.C.	PER STATE AMENDMENT (SEE WALL SECTION)	
FW-4	3'-6"	8"	* 4 BARS @ 13' O.C.	4	* 4 BARS @ 24" O.C.	PER STATE AMENDMENT (SEE WALL SECTION)	
FW-6	6'-0"	8"	* 4 BARS @ 18' O.C.	3	* 4 BARS @ 24" O.C.	(SEE WALL SECTION)	
FW-8	8'-0"	8"	* 4 BARS @ 18' O.C.	6	* 4 BARS @ 24" O.C.	(SEE WALL SECTION)	
FW-9	9'-0"	8"	* 4 BARS @ 18' O.C.	7	* 4 BARS @ 16" O.C.	(SEE WALL SECTION)	

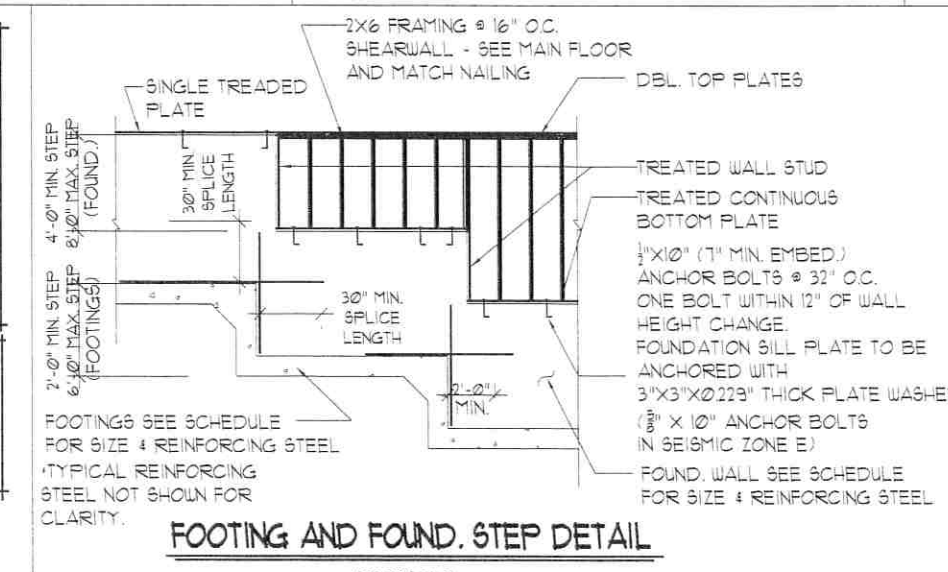
FOOTING SCHEDULE						CONCRETE F _c = 3000 psi STEEL F _y = 60000 psi		
MARK	NOMINAL SIZES		LENGTH	REINFORCING STEEL		NOTES		
	WIDTH	THICK-NESS		LENGTHWISE	CROSSWISE			
F-18	18"	9"	CONT.	* 4 BARS	2		(SEE TYPICAL WALL SECTION)	
F-20	20"	10"	CONT.	* 4 BARS	2		(SEE WALL TYPICAL WALL SECTION)	
F-24	24"	10"	CONT.	* 4 BARS	3		(SEE WALL TYPICAL WALL SECTION)	
F-30	30"	10"	CONT.	* 4 BARS	3		(SEE WALL TYPICAL WALL SECTION)	
F-36	36"	12"	CONT.	* 4 BARS	4		(SEE WALL TYPICAL WALL SECTION)	
F-24	24"	10"	24"	* 4 BARS	3	* 4 BARS	3	(SEE POST DETAIL)
F-30	30"	10"	30"	* 4 BARS	3	* 4 BARS	3	(SEE POST DETAIL)
F-36	36"	12"	36"	* 4 BARS	4	* 4 BARS	4	(SEE POST DETAIL)

FOUNDATION WALL NOTES

- WALLS GREATER THAN 10'-0" SEE ENGINEERING
- REINFORCING STEEL SHALL BE PLACED IN CENTER OF WALL
- FOOTING DOWELS SHALL MATCH VERTICAL STEEL AND EXTEND A MIN. OF 24" INTO FOUNDATION WALL.
- MIN. SPLICE LENGTH
- 4 BAR 24" INCHES - 3 BAR 30" INCHES
- CORNER REINFORCING - LAP 24" INCHES
- OPENINGS - BARS SHALL BE PLACED WITHIN 24" OF TOP OF FOUNDATION WALL. HORIZONTAL REBAR SHALL BE REQUIRED WITHIN THE TOP 4" AND BOTTOM 4" OF WALL.

REINFORCING STEEL

VERTICAL REBAR SHALL EXTEND TO WITHIN 3" OF TOP OF FOUNDATION WALL. HORIZONTAL REBAR SHALL BE REQUIRED WITHIN THE TOP 4" AND BOTTOM 4" OF WALL.



FOOTING AND FOUND. STEP DETAIL
NOT TO SCALE

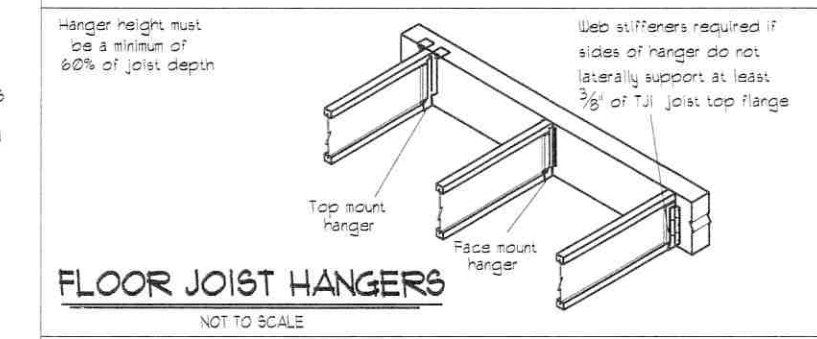
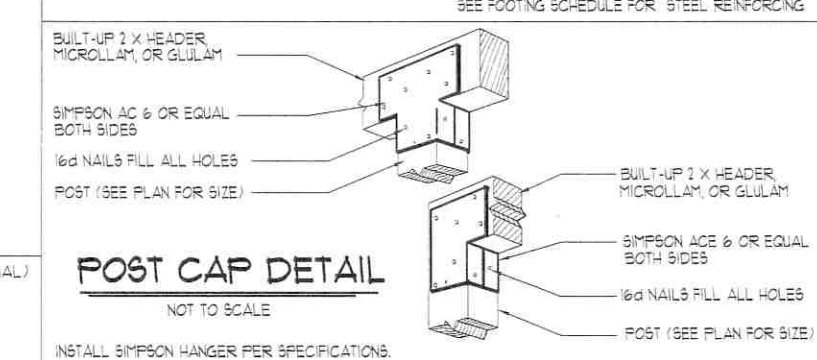
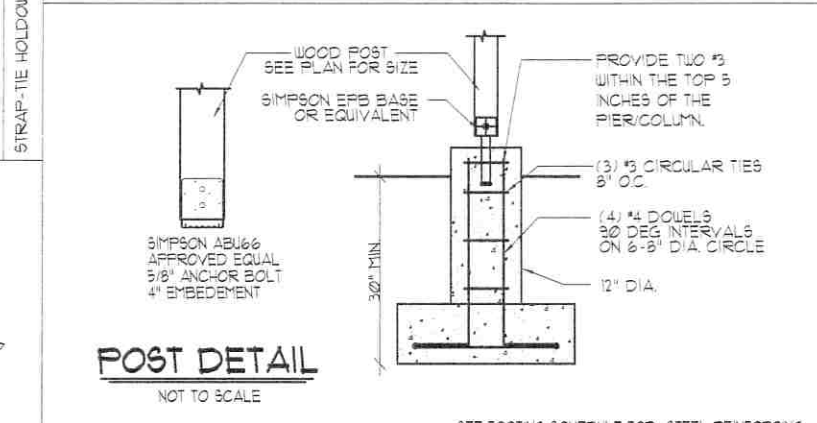
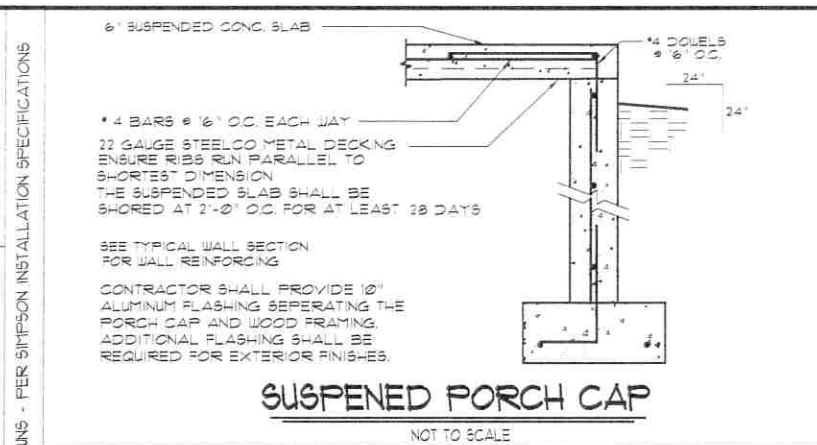
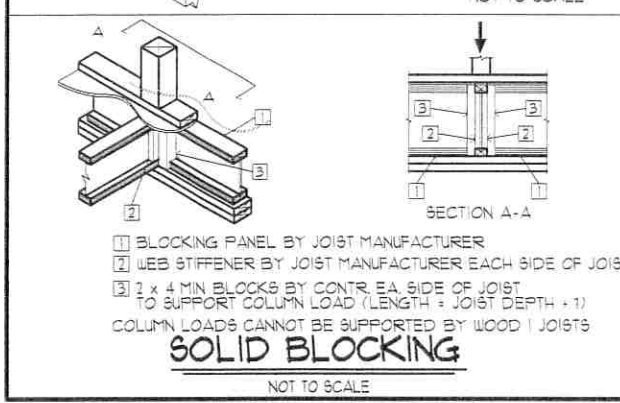
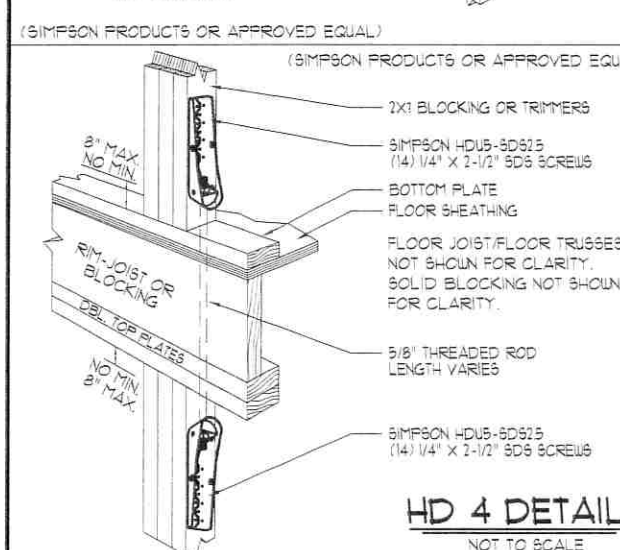
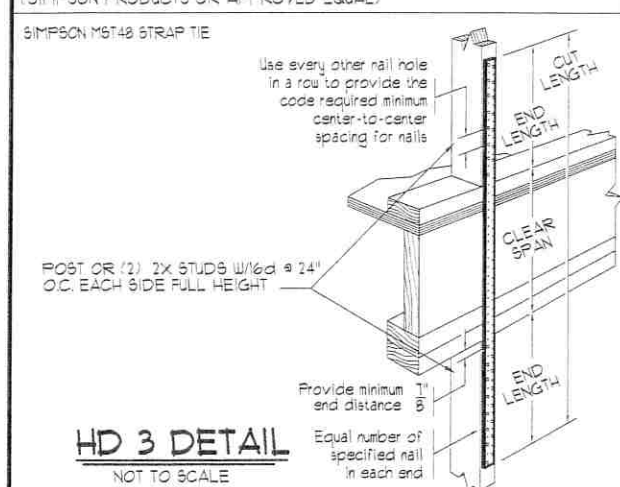
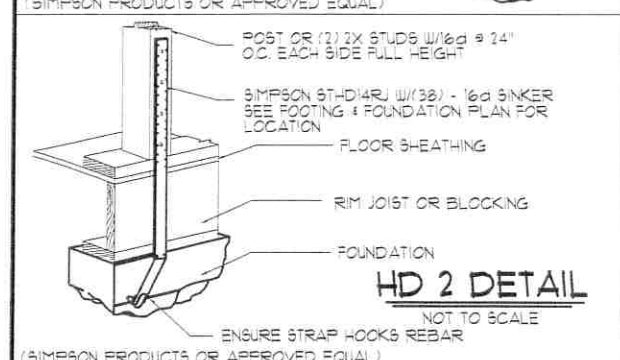
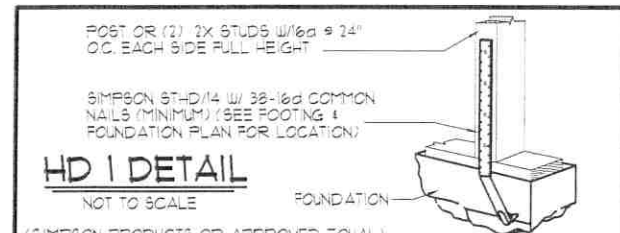
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PLAN NUMBER
2021 IRC | S1



WEB STIFFENERS DETAIL NOT TO SCALE

1/2" for TJI 360

Gap: 1/8" minimum, 2 3/4" maximum. Nailing: See sizes below. Web stiffener both sides. See sizes below. Tight fit.

TJI Joist Series	Depth (in.)	Minimum Web Stiffener Size	Nailing Requirements	
			Type	Number Nails
110 210 230 & 360	All	5/8" x 2 5/8"	8d	3
	All	3/4" x 2 5/8"	(Ø.113" x 2 1/2")	
	All	7/8" x 2 5/8"	(Ø.113" x 2 1/2")	
560	All	2x4	16d	(Ø.135" x 3 1/2")

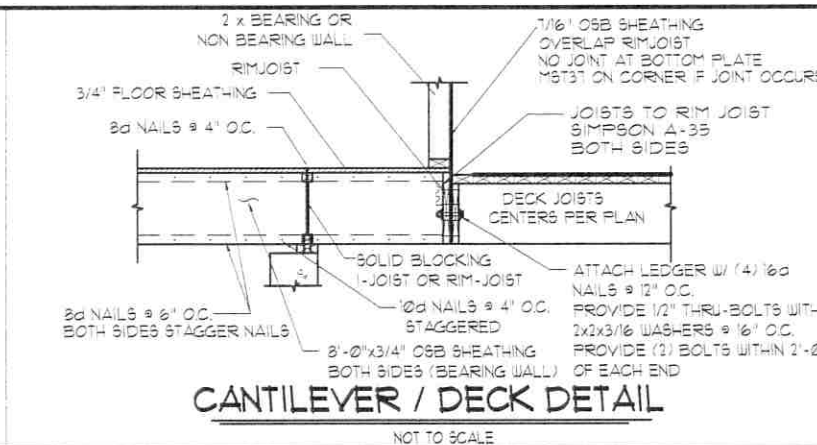


TABLE OF EQUIVALENT FASTENERS
GAUGE NAILS, STAPLES, & T-NAILS (VALID FOR LATERAL LOADS ONLY)

COMMON NAIL SPACING	STAPLE SPACING			T-NAIL SPACING	
	16*	15*	14*	113*	131*
	1"*	1"*	1"*	1 1/4"*	1 1/2"*

***NO STAPLES EQUIVALENT FOR BWP & PSW**
SEE DETAILS FOR NAILING FOR BWP & PSW

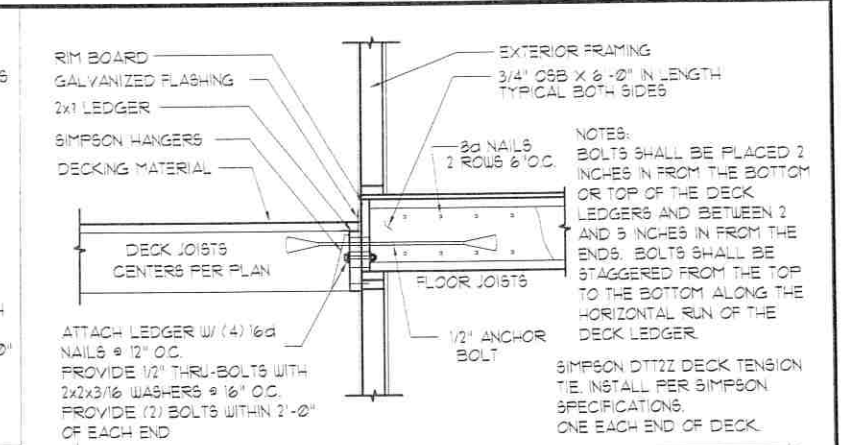
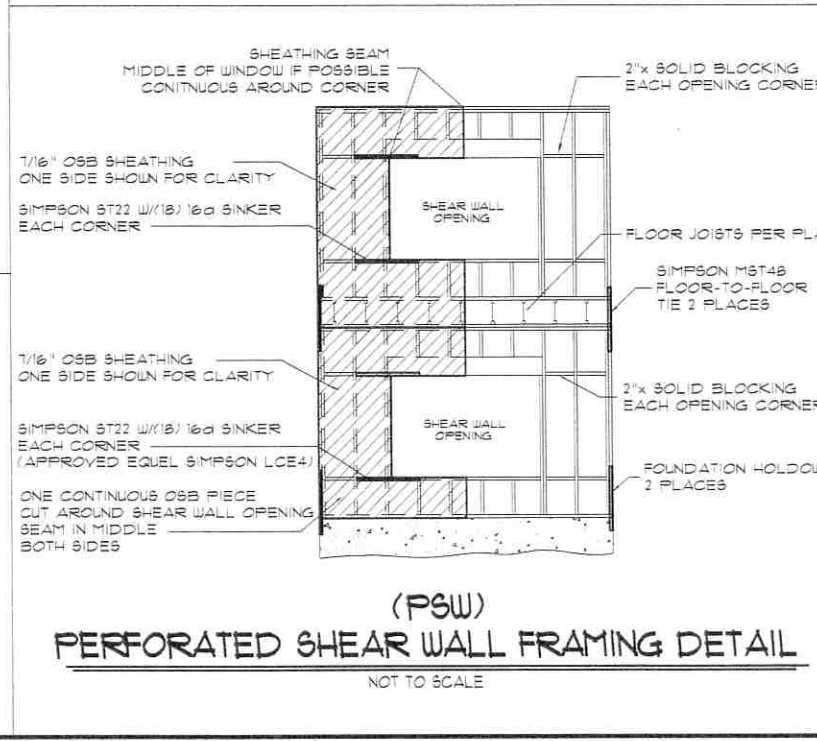
6d @	3 1/2"		4"		5"	
	3"	4"	3"	4"	3"	4"
6"	3 1/2"	4"	3"	4"	3"	4"
8"	3 1/2"	4"	3"	4"	3"	4"
10"	3 1/2"	4"	3"	4"	3"	4"
12"	3 1/2"	4"	3"	4"	3"	4"

SHEAR WALL SCHEDULE

WIND	115 MPH	EXPOSURE C			SEISMIC			ZONE = D, R = 6.5	
MARK	OSB SHEATHING	NAILING			ANCHOR BOLTS			NOTES	
		SIZE	EDGE	FIELD	DIA.	LENGTH	SPACING		
SW-1	7/16"	8d	4"	12"	1/2"	10"	32"		
SW-2	7/16"	8d	4"	12"	1/2"	10"	32"		
SW-3	7/16"	8d	4"	12"	1/2"	10"	32"		
SW-4	7/16"	8d	4"	12"	1/2"	10"	32"		
SW-5	7/16"	8d	6"	12"				INTERIOR SHEARWALL	
BWP	7/16"	8d	3"	3"	5/8"	16"	TWO	NO STAPLES	
PSW	7/16"	8d	3"	12"	1/2"	10"	32"	NO STAPLES	

* FOUNDATION SILL PLATES TO ANCHORED WITH 3" X 3" X Ø229" THICK PLATE WASHERS

* 8d COMMON NAILS = (2-1/2" X Ø131)

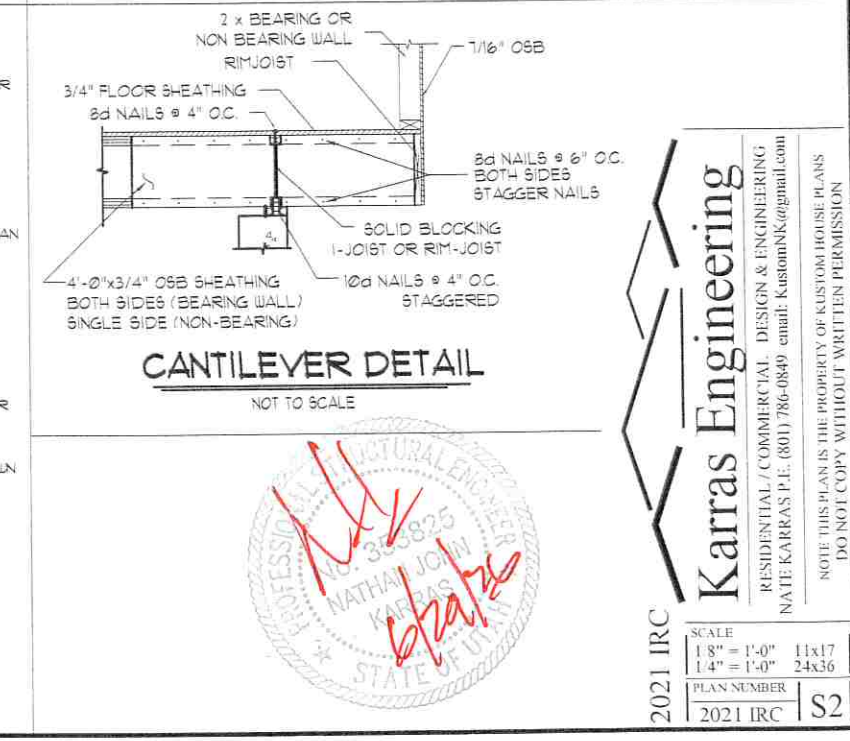
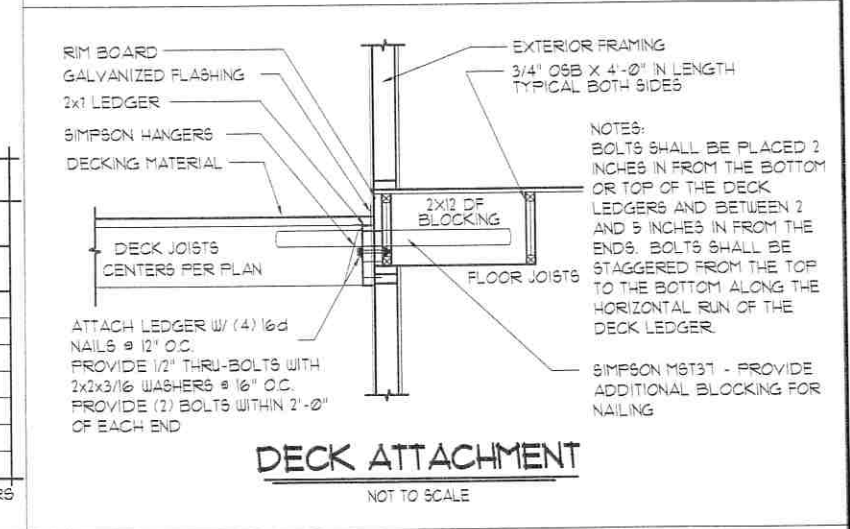


SIMPSON DTT2Z HOLDOWN - SPECIFICATIONS

INSTALLATION - USE ALL SPECIFIED FASTENERS. 1/2" ANCHOR BOLT, 8-SDS 1/2"x1-1/2" SIMPSON SCREWS. STANDARD CUT WASHER INSTALLED BETWEEN THE NUT AND THE SEAT. SDS SCREWS INSTALL BEST WITH A LOW SPEED HIGH TORQUE DRILL WITH A 3/8" HEX. HEAD DRIVER. WHEN INSTALLING SCREWS PREVENT WOOD FROM SPLITTING.

HOLDOWNS-ANCHOR BOLT - DO NOT OVER-TORQUE. FINGER TIGHT PLUS 1/2 TURN WITH A HAND WRENCH.

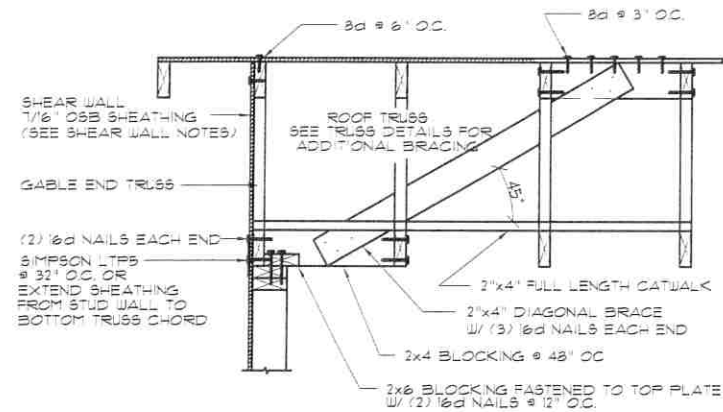
ATTACHMENT TO TJI FLOOR SYSTEM - INSTALL 1/2" OSB FLOOR SHEATHING BY 6'-0" WITH 8d COMMON NAILS TWO ROWS AT 6" O.C. TO BOTH SIDES OF I-JOISTS.



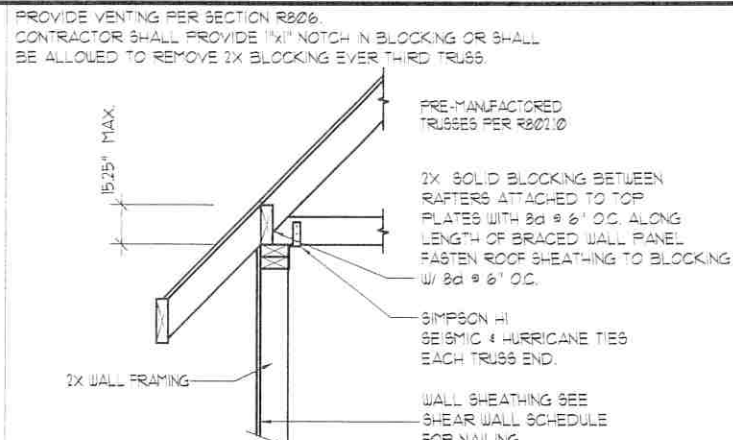
Karras Engineering
RESIDENTIAL / COMMERCIAL DESIGN & ENGINEERING
NATE KARRAS P.E. (801) 786-0849 email: KustonnK@gmail.com
NOTE: THIS PLAN IS THE PROPERTY OF KUSTOM HOUSE PLANS. DO NOT COPY WITHOUT WRITTEN PERMISSION.

2021 IRC

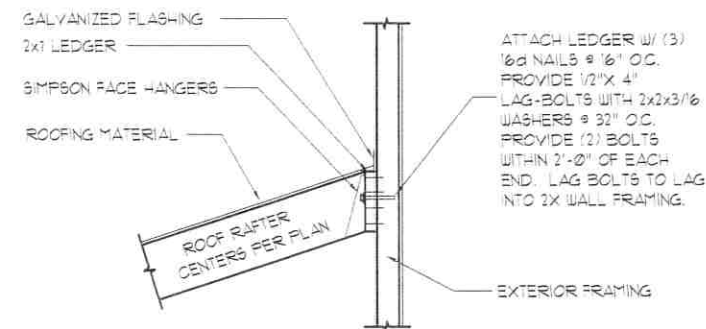
SCALE	1 1/8" = 1'-0"	1 1/4" = 1'-0"
PLAN NUMBER	2021 IRC	S2



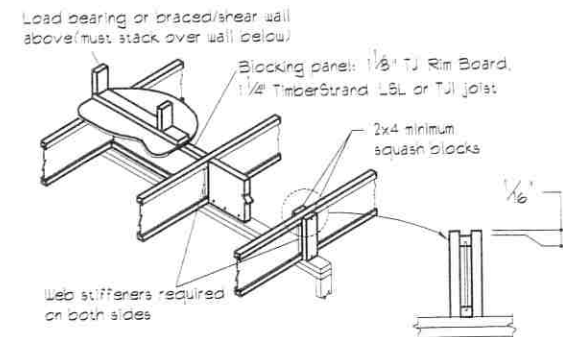
GABLE END DETAIL
NOT TO SCALE



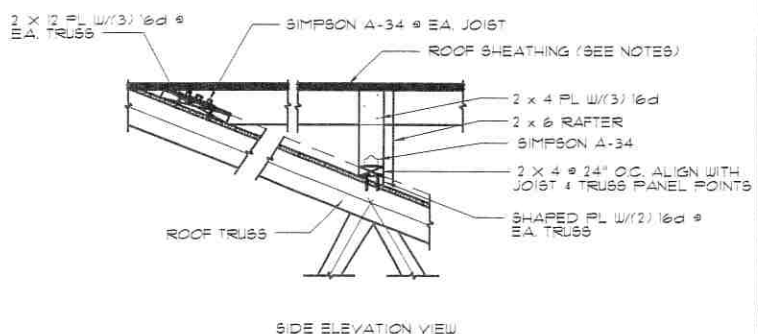
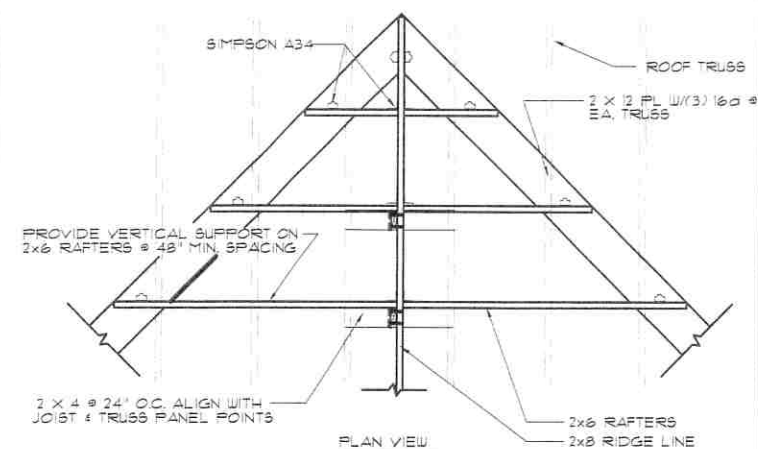
WALL TO ROOF TRUSS CONNECTION
NOT TO SCALE



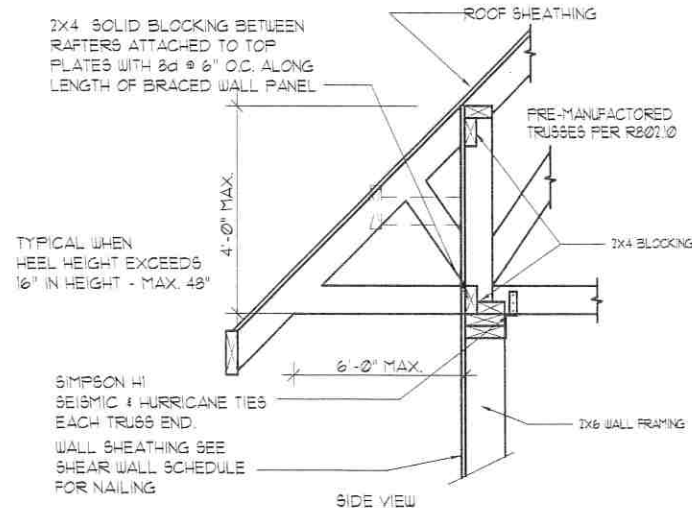
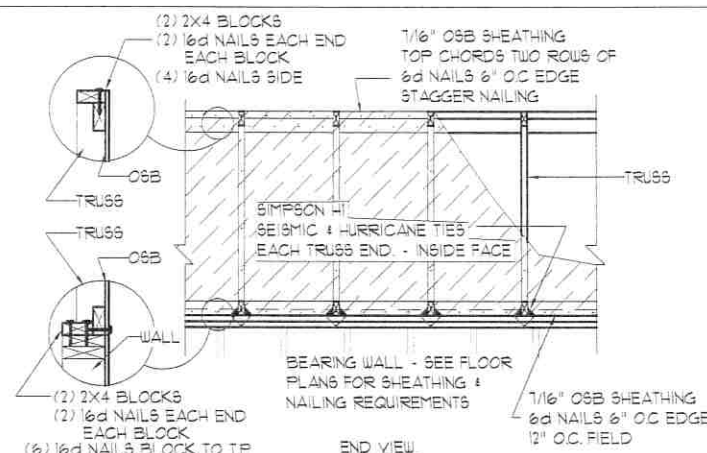
RAFTER ATTACHMENT
NOT TO SCALE



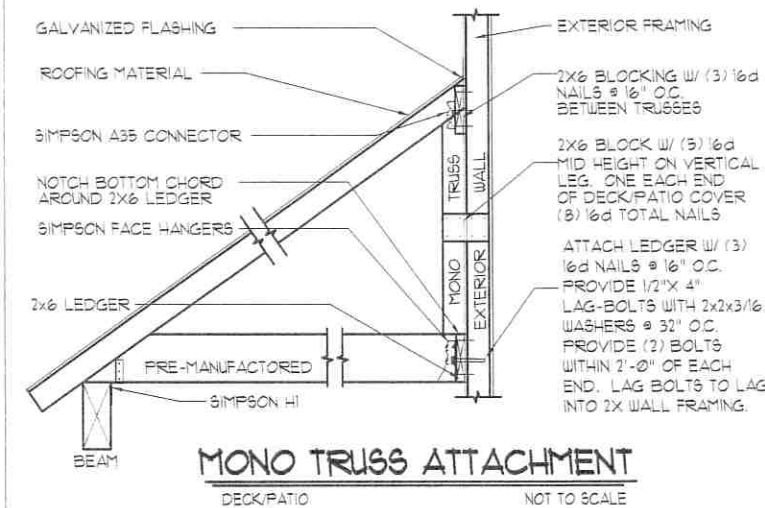
FLOOR JOIST SOLID BLOCKING
NOT TO SCALE



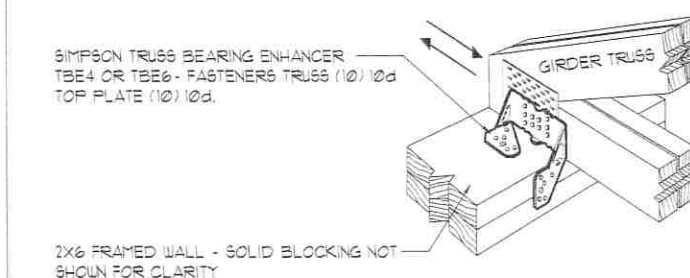
OVERBUILD DETAIL
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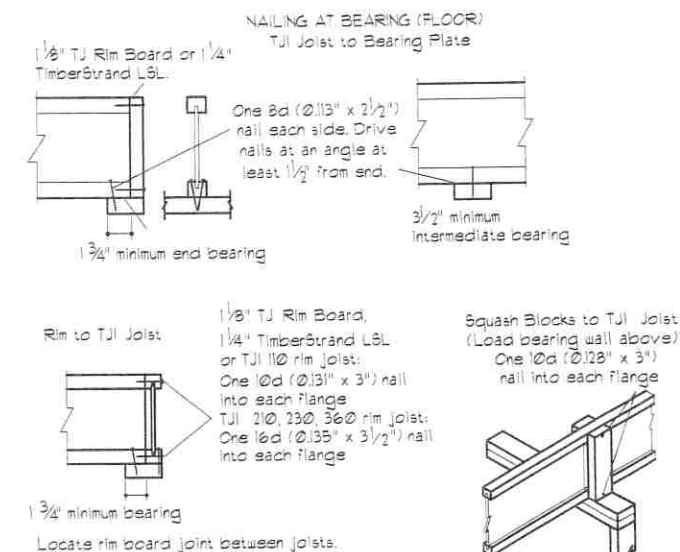
WALL TO RAISED HEEL ROOF TRUSS CONNECTION
NOT TO SCALE



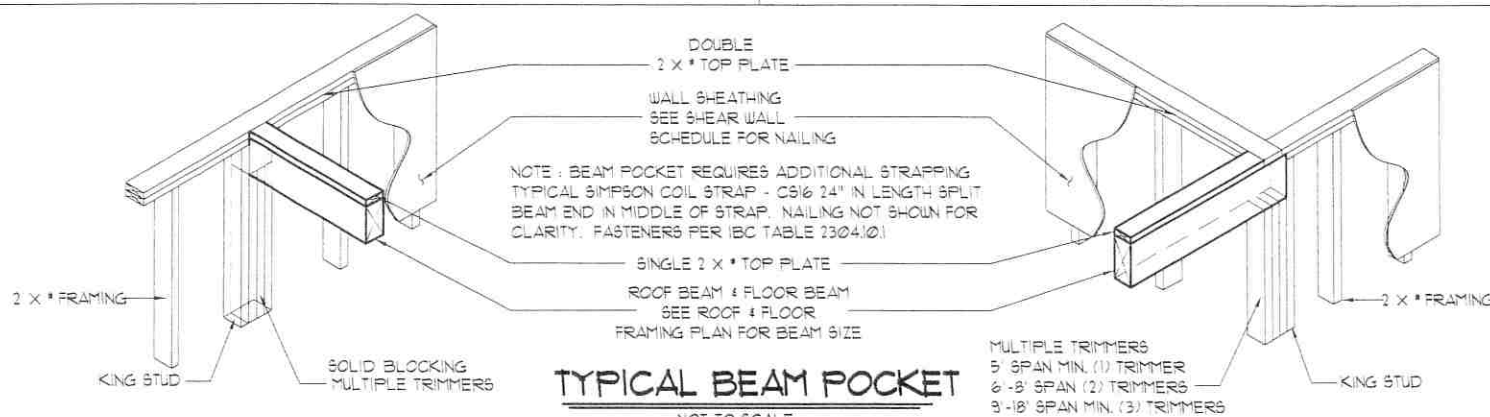
INSTALL SIMPSON HANGER PER SPECIFICATIONS.



LATERAL BRACING - SIMPSON TBE4/6
NOT TO SCALE



FLOOR JOIST NAILING DETAILS
NOT TO SCALE



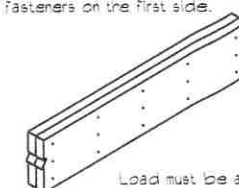
TYPICAL BEAM POCKET
NOT TO SCALE

Multiple-Member Connections for Top-Loaded Beams
Fastener Installation Requirements

Ply	# of	Type ⁽¹⁾	Min. Length	# Rows	O.C. Spacing	Location
1 3/4"	2	10d nails	3"	3 ⁽²⁾	12"	One side
		Screws	3 3/8" or 3 1/2"	2	24"	
	3	10d nails	3"	3 ⁽²⁾	12"	Both sides
2"	3	12d-16d nails	3 1/4"	2 ⁽²⁾	12"	Both sides
		Screws	3 3/8" or 3 1/2"	2	24"	
	4	10d nails ⁽³⁾	3"	3 ⁽²⁾	12"	One side (per ply)
3"	4	12d-16d nails ⁽³⁾	3 1/4"	2 ⁽²⁾	12"	Both sides
		Screws	5" or 6"	2	24"	

(1) 10d nails are 0.128" diameter; 12d-16d nails are 0.148" - 0.162" diameter; screws are SD5, SDW, US, or Truss-LOK-EWP.
(2) An additional row of nails is required with depths of 14" or greater.
(3) When connecting 4-ply members nail each ply to the other and offset nail rows by 2" from the rows in the ply below.

When fasteners are required on both sides, stagger fasteners on the second side so they fall halfway between fasteners on the first side.



Load must be applied evenly across entire beam width. Otherwise, use connections for side-loaded beams.

Multiple pieces can be nailed or bolted together to form a header or beam of the required size, up to a maximum width of 1"



2021 INTERNATIONAL BUILDING/RESIDENTIAL CODE		
CONTRACTOR/OWNER SHALL COMPLY WITH BOTH IRC AND IRC BUILDING CODE REQUIREMENTS AS WELL AS UTAH STATE AMENDMENTS.		
CONTRACTOR/OWNER SHALL COMPLY WITH UTAH ADMINISTRATIVE CODE RULE R56-56.		
DESIGN CRITERIA		
GOVERNING CODE	2021 IRC	
SEISMIC	ZONE D R=25, Fa=12, Ss=1.08, S1=0.42, Sm=1.48, Crs=0.911	
WIND LOADS	15 MPH	
ULTIMATE WIND SPEED	EXPOSURE C	
ROOF LOADS		
DEAD	5 PSF	
ROOF SNOW	30 PSF	
GROUND SNOW	35 PSF	
FLOOR LOADS	Ss=10, Cl=10, Cs=10, G=10	
DEAD	10 PSF	
LIVE	40 PSF	
DECK LOADS		
DEAD	10 PSF	
LIVE	60 PSF	
SOIL BEARING PRESSURE	1500 PSF	
GEOTECH		

IT IS THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO VERIFY THE SITE AND GEOTECHNICAL CONDITIONS ARE IN COMPLIANCE WITH THE DESIGN CRITERIA LISTED ABOVE.

ANY ANOMALOUS SOIL CONDITION ENCOUNTERED DURING EXCAVATION, SUCH AS SLURPAGE, HIGH MOISTURE CONTENT, IMPROPER DRAINAGE, ETC., SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING.

STRUCTURAL STEEL

- FABRICATION AND CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS:
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS," WITH " COMMENTARY.
 - AISC "CODE OF STANDARD PRACTICE" EXCLUDING THE FOLLOWING: SECTION 3.4 , SECTION 4.4, SECTION 4.41.
 - AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"
 - AMERICAN WELDING SOCIETY (AWS), STRUCTURAL WELDING CODE (SPECIFIC ITEMS DO NOT APPLY WHEN THEY CONFLICT WITH AISC REQUIREMENTS).
 - AISC "SEISMIC PROVISION FOR STRUCTURAL STEEL BUILDINGS"

CONCRETE

- CONCRETE
- ALL CONCRETE SHALL BE MIN. OF 3000 PSI CONCRETE
 - TYPE III/II CEMENT COMPLYING WITH ASTM C-150 SHALL BE USED FOR ALL CONCRETE
 - THE WATER/CEMENT RATIO AND AIR ENTRAINMENT SHALL MEET THE REQUIREMENTS OF ACI 318.
 - REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE COVER:
 - CAST IN PLACE CONCRETE..... CLEAR COVER
 - CAST AGAINST PERMANENTLY EXPOSED TO EARTH..... 3"
 - FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:
 - 6" THRU 18 BARS..... 2"
 - 19 AND SMALLER BARS..... 1-1/2"
 - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS, JOISTS: 11 BARS AND SMALLER..... 3/4" BEAMS, COLUMNS, PRIMARY REINF. TIES, STIRRUPS, SPIRALS..... 1 1/2"
 - REINFORCING MIN. LAP SPICE - 4 BARS 24" - 6 BARS 30"

FOOTING & FOUNDATION R403 & R404

FOOTINGS AND FOUNDATION SHALL BE CONSTRUCTED IN ACCORDANCE TO SECTIONS R403, R404 AND R409.

- FOOTINGS HAVE BEEN DESIGNED TO THE SOIL BEARING PRESSURE SPECIFIED IN THE DESIGN CRITERIA.
- ALL FOOTINGS ARE TO REST ON UNDISTURBED SOIL AND SHALL BE A MINIMUM OF 30", OR LOCAL FROST DEPTH, BELOW THE FINISH GRADE.
- THE CONTRACTOR SHALL ENSURE THAT THE FOOTINGS ARE PROPERLY DRAINED AND THAT THE SOIL MOISTURE CONTENT MEETS THE IRC AND IRC REQUIREMENTS.
- COMPACT BACKFILL AGAINST FOUNDATION WALL TO 85% OF MODIFIED PROCTOR DRY DENSITY TO REDUCE SETTING OF FILL.
- FOUNDATION ANCHOR BOLTS SHALL BE EMBEDDED IN AT LEAST 1" OF CONCRETE AND PLACED WITHIN 12" OF SILL PLATE END. IF MULTIPLE PLATES ARE USED, THE ANCHOR BOLTS SHALL EXTEND THROUGH ALL PLATES. THERE SHALL BE A MINIMUM OF 2 ANCHOR BOLT PER WALL SECTION. 3"X3"X2229" SQUARE WASHERS SHALL BE USED BETWEEN ANCHOR BOLT AND PLATE. SEE CROSS SECTION FOR SIZE AND SPACING.
- GRADE 60 REBAR SHALL BE USED FOR BOTH VERTICAL AND HORIZONTAL INSTALLATIONS
- HOLDDOGS SHALL BE EMBEDDED IN THE FOUNDATION PER MANUFACTURERS REQUIREMENTS. THE CONTRACTOR SHALL ENSURE THAT THE FASTENERS HOOK THE REBAR AND MEETS THE MINIMUM EDGE DISTANCE.

CONCRETE-ENCASED ELECTRODE E3608.12

AN ELECTRODE ENCASED BY AT LEAST 2 INCHES OF CONCRETE, LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH THE EARTH, CONSISTING OF AT LEAST 20 FEET OF ONE OR MORE BARE OR ZINC-GALVANIZED OR OTHER ELECTRICALLY CONDUCTIVE COATED STEEL REINFORCING BARS OR RODS OF NOT LESS THAN 1/2 INCH DIAMETER, OR CONSISTING OF AT LEAST 20 FEET OF BARE COPPER CONDUCTOR NOT SMALLER THAN 4 AWG SHALL BE CONSIDERED AS A GROUNDING ELECTRODE. REINFORCING BARS SHALL BE PERMITTED TO BE BONDED TOGETHER BY THE USUAL STEEL TIE WIRE OR OTHER EFFECTIVE MEANS.

FOOTINGS ON OR ADJACENT TO SLOPES R403.1.1

THE PLACEMENT OF BUILDINGS AND STRUCTURES ON OR ADJACENT TO SLOPES STEEPER THAN ONE UNIT VERTICAL IN THREE UNITS HORIZONTAL (33.3-PERCENT SLOPE) SHALL CONFORM TO SECTIONS R403.1.1 THROUGH R403.1.1.4

BUILDING CLEARANCES FROM ASCENDING SLOPE SURFACES R403.1.1.1

IN GENERAL, BUILDINGS BELOW SLOPES SHALL BE SET A SUFFICIENT DISTANCE FROM THE SLOPE TO PROVIDE PROTECTION FROM SLOPE DRAINAGE, EROSION AND SHALLOW FAILURES.

FOOTING SETBACK FROM DESCENDING SLOPE SURFACES R403.1.1.2

FOOTINGS ON OR ADJACENT TO SLOPE SURFACES SHALL BE FOUNDED IN MATERIAL WITH AN EMBEDMENT AND SETBACK FROM THE SLOPE SURFACE SUFFICIENT TO PROVIDE VERTICAL AND LATERAL SUPPORT FOR THE FOOTING WITHOUT DETRIMENTAL SETTLEMENT.

FOUNDATION ELEVATION R403.1.1.3

ON GRADED SITES, THE TOP OF ANY EXTERIOR FOUNDATION SHALL EXTEND ABOVE THE ELEVATION OF THE STREET GUTTER AT POINT OF DISCHARGE OR THE INLET OF AN APPROVED DRAINAGE DEVICE A MINIMUM OF 12 INCHES (303 MM) PLUS 2 PERCENT.

STRUCTURAL FILL

STRUCTURAL FILL SHALL BE IMPORTED FILL MATERIAL.

IMPORTED FILL MATERIAL SHALL CONSIST OF WELL-GRADED SANDY GRAVELS TO SILTY SANDS WITH A MAXIMUM SIZE OF 4" AND 5 TO 20 PERCENT FINES (MATERIALS PASSING NO. 200 SIEVE). THE LIQUID LIMIT OF THE FINES SHALL NOT EXCEED 35% AND THE PLASTICITY INDEX SHALL BE BELOW 15.

CLEAN GRAVEL RANGING FROM FEA GRAVEL TO 4" WITH LESS THAN 5 PERCENT FINES AND SAND COMBINED MAY ALSO BE USED AS STRUCTURAL FILL.

ALL FILL SOILS SHALL BE FREE FROM TOPSOIL, HIGHLY ORGANIC MATERIAL, FROZEN SOIL, AND OTHER DELETERIOUS MATERIALS.

THE THICKNESS OF EACH LIFT SHALL BE APPROPRIATE FOR THE COMPACTION EQUIPMENT BEING USED. MAX. 6" LIFT FOR HAND COMPACTION, MAX. 8" FOR TRENCH COMPACTORS.

THE FULL THICKNESS OF EACH LIFT OF STRUCTURAL FILL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.

CLEAN GRAVEL FILL MAY BE PLACED IN MAX. 24" LIFTS. THE GRAVEL WILL NEED TO BE COMPACTED WITH AT LEAST 4 PASSES OF A VIBRATORY PLATE OR DRUM COMPACTOR.

WOOD - GENERAL FRAMING NOTES R502 & R602

WOOD FRAMING SHALL BE CONSTRUCTED IN ACCORDANCE TO SECTIONS R502 AND R602. FASTENERS SCHEDULE FOR STRUCTURAL MEMBERS PER TABLE R602.3(1).

- FRAMING LUMBER SHALL BE #2 DOUGLAS FIR-LARCH OR BETTER UNLESS NOTED OTHERWISE.
- ALL WOOD IN CONTACT WITH CONCRETE, MASONRY OR SOIL SHALL BE PRESSURE TREATED OR BE REDWOOD.
- ALL FRAMING ANCHORS, POST CAPS, HOLD DOWNS, COLUMN BASES, ETC., SHALL BE PROVIDED BY SIMPSON STRONG-TIE OR APPROVED EQUAL.
- ALL WALLS SHALL HAVE A MINIMUM OF TWO TOP PLATES. SPLICES IN TOP PLATES SHALL BE STAGGERED A MINIMUM OF FOUR FEET FROM THE NEAREST SPLICE IN ADJOINING TOP PLATE.
- ALL EXTERIOR AND LOAD BEARING WINDOW AND DOOR HEADERS SHALL HAVE (2) 2x10 DF No. 2 W/FILLER UNLESS NOTED OTHERWISE ON DRAWING.
- ALL HEADERS SUPPORTING A GIRDER TRUSS SHALL BE A MIN. OF (2) 1-3/4"x8-1/2" LVLs UNLESS NOTED OTHERWISE ON DRAWING.
- MULTIPLE BEAMS AND HEADERS SHALL BE NAILED TOGETHER ACCORDING TO DETAIL ON SHEET 62.
- ALL POINT LOADS SHALL BE SOLID BLOCKED TO THE FOUNDATION. SEE SHEETS 61-63.
- MULTIPLE TRIMMERS - SEE TYPICAL BEAM POCKET SHEET 3.
- USE SIMPSON OR EQUIVALENT HARDWARE TO CONNECT BEAMS 6" AND LONGER TO STUDS OR POSTS.
- TALL WALL FRAMING SHALL BE BALLOON FRAMING - WALL FRAMING SHALL BE FULL HEIGHT AND CONTINUOUS FROM FLOOR TO CEILING. SEE TYPICAL WALL SECTION OR FLOOR PLANS FOR FRAMING MATERIAL AND SIZES.
- MULTI-LEVEL FRAMING - MULTI-LEVEL FRAMING SHALL BE STAKE AND VERTICALLY ALIGNED TO CREATE DIRECT LOAD PATH.

FLOOR SHEATHING NOTES R503

- TYPICAL FLOOR SHEATHING SHALL BE 3/4" T&G WAFER BOARD NAILED W/ 8d NAILS @ 6" O.C. ON ALL EDGES AND @ 12" O.C. ALONG INTERMEDIATE FRAMING MEMBERS.
- SOLID JOIST BLOCKING REQUIRED AT ALL BEARING POINTS.
- INSTALL FLOOR SHEATHING WITH FACE GRAIN AT RIGHT ANGLES TO FRAMING WITH END JOINTS STAGGERED.
- USE DOUBLE FLOOR JOISTS UNDER ALL LOAD BEARING WALLS RUNNING PARALLEL WITH FLOOR JOISTS.
- USE DOUBLE FLOOR JOISTS UNDER ALL SHEAR WALLS RUNNING PARALLEL WITH FLOOR JOISTS. NAIL BOTTOM PLATE TO JOISTS W/ 16d NAILS @ 3" O.C.
- USE DOUBLE JOISTS TO SOLID BLOCK UNDER ALL SHEAR WALLS RUNNING PERPENDICULAR TO FLOOR JOISTS. NAIL BOTTOM PLATE TO BLOCKING W/ 16d NAILS @ 3" O.C.
- FLOOR JOIST INSTALLATION PER MANUFACTORS SPECIFICATIONS.

SHEAR WALL NOTES

- AS A MINIMUM, ALL EXTERIOR WALL SHALL BE SHEATHED WITH 7/16" APA RATED C-D OR C-C SHEATHING AND NAILED WITH 8d's 4" O.C. EDGE AND 12" O.C. FIELD. IF NOT INDICATED ON PLANS, SEE SHEARWALL SCHEDULE.
- SHEATHING SHALL EXTEND CONTINUOUS FROM MUD SILL TO TOP PLATE AND NAILED AT LEAST 1" O.C. ALONG SILL PLATE. SHEATHING SHALL EXTEND FROM FLOOR FRAMING TO HIGH ROOF FRAMING ON UPPER LEVEL EXTERIOR WALLS.
- NAILS SHALL BE PLACED NOT LESS THAN 1/2" FROM EDGE OF PANEL AND DRIVEN FLUSH. NAIL SHALL NOT FRACTURE THE SURFACE OF THE SHEATHING.

WOOD TRUSS NOTES R602.10

FRE-MANUFACTURED TRUSSES SHALL CONFORM WITH SECTION R602.10 AND R602.11.

TRUSS MANUFACTURE SHALL PROVIDE DETAILS AND INSTRUCTION FOR HANDLING, NSTALLING, RESTRAINING, AND BRACING OF TRUSSES BEFORE AND AFTER CONSTRUCTION.

TRUSS DESIGN DRAWINGS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL WHERE REQUIRED BY THE STATUES OF THE JURISDICTION IN WHICH THE PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH SECTION R1001.

NO ALTERATIONS SHALL BE MADE TO THE TRUSSES OR THE TRUSS LAYOUT.

ANY CHANGES TO THE ROOF FRAMING PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER PRIOR TO MANUFACTURING AND OR CONSTRUCTION OF SAID TRUSSES.

TRUSS DESIGN DRAWINGS SHALL COMPLY WITH SECTION R602.11.4 & R602.10.1.

DEFERRED TRUSS DESIGN SHALL BE SUBMITTED TO KARRAS ENGINEERING AND THE BUILDING OFFICIAL FOR REVIEW AND GENERAL CONFORMANCE PRIOR TO INSTALLATION IN ACCORDANCE WITH IRC 1013.41.

CONTRACTOR SHALL PROVIDE MINIMUM 12" X 30" ATTIC ACCESS. - FIELD LOCATE PROVIDE WEATHER STRIPPING AROUND OPENING. R607.1.

THE CONTRACTOR SHALL BLOCK BETWEEN TRUSSES AND CONNECT EACH TRUSS TO WALL TOP PLATE WITH SIMPSON HI CONNECTORS.

GABLE ENDS SHALL HAVE SIMPSON STRONGTIE STRAPS @ 32" O.C. CONNECTING GABLE TRUSS TO WALL FRAMING.

TRUSSES TO BE INSTALLED PER MANUFACTURES SPECIFICATIONS.

BLOCKING BETWEEN TRUSSES SHALL MATCH BOTTOM CHORD OF TRUSS.

BRACING - TRUSSES SHALL BE BRACED TO PREVENT ROTATION AND PROVIDE LATERTL STABILITY.

TALL WALL FRAMING WALLS OVER 10'-0" IN HEIGHT

SEE TYPICAL WALL SECTION SHEET 61 FOR MINIMUM MEMBER SIZE

FULL HEIGHT STUDS ONLY

HORIZONTAL BLOCKING STAGGERED AT 48" O.C. - 6" O.C. NAILING ALONG BLOCKING KING STUD ASSEMBLY - 4'-0" AND LESS TWO PLY - 45" TO 6" OPENING THREE PLY 65" TO 8" OPENING FOUR PLY - 95" TO 12" OPENING FIVE PLY. PROVIDE SOLID BLOCKING BELOW KING STUD TO FOUNDATION. TALL WALLS BECOME PERFORATED SHEARWALLS (PSW) - SEE SHEET 62.

ROOF SHEATHING NOTES R603

- SHEATHING SHALL BE 7/16", 24/16, APA RATED SHEATHING. NAIL W/ 8d's @ 6" O.C. 3/8" FROM EDGE OF PANEL AT ALL PANEL ENDS, SUPPORTED EDGES, SHEARWALL TOPS, AND ALL BLOCKING. NAIL @ 6" O.C. ALONG INTERMEDIATE FRAMING MEMBERS. (5/8" SHEATHING WITH SNOW LOADS GREATER THAN 30 LBS)
- LAY SHEATHING WITH FACE GRAIN AT RIGHT ANGLES TO FRAMING WITH STAGGERED END JOINTS.

BRICK VENEER SUPPORT / LINTELS R103.8.3

A MINIMUM 6 INCHES BY 4 INCHES BY 1/2 INCH STEEL ANGLE, WITH THE LONG LEG PLACED VERTICALLY, SHALL BE ANCHORED TO DOUBLE 2 INCHES BY 4 INCHES WOOD STUDS AT A MAXIMUM ON-CENTER SPACING OF 16 INCHES. ANCHORAGE OF THE STEEL ANGLE AT EVERY DOUBLE STUD SPACING SHALL BE A MINIMUM OF TWO 1/4" DIAMETER BY 4 INCH LAG SCREWS.

STEEL LINTELS SHALL BE SHOP COATED WITH RUST INHIBITIVE PAINT, EXCEPT FOR LINTELS MADE OF CORROSION-RESISTANT STEEL.

FASTENERS R317.3

FASTENERS AND CONNECTORS IN CONTACT WITH PRESERVATIVE - TREATED WOOD SHALL BE HOT DIPPEED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A 153. EXCEPTIONS 1" DIAMETER OR GREATER STEEL BOLTS.

DWELLING/GARAGE SEPERATION R302.6

STRUCTURAL MEMBERS SUPPORTING THE SEPARATION SHALL BE PROTECTED BY FIRE-RESISTIVE CONSTRUCTION. 1/2-INCH GYPSUM BOARD TYPICAL. 3/8-INCH TYPE X GYPSUM BOARD FOR HABITABLE ROOMS ABOVE THE GARAGE.

CEILING HEIGHT R305

HABITABLE SPACE, HALLWAYS, BATHROOMS, TOILET ROOMS, LAUNDRY ROOMS AND PORTIONS OF BASEMENTS CONTAINING THESE SPACES SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7 FEET. BASEMENTS 6'-8" MIN. EXCEPTIONS UNDER BEAMS, GIRDERS, DUCTS OR OTHER OBSTRUCTIONS MAY PROJECT TO WITHIN 6'-4" OF THE FINISHED FLOOR.

WINDOW WELLS R310

WINDOW WELLS REQUIRED FOR EMERGENCY ESCAPE AND RESCUE SHALL HAVE HORIZ. DIMENSIONS THAT ALLOW THE DOOR OR WINDOW OF THE EMERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY OPENED. THE HORIZONTAL DIMENSIONS OF THE WINDOW WELL SHALL PROVIDE A MINIMUM NET CLEAR AREA OF 9 SQUARE FEET WITH A MINIMUM HORIZONTAL PROJECTION AND WIDTH OF 36". WINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER. COMPLY WITH SECTION R3102.1

BASEMENT - WINDOW SILL HEIGHT R3102.3

BASEMENT WINDOWS SHALL HAVE A SILL HEIGHT OF NO MORE THAN 44-INCHES ABOVE THE FLOOR. WHERE THE SILL HEIGHT IS BELOW GRADE THE WINDOW SHALL BE PROVIDED WITH A WINDOW WELL IN ACCORDANCE WITH R3102.3.

WINDOW SILL HEIGHTS R3122.1

IN DWELLING UNITS WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 12 INCHES ABOVE THE FINISH GRADE OR SURFACE BELOW, THE LOWEST PART OF THE OPENING OF THE WINDOW SHALL BE A MINIMUM OF 24" INCHES ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4 INCH DIA. SPHERE WHERE SUCH OPENINGS ARE LOCATED WITHIN 24 INCHES OF THE FINISHED FLOOR.

MEANS OF EGRESS R311

THERE SHALL BE A LANDING OR FLOOR ON EACH SIDE OF EACH EXTERIOR DOOR. THE WIDTH OF EACH LANDING SHALL NOT BE LESS THAN THE DOOR SERVED. EVERY LANDING SHALL HAVE A MINIMUM DIMENSION OF 36 INCHES MEASURED IN THE DIRECTION OF TRAVEL. EXTERIOR LANDINGS SHALL BE PERMITTED TO HAVE A SLOPE NOT TO EXCEED 0.25 UNIT VERTICAL IN 12 UNITS. (2%)

GUARDS AND WINDOW FALL PROTECTION R312

GUARDS SHALL BE LOCATED ALONG OPEN-SIDED WALKING SURFACES, INCLUDING STAIRS, RAMPS AND LANDINGS THAT ARE LOCATED MORE THAN 30 INCHES MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW AT ANY POINT 36 INCHES HORIZONTALLY TO THE EDGE OF THE OPEN SIDE.

OPENING LIMITATIONS - REQUIRED GUARDS SHALL NOT HAVE OPENINGS FROM THE WALKING SURFACE TO THE REQUIRED GUARD HEIGHT THAT ALLOW PASSAGE OF A SPHERE 4 INCHES IN DIAMETER.

SMOKE ALARMS R314

SMOKE ALARMS SHALL BE IN ACCORDANCE WITH SECTION R314.

ALL SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 217 AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THIS CODE AND THE HOUSEHOLD FIRE WARNING EQUIPMENT PROVISIONS OF NFPA 72.

SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS: IN EACH SLEEPING ROOM, OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING BASEMENTS AND UNINHABITABLE ATTICS.

WHEN MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT THE ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT.

CARBON MONOXIDE ALARMS R315

CARBON MONOXIDE ALARMS SHALL BE IN ACCORDANCE WITH SECT ON R315.

AN APPROVED CARBON MONOXIDE ALARMS SHALL BE INSTALLED ON EACH HABITABLE LEVEL WITHIN WHICH FUEL-FIRED APPLIANCES ARE INSTALLED AND IN DWELLINGS UNITS THAT HAVE ATTACHED GARAGES.

SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH THIS CODE AND NFPA 720.

GLAZING R308

1. GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS AND SHOWERS. GLAZING IN ANY PART OF A BUILDING WALL ENCLOSING THESE COMPARTMENTS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.

2. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24-INCH ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING SURFACE.

3. GLAZING IN WALLS ENCLOSING STAIRWAY LANDING OR WITHIN 60 INCHES OF THE TOP AND BOTTOM OF STAIRWAYS WHERE THE BOTTOM EDGE OF THE GLASS IS LESS THAN 60 INCHES ABOVE THE WALKING SURFACE.

WEATHER-RESISTANT BARRIER R103.6.3

WEATHER-RESISTANT BARRIERS SHALL BE INSTALLED AS REQUIRED IN SECTION R103.2 AND, WHERE APPLIED OVER WOOD-BASED SHEATHING, SHALL INCLUDE A WEATHER-RESISTANT VAPOR PERMEABLE BARRIER WITH A PERFORMANCE AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE D PAPER.

WEEP SCREEDS R103.6.2.1

A MINIMUM 0.015-INCH (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT WEEP SCREED OR PLASTIC WEEP SCREED, WITH A MINIMUM VERTICAL ATTACHMENT FLANGE OF 3-1/2 INCHES SHALL BE PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE ON EXTERIOR STUD WALLS IN ACCORDANCE WITH ASTM C 826. THE WEEP SCREED SHALL BE PLACED A MINIMUM OF 4 INCHES ABOVE THE EARTH OR 2" ABOVE PAVED AREAS AND SHALL BE OF TYPE THAT WILL ALLOW TRAPPED WATER TO DRAIN TO THE EXTERIOR OF THE BUILDING. THE WEATHER-RESISTANT BARRIER SHALL LAP THE ATTACHMENT FLANGE. THE EXTERIOR LATH SHALL COVER AND TERMINATE ON THE ATTACHMENT FLANGE OF THE WEEP SCREED.

ARC-FAULT PROTECTION E3902.12

ALL BRANCH CIRCUITS THAT SUPPLY 120-VOLT, SINGLE PHASE, 15- AND 20-AMPERE OUTLETS IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENs, BEDROOMS, SUN-ROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTER INSTALLED TO PROVIDE PROTECTION OF THE ENTIRE BRANCH CIRCUIT.

TUB AND SHOWER R301

BATHTUB AND SHOWER SPACES - R301.2

BATHTUB ND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBANT SURFACE, SUCH WALL SURFACES SHALL EXTEND TO HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR.

LIMIT WATER TEMPERATURE TO A MAX. 120° F. PER SECTION R102.3 AND R1213.3.

JETTED TUB ACCESS - 12"X12" ACCESS PER IRC R1210.

GENERAL NOTES

- CONTRACTOR IS TO VERIFY DESIGN, DIMENSIONS AND NOTES PRIOR TO BEGINNING OF CONSTRUCTION.
- ALL WORK IS TO BE DONE UNDER THE SUPERVISION OF A LICENSED CONTRACTOR.
- ALL WORK IS TO DONE UNDER LOCAL AND STATE BUILDING CODES.
- ELECTRICAL SHALL BE PER NATIONAL ELECTRIC CODE, LATEST EDITIONS.
- HEATING/MECHANICAL WORK SHALL BE PER APPLICABLE CODES, LATEST EDITIONS.

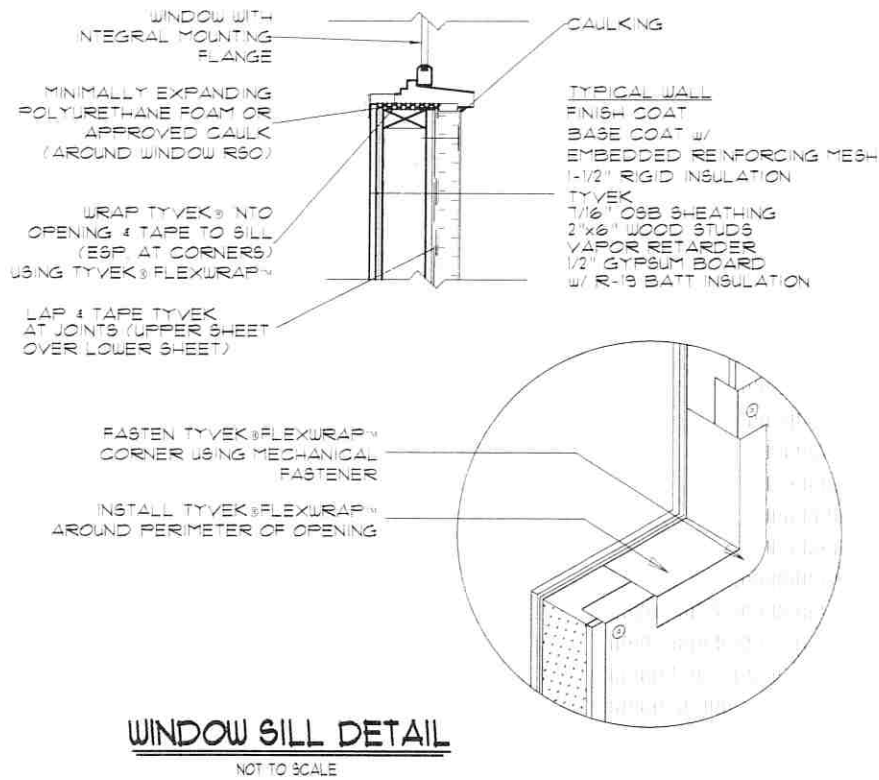


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2021 IRC	SCALE 1/8" = 1'-0" 11x17 1/4" = 1'-0" 24x36
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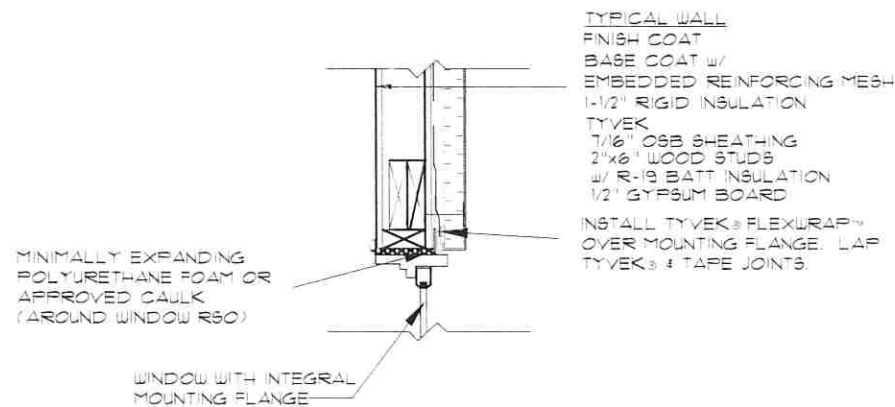
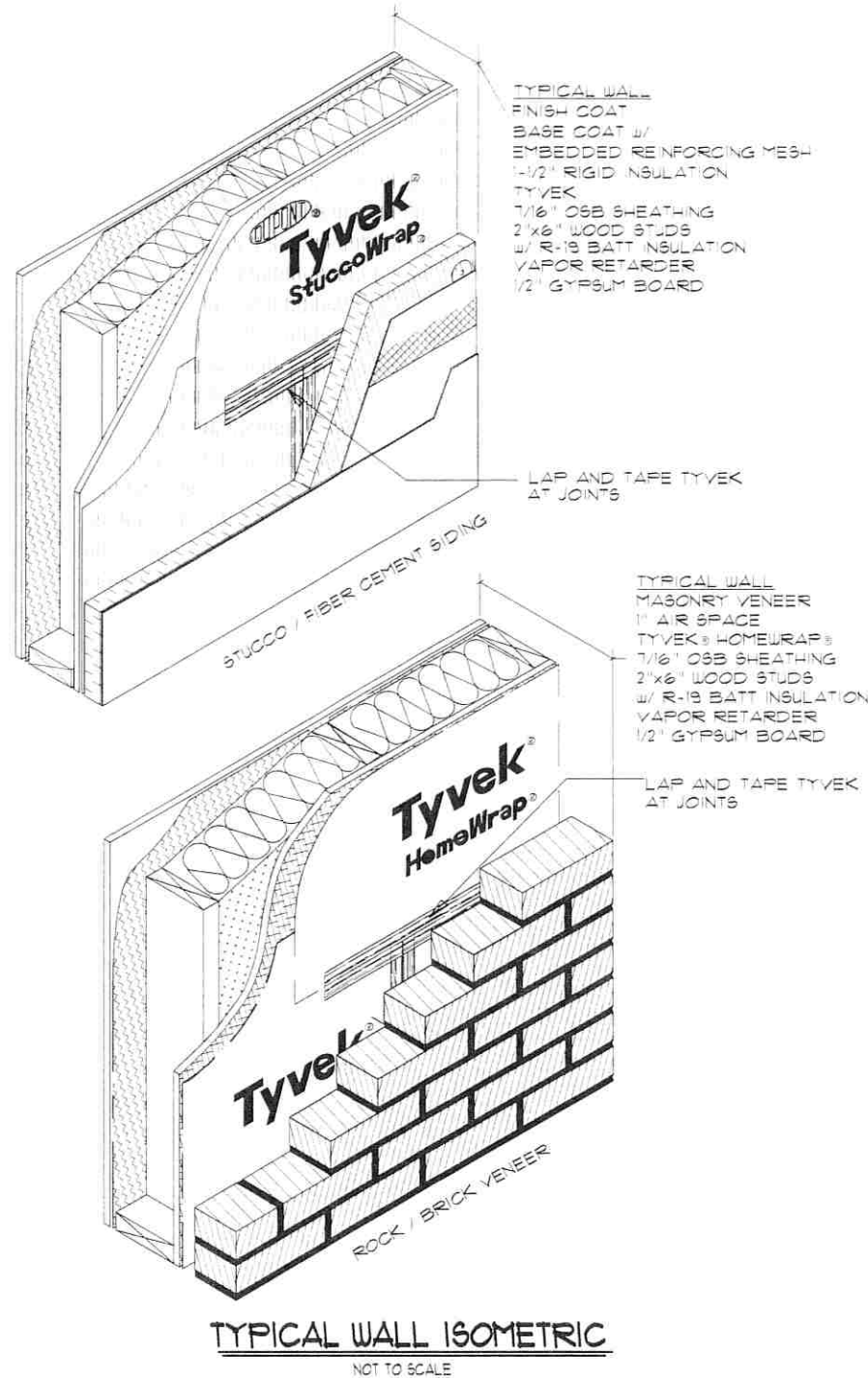
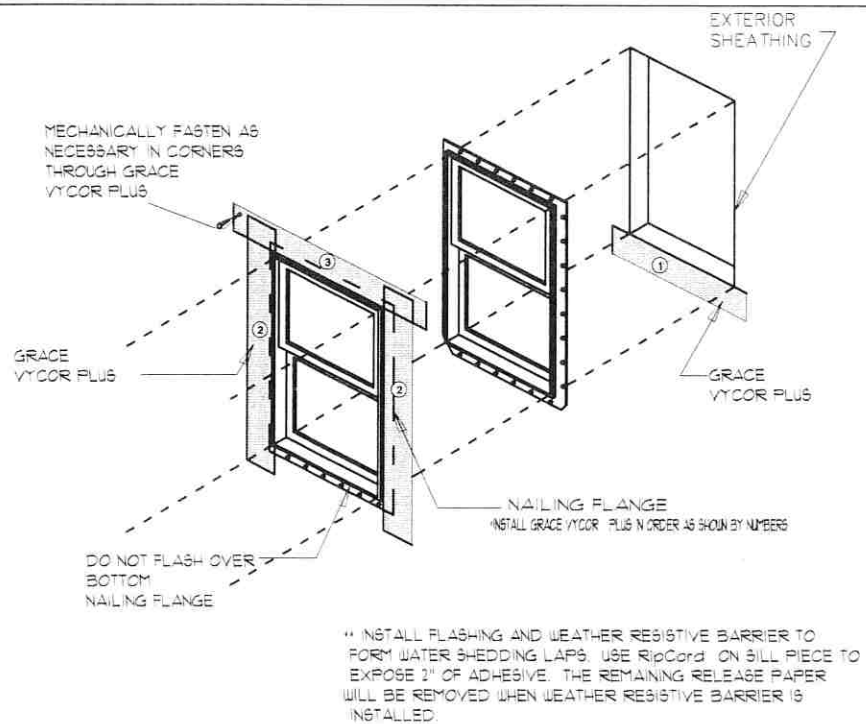
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WEATHER RESISTIVE BARRIER (R103.2)



GENERAL NOTES

- SEAL ALL TYVEK JOINTS AND PENETRATIONS WITH APPROVED TAPE (ex. DUPONT CONTRACTOR TAPE).
- FASTEN TYVEK® TO SHEATHING WITH LARGE HEAD NAILS OR USE NAILS WITH LARGE PLASTIC WASHER HEADS (ex. DUPONT WRAPCAPS).
- LOCAL LAWS, ZONING, AND BUILDING CODES VARY AND THEREFORE GOVERN OVER MATERIAL SELECTION AND DETAILING SHOWN BELOW.
- INSTALL EPS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.



2021 IECC REQUIREMENTS FOR UTAH HOMES

	WINDOWS		INSULATION				FOUNDATION		
	FENESTRATION U-FACTOR	GLAZED FENESTRATION SHGC	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT WALL R-VALUE	SLAB R-VALUE AND DEPTH	CRAWL SPACE WALL R-VALUE
ZONE 6	0.31	NR	60	30.5 OR 13.10	15/20	30	15/20	10.4 FT	15/19
ZONE 5	0.31	NR	60	30 OR 13.5	13/17	30	13/17	10.2 FT	15/19
ZONE 3	0.31	0.25	49	20 OR 13.5	8/13	19	8/13	0	5/13
ZONE 3	WASHINGTON		ZONE 5	BEAVER, DAVIS, EMERY, GARFIELD, GRAND, IRON, JUAB, KANE,					
ZONE 5	MILLARD, BLUTE, SALT LAKE, SAN JUAN, SANPETE, SEVIER, TOOELE UTAH, WAYNE, WEBER								
ZONE 6	BOX ELDER, CACHE, CARBON, DAGGETT, DUCHEGNE, MORGAN, RICH, SUMMIT, UTAH, WASATCH								

FENESTRATION (IECC SECTIONS R303.1.3, R402.3, R402.5)

FENESTRATION (INCLUDING ALL WINDOWS AND DOORS) AND SKYLIGHT U-FACTORS ARE MAXIMUM ACCEPTABLE LEVELS. THE GLAZED FENESTRATION SHGC MAXIMUMS APPLY TO ALL WINDOWS, SKYLIGHTS AND GLAZED DOORS. AN AREA-WEIGHTED AVERAGE OF FENESTRATION PRODUCTS IS PERMITTED TO SATISFY THESE REQUIREMENTS. (SEE IECC SECTION R402.3)

WINDOW, DOOR AND SKYLIGHT U-FACTORS AND SHGC'S MUST BE DETERMINED BY AN ACCREDITED, INDEPENDENT LABORATORY, AND LABELED AND CERTIFIED BY THE MANUFACTURER, IN ACCORDANCE WITH A NATIONAL FENESTRATION RATING COUNCIL (NFR) RATING. PRODUCTS WITHOUT AN NFR LABEL MUST USE THE DEFAULT VALUES IN IECC SECTION R303.1.3

WINDOWS, SKYLIGHTS, AND SLIDING GLASS DOORS MUST BE LABELED TO SHOW THAT THEY MEET THE IECC'S AIR INFILTRATION REQUIREMENTS.

UP TO 15 SQUARE FEET OF GLAZED FENESTRATION IS PERMITTED TO BE EXEMPT FROM THE U-FACTOR AND SHGC REQUIREMENTS. ONE SIDE HINGED OPAQUE DOOR ASSEMBLY UP TO 24 SQUARE FEET IS EXEMPTED FROM THE FENESTRATION U-FACTOR REQUIREMENTS IN THERMALLY ISOLATED SUNROOMS. (IECC SECTION R402.3.5)

INSULATION (IECC SECTIONS R303.1.4 AND R402.2)

INSULATION R-VALUES ARE MINIMUM ACCEPTABLE LEVELS AND MUST BE DETERMINED ACCORDING TO FEDERAL TRADE COMMISSION RULE.

R-VALUES FOR WALLS REPRESENT THE SUM OF CAVITY INSULATION PLUS INSULATED SHEATHING, IF ANY. THE SECOND R-VALUE FOR MASS WALLS APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR OF THE MASS WALL.

THE INSULATION FOR BASEMENT WALLS MUST BE FROM THE TOP OF THE WALL DOWN 10 FEET BELOW GRADE OR TO THE BASEMENT FLOOR, WHICHEVER IS LESS. BASEMENT WALL INSULATION IS NOT REQUIRED IN WARM-HUMID LOCATIONS AS DEFINED IN IECC FIGURE R301.1. INSULATION REQUIREMENTS FOR CRAWL SPACE WALLS ARE FURTHER SPECIFIED IN IECC SECTION R402.2.11

FLOOR INSULATION MUST BE INSTALLED TO MAINTAIN CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING. REFER TO THE CODE FOR DETAILS ALLOWING INSULATION TO BE INSTALLED ON THE LOWER SIDE OF THE CEILING CAVITY.

ACCESS DOORS FROM CONDITIONED SPACES (EG. ATTICS AND CRAWL SPACES TO UNCONDITIONED SPACES) SHALL BE WEATHER STRIPPED AND INSULATED TO A LEVEL EQUIVALENT TO THE INSULATION ON THE SURROUNDING SURFACES. VERTICAL ACCESS DOORS ARE PERMITTED TO MEET THE FENESTRATION REQUIREMENTS.

INSULATION REQUIREMENTS FOR SLAB ON GRADE FLOORS ARE FURTHER SPECIFIED IN IECC SECTION R402.2.12. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS.

SPECIAL INSULATION EXCEPTIONS RELATED TO CEILING WITH OR WITHOUT ATTIC SPACES, MASONRY VENEER AND THERMALLY ISOLATED SUNROOMS ARE SET FORTH IN IECC SECTION R402.

DUCTS (IECC SECTION R403.3)

DUCTS MUST BE TESTED AND VERIFIED TO HAVE TOTAL LEAKAGE OF NO MORE THAN 4cm/100 SQ. FT. (OR 3cm IF AIR HANDLER IS NOT INSTALLED) EXCEPT WHERE AIR HANDLER AND ALL DUCTS ARE LOCATED INSIDE CONDITIONED SPACE. AIR HANDLERS AND FILTER BOXES MUST ALSO BE PROPERLY SEALED.

SUPPLY AND RETURN DUCTS SHALL BE SEALED AND INSULATED AS FOLLOWS

DUCT LOCATION	LESS THAN 3 INCHES IN DIAMETER	GREATER THAN 3 INCHES IN DIAMETER
ATTIC	R-6	R-8
OTHER PORTIONS OF THE BUILDING	R-4.2	R-6
COMPLETELY INSIDE CONDITIONED SPACE	EXEMPT	EXEMPT

AIR SEALING - LEAKAGE

(IECC SECTION R402.4)

THE BUILDING ENVELOPE IS REQUIRED TO BE PROPERLY SEALED AND TESTED, AND VERIFIED AS HAVING AN AIR LEAKAGE RATE NO HIGHER THAN 3 ACH AT 0.2 INCH WG. (50 PASCAL) IN CLIMATE ZONES 3, 5 AND 6. RECESSED LIGHTING MUST ALSO BE SEALED TO LIMIT AIR LEAKAGE.

DOCUMENTATION (IECC SECTIONS R103, R303.3, R401.3)

THE APPROPRIATE CONSTRUCTION DOCUMENTS AND PREVENTATIVE MAINTENANCE INFORMATION MUST BE PROVIDED, ALONG WITH A PERMANENT CERTIFICATE LISTING CERTAIN INSULATION, WINDOW AND HVAC PERFORMANCE INFORMATION.

SYSTEMS (IECC SECTION R403)

HVAC SYSTEM MUST BE PROPERLY SIZED IN ACCORDANCE WITH ACCA MANUAL S BASED ON BUILDING LOADS CALCULATED IN ACCORDANCE WITH ACCA MANUAL J OR OTHER APPROVED METHODOLOGIES. NEW OR REPLACEMENT HEATING AND COOLING EQUIPMENT MUST MEET OR EXCEED FEDERAL MINIMUM EFFICIENCY REQUIREMENTS FOR GEOGRAPHIC LOCATION IN WHICH IT IS INSTALLED.

TEMPERATURE CONTROLS MUST BE INSTALLED, INCLUDING A PROGRAMMABLE THERMOSTAT WHERE REQUIRED.

MECHANICAL SYSTEM PIPING MUST BE INSULATED TO A MINIMUM OF R-3. HOT WATER PIPING MUST BE INSULATED TO R-3 WITH CERTAIN EXCEPTIONS.

SPECIFIC REQUIREMENTS APPLY TO CIRCULATING HOT WATER SYSTEMS, MECHANICAL VENTILATION, SNOW MELT SYSTEMS, AND POOLS.

LIGHTING (IECC SECTIONS R202 AND R404.1)

A MINIMUM OF 15% OF LAMPS IN PERMANENTLY INSTALLED FIXTURES MUST BE HIGH-EFFICACY AS DEFINED IN THE IECC.

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