DESIGN INFORMATION

1. BUILDING CODE: 2018 INTERNATIONAL RESIDENTIAL CODE AS ADOPTED AND/OR AMENDED BY LOCAL JURISDICTION/BUILDING CODES.
2. FLOOR DEAD LOAD (PSF): 10
   FLOOR LIVE LOAD (PSF): 40
3. ROOF DEAD LOAD(PSF): 10
   ROOF LIVE LOAD(PSF): 20
4. REFERENCE SHEET S2.0 FOR FRAMING & FOUNDATION DETAILS.

FOUNDATIONS

1. ALL FOUNDATIONS TO BEAR ON ORIGINAL, UNDISTURBED SOIL OF 2,000 PSF BEARING CAPACITY OR FILL COMPACTED AND TESTED TO CONFORM TO THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.
2. ALL FOOTING EXCAVATIONS ARE TO BE INSPECTED/APPROVED BEFORE PLACING CONCRETE.
3. FOOTINGS SHALL EXTEND BELOW THE FROST LINE: MINIMUM DEPTH OF 36" BELOW GRADE.

CONCRETE

1. CONCRETE SHALL BE AIR ENTRAINED AT 5-7% AND WITH A MINIMUM COMPRESSIVE STRENGTH OF 28 DAYS OF 3,000 PSI FOR BASEMENT AND FOUNDATION WALLS, AND 3,500 FOR PORCHES, CARPORTS, AND GARAGE FLOOR SLABS. CONCRETE MIX SHALL ALSO HAVE A W/C RATIO = 0.5 (MAXIMUM), AND SLUMP LIMIT = 4" (+/- 1")

ROUGH CARPENTRY

1. MATERIALS:
   - A. FRAMING LUMBER
     1. JOIST, RAFTERS, HEADERS, BEAMS 2x AND LARGER, PLATES, SILLS
        a. NO. 2 SYP
     2. SPECIES AND GRADES SHOWN ARE THE MINIMUM ACCEPTABLE. BETTER GRADES MAY BE SUBSTITUTED.
     3. LUMBER EXPOSED TO THE WEATHER TO BE PRESSURE TREATED TO RESIST DECAY.
   - B. SHEATHING (WOOD STRUCTURAL PANEL)
     1. ROOF SHEATHING: 1/2" (NOMINAL) RATED 48/24.
     2. FLOOR SHEATHING: 3/4" (NOMINAL) RATED 48/24. FOR MAXIMUM JOIST SPACING. TONGUE-AND-GROOVE GLUED TO SUPPORTS.
     3. WALL SHEATHING: 1/2" NOMINAL.
     4. WOOD STRUCTURAL PANELS TO BE A.P.A. RATED AND EXPOSURE 1. PANELS TO BE MANU'D PER U.S. DEPARTMENT OF COMMERCE PRODUCT STANDARDS PS1 OR PS2.
   - C. LAMINATED VENEER LUMBER (LVL):
     Fb = 2600 PSI, E = 1.9 x 10 E6 PSI. WRAP OR TREAT ALL ENGINEERED LUMBER TO PROTECT AGAINST EXPOSURE.
   - D. HARDWARE:
     1. BOLTS AND THREADED ROD: ASTM A307 (MIN.)
     2. PREFABRICATED CONNECTORS: "SIMPSON STRONG TIE"/"USP" OR EQUAL.
     3. NAILS: BOX WIRE NAILS. UNLESS COMMON NAILS REQ'D BY METAL CONNECTORS.
     4. USE GALVANIZED OR STAINLESS STEEL HARDWARE FOR ALL EXTERIOR FRAMING.
2. NAILING: SHALL BE PER FASTENING SCHEDULE OF THE 2018 IRC BUILDING CODE. FOR PREFABRICATED CONNECTORS USE ALL FASTENERS AS PRESCRIBED BY THE MANUFACTURER.

SHEATHING AND FRAMING FASTENING SCHEDULE

BUILDING COMPONENT	MATERIAL	FASTENING
ROOF SHEATHING[1]	7/16" PLYWOOD	16 GA x 1-3/4" STAPLES AT 3" OC EDGES AND 6" OC IN FIELD
	1x4 #3 FURRING	1/2" CROWN STAPLES
FLOOR SHEATHING[1]	3/4" T&G YELLOW PINE PLYWOOD APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED	8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN THE FIELD
		14 GA x 2" STAPLES AT 4" OC EDGES AND 8" OC IN THE FIELD
		12.5 GA x 1-1/2" RING OR SCREW SHANK NAILS AT 6" OC EDGES AND 8" OC IN THE FIELD
CEILING COVERING[1]	1/2" GYPSUM SHEATHING	7" OC NAILED / 12" OC SCREWED WITH 13 GA, 1-3/8" LONG, 19/64" HEAD; 0.098 DIA, 1-1/4" LONG, ANG.-RINGED; 5d COOLER NAIL, 0.086 DIA, 1-5/8" LONG, 15/64" HEAD; OR GYP BD NAIL, 0.086 DIA, 1-5/8" LONG, 9/32" HEAD
INTERIOR WALL COVERING[1]	1/2" GYPSUM SHEATHING	6d COMMON NAILS; 1-5/8" GALVANIZED STAPLES; 1-1/4" SCREWS, TYPE W OR S- AT 4" OC EDGES AND 8" OC IN THE FIELD
EXTERIOR WALL SHEATHING	MIN 3/8" APA RATED SHEATHING	8d COMMON NAILS AT 6" OC EDGES AND 12" OC IN THE FIELD
CONVENTIONAL WOOD FRAMED WALLS	*SUPPORTING 2 FLOORS, ROOF, AND CEILING OR LESS. *HEIGHT: 10'-0" OR LESS SIZE: NOM 2x4 (NOM 2x6 WHEN SUPPORTING 2 FLOORS, CEILING, AND ROOF) *SPECIES: DOUG-FIR, HEM-FIR, SOUTH PINE, SPRUCE-PINE-FIR *MAXIMUM SPACING 16" OC *STUDS 10' LENGTH OR LESS SHALL BE #3 STANDARD, OR STUD GRADE *STUDS OVER 10' LENGTH SHALL BE MIN #2 GRADE	*TOE NAIL RIM JOIST TO SILL OR TOP PLATE: 8d COMMON AT 6" OC; 3"x0.131" AT 6" OC; 3"x0.131" AT 6" OC *TOE NAIL STUD TO TOP AND SOLE PLATE: (4) 8d COMMON; (4) 3"x0.131" *END NAIL TOP AND SOLE PLATE TO STUD: (2) 16d COMMON; (3) 3"x0.131" *FACE NAIL BUILT-UP CORNER STUDS: 16d AT 24" OC; 3"x0.131" AT 16" *FACE NAIL BUILT-UP CORNER STUDS (AT BRACED WALL PANELS): 16d COMMON NAILS AT 16" OC; 3"x0.131" AT 12" OC *FACE NAIL JACK STUDS/TRIMMERS SUPPORTING HEADERS WITH: 10d NAILS AT 6" OC *FACE NAIL DBL TOP PLATE: 16d COMMON AT 16" OC; 3"x0.131" AT 12" OC; 3"x0.128" AT 12" OC *DBL TOP PLATES WITH MIN 48" OFFSET OF EACH FACE NAIL LAPPED AREA WITH: (8) 16d COMMON; (12) 3"x0.131"; (12) 3"x0.128" *FACE NAIL DBL TOP PLATES AT LAPPED CORNERS AND INTERSECTIONS WITH: (2) 16d COMMON; (3) 3"x0.131"; (3) 3"x0.128" *FACE NAIL SOLE PLATE TO FRAMING SYSTEM WITH: 16d COMMON AT 16" OC; 3"x0.131" AT 12" OC *TOENAIL BRIDGING TO JOIST, EACH END: (2) 8d COMMON; (2) 3"x0.131"; (3) 3"x0.128" *FACE NAIL LEDGER STRIPS SUPPORTING JOISTS OR RAFTERS WITH: (3) 16d COMMON; (4) 3"x0.131"; (4) 3"x0.128"
CONVENTIONAL WOOD HEADER FRAMING	PER PLAN	*TOE NAIL HEADERS TO WALL STUDS WITH (4) 8d NAILS AT EACH END. *FACE NAIL DOUBLE PIECE HEADERS WITH 16d NAILS AT 16" CENTERS ALONG EACH EDGE.
RAFTER TIES[2]	MIN 2x4 MEMBERS AT EACH RAFTER	REF TABLE R802.5.2
COLLAR TIES	MIN 1x4 MEMBERS AT 48" OC	FACENAIL TO RAFTERS IN UPPER 1/3 OF ATTIC SPACE WITH (3) 10d NAILS AT EACH
1. NOTE: ALL SHEATHING MATERIALS TO BE APPLIED PERPENDICULAR TO JOISTS AND ENDS STAGGERED. 2. RAFTER TIES SHALL NOT BE REQUIRED WHEN A STRUCTURAL RIDGE HAS BEEN PROVIDED AND ADEQUATELY DESIGNED (AS IN A FULLY VAULTED ROOM). SUCH SHALL BE NOTED AS "STRUCTURAL" ON THE PLAN.		

BUILDING COMPONENT	FASTEN TO	FASTEN WITH
RAFTERS	TO RIDGE/VALLEY/HIP RAFTERS	TOENAIL WITH (4) 16d ENDNAIL WITH (3) 16d
	TO PLATE	TOENAIL WITH (3) 16d
CEILING JOISTS	TO TOP PLATE	TOENAIL WITH (3) 8d AT EACH END
	WHERE CEILING JOISTS RUN PARALLEL TO RAFTERS FACENAIL TO RAFTERS WITH (3) 10d MIN	
FLOOR JOISTS	TO SILL OR GIRDER	TOENAL WITH: (3) 8d COMMON; (3) 3"x0.131"; (4) 3"x0.128"
	TO RIM JOIST	ENDNAIL WITH: (3) 16d COMMON; (4) 3"x0.131"; (4) 3"x0.128"
BRACED WALL PANELS PERP TO FRAMING MEMBERS ABOVE/BELOW:	TO FRAMING MEMBER	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131"
PARALLEL TO FRAMING MEMBERS ABOVE/BELOW:	TO FRAMING AND BLOCKING AT 16" OC	SOLE PL, 16" OC WITH: (3) 16d COMMON; (4) 3"x0.131" AND AT EACH BLOCK: (3) 16d COMMON; (4) 3"x0.131" TOP PL, 6" OC WITH: 8d COMMON; 3"x0.131" AND AT EACH BLOCK: (3) 8d COMMON; 3"x0.131"
NOTE: MEMBER THICKNESS AND FASTENING LISTED IN THIS SCHEDULE ARE MINIMUM IRC REQUIREMENTS. SPECIFIC PROJECT REQUIREMENTS NOTED WITHIN THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, IF REQUIRED BY APEX ENGINEERS DESIGN NEEDING TO BE MORE STRINGENT, SHALL BE FOLLOWED.		

EXPANSIVE SOILS DISCLAIMER:

THESE PLANS HAVE BEEN PREPARED BASED ON A PRESUMPTIVE ALLOWABLE BEARING CAPACITY AS ALLOWED BY IRC CODE AND THE LOCAL ENFORCING JURISDICTION.

APEX ENGINEERS, INC. (APEX) RECOMMENDS THAT ALL FOOTING EXCAVATIONS BE EVALUATED BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF ANY FOUNDATION ELEMENTS. GEOTECHNICAL INVESTIGATION AND/OR TESTING IS NOT A SERVICE PROVIDED OR OFFERED BY APEX.

APEX HAS NOT BEEN RETAINED TO DETERMINE THE EXPANSIVE SOIL CHARACTERISTICS OF THE SUBGRADE SOIL AND THEREFORE CANNOT BE HELD RESPONSIBLE FOR THE VOLUMETRIC CHANGES OF THE SOIL (INCLUDING BELOW THE BASEMENT SLAB). BY USE OF THESE PLANS WITHOUT AN ACCOMPANYING GEOTECHNICAL ENGINEERING REPORT, APEX SHALL NOT BE HELD LIABLE FOR ANY FUTURE MOVEMENT AND/OR DIFFERENTIAL MOVEMENT OF THE PROPOSED STRUCTURE AND THE POSSIBLE DAMAGE THAT MAY BE CAUSED AS A RESULT OF SUCH MOVEMENT. DAMAGE FROM EXPANSIVE SOILS AND/OR SETTLEMENT CAN RESULT IN AMONGST OTHER THINGS, THE FOLLOWING: BASEMENT SLAB HEAVE, SHEETROCK CRACKS, WINDOWS AND DOOR BECOMING OUT OF PLUMB AND STICKING AND/OR NOT OPENING, DAMAGE TO TILE, MOULDING, AND OTHER COSMETIC FINISHES.

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/23/2024

Brandon Kalwei
Digitally signed by Brandon Kalwei
DN: CN=Brandon Kalwei, OU=Development, OU=LS Users, DC=COLS, DC=LOC
Date: 2024.04.23 09:29:37-05'00'

1 / S1.0 GENERAL NOTES
SCALE: N/A

STATE OF MISSOURI
JASON S. GIBSON
NUMBER PE-2013006491
2024.04.10
PROFESSIONAL ENGINEER

APEX ENGINEERS
1625 LOCUST ST
KANSAS CITY, MO 64108
Ph: 816.421.3222
Fax: 816.421.1050
www.apex-engineers.com

STRUCTURAL DESIGN REVIEW
KANSAS ENGINEERING LICENSE: 992
MISSOURI ENGINEERING LICENSE: 2003004673

PROJECT:
JANOTA RESIDENCE
2030 SW HOOK FARM RD
LEE'S SUMMIT, MO 64082

CLIENT:
ALL WEATHER SERVICES

PROJECT #
24-0428
DRAWING NAME

DATE:	COMMENTS:

DRAWN BY: APEX
CHECKED BY: APEX

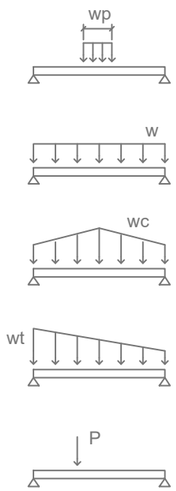
SHEET #
S1.0

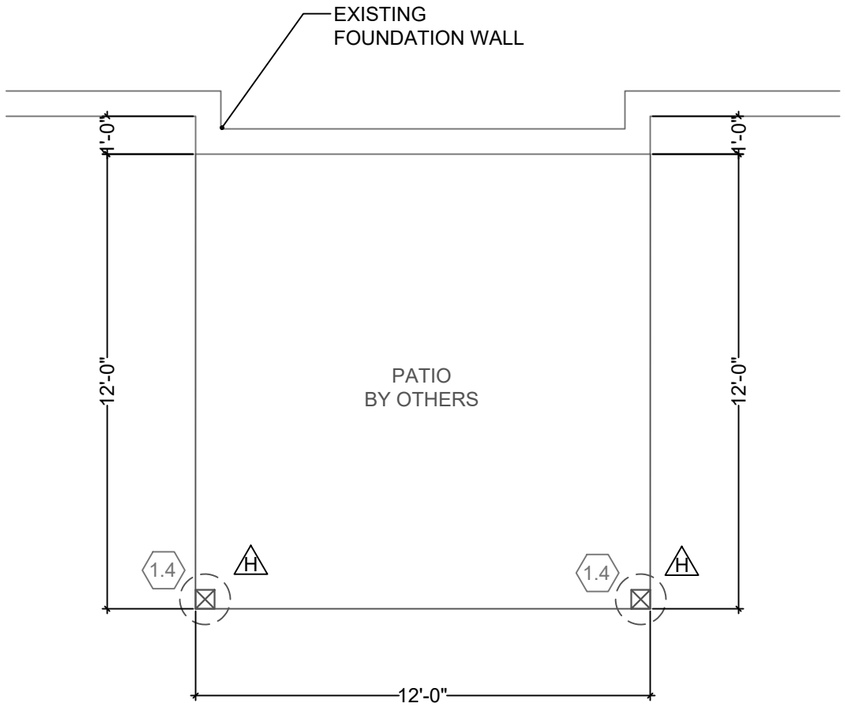
COLUMN & PIER SCHEDULE		
MARK	COLUMN SIZE	PIER DIA.
G	6x6	12"
H	6x6	16"
J	6x6	18"
K	6x6	24"
L	6x6	28"

1. ALL PIERS TO BEAR ON ORIGINAL, UNDISTURBED SOIL OF 2,000 PSF BEARING CAPACITY OR FILL COMPACTED AND TESTED TO CONFORM TO THE RECOMMENDATIONS OF A GEOTECHNICAL ENGINEER.
2. PIERS SHALL EXTEND BELOW THE FROST LINE: MIN. DEPTH OF 36" BELOW GRADE.
3. POST SHALL BE TREATED OR CEDAR WITH SIMPSON ABU66 POST BASE

w = DISTRIBUTED LOAD (lbs/ft)
wp = PARTIAL DISTRIBUTED LOAD (lbs/ft)
wt = TRAPEZOIDAL LOAD (lbs/ft)
wc = CENTRAL TRAPEZOIDAL LOAD (lbs/ft)
P = POINT LOAD (kips)

⟨X.X⟩ = COLUMN LOAD (kips)





1 / S1.1 PIER PLAN
SCALE: 1/4" = 1'-0"

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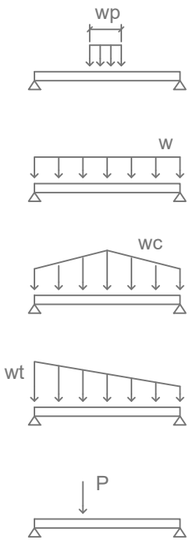

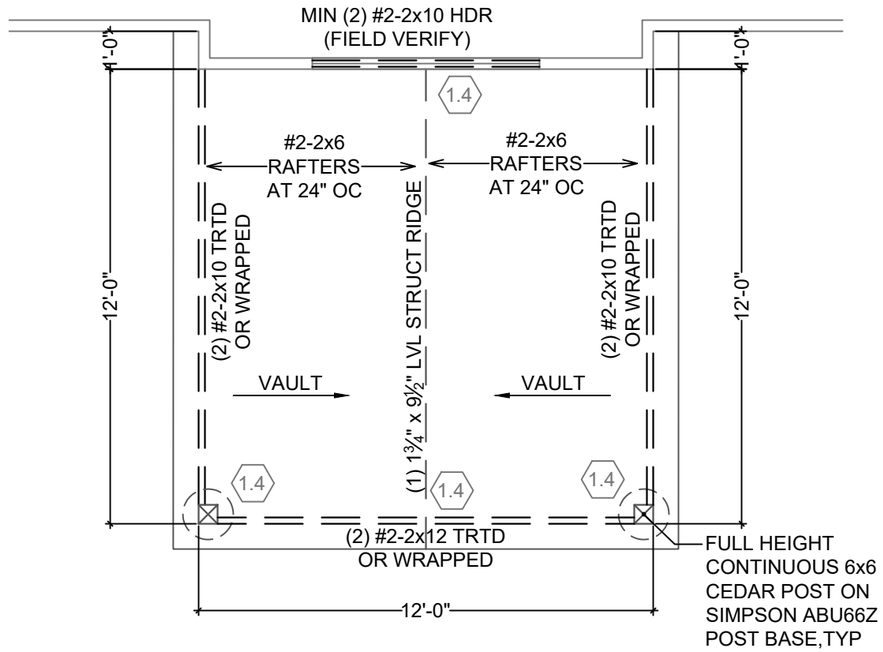

1 / S1.2 ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

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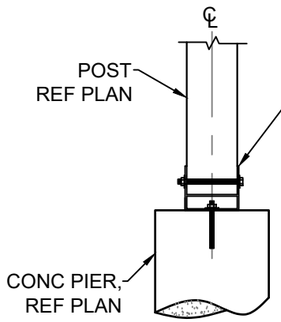
SHEET #
S1.2



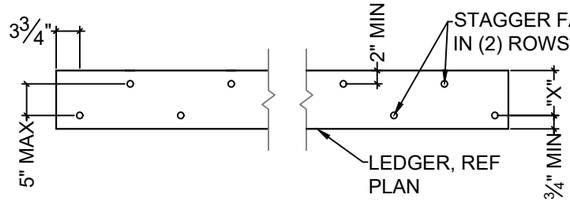
SIMPSON AB POST BASE

POSE	BASE
4x4	ABU44
6x6	ABU66
8x8	ABU88

NOTE:
ALL CONC PIERS SHALL BE DRILLED MIN 36" DEEP TO COMPETENT ORIGINAL SOIL WITH MIN 2,000 PSF BEARING CAPACITY, TYP U.N.O.

6 S2.0 POST BASE DETAIL

SCALE: 1/2" = 1'-0"

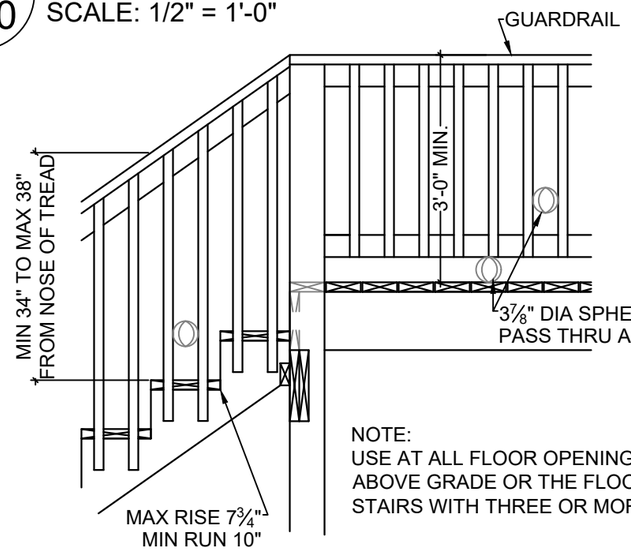


BEAM SIZE	"X"
2x8	5 1/2" MIN*
2x10	6 1/2" MIN
2x12	7 1/2" MIN

*DISTANCE SHALL BE PERMITTED TO BE REDUCED TO 4 1/2" IF LAG SCREWS ARE USED OR BOLT SPACING IS REDUCED TO THAT OF LAG SCREWS TO ATTACH 2x8 LEDGERS TO 2x8 BAND JOISTS

3 S2.0 TYPICAL LEDGER BOLT SPACING

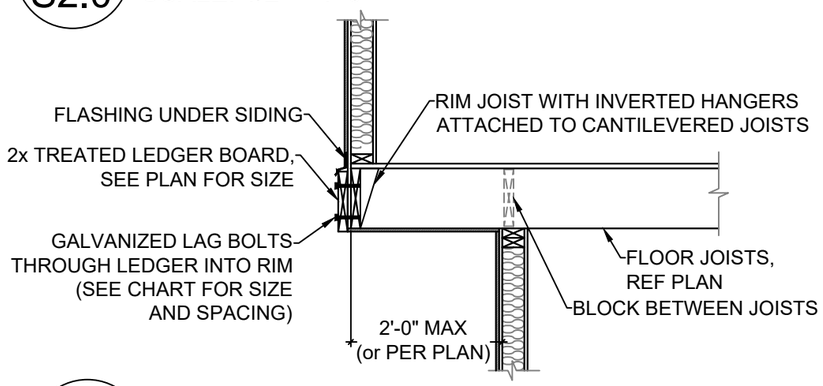
SCALE: 1/2" = 1'-0"



NOTE:
USE AT ALL FLOOR OPENINGS GREATER THAN 30" ABOVE GRADE OR THE FLOOR BELOW AND/ OR STAIRS WITH THREE OR MORE RISERS

5 S2.0 TYPICAL STAIR/ RAIL DETAIL

SCALE: 1/2" = 1'-0"



4 S2.0 TYPICAL CANTILEVER FRAMING WITH DECK ATTACHMENT

SCALE: 1/2" = 1'-0"

LEDGERLOK FASTENER CHART

DECK JOIST SPAN	FASTENMASTER LEDGERLOK SPACING
UP TO 8'-0"	16" OC
8'-1" - 10'-0"	14" OC
10'-1" - 12'-0"	12" OC
12'-1" - 14'-0"	10" OC
14'-1" - 16'-0"	9" OC
16'-1" - 18'-0"	8" OC

NOTE:
CHART IS APPLICABLE ONLY WHEN DECK IS SHOWN ON APPROVED PLAN.

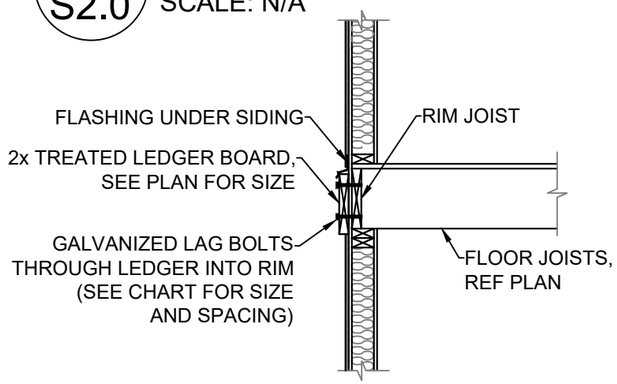
DECK LEDGER ATTACHMENT CHART

DECK JOIST SPAN	½" DIA LAG SPACING	EQUIVALENT SPACING FOR 16" OC JOIST BAYS
UP TO 10'-0"	16" OC	N/A
10'-1" - 12'-0"	15" OC	16" OC DBL EVERY OTHER
12'-1" - 14'-0"	13" OC	16" OC DBL EVERY OTHER
14'-1" - 16'-0"	11" OC	16" OC DBL EVERY JOIST BAY
16'-1" - 18'-0"	10" OC	16" OC DBL EVERY JOIST BAY

NOTE:
CHART IS APPLICABLE ONLY WHEN DECK IS SHOWN ON APPROVED PLAN.

2 S2.0 LEDGER ATTACHMENT CHARTS

SCALE: N/A



1 S2.0 TYPICAL LEDGER ATTACHMENT

SCALE: 1/2" = 1'-0"

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