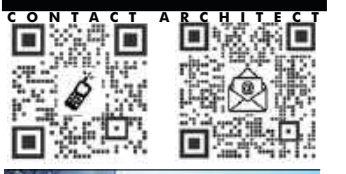


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510.436.3466 FAX 877.769.9966
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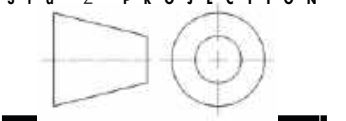


SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
2:22 pm, Nov 21, 2025
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LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE
BUILDING OFFICIAL.
By: Reginald George

TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com |
brtanportue@gmail.com
(925) 938 - 3900

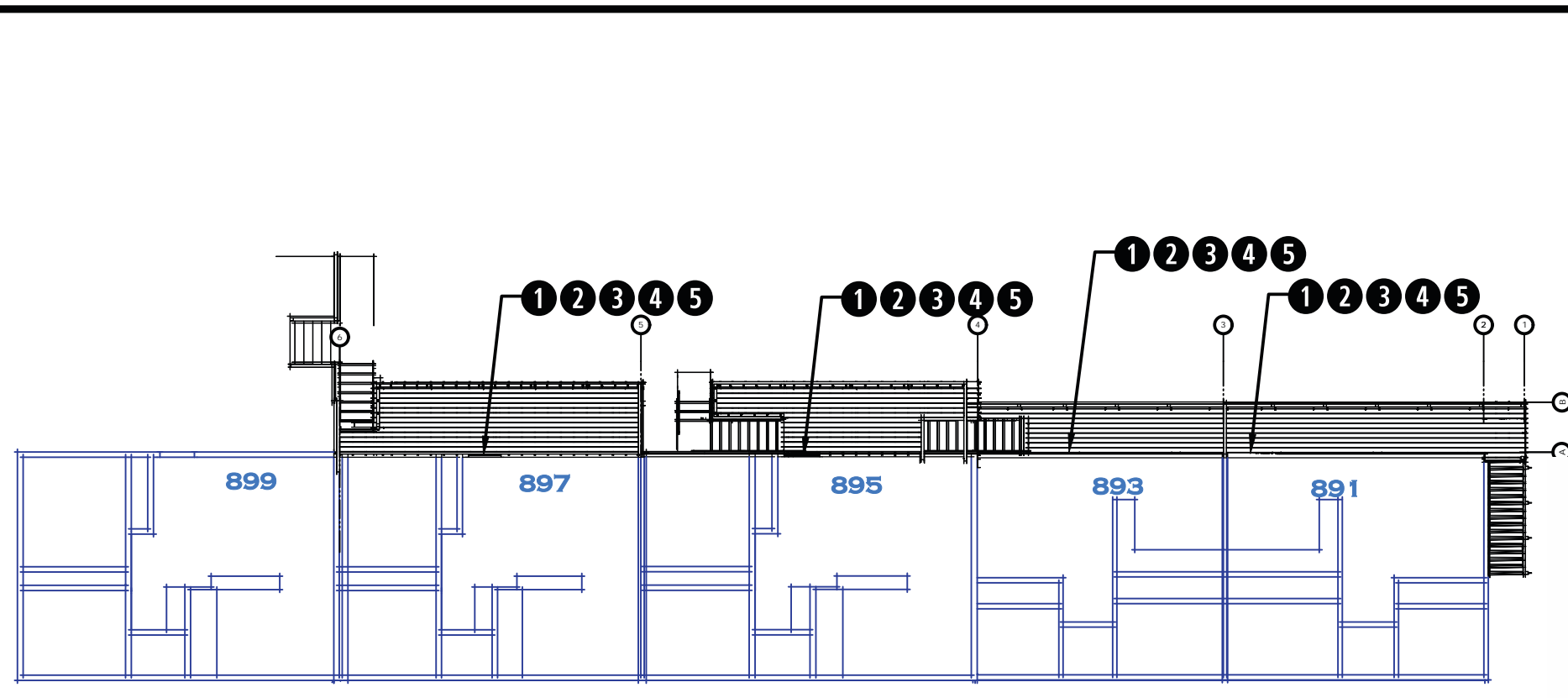
SHEET INFORMATION
PROJECT NO: 891BELL_SB791
ISSUE: PERMIT ISSUE #1
DATE: AUG 11, 2024
SCALE: AS NOTED
FILE: 891_BELL_010
DRAWN BY: ME
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ISSUE HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

APARTMENT UNITS
ACCESSIBILITY
REQUIREMENTS

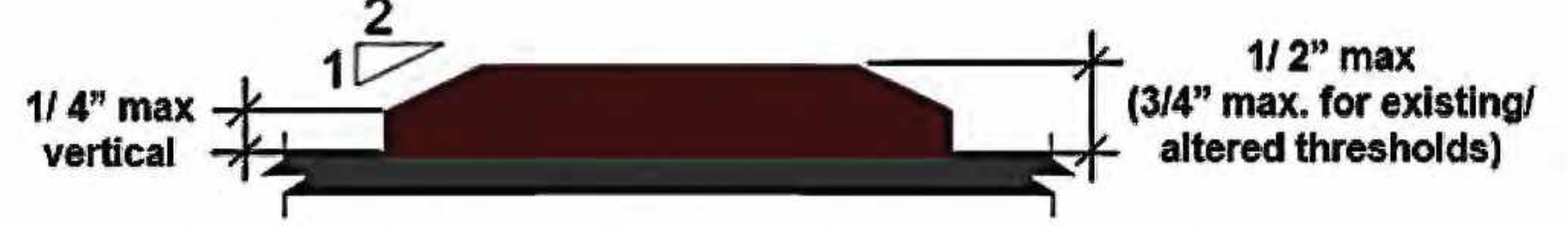
SHEET NUMBER
A-513



1 2 3 4 5 SEE DETAIL 1 NOTES

2 APARTMENT UNIT FRONT DOOR REQUIRING ACCESS

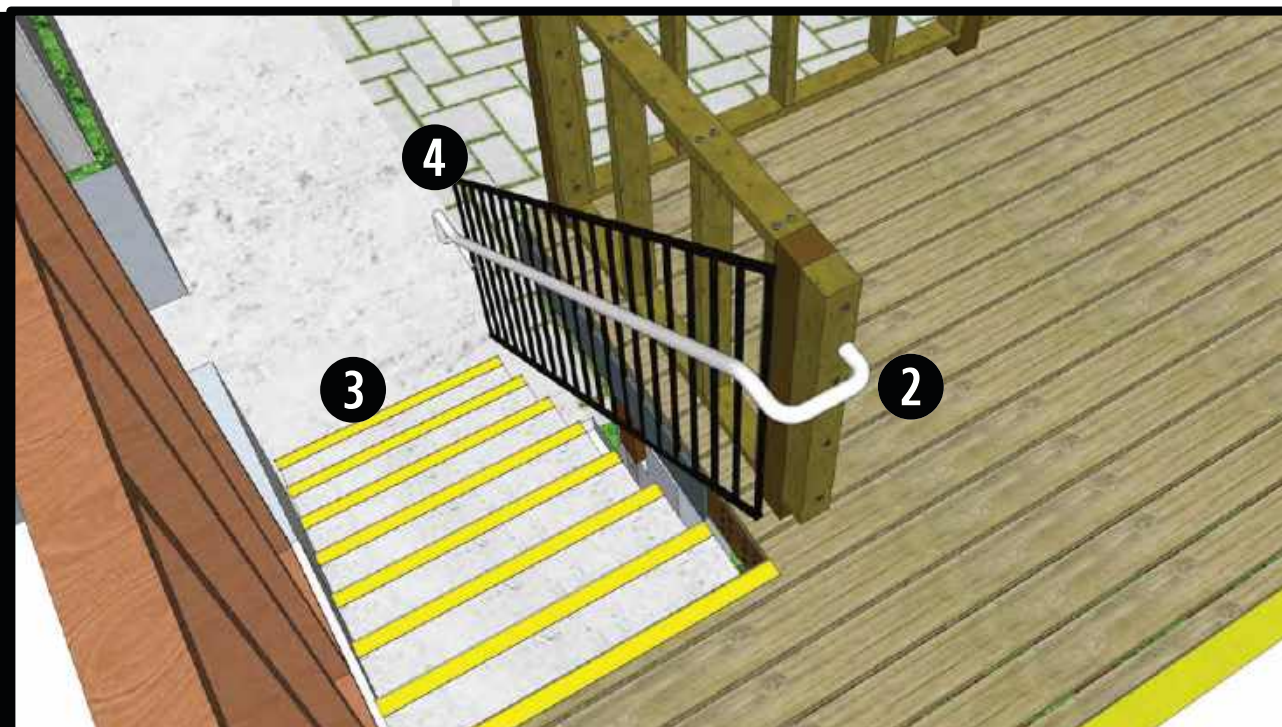
- 1 BUILDER TO VERIFY THAT THE MAXIMUM DISTANCE FROM TOP OF ENTRY DOOR THRESHOLDS TO TOP OF DECKING IS $\frac{3}{4}$ " OR LESS, INCLUDING POSSIBLE CHANGES OR MODIFICATIONS TO EXISTING THRESHOLDS – SEE DETAIL BELOW.
- 2 PRIOR TO SELECTION AND PURCHASE OF MATERIALS, BUILDER TO NOTIFY ARCHITECT OF RECORD IF ACCESSIBILITY REQUIREMENTS MAY NOT BE MET.
- 3 WORK IS NOT TO PROCEED UNTIL ACCESSIBILITY REQUIREMENTS MAY BE ACHIEVED WITH MODIFICATIONS TO THRESHOLD DESIGN, OR DECKING ELEVATION;
- 4 PROVIDE FRONT DOORS WITH LEVEL-HANDLED DOOR HARDWARE.
- 5 ALL WORK AS APPROVED BY OWNER.



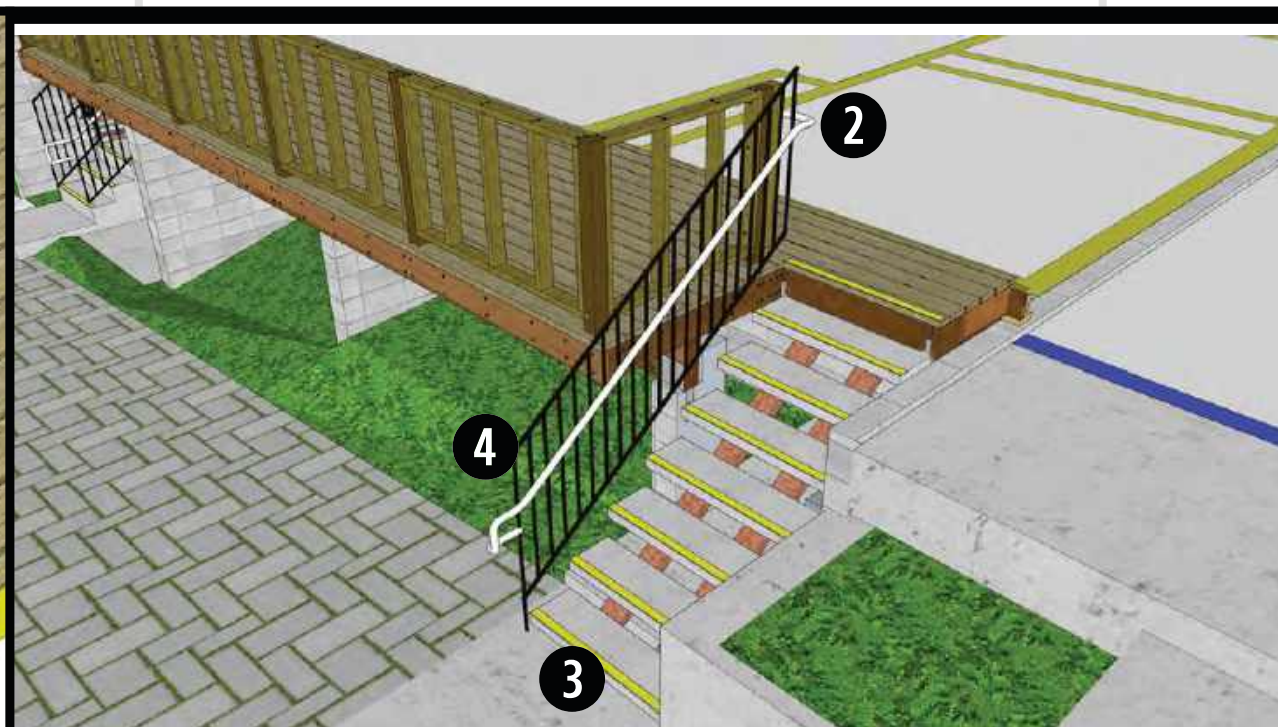
Note: vertical edge must be located below bevel, not above

1 ACCESSIBLE ENTRY DOOR REQUIREMENTS

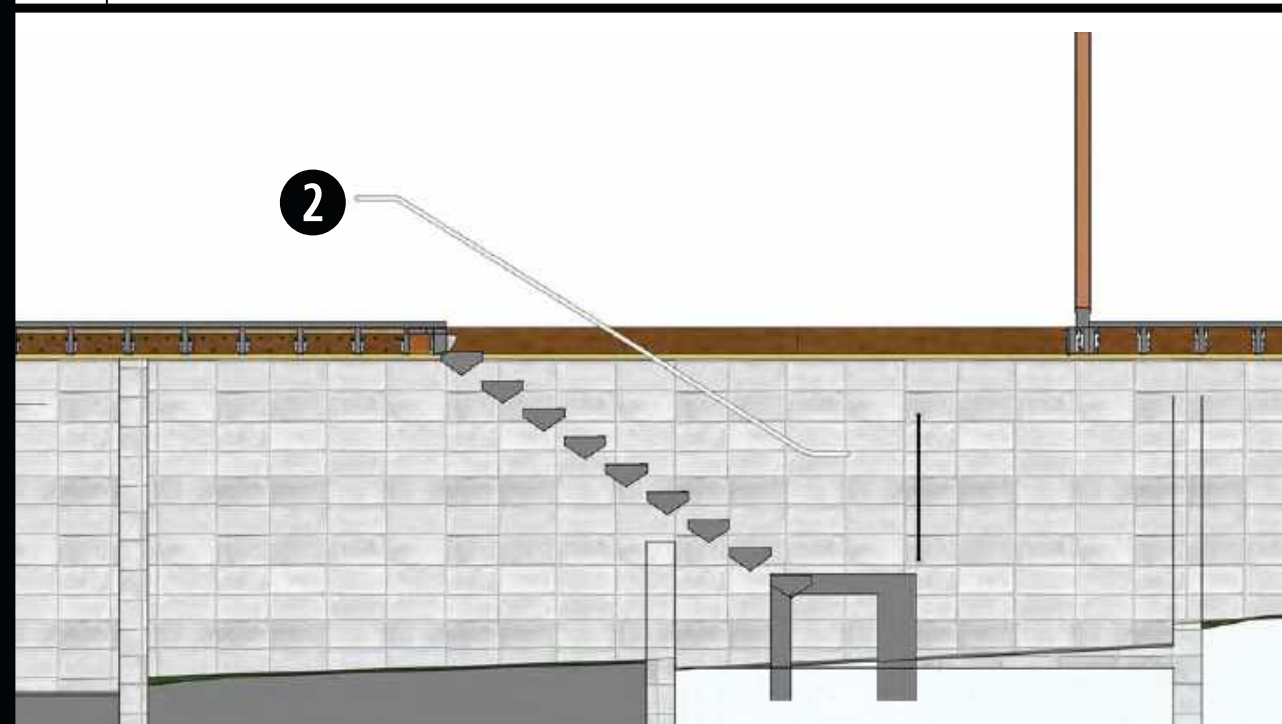
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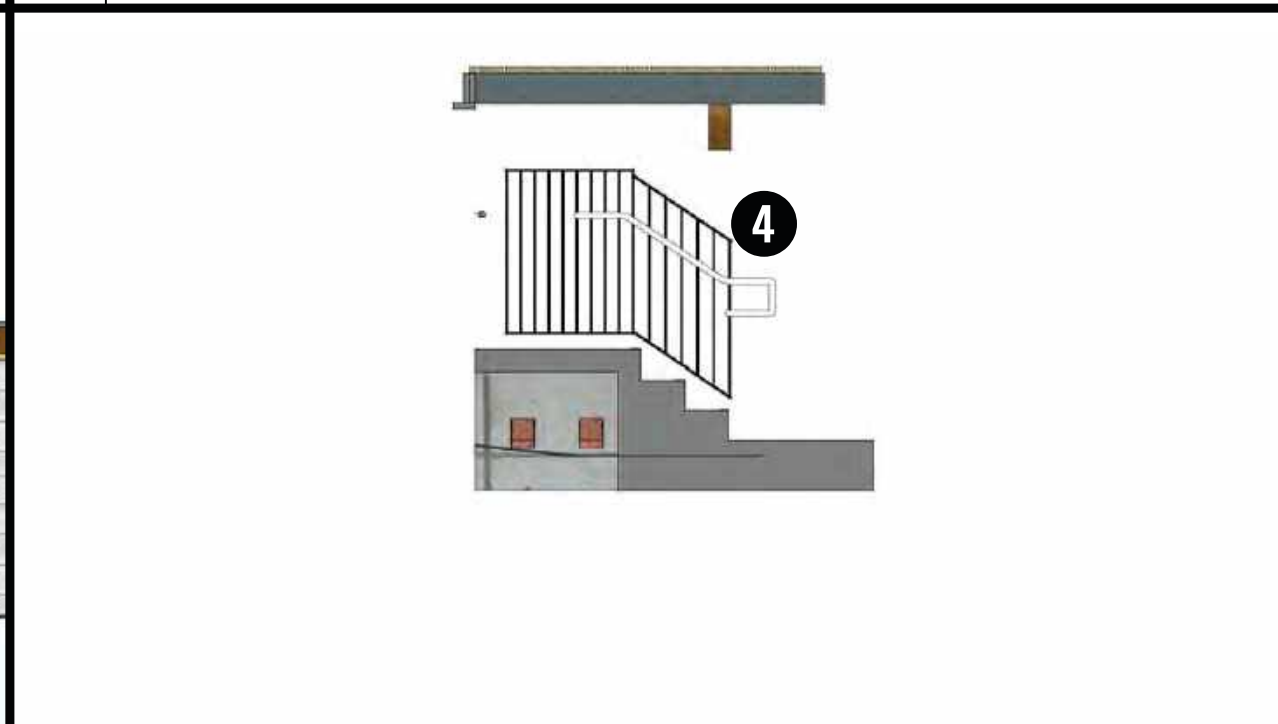
11 897 HANDRAIL DETAIL SCALE: NONE



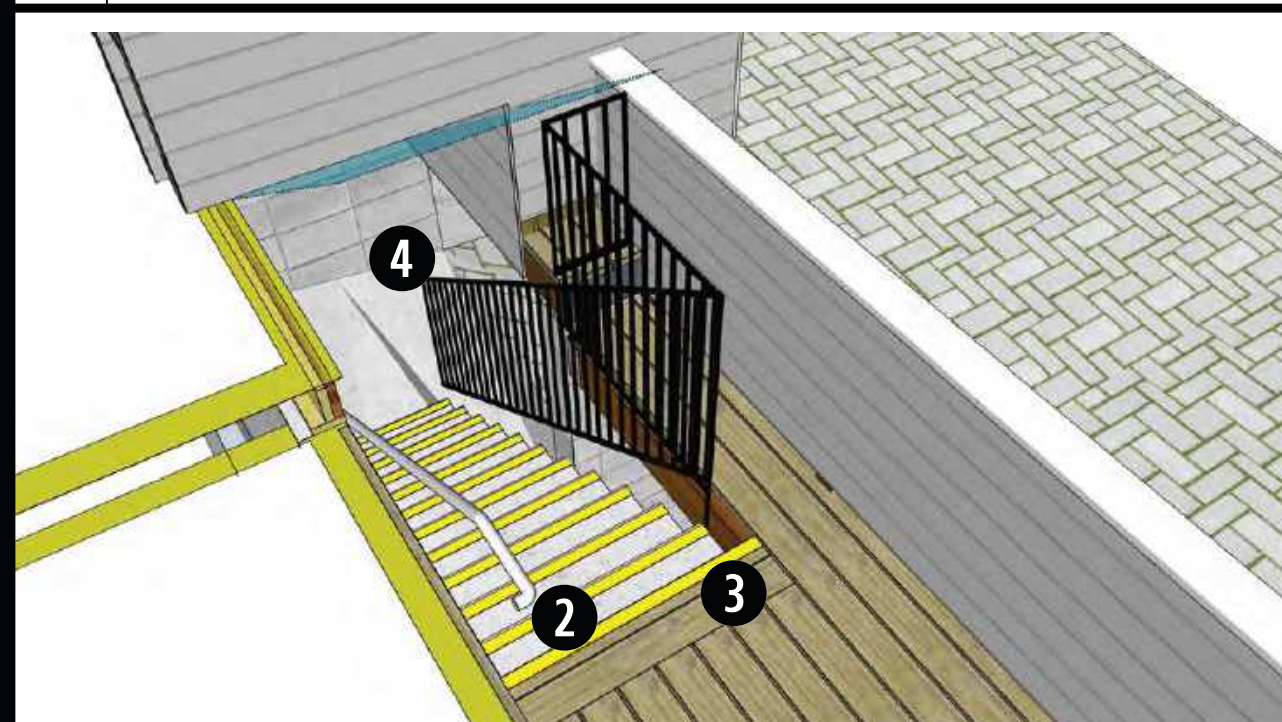
10 897 HANDRAIL DETAIL SCALE: NONE



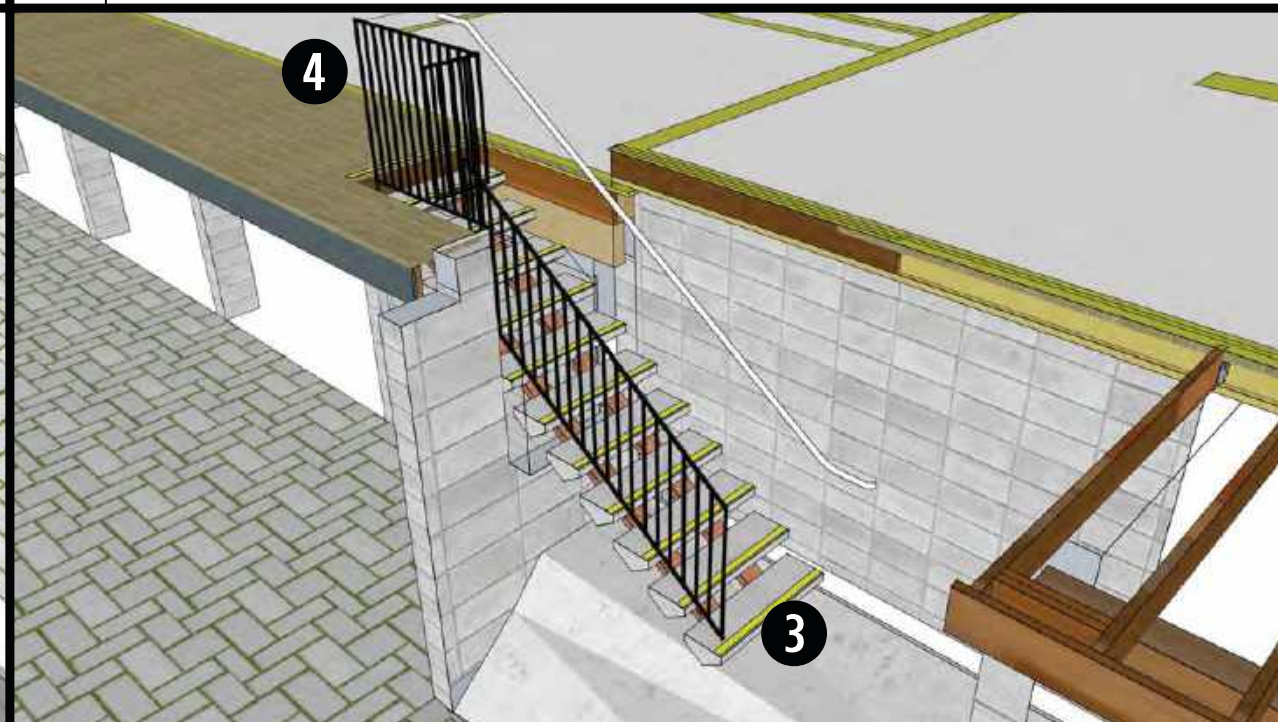
9 895 HANDRAIL DETAIL SCALE: NONE



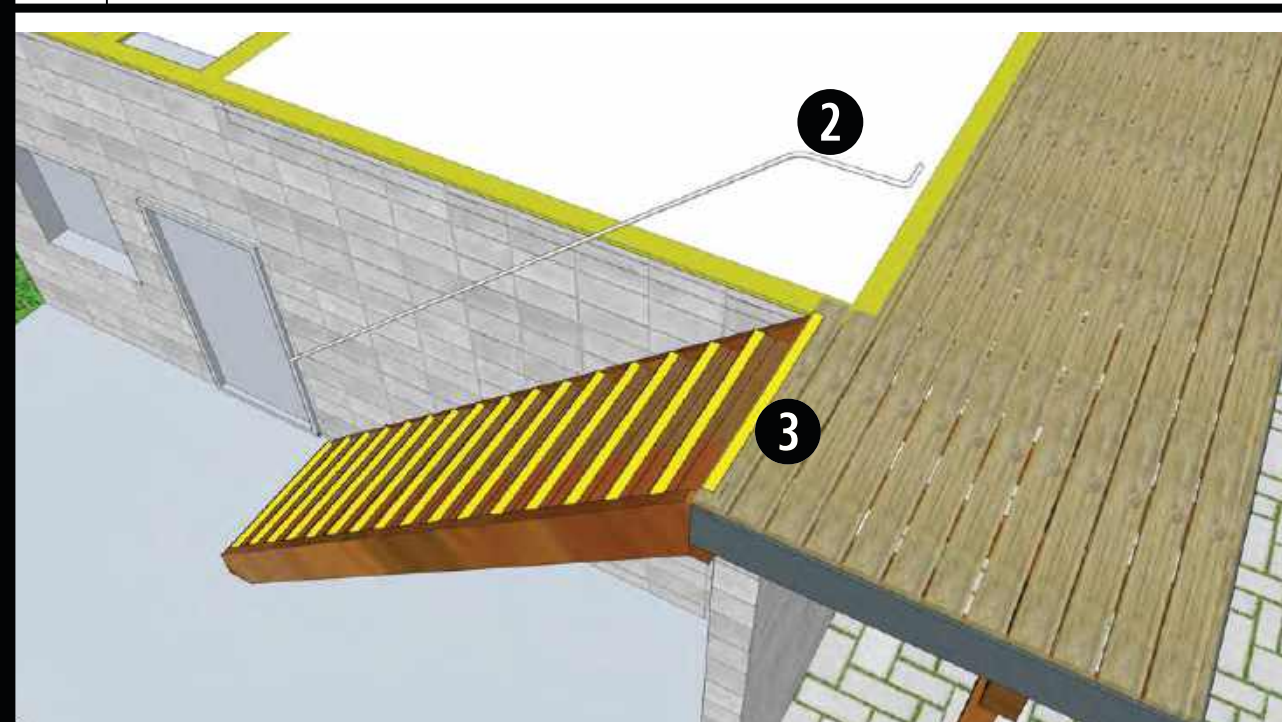
8 895 HANDRAIL DETAIL SCALE: NONE



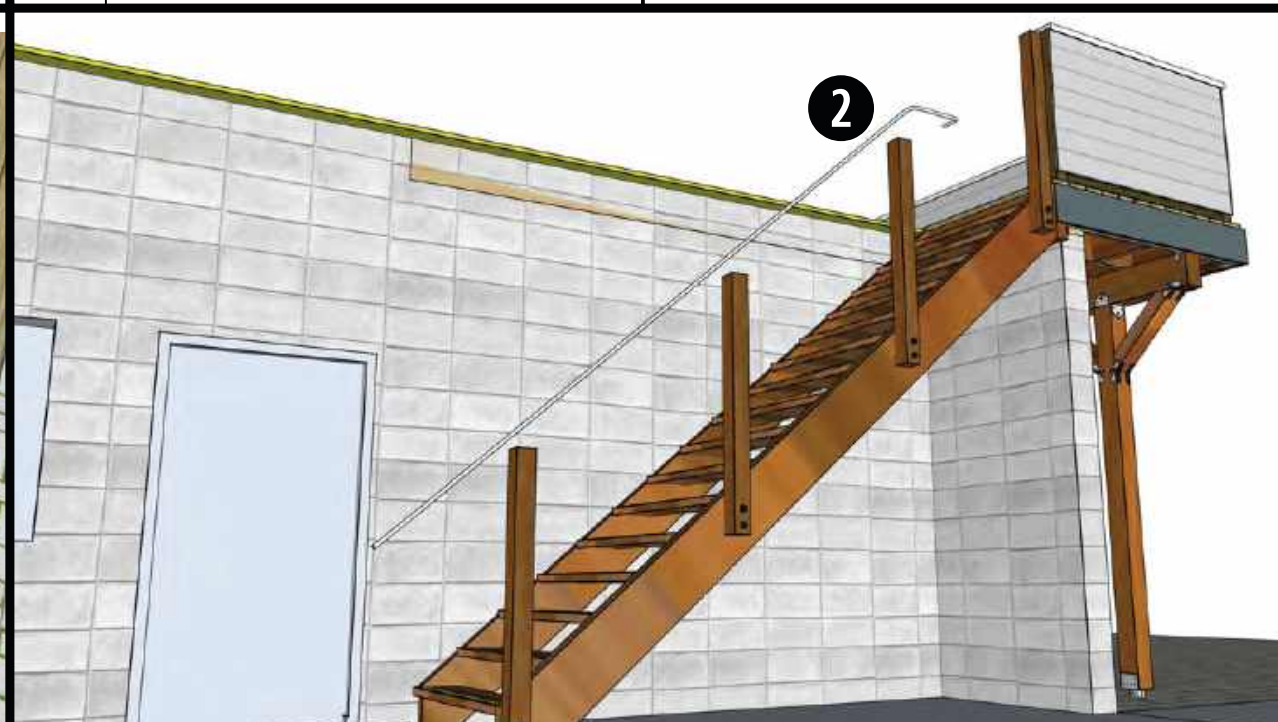
7 893 HANDRAIL DETAIL SCALE: NONE



6 893 HANDRAIL DETAIL SCALE: NONE



5 891 HANDRAIL DETAIL SCALE: NONE



4 891 HANDRAIL DETAIL SCALE: NONE

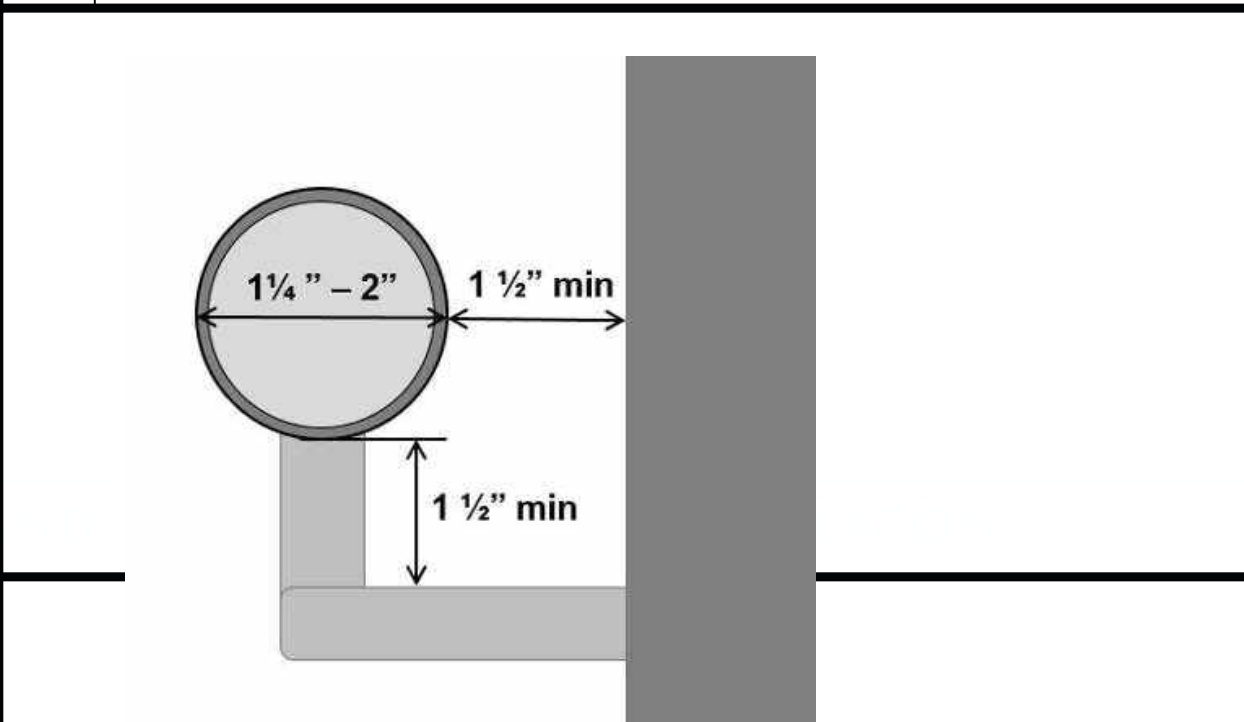
GENERAL SHEET NOTES

- ① SEE SHEET **G-011** FOR GENERAL NOTES AND INSTRUCTIONS FOR BUILDER
- ① LOCATING DIMENSIONS ARE APPROXIMATED TO BE FIELD VERIFIED PRIOR TO FABRICATION OR PURCHASING MADE ITEMS
- ② **NEW HANDRAILS** - BUILDER TO ESTABLISH FINAL LAYOUT AND DESIGN BASED ON UPDATED STAIR CONFIGURATION PRIOR TO FABRICATION FROM APPROVED SHOP DRAWINGS.
- ③ **TREAD SAFETY STRIPE** - ALL TREADS TO RECEIVE NEW STAIR TREAD SAFETY STRIPE - MINIMUM 2" WIDE; PROPERLY PREPARE AND CLEAN TREADS PRIOR TO INSTALLATION.
- ④ **NEW GUARDRAILS** (METAL) 42" ABOVE NOSING - ALL GAPS <4"Ø, 6"Ø AT TREAD / RISER TRIANGULAR GAP; PROVIDE SHOP DRAWINGS FOR APPROVAL

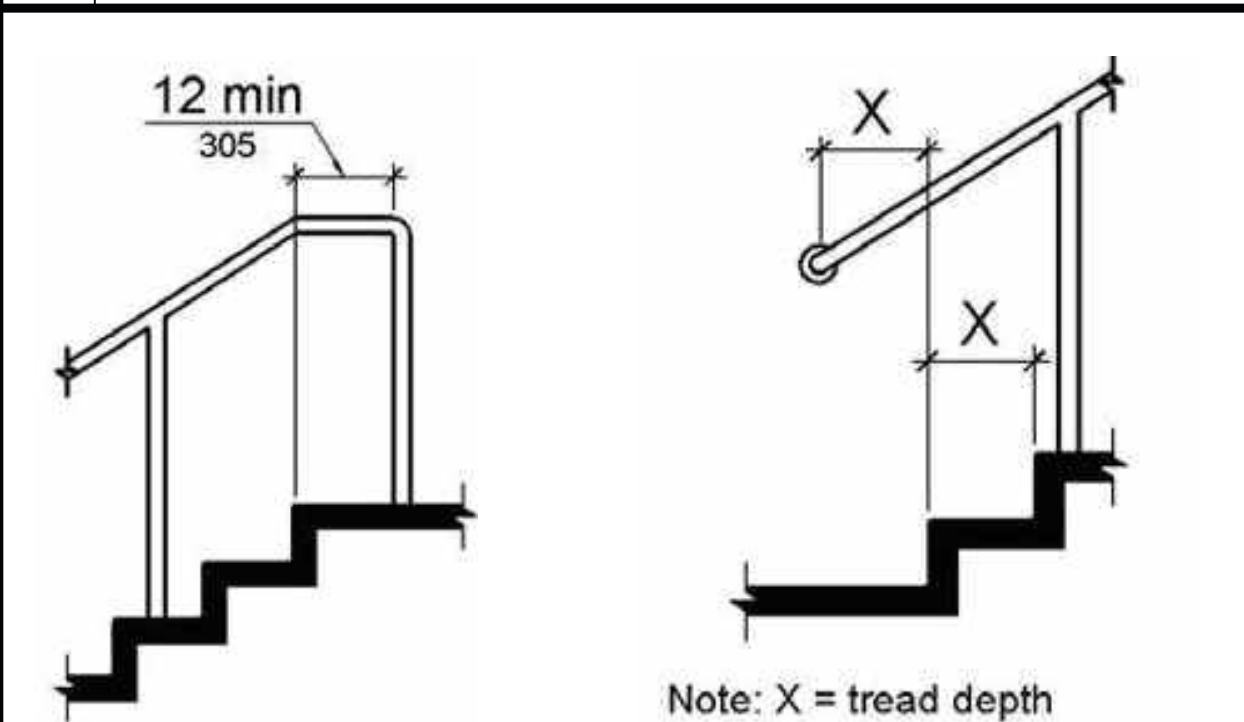


CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
 PERMIT NUMBER: **BIAL25-007297**
 THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.
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 By: Reginald George
CCCSD
 APR 23 2025
 REVIEWED

3 HANDRAIL NOTES SCALE: NONE



2 HANDRAIL SPECS SCALE: NONE



1 HANDRAIL DETAIL SCALE: NONE

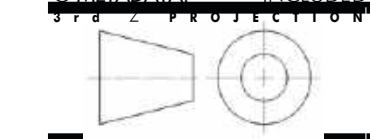
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 2336 Heritage Hills Dr
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 (925) 938-3900

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ISSUE HISTORY
 4 3ENG. UPDATE 09.20.25
 2 PERMIT APPLICATION 4.10.25
 1 PERMIT ISSUE 09.12.2024

HANDRAIL DETAILS

SHEET NUMBER
A-520



RESIDENTIAL SMOKE & CARBON MONOXIDE ALARMS

Smoke Alarm and Carbon Monoxide Alarm Device Location

Smoke and Monoxide Alarms (CBC 907.2.11, CRC 314.3, CRC 315.1)

Smoke alarms shall be installed per manufacturer's installation instructions in all sleeping rooms, each area/hallway adjacent to sleeping rooms, each story of the building, and in any basement. All battery powered smoke alarms shall have a 10-year battery.

Carbon monoxide alarms shall be installed per manufacturer's installation instructions in each area/hallway adjacent to sleeping rooms, each bedroom containing (or opening to a bathroom containing) a fuel burning appliance, each story of the building, and any basement. Carbon monoxide alarms are not required if there is no fuel-burning appliance or fire place, and the garage is detached from the house.

Maintenance

The owner shall be responsible for testing and maintaining detectors in hotels, motels, lodging houses, and common stairwells of apartment complexes and other multiple dwelling complexes. The smoke alarm shall be operable at the time that the tenant takes possession. The apartment complex tenant shall be responsible for notifying the manager or owner if the tenant becomes aware of an inoperable smoke alarm within his or her unit. The owner or authorized agent shall correct any reported deficiencies in the smoke alarm and shall not be in violation of this section for a deficient smoke alarm when he or she has not received notice of the deficiency. (CRC R314.8.2 and California Health and Safety Code 13113.7)

Smoke Alarm Batteries and Replacement

All newly installed smoke alarms shall have a 10-year battery. Smoke alarms shall be replaced 10 years from the date of manufacture marked on the unit. (SB 745, 2014)

BUILDING INSPECTION REQUIREMENTS

Following are general requirements for the installation of smoke alarms and carbon monoxide alarms in residential buildings based on the 2022 California Building Code, 2022 California Residential Code, and the 2022 California Fire Code. Please contact the Building Inspection Division for any questions or additional information.

New Construction and Additions

In new construction and additions, required smoke alarms and carbon monoxide alarms shall receive their primary power from the permanent building electrical power system. Where two or more smoke alarms or carbon monoxide alarms are required, they shall be interconnected in such a manner that actuation of one shall cause actuation of all detectors in the dwelling unit. (CBC 907.2.11, CRC R314, CRC R315)

All new electrical outlets (including smoke alarms, carbon monoxide alarms, receptacles, switches, lighting, etc.) shall be on circuits protected with a combination arc-fault circuit interrupter. (CEC 210.12)

Remodeled Dwelling Units

When a permit is required for any repair, alteration, or addition, smoke alarms and carbon monoxide alarms shall be installed in accordance with the following location and maintenance provisions. In existing dwelling units, smoke alarms and carbon monoxide alarms may be solely battery operated in the following circumstances (CBC 907.2.11, CRC R314, CRC R315):

- No construction is taking place.
- There is no commercial power source.
- Interior wall or ceiling finishes are not removed.
- Scope of work is limited to the exterior of the residence.

Rooms/Spaces that Require Smoke Alarms and Carbon Monoxide Alarms:

Room/Space	Smoke Alarm Required? (CBC 907.2 and CRC R314)	Carbon Monoxide Alarm Required? (CBC 907.2 & CRC R315)
Outside of each separate sleeping area in the immediate vicinity of bedrooms (i.e. hallway)	Yes	Yes
In each sleeping room	Yes	No
In each sleeping room with fuel burning appliance	Yes	Yes
In each story within a dwelling unit, including basements	Yes	Yes
In enclosed common stairwells of apartment complexes and other multiple-dwelling complexes	Yes	No
In a group R-3.1 (i.e. adult residential facilities), in addition to the above, smoke alarms shall be provided throughout the habitable areas of the dwelling unit except kitchens	Yes	No

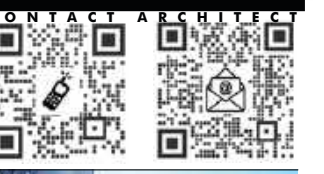
Contra Costa County Department of Conservation and Development
Application and Permit Center-30 Muir Rd., Martinez, CA 94553 - 925-655-2700, FAX 925-655-2744
Building and Planning Staff are available 8:00 a.m. to 5:00 p.m. Monday thru Thursday and 8:00 a.m. to 4:00 p.m. on Friday
G:\DCD Resources\How To Guides\Website Documents\current\residential smoke-carbon mono alarm.docx

2 CONTRA COSTA COUNTY RESIDENTIAL SMOKE & CARBON MONOXIDE ALARMS REQUIREMENTS

1. INSPECT AND VERIFY THAT ALL FIVE APARTMENTS UNITS HAVE THE REQUIRED SMOKE AND CARBON MONOXIDE SENSORS AS REQUIRED PER **DETAIL 2** THIS SHEET.
2. PROVIDE AND REPLACE ANY MISSING, DEFECTIVE, OR NON-WORKING SENSORS THAT DO NOT MEET THE REQUIREMENTS PER **DETAIL 2** THIS SHEET.
3. ALL INSPECTION AND/OR REPLACEMENT WORK TO BE COMPLETED PRIOR TO FINAL INSPECTION BY AHJ.

1 INSTALLATION NOTES

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIA125-007297
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By: Reginald George



CONTACT ARCHITECT
SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com |
brtanportue@gmail.com
(925) 938-3900

SHEET INFORMATION

PROJECT NO:	891BELL_SB791
ISSUE:	PERMIT ISSUE #1
DATE:	AUG 11, 2024
SCALE:	AS NOTED
FILE:	891_BELL_010
DRAWN BY:	ME
CHECKED BY:	LRC
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METADATA:	INCLUDED

ISSUE HISTORY

4	3 ENG. UPDATE	09.20.25
2	PERMIT APPLICATION	4.10.25
1	PERMIT ISSUE	09.12.2024

SMOKE AND CARBON MONOXIDE ALARMS

SHEET NUMBER
A-701

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4 APARTMENT 897, 899 HOUSE NUMBERS

HOUSE NUMBERS TO BE 6" MINIMUM HEIGHT, HELVETICA STYLE, SET OFF (FLOATING) - COLOR TO BE CONTRASTING FROM BACKGROUND;
CENTER ON FASCIA BOARDS, SPACE 6" FROM END OF FASCIA BOARDS (891, 893, 897, 899) OR CENTER OVER ENTRANCE WAY (893);
APPLY (3) COATS OF RUST-OLEUM 214944 SPECIALTY REFLECTIVE SPRAY, SEMI TRANSPARENT CLEAR COAT TO NUMBERS PER MANUFACTURER'S INSTRUCTIONS.

5 APARTMENT HOUSE NUMBERS SPECIFICATIONS



2 APARTMENT 895 HOUSE NUMBERS



2 APARTMENT 893 HOUSE NUMBERS



1 APARTMENT 891 HOUSE NUMBERS

CERTIFIED P.S.A. C.A.S. 21223

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REGISTERED ARCHITECT
LEAL ROYCE CHARONNAT
C8901
EXPIRES MARCH 31, 2025
STATE OF CALIFORNIA

CONTACT ARCHITECT

PROJECT LOGO

PROJECT ADDRESS

SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
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TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com |
brianportue@gmail.com
(925) 938-3900

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APARTMENT NUMBERS
SHEET NUMBER
A-711

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By: Reginald George

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6 LATERAL ROUTE



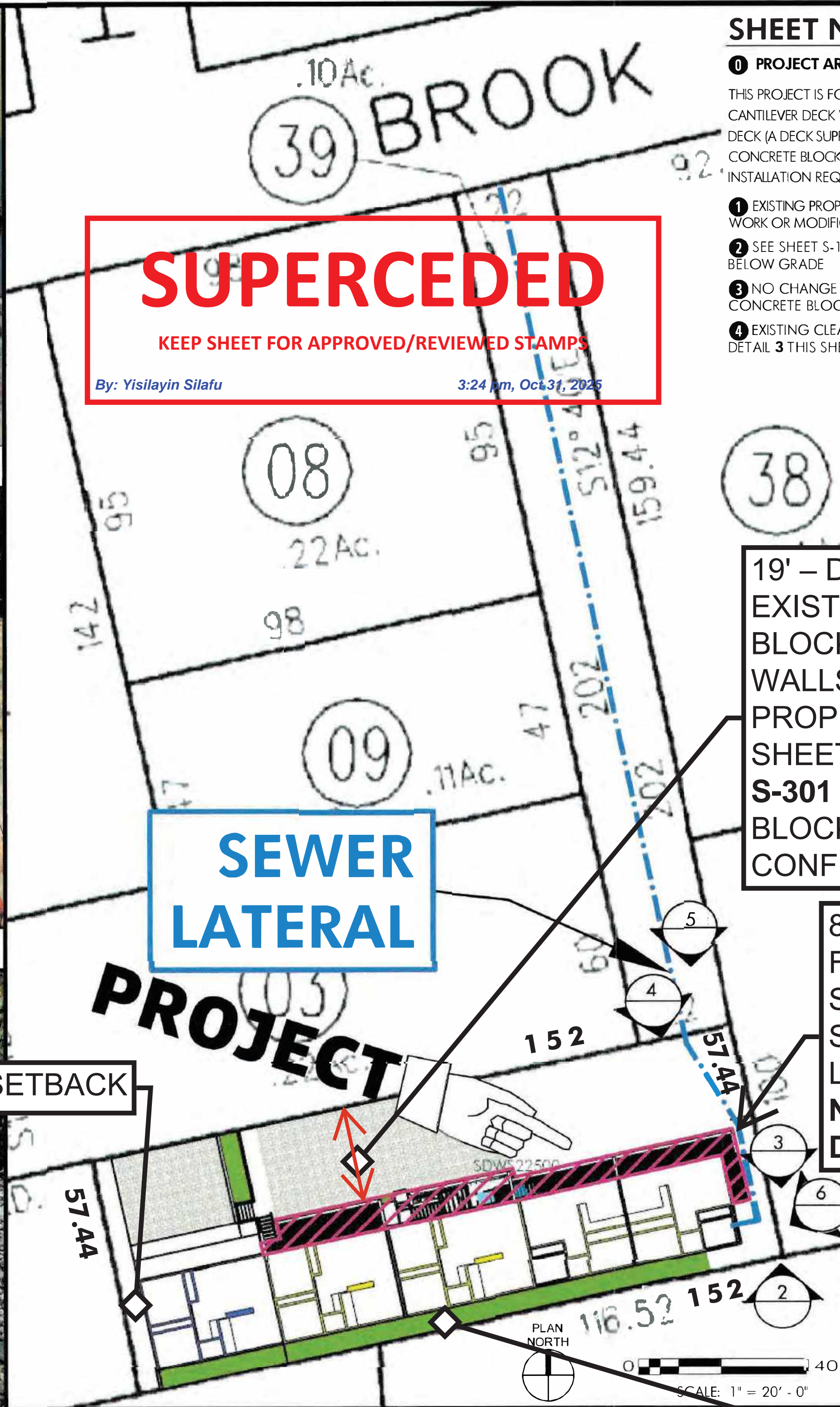
5 LATERAL ROUTE



2 LATERAL ROUTE



3 LATERAL ROUTE



SUPERCEDED
KEEP SHEET FOR APPROVED/REVIEWED STAMPS
By: Yisilayin Silafu 3:24 pm, Oct 31, 2025

SEWER LATERAL

5' SIDE SETBACK

19' - DISTANCE FROM EXISTING CONCRETE BLOCK SUPPORT WALLS TO FRONT PROPERTY LINE. SEE SHEET S-102, S-201, S-301 FOR CONC. BLOCK WALL CONFIGURATION

8' - DISTANCE FROM LANDING SUPPORT POST TO SIDE PROPERTY LINE - SEE SHEET NOTE #4 G-891; DETAIL 3-S-401

10' REAR SETBACK

SHEET NOTES

- 1 PROJECT AREA = SEE SHEET G-011 FOR GENERAL NOTES. THIS PROJECT IS FOR REPLACEMENT OF EXISTING BALCONY (A CANTILEVER DECK WITH NO GROUND SUPPORTS) AND LEDGER DECK (A DECK SUPPORTED BY A BUILDING LEDGER AND CONCRETE BLOCK PILASTERS - NO NEW POST OR PILASTER INSTALLATION REQUIRED)
- 2 SEE SHEET S-103 FOR LOCATION OF CONCRETE WORK BELOW GRADE
- 3 NO CHANGE OR MODIFICATIONS TO EXISTING CONCRETE BLOCK PILASTERS
- 4 EXISTING CLEAN-OUT FOR MAIN SEWER LATERAL, SEE DETAIL 3 THIS SHEET



SB-721 REPORT
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By: Reginald George

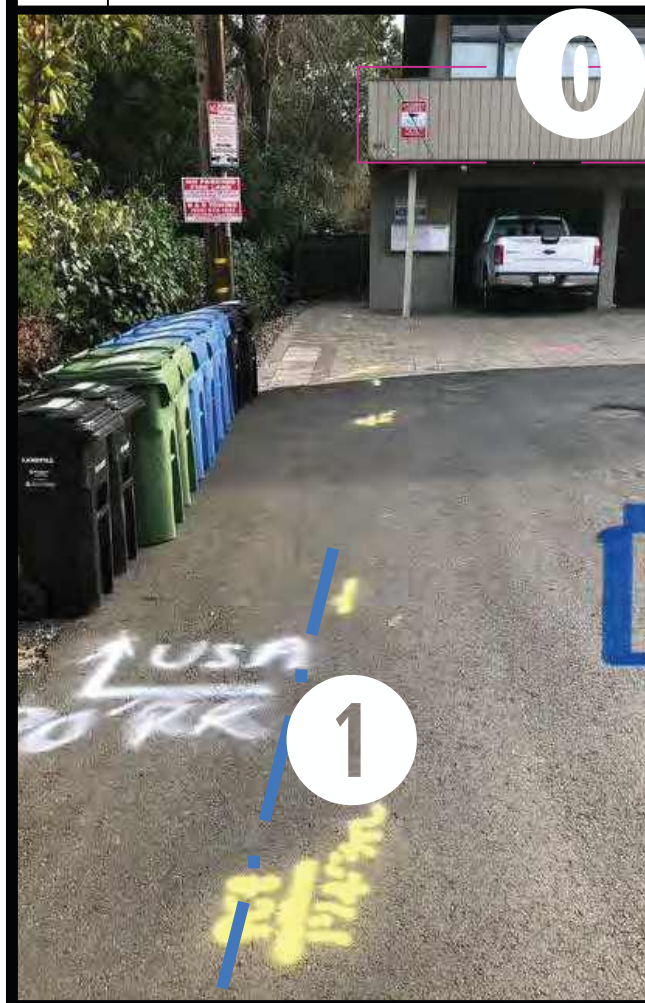
CCCSD
APR 23 2025
REVIEWED

SEWER LATERAL LOCATION AND SITE PLAN
SHEET NUMBER
P-100

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6 LATERAL ROUTE



5 LATERAL ROUTE



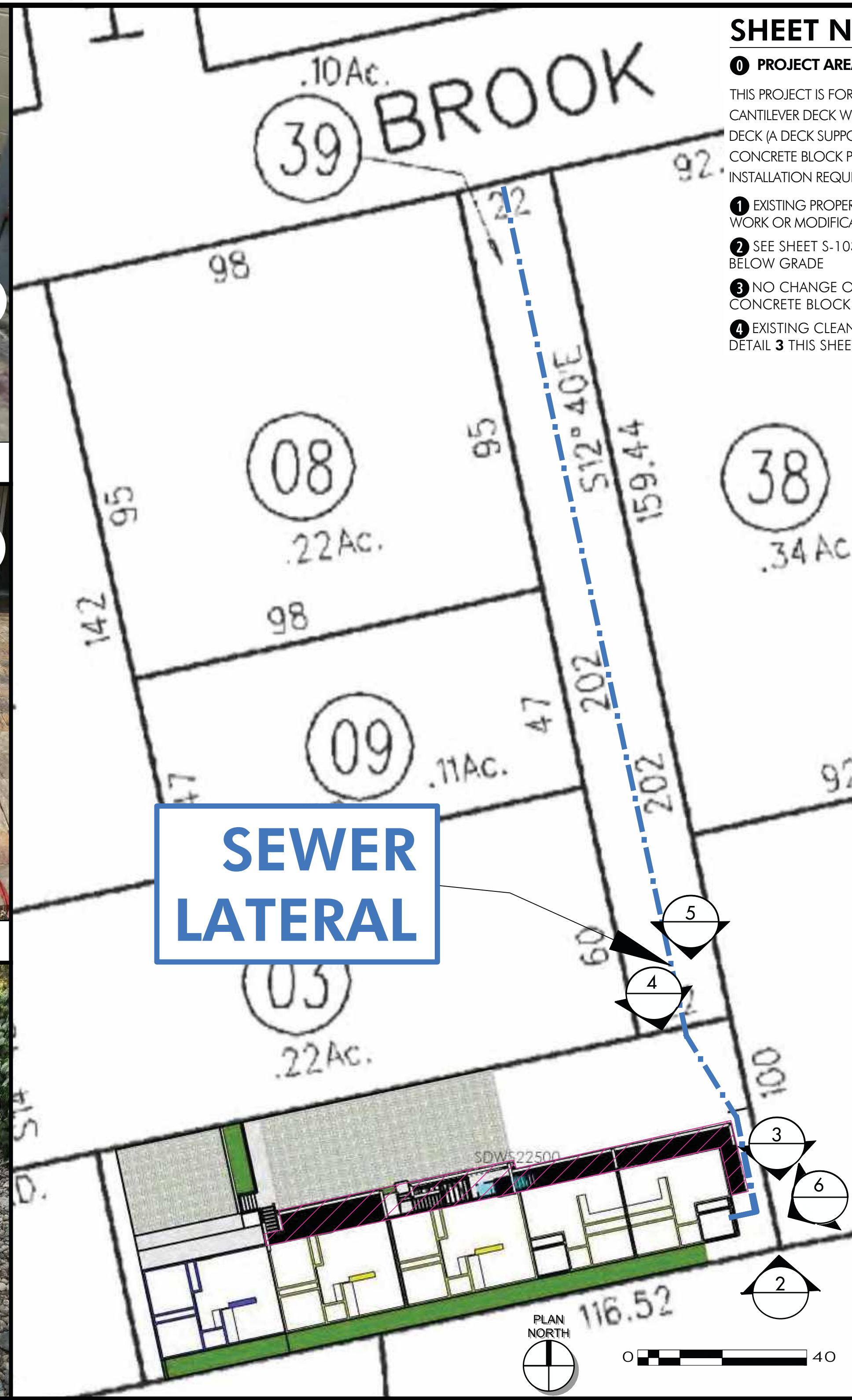
4 LATERAL ROUTE



3 LATERAL ROUTE



2 LATERAL ROUTE



1 FACILITY SEWER LATERAL LOCATION PLAN SCALE: 1" = 20' - 0"

SHEET NOTES

- ① PROJECT AREA = SEE SHEET G-011 FOR GENERAL NOTES. THIS PROJECT IS FOR REPLACEMENT OF EXISTING BALCONY (A CANTILEVER DECK WITH NO GROUND SUPPORTS) AND LEDGER DECK (A DECK SUPPORTED BY A BUILDING LEDGER AND CONCRETE BLOCK PILASTERS - NO NEW POST OR PILASTER INSTALLATION REQUIRED)
- ② EXISTING PROPERTY MAIN SEWER LATERAL SHOWN - NO WORK OR MODIFICATION FOR THIS PROJECT
- ③ SEE SHEET S-103 FOR LOCATION OF CONCRETE WORK BELOW GRADE
- ④ NO CHANGE OR MODIFICATIONS TO EXISTING CONCRETE BLOCK PILASTERS
- ⑤ EXISTING CLEAN-OUT FOR MAIN SEWER LATERAL, SEE DETAIL 3 THIS SHEET

CONTRA COSTA COUNTY
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CERTIFIED PLSA 6450 21223

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SEWER LATERAL
 LOCATION PLAN

SHEET NUMBER
P-100

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	joist, rafter or truss	2-10d box 2-3"x0.131" nails 2-3" 14 gage staples, 7/16" crown	
WOOD STRUCTURAL PANS, SUB FLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING (a)			
31.	3/8"-1/2"	6d common or deformed (2"x0.113") (subfloor and wall)	6" edge 12" intermediate supports
		8d box or deformed (roof)	
		2 3/8"x0.113" nail (subfloor and wall)	
		1 1/4" 16 gage staple, 7/16" crown 2 3/8" x0.113" nail (roof) 1 1/4" 16 gage staple, 7/16" crown (roof)	4" edge 8" intermediate supports 3" edge 6" intermediate supports
32.	19/32"-3/4"	8d common	6" edge
		6d deformed	12" intermediate supports
		2 3/8"x0.113 nail 2" 16" gage staple, 7/16" crown	4" edge 8" intermediate supports
33.	7/8" - 1/4"	10d common	6" edge
		8d deformed	12" intermediate supports
OTHER EXTERIOR WALL SHEATHING			
34.	1/2" fiberboard sheathing (b)	1 1/2" galvanized roof nail	3" edge
		1 1/2" 16 gage staple with 7/16" or 1" crown	6" intermediate supports
35.	25/32" fiberboard sheathing (b)	1 3/4" galvanized roof nail	3" edge
		1 1/2" 16 gage staple with 7/16" or 1" crown	6" intermediate supports
WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
36.	3/4" and less	8d common	6" edge
		6d deformed	12" intermediate supports
37.	7/8"-1"	8d common	6" edge
		8d deformed	12" intermediate supports
38.	1 1/8"-1 1/4"	10d common	6" edge
		8d deformed	12" intermediate supports
PANEL SIDING TO FRAMING			
39.	1/2" or less	6d corrosion-resistant siding	6" edge
		6d corrosion-resistant casing	12" intermediate supports
40.	5/8"	8d corrosion-resistant siding	6" edge
		8d corrosion-resistant casing	12" intermediate supports
INTERIOR PANELING			
41.	1/4"	4d casing	6" edge
		4d finish	12" intermediate supports
42.	3/8"	6d casing	6" edge
		6d finish	12" intermediate supports

- For SI: 1 inch = 25.4 mm.
- Nails spaced at 6 inches at intermediate supports where spans are 48" or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.
 - Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).

BSD-321 Handout - Fastening Schedule
Updated: 01/30/2017 - csm
Page 4 of 5

	or hip rafters; or roof rafter to 2" ridge beam	3-10d box 3-3"x0.131" nails 3-3" 14 gage staples, 7/16" crown	Toenail
WALL			
8.	Stud to Stud (not at braced wall panels)	16d common	24" o.c. face nail
		10d box 3"x0.131" nails 3" 14 gage staples, 7/16" crown	16" o.c. face nail
9.	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d common	16" o.c. face nail
		16d box 3"x0.131" nails 3" 14 gage staples, 7/16" crown	12" o.c. face nail
10.	Built-up header	16d common	16" o.c. each edge, face nail
		16d box	12" o.c. each edge, face nail
11.	Continuous header to stud	4-8d common	Toenail
		4-10d box	
12.	Top plate to top plate	16d common	16" o.c. face nail
		10d box 3"x0.131" nails 3" 14 gage staples, 7/16" crown	12" o.c. face nail
13.	Top plate to top plate, at end joints	8-16d common	Each side of end joint, face nail (min 24" lap splice length each side of end joint)
		12-10d box 12-3"x0.131" nails 12-3" 14 gage staples, 7/16" crown	
14.	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common	16" o.c. face nail
		16d box 3"x0.131" nails 3" 14 gage staples, 7/16" crown	12" o.c. face nail
15.	Bottom plate to joist, rim joist, band joist or blocking at braced wall panels	2-16d common	16" o.c. face nail
		3-16d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	
16.	Stud to top or bottom plate	4-8d common	Toenail
		4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	
		2-16d common	End nail
		3-10d box 3-3"x0.131" nails 3-3" 14 gage staples, 7/16" crown	

FASTENING SCHEDULE

ELEMENT/CONNECTION	FASTENER	LOCATION	
ROOF			
1.	Blocking between ceiling joists, rafters or trusses to top plate or other framing below	3- 8d common (2 1/2" x 0.131") 3-10d box (3" x 0.128") 3- 3" x 0.131" nails 3- 3" 14 gage staples, 7/16" crown	Toenail each end
	Blocking between rafters or truss not at the wall top plate, to rafter or truss	2- 8d common (2 1/2" x 0.131") 2- 3" x 0.131" nails 2- 3" 14 gage staples 2-16d common (3 1/2" x 0.162") 3-3"x0.131" nails 3-3" 14 gage staples	toenail each end end nail
	Flat blocking to truss and web filler	16d common (3 1/2" x 0.162") @ 6" o.c. 3-3"x0.131" nails @ 6" o.c. 3-3" 14 gage staples @ 6" o.c.	Face nail
2.	Ceiling joists to top plate	3-8d common 3-10d box 3-3"x0.131" nails 3-3" 14 gage staples, 7/16" crown	Toenail each joist
3.	Ceiling joist not attached to parallel rafter, laps over partitions (no thrust) (Table and Section 2308.7.3.1)	3-16d common 4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	Face nail
4.	Ceiling joists attached to parallel rafter (heel joint) (Table and Section 2308.7.3.1)	Table 2308.7.3.1	Face nail
5.	Collar tie to rafter	3-10d common 4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	Face nail
6.	Rafter or roof truss to top plate (Table and section 2308.7.5)	3-10 common 3-16d box 4-10d box 4-3"x0.131" nails 4-3" 14 gage staples, 7/16" crown	Toenail (c)
7.	Roof rafters to ridge valley	2-16d common	End nail

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
222 pm, Nov 21, 2025
REVIEWED
FOR COMPLIANCE WITH COUNTY BUILDING ORD. & CODES. THE STAMPING OF THIS DOCUMENT SHALL NOT BE HELD PERMIT OR TO BE AN APPROVAL OF THE HOLDINGS OF ANY COUNTY OR JURISDICTION OF STATE. ALL WORKSHOPS SHALL BE MADE WITHOUT AUTHORIZATION FROM THE BUILDING OFFICE.
By: Reginald George

Structural Reviewed
By: Yisilayin Sitaifu
3/26 pm, Oct 31, 2025

CERTIFIED DESIGNER
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CONTACT ARCHITECT
PROJECT ADDRESS
PROJECT PHOTO
PROJECT ADDRESS

**S-B-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK**
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

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SHEET INFORMATION
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DRAWN BY: ME
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CC LICENSE: INCLUDED
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ISSUE HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
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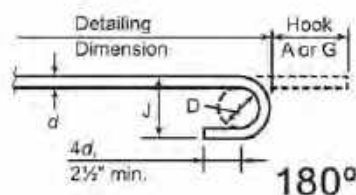
CARPENTRY
GENERAL NOTES

SHEET NUMBER
S-010

STANDARD HOOK DETAILS
in accordance with ACI 318 Building Code

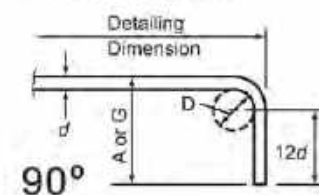
All grades of steel (minimum yield strengths)

D = Finished inside bend diameter (includes springback)
d = Bar diameter



CRSI Concrete Reinforcing Steel Institute

ACI 318 min. bend diameter:
6d for #3 through #8
8d for #9, #10 and #11
10d for #14 and #18



RECOMMENDED END HOOK DIMENSIONS

BAR SIZE	D	180° HOOKS		90° HOOKS
		A or G	J	A or G
#3	2 1/4"	0'-5"	0'-3"	0'-6"
#4	3"	0'-6"	0'-4"	0'-8"
#5	3 3/4"	0'-7"	0'-5"	0'-10"
#6	4 1/2"	0'-8"	0'-6"	1'-0"
#7	5 1/4"	0'-10"	0'-7"	1'-2"
#8	6"	0'-11"	0'-8"	1'-4"
#9	9 1/2"	1'-3"	0'-11 1/4"	1'-7"
#10	10 3/4"	1'-5"	1'-1 1/4"	1'-10"
#11	12"	1'-7"	1'-2 3/4"	2'-0"
#14	18 1/4"	2'-3"	1'-9 1/4"	2'-7"
#18	24"	3'-0"	2'-4 1/2"	3'-5"

STEEL TYPE	BAR SIZE RANGE	GRADE	MINIMUM YIELD (ksi)	MINIMUM TENSILE (ksi)
Carbon A615	#3 - #6	40	40	60
	#3 - #20	60	60	90
	#3 - #20	75	75	100
	#3 - #20	80	80	105
	#3 - #20	100	100	115
Low-Alloy A706	#3 - #18	60	60	80
	#3 - #18	80	80	100
Stainless	#3 - #18	60	60	90
	#3 - #18	75	75	100
Rail & Axle A996	#3 - #8	40	40	70
	#3 - #8	50	50	80
	#3 - #11	60	60	90
Low-Carbon	#3 - #18	100	100	150
	#3 - #11	120	120	150

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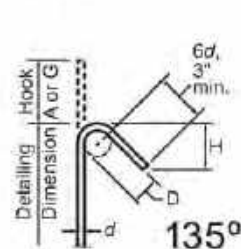
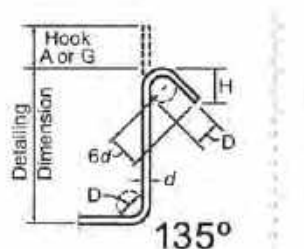
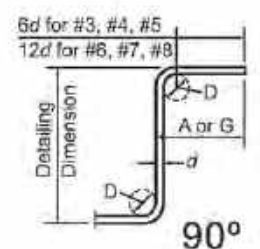
ASIM STANDARD REINFORCING BARS

CRSI Concrete Reinforcing Steel Institute

BAR SIZE DESIGNATION	NOMINAL DIMENSIONS		
	AREA (in. ²)	WEIGHT (lb/ft)	DIAMETER (in.)
#3	0.11	0.376	0.375
#4	0.20	0.668	0.500
#5	0.31	1.043	0.625
#6	0.44	1.502	0.750
#7	0.60	2.044	0.875
#8	0.79	2.670	1.000
#9	1.00	3.400	1.128
#10	1.27	4.303	1.270
#11	1.56	5.313	1.410
#14	2.25	7.65	1.693
#18	4.00	13.60	2.257
#20	4.91	16.69	2.50

D = Finished inside bend diameter (includes springback)
d = Bar diameter

ACI 318 min. bend diameter:
6d for #3 through #8
8d for #9, #10 and #11
10d for #14 and #18



BAR SIZE	D	RECOMMENDED STIRRUP/TIE HOOK DIMENSIONS			RECOMMENDED SEISMIC STIRRUP/TIE HOOK DIMENSIONS			
		90° A or G	A or G	H*	135° SEISMIC HOOK BAR SIZE	D	A or G	H*
#3	1 1/2"	0'-4"	4"	2 1/2"	#3	1 1/2"	4 1/4"	3"
#4	2"	0'-4 1/2"	4 1/2"	3"	#4	2"	4 1/2"	3"
#5	2 1/2"	0'-6"	5 1/2"	3 3/4"	#5	2 1/2"	5 1/2"	3 3/4"
#6	4 1/2"	1'-0"	8"	4 1/2"	#6	4 1/2"	8"	4 1/2"
#7	5 1/4"	1'-2"	9"	5 1/4"	#7	5 1/4"	9"	5 1/4"
#8	6"	1'-4"	10 1/2"	6"	#8	6"	10 1/2"	6"

* H dimension is approximate

933 N. Plum Grove Road, Schaumburg, IL 60173 (647) 517-1200 www.crsi.org

ACI-318 CONCRETE PROTECTION FOR REINFORCEMENT

7.7.1 - CAST-IN-PLACE CONCRETE (NONPRESTRESSED)

CONCRETE COVER AS PROTECTION OF REINFORCEMENT AGAINST WEATHER AND OTHER EFFECTS IS MEASURED FROM THE CONCRETE SURFACE TO THE OUTERMOST SURFACE OF THE STEEL TO WHICH THE COVER REQUIREMENT APPLIES. WHERE MINIMUM COVER IS PRESCRIBED FOR A CLASS OF STRUCTURAL MEMBER, IT IS MEASURED TO THE OUTER EDGE OF STIRRUPS, TIES, OR SPIRALS IF TRANSVERSE REINFORCEMENT ENCLOSES MAIN BARS; TO THE OUTERMOST LAYER OF BARS IF MORE THEN ONE LAYER IS USED WITHOUT STIRRUPS OR TIES.

THE CONDITION "CONCRETE SURFACES EXPOSED TO THE WEATHER" REFERS TO DIRECT EXPOSURE TO MOISTURE CHANGES AND NOT JUST TO TEMPERATURE CHANGES. SLAB OR THIN SHELL SOFFITS ARE NOT USUALLY CONSIDERED DIRECTLY "EXPOSED" UNLESS SUBJECT TO ALTERNATE WETTING AND DRYING, INCLUDING THAT DUE TO CONDENSATION CONDITIONS OR DIRECT LEAKAGE FROM EXPOSED TOP SURFACE, RUN OFF, OR SIMILAR EFFECTS.

THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

MINIMUM COVER, INCHES.

- A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3
- B. CONCRETE EXPOSED TO WEATHER: 1 1/2

CONCRETE - GENERAL NOTES AND SPECIFICATIONS

1. THE BUILDER SHALL FIELD VERIFY ALL DIMENSIONS ON THE DRAWINGS PRIOR TO COMMENCING WORK. ANY CONFLICTS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND BE RESOLVED BEFORE WORK PROCEEDS.
2. DO NOT SCALE DRAWINGS.
3. BUILDER SHALL COMPLY WITH AND OBTAIN ALL REQUIRED INSPECTIONS LISTED AS REQUIRED BY THE BUILDING PERMIT FOR THIS WORK.

CONCRETE - MINIMUM REQUIREMENTS

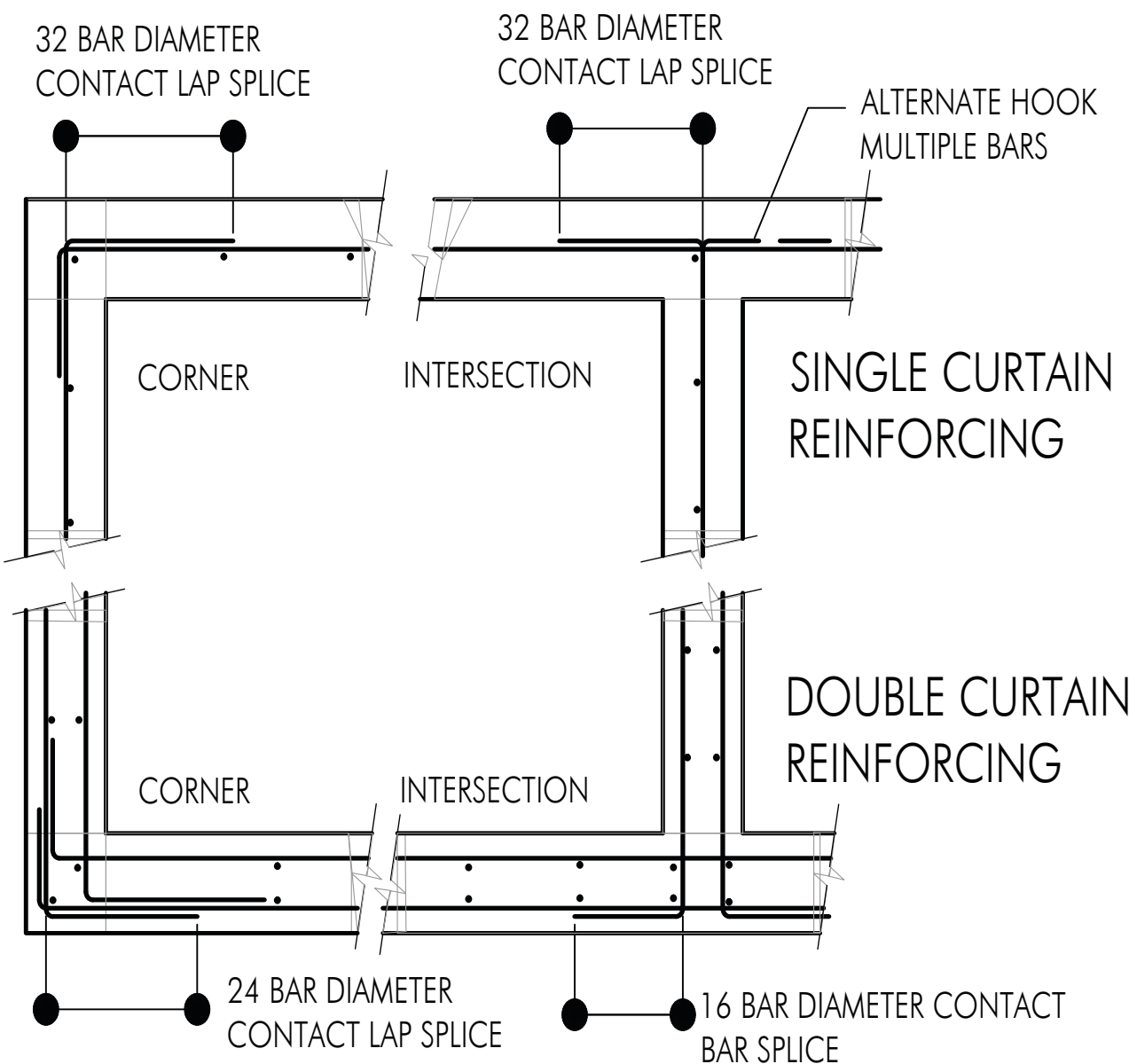
1. ALL EARTHWORK AND SITE PREPARATION FOR FOOTINGS SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF CALIFORNIA BUILDING CODE CHAPTER 19.
2. THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IF UNUSUAL CONDITIONS ARE ENCOUNTERED DURING EARTHWORK OPERATIONS.
3. FOOTINGS SHALL HAVE A MINIMUM DIMENSIONS AS SHOWN ON THE DETAIL DRAWINGS.
4. CONCRETE SHOULD BE CAREFULLY PLACED IN THE FORMWORK TO PREVENT OVER-POUR OF CONCRETE. BOTTOMS OF ALL FOUNDATIONS SHALL BE DRY AND REASONABLY FREE OF LOOSE CUTTINGS AND FALL-IN PRIOR TO INSTALLING REINFORCING STEEL AND PLACING CONCRETE.

CONCRETE - MATERIAL SPECIFICATIONS

1. CONCRETE - ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS-3000 PSI TYPICAL FOR ALL RETAINING WALLS, GRADE BEAMS, STRUCTURAL SLABS AND PIERS. 2500 PSI FOR ALL OTHER CONCRETE. A MINIMUM 6 SACKS OF TYPE II CEMENT PER CUBIC YARD SHALL BE USED WITH A MAXIMUM SLUMP OF 4" TYPICAL.
2. CEMENT SHALL CONFORM TO ASTM C150 - TYPE I OR II.
3. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615-GRADE 40 OR BETTER.
4. WELDED WIRE FABRIC SHALL BE MADE WITH COLD DRAWN SMOOTH WIRE CONFORMING TO ASTM A185 WITH YIELD STRENGTH FY=65 KSI.

CONCRETE - INSTALLATION AND FORMWORK REQUIREMENTS

1. SEE ACI-318 CONCRETE PROTECTION FOR REINFORCEMENT.
2. FOR STANDARD CONCRETE CONSTRUCTION DETAILS, SEE DRAWINGS.
 - A. LAP SPLICES FOR REINFORCING SHALL BE 32 DIAMETERS, TYPICAL UNLESS OTHERWISE NOTED.
 - B. MINIMUM PROJECTION OF DOWELS FROM FOOTING, WALLS, ETC., SHALL BE 32 DIAMETERS, TYPICAL UNLESS NOTED OTHERWISE.
 - C. LAP ALL BARS AT INTERSECTING FOOTINGS 32 DIAMETERS, OR 2'-0" WHICHEVER IS GREATER.
3. SILL ANCHOR BOLTING - SEE "TIMBER CONSTRUCTION SPECIFICATIONS" FOR WOOD SILL AND ANCHOR BOLT NOTES. SEE SHEAR WALL DETAILS FOR OTHER BOLT SIZE AND SPACING REQUIREMENTS.
4. CONCRETE FORMWORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS OF ACI PUBLICATIONS 347, 301 AND 318.
5. REMOVE FORMS IN A MANNER WHICH WILL PREVENT DAMAGE TO THE CONCRETE. DO NOT REMOVE FORMS BEFORE THE EXPIRATION OF THE MINIMUM TIME PERIODS SPECIFIED HEREIN:
 - SIDE FORMS FOR BEAMS, GIRDERS AND SLABS 24 HOURS
6. PROVIDE SUFFICIENT SHORING MEMBERS TO SUPPORT DEAD LOAD PLUS CONSTRUCTION LOADS ON BEAMS, GIRDERS AND SLABS FOR A PERIOD OF 8-DAYS IN ADDITION TO THE 6 DAYS SPECIFIED HEREIN. IF CURRING TEMPERATURE IS BELOW 50 DEGREES F, THE MINIMUM TIME OF REMOVAL OF FORMS AND SHORING SHALL BE 50 PERCENT (50%%) GREATER THAN SPECIFIED.
7. PROTECT CONCRETE WORK FROM DAMAGE DURING CONSTRUCTION.



NOTE - INSTALL ALL REBAR TO THESE GUIDELINES

STANDARD CORNER REINFORCING DETAILS SCALE: NONE



1-5TH AVE OAKLAND 94606
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OFFICE@CHARONNATDESIGN.COM



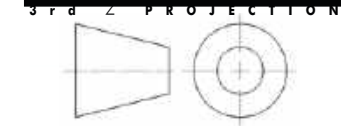
PROJECT ADDRESS

SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

PROPERTY OWNER

TOM PORTUE
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brtanportue@gmail.com
(925) 938-3900

SHEET INFORMATION	
PROJECT NO:	891BELL_SB791
ISSUE:	PERMIT ISSUE #1
DATE:	AUG 11, 2024
SCALE:	AS NOTED
FILE:	891_BELL_010
DRAWN BY:	ME
CHECKED BY:	LRC
CC LICENSE:	
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ISSUE HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

CONCRETE WORK REQUIREMENTS

SHEET NUMBER
S-020

CONTRACT NO. 223PM, No. 21, 2025
REVISIONS
1. REVISIONS
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Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025

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SHEET NOTES

① SEE SHEET **G-011** FOR GENERAL NOTES

① DECK LEDGER CONNECTION TO BUILDING STRUCTURE -
 DETERMINE EXISTING CONDITIONS PRIOR TO INSTALLATION -
 SEE SHEET **S-708** FOR CONNECTION OPTIONS, VERIFY
 WITH ARCHITECT PRIOR TO COMMENCING CONSTRUCTION



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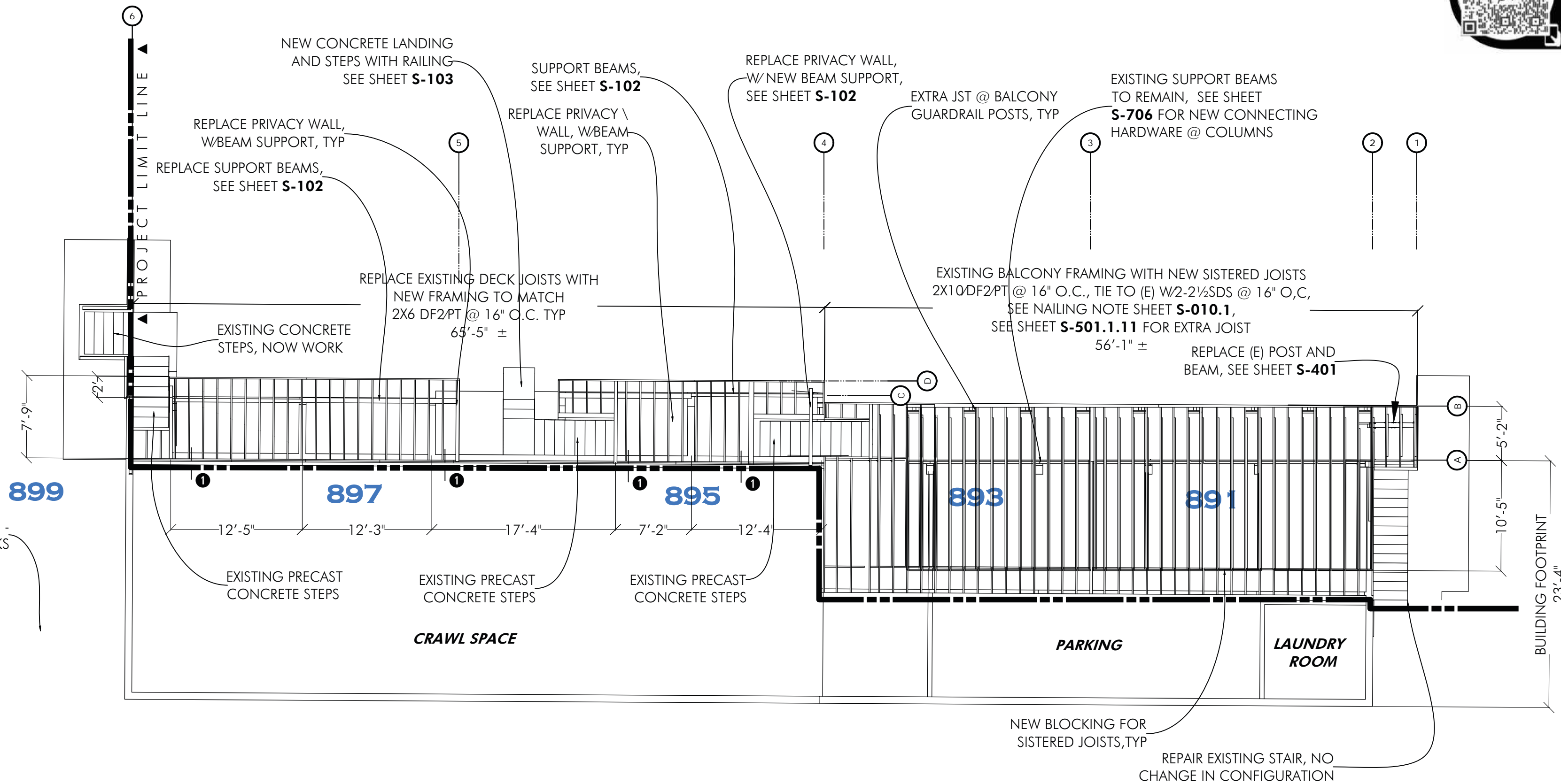
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 1 PERMIT ISSUE 09.12.2024

DECK REPAIR FRAMING PLAN

SHEET NUMBER
S-101



SPECIFICATION NOTES -
 1. ALL WOOD MEMBERS TO BE PT, ALL MEMBERS TO RECEIVE MOISTURE BARRIER COVERING; EXTEND FLASHING UNDER EXISTING WALL FLASHING AND DOOR THRESHOLDS, TYP
 2. ALL ENTRANCE DOORS TO BE ADA COMPLIANT - SEE DETAILS.

CCCSD
 APR 23 2025
REVIEWED

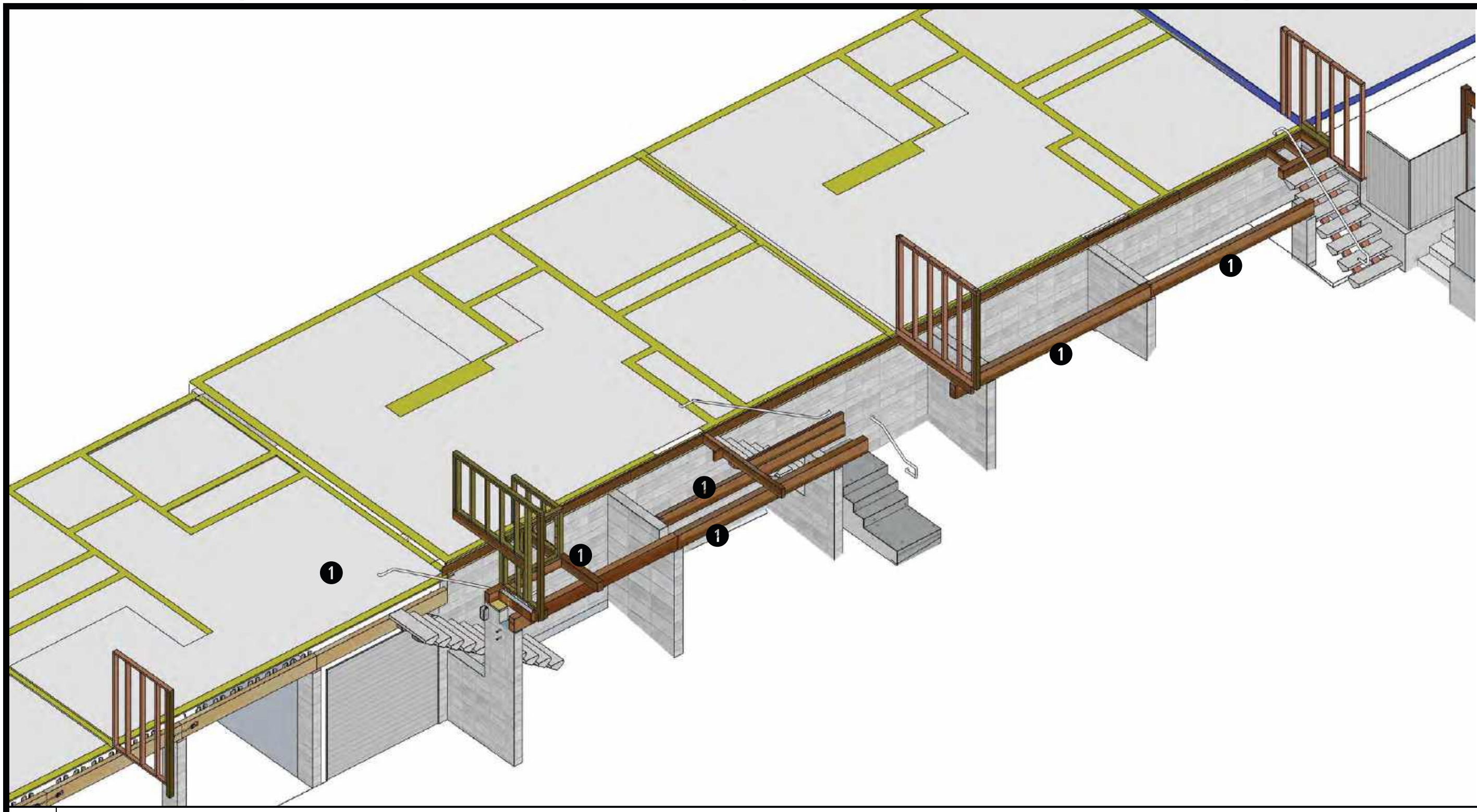


Structural Reviewed
 By: Yisliyin Sifatu
 3:26 pm, Oct 31, 2025

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
 PERMIT NUMBER
BIAL25-007297
 THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.
 2:22 pm, Nov 21, 2025
REVIEWED
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 By: Reginald George

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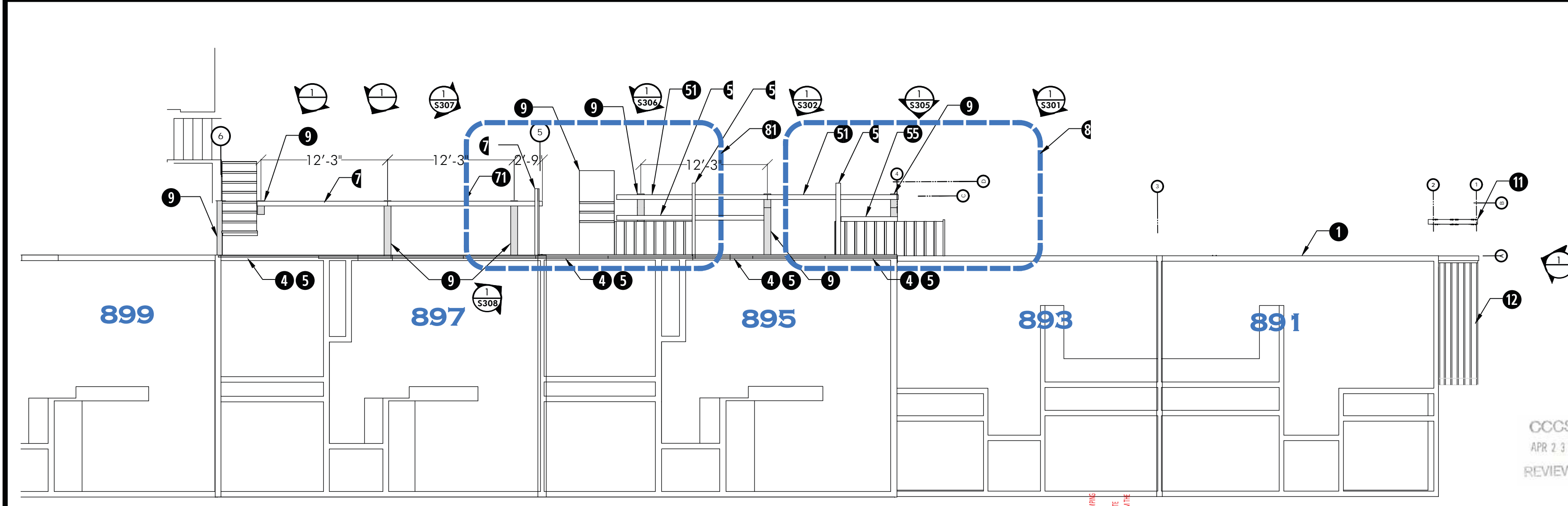


SHEET NOTES

- ① SEE SHEET **G-011** FOR GENERAL NOTES; SEE SHEETS **S-3XX** FOR ADDITIONAL CONSTRUCTION NOTES
- ① SEE SHEET **S-700.3** FOR EPOXY ADHESIVE REQUIREMENT
- ② SEE SHEET **S-700.2** FOR TYPICAL JOIST/BEAM CONNECTIONS
- ④ EVALUATE EXISTING LEDGER - REPLACE DEFECTIVE LEDGERS AND ANY OTHER DETERIORATED STRUCTURAL AND NON-STRUCTURAL MEMBERS; COORDINATED WITH EXISTING FLASHING; PRIOR TO INSTALLING NEW DECK JOISTS WITH HANGERS
- ⑤ PROTECT ALL MEMBERS WITH PROTECTIVE MEMBRANE - SEE SHEET **A-511.2, A-511.4**
- ⑨ EXISTING CONCRETE BLOCK WALL
- ⑪ SEE SHEET **S-402** FOR POST AND BEAM SUPPORT
- ⑫ SEE SHEET **S-403** FOR STAIR REPLACEMENT PLAN
- ⑤1 6X12 DF1 PT BEAM - SEE SHEET **S-302**
- ⑤ 4X12 DF1 PT BEAM
- ⑤ 4X8 DF1 PT BEAM (JOIST LEVEL)
- ⑦1 6X12 DF1 PT BEAM - SEE SHEET **S-303**
- ⑦ 6X12 DF1 PT BEAM
- ⑦ 6X12 DF1 PT BEAM
- ⑧1 SEE SHEET **S-401** FOR FRAMING CONFIGURATION
- ⑧ SEE SHEET **S-402** FOR FRAMING CONFIGURATION

2 DECK REPLACEMENT BEAM FRAMING ILLUSTRATION

SCALE: NONE



899 897 895 893 891

CCCSD
APR 23 2025
REVIEWED

PLAN NORTH

0 16

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
2:22 pm, Nov 21, 2025
REVIEWED

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By: Reginald George

Structural Reviewed
By: Yisliayin Silafu
3:26 pm, Oct 31, 2025

1 DECK REPLACEMENT BEAM FRAMING PLAN

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

CERTIFIED P.S.A. C.A.S. 71213

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ARCHITECT+ENGINEERING
1-5TH AVE OAKLAND 94606
510.436.3466 FAX 877.769.9966
OFFICE@CHARONNATDESIGN.COM

PROJECT LOGO

PROJECT ADDRESS

**SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK**

891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com |
brtanportue@gmail.com
(925) 938-3900

SHEET INFORMATION

PROJECT NO:	891BELL_SB791
ISSUE:	PERMIT ISSUE #1
DATE:	AUG 11, 2024
SCALE:	AS NOTED
FILE:	891_BELL_010
DRAWN BY:	ME
CHECKED BY:	LRC
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ISSUE HISTORY

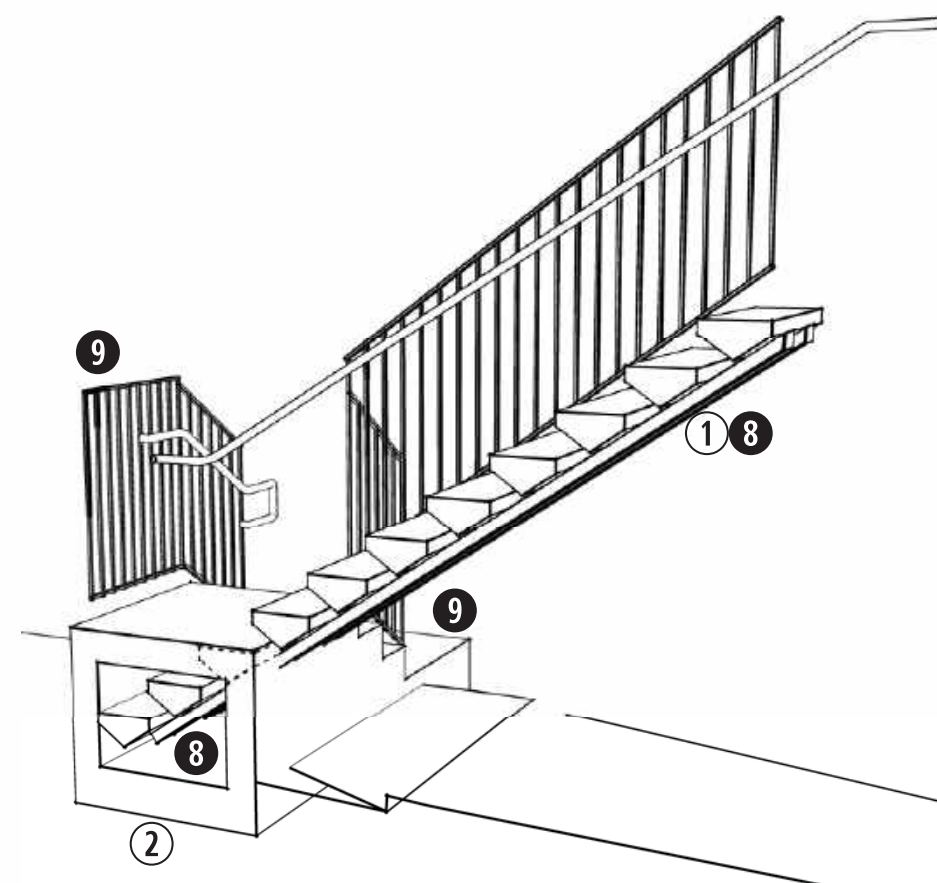
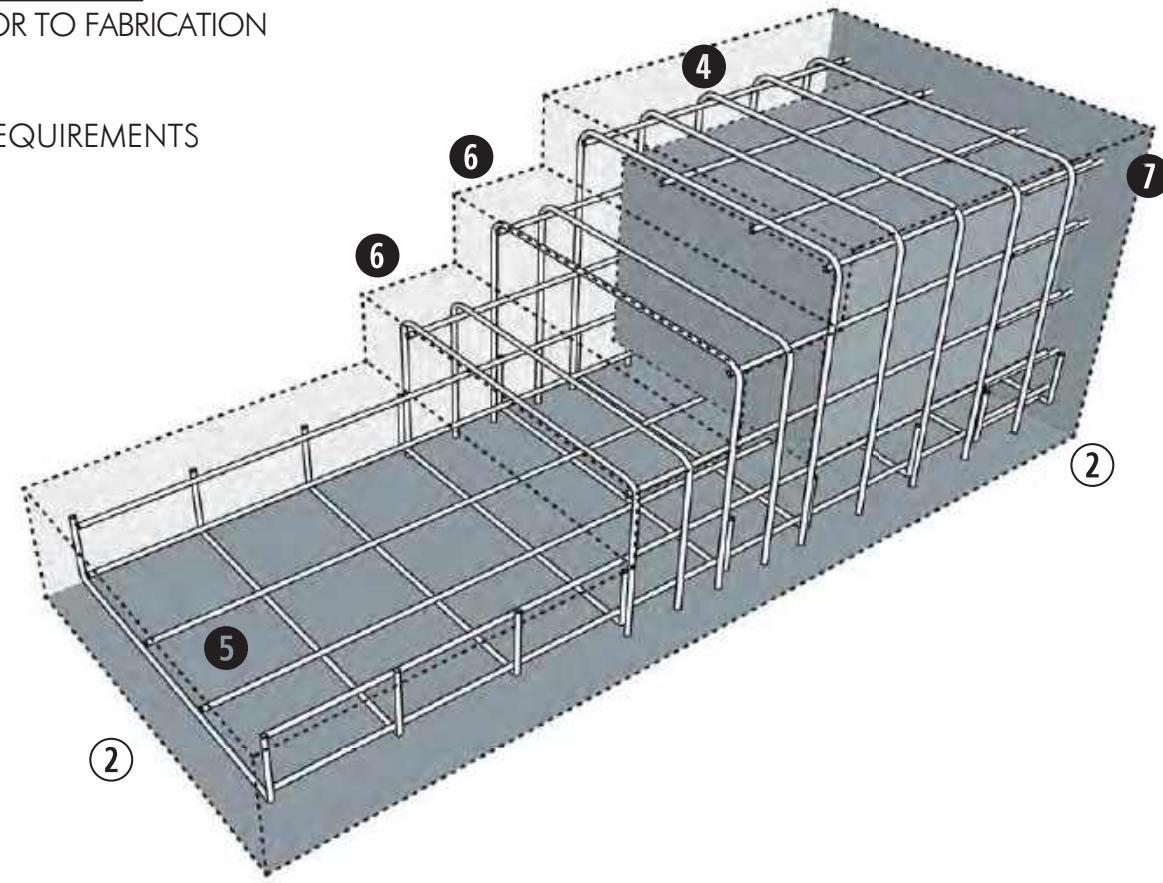
4	3ENG. UPDATE	09.20.25
2	PERMIT APPLICATION	4.10.25
1	PERMIT ISSUE	09.12.2024

REPLACEMENT
BEAM PLAN

SHEET NUMBER
S-102

DETAIL NOTES

- 1 PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION
- 2 ALL REBAR #4 SCHEDULE 40
- 3 SEE SHEET S-103 FOR CONCRETE WORK REQUIREMENTS
- 4 LANDING REBAR @ 8" OC
- 5 FOOTING REBAR @ 12" OC
- 6 (2) REBAR PER TREAD, TYP
- 7 INSTALL #4 DOWEL @ H REBAR, EPOXY 5" INTO CONCRETE BLOCK WALL; DO NOT USE IMPACT DRILLS, TYP
- 8 RETAIN EXISTING PRE-CAST STAIRS; PROVIDE CAVITY UNDER LANDING
- 9 COORDINATE INSTALLATION OF NEW GUARDRAIL WITH CONCRETE LANDING



SHEET NOTES

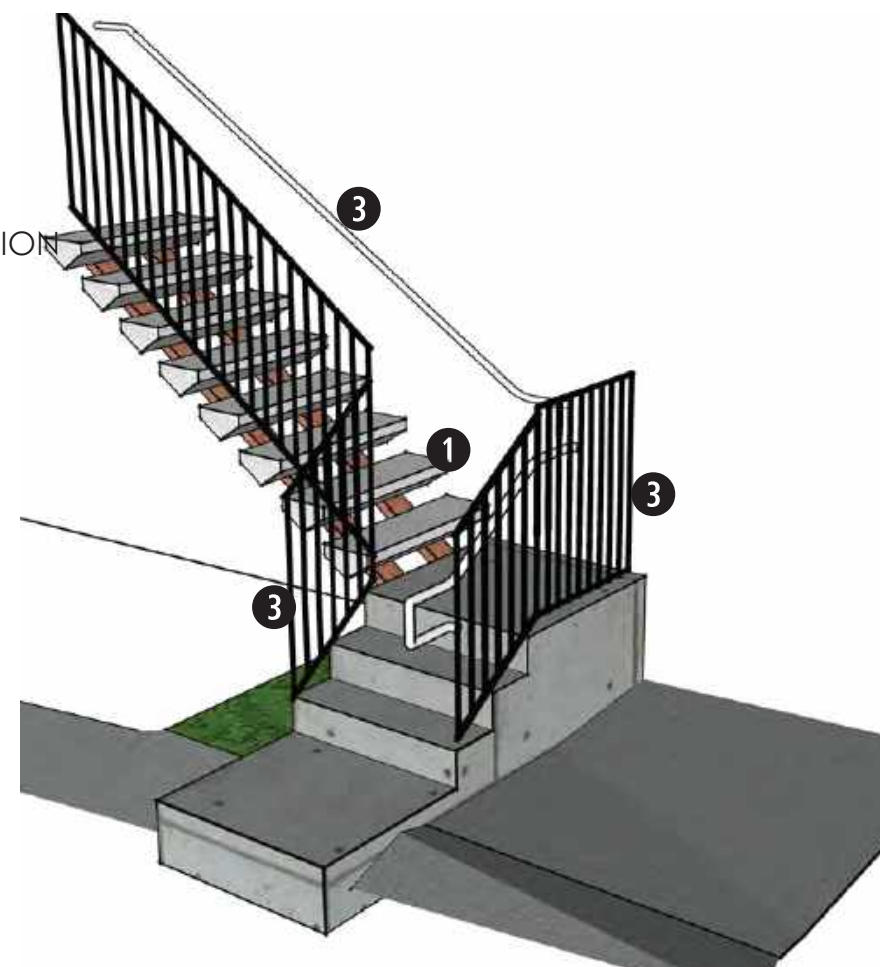
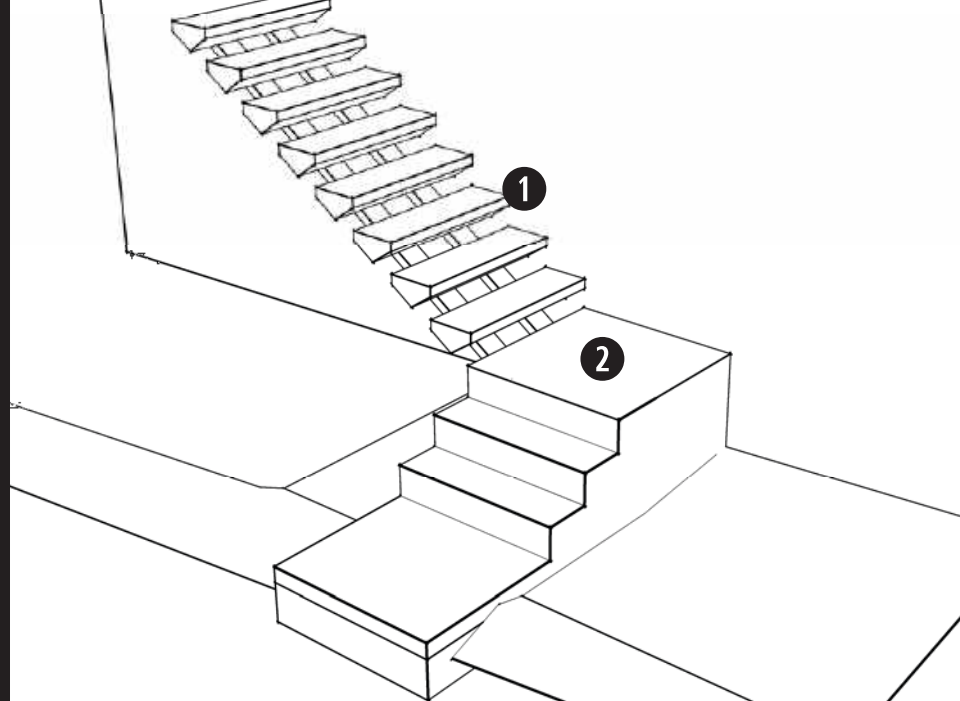
- 1 SEE SHEET G-011 FOR GENERAL NOTES AND INSTRUCTIONS FOR BUILDER; SEE SHEET S-020 FOR CONCRETE WORK REQUIREMENTS
- 1 891 - VERIFY FOOTING SIZE FOR REPLACEMENT POST IS A MINIMUM 2-SQUARE FEET IN AREA; OTHERWISE REPLACE USING SPECS NOTED FOR 897 LANDING.
- 1 897 - EXISTING PRECAST CONCRETE STEPS STRUCTURE TO REMAIN, PROTECT FROM DAMAGE; CAREFULLY REMOVE SINGLE TREAD AT LANDING ELEVATION; NEW LANDING TO MATCH EXISTING TREAD ELEVATION
- 2 897 - EXCAVATE FOR BOTTOM OF NEW NEW LANDING A MINIMUM 12" BELOW GRAD TO UNDISTURBED SOIL
- 3 897 - EXCAVATE FOR BOTTOM OF NEW NEW LANDING MINIMUM 12" BELOW GRADEX8 DF1 PT BEAM

5 CONCRETE LANDING AND REBAR CONFIGURATION

SCALE: NONE

DETAIL NOTES

- 1 EXISTING PRECAST CONCRETE STEPS
- 2 LANDING SAME HEIGHT AS (E) STEP - REMOVE STEP
- 3 SEE SHEET A-520 FOR HANDRAIL DETAILS; COORDINATE NEW GUARDRAIL ANCHORAGE WITH CONCRETE LANDING INSTALLATION

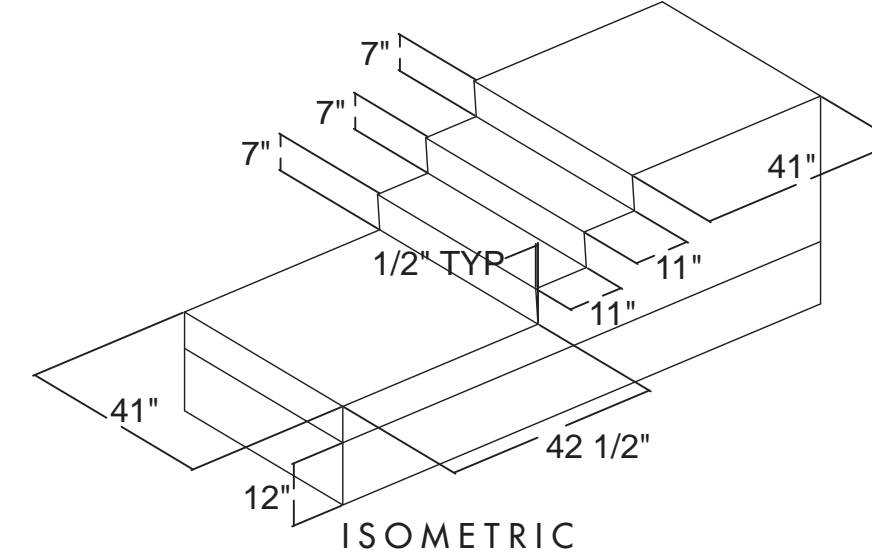


4 CONCRETE STEPS DETAILS

SCALE: NONE

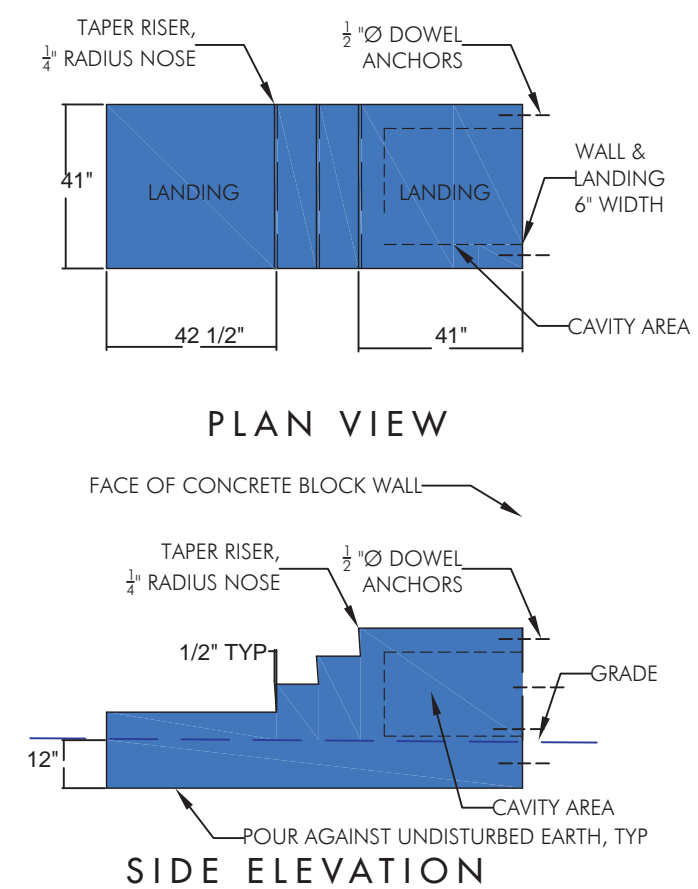
DETAIL NOTES

- 0 SEE SHEET S-020 FOR CONCRETE WORK REQUIREMENTS
- 1 CONCRETE STRENGTH - 3000 PSI MINIMUM
- 2 CONCRETE FINISH - BROOM FINISH, 1/4" RADIUS CORNERS
- 3 SEE DETAIL 5 FOR REQUIRED REBARS
- 4 EPOXY DOWELS INTO (E) CONCRETE BLOCK WALL
- 5 COORDINATE WITH GUARDRAIL INSTALLATION



3 NEW CONCRETE STEPS - UNIT 897

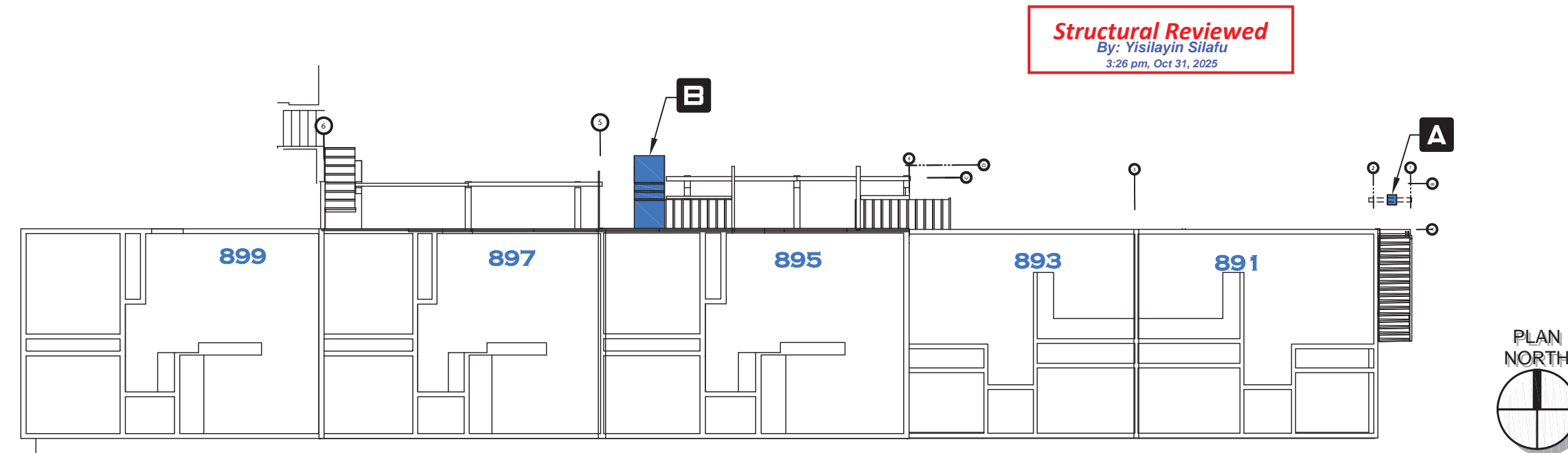
SCALE: 1/4" = 1' - 0"



DETAIL NOTES - CONCRETE WORK

- A EXISTING FOOTING FOR EXISTING POST; BUILDER TO VERIFY THAT EXISTING FOOTING HAS A MINIMUM OF 1.5-SQUARE FEET OF FOOTING AREA (I.E.; 15" X 15" AT BOTTOM OF FOOTING) - OTHERWISE PROVIDE NEW 10" Ø X 30" DEEP DRILLED CONCRETE PIER IN SAME LOCATION. SEE DETAILS 2, 3, 5 SHEET G-891 FOR EXISTING CONDITIONS OF EXISTING POST
- B NEW CONCRETE LANDING AND STEPS; FOOTING TO BE 12" BELOW GRADE; SEE DETAILS 3, 4, 5 THIS SHEET

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.
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By: Reginald George



CONCRETE WORK AT GRADE LOCATIONS

SCALE: NONE



2 POST BASE - UNIT 891

1



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510-436-3466 FAX 877-769-9966
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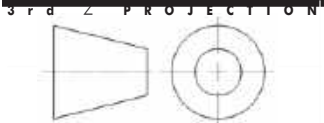
PROPERTY ADDRESS

SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

PROPERTY OWNER

TOM PORTUE
2336 Heritage Hills Dr
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tportue@yahoo.com |
brianportue@gmail.com
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SHEET INFORMATION
PROJECT NO: 891BELL_SB791
ISSUE: PERMIT ISSUE #1
DATE: AUG 11, 2024
SCALE: AS NOTED
FILE: 891_BELL_010
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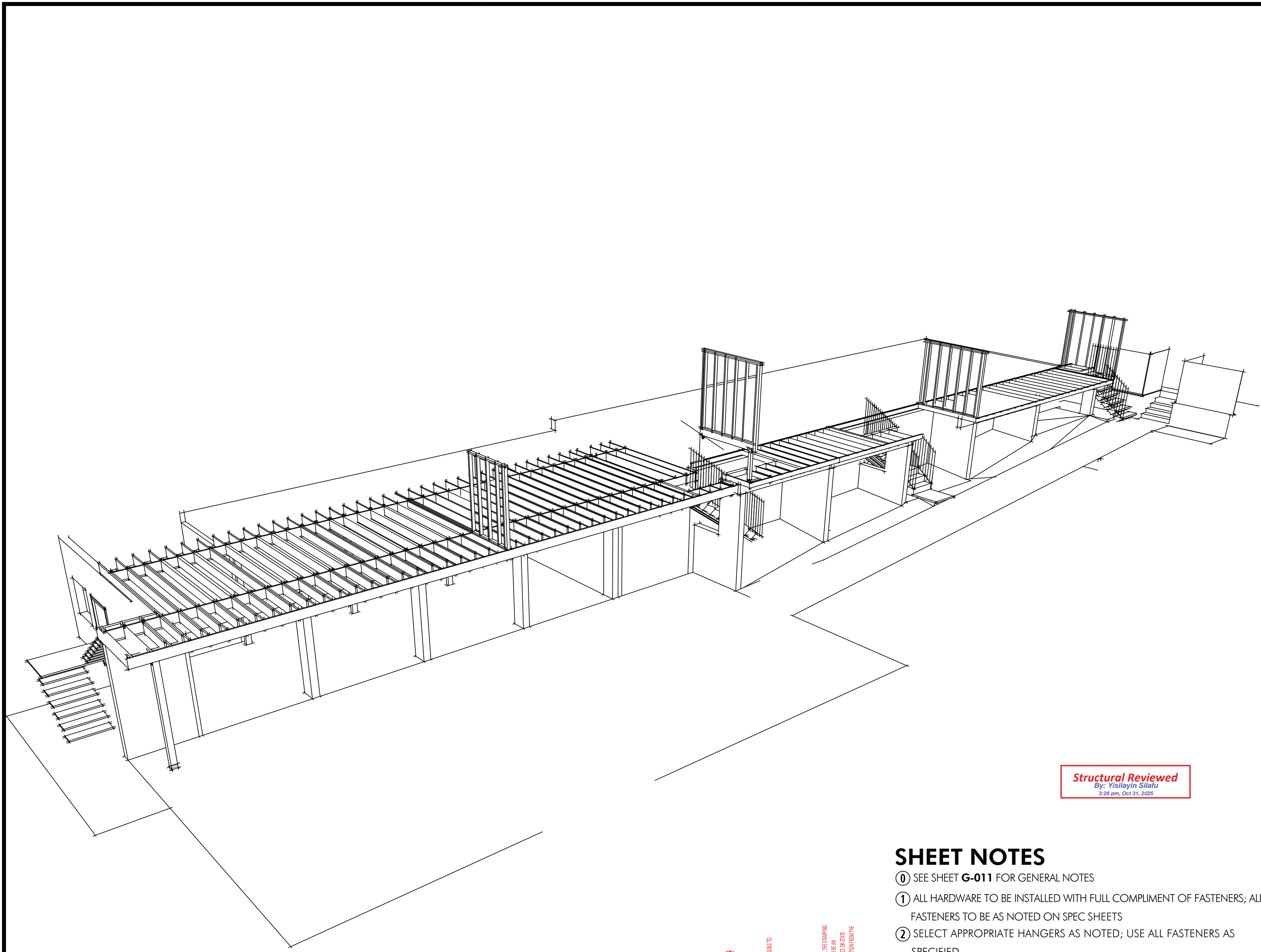
ISSUE HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

CONCRETE WORK

SHEET NUMBER

S-103

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Structural Reviewed
By: Yisliyin Silafu
3:26 pm, Oct 31, 2025

SHEET NOTES

- ① SEE SHEET **G-011** FOR GENERAL NOTES
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② SELECT APPROPRIATE HANGERS AS NOTED; USE ALL FASTENERS AS SPECIFIED
- ③ SECURE DECK LEDGER BOARDS TO EXISTING STRUCTURE PER DETAILS SHEET **S-702**; REPLACE ALL DEFECTIVE EXISTING RIM BOARDS PRIOR TO INSTALLING NEW DECK LEDGER BOARDS
- ④ USE QR CODE READER TO SEE MANUFACTURER'S WEB INFORMATION.

CONTRA COSTA COUNTY
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PERMIT NUMBER
BIAL25-007297

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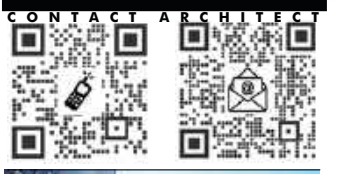
By: Reginald George

1

BALCONY & DECK FRAMING DETAILS

SCALE: NONE

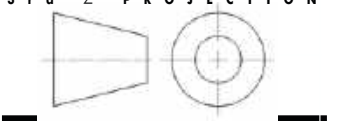
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SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
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APN 241-200-002

TOM PORTUE
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ISSUE HISTORY	
4	3ENG. UPDATE 09.20.25
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1	PERMIT ISSUE 09.12.2024

DECK REPAIR
GUARDRAIL
ILLUSTRATION

SHEET NUMBER
S-201

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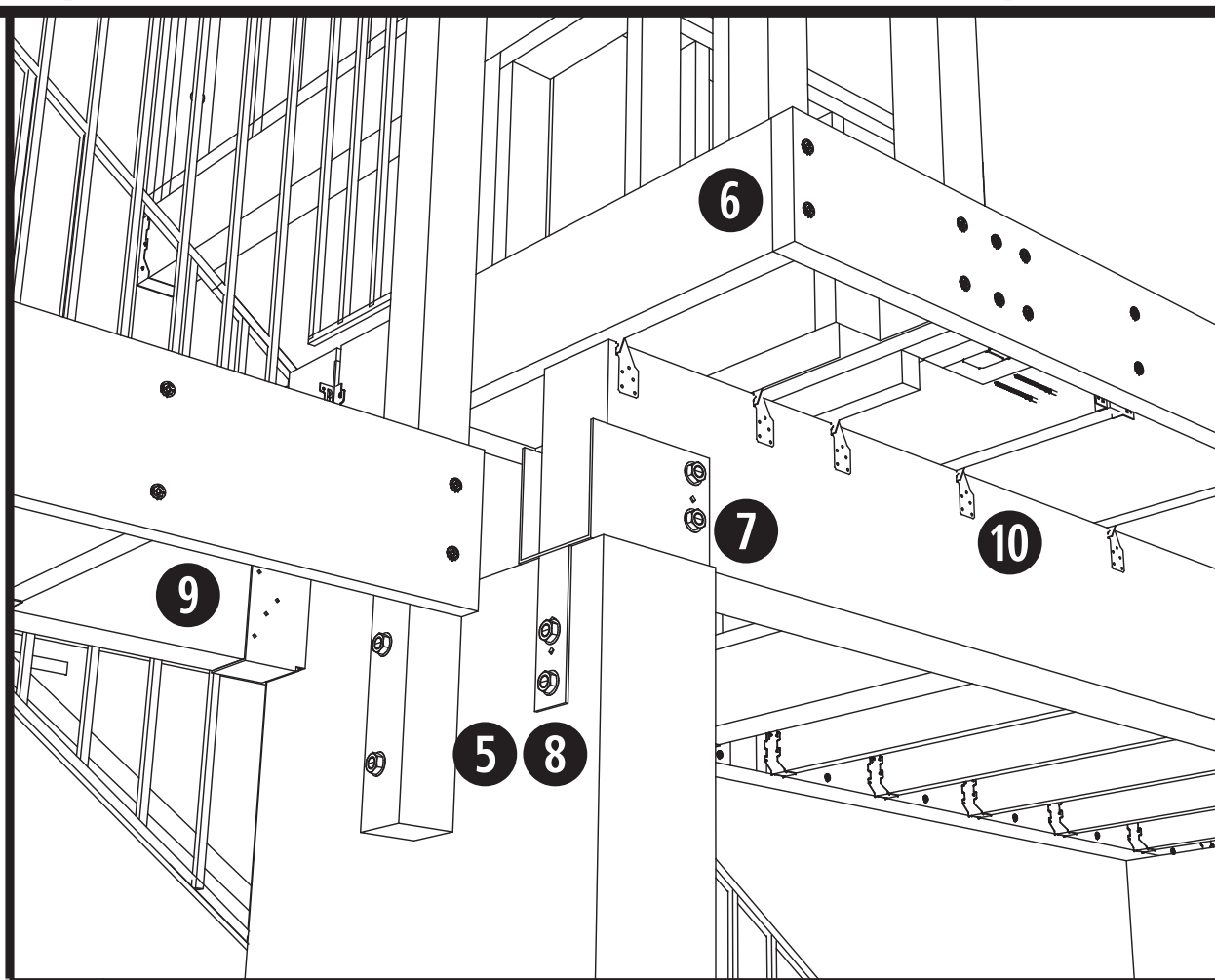
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By: Reginald George



2 CONNECTION DETAILS

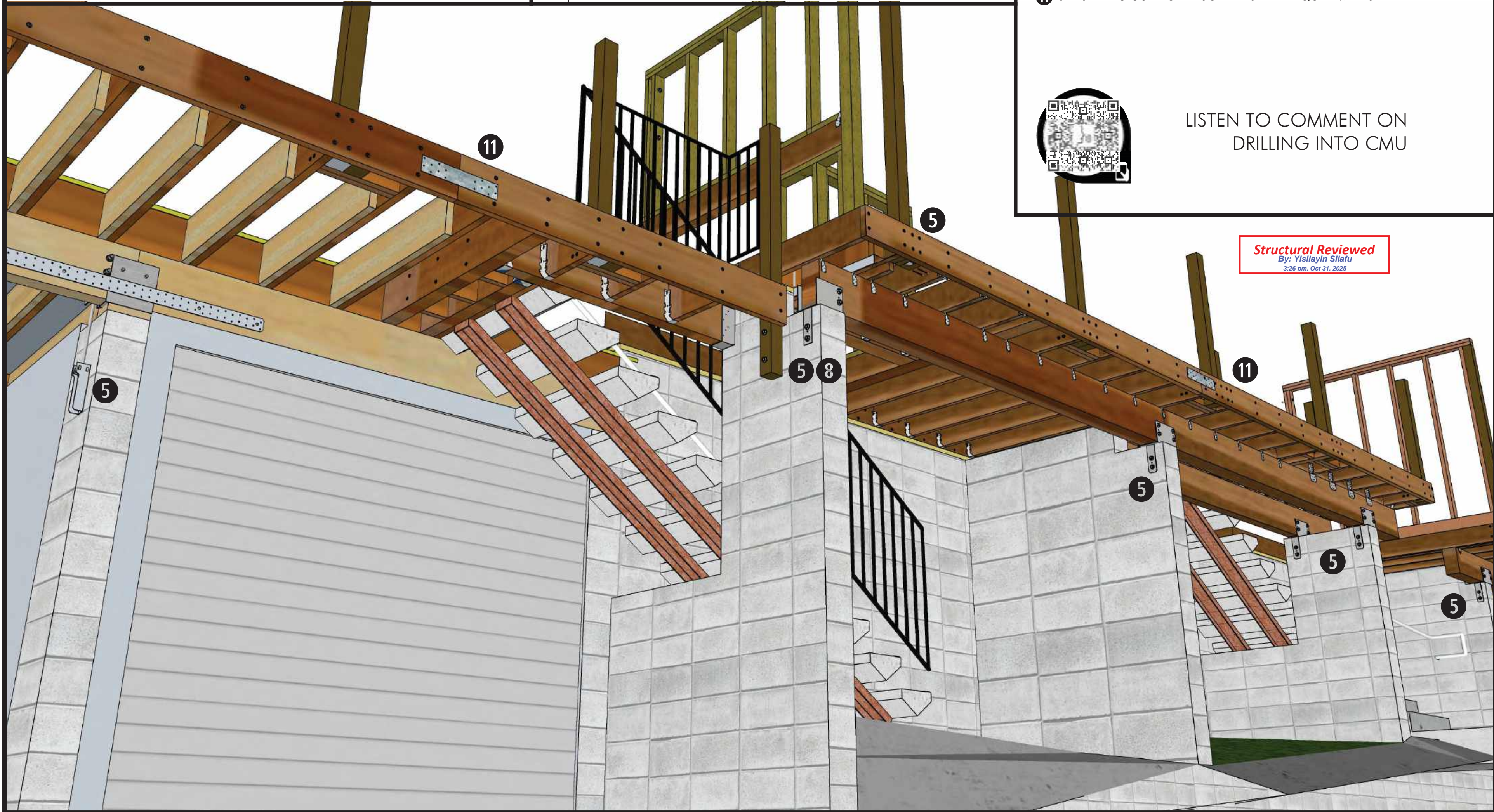
SHEET NOTES

- ① SEE SHEET G-011 FOR GENERAL NOTES
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② SELECT APPROPRIATE HANGERS AS NOTED; USE ALL FASTENERS AS SPECIFIED - SEE SHEET S-700.2 DETAIL, TYP
- ③ SECURE DECK LEDGER BOARDS TO EXISTING STRUCTURE PER DETAILS SHEET S-702; REPLACE ALL DEFECTIVE EXISTING RIM BOARDS PRIOR TO INSTALLING NEW DECK LEDGER BOARDS
- ④ USE QR CODE READER TO SEE MANUFACTURER'S WEB INFORMATION.
- ⑤ ONLY USE DRILL DRIVERS WHEN DRILLING INTO CMU - **NEVER** USE IMPACT DRIVERS
- ⑥ 4X4 POST AT PRIVACY WALL END, ANCHOR TO DECK JOISTS SIM TO GUARDRAIL POST INSTALLATION
- ⑦ USE EC STYLE FOR BEAM END CONNECTION
- ⑧ (2) 5/8" Ø AB THROUGH BOLTS TO CMU
- ⑨ HU HANGER FOR BEAM - SEE SHEET S-705
- ⑩ JOIST TO BEAM CONNECTORS - SEE SHEET S-700.2
- ⑪ SEE SHEET S-502 FOR FASCIA TIE STRAP REQUIREMENTS



LISTEN TO COMMENT ON DRILLING INTO CMU

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By: Yisilayin Silafu
3:26 pm, Oct 31, 2025

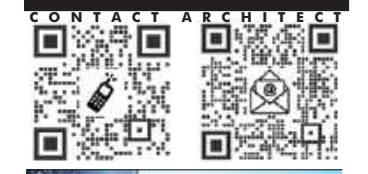


1 BALCONY & DECK FRAMING DETAILS SCALE: NONE

CERTIFIED P.S.A. C.A.S. 71213

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REGISTERED ARCHITECT
LEAL ROYCE CHARONNAT
C8901
EXPIRES MARCH 31, 2026



PROPERTY OWNER

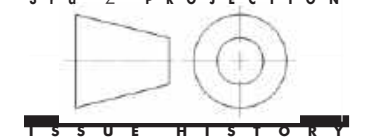
SB-721 REPORT
BALCONY & LEDGER DECK
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891 893 895 897 BELL ST
LAFAYETTE CA 94549
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ISSUE HISTORY

4	3ENG. UPDATE	09.20.25
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893 STAIRWAY FRAMING DETAILS ILLUSTRATION

SHEET NUMBER
S-301

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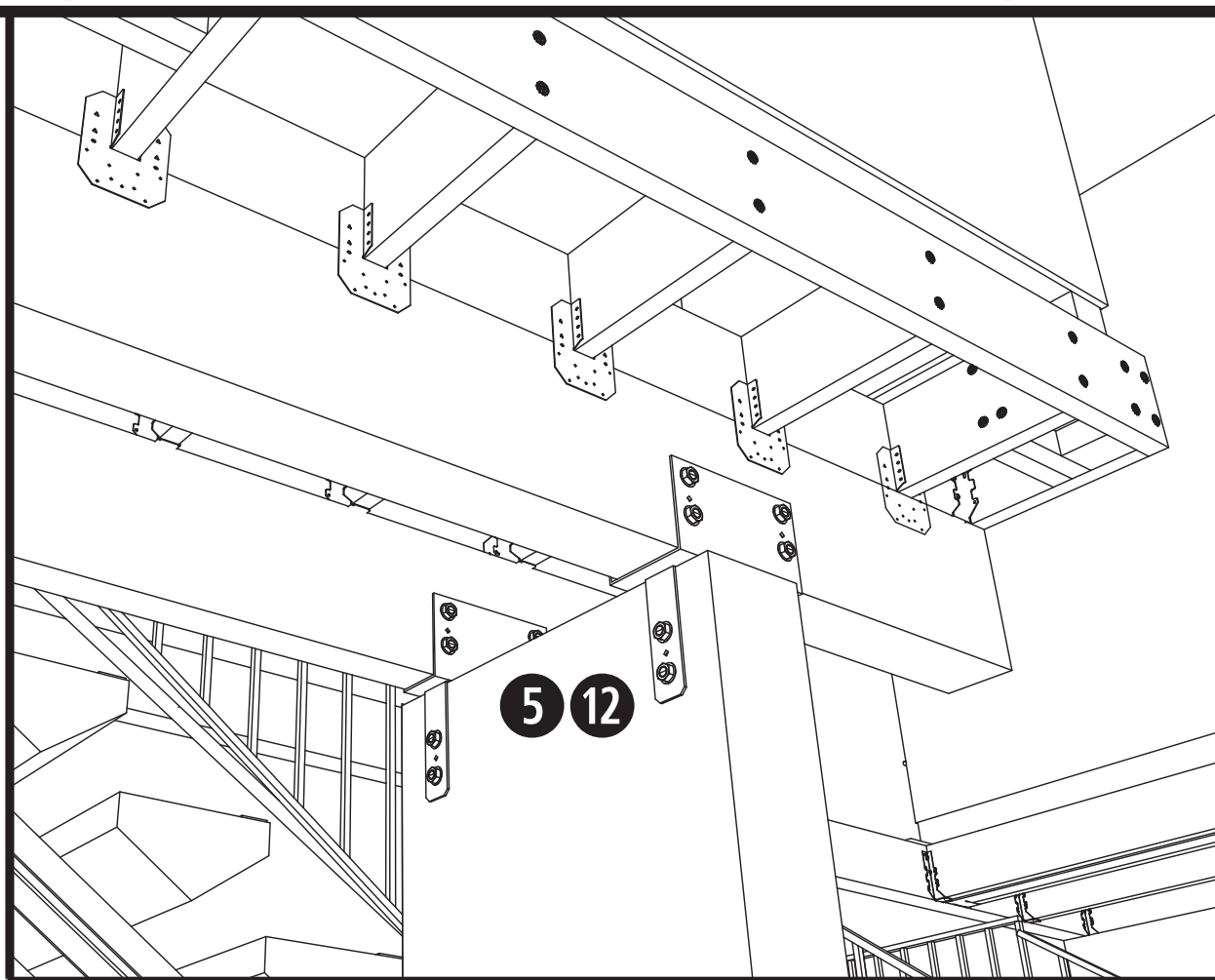
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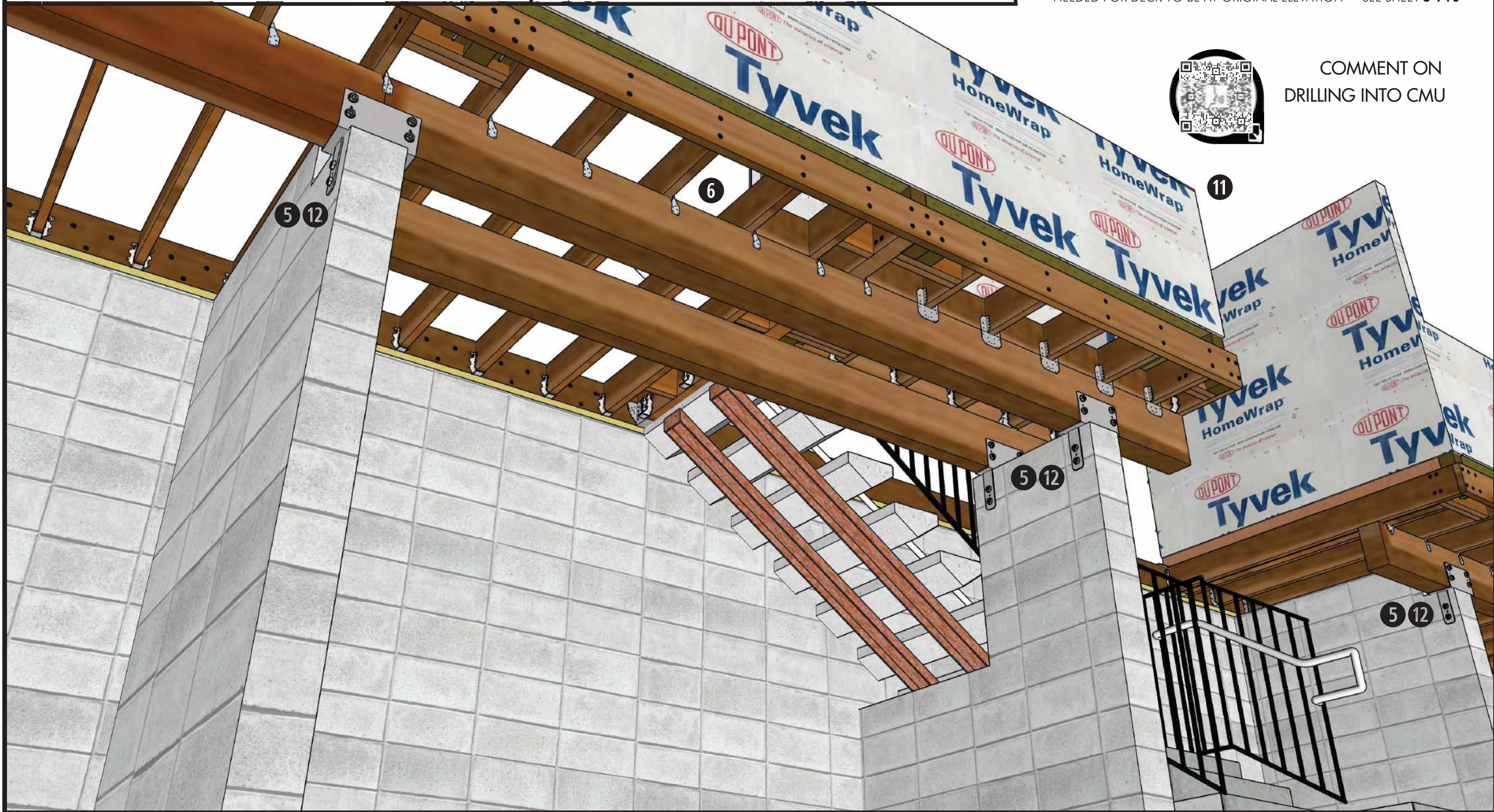
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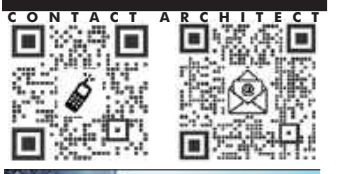
SHEET NOTES

- ① SEE SHEET G-011 FOR GENERAL NOTES
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② SELECT APPROPRIATE HANGERS AS NOTED; USE ALL FASTENERS AS SPECIFIED
- ③ SECURE DECK LEDGER BOARDS TO EXISTING STRUCTURE PER DETAILS SHEET S-702; REPLACE ALL DEFECTIVE EXISTING RIM BOARDS PRIOR TO INSTALLING NEW DECK LEDGER BOARDS
- ④ USE QR CODE READER TO SEE MANUFACTURER'S WEB INFORMATION.
- ⑤ ONLY USE DRILL DRIVERS WHEN DRILLING INTO CMU - NEVER USE IMPACT DRIVERS
- ⑥ ALL BLOCKING CONTINUOUS BETWEEN JOISTS OVER BEAMS, TYP (SOME BLOCKING NOT SHOWN FOR CLARITY)
- ⑪ TYVEK MEMBRANE ON BOTH SIDES OF GUARDRAILS AND PRIVACY WALLS - COORDINATE WITH FLASHING
- ⑫ SECURE NEW BEAMS TO CMU WALLS WITH SIMPSON CC COLUMN CAPS - INSTALL WITH THROUGH BOLTS - ADJUST HEIGHT OF CMU COLUMNS AS NEEDED FOR DECK TO BE AT ORIGINAL ELEVATION - SEE SHEET S-710



COMMENT ON
DRILLING INTO CMU

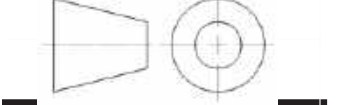
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PROJECT ADDRESS
SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

PROPERTY OWNER
TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com |
brianportue@gmail.com
(925) 938-3900

SHEET INFORMATION
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ISSUE HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

895 STAIRWAY
FRAMING DETAILS
ILLUSTRATION

SHEET NUMBER
S-302

1

BALCONY & DECK FRAMING DETAILS

SCALE: NONE

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297

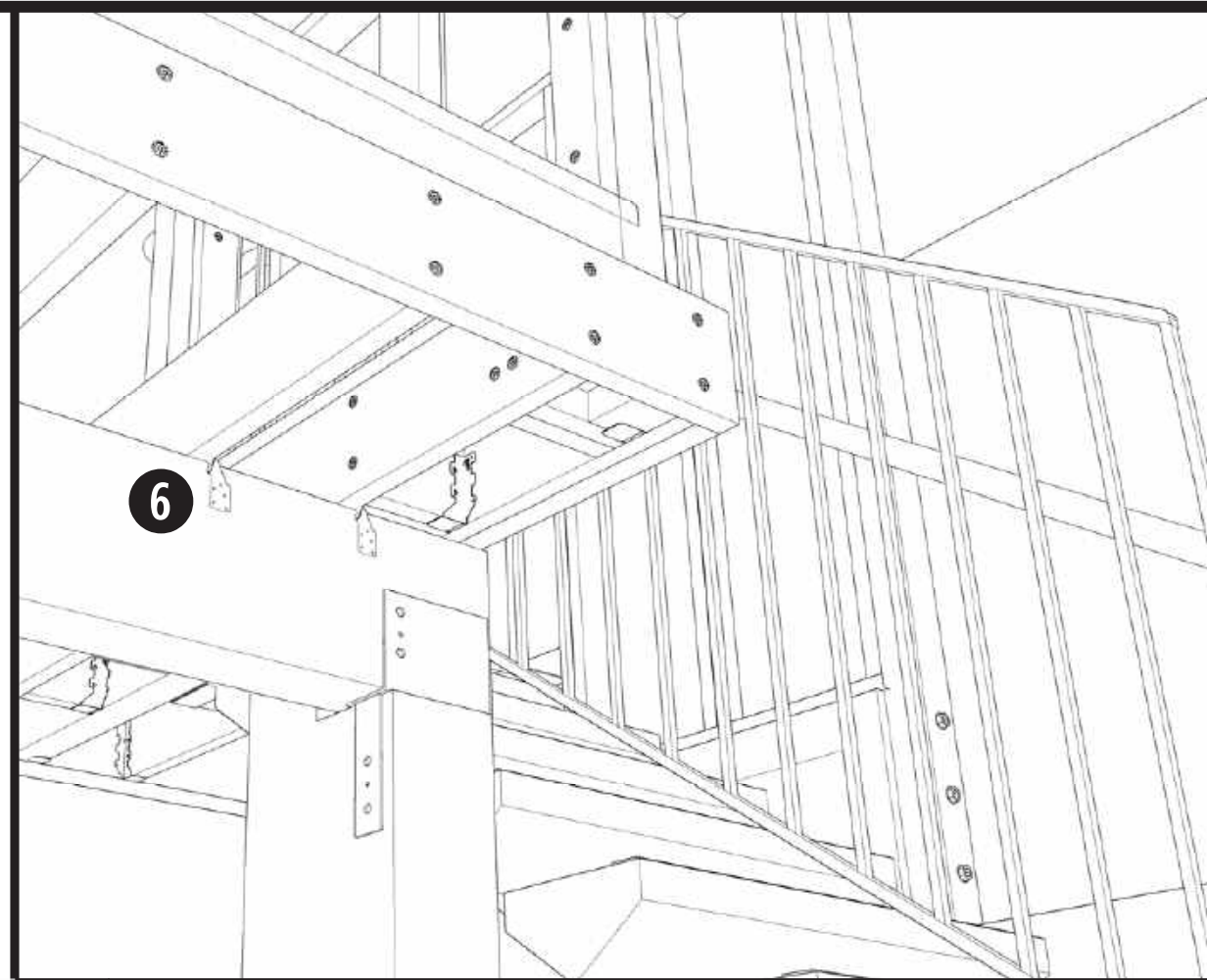
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BUILDING OFFICIAL.

By: Reginald George



2 CONNECTION DETAILS

SHEET NOTES

- ① SEE SHEET **G-110** FOR GENERAL NOTES
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② SELECT APPROPRIATE HANGERS AS NOTED; USE ALL FASTENERS AS SPECIFIED
- ③ SECURE DECK LEDGER BOARDS TO EXISTING STRUCTURE PER DETAILS SHEET **S-702**; REPLACE ALL DEFECTIVE EXISTING RIM BOARDS PRIOR TO INSTALLING NEW DECK LEDGER BOARDS
- ④ USE QR CODE READER TO SEE MANUFACTURER'S WEB INFORMATION.
- ⑤ ONLY USE DRILL DRIVERS WHEN DRILLING INTO CONCRETE BLOCK - **NEVER** USE IMPACT DRIVERS
- ⑥ CONNECT ALL JOISTS TO BEAM WITH STRAP - SEE SHEET S-704.1 AND S-704.2

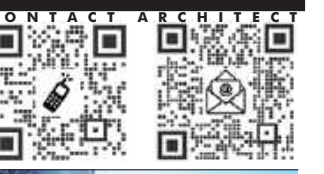


Structural Reviewed
By: Yisliyin Silafu
3:26 pm, Oct 31, 2025

1 BALCONY & DECK FRAMING DETAILS

SCALE: NONE

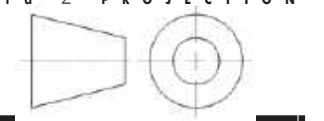
CERTIFIED P.S.A. C.A.S. 71213
LEAL ROYCE CHARONNAT
ARCHITECT+ENGINEERING
1-5TH AVE OAKLAND 94606
510.436.3466 FAX 877.769.9966
OFFICE@CHARONNATDESIGN.COM



PROJECT ADDRESS
**SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK**
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

PROPERTY OWNER
TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com |
brianportue@gmail.com
(925) 938-3900

SHEET INFORMATION
PROJECT N°: 891BELL SB791
ISSUE: PERMIT ISSUE #1
DATE: AUG 11, 2024
SCALE: AS NOTED
FILE: 891_BELL_010
DRAWN BY: ME
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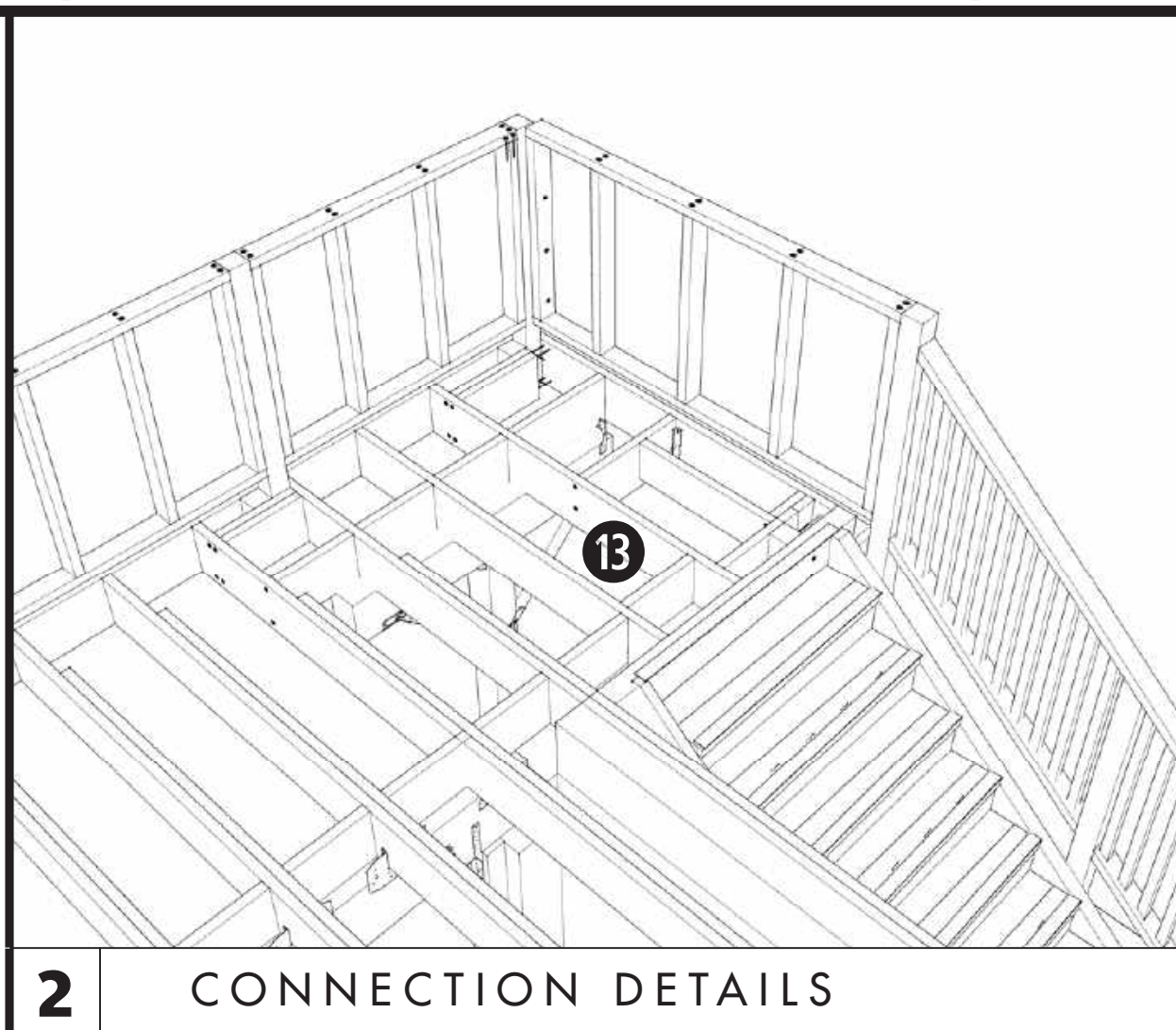
ISSUE HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

897 STAIRWAY
FRAMING DETAILS
ILLUSTRATION

SHEET NUMBER
S-303

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2 CONNECTION DETAILS

SHEET NOTES

- 0 SEE SHEET **G-011** FOR GENERAL NOTES
- 1 ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- 2 SELECT APPROPRIATE HANGERS AS NOTED; USE ALL FASTENERS AS SPECIFIED
- 3 SECURE DECK LEDGER BOARDS TO EXISTING STRUCTURE PER DETAILS SHEET **S-702**; REPLACE ALL DEFECTIVE EXISTING RIM BOARDS PRIOR TO INSTALLING NEW DECK LEDGER BOARDS
- 4 USE **QR CODE READER** TO SEE MANUFACTURER'S WEB INFORMATION.
- 5 ONLY USE DRILL DRIVERS WHEN DRILLING INTO CMU - NEVER USE IMPACT DRIVERS
- 11 SEE SHEET **S-403** FOR REPAIR WORK OF EXISTING EXIT STAIRS
- 12 SEE SHEET **A-520** FOR HANDRAIL REQUIREMENTS
- 13 SEE SHEET **S-401** FOR DECK SUPPORT DETAIL
- 21 NO INTERIOR WORK - BUILDING EXTERIOR WALLS OF UNITS NOT SHOWN - SEE SHEETS **G-891, G-893, G-895, G-897** FOR PHOTOS OF EXISTING BUILDING EXTERIOR



1 BALCONY & DECK FRAMING DETAILS

Structural Reviewed
By: *Yisilayin Silafu*
3:26 pm, Oct 31, 2025

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
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2:22 pm, Nov 21, 2025
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By: *Reginald George*



SCALE: NONE

CERTIFIED P.S.A. 4450 71213

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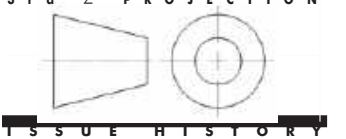
PROJECT ADDRESS

SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
2336 Heritage Hills Dr
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brtanportue@gmail.com
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SHEET INFORMATION

PROJECT N°:	891BELL_SB791
ISSUE:	PERMIT ISSUE #1
DATE:	AUG 11, 2024
SCALE:	AS NOTED
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ISSUE HISTORY

4	3ENG. UPDATE	09.20.25
2	PERMIT APPLICATION	4.10.25
1	PERMIT ISSUE	09.12.2024

891 BALCONY FRAMING DETAILS ILLUSTRATION

SHEET NUMBER
S-304

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297

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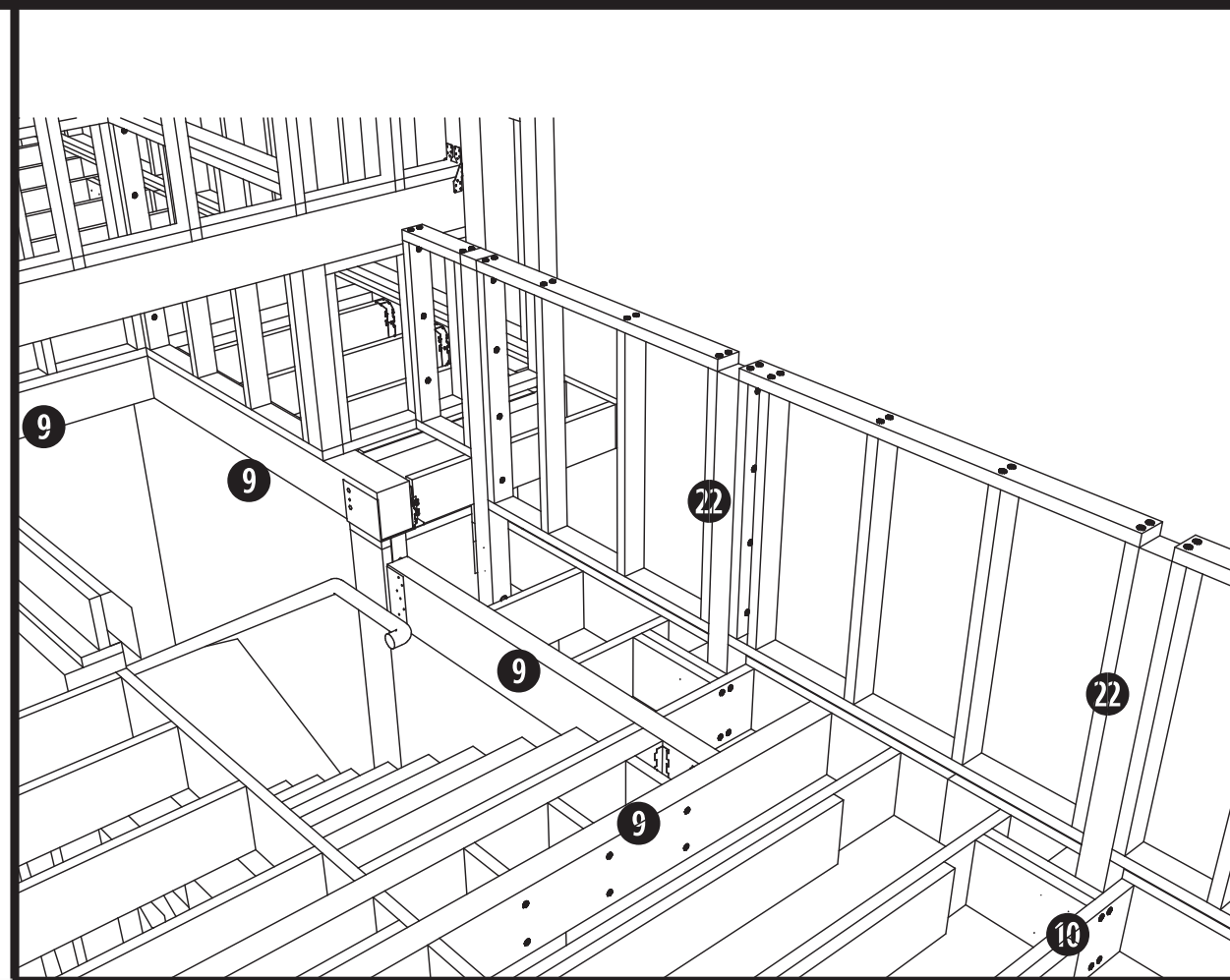
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By: Reginald George

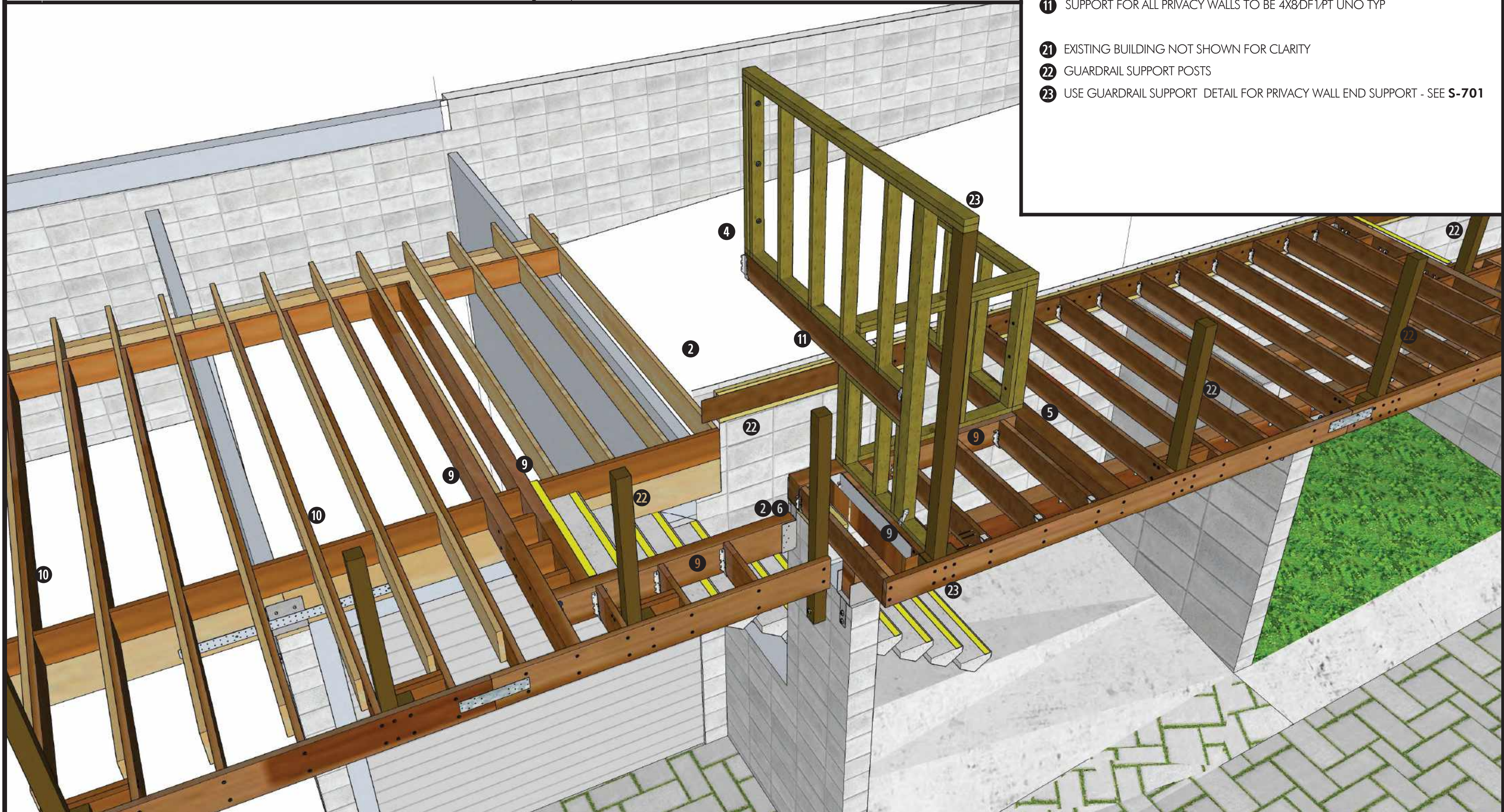
Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025



2 CONNECTION DETAILS

SHEET NOTES

- ① SEE SHEET **G-011 GENERAL NOTES**
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② RE-FRAME IN NEW CONFIGURATION TO CREATE PROPER HEAD HEIGHT CLEARANCE (80" ABOVE STAIR NOSING) - TYPICAL FOR 893 AND 895 STAIRS
- ③ NEW CC FOR BEAMS AT CMU - SEE SHEET **S-302 SHEET NOTE 12**
- ④ SECURE PRIVACY WALL TO BUILDING WITH FASTENERS SIMILAR TO EXISTING FOR EITHER WOOD STUD WALL OR CMU., SEE SHEET **S-101 NOTE 2**
- ⑤ ALL WOOD BEAM-TO-BEAM CONNECTION TO BE WITH LUS OR CCQ - SEE SHEETS **S-705, S-710**
- ⑥ ALL WOOD BEAM-TO-CMU USE **MBHU** HANGERS, SEE SHEET **S-703**
- ⑦ ALL WOOD JOISTS-OVER-BEAM CONNECTIONS AND JOIST HANGERS: USE **LU**-STYLE HANGERS WITH MAXIMUM CAPACITY, SEE SHEET **S-705**
- ⑧ ALL WOOD JOISTS-TO-BEAM CONNECTIONS USE APPROPRIATE SIMPSON SEISMIC HURRICANE TIES SEE SHEET **S-704.1, S-704.2**
- ⑨ CHANGE JOIST SIZE TO 4X MEMBER AT STAIR OPENING FRAMING
- ⑩ DOUBLE BALCONY JOISTS AT BALCONY GUARDRAIL POSTS, SEE **S-101**
- ⑪ SUPPORT FOR ALL PRIVACY WALLS TO BE 4X8DF1/PT UNO TYP
- ⑫ EXISTING BUILDING NOT SHOWN FOR CLARITY
- ⑬ GUARDRAIL SUPPORT POSTS
- ⑭ USE GUARDRAIL SUPPORT DETAIL FOR PRIVACY WALL END SUPPORT - SEE **S-701**

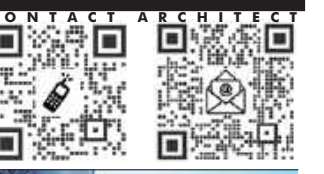


1 BALCONY & DECK FRAMING DETAILS

SCALE: NONE



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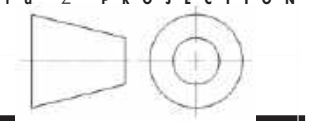


**SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK**
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
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SHEET INFORMATION

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DATE:	AUG 11, 2024
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CHECKED BY:	LRC
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METADATA:	INCLUDED



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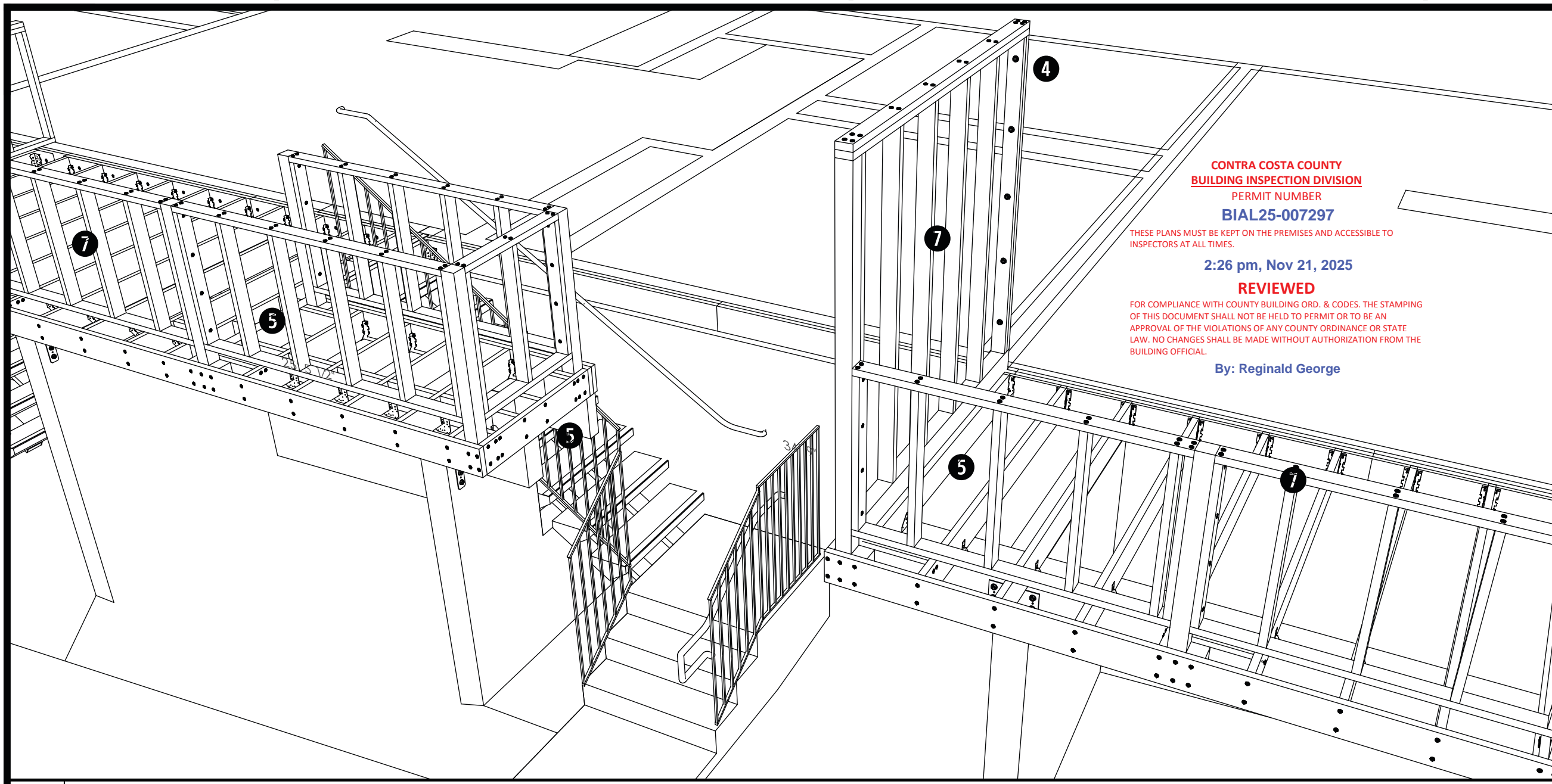
4	3ENG. UPDATE	09.20.25
2	PERMIT APPLICATION	4.10.25
1	PERMIT ISSUE	09.12.2024

893-895 WALL
FRAMING DETAILS
ILLUSTRATION

SHEET NUMBER
S-305

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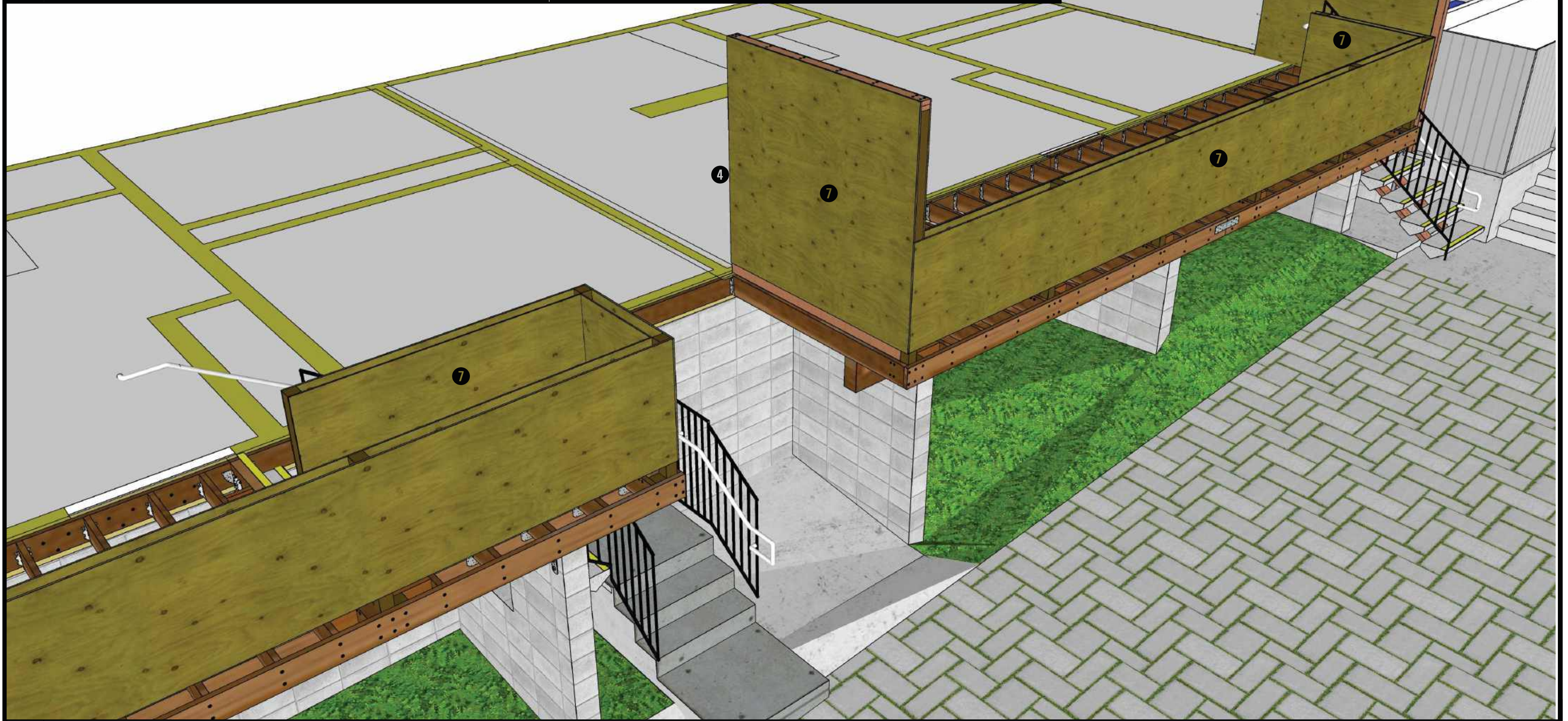
CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.
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By: Reginald George

SHEET NOTES

- ① SEE SHEET **G-011 GENERAL NOTES**
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② RE-FRAME IN NEW CONFIGURATION TO CREATE PROPER HEAD HEIGHT CLEARANCE (80" ABOVE STAIR NOSING) - TYPICAL FOR 893 AND 895 STAIRS
- ③ NEW CC FOR BEAMS AT CMU - SEE SHEET **S-302 SHEET NOTE 12**
- ④ SECURE PRIVACY WALL TO BUILDING WITH FASTENERS SIMILAR TO EXISTING FOR EITHER WOOD STUD WALL OR CMU; NEW ANCHOR BOLTS WITH **ET-63G** EPOXY INTO CMU WHERE OCCUR; SEE SHEET **S-700.3**
- ⑤ ALL WOOD BEAM-TO-BEAM CONNECTION TO BE WITH **LUS** OR **CCQ** - SEE SHEETS **S-705, S-710**
- ⑥ ALL WOOD BEAM-TO-CMU USE **MBHU** HANGERS, SEE SHEET **S-703**
- ⑦ CONSTRUCT GUARDRAILINGS AND PRIVACY WALLS AS STANDARD STUD WALL - 2X4 STUDS @ 16" OC, SINGLE BOTTOM PL, DBL TOP PL; SHEATH $\frac{5}{8}$ " STRUC I PLYWOOD BOTH SIDES
- ②1 EXISTING BUILDING NOT SHOWN FOR CLARITY

Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025

2 CONNECTION DETAILS



1 BALCONY & DECK FRAMING DETAILS

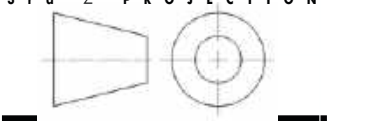
SCALE: NONE



**SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK**
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
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PROJECT NO:	891BELL_SB791
ISSUE:	PERMIT ISSUE #1
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SCALE:	AS NOTED
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4	3ENG. UPDATE	09.20.25
2	PERMIT APPLICATION	4.10.25
1	PERMIT ISSUE	09.12.2024

895 STAIRWAY
FRAMING DETAILS
ILLUSTRATION

SHEET NUMBER
S-306

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SHEET NOTES

- ① SEE SHEET **G-011 GENERAL NOTES**
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② RE-FRAME IN NEW CONFIGURATION TO CREATE PROPER HEAD HEIGHT CLEARANCE (80" ABOVE STAIR NOSING) - TYPICAL FOR 893 AND 895 STAIRS
- ③ NEW CC FOR BEAMS AT CMU - SEE SHEET **S-302 SHEET NOTE 12**
- ④ SECURE PRIVACY WALL TO BUILDING WITH FASTENERS SIMILAR TO EXISTING FOR EITHER WOOD STUD WALL OR CMU; NEW ANCHOR BOLTS WITH **ET-63G EPOXY** INTO CMU WHERE OCCUR; SEE SHEET **S-700.3**
- ⑥ SEE SHEET **S-103** FOR NEW STAIR LANDING
- ⑦ SEE SHEET **S-306** FOR GUARDRAILING CONSTRUCTION
- ⑫ EXISTING BUILDING NOT SHOWN FOR CLARITY

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
 PERMIT NUMBER
BIAL 25-007297
 THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.
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 By: Reginald George

Structural Reviewed
 By: Yisilayin Silafu
 3:26 pm, Oct 31, 2025



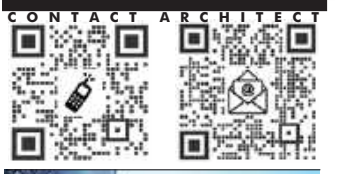
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BALCONY & DECK FRAMING DETAILS

SCALE: NONE



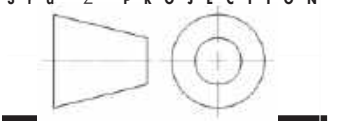
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 510.436.3466 FAX 877.769.9966
 OFFICE@CHARONNATDESIGN.COM



SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
 891 893 895 897 BELL ST
 LAFAYETTE CA 94549
 APN 241-200-002

TOM PORTUE
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SHEET INFORMATION	
PROJECT N°:	891BELL_SB791
ISSUE:	PERMIT ISSUE #1
DATE:	AUG 11, 2024
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ISSUE HISTORY	
4	3ENG. UPDATE 09.20.25
2	PERMIT APPLICATION 4.10.25
1	PERMIT ISSUE 09.12.2024

895 STAIRWAY
 FRAMING DETAILS
 ILLUSTRATION

SHEET NUMBER
S-307

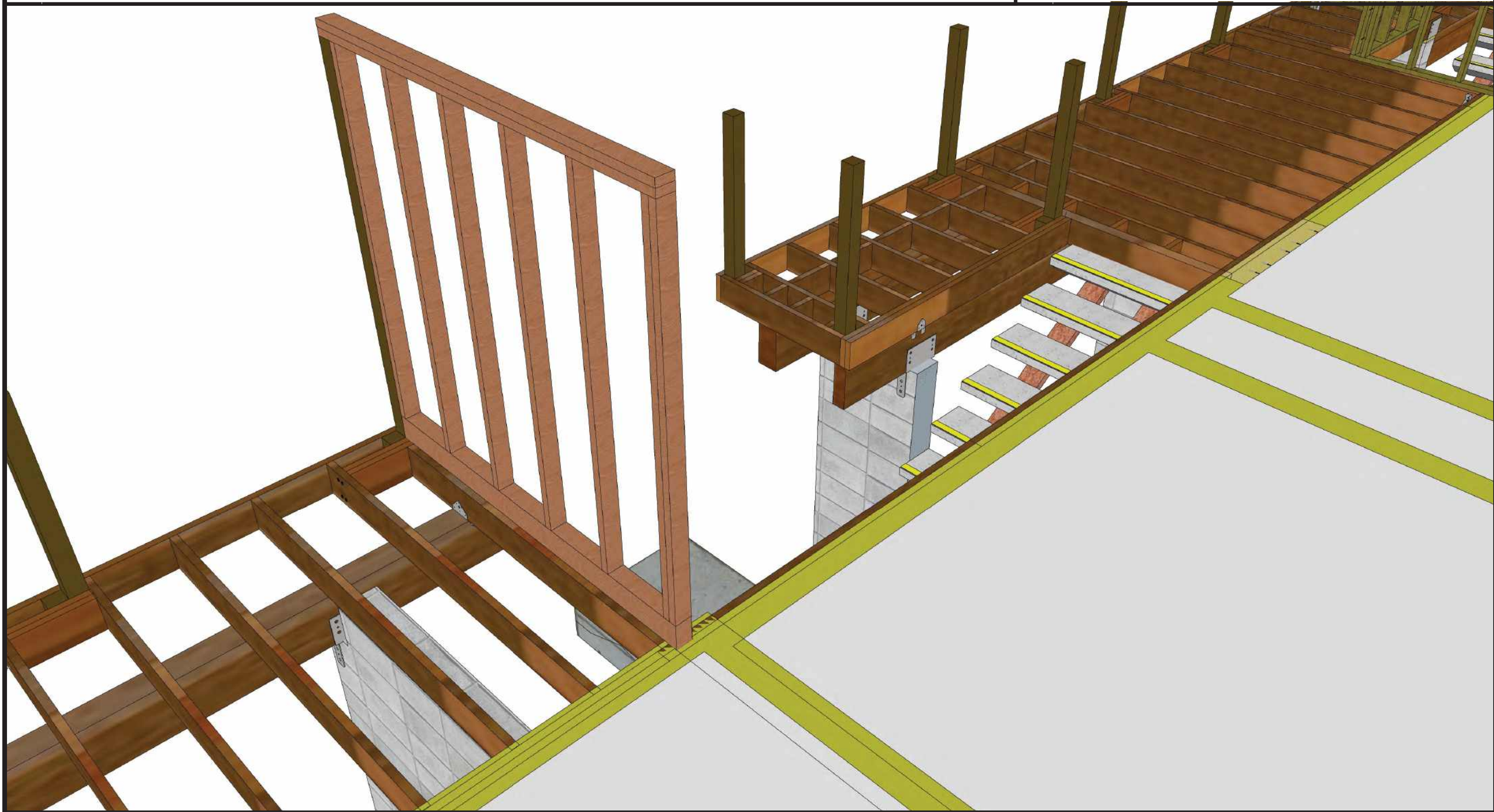
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SHEET NOTES

- ① SEE SHEET **G-011** FOR GENERAL NOTES
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② SECURE PRIVACY WALL TO BUILDING WITH FASTENERS SIMILAR TO EXISTING FOR EITHER WOOD STUD WALL OR CMU.

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
2:26 pm, Nov 21, 2025
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FOR COMPLIANCE WITH COUNTY ORDINANCE 8.4. CROSS THE STAMPING OF THIS DOCUMENT SHALL NOT BE HELD TO BE IN FULL COMPLIANCE WITH ANY COUNTY ORDINANCE OR STATE LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE BUILDING OFFICIAL.
By: Reginald George

Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025



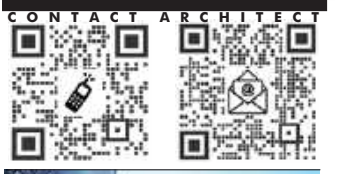
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BALCONY & DECK FRAMING DETAILS

SCALE: NONE

CERTIFIED P.S.A. 4450 21213

LEAL ROYCE CHARONNAT
ARCHITECT+ENGINEERING
115TH AVE OAKLAND 94606
510.436.3466 FAX 877.769.9966
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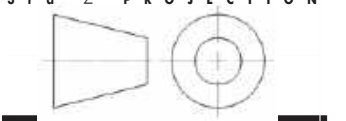
PROJECT ADDRESS

**SB-721 REPORT
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891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
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SHEET INFORMATION

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FILE:	891_BELL_010
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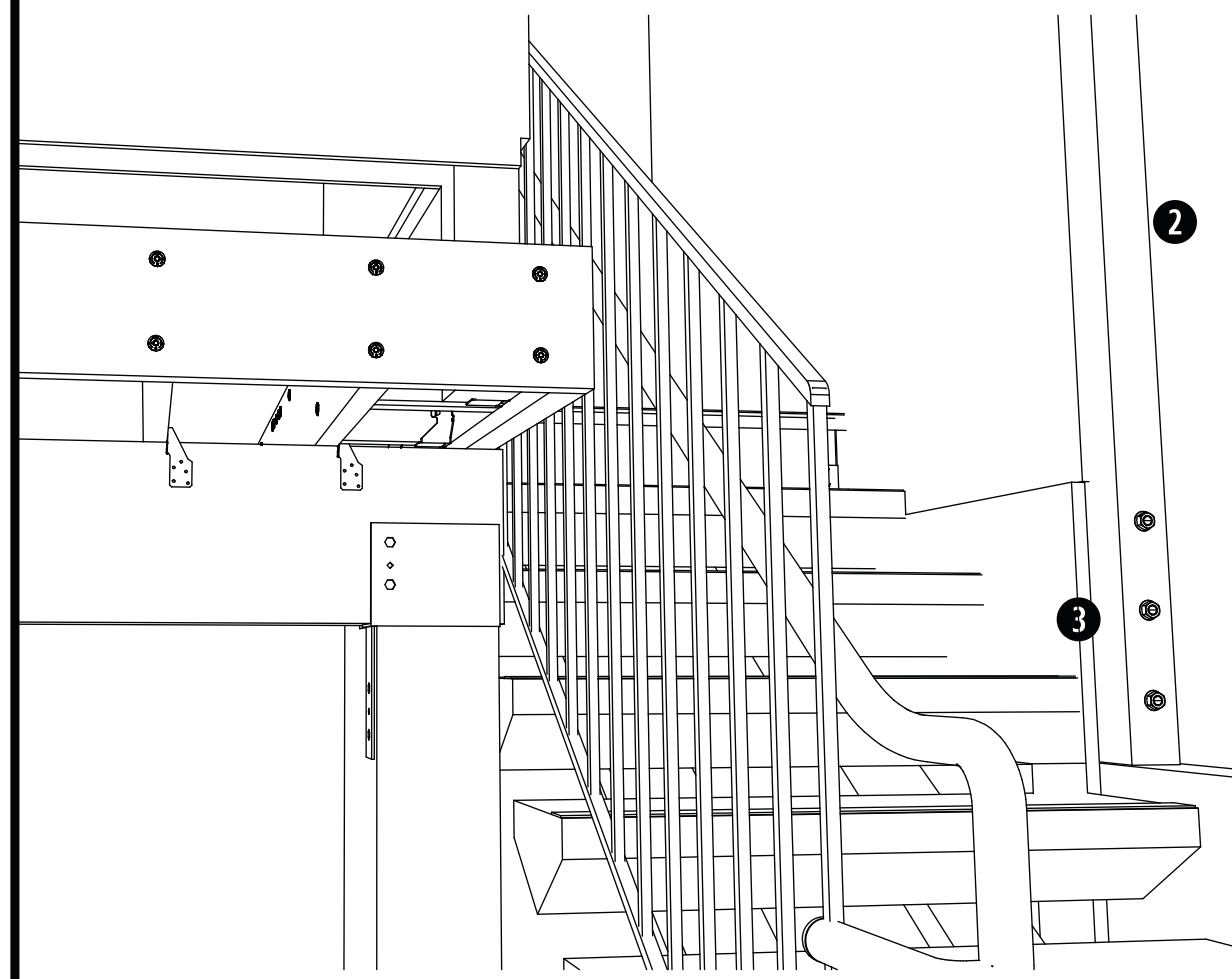
4	3ENG. UPDATE	09.20.25
2	PERMIT APPLICATION	4.10.25
1	PERMIT ISSUE	09.12.2024

895 STAIRWAY FRAMING DETAILS ILLUSTRATION

SHEET NUMBER
S-308

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 By: Reginald George

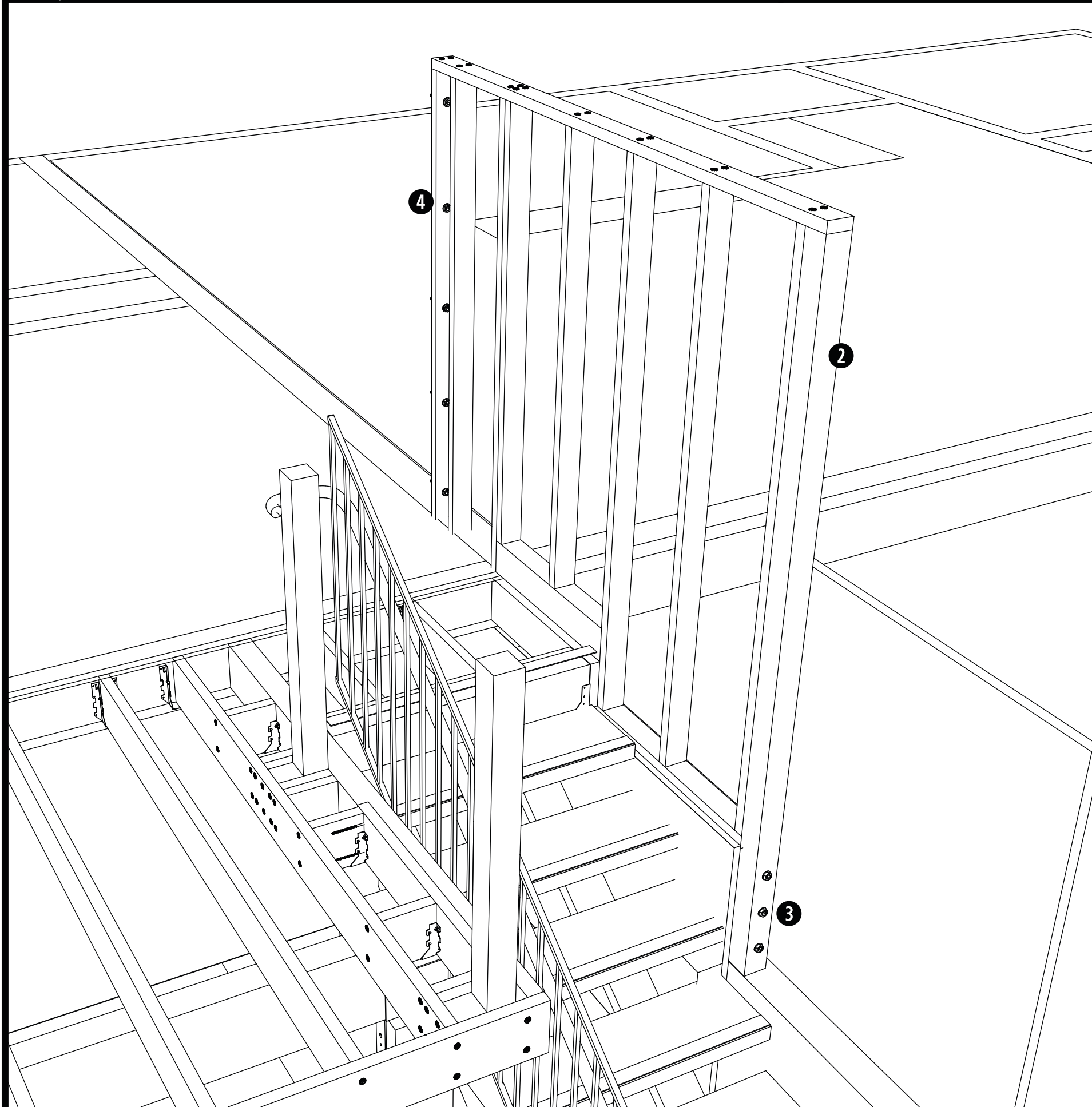
Structural Reviewed
 By: Yisilayin Silafu
 3:26 pm, Oct 31, 2025



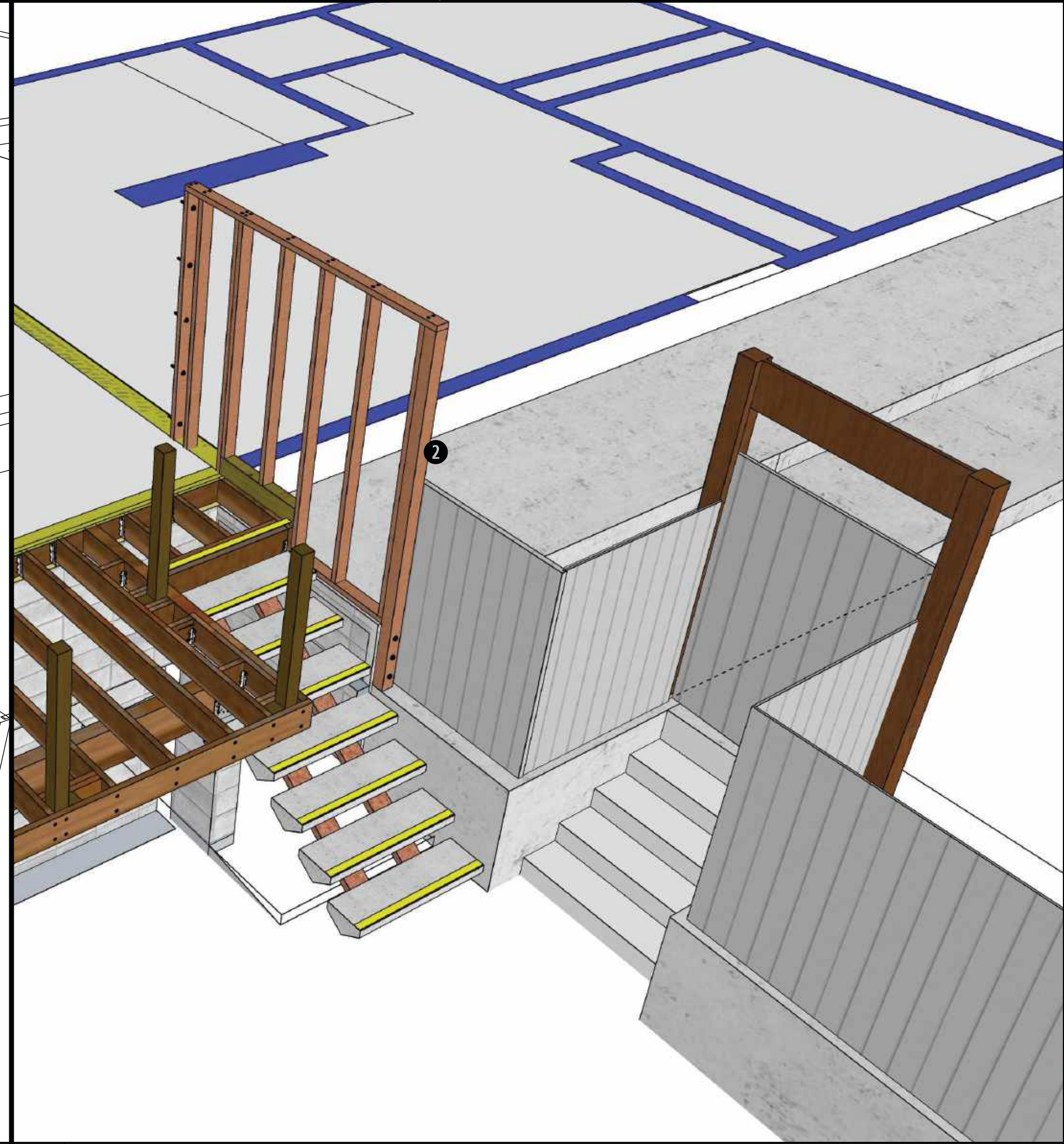
3 CONNECTION DETAILS

SHEET NOTES

- ① SEE SHEET **G-011** FOR GENERAL NOTES
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② REPLACE EXISTING 4X4 WITH NEW TO MATCH,
- ③ NEW (3) $\frac{3}{8}$ " \varnothing AB, EPOXY ANCHOR TO CMU, SEE SHEET **S-700.3**
- ④ SECURE PRIVACY WALL TO BUILDING WITH FASTENERS SIMILAR TO EXISTING FOR EITHER WOOD STUD WALL OR CMU.

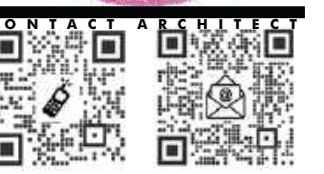


2 897 PRIVACY WALL FRAMING DETAILS



1 897 PRIVACY WALL FRAMING DETAILS

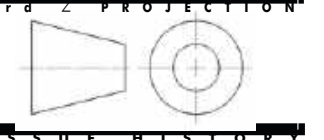
SCALE: NONE



SB-721 REPORT
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REPAIR WORK
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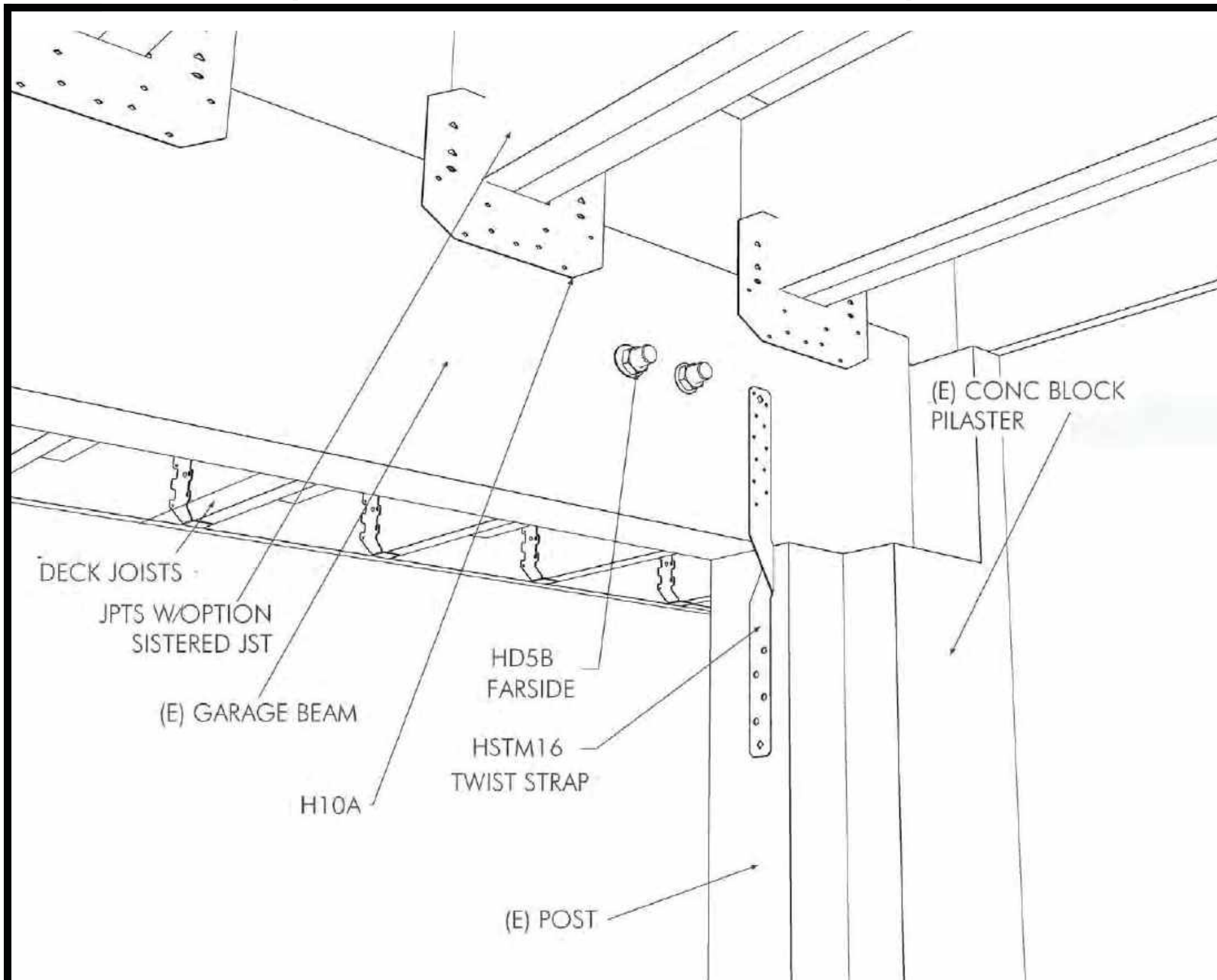


4	3ENG. UPDATE	09.20.25
2	PERMIT APPLICATION	4.10.25
1	PERMIT ISSUE	09.12.2024

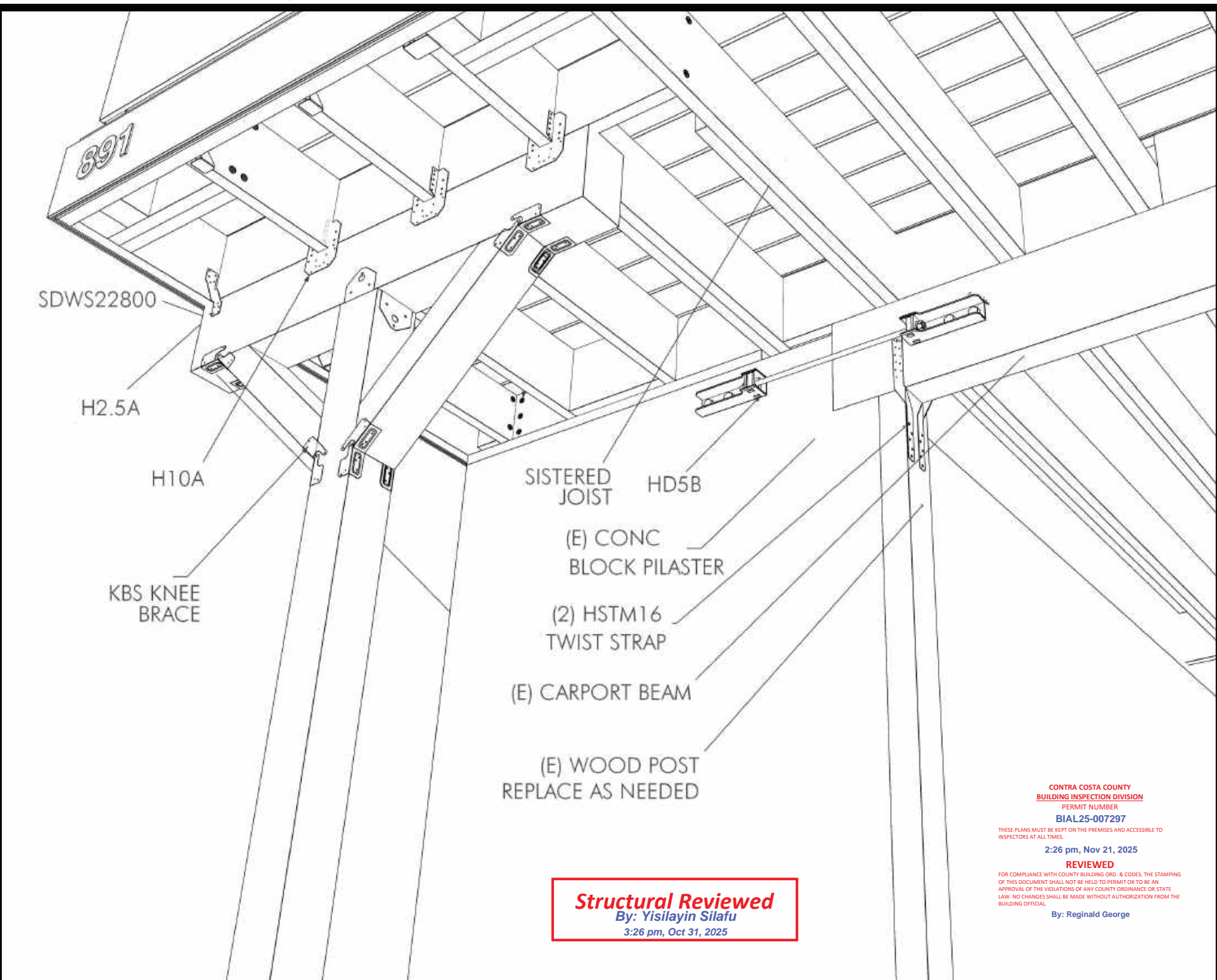
897 DECK STAIRWAY
 PRIVACY WALL
 FRAMING DETAILS

SHEET NUMBER
S-309

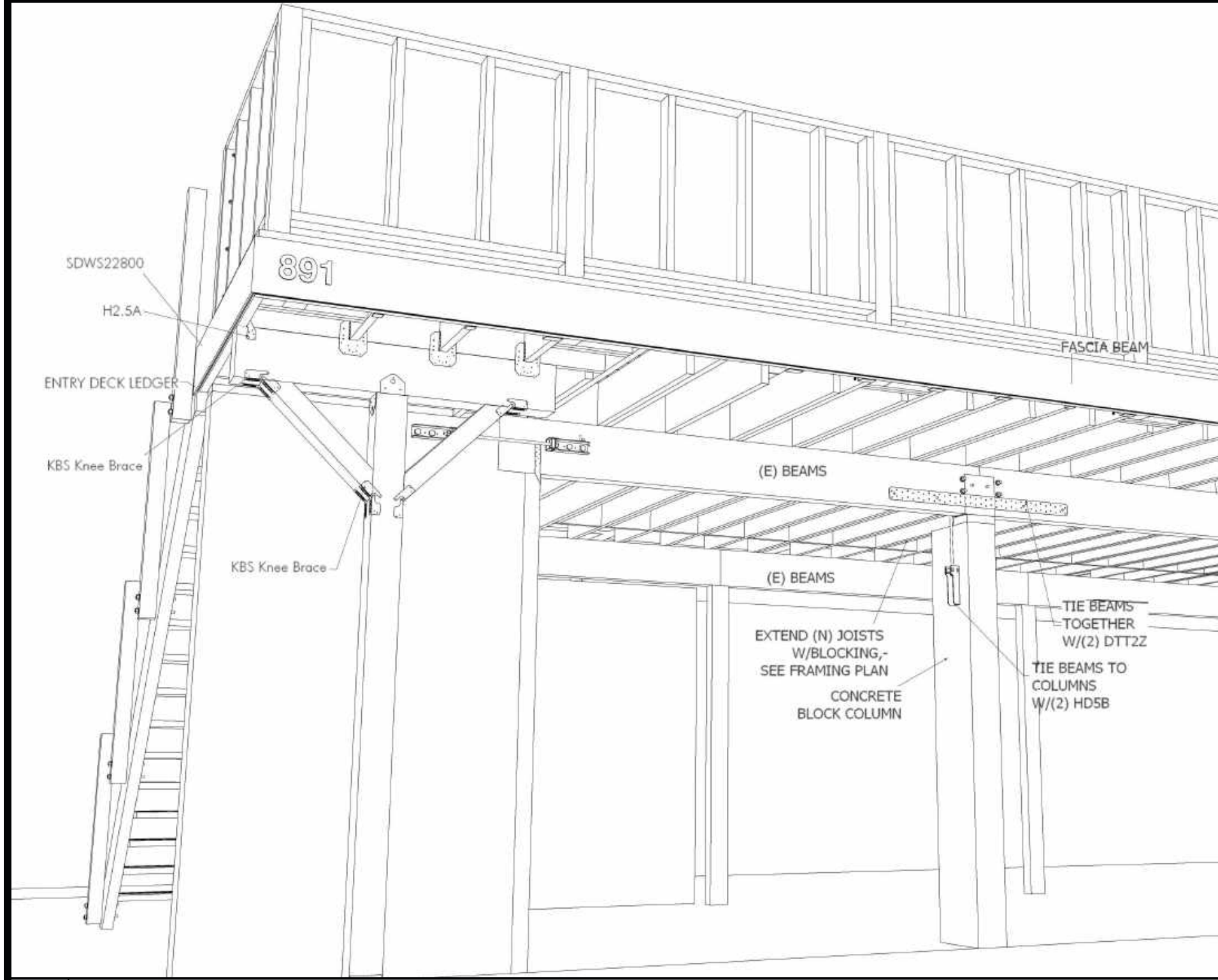
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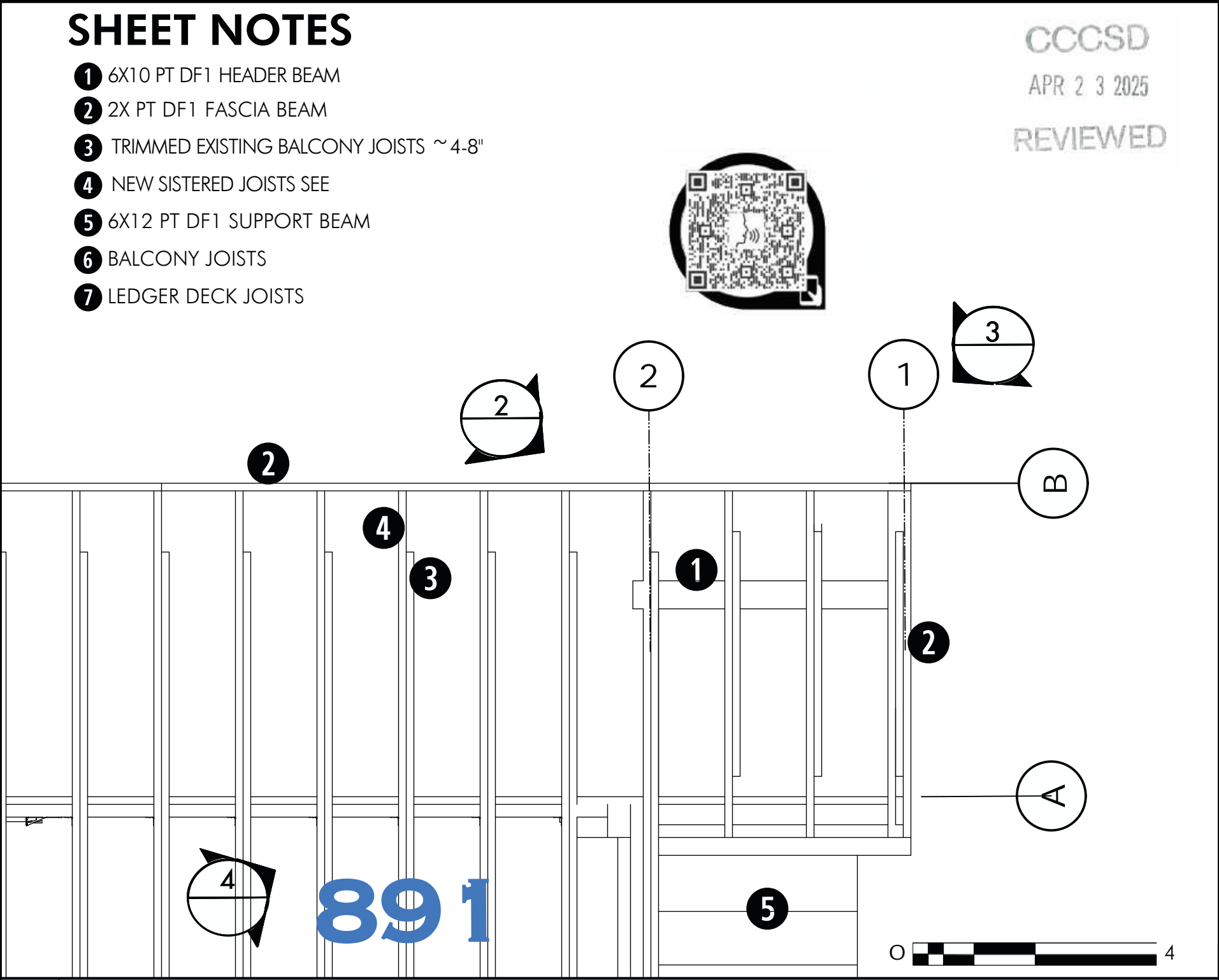
4 FRAMING DETAIL



2 FRAMING DETAIL



3 FRAMING DETAIL



1 FRAMING PLAN DETAIL

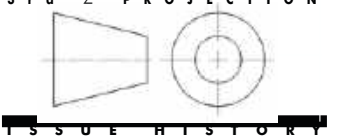
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**SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK**
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
2336 Heritage Hills Dr
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SHEET INFORMATION
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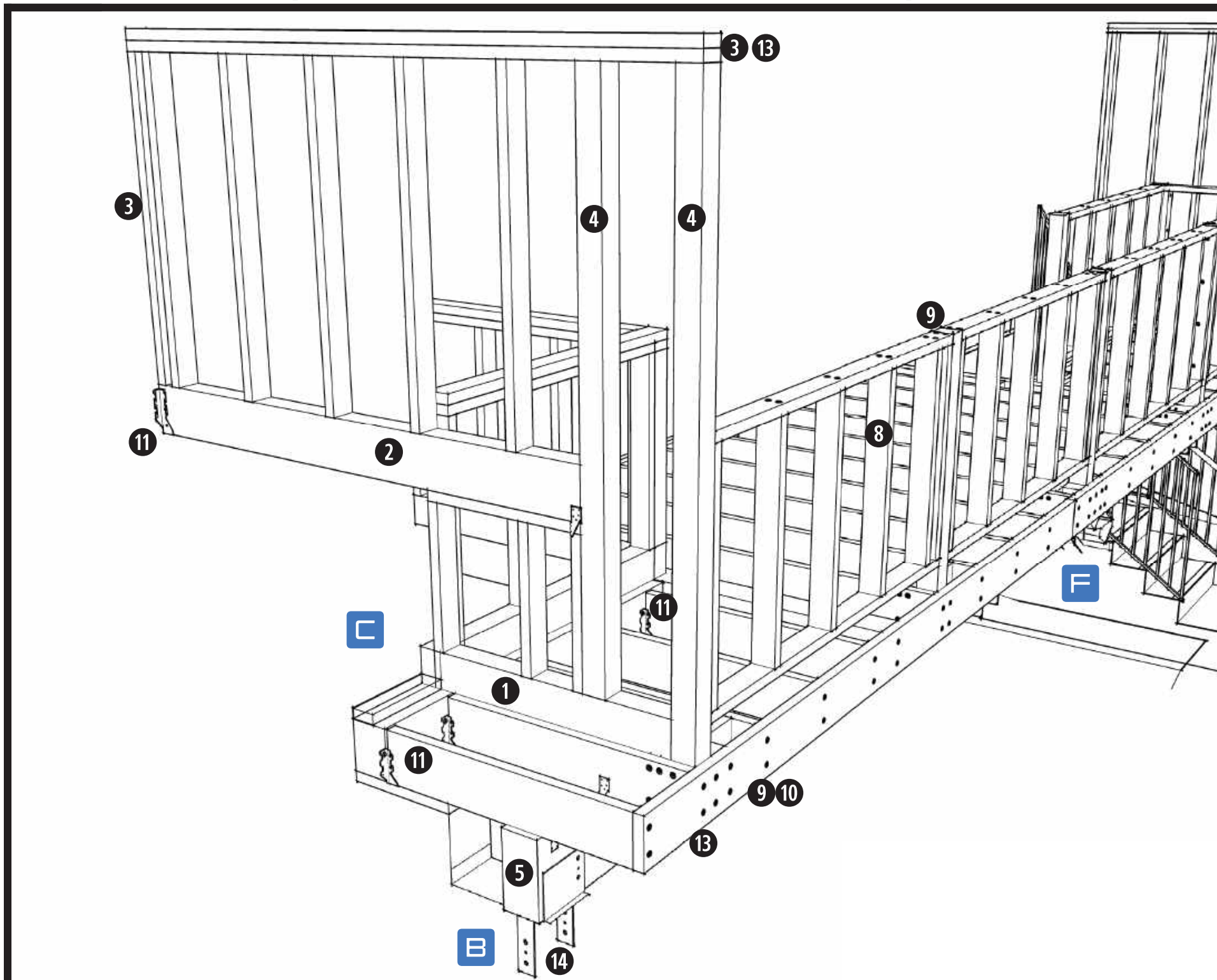


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4 ENG. UPDATE 09.20.25
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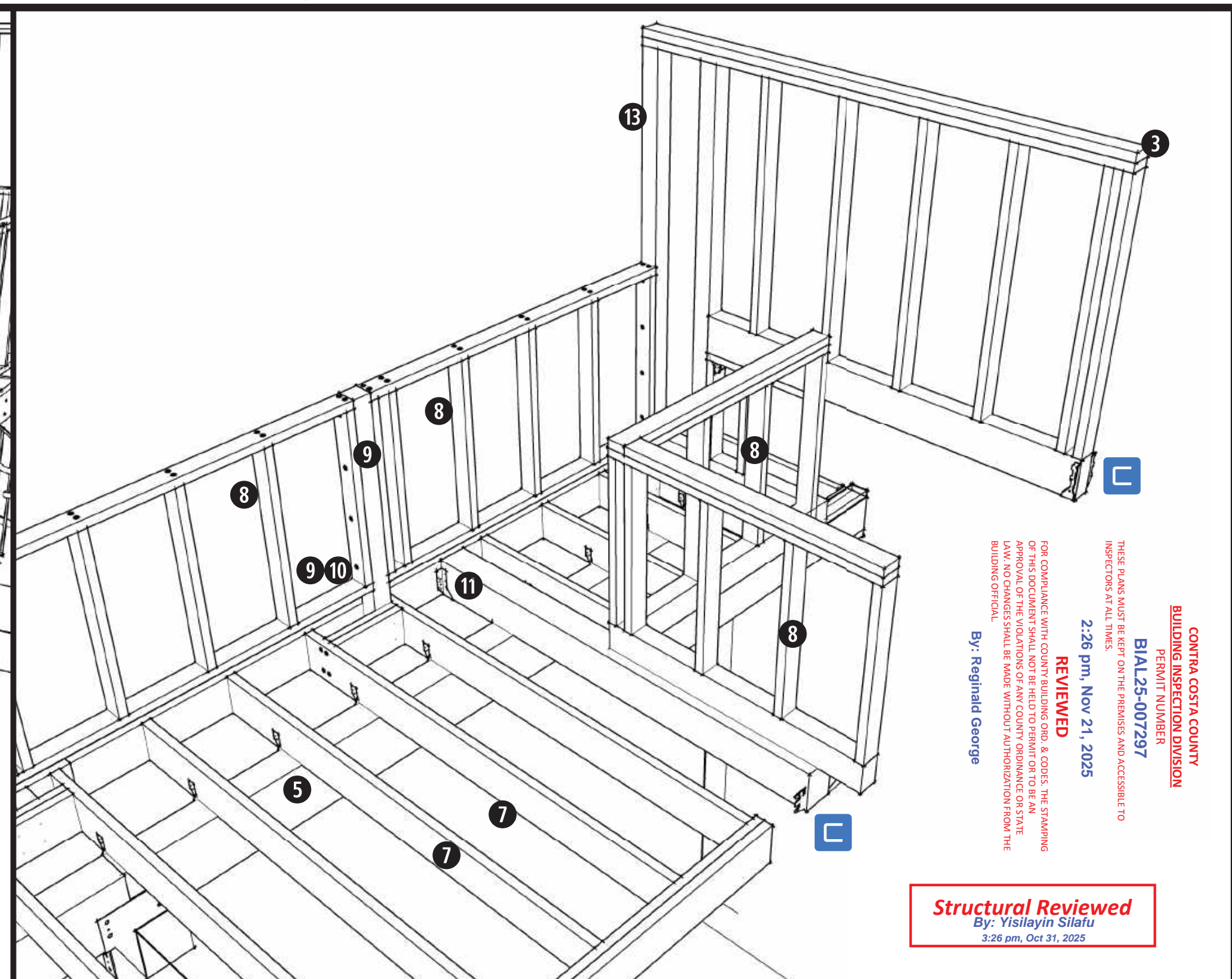
**891 DECK REPAIR
FRAMING DETAILS**

**SHEET NUMBER
S-401**

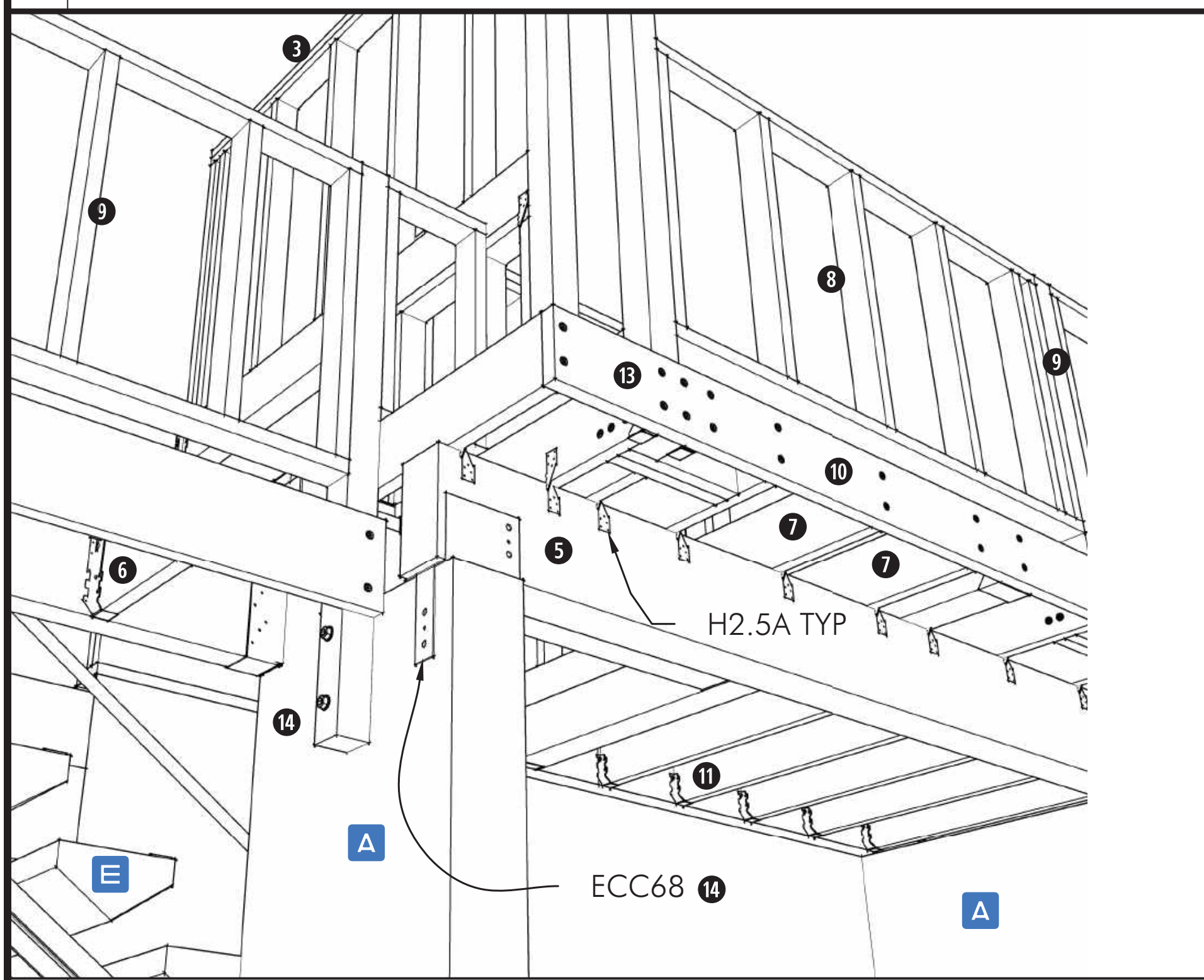
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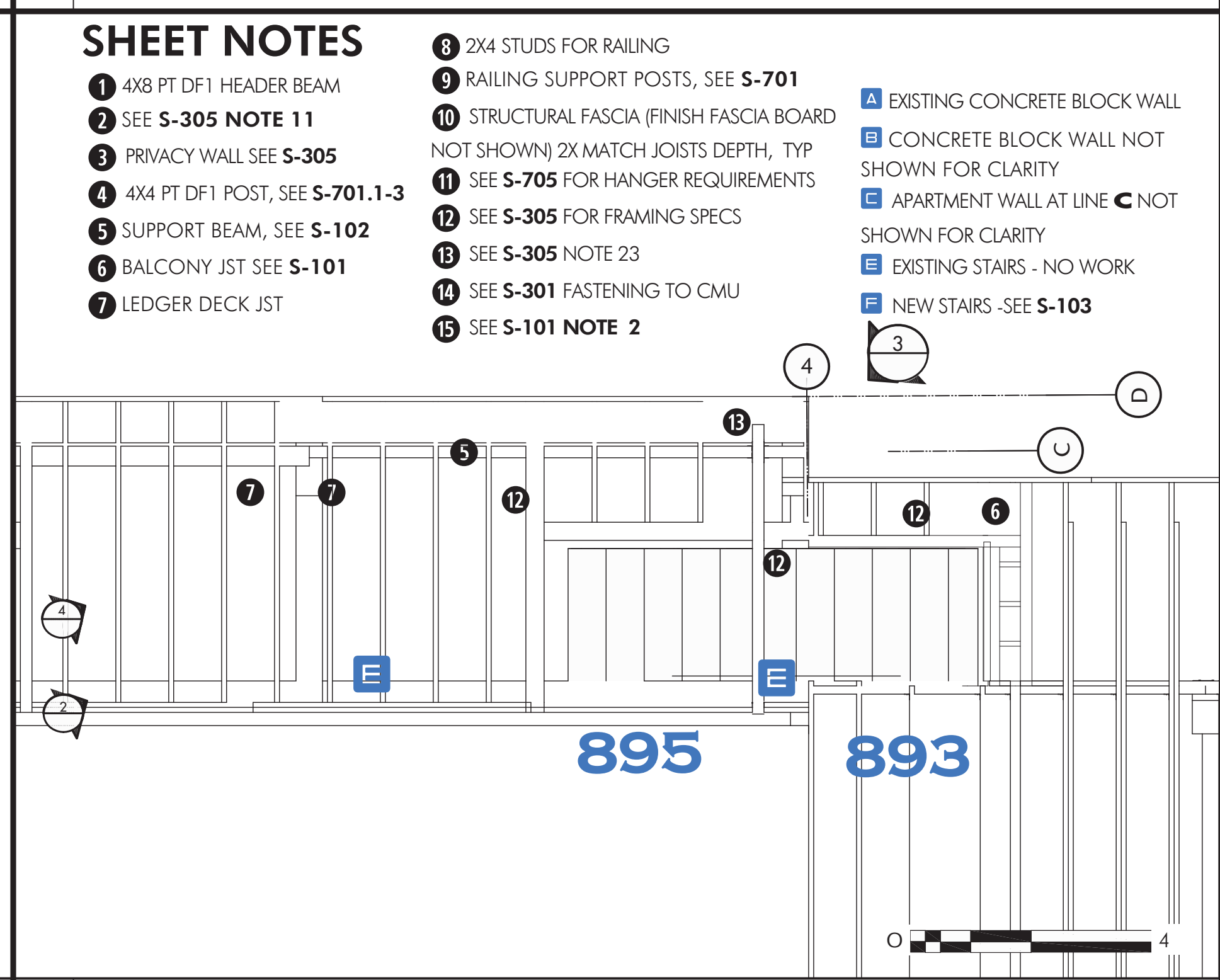
4 FRAMING DETAIL



2 FRAMING DETAIL



2 FRAMING DETAIL



1 FRAMING PLAN DETAIL

SHEET NOTES

- 1 4X8 PT DF1 HEADER BEAM
- 2 SEE S-305 NOTE 11
- 3 PRIVACY WALL SEE S-305
- 4 4X4 PT DF1 POST, SEE S-701.1-3
- 5 SUPPORT BEAM, SEE S-102
- 6 BALCONY JST SEE S-101
- 7 LEDGER DECK JST
- 8 2X4 STUDS FOR RAILING
- 9 RAILING SUPPORT POSTS, SEE S-701
- 10 STRUCTURAL FASCIA (FINISH FASCIA BOARD NOT SHOWN) 2X MATCH JOISTS DEPTH, TYP
- 11 SEE S-705 FOR HANGER REQUIREMENTS
- 12 SEE S-305 FOR FRAMING SPECS
- 13 SEE S-305 NOTE 23
- 14 SEE S-301 FASTENING TO CMU
- 15 SEE S-101 NOTE 2

- A EXISTING CONCRETE BLOCK WALL
- B CONCRETE BLOCK WALL NOT SHOWN FOR CLARITY
- C APARTMENT WALL AT LINE C NOT SHOWN FOR CLARITY
- E EXISTING STAIRS - NO WORK
- F NEW STAIRS -SEE S-103

CONTRA COSTA COUNTY
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By: Reginald George

Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025

CERTIFIED P.S.A. C.A.S. 71213
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SB-721 REPORT
BALCONY & LEDGER DECK REPAIR WORK
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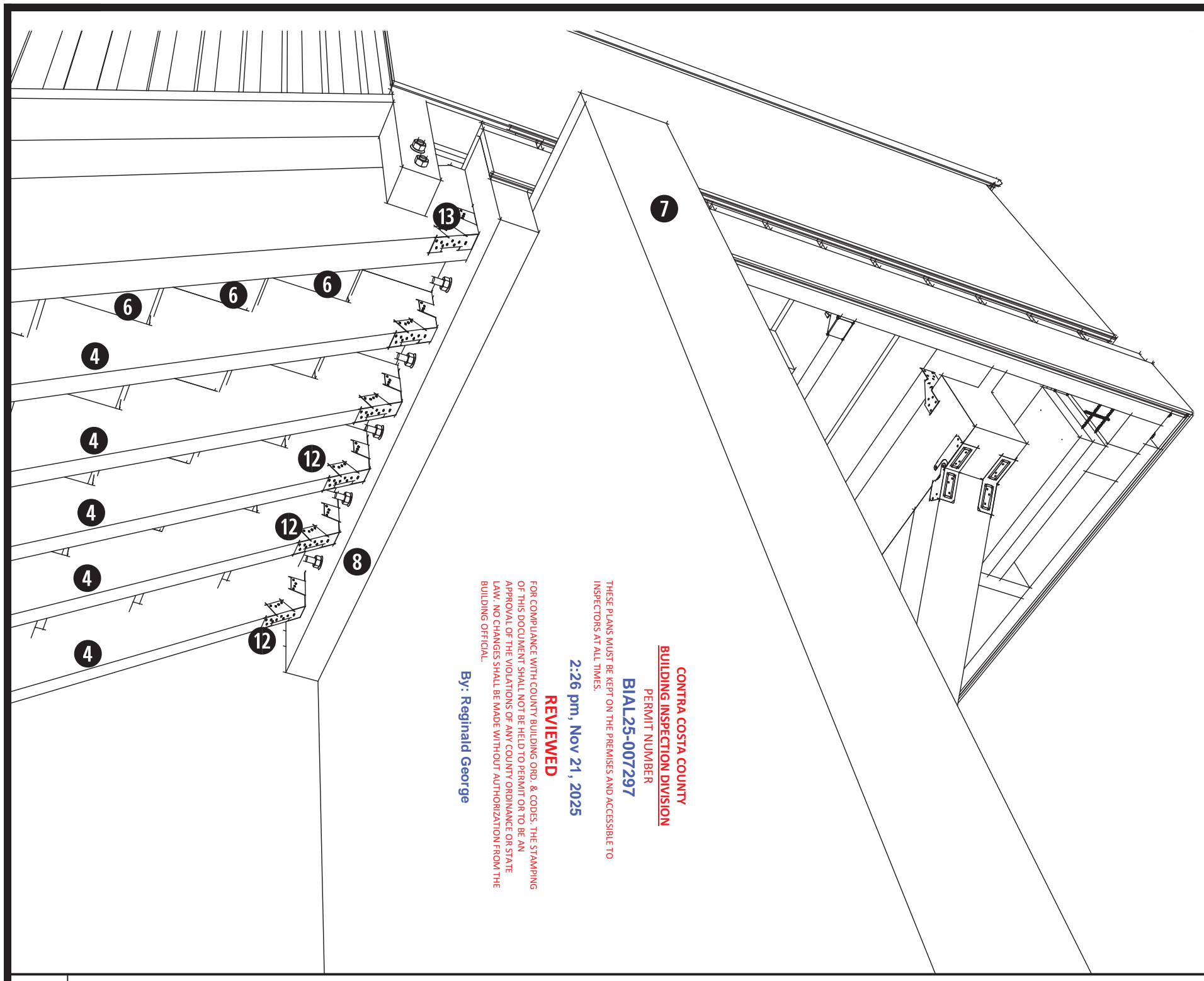
ISSUE HISTORY

4	3ENG. UPDATE	09.20.25
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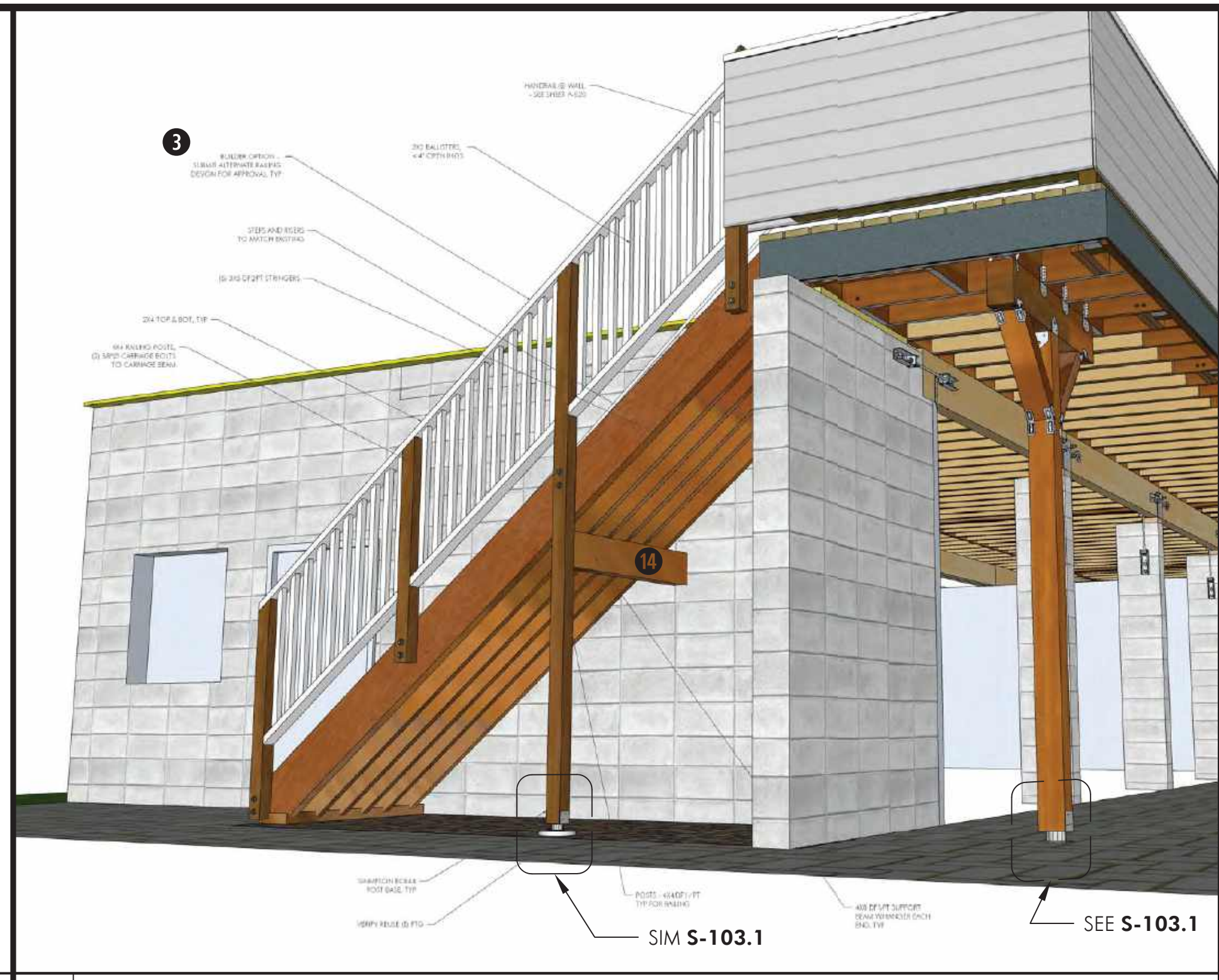
893-895 WALL DECK REPAIR FRAMING DETAILS

SHEET NUMBER
S-402

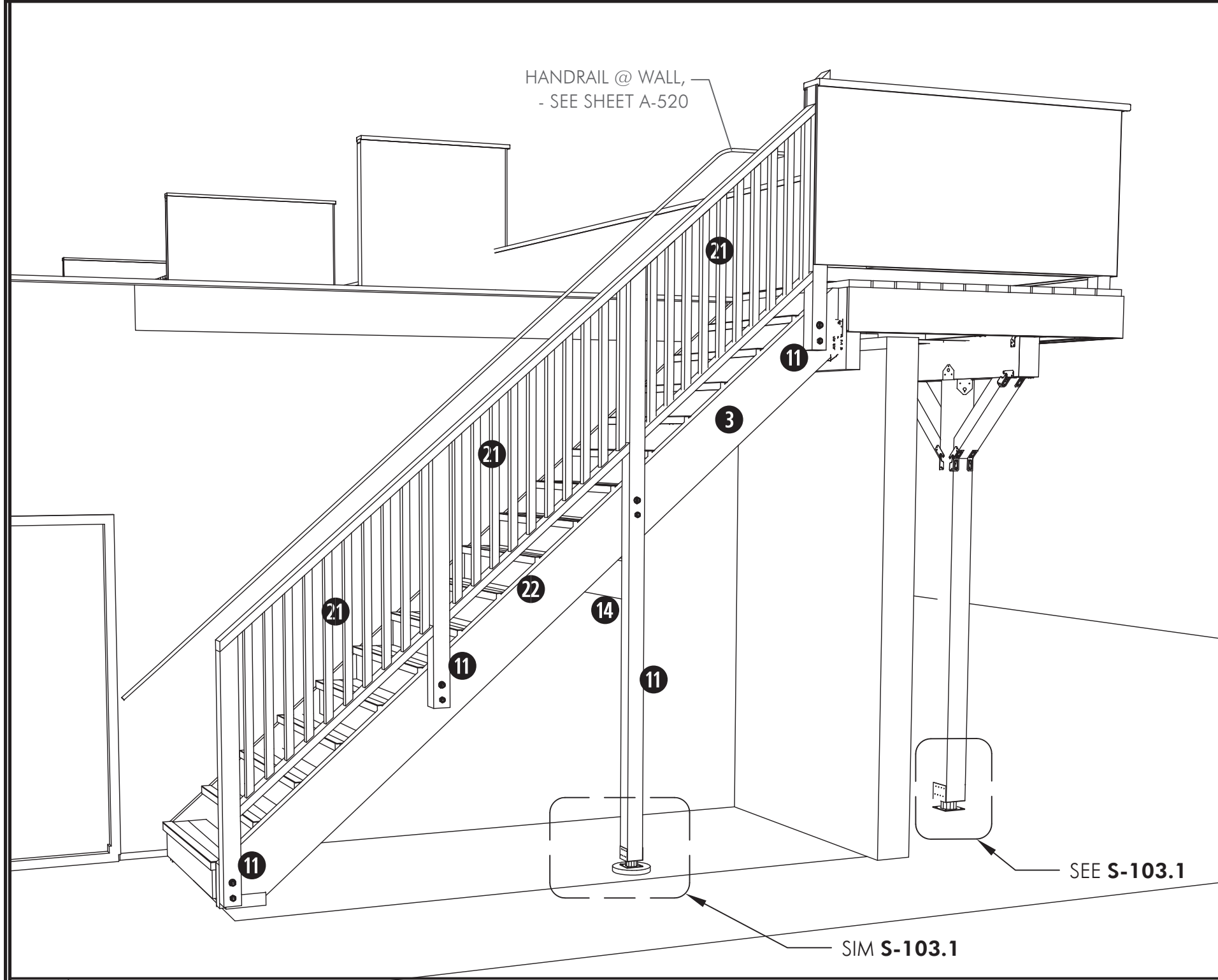
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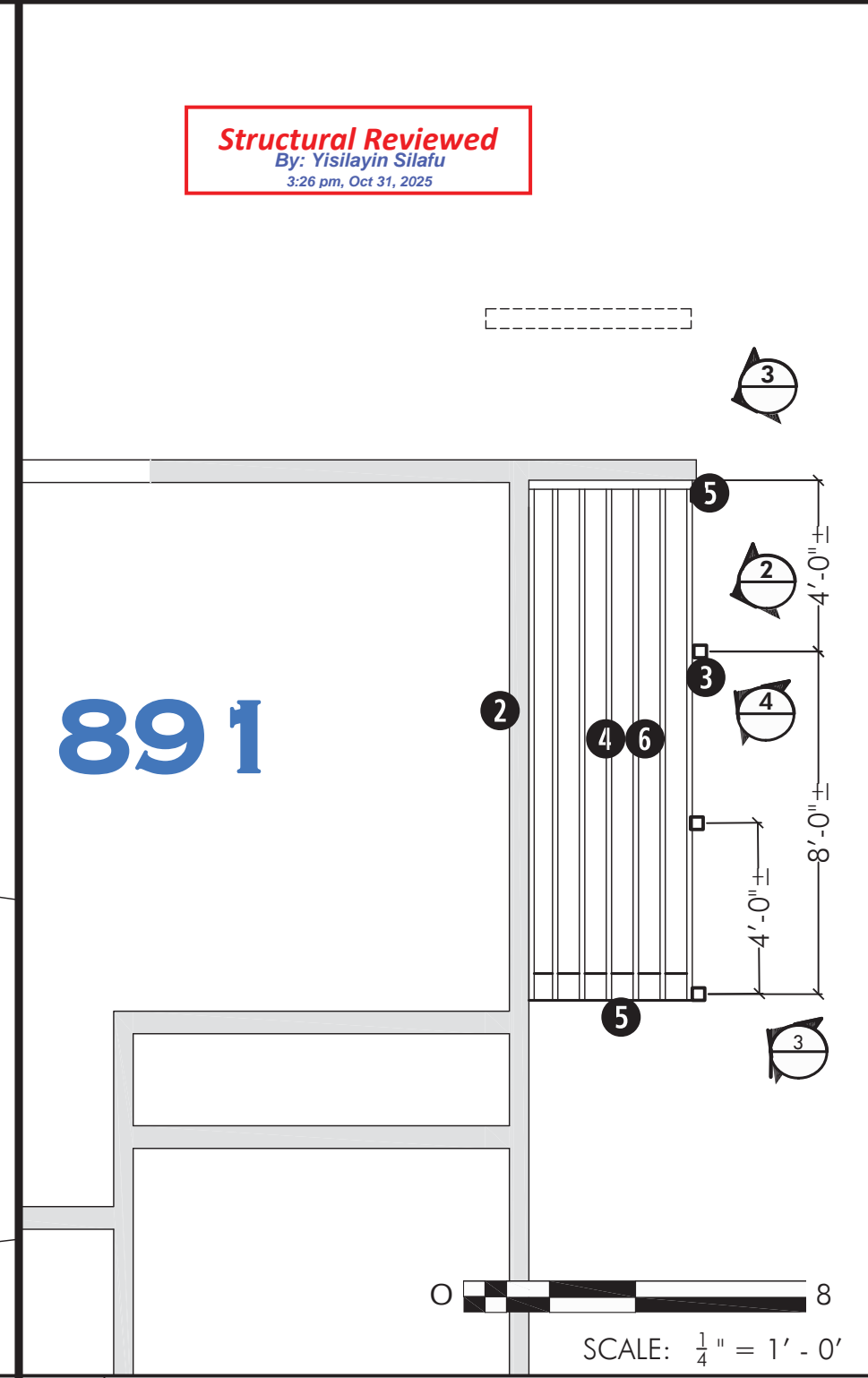
4 STAIR STRINGER SUPPORT DETAIL



3 STAIRCASE CONFIGURATION



2 FRAMING DETAIL



1 891 EXIT STAIR FRAMING PLAN DETAIL

0 SHEET NOTES

① SEE SHEET G-011 FOR GENERAL NOTES AND INSTRUCTIONS FOR BUILDER

① THE ORIGINAL STAIR CONFIGURATION - INCLUDING RISE AND RUN - TO BE MAINTAINED PER CEBC § 8-502.

② SEE SHEET A-520 FOR NEW HANDRAIL CONFIGURATION

③ 2x10 DFT CARRIAGE BEAM - PAINT AS DIRECTED

④ (5) (N) STRINGERS - 3X5 MIN DEPTH/DFT PT

⑤ 3X10 DFT BOT ANCHOR PL 4(4) 5/8" Ø AB - EPOXY TO CONC PAVEMENT

⑥ 2X TREAD AND RISERS W/ EDGE STRIP - SEE SHEET A-520.3.3 NOTE

⑦ CON BLOCK WALL

⑧ 4X DFT 1/PT - LEDGER SUPPORT FOR STRINGERS, SELECT HT AS REQUIRED, 5/8" Ø AB TO CONC BLK WALL, BETWEEN EACH STRINGER, TYP

⑩ EXISTING FOOTING - REUSE OR OPTION (SIM) SEE S-103.1

⑪ POST 4X4 DFT 1 W/ (2) 5/8" Ø BOLTS TO CARRIAGE BEAM

⑫ LSCZ STRINGER SUPPORT - SEE SHEET S-707

⑬ LUS210 CARRIAGE SUPPORT

⑭ STRINGER SUPPORT CROSS BEAM - 4X6 DFT 1/PT - LUC TO POST - SEE SHEET S-705, MBHU TO CMU WALL - SEE SHEET S-703

⑰ GUARDRAIL - 42" ABOVE TREAD NOSING - 2X2 BALUSTERS, 2X4 RAILS <4" GAP, TYP, , PAINTED AS DIRECTED BY OWNER

⑱ 6" Ø MAX AT TRIANGULAR OPENING OF RISER/TREAD/GUARDRAIL

CERTIFIED PEA CASE 21213

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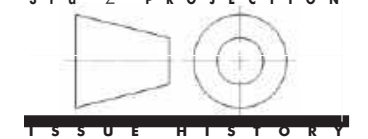
PROJECT ADDRESS

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BALCONY & LEDGER DECK
REPAIR WORK
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APN 241-200-002

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ISSUE HISTORY

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UNIT 891
EXIT STAIR
FRAMING DETAILS

SHEET NUMBER
S-403

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PERMIT NUMBER
BIAL25-007297

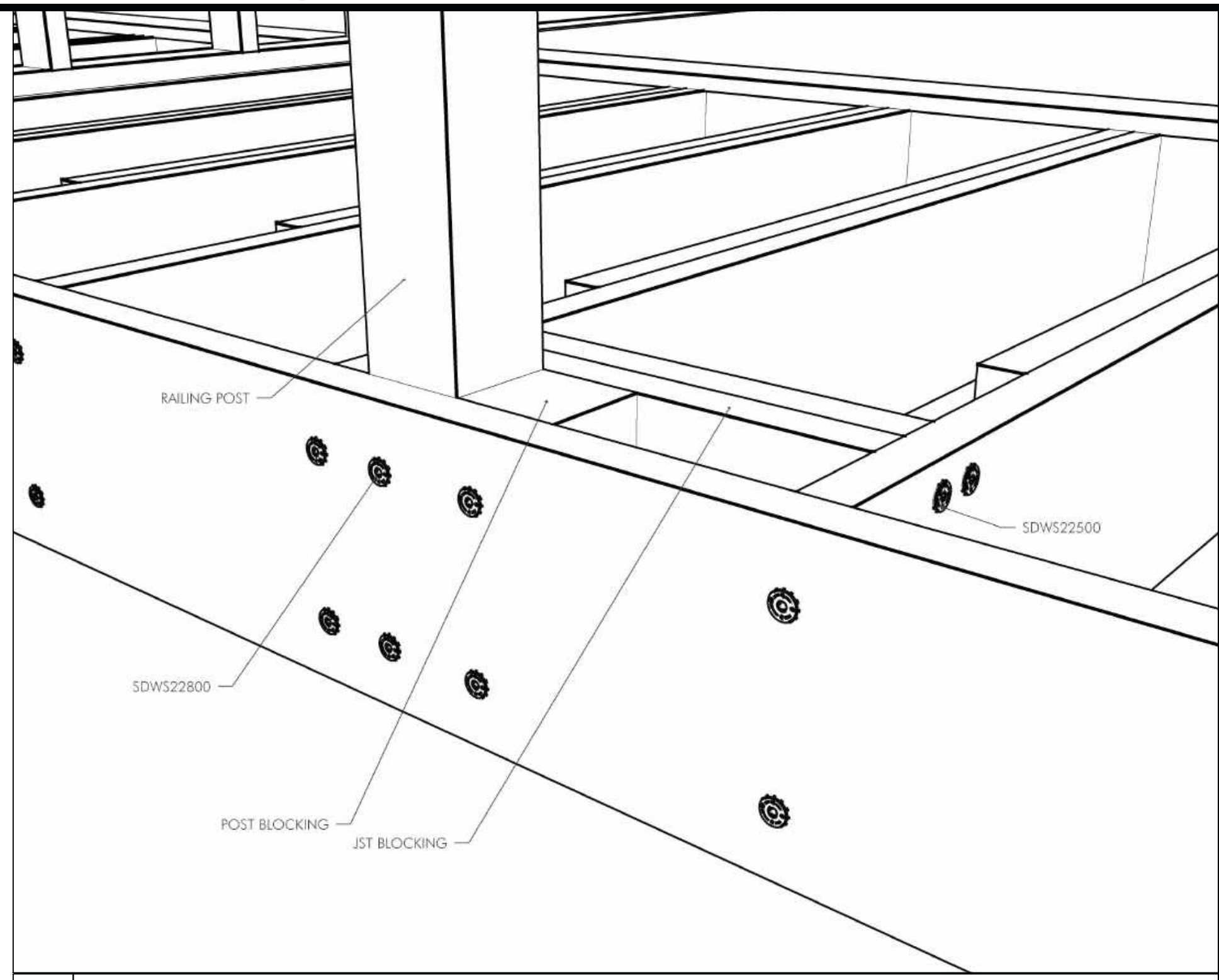
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2:26 pm, Nov 21, 2025

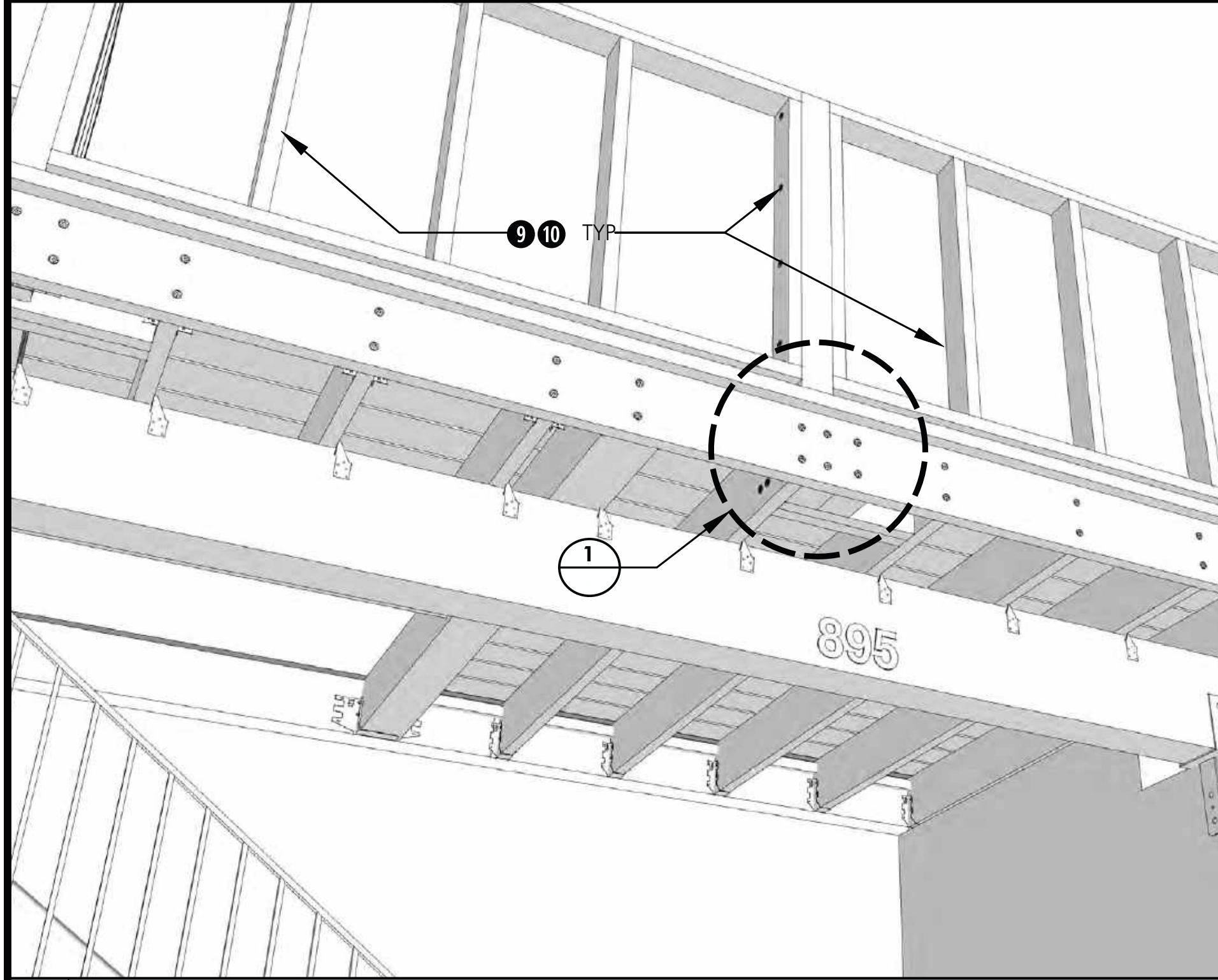
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By: Reginald George

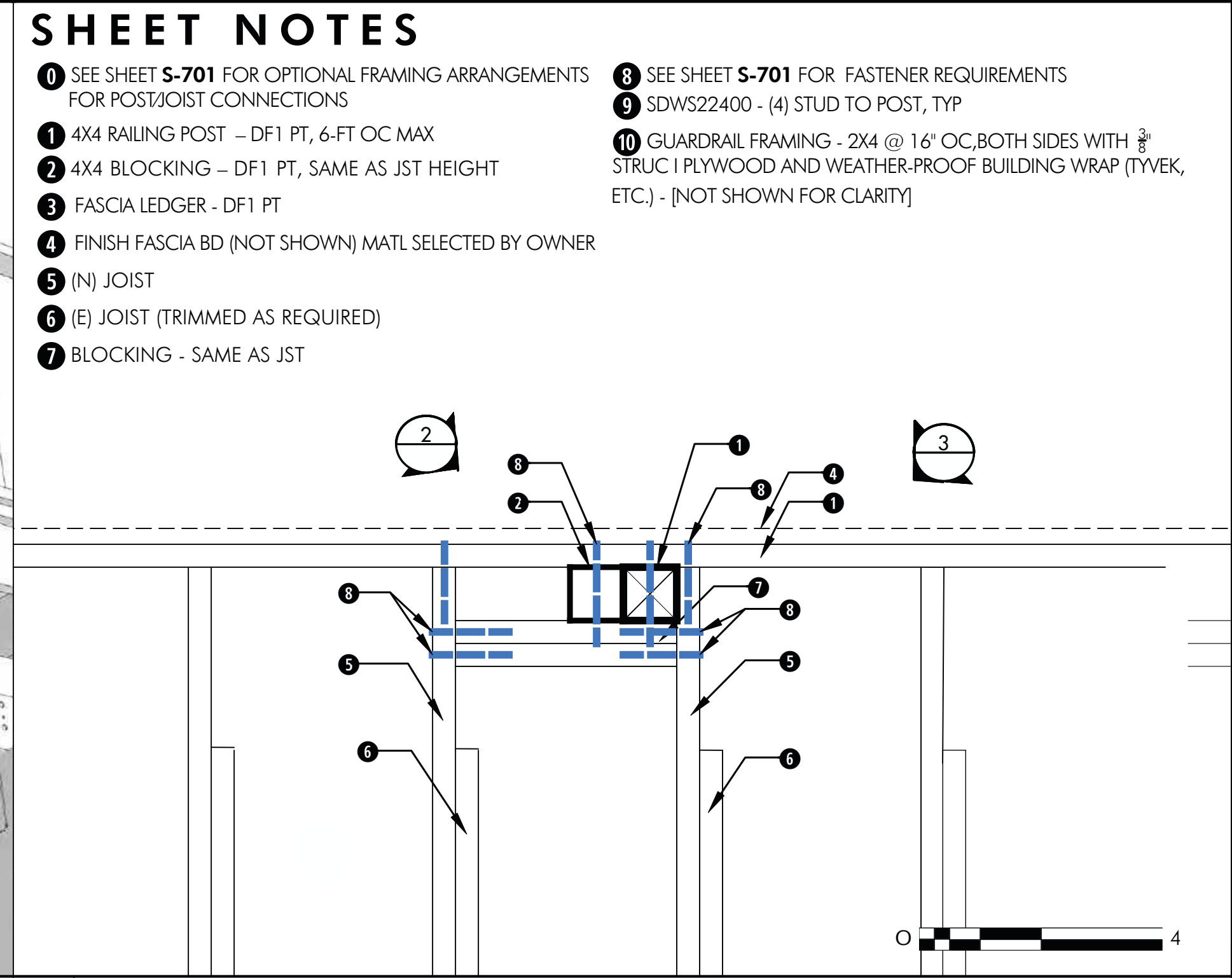
Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025



2 RAILING POST DETAIL - FRAMING PERSPECTIVE



3 RAILING POST DETAIL - FRAMING ILLUSTRATION



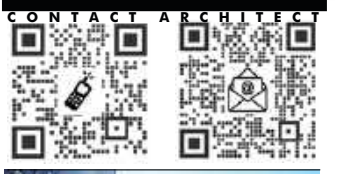
1 RAILING POST DETAIL - PLAN VIEW
SCALE: 1/2" = 1' - 0"

SHEET NOTES

- 0 SEE SHEET S-701 FOR OPTIONAL FRAMING ARRANGEMENTS FOR POST/JOIST CONNECTIONS
- 1 4X4 RAILING POST - DF1 PT, 6-FT OC MAX
- 2 4X4 BLOCKING - DF1 PT, SAME AS JST HEIGHT
- 3 FASCIA LEDGER - DF1 PT
- 4 FINISH FASCIA BD (NOT SHOWN) MATL SELECTED BY OWNER
- 5 (N) JOIST
- 6 (E) JOIST (TRIMMED AS REQUIRED)
- 7 BLOCKING - SAME AS JST
- 8 SEE SHEET S-701 FOR FASTENER REQUIREMENTS
- 9 SDWS22400 - (4) STUD TO POST, TYP
- 10 GUARDRAIL FRAMING - 2X4 @ 16" OC, BOTH SIDES WITH STRUC I PLYWOOD AND WEATHER-PROOF BUILDING WRAP (TYVEK, ETC.) - [NOT SHOWN FOR CLARITY]

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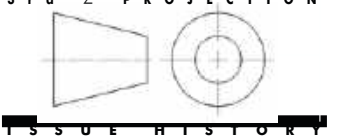
SB-721 REPORT
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REPAIR WORK

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APN 241-200-002

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(925) 938-3900

SHEET INFORMATION

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DRAWN BY:	ME
CHECKED BY:	LRC
CC LICENSE:	© 2024
METADATA:	INCLUDED



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4	3ENG. UPDATE	09.20.25
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RAILING POST
FRAMING DETAILS

SHEET NUMBER
S-501

2022 CALIFORNIA RESIDENTIAL CODE

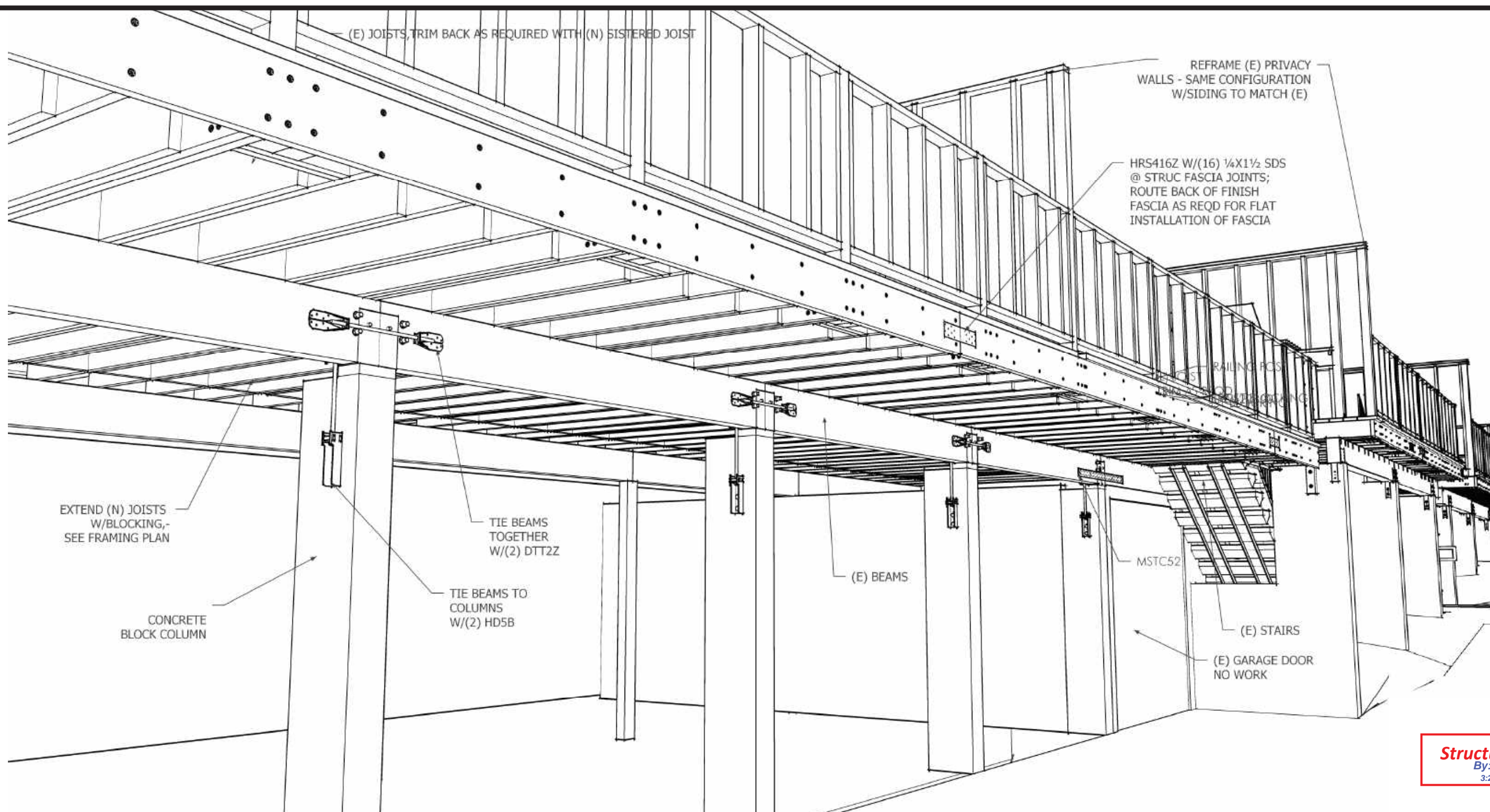
1. Exterior walls & projections to be one-hour fire rated with restricted openings if closer than 5'-0" to property line, CRC table 302.1(1)
2. Fire separation @ garage/carport & dwelling, CRC R302.5 & R302.6
3. 10% natural ventilation, 8% natural light, of floor area, or artificial light and ventilation, CRC R303
4. Bathroom exhaust fans required in all bathrooms, CRC R303.3.1
5. Safety glazing required in hazardous locations, CRC R308.4
6. Emergency escape & rescue openings @ basements, habitable attics & every sleeping room, 5.7/5.0 square feet, CRC R310
7. 7-3/4" maximum stairway riser, 10" minimum tread, CRC R311.7.5
8. Handrails 34" - 38" above nose of tread, CRC R311.7.8
9. 42" guards & 24" window sill height for fall protection, CRC R312
10. Smoke alarms @ sleeping rooms, hallways and @ each story, CRC R314. Carbon monoxide alarms per CRC R315
11. Seismic strapping @ water heater, CPC 507.2
12. Gas shutoff valves required @ gas meter and/or appliances, City/County ordinance
13. Outside combustion air @ water heater & furnace, CPC 506.4 & IMC 701.6
14. Dryer vent 14' maximum length, CMC 504.4
15. Metal or glass door @ fireplace opening, CEnC 150.0e
16. Required grab bar reinforcement, receptacle outlet, switch and control height, doorbell buttons location, one bath and one bedroom door with a 32" clear opening per R327 at (N) construction
17. Garage door labeling is required per R609.4
18. Code editions: 2022 CRC, CMC, CPC, CEnC (Energy code)



2

NEW TIE CONNECTIONS AT GARAGE COLUMNS

SCALE: NONE



1

NEW TIE CONNECTIONS AT GARAGE COLUMNS

SCALE: NONE

CERTIFIED DSA CAS# 21213

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PROJECT ADDRESS

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**DECK REPAIR
FRAMING DETAILS**

SHEET NUMBER
S-502

FOR COMPLIANCE WITH COUNTY BUILDING ORD. & CODES, THE STRAPPING APPROVED BY THE COUNTY ENGINEER IS VALID ONLY ON THE STATE LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE BUILDING OFFICIAL.

**CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION**

PERMIT NUMBER
BIAL25-007297

2:28 pm, Nov 21, 2025

REVIEWED

By: Reginald George

Structural Reviewed
By: Yisilayin Silafu
3:28 pm, Oct 31, 2025

SHEET NOTES

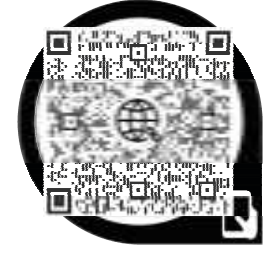
- ① SEE SHEET **G-011** FOR GENERAL NOTES
- ① ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- ② SELECT APPROPRIATE HANGERS AS NOTED; USE ALL FASTENERS AS SPECIFIED
- ③ SECURE DECK LEDGER BOARDS TO EXISTING STRUCTURE PER DETAILS SHEET **S-702**; REPLACE ALL DEFECTIVE EXISTING RIM BOARDS PRIOR TO INSTALLING NEW DECK LEDGER BOARDS
- ④ USE QR CODE READER TO SEE MANUFACTURER'S WEB INFORMATION.



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SIMPSON ONLINE CATALOG (2025)

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FRAMING HARDWARE GENERAL REQUIREMENTS

SHEET NUMBER S-700

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Structural Reviewed
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 3:26 pm, Oct 31, 2025

5 HARDWARE SPEC SHEET

ET-3G™ Epoxy Adhesive

ET-3G is an epoxy-based, 1:1 ratio, two-component system ideal for general anchoring of threaded rod and rebar into concrete (cracked and uncracked) and masonry (cracked and uncracked).

Features

- Suitable for use under static and seismic loading conditions in cracked and uncracked concrete and masonry
- Ideal for general doweling and threaded rod applications
- Two-year shelf life for unopened cartridges stored between 45°F (7°C) and 90°F (32°C)

Product Information

Mix Ratio/Type	1:1 epoxy
Mixed Color	Tan
Base Materials	Concrete and masonry — cracked and uncracked
Base Material Conditions	Dry, water-saturated
Anchor Type	Threaded rod or rebar
Substrate Installation Temperature	60°F (4°C) to 110°F (43°C)
In Service Temperature Range	-40°F (-40°C) to 150°F (65°C)
Storage Temperature	45°F (7°C) and 90°F (32°C)
Shelf Life	24 months
Volatile Organic Compound (VOC)	0 g/L
Chemical Resistance	See pp. 242-243
Manufactured in the US using global materials	

Test Criteria

ET-3G has been tested in accordance with ICC-ES AC308, AC08, AG-355.4 and applicable ASTM test methods.

Code Reports, Standards and Compliance

Concrete — ICC-ES ESR pending (including post-installed rebar connectors, City of LA and Florida Building Code); FL15730.
 Masonry — ICC-ES ESR pending.
 ASTM C881 and AASHTO M230 — Types IV and BV, Grade 3, Class C.
 UL Certification — CSPH Standard Method v1.2.
 NSF/ANSI/CAN 61 (216 in. / 1,000 gal.)

Installation Instructions

Installation instructions are located at the following locations: pp. 49-51; product packaging; or strongtie.com/et3g.

- Hole cleaning brushes are located on p. 62.

ET-3G Cartridge System

Model No.	Capacity (cartridge)	Cartridge Type	Cartridge Quantity	Dispensing Tools	Mixing Nozzle
ET3610*	8.5	Single	12	GD10S	
ET3222*	22	Side-by-Side	6	EDT22S, EDIA22P, EDTA22DKT	EM221
ET3256	36	Side-by-Side	6	EDIA56P	

1. Carriage estimation guidelines are available at strongtie.com/help/varsandwebapp/application/catalog.
 2. Detailed information on dispensing tools, mixing nozzles and other adhesive accessories is available at strongtie.com.
 3. Use only Simpson Strong-Tie mixing nozzles in accordance with Simpson Strong-Tie instructions.
 4. One (EM221) mixing nozzle and one nozzle extension are included with each cartridge.
 5. Use of rotary pneumatic tools to dispense single-tube, coaxial adhesive cartridges is prohibited.

UPDATED 4/18/25

3 EPOXY ADHESIVE SPEC SHEET

4 HARDWARE SPEC SHEET

Joists Bearing on a Beam

At the point where the joist bears on top of a beam, there must be a connection to resist lateral and uplift forces. Blocking or framing is also required to prevent rotation of the joists.

Simpson Strong-Tie® Solutions

HTSQ Twist Strap
Designed to resist uplift for disks and beams. Available in ZMAX® and stainless steel. (MTS connector similar)

H1Z Hurricane Tie
Holds joist on both sides. Features ZMAX coating.

H2.5A Hurricane Tie
Suitable for single-sided applications. Available in ZMAX and stainless steel.

2 HARDWARE SPEC SHEET

Code Reports

Code Reference Column in Load Tables

Product evaluation agencies play an important role in the building industry providing an independent third-party review of architectural and structural products. Evaluations use publicly developed criteria to determine if the product meets the intent of the building code. Building officials can use product evaluation reports, often referred to as "code reports," to review and approve product use on a project.

The most prominent architectural and structural building product certification companies are ICC Evaluation Service (ICC-ES) and IAFMO Uniform Evaluation Service (IAFMO UES), which are both ANSI-accredited to ISO Guide 65 "General Requirements for Bodies Operating Product Certification Systems" as product certification entities. Simpson Strong-Tie currently maintains more than 60 ICC-ES ESR and IAFMO UES ETR reports evaluated to the 2003, 2009, 2012, 2015, 2018 and 2021 International Building Code® (IBC®) and International Residential Code® (IRC®). We continue to submit product information to evaluation agencies in order to update reports or receive additional reports for products in compliance with the latest codes. Simpson Strong-Tie also has reports for the City of Los Angeles, California and the State of Florida.

We have simplified our code references to make this catalog easier to use. You can quickly determine whether a product has a code report by looking in the Code Reference column of the product load tables. A summary of the code references used is in the table below.

To determine which specific code report applies to a product and download a copy of this code report, you can use our Code Report Finder at strongtie.com/codes.

Code Reference	Evaluation Agency	Building Code Coverage
IBC	ICC-ES IAFMO UES	International Building Code (IBC) International Residential Code (IRC)
FL	Florida Statewide Product Approval	Florida Building Code Visit strongtie.com/codes or floridabuilding.org for accurate and up-to-date product approval and evaluation reports.
LA	City of Los Angeles Department of Building Safety	Los Angeles Building Code and Los Angeles Residential Code These products have a City of LA supplement to their ICC-ES or IAFMO UES evaluation reports.
PR	Prescriptive	Products that meet prescriptive or conventional construction requirements.
—	None	No evaluation report listing.

How to Use This Catalog

- New Products**
New products are shown with the symbol. There are also many new sizes within existing model series.
- Changes in Orange**
Significant changes from the previous catalog are indicated in orange.
- Value Engineered**
This icon indicates a product that is preferable to similar connectors because of a) easier installation, b) higher loads, c) lower installed cost, or a combination of these features.
- Extra Corrosion Protection**
The teal arrow icon identifies products that are available with additional corrosion protection (ZMAX®, hot-dip galvanized or double-barrier coating). The SS teal arrow icon identifies products also available in stainless steel. Other products may also be available with additional protection; contact Simpson Strong-Tie for options. The end of the product name will indicate what type of extra corrosion protection is provided (Z = ZMAX, HDG = hot-dip galvanized or SS = stainless steel). Stainless products may need to be manufactured upon ordering. See p. 14 for information on corrosion, and visit our website strongtie.com/info for more technical information on this topic.
- Strong-Drive® SD Connector Screw Compatible**
This icon identifies products approved for installation with Simpson Strong-Tie Strong-Drive SD Connector screw. See pp. 382-386 for more information or visit our [SD screw compatibility](http://strongtie.com/sd) page on strongtie.com/sd.

1 CODE REFERENCES FOR HARDWARE

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EVALUATION REPORT

Number: 192

Originally Issued: 08/03/2010 Revised: 02/24/2025 Valid Through: 02/28/2026

TABLE 8 - CONNECTION GEOMETRY FOR THE SDWS22DB SCREWS¹

CONDITION	DIRECTION OF LOAD TO GRAIN	ID	MINIMUM DISTANCE OR SPACING (in.)
Edge Distance	Perpendicular	①	1-7/16
	Parallel	①	1-7/16
End Distance	Perpendicular	②	6
	Parallel	②	6
Spacing Between Fasteners in a Row	Perpendicular	③	4
	Parallel	④	8
Spacing Between Rows of Fasteners	Perpendicular	⑤	4
	Parallel	⑥	4
Spacing Between Staggered Rows	Perpendicular or Parallel	⑦	5/8

For Slt: 1 inch = 25.4 mm, 1 lbf = 4.45 N.
¹ Edge distances, end distances, and spacings of the screws shall be sufficient to prevent splitting of the wood, as required by this table, or when applicable, as recommended by the structural composite lumber manufacturer, whichever is the more restrictive.

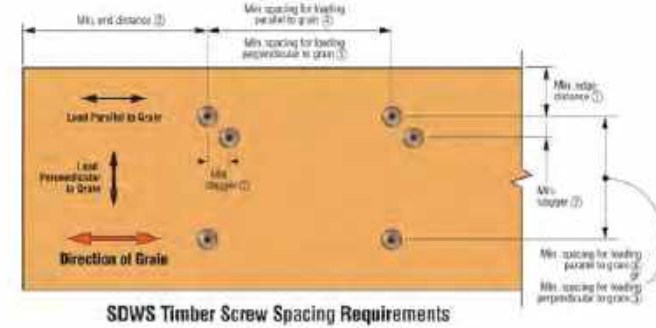


FIGURE 14 - CONNECTION GEOMETRY - SDWS22DB SCREWS

TABLE 8A - CONNECTION GEOMETRY FOR THE SDWS25DB SCREWS¹

CONDITION	DIRECTION OF LOAD TO GRAIN	ID	MINIMUM DISTANCE OR SPACING (in.)
Edge Distance	Perpendicular	①	3
	Parallel	①	1-3/4
End Distance	Perpendicular	②	4
	Parallel	②	3
Spacing Between Fasteners in a Row	Perpendicular	③	1-3/4
	Parallel	④	4
Spacing Between Rows of Fasteners	Perpendicular	⑤	2-1/2
	Parallel	⑥	1-3/4
Spacing Between Staggered Rows	Perpendicular or Parallel	⑦	3/4

For Slt: 1 inch = 25.4 mm, 1 lbf = 4.45 N.
¹ Edge distances, end distances, and spacings of the screws shall be sufficient to prevent splitting of the wood, as required by this table, or when applicable as recommended by the structural composite lumber manufacturer, whichever is the more restrictive.

SHEET NOTES

① SEE SHEET G-011 FOR GENERAL NOTES

② ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS

③ SELECT APPROPRIATE HANGERS AS NOTED; USE ALL FASTENERS AS SPECIFIED

④ SECURE DECK LEDGER BOARDS TO EXISTING STRUCTURE PER DETAILS SHEET S-702; REPLACE ALL DEFECTIVE EXISTING RIM BOARDS PRIOR TO INSTALLING NEW DECK LEDGER BOARDS

CONTRA COSTA COUNTY BUILDING INSPECTION DIVISION

PERMIT NUMBER BIAL25-007297

THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.

2:28 pm, Nov 21, 2025

REVIEWED

FOR COMPLIANCE WITH COUNTY BUILDING ORD. & CODES, THE STAMPING OF THIS DOCUMENT SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATIONS OF ANY COUNTY ORDINANCE OR STATE LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE BUILDING OFFICIAL.

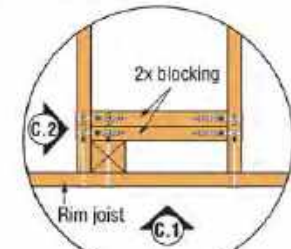
By: Reginald George

Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025

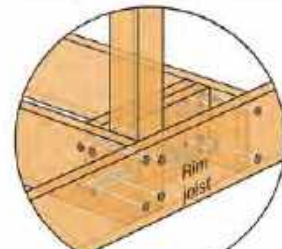
4 HARDWARE SPEC SHEET

Strong-Drive® SDWS TIMBER Screw for Guard Post Installations (cont.)

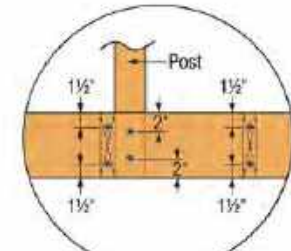
Detail C - Interior Post on Rim Joist with Adjacent Joist



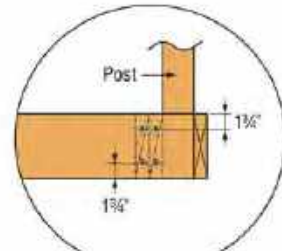
Detail C Plan View



Detail C Isometric View



Detail C.1 Front Elevation

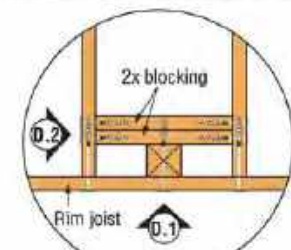


Detail C.2 Side Elevation

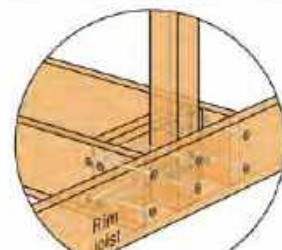
1. Rim joist to deck joist 1 1/2" from top and bottom edges using 8" SDWS22800DB.
2. Rim joist to post and 2x blocking 2" from top and bottom edges using 8" SDWS22800DB.

1. Deck joist to 2x blocking 1 1/2" from top and bottom edges using 5" SDWS22500DB.

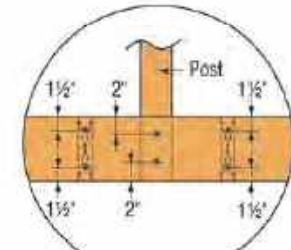
Detail D - Interior Post on Rim Joist Between Joists



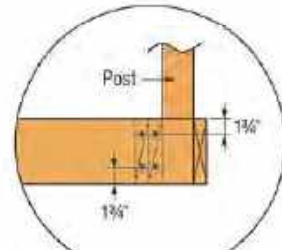
Detail D Plan View



Detail D Isometric View



Detail D.1 Front Elevation



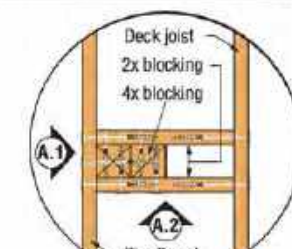
Detail D.2 Side Elevation

1. Rim joist to deck joist 1 1/2" from top and bottom edges using 8" SDWS22800DB.
2. Rim joist to post and 2x blocking 2" from top and bottom edges using 8" SDWS22800DB.

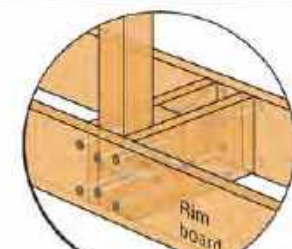
1. Deck joist to 2x blocking 1 1/2" from top and bottom edges using 5" SDWS22500DB.

Strong-Drive® SDWS TIMBER Screw for Guard Post Installations (cont.)

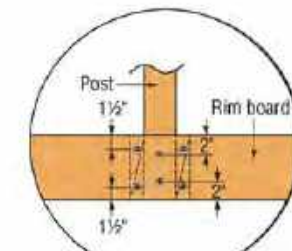
Detail A - Interior Post on Rim Board



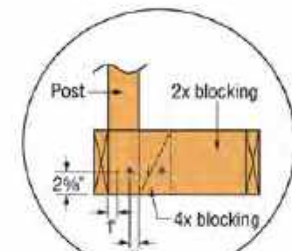
Detail A Plan View



Detail A Isometric View



Detail A.1 Front Elevation

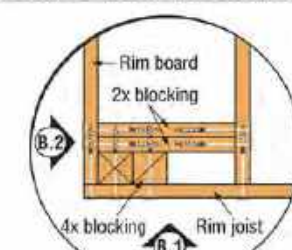


Detail A.2 Side Elevation

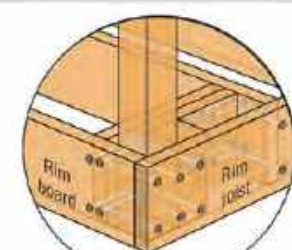
1. Rim board to 2x blocking 1 1/2" from top and bottom edges using 8" SDWS22800DB.
2. Rim board to post and 4x blocking 2" from top and bottom edges using 8" SDWS22800DB.

1. 2x blocking to post - opposing screws 1" from outer edges of post, 2 1/4" from bottom edge of 2x blocking using 5" SDWS22500DB.
2. 2x blocking to 4x blocking - opposing screws 1" from outer edges of 4x blocking, 2 1/4" from bottom edge of 2x blocking using 5" SDWS22500DB.

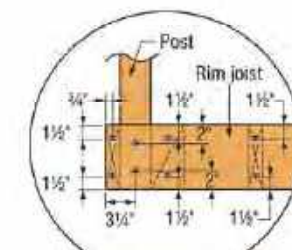
Detail B - Interior Post on Corner



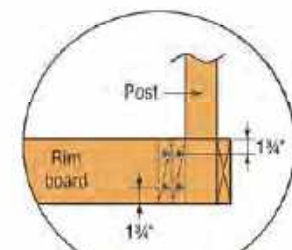
Detail B Plan View



Detail B Isometric View



Detail B.1 Front Elevation



Detail B.2 Side Elevation

1. Rim joist to rim board or deck joist 1 1/2" from top and bottom edges, 1/2" from side edge using 5" SDWS22800DB.
2. Rim joist to post and 2x blocking 2" from top and bottom edges, centered on post using 8" SDWS22800DB.
3. Rim joist to 4x blocking and 2x blocking 1 1/2" from top and bottom edges centered on 4x blocking using 8" SDWS22800DB.

1. Rim board to 2x blocking 1 1/2" from top and bottom edges using 8" SDWS22800DB.

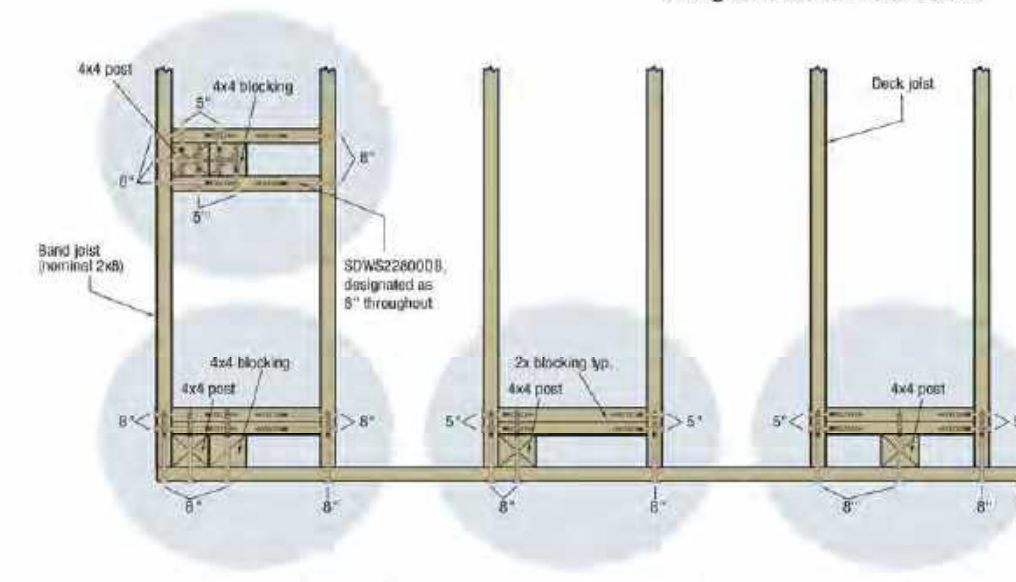
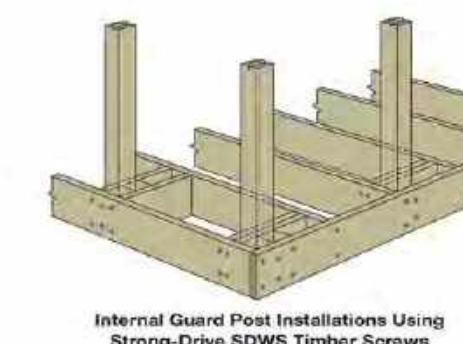
Guard Post to Deck Framing - Fastener Details

For 36"- and 42"-Tall Guard Posts

As an alternative code-compliant solution for attaching wood guard posts without the use of typical hardware and through-bolts, this guard posts and the framing elements can be fastened with Strong-Drive® SDWS Timber screws. The SDWS Timber screws are code report listed in IAPMO UES EPI-192. The solutions below have been tested and verified for 38"-tall guard posts constructed with DFL, HF and SP framing. These solutions have also been tested and verified for 42"-tall guard posts constructed with DFL and SP framing only. For more information, please refer to Fastening Systems' Technical Guide or T-F-GRDP5TRL.



Note: For this installation, only SDWS22500DB/DBB and SDWS22800DB/DBB fasteners are to be used and installed per Simpson Strong-Tie details. Test results have shown that generic fasteners do not provide sufficient withdrawal resistance, pull-through resistance or shear strength.

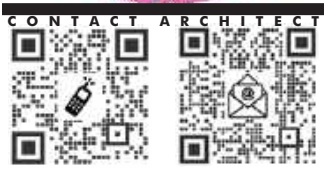


Plan View Showing Details of Four Connections Using Strong-Drive SDWS Timber Screws (SDWS22xxxDB Tan shown, SDWS22xxxDBB Black similar; other connection hardware not shown for clarity)

3 HARDWARE SPEC SHEET

2 HARDWARE SPEC SHEET

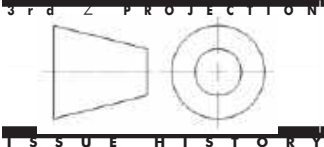
1 HARDWARE SPEC SHEET



CONTACT ARCHITECT
PROJECT ADDRESS
SB-721 REPORT BALCONY & LEDGER DECK REPAIR WORK
891 893 895 897 BELL ST LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
2336 Heritage Hills Dr Pleasant Hill CA 94523
tportue@yahoo.com | brianportue@gmail.com
(925) 938-3900

SHEET INFORMATION
PROJECT NO: 891BELL_SB791
ISSUE: PERMIT ISSUE #1
DATE: AUG 11, 2024
SCALE: AS NOTED
FILE: 891_BELL_010
DRAWN BY: ME
CHECKED BY: LRC
CC LICENSE: © METADATA INCLUDED



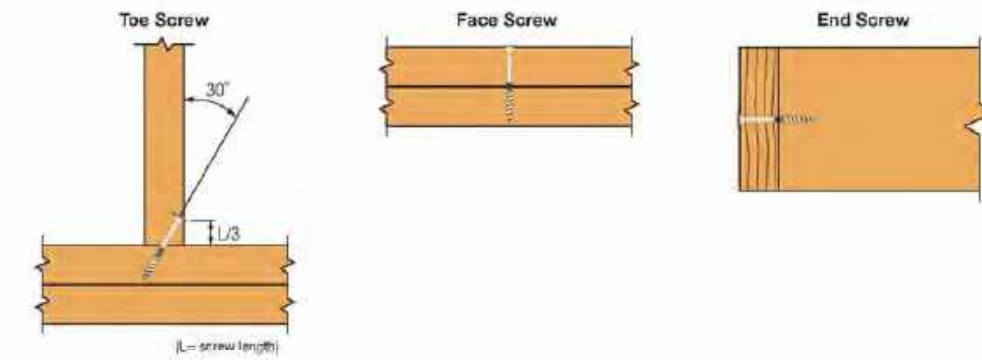
ISSUE HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

FRAMING HARDWARE REQUIREMENTS

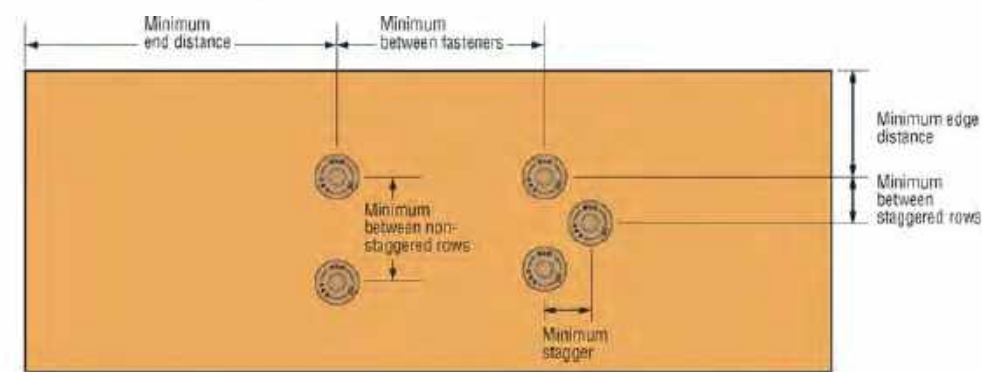
SHEET NUMBER S-701

Strong-Drive® SDWS FRAMING Screw (cont.)

Typical Conventional Framing Connections



Strong-Drive® SDWS Framing Screw Spacing Requirements for Non-Prescriptive Construction



SDWS Framing Screw Spacing Requirements

Conditions	Minimum Distances or Spacing (in.)	
	SDWS16212	SDWS16300
End distance	Loading toward end	2
	Loading away from end	2
	Loading perpendicular to grain	3 1/2
Edge distance	Loading parallel to grain	1 1/2
	Loading perpendicular to grain	1
Spacing between fasteners in a row	Loading parallel to grain	2
	Loading perpendicular to grain	2
Spacing between rows	In-line rows*	1
	Staggered rows	1/2

*These loads must be multiplied by adjustment factors of 0.90 (SDWS16212) and 0.87 (SDWS16300).

Strong-Drive® SDWS FRAMING Screw (cont.)

Deck

Connection Application	Fastener Quantities	
	IRC Nails per Table F602.3.1(1) (3) 16d common	Equivalent SDWS Framing Screws (3) SDWS16300
Rim joist to end joist (End screw)	(3) 16d common	(3) SDWS16300

*Per American Wood Council, DCA6, 2014.

Rim Board Connection Details



SDWS Framing Screw – Allowable Shear Loads for Sawn Lumber

Model No.	Side Member Thickness (in.)	Main Member Penetration (in.)	SP	DF	SP/DF
SDWS16212	1 1/2	0.90	131	106	99
SDWS16300	1 1/2	1.40	229	150	150
	2	0.90	—	129	89

- All applications are based on full penetration into the main member. Full penetration is the screw length minus the side member thickness.
- Allowable loads are shown at the wood load duration factor of $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
- Minimum fastener spacing requirements to achieve table loads: (1) SDWS16212 and (2) SDWS16300 end distance, 1" (SDWS16212) and 1" (SDWS16300) edge distance, 1/2" between staggered rows of fasteners, 1" between non-staggered and 4" between fasteners in a row.
- For in-service moisture content greater than 19% use $C_M = 0.70$.
- Screws must be installed straight into the side grain of the wood main member with the screw axis at a 90-degree angle to the wood fibers.

SDWS Framing Screw – Allowable Withdrawal Load in Sawn Lumber

Model No.	Fastener Length (in.)	Thread Length (in.)	Reference Withdrawal Design Loads, W (lb./in.)	SP	DF	SP/DF
SDWS16212	2.40	1.250	177	132	103	199
SDWS16300	2.90	1.625	192	125	102	205

- The tabulated reference withdrawal design values (W) are in pounds per inch of the thread penetration into the main member.
- The tabulated reference withdrawal design values (W_{ref}) are in pounds where the entire thread length must penetrate into the main member.
- Tabulated reference withdrawal design values (W) and (W_{ref}) are shown at a $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors from the NDS as referenced in the IRC or IBC.
- Values are based on the lesser of withdrawal from the main member or pull-through of a 1 1/2" side member. For in-service moisture content greater than 19% use $C_M = 0.65$.

SDWS Framing Screw – Allowable Shear Loads for Wood Structural Panel Side Member

Model No.	Side Member Thickness (in.)	Min. Main Member Penetration (in.)	SP	DF	SP/DF
SDWS16	3/4	1.33	143	143	143
	3/4	1.68	200	167	138

- Allowable loads are shown at the wood load duration factor of $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
- WSP side members for joists were oriented strand board (equivalent specific gravity = 0.50).
- All applications are based on full penetration into the main member. Full penetration is the screw length minus the side member thickness.
- Screws must be installed straight into the side grain of the wood main member with the screw axis at a 90-degree angle to the wood fibers.

SDWS Framing Screw – Allowable Pull-Through Loads for Wood Structural Panel Side Member

Model No.	Side Member Thickness (in.)	Allowable Pull-Through Load (lb.)
SDWS16	3/4	84
	3/4	169

- Allowable loads are shown at the wood load duration factor of $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
- WSP side members for joists were oriented strand board (equivalent specific gravity = 0.50).
- For connections with "low" use the "low" side member, the lesser of withdrawal from the main member and pull-through loads from WSP side member shall be used in design.

SHEET NOTES

- SEE SHEET G-011 GENERAL NOTES
- ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS
- SEE SHEET S-703 FOR FASTENER LOAD TABLES

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297

2:28 pm, Nov 21, 2025
REVIEWED

FOR COMPLIANCE WITH COUNTY BUILDING ORD. & CODES, THE STAMPING OF THIS DOCUMENT SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATIONS OF ANY COUNTY ORDINANCE OR STATE LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE BUILDING OFFICIAL.

By: Reginald George

Structural Reviewed
By: Yisilayin Silalu
3:26 pm, Oct 31, 2025

6 HARDWARE SPEC SHEET

Strong-Drive® SDWS TIMBER Screw

Structural Wood-to-Wood Connections Including Ledgers

Designed to provide an easy-to-install, high-strength alternative to through-bolting and traditional lag screws. The Strong-Drive® SDWS Timber screws are ideal for the contractor and do-it-yourselfer alike.

Double-barrier coating provides corrosion resistance equivalent to hot-dip galvanization, making it suitable for certain exterior and preservative-treated wood applications, as described in the evaluation report.

Codes/Standards: IAPMO-LIES-192, State of Florida FL 13975;

U.S. Patents 5,897,280; 7,101,133

For More Product Information, see p. 69



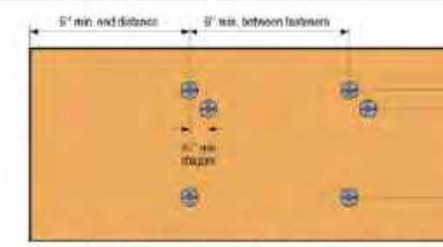
SDWS Timber Screw – Allowable Shear Loads – Douglas Fir-Larch and Southern Pine Lumber

Size (DIA x L) (in.)	Model No.	Thread Length (in.)	DF/SP Allowable Shear Loads (lb.) Wood Side Member Thickness (in.)												
			1.5	2	2.5	3	3.5	4	4.5	6	8				
0.22 x 3	SDWS223000B	1 1/2	255	—	—	—	—	—	—	—	—	—	—	—	—
0.22 x 4	SDWS224000B	2 1/4	405	405	305	—	—	—	—	—	—	—	—	—	—
0.22 x 5	SDWS225000B	2 1/4	405	405	380	360	325	—	—	—	—	—	—	—	—
0.22 x 6	SDWS226000B	2 1/4	405	405	405	405	365	365	355	—	—	—	—	—	—
0.22 x 8	SDWS228000B	2 1/4	405	405	405	405	395	395	395	395	—	—	—	—	—
0.22 x 10	SDWS2210000B	2 1/4	405	405	405	405	395	395	395	395	395	—	—	—	—

SDWS Timber Screw – Allowable Shear Loads – Spruce-Pine-Fir and Hem-Fir Lumber

Size (DIA x L) (in.)	Model No.	Thread Length (in.)	SP/DF Allowable Shear Loads (lb.) Wood Side Member Thickness (in.)												
			1.5	2	2.5	3	3.5	4	4.5	6	8				
0.22 x 3	SDWS223000B	1 1/2	190	—	—	—	—	—	—	—	—	—	—	—	—
0.22 x 4	SDWS224000B	2 1/4	385	285	215	—	—	—	—	—	—	—	—	—	—
0.22 x 5	SDWS225000B	2 1/4	405	290	290	250	195	—	—	—	—	—	—	—	—
0.22 x 6	SDWS226000B	2 1/4	405	365	365	310	310	210	—	—	—	—	—	—	—
0.22 x 8	SDWS228000B	2 1/4	405	365	365	365	310	310	290	280	—	—	—	—	—
0.22 x 10	SDWS2210000B	2 1/4	405	365	365	365	310	310	290	280	280	—	—	—	—

- All applications are based on full penetration into the main member. Full penetration is the screw length minus the side member thickness.
- Allowable loads are shown at the wood load duration factor of $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors per the NDS.
- Minimum fastener spacing requirements to achieve table loads: (1) end distance, 1 1/2" edge distance, 1/2" between staggered rows of fasteners, 4" between non-staggered rows of fasteners and 4" between fasteners in a row.
- For in-service moisture content greater than 19%, use $C_M = 0.7$.
- Loads are based on installation into the side grain of the wood with the screw axis perpendicular to the face of the member.



SDWS Timber Screw – Allowable Withdrawal Loads – Douglas Fir-Larch, Southern Pine, Spruce-Pine-Fir and Hem-Fir Lumber

Model No.	Fastener Length (in.)	Thread Length (in.)	Reference Withdrawal Design Values, W (lb./in.)		Max. Reference Withdrawal Design Values, W_{ref} (lb.)	
			DF and SP Main Member	DF and SP Main Member	DF and SP Main Member	DF and SP Main Member
SDWS223000B	3	1 1/2	164	151	245	300
SDWS224000B	4	2 1/4	179	160	425	300
SDWS225000B	5	2 1/4	214	187	390	495
SDWS226000B	6	2 1/4	214	187	390	495
SDWS228000B	8	2 1/4	214	187	390	495
SDWS2210000B	10	2 1/4	214	187	390	495

- The tabulated reference withdrawal design values (W) are in pounds per inch of the thread penetration into the side grain of the main member.
- The tabulated reference withdrawal design values (W_{ref}) are in pounds where the entire thread length must penetrate into the side grain of the main member.
- Tabulated reference withdrawal design values (W) and (W_{ref}) are shown at a $C_D = 1.0$. Loads may be increased for load duration per the building code up to a $C_D = 1.6$. Tabulated values must be multiplied by all applicable adjustment factors from the NDS as referenced in the IRC or IBC.
- Embedded thread length is that portion held in the main member including the screw tip.
- Values are based on the lesser of withdrawal from the main member or pull-through of a 1 1/2" side member.
- For in-service moisture content greater than 19%, use $C_M = 0.7$.

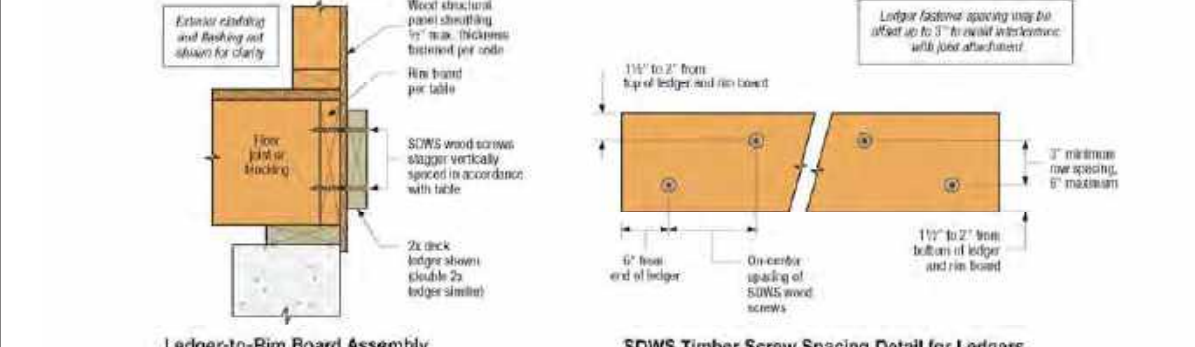
5 HARDWARE SPEC SHEET

Strong-Drive® SDWS TIMBER Screw (cont.)

SDWS Timber Screw – 2012 and 2015 IRC Compliant Spacing for a Sawn Lumber Deck Ledger to Rim Board

Loading Condition	Nominal Ledger Size (in.)	Model No.	Rim Board Material and Minimum Size	Maximum Deck Joint Spacing						
				Up to 8 ft.	Up to 10 ft.	Up to 12 ft.	Up to 14 ft.	Up to 16 ft.	Up to 18 ft.	
40 psf Live 10 psf Dead	2x	SDWS24000B	1" OSB	14	10	8	7	6	5	5
			1 1/2" OSB	16	12	10	9	7	6	5
			2x SP DF – 2x SP HF	22	16	13	11	9	8	7
60 psf Live 10 psf Dead	2x	SDWS24000B	1" OSB	10	7	6	5	4	4	—
			1 1/2" OSB	12	9	7	6	5	4	4
			2x SP DF – 2x SP HF	15	12	9	8	7	6	5
40 psf Live 10 psf Dead	2x	SDWS225000B	1" OSB	15	12	9	8	7	6	5
			1 1/2" OSB	16	12	10	8	7	6	5
			2x SP DF – 2x SP HF	16	12	10	8	7	6	5
60 psf Live 10 psf Dead	2x	SDWS225000B	1" OSB	11	8	7	6	5	4	4
			1 1/2" OSB	12	9	7	6	5	4	4
			2x SP DF – 2x SP HF	12	9	7	6	5	4	4

- SDWS screw spacing values are equivalent to 2012/2015 IRC Table R607.2. The table also provides SDWS screw spacing for a wide range of materials commonly used for rim board, and an alternate loading condition as required by some jurisdictions.
- Sawn lumber rim board shall be Spruce-Pine-Fir, Hem-Fir, Douglas Fir-Larch, or Southern Pine species. Ledger shall be Hem-Fir, Douglas Fir-Larch, or Southern Pine species.
- Fastener spacings are based on the lesser of single fastener ICC-ES AC208 testing or the Strong-Drive SDWS Timber screw with a safety factor of 5.0 or ICC-ES AC213 assembly testing with a factor of safety of 5.0. Spacing includes NDS wet service factor adjustment.
- Multiple ledger plies shall be fastened together per code independent of the SDWS screws.
- Flange of screws shall be vertically offset and evenly staggered. Screws shall be spaced 1 1/2" to 2" from the top and bottom of the ledger or rim board with 3" minimum and 6" maximum between rows and spaced per the table. End screws shall be located 6" from the end and at 1 1/2" to 2" from the bottom of the ledger. For screws located at least 2" but less than 6" from the end, use 50% of the load per screw and 50% of the table spacing between the end screw and the adjacent screw and for screws located between 7" and 4" from the end, provide using a 1/2" end.
- Structural sheathing between the ledger and rim board shall be a maximum of 1/2" thick and fastened per code.
- See p. 290 for ledger-to-rim attachments with 1/2" gap.



3 HARDWARE SPEC SHEET

Strong-Drive® SDWS TIMBER Screw

Structural Wood-to-Wood Connections Including Ledgers

Designed to provide an easy-to-install, high-strength alternative to through-bolting and traditional lag screws. The Strong-Drive® SDWS Timber screws are ideal for the contractor and do-it-yourselfer alike.

Double-barrier coating provides corrosion resistance equivalent to hot-dip galvanization, making it suitable for certain exterior and preservative-treated wood applications, as described in the evaluation report.

Codes/Standards: IAPMO-LIES-192, State of Florida FL 13975;

U.S. Patents 5,897,280; 7,101,133

For More Product Information, see p. 69

SDWS Timber Screw – Allowable Shear Loads – Douglas Fir-Larch and Southern Pine Lumber

Size (DIA x L) (in.)	Model No.	Thread Length (in.)	DF/SP Allowable Shear Loads (lb.) Wood Side Member Thickness (in.)											
			1.5	2	2.5	3	3.5	4	4.5	6	8			
0.22 x 3	SDWS223000B	1 1/2	255	—	—	—	—	—	—	—	—	—	—	—
0.22 x 4	SDWS224000B	2 1/4	405	405	305	—	—	—	—	—	—	—	—	—
0.22 x 5	SDWS225000B	2 1/4	405	405	380	360	325	—	—	—	—	—	—	—
0.22 x 6	SDWS226000B	2 1/4	405	405	405	405	365	365	355	—	—	—	—	—
0.22 x 8	SDWS228000B	2 1/4	405	405	405	405	395	395	395	395	—	—	—	—
0.22 x 10	SDWS2210000B	2 1/4	405	405	405	405	395	395	395	395	395	—	—	—

SDWS Timber Screw – Allowable Shear Loads – Spruce-Pine-Fir and Hem-Fir Lumber

Size (DIA x L) (in.)	Model No.	Thread Length (in.)	SP/DF Allowable Shear Loads (lb.) Wood Side Member Thickness (in.)											
			1.5	2	2.5	3	3.5	4	4.5	6	8			
0.22 x 3	SDWS223000B	1 1/2	190	—	—	—	—	—	—	—	—	—	—	—
0.22 x 4	SDWS224000B	2 1/4	385	285	215	—	—	—	—	—	—	—	—	—
0.22 x 5	SDWS225000B	2 1/4	405	290	290	250	195	—	—	—	—	—	—	—
0.22 x 6														

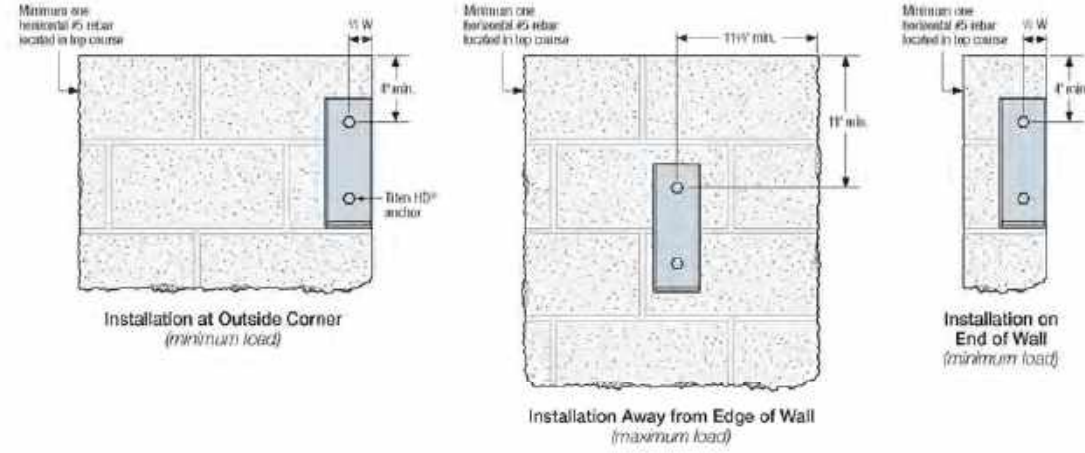
MBHU

Masonry Beam Face-Mount Hanger (cont.)

These products are available with additional corrosion protection. For more information, see p. 16. For stainless-steel fasteners, see p. 23.

Table with columns: Series Model No., Dimensions (in.), Fasteners, DF/SP Allowable Loads End of Wall / Outside Corner, DF/SP Allowable Loads Away from Edge, Code Ref.

- 1. Uplift loads have been increased for earthquake or wind loading with no further increase allowed. Reduce where other loads govern.
2. Concrete shall have a minimum compressive strength of f'c = 2,500 psi.
3. Drift-filled CMU (DFCMU) shall have a minimum compressive strength of Fm = 1,500 psi.
4. Structural composite lumber (SCL) shall have a minimum specific gravity of 0.5.
5. Allowable loads only apply to installation on 8" nominal grouted CMU walls, with a minimum of one horizontal #5 rebar located in the top course.
6. Products shall be installed such that Titen HD anchors are not exposed to exterior environments.
7. Allowable loads are based upon the tested ultimate load with a safety factor of 3.
8. Where noted in table, download listed is for end-of-wall condition. For outside-corner condition, download is 3,640 lb.
9. For stainless-steel MBHU models, use 1/2" Type 316 stainless-steel Titen HD anchors to achieve listed loads.
10. Fasteners: SDS screws are Simpson Strong-Tie Strong-Drive SDS Heavy-Duty Connector screws. See pp. 23-24 for fastener information.



MBHU

Masonry Beam Face-Mount Hanger

The MBHU beam hanger provides a face-mounted solution for connecting beams to masonry or concrete walls. A non-welded, one-piece connector, the MBHU is suitable for solid sawn and engineered wood beams as well as trusses. Installation is simplified because the Titen HD heavy-duty screw anchor and Strong-Drive SDS Heavy-Duty Connector screws are included with the hanger. Since the Titen HD anchor is installed after the wall is built, locating the anchor in the right spot is easier than with cast-in-place bolts.

Material: 10 gauge
Finish: Galvanized, available in stainless steel

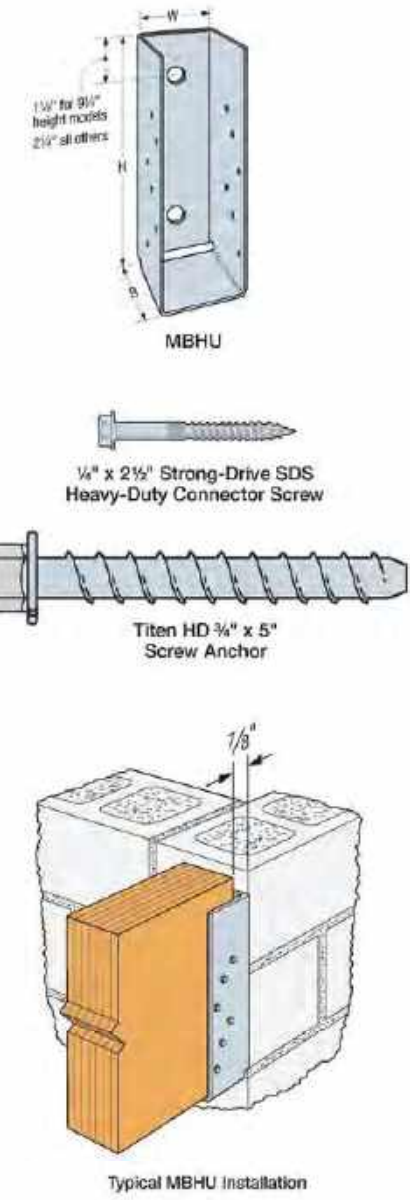
Installation: Use all specified fasteners included. Attach hanger to a concrete or grout-filled CMU wall using Titen HD anchors. Note the following:
- Drill holes using drill bits equal in diameter to the specified Titen HD anchor.
- Holes shall be drilled 1/8" deeper than the specified Titen HD length (i.e. 5/2" for a 5' long Titen HD anchor).
- Caution: Oversized holes in the base material will reduce or eliminate the mechanical interlock of the threads with the base material and will reduce the anchor's load capacity.

- Carbon-steel Titen HD is not recommended for exposed exterior applications.
Provide moisture barrier between beam and wall per jurisdictional requirements.
Codes: See p. 13 for Code Reference Key Chart
Web Applications: Visit app.strongtie.com/mbhu to access our MBHU Selector web application.

These products are available with additional corrosion protection. For more information, see p. 16. For stainless-steel fasteners, see p. 23.

Table with columns: Model No., Dimensions (in.), Width (W), Height (H)

- 1. Each galvanized MBHU hanger includes (2) 1/2" x 5" Titen HD anchors and (2) 1/2" x 2 1/2" Strong-Drive SDS Heavy-Duty Connector screws.
2. Each stainless-steel MBHU hanger includes (2) 1/2" x 5" Type 316 stainless-steel Titen HD anchors and (2) 1/2" x 2 1/2" stainless-steel Strong-Drive SDS Heavy-Duty Connector screws.



5 HARDWARE SPEC SHEET

General Load Tables

Screw Strength

Table with columns: Model No., Screw Size, Nominal Strength (lb.), Load Resistance Factor Design (LRFD) (lb.), Allowable Strength Design (ASD) (lb.), Shear, Tension, Shear + Tension, Shear, Tension, Shear + Tension

- 1. Table based on testing per AISI Standard Test Method S904-08.
2. Factor of Safety (FS) and Resistance Factor (phi) are determined per AISI S1000-07 Section F1.
3. Pn and Pnt are nominal shear strength and nominal tension strength values for the screw, respectively, and are also shown as the average (ultimate) values of all tests, determined by independent laboratory testing.

3 HARDWARE SPEC SHEET

4 HARDWARE SPEC SHEET

BC/BCS

Post Caps

The BCS allows for the connection of (2) 2x's to a 4x post or (3) 2x's to a 6x post. Double-shear nailing between beam and post gives added strength. The BCS series offers dual purpose post caps for light cap or base connections.
Material: 18 gauge
Finish: Galvanized. Some products available in ZMAX® coating.

- Installation: Use all specified fasteners; see General Notes. Do not install bolts into pilot holes. BCS - Install dome nails on beam; drive nails at an angle through the beam into the post below to achieve the table loads. BC - Install with 0.162" x 3 1/2" nails or 0.162" x 2 1/2" nails. Post bases do not provide adequate resistance to prevent members from rotating about the base and therefore are not recommended for non-top-supported installations (such as fences or unbraced carports). To tie multiple 2x members together, the designer must determine the fasteners required to join members to act as one unit without splitting the wood.

Codes: See p. 13 for Code Reference Key Chart

Web Applications: Visit app.strongtie.com/pbc to access our Post-to-Beam Selector web application.

These products are available with additional corrosion protection. For more information, see p. 16. For stainless-steel fasteners, see p. 23. Many of these products are approved for installation with Strong-Drive SD Connector screws. See pp. 302-306 for more information.

Table with columns: Model No., Dimensions (in.), Fasteners (in.), DF/SP Allowable Loads (160), Code Ref.

- 1. Allowable loads have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern.
2. Structural composite lumber (SCL) beams shall show after the wide flange or the edge of the lumber straddles across the narrow base. Values in the tables reflect installation into the wide face. See technical bulletin T-C-SCCLUM at strongtie.com for load reductions resulting from narrow-face installation.
3. Base shear loads assume that rods have full penetration into the supporting member. Loads do not apply to end-grain post installations.
4. Spaced beams, where the ends of two beams are supported by the wood post and connected to the BCS post cap connector, are not permitted.
5. Fasteners: Nail dimensions are listed diameter by length. See pp. 23-24 for fastener information.

2 HARDWARE SPEC SHEET

SHEET NOTES

- SEE SHEET G-011 FOR GENERAL NOTES
ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS

Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.
2:28 pm, Nov 21, 2025
REVIEWED
FOR COMPLIANCE WITH COUNTY BUILDING ORD. & CODES. THE STAMPING OF THIS DOCUMENT SHALL NOT BE HELD TO BE AN APPROVAL OF THE VIOLATIONS OF ANY COUNTY ORDINANCE OR STATE LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE BUILDING OFFICIAL.
By: Reginald George

ECB™

Elevated Column Base

The new ECB elevated column base for hollow columns or solid-sawn posts makes it easy to install waterproofing material on stacked balconies in multi-family buildings. It features a 2" standoff, providing enough room for moisture barrier material and a thin finish surface while still allowing for the 1" code-required standoff to prevent post decay. It features flexible anchorage options: four corner holes (screw down to wood) or one center hole (anchor to concrete). There are two model sizes for 6x6 and 8x8 posts.
Material: Base and tube - 7 gauge; seat - 12 gauge
Finish: Simpson Strong-Tie gray paint; available hot-dip galvanized (add HDG to model no.)

Installation: Use all specified fasteners; see General Notes. If using the single-anchor option (center hole), use 1/2" standard cut washers are required between the 1/2" anchor bolt or nut and the post base. If using the four-anchor option (corner holes), install anchors into slotted holes at slight angle, as close to vertical as post base geometry will allow.

- Concrete anchor options include Titen HD heavy-duty screw anchor, stainless-steel Titen HD heavy-duty screw anchor, SET-303™ or AT-303™ high-strength adhesive, or Titen Turbo™ concrete and masonry screw anchor; wood anchor options include Strong-Drive® SDS Heavy-Duty Connector screw.
Post bases do not provide adequate resistance to prevent members from rotating about the base, and therefore are not recommended for non-top-supported installations (such as fences or unbraced carports).

Codes: See p. 13 for Code Reference Key Chart

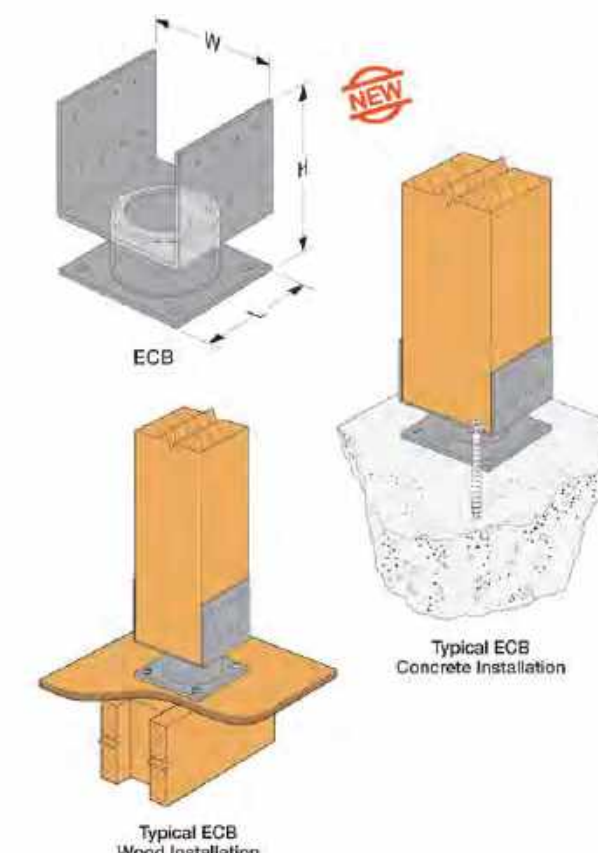


Table with columns: Model No., Column Size, Dimensions (in.), Fasteners (in.), Allowable Leads (lb.), Code Ref.

- 1. Uplift loads have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern.
2. Downloads may not be increased for short-term loading.
3. Specify tie to design wood or concrete support and anchorage for uplift loads.
4. Two 1/2" standard cut washers are required between the 1/2" anchor bolt or nut and the post base.
5. Downloads shall be reduced where limited by the allowable loads of the post.
6. Fasteners: Nail dimensions are listed diameter by length. See pp. 23-24 for fastener information.

1 HARDWARE SPEC SHEET

LEAL ROYCE CHARONNAT ARCHITECT+ENGINEERING
1-5TH AVE OAKLAND 94606
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OFFICE@CHARONNATDESIGN.COM

REGISTERED ARCHITECT
LEAL ROYCE CHARONNAT
C8901
EXPIRES MARCH 31, 2027

CONTACT ARCHITECT
PROJECT LOGO
PROJECT ADDRESS

SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
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SHEET INFORMATION
PROJECT NO: 891BELL_SB791
ISSUE: PERMIT ISSUE #1
DATE: AUG 11, 2024
SCALE: AS NOTED
FILE: 891_BELL_010
DRAWN BY: ME
CHECKED BY: LRC
CC LICENSE: © METADATA: INCLUDED

ISSUE HISTORY
4
3 ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

FRAMING HARDWARE
POST BASE & CAPS

SHEET NUMBER
S-703

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KBS1Z™

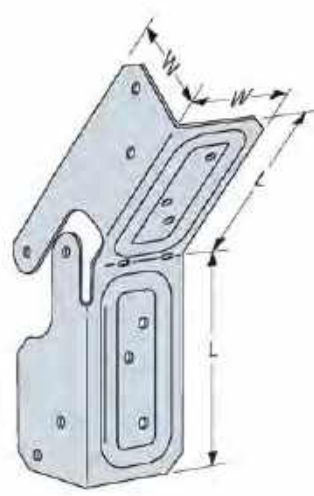
Knee-Brace Stabilizer

The KBS1Z knee-brace stabilizer makes a structural connection between knee bracing and columns or beams to help stabilize knee-bracing structures and comply with many prescriptive deck bracing requirements such as AWC's D048 Prescriptive Residential Wood Deck Construction Guide. Factory-formed at a 45° angle and easily installed with nails, the KBS1Z braces 2x, 4x and 6x in the post-to-beam configurations. Check with your local building department for deck bracing requirements.

Material: ZMAX™ coating
Finish: ZMAX™ coating

Installation:

- Use all specified fasteners; see General Notes.
- For installations at an angle other than 45°, bend KBS1Z along axis to desired angle. Bend one time only.
- Knee Brace:**
 - Cut braces at desired angle.
 - Bend KBS1Z to desired angle if required.
 - Install fasteners to secure in place.
 - For equal-width members, install (2) KBS1Z on each end of brace (see illustration 1 on p. 313).
 - For 2x knee brace, install single KBS1Z on each end of brace (see illustration 2 on p. 313).



KBS1Z
US Patent 9,345,895

- Alternate Post Cap Application:**
 - Install in pairs; see illustrations 3 or 4 for quantity and configuration.
 - Part used as a column cap; does not replace a knee brace.

Codes: See p. 13 for Code Reference Key Chart

Web Applications: Visit app.strongtie.com/rvs to access our Deck Planner Software™.

These products are available with additional corrosion protection. For more information, see p. 16.

Many of these products are approved for installation with Strong Drive® SD Connector screws. See pp. 362-366 for more information.

Model No.	Dimensions (in.)		Type of Connection	Connectors per Joint	Fasteners Each Connector	Direction of Load	Allowable Loads (lb)				Code Ref.	
	W	L					In-Service Moisture Content					
							≤ 19%	SPF/HF	DF/SP	SPF/HF		
KBS1Z	1 1/2	3	1	2	(2) 0.131" x 2 1/2"	F ₁ - Brace angle = 45°	1175	1,050	1,065	860	IBC, FL, LA	
							F ₁ - Brace angle = 30° or 60°	835	720	815		720
							F ₂ - Brace angle = 45°	630	544	478		385
							F ₂ - Brace angle = 30° or 60°	510	440	395		330
	2	4	2	4	(2) 0.131" x 2 1/2"	Lateral	1,725	1,480	1,725	1,480		
							Uplift	540	465	540		465
							Lateral	485	420	430		370
							Uplift	900	775	900		775
3	4	2	4	(2) 0.131" x 2 1/2"	Lateral	1,270	1,095	1,270	1,095			
						Uplift	340	285	340	285		
						Lateral	485	420	430	370		
						Uplift	900	775	900	775		

- Allowable loads have been increased for wind or earthquake loading with no further increase allowed. Provide where other loads govern.
- For braces installed at intermediate angles, allowable loads may be interpolated between loads listed for brace angles = 45° and those listed for brace angle = 30° or 60°.
- 4 1/2" x 1 1/2" Strong Drive SD Connector screws may be substituted for fasteners specified with no load reduction.
- Fasteners: Nail dimensions are listed diameter by length. See pp. 23-24 for full nail information.

H/TSP

Seismic and Hurricane Ties (cont.)

These products are available with additional corrosion protection. For more information, see p. 16.

For stainless-steel fasteners, see p. 23.

Many of these products are approved for installation with Strong Drive® SD Connector screws. See pp. 362-366 for more information.

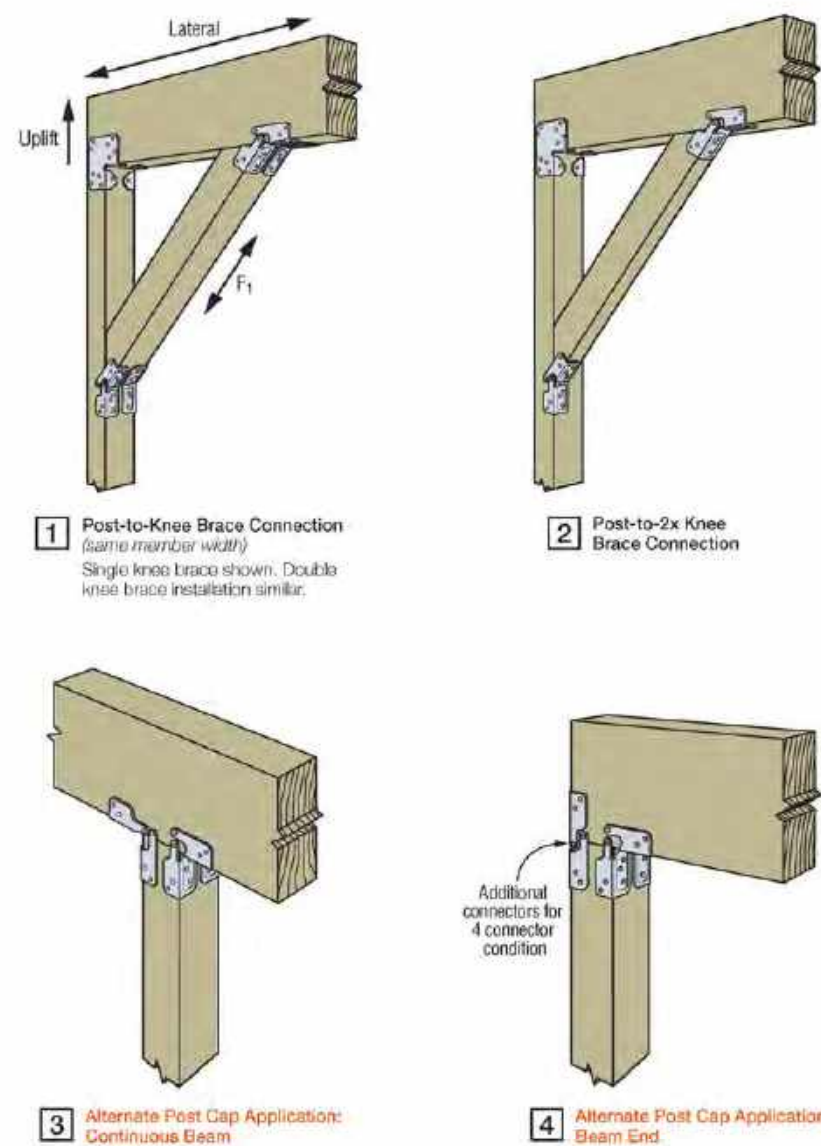
Model No.	Ga.	Fasteners (in.)			DF/SP Allowable Loads			SPF/HF Allowable Loads			Code Ref.	
		To Rafter/Truss	To Plates	To Studs	Uplift (160)	Lateral (160)	F ₂	Uplift (160)	Lateral (160)	F ₂		
												Nails (160)
H1B	18	(6) 0.131" x 1 1/2"	(6) 0.131" x 1 1/2"	---	545	420	265	---	476	398	265	IBC, FL, LA
H1BZ	18	(6) 0.131" x 1 1/2"	(6) 0.131" x 2 1/2"	---	540	440	170	---	465	390	130	---
H2A	18	(6) 0.131" x 1 1/2"	(7) 0.131" x 1 1/2"	(6) 0.131" x 1 1/2"	525	130	55	---	495	130	55	IBC, FL, LA
H2ASS	18	(6) 0.131" x 1 1/2"	(7) 0.131" x 1 1/2"	(6) 0.131" x 1 1/2"	400	130	55	---	345	130	55	345
H2SA	18	(6) 0.131" x 2 1/2"	(5) 0.131" x 2 1/2"	---	700	110	110	---	615	110	110	IBC, FL, LA
H2SASS	18	(6) 0.131" x 2 1/2"	(5) 0.131" x 2 1/2"	---	440	75	70	---	380	75	70	319
H2ST	18	(6) 0.131" x 2 1/2"	(5) 0.131" x 2 1/2"	---	590	135	145	---	480	135	145	475
H3	18	(4) 0.131" x 2 1/2"	(6) 0.131" x 2 1/2"	---	409	210	170	---	365	198	145	290
H3SS	18	(4) 0.131" x 2 1/2"	(6) 0.131" x 2 1/2"	---	290	145	120	---	275	100	85	210
H3 (to Plates)	16	---	(6) 0.131" x 2 1/2"	---	---	---	---	---	---	---	---	---
H3 (to Stud)	16	---	(6) 0.131" x 2 1/2"	---	---	---	---	---	---	---	---	---
H7Z	16	(4) 0.131" x 2 1/2"	(2) 0.131" x 1 1/2"	(6) 0.131" x 2 1/2"	830	410	---	---	715	355	---	---
H8	18	(5) 0.148" x 1 1/2"	(5) 0.148" x 1 1/2"	---	780	95	90	---	630	710	90	518
H8SS	18	(5) 0.148" x 1 1/2"	(5) 0.148" x 1 1/2"	---	610	90	120	---	440	70	50	325
H10A Field Bolt	18	(6) 0.148" x 1 1/2"	(6) 0.148" x 1 1/2"	---	780	365	285	---	760	400	285	IBC, FL, LA
H10A	18	(6) 0.148" x 1 1/2"	(6) 0.148" x 1 1/2"	---	1,040	565	285	---	1,015	495	285	---
H10ASS	18	(6) 0.148" x 1 1/2"	(6) 0.148" x 1 1/2"	---	970	565	170	---	835	485	170	---
H10AR	18	(6) 0.148" x 1 1/2"	(6) 0.148" x 1 1/2"	---	1,050	400	285	---	905	420	285	---
H10S	18	(6) 0.131" x 1 1/2"	(6) 0.131" x 1 1/2"	(6) 0.131" x 2 1/2"	910	660	215	---	785	570	385	475
H10A-2	18	(6) 0.148" x 1 1/2"	(6) 0.148" x 1 1/2"	---	1,080	680	260	---	930	585	225	---
H11Z	18	(6) 0.162" x 2 1/2"	(6) 0.162" x 2 1/2"	---	830	525	760	---	715	450	655	---
H14	18	(2) 0.131" x 1 1/2"	(1) 0.131" x 2 1/2"	---	1,275	725	285	---	1,050	490	245	---
TSP	16	(6) 0.148" x 1 1/2"	(6) 0.148" x 1 1/2"	---	1,340	670	230	---	1,050	480	245	IBC, FL, LA
		(6) 0.148" x 1 1/2"	(6) 0.148" x 3"	---	1,815	310	190	---	650	265	160	---

- See pp. 278-277 for Shape and Ties General Notes.
- Allowable loads are for one anchor. A minimum rafter thickness of 2 1/4" must be used when framing anchors are used on both side of the joist and on the same side of the plate location; connectors installed such that nails on opposite side don't interfere.
- Allowable DF/SP uplift load for stud-to-bottom plate installation (see detail 12) is 900 lb. (H2-SA), 265 lb. (H2-SASS), and 310 lb. (H5).
- For SPF/HF values, multiply these values by 0.50.
- Allowable loads in the F₂ direction are not intended to replace diaphragm boundary members and do not account for possible cross-grain bending of the truss or rafter members.
- When cross-grain bending or cross-grain flexure cannot be avoided in the members, mechanical reinforcement to resist such forces shall be considered by the designer.
- Southern pine allowable uplift loads for H10A = 1,100 lb. (H3), H2-SA with 0.131" x 1 1/2" nails = 635 lb. (H3) and H2-SA with 0.131" x 2 1/2" nails = 730 lb. (H3).
- H10S can have the stud offset a maximum of 1" from the rafter (center to center) for a required uplift of 600 lb. (DF/SP) and 765 lb. (SPF).
- H10S nails to plates are optional for uplift but required for lateral loads.
- Some load values for the stainless-steel connectors shown here are lower than those for the carbon-steel versions. Ongoing test programs have shown the need to be the case with other stainless-steel connectors in the product line that are installed with nails. Visit strongtie.com/rvs for updated information.
- The allowable loads of stainless-steel connectors match carbon-steel connectors when installed with stainless-steel Strong Drive SCHR Ring-Shank Connector nails. For more information, refer to engineering letter L-F-SNALS at strongtie.com.
- Strong Drive Tie offers stainless-steel Strong Drive SCHR Ring-Shank Connector nails. For bulk SCHR nails, see p. 369, for isolated SCHR nails, see p. 369. For general fastener information, see pp. 23-24.
- Allowable DF/SP/SPF uplift load for the H2-SA fastened to a 2x6 truss bottom chord and double top plates using five 0.131" x 1 1/2" nails in the top plate and three 0.131" x 1 1/2" nails in the lower truss single holes into the truss bottom chord is 910 lb. (160).
- For TSP installed stud-to-single plate see pp. 291-293.
- Fasteners: Nail dimensions are listed diameter by length. See pp. 23-24 for fastener information.
- Using Strong Drive SD Connector (SD3112) for 0.131" x 1 1/2" and 0.148" x 1 1/2" Strong Drive SD Connector (SD3012) for 0.131" x 2 1/2" and longer. Using Strong Drive SD Connector (SD3112) for 0.162" x 2 1/2" (and longer) will get the same load as nails.

HARDWARE SPEC SHEET

KBS1Z™

Knee-Brace Stabilizer (cont.)



HARDWARE SPEC SHEET

HARDWARE SPEC SHEET

H/TSP

Seismic and Hurricane Ties (cont.)

Strong Tie hardware ties provide a positive connection between truss/rafter and the wall of the structure to resist wind and seismic forces.

Material: Galvalume
 Finish: Galvalume, H1, H1Z, H7Z and H11Z - ZMAX™ coating. Some models available in stainless steel or ZMAX.

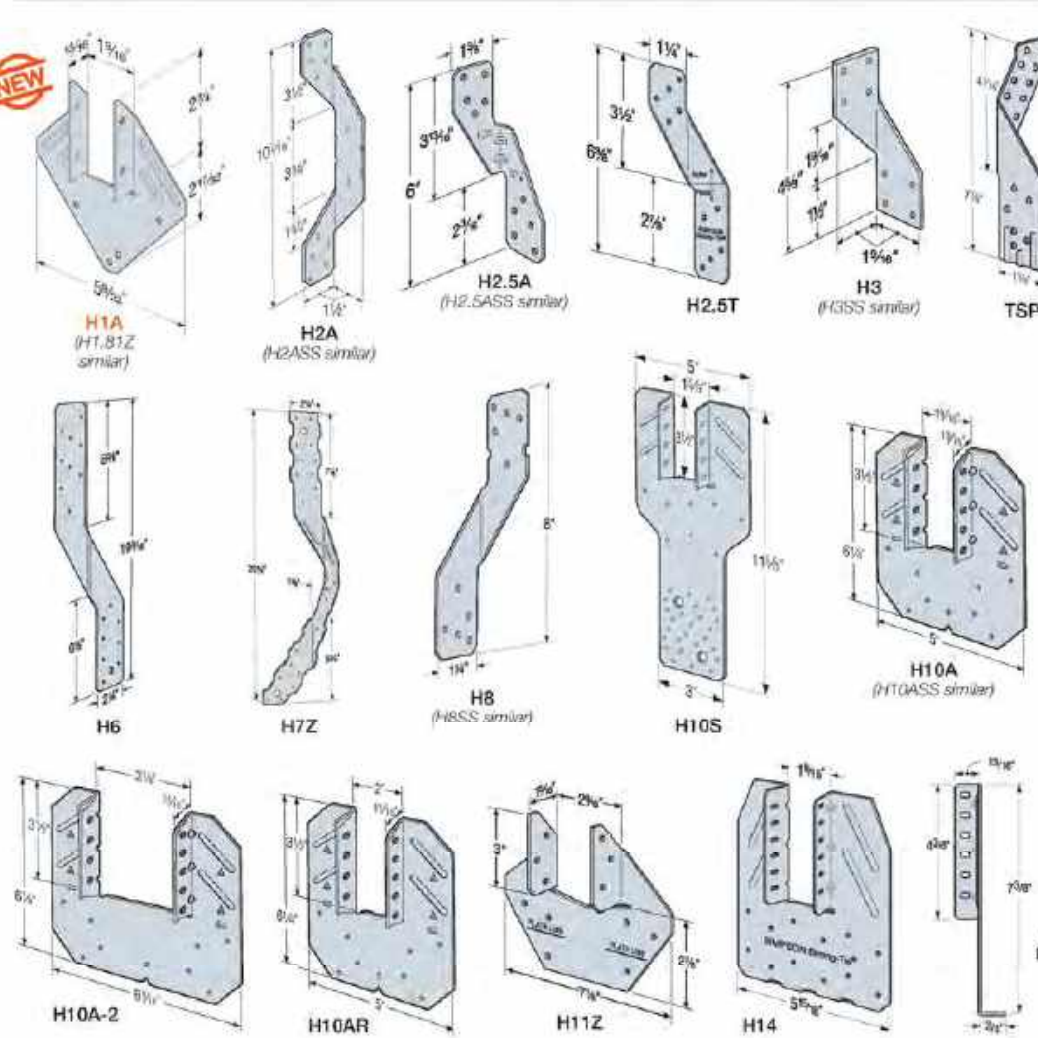
Installation:

- Use all specified fasteners; see General Notes.
- Hurricane ties can be installed with flanges facing inward or outward.
- H2.5T, H3 and H6 ties are shipped in equal quantities of right and left versions (right versions shown).

- Hurricane ties do not replace solid blocking.
- When installing ties on pitted trusses on the side opposite the truss plate(s) do not fasten through the truss plate from behind. This can cause the truss plate(s) to pull off the truss and compromise truss performance.
- H10A optional nailing connects shear blocking to rafter. Use 0.131" x 2 1/2" nails. Slots allow maximum field bending up to a pitch of 6/12; use H10A spaced loads for field-bent installation.

Codes: See p. 13 for Code Reference Key Chart

Web Applications: Visit app.strongtie.com/rvs to access our Rafter-to-Wall Selector web application.



HARDWARE SPEC SHEET

SHEET NOTES

- SEE SHEET G-011 FOR GENERAL NOTES
- ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS

CONTRA COSTA COUNTY
 BUILDING INSPECTION DIVISION
 PERMIT NUMBER
BIAL25-007297

2:28 pm, Nov 21, 2025

REVIEWED

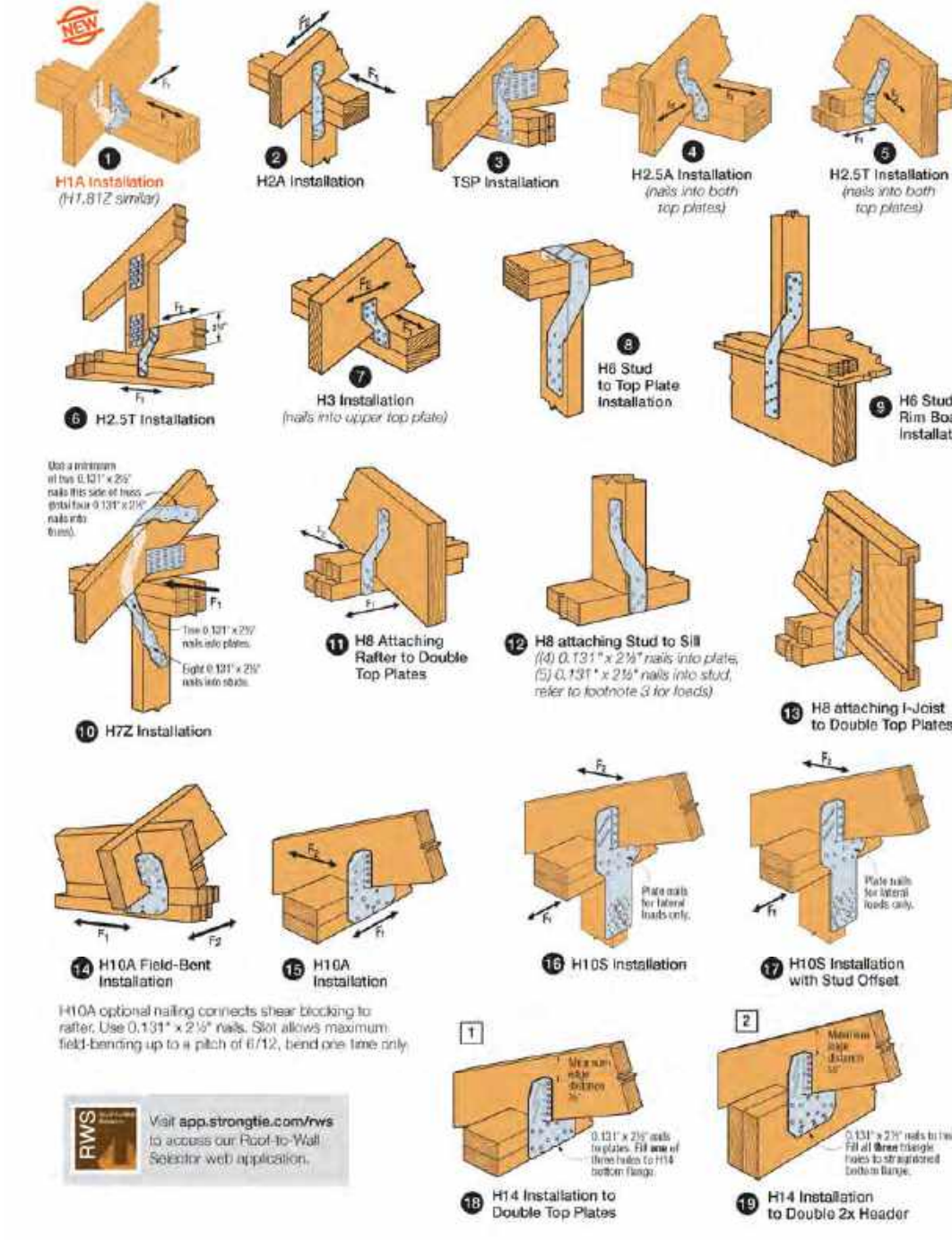
FOR COMPLIANCE WITH COUNTY BUILDING ORD. & CODES, THE STAMPING OF THIS DOCUMENT SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATIONS OF ANY COUNTY ORDINANCE OR STATE LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE BUILDING OFFICIAL.

By: Reginald George

Structural Reviewed
 By: Yisilayin Silifu
 3:26 pm, Oct 31, 2025

H/TSP

Seismic and Hurricane Ties (cont.)



HARDWARE SPEC SHEET

CERTIFIED DSA CAS# 21213

LEAL ROYCE CHARONNAT
 ARCHITECT+ENGINEERING

1-5TH AVE OAKLAND 94606
 510.436.3466 FAX 510.776.9966
 OFFICE@CHARONNATDESIGN.COM

REGISTERED ARCHITECT

LEAL ROYCE CHARONNAT
 ARCHITECT+ENGINEERING

EXPIRES MARCH 31, 2026

CONTACT ARCHITECT

PROJECT LOGO

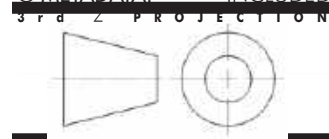
PROPERTY ADDRESS

SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
 891 893 895 897 BELL ST
 LAFAYETTE CA 94549
 APN 241-200-002

TOM PORTUE
 2336 Heritage Hills Dr
 Pleasant Hill CA 94523
 tportue@yahoo.com
 brianportue@gmail.com
 (925) 938-3900

SHEET INFORMATION

PROJECT NO: 891BELL_SB791
 ISSUE: PERMIT ISSUE #1
 DATE: AUG 11, 2024
 SCALE: AS NOTED
 FILE: 891_BELL_010
 DRAWN BY: ME
 CHECKED BY: LRC
 CC LICENSE: © METADATA: INCLUDED



ISSUE HISTORY

4 3ENG. UPDATE 09.20.25
 2 PERMIT APPLICATION 4.10.25
 1 PERMIT ISSUE 09.12.2024

FRAMING HARDWARE
SEISMIC TIES
KNEE BRACES

SHEET NUMBER
S-704

Face-Mount Hangers – Solid Sawn Lumber (DF/SP)

These products are available with additional corrosion protection. For more information, see p. 16. For stainless steel fasteners, see p. 23. Many of these products are approved for installation with Strong-Tie® SD Connector screws. See pp. 362-366 for more information.

Joist Size	Model No.	Ga.	Dimensions (in.)			Fasteners (in.)		DF/SP Allowable Loads (lb.)				Installed Cost Index (IC)	Code Ref.
			W	H	B	Header	Joist	Uplift (160)	Floor (100)	Snow (115)	Roof (125)		
Sawn Lumber Sizes													
2x4	LUS24	18	1 1/4	3 1/4	1 1/4	(4) 0.148 x 3 1/4	(2) 0.148 x 3 1/4	240	355	630	650	Lowest	
	LUS24-2	18	1 1/4	3 1/4	1 1/4	(4) 0.148 x 3 1/4	(2) 0.148 x 3 1/4	435	670	705	820	3%	
	LUS24-2	18	1 1/4	3 1/4	1 1/4	(4) 0.162 x 3 1/4	(2) 0.148 x 3 1/4	240	375	650	705	67%	
	HU26	14	1 1/4	3 1/4	2 1/4	(4) 0.162 x 3 1/4	(2) 0.148 x 3 1/4	305	595	670	720	29%	
2x6	LUS26	18	1 1/4	4 1/4	1 1/4	(4) 0.148 x 3 1/4	(4) 0.148 x 3 1/4	1,165	865	990	1,060	Lowest	
	LUS26-2	18	1 1/4	4 1/4	1 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	540	835	950	1,030	6%	
	LUS26-2	18	1 1/4	4 1/4	1 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	865	980	1,055	43%	
	LUC26Z	18	1 1/4	4 1/4	1 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	730	845	965	1,040	160%	
2x8	HU28	14	1 1/4	5 1/4	2 1/4	(4) 0.162 x 3 1/4	(2) 0.148 x 3 1/4	305	595	670	720	17%	
	HUS28	16	1 1/4	5 1/4	3	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,320	2,735	3,095	3,230	27%	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,030	1,170	1,265	Lowest	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	65%	
2x10	HUS28-2	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	755	1,190	1,345	1,440	233%	
	HUS28-2	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	1,785	2,015	2,165	254%	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,030	1,170	1,265	-	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	-	
2x12	LUS28-3	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	1,785	2,015	2,165	-	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.148 x 3 1/4	(4) 0.148 x 3 1/4	1,165	865	990	1,060	Lowest	
	LUS28	20	1 1/4	4 1/4	1 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	540	835	950	1,030	6%	
	LUS28	18	1 1/4	4 1/4	1 1/4	(4) 0.148 x 3 1/4	(4) 0.148 x 3 1/4	1,165	1,100	1,260	1,350	23%	
2x14	LUS28	20	1 1/4	4 1/4	1 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	550	1,110	1,180	1,380	39%	
	LUS28	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	865	980	1,055	43%	
	LUS28	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	730	845	965	1,040	160%	
	HUS28	16	1 1/4	5 1/4	3	(12) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,760	4,095	4,095	4,095	409%	
2x16	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,030	1,170	1,265	Lowest	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,060	1,315	1,490	1,610	8%	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	65%	
	HUS28-2	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,320	1,580	1,790	1,930	189%	
2x18	HUS28-2	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	755	1,490	1,680	1,800	397%	
	HUS28-2	14	1 1/4	4 1/4	2 1/4	(14) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	2,085	2,350	2,530	418%	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,315	1,490	1,610	-	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	-	
2x20	LUS28-3	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	1,785	2,015	2,165	-	
	LUS28-3	14	1 1/4	4 1/4	2 1/4	(14) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	2,085	2,350	2,530	-	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.148 x 3 1/4	(4) 0.148 x 3 1/4	1,165	1,100	1,260	1,350	23%	
	LUS28	20	1 1/4	4 1/4	1 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	550	1,110	1,180	1,380	39%	
2x24	LUS28	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	865	980	1,055	43%	
	LUS28	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	730	845	965	1,040	160%	
	HUS28	16	1 1/4	5 1/4	3	(12) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,320	2,735	3,095	3,230	27%	
	HUS28	16	1 1/4	5 1/4	3	(22) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,760	4,095	4,095	4,095	409%	
2x26	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,030	1,170	1,265	Lowest	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,060	1,315	1,490	1,610	8%	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	65%	
	HUS28-2	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,320	1,580	1,790	1,930	189%	
2x30	HUS28-2	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	755	1,490	1,680	1,800	397%	
	HUS28-2	14	1 1/4	4 1/4	2 1/4	(14) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	2,085	2,350	2,530	418%	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,315	1,490	1,610	-	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	-	
2x36	LUS28-3	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	1,785	2,015	2,165	-	
	LUS28-3	14	1 1/4	4 1/4	2 1/4	(14) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	2,085	2,350	2,530	-	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.148 x 3 1/4	(4) 0.148 x 3 1/4	1,165	1,100	1,260	1,350	23%	
	LUS28	20	1 1/4	4 1/4	1 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	550	1,110	1,180	1,380	39%	
2x42	LUS28	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	865	980	1,055	43%	
	LUS28	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	730	845	965	1,040	160%	
	HUS28	16	1 1/4	5 1/4	3	(12) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,320	2,735	3,095	3,230	27%	
	HUS28	16	1 1/4	5 1/4	3	(22) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,760	4,095	4,095	4,095	409%	
2x48	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,030	1,170	1,265	Lowest	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,060	1,315	1,490	1,610	8%	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	65%	
	HUS28-2	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,320	1,580	1,790	1,930	189%	
2x60	HUS28-2	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	755	1,490	1,680	1,800	397%	
	HUS28-2	14	1 1/4	4 1/4	2 1/4	(14) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	2,085	2,350	2,530	418%	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,315	1,490	1,610	-	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	-	
2x72	LUS28-3	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	1,785	2,015	2,165	-	
	LUS28-3	14	1 1/4	4 1/4	2 1/4	(14) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,135	2,085	2,350	2,530	-	
	LUS28-3	18	1 1/4	4 1/4	2	(4) 0.148 x 3 1/4	(4) 0.148 x 3 1/4	1,165	1,100	1,260	1,350	23%	
	LUS28	20	1 1/4	4 1/4	1 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	550	1,110	1,180	1,380	39%	
2x96	LUS28	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	865	980	1,055	43%	
	LUS28	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	730	845	965	1,040	160%	
	HUS28	16	1 1/4	5 1/4	3	(12) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,320	2,735	3,095	3,230	27%	
	HUS28	16	1 1/4	5 1/4	3	(22) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,760	4,095	4,095	4,095	409%	
2x108	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,060	1,030	1,170	1,265	Lowest	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	1,060	1,315	1,490	1,610	8%	
	LUS28-2	18	1 1/4	4 1/4	2	(4) 0.162 x 3 1/4	(4) 0.148 x 3 1/4	535	1,150	1,305	1,410	65%	
	HUS28-2	14	1 1/4	4 1/4	2 1/4	(4) 0.162 x 3 1/4	(4) 0.162 x 3 1/4	1,320	1,580	1,790	1,930	189%	
2x144	HUS28-2	14	1 1/4	4 1/4	2 1/4	(12) 0.162 x 3 1/4	(

SHEET NOTES

- SEE SHEET G-011 FOR GENERAL NOTES
- ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEETS

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297

THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.

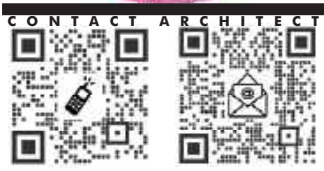
2:28 pm, Nov 21, 2025

REVIEWED
FOR COMPLIANCE WITH COUNTY BUILDING ORD. & CODES, THE STAMPING OF THIS DOCUMENT SHALL NOT BE HELD TO PERMIT OR TO BE AN APPROVAL OF THE VIOLATIONS OF ANY COUNTY ORDINANCE OR STATE LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE BUILDING OFFICIAL.

By: Reginald George

Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025

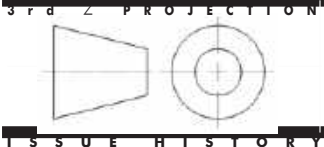
CERTIFIED P.S.A. CA 50 71213
LEAL ROYCE CHARONNAT
ARCHITECT+ENGINEERING
1-5TH AVE OAKLAND 94606
510.436.3466 FAX 877.769.9966
OFFICE@CHARONNATDESIGN.COM



PROPERTY OWNER
TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com
brianportue@gmail.com
(925) 938-3900

SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

SHEET INFORMATION
PROJECT NO: 891 BELL SB791
ISSUE: PERMIT ISSUE #1
DATE: AUG 11, 2024
SCALE: AS NOTED
FILE: 891_BELL_010
DRAWN BY: ME
CHECKED BY: LRC
CC LICENSE: © METADATA: INCLUDED



ISSUE HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

FRAMING HARDWARE
LSCZ ADJUSTABLE
CONNECTOR

SHEET NUMBER
S-707

LSC

Adjustable Stringer Connector

The LSC adjustable stair stringer connector offers a versatile, cross-grained connection between the stair stringer and the carrying header or rim board while replacing costly framing. Field applicable to all common stair stringer pitches, the LSC connector is suitable for either solid or notched stringers.

- Features:**
- Replaces additional framing and toe-railing.
 - May be installed flush with the top of the carrying member (typically suitable for 2x10 or 2x12 header / rim board) or lower on the face (typically suitable for a 2x12 header / rim board).
 - Interchangeable for left or right applications.
 - LSCZ features a ZMAX™ coating for additional corrosion protection. Suitable for interior and some exterior applications. LSCSS is made from stainless steel for higher exposure environment. See strongtie.com/info for more information.

Material: 16 gauge

Finish: LSCZ — ZMAX coating; LSCSS — stainless steel

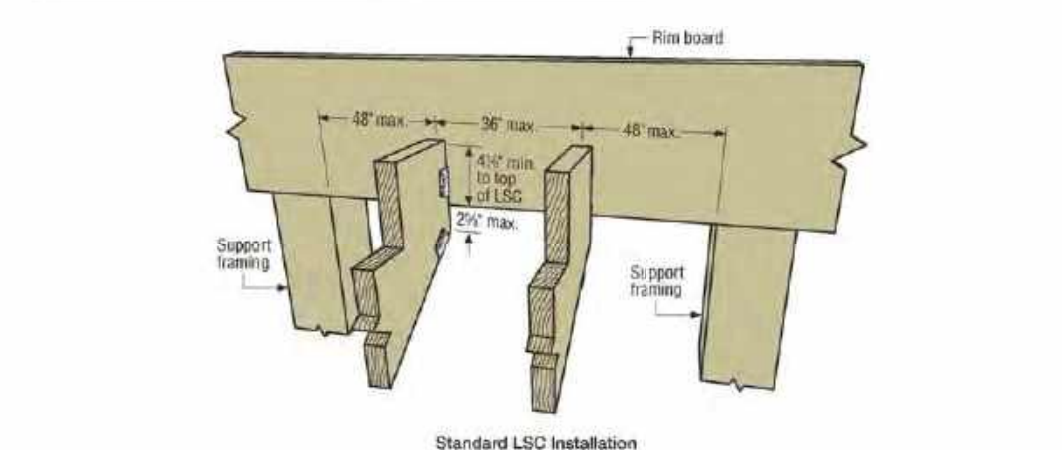
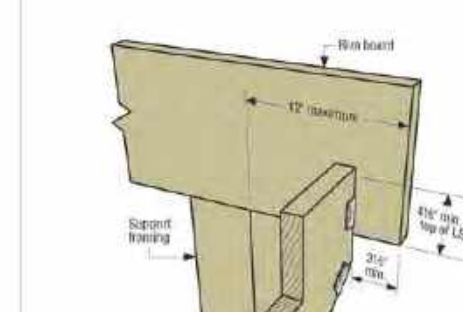
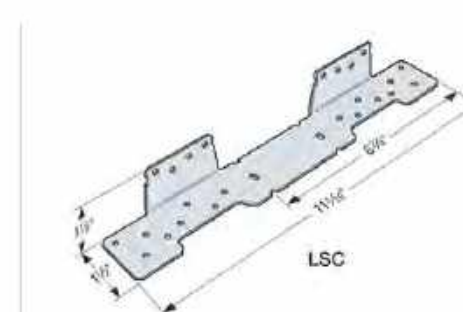
Installation:

- Use all specified fasteners, see table.
- Before fastening, position the stair stringer with the LSC on the carrying member to verify where the band should be located.
- The fastener is installed into the bottom edge of the stringer must go into the second to last hole.
- When installed on 1 1/4" LVL or a 1 1/2" LSL stringer, additional items that will not affect the structural performance of the LSC, but should be considered, include the following:
 - LSC stringer flange will protrude 1/4" from face of stringer. As such, it is recommended the LSC be installed with the tabs positioned to the outside of the stringer.
 - 1 1/2" fasteners installed into 1 1/4" LSL stringer will protrude from the opposite side.

Codes: See p. 13 for Code Reference Key Chart

Web Applications:

- Visit app.strongtie.com/dps to access our Deck Planner Software™.
- Visit app.strongtie.com/hs to access our Hanger Selector web application.



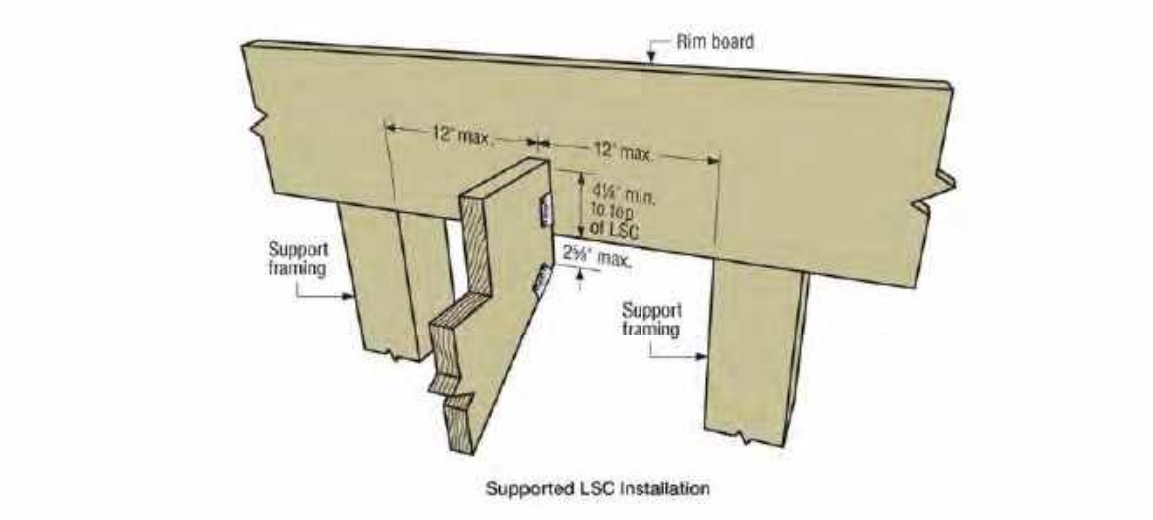
LSC

Adjustable Stringer Connector (cont.)

These products are available with additional corrosion protection. For more information, see p. 16. **SS** For stainless-steel fasteners, see p. 23. **SD** Many of these products are approved for installation with Strong-Drive® SD Connector screws. See pp. 362-369 for more information.

Model No.	Rim Board Installation	Fastener Schedule			DF/SP Allowable Loads		SPF/HF Allowable Loads		Code Ref.
		Rim Board	Stringer Wide Face	Stringer Narrow Face	Floor (100)	Snow (115)	Floor (100)	Snow (115)	
LSCZ LSCSS	Supported	(8) 0.148 x 1 1/2	(8) 0.148 x 1 1/2	(1) 0.148 x 1 1/2	845	865	815	825	IBC, FL, LA
	Supported	(8) #9 x 1 1/2" SD	(8) #9 x 1 1/2" SD	—	865	865	870	870	
	Standard	(8) 0.148 x 1 1/2	(8) 0.148 x 1 1/2	(1) 0.148 x 1 1/2	755	755	890	850	
	Standard	(8) #9 x 1 1/2" SD	(8) #9 x 1 1/2" SD	(1) #9 x 1 1/2" SD	755	755	850	850	
	Cantilever	(8) 0.148 x 1 1/2	(8) 0.148 x 1 1/2	(1) 0.148 x 1 1/2	460	460	395	395	
	Cantilever	(8) #9 x 1 1/2" SD	(8) #9 x 1 1/2" SD	—	545	545	445	445	

- When installed on minimum 1 1/4" LVL or minimum 1 1/2" LSL stringers, allowable loads for DF/SP shall apply.
- When cross-grain boarding or cross-grain tension cannot be avoided in the members, mechanical reinforcement to resist such forces shall be considered by the designer.
- #9 x 1 1/2" Strong-Drive SD Connector screws may be substituted for 0.148" x 1 1/2" nails to achieve published nail values if the extra screw is installed in the narrow face of the stringer.
- When LSC is installed at end of rim board over support framing, use standard knot.
- Fasteners: Nail dimensions are listed diameter by length. SD screws are Simpson Strong-Tie Strong-Drive SD Connector screws. See pp. 23-24 for fastener information.



1 HARDWARE SPEC SHEET

EVALUATION REPORT

Number: 280
Originally Issued: 01/18/2013 Revised: 09/16/2025 Valid Through: 01/31/2026

TABLE 2—ALLOWABLE LOADS FOR THE LSCZ ADJUSTABLE STRINGER CONNECTOR¹

MODEL NO.	RIM JOIST INSTALLATION	FASTENER SCHEDULE ² (Quantity—Type)			ALLOWABLE LOADS (lb/ft) ³	
		Rim Joist (in)	Stringer Wide Face (in)	Stringer Narrow Face (in)	C _{1p} =1.0	C _{1s} =1.15
LSCZ	Supported ⁴	8—10d x 1 1/2	8—10d x 1 1/2	1—10d x 1 1/2	945	960
		8—10d x 1 1/2	8—10d x 1 1/2	1—10d x 1 1/2	460	460

- For SF: 1 inch = 25.4 mm, 1 lb/ft = 4.45 N.
- Supported installations require rim joist bearing support within 12 inches of LSCZ.
 - A maximum rim joist end-over length of 12 inches measured from the face of the bearing support to the end of the rim joist is permitted for cantilever installation.
 - When cross-grain tension forces cannot be avoided in the members, mechanical reinforcement to resist such forces shall be considered.
 - A minimum distance of 7/8 inch measured from the lowest rim joist fastener to the edge of the rim joist is required.
 - A minimum distance of 7/8 inch measured from the LSCZ adjustable stringer connector tabs to the end of the rim joist is required.
 - The LSCZ has not been evaluated for torsional resistance.

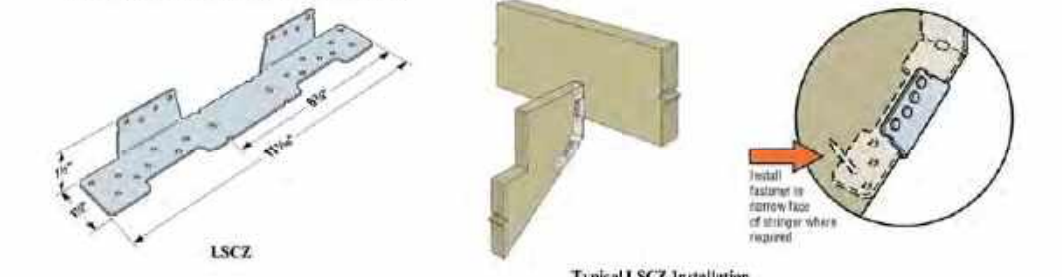


FIGURE 2—LSCZ ADJUSTABLE STRINGER CONNECTOR

TABLE 3—ALLOWABLE LOADS FOR THE DJT DECK JOIST TIE CONNECTOR

MODEL NO.	FASTENERS (Quantity—Type)		ALLOWABLE DOWNLOAD ¹ (lb)					
	Common Nails	Bolts ²	C _{1p} =1.00	C _{1s} =1.15	C _{1s} =1.25	C _{1p} =1.00	C _{1s} =1.15	C _{1s} =1.25
DJT14	8—16d	2—1/2" Ø MB	1,160	1,320	1,325	1,325		

- For SF: 1 inch = 25.4 mm, 1 lb/ft = 4.45 N.
- Tabulated allowable load capacities shall be selected based on the direction of load. C_{1s} as permitted by the IBC or IRC.
 - Loads are for one connector installed with nails or bolts, but not both. Allowable loads given for installation with nails and bolts are not conservative.
 - Marine bolts (MB) shall comply with ASTM/A325M, Structural B8.2.1, and either ASTM A325 or A325U.



FIGURE 3—DJT DECK JOIST TIE CONNECTOR

3 HARDWARE SPEC SHEET

2 HARDWARE SPEC SHEET

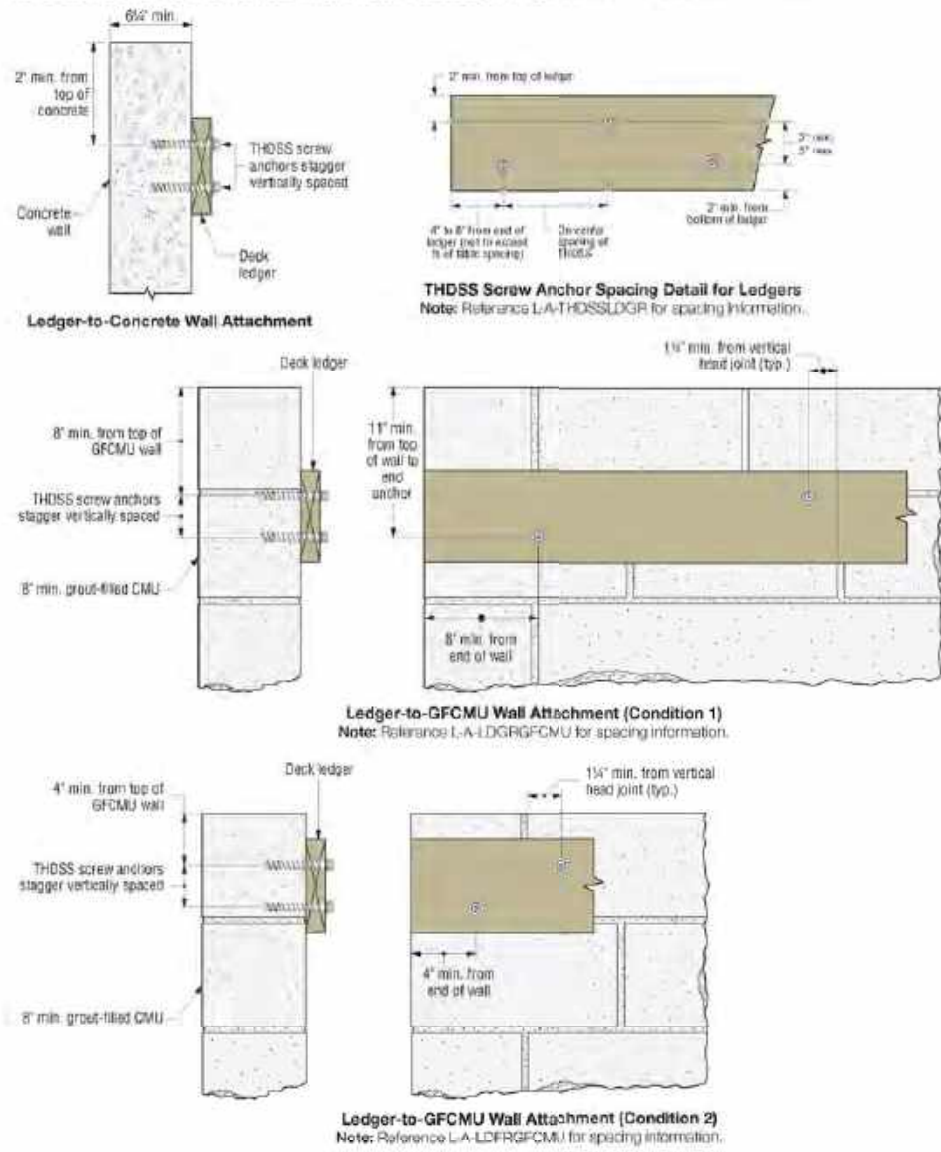
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Ledger Connections

Vertical Ledger Support at Concrete or Grout-Filled CMU

Titen HD® SS Stainless-Steel Anchor

The Simpson Strong-Tie® Stainless Steel Titen HD (THDSS) (see p. 20), may be used to attach a deck ledger (2x6 minimum) to either a concrete or grout-filled concrete masonry unit (GFCMU) wall in accordance with the International Residential Code (IRC). For more information, refer to L-A-THDSSLDGR for concrete walls, and L-A-LDGRGFCMU for GFCMU walls. The anchor is available in either Type 304 or Type 316 stainless steel.



TECHNICAL BULLETIN

Installation Options for Deck Lateral Load Connections

DTT2 — 1,500 lb. Assembly

Condition 1 — Floor Joist Framing Does Not Line Up with the Deck Joist (Figure 9)

The DTT2 may be installed with a maximum allowable offset of 1/2" when the joist is installed at least 3" above the floor joist. Larger offsets may require an additional deck joist be added to line up with the floor joist.

Condition 2 — Floor Joist Framing is Perpendicular to the Deck Joist (Figure 11)

Full-height blocking between joists is a common construction method when lateral load is applied perpendicular to floor framing. The blocking for this application would have to extend into the floor framing far enough to permit enough fasteners from the floor sheathing to transfer 1,500 lb. A 0.131" x 2 1/2" nail through 1 1/2" wood structural-panel floor sheathing (G = 0.50) into SPF or better blocking (G > 0.42) has an allowable lateral design value of 131 lb. (1.60 load duration factor). This installation would require 12 nails through the floor sheathing into the blocking. It is recommended that the blocking extend into the floor at least two joist bays and the DTT2 be installed in the nearest blocked bay (see Figure 10). When nails into the floor sheathing cannot be installed, see Condition 5 below.

Condition 3 — Floor Joist is a Wood Truss or I-Joist

The DTT2 must be installed on a minimum 2x wood member. Some wood truss and I-joint manufacturers have developed details to attach a horizontal 2x member to their product to transfer a 1,500 lb. lateral load. Contact the manufacturer of the engineered floor component for more information.

Condition 4 — Top of Deck Steps Down Below Top of Floor (Figures 11 and 12)

The DTT2 may be installed with as little as 4" of vertical overlap between the floor joist and deck joist heights. Note that the code-permitted connection between the deck ledger and band joist to support gravity loads will require much more overlap. When a step down results in a deck ledger that is attached to a concrete or grout-filled CMU foundation wall, the DTT2 may attach to a 1/2"-diameter anchor rod that is attached to the wall. Fasteners are not permitted to be supported by stone or masonry veneer. The anchorage and the wall should be designed to support a 1,500 lb. lateral load (see Figures 11 and 12).

Condition 5 — No Access to the Top of the Floor Sheathing (Figure 13)

When the floor sheathing-to-joist nailing specified in the IRC cannot be installed, an alternate connection capable of transferring 1,500 lb. to the floor sheathing is required. Simpson Strong-Tie has evaluated the A35 framing angle installed in 1/2" minimum plywood or OSB sheathing with P-8172 4x 1/2" pan-head screw. The installation shown in Figure 13 has an allowable lateral load of 420 lb. per A35 based on a 3.0 factor of safety. Use four A35 framing angles to meet the 1,500 lb. requirement. When fastened to full-height blocking (see Condition 2), use at least two A35 framing angles on each block.

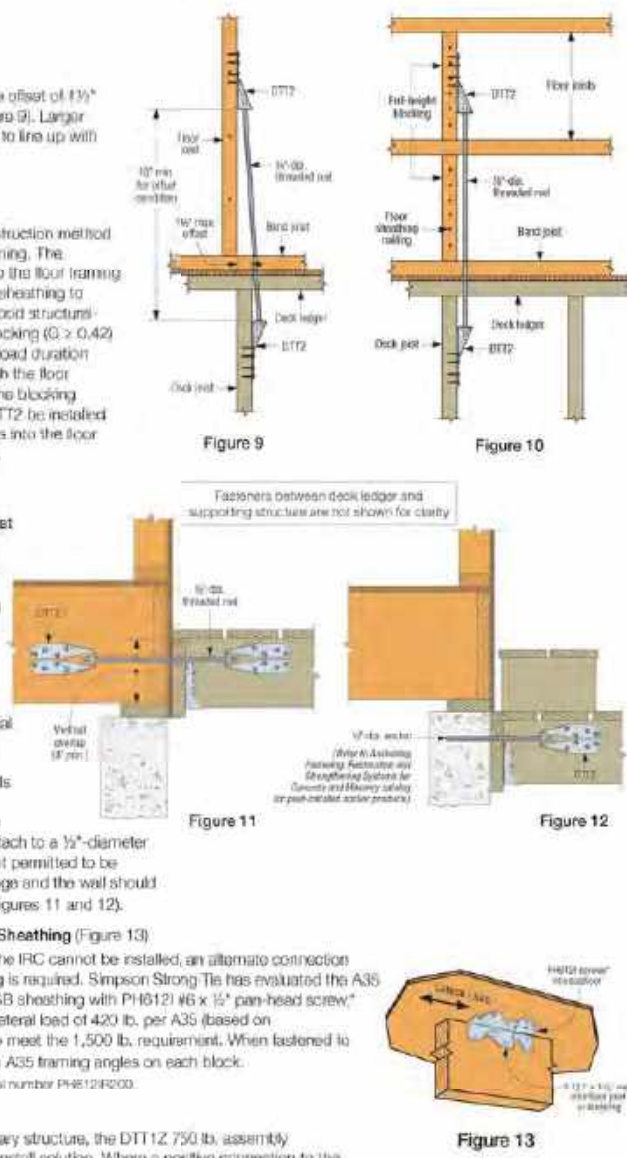
Condition 6 — No Access to Floor Joist

When there is no access to the floor joists in the primary structure, the DTT2 750 lb. assembly (as shown in this technical bulletin) offers an easy-to-install solution. Where a positive connection to the primary structure cannot be made or verified during inspection, the IRC requires the deck to be self-supporting.

This technical bulletin is effective until June 30, 2026, and subject information available as of March 1, 2024. This information is updated periodically and should not be relied upon after June 30, 2026. Contact Simpson Strong-Tie for current information and limited warranty of this technical bulletin.

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SHEET NOTES

① SEE SHEET G-011 FOR GENERAL NOTES

① DECK LEDGER CONNECTION TO BUILDING STRUCTURE - DETERMINE EXISTING CONDITIONS PRIOR TO INSTALLATION - SEE SHEET S-708 FOR CONNECTION OPTIONS, VERIFY WITH ARCHITECT PRIOR TO COMMENCING CONSTRUCTION

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297

THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO INSPECTORS AT ALL TIMES.

2:31 pm, Nov 21, 2025

REVIEWED

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By: Reginald George

Structural Reviewed
By: Yislayin Slatu
3:26 pm, Oct 31, 2025



VERIFY LEDGER
CONDITION WITH
ARCHITECT FOR
DECK LATERAL TIES



CONTACT ARCHITECT
PROJECT ADDRESS
SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK
891 893 895 897 BELL ST
LAFAYETTE CA 94549
APN 241-200-002

PROPERTY OWNER
TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com
brianportue@gmail.com
(925) 938-3900

SHEET INFORMATION
PROJECT NO: 891 BELL SB791
ISSUE: PERMIT ISSUE #1
DATE: AUG 11, 2024
SCALE: AS NOTED
FILE: 891_BELL_010
DRAWN BY: ME
CHECKED BY: LRC
CC LICENSE: © METADATA: INCLUDED

REVISION HISTORY
4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

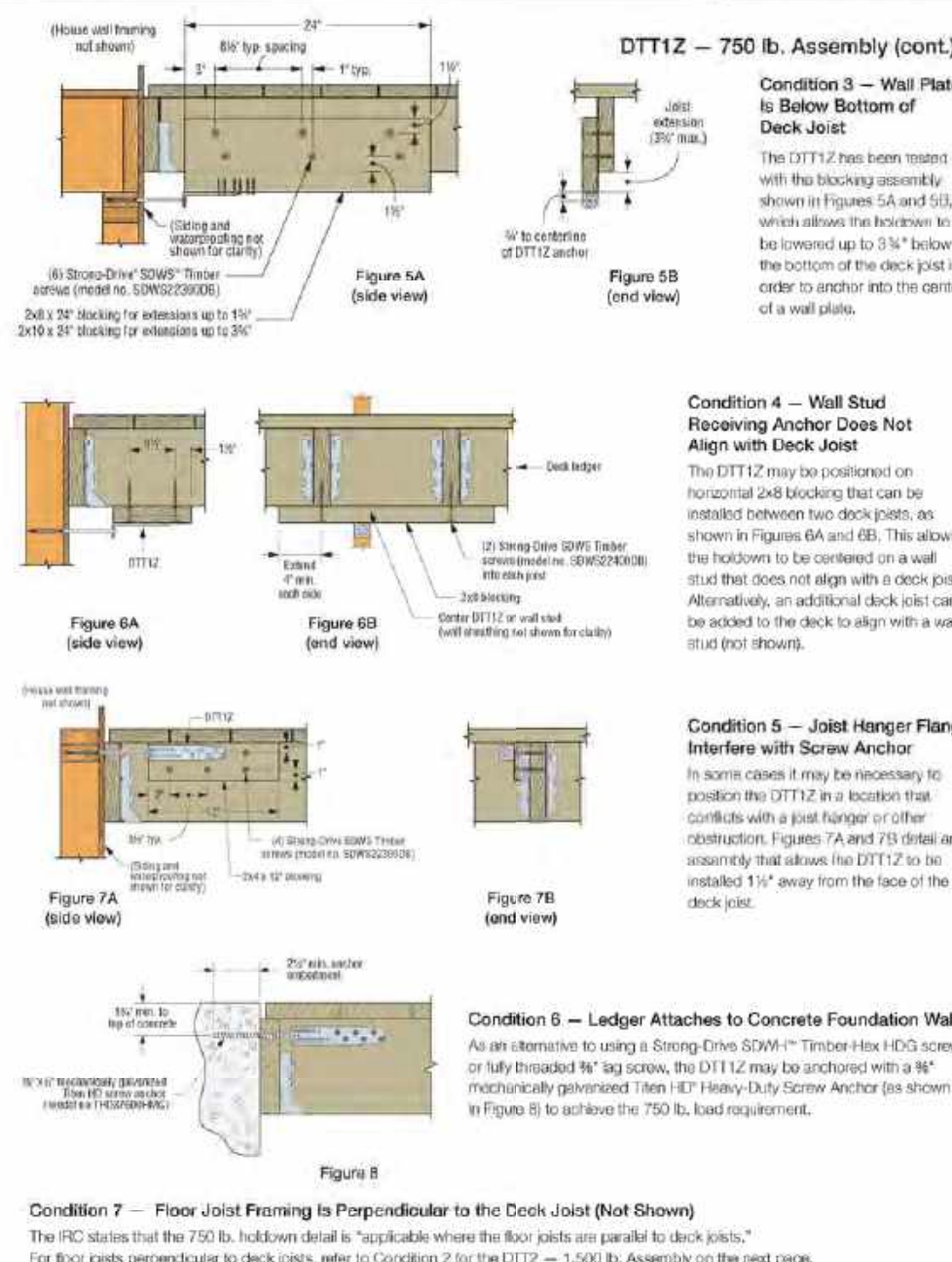
DECK LATERAL LOAD CONNECTORS

SHEET NUMBER
S-708

5 DECK LATERAL CONNECTIONS

TECHNICAL BULLETIN

Installation Options for Deck Lateral Load Connections



4 DECK LATERAL CONNECTIONS

TECHNICAL BULLETIN

Installation Options for Deck Lateral Load Connections

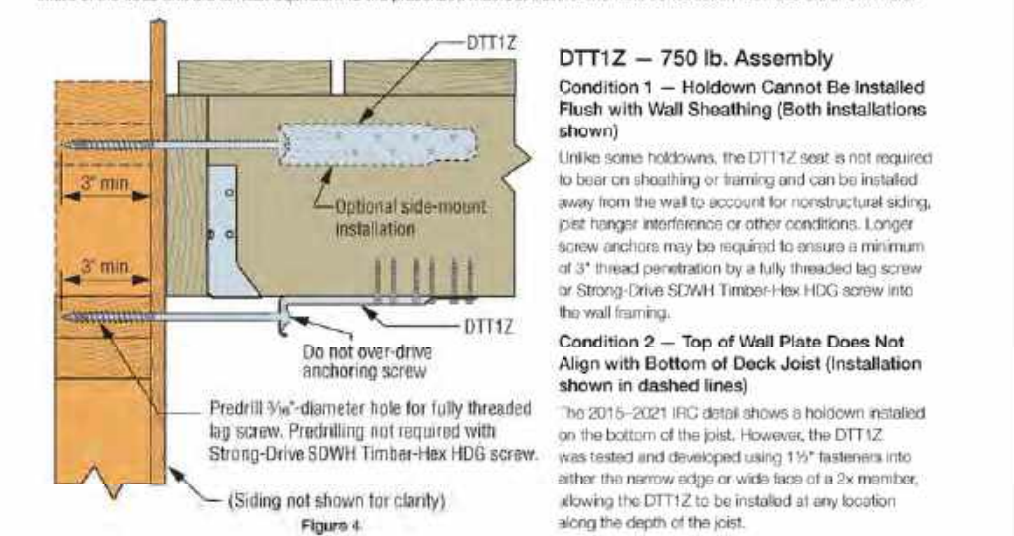
Allowable Loads

Model No.	Anchor Diameter or Type	Fasteners	Allowable Tension Load (lb.) (150)			
			DF/SP	SP/FAF	DF/SP	SP/FAF
DTT1Z	3/4" or SDWAF	(8) SD PD x 1 1/2"	840	840	840	750
		(8) 0.148" x 1 1/2"	910	940	790	640
		(8) 0.148" x 1 1/2"	910	850	910	850
DTT2Z	1/2"	(8) SDS 1/4" x 1 1/2"	1,625	1,800	1,625	1,615

- Allowable loads have been increased 60% for short-term loading with no further increase allowed.
- Dry values are applicable to installations into wood with a moisture content greater than 19% at time of installation or in service. Values include an NDS wet service factor for the fasteners.
- Wet values are applicable to installations into wood with a moisture content greater than 19% at time of installation or in service. Values include an NDS wet service factor for the fasteners.
- DTT1Z installers with allowable loads below 750 lb. do not satisfy the 2015-2021 IRC requirements for deck-to-house lateral load connections.
- The Strong-Drive® SDWAF™ Timber-Hex HDG screw with a min. of 3" thread penetration into dry lumber has an allowable withdrawal load (W) of 1,380 lb. into SP, 1,225 lb. into DF, and 1,020 lb. into SF/FAF.
- DTT1Z-KT includes (4) DTT1Z connectors, (4) Strong-Drive SDWAF™ Timber-Hex HDG screws and (20) 1/2" x 1 1/2" Strong-Drive SD Connector screws.
- Load values are valid if the product is flush with the end of the framing member or installed away from the end.
- Fasteners: Nail dimensions in the table are listed diameter by length. SD and SDS screws are Simpson Strong-Tie® Strong-Drive screws.

Conditions Not Shown in the IRC

The IRC details describe particular methods that are approved and do not represent all common framing conditions. When these are encountered, alternate methods of construction may need to be approved by the building official to ensure they satisfy the intent of the code and are at least equivalent to the prescribed method. Several alternate construction methods are shown here.



3 DECK LATERAL CONNECTIONS

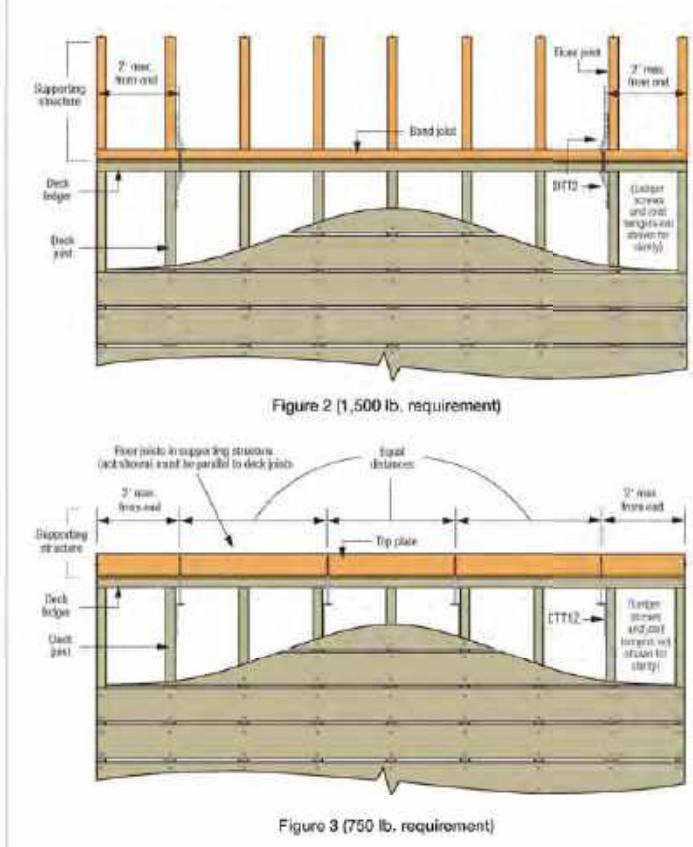
TECHNICAL BULLETIN

Installation Options for Deck Lateral Load Connections

Background

When loads are supported by the attachment to the primary structure, the International Residential Code (IRC) 2015 through 2021 (IRC) requires a positive attachment to resist lateral loads. These loads can result from wind or seismic forces acting on a deck or from movements of the deck's occupants. If the band joist, deck ledger or deck joists seem to pull away from the primary structure as a result of lateral forces, the deck would not be supported for gravity (vertical) loads and would likely collapse (see Figure 1).

To help builders achieve proper attachment, the IRC provides two approved methods. Both methods bypass the joist hanger connection, which is not tested or intended for the transfer of lateral loads. The first method uses holdown devices with a minimum allowable load of 1,500 lb. in at least two locations per deck. The 1,500 lb. holdowns connect a deck joist to a floor joist in the supporting structure that is nailed to the floor sheathing above (see Figure 2). The second method uses holdown devices with a minimum allowable load of 750 lb. in at least four locations per deck to fasten the deck joists to the top plate, studs or headers within the supporting structure using a fully threaded 1/2" lag screw (see Figure 3). The second method allows a positive attachment for the deck that is ideal when the house joists are inaccessible.



The Simpson Strong-Tie® DTT1Z and DTT2 deck tension ties have been developed to provide versatile and cost-effective solutions for these critical connections. The DTT1Z is supplied with a ZMAX® coating; the DTT2 is available in ZMAX, DTT2Q or stainless steel (DTT2SS).

The DTT2 satisfies the 1,500 lb. requirement and is installed in pairs. The DTT2 fastens to the wide face of the deck and house joists with Strong-Drive® SDS Heavy-Duty Connector screws (included), and the pair is anchored together with a 1/2" threaded rod (not included).

The DTT1Z satisfies the 750 lb. requirement and fastens to the narrow or wide face of the deck joist with Strong-Drive SD Connector screws or nails and attaches to the supporting structure with a fully threaded 1/2" lag screw and washer (not included) or a Strong-Drive SDWAF™ Timber-Hex HDG screw with an integral washer (SDWAF™ Timber-Hex HDG screw included in DTT1Z-KT).

2 DECK LATERAL CONNECTIONS

1 DECK LATERAL CONNECTIONS

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297
THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO
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BUILDING OFFICIAL.

By: Reginald George

Structural Reviewed
By: Yisilayin Silafu
3:26 pm, Oct 31, 2025

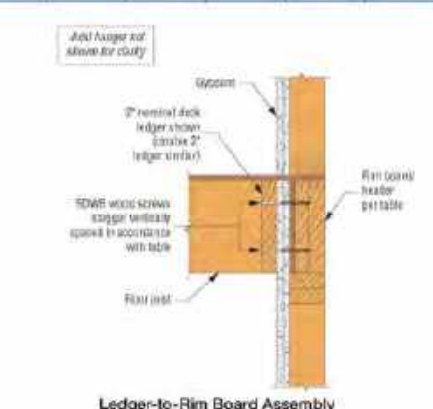
Ledger Structural Fastening Applications

Strong-Drive™ SDWS™ TIMBER Screw (Exterior Grade) with Gypsum Board Interlayer(s) (cont.)

SDWS Timber Screw (Exterior Grade) — 2024, 2021 and 2018 IRC Compliant Spacing for a Sawn Lumber Ledger to Rim Board with One or Two Layers of 5/8" Gypsum Board

Ledger Condition	Nominal Ledger Thickness (in.)	Model No.	Rim Board/Header Material and Minimum Size	Supported Joist Span							
				Up to 6 ft.	Up to 8 ft.	Up to 10 ft.	Up to 12 ft.	Up to 14 ft.	Up to 16 ft.	Up to 18 ft.	
40 pcf LVL 10 pcf Dead	2x	For one layer of gypsum board use: SDWS2400DB or SDWS2400DBB For two layers of gypsum board use: SDWS2250DB or SDWS2250DBB	1" OSB, 1" LVL	13	19	8	0	0	5	4	
			1 1/2" OSB, 1 1/2" LVL	15	11	9	8	7	8	5	
			2x SP, DFL, 2x SPF, HF	20	15	12	10	9	8	7	
60 pcf LVL 10 pcf Dead	2x	For one layer of gypsum board use: SDWS2400DB or SDWS2400DBB For two layers of gypsum board use: SDWS2250DB or SDWS2250DBB	1" OSB, 1" LVL	9	7	6	5	4	—	—	
			1 1/2" OSB, 1 1/2" LVL	11	8	7	5	5	4	4	
			2x SP, DFL, 2x SPF, HF	11	11	0	7	6	5	5	
40 pcf LVL 10 pcf Dead	(2) 2x	For one layer of gypsum board use: SDWS2260DB or SDWS2260DBB For two layers of gypsum board use: SDWS2260DB or SDWS2260DBB	1" OSB, 1" LVL	14	11	9	8	7	6	5	
			1 1/2" OSB, 1 1/2" LVL	15	11	9	8	7	6	5	
			2x SP, DFL, 2x SPF, HF	15	11	9	8	7	6	5	
60 pcf LVL 10 pcf Dead	(2) 2x	For one layer of gypsum board use: SDWS2260DB or SDWS2260DBB For two layers of gypsum board use: SDWS2260DB or SDWS2260DBB	1" OSB, 1" LVL	10	8	6	5	5	4	—	
			1 1/2" OSB, 1 1/2" LVL	11	8	6	5	5	4	4	
			2x SP, DFL, 2x SPF, HF	11	8	6	5	5	4	4	

- Sawn rim board shall be service-grade, hem-fir, Douglas fir-larch, or southern pine species. Ledger shall be hem-fir, Douglas fir-larch, or southern pine species.
- Fastener spacing is based on the lesser of single fastener ICC-ES AC208 testing of the Strong-Drive SDWS™ screws with a safety factor of 1.5 or ledger assembly testing based on ICC-ES AC13 with a safety factor of 5.0. Spacing does not include NDS w/ safety factor adjustment.
- Multiple ledger plies shall be fastened together per code independent of the SDWS screws.
- SDWS screw spacing values are equivalent to 2024/2021/2018 IRC Table R507.3.1(3) and 2012/2015 IRC Table R507.2. The table also provides SDWS screw spacing for a wider range of materials commonly used for rim boards, and an alternate ledger condition as required by some jurisdictions.
- Screws shall be placed 1.5" to 2" from the top and bottom of the ledger or rim board with 2" minimum and 10" maximum vertical distance between fasteners with horizontal on-center spacing per the table. End screws shall be located 0" from the end and at 1.5" to 2" from the bottom of the ledger. For screws located at least 2" but less than 6" from the end, use 50% of the load per screw and 50% of the table spacing between the end screw and the adjacent screw, and for screws located between 2" and 4" from the end, provide a 1/4" drill bit.
- The design installation permits a wood structural panel (WSP) interlayer in addition to one or two layers of gypsum board, if present, the WSP shall be a maximum of 1/2" thick, adjacent to the framing and fastened directly to the framing per the code.
- Gypsum board must be attached as required per the building code.
- Visit strongdrive.com/drawings and search for SD1-L for additional ledger fastening detail sheets and load tables in DWG, PDF or DXF format.



5 DECK LATERAL CONNECTIONS

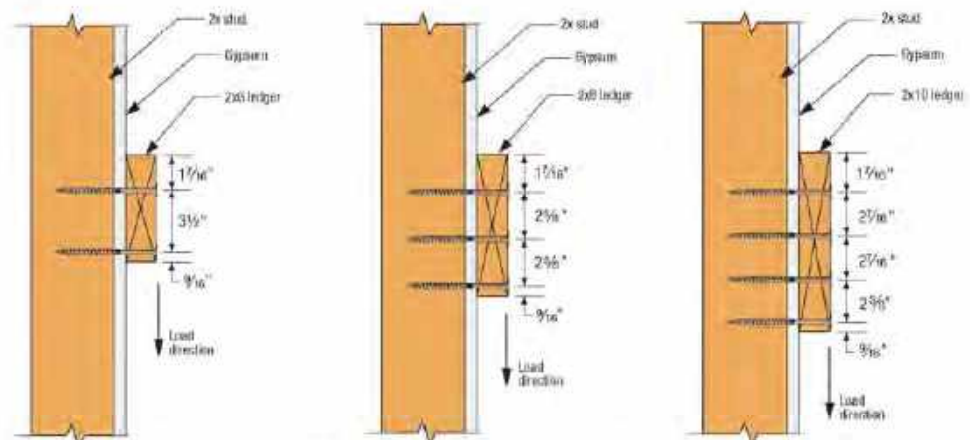
Ledger Structural Fastening Applications

Strong-Drive™ SDWS™ TIMBER Screw (Exterior Grade) with Gypsum Board Interlayer(s)

SDWS Timber Screw (Exterior Grade) — Allowable Shear Loads for Ledger Attachment to Studs with One or Two Layers of 5/8" Gypsum Board

Fastener Length (in.)	Model No.	Ledger Size (in.)	Number of Screws per Stud	Reference Allowable Shear Loads (lb.)		
				SP	DFL	SPF/HF
6	SDWS2400DB SDWS2400DBB	2x6	2	310	410	385
		2x8	3	490	680	515
		2x10	4	—	675	675

- Allowable loads shall be limited to parallel-to-grain loaded solid sawn main members (minimum 2" nominal). Wood side members shall be loaded perpendicular to grain.
- Allowable loads are based on DFL, SPF/HF, and SP wood members having a minimum specific gravity of 0.50, 0.42, and 0.55, respectively. Where the side and main members have different specific gravities, the lower value shall be used.
- Allowable loads are shown at the wood load duration factor of $C_D = 1.00$. Loads may be increased for load duration as permitted by the building code up to a $C_D = 1.92$. All adjustment factors shall be applied per NDS-2024. For in-service moisture content greater than 19%, use $C_M = 0.70$.
- Fasteners shall be centered in the stud and spaced as shown in the figure. The ledger minimum end distance is 6". The stud minimum end distance is 6" when the load is toward the end and 2 1/4" when the load is away from the end.
- Screws may be installed with an interlayer of wood structural panel (WSP) between the framing and the gypsum panel. When a WSP is present, it shall be a maximum of 1/2" thick, adjacent to the framing and fastened directly to the framing per code. Minimum screw penetration into the framing of 2 1/8" shall be required. Longer screw lengths shall be used to achieve the required penetration.
- For LFD values, the reference connection design values shall be adjusted in accordance with NDS-2024, section 11.3.
- For 2x10 SP ledgers, use the number of screws and allowable loads of the 2x8 SP ledger.
- For 2x6 ledgers with two screws, use 2x6 values. For 2x10 ledgers with three screws, use 2x8 values. Spacing and edge distances shown in the figure are minimum dimensions.
- For loads in the opposite direction from that shown in the figure, use the table values multiplied by 0.50 for two-screw connections, 0.67 for three-screw connections, and 0.75 for four-screw connections.
- Gypsum board must be attached as required per the building code.
- For a ledger and distance between 2" and 6", use 50% of load and provide with 1/4" drill bit.
- Visit strongdrive.com/drawings and search for SD1-L for additional ledger fastening detail sheets in DWG, PDF or DXF format.
- Fastener loads are based on the lesser of single fastener ICC-ES AC208 testing with a safety factor of 5.0 or ICC-ES AC13 assembly testing with a factor of safety of 5.0.



Note: Minimum stud dimension is nominal 2x6.

Notes to Installer Regarding the Attachment of Ledgers to Studs:
The screws must be installed into the middle of the stud with a tolerance of 1/4" either side of center. Various methods can be used to ensure proper placement of the screws in the stud including snapping a chalk line, using a stud finder or predrilling (attaching only a strip of gypsum at the ledger location until the ledger is fastened to the studs). If proper screw placement into the stud cannot be achieved in the field, blocking should be installed between studs to receive and support the ledger screws.

3 DECK LATERAL CONNECTIONS

4 DECK LATERAL CONNECTIONS

Ledger Structural Fastening Applications

Strong-Drive™ SDWS™ TIMBER Screw (Exterior Grade) in Ledger-to-Stud Applications

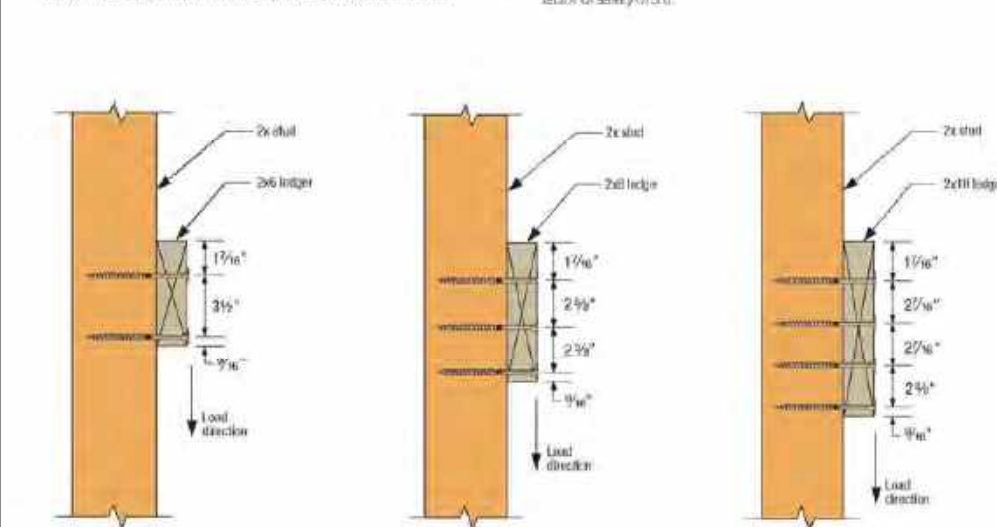
Strong-Drive SDWS Timber screws may be used to attach a ledger to the narrow face of nominal 2x lumber studs according to the following table. Model numbers with SDWS2xxxxDB indicate tin double-barrier coating; SDWS2xxxxDBB indicate black double-barrier coating.

For more information: see p. 58, C-F-2025 Fastening Systems catalog

SDWS Timber Screw (Exterior Grade) — Allowable Shear Loads for Ledger to Studs

Fastener Length (in.)	Model No.	Ledger Nominal Size (in.)	Number of Screws per Stud	Reference Allowable Shear Loads (lb.)		
				SP	DFL	SPF/HF
4	SDWS2400DB SDWS2400DBB	2x6	2	785	630	565
		2x8	3	1,020	890	850
		2x10	4	—	1,340	1,340

- Allowable loads shall be limited to parallel-to-grain loaded solid sawn main members (minimum 2" nominal). Wood side members shall be loaded perpendicular to grain.
- Allowable loads are based on DFL, SPF/HF, and SP wood members having a minimum specific gravity of 0.50, 0.42, and 0.55, respectively. Where the side and main members have different specific gravities, the lower value shall be used.
- Allowable loads are shown at the wood load duration factor of $C_D = 1.00$. Loads may be increased for load duration as permitted by the building code up to a $C_D = 1.92$. All adjustment factors shall be applied per NDS-2024. For in-service moisture content greater than 19%, use $C_M = 0.70$.
- Fasteners shall be centered in the stud and spaced as shown in the figure. The stud minimum end distance is 6" when loaded toward the end and 2 1/4" when loaded away from the end. The ledger end distance is 6" for all ledgers. For longer end distances between 2" and 6", use 50% of the table loads. For end distances between 2" and 4", provide a 1/4" drill bit for SDWS.
- Screws may be installed with an interlayer of wood structural panel between the side and main member provided the wood structural panel is fastened to the main member per code and the minimum screw penetration of 2 1/8" into the main member (excluding the wood structural panel) is met. Longer lengths of the screw series may be used.
- For LFD values, the reference connection design values shall be adjusted in accordance with the NDS-2024, section 11.3.
- For 2x10 SP ledgers, use the number of screws and allowable loads of the 2x8 SP ledger.
- For 2x6 ledgers with two screws, use 2x6 values. For 2x10 ledgers with three screws, use 2x8 values. Spacing and edge distances shown in the figure are minimum dimensions.
- For loads in the opposite direction from that shown in the figure, use the table values multiplied by 0.50 for two-screw connections, 0.67 for three-screw connections, and 0.75 for four-screw connections.
- Visit strongdrive.com/drawings and search for SD1-L for additional ledger fastening detail sheets and load tables in DWG, PDF or DXF format.
- Fastener loads are based on the lesser of single fastener ICC-ES AC208 testing with a safety factor of 5.0 or ICC-ES AC13 assembly testing with a factor of safety of 5.0.



2 DECK LATERAL CONNECTIONS

SHEET NOTES

① SEE SHEET G-011 FOR GENERAL NOTES

① DECK LEDGER CONNECTION TO BUILDING STRUCTURE - DETERMINE EXISTING CONDITIONS PRIOR TO INSTALLATION - SEE SHEET S-708 FOR CONNECTION OPTIONS, VERIFY WITH ARCHITECT PRIOR TO COMMENCING CONSTRUCTION

② SEE S-709.1 FOR TIE OPTIONS

③ SEE SHEETS S-510, S-511, S-512 FOR FLASHING REQUIREMENTS



VERIFY LEDGER
CONDITION TO
DETERMINE
LATERAL TIES

Lateral Connection to Primary Structure

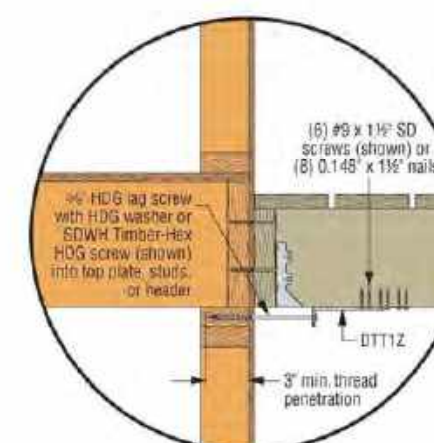
Lateral Support at Band Joist

For decks that are partially supported by an adjacent structure (such as a house), the connection between the deck and that structure is vital. A bolted or screwed ledger-to-rim board connection is suitable to support gravity loads; however, in some cases the building codes require a connection that is able to resist lateral loads. In these situations, tension ties are typically called out to tie the joists of the deck directly to the structure.

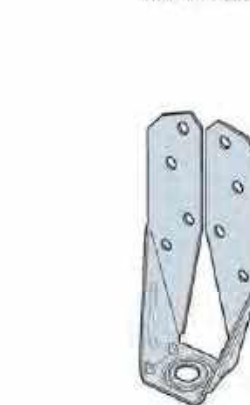
DTT deck tension ties are a safe, cost-effective solution designed to meet or exceed lateral-load code requirements for deck construction.

DTT1Z satisfies the 2018/2021 IRC provision for a 750 lb. lateral-load connection to the house at four locations per deck. This code detail permits the lateral connection from the deck joists to be made to top plates, studs or headers within the supporting structure.

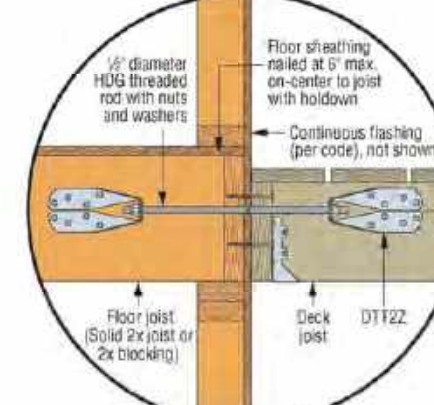
DTT2 can be used to satisfy the 2018/2021 IRC provision for a 1,500 lb. lateral-load connection at two locations per deck.



IRC 2018/2021 Figure R507.9.2(2)
Typical DTT1Z Deck-to-House Lateral-Load Connection



DTT2 Deck Tension Tie
(available in 2x10x6\"/>



IRC 2018/2021 Figure R507.9.2(1)
Typical DTT2 Deck-to-House Lateral-Load Connection

1 DECK LATERAL CONNECTIONS

CERTIFIED P.S.A. C.A.S. 71213

LEAL ROYCE CHARONNAT
ARCHITECT+ENGINEERING

1-5TH AVE OAKLAND 94606
510-432-4646 FAX 877-769-9940
OFFICE@CHARONNATDESIGN.COM

REGISTERED ARCHITECT

LEAL ROYCE CHARONNAT
ARCHITECT
C8901

EXPIRES MARCH 31, 2026

CONTACT ARCHITECT

PROJECT LOGO

PROJECT ADDRESS

SB-721 REPORT
BALCONY & LEDGER DECK
REPAIR WORK

891 893 895 897 BELL ST
LAFAYETTE CA 94549

APN 241-200-002

TOM PORTUE
2336 Heritage Hills Dr
Pleasant Hill CA 94523
tportue@yahoo.com
brianportue@gmail.com
(925) 938-3900

SHEET INFORMATION

PROJECT NO: 891BELL_SB791
ISSUE: PERMIT ISSUE #1
DATE: AUG 11, 2024
SCALE: AS NOTED
FILE: 891_BELL_010

DRAWN BY: ME
CHECKED BY: IRC
CC LICENSE: © METADATA: INCLUDED

ISSUE HISTORY

4 3ENG. UPDATE 09.20.25
2 PERMIT APPLICATION 4.10.25
1 PERMIT ISSUE 09.12.2024

DECK LATERAL LOAD CONNECTORS

S-709

CONTRA COSTA COUNTY
BUILDING INSPECTION DIVISION
PERMIT NUMBER
BIAL25-007297

THESE PLANS MUST BE KEPT ON THE PREMISES AND ACCESSIBLE TO
INSPECTORS AT ALL TIMES.

2:31 pm, Nov 21, 2025

REVIEWED
FOR COMPLIANCE WITH COUNTY BUILDING ORD. & CODES, THE STAMPING
OF THIS DOCUMENT SHALL NOT BE HELD TO PERMIT OR TO BE AN
APPROVAL OF THE VIOLATIONS OF ANY COUNTY ORDINANCE OR STATE
LAW. NO CHANGES SHALL BE MADE WITHOUT AUTHORIZATION FROM THE
BUILDING OFFICIAL.

By: Reginald George

Structural Reviewed
By: Yisilayn Silafu
3:26 pm, Oct 31, 2025

CCQ™/ECCQ™

Column Caps

This product is preferred to similar connectors because of (a) easier installation, (b) higher loads, (c) lower installed cost, or a combination of these features.

Column caps provide a strong connection for column-beam combinations. This design uses Strong-Tie® SDS Heavy-Duty Connector screws to provide faster installation and provides a greater nail-suction area of the column compared to bolts. The SDS screws provide for a lower profile compared to standard through bolts.

Materials: CCQ3, ECCQ3, CCQ4, ECCQ4, CCQ4.62, ECCQ4.62, CCQ6, ECCQ6 — 7 gauge; all others — 3 gauge

Finish: Simpson Strong-Tie gray paint; available in HDG and stainless steel; CCQ3 and ECCQ3 — no coating

Installation:

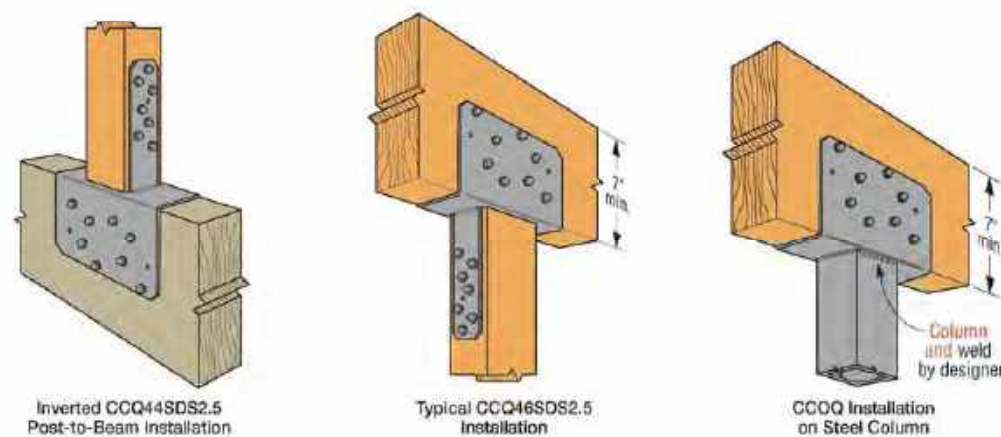
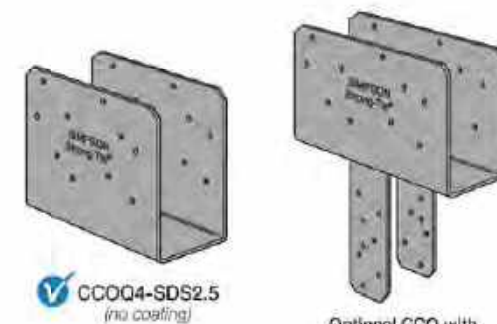
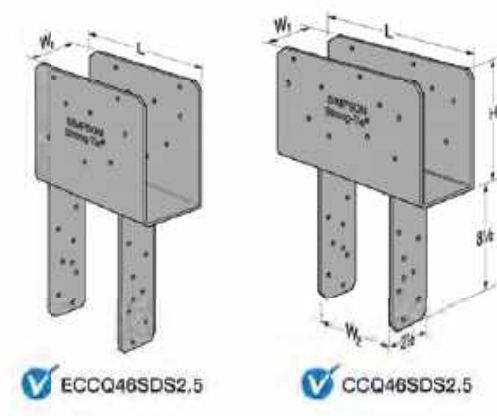
- Install 1/4" x 2 1/2" Strong-Tie SDS Heavy-Duty Connector screws, which are provided with the column cap. (Lag screws will not achieve the same load.) Install stainless-steel Strong-Tie screws with stainless-steel connectors.
- CCQ3 and ECCQ3 column caps only (no straps) may be ordered for field-welding to pipe or other columns. Dimensions are same as CCQ and ECCQ. Weld by designer.
- For rough-cut lumber sizes, provide dimensions. An optional W₂ dimension may be specified with any column size given. (Note that the W₂ dimension on straps rotated 90° is limited by the W₁ dimension.)

Options:

- For end conditions, specify ECCQ.
- Straps may be rotated 90° where W₁ ≥ W₂ and for CCQ3-6.
- Other custom column caps are available. Contact Simpson Strong-Tie.

Codes: See p. 13 for Code Reference Key Chart

Web Applications: Visit app.strongtie.com/ps to access our Post-It Beam Selector web application.



SHEET NOTES

- SEE SHEET **G-011** GENERAL NOTES
- ALL HARDWARE TO BE INSTALLED WITH FULL COMPLIMENT OF FASTENERS; ALL FASTENERS TO BE AS NOTED ON SPEC SHEET
- ANCHOR BOLTS FOR **CC** CAPS IN CMU AS SPECIFIED (5/8" Ø MIN) - INSTALL THROUGH BOLTS, TYP
- INSTALL 5/8" Ø AB X 4" MIN DEPTH IN CMU WITH **ET-5G** EPOXY, SEE **S-700.3**
- ONLY USE DRILL DRIVERS WHEN DRILLING INTO CMU - **NEVER** USE IMPACT DRIVERS



**IMPORTANT -
DO NOT USE
IMPACT DRIVERS
IN CMU**

CCQ™/ECCQ™

Column Caps (cont.)

These products are available with additional corrosion protection. For more information, see p. 18. For stainless-steel fasteners, see p. 23.

Model No.	Beam Width (in.)	Dimensions (in.)				No. of 1/4" x 2 1/2" SDS Screws	DF/SP Allowable Loads				Code Ref.	CCQ/ECCQ Model No. (No Legs)		
		W ₁	W ₂	L			H	CCQ		ECCQ				
				CCQ	ECCQ			Up/lt (150)	Down (100)	Up/lt (160)			Down (100)	
CCQ3-4SDS2.5	3 1/2	3 1/2	3 1/2	11	8 1/2	7	10	14	14	5,370	16,980	3,665	6,125	CCQ03-SDS2.5 ECCQ03-SDS2.5
CCQ3-6SDS2.5	3 1/2	3 1/2	5 1/2	11	8 1/2	7	10	14	14	5,370	21,885	2,485	10,740	
CCQ4-4SDS2.5	3 1/2	3 1/2	3 1/2	11	8 1/2	7	10	14	14	5,370	19,020	3,785	7,655	CCQ04-SDS2.5 ECCQ04-SDS2.5
CCQ4-6SDS2.5	3 1/2	3 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	24,065	3,785	12,090	
CCQ4-62-3-62SDS	4 1/2	4 1/2	3 1/2	11	8 1/2	7	10	14	14	5,370	23,300	3,785	9,845	CCQ04-62-SDS2.5 ECCQ04-62-SDS2.5
CCQ4-62-4-62SDS	4 1/2	4 1/2	4 1/2	11	8 1/2	7	10	14	14	5,370	30,070	3,785	12,695	
CCQ4-62-5-50SDS	4 1/2	4 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	33,940	3,785	15,470	
CCQ5-4SDS2.5	5 1/2	5 1/2	3 1/2	11	8 1/2	7	10	14	14	5,370	26,035	3,785	11,210	CCQ05-SDS2.5 ECCQ05-SDS2.5
CCQ5-6SDS2.5	5 1/2	5 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	29,790	5,335	13,015	
CCQ6-4SDS2.5	5 1/2	5 1/2	7 1/2	11	8 1/2	7	10	14	14	6,785	35,235	5,335	24,025	
CCQ6-6SDS2.5	5 1/2	5 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	28,585	3,785	12,030	CCQ06-SDS2.5 ECCQ06-SDS2.5
CCQ6-8SDS2.5	5 1/2	5 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	30,290	3,785	18,985	
CCQ6-7-1SDS2.5	5 1/2	5 1/2	7 1/2	11	8 1/2	7	10	14	14	6,785	32,815	3,785	25,780	
CCQ6-7-1SDS2.5	5 1/2	5 1/2	7 1/2	11	8 1/2	7	10	14	14	6,785	32,815	3,785	24,490	
CCQ7-4SDS2.5	6 1/2	6 1/2	3 1/2	11	8 1/2	7	10	14	14	5,370	33,090	3,785	15,355	CCQ07-SDS2.5 ECCQ07-SDS2.5
CCQ7-6SDS2.5	6 1/2	6 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	37,255	5,335	24,370	
CCQ7-8SDS2.5	6 1/2	6 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	48,265	5,335	29,815	
CCQ7-9SDS2.5	6 1/2	6 1/2	7 1/2	11	8 1/2	7	10	14	14	6,785	48,265	5,335	32,005	
CCQ7-1-1SDS2.5	7	7	3 1/2	11	8 1/2	7	10	14	14	5,370	34,730	3,785	18,375	CCQ07-1-SDS2.5 ECCQ07-1-SDS2.5
CCQ7-1-1SDS2.5	7	7	5 1/2	11	8 1/2	7	10	14	14	6,785	38,590	5,335	26,875	
CCQ7-1-1SDS2.5	7	7	7 1/2	11	8 1/2	7	10	14	14	6,785	52,750	5,335	36,750	
CCQ7-1-1SDS2.5	7	7	7 1/2	11	8 1/2	7	10	14	14	6,785	52,750	5,335	39,375	
CCQ8-4SDS2.5	7 1/2	7 1/2	3 1/2	11	8 1/2	7	10	14	14	6,785	47,210	5,335	26,805	CCQ08-SDS2.5 ECCQ08-SDS2.5
CCQ8-6SDS2.5	7 1/2	7 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	51,560	5,335	34,915	
CCQ8-8SDS2.5	7 1/2	7 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	47,445	5,335	19,985	
CCQ8-10SDS2.5	7 1/2	7 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	48,125	5,335	31,280	
CCQ8-12SDS2.5	7 1/2	7 1/2	5 1/2	11	8 1/2	7	10	14	14	6,785	62,565	5,335	42,650	
CCQ10-4SDS2.5	9 1/2	9 1/2	3 1/2	11	8 1/2	7	10	14	14	6,785	52,250	5,335	32,655	CCQ10-SDS2.5 ECCQ10-SDS2.5

- Lift loads have been increased for earthquake or wind loading with no further increase allowed. Provide where other loads govern.
- Downloads shall be reduced where limited by capacity of the post.
- Lift loads do not apply to rafter conditions. Rafter conditions must be detailed by the designer to transfer tension loads between applied members by means other than the column cap.
- Support conditions must be detailed by the designer to transfer tension loads between applied members by means other than the column cap.
- Column sides are assumed to be aligned in the same vertical plane as the beam sides. CCQ4.62 models assume a minimum 3/4" wide post.
- Structural composite lumber columns have sides that show either the wide face or the edge of the lumber cross-sections occur in the narrow face. Values in the tables reflect installation into the wide face. See technical bulletin T-C-SCL-CLM at strongtie.com for load reductions resulting from rafter-face installations.
- Beam depth must be a minimum of 7".
- For 5 1/2" engineered lumber, use 5 1/2" models.
- CCQ3 and ECCQ3 applied to a steel column will achieve maximum load listed for the beam and the post cap as CCQ and ECCQ. The steel column width shall match the beam width. Weld by designer.
- All references to bolts are for structural quality through bolts (not lag screws or carriage bolts) equal to or better than ASTM A307, Grade A.

UPDATED 10/01/2024

3 BEAM CONNECTION HARDWARE

CC/ECC/ECCU

Column Caps (cont.)

These products are available with additional corrosion protection. For more information, see p. 18. For stainless-steel fasteners, see p. 23.

Model No.	Beam Width (in.)	Dimensions (in.)				No. of Bolts	DF/SP Allowable Loads				Code Ref.	CC/ECC/ECCU Model No. (No Legs)					
		W ₁	W ₂	L			H	CC		ECC							
				CC	ECC			Up/lt (160)	Down (100)	Up/lt (160)			Down (100)				
CC3-1/4-4	3 1/2	3 1/2	3 1/2	11	7 1/2	9 1/2	0 1/2	4	2	4	2	3,150	16,980	6,835	3,110	6,835	CC03-1/4-4 ECC03-1/4-4
CC4-4	3 1/2	3 1/2	3 1/2	7 1/2	9 1/2	0 1/2	4	2	4	2	2	3,150	21,455	10,740	3,110	10,740	CC04-4 ECC04-4
CC4-6	3 1/2	3 1/2	5 1/2	7 1/2	9 1/2	0 1/2	4	2	4	2	2	1,830	7,115	7,655	1,850	7,655	CC04-6 ECC04-6
CC4-8	3 1/2	3 1/2	7 1/2	7 1/2	9 1/2	0 1/2	4	2	4	2	2	3,530	24,065	12,030	3,530	12,030	CC04-8 ECC04-8
CC4-62-3-62	4 1/2	4 1/2	3 1/2	7 1/2	9 1/2	0 1/2	4	2	4	2	2	4,535	23,300	9,845	4,535	9,845	CC04-62-3-62 ECC04-62-3-62
CC4-62-4-62	4 1/2	4 1/2	4 1/2	7 1/2	9 1/2	0 1/2	4	2	4	2	2	4,535	30,070	12,695	4,535	12,695	CC04-62-4-62 ECC04-62-4-62
CC4-62-5-50	4 1/2	4 1/2	5 1/2	7 1/2	9 1/2	0 1/2	4	2	4	2	2	4,535	33,940	15,470	4,535	15,470	CC04-62-5-50 ECC04-62-5-50
CC5-1/4-4	5 1/2	5 1/2	3 1/2	13	10 1/2	0 1/2	4	2	4	2	2	6,300	29,790	11,210	6,300	11,210	CC05-1/4-4 ECC05-1/4-4
CC5-1/4-6	5 1/2	5 1/2	5 1/2	13	10 1/2	0 1/2	4	2	4	2	2	6,300	28,190	17,615	6,300	17,615	CC05-1/4-6 ECC05-1/4-6
CC5-1/4-8	5 1/2	5 1/2	7 1/2	13	10 1/2	0 1/2	4	2	4	2	2	6,645	35,235	24,025	6,645	24,025	CC05-1/4-8 ECC05-1/4-8
CC6-4	5 1/2	5 1/2	3 1/2	11	7 1/2	0 1/2	4	2	4	2	2	5,545	26,885	12,030	5,545	12,030	CC06-4 ECC06-4
CC6-6	5 1/2	5 1/2	5 1/2	11	7 1/2	0 1/2	4	2	4	2	2	5,545	30,290	18,985	5,545	18,985	CC06-6 ECC06-6
CC6-8	5 1/2	5 1/2	7 1/2	11	7 1/2	0 1/2	4	2	4	2	2	5,545	32,815	25,780	5,545	25,780	CC06-8 ECC06-8
CC6-7-1/8	5 1/2	5 1/2	7 1/2	11	7 1/2	0 1/2	4	2	4	2	2	5,545	32,815	24,490	5,545	24,490	CC06-7-1/8 ECC06-7-1/8
CC7-4	6 1/2	6 1/2	3 1/2	13	10 1/2	0 1/2	4	2	4	2	2	8,230	33,460	15,355	8,230	15,355	CC07-4 ECC07-4
CC7-6	6 1/2	6 1/2	5 1/2	13	10 1/2	0 1/2	4	2	4	2	2	6,990	32,820	24,130	6,990	24,130	CC07-6 ECC07-6
CC7-7	6 1/2	6 1/2	7 1/2	13	10 1/2	0 1/2	4	2	4	2	2	7,290	42,295	29,615	7,290	29,615	CC07-7 ECC07-7
CC7-8	6 1/2	6 1/2	7 1/2	13	10 1/2	0 1/2	4	2	4	2	2	7,445	45,695	32,080	7,445	32,080	CC07-8 ECC07-8
CC7-1/4-4	7	7	3 1/2	13	10 1/2	0 1/2	4	2	4	2	2	6,360	34,730	18,375	6,360	18,375	CC07-1/4-4 ECC07-1/4-4
CC7-1/4-6	7	7	5 1/2	13	10 1/2	0 1/2	4	2	4	2	2	6,825	38,590	26,875	6,825	26,875	CC07-1/4-6 ECC07-1/4-6
CC7-1/4-8	7	7	7 1/2	13	10 1/2	0 1/2	4	2	4	2	2	7,105	52,750	36,750	7,105	36,750	CC07-1/4-8 ECC07-1/4-8
CC7-1/4-8	7	7	7 1/2	13	10 1/2	0 1/2	4	2	4	2	2	7,100	52,500	39,375	7,100	39,375	