

STRUCTURAL NOTES:

- Governing Codes and Standards:
- A. 2018 International Building Code (and local amendments)
 - B. 2018 International Residential Code (and local amendments)
 - C. "Minimum Design Loads for Buildings and Other Structures" - ASCE 7-16
 - D. "Steel Construction Manual" - AISC Fourteenth Edition
 - E. "National Design Specification for Wood Construction" - ANSI/APA-NDS 2018
 - F. "Building Code Requirements for Structural Concrete" - ACI318-14

2. BUILDING RISK CATEGORY II

3. ROOF LOAD:

DEAD LOAD	A.	20 PSF
SNOW LOAD (BELL TOWER), Ps	B.	94 PSF
SNOW LOAD (PAVILION), Ps	C.	66 PSF+67 PSF (DRIFT FROM UPPER ROOF)

PAVILION ROOF IS DESIGNED AS A SLIPPERY SURFACE THAT WILL SHED SNOW - ROOF MUST BE CLEARED OF SNOW IF TOTAL DEAPTH EXCEEDS 3'-0"

3. FLOOR LOAD:

DEAD LOAD (BELL TOWER)	A.	15 PSF
LIVE LOAD (BELL TOWER)	B.	40 PSF

4. SNOW LOAD CRITERIA:

A. GROUND SNOW LOAD, Pg	A.	112 PSF
B. FLAT ROOF SNOW LOAD, Pf (BELL TOWER)	B.	94 PSF
C. FLAT ROOF SNOW LOAD, Pf (PAVILION)	C.	94 PSF
D. THERMAL FACTOR, Ci (BELL TOWER)	D.	1.2
E. THERMAL FACTOR, Ci (PAVILION)	E.	1.2
F. SLOPE FACTOR, Cs (BELL TOWER)	F.	1.0
G. SLOPE FACTOR, Cs (PAVILION)	G.	0.7
H. EXPOSURE FACTOR, Ce	H.	1.0
I. IMPORTANCE FACTOR, I	I.	1.0

5. WIND CRITERIA (PER ASCE 7-16):

A. BASIC WIND SPEED (ULTIMATE)	A.	115 MPH
B. EXPOSURE	B.	B
C. INT. PRESSURE COEFF, GCPI	C.	±0.18

PROJECT GENERAL NOTES

A. MATERIAL AND DESIGN SPECIFICATIONS CITED HEREIN SHALL BE THOSE CONFORMING WITH THE VERSION OF THE APPLICABLE SPECIFICATION OR CODE MOST RECENTLY ADOPTED BY THE PERMITTING AUTHORITIES. THESE STRUCTURAL NOTES ARE TO BE USED AS A SUPPLEMENT TO THE SPECIFICATIONS, U.N.O.

B. REFER TO THE ARCHITECTURAL DOCUMENTS FOR ALL DIMENSIONS NOT SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS. DO NO SCALE THE STRUCTURAL CONTRACT DOCUMENTS.

C. THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, AND CORRELATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR INCONSISTENCIES.

D. THE SIZE, WEIGHTS AND LOCATIONS OF ALL EQUIPMENT PADS, ROOF MOUNTED MECHANICAL UNITS, AND PENETRATIONS REQUIRED FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. ALL PENETRATIONS ARE SUBJECT TO APPROVAL BY THE ARCHITECT/ENGINEER.

E. ANY CONTRACTOR INDUCING LOADS ON THE STRUCTURE NOT SPECIFIED ON THE CONTRACT DOCUMENTS MUST OBTAIN APPROVAL FROM THE ARCHITECT/ENGINEER PRIOR TO ERECTION.

FIELD ALTERATIONS FOR ANY STRUCTURAL MEMBER SHALL NOT BE EXECUTED WITHOUT APPROVAL FROM THE ARCHITECT/ENGINEER

F. ARCHITECT/ENGINEER'S APPROVAL SHALL BE SECURED FOR ALL SUBSTITUTIONS.

G. THE STRUCTURE AND ALL OF ITS PARTS MUST BE ADEQUATELY BRACED AGAINST WIND, LATERAL EARTH, AND SEISMIC FORCES UNTIL THE PERMANENT LATERAL FORCE RESISTING SYSTEMS HAVE BEEN CONSTRUCTED AND ALL OF ITS PARTS HAVE BEEN INSTALLED.

H. SHOP DRAWINGS, VENDOR DRAWINGS, OR ANY MATERIAL PREPARED AND SUBMITTED BY THE CONTRACTOR OR SUBCONTRACTOR ARE NOT CONSIDERED PART OF THE STRUCTURAL CONTRACT DOCUMENTS. ANY ENGINEERING DESIGN PROVIDED PER IRC R703.8 AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF AN ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BEING BUILT..

I. DURING CONSTRUCTION THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS WHICH WERE NOT KNOWN DURING DESIGN OR ARE AT VARIANCE WITH THE PROJECT DOCUMENTATION. SUCH CONDITIONS MAY INTERFERE WITH NEW CONSTRUCTION, REQUIRE PROTECTION AND/OR SUPPORT OF EXISTING WORK, OR MAY CONSIST OF DAMAGED OR DETERIORATION OF STRUCTURAL MATERIALS/COMPONENTS WHICH COULD JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD OF ALL DISCOVERIES HE BELIEVES MAY INTERFERE WITH PROPER EXECUTION OF THE WORK OR JEOPARDIZE THE INTEGRITY OF THE BUILDING PRIOR TO PROCEEDING WITH WORK RELATED TO SUCH DISCOVERIES.

J. THE STRUCTURAL ENGINEER SHALL NOT HAVE CONTROL OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, NOR SITE SAFETY.

K. THE STRUCTURAL DRAWINGS HAVE BEEN PREPARED USING AVAILABLE INFORMATION REGARDING THE EXISTING CONDITIONS. NO ATTEMPT HAS BEEN MADE TO VERIFY ANY EXISTING CONDITIONS AGAINST INFORMATION PROVIDED PER IRC R703.8. THE CONTRACTOR SHALL COMPARE THE EXISTING DOCUMENTS AND NOTIFY THE ARCHITECT OF ANY DIFFERENCES BEFORE PROCEEDING WITH WORK.

L. ITEMS, IN THE OPINION OF THE CONTRACTOR, THAT APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, OR AMBIGUITIES IN THE PLANS AND / OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER. PLANS AND / OR SPECIFICATIONS WILL BE CORRECTED OR WRITTEN INTERPRETATIONS OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE STRUCTURAL ENGINEER. WORK SHALL NOT PROCEED IN THESE AREAS BEFORE A RESPONSE IN RECEIVED FROM THE STRUCTURAL ENGINEER.

M. ALL PRODUCTS AND MATERIALS USED BY THE CONTRACTOR SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

N. THE GENERAL CONTRACTOR SHALL DETERMINE FROM THE LOCAL BUILDING OFFICIAL WHEN THE PERMIT IS OBTAINED WHETHER ANY LETTERS OF CONSTRUCTION COMPLIANCE WILL BE REQUESTED FROM THE STRUCTURAL ENGINEER. IF SO, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING BEFORE THE START OF CONSTRUCTION.

FOUNDATIONS

A. FOUNDATIONS DESIGNS ARE BASED ON OWNER ACCEPTED RECOMMENDATIONS BY NORTHWEST COLORADO COSULTANTS, INC. (NWCC) IN SOILS REPORT NUMBER 20-11733, DATED SEPTEMBER 24, 2020.

B. OWNER IS AWARE AND UNDERSTANDS THE RISK OF USING A SHALLOW FOUNDATION FOR THIS BUILDING AND ACCEPTS DIFFERENTIAL MOVEMENTS BETWEEN 1 AND 2 INCHES AS OUTLINED IN THE SOILS REPORT.

C. FOUNDATION DESIGNS ARE BASED ON THE FOLLOWING:
1. MAXIMUM BEARING PRESSURE = 3,500 PSF (NATURAL CLAYS)
2. MINIMUM BEARING PRESSURE = 900 PSF (NATURAL CLAYS)

D. ALL OVER EXCAVATION AND FILL SHALL BE PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

E. ALL FOUNDATIONS AND SLABS SHALL BE PLACED ON UNDISTURBED OR COMPACTED CONTROL FILL AS PER THE GEOTECHNICAL REPORT.

F. ALL FORMS AND ORGANIC DEBRIS SHALL BE REMOVED PRIOR TO BACKFILLING.

G. DO NOT PLACE BACK-FILL AGAINST FOUNDATION WALLS UNTIL FLOOR SLABS AT THE TOP AND BOTTOM ARE IN PLACE OR ADEQUATE BRACING IS INSTALLED AND CONCRETE IS CURED.

H. OWNER MUST BE WILLING TO ACCEPT THE RISK OF FOUNDATION MOVEMENT ASSOCIATED WITH PLACING SHALLOW FOUNDATIONS ON EXPANSIVE SOILS.

CONCRETE - CAST IN PLACE

A. STRUCTURAL CONCRETE SHALL BE TYPE 1, AND HAVE A MINIMUM 28 DAY STRENGTH OF 3,000 PSI, EXTERIOR CONCRETE SLABS SHALL BE TYPE 1 AND HAVE A MINIMUM 28 DAY STRENGTH OF 4,000 PSI. ALL CONCRETE SHALL HAVE A MIN 6% (+/- 1.5%) ENTRAINED AIR FOR DURABILITY AND A 4" (+/- 1") SLUMP. THE MAXIMUM AGGREGATE SIZE SHALL BE 3/4". CONCRETE SHALL NOT BE PLACED ON FROZEN GROUND AND SHALL BE PROTECTED FROM FREEZING FOR A MINIMUM OF 7 DAYS. DURING COLD WEATHER THE METHODS AND SPECIFICATIONS SET FORTH IN ACI 308R-86 SHALL BE FOLLOWED TO PREVENT FROST DAMAGE.

B. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI318 AND 301, LATEST EDITION.

C. ALL EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER.

D. CONCRETE SHALL BE ADEQUATELY CONSOLIDATED/VIBRATED DURING PLACEMENT TO ENSURE IT IS THOROUGHLY PLACED AROUND ALL REINFORCING STEEL AND EMBEDDED FIXTURES.

E. UNLESS NOTED OTHERWISE, SLABS, FOOTINGS AND WALLS SHALL NOT HAVE ANY HORIZONTAL 'COLD JOINTS'. ALL CONSTRUCTION JOINTS SHALL BE DETAILED OR REVIEWED BY THE ENGINEER OF RECORD.

F. INTERIOR CONCRETE SLAB FINISH SHALL BE STEEL TROWEL FINISHED AND EXTERIOR CONCRETE SLABS SHALL BE BROOM FINISHED.

G. ALL CONCRETE SHALL BE NORMAL WEIGHT AGGREGATE UNLESS NOTED OTHERWISE.

H. CONCRETE TOPPING FOR METAL DECKS SHALL NOT INCLUDE ANY ADD MIXTURES CONTAINING CHLORIDE SALTS.

I. ALL LIGHTWEIGHT AGGREGATE CONCRETE SHALL HAVE A MAXIMUM UNIT WEIGHT OF 110 pcf.

CONCRETE REINFORCING STEEL

A. REINFORCING BARS SHALL CONFORM TO ASTM SPEC. A615-79 AND SHALL BE GRADE 60.

B. AT SPLICES, LAP BARS A MINIMUM OF 38 DIAMETERS. AT CORNERS AND INTERSECTIONS, MAKE HORIZONTAL CONTINUOUS OR PROVIDE MATCHING CORNER BARS. AROUND OPENINGS IN WALLS AND SLABS, PROVIDE (2) #5 BARS EXTENDING A MINIMUM OF 2 FEET BEYOND THE EDGE OF THE OPENING. CONTINUOUS TOP BARS IN WALLS SHALL BE SPLICED AT MID-SPAN. CONTINUOUS BOTTOM BARS IN WALLS SHALL BE SPLICED AT SUPPORTS.

C. CONCRETE COVER SHALL CONFORM TO ACI 318-14, 7.7. UNLESS A GREATER COVER IS REQUIRED, CONCRETE CAST AGAINST EARTH SHALL HAVE 3IN. MIN. COVER. CONCRETE EXPOSED TO EARTH OR WEATHER SHALL HAVE 2IN. MIN. COVER FOR NO. 6 BARS & GREATER, & 1IN. MIN. COVER FOR NO. 5 BARS & SMALLER. CONCRETE NOT EXPOSED TO WEATHER SHALL HAVE 1" MIN. COVER FOR NO. 11 BARS & SMALLER.

D. WELDED WIRE FABRIC SHALL CONFORM TO ASTM 185 AND SHALL BE LAPPED ONE FULL MESH AT SPLICES AND TIED TOGETHER.

E. CONCRETE REINFORCING STEEL SHALL CONFORM WITH ASTM A 615 DEFORMED GRADE 60 (WELDABLE REINFORCEMENT) SHALL BE ASTM A706, GRADE 60) UNLESS NOTED OTHERWISE.

F. PLACE 2'-0" x 2'-0" BARS AT CORNERS AND INTERSECTIONS FOR WALLS AND FOUNDATIONS EQUAL IN SIZE AND NUMBER TO HORIZONTAL REINFORCING, UNLESS NOTES OTHERWISE.

G. ALL REINFORCING STEEL SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI DETAILING MANUAL 315.

H. ALL REINFORCING STEEL SHALL BE ACCURATELY AND SECURELY PLACED.

I. MINIMUM COVER FROM CONCRETE SURFACES TO REINFORCING STEEL SHALL BE:

- a. 3" TO BOTTOM OF FOOTING/GRADE BEAMS
- b. 2" TO EARTH FACE OF WALL
- c. 1 1/2" TO INSIDE FACE OF WALL
- d. 1 1/2" MAIN BEAMS AND COLUMNS
- e. 1" TO TOP AND BOTTOM CONCRETE SLAB SURFACES CENTER OF SLABS-ON-GRADE.

J. PROVIDE TWO EXTRA #5'S AROUND ALL OPENINGS IN CONCRETE WALLS AND SLAB WHICH ARE GREATER THAN 1'-6" IN ANY DIRECTION. EXTEND BARS 2'-0" PAST OPENINGS AND HOOK IF NECESSARY, UNLESS NOTED OTHERWISE.

K. START FIRST REBAR 3" IN FROM THE EDGE, WHERE SLAB REBAR IS CALLED OUT AS "ON CENTER (OC)" SPACING.

L. ALL WELDED WIRE FABRIC SHALL MAINTAIN A MINIMUM LAP SPLICE OF 6".

M. INSTALL REBAR CHAIRS WITH APPROPRIATE MATERIAL FOR ALL REINFORCED CONCRETE EXPOSURE.

Bar Size	Lap Class	TENSION DEVELOPMENT "DEV" FOR UNCOATED BARS					
		Lengths (in.) per Concrete Strength (psi)					
		3000 psi		4000 psi		5000 psi +	
		Top Bars	Typ Bars	Top Bars	Typ Bars	Top Bars	Typ Bars
#3	A	22	17	19	15	17	13
#4	A	29	22	25	19	22	17
#5	A	36	28	31	24	28	22
#6	A	43	33	37	29	33	26
#7	A	63	48	54	42	49	37
#8	A	72	55	62	48	55	43
#9	A	81	62	70	54	63	48
#10	A	91	70	79	61	70	54
#11	A	101	78	87	67	78	60
#14	N/A	125	96	108	83	97	75
#18	N/A	161	124	139	107	125	96

Bar Size	Lap Class	"LAP" SPLICE LENGTH FOR UNCOATED BARS					
		Lengths (in.) per Concrete Strength (psi)					
		3000 psi		4000 psi		5000 psi +	
		Top Bars	Typ Bars	Top Bars	Typ Bars	Top Bars	Typ Bars
#3	B	28	22	24	19	22	17
#4	B	37	29	32	25	29	22
#5	B	47	36	40	31	36	28
#6	B	56	43	48	37	43	33
#7	B	81	63	70	54	63	49
#8	B	93	72	80	62	72	55
#9	B	105	81	91	70	81	63
#10	B	118	91	102	79	91	70

REVIEWED FOR CODE COMPLIANCE

NOTES:
1. TABULATED VALUES ARE BASED ON GRADE 60 UNCOATED (NO EPOXY) REINFORCING BARS AND NORMAL WEIGHT CONCRETE. LENGTHS ARE IN INCHES.
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS. VERTICAL BARS ARE NOT CONSIDERED TOP BARS.
3. SPLICE LENGTHS FOR REBAR WITH DIFFERENT SIZES SHALL BE BASED ON THE SPLICE LENGTH FOR THE SMALLER SIZE BAR.
4. TABLE ASSUMES BARS HAVE COVER GREATER THAN BAR DIAMETERS AND CENTER TO CENTER SPACING GREATER THAN BAR DIAMETERS.
5. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.

STRUCTURAL WOOD FRAMING

A. UNLESS NOTED OTHERWISE, ALL 2" LUMBER SHALL BE DOUGLAS FIR S4S NO. 2 AND BETTER. ALL SOLID TIMBER BEAMS AND POSTS SHALL BE DF-L NO. 1 OR BETTER.

B. UNLESS NOTED OTHERWISE, MINIMUM NAILING SHALL BE PROVIDED AS SPECIFIED IN TABLE NO. 2304.9.1, "FASTENING SCHEDULE", OF THE 2018 IBC OR TABLE NO. R602.3(1), "FASTENER SCHEDULE FOR STRUCTURAL MEMBERS", OF THE 2015 IRC.

C. WALL AND FLOOR SHEATHING SHALL BE APA RATED WITH EXTERIOR GLUE AND GRADED IN ACCORDANCE WITH APA STANDARDS. PANEL IDENTIFICATION AND THICKNESS SHALL BE AS NOTED ON THE DRAWINGS.

D. WHERE LIGHT GAUGE FRAMING ANCHORS ARE SHOWN OR REQUIRED, THEY SHALL BE SIMPSON "STRONG TIE" (OR EQUAL APPROVED BY ICBO), THEY SHALL BE INSTALLED WITH THE NUMBER AND TYPE OF FASTENERS RECOMMENDED BY THE MANUFACTURER TO DEVELOP THE RATED CAPACITY.

E. FLOOR JOISTS SHALL BE PLANT FABRICATED I SERIES WITH LVL OR SOLID WOOD FLANGES AND PLYWOOD OR OSB WEBS, AND SHALL CARRY ICBO APPROVAL FOR A COMPLETE SECTION. JOISTS SHALL BE DESIGNED TO CARRY FULL LIVE AND DEAD LOADS OF THE ROOF(S), FLOOR(S), AND ANY SUPERIMPOSED LOADS.

F. ROOF OVERFRAMING SHALL BE 2X6 RAFTERS @ 24" O.C. W/ 2X6 STUDS @ 24" O.C. TO STACK OVER RAFTERS OR PURLINS BELOW.

G. ALL MEMBERS 3x OR LESS (LEAST DIMENSIONS) SHALL BE KILN-DRY WITH 19% MOISTURE CONTENT, MAXIMUM.

H. PROVIDE SOLID BLOCKING (SAME DEPTH OF MEMBER) AT ALL POINTS OF BEARING.

I. ALL PLATES AND LEDGERS IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWP (AMERICAN WOOD PRESERVERS BUREAU) QUALITY MARK.

J. PLYWOOD SHEATHING SHALL BE LAID WITH END JOINTS STAGGERED.

K. BLOCK ALL SHEAR WALL SHEATHING WITH 2 x 4 FLAT BLOCKING AT ALL EDGES.

L. NAILING INDICATED ON PLANS AND DETAILS ARE "COMMON" NAILS AS DEFINED BY THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS), UNO. THE MINIMUM NAIL SIZES ARE AS FOLLOWS:

- a. 8D = 0.131" DIA X 2 1/2" LONG
- b. 10D = 0.148" DIA X 3" LONG
- c. 16D = 0.162" DIA X 3 1/2" LONG

M. LAY OUT PLYWOOD TO ELIMINATE ANY WIDTH LESS THAN 1'-0". EXCEPT AT PLYWOOD FLOORS WHERE MINIMUM DIMENSION SHALL BE 2'-0". UNLESS ALL EDGES OF THE UNDERSIZED SHEETS ARE SUPPORTED BY BLOCKING.

N. ORIENTED STRAND BOARD CONFORMING WITH IBC AND MANUFACTURED WITH EXTERIOR GLUE MAY BE SUBSTITUTED FOR PLYWOOD PROVIDED IT HAS EQUAL LOAD/SPAN RATINGS INDEX AND BEARS THE APA TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION.

O. JOIST BRIDGING AT MAXIMUM OF 8'-0" ON CENTER SHALL BE REQUIRED WHERE JOIST HAVE A FIVE-TONE OR GREATER DEPTH-TO-THICKNESS RATIO AND WHERE ONE EDGE IS NOT HELD IN LINE BY SHEATHING, WALLBOARD, BRACING, ETC.

P. DOUBLE UP STUDS AT CORNERS OF BEARING WALLS, UNO. SEE PLANS FOR BEARING WALL LOCATIONS.

Q. PROVIDE (3) 2x STUDS NAILED TOGETHER UNDER ALL BEARING POINTS OF ROOF GIRDER TRUSSES, CONCENTRATED LOADS AND BEAM BEARINGS, UNLESS NOTED OTHERWISE. STUDS SHALL EXTEND FROM TOP OF FOUNDATION TO BOTTOM OF MEMBERS.

R. CONTRACTOR IS TO PROTECT FLOOR AND ROOF SHEATHING FROM EXTREME WET CONDITIONS TO LIMIT MOVEMENTS DUE TO EXPANSION CAUSED BY MOISTURE. ADDITIONALLY, PROVIDE PROPER PANEL SPACING PER THE AMERICAN PLYWOOD ASSOCIATION RECOMMENDATIONS.

S. WHERE PRESSURE-TREATED PLYWOOD IS INDICATED ON THE DRAWINGS, IT SHALL CONFORM WITH AWP (AMERICAN WOOD PRESERVERS BUREAU) QUALITY MARK.

T. JOISTS SHALL BE TREATED IF W/IN 18" ABOVE GRADE & BEAMS SHALL BE TREATED IF W/IN 12" ABOVE GRADE

U. ALL LUMBER EXPOSED TO WEATHER SHALL BE NATURALLY DURABLE, PRESERVATIVE TREATED OR PRESSURE TREATED IF NOT COVERED BY A ROOF OVERHANG OR COVERING TO PREVENT MOISTURE OR WATER ACCUMULATION ON THE SURFACE.

V. ALL FASTENERS (NAILS, SCREWS, ANCHOR BOLTS, ETC.) IN CONTACT WITH PRESSURE TREATED OR FRT LUMBER SHALL BE CORROSION RESISTANT IN ACCORDANCE WITH IBC 2304.10.5.

W. ALL CONNECTORS USED WITH PRESSURE TREATED MATERIAL OR EXPOSED TO WEATHER SHALL BE STAINLESS STEEL OR HAVE A SIMPSON 2-MAX/HDG COATING OR EQUAL. ALL CONNECTORS EXPOSED TO THE EXTERIOR SHALL BE G185 GALVANIZED OR APPROVED EQUAL

X. PROVIDE 2x4 BLOCKING AROUND ALL OPENINGS IN ROOF. NAIL THE PANELS TO BLOCKING WITH 10d NAILS AT 4" OC. PROVIDE 2x8 BLOCKING AROUND ALL OPENINGS IN FLOORS NAIL WITH 10d nail AT 4" OC AROUND THE OPENING.

Y. PROVIDE SOLID BLOCKING UNDER ALL COLUMNS FROM TOP OF FOUNDATION OR BEAM BEARING TO THE BOTTOM OF COLUMN OR POST.

Z. PROVIDE ONE 1/4"x3"x3" MINIMUM GALVANIZED PLATE WASHER (CONFORMING TO THE 2008 NATIONAL DESIGN SPECIFICATION SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC) UNDER ALL SHEAR WALL ANCHOR BOLTS. PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE WITH SHEAR WALL SHEATHING. WHERE SHEATHING OCCURS ON BOTH SIDES OF WALL, STAGGER PLATE WASHERS.

AA. ALL FLOOR DECKING SHALL BE GLUED AND NAILED TO JOISTS. ALL FLOOR DECKING SHALL BE TONGUE AND GROOVE WITH GLUED JOINTS.

AB. ENGINEERED WOOD BEAMS SHALL BE AS MANUFACTURED BY I-LEVEL (OR APPROVED EQUAL) AND HAVE THE FOLLOWING MINIMUM PROPERTIES:

	E	Fb	Fl	Fc,perp	Fc,parallel	Fv
LSL (<9.5")	1,300ksi	1,700psi	1,075psi	680psi	1,400psi	400psi
LSL (9.5")	1,550ksi	2,325psi	1,070psi	800psi	2,050psi	310psi
LVL	2,000ksi	2,600psi	1,555psi	750psi	2,510psi	285psi
PSL	2,000ksi	2,900psi	2,025psi	750psi	2,900psi	290psi

AC. GLUE LAMINATED BEAMS SHALL BE AS MANUFACTURED BY BOISE CASCADE (OR APPROVED EQUAL) AND HAVE THE FOLLOWING MINIMUM PROPERTIES:

	E	Fb,top	Fb,bot	Fc,perp	Fc,parallel	Fv
GLB 24F-V4	1,800ksi	2,400psi	1,850psi	650psi	1,650psi	240psi
GLB 24F-V8	1,800ksi	2,400psi	2,400psi	650psi	1,650psi	240psi

AD. ALL RIM JOISTS SHALL BE AS NOTED ON PLANS AND DETAILS. RIM MATERIAL SHALL BE ICC APPROVED FOR RIM JOIST APPLICATIONS

STRUCTURE LEGEND

- = COLUMN BELOW
- = COLUMN ABOVE
- = COLUMN CONTINUOUS THIS LEVEL
- = WOOD BEAM/RAFTER/JOIST
- = HANGER

POST INSTALLED ANCHORS

A. EXPANSION ANCHORS SHALL BE ICC-APPROVED (ZINC PLATED IN ACCORDANCE WITH ASTM B 633, HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 153, AISI 304 STAINLESS STEEL) AND CONFORM WITH FS-S-325, GROUP II, TYPE 4, CLASS 1.

B. EXPANSION BOLTS CALLED FOR ON THE DRAWINGS SHALL BE SIMPSON "WEG-ALL", "STRONG-BOLT 2" OR APPROVED WEDGE TYPE ANCHORS WITH THE FOLLOWING MINIMUM EMBEDMENTS: 3/4" DIAMETER BOLTS - 3", 5/8" DIAMETER BOLTS - 2 3/4", 1/2" DIAMETER BOLTS - 2 1/4".

C. ADHESIVE ANCHORS SHALL BE ICC-APPROVED AND SHALL CONSIST OF ALL-THREAD ANCHOR ROD, NUT WASHER AND ADHESIVE CAPSULE. ANCHOR RODS SHALL COMPLY WITH ASTM A307. (NOT USED AT PT SLAB.)

D. ALL EPOXY SHALL BE SIMPSON "SET-XP" AND SHALL BE INSTALLED PER THE "ANCHORING AND FASTENING SYSTEMS FOR CONCRETE AND MASONRY" SIMPSON CATALOG #C-SAS-2012 BY A QUALIFIED PERSONNEL.

E. HEAVY DUTY SCREW ANCHORS SHALL BE STAINLESS STEEL: SIMPSON TITEN HD OR APPROVED EQUAL.

CONCRETE UNIT MASONRY

1. MASONRY SHALL CONFORM TO THE FOLLOWING MINIMUM ASTM SPECIFICATIONS AND GRADES, UNLESS NOTED OTHERWISE ON DRAWINGS:

- 1. Fm = 2,000psi
- 2. CONCRETE MASONRY UNITS = ASTM C90, GRADE N
- 4. MORTAR = TYPE S, ASTM C270
- 5. CEMENT = ASTM C150, TYPE 1
- 6. GROUT = ASTM C476

2. ONE MORTAR TEST AND ONE GROUT TEST SHALL BE TAKEN BY AN INDEPENDENT TESTING COMPANY FOR EACH FIVE THOUSAND SQUARE FEET OF WALL AREA. A MINIMUM OF THREE TESTS WILL BE REQUIRED FOR MORTAR AND GROUT.

3. PRISM TESTS SHALL BE PERFORMED IN ACCORDANCE WITH IBC REQUIREMENTS.

4. GROUT FOR ALL REINFORCING AND HOLLOW UNIT MASONRY WALLS SHALL BE 3/8" AGGREGATE CONCRETE WITH A TWENTY- EIGHT DAY STRENGTH OF 3,000 PSI, PORTLAND CEMENT MIX. SLUMP SHALL BE EIGHT TO ELEVEN INCHES.

5. ALL MORTAR FOR REINFORCED MASONRY SHALL CONFORM WITH IBC STANDARDS. TYPE "S", 1,900 PSI COMPRESSIVE STRENGTH AT TWENTY- EIGHT DAYS, WITH THE FOLLOWING PROPORTIONS BY VOLUME:

- PORTLAND CEMENT - ONE PART
- LIME - THREE-FOURTHS PART MAXIMUM
- SAND - FOUR PARTS MAXIMUM

6. ALL MORTAR SHALL BE MIXED BY MECHANICAL MEANS AND PROPORTIONED BY ACCURATE MEASUREMENT. SHOVEL MEASUREMENT WILL NOT BE ALLOWED.

7. ALL REINFORCING FOR MASONRY WALL

1. ELEVATIONS SHOWN ARE REFERENCED FROM TOP OF SLAB ELEVATION = 100'-0".
2. COLUMNS THAT BEGIN THIS LEVEL ARE INDICATED ON PLAN.
3. ALL FLOOR SLABS SHALL HAVE SAWN OR TOOLED CONTROL JOINTS @ 10'-0" O.C., EACH WAY
4. PROVIDE A MINIMUM 6" COMPACTED GRAVEL LAYER BELOW FLOOR SLABS.
5. SHAPE EXCAVATIONS FOR FOOTINGS & FLOOR SLABS TO ALLOW WATER TO FLOW TO LOW POINT Re: SOILS REPORT.
6. BACKFILL CMU WALL @ BELL TOWER w/ ON-SITE SOILS ONCE SLAB IS IN PLACE, N.O.C.
7. WHERE FOOTING AREAS ARE 'OVER-EXCAVATED' DUE TO REMOVAL OF LARGER COBBLE AND BOULDERS, RESULTING VOIDS SHALL BE FILLED WITH APPROVED NON-EXPANSIVE STRUCTURAL FILL MATERIALS Re: SOILS REPORT
8. IF GROUNDWATER IS ENCOUNTERED DURING FOUNDATION EXCAVATIONS, A 6"-12" LAYER OF WASHED ROCK STRUCTURAL FILL SHALL BE PLACED IN THE BASE OF THE EXCAVATIONS TO STABILIZE THE EXCAVATION TO ALLOW DRAINAGE Re: SOILS REPORT.
9. TYPICAL - 5' THICK CONC. SLAB - REINF. w/ #4 BARS @ 18" O.C., EA. WAY, CENTERED, OVER MIN 6" GRAVEL - PROVIDE SAWN OR TOOLED CONTROL JOINTS @ 10'-0" +/- O.C., EACH WAY. SLOPE CONC. TO DAYLIGHT FROM CENTER OF PAVILION.
10. ALL FOOTINGS ARE DESIGNED TO A MAXIMUM BEARING PRESSURE OF 3,500 PSF AND MUST BE PLACED DIRECTLY ON NATURAL CLAYS Re: SOILS REPORT.

X	MARK	SIZE	REINFORCING
	'A'	2'-6" X 2'-6" X 0'-11" w/ 2'-0" 2'-0" X 6'-3" PILASTER 'P1' ABOVE	(3) #4 BARS EA. WAY, CENTERED
	'B'	3'-0" X 3'-0" X 0'-11" w/ 2'-0" 2'-0" X 6'-3" PILASTER 'P1' ABOVE	(4) #4 BARS EA. WAY, CENTERED

CX MARK	SIZE	REMARKS
C1	N/A	NOT USED IN THIS PLAN
C2	10X10 (NOMINAL)	TIMBER COL.

NOTES:

- INDICATES COLUMNS BELOW
- INDICATES COLUMNS ABOVE
- INDICATES CONTINUOUS COLUMNS

1. COLUMN SCHEDULE IS FOR ENTIRE PROJECT.
 2. N/A DENOTES COLUMN IS NOT USED THIS SHEET.

(THIS SHEET ONLY)			
NOTE: PROVIDE #4 DOWELS EACH CORNER OF PIERS			
<u>Px</u>	<u>MARK</u>	<u>SIZE</u>	<u>REINFORCING</u> <u>REFERENCE</u>
<u>P1</u>	2'-0" X 2'-0" X 6'-3"	INTEGRATED INTO FOOTING 'A' OR 'B'	#4 VERTS EA. CORNER & #3 HOOP TIES @ 12" O.C. w/ (3) IN TOP 5"
<u>Px</u>	INDICATES RECTANGULAR PILASTER		

54880 Co Rd 129
Clark, CO 80428

A NEW DESIGN FOR:
PAVILION & BELL TOWER



SEAD

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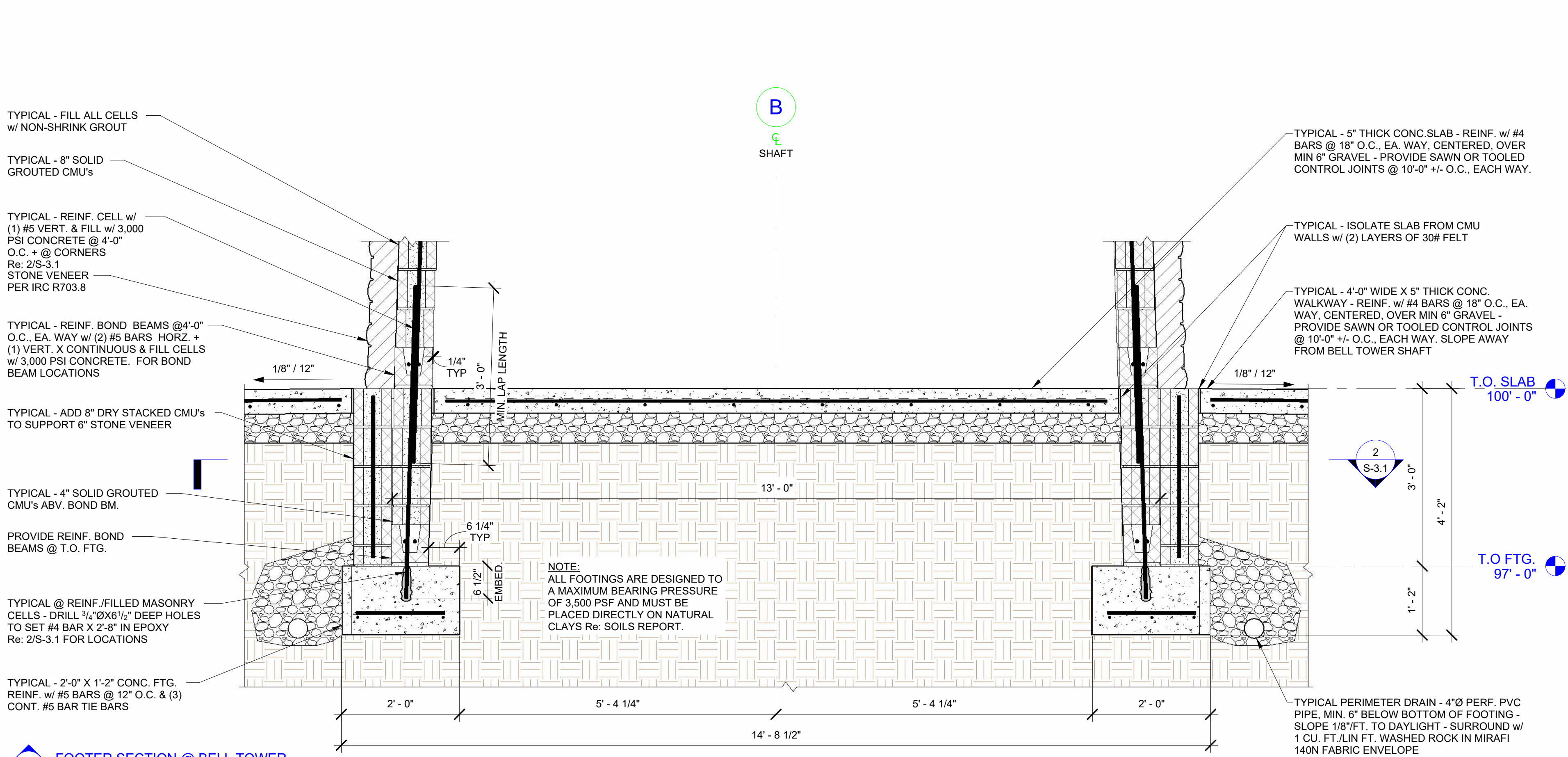
REVIEW SET
10. 25. 21

REVIEW SET
5. 9. 22

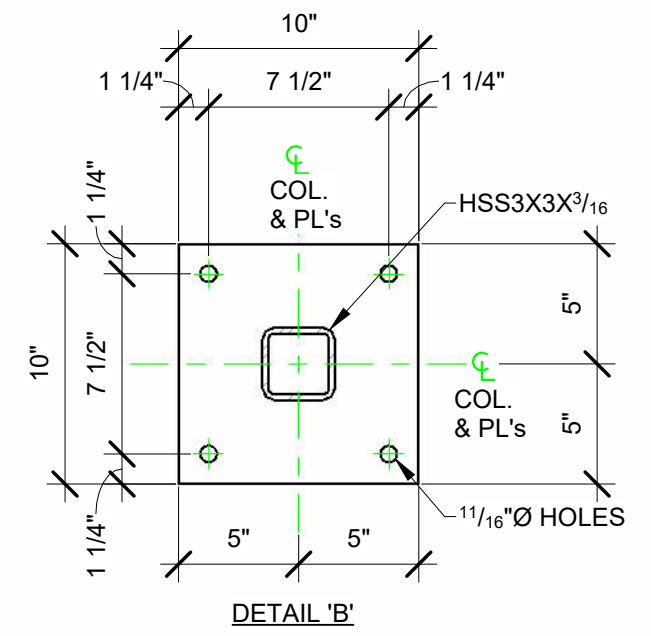
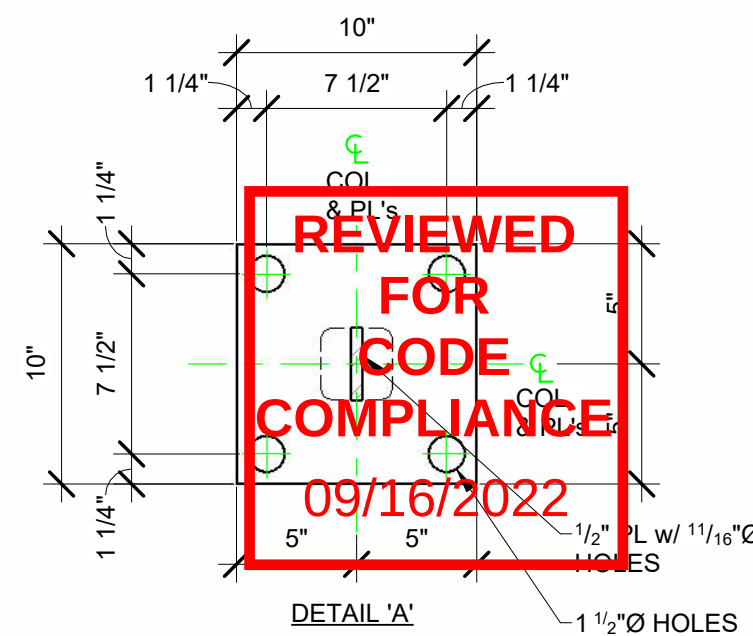
PERMIT SET
8. 4. 22

S-1

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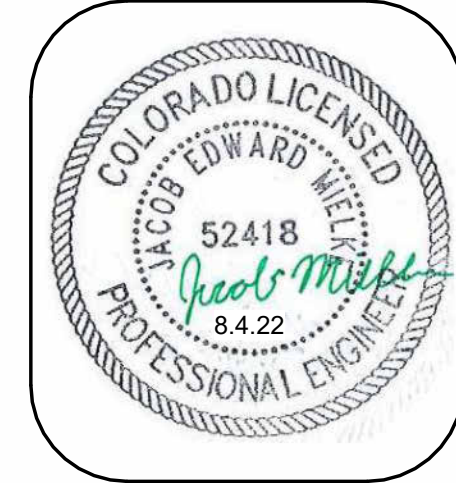
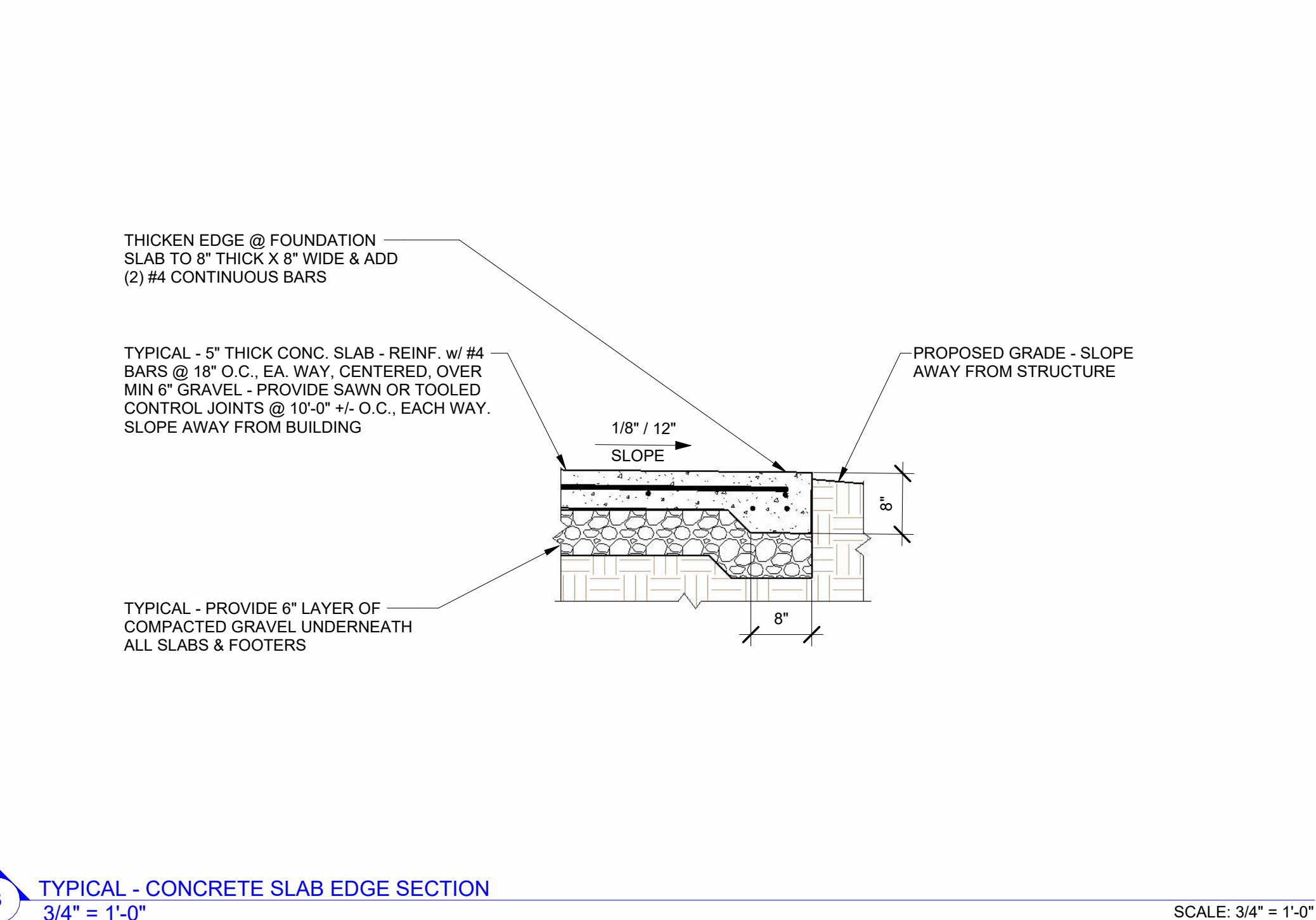
SCALE: 3/4" = 1'-0"



4 **STANDOFF BASE PLATE 'BP1'**
1 1/2" = 1'-0" (14) EACH
PROVIDE 1 1/16" HOLES FOR 5/8" BOLTS
1/2" STEEL BASE PL
1/2" STEEL KERF PL

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

1 **PILASTER 'P1' & TYPICAL FOOTER SECTION**
3/4" = 1'-0"



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HOME RANCH
54880 Co Rd 129
Clark, CO 80428
A NEW DESIGN FOR:
PAVILION & BELL TOWER

ISSUE DATES	
REVIEW SET	10.25.21
REVIEW SET	5.9.22
PERMIT SET	8.4.22

DESIGNED BY: MVS
REVIEWED BY: CWM
PROJECT #: 21112

FOUNDATION SECTIONS

FRAMING NOTES

1. TYPICAL ROOF - METAL ROOFING OVER 100% HIGH TEMP ICE & WATER SHIELD OVER $\frac{5}{8}$ " APA RATED EXP. 1 40/20 SHEATHING OVER 2X12 RAFTERS.
2. PROVIDE (2) 2X12 RAFTERS @ 16" O.C. BELOW BELL TOWER ROOF - FASTEN PLIES TOGETHER w/ ADHESIVE & MIN. 10d X 3" NAILS @ 12" O.C., ONE SIDE, 2" MIN. EDGE DISTANCE.
3. TIMBER TRUSSES SUPPLIED BY OWNER & INSTALLED/CONSTRUCTED PER STRUCTURAL DRAWINGS.
4. ELEVATION @ TOP OF BEAM INDICATED THUS: (ELEV).
5. PAVILION ROOF IS DESIGNED AS A SLIPPERY SURFACE THAT WILL SHED SNOW - ROOF MUST BE CLEARED OF SNOW IF TOTAL DEPTH EXCEEDS 3'-0".
6. IF ROOFING IS TO BE REPLACED WITH OTHER THAN A METAL SURFACE, THE STRUCTURE MUST BE REEVALUATED FOR A HIGHER SNOW LOAD.
7. USE 10X12 DF NO. 1 TIMBER BM'S FOR TOP CHORDS @ TRUSS 'T2'.
8. WALKWAYS OR HUMAN OCCUPANCY SHALL BE PROHIBITED BELOW EAVES OF METAL ROOF WHERE SNOW CAN SLIDE OFF.

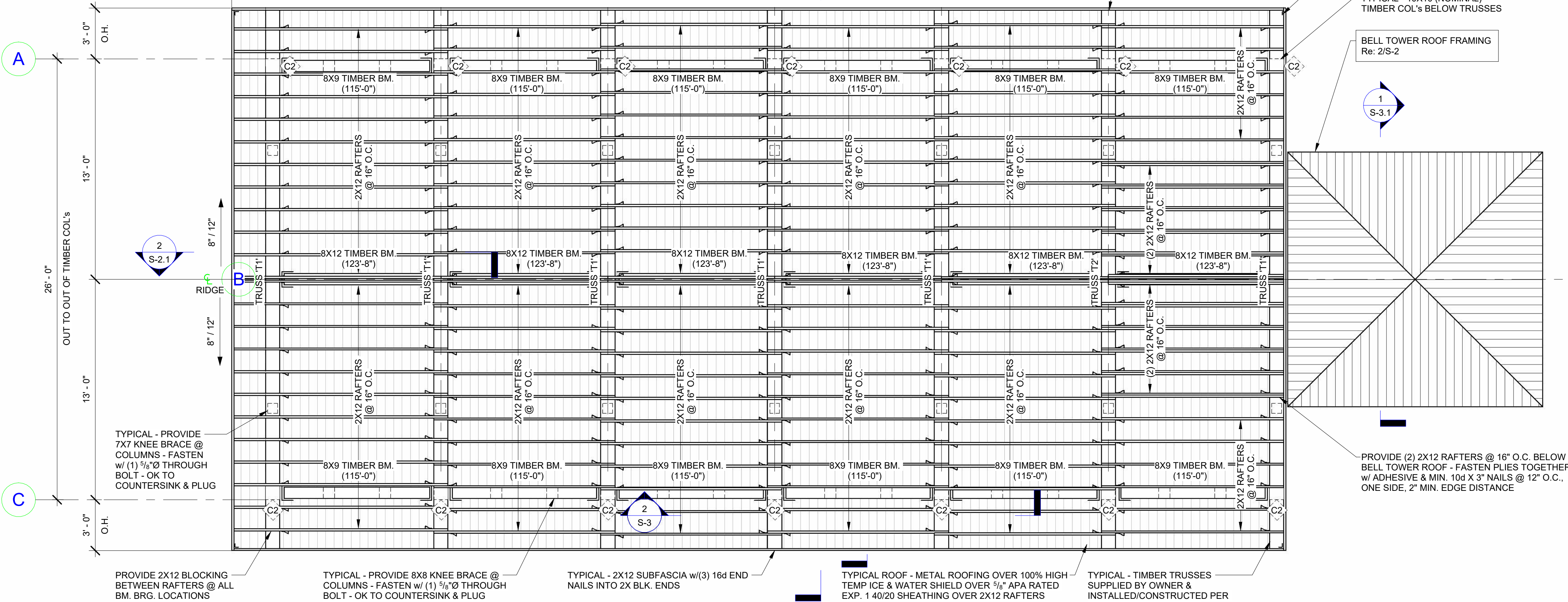
COLUMN LEGEND & SCHEDULE

MARK	SIZE	REMARKS
C1	N/A	NOT USED IN THIS PLAN
C2	10X10 (NOMINAL)	TIMBER COL. @ PAVILION

NOTES:

- INDICATES COLUMNS BELOW
- INDICATES COLUMNS ABOVE
- INDICATES CONTINUOUS COLUMNS

1. COLUMN SCHEDULE IS FOR ENTIRE PROJECT.
2. N/A DENOTES COLUMN IS NOT USED THIS SHEET.



HOME RANCH

54880 Co Rd 129
Clark, CO 80428

A NEW DESIGN FOR:
PAVILION & BELL TOWER

ISSUE DATES

REVIEW SET
10.25.21
REVIEW SET
5.9.22
PERMIT SET
8.4.22

DESIGNED BY: MVS
REVIEWED BY: CWM
PROJECT #: 21112

ROOF FRAMING
PLANS

S-2

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FRAMING NOTES

1. TYPICAL ROOF - METAL ROOFING OVER 100% HIGH TEMP ICE & WATER SHIELD OVER $\frac{5}{8}$ " APA RATED EXP. 1 40/20 SHEATHING OVER 2X12 RAFTERS.
2. PROVIDE (2) 2X12 RAFTERS @ 16" O.C. BELOW BELL TOWER ROOF - FASTEN PLIES TOGETHER w/ ADHESIVE & MIN. 10d X 3" NAILS @ 12" O.C., ONE SIDE, 2" MIN. EDGE DISTANCE.
3. TIMBER TRUSSES SUPPLIED BY OWNER & INSTALLED/CONSTRUCTED PER STRUCTURAL DRAWINGS.
4. ELEVATION @ TOP OF BEAM INDICATED THUS: (ELEV).
5. TIMBER BEAM TO SUPPORT BELL DESIGNED TO SUPPORT A MAXIMUM LOAD OF 4,000 LBS - CONTRACTOR TO PROVIDE SPECIFICATIONS SHEET OF ACTUAL BELL TO ENGINEER OF RECORD FOR REVIEW PRIOR TO INSTALLATION.
6. ADD SNOWGUARDS AROUND PERIMETER OF BELL TOWER ROOF TO PREVENT SNOW & ICE SLIDING OFF.

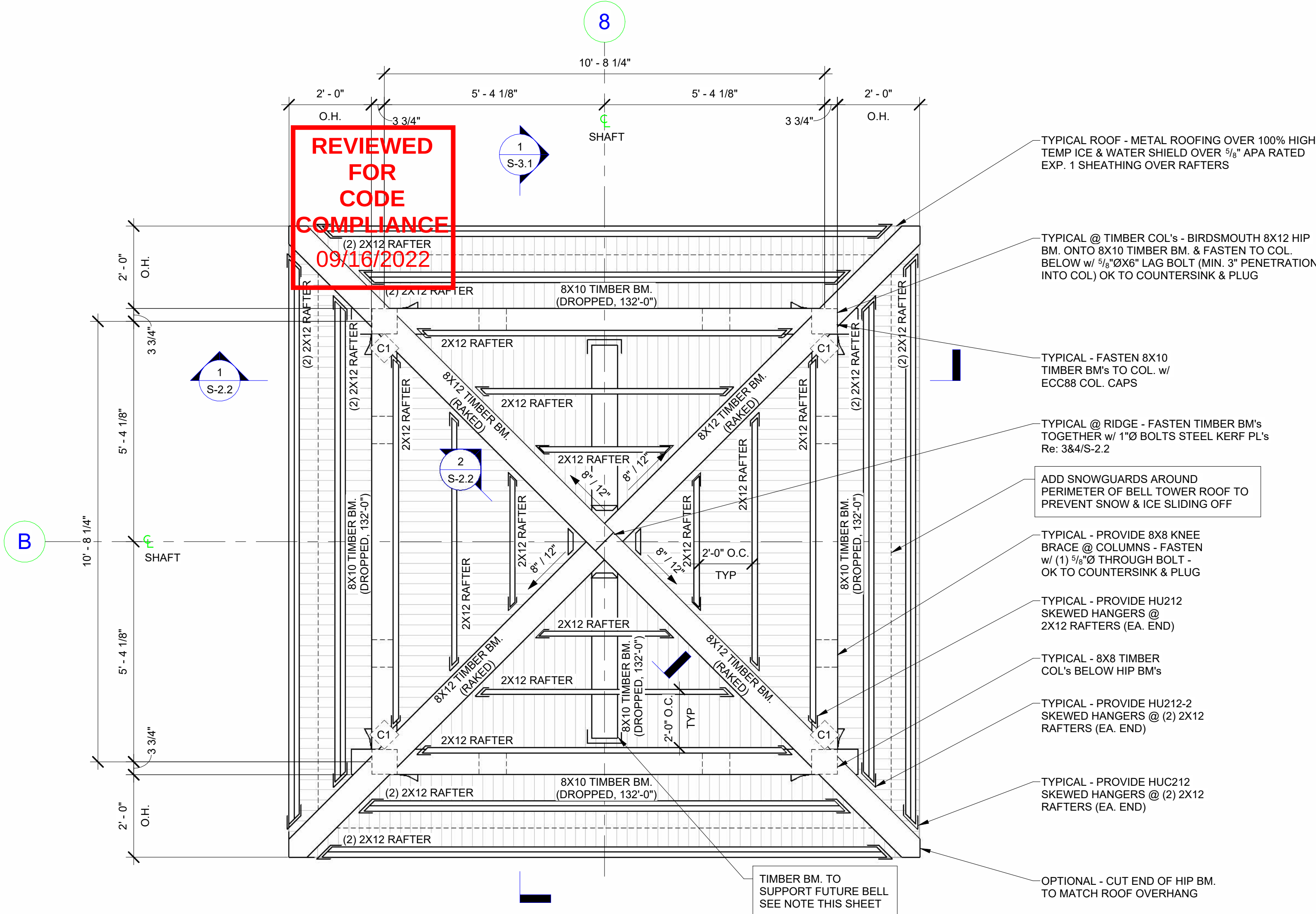
COLUMN LEGEND & SCHEDULE

MARK	SIZE	REMARKS
C1	8X8	TIMBER COL. @ BELL TOWER
C2	N/A	NOT USED IN THIS PLAN

NOTES:

- INDICATES COLUMNS BELOW
- INDICATES COLUMNS ABOVE
- INDICATES CONTINUOUS COLUMNS

1. COLUMN SCHEDULE IS FOR ENTIRE PROJECT.
2. N/A DENOTES COLUMN IS NOT USED THIS SHEET.



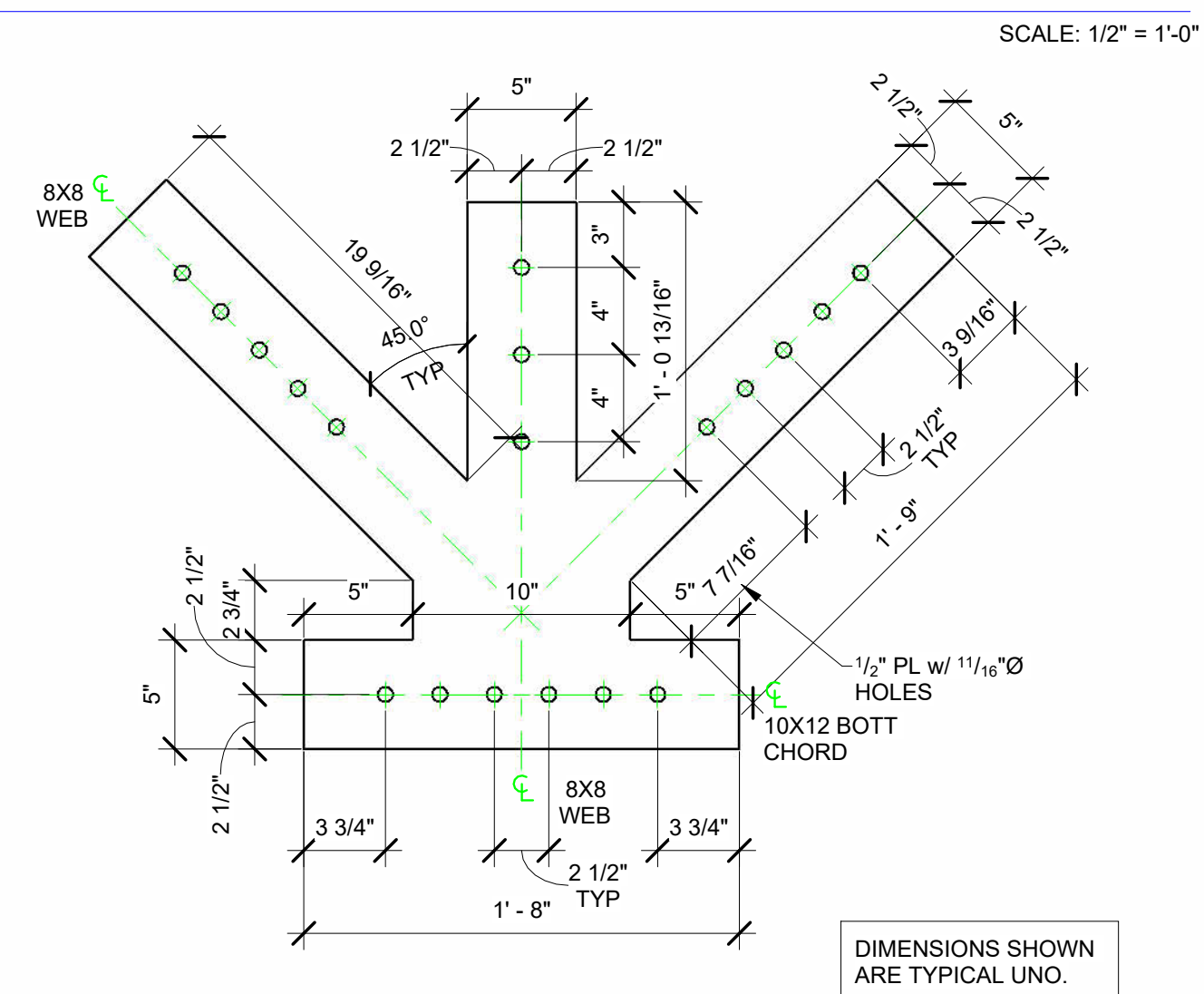
REVIEWED
FOR
CODE
COMPLIANCE
09/16/2022

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

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

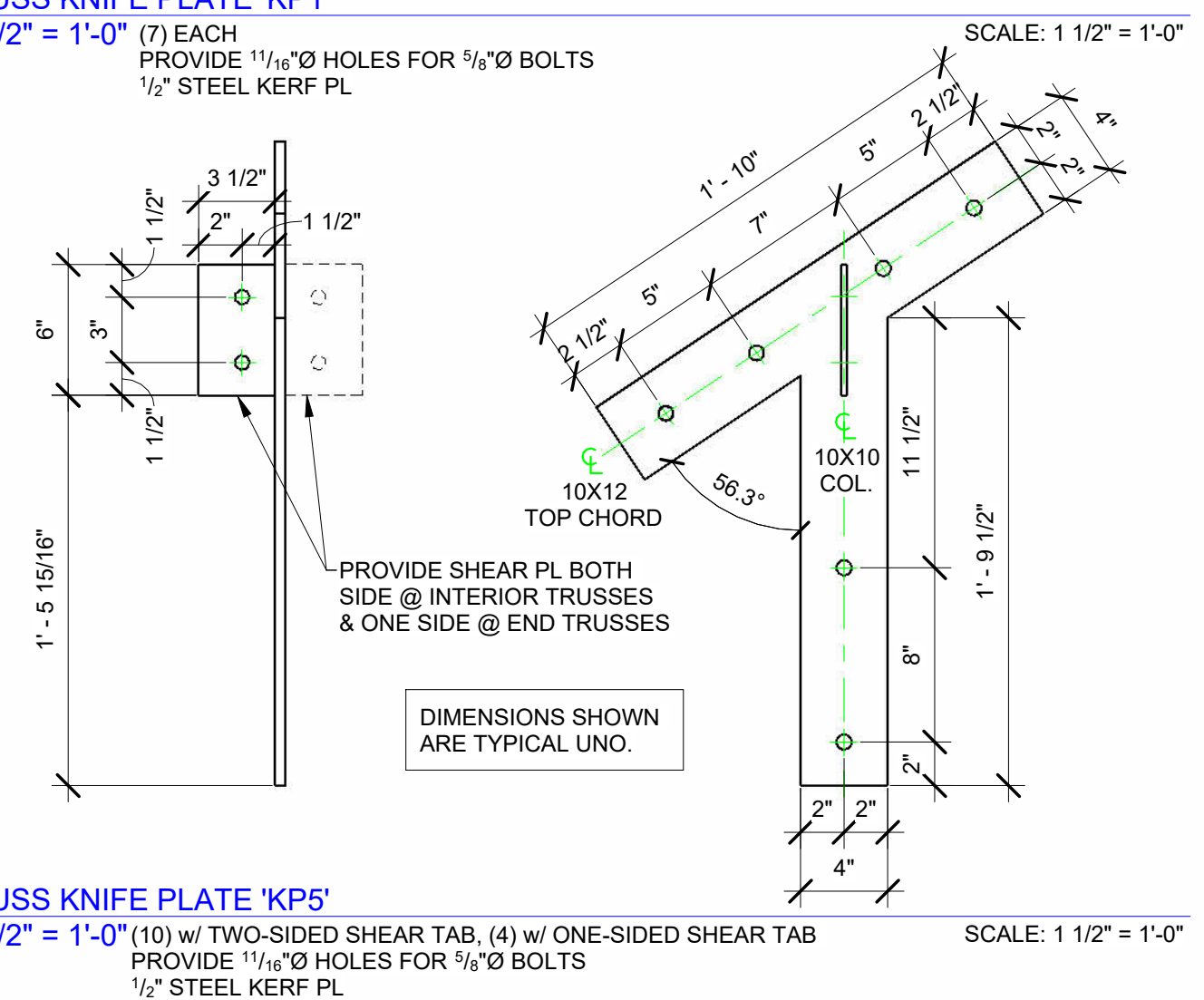


1 SECTION THROUGH ROOF TRUSS
1/2" = 1'-0"



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

3 TRUSS KNIFE PLATE 'KP1'
1 1/2" = 1'-0" (7) EACH
PROVIDE 11/16"Ø HOLES FOR 5/8"Ø BOLTS
1/2" STEEL KERF PL



7 TRUSS KNIFE PLATE 'KP5'

1 1/2" = 1'-0" (10) w/ TWO-SIDED SHEAR TAB, (4) w/ ONE-SIDED SHEAR TAB

PROVIDE 1 1/16" Ø HOLES FOR 5/16" Ø BOLTS

1/2" STEEL KERF PL

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

ISSUE DATES

REVIEW SET
10. 25. 21

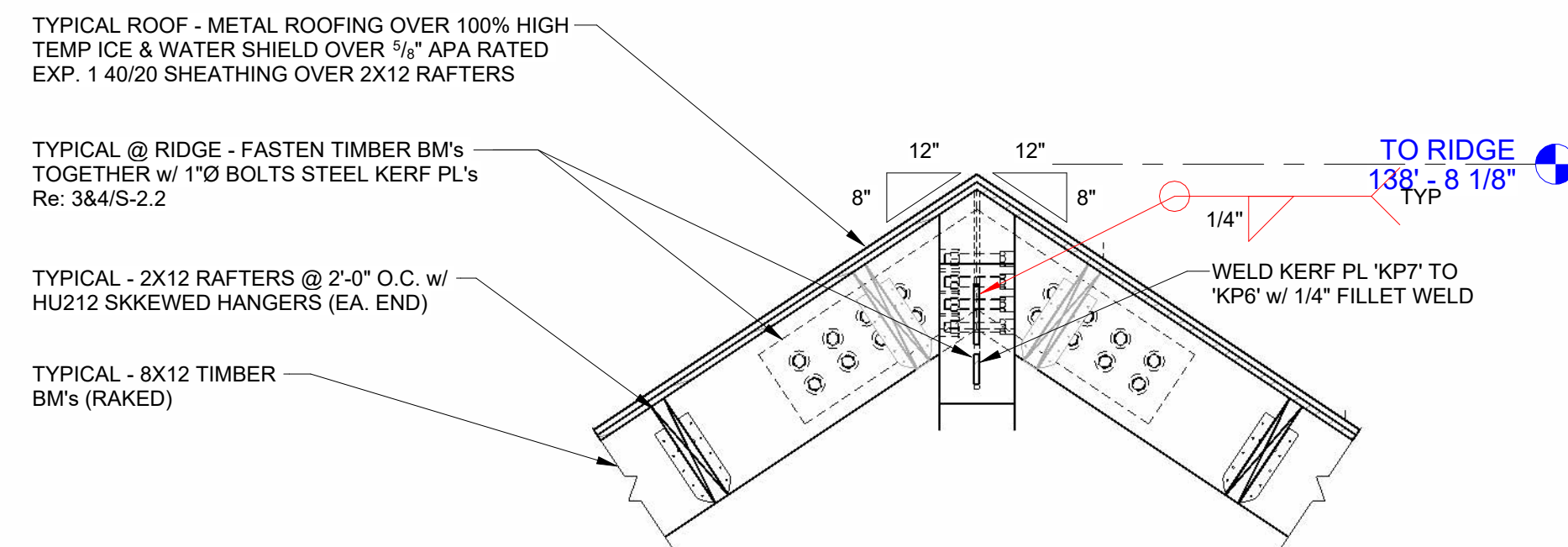
REVIEW SET
5. 9. 22

PERMIT SET
8. 4. 22

DESIGNED BY: MVS
REVIEWED BY: CWM
PROJECT #: 21112

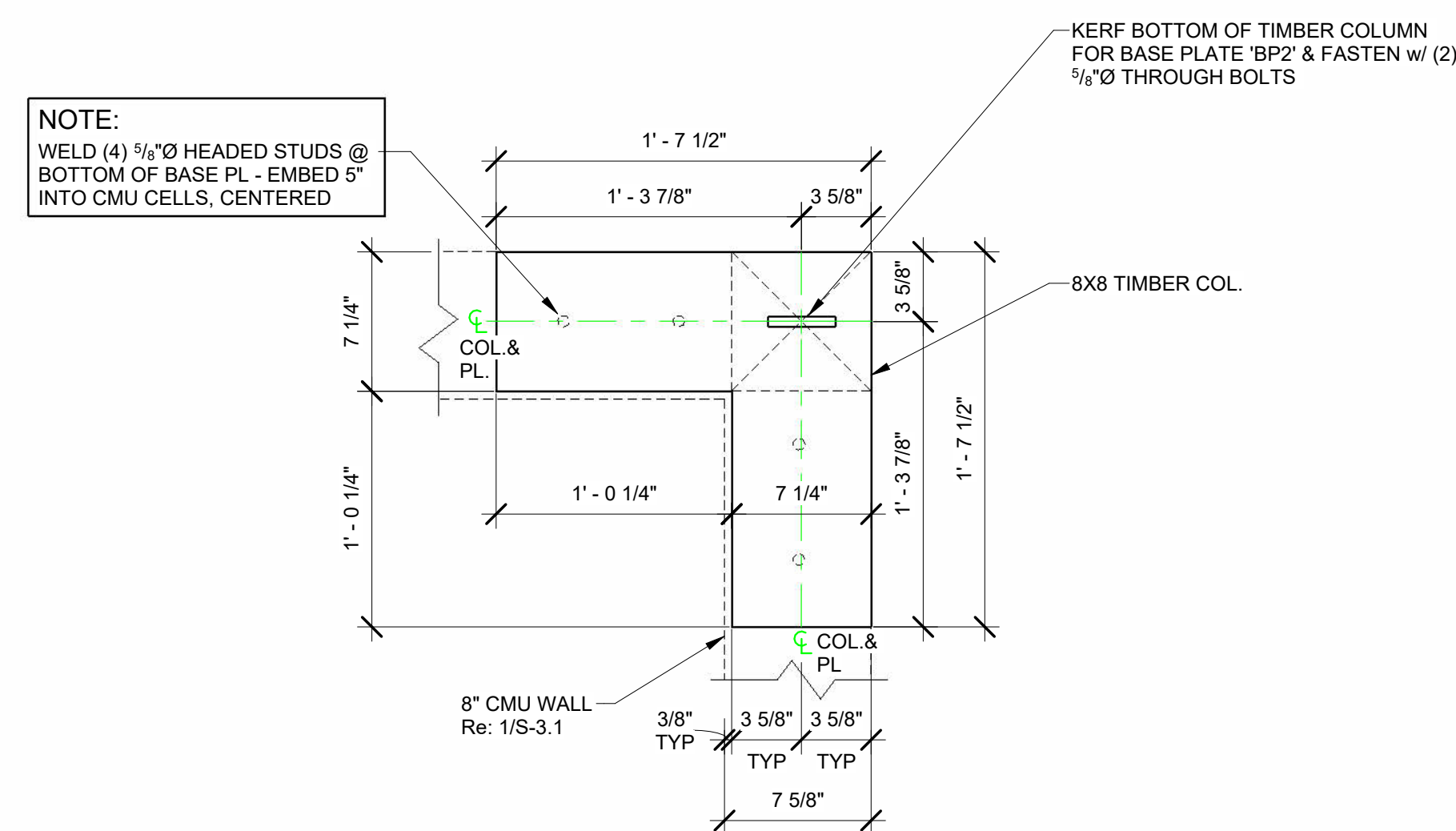
PAVILION ROOF
FRAMING SECTIONS

S-2.1



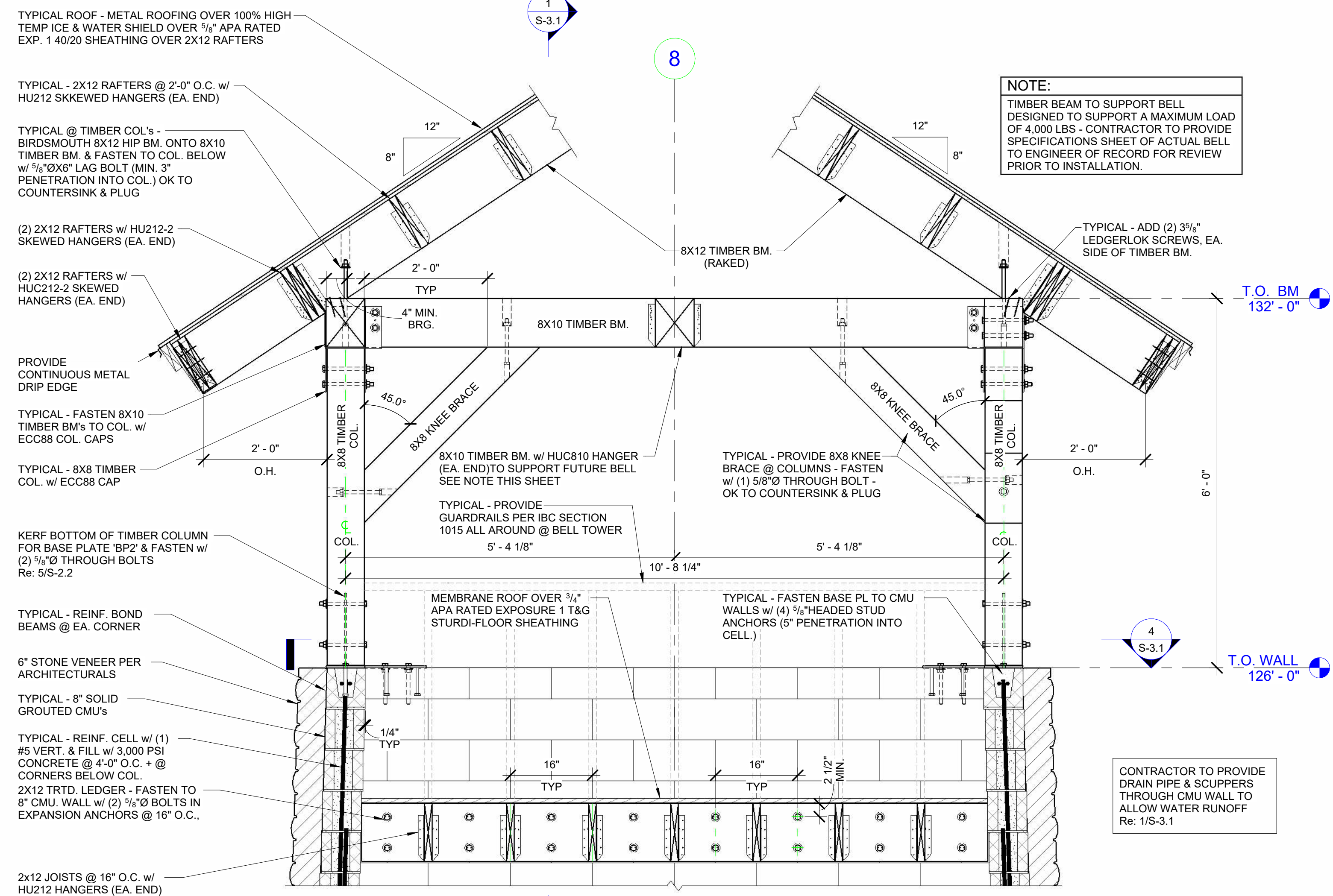
2 SECTION @ BELL TOWER RIDGE
3/4" = 1'-0"

SCALE: 3/4" = 1'-0"



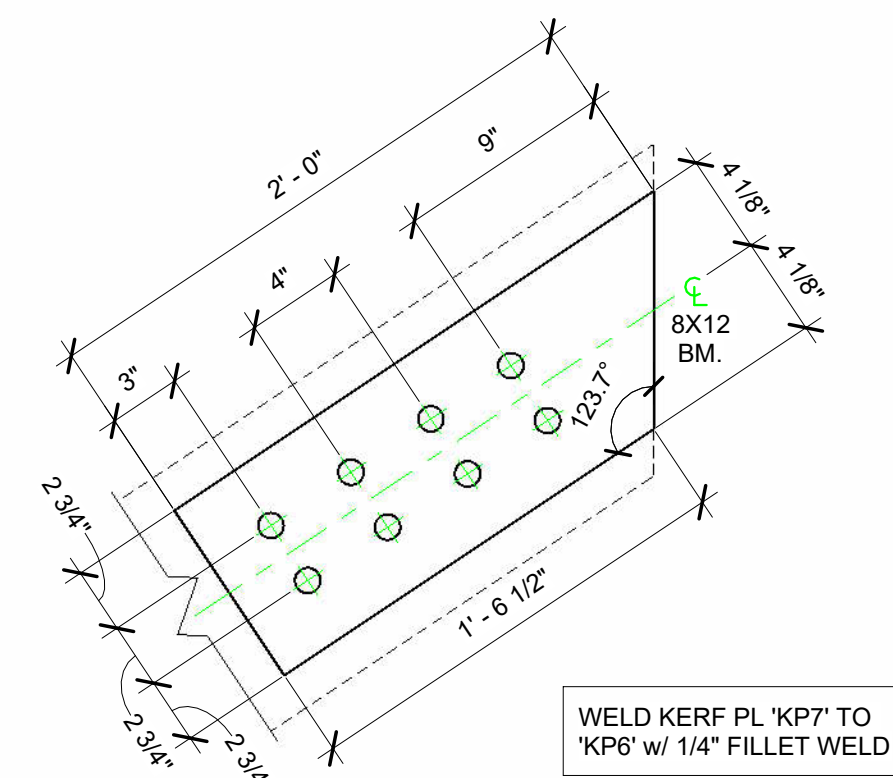
5 BASE PLATE 'BP2'
1 1/2" = 1'-0" (4) EACH
PROVIDE 1 1/16"Ø HOLES FOR 5/8"Ø BOLTS
1/2" STEEL KERF PL

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



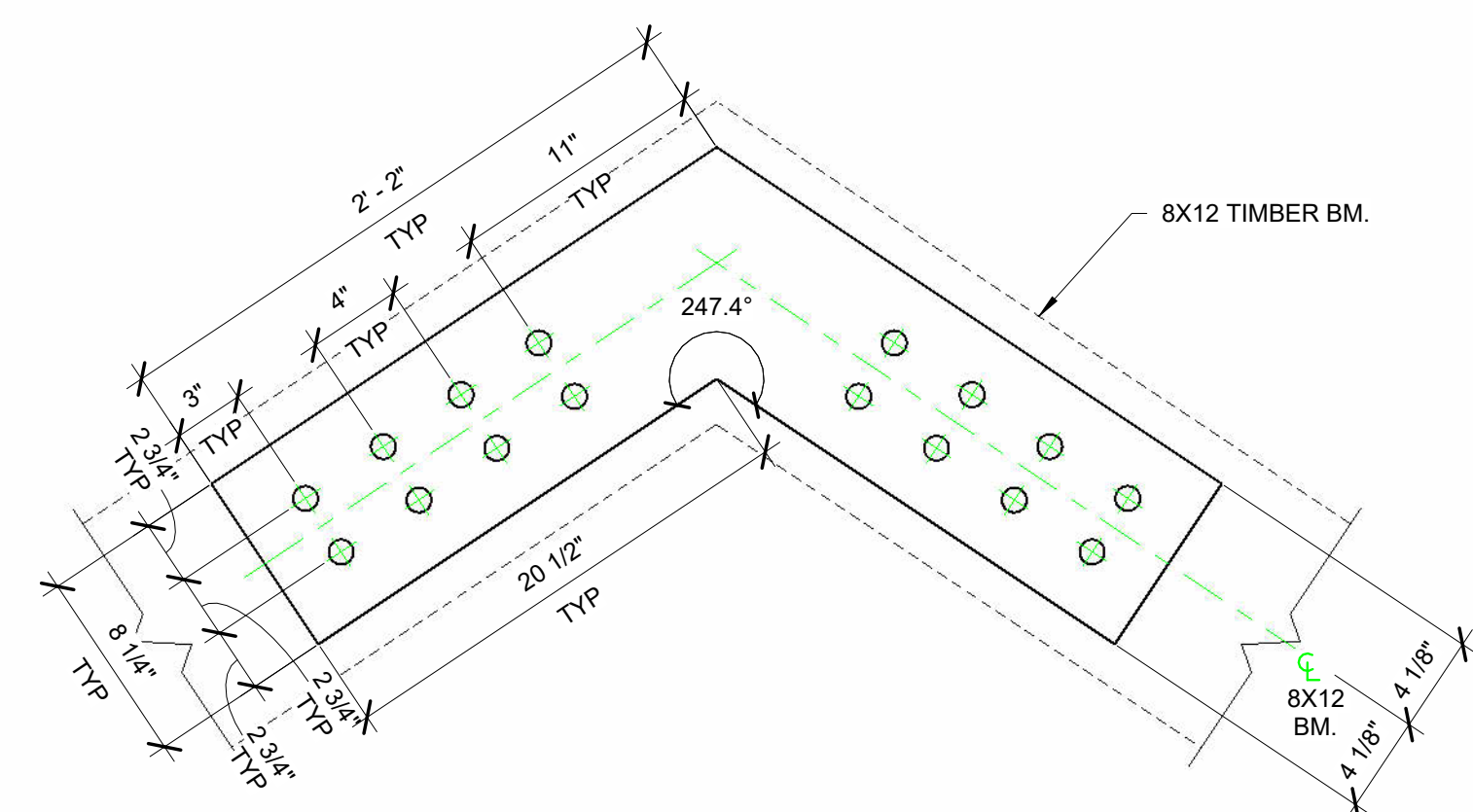
 SECTION THROUGH BELL TOWER ROOF
3/4" = 1'-0"

SCALE: 3/4" = 1'-0"



4 KERF PLATE 'KP7'
1 1/2" = 1'-0" (2) EACH
PROVIDE 1 1/16" Ø HOLES FOR 1" Ø BOLTS
1/2" STEEL KERF PL

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



3 KERF PLATE 'KP6'
1 1/2" = 1'-0" (1) EACH
PROVIDE 1 1/16"Ø HOLES FOR 1"Ø BOLTS
1/2" STEEL KERF PL

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



HOME RANCH.

54880 Co Rd 129
Clark, CO 80428

A NEW DESIGN FOR:
PAVILION & BELL TOWER

ISSUE DATES

REVIEW SET
10. 25. 21

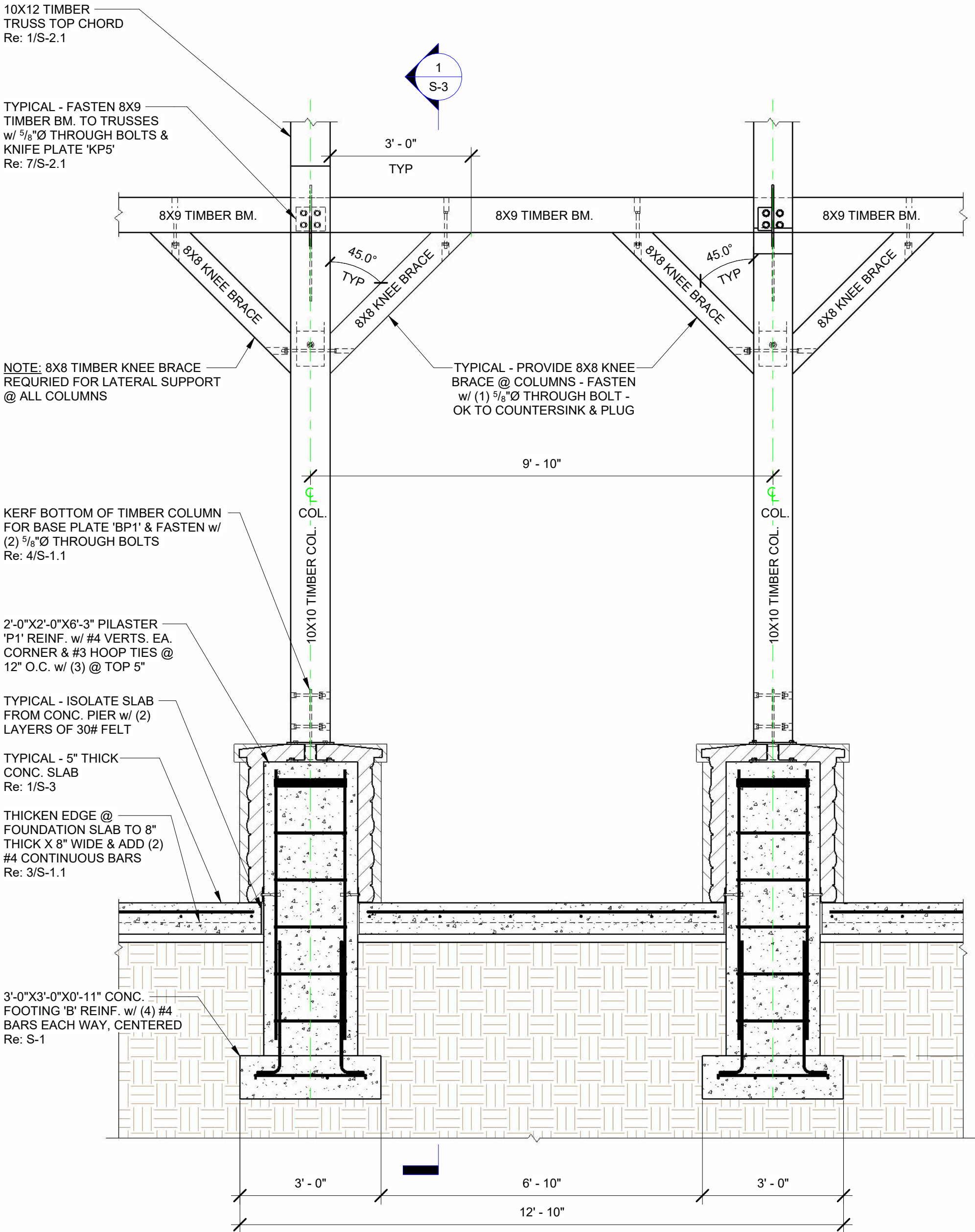
REVIEW SET
5. 9. 22

PERMIT SET
8. 4. 22

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PROJECT #: 21112

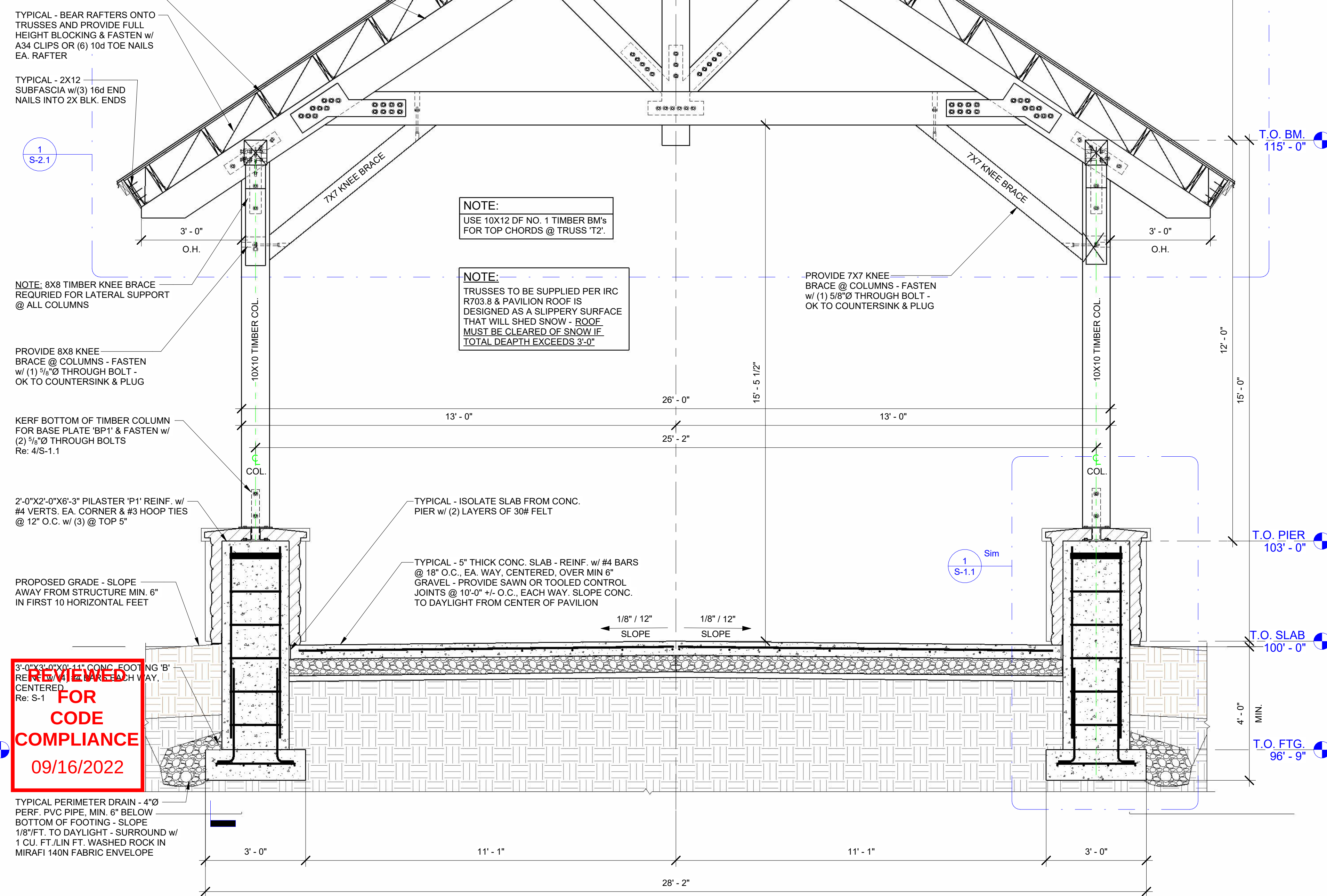
BELL TOWER ROOF FRAMING SECTIONS

S-2.2



2 TYPICAL PAVILION BRACE SECTION
1/2" = 1'-0"

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



1 TYPICAL SECTION THROUGH PAVILION
1/2" = 1'-0"

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



HOME RANCH

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A NEW DESIGN FOR:
PAVILION & BELL TOWER

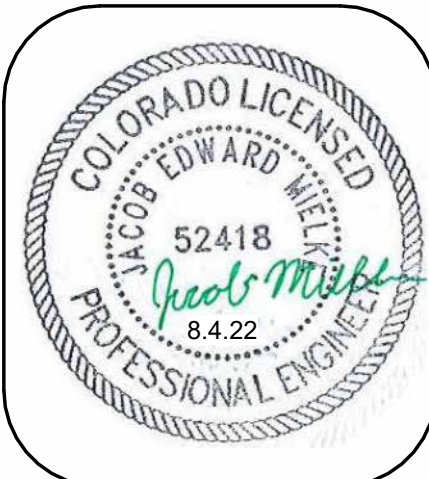
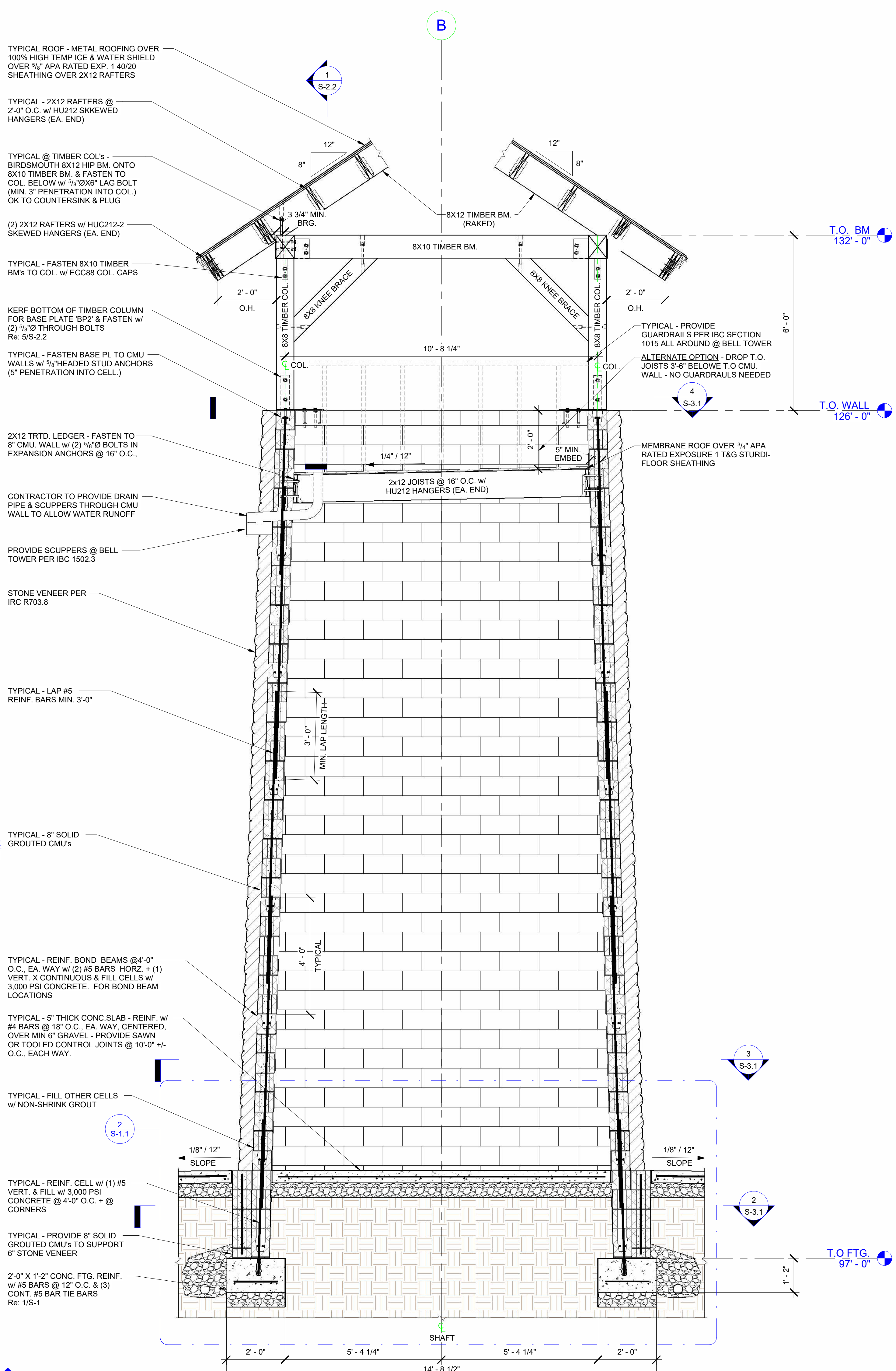
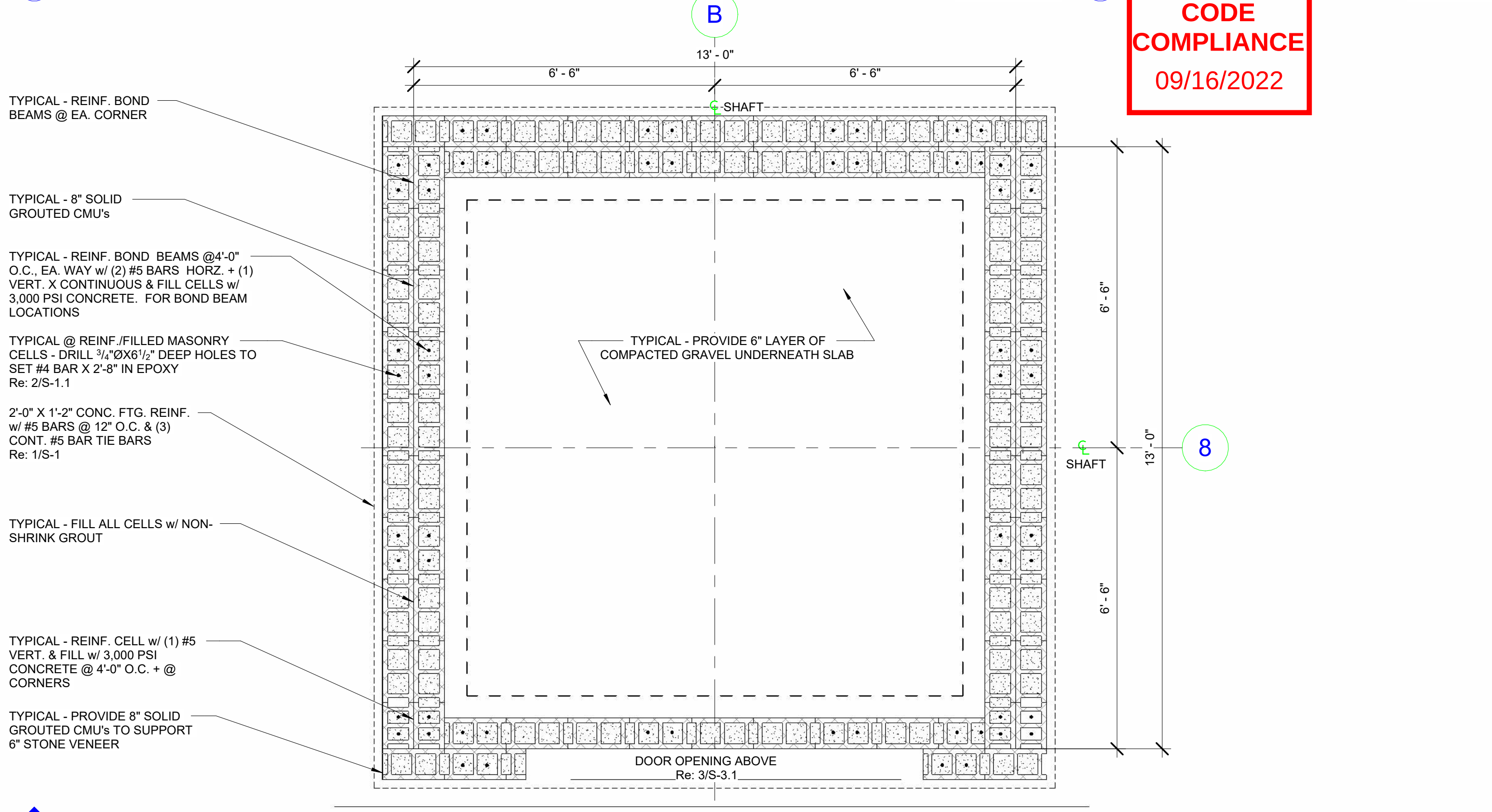
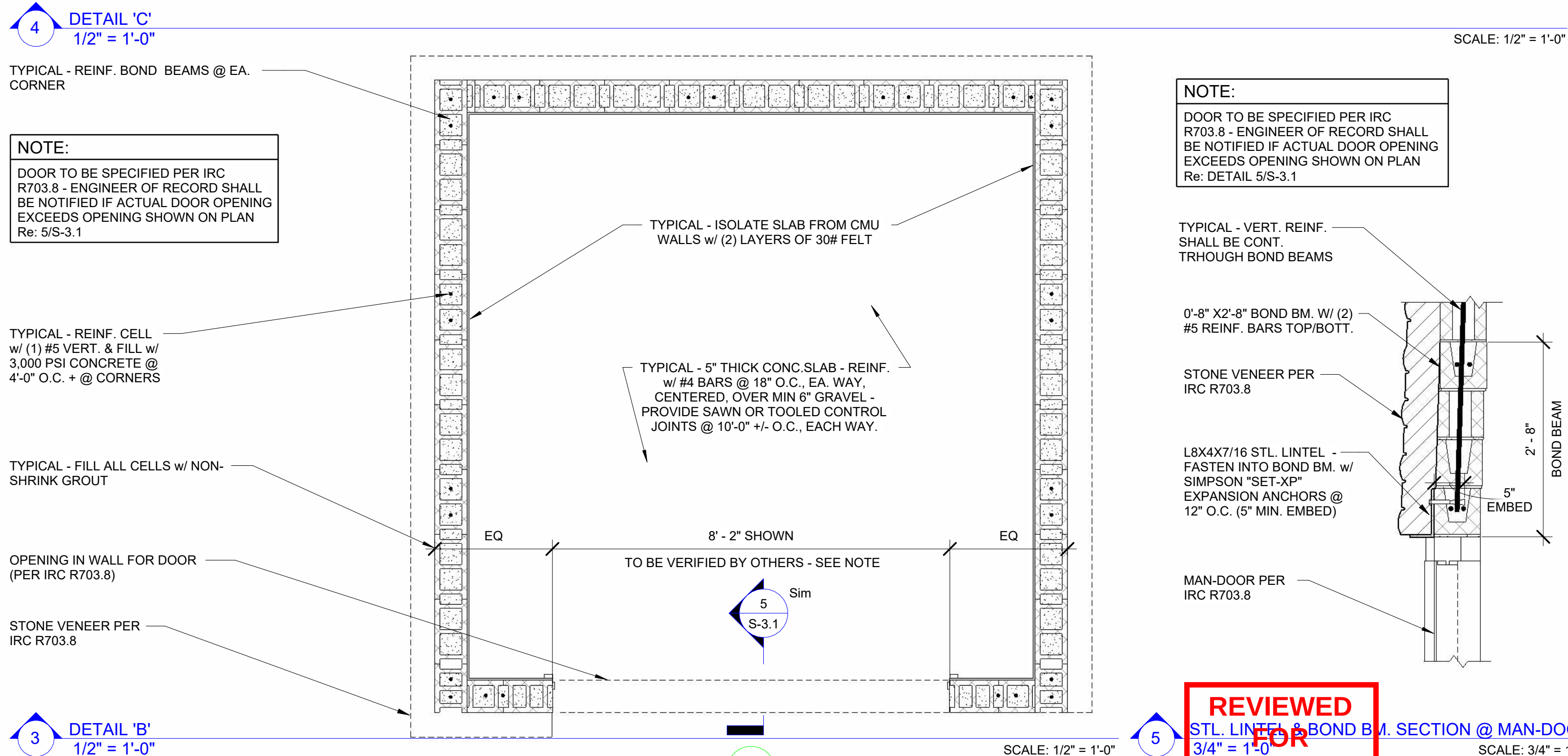
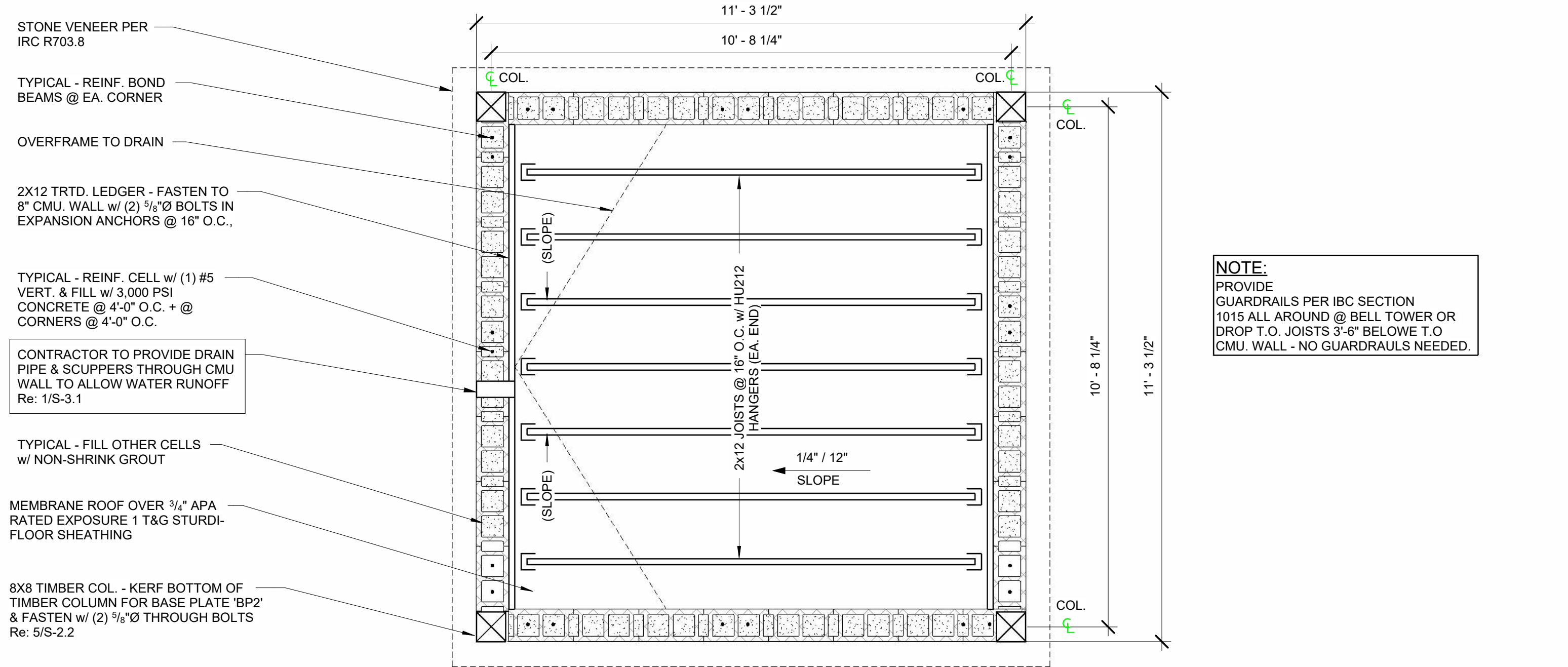
ISSUE DATES

REVIEW SET
10.25.21
REVIEW SET
5.9.22
PERMIT SET
8.4.22

DESIGNED BY: MVS
REVIEWED BY: CWM
PROJECT #: 21112

BUILDING SECTIONS
@ PAVILION

S-3



HOME RANCH

54880 Co Rd 129
Clark, CO 80428

—●—
A NEW DESIGN FOR:
PAVILION & BELL TOWER

ISSUE DATES

REVIEW SET
10. 25. 21

REVIEW SET
5. 9. 22

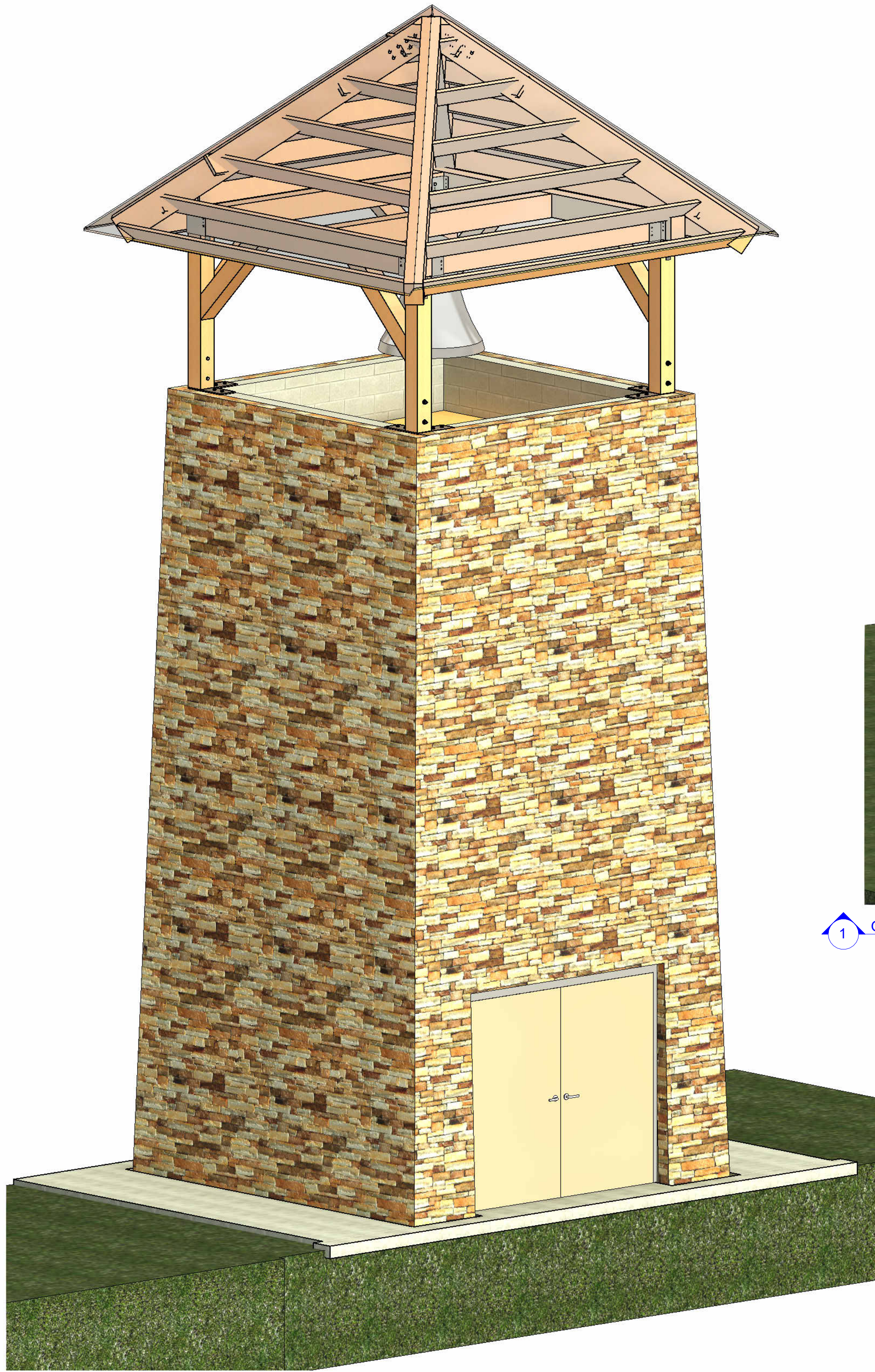
PERMIT SET
8. 4. 22

DESIGNED BY: MVS
REVIEWED BY: CWM
PROJECT #: 21112

PLANS & BUILDING SECTIONS @ BELL TOWER

S-3.1

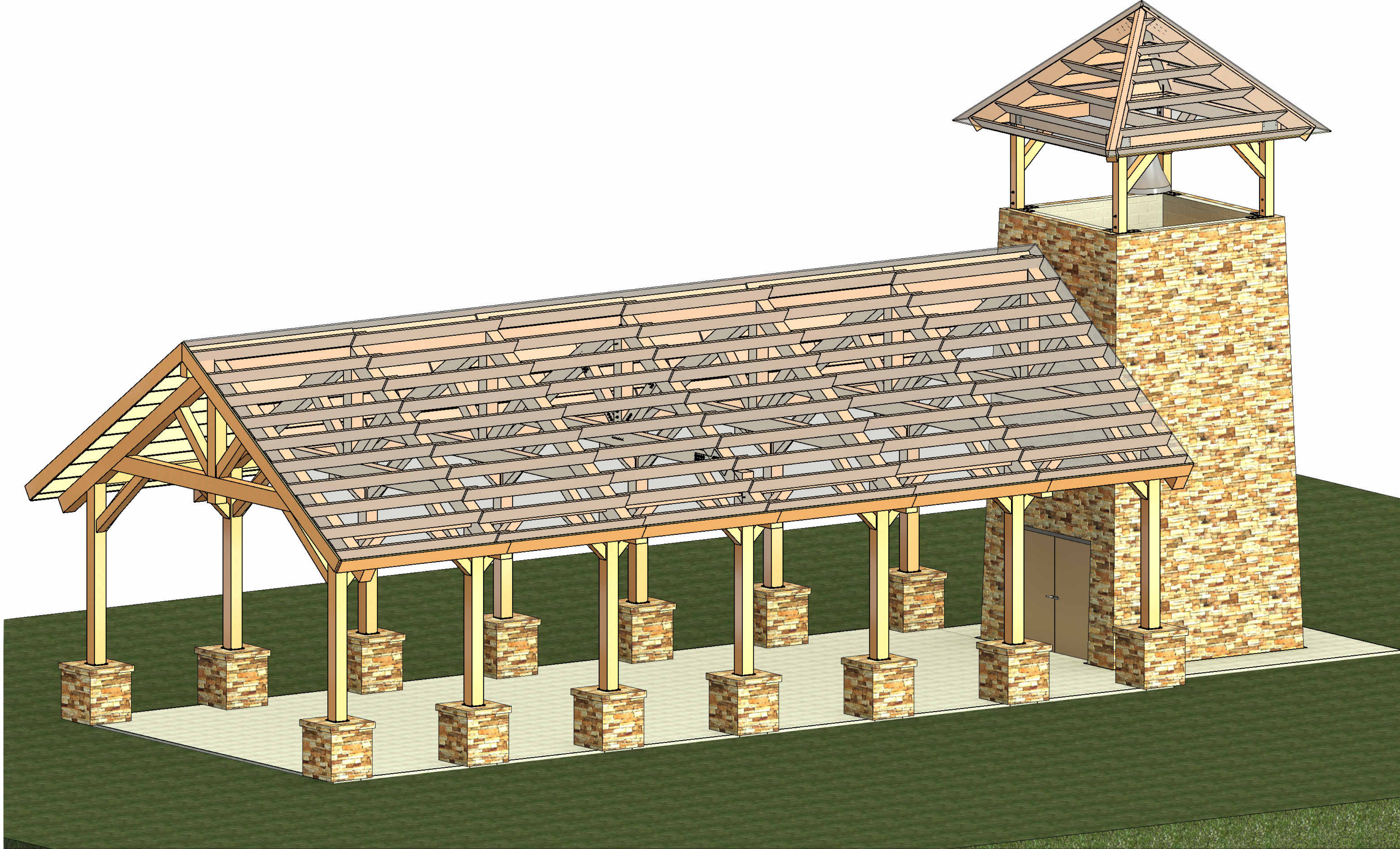
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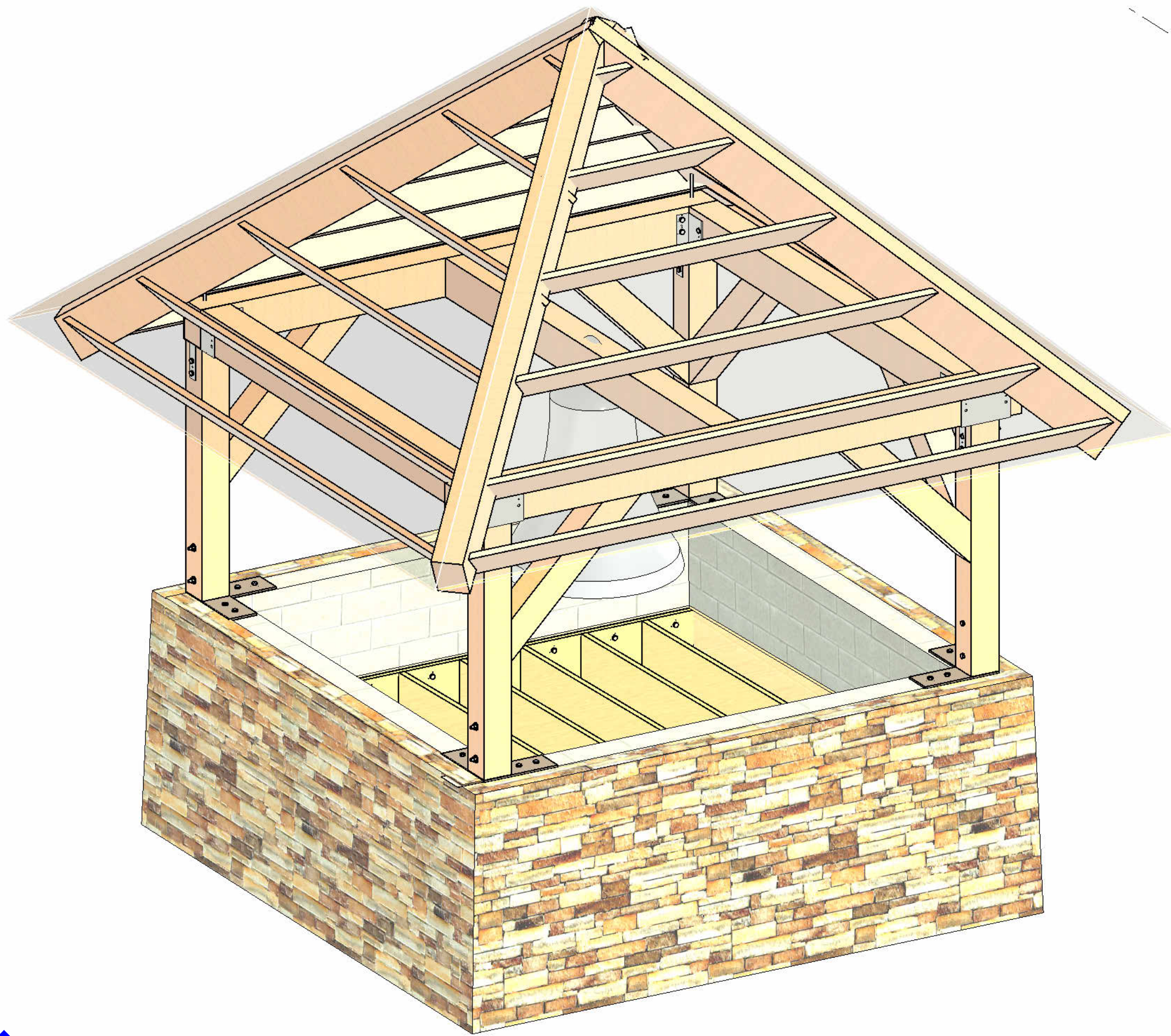
1 OVERALL 3D ISOMETRIC VIEW

REVIEWED
FOR
CODE
COMPLIANCE
09/16/2022

SCALE: N.T.S.



SCALE: N.T.S.



2 BELL TOWER ROOF FRAMING

SCALE: N.T.S.



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HOME RANCH
54880 Co Rd 129
Clark, CO 80428
A NEW DESIGN FOR:
PAVILION & BELL TOWER

ISSUE DATES	
REVIEW SET	10.25.21
REVIEW SET	5.9.22
PERMIT SET	8.4.22

DESIGNED BY: MVS
REVIEWED BY: CWM
PROJECT #: 21112

3D-ISOMETRIC VIEWS

S-4

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