LARSON RESIDENCE

Alum Rock

10818 Crothers Rd \\ San Jose, CA 95127

GENERAL NOTES

1. THE WORK INCLUDED UNDER THIS CONTRACT CONSISTS OF ALL LABOR, MATERIALS, TRANSPORTATION, TOOLS AND EQUIPMENT NECESSARY FOR THE CONSTRUCTION OF THE PROJECT LEAVING ALL WORK READY FOR USE.
2. ALL CONSTRUCTION SHALL CONFORM TO THE 2019 CALIFORNIA BUILDING, MECHANICAL, PLUMBING, ELECTRICAL AND THE 2019 CALIFORNIA ENERGY CODE. IN THE EVENT OF CONFLICT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH AIA GENERAL CONDITIONS DOC. A-201, 2007 EDITION.
4. OMISSIONS FROM THE DRAWINGS AND SPECIFICATION OR THE MISDESCRIPTION OF THE WORK WHICH IS MANIFESTLY NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH IS CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMMITTED OR MISDESCRIBED DETAILS OF THE WORK AS IF FULLY AND COMPLETELY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.
5. ALL WORK DESCRIBED IN THE DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR FOR DIMENSION, GRADE, EXTENT AND COMPATIBILITY TO THE EXISTING SITE. ANY ERRORS, OMMISSIONS, CONFLICTS, DISCREPANCIES AND UNEXPECTED CONDITIONS THAT AFFECT OR CHANGE THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE DESIGNER'S ATTENTION IMMEDIATELY. DO NOT PROCEED WITH THE WORK IN THE AREA OF DISCREPANCY UNTIL ALL SUCH DISCREPANCIES ARE RESOLVED. IF THE CONTRACTOR CHOOSES TO DO SO, THEY SHALL BE PROCEEDING AT HIS OWN RISK. ANY REVISION TO THE APPROVED SET OF PLANS MUST BE SUBMITTED TO AND APPROVED BY SCCOUNTY BUILDING DEPARTMENT PRIOR TO THE REVISION BEING COMPLETED.
6. THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF THE CONSTRUCTION DOCUMENTS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL THE TRADES, AND SHALL PROVIDE ALL THE SUBCONTRACTORS WITH CURRENT CONSTRUCTION DOCUMENTS AS REQUIRED.
7. THE GENERAL CONTRACTOR SHALL VERIFY AND ASSUME RESPONSIBILITY FOR ALL DIMENSIONS AND SITE CONDITIONS. THE GENERAL CONTRACTOR SHALL INSPECT THE EXISTING PREMISES AND TAKE NOTE OF EXISTING CONDITIONS PRIOR TO SUBMITTING PRICES. NO CLAIM SHALL BE ALLOWED FOR DIFFICULTIES ENCOUNTERED WHICH COULD HAVE REASONABLY BEEN INFERRED FROM SUCH AN EXAMINATION.
8. WRITTEN DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE DRAWINGS.
9. ALL DIMENSIONS TO AND FROM NEW CONSTRUCTION WHEN SHOWN IN PLAN ARE TO FACE OF GYP. BOARD, FACE OF MASONRY, FACE OF CEMENT PLASTER UNLESS OTHERWISE NOTED.
10. ALL DIMENSIONS ON REFLECTED CEILING PLANS, ELEVATIONS, AND ELECTRICAL PLANS ARE FROM FACE OF FINISH TO CENTER LINE OF FIXTURE OR GROUP OF FIXTURES UNLESS OTHERWISE NOTED.
11. ALL VERTICAL DIMENSIONS ARE TO FACE OF FINISH AND FINISH FLOOR UNLESS OTHERWISE NOTED.
12. ALL DIMENSIONS NOTED "VIF" OR "VERIFY" ARE TO BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO CONSTRUCTION. IMMEDIATELY REPORT ANY VARIANCE TO THE DESIGNER FOR RESOLUTION.
13. ALL WALLS ARE WOOD STUDS @ 16" O.C. UNLESS OTHERWISE NOTED.

14. CONTRACTOR SHALL PROVIDE ALL SEISMIC BRACING AND HOLD-DOWN CLIPS AS REQUIRED BY CODE FOR ALL SUSPENDED CEILING AND SOFFIT FRAMING CONDITIONS.
15. COORDINATE ALL WORK WITH EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO: IRRIGATION PIPES, ELECTRICAL CONDUIT, WATER LINES, GAS LINES, DRAINAGE LINES, ETC.
16. PROVIDE ADEQUATE TEMPORARY SUPPORT AS NECESSARY TO ASSURE THE STRUCTURAL VALUE OR INTEGRITY OF THE BUILDING.
17. PROTECT ALL EXISTING BUILDING AND SITE CONDITIONS TO REMAIN INCLUDING WALLS, CABINETS, FINISHES, TREES AND SHRUBS, PAVING, ETC.
18. DETAILS SHOWN ARE TYPICAL. SIMILAR DETAILS APPLY IN SIMILAR CONDITIONS.
19. VERIFY ALL ARCHITECTURAL DETAILS WITH STRUCTURAL, CIVIL, KITCHEN EQUIPMENT, AND SHOP OR DESIGN/BUILD DRAWINGS BEFORE ORDERING OR INSTALLATION OF ANY WORK.
20. WHERE LOCATIONS OF WINDOWS AND DOORS ARE NOT DIMENSIONED, THEY SHALL BE CENTERED IN THE WALL OR PLACED TWO STUD WIDTHS FROM ADJACENT WALL AS INDICATED ON THE DRAWINGS.
21. ALL REQUIRED EXITS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE.
22. ALL CHANGES IN FLOOR MATERIALS OCCUR AT CENTERLINE OF DOOR OR FRAMED OPENING UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
23. INSTALL ALL FIXTURES, EQUIPMENT AND MATERIALS PER MANUFACTURERS RECOMMENDATIONS.
24. VERIFY CLEARANCES FOR FLUES, VENTS, CHASES, SOFFITS, FIXTURES, ETC. BEFORE ANY CONSTRUCTION, ORDERING, OR INSTILLATION OF ANY ITEMS OF WORK.
25. SEALANT, CAULKING AND FLASHING, ETC. LOCATIONS SHOWN ON DRAWINGS ARE NOT INTENDED TO BE INCLUSIVE. FOLLOW MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND STANDARD INDUSTRY AND BUILDING PRACTICES.
26. ALL ROOF DECK PENETRATIONS AND EXTERIOR WALL OPENINGS SHALL BE GUARANTEED BY THE CONTRACTOR TO BE WATER TIGHT FOR A MINIMUM PERIOD OF FIVE YEARS AFTER SUBSTANTIAL COMPLETION OF ALL WORK UNDER THIS CONTRACT.
27. THE GENERAL CONTRACTOR SHALL REMOVE ALL RUBBISH AND WASTE MATERIALS OF ALL SUBCONTRACTORS AND TRADES ON A REGULAR BASIS, AND SHALL EXERCISE A STRICT CONTROL OVER JOB CLEANING TO PREVENT ANY DIRECT DEBRIS OR DUST FROM AFFECTING, IN ANY WAY, FINISHED AREAS IN OR OUTSIDE JOB SITE.
28. CONTRACTOR SHALL LEAVE PREMISES AND ALL AFFECTED AREAS CLEAN AND ORDERLY, READY FOR OCCUPANCY. THIS INCLUDES CLEANING OF ALL GLASS (INSIDE AND OUTSIDE) AND FRAMES, BOTH NEW AND EXISTING.
29. INSTALL SMOKE DETECTORS IN ACCORDANCE WITH THE SPECIFICATIONS AND IN CONFORMANCE WITH LOCAL FIRE MARSHAL REQUIREMENTS.
30. ALL EXTERIOR DOORS AND WINDOWS ARE TO BE WEATHER STRIPPED PER TITLE 24 REQUIREMENTS, UNLESS OTHERWISE NOTED IN DOOR DETAILS.
31. GLASS SUBJECT TO HUMAN IMPACT SHALL BE OF SAFETY GLAZING MATERIAL TO MEET STATE AND FEDERAL REQUIREMENTS.
32. ANY SURVEY MONUMENTS WITHIN THE AREA OF CONSTRUCTION SHALL BE PRESERVED OR RESET BY A REGISTERED CIVIL ENGINEER OR A LICENSED LAND SURVEYOR.
33. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED.
34. ACCESS FOR THE PHYSICALLY DISABLED IS REQUIRED BY THE TITLE 24 CALIFORNIA ADMINISTRATIVE CODE AND THE AMERICANS WITH DISABILITIES ACT. ALL REQUIRED FEATURES SHALL BE INCLUDED IN THE CONSTRUCTION WHETHER SPECIFICALLY DETAILED OR NOT.
35. INSTALL FIRE EXTINGUISHERS AND SELF-ILLUMINATING EXIT SIGNS PER CODE TO THE SATISFACTION OF THE COUNTY of SANTA CLARA. REVIEW LOCATIONS WITH DESIGNER PRIOR TO INSTALLATION.
36. ALL DOOR HARDWARE TO MEET ADA AND TITLE 24 REQUIREMENTS FOR ACCESSIBILITY.
37. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION IN CONFORMANCE WITH THE APPROVED PLANS, SPECIFICATIONS, AND ALL CODE REQUIREMENTS UNDER WHICH THE PLANS AND SPECIFICATIONS WERE APPROVED.

AREA CALCULATIONS

BUILDING AREA:

STORAGE	900 Sq Ft
MAIN LEVEL	3229 Sq Ft
GARAGE	928 SqFt
TOTAL AREA: TOTAL	5057 Sq Ft
PARCEL AREA:	6.58 Acres
AGRICULTURAL BARN	3500 sq. ft

PROJECT TEAM

DRAFTING/DESIGN FIRM
ECOSTRUCTION
PO BOX 62
Geyserville, CA 95441
ecostruction@att.net
831-588-0234

GEOTECHNICAL ENGINEER
BUTANO GEOTECHNICAL
213 Green Vally Rd. Suite E
Freedom, CA 95019
(831724-2612
www.butanogeotech.com

SURVEY
CARROLL ENGINEERING
1101 S. Winchester Blvd. #H-184
San Jose, CA 95128
(408) 261-9800 philip@carroll-engineering.com

SEPTIC ENGINEER
ACORN ONSITE, INC 2288 Buena Vista Ave Livermore, CA 94550
(800) 832-7711
www.AcornOnsite.com

OWNER/MANAGER
Mack Larson & Jothi Murali-Larson
larsonmack@icloud.com

STRUCTURAL ENGINEER
THANG LE and ASSOCIATES
319 E. Foothill Blvd.
Arcadia, CA 91006
(626) 538-2702
info@thanglese.com

CIVIL ENGINEER
DVC Group, Inc.
513 Center St.
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GEOLOGIST
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Build It Green
Smart Solutions From The Ground Up

ADDITIONAL DOCUMENTS & REQUIREMENTS

GEOTECHNICAL INVESTIGATION / SOIL REPORT- Attached

SPRINKLER PLAN - Differed Submittal   SEPTIC DESIGN - Deferred Submittal

TITLE 24 CALIFORNIA ENERGY CODE COMPLIANCE- Attached

ARBORIST: DUE TO THE SCOPE OF WORK FOR THIS PROJECT, NO ARBORIST REPORT HAS BEEN PREPARED. IN THE EVENT THAT PROJECT SCOPE CHANGES, CONTACT ARCHITECT & AUTHORITY HAVING JURISDICTION (AHJ) TO DETERMINE IF AN ARBORIST REPORT IS REQUIRED. NO WORK SHALL BE COMMENCED WITHIN THE DRIPLINE OF ANY TREE PROTECTED BY ANY AHJ PRIOR TO RETAINING A LICENSED ARBORIST.

COORDINATION REQUIREMENTS COORDINATE WITH DESIGNER

SEE CONSTRUCTION OBSERVATION NOTE ON THIS SHEET. PROVIDE ARCHITECT WITH MINIMUM 48 HOUR NOTICE OF MILESTONE REQUIRING CONSTRUCTION OBSERVATION. COPY ARCHITECT ON ALL CORRESPONDENCE WITH ALL PROJECT CONSULTANTS.

ABBREVIATIONS

A	AMPERES	DR	DOOR	INCL.	"INCLUDE, INCLUSIVE"	R	RADIUS
A.B.	ANCHOR BOLT	E.A.	EXPANSION ANCHOR	INSUL.	INSULATION	R.D.L.	ROOF DRAIN LEADER
A.F.F.	ABOVE FINISHED FLOOR	E.F.	EXHAUST FAN	INT.	INTERIOR	R.D.O.	ROOF DRAIN OVERFLOW
A.F.G.	ABOVE FINISHED GRADE	E.J.	EXPANSION JOINT	J-BOX	JUNCTION BOX	R.O.	ROUGH OPENING
A/C	AIR CONDITIONING	E.N.	END NAILING	JCT	JUNCTION	R.O.W. or R/W	RIGHT OF WAY
ABC	AGGREGATE BASE COURSE	E.W.	EACH WAY	JST.	JOIST	REF	REFRIGERATOR
ABS	ACRYLONITRILE-BUTADIENE-STYRENE	EA.	EACH	JT.	JOINT	REF.	REFERENCE
ABV.	ABOVE	EL	ELEVATION	K-D	KNOCK DOWN	REINF.	REINFORCED
ACB	ASBESTOS-CEMENT BOARD	ELECT.	"ELECTRIC, ELECTRICAL"	KD	KILN DRIED	REQ'D.	REQUIRED
ACOU.	ACOUSTIC	ELEV.	ELEVATOR	KO	KNOCK OUT	RET.	RETURN
ACT	ACOUSTICAL CEILING TILE	EMC	ELECTRICAL METALLIC CONDUIT	L.E.D.	LIGHT EMITTING DIODE	REV.	REVISION
ADD.	ADDITION or ADDENDUM	EMT	ELECTRICAL METALLIC TUBING	L.FT.	LINEAR FEET	RM	ROOM
AG	ABOVE GRADE	ENT	ELECTRICAL NON-METALLIC TUBING	LAM	LAMINATE	RMV.	REMOVE
AHU	AIR HANDLER UNIT	EQ.	EQUAL	LAT.	LATERAL	S.C.	SOLID CORE
AL. or ALUM.	ALUMINUM	EQUIP.	EQUIPMENT	LAV	LAVATORY	S.D.	SMOKE DETECTOR
ALT.	ALTERNATE	EST.	ESTIMATE	LD.	LEAD	S.O.V.	SHUT OFF VALVE
ANL	ANNEALED	EVAP.	EVAPORATIVE COOLER	LIN.	LINEAR	S/L	SKYLIGHT
ASPH.	ASPHALT	EWC	ELECTRIC DRINKING COOLER	LINO.	LINOLEUM	S/S	STAINLESS STEEL
AVG	AVERAGE	EXC	EXCAVATE	LT.	LIGHT	SC	SELF CLOSING
AWG	AMERICAN WIRE GAUGE	EXH.	EXHAUST	LTG.	LIGHTING	SCHED.	SCHEDULE
∠	ANGLE	EXIST. or E	EXISTING	LVL	LAMINATED VENEER LUMBER	SECT.	SECTION
B.M.	BENCH MARK	EXT.	EXTERIOR	M.B.	MACHINE BOLT	SES	SERVICE ENTRANCE SECTION
B.N.	BOUNDARY NAILING	F.A.	FIRE ALARM	M.H.	MANHOLE	SH	SHEET
B.O.	BOTTOM OF	F.C.	FAN COIL	M.I.	MALLEABLE IRON	SHT'G.	SHEATHING
B.O.F.	BOTTOM OF FOOTING	F.C.O.	FLOOR CLEAN OUT	M.O.	MASONRY OPENING	SIM.	SIMILAR
B.U.	BUILT UP	F.D.	FLOOR DRAIN	MAR.	MARBLE	SPA.	SPACE
B/C	BACK OF CURB	F.E.	FIRE EXTINGUISHER	MAS.	MASONRY	SPECS	SPECIFICATIONS
BD.	BOARD	F.N.	FIELD NAILING	MAT'L.	MATERIAL	SPKR.	SPEAKER
BLDG	BUILDING	F.O.	FACE OF	MAX.	MAXIMUM	SQ. FT.	SQUARE FEET
BLK.	BLOCK	F.S.	FLOOR SINK	MECH.	MECHANICAL	SQ. IN.	SQUARE INCHES
BLKG.	BLOCKING	F/G	FIBERGLASS	MED.	MEDIUM	STC	SOUND TRANSMISSION CLASS
BM.	BEAM	FAB.	FABRICATE	MFG.	MANUFACTURING	STD.	STANDARD
BR	BRASS	FACP	FIRE ALARM CONTROL PANEL	MFR.	MANUFACTURER	STL.	STEEL
BRG.	BEARING	FDC	FIRE DEPARTMENT CONNECTION	MIN.	MINIMUM	SUSP.	SUSPENDED
BRZ	BRONZE	FDN.	FOUNDATION	MISC.	MISCELLANEOUS	SW	SWITCH
C.A.P.	CONCRETE ASBESTOS PIPE	FHC	FIRE HOSE CABINET	MOD	MODULAR	SYM	SYMMETRICAL
C.D.	CONSTRUCTION DOCUMENTS	FIN.	FINISH	MTL.	METAL	SYS.	SYSTEM
C.I.P.	CAST IN PLACE	FL	FLOOR	MUL	MULLION	T & G	TONGUE AND GROOVE
C.J.	CONTROL JOINT	FLG.	FLOORING	N.I.C.	NOT IN CONTRACT	T.B.	THROUGH BOLT
C.O.	CLEAN OUT	FLUOR.	FLUORESCENT	N.T.S.	NOT TO SCALE	T.M.B.	TELEPHONE MOUNTING BOARD
~~C.T.~~	~~CERAMIC TILE~~	~~FP~~	~~FIRE PROOF~~	NCM	NON-CORROSIVE METAL	T.O.	TOP OF
CAB	CABINET	FTG.	FOOTING	NFC	NOT FOR CONSTRUCTION	T.O.B.	TOP OF BEAM
CAM.	CAMBER	FURN.	FURNISH	NLR.	NAILER	T.O.C.	TOP OF CURB
CCTV	CLOSED CIRCUIT TELEVISION	G.I.	GALVANIZED IRON	NO.	NUMBER	T.O.F.	TOP OF FOOTING
CEM.	CEMENT	GA.	GAUGE	NOM.	NOMINAL	T.O.J.	TOP OF JOIST
CER	CERAMIC	GALV.	GALVANIZED	O.C.	ON CENTER	T.O.M.	TOP OF MASONRY
CFM	CUBIC FEET PER MINUTE	GAR.	GARAGE	O.D.	OUTSIDE DIAMETER	T.O.S.	TOP OF SLAB
CH or ⊏	CHANNEL	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	O.H.	OVER HANG	T.O.W.	TOP OF WALL
CKT. BKR.	CIRCUIT BREAKER	GFI	GROUND FAULT INTERRUPTER	O.I.	ORNAMENTAL IRON	T.S.	TUBE STEEL
CL or ℄	CENTERLINE	GL	GLASS	O.R.	OUTSIDE RADIUS	T.V.	TELEVISION OUTLET
CLG.	CEILING	GLB	GLUE LAMINATED BEAM	OAI	OUTSIDE AIR INTAKE	TEL.	TELEPHONE
CLKG.	CAULKING	GM	GRADE MARK	OH	OVER HEAD	TH.	THRESHOLD
CLO.	CLOSET	GM	GATE VALVE	OPNG.	OPENING	THD.	THREADED
CLR.	CLEAR	GRC	GALVANIZED RIGID TUBING	OPPO.	OPPOSITE	THK.	THICK
CMU	CONCRETE MASONRY UNIT	GYP.	GYPSUM	P.C.	PRECAST CONCRETE	THRU	THROUGH
CNTRD.	CENTERED	GYP. BD.	GYPSUM BOARD	P.L. or ℙ	PROPERTY LINE	TLT.	TOILET
COL.	COLUMN	H.B.	HOSE BIBB	P.LAM.	PLASTIC LAMINATE	TRANS.	TRANSFORMER
COMB.	COMBINATION	H.C.	HOLLOW CORE	P.O.C.	POINT OF CONNECTION	TYP.	TYPICAL
CONC.	CONCRETE	H.M.	HOLLOW METAL	PERF.	PERFORATED	UNF.	UNFINISHED
CONST.	CONSTRUCTION	H/C	HANDICAPPED	PERP. or ⊥	PERPENDICULAR	UR	URINAL
CONT.	CONTINUOUS	HDBD.	HARDBOARD	PH or ø	PHASE	V.B.	VAPOR BARRIER
CONTR.	CONTRACTOR	HDW	HARDWARE	PL.	PLASTER	V.I.F.	VERIFY IN FIELD
CU	COPPER	HGT.	HEIGHT	PL. or ℙ	PLATE	VA	VOLT AMPERE
d	PENNY	HOR.	HORIZONTAL	PLAS.	PLASTIC	VCT	VINYL COMPOSITION TILE
D.F.	DRINKING FOUNTAIN	HTR	HEATER	PLUMB.	PLUMBING	VERT.	VERTICAL
D.G.	DECOMPOSED GRANITE	HVAC	"HEATING, VENTILATING & AIR CONDITIONING"	PLYWD.	PLYWOOD	W/C	WATER CLOSET
D.S.	DOWN SPOUT	HW	HOT WATER	PORC.	PORCELAIN	WDW	WINDOW
D/W	DISHWASHER	HYD.	HYDRAULIC	PREFAB.	PREFABRICATED	WCT	WAINSCOT
DBL.	DOUBLE	I.C.	INTERCOM OUTLET	PSF	POUNDS PER SQUARE FOOT	WP	WEATHER PROOF
DEMO	DEMOLITION	I.D.	INSIDE DIAMETER	PSI	POUNDS PER SQUARE INCH	WT.	WEIGHT
DIA. or ø	DIAMETER	I.F.	INSIDE FACE	PTN.	PARTITION	W/	WITH
DIAG.	DIAGONAL	ID	IDENTIFICATION	PVC	POLYVINYLCLORIDE	W/O	WITHOUT
DIM.	DIMENSION	IG	ISOLATED GROUND	PWR.	POWER	WD.	WOOD
DL	DEAD LOAD	IMC	INTERMEDIATE METALLIC CONDUIT	Q.T.	QUARRY TILE	W.I.	WROUGHT IRON
DN.	DOWN	IMPG	IMPREGNATED	QTY.	QUANTITY	YD.	YARD

CONSTRUCTION OBSERVATION REQUIRED

GENERAL CONTRACTOR IS REQUIRED TO SCHEDULE & COORDINATE THE FOLLOWING MANDATORY CONSTRUCTION OBSERVATION SITE VISITS WITH DESIGNER PRESENT. PROVIDE NOTICE TO DESIGNER AT LEAST 48 HOURS PRIOR TO SUCH VISITS. PRIOR TO BEGINNING WORK, PROVIDE DESIGNER & OWNER WITH A CRITICAL PATH SCHEDULE SHOWING THE FOLLOWING CONSTRUCTION MILESTONES:

INITIALS	REQD	SITE VISIT MILESTONE
______	☐	PRE CONSTRUCTION SITE MEETING
______	☒	AFTER FINISH REMOVAL, PRIOR TO STRUCTURAL DEMOLITION
______	☒	ROUGH FRAMING
______	☐	WINDOW SELECTION, PRIOR TO ORDERING WINDOWS
______	☐	ROUGH ELECTRICAL, MOUNTED BOXES PRIOR TO PULLING WIRE
______	☐	FRAMING & INSULATION, PRIOR TO COVERING FRAMING W/ FINISHES

ADDITIONALLY, CONTRACTOR SHALL SCHEDULE A MANDATORY WALK THRU WITH DESIGNER & OWNER PRESENT AT SUBSTANTIAL COMPLETION.

______ ☒ SUBSTANTIAL COMPLETION PRIOR TO GRANTING OCCUPANCY

DESIGNER'S INITIALS ARE REQUIRED TO THE LEFT OF EACH SITE VISIT LISTED PRIOR TO PROCEEDING WITH SUBSEQUENT WORK & INDICATE ONLY THAT DESIGNER WAS PRESENT & PROVIDED WITH THE OPPORTUNITY TO OBSERVE CONSTRUCTION AT THAT PHASE.

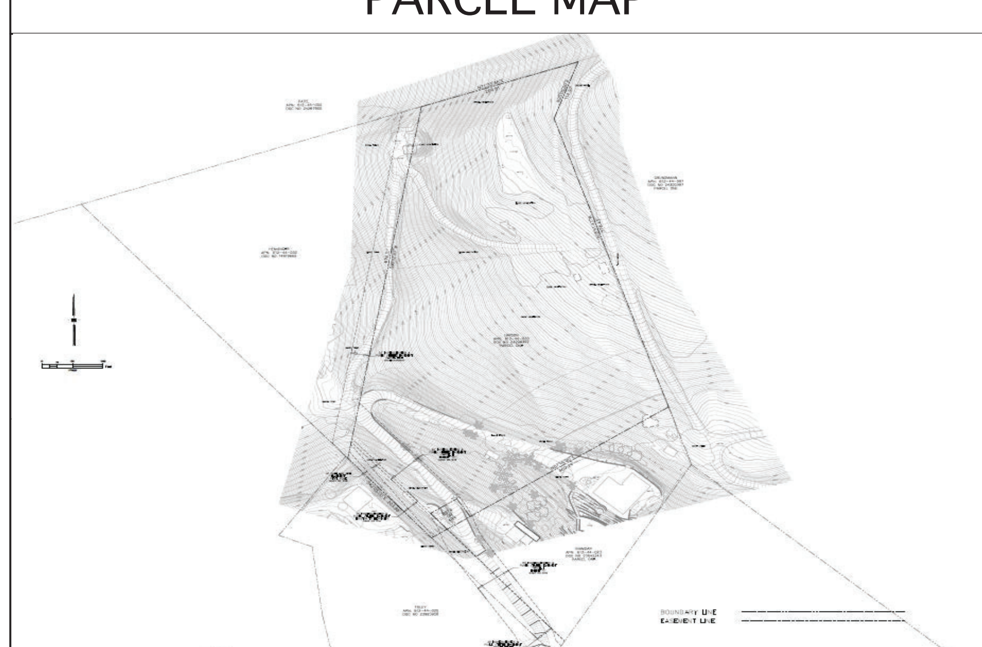
PROJECT DATA

PROJECT ADDRESS:	10818 Crothers Rd. San Jose, CA
OWNER/MANAGER:	Mack Larson & Jothi Murali-Larson
APN:	612-44-033
ZONING:	Residential /Agricultural
LOT AREA:	6.58 Acres
BUILDING AREA:	See Area Calculations on this sheet
STORIES:	2 story residential
CONSTRUCTION TYPE:	Typ VA
FIRE SPRINKLERS:	Deferred Submittal
OCCUPANCY:	Group R-4
APPLICABLE CODES:	County of Santa Clara Municipal Code

2022 CA RESIDENTIAL BUILDING CODE
2022 CA Bldg Code, 2022 CA Res Bldg Code, 2022 CA Elec Code
20122 CA Mech Code, 2013 CA Plmbg Code, 2022 CA Energy Code
2022 CA Fire Code, 2022 CalGreen Code, 2022 CA Ref Stds Code
All as amended by The State Of California and Local Jurisdiction(s).

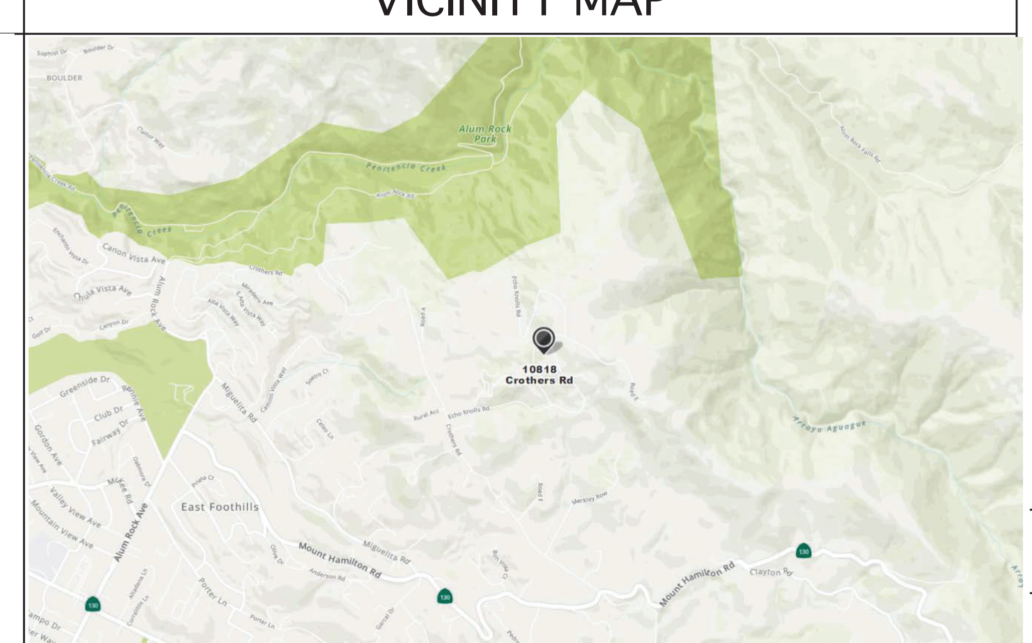
SHEET INDEX

PARCEL MAP



Please Note: Orientation of other plans within the set may vary from this Parcel Map.

VICINITY MAP



Please Note: Orientation of other plans within the set may vary from this Vicinity Map.

PROJECT SCOPE

New 3229sq. ft SFD with 928 sq. ft Attached Garage, 900sq. ft storage, PV Solar System, 3500 sq. ft Agricultural barn, and Gardens.

eco-struction

Print Date: 02/02/2022

Rev	Description	Date:
	Building & Site Approval Application	TBD

Project

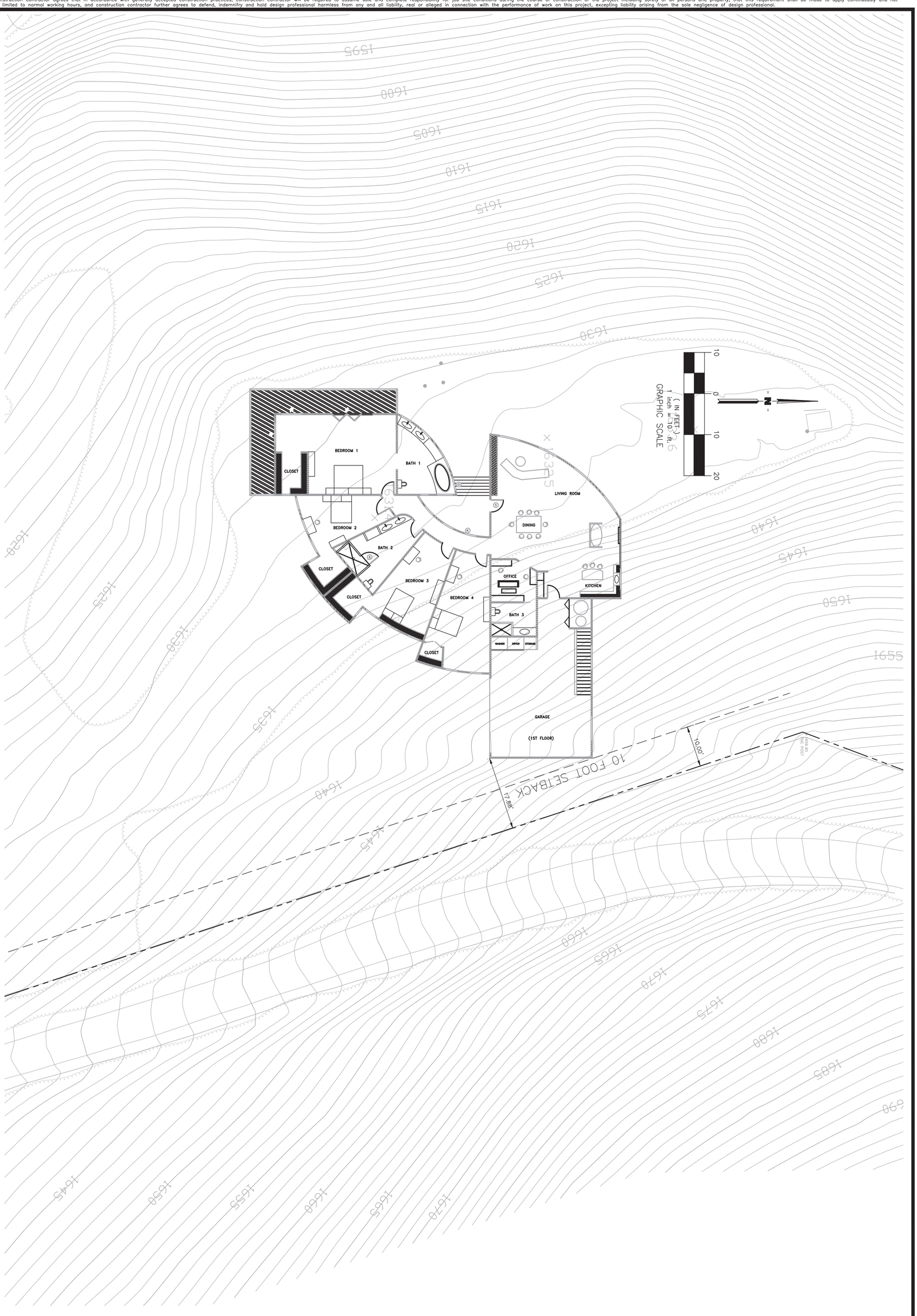
LARSON - MURALI RESIDENCE
10818 Crothers Rd
San Jose, CA
95127

Date:	FEB. 2022
Project:	#15057
Scale:	As Noted
Drawn by:	MS

Sheet Title:

COVER SHEET & PROJECT INFO

A-1



JOB NO. 2459	SHEET 1	CARROLL ENGINEERING engineers and surveyors	1101 S. WINCHESTER BLVD. SUITE H-184 SAN JOSE, CA 95128 TEL: 408-261-9800 FAX: 408-261-0595 E-MAIL: Robert@carroll-engineering.com

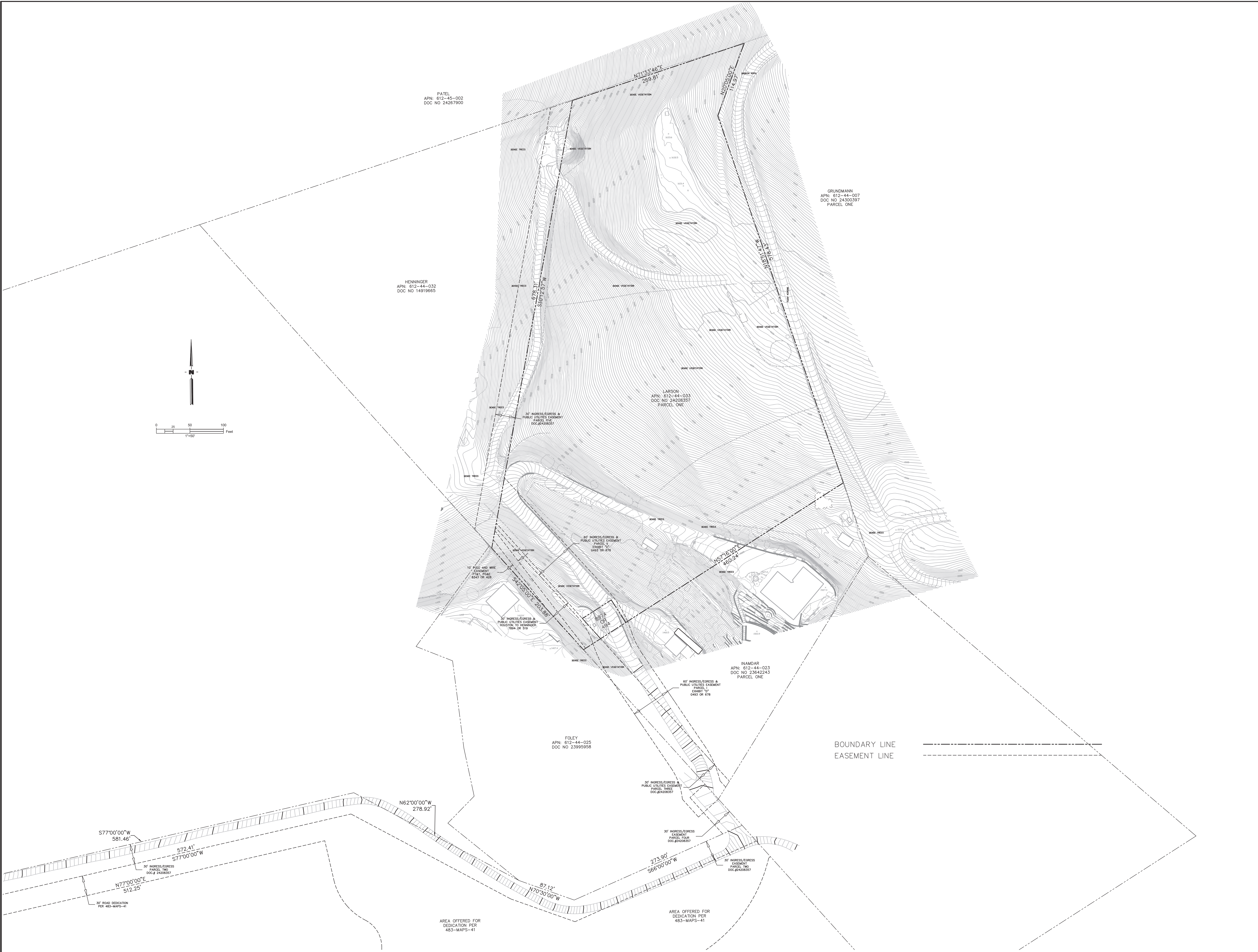
DATE: 10/21/2022
SCALE: 1"=10'
DRAWN BY: KWC
DESIGNED BY:
CHECKED BY: PCW

LICENSED LAND SURVEYOR
PHILIP C WOOTTON
No. 8398
STATE OF CALIFORNIA

BUILDING STAKING
LARSON RESIDENCE
10818 Crothers Road
San Jose **California**

MARK	DATE	DESCRIPTION	BY
		REVISIONS	

O:\2459 - Larson Residence_DWG\2459stk1.dwg 10-25-22 09:23:55 AM philip


PATEL
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DOC NO 24267900
N71°33'46"E
269.61'
N20°06'00"E
114.87'
GRUNDMANN
APN: 612-44-007
DOC NO 24300397
PARCEL ONE
HENNINGER
APN: 612-44-032
DOC NO 14919665
678.31'
S10°12'57"W
N18°51'41"W
678.43'
LARSON
APN: 612-44-033
DOC NO 24208357
PARCEL ONE
N
0 25 50 100 Feet
1"=50'
30' INGRESS/EGRESS & PUBLIC UTILITES EASEMENT PARCEL FIVE DOC.#24208357
60' INGRESS/EGRESS & PUBLIC UTILITES EASEMENT PARCEL II EXHIBIT "D" 0463 OR 678
10' POLE AND WIRE EASEMENT PT&T, PG&E 6243 OR 428
N57°15'00"E
460.24'
S42°05'00"E 203.88'
30' INGRESS/EGRESS & PUBLIC UTILITES EASEMENT HOUSTON TO HENNINGER 7894 OR 318
INAMDAR
APN: 612-44-023
DOC NO 23642243
PARCEL ONE
60' INGRESS/EGRESS & PUBLIC UTILITES EASEMENT PARCEL I EXHIBIT "D" 0463 OR 678
FOLEY
APN: 612-44-025
DOC NO 23995958
BOUNDARY LINE
EASEMENT LINE
30' INGRESS/EGRESS & PUBLIC UTILITES EASEMENT PARCEL THREE DOC.#24208357
N62°00'00"W
278.92'
S77°00'00"W
581.46'
572.41'
S77°00'00"W
30' INGRESS/EGRESS PARCEL TWO DOC.# 24208357
N77°00'00"E
512.25'
30' ROAD DEDICATION PER 483-MAPS-41
87.12'
N70°30'00"W
30' INGRESS/EGRESS EASEMENT PARCEL FOUR DOC.#24208357
273.90'
S66°00'00"W
30' INGRESS/EGRESS EASEMENT PARCEL TWO DOC.#24208357
AREA OFFERED FOR DEDICATION PER 483-MAPS-41
AREA OFFERED FOR DEDICATION PER 483-MAPS-41

UNAUTHORIZED CHANGES & USES: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

MARK	DATE	DESCRIPTION	BY
		REVISIONS	

TOPOGRAPHIC AND BOUNDARY SURVEY

10818 Crothers Road

San Jose **California**

DATE: 01/09/2020
SCALE: 1"= 50'
DRAWN BY: WAK
DESIGNED BY:
CHECKED BY: PCW

LICENSED LAND SURVEYOR PHILIP C. WOTTON No. 8398 STATE OF CALIFORNIA

CARROLL ENGINEERING
engineers and surveyors
1101 S. WINCHESTER BLVD.
SUITE H-184
SAN JOSE, CA 95128
TEL: 408-261-9800
FAX: 408-261-0595
E-MAIL: robert@carroll-engineering.com

SHEET
T-1
OF 1 SHEETS
JOB NO. 2459

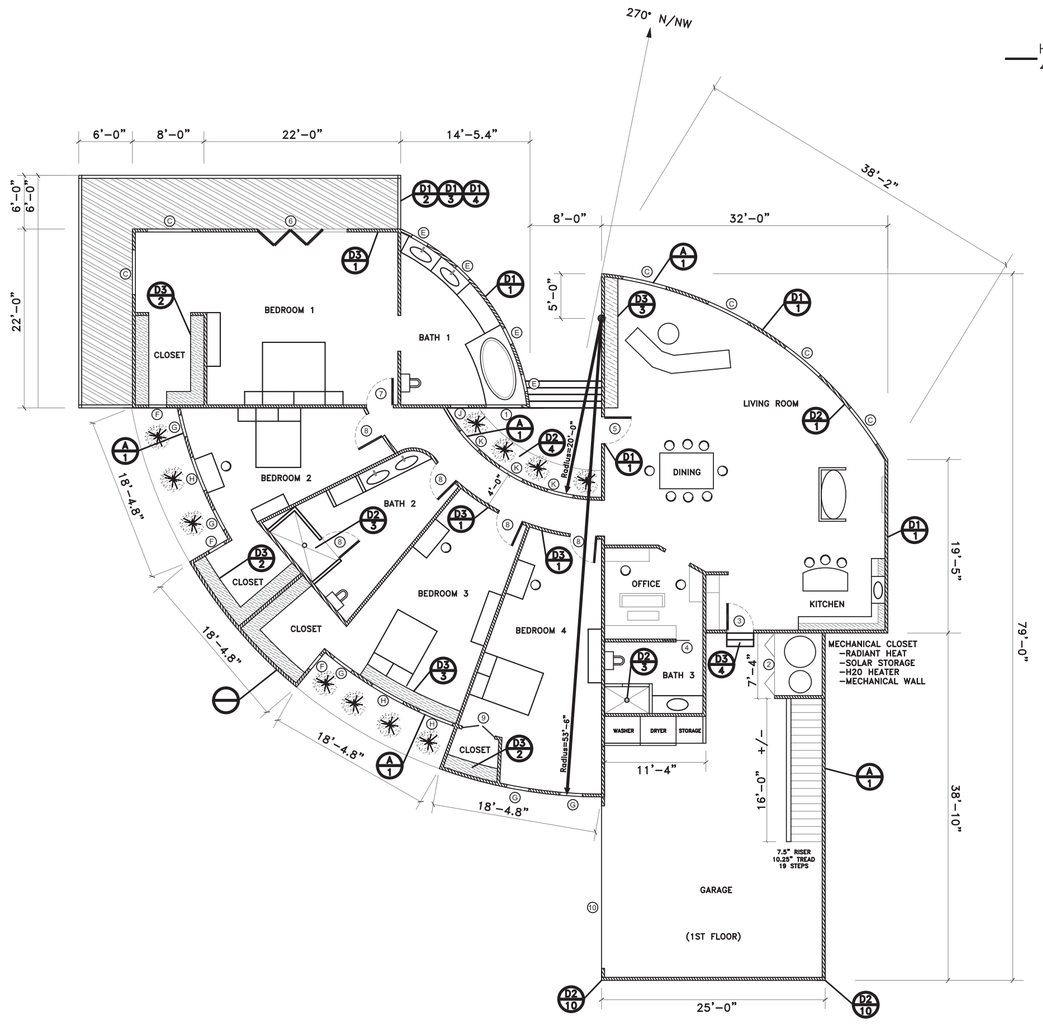
O:\2459 - Larson Residence_DWG\2459_topo.dwg 1-10-20 10:20:45 AM philip

FLOOR PLAN NOTES

1. ALL DIMENSIONS ARE TO FACE OF FINISH UNLESS OTHERWISE 100 NOTED.
2. VERIFY IN FIELD ALL EXISTING DIMENSIONS.
3. ALL GYPSUM BOARD TO BE TYPE "X".
4. SEE INTERIOR ELEVATIONS FOR HEIGHTS OF HALF WALLS.
5. ALL ENTRANCES SHALL BE ACCESSIBLE.
6. PROVIDE METAL CORNER GUARDS ON ALL KITCHEN CORNERS, S.K.D.
7. ALL THRESHOLDS TO BE ADA COMPLIANT.
8. ALL LEVEL LANDINGS TO BE ADA COMPLIANT.
9. PER 1011.1 & 1011.3 TACTILE EXIT SIGNS EACH GRADE-LEVEL EXTERIOR EXIT DOOR THAT IS REQUIRED TO COMPLY WITH SECTION 1011.1 SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORD, "EXIT." - IF APPLICABLE
10. ALL INTERIOR WALLS TO BE TYPE 1: UNLESS OTHERWISE NOTED. WALLS TO BE FINISHED LEVEL 5

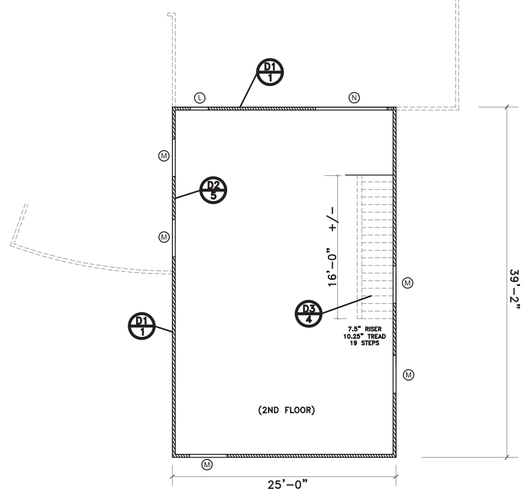
LEGEND

- (N) CONSTRUCTION
- (E) CONSTRUCTION TO REMAIN
- N.I.C. (E) AREA NOT IN CONTRACT
- 1HR RATED WALL
- KEYNOTE, SEE A0.3
- FINISH NOTE, SEE A0.2
- DOOR NOTE, SEE A0.1A
- WINDOW NOTE, SEE A0.1B
- DUPLEX RECEPTACLE OUTLET
- DUPLEX RECEPTACLE / OUTLET UNDER COUNTER
- CABLE
- COMBINATION DUPLEX/ DATA FLOOR OUTLET
- DATA / TELEPHONE



PLAN VIEW (1st FLOOR)

SCALE 1/8" = 1'



PLAN VIEW (2nd FLOOR)

SCALE 1/8" = 1'

eco-struction

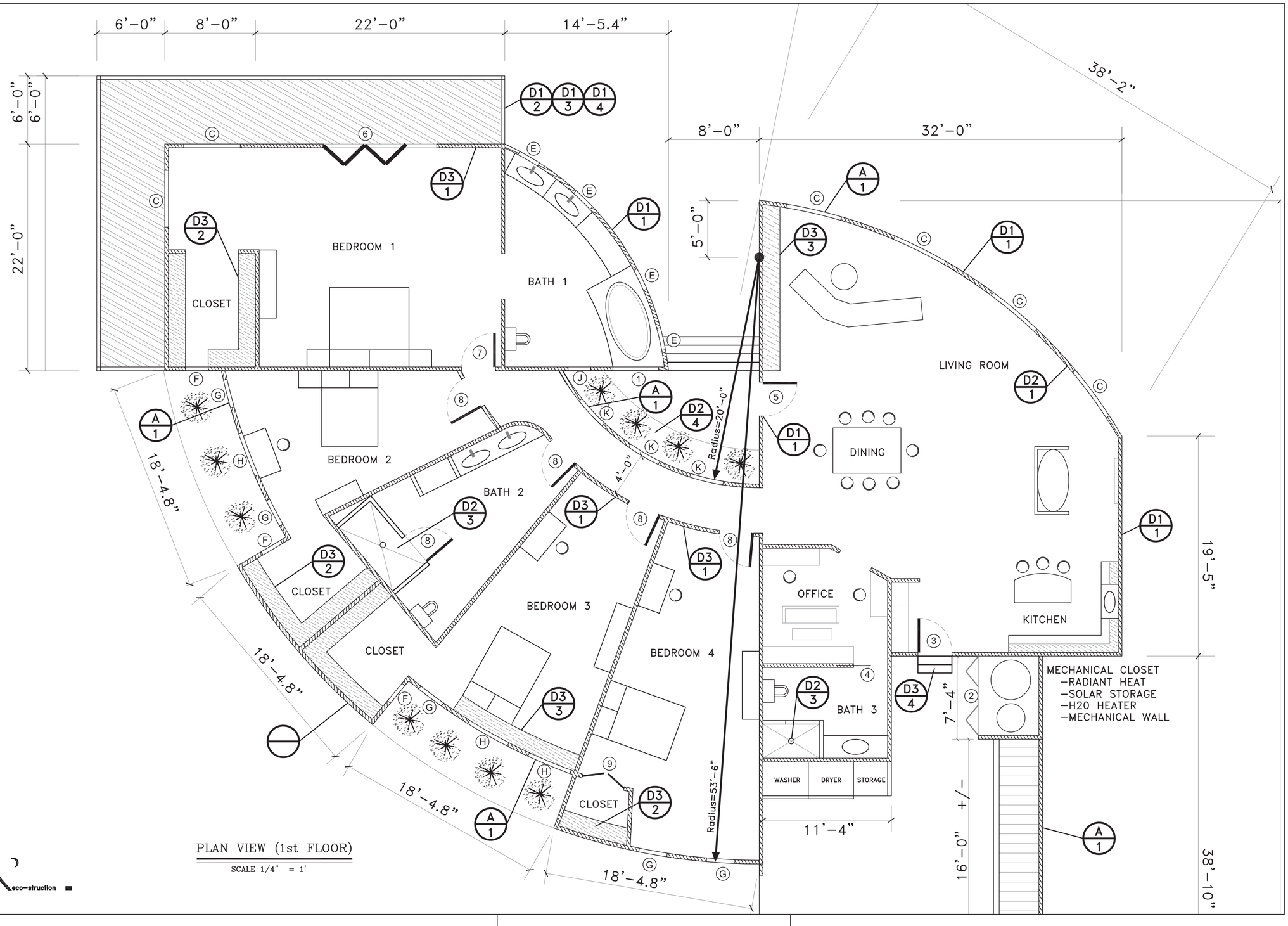
BY	REVISION	DATE

eco-struction

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

PLAN VIEW
1ST FLOOR
2ND FLOOR

DRAWN: NN
CHECKED: MS
DATE: 2-22-23
SCALE: 1/8"=1'
SHEET
A1



PLAN VIEW (1st FLOOR)

SCALE 1/4" = 1'

eco-struction

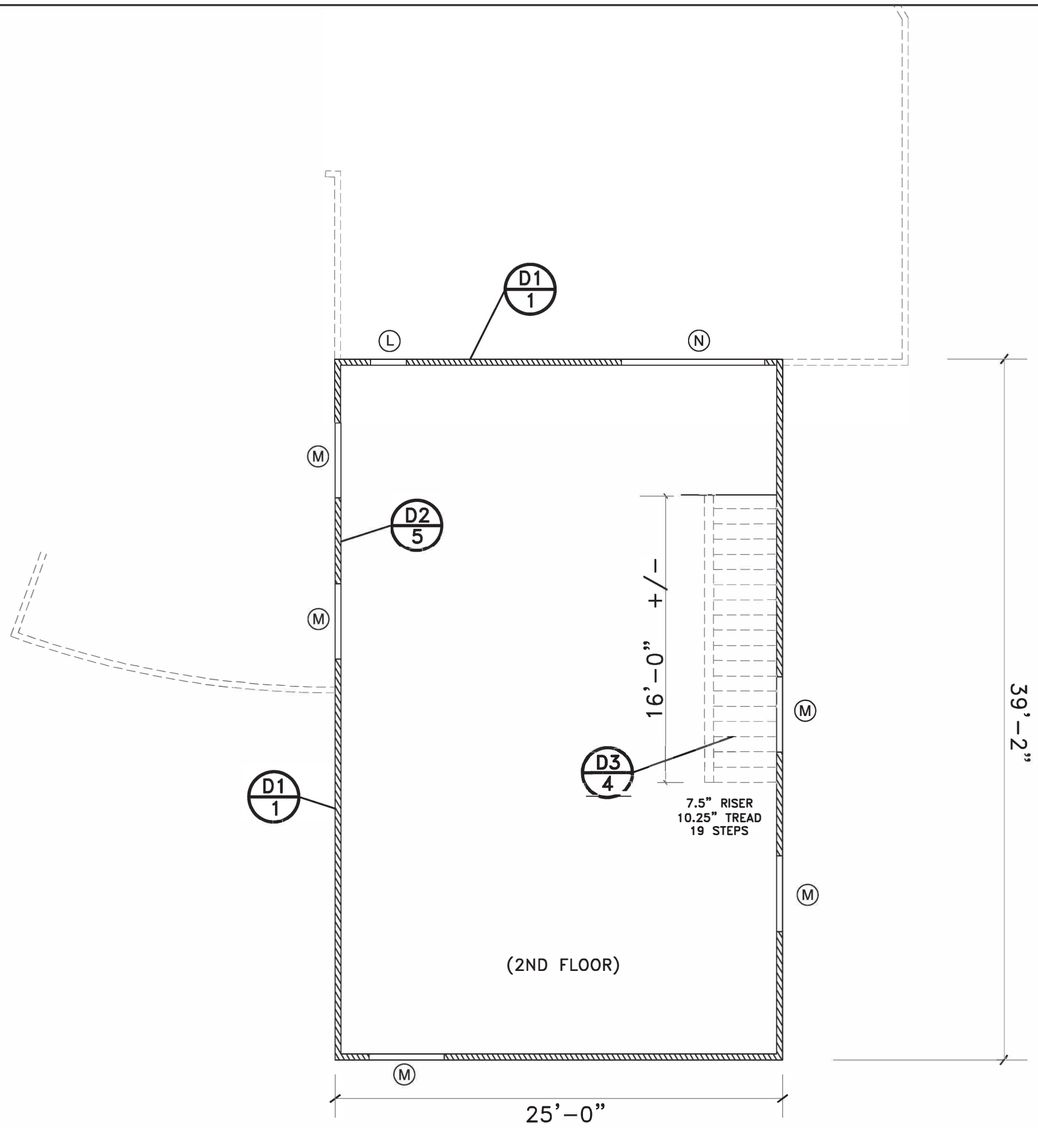
DATE	REVISION	BY

eco-struction

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

PLAN VIEW
1ST FLOOR

DRAWN:	NN
CHECKED:	MS
DATE:	2-22-23
SCALE:	1/4"=1'
SHEET	A1.1



PLAN VIEW (2nd FLOOR)

SCALE 1/4" = 1'

eco–struction

DATE	REVISION	BY

eco–struction

LARSON RESIDENCE
10818 Crothers Road
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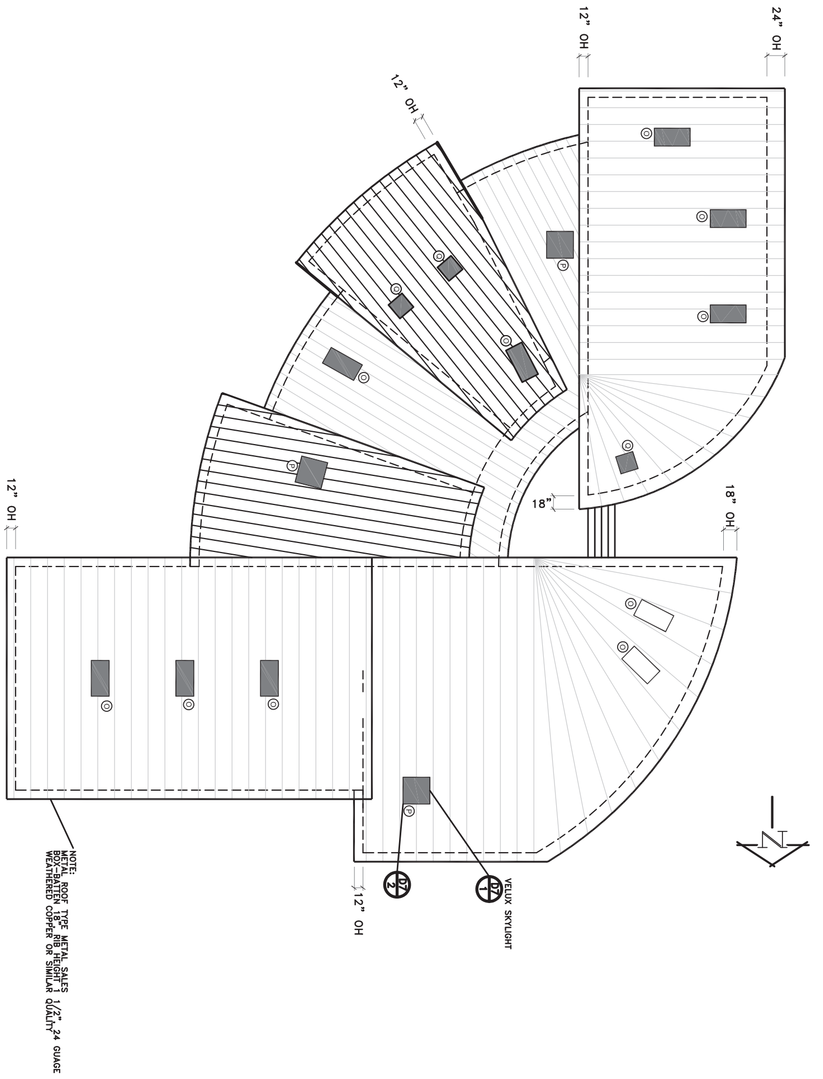
PLAN VIEW
2ND FLOOR

DRAWN: NN
CHECKED: MS
DATE: 2–22–23
SCALE: 1/4"=1'
SHEET
A1.2

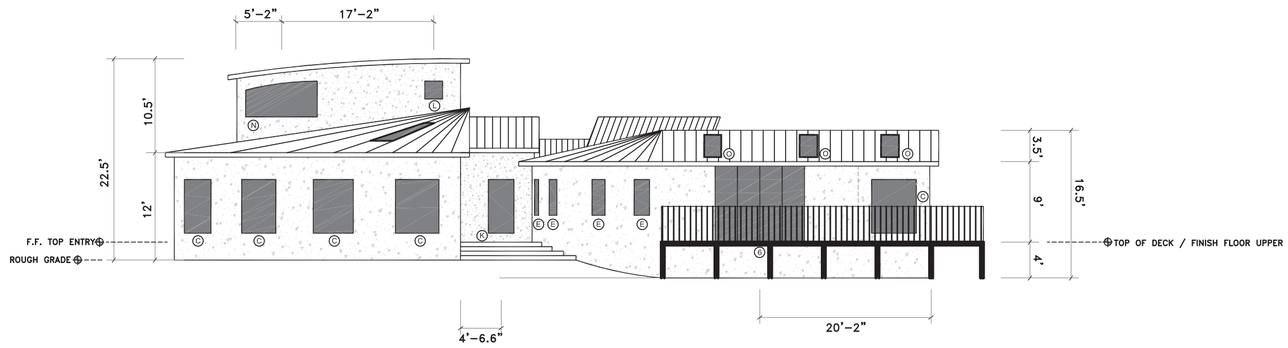
eco-struction



ROOF PLAN VIEW

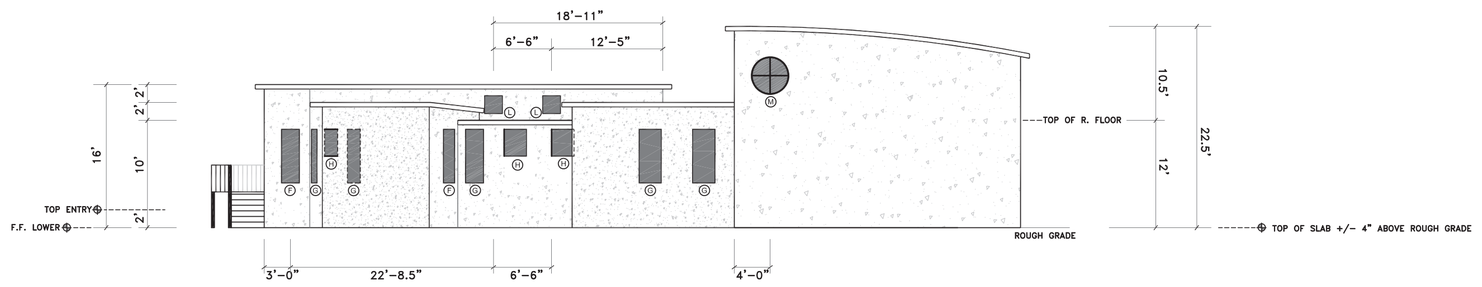
SCALE 1/8" = 1'

SHEET A2	SCALE: 1/8"=1'	DATE: 2-22-23	CHECKED: MS	DRAWN: NN	ROOF PLAN VIEW	LARSON RESIDENCE 10818 Crothers Road San Jose, CA 95127	eco-struction	DATE / REVISION / BY



WEST ELEVATION

SCALE 1/8" = 1'



EAST ELEVATION

SCALE 1/8" =1'

eco-struction

DATE	REVISION	BY

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LARSON RESIDENCE
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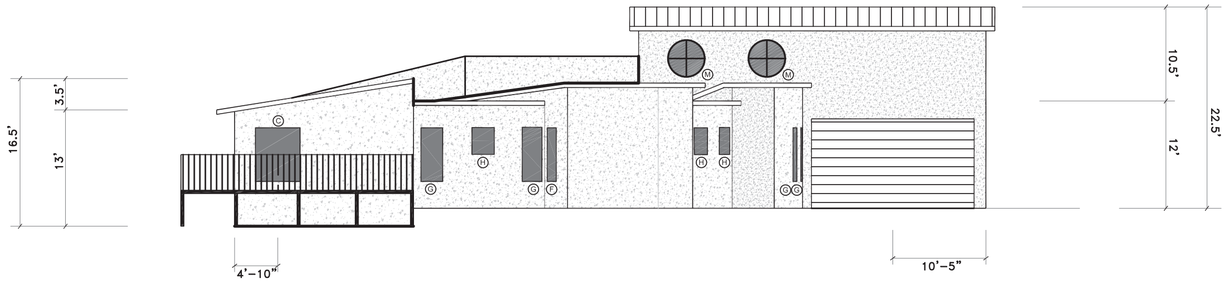
San Jose, CA 95127

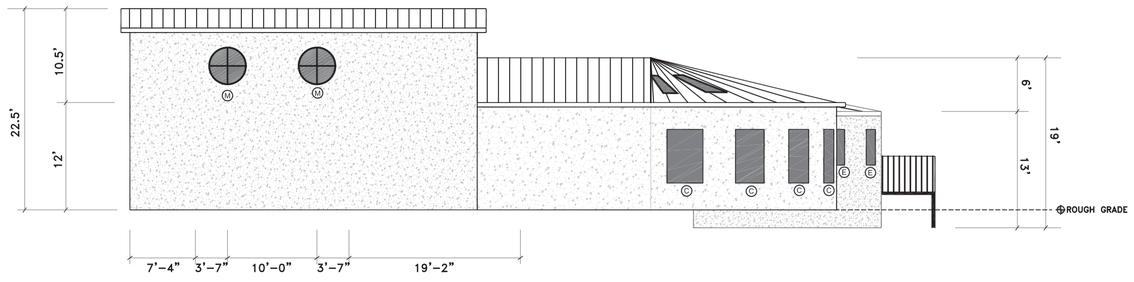
WEST / EAST
ELEVATIONS

DRAWN: NN
CHECKED: MS
DATE: 2-22-23
SCALE: 1/8"=1'
SHEET
A3



SOUTH ELEVATION

SCALE 1/8" = 1'



NORTH ELEVATION

SCALE 1/8" = 1'

eco-struction

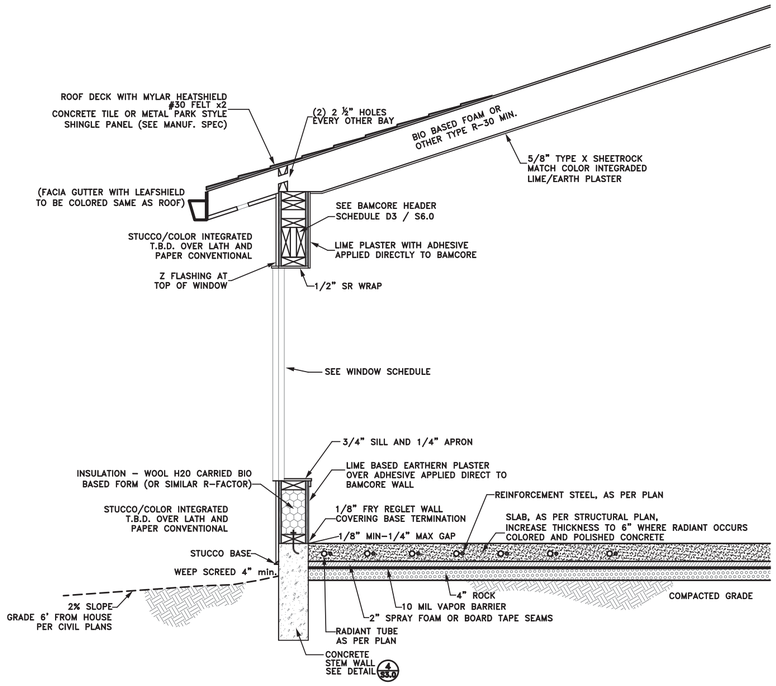
DATE	REVISION	BY

eco-struction

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

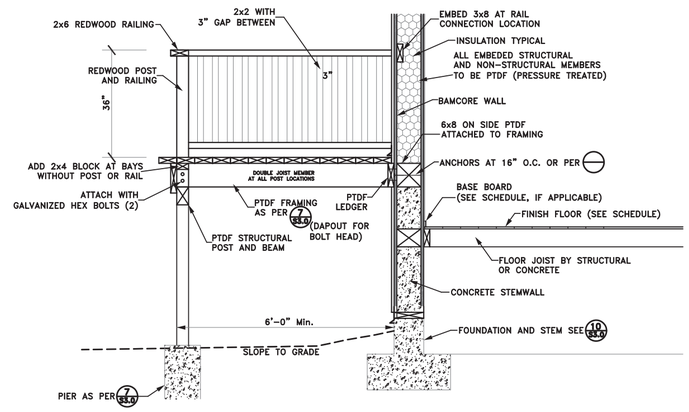
SOUTH / NORTH ELEVATIONS

DRAWN: NN
CHECKED: MS
DATE: 2-22-23
SCALE: 1/8"=1'
SHEET
A4



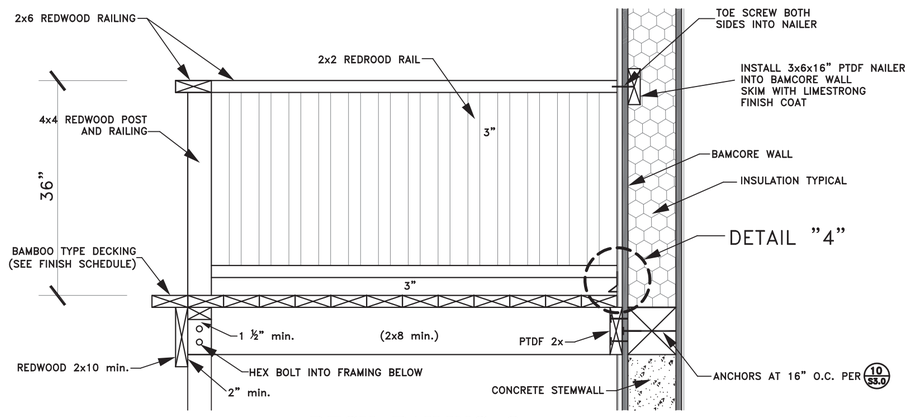
WALL DETAIL 1

SCALE 1/2" = 1'



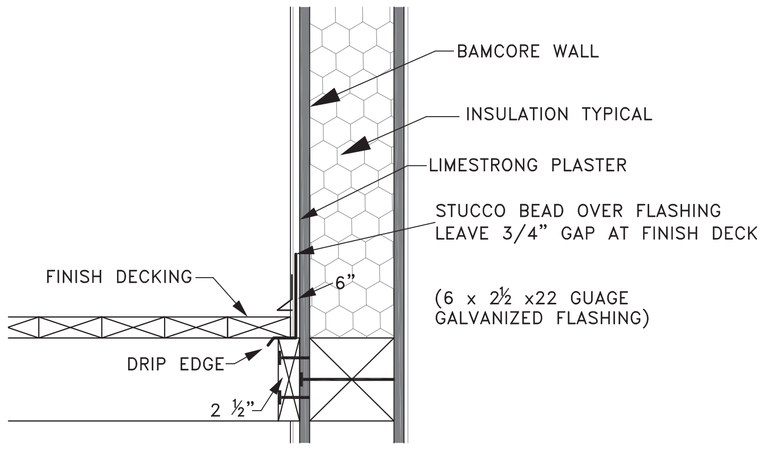
DECK TO WALL 2

SCALE 1/2" = 1'



DECK RAILING 3

SCALE 1" = 1'



DETAIL 4

NOT TO SCALE

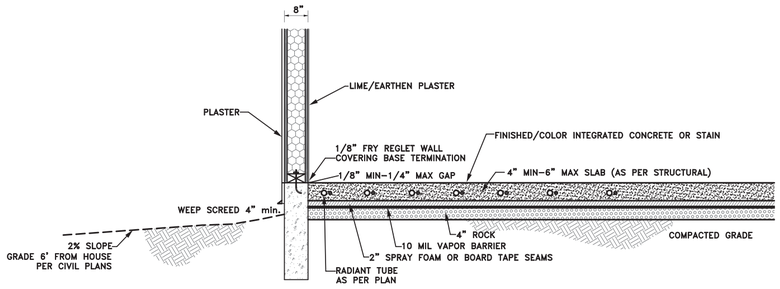
BY	REVISION	DATE

eco-struction

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

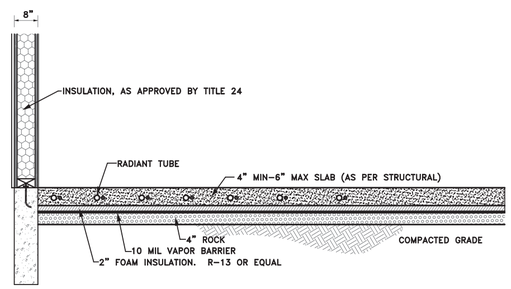
DETAILS

DRAWN: NN
CHECKED: MS
DATE: 2-22-23
SCALE: AS NOTED
SHEET
D1



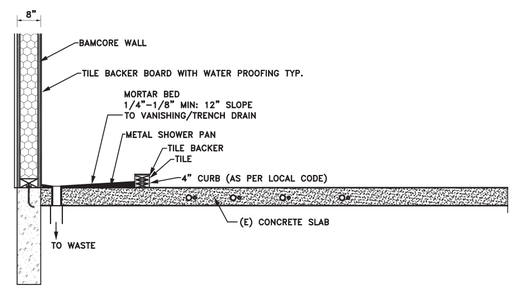
FINISH FLOOR CONCRETE 1

SCALE 1/2" = 1'



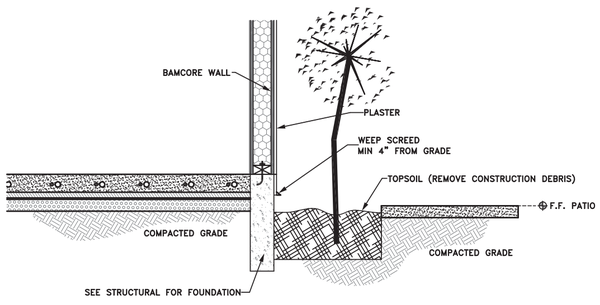
INSULATED RADIANT SLAB 2

SCALE 1/2" = 1'



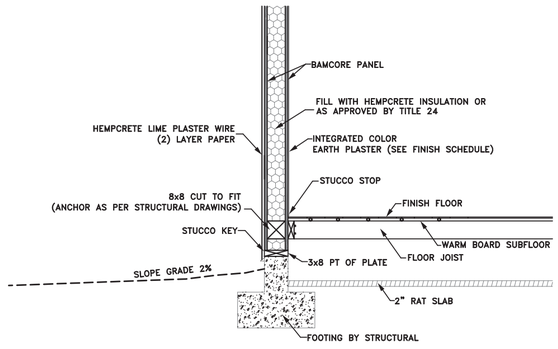
SHOWER PAN DETAIL 3

SCALE 1/2" = 1'



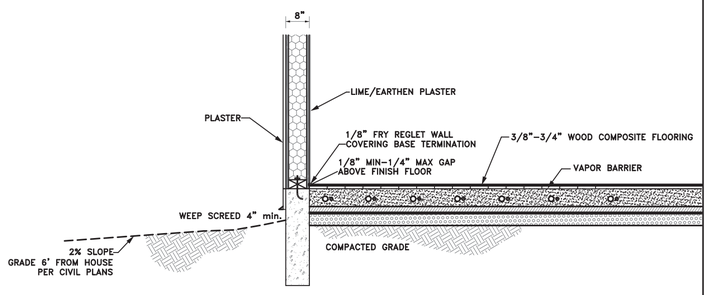
PATIO PLANTING DETAIL 4

SCALE 1/2" = 1'



BAMCORE WALL DETAIL 5

SCALE 1/2" = 1'



FINISH FLOOR WOOD FLOOR 6

SCALE 1/2" = 1'

DATE	REVISION	BY

eco-struction

LARSON RESIDENCE
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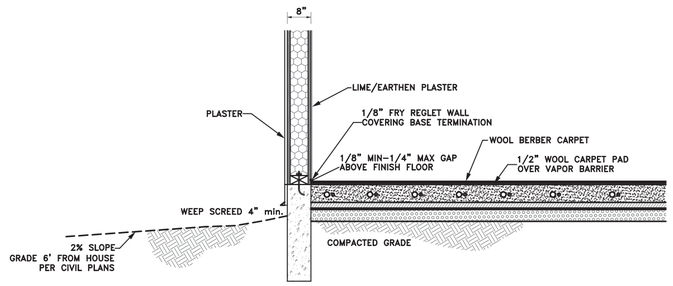
San Jose, CA 95127

DETAILS

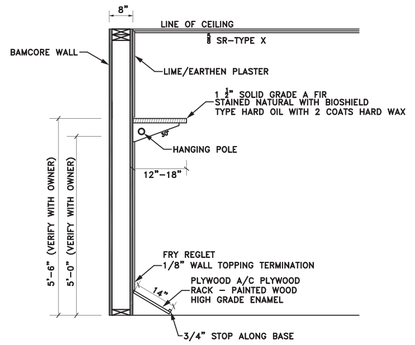
DRAWN: NN
CHECKED: MS
DATE: 2-22-23
SCALE: AS NOTED

SHEET
D2



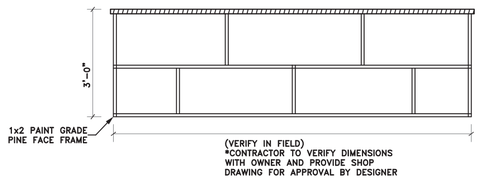
FINISH FLOOR CARPET 1

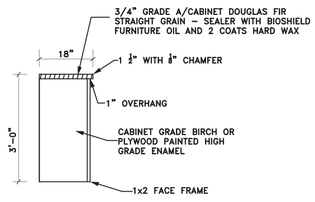
SCALE 1/2" = 1'



CLOSET SHELF & SHOE RACK DETAIL 2

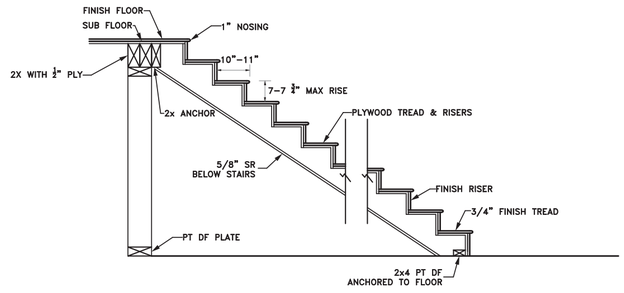
SCALE 1/2" = 1'





ENTRY SHELF 3

SCALE 1/2" = 1'



STAIR DETAIL 4

SCALE 1/2" = 1'

DATE	REVISION	BY

eco-struction

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

DETAILS

DRAWN: NN
CHECKED: MS
DATE: 2-22-23
SCALE: AS NOTED

SHEET
D3

BAMCORE®

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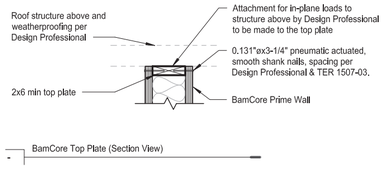
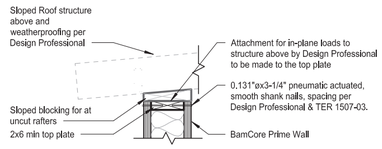
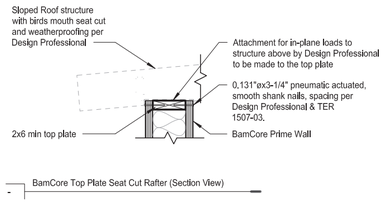


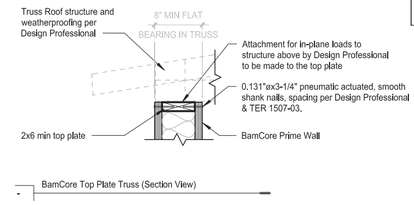
1 Top Plate
1" = 1'-0"



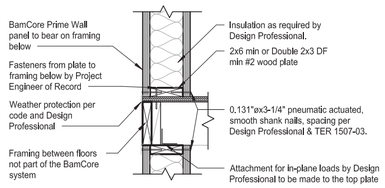
2 Top Plate Alternate
1" = 1'-0"



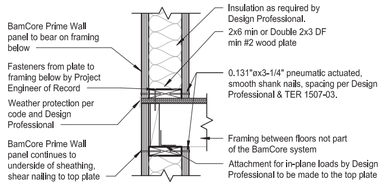
3 Top Plate Alternate 2
1" = 1'-0"



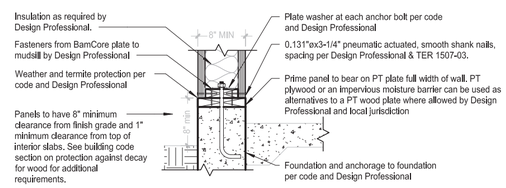
4 Top Plate Alternate 3
1" = 1'-0"



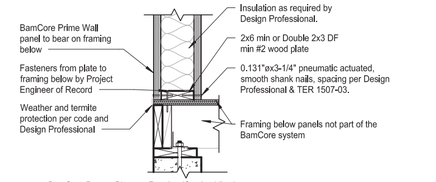
6 Bamcore Framing Between Floors
1" = 1'-0"



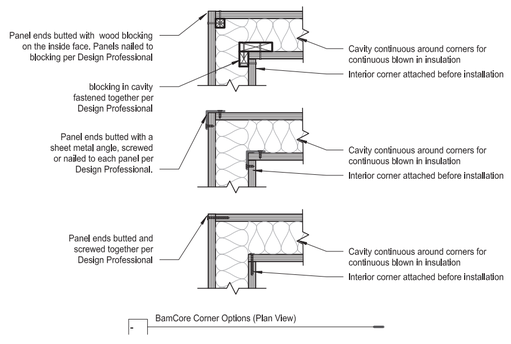
7 Bamcore Framing Between Floors Alternate
1" = 1'-0"



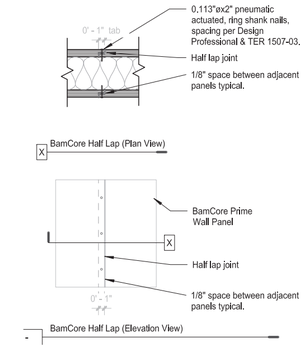
8 Bottom Plate Concrete
1" = 1'-0"



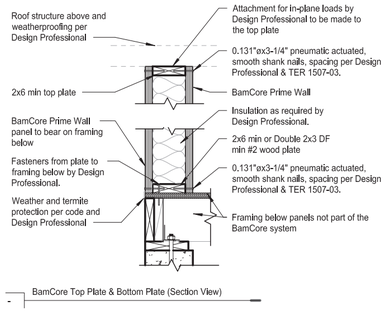
9 Bottom Plate on Framing
1" = 1'-0"



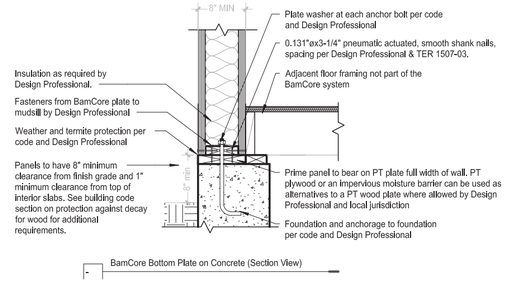
10 Corner Options
1" = 1'-0"



11 Panel to Panel Half Lap
1" = 1'-0"



12 Top and Bottom Plate
1" = 1'-0"



13 Bottom Plate Concrete Alternate
1" = 1'-0"

BY	REVISION	DATE

eco-struction

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

BAMCORE.COM
TYPICAL
DETAILS 1

DRAWN: JB

CHECKED: NA

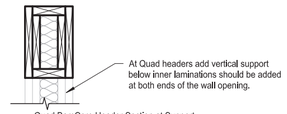
DATE: 5-14-21

SCALE: AS NOTED

SHEET
D4

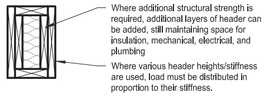
HEADER SPAN TABLE

Max Opening Width (ft)	Min Header Depth (in)	Min Bearing Length (in)	King Stud Requirement



At Quad headers add vertical support below inner laminations should be added at both ends of the wall opening.

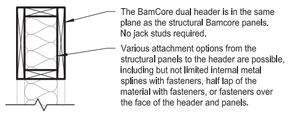
X.2 Quad BamCore Header Section at Support



Where additional structural strength is required, additional layers of header can be added, still maintaining space for insulation, mechanical, electrical, and plumbing

Where various header heights/stiffness are used, load must be distributed in proportion to their stiffness.

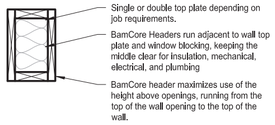
Y.2 Quad BamCore Header Section Above Opening



The BamCore dual header is in the same plane as the structural Bamcore panels. No jack studs required.

Various attachment options from the structural panels to the header are possible, including but not limited internal metal splines with fasteners, half lap of the material with fasteners, or fasteners over the face of the header and panels.

X.1 Dual BamCore Header Section at Support

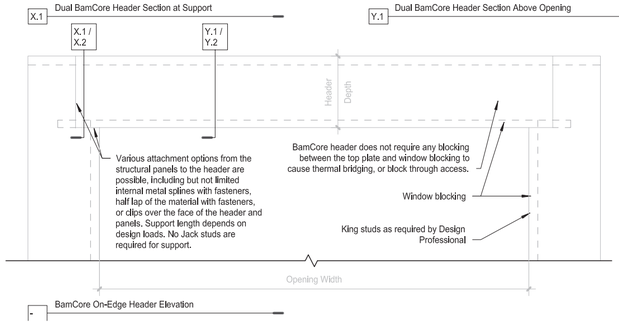


Single or double top plate depending on job requirements.

BamCore Headers run adjacent to wall top plate and window blocking, keeping the middle clear for insulation, mechanical, electrical, and plumbing

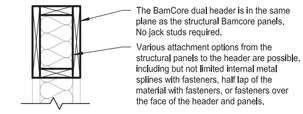
BamCore header maximizes use of the height above openings, running from the top of the wall opening to the top of the wall.

Y.1 Dual BamCore Header Section Above Opening



- BamCore On-Edge Header Elevation

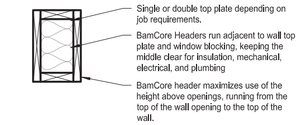
14 BamCore On-Edge Headers
1" = 1'-0"



The BamCore dual header is in the same plane as the structural Bamcore panels. No jack studs required.

Various attachment options from the structural panels to the header are possible, including but not limited internal metal splines with fasteners, half lap of the material with fasteners, or fasteners over the face of the header and panels.

X.1 Dual BamCore Header Section at Support

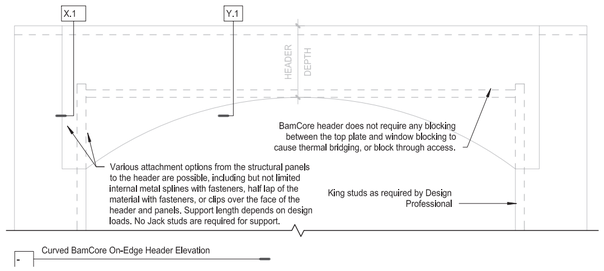


Single or double top plate depending on job requirements.

BamCore Headers run adjacent to wall top plate and window blocking, keeping the middle clear for insulation, mechanical, electrical, and plumbing

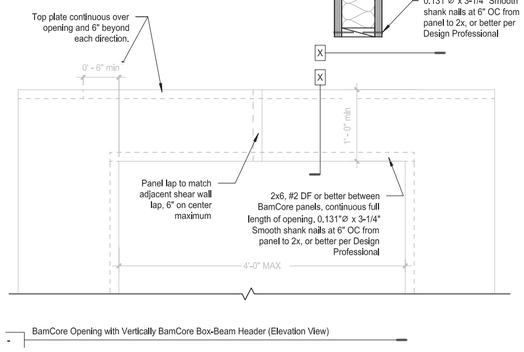
BamCore header maximizes use of the height above openings, running from the top of the wall opening to the top of the wall.

Y.1 Dual BamCore Header Section Above Opening



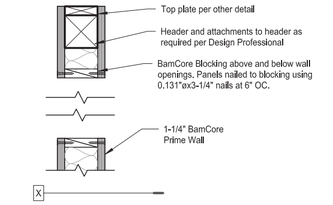
- Curved BamCore On-Edge Header Elevation

15 Curved Window Opening
1" = 1'-0"



- BamCore Opening with Vertically BamCore Box-Beam Header (Elevation View)

16 Window Opening BamCore Box-Beam Header
1" = 1'-0"



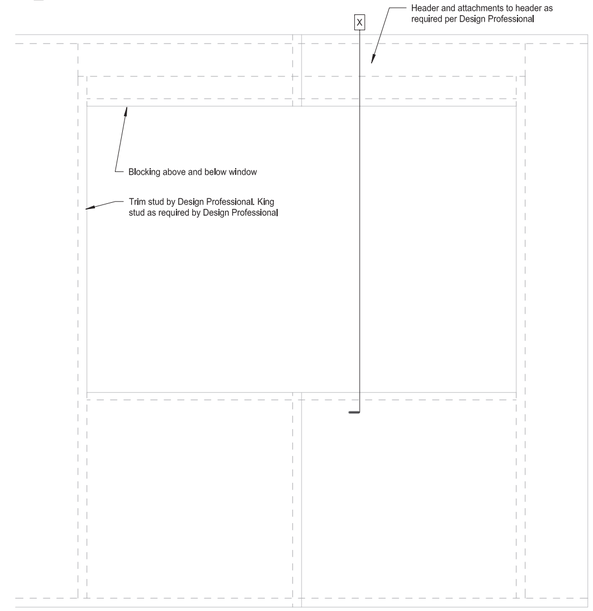
Top plate per other detail

Header and attachments to header as required per Design Professional

BamCore Blocking above and below wall openings. Panels nailed to blocking using 0.131"ax3-1/4" nails at 6" OC.

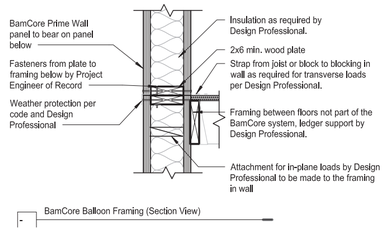
1-1/4" BamCore Prime Wall

X



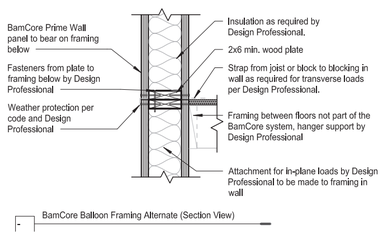
- BamCore Window Opening with Conventional Header (Elevation View)

17 Window Opening with Conventional Header by Design Professional
1" = 1'-0"



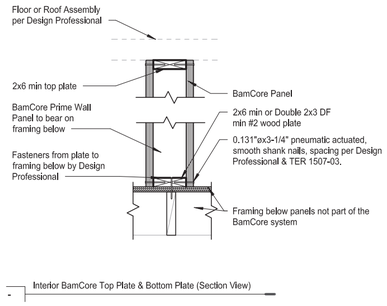
- BamCore Balloon Framing (Section View)

18 Bamcore Balloon Framing
1" = 1'-0"



- BamCore Balloon Framing Alternate (Section View)

19 Bamcore Balloon Framing Alternate
1" = 1'-0"



- Interior BamCore Top Plate & Bottom Plate (Section View)

20 T&B plate - Interior
1" = 1'-0"

BAMCORE
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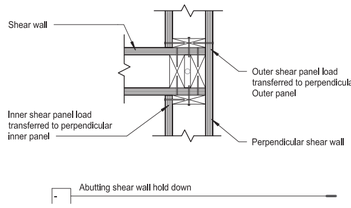
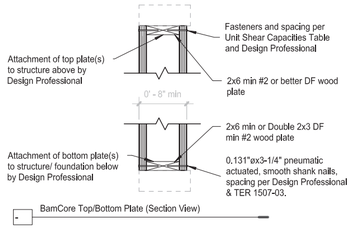
LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

BAMCORE.COM
TYPICAL
DETAILS 2

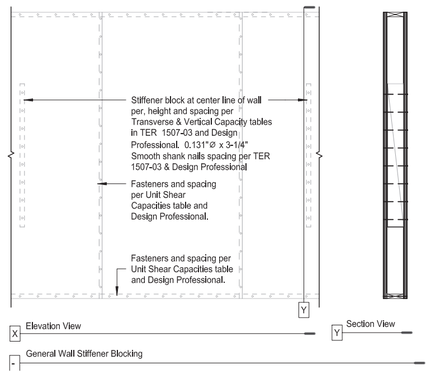
DRAWN: JB
CHECKED: NA
DATE: 5-14-21
SCALE: AS NOTED
SHEET
D5



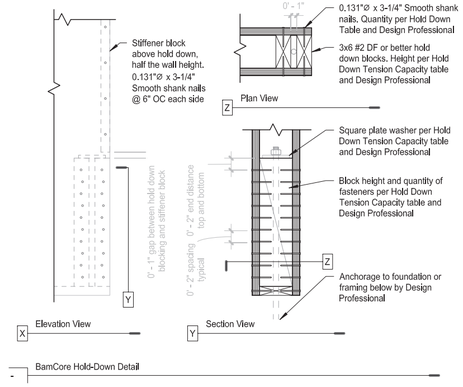
1 Abutting Hold downs
1" = 1'-0"



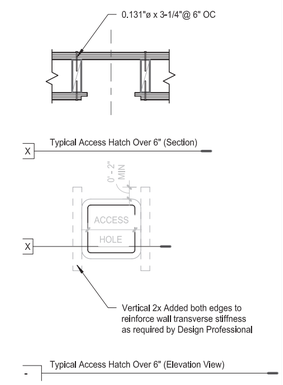
2 Top/Bottom Plate only
1" = 1'-0"



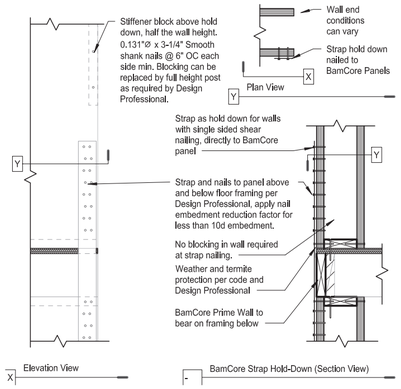
3 General Wall Stiffener Blocking
1/2" = 1'-0"



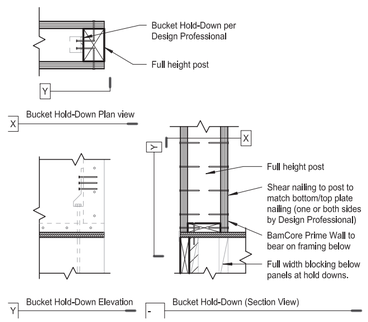
4 BamCore Hold Down
1" = 1'-0"



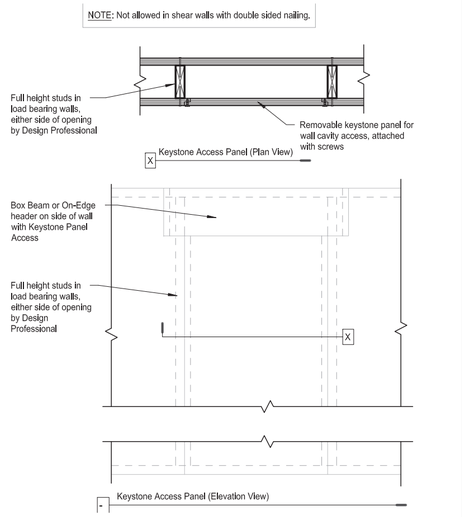
5 Typical Access Hatch Over 6"
1" = 1'-0"



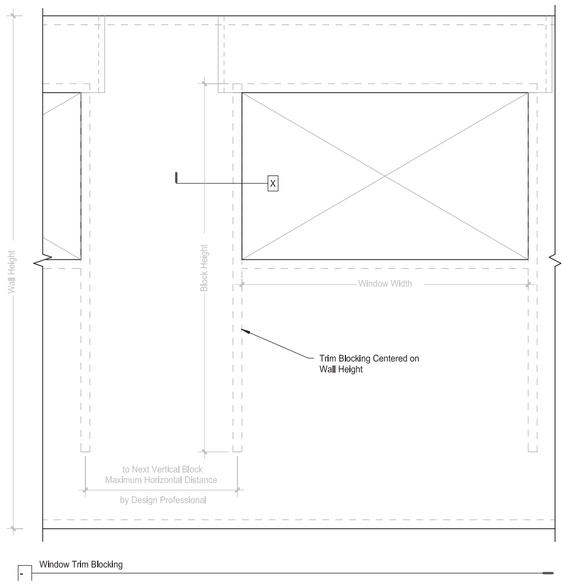
6 Strap Hold-Down to BamCore Panel
1" = 1'-0"



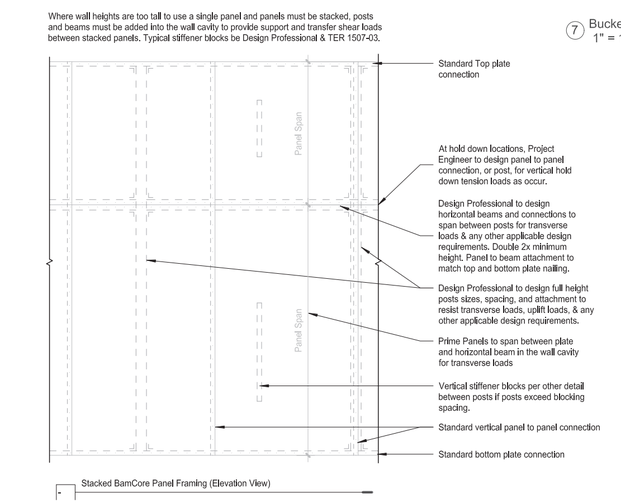
7 Bucket Hold-Down to BamCore Panel
1" = 1'-0"



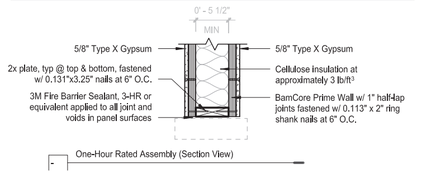
8 Keystone Panel Detail
1" = 1'-0"



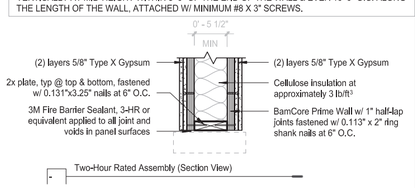
9 Window Trim Blocking
1" = 1'-0"



10 Tall Wall Framing
1/2" = 1'-0"



11 1-Hr Fire Rating
1" = 1'-0"



12 2-Hr Fire Rating
1" = 1'-0"

BAMCORE®
www.bamcore.com

DATE	REVISION	BY

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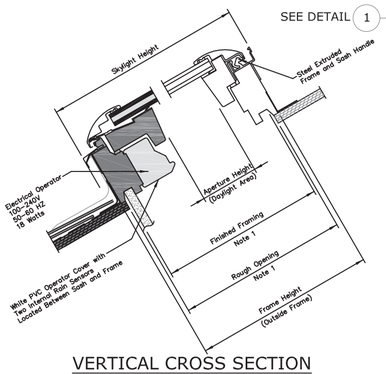
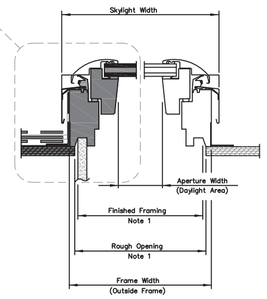
LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

BAMCORE.COM
TYPICAL
DETAILS 3

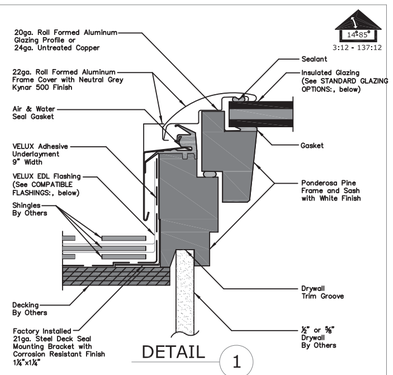
DRAWN: JB
CHECKED: NA
DATE: 5-14-21
SCALE: AS NOTED
SHEET
D6



VERTICAL CROSS SECTION



HORIZONTAL CROSS SECTION



DETAIL 1

STANDARD GLAZING OPTIONS:

- Laminated LowE3 (04)
- Impact (06)
- Snowload (10)

*Tempered Exterior Pane used with all options

COMPATIBLE FLASHINGS:

- EDL Step flashing
- EKL/EKX Combi flashing
- EDW Tile flashing
- EKW/EKX Combi tile flashing
- EDM Metal roof flashing
- ECB Counter flashing for curbs

ELECTRICAL/CONTROL DATA:

- VSE Skylight controlled via 2.4 GHZ radio frequency KLR 200 remote control provided with skylight. Optional controls for VSE Skylight are KLI 110 Wall Mounted Keypad or KLF 100 Home Automation Integration Kit.
- Electrical Operator 100-240V, 50-60 HZ, 18 WATTS

PRODUCT DIMENSIONS

METRIC UNITS (MILLIMETERS)									
Size	Rough Opening Width	Frame Width	Frame Aperture Width	Skylight Width	Rough Opening Height	Frame Height	Frame Aperture Height	Skylight Height	Daylight Area (Sq. Meters)
C01	533	546	407	566.7	682	695	519	720	.21
C04	533	546	407	566.7	962	975	799	1000	.33
C06	533	546	407	566.7	1162	1175	999	1200	.41
C08	533	546	407	566.7	1382	1395	1219	1420	.50
M04	763	776	637	796.7	962	975	799	1000	.51
M06	763	776	637	796.7	1162	1175	999	1200	.64
M08	763	776	637	796.7	1382	1395	1219	1420	.78
S01	1123	1136	997	1156.7	682	695	519	720	.52
S06	1123	1136	997	1156.7	1162	1175	999	1200	1.0

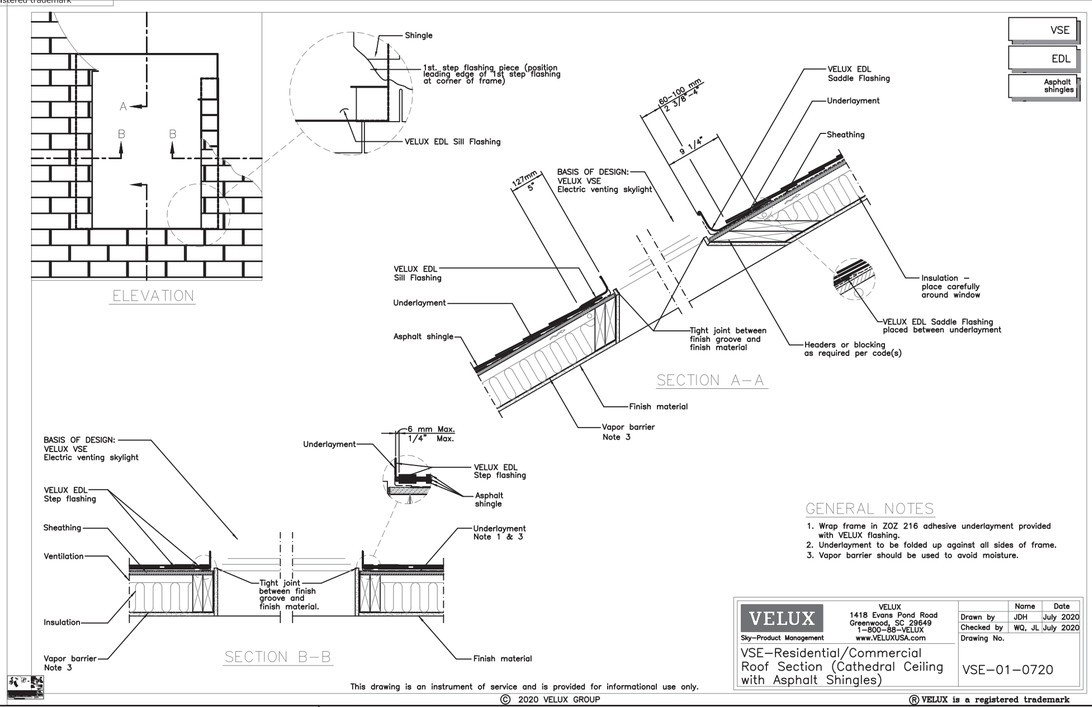
IMPERIAL UNITS (INCHES)									
Size	Rough Opening Width	Frame Width	Frame Aperture Width	Skylight Width	Rough Opening Height	Frame Height	Frame Aperture Height	Skylight Height	Daylight Area (Sq. Feet)
C01	21	21 1/2	16	22 5/16	26 7/8	27 3/8	20 7/16	28 3/8	2.27
C04	21	21 1/2	16	22 5/16	37 7/8	38 3/8	31 7/16	39 3/8	3.50
C06	21	21 1/2	16	22 5/16	45 3/4	46 1/4	39 5/16	47 1/4	4.38
C08	21	21 1/2	16	22 5/16	54 7/16	54 15/16	48	55 15/16	5.34
M04	30 1/16	30 9/16	25	31 3/8	37 7/8	38 3/8	31 7/16	39 3/8	5.48
M06	30 1/16	30 9/16	25	31 3/8	45 3/4	46 1/4	39 5/16	47 1/4	6.86
M08	30 1/16	30 9/16	25	31 3/8	54 7/16	54 15/16	48	55 15/16	8.36
S01	44 1/4	44 3/4	39 1/4	45 9/16	26 7/8	27 3/8	20 7/16	28 3/8	5.57
S06	44 1/4	44 3/4	39 1/4	45 9/16	45 3/4	46 1/4	39 5/16	47 1/4	10.73

NOTES:
1. The ROUGH OPENING and FINISHED FRAMING dimensions are based on perpendicular interior finish material on all four sides and these dimensions will vary depending on the roof construction, the thickness and the design of the interior finish material.
2. Max sash opening is 11" by stainless steel chain.

VELUX
Sky-Global Product Management

VELUX
1418 Evans Pond Road
Greenwood, SC 29649
1-800-88-VELUX
www.VELUXUSA.com

VSE - Electric Venting Skylight



ELEVATION

SECTION A–A

SECTION B–B

GENERAL NOTES

1. Wrap frame in ZOZ 216 adhesive underlayment provided with VELUX flashing.
2. Underlayment to be folded up against all sides of frame.
3. Vapor barrier should be used to avoid moisture.

VELUX
Sky-Product Management

VELUX
1418 Evans Pond Road
Greenwood, SC 29649
1-800-88-VELUX
www.VELUXUSA.com

VSE–Residential/Commercial Roof Section (Cathedral Ceiling with Asphalt Shingles)

	Name	Date
Drawn by	JDH	July 2020
Checked by	WQ, JL	July 2020
Drawing No.	VSE–01–0720	

DATE	REVISION	BY

eco-struction

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

VELUX
VENTING SKYLIGHT
ROOF SECTION

DRAWN: JDH
CHECKED: WQ
DATE: 2–22–23
SCALE: AS NOTED
SHEET
D7

6" RECESSED CAN

4" RECESSED CAN

WALL SCONE

DUPLEX RECEPTICLE

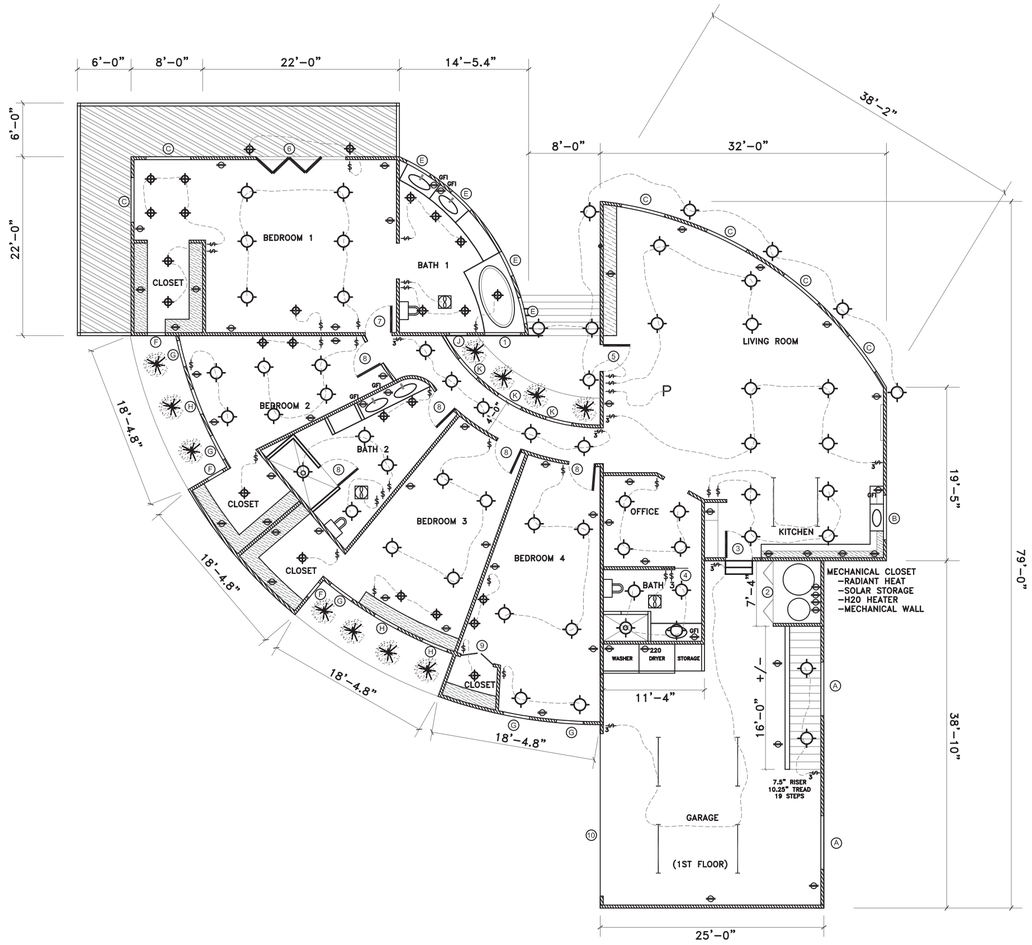
SWITCH

3-WAY SWITCH

P PENDANT

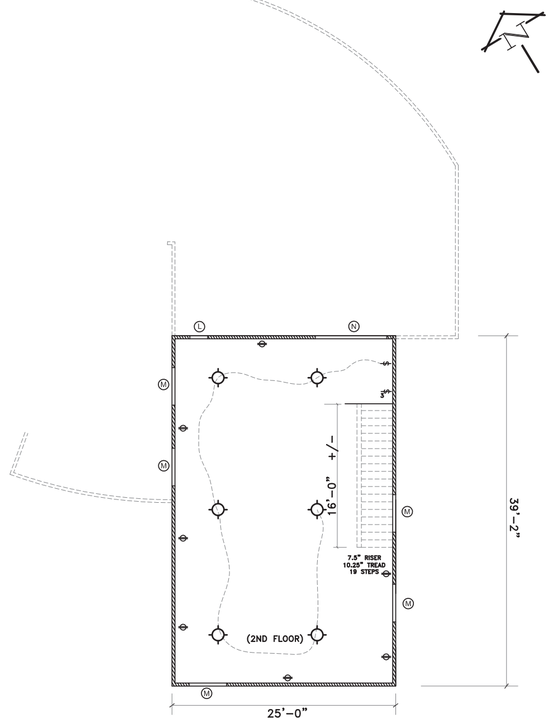
FLOURESCENT LIGHT/FAN

FLOURESCENT LIGHT TUBES OR LED



PLAN VIEW (1st FLOOR)

SCALE 1/8" = 1'



PLAN VIEW (2nd FLOOR)

SCALE 1/8" = 1'

eco-struction

DATE	REVISION	BY

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LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

ELECTRICAL PLAN

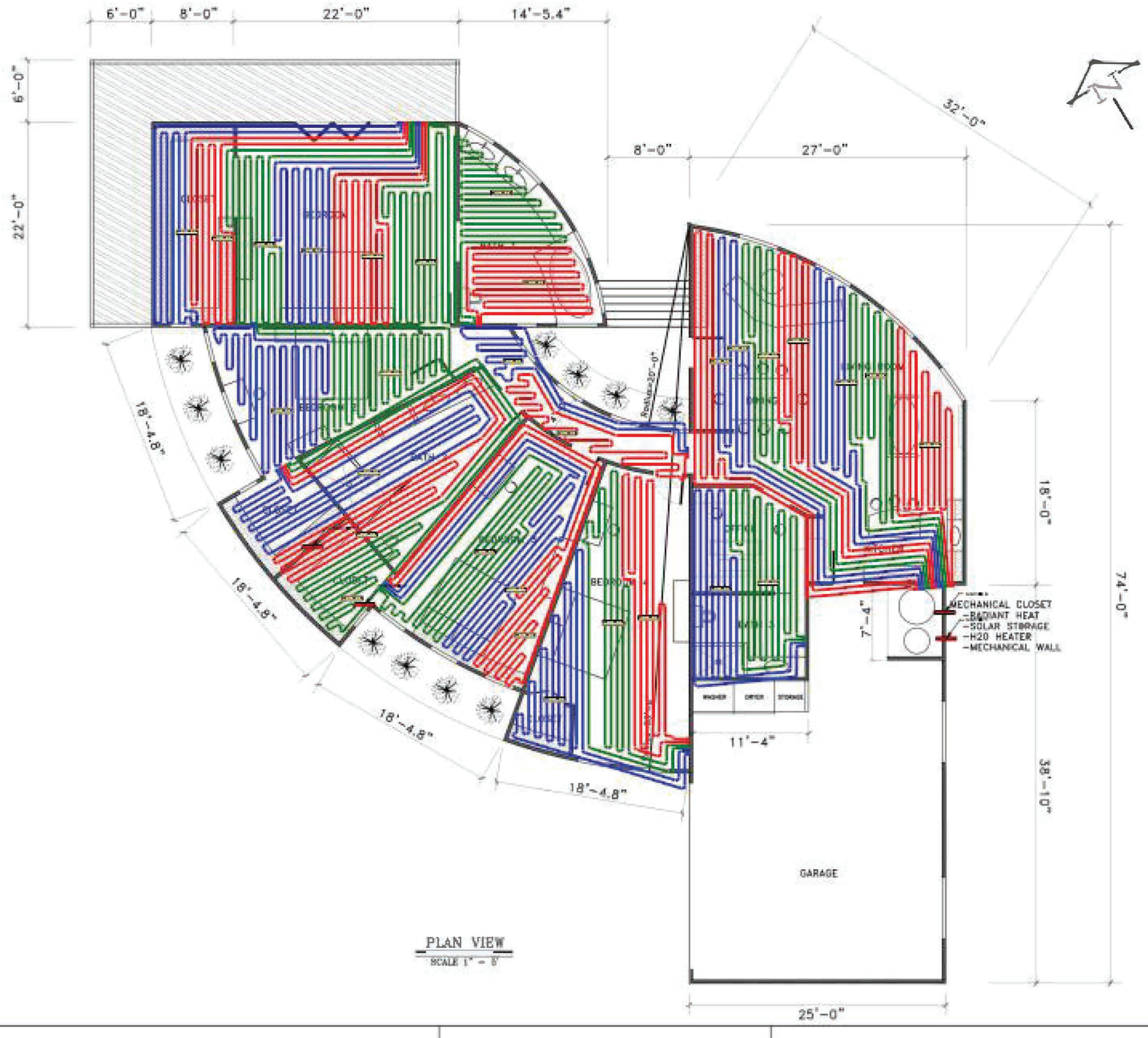
DRAWN: NN

CHECKED: MS

DATE: 2-22-23

SCALE: 1/8"=1'

SHEET
E1



PLAN VIEW
SCALE 1" = 5'

BY	REVISION	DATE

eco-structure

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

PLAN VIEW

DRAWN: NN
CHECKED: MS
DATE: 1-30-21
SCALE: 1"=5'
SHEET
A1

WINDOW SCHEDULE

LABEL	BRAND	SERIES	QTY	STYLE	MATERIAL Int/ Ext.	SIZE WxH	TEMPERED	GLASS TYPE	LOW E	SWING	COLOR	SHUTTER	SCREEN	PLACEMENT	Int. Lintel	Ext. Lintel	SILL	RO - W/H
A	Anderson	E	2	GLIDE	Wood/Aluminum	4/0 - 4/0	N	Clr	Low E4/heatlock	OX	Sandtone	No	Yes	Exterior	N	N	Int - Wood	
B	Anderson	E	1	GLIDE	Wood/Aluminum	5/0 - 3/0	Y	Clr	Low E4/heatlock	OX	Sandtone	No	Yes	Exterior	N	N	Int - Wood	
C	Anderson	E	6	FIXED	Wood/Aluminum	5/0 - 6/0	Y	Clr	Sun Glass	O	Sandtone	No	No	Exterior	N	N	Int - Wood	
D	Anderson	E	2	FIXED	Wood/Aluminum	3/0 - 5/0	Y	Clr	Smart Sun/heatlock	O	Sandtone	No	No	Exterior	N	N	Int - Wood	
E	Anderson	E	3	FIXED	Wood/Aluminum	2/0 - 4/0	Y	Clr	Smart Sun/heatlock	O	Sandtone	No	No	Exterior	N	N	Int - Wood	
F	Anderson	E	3	FIXED	Wood Aluminum	2/0 - 6/0	Y	Clr	Low E4/heatlock	O	Sandtone	No	No	Exterior	N	N	Int - Wood	
G	Anderson	E	5	FIXED	Wood/Aluminum	2/6 - 6/0	Y	Clr	Low E4/heatlock	O	Sandtone	No	No	Exterior	N	N	Int - Wood	
H	Anderson	E	3	GLIDE	Wood/Aluminum	4/0 - 3/0	Y	Clr	Low E4/heatlock	OX	Sandtone	No	No	Exterior	N	N	Int - Wood	
I	Anderson	E	1	FIXED	Wood/Aluminum	2/0 - 4/0	Y	Cascade	Low E4/heatlock	O	Sandtone	No	No	Exterior	N	N	Int - Wood	
J	Anderson	E	1	FIXED	Wood/Aluminum	1/6 - 6/0	Y	Cascade	Low E4/heatlock	O	Sandtone	No	No	Exterior	N	N	Int - Wood	
K	Anderson	E	3	FIXED	Wood Aluminum	3/0 - 6/0	Y	Clr	Low E4/heatlock	O	Sandtone	No	No	Exterior	N	N	Int-Wood	
L	Anderson	E	3	AWNING	Wood Aluminum	2/0 - 2/0	Y	Clr	Low E4/heatlock	X	Santone	No	Yes	Exterior	N	N	Int - Wood	
M	Anderson	E	5	FIXED	Wood/Aluminum	R=4' - Circular	Y	Clr	Smart Sun/heatlock	O	Sandtone	No	No	Exterior	N	N	Int. Wood	
N	Anderson	E	1	FIXED	Wood/Aluminum	8/0 - 4/0 custom top	Y	Clr	Smart Sun/heatlock	O	Sandtone	No	No	Exterior	N	N	Int-Wood	
O	Velux	VCE	10	Electric	Wood/Aluminum	2/0 - 4/0	Y	Clr	Low E	X	Brn	Yes	Yes	Curb Mounted	N	N	Sheetrock Wrap	
P	Velux	FS	2	FIXED	Wood/Aluminum	3/0 - 3/0	Y	Clr	Low E	O	Brn	Yes	No	Curb Mounted	N	N	Sheetrock Wrap	
Q	Velux	FS	3	FIXED	Wood/Aluminum	2/0 - 2/0	Y	Clr	Low E	O	Brn	Yes	No	Curb Mounted	N	N	Sheetrock Wrap	

DOOR SCHEDULE

LABEL	BRAND	SERIES	QTY	STYLE	MATERIAL Int/ Ext.	SIZE WxH	TEMPERED	GLASS TYPE	LOW E	SWING	COLOR	1HR FIRE	SCREEN	PLACEMENT	Int. Lintel	Ext. Lintel	SILL	RO - W/H
1	Simpson	55	1	POCKET	Wood - Fir	3/0 - 7/0	N/A	N/A	N/A	PCKT	Stain	No	No	Center	N	N	No	
2	Simpson	63	2	BIFOLD	Wood - Fir	3/0 - 6/8	N/A	NA	N/A	TRACK	Stain	Yes	No	Exterior of Closet	N	N	Metal - By Others	
3	Simpson	55	1	SINGLE	Wood - Fir	3/0 - 7/0	N/A	NA	N/A	LHS	Stain	Yes	No	Center	N	N	No	
4	Simpson	55	1	POCKET	Wood - Fir	3/0 - 6/8	N/A	N/A	N/A	PCKT	Stain	No	No	Center	N	N	No	
5	Anderson	PIVOT	1	SINGLE	Glass/Aluminum	3/0 - 7/0	Y	Monolythic	Smart Sun/heatlock	LHS	Sandtone	No	Yes	Interior	N	N	High performance Flush	
6	Anderson	FOLDING	1	4PNL	Glass/Aluminum	10/0 - 7/0 (2/6-3/8)	Y	Clr	Smart Sun/heatlock	3L1R	Sandtone	No	Yes	Interior	N	N	High performance Flush	
7	Simpson	55	1	SINGLE	Wood - Fir	3/0 - 7/0	N/A	N/A	N/A	RHS	Stain	No	No	Exterior towards Hall	N	N	No	
8	Simpson	55	4	SINGLE	Wood - Fir	3/0 - 6/8	N/A	N/A	N/A	LHS	Stain	No	No	Exterior of Hall	N	N	No	
9	Simpson	FOLDING	1	BIFOLD	Wood - Fir	4/0 - 6/8	N/A	N/A	N/A	TRACK	Stain	No	No	Exterior of Room	N	N	No	
10	Carriage	SONOMA	1	GARAGE	Glass/Wood	18/0 - 7/0	No	Obscure	N/A	X	Stain	No	No	Center	N	N	As per Manuf.	

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LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

WINDOW SCHEDULE
DOOR SCHEDULE

DRAWN: NN
CHECKED: MS
DATE: 2-22-23
SCALE: AS NOTED
SHEET
SC1

GENERAL INFORMATION					
01	Project Name	Larson Residence			
02	Run Title	Title 24 Analysis			
03	Project Location	10818 Crothers Road			
04	City	San Jose	05	Standards Version	2022
06	Zip code	95127	07	Software Version	EnergyPro 9.0
08	Climate Zone	4	09	Front Orientation (deg/ Cardinal)	180
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	4
14	Addition Cond. Floor Area (ft^2)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft^2)	n/a	17	Fenestration Average U-factor	0.33
18	Total Cond. Floor Area (ft^2)	3233	19	Glazing Percentage (%)	18.90%
20	ADU Bedroom Count	n/a			

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	35.7	36.2	30.4			
Proposed Design	23.9	36.1	29.4	11.8	0.1	1
RESULT[3]: PASS						

[1]Efficiency EDR includes improvements like a better building envelope and more efficient equipment
[2]Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries
[3]Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 3.22 kWdc
- PV System resized to 3.22 kWdc (a factor of 3.225) to achieve "Standard Design PV" PV scaling

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.15	16.1	2.76	20.67	-0.61	-4.57
Space Cooling	0.15	13.1	0.42	24.16	-0.27	-11.06
IAQ Ventilation	0.31	3.33	0.12	1.24	0.19	2.09
Water Heating	3.92	25.02	1.32	14.79	2.6	10.23
Self Utilization/Flexibility Credit				-3.49		3.49
Efficiency Compliance Total	**6.53**	**57.55**	**4.62**	**57.37**	**1.91**	**0.18**
Photovoltaics	-0.88	-29.64	-0.88	-32.09		
Battery			-1.37	0		
Flexibility						
Indoor Lighting	0.68	6.71	0.68	6.71		
Appl. & Cooking	1.47	18.35	1.47	18.37		
Plug Loads	1.97	20.51	1.97	20.51		
Outdoor Lighting	0.18	1.65	0.18	1.65		
TOTAL COMPLIANCE	**9.95**	**75.13**	**6.67**	**72.52**		

ENERGY USE INTENSITY

	Standard Design (kBtu/ft^2 - yr)	Proposed Design (kBtu/ft^2 - yr)	Compliance Margin (kBtu/ft^2 - yr)	Margin Percentage
Gross EUI[1]	12.2	11.1	1.1	9.02
Net EUI[2]	6.81	5.71	1.1	16.15

Notes
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
3.22	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

BATTERY SYSTEMS

01	02	03	04	05	06	07
Control	Capacity (kWh)	Charging		Discharging		Round Trip Efficiency
		Charging Efficiency	Charging Rate (kW)	Discharging Efficiency	Discharging Rate (kW)	
Basic	9	0.95	n/a	0.95	n/a	0.9

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Battery System: 9 kWh (Self Utilization Credit taken)
- IAQ Ventilation System: as low as 0.130769 W/CFM
- Non-standard duct location (any location other than attic)
- Solar water heating credit, single family building
- Slab Edge Insulation
- Heated slab
- Recirculating with demand control, push button

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

- Indoor air quality ventilation
- Kitchen range hood
- Minimum Airflow
- Fan Efficacy Watts/CFM
- Verified heat pump rated heating capacity
- Duct leakage testing
- Ducts located entirely in conditioned space confirmed by duct leakage testing

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft^2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Larson Residence	3233	1	4	1	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft^2)	Avg. Ceiling Height	Water Heating System 1	Status
1st Floor	Conditioned	Hydronic Radiant + Heatpu1	3233	12	DHW Sys 1	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)
Front Wall-Entry	1st Floor	BamCore Wall	180	Front	225	21	90
Curved Wall-Living	1st Floor	BamCore Wall	282	n/a	120	30	90
Curved Wall-Living 2	1st Floor	BamCore Wall	305	n/a	120	30	90
Curved Wall-Living 3	1st Floor	BamCore Wall	327	n/a	120	30	90
Curved Wall-Living 4	1st Floor	BamCore Wall	349	n/a	120	30	90
BackWall	1st Floor	BamCore Wall	0	Back	233	15	90
Right Wall-Kitchen	1st Floor	BamCore Wall	90	Right	84	0	90
Curved Wall-BR4	1st Floor	BamCore Wall	102	n/a	239	30	90
Wall-BR4 Closet	1st Floor	BamCore Wall	200	n/a	65	0	90
Curved Wall-BR3	1st Floor	BamCore Wall	125	n/a	200	30	90
Wall-BR3 Closet	1st Floor	BamCore Wall	40	n/a	65	12	90
Curved Wall-closets-BR2/3	1st Floor	BamCore Wall	147	n/a	239	0	90
Wall-BR2 Closet	1st Floor	BamCore Wall	240	n/a	65	12	90
Curved Wall-BR2	1st Floor	BamCore Wall	169	n/a	188	37.5	90
Right Wall-BR1/High	1st Floor	BamCore Wall	90	Right	78	16	90
Front Wall-BR1	1st Floor	BamCore Wall	180	Front	262	30	90
Left Wall	1st Floor	BamCore Wall	270	Left	270	100	90
Curved Wall-Bath1	1st Floor	BamCore Wall	300	n/a	95	16	90
Curved Wall-Bath1 2	1st Floor	BamCore Wall	325	n/a	45	0	90
Curved Wall-Bath1 3	1st Floor	BamCore Wall	350	n/a	95	16	90
Right Wall-Bath1/High	1st Floor	BamCore Wall	90	Right	131	21	90
Curved Wall-Hall	1st Floor	BamCore Wall	315	n/a	70	18	90
Curved Wall-Hall 2	1st Floor	BamCore Wall	300	n/a	70	18	90
Curved Wall-Hall 3	1st Floor	BamCore Wall	285	n/a	70	18	90

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LARSON RESIDENCE
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California Building Energy Efficiency Certificates of Compliance

Filed on the Plans pursuant to California Code of Regulations, Title 24, Part 1, Article 1, Section 10-103(a)2.A.

CZ 4

Project No.: 89822

Sheet No.: EC1
Energy Compliance

Date: 1-23-2023

Certificate of Compliance - Residential

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
BamCore Adj.Garage	1st Floor>>__Garage__	BamCore Wall1	n/a	n/a	110	0	n/a
2x6 Adj.Garage	1st Floor>>__Garage__	2x6 Wall	n/a	n/a	524	21	n/a
GarageWallFront	__Garage__	BamCore Wall	180	Front	576	151.13	90
GarageWallLeft	__Garage__	BamCore Wall	270	Left	160	34	90
GarageWallBack	__Garage__	BamCore Wall	0	Back	790	12.57	90
GarageWallRight	__Garage__	BamCore Wall	90	Right	678	73.13	90

OPAQUE SURFACES - CATHEDRAL CEILINGS

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Area (ft²)	Skylight Area (ft²)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof
Roof 3:12 Liv/Din	1st Floor	R-30 No Attic	315	n/a	455	14.53	3	0.1	0.85	No
Roof 3:12 Kit/Off	1st Floor	R-30 No Attic	90	Right	590	6.26	3	0.1	0.85	No
Roof 5:12 BR4	1st Floor	R-30 No Attic	285	n/a	358	6.26	5	0.1	0.85	No
Roof 0.25:12 BR2/BR3/Hall	1st Floor	R-30 No Attic	300	n/a	616	13.53	0.3	0.1	0.85	No
Roof 2:12 closets/bath 2	1st Floor	R-30 No Attic	315	n/a	337	14.44	2	0.1	0.85	No
Roof 2:12 BR1	1st Floor	R-30 No Attic	270	Left	572	21.8	2	0.1	0.85	No
Roof 2:12 Bath1	1st Floor	R-30 No Attic	325	n/a	200	3.58	2	0.1	0.85	No
Mezzanine Roof 1.5:12	__Garage__	Garage Roof	0	Back	762	24	1.5	0.1	0.85	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Door 5	Window	Front Wall-Entry	Front	180			1	21	0.35	NFRC	0.17	NFRC	Bug Screen
C	Window	Curved Wall-Living		282			1	30	0.3	NFRC	0.24	NFRC	Bug Screen
C 2	Window	Curved Wall-Living 2		305			1	30	0.3	NFRC	0.24	NFRC	Bug Screen
C 3	Window	Curved Wall-Living 3		327			1	30	0.3	NFRC	0.24	NFRC	Bug Screen
C 4	Window	Curved Wall-Living 4		349			1	30	0.3	NFRC	0.24	NFRC	Bug Screen
B	Window	BackWall	Back	0			1	15	0.31	NFRC	0.22	NFRC	Bug Screen
G X 2	Window	Curved Wall-BR4		102			1	30	0.3	NFRC	0.24	NFRC	Bug Screen
H X 2	Window	Curved Wall-BR3		125			1	15	0.31	NFRC	0.22	NFRC	Bug Screen
G	Window	Curved Wall-BR3		125			1	15	0.3	NFRC	0.24	NFRC	Bug Screen
F	Window	Wall-BR3 Closet		40			1	12	0.3	NFRC	0.24	NFRC	Bug Screen
F 2	Window	Wall-BR2 Closet		240			1	12	0.3	NFRC	0.24	NFRC	Bug Screen
G X 2.	Window	Curved Wall-BR2		169			1	30	0.3	NFRC	0.24	NFRC	Bug Screen

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
H	Window	Curved Wall-BR2		169			1	7.5	0.31	NFRC	0.22	NFRC	Bug Screen
F 3	Window	Right Wall-BR1/High	Right	90			1	12	0.31	NFRC	0.22	NFRC	Bug Screen
L	Window	Right Wall-BR1/High	Right	90			1	4	0.31	NFRC	0.22	NFRC	Bug Screen
C 5	Window	Front Wall-BR1	Front	180			1	30	0.3	NFRC	0.24	NFRC	Bug Screen
C 6	Window	Left Wall	Left	270			1	30	0.3	NFRC	0.24	NFRC	Bug Screen
Door 6	Window	Left Wall	Left	270			1	70	0.3	NFRC	0.2	NFRC	Bug Screen
E X 2	Window	Curved Wall-Bath1		300			1	16	0.3	NFRC	0.24	NFRC	Bug Screen
E X 2.	Window	Curved Wall-Bath1 3		350			1	16	0.3	NFRC	0.24	NFRC	Bug Screen
I	Window	Right Wall-Bath1/High	Right	90			1	8	0.31	NFRC	0.22	NFRC	Bug Screen
J	Window	Right Wall-Bath1/High	Right	90			1	9	0.31	NFRC	0.22	NFRC	Bug Screen
L 2	Window	Right Wall-Bath1/High	Right	90			1	4	0.31	NFRC	0.22	NFRC	Bug Screen
K	Window	Curved Wall-Hall		315			1	18	0.3	NFRC	0.24	NFRC	Bug Screen

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
K 2	Window	Curved Wall-Hall 2		300			1	18	0.3	NFRC	0.24	NFRC	Bug Screen
K 3	Window	Curved Wall-Hall 3		285			1	18	0.3	NFRC	0.24	NFRC	Bug Screen
M X 2	Window	GarageWallFront	Front	180			1	25.13	0.3	NFRC	0.24	NFRC	Bug Screen
L 3	Window	GarageWallLeft	Left	270			1	4	0.3	NFRC	0.24	NFRC	Bug Screen
N	Window	GarageWallLeft	Left	270			1	30	0.3	NFRC	0.24	NFRC	Bug Screen
M	Window	GarageWallBack	Back	0			1	12.57	0.3	NFRC	0.24	NFRC	Bug Screen
A X 2	Window	GarageWallRight	Right	90			48	1	0.31	NFRC	0.22	NFRC	Bug Screen
M X 2.	Window	GarageWallRight	Right	90			1	25.13	0.3	NFRC	0.24	NFRC	Bug Screen
VCE 2246 O X 2	Skylight	Roof 3:12 Liv/Din		315			1	14.53	0.52	NFRC	0.24	NFRC	
FS M02 P	Skylight	Roof 3:12 Kit/Off	Right	90			1	6.26	0.44	NFRC	0.26	NFRC	
FS M02 P 2	Skylight	Roof 5:12 BR4		285			1	6.26	0.44	NFRC	0.26	NFRC	
VCE 2246 O	Skylight	Roof 0.25:12 BR2/BR3/Hall		300			1	7.27	0.52	NFRC	0.24	NFRC	
FS M02 P 3	Skylight	Roof 0.25:12 BR2/BR3/Hall		300			1	6.26	0.44	NFRC	0.26	NFRC	

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
FS D26 Q X 2	Skylight	Roof 2:12 closets/bath 2		315			1	7.17	0.44	NFRC	0.26	NFRC	
VCE 2246 O 2	Skylight	Roof 2:12 closets/bath 2		315			1	7.27	0.52	NFRC	0.24	NFRC	
VCE 2246 O X 3	Skylight	Roof 2:12 BR1	Left	270			1	21.8	0.52	NFRC	0.24	NFRC	
FS D26 Q	Skylight	Roof 2:12 Bath1		325			1	3.58	0.44	NFRC	0.26	NFRC	
Skylight O X 3	Skylight	Mezzanine Roof 1.5:12	Back	0			1	24	0.52	NFRC	0.24	NFRC	

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft²)	U-factor
Door 3	2x6 Adj.Garage	21	0.2
GarageDoor 10	GarageWallFront	126	1

SLAB FLOORS

01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Heated Slab	1st Floor	3233	329	R-5	48	80%	Yes
GarageSlab	__Garage__	762	128	none	0	0%	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
BamCore Wall	Exterior Walls	Wood Framed Wall	2x6 @ 24 in. O. C.	R-23	5 / None	0.045	Inside Finish: Gypsum Board Sheathing / Insulation: R-5 Sheathing Cavity / Frame: R-23 / 2x6 Exterior Finish: 3 Coat Stucco
Garage Roof	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.494	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4 Inside Finish: Gypsum Board
R-30 No Attic	Cathedral Ceilings	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-30	None / None	0.036	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x12 Inside Finish: Gypsum Board
BamCore Wall1	Interior Walls	Wood Framed Wall	2x6 @ 24 in. O. C.	R-23	5 / None	0.043	Inside Finish: Gypsum Board Sheathing / Insulation: R-5 Sheathing Cavity / Frame: R-23 / 2x6 Other Side Finish: Gypsum Board
2x6 Wall	Interior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.064	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Other Side Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Not Required	Not Required	N/A	n/a	n/a

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LARSON RESIDENCE
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California Building Energy Efficiency Certificates of Compliance

Filed on the Plans pursuant to California Code of Regulations, Title 24, Part 1, Article 1, Section 10-103(a)2.A.

CZ 4

Project No.: 89822

Sheet No.: EC2

Energy Compliance

Date: 1-23-2023

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Demand Recirculation Manual Control	DHW Heater 1	1	Solar-DHW	None	n/a	DHW Heater 1 (1)

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location
DHW Heater 1	Electric Resistance	Consumer Storage	1	80	UEF	0.92	kW	12	0	98	87	Garage

RECIRCULATION LOOPS

01	02	03	04	05
Water Heating System Name	Number of Recirculation Loops	Loop Insulation Thickness (in)	Recirculation Loop Location	Recirculation Pump Power (W)
DHW Sys 1	1	1.5	Conditioned	0

SOLAR WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09	10
Name	Collector Manufacturer	Collector Brand	Collector Model	Number of Collectors	Azimuth from North	Tilt from Horizontal	Tank Volume (gal)	SRCC/IAPMO Number	Solar Savings Fraction
Solar-DHW	(OG-300 rated system)	n/a	Solar Assist	n/a	n/a	n/a	n/a	n/a	0.53

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
Hydronic Radiant + Heatpu1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	HVAC Fan 1	Air Distribution System 1	Setback

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
			Heating				Cooling					
Name	System Type	Number of Units	Efficiency Type	HSPF / HSPF2 / COP	Cap 47	Cap 17	Efficiency Type	SEER / SEER2	EER / EER / CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Air to water HP	1	COP	4.6	56983	37636	EER	n/a	10.27	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Required	350	Not Required	Not Required	No	No	Yes	Yes

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
			Duct Ins. R-value		Duct Location		Surface Area				
Name	Type	Design Type	Supply	Return	Supply	Return	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification
Air Distribution System 1	Conditioned space-entirely	Non-Verified	R-0.0	R-0.0	Conditioned Zone	Conditioned Zone	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dist

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	Yes	5.0	Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.58	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.58

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt 1-1	130	0.130769	Exhaust	No	n/a	Yes	Yes	

PROJECT NOTES

Since the current version of software does not include the BamCore assembly, the wall is modeled to support U-factor 0.045 from JA. We use the staff report:
https://www.energy.ca.gov/publications/2020/bamcore-prime-wall-exceptional-method-compliance-option
Modeled Bathroom IAQ fan: Panasonic FV-11SVK2, or equal.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Steve Means	Documentation Author Signature: Steve K. Means
Company: EasyTitle24.com	Signature Date: 2023-01-23 17:24:31
Address: 654 Oakland Ave	CEA/ HERS Certification Identification (If applicable): R19-90-30028
City/State/Zip: Oakland, CA 94611	Phone: 925-671-4789

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: mitchel slade	Responsible Designer Signature: mitchel slade
Company: ECOSTRUCTION	Date Signed: 2023-01-23 17:37:13
Address: P O BOX 62	License: B-823495
City/State/Zip: GEYSERVILLE, CA 95441	Phone: 707-672-9672

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

Easy to Verify at CalCERTS.com

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654 Oakland Avenue, Oakland, CA 94611

LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

California Building Energy Efficiency Certificates of Compliance

Filed on the Plans pursuant to California Code of Regulations, Title 24, Part 1, Article 1, Section 10-103(a)2.A.

CZ 4

Project No.: 89822

Sheet No.: EC3
Energy Compliance

Date: 1-23-2023

Mandatory Measures Summary: Residential

2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information.
(04/2022)

Building Envelope:

§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. *
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4 .5 for exterior doors. They must be caulked and/or weather-stripped. *
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Roof Deck, Ceiling and Rafter Roof Insulation.** Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration, as specified in § 110.7, including but not limited to plasteg insulation either above or below the roof deck or on top of a drywall ceiling. *
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B. *
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. *
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to §150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45. *

Fireplaces, Decorative Gas Appliances, and Gas Log:

§ 110.5(e)	**Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.
§ 150.0(e)3:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. *

Space Conditioning, Water Heating, and Plumbing System:

§ 110.0-§ 110.3:	**Certification.** Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission. *
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. *
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating. *
§ 110.2(c):	**Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. *
§ 110.3(c)3:	**Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

Kitchen Range Hoods

Airflow, controls, and HERS verification requirements for range hoods depend on the kitchen configuration (enclosed or nonenclosed), area of the dwelling unit, and whether the range is electric or gas. ***Demand controlled*** range hoods with minimum Capture Efficiency [CE] ratings, ***or*** minimum CFM ratings, according to the Table below may be installed in any kitchen. The maximum sound rating is 3.0 Sones at any speed setting of 100 CFM or higher (per ASHRAE 62.2). Range hoods must be chosen from this directory: https://www.hvi.org/hvi-certified-products-directory/section-i-complete-product-listing/, or this one: https://www.aham.org/AHAM/What_We_Do/Range_Hood_Program_Company_Listing.aspx. Be careful when choosing. Save the box the unit comes in to show the HERS Rater. The HERS Rater will need to verify that the installed unit is listed in the above database, and meets all criteria.

Dwelling Unit Floor Area (ft2)	Hood Over Electric Range	Hood Over Natural Gas Range
> 1500	50% CE or 110 CFM	70% CE or 180 CFM
> 1000 - 1500	50% CE or 110 CFM	80% CE or 250 CFM
750 - 1000	55% CE or 130 CFM	85% CE or 280 CFM

In-line and remote mounted fans that are further than 4 feet from the grille/register have no sound requirements. For enclosed kitchens only: "local exhaust" and/or "Indoor Air Quality" requirements *may* be met by a range hood, or wall or ceiling exhaust fan that can provide 5 Air Changes per Hour (ACH) of ***continuous ventilation*** for the room. [Such a fan *may* be the exhaust component of a *balanced* IAQ system without heat exchange, if desired. See "IAQ (Indoor Air Quality) Fans" - "**Balanced**" below].

IAQ (Indoor Air Quality) Fans

If the "IAQ (Indoor Air Quality) Fans" section of Title 24 form CF1R-PRF-01E says "Not Required" under **HERS Verification**, then this type of fan is not required. If it says "Yes" under **HERS Verification**, then this type of fan is required. Fans must be manually switched (no humidistat), and rated for continuous operation. The fan switch must be labeled as the "... indoor air quality ventilation for the house..." as required by ASHRAE 62.2. Appropriate products must normally be chosen from this directory: https://www.hvi.org/hvi-certified-products-directory/section-i-complete-product-listing/. For very small dwellings, a thru-wall unit might be ideal; however, those are not currently listed in the directory (see Note at bottom). Be sure to save the box the unit comes in to show the HERS Rater. Next, look under the heading **IAQ Fan Type** and go to the appropriate bullet-point:

- **Exhaust:** This is an exhaust-only (negative pressure) system. Often, a Bathroom exhaust fan will double as the IAQ fan. Kitchen Range Hoods are *not allowed* to provide exhaust-only IAQ ventilation. The fan's sound rating cannot be higher than 1.0 Sones at a rate no less than the IAQ CFM requirement (unless it is a remote in-line fan at least 4 feet from the grille/register). The number under **IAQ CFM** is the minimum CFM rating at a static pressure of 0.25 in. The number under **IAQ Watts/CFM** is multiplied times the CFM rating of the chosen fan to determine the wattage rating that it cannot exceed. If the chosen fan's wattage is too high, then you must choose a different product that meets the given fan watt efficacy. IAQ fans are exempt from CalGreen's humidistat control requirement, and occupants must be able to override any automatic controls, because--in theory--this fan must be on at all times when the building is occupied. Do ***not*** switch together with a light. The HERS Rater will measure the airflow, and look at product specifications to find the rated wattage.
- **Balanced:** This is normally a Heat Recovery Ventilator (HRV); although systems without heat exchange may be installed if the Certificate of Compliance has no SRE nor ASRE requirements. The same sound requirements given above for ***Exhaust*** systems apply to fans in balanced systems without heat exchange. In addition to meeting the minimum **IAQ CFM** and maximum **IAQ Watts/CFM** (for the *average* supply/return airflow), these fans have these additional requirements: 1) The Sensible Recovery Efficiency (SRE) in the directory must be equal to, or greater than, the number under **IAQ Recovery Effectiveness - SRE** on the Certificate of Compliance; 2) The Apparent Sensible Recovery Efficiency (ASRE) in the directory must be equal to, or greater than, the number under **IAQ Recovery Effectiveness - ASRE** on the Certificate of Compliance; 3) The installed exhaust airflow rate cannot be more than 20% more or less than the supply airflow rate; 4) Meet any additional requirements listed in the **REQUIRED SPECIAL FEATURES** section of the Certificate of Compliance; and 5) MERV-13 or HEPA filtration on the intake (check manufacturer's literature). These criteria may not be immediately apparent in the directory listing, and these units often have variable speed settings. To discover if a particular fan—at a particular speed setting—meets these requirements at 32°F and 0.25 in WC, you have to click the "More Details" button for the particular fan within the directory. HRV fans have 4 ports: exhaust from inside, supply to inside, exhaust to outside, and intake from outside. Only the exhaust from inside leg *may* run from a Bathroom (in which case, the unit must be controlled from inside that Bathroom), but it *must not* come from an enclosed kitchen, nor from within 12 feet of an oven or range to keep grease and other contaminants out of the heat exchanger. Follow manufacturer's installation instructions. Units must be accessible for filter changing. Jump ducts, and/or significant door undercuts may be necessary for good airflow throughout the dwelling. The HERS Rater will measure both the supply and exhaust airflows, and look at product specifications to find the rated wattage and recovery efficiency.

Note: If a **thru-wall HRV fan** is mentioned in the PROJECT NOTES section of the Certificate of Compliance, allowing it is at the discretion of the building official (plancheckер), because those kinds of units are not yet listed by HVI. This note hereby brings this to the attention of the building official. If these plans are approved, then the fan mentioned in PROJECT NOTES is allowed.

Note: If an HRV unit will be connected to the HVAC return, and controlled in tandem with the cycling FAU fan, then the minimum IAQ CFM shall be **triple** that listed in this report. (HVAC fans are assumed to be on 20 minutes each hour.)

Fan HERS Measures - Basic Descriptions

2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters. *
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.(h)2.
§ 150.0(h)3A:	**Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	**Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(i)1:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. *
§ 150.0(j)2:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	**Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2' higher than the water heater
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.

Ducts and Fans:

§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼", if mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed. *
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.
§ 150.0(m)12:	**Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter. *

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(m)13:	**Space Conditioning System Airflow Rate and Fan Efficacy.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3. *

Ventilation and Indoor Air Quality:

§ 150.0(o)1:	**Requirements for Ventilation and Indoor Air Quality**. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1. *
§ 150.0(o)1B:	**Central Fan Integrated (CFI) Ventilation Systems.** Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed andcontrolled per §150.0(o)1Biii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with §150.0(o)1C.
§ 150.0(o)1C:	**Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses .** Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii.
§ 150.0(o)1G:	**Local Mechanical Exhaust.** Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi. *
§ 150.0(o)1H&I:	**Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems.** The airflow required per § 150.0(o)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the minimum airflow rate required by §150.0(o)1C.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G

Pool and Spa Systems and Equipment:

§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating. *
§ 110.4(b)1:	**Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves. *

Lighting:

§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. *
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(k)1D:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1E:	**Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k). *

Documents to be Provided to Owner

§10-103(b)1.A: Compliance Information. At final inspection, builder/installers shall leave in the building copies of the completed, signed, and submitted compliance documents for the building owner at occupancy. For low-rise residential buildings, such information shall, at a minimum, include copies of all Certificate of Compliance, Certificate of Installation, and Certificate of Verification documentation submitted. These documents shall be in paper or electronic format and shall conform to the applicable requirements of Section 10-103(a).

§10-103(b)2: Operating Information. At occupancy, builder/installers shall leave in the building, or with the owner, operating information for all applicable features, materials, components, and mechanical devices installed in the building. Operating information shall include instructions on how to operate the features, materials, components, and mechanical devices correctly and efficiently. For dwelling units, such information shall be provided to the person(s) responsible for operating the feature, material, component or mechanical device installed in the building. This operating information shall be in paper or electronic format.

§10-103(b)3: Maintenance Information. At occupancy, builder/installers shall leave in the building maintenance information for all features, materials, components, and manufactured devices that require routine maintenance for efficient operation. Required routine maintenance actions shall be clearly stated and incorporated on a readily accessible label. The label may be limited to identifying, by title and/or publication number, the operation and maintenance manual for that particular model and type of feature, material, component or manufactured device. For low-rise residential buildings, this information shall include a schedule of all interior luminaires and lamps installed to comply with Section 150.0(k). For dwelling units, such information shall be provided to the person(s) responsible for operating the feature, material, component or mechanical device installed in the building (often the owner). This operating information shall be in paper or electronic format.

§10-103(b)4: Ventilation Information. New dwellings and additions larger than 1,000 sqft: At occupancy, builder/installers shall leave in the building for the building owner at occupancy, a description of the quantities of outdoor air that the ventilation system(s) are designed to provide to the building's conditioned space, and instructions for proper operation and maintenance of the ventilation system. For buildings or tenant spaces that are not individually owned and operated, or are centrally operated, such information shall be provided to the person(s) responsible for operating and maintaining the feature, material, component or mechanical ventilation device installed in the building. This information shall be in paper or electronic format.

Installation and Acceptance forms are filled out within the project on the HERS Provider's website. Installers and HERS Raters will need to be Added to, or "Shared" within, the project.

Certified HERS raters can be contacted through the HERS providers' websites linked here: https://www.energy.ca.gov/programs-and-topics/programs/home-energy-rating-system-hers-program

Mandatory Measures Summary: Residential (continued)

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1H:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	**Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems. *
§ 150.0(k)2A:	**Accessible Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off. *
§ 150.0(k)2B:	**Multiple Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2C:	**Mandatory Requirements.** Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	**Energy Management Control Systems.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	**Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	**Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2K:	**Independent controls.** Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.

Solar Readiness:

§ 110.10(a)1:	**Single-family Residences.** Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).
§110.10(b)1A:	**Minimum Solar Zone Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. *
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	**Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.'
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

Electric and Energy Storage Ready:

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(s)	**Energy Storage System (ESS) Ready.** All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	**Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	**Electric Cooktop Ready.** Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	**Electric Clothes Dryer Ready.** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

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California Building Energy Efficiency Certificates of Compliance

Filed on the Plans pursuant to California Code of Regulations, Title 24, Part 1, Article 1, Section 10-103(a)2.A.

CZ 4

Project No.: 89822

Sheet No.: EC4
Energy Compliance

Date: 1-23-2023

COUNTY OF SANTA CLARA

2022 CALGREEN RESIDENTIAL CHECKLIST (MANDATORY+TIER 1)

County Amendments to CALGreen are in Italics.

- Designer to cross out items that are not applicable to the project.
- Installer or designer shall verify all applicable requirements have been satisfied and sign and date each row. County Inspectors will verify completion signatures and supporting documentation DURING CONSTRUCTION.

	ITEM #	CALGreen CODE SECTION	REQUIREMENT	APPLICANT TO COMPLETE Plan Check Review Data: REFERENCE SHEET	Note or Detail No.	Installer or Designer Verification: Date	Installer or Designer Signature
	PLANNING AND DESIGN: MANDATORY REQUIREMENTS						
	1	4.106.2	A plan is developed and implemented to manage storm water drainage during construction.	CG-3	NOTE 1		Mitchel Slade
	2	4.106.3	Construction plans indicates how site grading or a drainage system will manage all surface water flows to keep water from entering buildings.	CG-3	NOTE 2		Mitchel Slade
	3	4.106.4.1	*For new dwellings with attached garages and **rebuild** of existing dwellings that include a panel upgrade or construction between panel and parking area, a Level 2 EV Ready Space and Level 1 EV Ready Space, is installed.*	CG-3	NOTES 3 & 4		Mitchel Slade
	PLANNING AND DESIGN: TIER 1 MANDATORY REQUIREMENTS						
	4	A4.106.2.3	Displaced topsoil is stockpiled for reuse in a designated area and covered or protected from erosion.	CG-4	NOTE 7		Mitchel Slade
	5	A4.106.4	Not less than 20 percent of the total parking, walking or patio surfaces are permeable.	CG-4	NOTE 9		Mitchel Slade
	PLANNING AND DESIGN: TIER 1 ELECTIVE REQUIREMENTS						
Comply with at least two Tier 1 elective measures - Cross out the rows not applicable	6	A4.103.1	Building site is an infill site, greyfield site or EPA-recognized and Brownfield site.	CG-4	NOTE 1		
	7	A4.103.2	Community connectivity is facilitated by one of the approved methods.	CG-4	NOTE 2		
	8	A4.104.1	An individual with oversight responsibility for the project has participated in an educational program promoting environmentally friendly design or development and has provided instruction to appropriate entities.	CG-4	NOTE 3		Mitchel Slade
	9	A4.105.2	Existing buildings are disassembled for reuse or recycling of building materials. The proposed structure utilizes at least one of the listed materials.	CG-4	NOTE 4		
	10	A4.106.2.1	Soil analysis is performed by a licensed design professional and the findings are utilized in the structural design of the building.	CG-4	NOTE 5		Mitchel Slade
	11	A4.106.2.2	Soil disturbance and erosion are minimized by using one or more of the methods listed	CG-4	NOTE 6		Mitchel Slade
	12	A4.106.3	Landscape areas disrupted during construction are restored to be consistent with native vegetation and/or at least 75% native California or drought tolerant plant and tree are utilized.	CG-4	NOTE 8		Mitchel Slade
	13	A4.106.6	A vegetated roof for at least 50% of the roof area is installed. Vegetated roof complies with CBC chapters 15 and 16.	CG-4	NOTE 10		
	14	A4.106.7	Nonroof heat islands are reduced for 50% of sidewalks, patios, driveways, or other paved areas by using one or more of the methods listed.	CG-4	NOTE 11		
	ENERGY EFFICIENCY: MANDATORY REQUIRMENTS						
	15	4.201.1	Building meets or exceeds the requirements of the California Building Energy Efficiency Standards.	T24 SHEETS			Mitchel Slade
	WATER EFFICIENCY & CONSERVATION: MANDATORY REQUIREMENTS						
	16	4.303.1	Plumbing Fixtures (water closets and urinals) and fittings (faucets and showerheads) installed in residential buildings comply with CALGreen Sections 4.303.1.1 through 4.303.1.4.	CG-3	NOTE 5		Mitchel Slade
	17	4.303.3	Plumbing fixtures and fittings required in CALGreen Section 4.303.1 are installed in accordance with the CPC and meet the applicable referenced standards.	CG-3	Note 6		Mitchel Slade
	18	4.304.1	Outdoor potable water use in landscape areas comply with a local water efficient landscape or the current California DWR MWELO, whichever is more stringent.	CG-3	Note 7		Mitchel Slade

	ITEM #	CALGreen CODE SECTION	REQUIREMENT	APPLICANT TO COMPLETE Plan Check Review Data: REFERENCE SHEET	Note or Detail No.	Installer or Designer Verification: Date	Installer or Designer Signature
	WATER EFFICIENCY & CONSERVATION : TIER 1 ELECTIVE REQUIREMENTS						
Comply with at least two Tier 1 elective measures - Cross out the rows not applicable	19	A4.303.1	Kitchen faucet maximum flow rate does not exceed 1.5 gpm at 60 psi. See exceptions.	CG-4	NOTE 14		Mitchel Slade
	20	A4.303.2	Alternate nonpotable water resources are used for indoor potable water reduction and are installed in accordance with CPC.	CG-4	NOTE 15		Mitchel Slade
	21	A4.303.3	At least one qualified ENERGY STAR dishwasher or clothes washer is installed.	CG-4	NOTE 16		Mitchel Slade
	22	A4.303.4	Nonwater urinals or composting toilets are installed.	CG-4	NOTE 17		Mitchel Slade
	23	A4.303.5	Dwelling is equipped with a demand hot water recirculation system. The system is installed per CPC, CEnC, and the manufacturer's installation instructions.	CG-4	NOTE 18		Mitchel Slade
	24	A4.304.1	An approved rainwater catchment system is designed and installed to use rainwater generated by at least 65% of the available roof area. The system is installed per CPC.	CG-4	NOTE 19		Mitchel Slade
	25	A4.304.2	A water efficient landscape irrigation design that eliminates the use of potable water, is provided. Method used to accomplish the requirements comply with California Building Standards Code and one or more of listed methods.	CG-4	NOTE 20		Mitchel Slade
	26	A4.304.3	Separate submeters or metering devices for outdoor potable water use is provided for landscape areas less than 5000 sq.ft.	CG-4	NOTE 21		
	27	A4.305.1	Alternative plumbing piping is installed to permit the discharge from the clothes washer or other fixtures to be used for an irrigation system in compliance with CPC.	CG-4	NOTE 22		Mitchel Slade
	28	A4.305.2	Dual water piping is installed for future use of recycled water at listed locations.	CG-4	NOTE 23		Mitchel Slade
	29	A4.305.3	Recycled water is used for landscape irrigation.	CG-4	Note 24		Mitchel Slade
	MATERIAL CONSERVATION & RESOURCE EFFICIENCY: MANDATORY REQUIREMENTS						
	30	4.406.1	Annular spaces around pipes, electric cables, conduits or other openings in plates at exterior walls are protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method acceptable to the County of Santa Clara.	CG-3	Note 9		Mitchel Slade
	31	4.408.1	Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste. Submit either a Construction Waste management plan (CALGreen 4.408.2) or Utilize a waste management company (CALGreen 4.408.3).	CG-3	Note 10		Mitchel Slade
	32	4.408.5	Documentation is provided to County of Santa Clara which demonstrates compliance with CALGreen sections 4.408.2 or 4.408.3.	CG-2 CG-3	Construction Waste Management Forms Note 11		Mitchel Slade
	33	4.410.1	An operation and maintenance manual is placed in the building at the time of final inspection.	CG-3	Note 12		Mitchel Slade
	MATERIAL CONSERVATION & RESOURCE EFFICIENCY: TIER 1 MANDATORY REQUIREMENTS						
	34	A4.403.2	Reduction in cement use in foundation mix design is not less than 20 percent.	CG-4	Note 26		Mitchel Slade
	35	A4.405.3.1	Use materials with a total RCV (recycled content value) not less than a 10 percent of the total material cost of the project except structural framing material.	CG-4	Note 33		Mitchel Slade
	36	A4.408.1	Reduce construction waste by at least 65%. Documentation is submitted to the County of Santa Clara demonstrating compliance.	CG-2 CG-3	Construction Waste Management Forms Note 41		Mitchel Slade
	MATERIAL CONSERVATION & RESOURCE EFFICIENCY: TIER 1 ELECTIVE REQUIREMENTS						
Comply with at least two Tier 1 elective measures - Cross out the rows not applicable	37	A4.403.1	A Frost-Protected Shallow Foundation (FPSF) is utilized in compliance with CRC. The required manual includes instructions to the owner or occupant regarding the necessity for heating the structure per CRC R403.3.	CG-4	NOTE 25		Mitchel Slade
	38	A4.404.1	Beams, headers and trimmers are sized and installed as specified in Chapter 23 of CBC or Chapter 6 of CRC.	CG-4	NOTE 27		Mitchel Slade
	39	A4.404.2	Building dimensions and layouts are designed to minimize waste by one or more of the listed measures in at least 80% of the structure.	CG-4	NOTE 28		Mitchel Slade
	40	A4.404.3	Premanufactured building system, as listed, is used to eliminate solid sawn lumber	CG-4	NOTE 29		Mitchel Slade
	41	A4.404.4	Material lists are included in the plans which specify the material quantity and direction for on-site cuts, for the listed systems.	CG-4	NOTE 30		Mitchel Slade
	42	A4.405.1	Prefinished building materials are utilized which do not require additional painting or staining. Acceptable material list is per CALGreen A4.405.1.	CG-4	NOTE 31		Mitchel Slade
	43	A4.405.2	Concrete floors that do not require additional coverings are used.	CG-4	NOTE 32		Mitchel Slade
	44	A4.405.4	One or more of the listed materials from rapidly renewable sources or agricultural byproducts are used.	CG-4	NOTE 34		Mitchel Slade
	45	A4.407.1	Foundation and landscape drains with discharge to an approved on-site location is installed.	CG-4	NOTE 35		Mitchel Slade
	46	A4.407.2	Roof gutter and downspout system is installed to route water at least 5 feet away from the foundation or connect to landscape drains with approved on-site discharge.	CG-4	NOTE 36		Mitchel Slade
	47	A4.407.3	Flashing details complying with accepted industry standards or manufacturer's instructions are provided on the plans.	CG-4	NOTE 37		Mitchel Slade
	48	A4.407.4	Building materials delivered to the construction site are protected from rain and other sources of moisture.	CG-4	NOTE 38		Mitchel Slade
	49	A4.407.6	Exterior doors are covered to prevent water intrusion by one or more listed methods.	CG-4	NOTE 39		Mitchel Slade
	50	A4.407.7	A permanent overhang or awning at least two feet in depth is provided at all exterior walls.	CG-4	Note 40		Mitchel Slade

	ITEM #	CALGreen CODE SECTION	REQUIREMENT	APPLICANT TO COMPLETE Plan Check Review Data: REFERENCE SHEET	Note or Detail No.	Installer or Designer Verification: Date	Installer or Designer Signature
	ENVIRONMENTAL QUALITY: MANDATORY REQUIREMENTS						
	51	4.503.1	Any installed gas fireplace is a direct-vent sealed-combustion type. Any installed woodstove or pellet stove comply with US EPA Phase II emission limits where applicable.	CG-3	Note 13		
	52	4.504.1	Duct openings and other related air distribution component openings are covered during construction until final startup of the HVAC equipment.	CG-3	Note 14		Mitchel Slade
	53	4.504.2.1	Adhesives, sealants and caulks are compliant with VOC and other toxic compound limits.	CG-2 CG-2	Table 4.504.1 Table 4.504.2 Note 15		Mitchel Slade
	54	4.504.2.2	Architectural paints and coatings are compliant with VOC limits.	CG-2 CG-3	Table 4.504.3 Note 16		Mitchel Slade
	55	4.504.2.3	Aerosol paints and coatings are compliant with product weighted MIR limits for ROC and other toxic compounds.	CG-3	Note 17		Mitchel Slade
	56	4.504.2.4	Documentation are provided to the County of Santa Clara to verify that compliant VOC limit finish materials have been used.	CG-3	Note 18		Mitchel Slade
	57	4.504.3	Carpet and carpet systems meet the applicable testing and product requirements.	CG-2 CG-3	Table 4.504.1 Note 19		Mitchel Slade
	58	4.504.5	Hardwood plywood, particleboard and medium density fiberboard composite wood meet formaldehyde limits.	CG-1 CG-3	Table 4.504.5 Note 21		Mitchel Slade
	59	4.504.5.1	Documentation is provided to the County of Santa Clara to verify composite wood meets applicable formaldehyde limits.	CG-3	Note 22		Mitchel Slade
	60	4.505.2	Vapor retarder and capillary break is installed at slab-on-grade foundations.	CG-3	Note 23		Mitchel Slade
	61	4.505.3	Moisture content of building materials used in wall and floor framing do not exceed 19% prior to enclosure and is checked before enclosure. Insulation products are dry prior to enclosure.	CG-3	Note 24		Mitchel Slade
	62	4.506.1	Each bathroom is mechanically ventilated and comply with applicable requirements.	CG-3	Note 25		Mitchel Slade
	63	4.507.2	Heating and air-conditioning systems are sized, designed, and equipment is selected by using one of the methods listed.	CG-3	Note 26		Mitchel Slade
	ENVIROMENTAL QUALITY: TIER 1 MANDATORY REQUIREMENTS						
	64	A4.504.2	At least 90% of resilient flooring complies with applicable VOC limits.	CG-4	Note 43		Mitchel Slade
	65	A4.504.3	Thermal insulation in the building is installed in compliance with applicable standards.	CG-4	Note 44		Mitchel Slade
	ENVIROMENTAL QUALITY: TIER 1 ELECTIVE REQUIREMENTS						
Comply with at least one Tier 1 elective measures - Cross out the rows not applicable	66	A4.504.1	Composite wood products made with NAF or ULEF resins are used.	CG-4	Note 42		Mitchel Slade
	67	A4.506.2	Filters at MERV 8 or higher are used on return air openings, during construction.	CG-4	Note 45		Mitchel Slade
	68	A4.506.3	Direct vent heating and cooling equipment are utilized where the equipment will be located in the conditioned space or the space heating and water heating equipment is installed in an isolated mechanical room.	CG-4	Note 46		Mitchel Slade
	INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS: MANDATORY REQUIREMENTS						
	69	702.1	HVAC system installers are trained and certified in the proper installation of HVAC systems.	CG-3	Note 27		Mitchel Slade
	70	702.2	If required by County of Santa Clara, owner or owner's agent shall employ special inspector who are qualified and able to demonstrate competence in the discipline they are inspecting.	CG-3	Note 28		Mitchel Slade
	71	703.1	Documentation used to show compliance with this code may include construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to County of Santa Clara which show substantial conformance.	CG-3	Note 29		Mitchel Slade

TABLE 4.504.5
FORMALDEHYDE LIMITS[1]
Maximum Formaldehyde Emissions in Parts per Million

PRODUCT	CURRENT LIMIT
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.05
Particleboard	0.09
Medium density fiberboard	0.11
Thin medium density fiberboard[2]	0.13

1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E1333. For additional information, see *California Code of Regulations*, Title 17, Sections 93120 through 93120.12.
2. Thin medium density fiberboard has a maximum thickness of $^{5}/_{16}$ inch (8 mm).

TABLE A4.106.10
MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS[1,2]

ALLOWABLE RATING	LIGHTING ZONE 1	LIGHTING ZONE 2	LIGHTING ZONE 3	LIGHTING ZONE 4
Maximum Allowable Backlight Rating[3]				
Luminaire greater than 2 mounting heights (MH) from property line	No Limit	No Limit	No Limit	No Limit
Luminaire back hemisphere is 1 – 2 MH from property line	B2	B3	B4	B4
Luminaire back hemisphere is 0.5 – 1 MH from property line	B1	B2	B3	B3
Luminaire back hemisphere is less than 0.5 MH from property line	B0	B0	B1	B2
Maximum Allowable Uplight Rating				
For area lighting[4]	U0	U0	U0	U0
For all other outdoor lighting, including decorative luminaires	U1	U2	U3	U4
Maximum Allowable Glare Rating[5]				
Luminaire greater than 2 MH from property line	G1	G2	G3	G4
Luminaire front hemisphere is 1 – 2 MH from property line	G0	G1	G1	G2
Luminaire front hemisphere is 0.5 – 1 MH from property line	G0	G0	G1	G1
Luminaire back hemisphere is less than 0.5 MH from property line	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the *California Energy Code* and Chapter 10 of the *California Administrative Code*.
2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.
3. If the nearest property line is less than or equal to two mounting heights from the back hemisphere of the luminaire distribution, the applicable reduced Backlight rating shall be met.
4. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaires located in these areas shall meet U-value limits for "all other outdoor lighting."
5. If the nearest property line is less than or equal to two mounting heights from the front hemisphere of the luminaire distribution, the applicable reduced Glare rating shall be met.

Project Information

CALGreen One or Two Family Residential Project Mandatory and Tier 1 Requirements
County of Santa Clara

TABLE 4.504.1
ADHESIVE VOC LIMIT[1, 2]
Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	VOC LIMIT
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
SPECIALTY APPLICATIONS	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
SUBSTRATE SPECIFIC APPLICATIONS	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80

1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed.
2. For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168.

TABLE 4.504.2
SEALANT VOC LIMIT
Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	VOC LIMIT
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
SEALANT PRIMERS	
Architectural Nonporous Porous	 250 775
Modified bituminous	500
Marine deck	760
Other	750

TABLE 4.504.3
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2, 3]
Grams of VOC per Liter of Coating,
Less Water and Less Exempt Compounds

COATING CATEGORY	VOC LIMIT
Flat coatings	50
Nonflat coatings	100
Nonflat-high gloss coatings	150
SPECIALTY COATINGS	
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	350
Concrete curing compounds	350
Concrete/masonry sealers	100
Driveway sealers	50
Dry fog coatings	150
Faux finishing coatings	350
Fire resistive coatings	350
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High temperature coatings	420
Industrial maintenance coatings	250
Low solids coatings[1]	120
Magnesite cement coatings	450
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	250
Pretreatment wash primers	420
Primers, sealers, and undercoaters	100
Reactive penetrating sealers	350
Recycled coatings	250
Roof coatings	50
Rust preventative coatings	250
Shellacs Clear Opaque	 730 550
Specialty primers, sealers and undercoaters	100
Stains	250
Stone consolidants	450
Swimming pool coatings	340
Traffic marking coatings	100
Tub and tile refinish coatings	420
Waterproofing membranes	250
Wood coatings	275
Wood preservatives	350
Zinc-rich primers	340

1. Grams of VOC per liter of coating, including water and including exempt compounds.
2. The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
3. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008. More information is available from the Air Resources Board.

Construction Waste Management (CWM) Plan

Fill out the form including diversion rate and facility names and addresses

Project Name: ______________________
Job #: ______________________
Project Manager: ______________________
Waste Hauling Company: ______________________
Contact Name: ______________________

Legend:
Hauling Company
Sorting Facility Name and Location
Disposal Service Company

All Subcontractors shall comply with the project's Construction Waste Management Plan.
All Subcontractor foremen shall sign the CWM Plan Acknowledgment Sheet.

Subcontractors who fail to comply with the Waste Management Plan will be subject to backcharges or withholding of payment, as deemed appropriate. For instance, Subcontractors who contaminate debris boxes that have been designated for a single material type will be subject to backcharge or withheld payment, as deemed appropriate.

1. The project's overall rate of waste diversion will be ____ %.
2. This project shall generate the least amount of waste possible by planning and ordering carefully, following all proper storage and handling procedures to reduce broken and damaged materials and reusing materials whenever possible. The majority of the waste that is generated on this jobsite will be diverted from the landfill and recycled for other use.
3. Spreadsheet 1, enclosed, identifies the waste materials that will be generated on this project, the diversion strategy for each waste type and the anticipated diversion rate.
4. Waste prevention and recycling activities will be discussed at the beginning of weekly subcontractor meetings. As each new subcontractor comes on-site, the WMP Coordinator will present him/her with a copy of the CWM Plan and provide a tour of the jobsite to identify materials to be salvaged and the procedures for handling jobsite debris. All Subcontractor foremen will acknowledge in writing that they have read and will abide by the CWM Plan. Subcontractor Acknowledgment Sheet enclosed. The CWM Plan will be posted at the jobsite trailer.
5. Salvage: Excess materials that cannot be used in the project, nor returned to the vendor, will be offered to site workers, the owner, or donated to charity if feasible.
6. ______________ will provide a commingled drop box at the jobsite for most of the construction waste. These commingled drop boxes will be taken to __________. The average diversion rate for commingled waste will be ____%. As site conditions permit, additional drop boxes will be used for particular phases of construction (e.g., concrete and wood waste) to ensure the highest waste diversion rate possible.
7. In the event that the waste diversion rate achievable via the strategy described in (6) above, is projected to be lower than what is required, then a strategy of source-separated waste diversion and/or waste stream reduction will be implemented. Source separated waste refers to jobsite waste that is not commingled but is instead allocated to a debris box designated for a single material type, such as clean wood or metal.

   Notes:
   1. Waste stream reduction refers to efforts taken by the builder to reduce the amount of waste generated by the project to below four (4) pounds per square foot of building area.
   2. When using waste stream reduction measures, the gross weight of the product is subtracted from a base weight of four (4) pounds per square foot of building area. This reduction is considered additional diversion and can be used in the waste reduction percentage calculations.
8. ______________ will track and calculate the quantity (in tons) of all waste leaving the project and calculate the waste diversion rate for the project. ______________ will provide Project Manager with an updated monthly report on gross weight hauled and the waste diversion rate being achieved on the project. ______________ monthly report will track separately the gross weights and diversion rates for commingled debris and for each source-separated waste stream leaving the project. In the event that ______________ does not service any or all of the debris boxes on the project, the ______________ will work with the responsible parties to track the material type and weight (in tons) in such debris boxes in order to determine waste diversion rates for these materials.
9. In the event that Subcontractors furnish their own debris boxes as part of their scope of work, such Subcontractors shall not be excluded from complying with the CWM Plan and will provide ______________ weight and waste diversion data for their debris boxes.
10. In the event that site use constraints (such as limited space) restrict the number of debris boxes that can be used for collection of designated waste the project Superintendent will, as deemed appropriate, allocate specific areas onsite where individual material types are to be consolidated. These collection points are not to be contaminated with non-designated waste types.
11. Debris from jobsite office and meeting rooms will be collected by ______________ . ______________ will, at a minimum, recycle office paper, plastic, metal and cardboard.

Construction Waste Management (CWM) Worksheet

Project Name: ______________________

Job Number: ______________________

Project Manager: ______________________

Waste Hauling Company: ______________________

Construction Waste Management (CWM) Plan

WASTE MATERIAL TYPE	DIVERSION METHOD: COMMINGLED AND SORTED OFF SITE	DIVERSION METHOD: SOURCE SEPARATED ON SITE	PROJECTED DIVERSION RATE
Asphalt			
Concrete			
Shotcrete			
Metals			
Wood			
Rigid insulation			
Fiberglass insulation			
Acoustic ceiling tile			
Gypsum drywall			
Carpet/carpet pad			
Plastic pipe			
Plastic buckets			
Plastic			
Hardiplank siding and boards			
Glass			
Cardboard			
Pallets			
Job office trash, paper, glass & plastic bottles, cans, plastic			
Alkaline and rechargeable batteries, toner cartridges, and electronic devices			
Other:			
Other:			
Other:			
Other:			

Construction Waste Management (CWM) Acknowledgment

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

Project Name: ______________________

Job Number: ______________________

Project Manager: ______________________

Waste Hauling Company: ______________________

CWM Plan Acknowledgment

The Foreman for each new Subcontractor that comes on site is to receive a copy of the Construction Waste Management Plan and complete this Acknowledgment Form.

I have read the Waste Management Plan for the project; I understand the goals of this plan and agree to follow the procedures described in this plan.

DATE	SUBCONTRACTOR COMPANY NAME	FOREMAN NAME	SIGNATURE

Table 1 - Recycled Content Value Calculations

A Material/Assembly *	B Manufacturer	C Recycled Content Information Source	D Material/ Assembly Cost ($)	E Post-Consumer Recycled Content (%)	F Pre-Consumer Recycled Content (%)	G Recycled Content (%)	H Recycled Content Value ($)
Total Recycled Content Value ($):							
For calculating the total material cost, choose ONLY ONE of the three options below:							
1.Size of project (sf):		Cost per sf:		x 45% = Total Material Cost ($):			
2.Estimated project cost/valuation ($):				x 45% = Total Material Cost ($):			
3.Sum of estimated and/or actual cost of materials used in the project				= Total Material Cost ($):			
Total Recycled Content Value as a percentage of the Total Material Cost:							

* Materials used as components of the structural frame shall not be used to calculate recycled content. The structural frame includes the load bearing structural elements, such as wall studs, plates, sills, columns, beams, girders, joists, rafters, and trusses.

The sum of post-consumer and pre-consumer recycled contents of each material cannot exceed 100%.

Table 2 - Assembly Product Recycled Content Calculations *

ASSEMBLY PRODUCT:

A Assembly Product**	B Material Weight (lb)	C Material Weight (%)	D Post-Consumer Recycled Content(lb)	E Post-Consumer Recycled Content (%)	F Pre-Consumer Recycled Content(lb)	G Pre-Consumer Recycled Content (%)	H Proportional Post-Consumer Content (%)	I Proportional Pre-Consumer Content (%)
Total Weight:								
Assembly Post-Consumer Recycled Content:								
Assembly Pre-Consumer Recycled Content:								

* Use one sheet per assembly product.

** Materials used as components of the structural frame shall not be used to calculate recycled content. The structural frame includes the load bearing structural elements, such as wall studs, plates, sills, columns, beams, girders, joists, rafters, and trusses.

The sum of post-consumer and pre-consumer recycled contents of each material in the assembly product cannot exceed 100%.

RECYCLED CONTENT - DECLARATION STATEMENT

Project Name:	
Project Location:	
Project Manager:	
Project Owner:	

The following section shall be completed by a person with overall responsibility for the planning and design portion of the project.

DECLARATION STATEMENT:

- I certify under penalty of perjury, under the laws of the State of California, the information provided is true and correct.
- I certify that the materials, components, assembly products or manufactured devices identified on this certificate conform to all applicable codes and regulations, and the installation is consistent with the plans and specifications approved by the enforcing agency.

Responsible Person's Name:	**Responsible Person's Signature:**
Date Signed:	**Position/Title:**
Notes:	**Attachments:**

Table 3 - Recycled Content Conversion Table (Pounds to %) *

A Type of Material	B Material Weight (lb)	C Post-Consumer Recycled Content(lb)	D Post-Consumer Recycled Content (%)	E Pre- Consumer Recycled Content(lb)	F Pre- Consumer Recycled Content (%)

* When the Post-Consumer and Pre-Consumer Recycled Content of any material are provided in pounds, Table 3 may be used for calculating the percentages of the recycled contents in each material. Table 3 shall not be used for assembly calculations.

Step 1 - Insert the type of material into Column A.

Step 2 - Insert the weight of material (provided by the manufacturer or other source) into Column B.

Step 3 - Insert the weight of Post-Consumer Recycled Content (provided by the manufacturer or other source) into Column C.

Step 4 - Insert the weight of Pre-Consumer Recycled Content (provided by the manufacturer or other source) into Column E.

Step 5 - Divide the values in Column C by the values in Column B; insert the Post-Consumer Recycled Content of each material in percentages into Column D.

Step 6 - Divide the values in Column E by the values in Column B; insert the Pre-Consumer Recycled Content of each material in percentages into Column F.

Step 7 - Transfer the percentages of Post-Consumer and Pre-Consumer Recycled Content from Column D and Column F to Table 1, Columns E and F.

Project Information

CALGREEN 2022 NOTES – MANDATORY REQUIREMENTS:

1. PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF SOIL AND ARE NOT PART OF A LARGER COMMON PLAN OF DEVELOPMENT WHICH IN TOTAL DISTURBS ONE ACRE OR MORE, SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION. SEE CALGREEN 4.106.2 FOR FURTHER DETAILS.

2. CONSTRUCTION PLANS SHALL INDICATE HOW THE SITE GRADING OR DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING BUILDINGS. SWALES, WATER COLLECTION AND DISPOSAL SYSTEMS, FRENCH DRAINS, WATER RETENTION GARDENS, AND OTHER MEASURES CAN BE USED. EXCEPTION: ADDITIONS AND ALTERATIONS NOT ALTERING THE DRAINAGE PATH.

3. FOR ANY NEW DWELLING UNITS WITH ATTACHED GARAGES AND FOR REBUILDS OF EXISTING DWELLING UNITS THAT INCLUDE A PANEL UPGRADE OR CONSTRUCTION BETWEEN THE PANEL AND PARKING AREA, INSTALL A LEVEL 2 EV READY SPACE AND LEVEL 1 EV READY SPACE. THE RACEWAY TERMINATION LOCATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "LEVEL 2 EV-READY."

EXCEPTION: FOR EACH DWELLING UNIT WITH ONLY ONE PARKING SPACE, INSTALL A LEVEL 2 EV READY SPACE.

LEVEL 1 EV READY SPACE IS A PARKING SPACE SERVED BY A COMPLETE ELECTRIC CIRCUIT WITH A MINIMUM OF 110/120 VOLT, 20-AMPERE CAPACITY, INCLUDING ELECTRICAL PANEL CAPACITY; AN OVERPROTECTION DEVICE; A MINIMUM 1" DIAMETER RACEWAY THAT MAY INCLUDE MULTIPLE CIRCUITS AS ALLOWED BY THE COUNTY ELECTRICAL CODE; PROPERLY SIZED CONDUCTORS; GROUNDING AND BONDING; AND EITHER (A) A RECEPTACLE LABELLED "ELECTRIC VEHICLE OUTLET" WITH AT LEAST A ½" FONT ADJACENT TO THE PARKING SPACE, OR (B) LABELED ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).

LEVEL 2 EV READY SPACE IS A PARKING SPACE SERVED BY A COMPLETE ELECTRIC CIRCUIT WITH A MINIMUM OF 208/240 VOLT, 40-AMPERE CAPACITY, INCLUDING THE REQUIRED ELECTRICAL PANEL CAPACITY; AN OVERCURRENT PROTECTION DEVICE; A MINIMUM 1" DIAMETER RACEWAY THAT MAY INCLUDE MULTIPLE CIRCUITS AS ALLOWED BY THE COUNTY ELECTRICAL CODE; PROPERLY SIZED CONDUCTORS; GROUNDING AND BONDING; AND EITHER (A) A RECEPTACLE LABELED "ELECTRIC VEHICLE OUTLET" WITH A MINIMUM ½" FONT, ADJACENT TO THE PARKING SPACE, OR (B) A BLANK LABELED ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) WITH A MINIMUM OUTPUT OF 40 AMPERES.

4. ACCESSORY DWELLING UNITS (ADU) AND JUNIOR ACCESSORY DWELLING UNITS (JADU) WITHOUT ADDITIONAL PARKING SPACES AND WITHOUT ELECTRICAL PANEL UPGRADE OR NEW PANEL INSTALLATION ARE EXEMPT FROM REQUIREMENTS ON NOTE 3. ADUS AND JADUS WITHOUT ADDITIONAL PARKING BUT WITH ELECTRICAL PANEL UPGRADES OR NEW PANELS MUST HAVE RESERVED BREAKERS AND ELECTRICAL CAPACITY ACCORDING TO THE REQUIREMENTS OF NOTE 3.

5. ALL NONCOMPLIANT PLUMBING FIXTURES SHALL BE REPLACED WITH WATER-CONSERVING PLUMBING FIXTURES. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY, OR FINAL PERMIT APPROVAL BY BUILDING AND INSPECTION DIVISION. SEE CIVIL CODE SECTION 1101.1, ET SEQ., FOR THE DEFINITION OF A NONCOMPLIANT PLUMBING FIXTURE, TYPES OF RESIDENTIAL BUILDINGS AFFECTED AND OTHER IMPORTANT ENACTMENT DATES.

A. THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS.

B. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS.

C. WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL SHOWER-HEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME. A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.

D. THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS PER MINUTE AT 60 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.

E. THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.

6. PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1701.1 OF THE CALIFORNIA PLUMBING CODE.

7. RESIDENTIAL DEVELOPMENTS SHALL COMPLY WITH COUNTY OF SANTA CLARA WATER EFFICIENT LANDSCAPE ORDINANCE OR THE CURRENT CALIFORNIA DEPARTMENT OF WATER RESOURCES' MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), WHICHEVER IS MORE STRINGENT.

8. Not used.

9. ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN SOLE/BOTTOM PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR A SIMILAR METHOD ACCEPTABLE TO THE COUNTY OF SANTA CLARA.

A. A CONSTRUCTION WASTE MANAGEMENT PLAN IS PROVIDED. THE CONSTRUCTION WASTE MANAGEMENT PLAN SHALL BE UPDATED AS NECESSARY AND SHALL BE AVAILABLE DURING CONSTRUCTION FOR EXAMINATION BY THE COUNTY OF SANTA CLARA.
   1. IDENTIFY THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS TO BE DIVERTED FROM DISPOSAL BY RECYCLING, REUSE ON THE PROJECT OR SALVAGE FOR FUTURE USE OR SALE.
   2. SPECIFY IF CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE SORTED ON-SITE (SOURCE-SEPARATED) OR BULK MIXED (SINGLE STREAM).
   3. IDENTIFY DIVERSION FACILITIES WHERE THE CONSTRUCTION AND DEMOLITION WASTE MATERIAL WILL BE TAKEN.
   4. IDENTIFY CONSTRUCTION METHODS EMPLOYED TO REDUCE THE AMOUNT OF CONSTRUCTION AND DEMOLITION WASTE GENERATED.
   5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

B. A WASTE MANAGEMENT COMPANY CAN BE UTILIZED IF APPROVED BY THE COUNTY OF SANTA CLARA. SEE CALGREEN 4.408.3 FOR FURTHER .DETAILS

11. DOCUMENTATION SHALL BE PROVIDED TO THE COUNTY OF SANTA CLARA WHICH DEMONSTRATES COMPLIANCE WITH NOTE 10.

12. AT THE TIME OF FINAL INSPECTION, A MANUAL, COMPACT DISC, WEB-BASED REFERENCE, OR OTHER MEDIA ACCEPTABLE TO THE COUNTY OF SANTA CLARA INCLUDES ALL OF THE REQUIRED INFORMATION, SHALL BE PLACED IN THE BUILDING. SEE CALGREEN 4.410.1 FOR DETAILS OF REQUIRED INFORMATION.

13. ANY INSTALLED GAS FIREPLACE SHALL BE A DIRECT-VENT SEALED-COMBUSTION TYPE. ANY INSTALLED WOODSTOVE OR PELLET STOVE SHALL COMPLY WITH U.S. EPA NEW SOURCE PERFORMANCE STANDARDS (NSPS) EMISSION LIMITS AS APPLICABLE, AND SHALL HAVE A PERMANENT LABEL INDICATING THEY ARE CERTIFIED TO MEET THE EMISSION LIMITS. WOODSTOVES, PELLET STOVES AND FIREPLACES SHALL ALSO COMPLY WITH APPLICABLE SANTA CLARA COUNTY ORDINANCES AND BAY AREA AIR QUALITY MANAGEMENT DISTRICT REGULATION 6, RULE 3.

14. AT THE TIME OF ROUGH INSTALLATION, DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE COUNTY OF SANTA CLARA TO REDUCE THE AMOUNT OF WATER, DUST AND DEBRIS, WHICH MAY ENTER THE SYSTEM.

15. ADHESIVES, SEALANTS AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF CALGREEN TABLES 4.504.1 OR 4.504.2 AS REPRODUCED ON SHEET CG-1. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS, AS SPECIFIED BELOW.

AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN 1 POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.

16. ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS AS SHOWN IN TABLE 4.504.3 SHEET CG-1. THE VOC CONTENT LIMIT FOR COATINGS THAT DO NOT MEET THE DEFINITIONS FOR THE SPECIALTY COATINGS CATEGORIES LISTED IN TABLE 4.504.3 SHALL BE DETERMINED BY CLASSIFYING THE COATING AS A FLAT, NONFLAT OR NONFLAT-HIGH GLOSS COATING, BASED ON ITS GLOSS, AS DEFINED IN SUBSECTIONS 4.21, 4.36, AND 4.37 OF THE 2007 CALIFORNIA AIR RESOURCES BOARD, SUGGESTED CONTROL MEASURE, AND THE CORRESPONDING FLAT, NONFLAT OR NON-FLAT-HIGH GLOSS VOC LIMIT IN TABLE 4.504.3, SHEET CG-1 SHALL APPLY.

17. AEROSOL PAINTS AND COATINGS SHALL MEET THE PRODUCT-WEIGHTED MIR LIMITS FOR ROC IN SECTION 94522(A)(2) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(E)(1) AND (F)(1) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520; AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8, RULE 49.

18. VERIFICATION OF COMPLIANCE WITH NOTES 15, 16, AND 17 SHALL BE PROVIDED AT THE REQUEST OF THE COUNTY OF SANTA CLARA.

19. ALL CARPET AND CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2017 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350)

ALL CARPET ADHESIVE SHALL MEET THE REQUIREMENTS OF TABLE 4.504.1, SHEET CG-1.

20. WHERE RESILIENT FLOORING IS INSTALLED, AT LEAST 80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2017 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350)

21. HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDING SHALL MEET THE REQUIREMENTS FOR FORMALDEHYDE AS SPECIFIED IN TABLE 4.504.5 SHEET CG-1.

22. VERIFICATION OF COMPLIANCE WITH NOTE 21 SHALL BE PROVIDED AT THE REQUEST OF THE COUNTY OF SANTA CLARA.

23. CONCRETE SLAB FOUNDATIONS REQUIRED TO HAVE A VAPOR RETARDER BY CBC, CHAPTER 19 OR CONCRETE SLAB-ON-GROUND FLOORS REQUIRED TO HAVE A VAPOR RETARDER BY CRC CHAPTER 5, SHALL COMPLY WITH FOLLOWING REQUIREMENT:

A CAPILLARY BREAK SHALL BE INSTALLED IN COMPLIANCE WITH AT LEAST ONE OF THE FOLLOWING:

A. A 4-INCH-THICK BASE OF 1/2 INCH OR LARGER CLEAN AGGREGATE SHALL BE PROVIDED WITH A VAPOR RETARDER IN DIRECT CONTACT WITH CONCRETE AND A CONCRETE MIX DESIGN, WHICH WILL ADDRESS BLEEDING, SHRINKAGE, AND CURLING, SHALL BE USED.

B. A SLAB DESIGN SPECIFIED BY THE LICENSED DESIGN PROFESSIONAL.

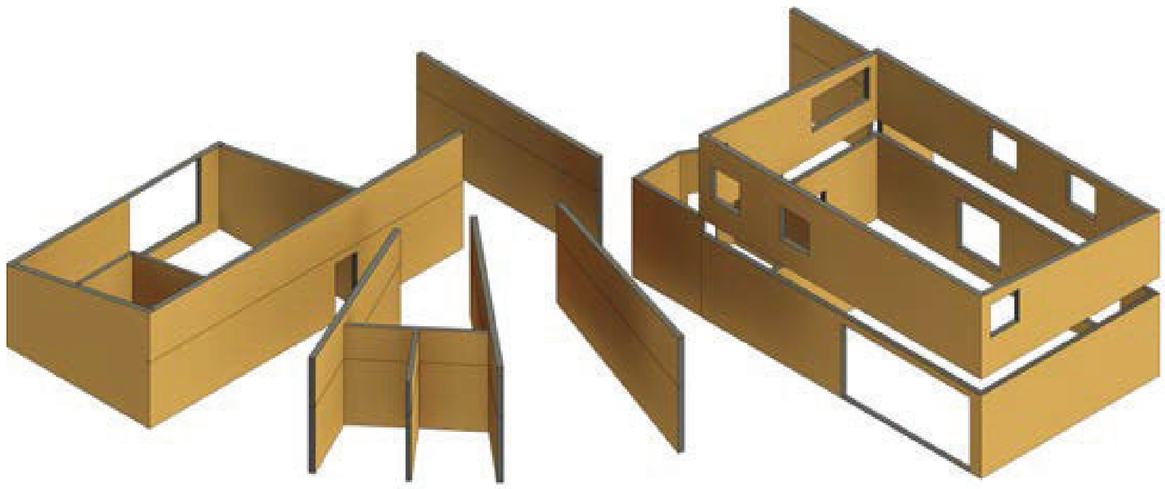
24. BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHALL NOT BE INSTALLED. WALL AND FLOOR FRAMING SHALL NOT BE ENCLOSED WHEN THE FRAMING MEMBERS EXCEED 19 PERCENT MOISTURE CONTENT. INSULATION PRODUCTS WHICH ARE VISIBLY WET OR HAVE A HIGH MOISTURE CONTENT SHALL BE REPLACED OR ALLOWED TO DRY PRIOR TO ENCLOSURE IN WALL OR FLOOR CAVITIES. WET-APPLIED INSULATION PRODUCTS SHALL FOLLOW THE MANUFACTURERS' DRYING RECOMMENDATIONS PRIOR TO ENCLOSURE.

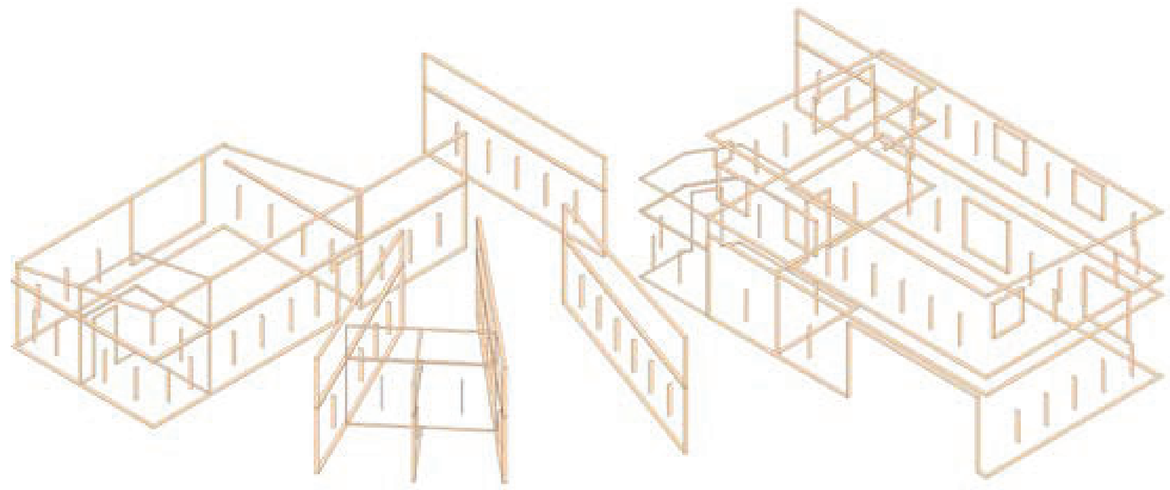
25. EACH BATHROOM SHALL BE MECHANICALLY VENTILATED AND SHALL COMPLY WITH THE FOLLOWING:

Project Information

Project Information

BamCore Takeoff
Larson Residence





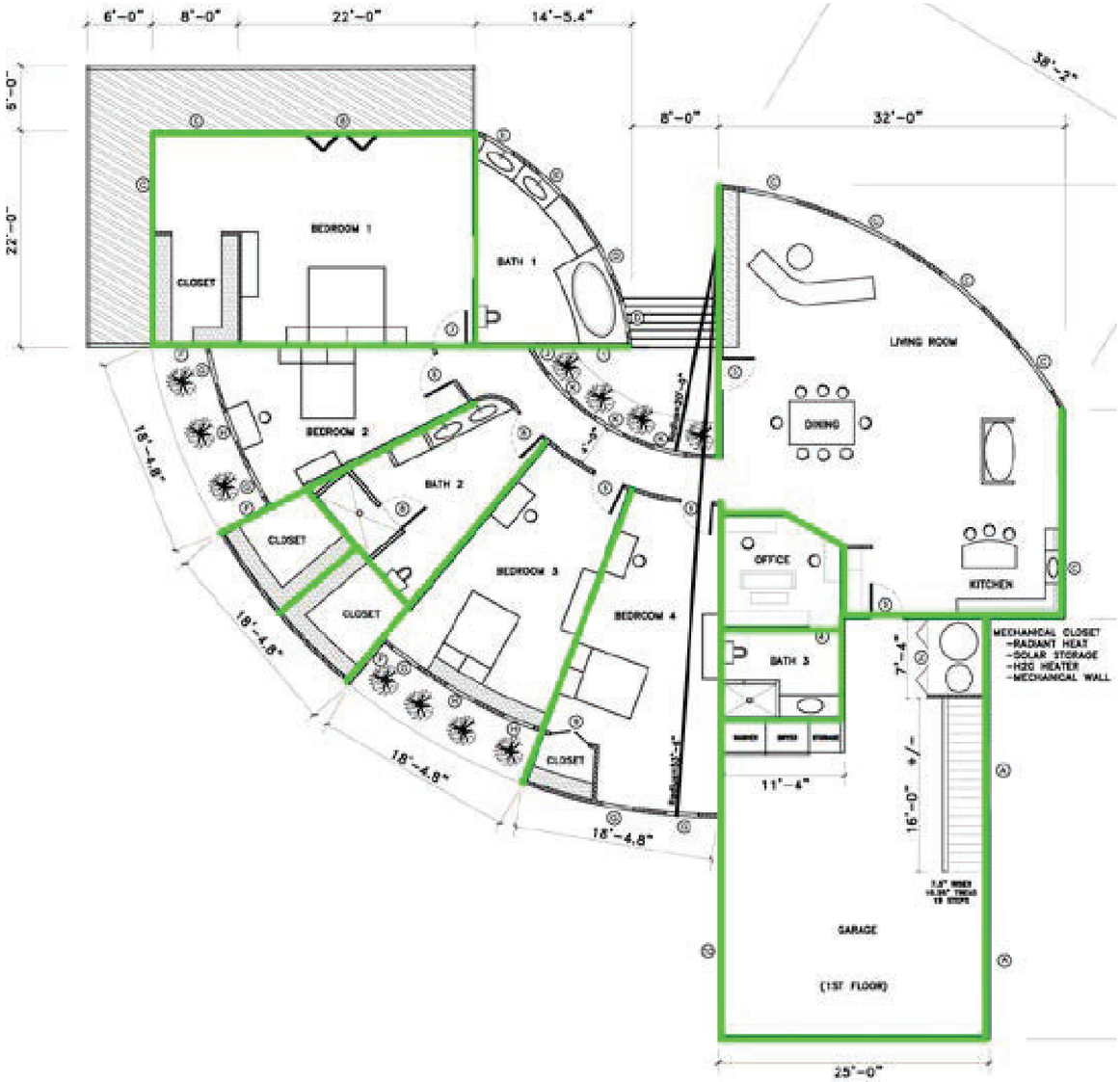
Wall Takeoff
8’ Panels: 235
10’ Panels: 176
Area Feedstock: 14,560

Lumber Takeoff (linear feet)

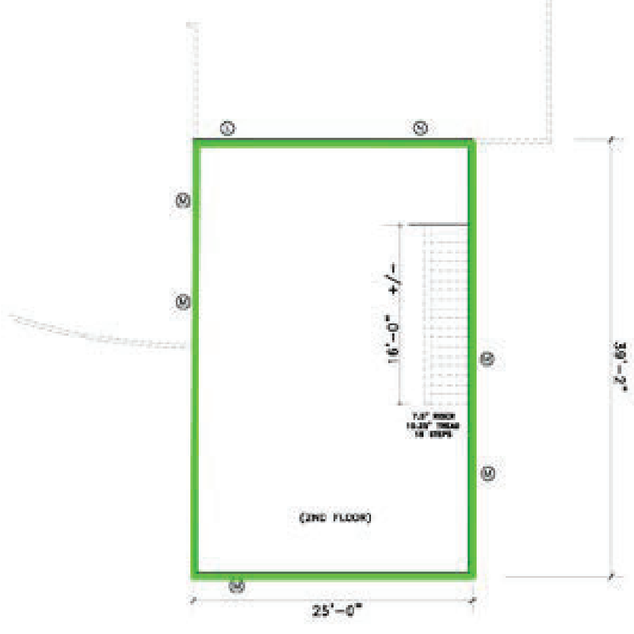
2x4” Plate: 284 ft	2x6” Plate: 1,552 ft
2x4” Stud: 134 ft	2x6” Stud: 604 ft

*BamCore does not provide lumber, these numbers are for reference only

BamCore Takeoff
Larson Residence



Utilization of BamCore Panels
Level 1



Utilization of BamCore Panels
Level 2

STRUCTURAL GENERAL NOTES

STATEMENT OF SPECIAL INSPECTIONS

1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTION DURING CONSTRUCTION. THE SPECIAL INSPECTOR(S) SHALL BE QUALIFIED TO THE SATISFACTION OF THE BUILDING OFFICIAL TO INSPECT THE KIND OF CONSTRUCTION BEING EMPLOYED IN THIS PROJECT. THE SPECIAL INSPECTOR SHALL SUBMIT REPORTS INDICATING RESULTS AND OBSERVATIONS OF TESTS AND INSPECTIONS AND STATING COMPLIANCE OR NONCOMPLIANCE WITH CONTRACT DOCUMENTS TO STRUCTURAL ENGINEER AND TO GOVERNING CODE AUTHORITY.

2. TESTING LABORATORY SHALL PROVIDE SPECIAL INSPECTION, COMPLYING WITH LABC SECTION 1701 (UNLESS OTHERWISE NOTED), FOR THE FOLLOWING:

A. EPOXY ANCHORS
B. BOLTS INSTALLED IN CONCRETE
C. CONCRETE STRENGTH f'c > 2,500 PSI
D. SHEATHED SHEAR WALL WHEN SHEAR EXCEEDS 350 POUNDS PER LINEAR FOOT WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS.

3. CONTRACTORS RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT LISTED IN THE "STATEMENT OF SPECIAL INSPECTIONS" SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE LADBS INSPECTORS AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER SECTION 1704.4.

4. CONTINUOUS SPECIAL INSPECTOR BY A REGISTERED DEPUTY INSPECTOR IS REQUIRED FOR FIELD WELDING, POST-INSTALLED ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED TO RESIST SUSTAINED TENSION LOADS, SHOTCRETE PLACEMENT, CONCRETE STRENGTH f'c > 2,500 PSI, HIGH STRENGTH BOLTING, SPRAYED-ON FIREPROOFING, ENGINEERED MASONRY, HIGH-LIFT GROUTING, PRE-STRESSED CONCRETE, HIGH LOAD DIAPHRAGMS, SPECIAL MOMENT-RESISTING CONCRETE FRAMES, AND HELICAL PILE FOUNDATIONS.

5. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM. SPECIAL INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS.

STRUCTURAL OBSERVATIONS

1. STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCRURAL SYSTEM IN ACCORDANCE WITH CITY OF SAN JOSE ORDINANCES. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETED STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR.

2. THE OWNER SHALL EMPLOY A CIVIL OR STRUCTURAL ENGINEER OR ARCHITECT TO PERFORM THE STRUCTURAL OBSERVATION. THE ENGINEER OR ARCHITECT SHALL BE REGISTERED OR LICENSED IN THE STATE OF CALIFORNIA. THE DEPARTMENT OF BUILDING & SAFETY RECOMMENDS THE USE OF THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN WHEN THEY ARE INDEPENDENT OF THE CONTACTOR.

3. THE STRUCTURAL OBSERVER SHALL PROVIDE EVIDENCE OF EMPLOYMENT BY THE OWNER. A LETTER FROM THE OWNER OR A COPY OF THE AGREEMENT FOR SERVICES SHALL BE SENT TO THE BUILDING INSPECTOR BEFORE THE FIRST SITE VISIT. THE STRUCTURAL OBSERVER SHALL ALSO INFORM THE OWNER OF THE REQUIREMENTS FOR A PRE-CONSTRUCTION MEETING AND SHALL PRESIDE OVER THAT MEETING.

4. THE OWNER OR OWNER'S REPRESENTATIVE SHALL COORDINATE AND CALL FOR A MEETING BETWEEN THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND DEPUTY INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT THE VERTICAL AND LATERAL LOAD SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT AND SUBMITTED TO THE BUILDING INSPECTOR.

5. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL ENGINEER.

STRUCTURAL OBSERVATION & DESIGNATION OF THE STRUCTURAL OBSERVER			
PROJECT ADDRESS: 10818 CROTHERS ROAD, SAN JOSE, CA 95127			PERMIT APPL. NO.:
DESCRIPTION OF WORK: NEW ADU			
OWNER: LARSON RESIDENCE	ARCHITECT: ECO-STRUCTION		ENGINEER: THANG LE, SE
STRUCTURAL OBSERVATION (ONLY CHECKED ITEMS ARE REQUIRED)			
FIRM OR INDIVIDUAL TO BE RESPONSIBLE FOR THE STRUCTURAL OBSERVATIONS: THANG LE, S.E.			
NAME: THANG LE	PHONE: 626-731-1539		CALIF. REGISTRATION: S4978
FOUNDATION	WALL	FRAME	DIAPHRAGM
☑ FTG., STEM WALLS, PIERS	☐ CONCRETE	☐ STL. MMNT. FRM.	☐ CONCRETE
☐ MAT FOUNDATION	☐ MASONRY	☐ STL. BRACED FRM.	☐ STEEL DECK
☐ CAISSON, PILES, GRD. BMS.	☑ WOOD SHEAR	☐ CONC. MMNT. FRM.	☑ WOOD
☐ STEPPED FTG./RETAINING FND. HILLSIDE SPECIAL ANCHORS	WALL GREATER THAN 350 PLF	☐ MAS. WALL FRM.	☐ OTHERS
☐ OTHERS:	☐ RASTRA	☐ OTHERS:	

6. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT ON THE DEPARTMENT FORM B&S 261 FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED. THE ORIGINAL OF THE OBSERVATION REPORT SHALL BE SENT TO THE BUILDING INSPECTOR'S OFFICE AND SHALL BE SIGNED AND SEALED (WET STAMPED) BY THE RESPONSIBLE STRUCTURAL OBSERVER. ONE COPY OF THE OBSERVATION REPORT SHALL BE ATTACHED TO THE APPROVED PLANS. COPIES OF THE REPORT SHALL ALSO BE GIVEN TO THE OWNER, CONTRACTOR AND DEPUTY INSPECTOR.

7. A FINAL OBSERVATION REPORT MUST BE SUBMITTED WHICH SHOWS THAT ALL OBSERVED DEFICIENCIES WERE RESOLVED AND THE STRUCTURAL SYSTEM GENERALLY CONFORMS WITH THE APPROVED PLANS AND SPECIFICATIONS. THE DEPARTMENT OF BUILDING AND SAFETY WILL NOT ACCEPT STRUCTURAL WORK WITHOUT THIS FINAL OBSERVATION REPORT AND THE CORRECTION OF SPECIFIC DEFICIENCIES NOTED DURING NORMAL BUILDING AND DEPUTY INSPECTION.

8. WHEN THE OWNER ELECTS TO CHANGE THE STRUCTURAL OBSERVER OF RECORD, THE OWNER SHALL:
   a) NOTIFY THE BUILDING INSPECTOR IN WRITING BEFORE THE NEXT INSPECTION;
   b) CALL AN ADDITIONAL PRE-CONSTRUCTION MEETING AND
   c) FURNISH THE REPLACEMENT STRUCTURAL OBSERVER WITH A COPY OF ALL PREVIOUS OBSERVATION REPORTS.

   THE REPLACEMENT STRUCTURAL OBSERVER SHALL APPROVE THE CORRECTION OF THE ORIGINAL OBSERVED DEFICIENCIES UNLESS OTHERWISE APPROVED BY PLAN CHECK SUPERVISION. THE POLICY OF THE DEPARTMENT SHALL BE TO CORRECT ANY PROPERLY NOTED DEFICIENCIES WITHOUT CONSIDERATION OF THEIR SOURCE.

9. THE ENGINEER OR ARCHITECT OF RECORD SHALL DEVELOPE ALL CHANGES RELATING TO THE STRUCTURAL SYSTEMS. THE BUILDING DEPARTMENT SHALL REVIEW AND APPROVE ALL CHANGES TO THE APPROVED PLANS AND SPECIFICATIONS.

E. ROUGH CARPENTRY

1. ALL LUMBER SHALL BE GRADE MARKED DOUGLAS FIR – LARCH (DF-L). MAXIMUM MOISTURE CONTENT – 19%.

2. MINIMUM LUMBER GRADES (UNLESS OTHERWISE NOTED):
   a. STUDS, SILLS, AND PLATES ..... DF-L #2
   b. JOISTS AND RAFTERS ..... DF-L #2
   c. BEAMS AND POSTS ..... DF-L #1

3. ALL FOUNDATION PLATES OR SILLS AND SLEEPERS ON A CONCRETE OR MASONRY, SLAB, WHICH IS DIRECT CONTACT WITH EARTH, AND SILLS THAT REST ON CONCRETE OR MASONRY FOUNDATIONS SHALL BE PRESSURE TREATED DOUGHLAS FIR.

4. WOOD SILL PLATES SHALL BE PRESSURE TREATED, UNLESS OTHERWISE NOTED, WITH 5/8" DIAMETER ANCHOR BOLTS BY 12" EMBEDMENT AT 4'-0"o.c. WITH 3"x3"x0.229" PLATE WASHERS (MINIMUM 2 ANCHOR BOLTS PER PIECE) LOCATED NOT MORE THAN 12" OR LESS THAN 7 DIAMETERS FROM EACH END OF THE PIECE. A PROPERLY SIZED NUT AND 3"x3"x0.229" THICK WASHER SHALL BE TIGHTENED ON EACH BOLT TO THE PLATE PER CBC 2308.3.2.

5. PROVIDE WASHERS UNDER HEADS AND NUTS OF BOLTS AND LAG SCREWS BEARING ON WOOD. NUTS ON ALL BOLTS SHALL BE TIGHTENED BEFORE CLOSING IN AND/OR ON COMPLETION OF THE JOB. CUT WASHERS MAY BE USED EXCEPT FOR SILL BOLTS AT SHEARWALLS AND WHERE NOTED OTHERWISE.

6. INTERIOR NON-BEARING WALL SILLS MAY BE CONNECTED WITH ICC-ES APPROVED HILTI "X-U" (ESR-2269) WITH 1-1/4" MINIMUM EMBEDMENT POWER DRIVEN FASTENERS, WITH CADMIUM WASHERS, AT 32" ON CENTER. DO NOT USE POWER DRIVEN FASTENERS IN CONCRETE CURBS.

7. BOLTS SHALL CONFORM TO ASTM A307. ALL BOLT HOLES SHALL BE DRILLED 1/32 TO 1/16" OVERSIZED.

8. NO STRUCTURAL MEMBER INCLUDING STUDS AND PLATES SHALL BE CUT OR NOTCHED FOR PIPES, ETC... UNLESS SPECIFICALLY SHOWN, NOTED OR ACCEPTABLE TO THE ARCHITECT OR ENGINEER. FOR REQUIREMENT OF BORED HOLES, CONFORM TO CBC SECTIONS 2308.4.2.4, 2308.5.9, 2308.5.10, 2308.6.7.2 AND 2308.7.4.

9. NAILING SHALL CONFORM TO CBC TABLE 2304.10.1 IN ADDITION TO NAILING SPECIFIED IN THESE DRAWINGS. USE COMMON NAILS UNLESS SPECIFICALLY OTHERWISE NOTED ON THESE DRAWINGS.

10. PROVIDE 2x FULL HEIGHT BLOCKING AT EACH SUPPORT, 10 FEET ON CENTER FOR ROOF RAFTERS, AND 8 FEET ON CENTER FOR FLOOR JOISTS.

11. UNDER WALLS PARALLEL TO JOISTS PROVIDE DOUBLE JOISTS. UNDER WALLS PERPENDICULAR TO JOISTS PROVIDE SOLID BLOCKING.

12. PROVIDE FULL HEIGHT STUDS FROM FLOOR TO ROOF UNLESS OTHERWISE NOTED.

13. GLUED LAMINATED MEMBERS
   a. THE LAM BEAMS ARE TO BE FABRICATED IN THE SHOP OF A LICENSED FABRICATOR.
   b. THE MANUFACTURER'S LOGO IS TO BE IMPRINTED ON THE SIDE OF THE LAM BEAM.
   c. THE LAM BEAMS ARE TO BE LOAD TESTED BY THE MANUFACTURER AND THE TEST RESULTS SUBMITTED SUBMITTED TO THE BUILDING INSPECTOR.
   d. SPECIFY THE NAME OF THE MANUFACTURER OF THE LAM BEAMS AND SHOW THE ICC-ES APPROVAL NUMBER ON THE PLANS.
   e. COMBINATION 24F-V8 DF/DF.
   f. COMBINATION 24F-V4 DF/DF MAY BE USED ON SIMPLE SPAN MEMBERS WITH THE WRITTEN APPROVAL OF THANG LE, S.E.

14. A LADBS CERTIFICATE OF INSPECTION FOR ALL GLUED LAMINATED TIMBER SHALL BE SUBMITTED TO A BUILDING AND SAFETY DIVISION INSPECTOR PRIOR TO ERECTION.

15. A LADBS LICENSED FABRICATOR IS REQUIRED FOR GLU-LAM.

16. GLUE-LAM BEAMS MUST BE FABRICATED IN A LADBS LICENSED SHOP. IDENTIFY GRADE SYMBOL AND LAMINATION SPECIES PER T 5-A, 2018 NDS SUPP.

17. METAL FRAMING ACCESSORIES: STEEL JOIST HANGERS, FRAMING ANCHORS AND FASTENERS AND OTHER SUCH CONNECTION DEVICES SHALL BE OF STANDARD MANUFACTURER OF THE TYPE REQUIRED BY THESE DRAWINGS. NAILS SHALL BE THOSE FURNISHED BY THE MANUFACTURER FOR THIS SPECIFIC USE. DEVICES SHALL BE GALVANIZED. "SIMPSON" PART NUMBERS ARE SHOWN ON THE DRAWINGS.

18. WOOD WALL STUDS:
   a. PROVIDE FULL HEIGHT STUDS FROM FLOOR TO ROOF UNLESS OTHERWISE NOTED.
   b. MAXIMUM HEIGHT OF 2x4 STUD WALLS IS 14'-0".
   c. PROVIDE 2x6 STUDS AT 16"o.c. FOR WALLS 14'-0" TO 18'-0" TALL.
   d. PROVIDE 2x8 STUDS AT 16"o.c. FOR WALLS 18'-0" TO 22'-0" TALL.

19. BEAMS BUILT UP FROM MULTIPLE 2x MEMBERS:
   a. 2-2x BEAMS – 16d FACE NAIL STAGGERED AT 9"oc.
   b. 3-2x BEAMS – 5/8" DIAMETER BOLTS STAGGERED AT 18"oc.

20. ONLY COMMON NAILS SHALL BE USED FOR ALL PLYWOOD SHEAR WALLS AND NAIL GUNS USING "CLIPPED HEAD" OR SINKER NAILS ARE NOT ACCEPTABLE.

21. FASTENERS IN PRESERVATIVE TREATED WOOD OR FIRE RETARDANT TREATED WOOD SHALL BE OF HOT DIPPED ZINC COATED GALVANIZED STEEL OR STAINLESS STEEL.

F. SHEATHING

1. ROOF SHEATHING SHALL BE 15/32" APA RATED PLYWOOD SHEATHING, EXPOSURE 1, SPAN RATED 24/0, PRODUCT STANDARD DOC PS-1, DOUGLAS FIR-LARCH, STRUCTURAL I (OR CDX).

2. FLOOR PANELS SHALL BE 23/32" APA RATED PLYWOOD STURDI-I-FLOOR, TONGUE AND GROOVE, EXPOSURE 1, SPAN RATED 24"o.c. PRODUCT STANDARD DOC PS-1, DOUGLAS FIR-LARCH, STRUCTURAL I (OR CDX).

3. WALL SHEATHING SHALL BE APA RATED AS FOLLOWS:
a. 15/32" APA RATED SHEATHING, EXPOSURE 1, SPAN RATED 32/16.
b. 19/32" APA RATED SHEATHING, EXPOSURE 1, SPAN RATED 40/20.

4. ALL SHEATHING SHALL BE 2'-0" IN THE LEAST DIMENSION UNLESS ALL EDGES ARE BLOCKED AND NAILED.

B. FOUNDATION

1. PERFORM FOUNDATION WORK COMPLYING WITH REPORT AND ADDENDA. GEOTECHNICAL REPORT AND ADDENDA HEREBY BECOME PART OF THESE CONTRACT DOCUMENTS AND SHALL BE KEPT ON JOB SITE AT ALL TIMES.

   FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS OF
   BUTANO GEOTECHNICAL ENGINEERING, INC.
   231 GREEN VALLEY ROAD, SUITE E
   FREEDOM, CALIFORNIA 95019
   REPORT NO. 19-150-SCL
   DATED MAY 8, 2020

   ALLOWABLE SOIL BEARING = 1,500 PSF
   MAXIMUM SOIL BEARING = 3,000 PSF
   MINIMUM FOOTING DEPTH = 24 INCHES
   MINIMUM FOOTING WIDTH = 12 INCHES FOR CONTINUOUS FOOTINGS
   = 24 INCHES FOR PAD FOOTINGS

2. FOUNDATION EXCAVATIONS ARE TO BE OBSERVED BY AND ACCEPTABLE TO A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE PRIOR TO PLACEMENT OF FILL, REINFORCING STEEL, OR CONCRETE.

3. PERFORM FILLING, BACKFILLING, COMPACTION, ETC... AS INDICATED IN GEOTECHNICAL REPORT AND ONLY UNDER SUPERVISION OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE.

5. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS PRIOR TO COMPLETION AND INSPECTION OF WATERPROOFING. ADEQUATELY SHORE RETAINING WALLS DURING BACKFILL OPERATION. UNLESS ADEQUATELY SHORED, DO NOT PLACE BACKFILL BEHIND BUILDING STRUCTURE RETAINING WALLS, EXCLUDING SITE RETAINING WALLS, UNTIL CONCRETE AT ELEVATED FLOOR LEVELS ADJACENT TO WALLS ARE COMPLETELY POURED AND HAVE CURED FOR AT LEAST 7 DAYS.

6. THE APPROVED SOILS REPORT SHALL BE A PART OF THE PLANS AND SHALL BE KEPT AT THE JOB SITE AT ALL TIMES.

C. REINFORCING STEEL

1. REINFORCING STEEL COMPLYING WITH ASTM A615, GRADE 60 DEFORMED BARS, EXCEPT #3 BAR CAN BE GRADE 40 OR STRONGER.

2. WELDED REINFORCING STEEL COMPLYING WITH ASTM A706, GRACE 60 DEFORMED BARS.

3. SMOOTH WELDED WIRE FABRIC COMPLYING WITH ASTM A185. LAP FABRIC 1-1/2 SPACES (12" MINIMUM). PROVIDE DEFORMED WIRE STIRRUPS, SIZE D4 AND LARGER ONLY, COMPLYING WITH ASTM 497.

2. SPLICE REINFORCING STEEL WHERE INDICATED. IF SPLICE LOCATIONS ARE NOT SPECIFICALLY SHOWN OR INDICATED, VERIFY SPLICE LOCATIONS WITH ARCHITECT/ ENGINEER PRIOR TO DEVELOPING REINFORCING STEEL SHOP DRAWINGS.

3. LAP REINFORCING STEEL AT SPLICES TO THE FOLLOWING MINIMUM LENGTHS, UNLESS OTHERWISE NOTED, (APPLICABLE TO 3,000 PSI OR HIGHER, NORMAL WEIGHT CONCRETE ONLY):

BAR SIZE	TOP BARS	OTHER BARS	BAR SIZE	TOP BARS	OTHER BARS
#3	1'-9"	1'-4"	#8	6'-10"	5'-3"
#4	2'-4"	1'-10"	#9	8'-8"	6'-8"
#5	2'-11"	2'-3"	#10	11'-0"	8'-6"
#6	3'-10"	2'-11"	#11	13'-6"	10'-6"
#7	5'-3"	4'-0"			

TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW REBAR.

OTHER BARS ARE HORIZONTAL BARS WITH LESS THAN 12 INCHES OF CONCRETE CAST BELOW BARS AND ALL VERTICAL BARS.

4. MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL, INCLUDING SPLICED REINFORCING STEEL, SHALL BE 1 INCH OR 1 BAR DIAMETER, WHICHEVER IS GREATER. FOR BUNDLED BARS, MINIMUM CLEAR DISTANCES BETWEEN UNITS OF BUNDLED BARS SHALL BE SAME AS SINGLE BARS EXCEPT BAR DIAMETER IS DERIVED FROM EQUIVALENT TOTAL AREA OF BUNDLE.

5. MAINTAIN THE FOLLOWING MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL AND FACE OF CONCRETE UNLESS OTHERWISE NOTED:
   a. SLAB-ON-GRADE ..... C/L OF SLAB
   b. CONCRETE BELOW GRADE, FORMED ..... 2 INCHES
   c. CONCRETE BELOW GRADE, UNFORMED ..... 3 INCHES
   d. WALLS ABOVE GRADE, EXPOSED TO WEATHER ..... 2 INCHES
   e. WALLS ABOVE GRADE, NOTE EXPOSED TO WEATHER ..... 1 INCHES
   f. COLUMNS, CLEAR TO FACE OF TIES ..... 1-1/2 INCHES
   g. BEAMS, CLEAR TO FACE OF TIES ..... 1-1/2 INCHES

6. BEND REINFORCING STEEL COLD UNLESS OTHERWISE ACCEPTED BY ARCHITECT OR ENGINEER.

7. CHAIRS OR SPACERS FOR REINFORCING SHALL BE PLASTIC OR PLASTIC COATED WHEN RESTING ON EXPOSED SURFACES.

8. WELD REINFORCING STEEL COMPLYING WITH AWS D1.4. DO NOT WELD REINFORCING STEEL OTHER THAN THOSE CONFORMING TO ASTM A706.

9. SECURELY TIE ANCHOR BOLTS, REINFORCING STEEL, INSERTS, ETC... IN PLACE PRIOR TO PLACING CONCRETE OR GROUT.

10. SUBMIT REINFORCING STEEL SHOP DRAWINGS INDICATING REINFORCING PLACEMENT, INCLUDING SPLICE LOCATIONS AND LENGTHS, TO ARCHITECT/ENGINEER FOR REVIEW AND ACCEPTANCE.

D. CAST-IN-PLACE CONCRETE

1. NORMAL WEIGHT AGGREGATES OF NATURAL SAND AND ROCK COMPLYING WITH ASTM C33 AND UBC STANDARD 26-2.

2. PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE II, AND UBC STANDARD 26-1, PART I.

3. NORMAL WEIGHT CONCRETE (145 PCF), WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.05%, ATTAINING MINIMUM COMPRESSIVE STRENGTHS (f'c) AT 28 DAYS AS FOLLOWS:
   FOUNDATIONS ..... 3,000 PSI
   CONCRETE WALLS ..... 3,000 PSI
   SLAB-ON-GRADE ..... 2,500 PSI
   UNLESS OTHERWISE NOTED ..... 3,000 PSI

4. SLUMP NOT TO EXCEED 4 INCHES.

5. DO NOT USE CONCRETE OR GROUT CONTAINING CHLORIDES

6. DO NOT EMBED CONDUITS, PIPES, OR SLEEVES OTHER THAN ELECTRICAL CONDUITS 1 INCH DIAMETER AND SMALLER IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY DETAILED OR ACCEPTED BY ARCHITECT OR ENGINEER.

7. FORM EXPOSED CORNERS OF COLUMNS, BEAMS, WALLS, ETC... WITH 3/4 INCH CHAMFERS UNLESS OTHERWISE DETAILED.

8. PROVIDE KEYS IN CONSTRUCTION JOINTS UNLESS OTHERWISE DETAILED.

9. ROUGHED CONCRETE SURFACE TO FULL AMPLITUDE OF 1/16 INCH WHERE MASONRY WALLS INTERSECT CONCRETE.

A. GENERAL

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CALIFORNIA BUILDING CODE 2019 EDITION (CBC 2019), REFERENCED STANDARDS OF CHAPTER 35 AND ALL APPLICABLE CODES AND ORDINANCES.

   BASIS OF DESIGN:
   a. SEISMIC LOADS
      + IMPORTANCE FACTOR, Ie = 1.0
      + Ss = 2.356g
      + S1 = 0.911g
      + SITE CLASS: C
      + Sds = 1.885g
      + Sd1 = 0.850g
      + Rho = 1.3 (REDUNDANCY FACTOR)
      + SEISMIC DESIGN CATEGORY: E
      + BASIC SEISMIC-FORCE-RESISTING SYSTEM: SHEATHED SHEAR BEARING WALLS
      + SEISMIC RESPONSE COEFFICIENT, Cs = 0.290 (STRENGTH) = 0.207 (SERVICE)
      + RESPONSE MODIFICATION FACTOR, R = 6.5
      + ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE
   b. WIND LOAD
      + BASIC WIND SPEED = 110 MPH (ULTIMATE)
      + EXPOSURE C
      + IMPORTANCE FACTOR, Iw=1.0
      + INTERNAL PRESSURE COEFFICIENT = 0.18
      + DESIGN WIND PRESSURE = 27.5 PSF
      + COMPONENTS AND CLADDING WIND PRESSURE = 39 PSF
   c. LIVE LOADS
      + ROOF = 20 PSF
      + FLOOR = 40 PSF
      + DECK/BALCONY = 60 PSF
   d. DEAD LOADS
      + ROOF = 18 PSF
      + FLOOR = 18 PSF

2. AISC – SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING.

3. ACI-318 – BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

4. ALL ASTM SPECIFICATIONS NOTED ON THESE DRAWINGS SHALL BE OF THE LATEST REVISION.

5. WRITTEN INFORMATION AND DIMENSIONS SHALL TAKE PRECEDENCE OVER GRAPHIC INFORMATION. DO NOT SCALE DRAWINGS.

6. ALL DIMENSIONS ARE TO TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, ELEVATIONS, SECTIONS, AND DETAILS.

7. ANY DISCREPANCIES ON THE PLANS OR ANY DEVIATIONS FROM THE PLANS WHICH ARE NECESSITATED BY FIELD CONDITIONS OR ANY CONDITION DIFFERENT FROM THOSE INDICATES ON THE PLANS, SHALL BE CALLED TO THE ATTENTION OF THANG LE, S.E. PRIOR TO CONTINUING CONSTRUCTION. ALL WORK IS TO BE COORDINATED SO THAT COOPERATION BETWEEN THE TRADES WHERE REQUIRED, IS ACCOMPLISHED.

8. SEE ARCHITECTURAL DRAWING FOR KINDS OF FLOOR FINISH, DEPRESSION IN SLAB, OPENINGS IN WALLS AND ROOF REQUIRED BY DOOR, WINDOWS, DUCTS, VENTS, HATCHES, PLUMBING, ETC...; ALL TYPE OF FLASHING, INSERTS, ANCHORS, HANGERS, ETC... EMBEDDED OR ATTACHED TO CONCRETE STRUCTURE; PAVING, WALKS, STAIRS, RAMPS, CURBS, PARAPETS, TERRACES, ETC...; EXTERIOR GRADES; ROOF SLABS, CRICKETS AND DRAINS.

9. THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS AS TO LAYOUT DIMENSIONS AND ELEVATIONS. ALL DISCREPANCIES SHALL BE REPORTED TO THANG LE, S.E. AND THE OWNER FOR PROPER ADJUSTMENT BEFORE PROCEEDING WITH THE WORK.

10. IN THE EVENT THAT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE THE GENERAL NOTES, THEN THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR CONDITIONS THAT ARE SHOWN OR CALLED FOR.

11. THE BUILDER SHALL TAKE FULL AND FINAL RESPONSIBILITY FOR CONSTRUCTING A FINAL PRODUCT OF APPROPRIATE QUALITY AND SERVICEABILITY CONSISTENT WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION DOCUMENTS OR REASONABLY INFERABLE THEREFROM, AND/OR CONTAINED IN THE REQUIREMENTS OF ANY GOVERNMENTAL ENTITY WITH JURISDICTION OVER THE PROJECT.

12. THE BUILDER SHALL TAKE FULL RESPONSIBILITY FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES INCLUDING WITHOUT LIMITATION DEMOLITION, EXCAVATION AND ERECTION PROCEDURES.

13. STRUCTURAL OBSERVATION VISITS TO SITE BY REPRESENTATIVES OF THANG LE, S.E. DO NOT INCLUDE INSPECTIONS OF CONSTRUCTION MEANS AND METHODS. OBSERVATIONS PERFORMED BY ENGINEER DURING CONSTRUCTION ARE NOT CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE PERFORMED BY OTHERS. OBSERVATIONS PERFORMED BY ENGINEER ARE PERFORMED SOLELY FOR THE PURPOSE OF DETERMINING IF THE CONTRACTOR UNDERSTAND DESIGN INTENT CONVEYED IN CONTRACT DOCUMENTS. OBSERVATIONS DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND ARE NOT TO BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

14. MODIFICATIONS OR SUBSTITUTIONS: DESIGN, MATERIALS, EQUIPMENT AND PRODUCTS OTHER THAN THOSE INDICATED OR SPECIFIED MAY BE CONSIDERED FOR USE PROVIDED A WRITTEN REQUEST, SUBJECT TO REVIEW, IS SUBMITTED TO OWNER, ARCHITECT, ENGINEER AND GOVERNING CODE AUTHORITY PRIOR TO ITS USE OR INCLUSION ON ANY SHOP DRAWING.

15. BRACE PIPING AND DUCTS COMPLYING WITH LATEST ADDITION OF GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION.

16. INSTALL AND ANCHOR MECHANICAL AND ELECTRICAL EQUIPMENT TO STRUCTURE COMPLYING ASCE/SEI 7-05, CHAPTER 13, AS MODIFIED BY CBC 1614.1.11 THROUGH 1614.1.16. ISOLATORS, FASTENERS AND ANY OTHER ELEMENT PROVIDING STABILITY FOR EQUIPMENT SHALL BE APPROVED BY ICC-ES OR EQUIVALENT TESTING PROCEDURE. PROVIDE SUSPENDED EQUIPMENT WITH APPROVED LATERAL OR SWAY BRACING.

No.	DATE	REVISION DESCRIPTION
	07-05-2022	BUILDING DEPARTMENT SUBMITTAL

DATE ISSUED 07-05-2022 | DRAWN BY ML | CHECKED BY TL

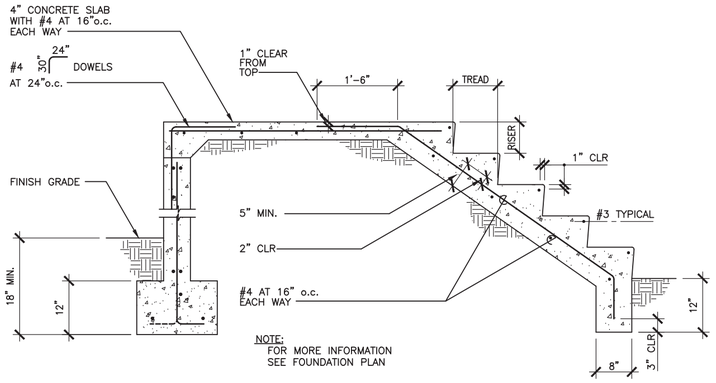
THANG LE & ASSOCIATES
STRUCTURAL ENGINEERS, INC.
319 E. FOOTHILL BLVD., SUITE C
ARCADIA, CALIFORNIA 91006
PHONE: (626) 731-1539

REGISTERED PROFESSIONAL ENGINEER THANG H. LE S 4978 EXP 06/30/24 STRUCTURAL STATE OF CALIFORNIA
07.05.2022

LARSON RESIDENCE
10818 CROTHERS ROAD
SAN JOSE, CALIFORNIA 95127

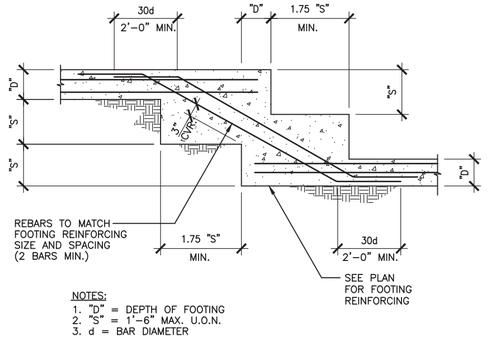
GENERAL NOTES

S1.1



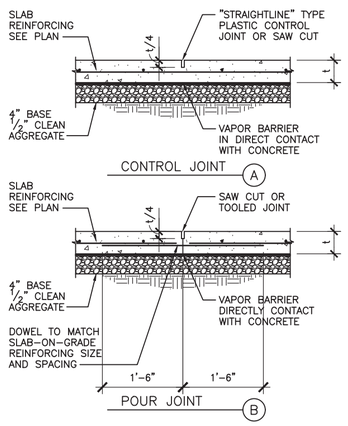
TYPICAL STAIR ON GRADE

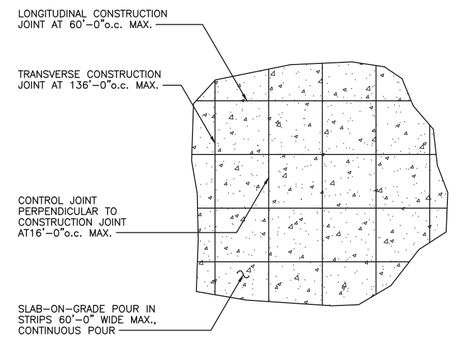
3/4"=1' — 6



TYPICAL STEPPED FOOTING

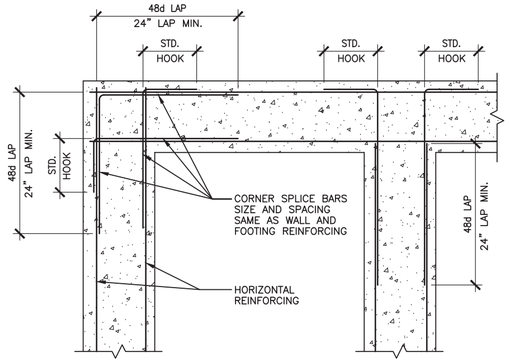
3/4"=1' — 3





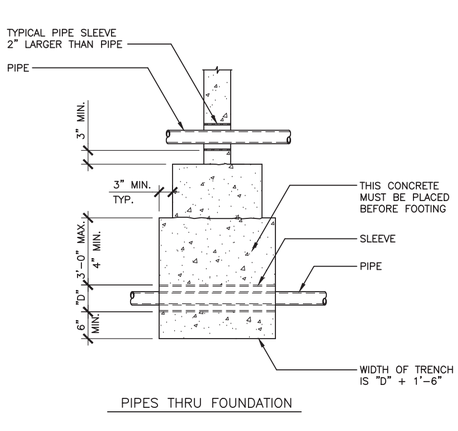
TYPICAL SLAB-ON-GRADE DETAIL

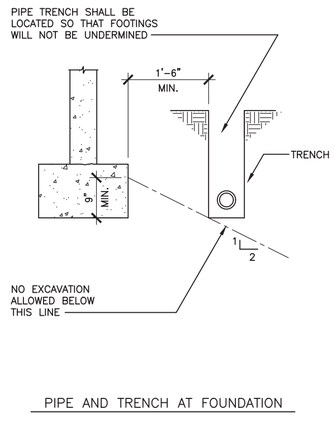
3/4"=1' — 5



TYPICAL FOOTING/WALL CORNER REINFORCING

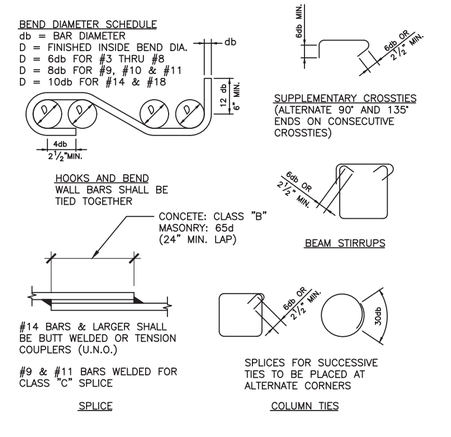
3/4"=1' — 2





TYPICAL PIPE AT FOOTING

3/4"=1' — 4



TYPICAL REBAR BENT

3/4"=1' — 1

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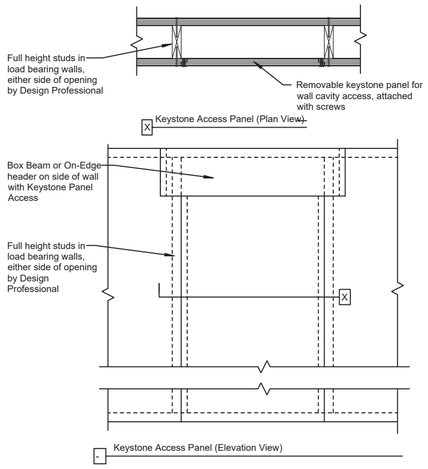
THANG H. LE
S 4978
EXP 06/30/24
STRUCTURAL
STATE OF CALIFORNIA
07.05.2022

RESIDENCE

LARSON RESIDENCE
10818 CROTHERS ROAD
SAN JOSE, CALIFORNIA 95127

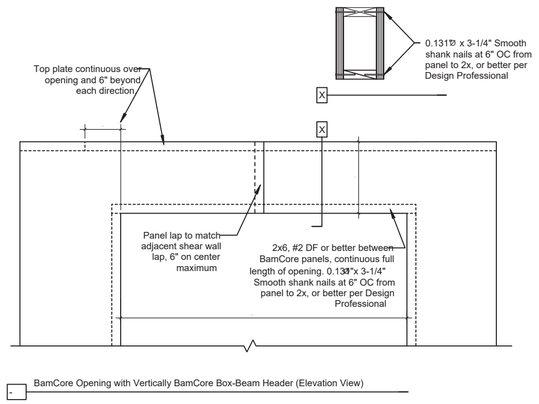
TYPICAL CONCRETE DETAILS

S1.2



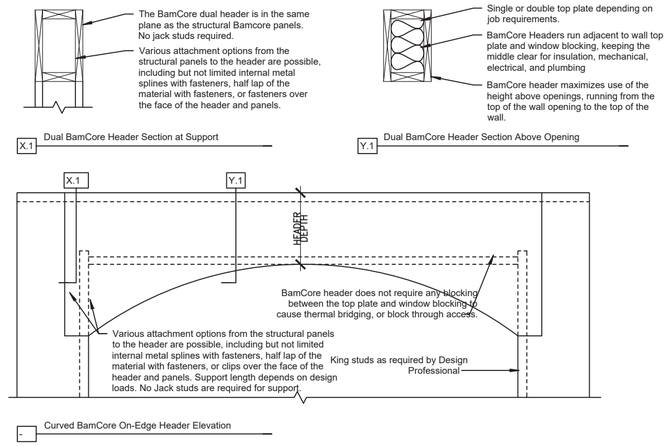
TYPICAL ACCESS PANEL 12

3/4"=1'



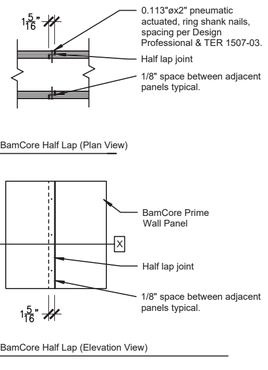
TYP. BAMCORE OPENING W/ VERTICALLY BOX-BEAM 9

3/4"=1'



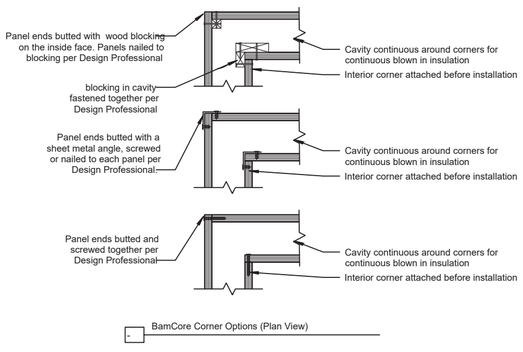
TYPICAL CURVED BAMCORE ON-EDGE HEADER ELEVATION 3

3/4"=1'



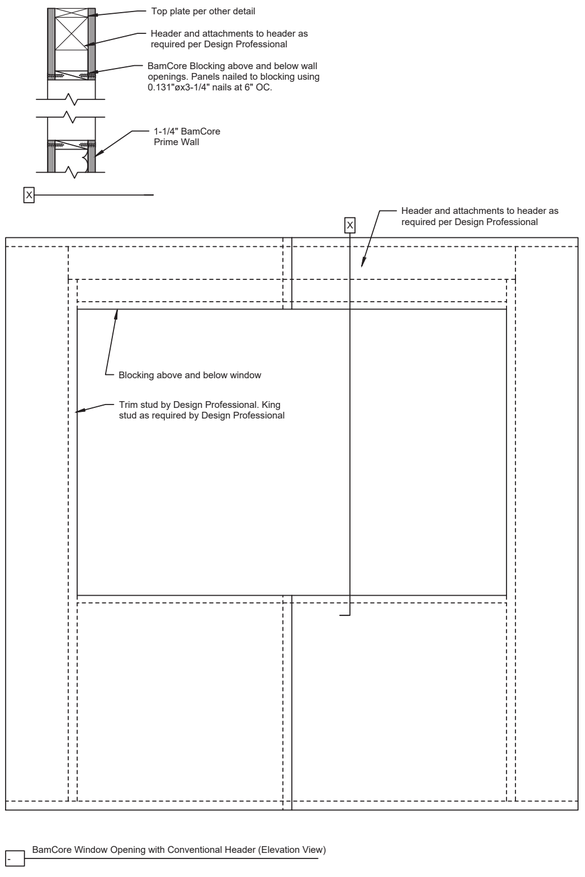
TYPICAL BAMCORE LAP 11

3/4"=1'



TYPICAL BAMCORE CORNER 10

3/4"=1'

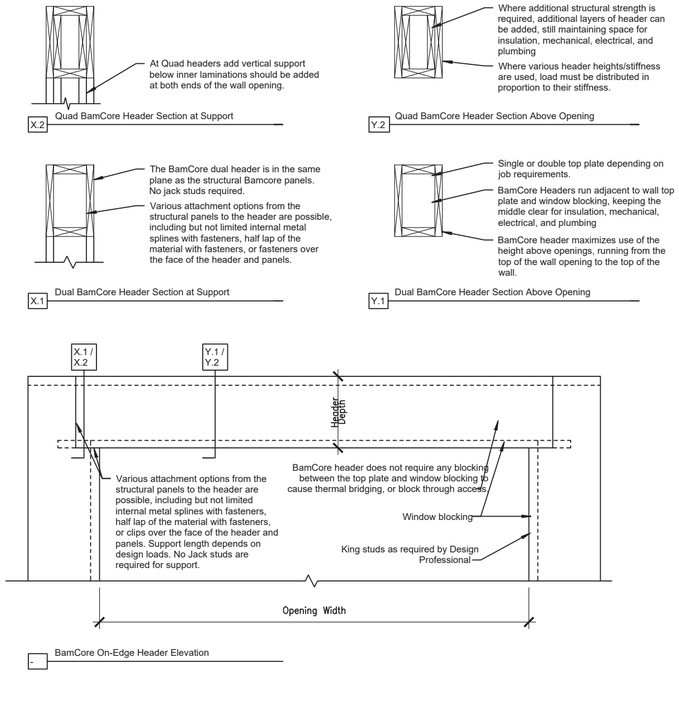


TYP. FRAMING AT WINDOW 7

3/4"=1'

HEADER SPAN TABLE

Max Opening Width (ft)	Min Header Depth (in)	Min Bearing Length (in)	King Stud Requirement



TYPICAL WALL FRAMING ELEVATION 1

3/4"=1'

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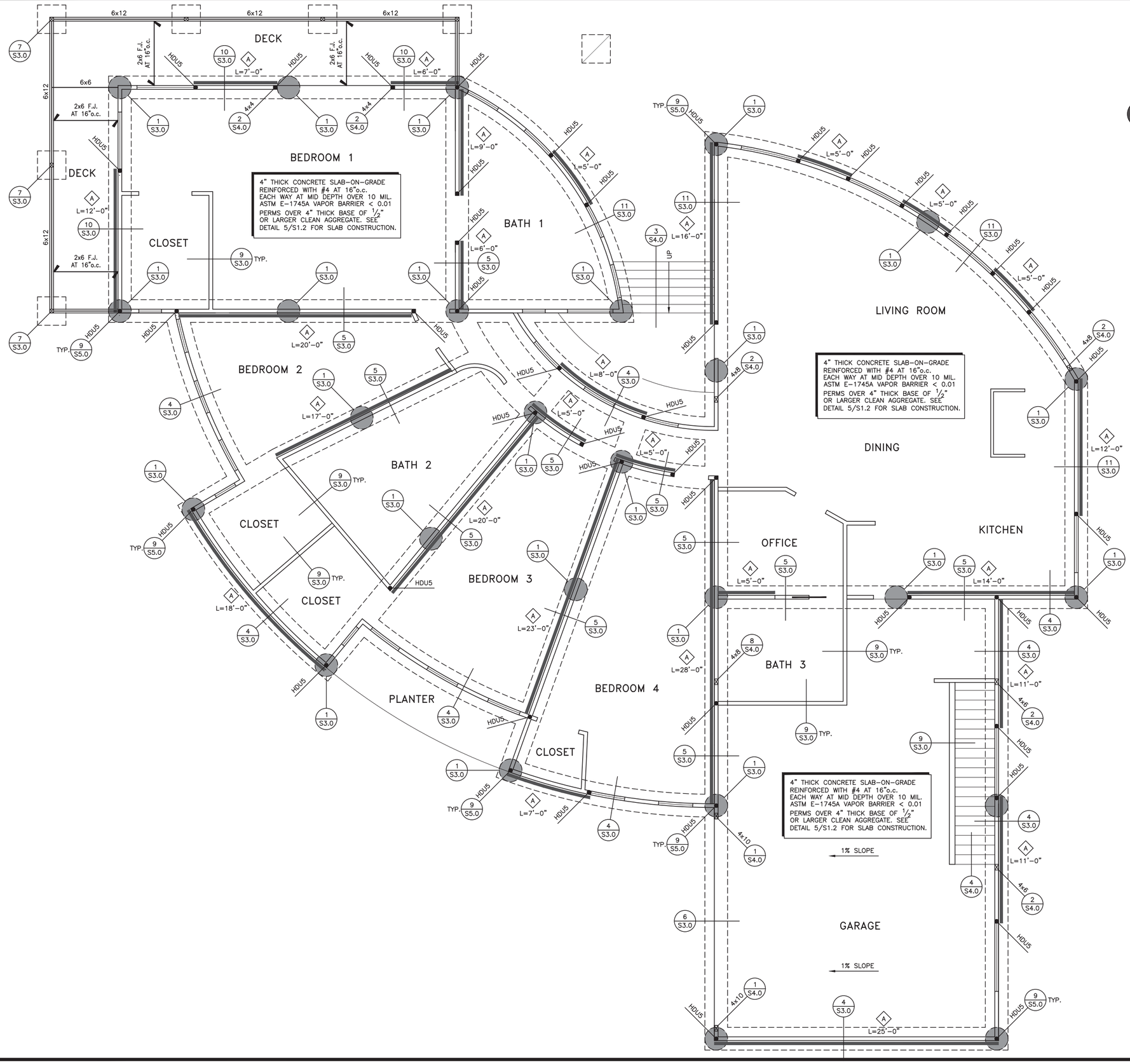
TYPICAL BAMCORE DETAILS

S1.3



4" THICK CONCRETE SLAB-ON-GRADE REINFORCED WITH #4 AT 16"o.c. EACH WAY AT MID DEPTH OVER 10 MIL. ASTM E-1745A VAPOR BARRIER < 0.01 PERMS OVER 4" THICK BASE OF $1/2$" OR LARGER CLEAN AGGREGATE. SEE DETAIL 5/S1.2 FOR SLAB CONSTRUCTION.

FOUNDATION PLAN

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

NOTES:

1. ALL COLUMN FOOTINGS ARE CENTERED ON COLUMNS AND COLUMNS ARE CENTERED ON GRIDS U.O.N. WALL FOOTINGS ARE CENTERED BENEATH WALLS U.O.N.
2. SEE SHEET S1.1 FOR GENERAL STRUCTURAL NOTES.
3. SEE SHEET S1.2 FOR TYPICAL CONCRETE DETAILS.
4. SEE SHEET S1.3 FOR TYPICAL WOOD DETAILS.
5. VERIFY SIZE, LOCATION AND DEPTH OF UTILITIES AND SLEEVES WITH OTHER TRADES. FOR MECH LINES BELOW FOUNDATION, STEP AND THICKEN FOOTING AS INDICATED IN DETAIL 4/S1.2
6. VERIFY SHOWN DIMENSIONS WITH ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS. NOTIFY ARCHITECT OF DISCREPANCIES PRIOR TO CONSTRUCTION.
7. FOR TYPICAL FOOTING/WALL CORNER BAR REINFORCING SEE 2/S1.2
8. ◇? ▨ DESIGNATES BAMCORE PRIME SHEAR WALL PANEL. NAILING SCHEDULE SEE SHEET S6.0.
9. HD? DESIGNATES SIMPSON HOLDOWN TO NEW FOOTING SEE 9/S6.0
10. — — — DESIGNATES GRADE BEAM SEE PLAN FOR REINFORCEMENT
11. ● DESIGNATES CONCRETE PILE SEE PLAN FOR REINFORCEMENT
12. MINIMUM ANCHOR BOLT SIZE AND SPACING SHALL BE $5/8$" DIA. A.B. AT 48"o.c., WITH 7" EMBEDMENT, AND 3"x3"x0.229" STAINLESS STEEL PLATE WASHERS. ANCHOR BOLTS SHALL BE LOCATED A MAXIMUM OF 12" AND 7" MINIMUM FROM THE END OF THE PLATE AND SPACED NOT MORE THAN 4 FEET APART.
13. PLATE WASHERS ARE REQUIRED FOR ALL HOLD-DOWNS.
14. HOLD-DOWN CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE APPROVED PLATE WASHERS. HOLD-DOWNS SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING. CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE STEEL PLATE WASHERS ON THE POST ON THE OPPOSITE SIDE OF THE ANCHORAGE DEVICE. PLATE SIZE SHALL BE A MINIMUM OF 0.299 INCH BY 3 INCHES BY 3 INCHES.
15. ALL ANCHOR BOLTS (INCLUDING HOLD-DOWN BOLT ANCHORS) SHALL HAVE MINIMUM EDGE DISTANCE OF 1$3/4$".
16. FASTENERS IN PRESERVATIVE TREATED WOOD OR FIRE RETARDANT TREATED WOOD SHALL BE OF HOT DIP ZINC COATED GALVANIZED STEEL OR STAINLESS STEEL.
17. FOUNDATION SILLS SHALL BE NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD.
18. ROOF DIAPHRAGM NAILING TO BE INSPECTED BEFORE COVERING. FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS.
19. ALL DIAPHRAGM AND SHEAR WALL NAILING SHALL UTILIZE COMMON NAILS OR GALVANIZED BOX.
20. ALL BOLT HOLES SHALL BE DRILLED 1/32 TO 1/16" OVERSIZED.
21. HOLD-DOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.
22. NUTS OF THE PRIMARY AND SECONDARY ANCHORS FASTENERS SHALL BE WRENCH TIGHTENED PRIOR TO INSPECTION AND COVERING.
23. POWER-DRIVEN FASTENERS SHALL NOT BE USED TO ANCHOR SILL PLATES EXCEPT AT INTERIOR NONBEARING WALLS NOT DESIGNED AS SHEAR WALLS.
24. PROVIDE LEAD HOLE 40%-70% OF THREADED SHANK DIAMETER AND FULL DIAMETER FOR SMOOTH SHANK PORTION.
25. IF ADVERSE SOIL CONDITIONS ARE ENCOUNTERED, A SOILS INVESTIGATION REPORT MAY BE REQUIRED.
26. ROOF DIAPHRAGM NAILING TO BE INSPECTED BEFORE COVERING. FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS. FLOOR SHALL HAVE TONGUE AND GROOVE OR BLOCKED PANEL EDGES. PLYWOOD SPAN SHALL CONFORM WITH TABLE 2304.8.

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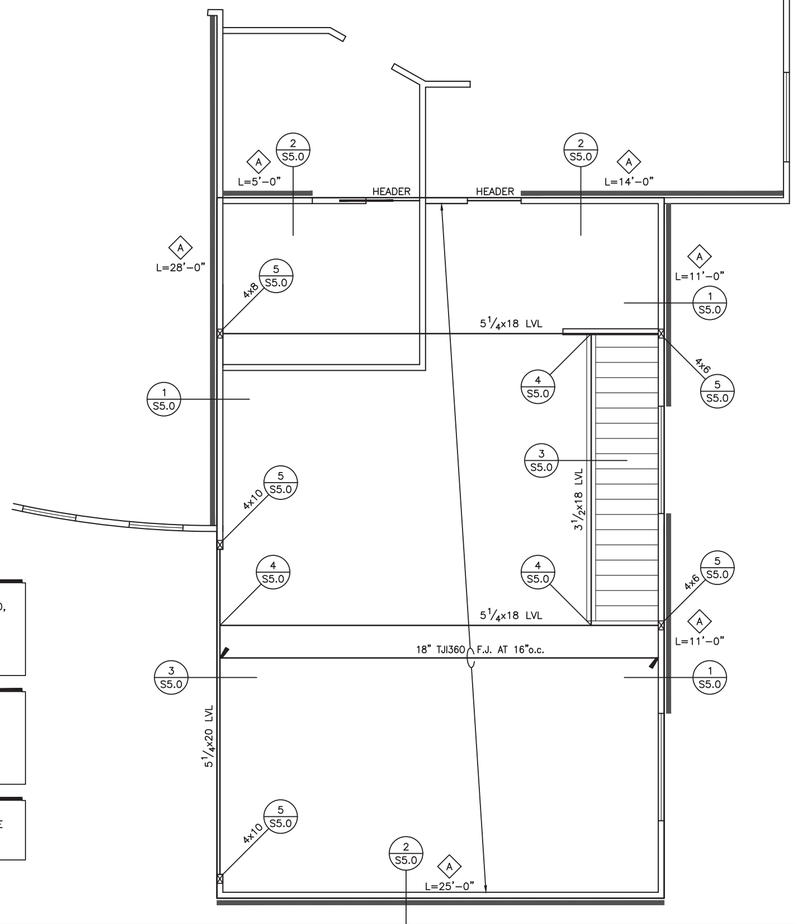
FOUNDATION PLAN

S2.1

MEZZANINE FRAMING PLAN

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



ROOF SHEATHING: 1/2" CDX OR OSB
APA RATED SHEATHING, SPAN RATING 24/0,
NAIL WITH 10d AT 4"o.c. AT BOUNDARY
10d AT 6"o.c. AT EDGES (UNBLOCKED),
AND 10d AT 12"o.c. AT FIELD.
FOR SHEATHING LAYOUT SEE DETAIL 9/S1.3

FLOOR SHEATHING: 3/4" CDX OR OSB APA
RATED SHEATHING, SPAN RATING 24/16,
NAIL WITH 10d AT 4"o.c. AT BOUNDARY
10d AT 6"o.c. AT EDGES (UNBLOCKED),
AND 10d AT 12"o.c. AT FIELD.
FOR SHEATHING LAYOUT SEE DETAIL 9/S1.3

PARALLAM/MICROLAM BEAMS (ESR-1387)
MINIMUM SPECIES/GRADE (U.O.N.): DF 2.0E
Fb=2900 psi Fv=290 psi
Fc=750 psi E=2000 ksi

NOTES:

1. ALL COLUMN FOOTINGS ARE CENTERED ON COLUMNS AND COLUMNS ARE CENTERED ON GRIDS U.O.N. WALL FOOTINGS ARE CENTERED BENEATH WALLS U.O.N.
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4. SEE SHEET S1.3 FOR TYPICAL WOOD DETAILS.
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6. VERIFY SHOWN DIMENSIONS WITH ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS. NOTIFY ARCHITECT OF DISCREPANCIES PRIOR TO CONSTRUCTION.
7. FOR TYPICAL FOOTING/WALL CORNER BAR REINFORCING SEE 2/S1.2
8. ? DESIGNATES BAMCORE PRIME SHEAR WALL PANEL. NAILING SCHEDULE SEE SHEET S6.0.
9. HD? DESIGNATES SIMPSON HOLDOWN TO NEW FOOTING SEE 9/S6.0
10. DESIGNATES CONTINUOUS FOOTING SEE PLAN FOR REINFORCEMENT
11. DESIGNATES CONCRETE PAD FOOTING SEE PLAN FOR REINFORCEMENT
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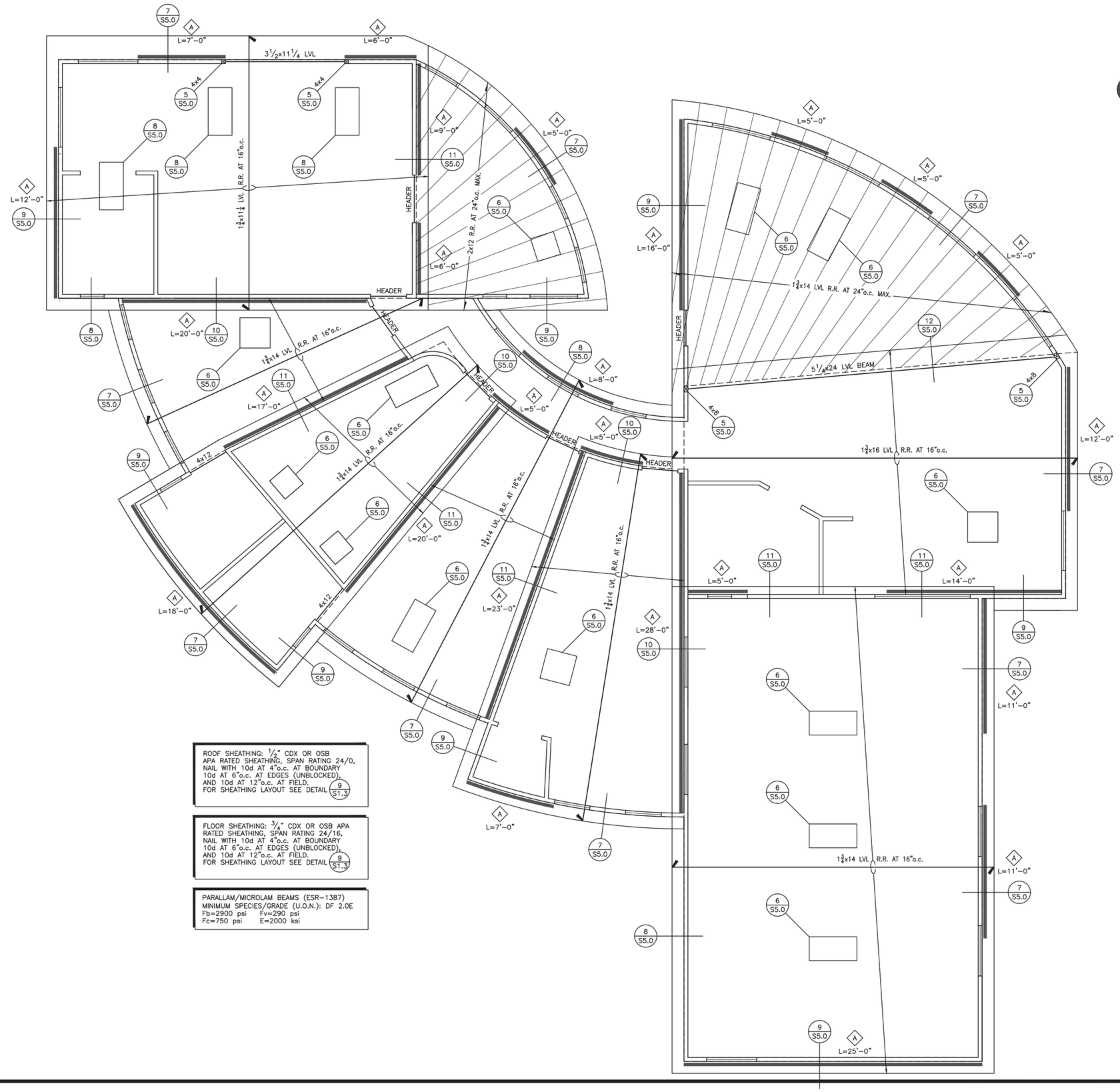
MEZZANINE FRAMING PLAN

S2.2



ROOF FRAMING PLAN

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

ROOF SHEATHING: 1/2" CDX OR OSB APA RATED SHEATHING, SPAN RATING 24/0, NAIL WITH 10d AT 4"o.c. AT BOUNDARY 10d AT 6"o.c. AT EDGES (UNBLOCKED), AND 10d AT 12"o.c. AT FIELD. FOR SHEATHING LAYOUT SEE DETAIL 9/S1.3

FLOOR SHEATHING: 3/4" CDX OR OSB APA RATED SHEATHING, SPAN RATING 24/16, NAIL WITH 10d AT 4"o.c. AT BOUNDARY 10d AT 6"o.c. AT EDGES (UNBLOCKED), AND 10d AT 12"o.c. AT FIELD. FOR SHEATHING LAYOUT SEE DETAIL 9/S1.3

PARALLAM/MICROLAM BEAMS (ESR-1387)
MINIMUM SPECIES/GRADE (U.O.N.): DF 2.0E
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10. DESIGNATES CONTINUOUS FOOTING SEE PLAN FOR REINFORCEMENT
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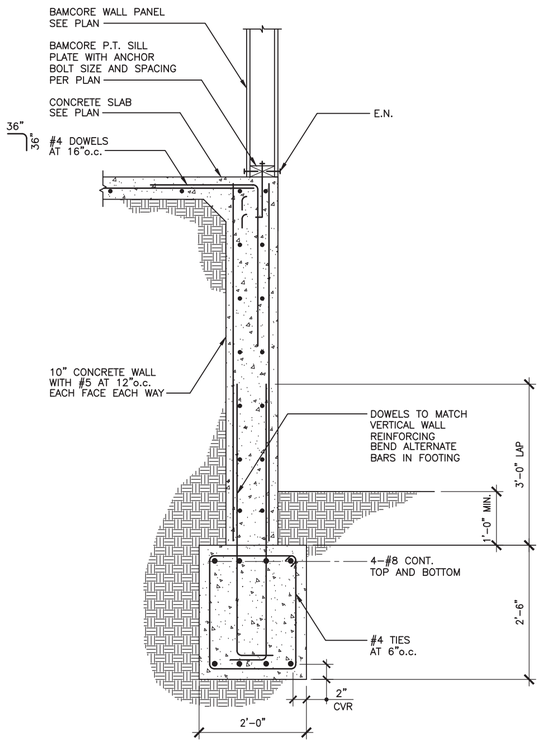
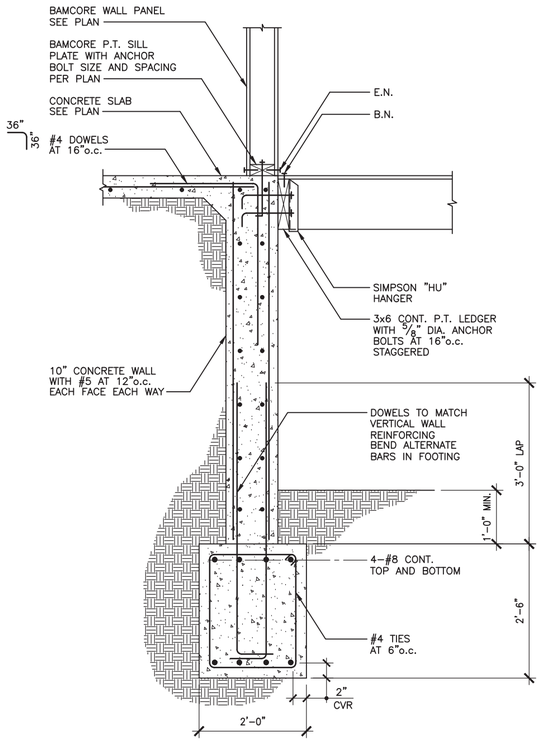
ROOF FRAMING PLAN

S2.3



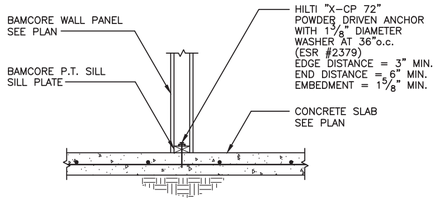
WALL TO GRADE BEAM 11

3/4"=1'



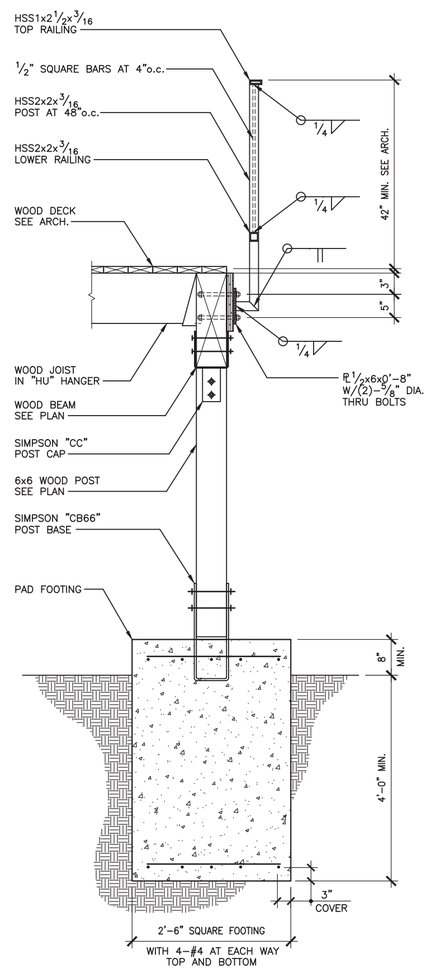
WALL TO GRADE BEAM 10

3/4"=1'



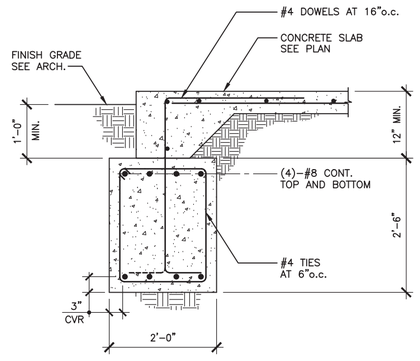
TYP. NON-BEARING WALL 9

3/4"=1'



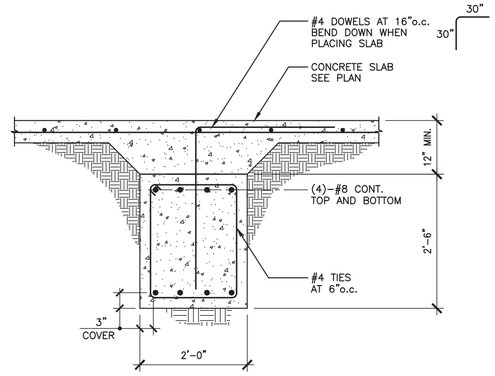
WOOD POST TO FOOTING 7

3/4"=1'



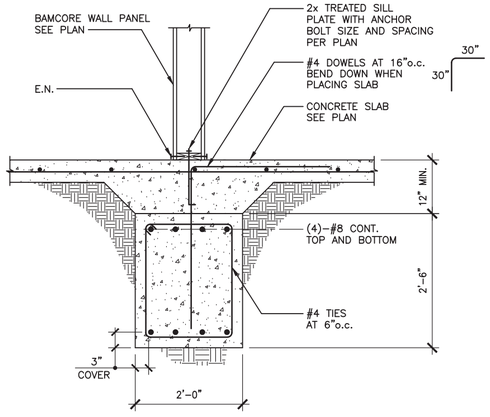
SLAB AT ENTRY 6

3/4"=1'



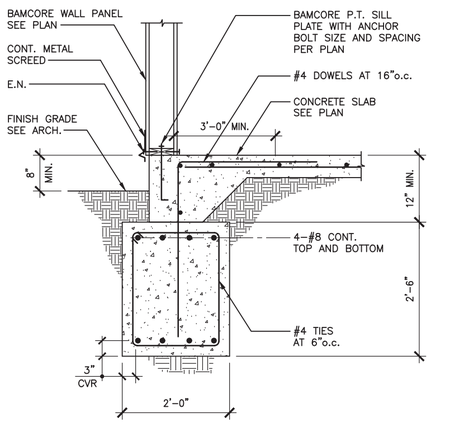
TYP. INTERIOR GRADE BEAM 3

3/4"=1'



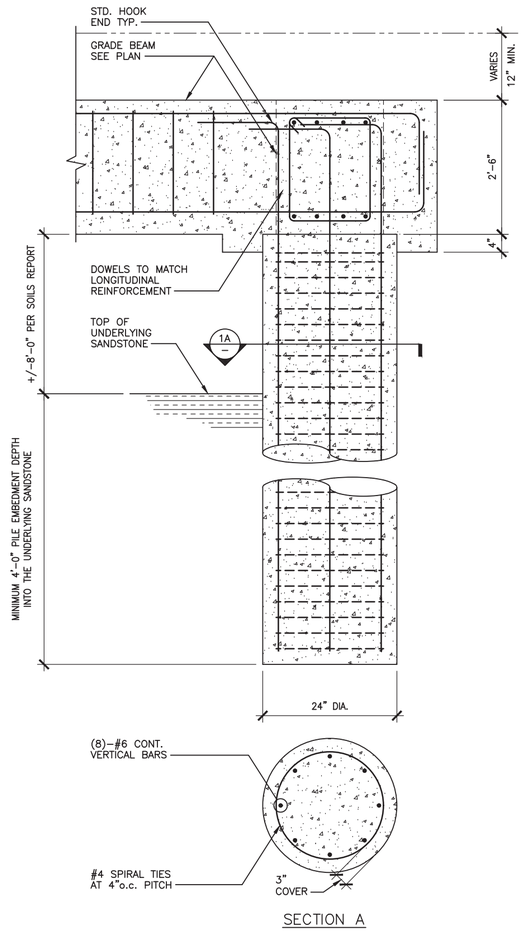
TYP. INTERIOR GRADE BEAM 5

3/4"=1'



WALL TO GRADE BEAM 4

3/4"=1'



TYPICAL DRILLED PILE 1

3/4"=1'

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THANG LE & ASSOCIATES
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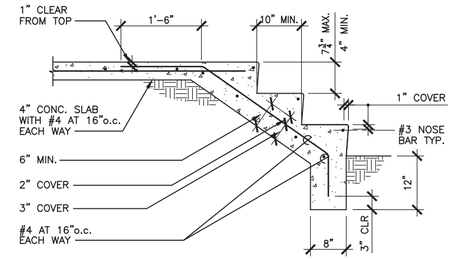
STRUCTURAL
STATE OF CALIFORNIA
07.05.2022

LARSON RESIDENCE
10818 CROTHERS ROAD
SAN JOSE, CALIFORNIA 95127

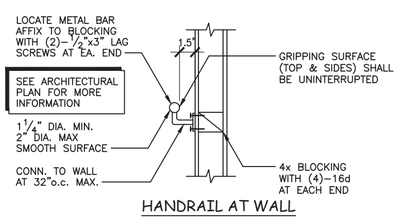
FOUNDATION DETAILS

S3.0

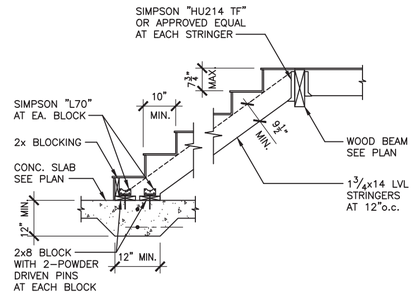


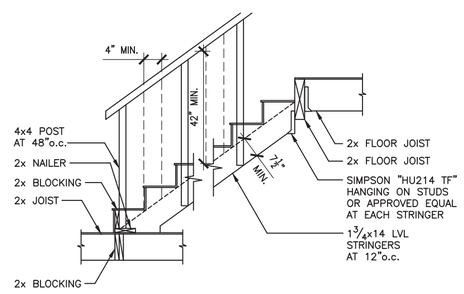
TYP. STAIR ON GRADE 3

3/4"=1'



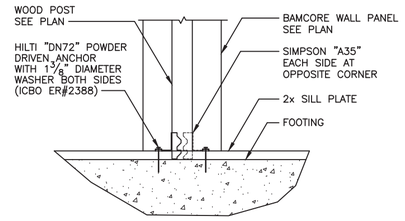
HANDRAIL AT WALL





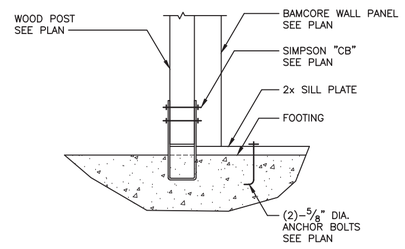
TYP. WOOD STAIR DETAIL 4

3/8"=1'



POST TO SILL PLATE 2

3/4"=1'



POST TO STEM WALL 1

3/4"=1'

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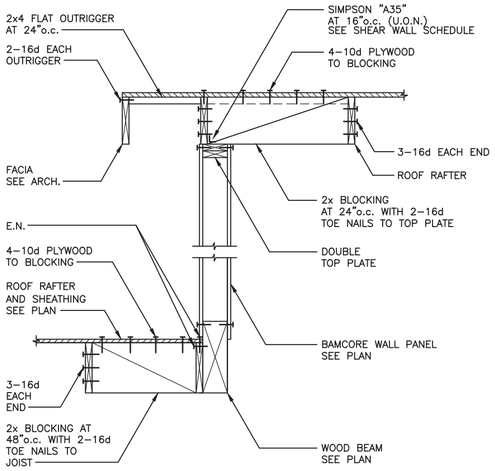
10818 CROTHERS ROAD
SAN JOSE, CALIFORNIA 95127

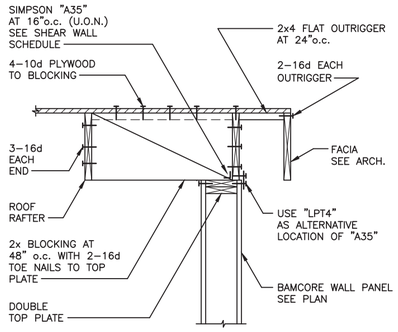
FOUNDATION DETAILS

S4.0



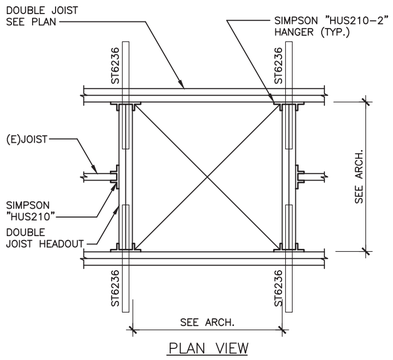
INTERIOR ROOF GABLE 12

3/4"=1'



ROOF JOIST // TO WALL 9

3/4"=1'

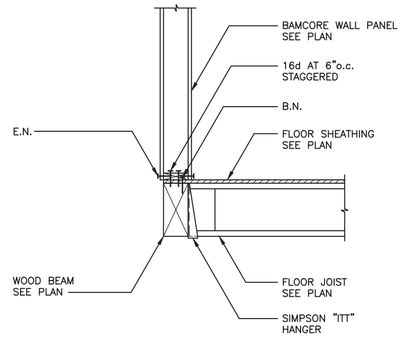


NOTE:

1. SEE ARCHITECTURAL DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS

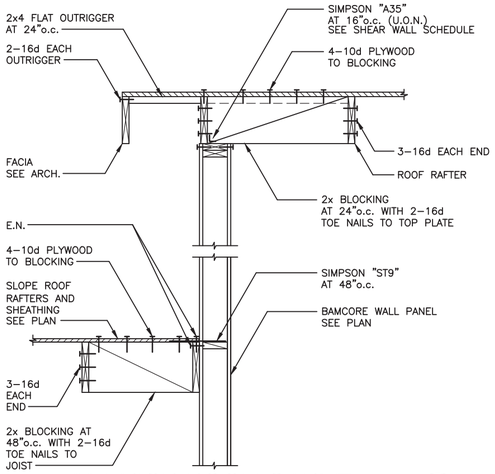
ROOF OPENING @ SKYLIGHT 6

3/4"=1'



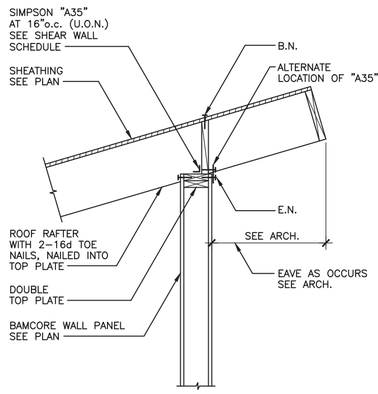
WALL TO BEAM CONN. 3

3/4"=1'



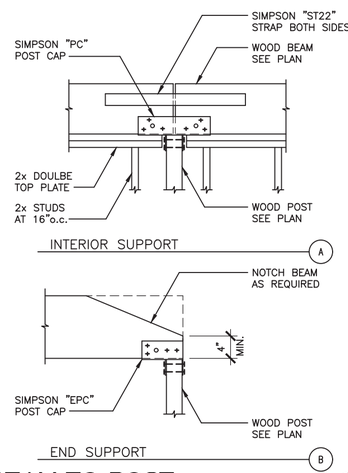
INTERIOR ROOF GABLE 11

3/4"=1'



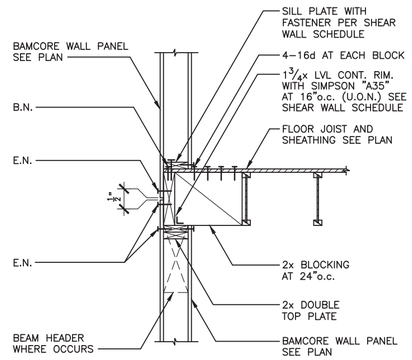
TYPICAL RAFTER AT WALL 8

3/4"=1'



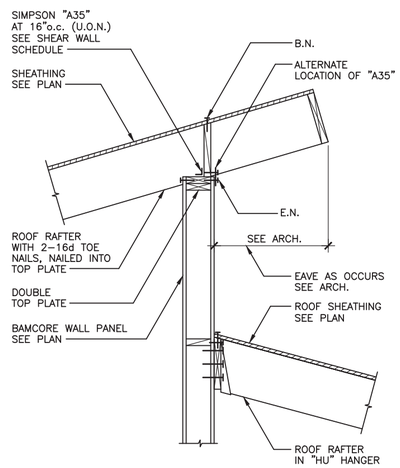
BEAM TO POST 5

3/4"=1'



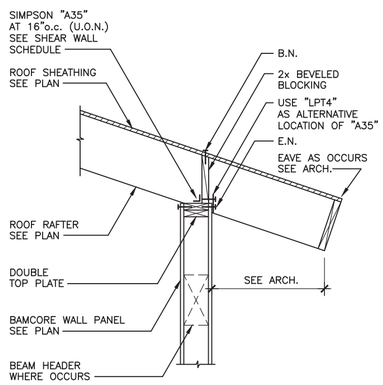
TJI JOIST // TO WALL 2

3/4"=1'



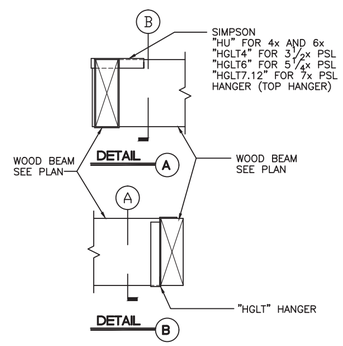
TYPICAL RAFTER AT WALL 10

3/4"=1'



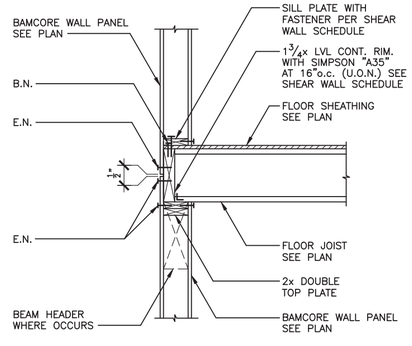
TYPICAL RAFTER AT WALL 7

3/4"=1'



BEAM TO BEAM CONN. 4

3/4"=1'



JOIST ⊥ TO WALL 1

3/4"=1'

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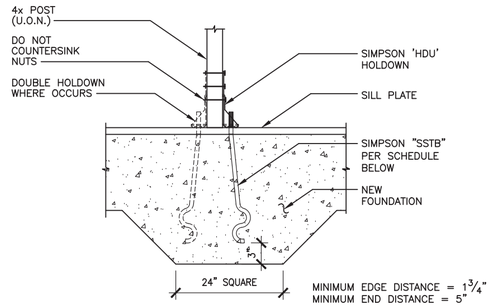
FRAMING DETAILS

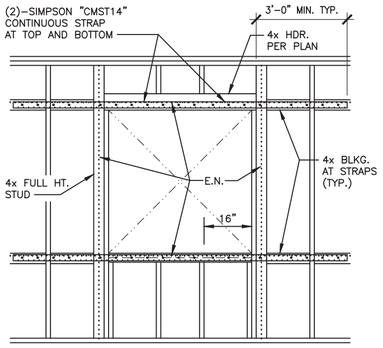
S5.0



MARK	HOLDOWN	POST FASTENERS	POST SIZE	ALLOWABLE TENSION	75% OF THE ALLOWABLE	SIMPSON "SSTB" ANCHOR BOLTS	ALLOWABLE TENSION
1	HDU2	6–SDS$^1/_4$x2$^1/_2$	4x4	3075 LBS	2306 LBS	SSTB16	3780 LBS
2	HDU4	10–SDS$^1/_4$x2$^1/_2$	4x4	4565 LBS	3423 LBS	SSTB20	4785 LBS
3	HDU5	14–SDS$^1/_4$x2$^1/_2$	4x6	5645 LBS	4233 LBS	SSTB24	5790 LBS
4	HDU8	20–SDS$^1/_4$x2$^1/_2$	4x6	6970 LBS	5227 LBS	SSTB28	11060 LBS
5	HDU11	30–SDS$^1/_4$x2$^1/_2$	4x8	11175 LBS	8381 LBS	SB1x30	16300 LBS
6	HDU14	36–SDS$^1/_4$x2$^1/_2$	4x10	14375 LBS	10781 LBS	SB1x30	16300 LBS

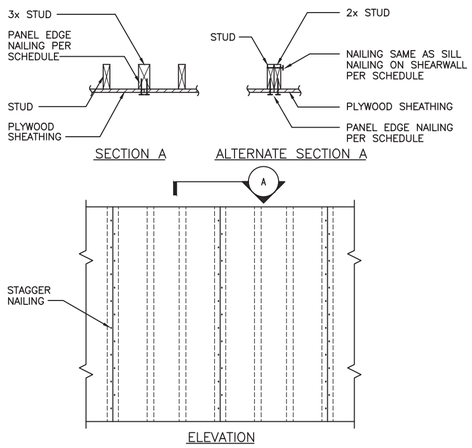
HOLDOWN TO FOOTING 9

3/4"=1'



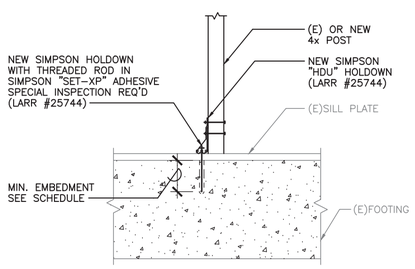
PERFORATED SHEARWALL 11

3/4"=1'



PANEL EDGE ELEVATION 8

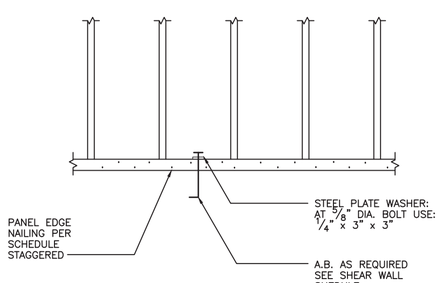
3/4"=1'



HOLDOWN SCHEDULE (LARR #25667)			
SIMPSON HOLDOWN	THREADED ROD DIAMETER (INCHES)	MINIMUM EMBEDMENT (INCHES)	TENSION CAPACITY (POUNDS)
HDU2	$^5/_8$"	10"	2306
HDU5	$^3/_4$"	12"	4233
HDU8	$^7/_8$"	15"	5227
HDU11	1"	18"	8381
HDU14	1"	20"	10792

HOLDOWN TO (E) FOOTING 10

3/4"=1'



SILL PLATE DETAIL 7

3/4"=1'

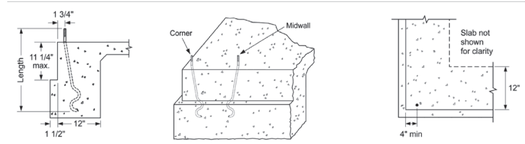


FIGURE 14—SLAB EDGE FIGURE 15—PERSPECTIVE VIEW FIGURE 16—PLAN VIEW

SSTB ANCHOR BOLTS

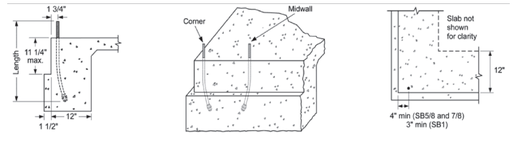


FIGURE 23—SLAB EDGE FIGURE 24—PERSPECTIVE VIEW FIGURE 25—PLAN VIEW

SB ANCHOR BOLTS

SHEAR WALL SCHEDULE

MARK	MATERIAL	NAILING (EDGE:FIELD)	UPPER FLOOR SILL ℄ NAILING	BLOCKING TO DOUBLE ℄	ANCHOR BOLT SPACING	REMARKS
A	15/32" STRUCT–I 4–PLY OR 5–PLY PLYWOOD 32/16	10d @ 6:12	16d @ 4"o.c.	SIMPSON A35 @ 16"o.c. ALT. SIMPSON LTP4 @ 16"o.c.	$^5/_8$"ø @ 32"o.c.	CAPACITY:340 PLF
B	15/32" STRUCT–I 4–PLY OR 5–PLY PLYWOOD 32/16	10d @ 4:12	SDS $^1/_4$"ø x6" SCREWS @ 8"o.c. *	SIMPSON A35 @ 9"o.c. ALT. SIMPSON LTP4 @ 9"o.c.	$^5/_8$"ø @ 16"o.c.	CAPACITY:510 PLF
C	15/32" STRUCT–I 4–PLY OR 5–PLY PLYWOOD 32/16	10d @ 3:12	SDS $^1/_4$"ø x6" SCREWS @ 6"o.c. *	SIMPSON A35 @ 6"o.c. ALT. SIMPSON LTP4 @ 6"o.c.	$^5/_8$"ø @ 16"o.c.	CAPACITY:665 PLF PRE–DRILL FOR LAG SCREW
D	15/32" STRUCT–I 4–PLY OR 5–PLY PLYWOOD 32/16	10d @ 2:12	SDS $^1/_4$"ø x6" SCREWS @ 6"o.c. *	SIMPSON A35 @ 12"o.c. EA. SIDE ALT. SIMPSON LTP4 @ 12"o.c. EA. SIDE	$^5/_8$"ø @ 16"o.c.	CAPACITY:870 PLF PRE–DRILL FOR LAG SCREW
BB	15/32" STRUCT–I 4–PLY OR 5–PLY PLYWOOD 32/16	10d @ 4:12	SDS $^1/_4$"ø x6" SCREWS @ 6"o.c. *	SIMPSON A35 @ 9"o.c. EA. SIDE ALT. SIMPSON LTP4 @ 9"o.c. EA. SIDE	$^5/_8$"ø @ 16"o.c.	CAPACITY:1020 PLF PRE–DRILL FOR LAG SCREW
CB	15/32" STRUCT–I 4–PLY OR 5–PLY PLYWOOD 32/16	10d @ 3:12	SDS $^1/_4$"ø x6" SCREWS @ 4"o.c. *	SIMPSON A35 @ 6"o.c. EA. SIDE ALT. SIMPSON LTP4 @ 6"o.c. EA. SIDE	$^3/_4$"ø @ 16"o.c.	CAPACITY:1330 PLF PRE–DRILL FOR LAG SCREW
DB	15/32" STRUCT–I 4–PLY OR 5–PLY PLYWOOD 32/16	10d @ 2:12	SDS $^1/_4$"ø x6" SCREWS @ 3"o.c. *	SIMPSON A35 @ 5"o.c. EA. SIDE ALT. SIMPSON LTP4 @ 5"o.c. EA. SIDE	$^3/_4$"ø @ 12"o.c.	CAPACITY:1740 PLF PRE–DRILL FOR LAG SCREW

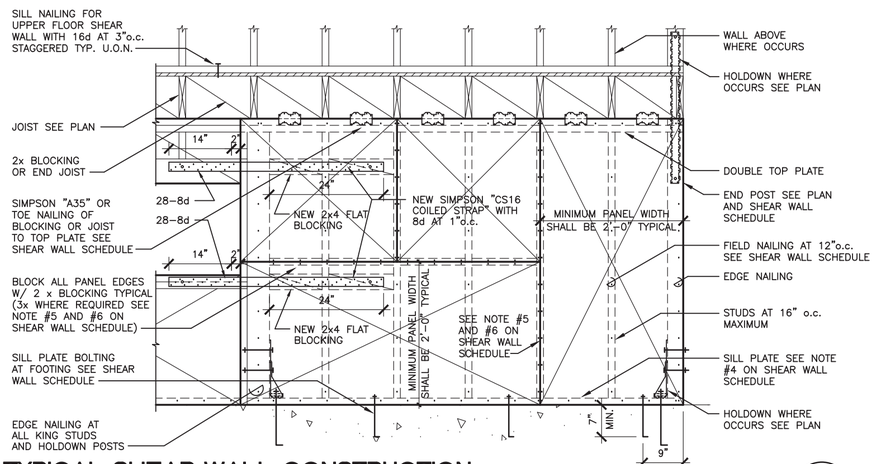
* INDICATES WITH 4$^1/_4$" EMBEDMENT INTO MINIMUM 2$^1/_2$x TIMBER STRAND BLOCKING OR RIM JOIST. MINIMUM EDGE DISTANCE SHALL BE $^3/_4$". USE FULL BODY DIAMETER LAG SCREWS ONLY.

NOTES:

1. FRAMING AT ADJOINING PANEL EDGES SHALL BE NOMINAL 3" OR WIDER. NAILS SHALL BE STAGGERED IN TWO ROWS ALONG PANEL EDGES.
2. ALL NAILS SHALL BE COMMON NAILS. PROVIDE HOT DIPPED GALVANIZED NAILS AT ALL FIRE TREATED OR PRESSURE TREATED PLYWOOD AND STUDS.
3. WHERE PLYWOOD IS APPLIED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6"o.c. ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3" NOMINAL OR THICKER AND NAILS ON EACH SIDE BE STAGGERED. 3x FRAMING SHALL BE USED AT BOTTOM SILL PLATE AND ALL BLOCKING.
4. NAILS SHALL BE PLACED AT LEAST $^1/_2$" FROM PANEL EDGES AND AT LEAST $^3/_8$" FROM THE EDGE OF THE CONNECTING MEMBERS.
5. SIMPSON 'LTP4' FRAMING ANCHOR (LARR #25293) MAY BE APPLIED OVER $^1/_2$" SHEATHING WITH 8d COMMON NAILS IN LIEU OF 8dx1$^1/_2$" NAILS.
6. CB — INDICATES SHEATHING OCCURS ON BOTH SIDES OF WALL.
7. SHEATHING NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL BE DRIVEN SUCH THAT THEIR HEAD OR CROWN IS FLUSH WITH THE SURFACE OF THE SHEATHING. OVER–DRIVEN NAILS WILL BE DEEMED UNSATISFACTORY.
8. PROVIDE A SINGLE 3x NOMINAL OR WIDER FRAMING MEMBER AT BOTTOM SILL PLATE AND BEHIND VERTICAL AND HORIZONTAL EDGES, MINIMUM $^1/_2$" EDGE NAILING DISTANCE AT PANEL ENDS AND EDGES, AND STRUCTURAL OBSERVATION PER GENERAL NOTES.
9. SPECIAL INSPECTION IS REQUIRED FOR SHEAR WALL TYPES B, C, D, E, BB, CB, DB.
10. THE FOLLOWING APPLIES TO ALL SHEAR WALLS WITH A SHEAR VALUES USING ALLOWABLE STRESS DESIGN (ASD) EXCEED 350 PLF. THESE WALLS SHALL PROVIDE WITH THE FOLLOWINGS:
    a. 3x STUDS AND BLOCKINGS FOR ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS.
    b. $^3/_8$" EDGE DISTANCE FROM THE PANEL EDGES AND $^3/_8$" FROM THE EDGE OF THE CONNECTING MEMBERS.
    c. ALL WOOD STRUCTURAL PANEL JOINT AND SILL PLATE NAILING SHALL BE STAGGERED AT ALL PANEL EDGES.

SHEAR WALL SCHEDULE 2

3/4"=1'



TYPICAL SHEAR WALL CONSTRUCTION 1

3/4"=1'

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LARSON RESIDENCE

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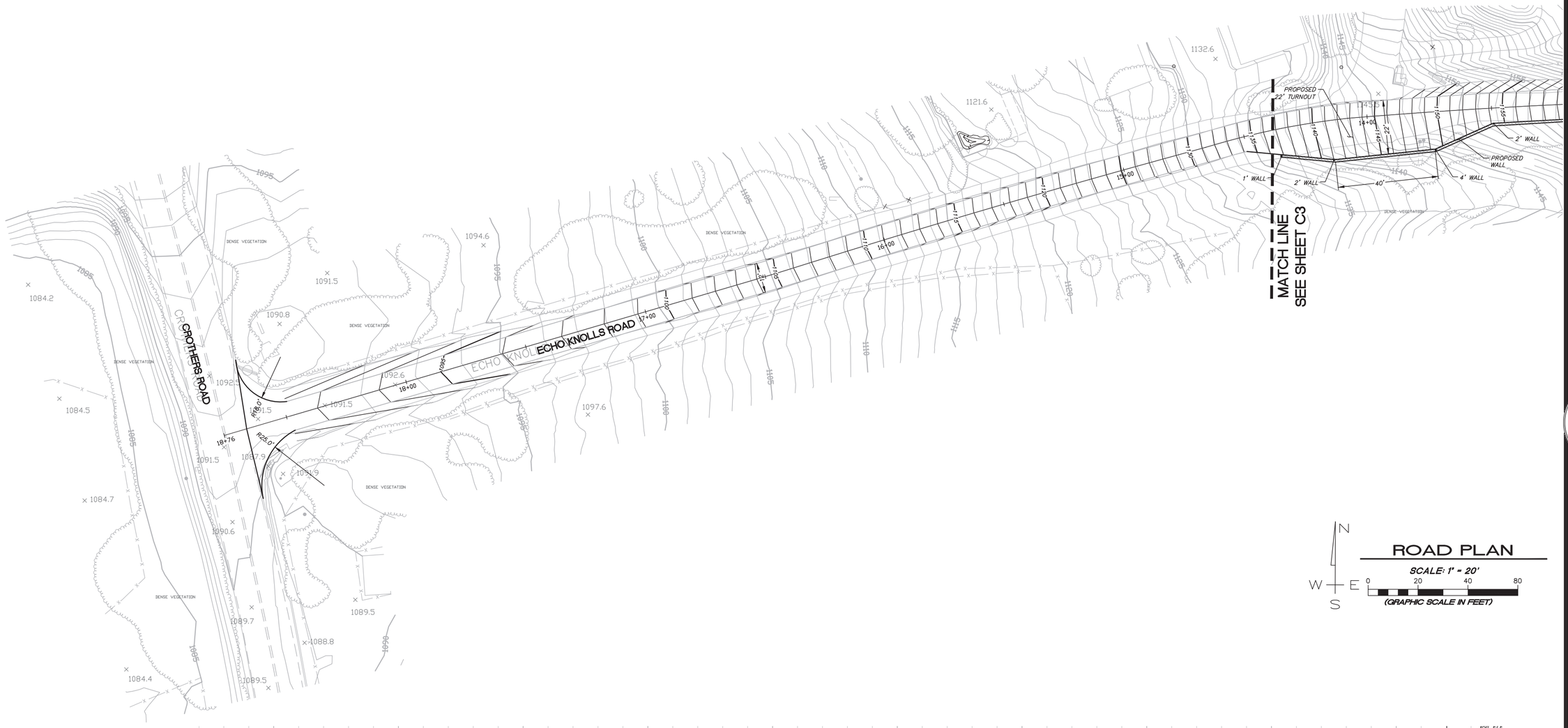
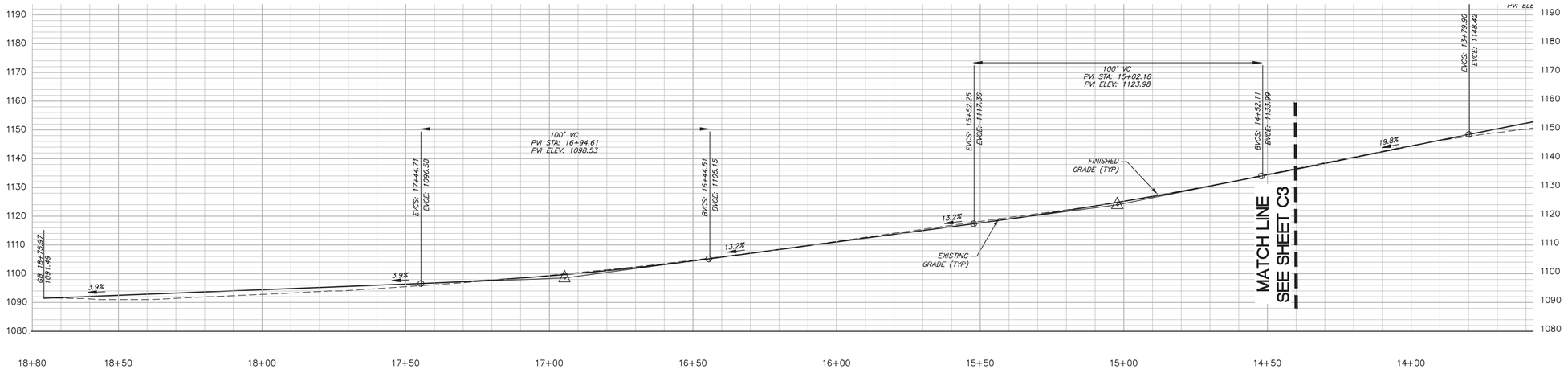
SHEATHED SHEAR WALL DETAILS

S6.0



ROAD PLAN

SCALE: 1" = 20'



ROAD PROFILE

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

REVISION	DESCRIPTION	BY	DATE

DVC GROUP INC.
PLANNING • ENGINEERING • C.M.
513 CENTER STREET
HEALDSBURG, CA 95448
(707) 395-0988

REGISTERED PROFESSIONAL ENGINEER • DANIEL JOHN HUGHES • No. 60225 • Exp. 6-30-22 • CIVIL • STATE OF CALIFORNIA

DANIEL JOHN HUGHES DATE
RCE 60225

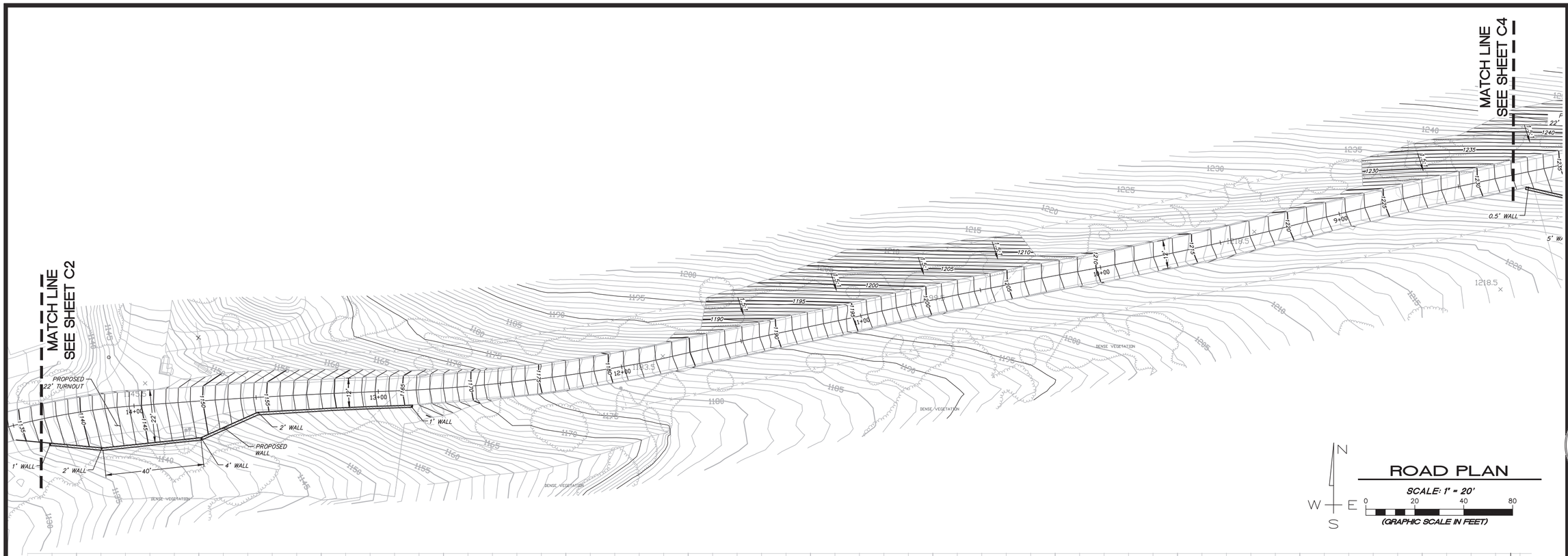
10818 CROTHERS ROAD
ROAD PLAN

612-44-033
10818 CROTHERS ROAD
SAN JOSE CA

DECEMBER 23, 2021

JOB NO.
06-21

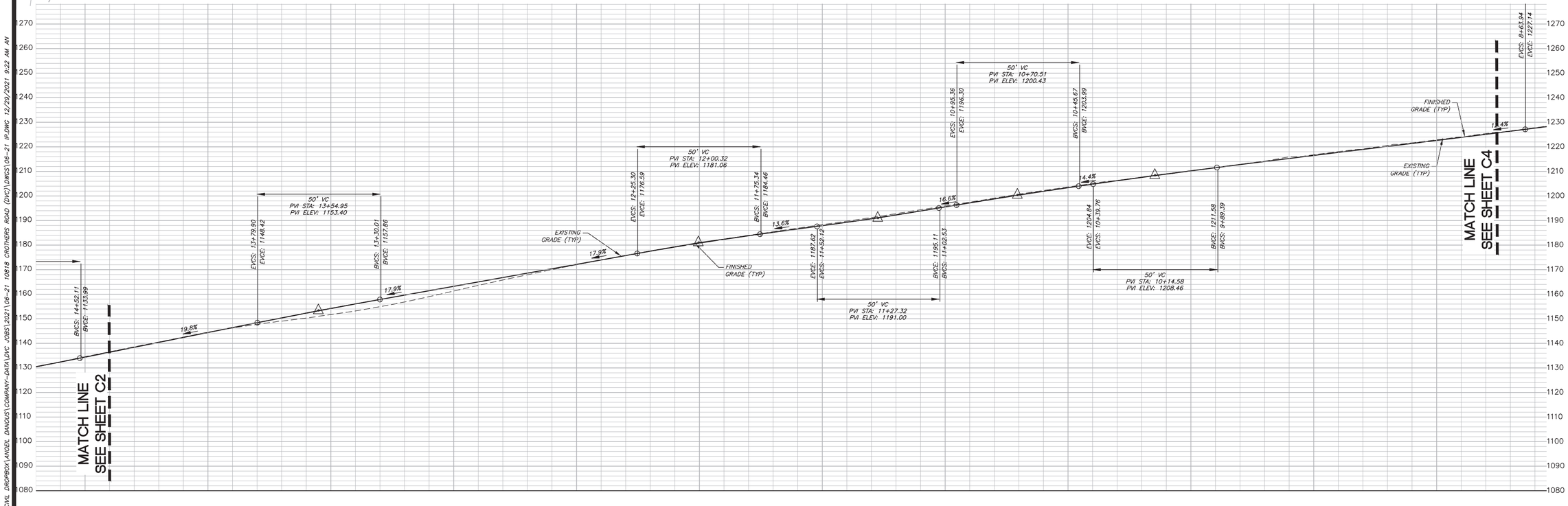
SHEET NO.
C2
OF 6 SHEETS



ROAD PLAN

SCALE: 1" = 20'

(GRAPHIC SCALE IN FEET)



ROAD PROFILE

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

REVISION	DESCRIPTION	BY	DATE

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HEALDSBURG, CA 95448
(707) 395-0988

REGISTERED PROFESSIONAL ENGINEER • DANIEL JOHN HUGHES • No. 60225 • Exp. 6-30-22 • STATE OF CALIFORNIA • CIVIL

DANIEL JOHN HUGHES DATE
RCE 60225

10818 CROTHERS ROAD
ROAD PLAN

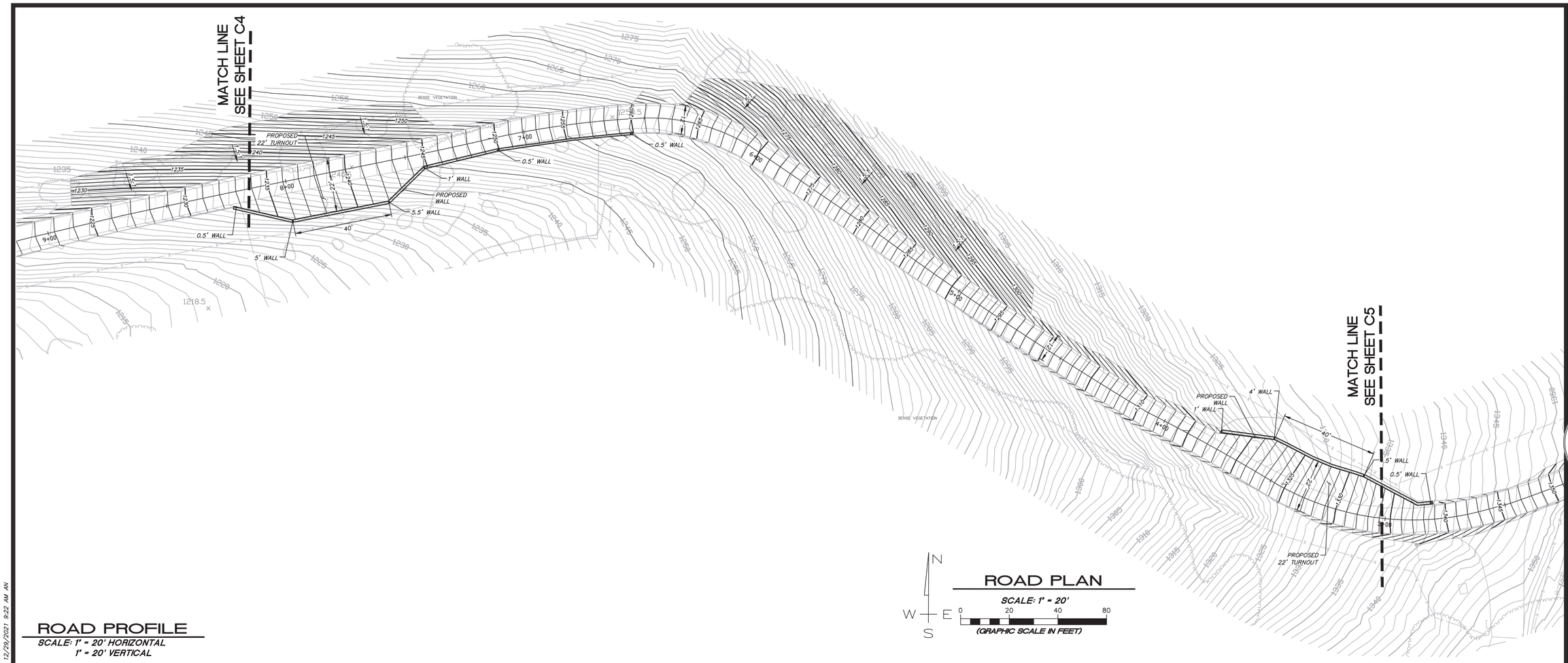
612-44-033
10818 CROTHERS ROAD
SAN JOSE CA

DECEMBER 23, 2021

JOB NO. 06-21

SHEET NO. C3

OF 6 SHEETS



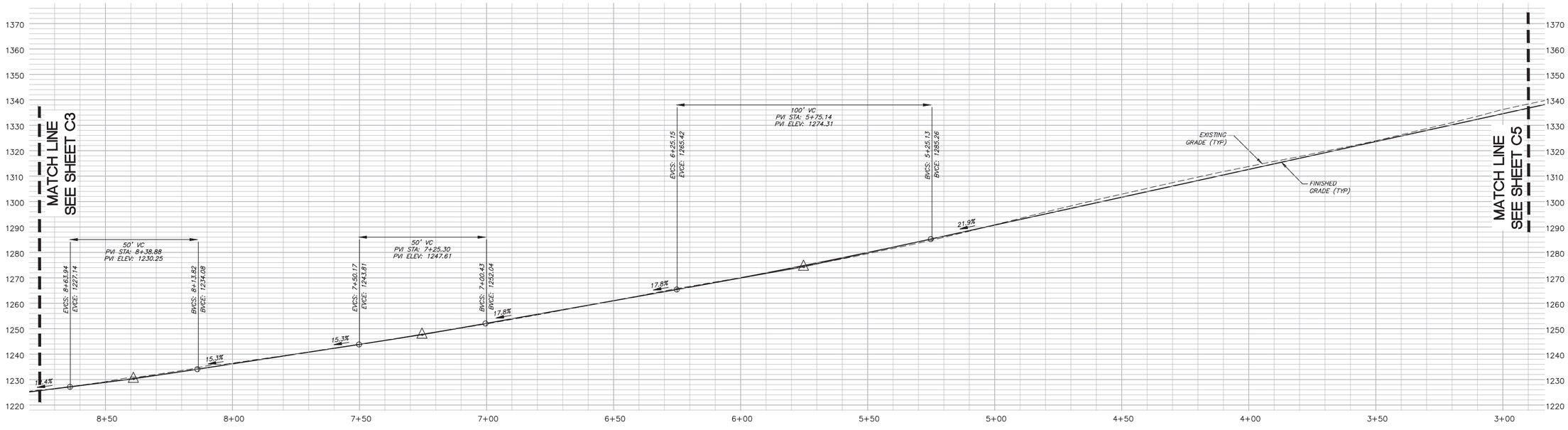
ROAD PLAN

SCALE: 1" = 20'

(GRAPHIC SCALE IN FEET)

ROAD PROFILE

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL



REVISION	DESCRIPTION	BY	DATE

DVC GROUP INC.
PLANNING • ENGINEERING • C.M.
513 CENTER STREET
HEALDSBURG, CA 95448
(707) 395-0988

REGISTERED PROFESSIONAL ENGINEER • DANIEL JOHN HUGHES • No. 60225 • Exp. 6-30-22 • STATE OF CALIFORNIA • CIVIL

DANIEL JOHN HUGHES DATE
RCE 60225

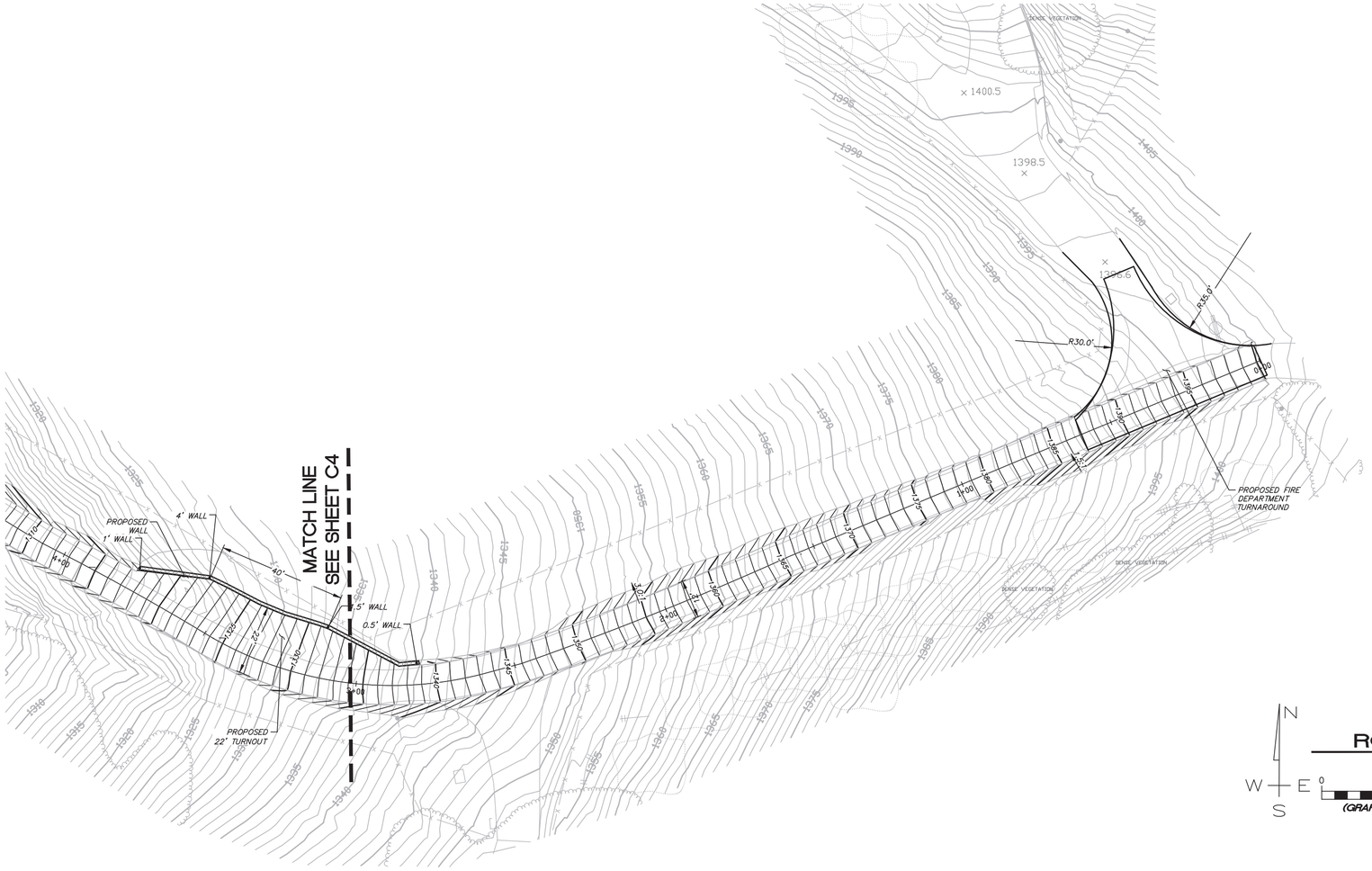
10818 CROTHERS ROAD
ROAD PLAN

612-44-033
10818 CROTHERS ROAD
SAN JOSE CA

DECEMBER 23, 2021

JOB NO.
06-21

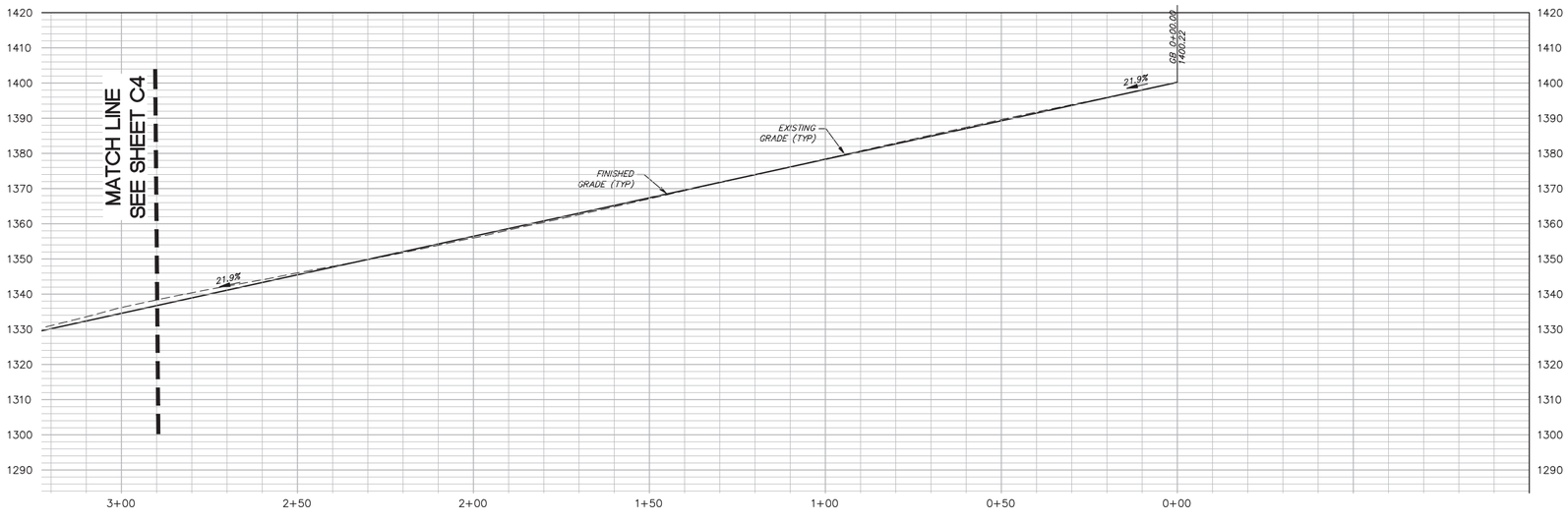
SHEET NO.
C4
OF 6 SHEETS



ROAD PLAN

SCALE: 1" = 20'

(GRAPHIC SCALE IN FEET)



ROAD PROFILE

SCALE: 1" = 20' HORIZONTAL
1" = 20' VERTICAL

REVISION	DESCRIPTION	BY	DATE

DVC GROUP INC.
PLANNING • ENGINEERING • C.M.
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REGISTERED PROFESSIONAL ENGINEER • DANIEL JOHN HUGHES • No. 60225 • Exp. 6-30-22 • CIVIL • STATE OF CALIFORNIA

DANIEL JOHN HUGHES DATE
RCE 60225

10818 CROTHERS ROAD
ROAD PLAN

612-44-033
10818 CROTHERS ROAD
SAN JOSE CA

DECEMBER 23, 2021

JOB NO.
06-21

SHEET NO.
C5
OF 6 SHEETS

DOC NO 24208357
PARCEL ONE

30' INGRESS/EGRESS &
PUBLIC UTILITIES EASEMENT
PARCEL FIVE
DOC.#24208357

DENSE TREES

60' INGRESS/EGRESS &
PUBLIC UTILITIES EASEMENT
PARCEL II
EXHIBIT "D"
G493 OR 678

N57°16'00"E
460.24'

DENSE VEGETATION

10' POLE AND WIRE
EASEMENT
PT&T, PG&E
8343 OR 428

S42°53'07"E
205.88'

30' INGRESS/EGRESS &
PUBLIC UTILITIES EASEMENT
HOUSTON TO HENNINGER
7894 OR 519

897.4'
OR
494

0 25 50 100 Feet
1 inch = 30 ft.

60' INGRESS/EGRESS &
PUBLIC UTILITIES EASEMENT
PARCEL I
EXHIBIT "D"
G493 OR 678

INAMDAR
APN: 612-44-023
DOC NO 23642243
PARCEL ONE

FOLEY
APN: 612-44-025
DOC NO 23995958

30' INGRESS/EGRESS &
PUBLIC UTILITIES EASEMENT
PARCEL THREE
DOC.#24208357

30' INGRESS/EGRESS
EASEMENT
PARCEL FOUR
DOC.#24208357

30' INGRESS/EGRESS
EASEMENT
PARCEL TWO
DOC.#24208357

273.90'
S66°00'00"W

87.12'
N70°30'00"W

AREA OFFERED FOR
DEDICATION PER
483-MAPS-41

'FERED FOR
.TION PER
MAPS-41

ABBREVIATIONS

AC	ASPHALT
BC	BUILDING CORNER
CLF	CHAIN-LINK FENCE
CULV	CULVERT
EC	EDGE OF CONCRETE
EP	EDGE OF PAVEMENT
FNC	FENCE
GND	GROUND ELEVATION
GUY	GUY WIRE
JP	JOINT POLE
SB	SPEED BUMP
SD	STORM DRAIN
WD FNC	WOOD FENCE

BOUNDARY LINE

EASEMENT LINE

N

30 0 30 60
(IN FEET)
1 inch = 30 ft.
GRAPHIC SCALE

MARK	DATE	DESCRIPTION REVISIONS	BY

TOPOGRAPHIC SURVEY

10818 Crothers Road

San Jose **California**

DATE: 08/25/2022
SCALE: 1" = 30'
DRAWN BY: KWC
DESIGNED BY:
CHECKED BY: PCW

LICENSED LAND SURVEYOR
PAUL C WOOTTON
No. 8398
STATE OF CALIFORNIA

CARROLL ENGINEERING
engineers and surveyors
1101 S. WINCHESTER BLVD.
SUITE H-184
SAN JOSE, CA 95128
PHONE: 408-261-2800
FAX: 408-261-0595
E-MAIL: robert@carroll-engineering.com

SHEET
T-1
OF 1 SHEETS

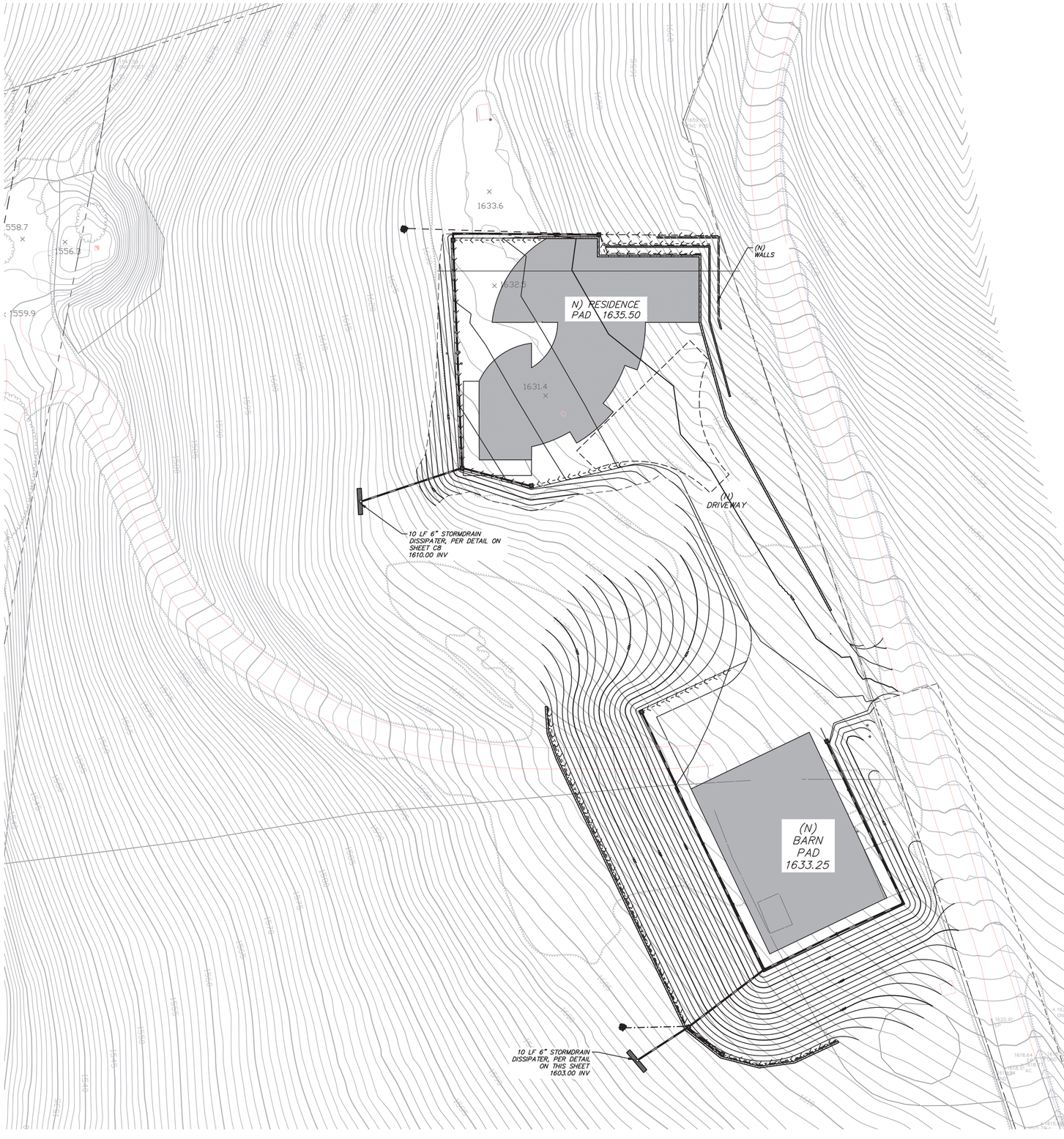
JOB NO. 2459

O:\2459 - Larson Residence_WKG\2459topo2.dwg 8-25-22 08:59:10 AM philip

EARTHWORK:

	CUT	FILL	NET
BARN	370 CY	5528 CY	5158 CY FILL
HOUSE	765 CY	353 CY	412 CY CUT
TOTAL	1135 CY	5881 CY	4746 CY FILL <IMPORT>

NOTE: NO DEDUCTION FOR PAD/CONCRETE WAS ASSUMED.



GRUNDMANN
APN: 612-44-007
DOC NO 24300397
PARCEL ONE

N
W E
S

OVERALL ROUGH GRADING PLAN

SCALE: 1" = 20'

0 20 40 80

(GRAPHIC SCALE IN FEET)

REVISION	DESCRIPTION	BY	DATE

DVC GROUP INC.
PLANNING • ENGINEERING • C.M.
513 CENTER STREET
HEALDSBURG, CA 95448
(707) 395-0988

REGISTERED PROFESSIONAL ENGINEER • DANIEL JOHN HUGHES • No. 60225 • Exp. 6-30-23 • CIVIL • STATE OF CALIFORNIA

DANIEL JOHN HUGHES DATE
RCE 60225

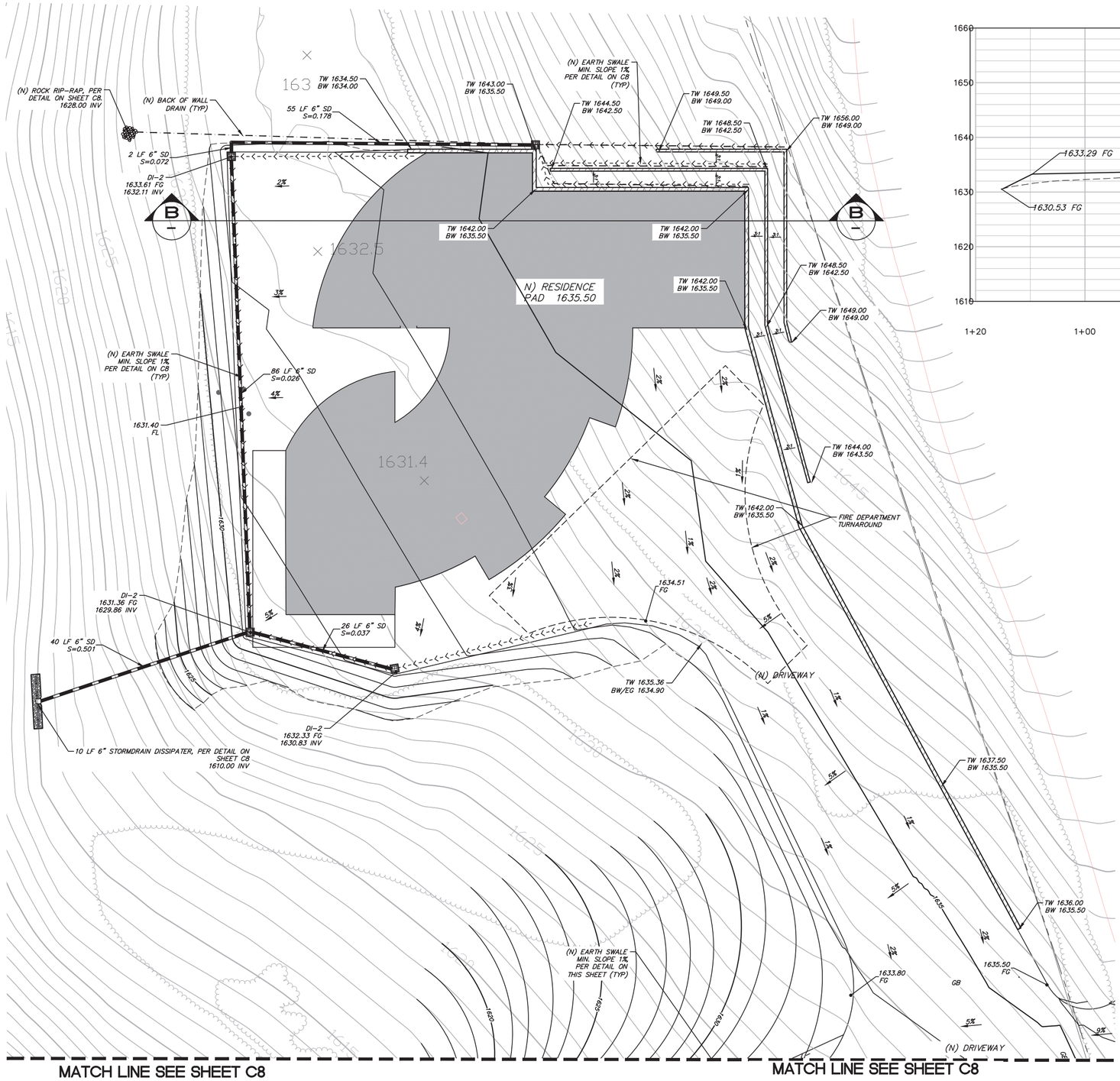
10818 CROTHERS ROAD
OVERALL ROUGH GRADING PLAN

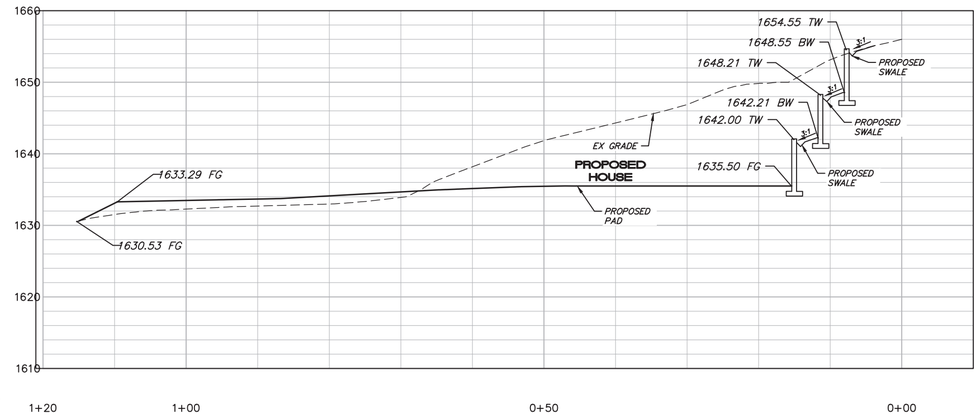
912-44-033
10818 CROTHERS ROAD
SAN JOSE CA

JANUARY 31, 2023

JOB NO.
06-21

SHEET NO.
C6
OF 8 SHEETS





PROFILE B-B'

1" = 10' HORIZONTAL
1" = 10' VERTICAL

BARN ROUGH GRADING PLAN

SCALE: 1" = 10'

0 10 20 30

(GRAPHIC SCALE IN FEET)

N W E S

DRAINAGE SCHEDULE

DI-1: 6" ROUND ATRIUM GRATE (OR APPROVED EQUAL)

DI-2: 12"x12" OLDCASTLE PRECAST CONCRETE INLET (OR APPROVED EQUAL)

TD-1: TRAFFIC RATTED TRENCH DRAIN (OR APPROVED EQUAL)

ALL 6" STORM DRAIN PIPE TO BE HDPE DUAL WALL.
ALL 4" STORM DRAIN AND ROOF LEADER DRAIN PIPE TO BE PVC SCHEDULE 40.

EARTHWORK:

	CUT	FILL	NET
BARN	370 CY	5528 CY	5158 CY FILL
HOUSE	765 CY	353 CY	412 CY CUT
TOTAL	1135 CY	5881 CY	4746 CY FILL <IMPORT>

NOTE: NO DEDUCTION FOR PAD/CONCRETE WAS ASSUMED.

REVISION	DESCRIPTION	BY	DATE

DVC GROUP INC.
PLANNING • ENGINEERING • C.M.
513 CENTER STREET
HEALDSBURG, CA 95448
(707) 395-0988

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DANIEL JOHN HUGHES RCE 60225 DATE

10818 CROTHERS ROAD
HOUSE ROUGH GRADING PLAN

612-44-033
10818 CROTHERS ROAD
SAN JOSE CA

JANUARY 31, 2023

JOB NO. 06-21

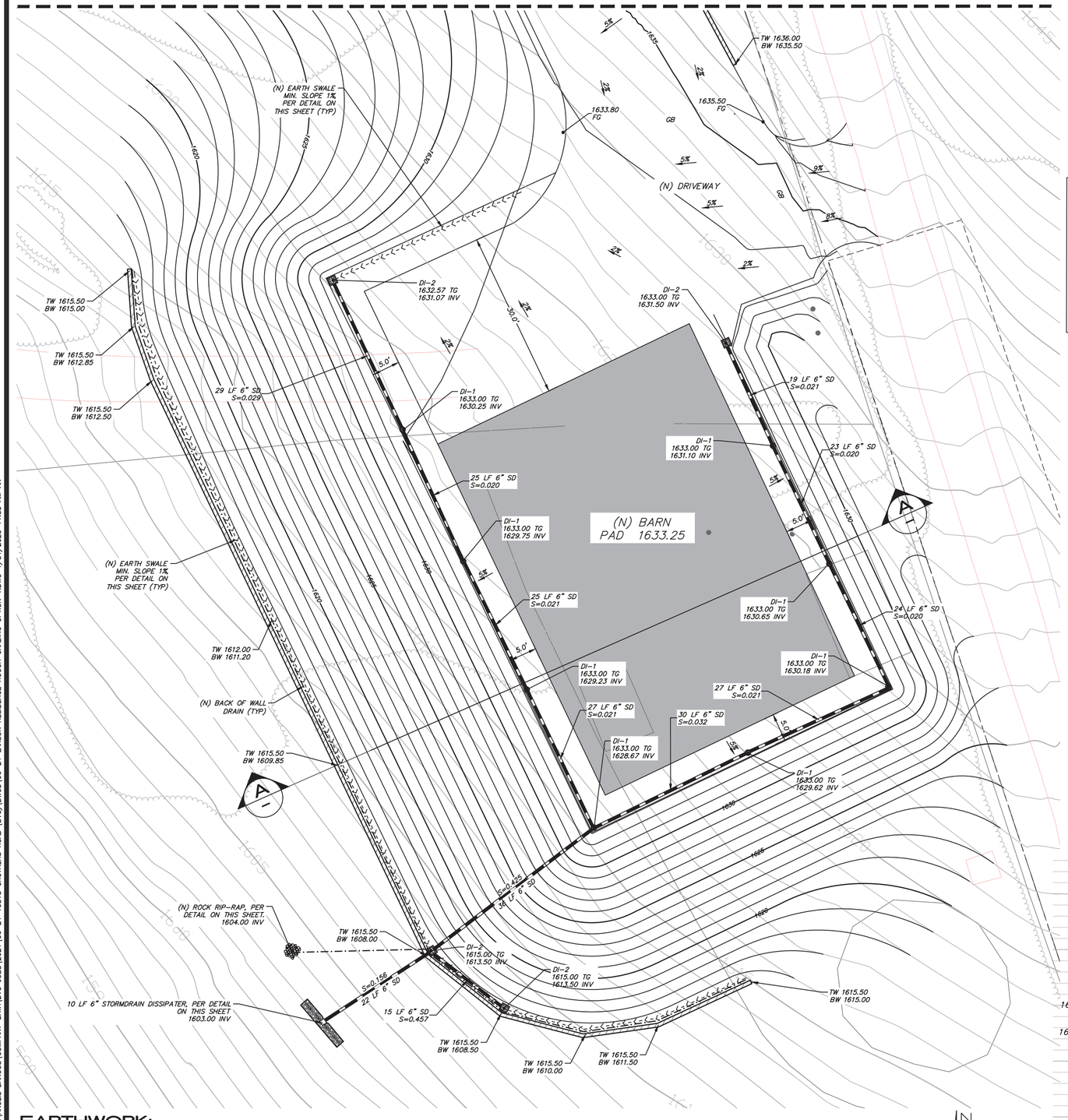
SHEET NO. C7

OF 7 SHEETS

D:\MUNSELLE CIVIL DROPBOX\ANGEL DANOUS\COMPANY-DATA\DVC JOBS\2021\06-21 10818 CROTHERS ROAD (DVC)\DWGS\06-21 LARSON RESIDENCE ROUGH GRADING OPTION 1.DWG 1/31/2023 11:35 AM AN

MATCH LINE SEE SHEET C7

MATCH LINE SEE SHEET C7



EARTHWORK:

	CUT	FILL	NET
BARN	370 CY	5528 CY	5158 CY FILL
HOUSE	765 CY	353 CY	412 CY CUT
TOTAL	1135 CY	5881 CY	4746 CY FILL <IMPORT>

NOTE: NO DEDUCTION FOR PAD/CONCRETE WAS ASSUMED.

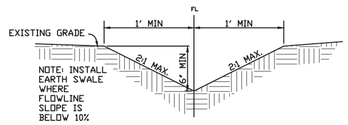
BARN ROUGH GRADING PLAN

SCALE: 1" = 10'

0 10 20 30

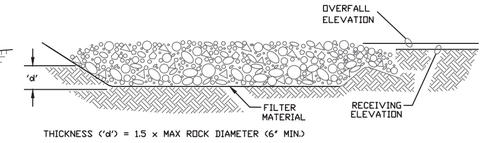
(GRAPHIC SCALE IN FEET)

N W E S



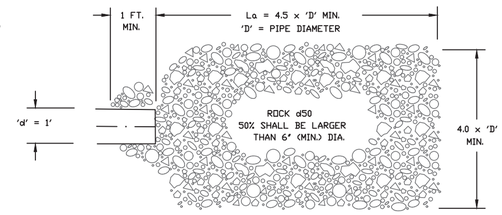
EARTH SWALE

NOT TO SCALE



THICKNESS ('d') = 1.5 x MAX ROCK DIAMETER (6" MIN.)

SECTION



PLAN

NOTES:

1. 'La' = LENGTH OF APRON. DISTANCE 'La' SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.
2. APRON SHALL BE SET AT A ZERO GRADE AND ALIGNED STRAIGHT.
3. FILTER MATERIAL SHALL BE FILTER FABRIC OR 6" THICK (MIN.) GRADED GRAVEL LAYER.

ROCK OUTLET FOR BACK OF WALL DRAIN

NOT TO SCALE

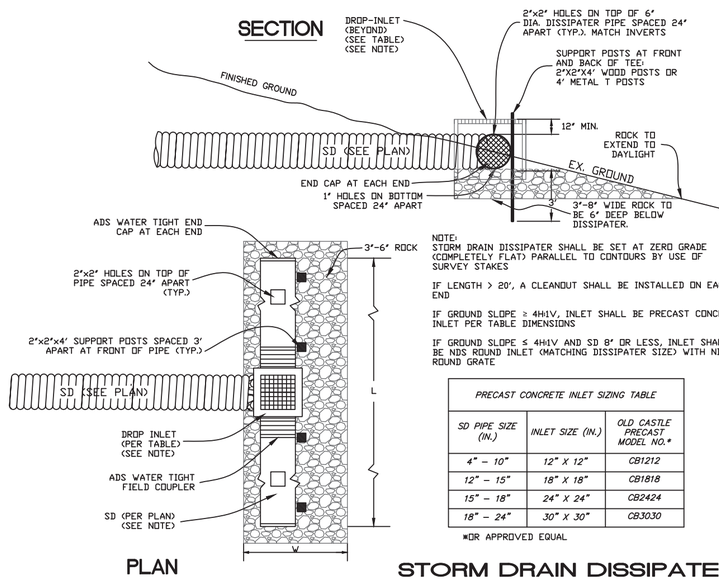
DRAINAGE SCHEDULE

DI-1: 6" ROUND ATRIUM GRATE (OR APPROVED EQUAL)

DI-2: 12"x12" OLDCASTLE PRECAST CONCRETE INLET (OR APPROVED EQUAL)

TD-1: TRAFFIC RATTED TRENCH DRAIN (OR APPROVED EQUAL)

ALL 6" STORM DRAIN PIPE TO BE HDPE DUAL WALL.
ALL 4" STORM DRAIN AND ROOF LEADER DRAIN PIPE TO BE PVC SCHEDULE 40.



NOTE:
STORM DRAIN DISSIPATER SHALL BE SET AT ZERO GRADE (COMPLETELY FLAT) PARALLEL TO CONTOURS BY USE OF SURVEY STAKES

IF LENGTH > 20', A CLEANOUT SHALL BE INSTALLED ON EACH END

IF GROUND SLOPE ≥ 4H:1V, INLET SHALL BE PRECAST CONCRETE INLET PER TABLE DIMENSIONS

IF GROUND SLOPE ≤ 4H:1V AND SD 8" OR LESS, INLET SHALL BE NDS ROUND INLET (MATCHING DISSIPATER SIZE) WITH NDS ROUND GRATE

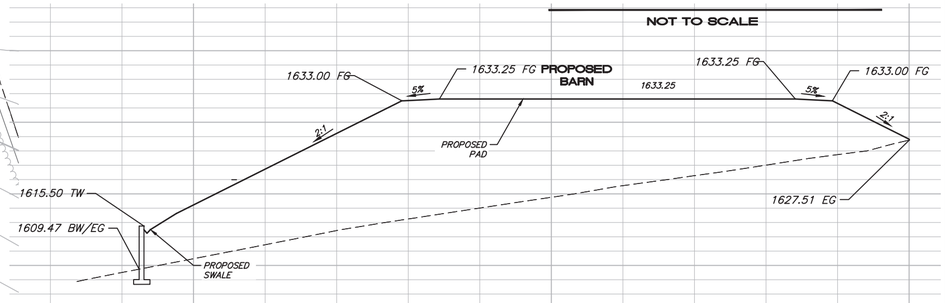
PRECAST CONCRETE INLET SIZING TABLE

SD PIPE SIZE (IN.)	INLET SIZE (IN.)	OLD CASTLE PRECAST MODEL NO.*
4" – 10"	12" X 12"	CB1212
12" – 15"	18" X 18"	CB1818
15" – 18"	24" X 24"	CB2424
18" – 24"	30" X 30"	CB3030

*OR APPROVED EQUAL

STORM DRAIN DISSIPATER

NOT TO SCALE



PROFILE A-A'

1" = 10' HORIZONTAL
1" = 10' VERTICAL

REVISION	DESCRIPTION	BY	DATE

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DANIEL JOHN HUGHES DATE
RCE 60225

10818 CROTHERS ROAD
BARN ROUGH GRADING PLAN

612-44-033
10818 CROTHERS ROAD
SAN JOSE CA

JANUARY 31, 2023

JOB NO.
06-21

SHEET NO.
C8
OF 8 SHEETS

ABBREVIATIONS

A	AMPERES	DR	DOOR
A.B.	ANCHOR BOLT	E.A.	EXPANSION ANCHOR
A.F.F.	ABOVE FINISHED FLOOR	EXH.	EXHAUST FAN
A.F.G.	ABOVE FINISHED GRADE	E.J.	EXPANSION JOINT
A/C	AIR CONDITIONING	EA.	END AXLING
ABC	AGGREGATE BASE COURSE	E.W.	EACH WAY
ABS	ACRYLONITRILE-BUTADIENE-STYRENE	EA.	EACH
ACT	ACOUSTIC	ELEV.	ELEVATION
ADA	ADJUSTED-CONDUIT BOARD	ELECT.	ELECTRIC, ELECTRICAL*
ADJU.	ADJUSTIC	ELEV.	ELEVATION
AST	ACOUSTICAL CEILING TILE	EMC	ELECTRICAL METALLIC CONDUIT
ASSO.	ASSOTION or ASSOTIATION	EMT	ELECTRICAL METALLIC TUBING
AT	ABOVE GRADE	ENT	ELECTRICAL NON-METALLIC TUBING
AHU	AIR HANDLER UNIT	EQ.	EQUAL
AL. or ALUM.	ALUMINUM	EQUIP.	EQUIPMENT
ALT.	ALTERNATE	EST.	ESTIMATE
ANL	ANNEALED	EVAP.	EVAPORATIVE COOLER
ASPH.	ASPHALT	EWC	ELECTRIC DRINKING FOUNTAIN
AVG	AVERAGE	EXC.	EXCAVATE
AWG	AMERICAN WIRE GAUGE	EXH.	EXHAUST
∠	ANGLE	EXIST. or E.	EXISTING
B.BK.	BENCH MARK	EXT.	EXTERIOR
B.N.	BOUNDARY NAILING	F.A.	FIRE ALARM
B.O.	BOTTOM OF	F.C.	FAN COIL
B.O.F.	BOTTOM OF FOOTING	F.C.O.	FLOOR CLEAN OUT
B.U.	BUILT UP	F.D.	FLOOR DRAIN
B/C	BACK OF CURB	F.E.	FIRE EXTINGUISHER
BD.	BOARD	F.N.	FIELD NAILING
BLDG.	BUILDING	F.O.	FACE OF
BLK.	BLOCK	F.S.	FLOOR SINK
BLKG.	BLOCKING	FBGLS.	FIBERGLASS
BM.	BEAM	FAB.	FABRICATE
BP	BASE PLATE	FACP	FIRE ALARM CONTROL PANEL
BRG.	BEARING	FDC	FIRE DEPARTMENT CONNECTION
BRZ.	BRONZE	FDN.	FOUNDATION
C.A.P.	CONCRETE ASBESTOS PIPE	FHC	FIRE HOSE CABINET
C.D.	CONSTRUCTION DOCUMENTS	FIN.	FINISH
C.I.P.	CAST IN PLACE	FL.	FLOOR
C.J.	CONTROL JOINT	FLG.	FLOORING
C.O.	CLEAN OUT	FLOOR.	FLOORSCENT
C.T.	CERAMIC TILE	FP	FIRE PROOF
CAB.	CABINET	FTG.	FOOTING
CAM.	CAMBER	FURN.	FURNISH
CCTV	CLOSED CIRCUIT TELEVISION	G.I.	GALVANIZED IRON
CEM.	CEMENT	GA.	GAUGE
CER.	CERAMIC	GALV.	GALVANIZED
CFM	CUBIC FEET PER MINUTE	GAR.	GARAGE
CH or ℄	CHANNEL	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
CKT. BKR.	CIRCUIT BREAKER	GFI	GROUND FAULT INTERRUPTER
CL. or ℄	CENTERLINE	GL.	GLASS
CLG.	CEILING	GLB	GLUE LAMINATED BEAM
CLKG.	CAULKING	GM.	GRADE MARK
CLO.	CLOSET	GM.	GATE VALVE
CLR.	CLEAR	GRC	GALVANIZED RIGID TUBING
CMU	CONCRETE MASONRY UNIT	GYP.	GYPSUM
CNTRD.	CENTERED	H.B. BD.	HARDBOARD SIDING BOARD
CO.	COLUMN	HDR.	HOSE BIBB
COMB.	COMBINATION	H.O.	HOLLOW CORE
CONC.	CONCRETE	H.M.	HOLLOW METAL
CONST.	CONSTRUCTION	H/C	HANDICAPPED
CONT.	CONTINUOUS	HDWD.	HARDWOOD
CONTR.	CONTRACTOR	HDW	HARDWARE
CU	COPPER	HGT.	HEIGHT
d	PENNY	HOR.	HORIZONTAL
D.F.	DRINKING FOUNTAIN	HTR	HEATER
D.G.	DECOMPOSED GRANITE	HVAC	*HEATING, VENTILATING & AIR CONDITIONING*
D.S.	DOWN SPOUT	HW	HOT WATER
D/W	DISHWASHER	HYD.	HYDRAULIC
DBL.	DOUBLE	I.C.	INTERIOR OUTLET
DEMO	DEMOLITION	I.D.	INSIDE DIAMETER
DIA. or ø	DIAMETER	I.F.	INSIDE FACE
DIAG.	DIAGONAL	ID	IDENTIFICATION
DIM.	DIMENSION	IG	ISOLATED GROUND
DL	DEAD LOAD	IMC	INTERMEDIATE METALLIC CONDUIT
DN.	DOWN	IMPG	IMPREGNATED

INCL.	*INCLUDE, INCLUSIVE*	P	PADBUS
INSUL.	INSULATION	P.D.L.	ROOF DRAIN LEADER
INT.	INTERIOR	P.D.O.	ROOF DRAIN OVERFLOW
J. BOX	JUNCTION BOX	P.O.	POWER OPENING
JST.	JUNCTION	P.O.W. or P/W	RIGHT OF WAY
JT.	JOINT	PEF.	REFRIGERATOR
JT.	JOINT	REF.	REFERENCE
K-3	KNOCK DOWN	REINF.	REINFORCED
KD.	KILN DRIED	REQ'D.	REQUIRED
KO.	KNOCK OUT	RET.	RETURN
L.E.D.	LIGHT EMITTING DIODE	REV.	REVISION
L.F.	LINEAR FEET	RM	ROOM
LAM.	LAMINATE	RMV.	REMOVE
LAT.	LATERAL	S.C.	SOLID CORE
LAV.	LAVATORY	S.D.	SMOKE DETECTOR
LB.	LEAD	S.O.V.	SHUT OFF VALVE
LIN.	LINEAR	S.S.	SKYLIGHT
LINO.	LINOLEUM	S.S.	STAINLESS STEEL
L.T.	LIGHT	SELF.	SELF CLOSING
LTG.	LIGHTING	SHEET.	SHEETING
L.V.L.	LAMINATED VENEER LUMBER	SIM.	SIMILAR
M.B.	MACHINE BOLT	SLD.	SLIDING ENTRANCE SECTION
MAH.	MAHOGANY	SM	SMOKE
MATL.	MATERIAL	SMTG.	SMOOTHING
MAX.	MAXIMUM	SNK.	SINK
MBR.	MARBLE	SPA.	SPACE
MECH.	MECHANICAL	SPECS.	SPECIFICATIONS
MET.	METAL	SPKR.	SPEAKER
MFG.	MANUFACTURING	SQ. FT.	SQUARE FEET
MFR.	MANUFACTURER	SQ. IN.	SQUARE INCHES
MIN.	MINIMUM	STC	SOUND TRANSMISSION CLASS
MISC.	MISCELLANEOUS	STD.	STANDARD
MOD	MODULAR	STL	STEEL
MTL.	METAL	SYM.	SYMMETRICAL
MUL.	MULLION	SYS.	SYSTEM
N.I.C.	NOT IN CONTRACT	T & G	TONGUE AND GROOVE
N.T.S.	NOT TO SCALE	T.B.	THROUGH BOLT
NAT.	NATURAL or NATIVE	T.H.B.	TELEPHONE MOUNTING BOARD
NC	NOT FOR CONSTRUCTION	TEL.	TELEPHONE
NIC	NAILER	T.O.C.	TOP OF CURB
NO.	NUMBER	T.O.F.	TOP OF FOOTING
NOM	NOMINAL	T.O.J.	TOP OF JOIST
O.C.	ON CENTER	T.O.M.	TOP OF MASONRY
O.D.	OUTSIDE DIAMETER	T.O.S.	TOP OF SLAB
O.H.	OVER HANG	T.O.W.	TOP OF WALL
ORNA.	ORNAMENTAL IRON	T.S.	TUBE STEEL
O.R.	OUTSIDE RADIUS	T.V.	TELEVISION OUTLET
OH	OUTSIDE AIR INTAKE	TEL.	TELEPHONE
OH	OVER HEAD	TH.	THRESHOLD
OPNG.	OPENING	THG.	THREADED
OPP/O	OPPOSITE	TYP.	TYPICAL
P.C.	PRECAST CONCRETE	THRU	THROUGH
P.L. or E	PROPERTY LINE	TLT.	TILT
P.LAM.	PLASTIC LAMINATE	TRANS.	TRANSFORMER
P.O.C.	POINT OF CONNECTION	TYP.	TYPICAL
PERF.	PERFORATED	UNF.	UNFINISHED
PERP. or ⊥	PERPENDICULAR	UR	URINAL
PL. or ℄	PLATE	V.B.	VAPOR BARRIER
PL.	PLASTER	V.I.F.	VERIFY IN FIELD
PL.B.	PLASTER BOARD	VA	VOLT AMPERE
PLAS.	PLASTIC	VCT	VINYL COMPOSITION TILE
PLAMB.	PLUMBING	VERT.	VERTICAL
PLY. WD.	PLYWOOD	W.C.	WATER CLOSET
PORC.	PORCELAIN	WDW	WINDOW
PREFAB.	PREFABRICATED	W/O	WAIVED
PSF	POUNDS PER SQUARE FOOT	WP	WEATHER PROOF
PSI	POUNDS PER SQUARE INCH	WT.	WEIGHT
PTN.	PARTITION	W/	WITH
PVC	POLYVINYLCHLORIDE	W/O	WITHOUT
PWR.	POWER	WD.	WOOD
Q.T.	QUARRY TILE	W.I.	WROUGHT IRON
QTY.	QUANTITY	YD.	YARD

MACK'S YAKS
Staging Barn

Alum Rock

10818 Crothers Rd \\
San Jose, CA
95127

Build It Green
Smart Solutions From The Ground Up

ADDITIONAL DOCUMENTS & REQUIREMENTS

GEOTECHNICAL INVESTIGATION / SOIL REPORT - Attached

SPRINKLER PLAN - N/A

TITLE 24 CALIFORNIA ENERGY CODE COMPLIANCE - N/A

ARBORIST

NO TREES TO BE REMOVED. ARBORIST REPORT HAS BEEN PREPARED. IN THE EVENT THAT PROJECT SCOPE CHANGES, CONTACT ARCHITECT & AUTHORITY HAVING JURISDICTION (AHJ) TO DETERMINE IF AN ARBORIST REPORT IS REQUIRED. NO WORK SHALL BE COMMENCED WITHIN THE DRIPLINE OF ANY TREE PROTECTED BY ANY AHJ PRIOR TO RETAINING A LICENSED ARBORIST.

COORDINATION REQUIREMENTS

COORDINATE WITH ARCHITECT

SEE CONSTRUCTION OBSERVATION NOTE ON THIS SHEET. PROVIDE ARCHITECT WITH MINIMUM 48 HOUR NOTICE OF MILESTONE REQUIRING CONSTRUCTION OBSERVATION. COPY ARCHITECT ON ALL CORRESPONDENCE WITH ALL PROJECT CONSULTANTS.

AREA CALCULATIONS

BUILDING AREA:

MAIN LEVEL	3500sq. ft
TOTAL AREA:	3500sq. ft
TOTAL PARCEL AREA:	6.58 Acres

CONSTRUCTION OBSERVATION REQUIRED

GENERAL CONTRACTOR IS REQUIRED TO SCHEDULE & COORDINATE THE FOLLOWING MANDATORY CONSTRUCTION OBSERVATION SITE VISITS WITH ARCHITECT PRESENT. PROVIDE NOTICE TO ARCHITECT AT LEAST 48 HOURS PRIOR TO SUCH VISITS. PRIOR TO BEGINNING WORK, PROVIDE ARCHITECT & OWNER WITH A CRITICAL PATH SCHEDULE SHOWING THE FOLLOWING CONSTRUCTION MILESTONES:

INITIALS	REQD	SITE VISIT MILESTONE
_____	☐	PRE CONSTRUCTION SITE MEETING
_____	☒	AFTER FINISH REMOVAL, PRIOR TO STRUCTURAL DEMOLITION
_____	☒	ROUGH FRAMING
_____	☐	WINDOW SELECTION, PRIOR TO ORDERING WINDOWS
_____	☐	ROUGH ELECTRICAL, MOUNTED BOXES PRIOR TO PULLING WIRE
_____	☐	FRAMING & INSULATION, PRIOR TO COVERING FRAMING W/ FINISHES

ADDITIONALLY, CONTRACTOR SHALL SCHEDULE A MANDATORY WALKTHRU WITH ARCHITECT & OWNER PRESENT AT SUBSTANTIAL COMPLETION.

_____ ☒ SUBSTANTIAL COMPLETION PRIOR TO GRANTING OCCUPANCY

ARCHITECT'S INITIALS ARE REQUIRED TO THE LEFT OF EACH SITE VISIT LISTED PRIOR TO PROCEEDING WITH SUBSEQUENT WORK & INDICATE ONLY THAT ARCHITECT WAS PRESENT & PROVIDED WITH THE OPPORTUNITY TO OBSERVE CONSTRUCTION AT THAT PHASE.

PROJECT DATA

PROJECT ADDRESS:	10818 Crothers Rd. San Jose, CA
OWNER/MANAGER:	Mack Larson & Jothi Murali-Larson
APN:	612-44-033
ZONING:	Residential /Agricultural - RR-d1 (100%)
LOT AREA:	Computed Size (GIS): 286,820 sq. ft. / 6.6 acres
BUILDING AREA:	See Area Calculations on this sheet 2
STORIES:	1 Typ VA
CONSTRUCTION TYPE:	Deferred Submittal
FIRE SPRINKLERS:	Group R-4
OCCUPANCY:	County of Santa Clara Municipal Code
APPLICABLE CODES:	2019 CA RESIDENTIAL BUILDING CODE 2019 CA Bldg Code, 2013 CA Res Bldg Code, 2013 CA Elec Code 2019 CA Mech Code, 2013 CA Plmbg Code, 2013 CA Energy Code 2019 CA Fire Code, 2013 CalGreen Code, 2013 CA Ref Stds Code All as amended by The State Of California and Local Jurisdiction(s).

SHEET INDEX

PROJECT TEAM

OWNER/MANAGER
Mack Larson & Jothi Murali-Larson
larsonmack@icloud.com

DRAFTING FIRM
ECOSTRUCTION
PO BOX 62
Geyserville, CA 95441
ecostruction@att.net
831-588-0234

GEOTECHNICAL ENGINEER
BUTANO GEOTECHNICAL
213 Green Vally Rd. Suite E
Freedom, CA 95019
(831724-2612
www.butanogeotech.com

SURVEY
CARROLL ENGINEERING
1101 S. Winchester Blvd.
#H-184
San Jose, CA 95128
(408) 261-9800
philip@carroll-engineering.com

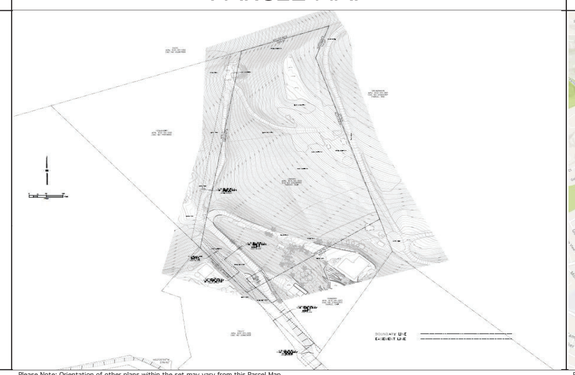
SEPTIC ENGINEER
N/A

STRUCTURAL ENGINEER
THANG LE and ASSOCIATES
319 E. Foothill Blvd.
Arcadia, CA 91006
(626) 538-2702
info@thanglese.com

CIVIL ENGINEER
DVC Group, Inc.
513 Center St.
Healdsburg, CA 95448
(707)775-8986
dan@dvcgroup.net

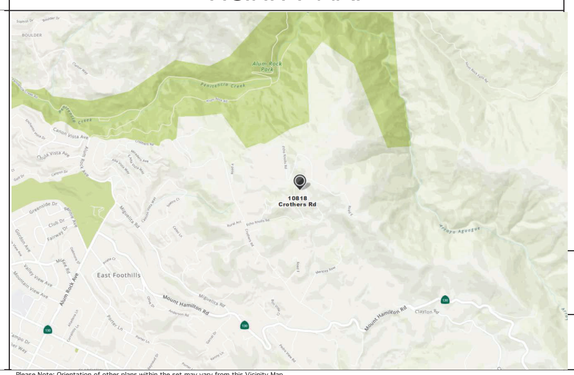
GEOLOGIST
BAYSIDE GEOLOGY
BUTANO GEOTECHNICAL
213 Green Vally Rd. Suite E
Freedom, CA 95019
(831724-2612
www.butanogeotech.com

PARCEL MAP



Please Note: Orientation of other plans within the set may vary from this Parcel Map.

VICINITY MAP



Please Note: Orientation of other plans within the set may vary from this Vicinity Map.

PROJECT SCOPE

New 3500sq. ft Staging and Feed storage Barn. Barn to house Yaks, Feed Heavy agricultural equipment. 'Maks Yaks' Yak breeding.

Print Date: 11/02/2022

Rev	Description	Date:
	Building & Site Approval Application	TBD

Project

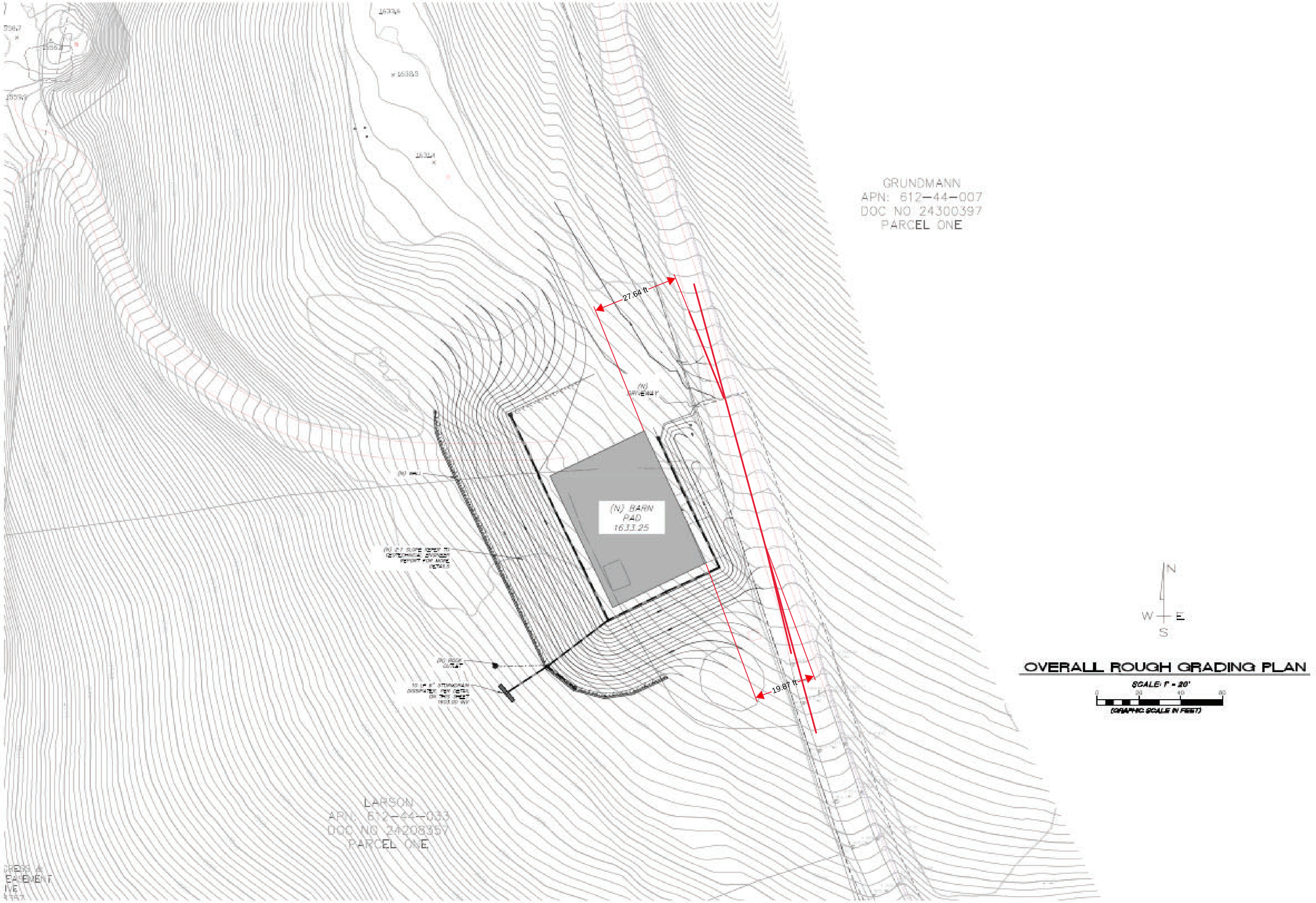
Mack's Yaks
10818 Crothers Rd
San Jose, CA 95127

Date:	Nov. 2022
Project:	#15057
Scale:	As Noted
Drawn by:	Heritage Barn

Sheet Title:

COVER SHEET & PROJECT INFO

A-1



OVERALL ROUGH GRADING PLAN

SCALE: 1" = 20'

0 20 40 80

(GRAPHIC SCALE IN FEET)

REVISED	DATE

DVC GROUP INC.
PLANNING + ENGINEERING + C.M.
676 CENTER STREET
HEALDSBURG, CA. 95448
(707) 395-0888

DANIEL JOHN MORRIS
RCE 90269

DATE

10618 CROTHERS ROAD
OVERALL ROUGH GRADING PLAN

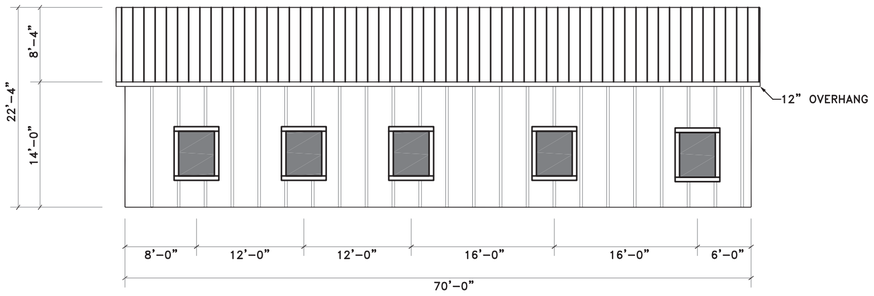
62-44-036
10618 CROTHERS ROAD
SAN JOSE CA.

DECEMBER 07, 2022

JOB NO.
06-21

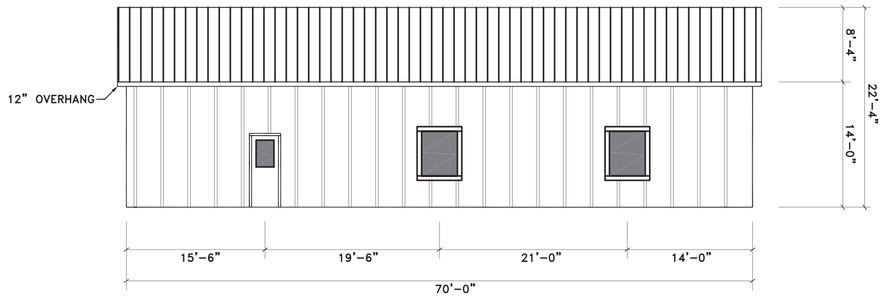
SHEET NO.
C6

OF 7 SHEETS



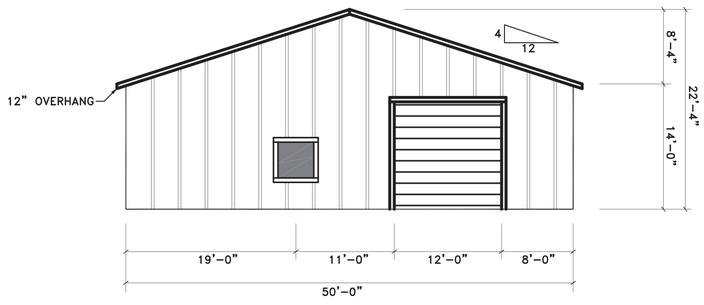
BARN – WEST ELEVATION

SCALE 1/8" = 1'



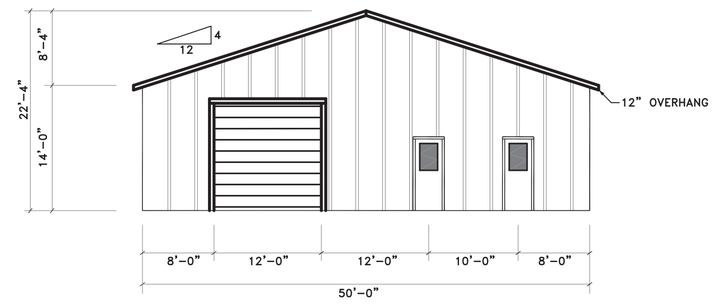
BARN – EAST ELEVATION

SCALE 1/8" = 1'



BARN – SOUTH ELEVATION

SCALE 1/8" = 1'



BARN – NORTH ELEVATION

SCALE 1/8" = 1'

eco-struction

DATE	REVISION	BY

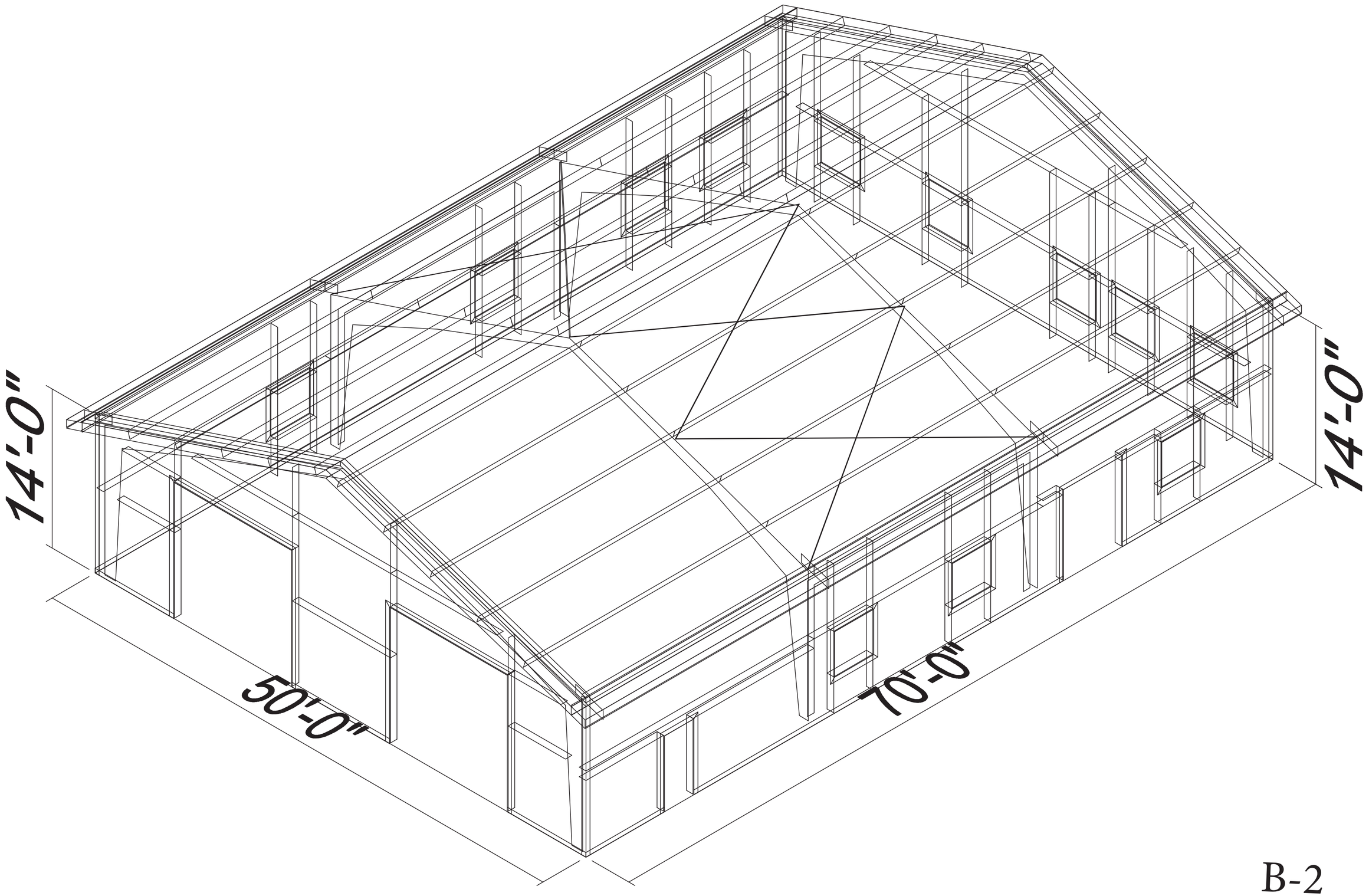
eco-struction

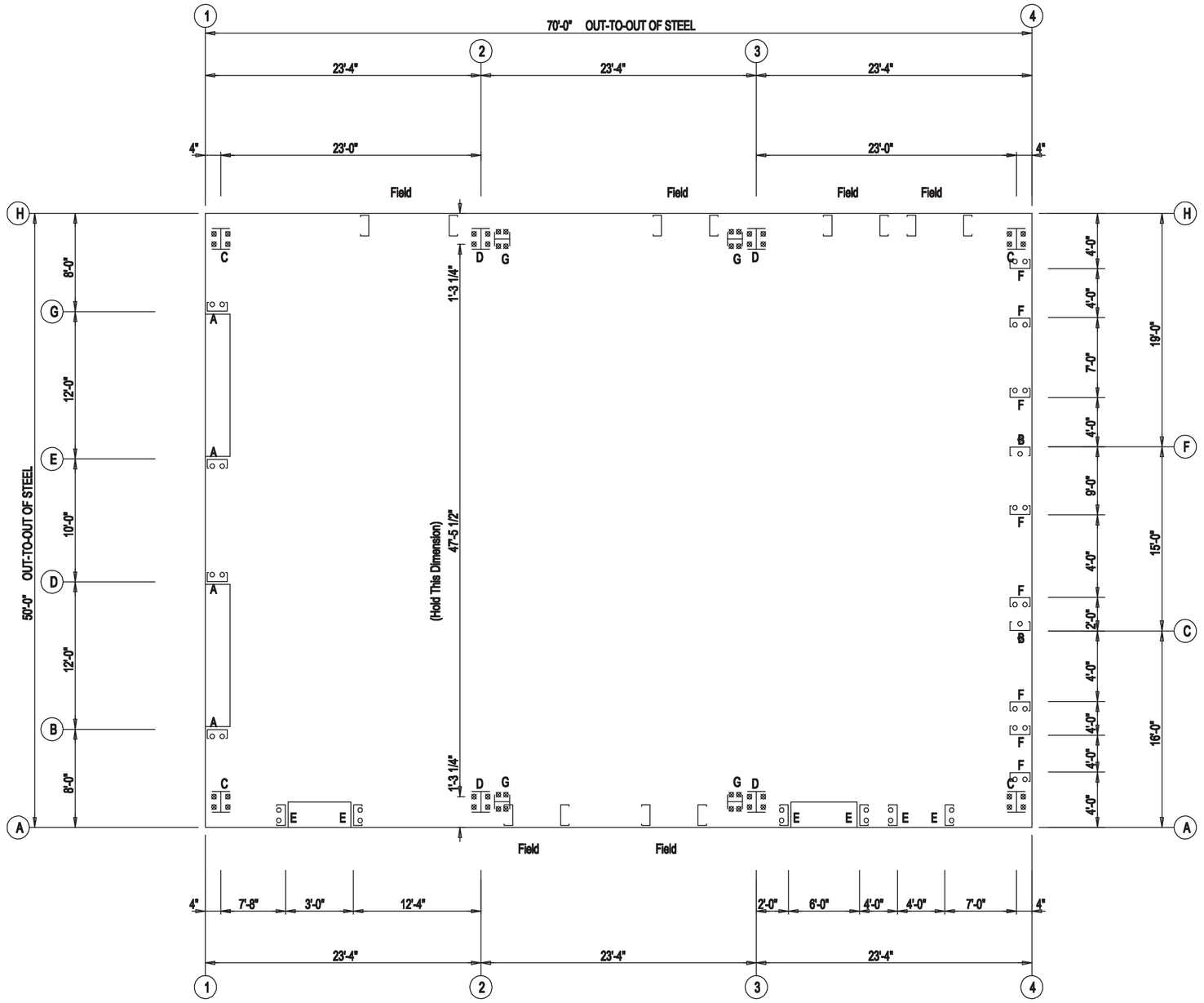
LARSON RESIDENCE
10818 Crothers Road
San Jose, CA 95127

BARN ELEVATIONS

DRAWN: NN
CHECKED: MS
DATE: 1-6-23
SCALE: 1/8"=1'

SHEET
B1


14'-0"
50'-0"
70'-0"
14'-0"



ANCHOR BOLT PLAN

NOTE: ALL BASE PLATES @ 100.0' (U.N.)
ASSUMED FINISH FLOOR @ 100.0' (U.N.)

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD, STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:
CUSTOMER: OWNER:
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		F1	0

A-3

GENERAL NOTES

1) THE REACTIONS PROVIDED ARE BASED ON THE ORDER DOCUMENTS AT THE TIME OF MAILING. ANY CHANGES TO BUILDING LOADS OR DIMENSIONS MAY CHANGE THE REACTIONS. THE REACTIONS WILL BE SUPERSEDED AND VOIDED BY ANY FUTURE MAILING.
2) THE REACTIONS PROVIDED HAVE BEEN CREATED WITH THE FOLLOWING LAYOUT (UNLESS NOTHED OTHERWISE)
 A) A REACTION TABLE IS PROVIDED WITH REACTIONS FOR EACH LOAD GROUP
 B) RIGID FRAMES
  (1) SEE NOTE 3.
 C) ENDWALLS
  (1) SEE NOTE 3.
 D) X-BRACING
  1) X-BRACING REACTIONS ARE INCLUDED IN VALUES SHOWN IN THE REACTION TABLES AS NOTED IN THE BRACING REACTIONS TABLE.
  2) FOR IBC AND UBC BASED BUILDING CODES, WHEN X-BRACING IS PRESENT IN THE SIDEWALL, INDIVIDUAL LONGITUDINAL SEISMIC LOADS DO NOT INCLUDE THE AMPLIFICTION FACTOR, OMEGAo.
  3) FOR IBC AND UBC BASED BUILDING CODES, WHEN X-BRACING IS PRESENT IN THE ENDWALL, INDIVIDUAL TRANSVERSE SEISMIC LOADS DO NOT INCLUDE THE AMPLIFICATION FACTOR, OMEGAo.
 E) THE METAL BUILDING MANUFACTURER IS RESPONSIBLE ONLY FOR THE PORTION OF THE ANCHOR ROD DESIGN PERTAINING TO THE TRANSFER OF FORCES BETWEEN THE BASE PLATE BEARING AND THE ANCHOR ROD'S SHEAR AND TENSION. THE METAL BUILDING MANUFACTURER IS NOT RESPONSIBLE FOR THE ANCHOR ROD EMBEDMENT FOR TRANSFER OF FORCES TO THE FOUNDATION. THE METAL BUILDING MANUFACTURER DOES NOT DESIGN AND IS NOT RESPONSIBLE FOR THE DESIGN, MATERIAL, AND CONSTRUCTION OF THE FOUNDATION EMBEDMENT. THE END USE CUSTOMER SHALL ASSURE THAT ADEQUATE PROVISIONS ARE MADE TO THE FOUNDATION DESIGN FOR LOADS IMPOSED BY COLUMN REACTIONS OF THE BUILDING, OTHER IMPOSED LOADS, AND BEARING CAPACITY OF THE SOIL AND OTHER CONDITIONS OF THE BUILDING SITE. IT IS RECOMMENDED THAT THE ANCHORAGE AND FOUNDATION OF THE BUILDING BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER COMPETENT IN THE DESIGN OF SUCH STRUCTURES.
  I) (REF. APPENDIX A3 OF THE MBMA METAL BUILDING BUILDING SYSTEMS MANUAL)
 F) ANCHOR RODS ARE ASTM F1554 GR. 36 MATERIAL UNLESS NOTED OTHERWISE ON THE ANCHOR ROD LAYOUT DRAWING.
3) REACTIONS ARE PROVIDED AS UN-FACTORED FOR EACH LOAD GROUP APPLIED TO THE COLUMN. THE FACTORS APPLIED TO LOAD GROUPS FOR THE STEEL COLUMN DESIGN MAY BE DIFFERENT THAN THE FACTORS USED IN THE FOUNDATION DESIGN. THE FOUNDATION ENGINEER SHALL APPLY THE APPROPRIATE LOAD FACTORS AND COMBINE THE REACTIONS IN ACCORDANCE WITH THE BUILDING CODE AND DESIGN SPECIFICATIONS FOR PROPER FOUNDATION DESIGN.
 A) FOR PROJECTS USING ULTIMATE DESIGN WIND SPEEDS SUCH AS 2012 IBC, 2015 IBC, OR FLORIDA BUILDING CODE, THE WIND LOAD REACTIONS ARE AT A STRENGTH VALUE WITH A LOAD FACTOR OF 1.0.
 B) FOR IBC CODES, THE SEISMIC REACTIONS PROVIDED ARE AT A STRENGTH LEVEL WITH A LOAD FACTOR OF 1.0, AND DO NOT CONTAIN THE RHO FACTOR.

THE MANUFACTURER DOES NOT PROVIDE "MAXIMUM" LOAD COMBINATION REACTIONS. HOWEVER, THE INDIVIDUAL LOAD REACTIONS PROVIDED MAY BE USED BY THE FOUNDATION ENGINEER TO DETERMINE THE APPLICABLE LOAD COMBINATIONS FOR HIS/HER DESIGN PROCEDURES AND ALLOW FOR AN ECONOMICAL FOUNDATION DESIGN.

ENDWALL COLUMN:

ANCHOR BOLTS & BASE PLATES

Frm Line	Col Line	Anc. Bolt Qty	Anc. Bolt Dia	Base Plate (in) Width	Base Plate (in) Length	Base Plate (in) Thick	Grout (in)
1	G	2	0.625	3.500	8.000	0.250	0.0
1	E	2	0.625	3.500	8.000	0.250	0.0
1	D	2	0.625	3.500	8.000	0.250	0.0
1	B	2	0.625	3.500	8.000	0.250	0.0
4	C	2	0.625	7.000	8.000	0.250	0.0
4	F	2	0.625	7.000	8.000	0.250	0.0

NOTES FOR REACTIONS

BUILDING REACTIONS ARE BASED ON THE FOLLOWING BUILDING DATA:

WIDTH (FT)	= 50
LENGTH (FT)	= 70
EAVE HEIGHT (FT)	= 14 / 14
ROOF SLOPE (rise/12)	= 4.0:12 / 4.0:12
DEAD LOAD (psf)	= 2.500
COLLATERAL LOAD (psf)	= 6
ROOF LIVE LOAD (psf)	= 20.00
FRAME LIVE LOAD (psf)	= 20
ROOF SNOW LOAD (psf)	= 0
GROUND SNOW LOAD (psf)	= 0.00
WIND SPEED (MPH)	= 92
WIND CODE	= CBC 19
EXPOSURE	= C
CLOSED/OPEN	= Closed
IMPORTANCE - WIND	= 1.00
IMPORTANCE - SEISMIC	= 1.00
SEISMIC ZONE	= D

REACTION KEY:

WIND Left/Right 1 = (with +GCpi Internal Pressure)
WIND Left/Right 2 = (with -GCpi Internal Pressure)
Wind_Long 1 = Wind Load Case B at Left EW
Wind_Long 2 = Wind Load Case B at Right EW
MIN_SNOW = Minimum Snow (Pm) per code
E#UNB_SL_L = Endwall Unbalanced Snow Left
E#UNB_SL_R = Endwall Unbalanced Snow Right
F#UNB_SL_L = Rigid Frame Unbalanced Snow Left
F#UNB_SL_R = Rigid Frame Unbalanced Snow Right

ANCHOR BOLT SUMMARY

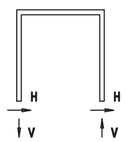
	Qty	Locate	Dia (in)	Type	Proj (in)
○	28	Jamb	5/8"	F1554	2.00
○	12	Endwall	5/8"	F1554	2.00
⊠	32	Frame	3/4"	F1554	2.50
⊠	16	WindCol	3/4"	F1554	2.50

BUILDING BRACING REACTIONS

Wall Loc	Wall Line	Col Line	Reactions in plane of wall ± Reactions(k) Wind Horz	Wind Vert	Seismic Horz	Seismic Vert	Panel_Shear (lb/ft) Wind	Panel_Shear (lb/ft) Seis	Note
L_EW	1								(h)
F_SW	A	2,3							(a)
R_EW	4								(h)
B_SW	H	2,3							(a)

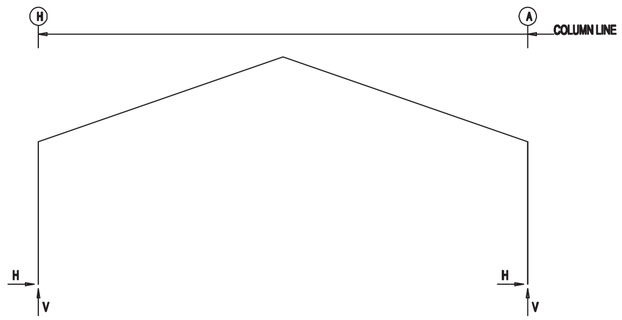
(a)Wind bent in bay
(h)Rigid frame at endwall

WIND BENT REACTIONS



Wall Loc	Wall Line	Col Line	± Reactions Wind(k) Horz	Wind(k) Vert	Seismic(k) Horz	Seismic(k) Vert	Bolt(in) Qty	Bolt(in) Dia	Base_Plate(in) Width	Base_Plate(in) Length	Base_Plate(in) Thick
F_SW	A	2	1.9	2.3	3.2	3.7	4	0.750	6.000	22.500	0.375
F_SW	A	3	1.9	2.3	3.2	3.7	4	0.750	6.000	22.500	0.375
B_SW	H	3	1.9	2.3	3.2	3.7	4	0.750	6.000	22.500	0.375
B_SW	H	2	1.9	2.3	3.2	3.7	4	0.750	6.000	22.500	0.375

FRAME LINES: 1 2 3 4



RIGID FRAME:

ANCHOR BOLTS & BASE PLATES

Frm Line	Col Line	Anc. Bolt Qty	Anc. Bolt Dia	Base Plate (in) Width	Base Plate (in) Length	Base Plate (in) Thick	Grout (in)
1	H	4	0.750	6.000	13.50	0.375	0.0
1	A	4	0.750	6.000	13.50	0.375	0.0

RIGID FRAME:

ANCHOR BOLTS & BASE PLATES

Frm Line	Col Line	Anc. Bolt Qty	Anc. Bolt Dia	Base Plate (in) Width	Base Plate (in) Length	Base Plate (in) Thick	Grout (in)
2*	H	4	0.750	6.000	11.50	0.375	0.0
2*	A	4	0.750	6.000	11.50	0.375	0.0

2* Frame lines: 2 3

RIGID FRAME:

ANCHOR BOLTS & BASE PLATES

Frm Line	Col Line	Anc. Bolt Qty	Anc. Bolt Dia	Base Plate (in) Width	Base Plate (in) Length	Base Plate (in) Thick	Grout (in)
4	H	4	0.750	6.000	13.50	0.375	0.0
4	A	4	0.750	6.000	13.50	0.375	0.0

RIGID FRAME:

BASIC COLUMN REACTIONS (k)

Frame Line	Column Line	Dead Horiz	Dead Vert	Collateral Horiz	Collateral Vert	Live Horiz	Live Vert	Wind_Left1 Horiz	Wind_Left1 Vert	Wind_Right1 Horiz	Wind_Right1 Vert	Wind_Left2 Horiz	Wind_Left2 Vert
1	H	0.6	1.5	1.1	2.1	3.3	7.1	-4.0	-6.6	-0.2	-4.5	-3.9	-4.7
1	A	-0.6	1.5	-1.1	2.1	-3.3	7.1	0.2	-4.5	4.0	-6.6	0.1	-2.5
4	H	0.6	1.5	1.1	2.1	3.3	7.1	-4.0	-6.6	-0.2	-4.5	-3.9	-4.7
4	A	-0.6	1.5	-1.1	2.1	-3.3	7.1	0.2	-4.5	4.0	-6.6	0.1	-2.5
2*	H	1.0	2.2	1.9	3.7	6.1	12.3	-6.0	-9.2	0.6	-6.0	-6.1	-5.9
2*	A	-1.0	2.2	-1.9	3.7	-6.1	12.3	-0.6	-6.0	6.0	-9.2	-0.5	-2.6

Frame Line	Column Line	Wind_Right2 Horiz	Wind_Right2 Vert	Wind_Long1 Horiz	Wind_Long1 Vert	Wind_Long2 Horiz	Wind_Long2 Vert	Seismic_Left Horiz	Seismic_Left Vert	Seismic_Right Horiz	Seismic_Right Vert
1	H	-0.1	-2.5	-0.7	-5.2	-1.5	-4.5	-1.7	-0.9	1.7	0.9
1	A	3.9	-4.7	1.5	-4.5	0.7	-5.2	-1.7	0.9	1.7	-0.9
4	H	-0.1	-2.5	-0.7	-5.2	-1.5	-4.5	-1.7	-0.9	1.7	0.9
4	A	3.9	-4.7	1.5	-4.5	0.7	-5.2	-1.7	0.9	1.7	-0.9
2*	H	0.5	-2.6	-0.7	-7.1	-1.7	-6.3	-2.5	-1.3	2.5	1.3
2*	A	6.1	-5.9	1.7	-6.3	0.7	-7.1	-2.5	1.3	2.5	-1.3

2* Frame lines: 2 3

ENDWALL COLUMN:

BASIC COLUMN REACTIONS (k)

Frm Line	Col Line	Dead Vert	Wind Press Horz	Wind Suct Horz
1	G	0.1	-1.2	1.2
1	E	0.1	-1.7	1.8
1	D	0.1	-1.7	1.8
1	B	0.1	-1.2	1.2
4	C	0.1	-2.2	2.3
4	F	0.1	-2.5	2.7

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS

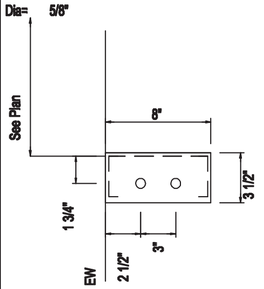
2513 MCCAIN BLVD. STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:
CUSTOMER: OWNER:
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		F2	0

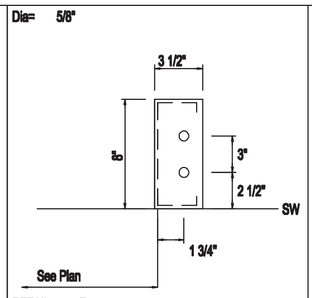
S-1

Dia= 5/8"



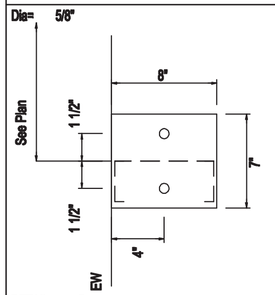
DETAIL A

Dia= 5/8"



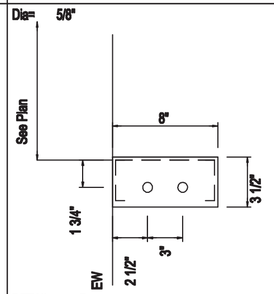
DETAIL E

Dia= 5/8"



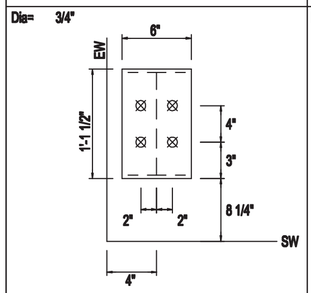
DETAIL B

Dia= 5/8"



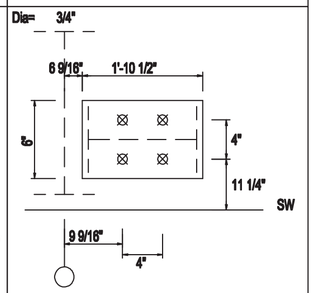
DETAIL F

Dia= 3/4"



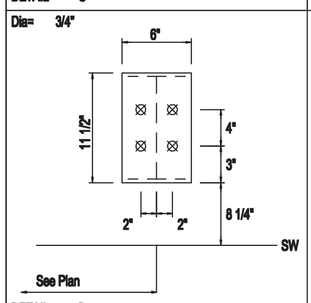
DETAIL C

Dia= 3/4"

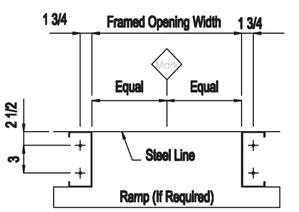


DETAIL G

Dia= 3/4"



DETAIL D



ARDia	Framed Opening AR Layout
5/8"	

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS

2513 MCCAIN BLVD. STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

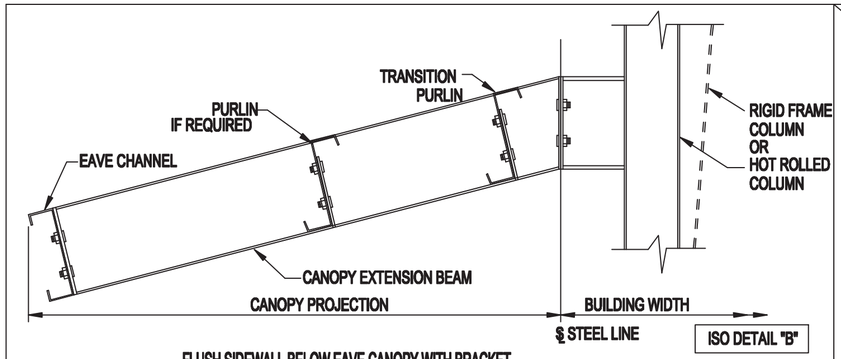
PROJECT:

CUSTOMER: OWNER:

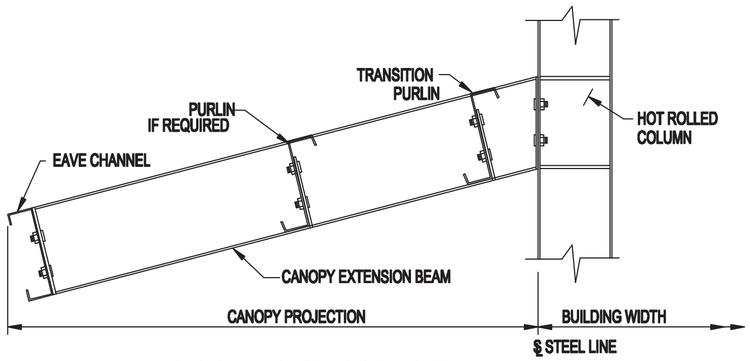
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		F3	0

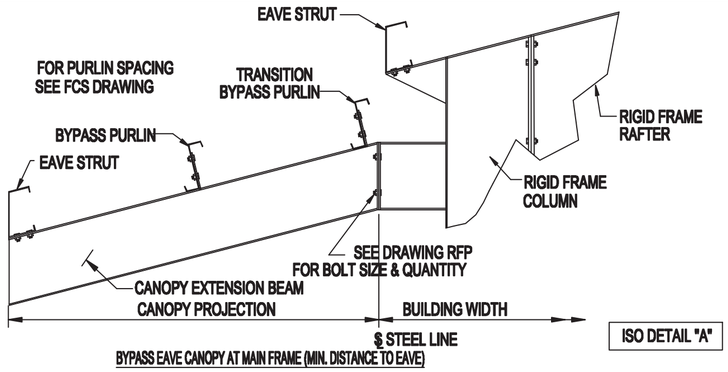
S-2



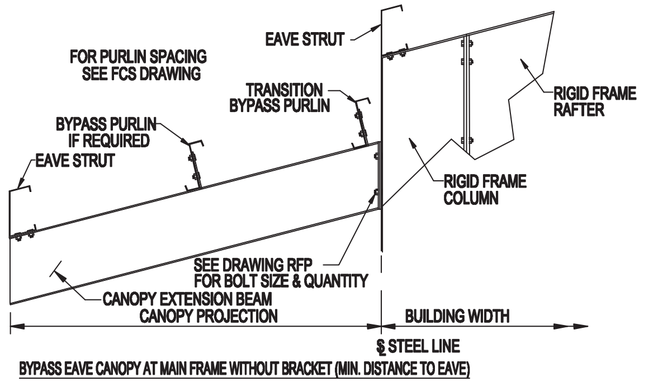
FLUSH SIDEWALL BELOW EAVE CANOPY WITH BRACKET



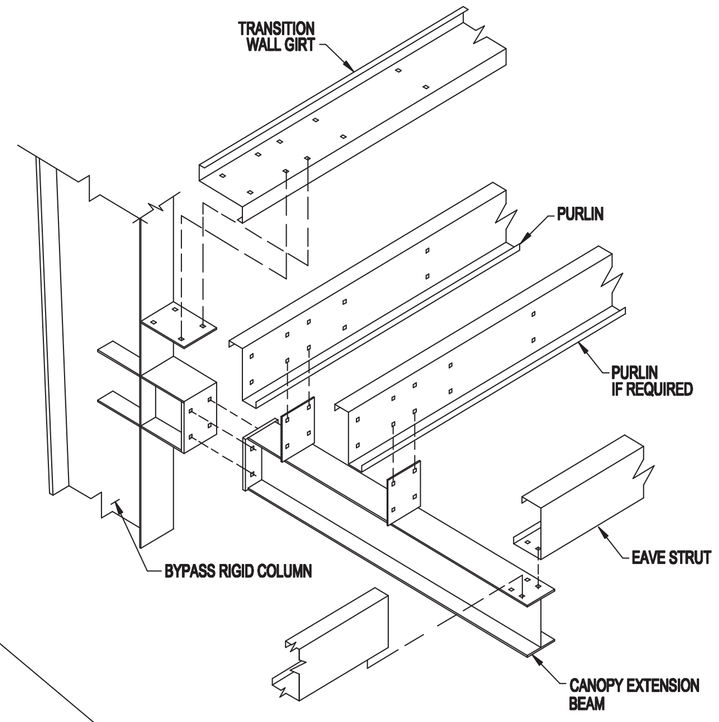
FLUSH ENDWALL CANOPY WITHOUT BRACKET



BYPASS EAVE CANOPY AT MAIN FRAME (MIN. DISTANCE TO EAVE)



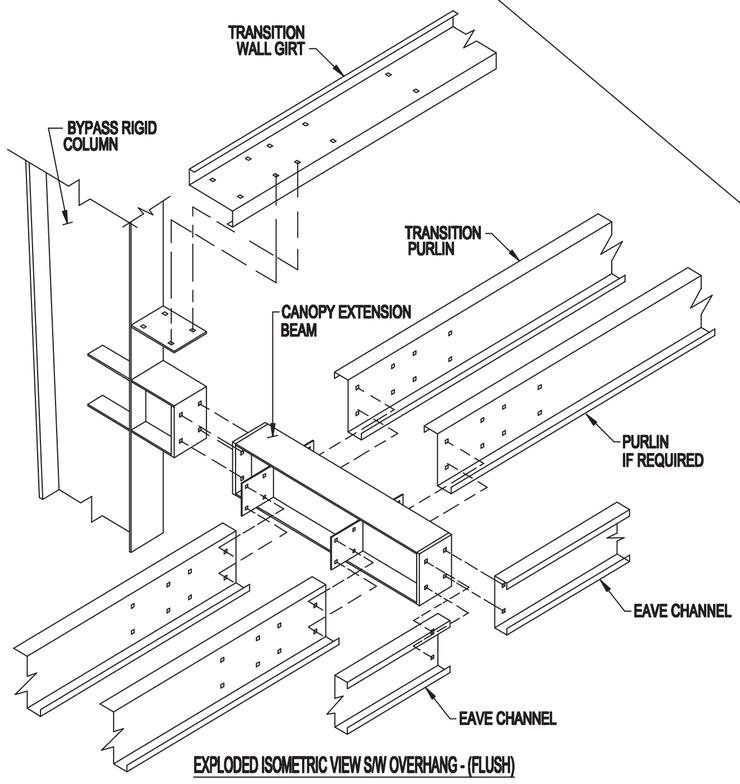
BYPASS EAVE CANOPY AT MAIN FRAME WITHOUT BRACKET (MIN. DISTANCE TO EAVE)



EXPLODED ISOMETRIC VIEW S/W OVERHANG - (BY-PASS)

REFER TO SECTION FOR FASTENERS

ISO DETAIL "A"



EXPLODED ISOMETRIC VIEW S/W OVERHANG - (FLUSH)

REFER TO SECTION FOR FASTENERS

ISO DETAIL "B"

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	9/15/16	FOR ERECTOR INSTALLATION	X	X	X

PROJECT: X

CUSTOMER: X OWNER:

LOCATION: X

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	10/07/2016	N.T.S.	1	A	X		0

S-3

GENERAL NOTES AND DETAILS

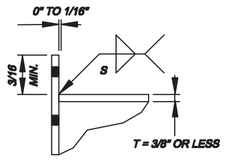
WS-1A Date Issued: July 31, 2020

FLANGE THICK	FILLET S
1/4"	3/16"
5/16"	1/4"
3/8"	5/16"

FILLETS NOT ALLOWED ON CRANE BRACKETS EXCEPT AS NOTED ON WS6. USE DETAILS B2 AND B3 ON CRANE BRACKETS WHERE FILLET WELDS ARE NOT ALLOWED.

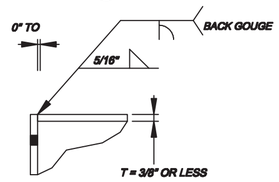
EXTENDED CONNECTION PLATE AND BRACKET TO FLANGE

B1



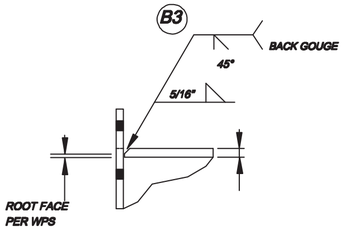
FLUSH OR RECESSED CONNECTION PLATE AND BRACKET TO FLANGE

B2



EXTENDED, FLUSH OR RECESSED CONNECTION PLATE AND BRACKET TO FLANGE

B3



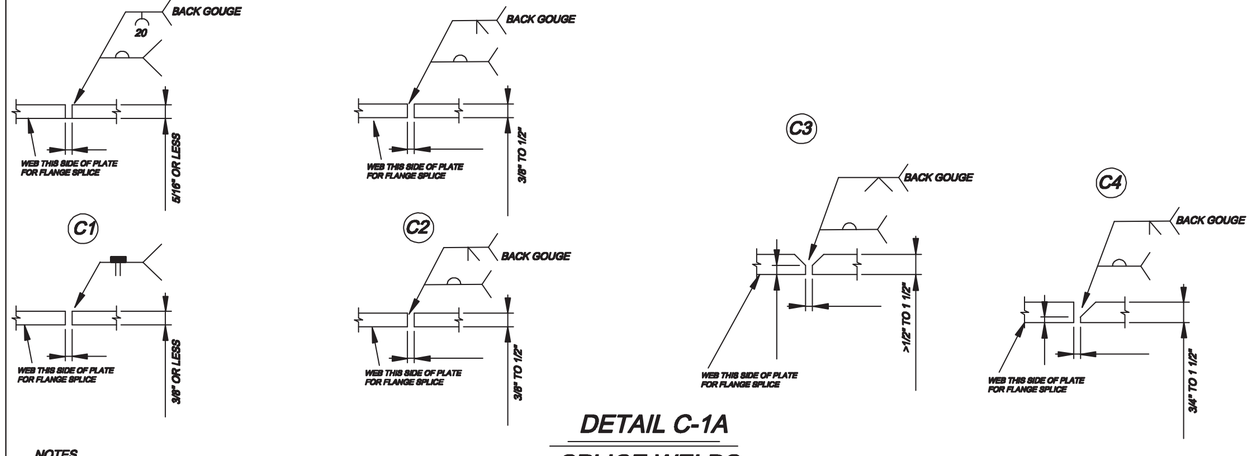
DETAIL B-1A GENERAL USAGE GUIDELINES

CONDITION	LIMIT(S)	DETAIL TO USE
FLANGE TO CONNECTION PLATE	FLANGE THICKNESS LESS THAN OR EQUAL TO 3/8" CONNECTION PLATE IS EXTENDED PAST FLANGE ENOUGH TO ALLOW REQUIRED FILLET SIZE	B1
	FLANGE THICKNESS LESS THAN OR EQUAL TO 3/8" CONNECTION PLATE IS FLUSH TO RECESSED TO FLANGE SURFACE	B2
	FLANGE THICKNESS GREATER THAN 3/8"	B3
CRANE BRACKET TO FLANGE	BRACKET FLANGE THICKNESS LESS THAN OR EQUAL TO 3/8"	B2
	BRACKET FLANGE THICKNESS GREATER THAN 3/8"	B3
NON-CRANE BRACKET TO FLANGE	NON-CRANE BRACKET FLANGE THICKNESS LESS THAN OR EQUAL TO 3/8"	B1
	NON-CRANE BRACKET FLANGE THICKNESS GREATER THAN 3/8"	B3
COLUMN FLANGE TO MOMENT BASE PLATE, STIFFENER TO CONNECTION PLATE OR ANY CONDITION CALLING FOR DETAIL B-1A BUT NOT MENTIONED ABOVE.	WELDED PLATE THICKNESS LESS THAN OR EQUAL TO 3/8" PLATE IS EXTENDED PAST WELDED PLATE ENOUGH TO ALLOW REQUIRED FILLET SIZE	B1
	WELDED PLATE THICKNESS LESS THAN OR EQUAL TO 3/8" PLATE DOES NOT EXTEND PAST WELDED PLATE ENOUGH TO ALLOW REQUIRED FILLET SIZE	B2
	WELDED PLATE THICKNESS GREATER THAN 3/8"	B3

DETAIL B-1A

SEE NOTE C2 AND C3 IN DETAIL C-1A

FLANGE TO CONNECTION PLATE AND BRACKET TO FLANGE



DETAIL C-1A

SPLICE WELDS

NOTES

C2 ANY PREQUALIFIED OR "PROCEDURE QUALIFIED" CJP WELD MAY ALSO BE USED FOR DETAILS B-1A AND C-1A, WITH A WRITTEN CBB APPROVED WPDS.
C3 SEE GENERAL NOTE 7 FOR RUN TAB REQUIREMENTS

1:2 1/2 THICKNESS TRANSITION REQUIRED FOR CANADA PROJECTS

TABLE 1
MIN. FILLET WELD SIZES

THICKER PLATE	THINNER PLATE (USUALLY THE WEB)						
	< 1/4"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
UNDER 1/4	3/16"	-	-	-	-	-	-
1/4"	3/16"	3/16"	-	-	-	-	-
5/16 THRU 1/2	3/16"	3/16"	3/16"	3/16"	3/16"	-	-
5/8 THRU 3/4	3/16"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
OVER 3/4	3/16"	1/4"	5/16"	5/16"	5/16"	5/16	5/16"

TABLE 2
GENERAL FILLET WELDS

THINNER PLATE THICKNESS	ONE SIDE FILLET SIZE	BOTH SIDES FILLET SIZE
UNDER 1/4	3/16"	3/16"
1/4"	1/4"	3/16"
5/16"	5/16"	1/4"
OVER 5/16	5/16"	5/16"

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

GENERAL NOTES

1. ALL SAW WEB TO FLANGE WELDS TO BE CONTINUOUS ONE SIDE ONLY UNLESS NOTED ON FABRICATION DOCUMENTS.
2. INCREASE FILLET SIZE BY 1/16 FOR EACH 1/16 OF GAP IF GAP AT ROOT IS GREATER THAN 1/16. MAXIMUM FILLET ROOT PERMITTED IS 3/16. SEE DETAIL D-1A ON THIS SHEET.
3. FILLET WELD SIZE IS NO GREATER THAN THE SHORTEST LEG SIZE.
4. FOLLOW APPROPRIATE WELDING PROCEDURE SPECIFICATIONS FOR ALL WELDS,
5. ALL CLIPS SHOULD BE WELDED AT 90-DEG TO THEIR SUPPORTING SURFACE UNLESS OTHERWISE NOTED IN THESE DRAWINGS OR THE PROJECT SHOP DRAWINGS.
6. SC2 AND SC280 FLANGE BRACE CLIPS SHOULD BE ALIGNED WITH THE PURLIN/GIRT CLIP ABOVE. REFER TO DETAIL ON SHEET WS-5. REFER TO DETAIL ON SHEET WS-5.
7. WELD RUN-TABS (RUN-ON AND RUN-OFF) SHALL BE USED ON ALL CJP CONNECTIONS, EXCEPT WHERE JOINT GEOMETRY AND/OR INTERFERENCE PREVENT THE PLACEMENT OF A WELD TAB. THIS SHALL BE DONE BY USE OF WELD TABS ALIGNED IN SUCH A MANNER TO PROVIDE AN EXTENSION OF THE JOINT PREPARATION FOR PURPOSE OF WELD PASS INITIATION AND TERMINATION. STIFFENER WELDS ENDING AT OR THE INSIDE CORNER OF THE STIFFENED MEMBER OR A CLIP NEAR THAT CORNER ARE EXAMPLES OF WELDS THAT CANNOT BE TERMINATED ON A WELD TAB. WELD RUN-TABS SHALL BE REMOVED UPON COMPLETION OF THE JOINT. ENDS OF WELDED BUT JOINTS SHALL BE FINISHED SO AS NOT TO REDUCE THE WIDTH BEYOND THE DETAILED WIDTH OR THE ACTUAL WIDTH FURNISHED, WHICHEVER IS THE GREATER, BY MORE THAN 1/8".

DETAIL A-1A

FILLET INCREASE AT SKEWED WELD JOINTS

THE FOLLOWING TABLES PROVIDE THE REQUIRED MODIFICATION TO THE REQUESTED/REQUIRED FILLET WELD BASED ON THE JOINT GEOMETRY.

NC - INDICATES THAT NO CHANGE TO THE REQUESTED/REQUIRED FILLET WELD IS REQUIRED.
CJP - INDICATES THE REQUESTED/REQUIRED FILLET WELD MUST BE REPLACED BY A CJP WELD.
+1/16 - INDICATES THE REQUESTED/REQUIRED FILLET WELD LEG SIZE MUST BE INCREASE BY 1/16" DUE TO THE SKEWED JOINT.
+1/8 - INDICATES THE REQUESTED/REQUIRED FILLET WELD LEG SIZE MUST BE INCREASE BY 1/8" DUE TO THE SKEWED JOINT.
+3/16 - INDICATES THE REQUESTED/REQUIRED FILLET WELD LEG SIZE MUST BE INCREASE BY 3/16" DUE TO THE SKEWED JOINT.
GENERAL NOTE 2 IS IN ADDITION TO ANY INCREASE SHOWN IN THE TABLES BELOW.
WHEN THE FILLET SIZE MUST BE INCREASED THE FINAL FILLET WELD SIZE SHALL NOT EXCEED 3/8". IF THE FINAL FILLET WELD SIZE EXCEEDS 3/8" THEN USE CJP.

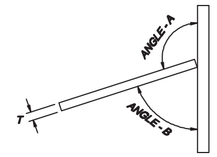
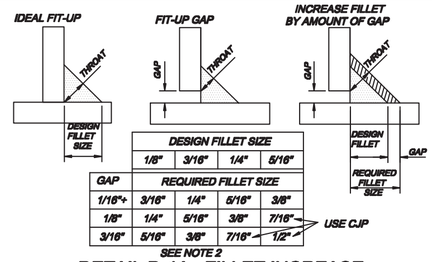


TABLE D-1
REQUIRED MODIFICATION TO FILLET WELD ON ANGLE-B SIDE OF PLATE

	ANGLE-B (DEGREES)			
T (IN.)	60< ANGLE-B ≤ 90	45< ANGLE-B ≤ 60	30< ANGLE-B ≤ 45	_ _
0.1340	NC	+1/16	CJP	
0.1560	NC	+1/16	CJP	
0.1850	NC	+1/16	CJP	
5/16"	NC	+1/16	CJP	
1/2"	NC	+1/16	CJP	
> 5/8"	NC	+1/16	CJP	

TABLE D-2
REQUIRED MODIFICATION TO FILLET WELD ON ANGLE-A SIDE OF PLATE

	ANGLE-A (DEGREES)							
T (IN.)	90 ANGLE-A< 96	96< ANGLE-A< 106	106< ANGLE-A< 119	119< ANGLE-A< 125	125< ANGLE-A< 135	ANGLE-A > 135	_ _	_ _
0.1340	NC	+1/16	+1/8	+3/16	CJP			
0.1560	NC	+1/16	+1/8	+3/16	CJP			
0.1850	NC	+1/16	+3/16	+3/16	CJP			
3/16"	NC	+1/16	+3/16	+3/16	CJP			
1/4"	NC	+1/8	+3/16	+3/16	CJP	CJP		
5/16"	NC	+1/8	+3/16	CJP	CJP	CJP		
3/8"	+1/16	+1/8	+3/16	CJP	CJP	CJP		
1/2"	+1/16	+3/16	+3/16	CJP	CJP	CJP		
> 5/8"	+1/8	+3/16	CJP	CJP	CJP	CJP		



GAP	DESIGN FILLET SIZE 1/8"	3/16"	1/4"	5/16"
	REQUIRED FILLET SIZE			
1/16"+	3/16"	1/4"	5/16"	3/8"
1/8"	1/4"	5/16"	3/8"	7/16"
3/16"	5/16"	3/8"	7/16"	1/2"

USE CJP

SEE NOTE 2

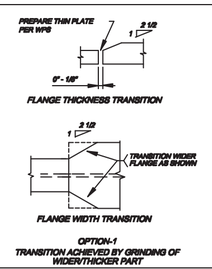
DETAIL D-1A FILLET INCREASE

PROJECT:						
CUSTOMER:				OWNER:		
LOCATION:						
CAD	DATE	SCALE N.T.S.	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER / ISSUE

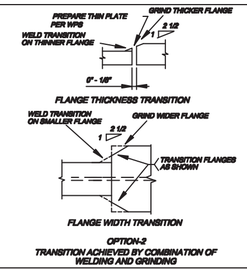
S-4

GENERAL NOTES AND DETAILS

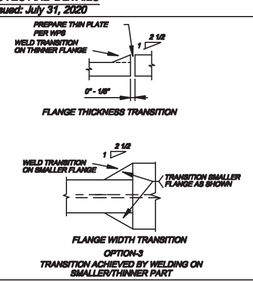
WS-1B Date Issued: July 31, 2020



OPTION-1
TRANSITION ACHIEVED BY GRINDING OF WIDER/THICKER PART



OPTION-2
TRANSITION ACHIEVED BY COMBINATION OF WELDING AND GRINDING



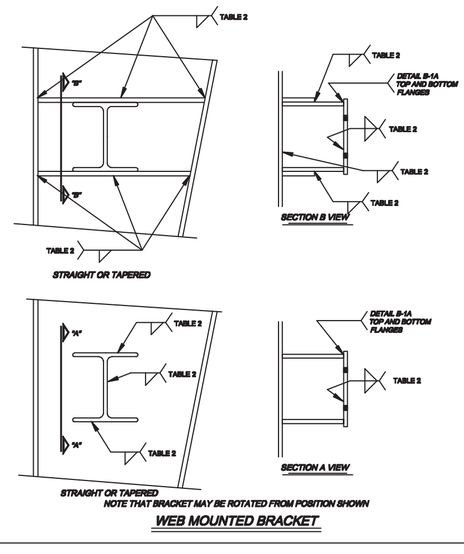
OPTION-3
TRANSITION ACHIEVED BY WELDING ON SMALLER/THINNER PART

FOR CANADA JOBS ONLY

TRANSITION CAN BE ACHIEVED BY WELDING ON THE THINNER/SMALLER PLATE (OPTION-3), BY GRINDING THE THICKNER/WIDER PLATE (OPTION-1) OR BY A COMBINATION OF BOTH (OPTION-2) TO GET THE REQUIRED 1:2 1/2 TRANSITION.
AT KNEE CONNECTION PLATES THIS TRANSITION MUST BE ACHIEVE BY USING OPTION-3, WELDING ON THE THINNER/SMALLER PLATE. DO NOT MODIFY THE KNEE CONNECTION PLATE TO GET THE REQUIRED 1:2 1/2 TRANSITION.
FOR STEPPED THICKNESS, THINNER PLATE END PREPARATION MAY BE USED IF TRANSITION OF THICKER PLATE IS PREPARED PRIOR TO WELDING.

END PLATE WELD GUIDANCE FOR GENERIC BEAMS BASED ON PARENT PIECE MARK

PARENT MARK PREFIX	DESCRIPTION	SHEET	DETAIL	SHEET DETAIL		
BB× (see note 1)	Bracket	NA	WS-2	Below Eave Bracket		
	Crane End Stop	End Plate Weld Requirements must be provided by the design engineer				
BG×	Beam, OR Girt	WS-5 M-5 and L-5	WS-5	Detail D-5		
BM×	Mezzanine Beam	WS-5 M-5 and L-5	WS-5	Detail D-5		
BP×	Purlin, Post or Column Beam	WS-5 M-5 and L-5	WS-5	Detail D-5		
BR×	Roof Beam	WS-5 M-5 and L-5	WS-5	Detail D-5		
BS×	Spandrel Beam	WS-5 M-5 and L-5	WS-5	Detail D-5		
BW×	Wall Beam	WS-5 M-5 and L-5	WS-5	Detail D-5		
BE×	Underhung Crane Bracket Extension	NA	WS-6	Underhung Crane Bracket Extension		



WEB MOUNTED BRACKET

SEAL WELD NOTES:

1. *SEAL WELDS SHALL ONLY BE PROVIDED WHEN SPECIFICALLY REQUESTED ON THE SHOP DRAWINGS.*
2. *SEAL WELDS SHALL MEET ALL THE SAME QUALITY AND WORKMANSHIP REQUIREMENTS AS ANY OTHER WELD ON A MEMBER AND CRITERIA OF SECTION 1.5.8 OF THE CSB WELD MANUAL AND CLAUSE 5.4.10 OF CSA W59-13.*
3. *SEAL WELD SIZE SHALL BE PER TABLE 2 SHOWN ON THE WELD STANDARD DRAWINGS*
4. *FOR MEMBERS REQUIRING SEAL WELDS CSB WILL PROVIDE MEMBERS TO MEET CLASS I OR CLASS II CRITERIA AS DEFINED BY AMERICAN GALVANIZERS ASSOCIATION (AGA) UNLESS OTHERWISE SPECIFICALLY REQUESTED BY THE CUSTOMER. PROPER VENTING FOR OVERLAPPING PARTS SHALL BE PROVIDED IN THE FORM OF UNWELDED PORTIONS OR HOLES PER TABLE4 SHOWN ON THIS SHEET FOR ALL MEMBERS TO BE HOT DIPPED GALVANIZED AFTER FABRICATION.*

Table 4

VENT HOLES FOR OVERLAPPED AREAS FOR STEELS 1/2 in. (12.75 mm) OR LESS IN THICKNESS		
OVERLAPPED AREA in.2(cm2)	VENT HOLES	UNWELDED AREA
UNDER 16 (103)	NONE	NONE
16 (103) TO UNDER 64 (413)	ONE 3/8 in. (1 cm)	1 in. (2.5 cm)
64 (413) TO UNDER 400 (2580)	ONE 1/2 in. (1.28 cm)	2 in. (5.1 cm)
400 (2580) AND GREATER, EACH 400 (2580)	ONE 3/4 in. (1.91 cm)	4 in. (10.2 cm)
VENT HOLES FOR OVERLAPPED AREAS FOR STEELS GREATER THAN 1/2 in. (12.75 mm) IN THICKNESS		
OVERLAPPED AREA in.2(cm2)	VENT HOLES	UNWELDED AREA
UNDER 16 (103)	NONE	NONE
16 (103) TO UNDER 64 (413)	NONE	NONE
64 (413) TO UNDER 400 (2580)	ONE 1/2 in. (1.28 cm)	2 in. (5.1 cm)
400 (2580) AND GREATER, EACH 400 (2580)	ONE 3/4 in. (1.91 cm)	4 in. (10.2 cm)

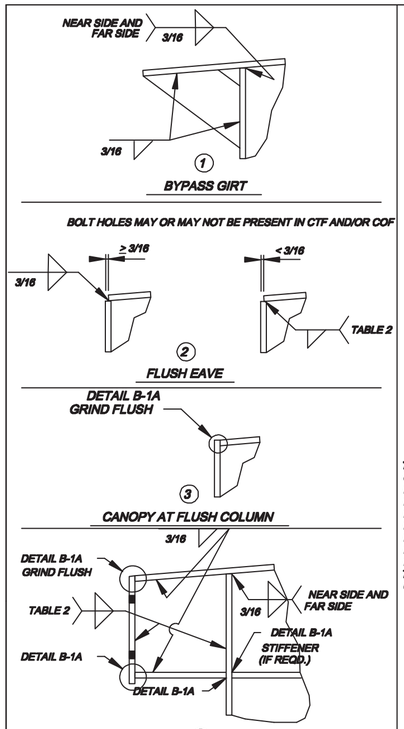
SEAL WELDS

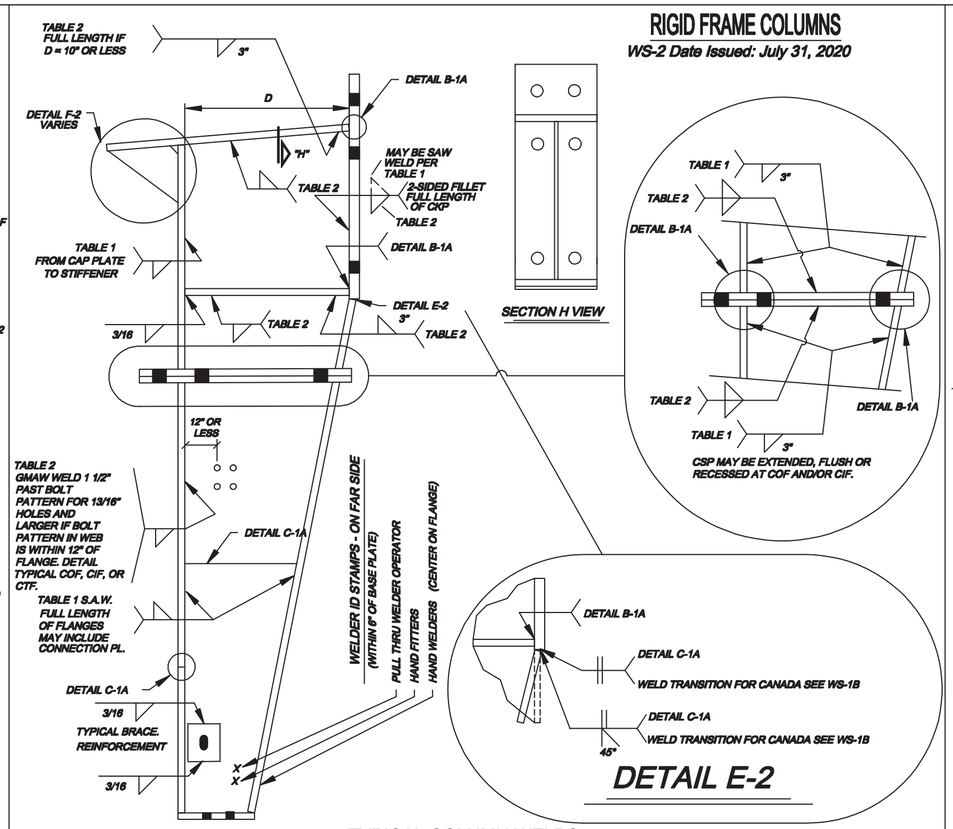
ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

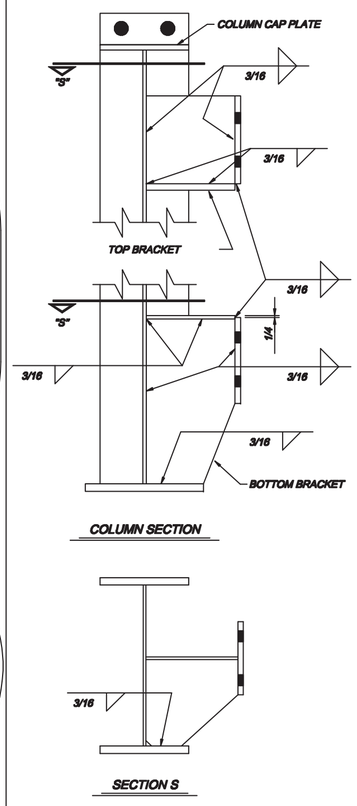
PROJECT:
CUSTOMER: OWNER:
LOCATION:

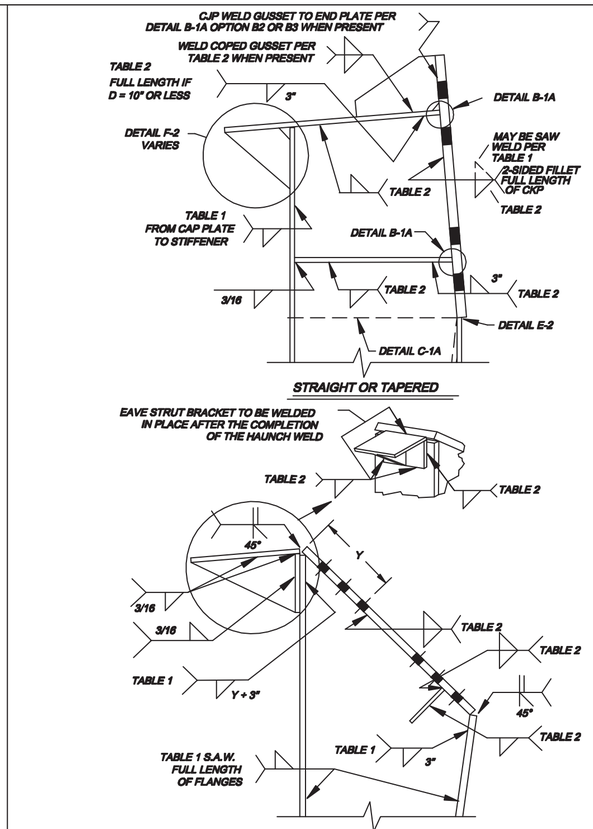
CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
		N.T.S.					

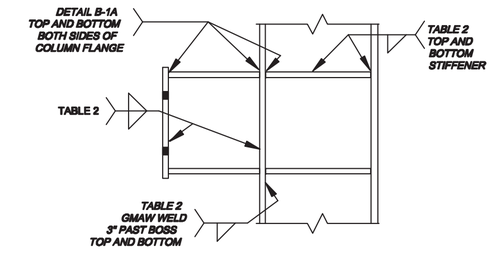
S-5

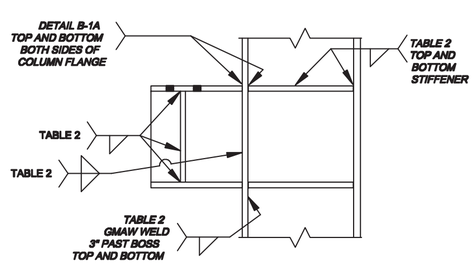


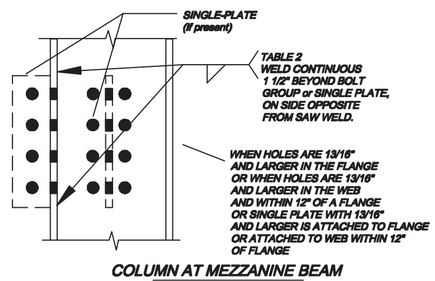




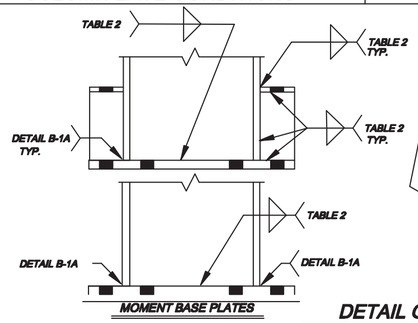




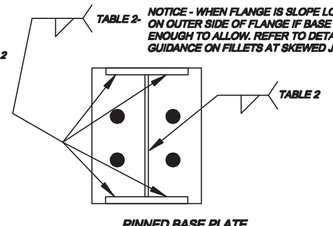




DETAILS RELATED TO MEZZANINE



DETAIL G-2



ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
		N.T.S.					

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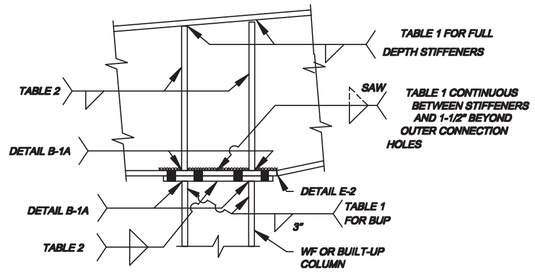
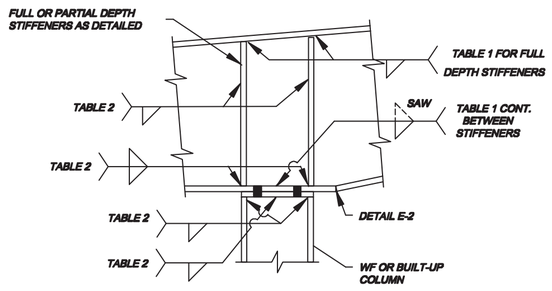
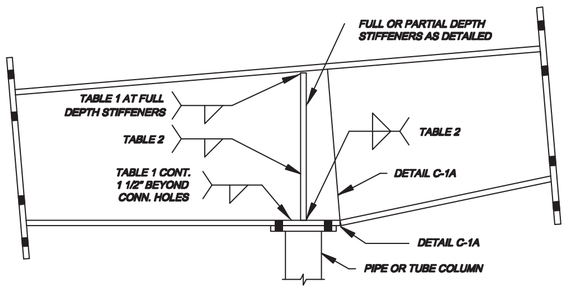
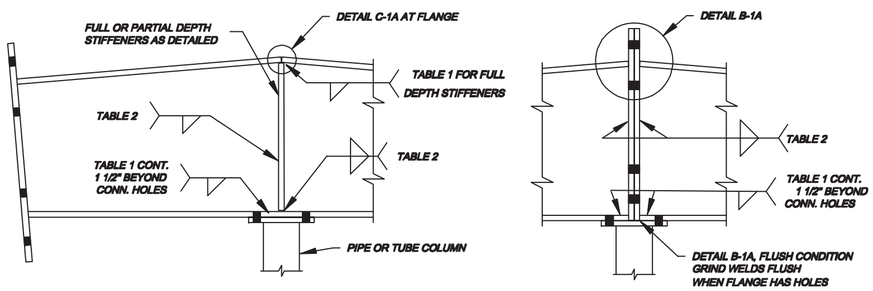


COLUMN MOMENT CONNECTION
(HAS BOLTS OUTSIDE OF FLANGES OR STIFFENER)



COLUMN PINNED CONNECTION
(ALL HOLES INSIDE OF FLANGES OR STIFFENERS)

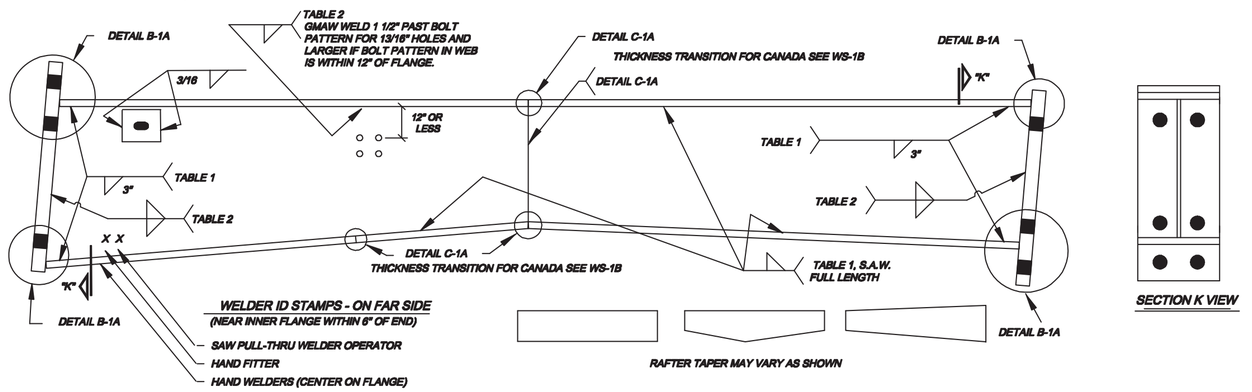




RAFTER INTERIOR SUPPORTS

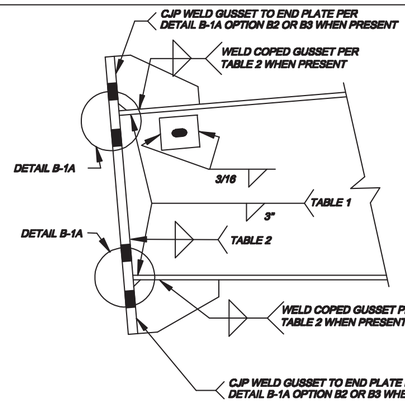
RIGID FRAME RAFTERS

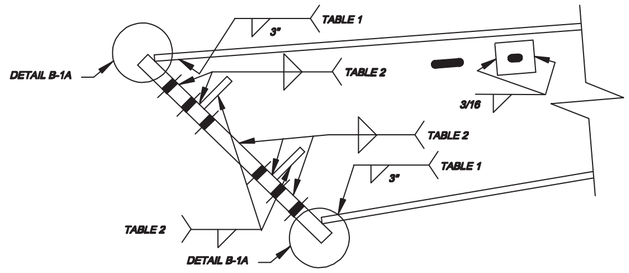
WS-3 Date Issued: July 31, 2020



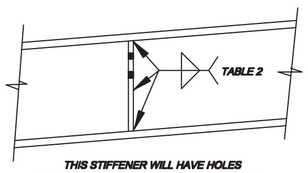
SECTION K VIEW

TYPICAL RAFTER WELDS





RAFTER MAY VARY AS SHOWN



THIS STIFFENER WILL HAVE HOLES
AND MAY OCCUR ON ONLY ONE SIDE OF WEB

HIP RAFTER STIFFENER
FOR SKEWED RAFTER SUPPORT

		DESCRIPTION	BY	CK'D	DSN								
						PROJECT:							
						CUSTOMER:				OWNER:			
						LOCATION:							
						CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
								N.T.S.					

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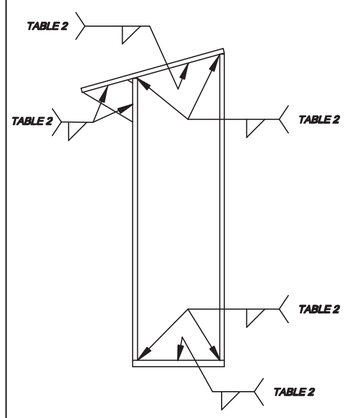
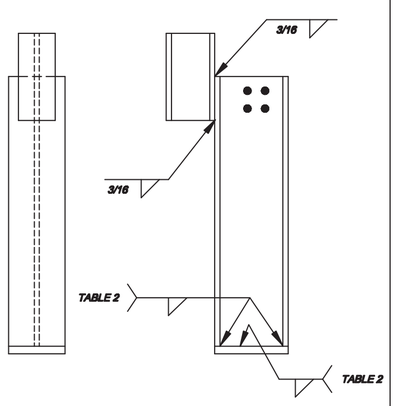
COLUMNS

WS-4 Date Issued: July 31, 2020

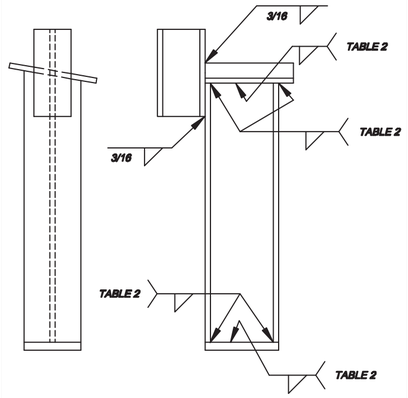


CORNER COLUMN



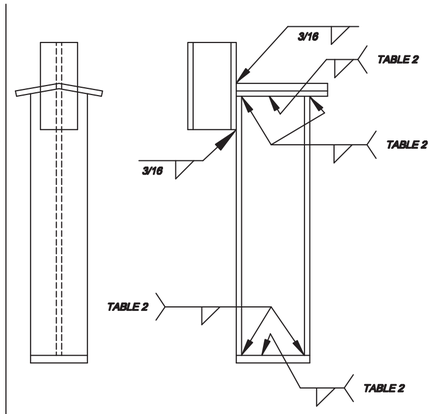
ENDWALL COLUMN

(AT RIGID FRAME)



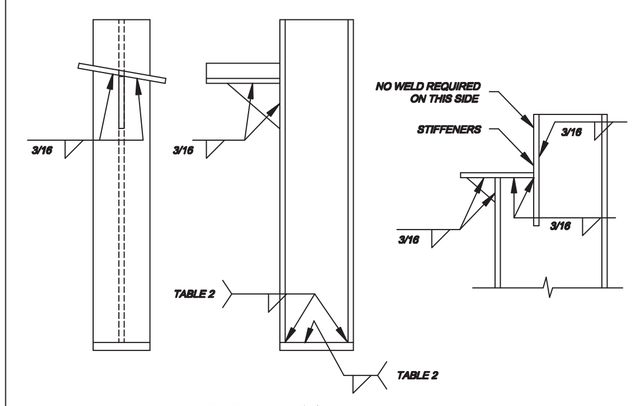
ENDWALL COLUMN

(BYPASS GIRT)



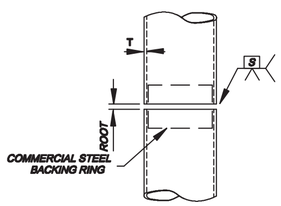
ENDWALL COLUMN

(BYPASS GIRT)



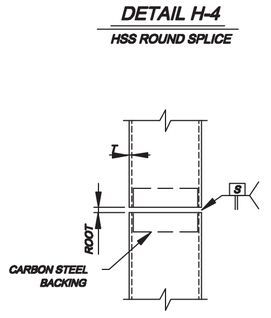
ENDWALL COLUMN

(FLUSH OR INSET GIRT)



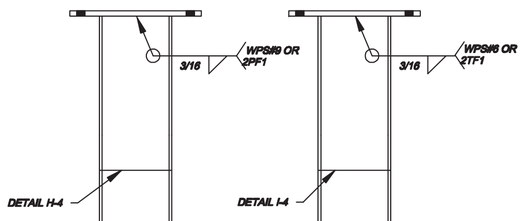
DETAIL H-4

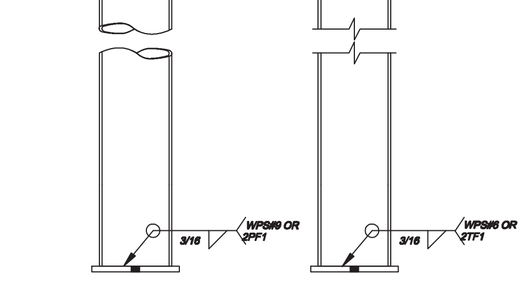
HSS ROUND SPLICE



DETAIL I-4

RECTANGULAR TUBING SPLICE





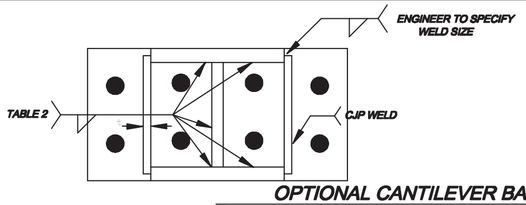
PIPE

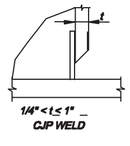
RECT. TUBE

WELDS LARGER THAN THESE STANDARD SIZES MAY BE REQUIRED
REFER TO FABRICATION DOCUMENTS

INTERIOR PIPE OR TUBE COLUMNS

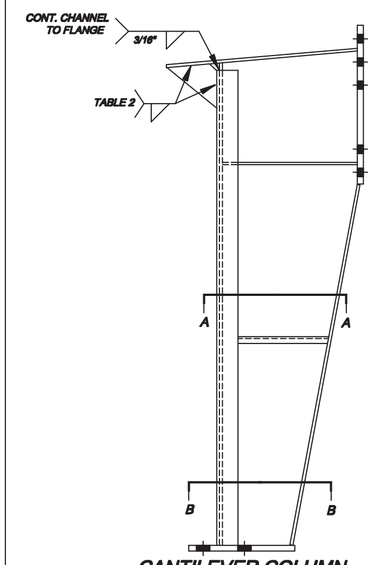
ANY PREQUALIFIED OR "PROCEDURE QUALIFIED" FULL PEN WELD MAY ALSO BE USED WITH COMPANY APPROVED WPS.



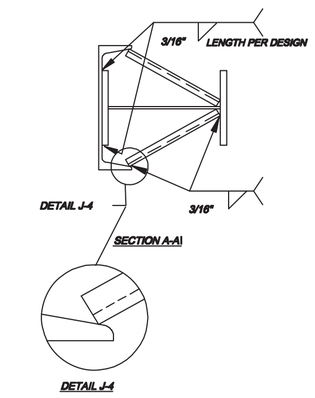


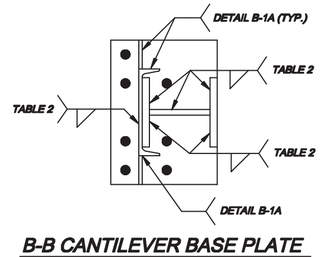
OPTIMAL CANTILEVER BASE PLATE

STRAIGHT COLUMN WITH DEPTH RESTRICTIONS

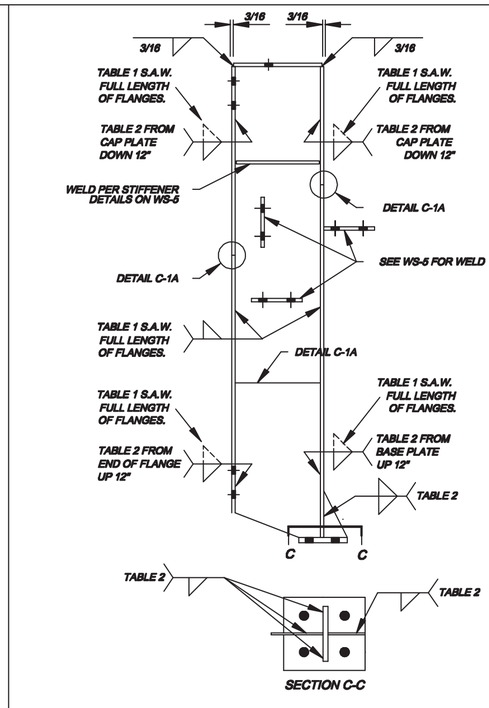


CANTILEVER COLUMN





B-B CANTILEVER BASE PLATE



FIXED BASE CANTILEVER COLUMN

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
		N.T.S.					

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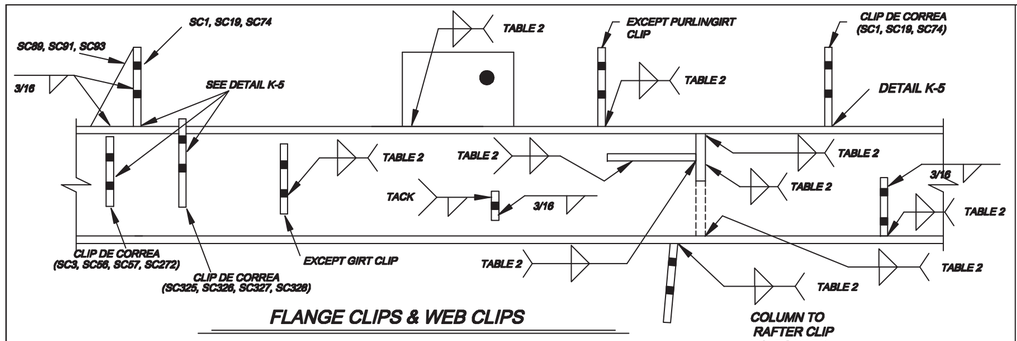
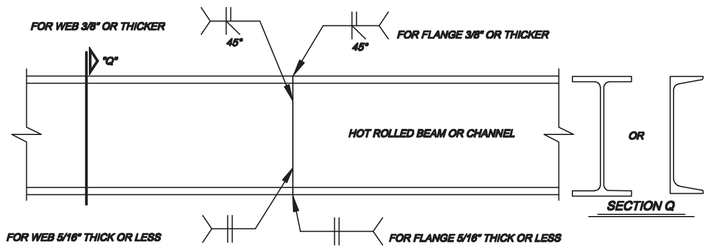


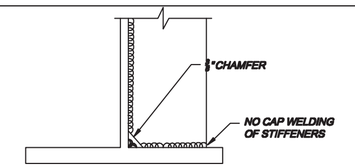
FLANGE CLIPS & WEB CLIPS

BEAM WELDING

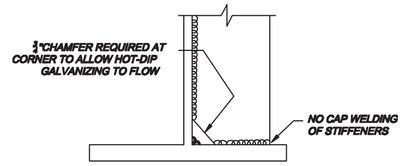
WS-5 Date Issued: July 31, 2020



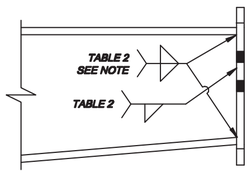
HOT ROLLED BEAM OR CHANNEL SPLICE



STIFFENER WELDING DETAIL FOR MEMBERS TO BE PRIMED or PAINTED

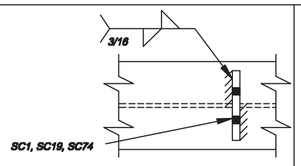


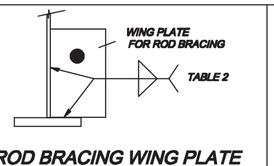
STIFFENER WELDING DETAIL FOR MEMBERS TO BE HOT-DIPPED GALVANIZED



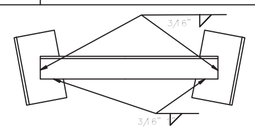
NOTE: IF CONNECTION PLATE IS 3/8 THICK OR MORE THEN WELD PER DETAIL B-1A.

DETAIL N-5
END RAFTER
STRAIGHT OR TAPERED BEAM

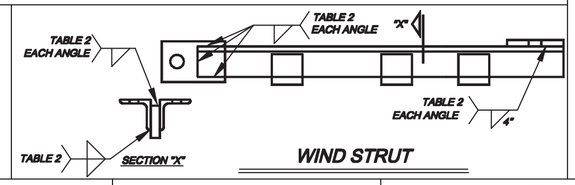




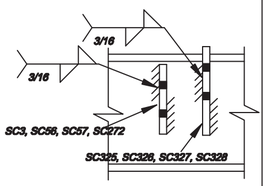
ROD BRACING WING PLATE



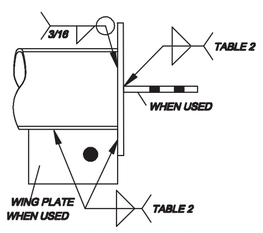
RIDGE-TIE (PC80)



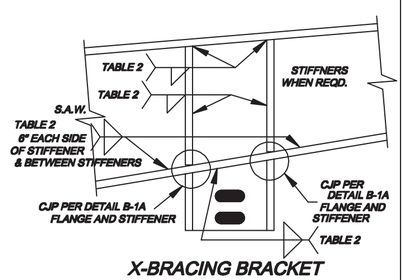
WIND STRUT



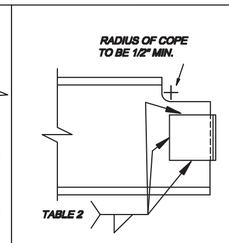
DETAIL K-5
CBB PURLIN/GIRT CLIP



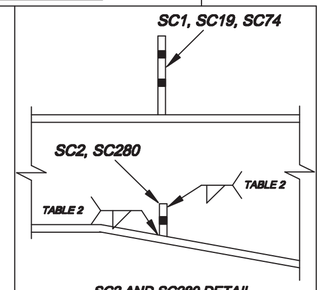
PIPE STRUT



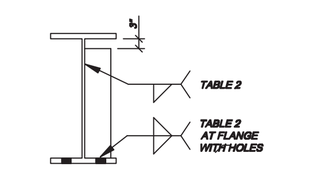
X-BRACING BRACKET



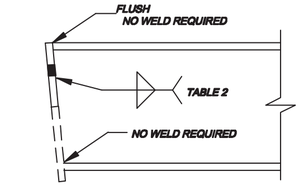
STANDARD SHEAR CONNECTION AND COPES



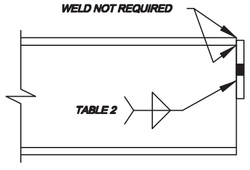
SC2 AND SC280 DETAIL



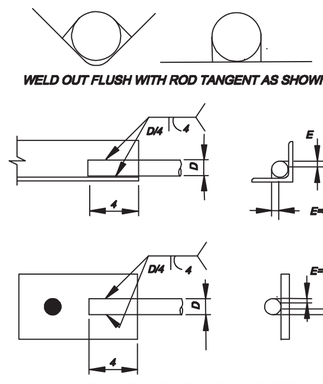
BEARING STIFFENER



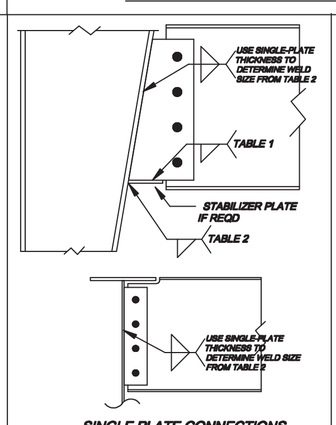
DETAIL M-5
PARTIAL OR FULL DEPTH END PLATE FLUSH AT TOP FLANGE
END RAFTER AT CORNER COLUMN



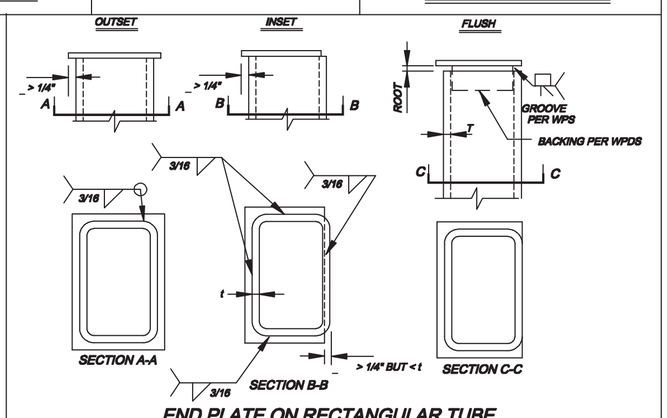
DETAIL L-5
PARTIAL DEPTH END PLATE RECESSED AT FLANGE
LEAN-TO OR END PLATE CONNECTION



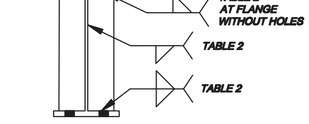
BRACE ROD CONNECTION



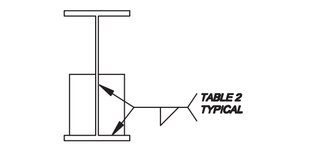
SINGLE PLATE CONNECTIONS



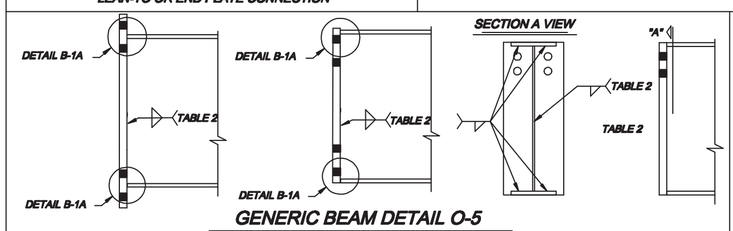
END PLATE ON RECTANGULAR TUBE



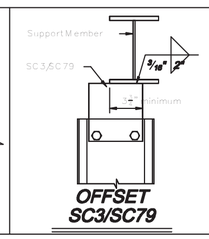
FULL DEPTH STIFFENER



PINCH STIFFENER



GENERIC BEAM DETAIL O-5



OFFSET SC3/SC79

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

PROJECT:

CUSTOMER: OWNER:

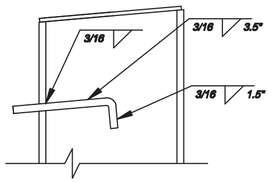
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
		N.T.S.					

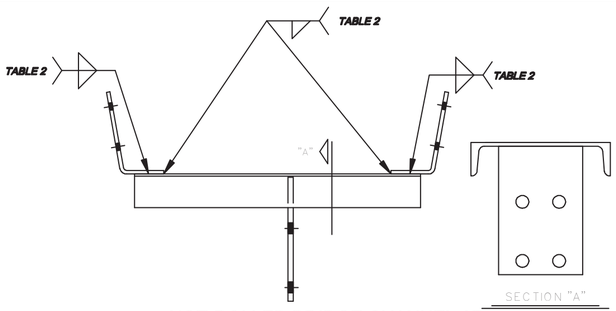
S-9

BEAM WELDING-2

WS-5A Date Issued: July 31, 2020



EAVE STRUT CLIP (P264)



HOT-ROLLED BRIDGE CHANNEL AT PEAK

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

PROJECT:

CUSTOMER: OWNER:

LOCATION:

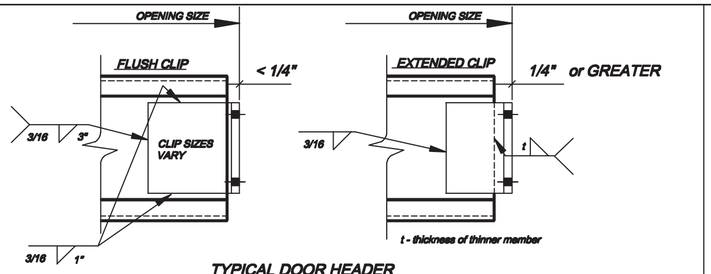
CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
		N.T.S.					

S-10

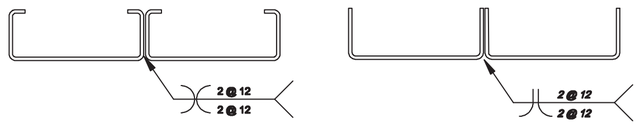
COLD-FORMED MEMBERS

WS-8 Date Issued: July 31, 2020

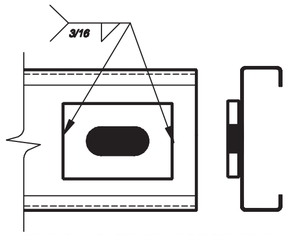
NOTE: REFER TO CBB WELD MANUAL FOR WPS's



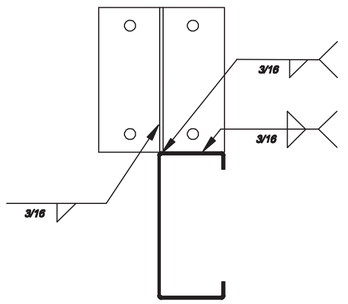
TYPICAL DOOR HEADER



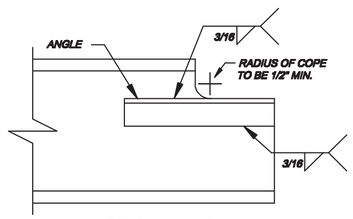
DOUBLE DOOR JAMBS / HEADER



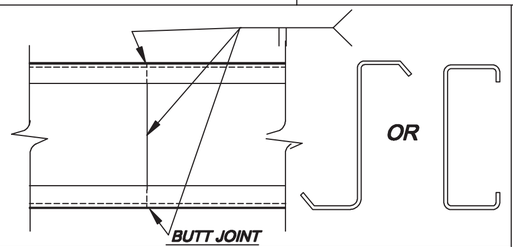
TYPICAL SLOT REINFORCEMENT



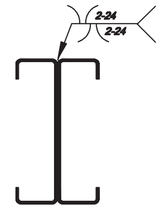
ANTI-ROLL CLIP ON COLD FORM CEE



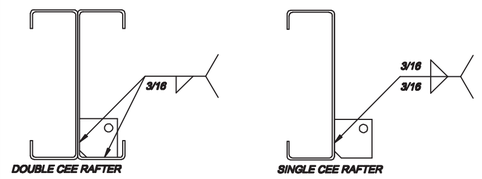
TYPICAL COPING



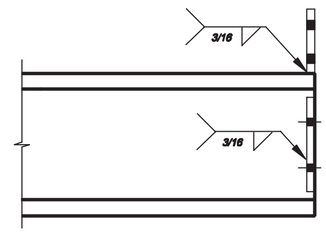
BUTT JOINT



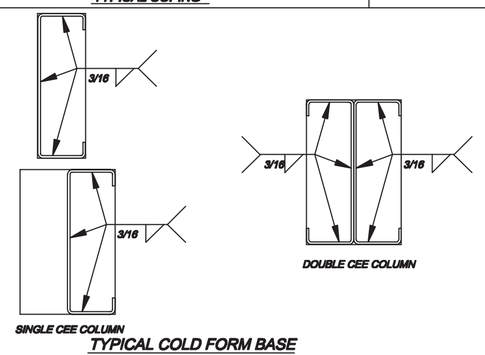
TYPICAL STITCH WELDS



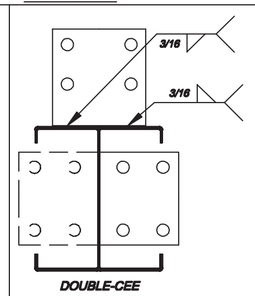
SC2 TO RAFTER

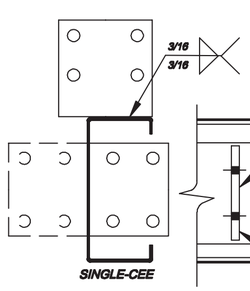


CLIPS AT END OF COLD FORM MEMBER

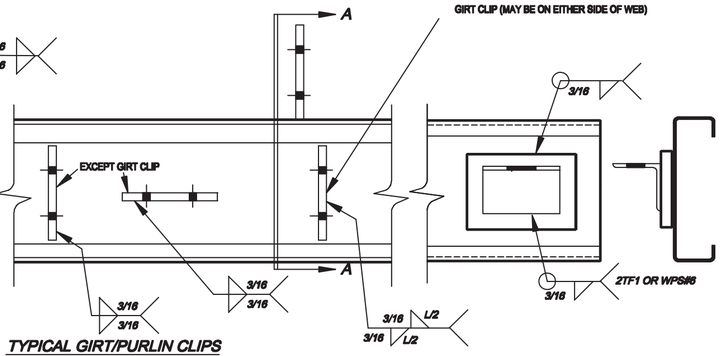


TYPICAL COLD FORM BASE

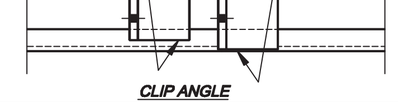


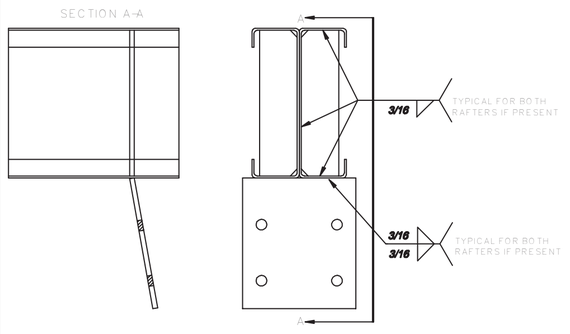


SECTION A-A

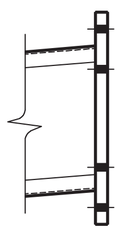


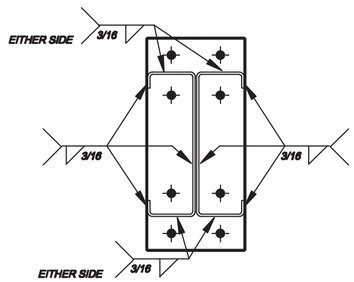
TYPICAL GIRT/PURLIN CLIPS

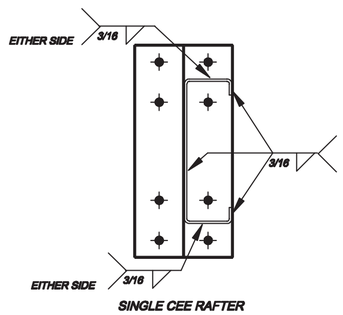




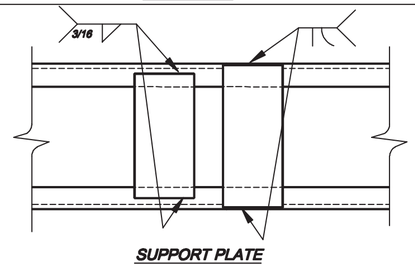
COLD-FORM RAFTER WEB STIFFENER & COLUMN CLIP

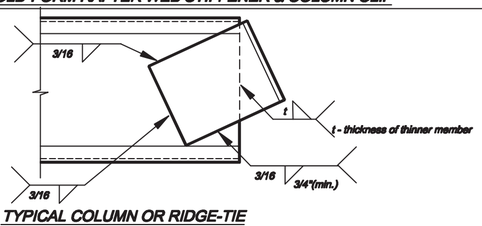




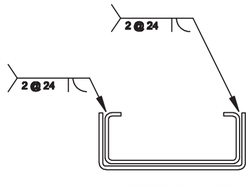


RAFTER CONNECTION





TYPICAL COLUMN OR RIDGE-TIE



NESTED CHANNEL

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
		N.T.S.					

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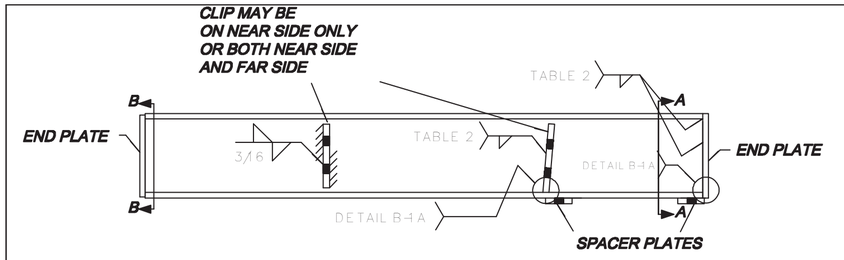
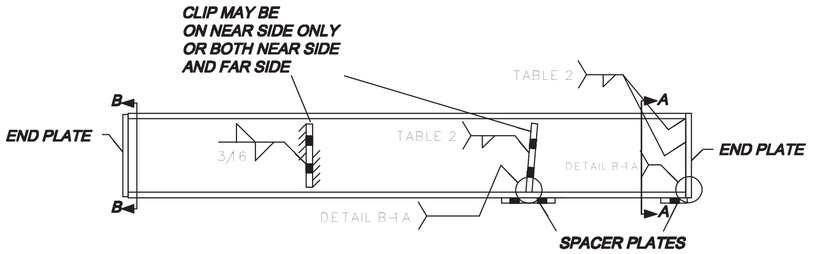
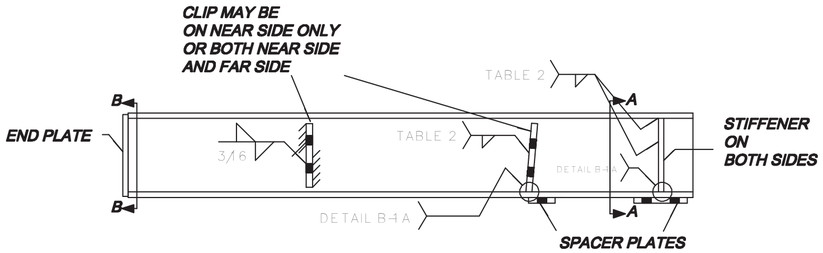
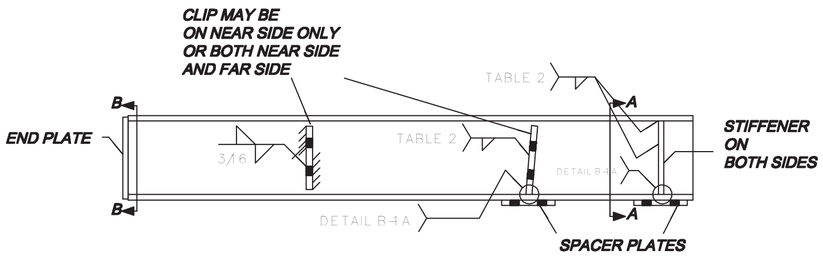
CANOPIES & FASCIAS

WS-7 Date Issued: July 31, 2020



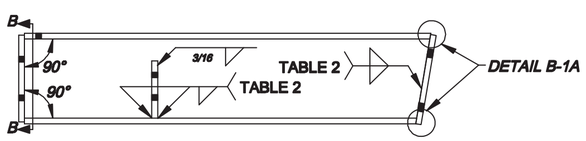




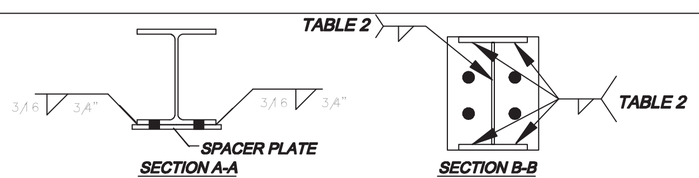


(AT EAVE)

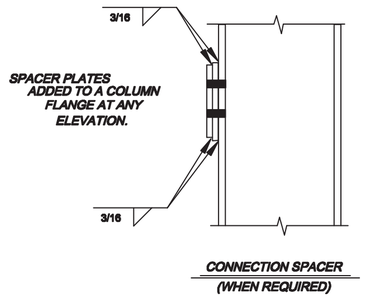
NOTE: DETAIL B-1A WELD IS REQUIRED FOR END PLATE ON BEAM END THAT IS CUT ON A SLOPE.



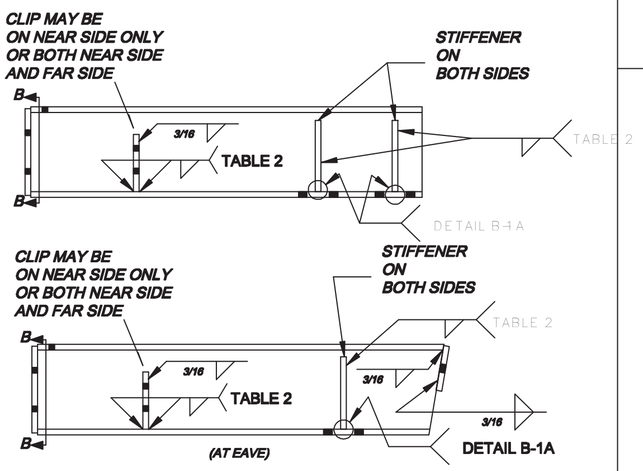
(BELOW EAVE)



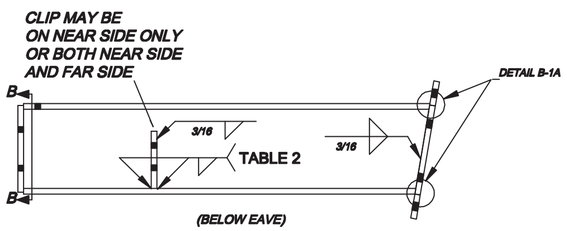
FLUSH CANOPY RAFTERS



CONNECTION SPACER
(WHEN REQUIRED)



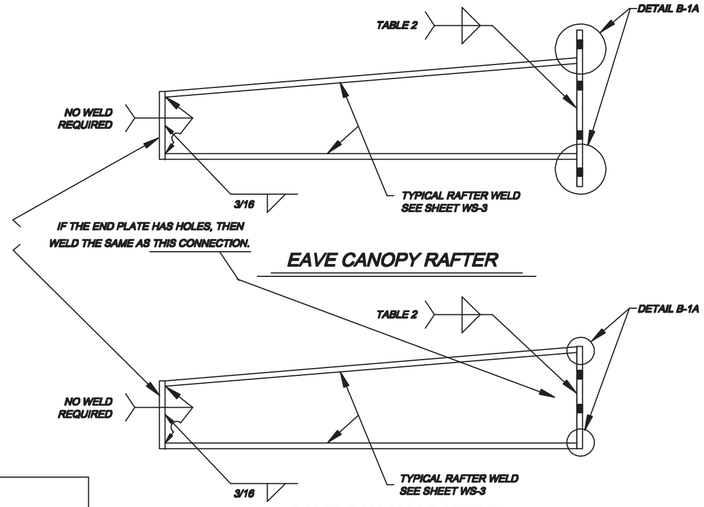
(AT EAVE)



(BELOW EAVE)

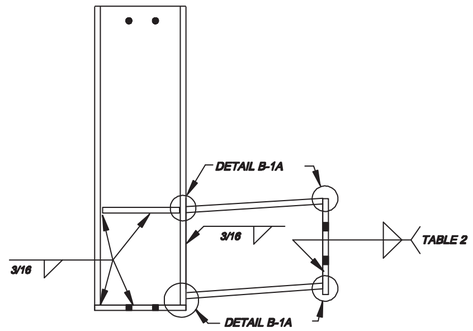
FLUSH CANOPY RAFTERS

(OLD STYLE)



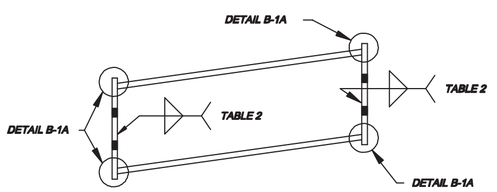
EAVE CANOPY RAFTER

EAVE CANOPY RAFTER



BUILT-UP COLUMN WELDING
SEE SHEET WS-2

FACADE/FASCIA FRAME



FACADE/FASCIA RAFTER

(FOR FACADE/FASCIA PROJECTION GREATER THAN 6'-0)

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
		N.T.S.					

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TABLE OF CONTENTS

WS-1 Date Issued: JULY 31, 2020

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN

PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
		N.T.S.					

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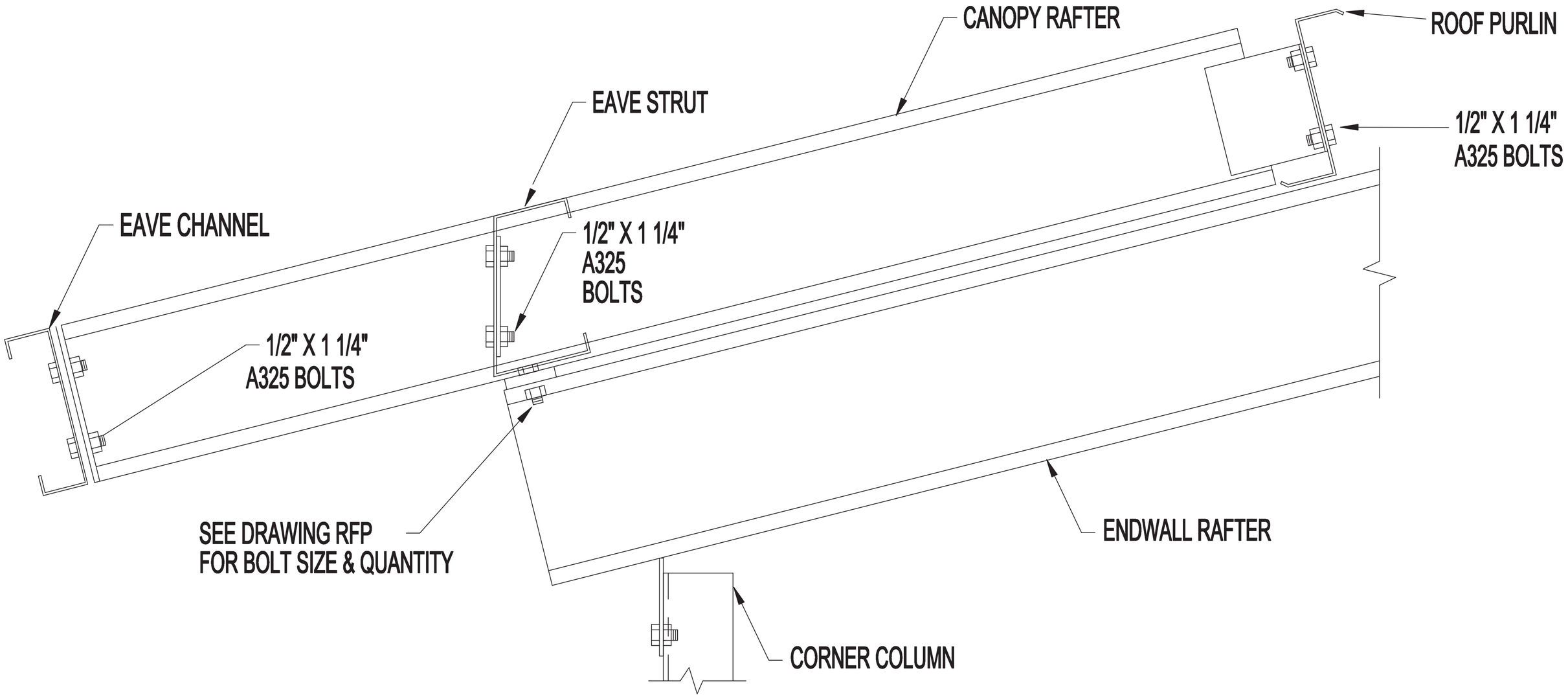
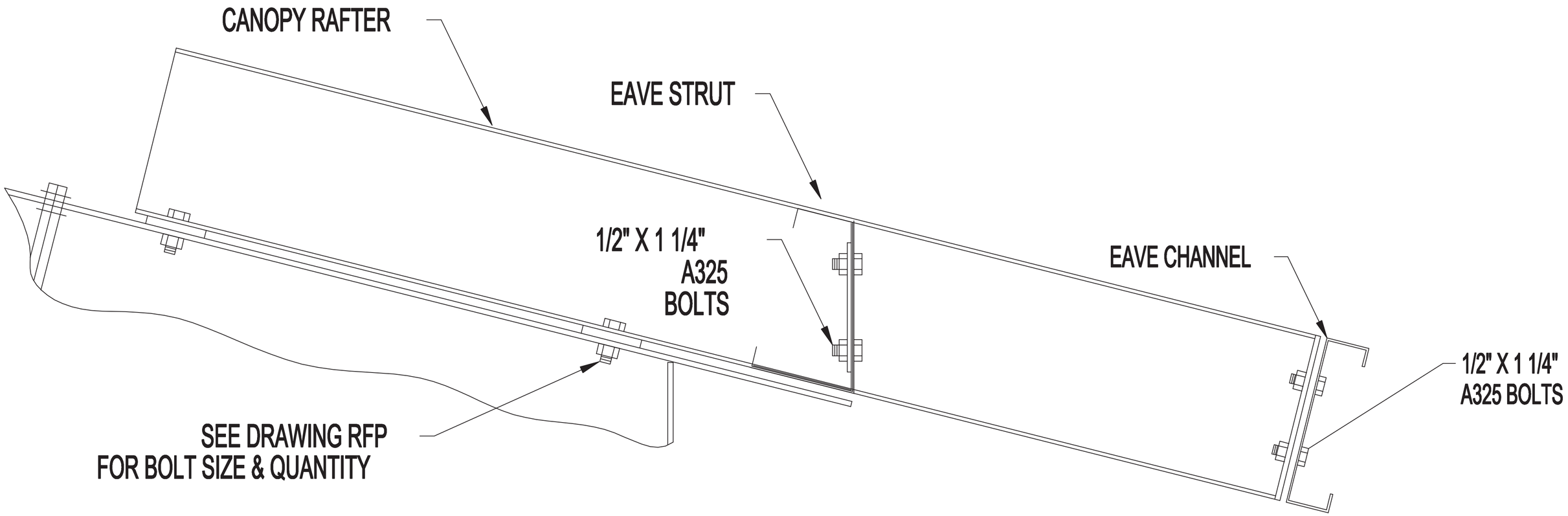


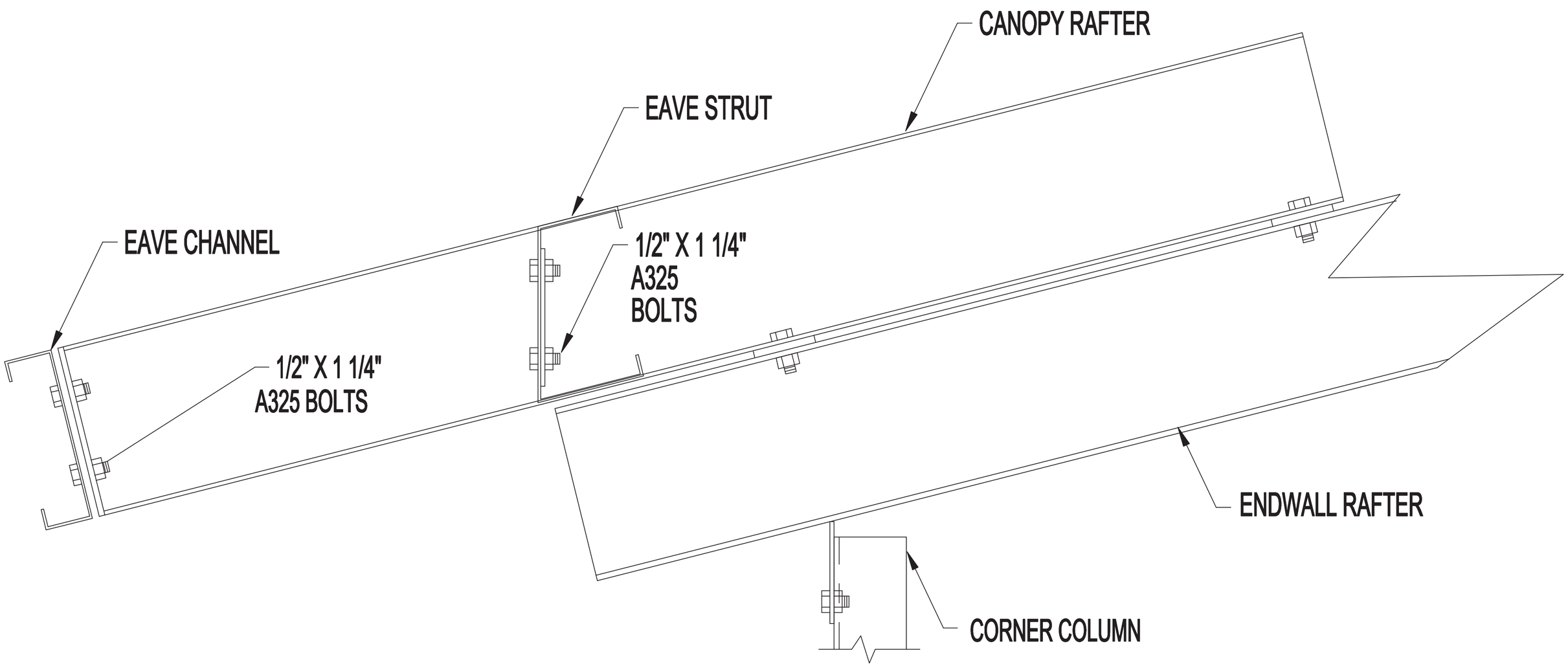
EAVE CANOPY AT "C" ENDWALL RAFTER

X2



EAVE CANOPY AT MAIN FRAME

X3



EAVE CANOPY AT HOT ROLLED ENDWALL RAFTER

X4

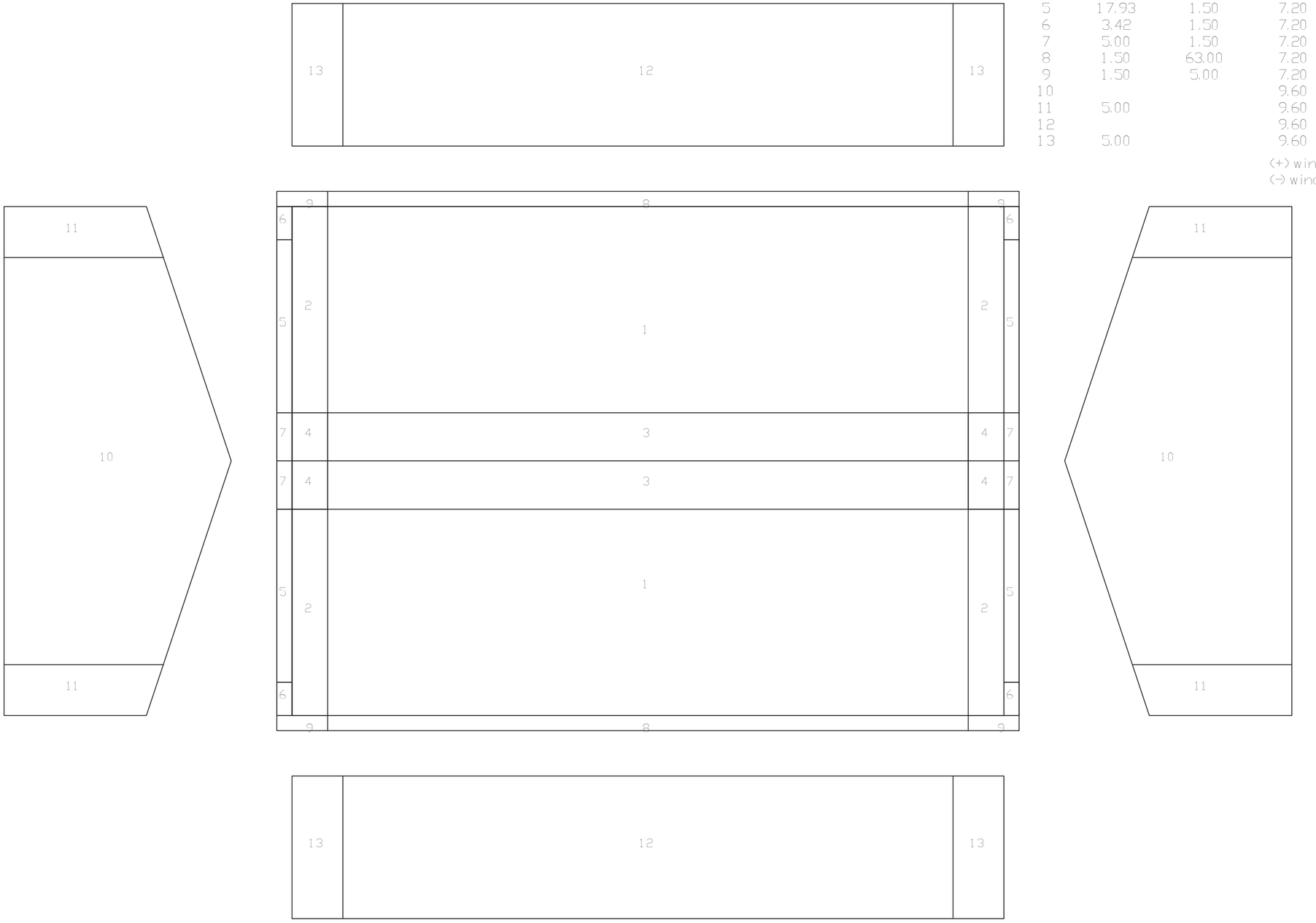
EXTENSION2

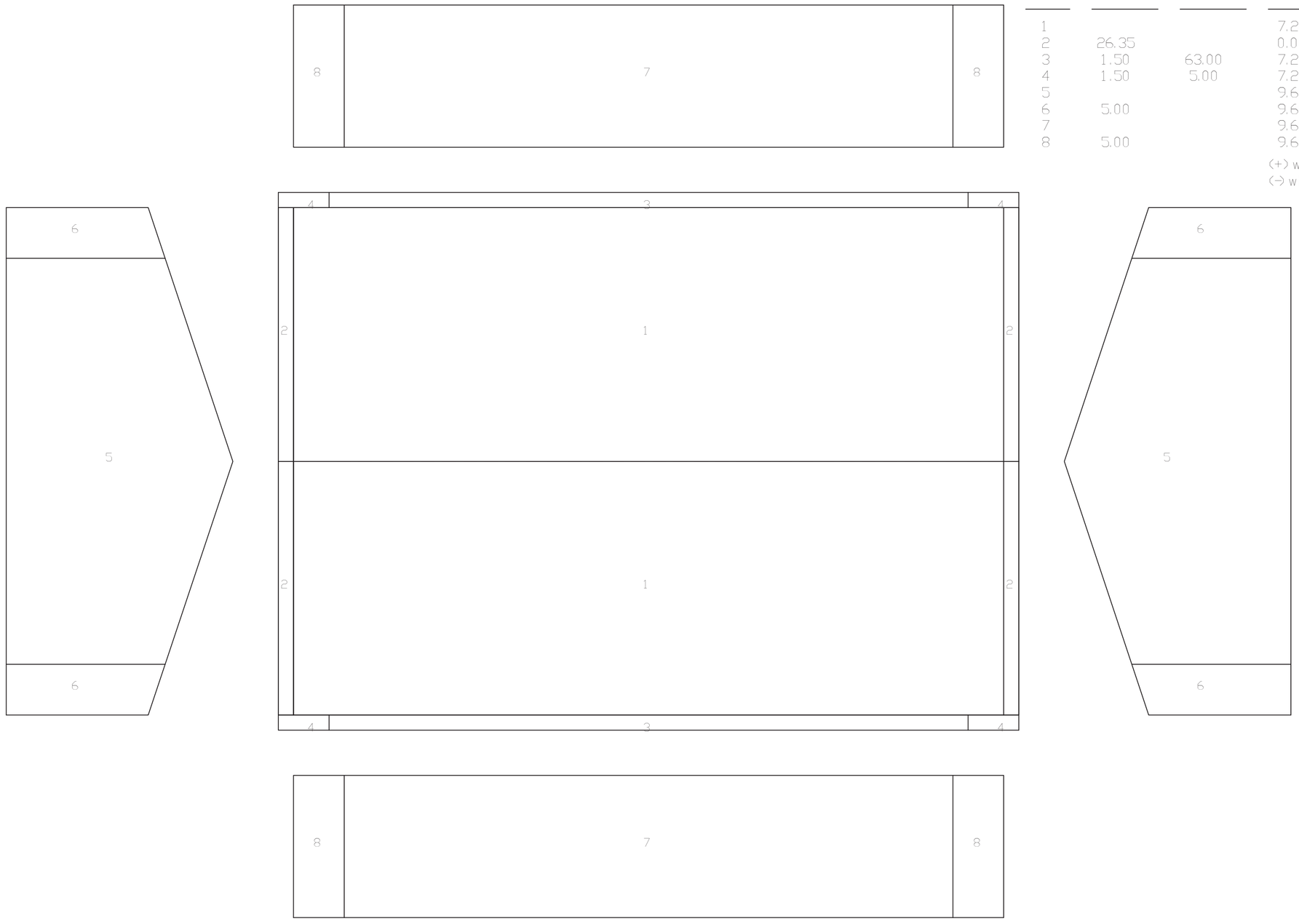
EXTENSION1

Components & Cladding (Factored)

Zone	Width (ft)	Length (ft)	Pressure(psf) Member	Pressure(psf) Panel	Suction(psf) Member	Suction(psf) Panel
1			7.20	7.20	-9.60	-21.20
2		3.50	7.20	7.20	-15.26	-30.95
3	5.00		7.20	7.20	-15.26	-30.95
4	5.00	3.50	7.20	7.20	-19.30	-36.67
5	17.93	1.50	7.20	7.20	-30.91	-34.13
6	3.42	1.50	7.20	7.20	-34.46	-39.85
7	5.00	1.50	7.20	7.20	-38.69	-45.79
8	1.50	63.00	7.20	7.20	-14.59	-24.31
9	1.50	5.00	7.20	7.20	-19.55	-39.87
10			9.60	11.47	-10.52	-12.45
11	5.00		9.60	11.47	-11.46	-15.31
12			9.60	11.46	-10.50	-12.42
13	5.00		9.60	11.46	-11.45	-15.28

(+) wind towards surface
(-) wind away from surface

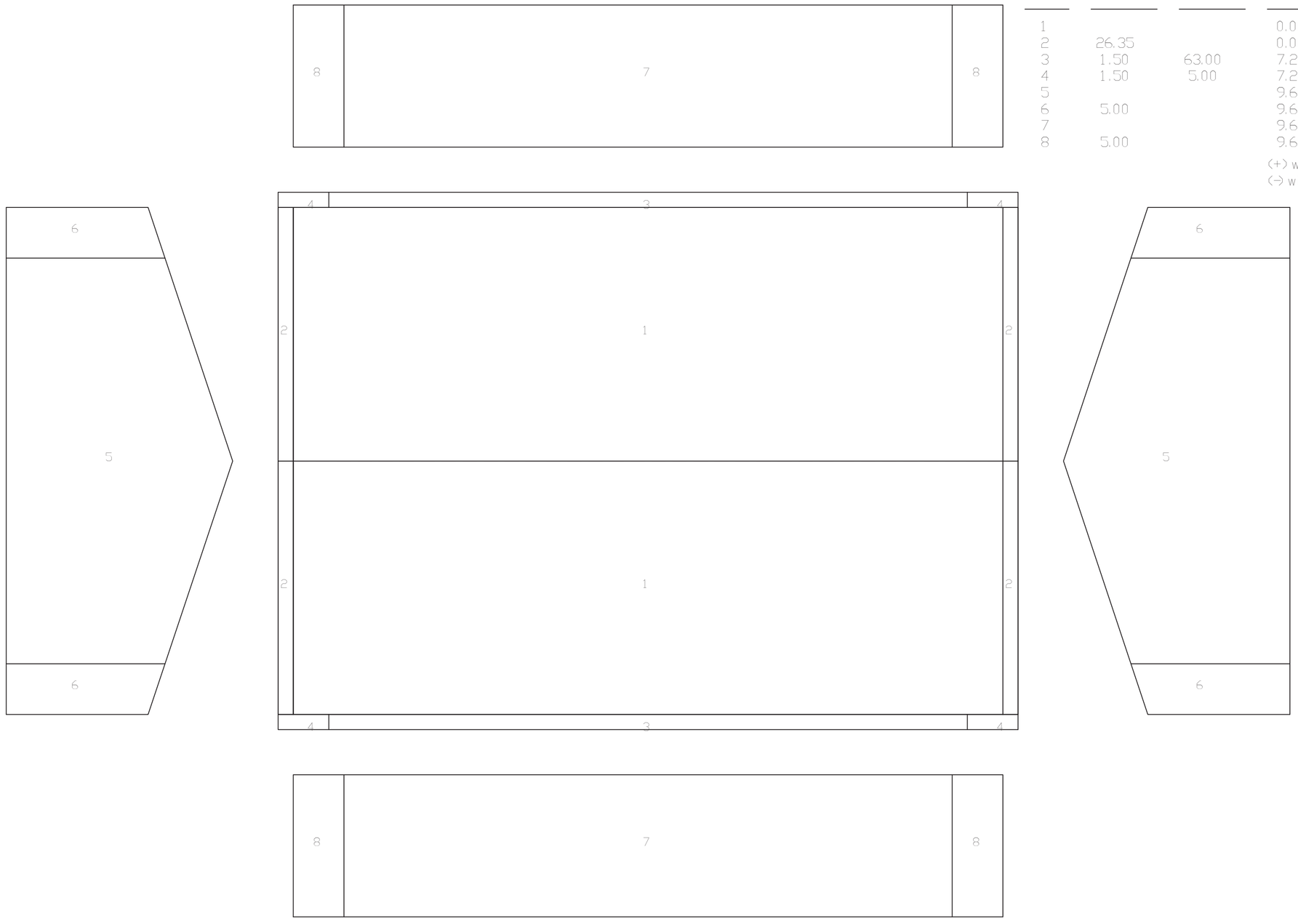




Components & Cladding (Factored)

Zone	Width (ft)	Length (ft)	Pressure(psf) Member	Pressure(psf) Panel	Suction(psf) Member	Suction(psf) Panel
1			7.20	7.20	-9.60	-21.20
2	26.35		0.00	0.00	0.00	0.00
3	1.50	63.00	7.20	7.20	-14.59	-24.31
4	1.50	5.00	7.20	7.20	-19.55	-39.87
5			9.60	11.47	-10.52	-12.45
6	5.00		9.60	11.47	-11.46	-15.31
7			9.60	11.46	-10.50	-12.42
8	5.00		9.60	11.46	-11.45	-15.28

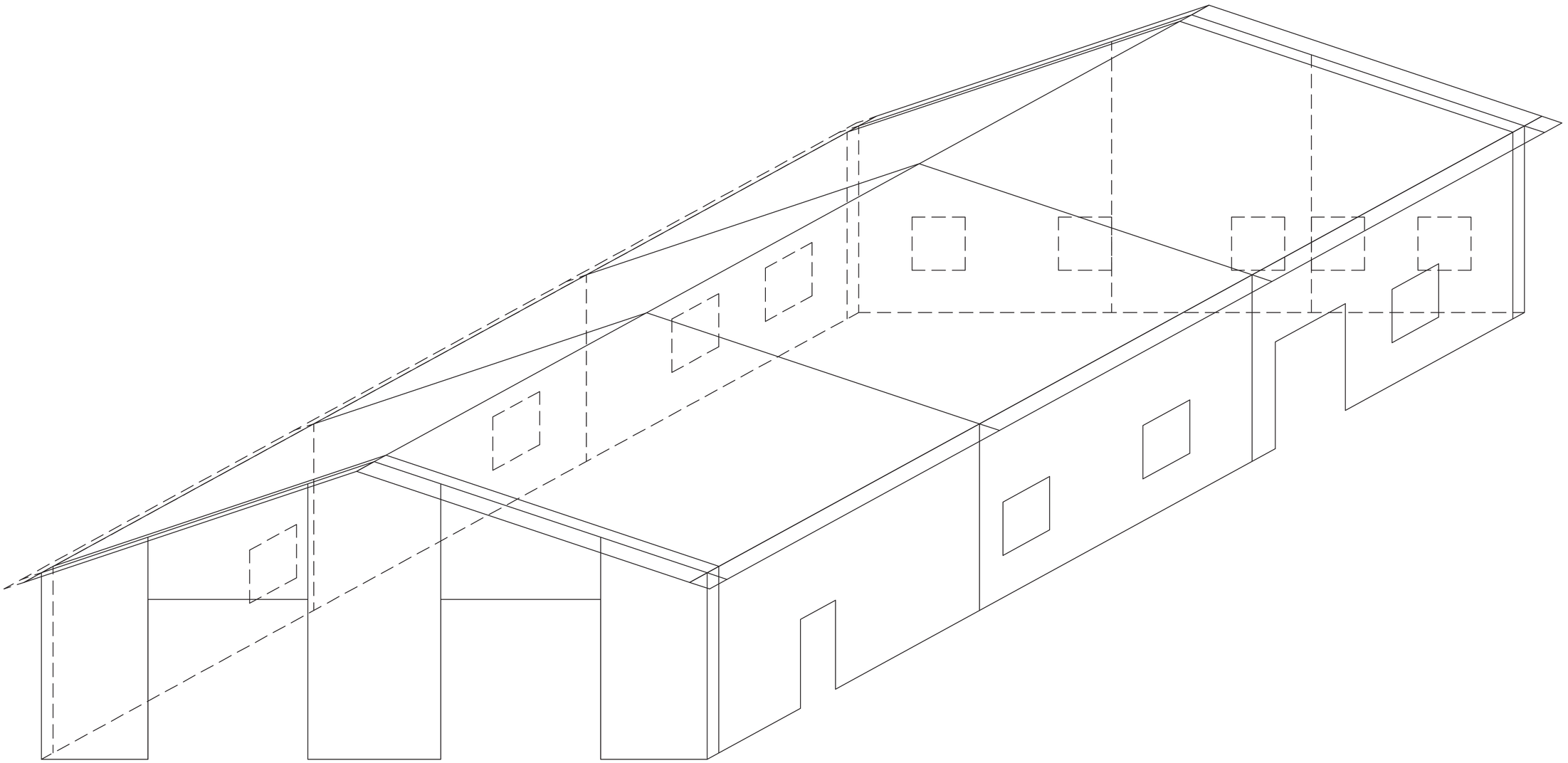
(+) wind towards surface
(-) wind away from surface



Components & Cladding (Factored)

Zone	Width (ft)	Length (ft)	Pressure(psf) Member	Pressure(psf) Panel	Suction(psf) Member	Suction(psf) Panel
1			0.00	0.00	-9.60	0.00
2	26.35		0.00	0.00	0.00	0.00
3	1.50	63.00	7.20	7.20	-14.59	-24.31
4	1.50	5.00	7.20	7.20	-19.55	-39.87
5			9.60	11.47	-10.52	-12.45
6	5.00		9.60	11.47	-11.46	-15.31
7			9.60	11.46	-10.50	-12.42
8	5.00		9.60	11.46	-11.45	-15.28

(+) wind towards surface
(-) wind away from surface



HERITAGE
BUILDING SYSTEMS

ACCREDITED® AC 472

MBMA METAL BUILDING MANUFACTURERS ASSOCIATION

BUILDER/CONTRACTOR RESPONSIBILITIES

Drawing Validity –These drawings, supporting structural calculations and design certification are based on the order documents as of the date of these drawings. These documents describe the material supplied by the manufacturer as of the date of these drawings. Any changes to the order documents after the date on these drawings may void these drawings, supporting structural calculations and design certification. The Builder/Contractor is responsible for notifying the building authority of all changes to the order documents which result in changes to the drawings, supporting structural calculations and design certification.

Builder Acceptance of Drawings –Approval of the manufacturer's drawings and design data affirms that the manufacturer has correctly interpreted and applied the requirements of the order documents and constitutes Builder/Contractor acceptance of the manufacturer's interpretations of the order documents and standard product specifications, including its design, fabrication and quality criteria standards and tolerances. (AISC code of standard practice APR 10 Section 4.4.1)

Code Official Approval –It is the responsibility of the Builder/Contractor to ensure that all project plans and specifications comply with the applicable requirements of any governing building authority. The Builder/Contractor is responsible for securing all required approvals and permits from the appropriate agency as required.

Builder is responsible for State, Federal and OSHA safety compliance –The Builder/Contractor is responsible for applying and observing all pertinent safety rules and regulations and OSHA standards as applicable.

Building Erection –The Builder/Contractor is responsible for all erection of the steel and associated work in compliance with the Metal Building Manufacturers drawings. Temporary supports, such as temporary guys, braces, false work or other elements required for erection will be determined, furnished and installed by the erector. (AISC Code of Standard Practice APR 10 Section 7.10.3)

Discrepancies –Where discrepancies exist between the Metal Building plans and plans for other trades, the Metal Building plans will govern. (AISC Code of Standard Practice APR 10 Section 3.3)

Materials by Others –All interface and compatibility of any materials not furnished by the manufacturer are the responsibility of and to be coordinated by the Builder/Contractor or A/E firm. Unless specific design criteria concerning any interface between materials if furnished as a part of the order documents, the manufacturers assumptions will govern.

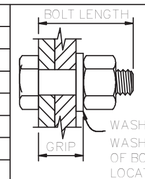
Modification of the Metal Building from Plans –The Metal Building supplied by the manufacturer has been designed according to the Building Code and specifications and the loads shown on this drawing. Modification of the building configuration, such as removing wall panels or braces, from that shown on these plans could affect the structural integrity of the building. The Metal Building Manufacturer or a Licensed Structural Engineer should be consulted prior to making any changes to the building configuration shown on these drawings. The Metal Building Manufacturer will assume no responsibility for any loads applied to the building not indicated on these drawings.

Foundation Design –The Metal Building Manufacturer is not responsible for the design, materials and workmanship of the foundation. Anchor rod plans prepared by the manufacturer are intended to show only location, diameter and projection of the anchor rods required to attach the Metal Building System to the foundation. It is the responsibility of the end customer to ensure that adequate provisions are made for specifying rod embedment, bearing values, tie rods and or other associated items embedded in the concrete foundation, as well as foundation design for the loads imposed by the Metal Building System, other imposed loads, and the bearing capacity of the soil and other conditions of the building site. (MBMA MBSM Chapter 4 Section 3.2.2 and Section A3)

Download panel installation manuals from:
www.cornerstonebuildingbrands.com/installationmanuals/

Descargue los manuales de instalación del panel desde:
www.cornerstonebuildingbrands.com/installationmanuals/

1/2"Ø A325 BOLT GRIP TABLE (UNLESS NOTED)	
GRIP	LENGTH
0 TO 9/16"	1 1/4" F.T.
Over 9/16" TO 1 1/16"	1 3/4" F.T.
Over 1 1/16" TO 1 5/16"	2"
Over 1 5/16" TO 1 9/16"	2 1/4"
Over 1 9/16" TO 1 13/16"	2 1/2"
Over 1 13/16" TO 2 1/16"	2 3/4"
LOCATIONS OF BOLTS LONGER THAN 2 3/4" NOTED ON ERECTION DRAWINGS	
F.T. DENOTES FULLY THREADED	



NOTE:
FULL THREAD ENGAGEMENT IS DEEMED TO HAVE BEEN MET WHEN THE END OF THE BOLT IS FLUSH WITH THE FACE OF THE NUT.

WASHER REQUIRED ONLY WHEN SPECIFIED. WASHER MAY BE LOCATED UNDER HEAD OF BOLT, UNDER NUT, OR AT BOTH AT LOCATIONS NOTED ON ERECTION DRAWINGS. ADD 5/32" FOR EACH WASHER TO MATERIAL THICKNESS TO DETERMINE GRIP.

Rev. 11/15/2021

PROJECT NOTES

Material properties of steel bar, plate, and sheet used in the fabrication of built-up structural framing members conform to ASTM A529, ASTM A572, or ASTM A1011 with 55 ksi min. yield, except flanges wider than 12" and thicker than 3/8", all flanges thicker than 1", and all webs thicker than 3/8" are 50 ksi min. yield. Rod X-bracing conforms to ASTM A529 or ASTM A572 with 50 ksi min. yield. Cable X-bracing conforms to ASTM A475 7 Strand Extra High-Strength grade. Hot rolled structural shapes conform to ASTM A992, ASTM A529, or ASTM A572 with 50 ksi min. yield. Hot rolled angles, other than flange braces, conform to ASTM A36 minimum. Round and rectangular HSS conforms to ASTM A500 Grade B. Cold-formed steel secondary framing Members conform to ASTM A1011 or ASTM A653 Grade 55 with 55 ksi min. yield.

The manufacturer does not assume any responsibility for the erection nor field supervision of the structure and or any special inspections that may be required by the local building authority during erection (including inspection of the high strength bolts or field welds) as required during erection. The coordination and the costs associated for setting up and Special Inspections are the responsibility of the Erector, Owner, Architect, or Engineer of Record.

Design is based upon the more severe loading of either the roof snow load or the roof live load.

Loads, as noted, are given within order documents and are applied in general accordance with the applicable provisions of the model code and/or specification indicated. Neither the manufacture nor the certifying engineer declares or attests that the loads as designated are proper for the local provisions that may apply or for site specific parameters. The manufacturer's Engineer's certification is limited to design loads supplied by an Architect and/or engineer of record for the overall construction project.

This project is designed using manufacture's standard serviceability standards. Generally this means that all stresses and deflections are within typical performance limits for normal occupancy and standard metal building products. If special requirements for deflections and vibrations must be adhered to, then they must be clearly stated in the contract documents.

This metal building system is designed as enclosed. All exterior components (i.e. doors, windows, vents, etc.) must be designed to withstand the specified wind loading for the design of components and cladding in accordance with the specified building code. Doors are to be closed when a maximum of 50% of design wind velocity is reached.

Unless otherwise noted, special inspection of fabricated items is not required. Per IBC section 1704.2.5.1, The fabricator is approved to perform such work without special inspection through maintenance of IAS AC 472 certification MB-436

DEFLECTION CRITERIA

The material supplied by the manufacturer has been designed with the following minimum defection criteria. The actual deflection may be less depending on actual load and actual member length.

BUILDING DEFLECTION LIMITS...: Building A

Roof Limits	Rafters	Purlins	Panels
Live L/	@F360	@F354	@F357
Snow L/	@F360	@F354	@F357
Wind L/	@F360	@F355	@F358
Total Gravity L/	@F360	@F354	@F357

Frame Limits	Sidesway	Portal Frame Sidesway	
Live H/	@F359		
Snow H/	@F359		
Wind H/	@F359		
Seismic H/	@F363		
Crane H/	@F362		
Total Gravity H/	@F359		
Total Wind H/	@F359	@F361	
Total Seismic H/	@F363	@F364	

Wall Limits	Limit
Total Wind Panels L/	@F356
Total Wind Girts L/	@F353
Total Wind EW Columns L/	@F350

The Service Seismic limit as shown here is at service level loads.

ENGINEERING DESIGN CRITERIA

Building Code..... @F324
Building Risk Category..... @U619

Roof Dead Load
Superimposed..... @F301 psf
Collateral..... @F305 psf (Total)
(0.00 psf Ceiling @F305 psf Other)
Roof Live Load.....@F302 psf @F304 reduction

Snow
Ground Snow Load (Pg)..... @U600 psf
Snow Load Importance Factor (Is) @U614
Snow Exposure Factor (Ce)..... @U615
Thermal Factor (Ct)..... @U612
Flat Roof Snow Load (Pf)..... @F303 psf
Minimum Roof Snow Load (Pm)..... @U648 psf

Wind
Ultimate Wind Speed (Vult)..... @F307 mph
Nominal Wind Speed (Vasd)..... @U636 mph
Serviceability Wind Speed..... @U646 mph
Ground Elevation Factor..... @U654 (@U655SL)
Wind Exposure Category..... @F309
Internal Pressure Coefficient (GCpi) @U623 /@U624
Loads for components not provided by building manufacturer.
Wall Edge Zones (within @U653 ' of corner)
@U620 psf pressure
@U622 psf suction
Other Wall Zones @U620 psf pressure
@U621 psf suction
These values are the maximum values required based on a 10 square foot area.
Components with larger areas may have lower wind loads.
Zones per ASCE 7-16; FIG. 30.3-1
Zones pressures shown are Un-Factored

Seismic
Seismic Importance Factor (Ie)..... @F315
Seismic Design Category..... @F311
Soil Site Class..... @U647
Ss..... @U601 g Sds..... @U607 g
S1..... @U602 g Sd1..... @U608 g
Analysis Procedure..... Equivalent Lateral Force

Location...	Int RF	Front SW	Back SW	Left EW	Right EW	
System.....	@J190	@J191	@J192	@J193	@J194	
R.....	@F368	@F374	@F376	@F370	@F372	
Cs.....	@F369	@F375	@F377	@F371	@F373	

Design Base Shear in kips (V) Transverse @F366
Design Base Shear in kips (V) Longitudinal @F365

System –Basic Force Resisting System
H –Steel System not Specifically Detailed for Seismic Resistance
C4 –Steel Ordinary Moment Frames
B3 –Steel Ordinary Concentric Braced Frames
G2 –Steel Ordinary Cantilevered Column Systems
R –Response Modification Coefficient
Cs –Seismic Response Coefficient
Transverse –Direction Parallel to the Rigid Frames
Longitudinal –Direction Perpendicular to the Rigid Frames

Building Descriptions				
Building ID	Width(ft)	Length(ft)	Height(ft)	Slope
Building A	@F201	@F202	@F204	@F206

Drawing Index	
Page	Description
C1	COVER SHEET
F1	ANCHOR BOLT PLAN
F2	ANCHOR BOLT REACTIONS
F3	ANCHOR BOLT DETAILS
E1	ROOF FRAMING PLAN
E2	ROOF SHEETING PLAN
E3	FRONT SIDEWALL
E4	BACK SIDEWALL
E5	LEFT ENDWALL
E6	RIGHT ENDWALL
E7	FRAME CROSS SECTION
DET1-5	STANDARD DETAILS
R1-R3	INSTALLATION SHEETS

DRAWING STATUS

☐ FOR APPROVAL
These drawings, being For Approval, are by definition not final, and are for conceptual representation only. Their purpose is to confirm proper interpretation of the project documents. Only drawings issued "For Erector Installation" can be considered as complete.

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☒ FOR ERECTOR INSTALLATION
Final drawings for construction.

For questions or assistance
Concerning Erection call or Email:
1-844-840-4603
Monday-Friday 7:30am to 5:00pm
FIELD.SERVICES@CORNERSTONE-BB.COM

ENGINEERING SEAL

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
@J024	@DATE	FOR @J041	@J012	@J014	@J011

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD. STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT: @J007
CUSTOMER: @J004 OWNER: @J038
LOCATION: @J009

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	@DATE	N.T.S.	1	A	@J010	C1	@J024

GN-1

HERITAGE
BUILDING SYSTEMS

ACCREDITED® AC 472

MBMA METAL BUILDING MANUFACTURERS ASSOCIATION

BUILDER/CONTRACTOR RESPONSIBILITIES

Drawing Validity –These drawings, supporting structural calculations and design certification are based on the order documents as of the date of these drawings. These documents describe the material supplied by the manufacturer as of the date of these drawings. Any changes to the order documents after the date on these drawings may void these drawings, supporting structural calculations and design certification. The Builder/Contractor is responsible for notifying the building authority of all changes to the order documents which result in changes to the drawings, supporting structural calculations and design certification.

Builder Acceptance of Drawings –Approval of the manufacturer's drawings and design data affirms that the manufacturer has correctly interpreted and applied the requirements of the order documents and constitutes Builder/Contractor acceptance of the manufacturer's interpretations of the order documents and standard product specifications, including its design, fabrication and quality criteria standards and tolerances. (AISC code of standard practice APR 10 Section 4.4.1)

Code Official Approval –It is the responsibility of the Builder/Contractor to ensure that all project plans and specifications comply with the applicable requirements of any governing building authority. The Builder/Contractor is responsible for securing all required approvals and permits from the appropriate agency as required.

Builder is responsible for State, Federal and OSHA safety compliance –The Builder/Contractor is responsible for applying and observing all pertinent safety rules and regulations and OSHA standards as applicable.

Building Erection –The Builder/Contractor is responsible for all erection of the steel and associated work in compliance with the Metal Building Manufacturers drawings. Temporary supports, such as temporary guys, braces, false work or other elements required for erection will be determined, furnished and installed by the erector. (AISC Code of Standard Practice APR 10 Section 7.10.3)

Discrepancies –Where discrepancies exist between the Metal Building plans and plans for other trades, the Metal Building plans will govern. (AISC Code of Standard Practice APR 10 Section 3.3)

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Over 1 1/16" TO 1 5/16"	2"
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Over 1 9/16" TO 1 13/16"	2 1/2"
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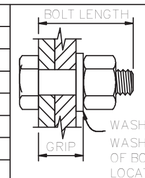
LOCATIONS OF BOLTS LONGER THAN 2 3/4" NOTED ON ERECTION DRAWINGS	
F.T. DENOTES FULLY THREADED	



NOTE:
FULL THREAD ENGAGEMENT IS DEEMED TO HAVE BEEN MET WHEN THE END OF THE BOLT IS FLUSH WITH THE FACE OF THE NUT.

WASHER REQUIRED ONLY WHEN SPECIFIED. WASHER MAY BE LOCATED UNDER HEAD OF BOLT, UNDER NUT, OR AT BOTH AT LOCATIONS NOTED ON ERECTION DRAWINGS. ADD 5/32" FOR EACH WASHER TO MATERIAL THICKNESS TO DETERMINE GRIP.

Rev. 11/15/2021

PROJECT NOTES

Material properties of steel bar, plate, and sheet used in the fabrication of built-up structural framing members conform to ASTM A529, ASTM A572, or ASTM A1011 with 55 ksi min. yield, except flanges wider than 12" and thicker than 3/8", all flanges thicker than 1", and all webs thicker than 3/8" are 50 ksi min. yield. Rod X-bracing conforms to ASTM A529 or ASTM A572 with 50 ksi min. yield. Cable X-bracing conforms to ASTM A475 7 Strand Extra High-Strength grade. Hot rolled structural shapes conform to ASTM A992, ASTM A529, or ASTM A572 with 50 ksi min. yield. Hot rolled angles, other than flange braces, conform to ASTM A36 minimum. Round and rectangular HSS conforms to ASTM A500 Grade B. Cold-formed steel secondary framing Members conform to ASTM A1011 or ASTM A653 Grade 55 with 55 ksi min. yield.

The manufacturer does not assume any responsibility for the erection nor field supervision of the structure and or any special inspections that may be required by the local building authority during erection (including inspection of the high strength bolts or field welds) as required during erection. The coordination and the costs associated for setting up and Special Inspections are the responsibility of the Erector, Owner, Architect, or Engineer of Record.

Design is based upon the more severe loading of either the roof snow load or the roof live load.

Loads, as noted, are given within order documents and are applied in general accordance with the applicable provisions of the model code and/or specification indicated. Neither the manufacture nor the certifying engineer declares or attests that the loads as designated are proper for the local provisions that may apply or for site specific parameters. The manufacturer's Engineer's certification is limited to design loads supplied by an Architect and/or engineer of record for the overall construction project.

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This metal building system is designed as enclosed. All exterior components (i.e. doors, windows, vents, etc.) must be designed to withstand the specified wind loading for the design of components and cladding in accordance with the specified building code. Doors are to be closed when a maximum of 50% of design wind velocity is reached.

Unless otherwise noted, special inspection of fabricated items is not required. Per IBC section 1704.2.5.1, The fabricator is approved to perform such work without special inspection through maintenance of IAS AC 472 certification MB-436

DEFLECTION CRITERIA

The material supplied by the manufacturer has been designed with the following minimum defection criteria. The actual deflection may be less depending on actual load and actual member length.

BUILDING DEFLECTION LIMITS...: Building A

Roof Limits	Rafters	Purlins	Panels
Live L/	180	180	60
Snow L/	180	180	60
Wind L/	180	180	60
Total Gravity L/	180	180	60

Frame Limits	Sidesway	Portal Frame Sidesway	
Live H/	60		
Snow H/	60		
Wind H/	60		
Seismic H/	195		
Crane H/	100		
Total Gravity H/	60		
Total Wind H/	60	60	
Total Seismic H/	195	195	

Wall Limits	Limit
Total Wind Panels L/	60
Total Wind Girts L/	90
Total Wind EW Columns L/	120

The Service Seismic limit as shown here is at service level loads.

ENGINEERING DESIGN CRITERIA

Building Code..... CBC 19
Building Risk Category..... II –Normal

Roof Dead Load
Superimposed..... 2.500 psf
Collateral..... 6 psf (Total)
(0.00 psf Ceiling 6 psf Other)
Roof Live Load.....20.00 psf No reduction

Snow
Ground Snow Load (Pg)..... 0.00 psf
Snow Load Importance Factor (Is) 1.00
Snow Exposure Factor (Ce)..... 1.00
Thermal Factor (Ct)..... 1.00
Flat Roof Snow Load (Pf)..... 0 psf
Minimum Roof Snow Load (Pm)..... 0.00 psf

Wind
Ultimate Wind Speed (Vult)..... 92 mph
Nominal Wind Speed (Vasd)..... 71 mph
Serviceability Wind Speed..... 64 mph
Ground Elevation Factor..... 1.00 (53.64 ASL)
Wind Exposure Category..... C
Internal Pressure Coefficient (GCpi) 0.18 /-0.18
Loads for components not provided by building manufacturer.
Wall Edge Zones (within 5.00 ' of corner)
19.12 psf pressure
-25.61 psf suction
Other Wall Zones 19.12 psf pressure
-20.75 psf suction
These values are the maximum values required based on a 10 square foot area.
Components with larger areas may have lower wind loads.
Zones per ASCE 7-16; FIG. 30.3-1
Zones pressures shown are Un-Factored

Seismic
Seismic Importance Factor (Ie)..... 1.00
Seismic Design Category..... D
Soil Site Class..... D
Ss..... 1.500 g Sds..... 1.000 g
S1..... 0.600 g Sd1..... 0.680 g
Analysis Procedure..... Equivalent Lateral Force

Location...	Int RF	Front SW	Back SW	Left EW	Right EW
System.....	C4	C4	C4	C4	C4
R.....	3.5	3.5	3.5	3.5	3.5
Cs.....	0.286	0.286	0.286	0.286	0.286

Design Base Shear in kips (V) Transverse 12.74
Design Base Shear in kips (V) Longitudinal 12.76

System –Basic Force Resisting System
H –Steel System not Specifically Detailed for Seismic Resistance
C4 –Steel Ordinary Moment Frames
B3 –Steel Ordinary Concentric Braced Frames
G2 –Steel Ordinary Cantilevered Column Systems
R –Response Modification Coefficient
Cs –Seismic Response Coefficient
Transverse –Direction Parallel to the Rigid Frames
Longitudinal –Direction Perpendicular to the Rigid Frames

Building Descriptions				
Building ID	Width(ft)	Length(ft)	Height(ft)	Slope
Building A	50	70	14	4.0:12

Drawing Index	
Page	Description
G1	COVER SHEET
F1	ANCHOR BOLT PLAN
F2	ANCHOR BOLT REACTIONS
F3	ANCHOR BOLT DETAILS
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E2	ROOF SHEETING PLAN
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R1-R3	INSTALLATION SHEETS

DRAWING STATUS

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ENGINEERING SEAL

The engineer whose seal appears hereon is an employee for the manufacturer for the materials described herein. Said seal or certification is limited to the products designed and manufactured by manufacturer only. The undersigned engineer is not the overall engineer of record for this project.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

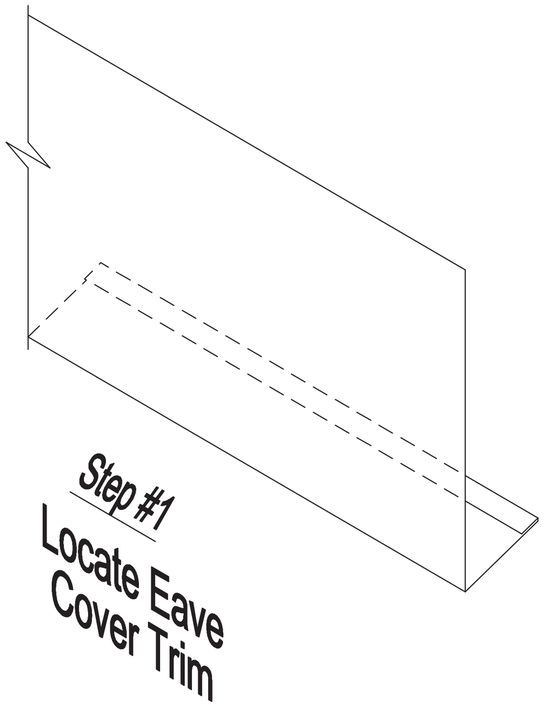
HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD. STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:
CUSTOMER: OWNER:
LOCATION:

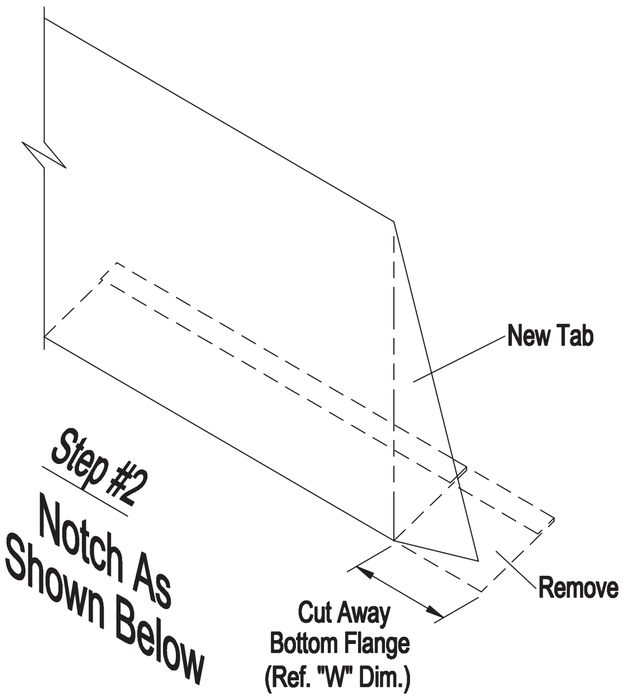
CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		C1	0

GN-2

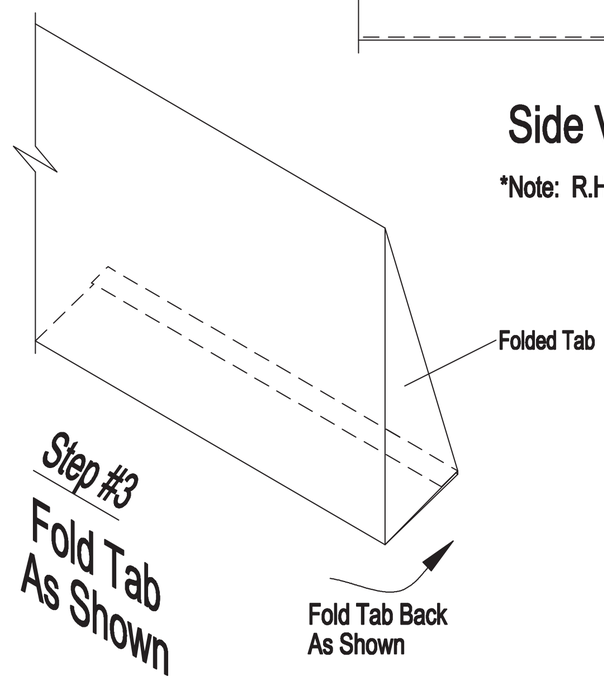
Cut To Roof Pitch		
Roof Pitch	"H" =	"W" =
1:12	- -	9/16"
2:12	3/16"	1 1/8"
3:12	7/16"	1 11/16"
4:12	11/16"	2 1/8"
5:12	1 1/16"	2 1/2"
6:12	1 7/16"	2 7/8"



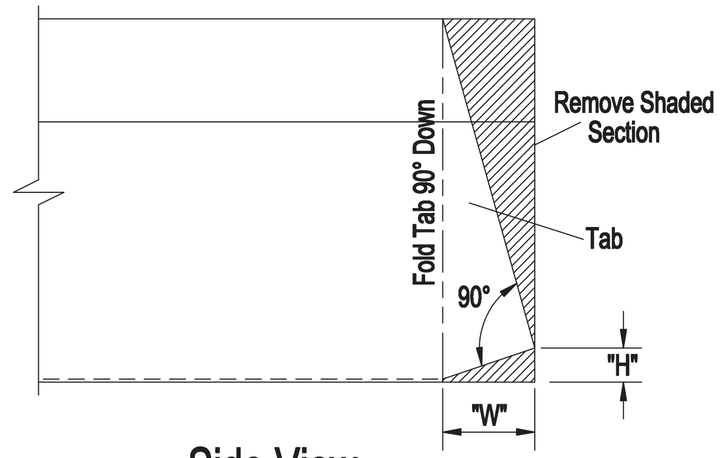
Step #1
Locate Eave Cover Trim



Step #2
Notch As Shown Below

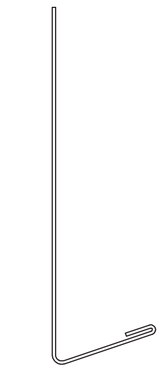


Step #3
Fold Tab As Shown



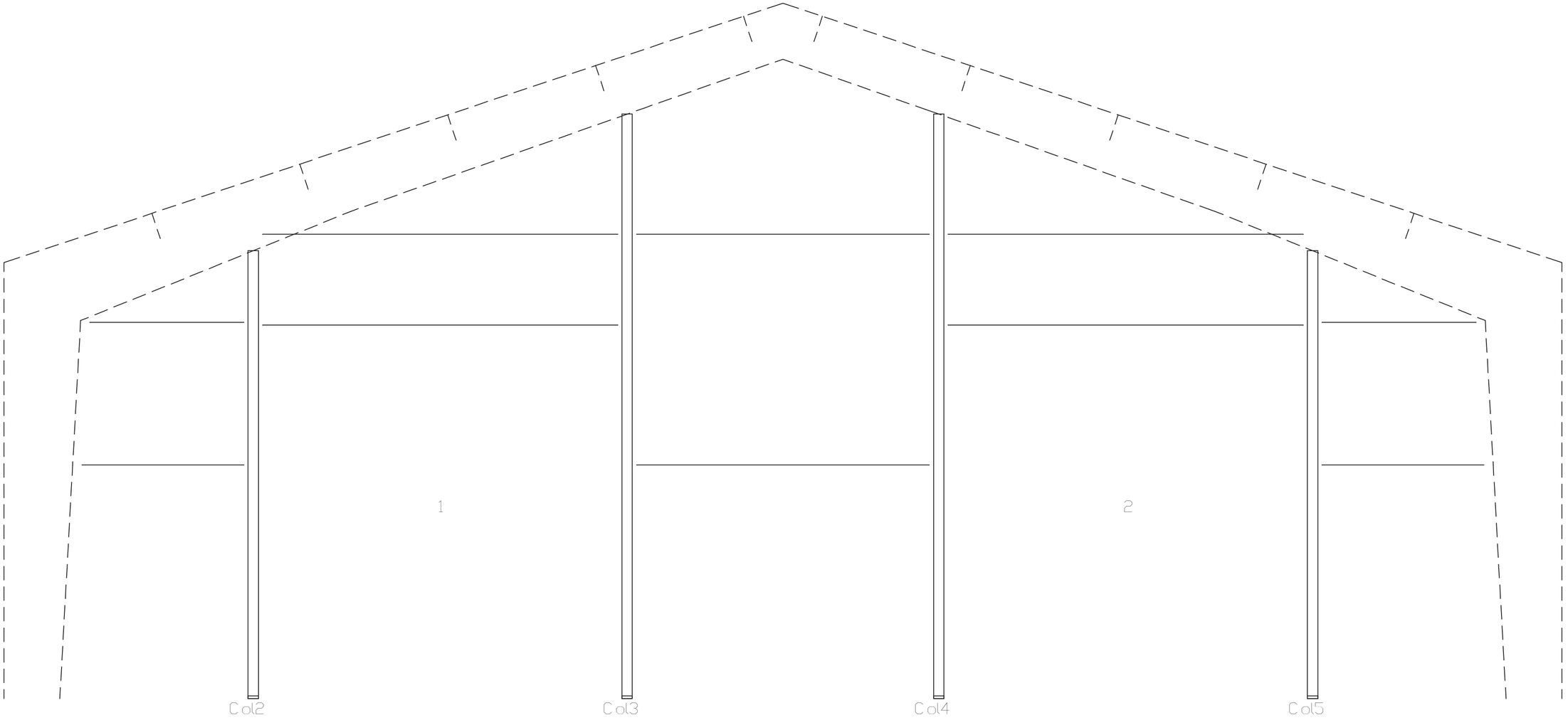
Side View

*Note: R.H. Shown
L.H. Opposite



End View

Instructions: Field Trimed Tab For Extension Cover Trim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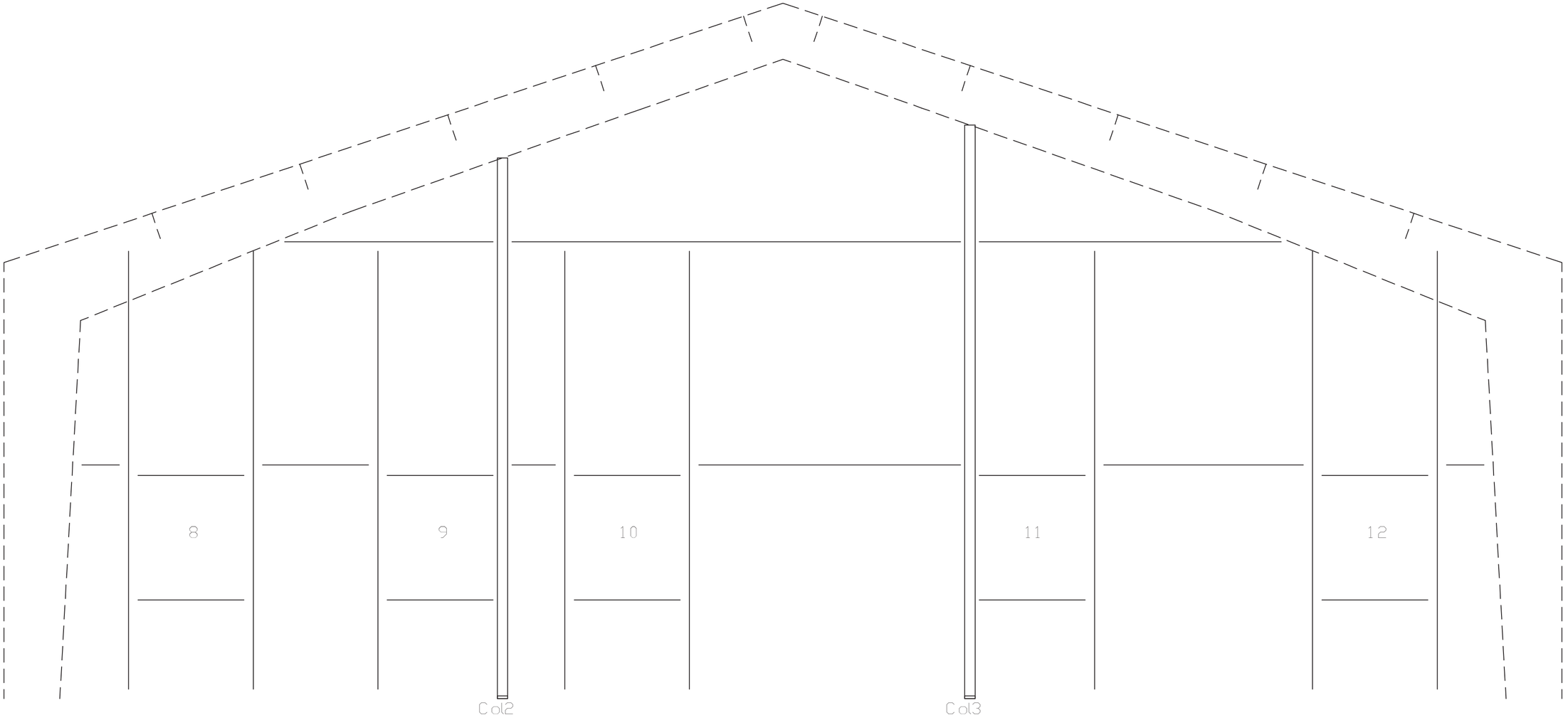
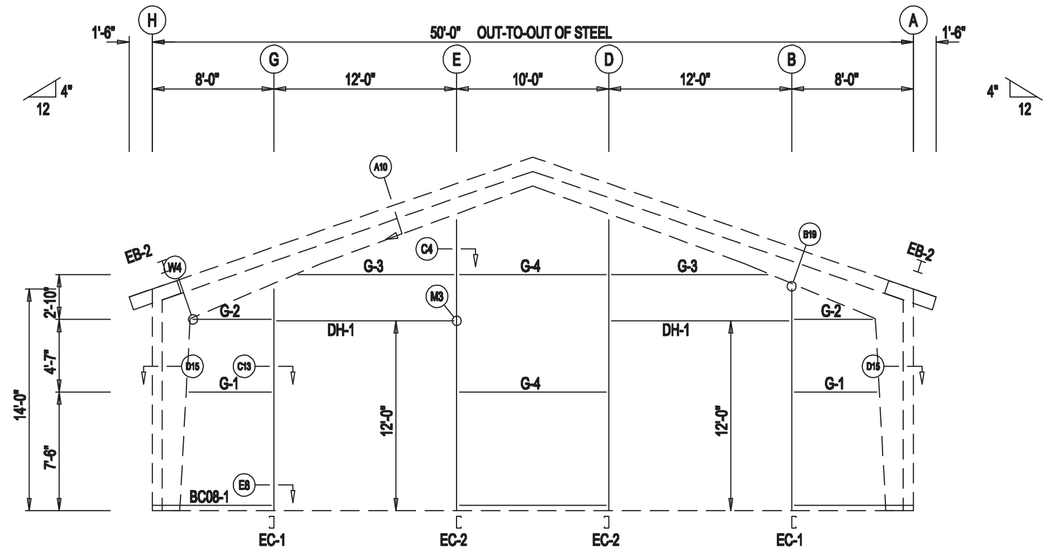
2
Col2
Col3
Col4
Col5

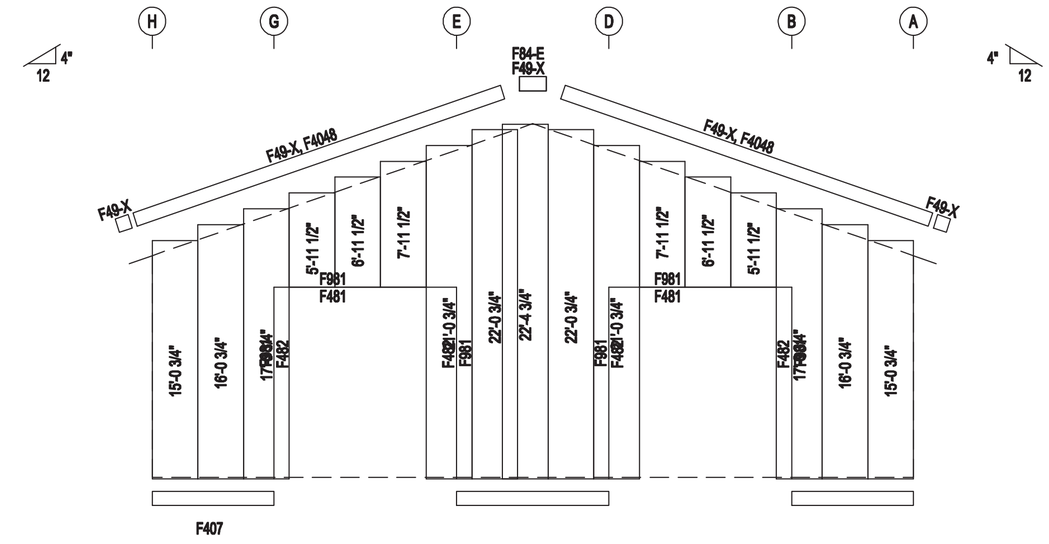


SE-2

2380395 RightEndwall Design 3/29/22



ENDWALL FRAMING: FRAME LINE 1



ENDWALL SHEETING & TRIM: FRAME LINE 1

PANELS: 26 Gauge PBR - Light Stone

BEARING FRAME ONLY!

WASHER TO BE USED AT ENDWALL COLUMN TO ENDWALL RAFTER CONNECTION. USE ONE WASHER ON COLUMN SIDE. WASHER NOT NEEDED ON CLIP SIDE.

BOLT TABLE
FRAME LINE 1

LOCATION	QUAN	TYPE	DIA	LENGTH
Columns/Raf	2	A325	1/2"	1 1/4"

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

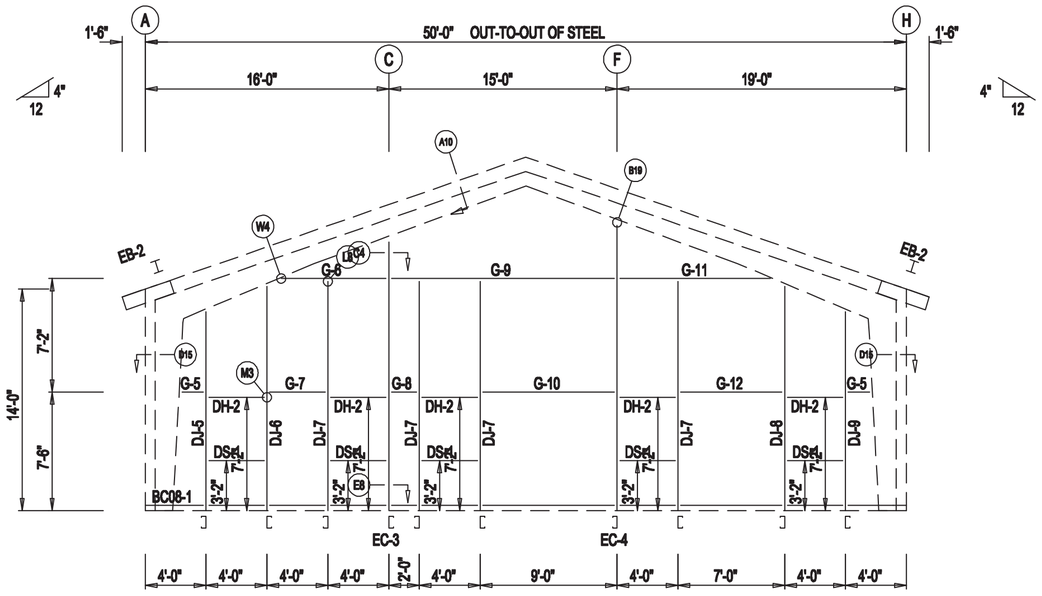
ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD, STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

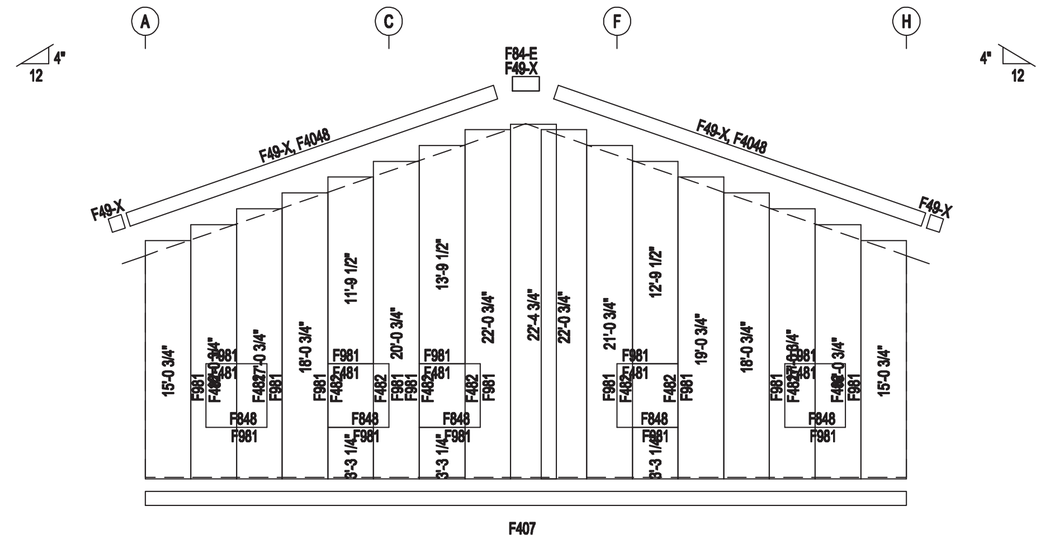
PROJECT:
CUSTOMER: OWNER:
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E5	0

S-23



ENDWALL FRAMING: FRAME LINE 4



ENDWALL SHEETING & TRIM: FRAME LINE 4

PANELS: 26 Gauge PBR - Light Stone

BEARING FRAME ONLY!

WASHER TO BE USED AT ENDWALL COLUMN TO ENDWALL RAFTER CONNECTION. USE ONE WASHER ON COLUMN SIDE. WASHER NOT NEEDED ON CLIP SIDE.

BOLT TABLE
FRAME LINE 4

LOCATION	QUAN	TYPE	DIA	LENGTH
Columns/Raf	2	A325	1/2"	1 1/4"

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD, STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:
CUSTOMER: OWNER:
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E6	0

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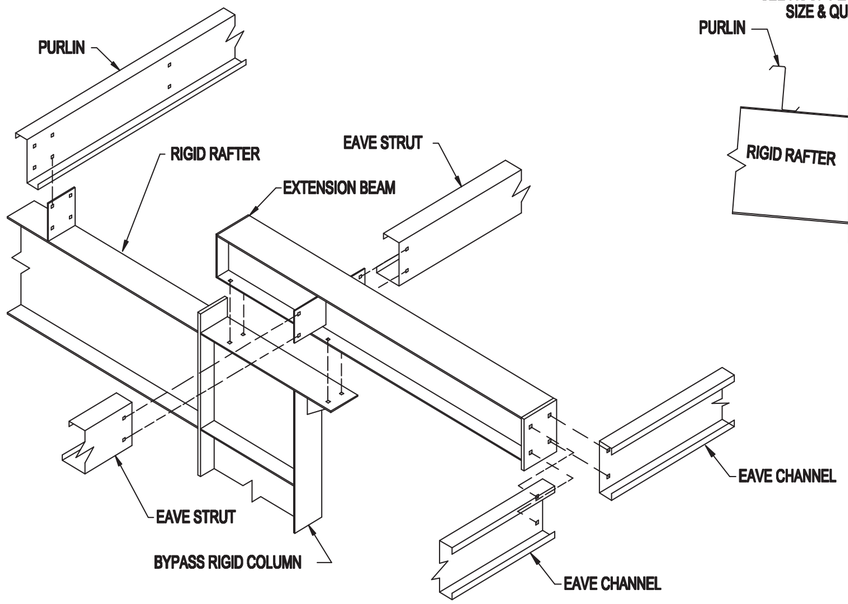
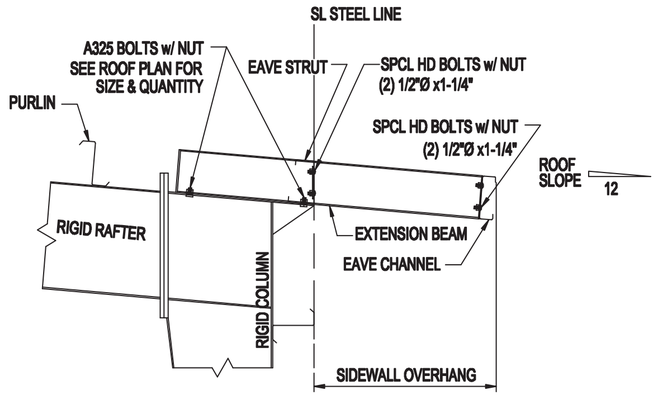
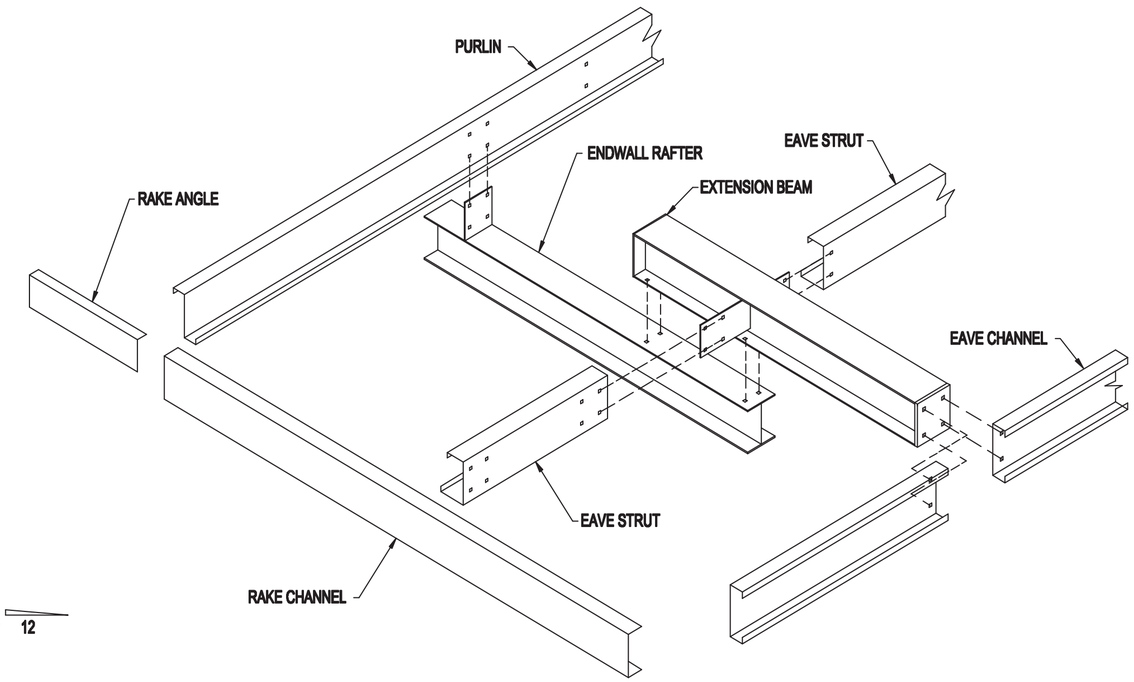


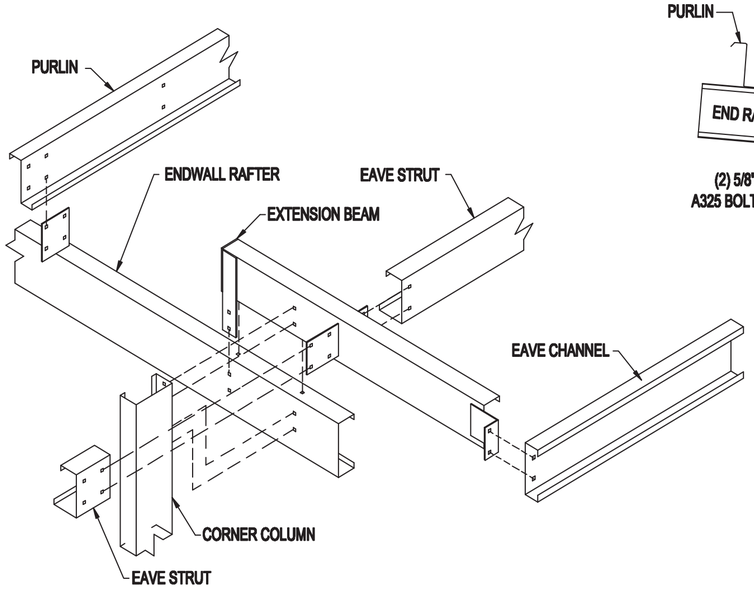
EXPLODED ISOMETRIC VIEW S/W OVERHANG
REFER TO SECTION FOR FASTENERS



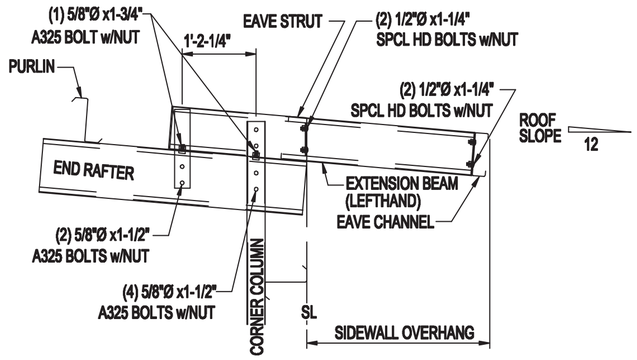
SECTION THRU RIGID FRAME



EXPLODED ISOMETRIC VIEW S/W TO E/W OVERHANG
REFER TO SECTION FOR FASTENERS



EXPLODED ISOMETRIC VIEW
REFER TO SECTION FOR FASTENERS



SECTION THRU BEARING FRAME
POST AND BEAM ENDWALL

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	9/15/16	FOR ERECTOR INSTALLATION	X	X	X

PROJECT: X
CUSTOMER: X
OWNER:
LOCATION: X

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
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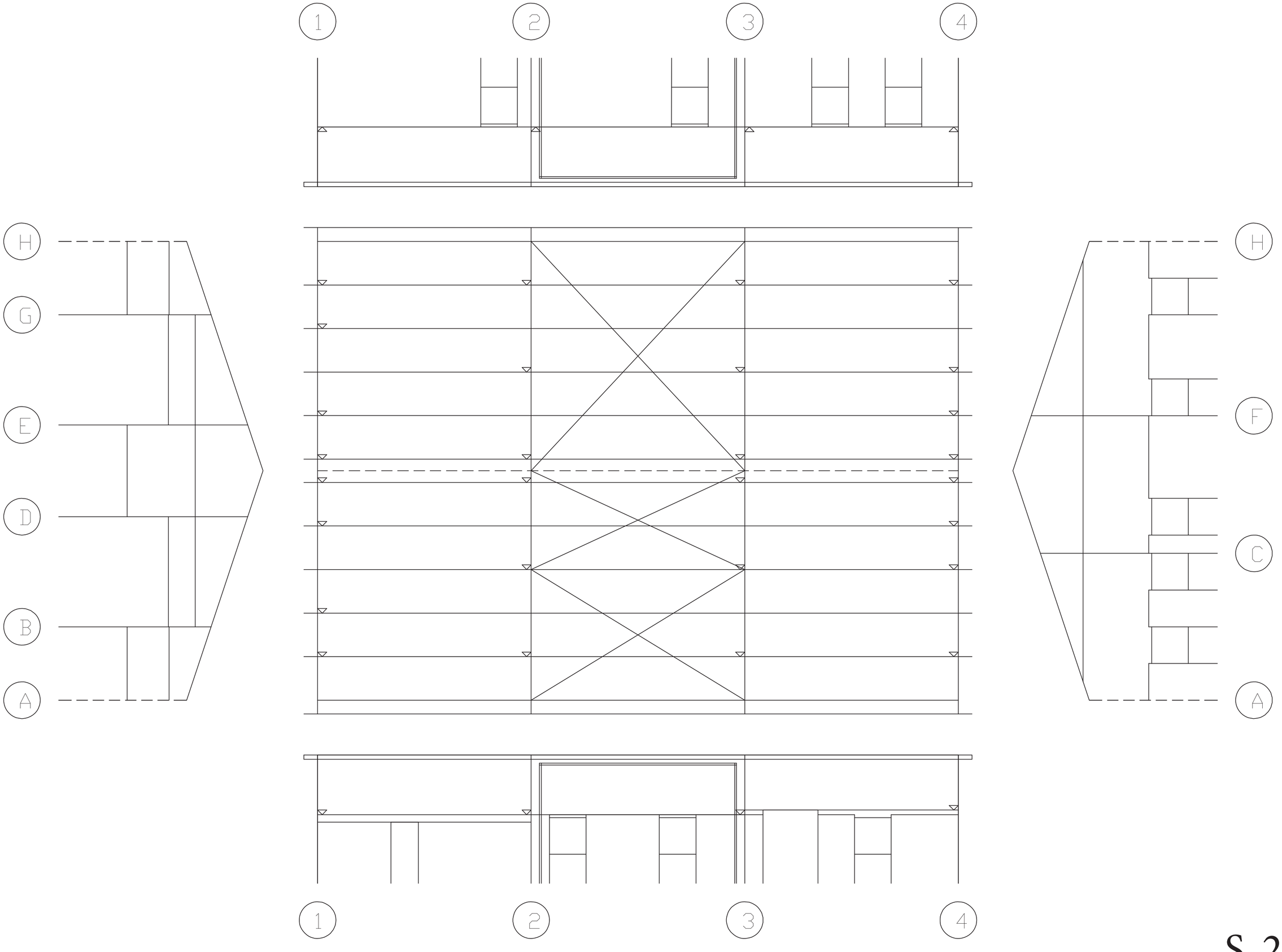
S-25



2380395

Framing Layout

3/29/22

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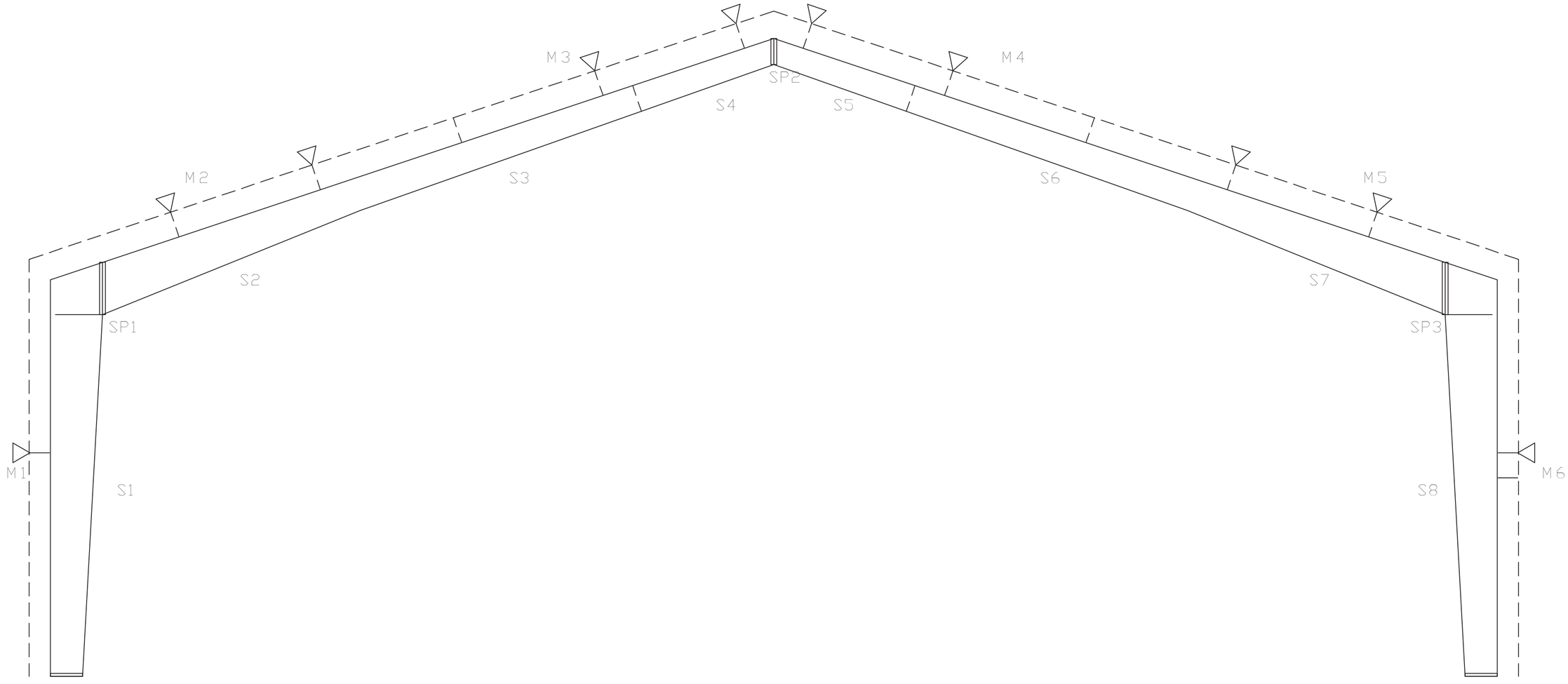
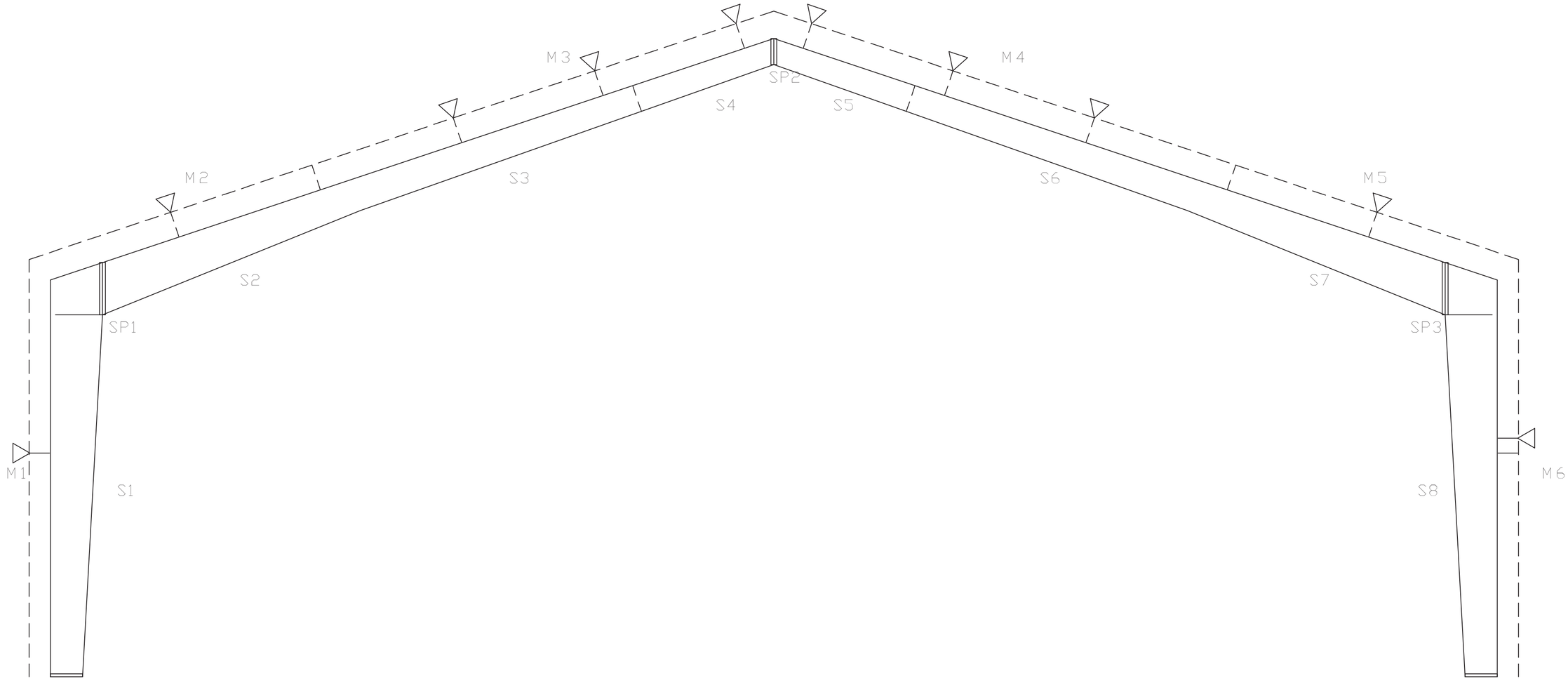

M3
M4
SP2
S4
S5
M2
S3
S6
M5
S2
S7
SP1
SP3
M1
S1
S8
M6


M3
M4
SP2
S4
S5
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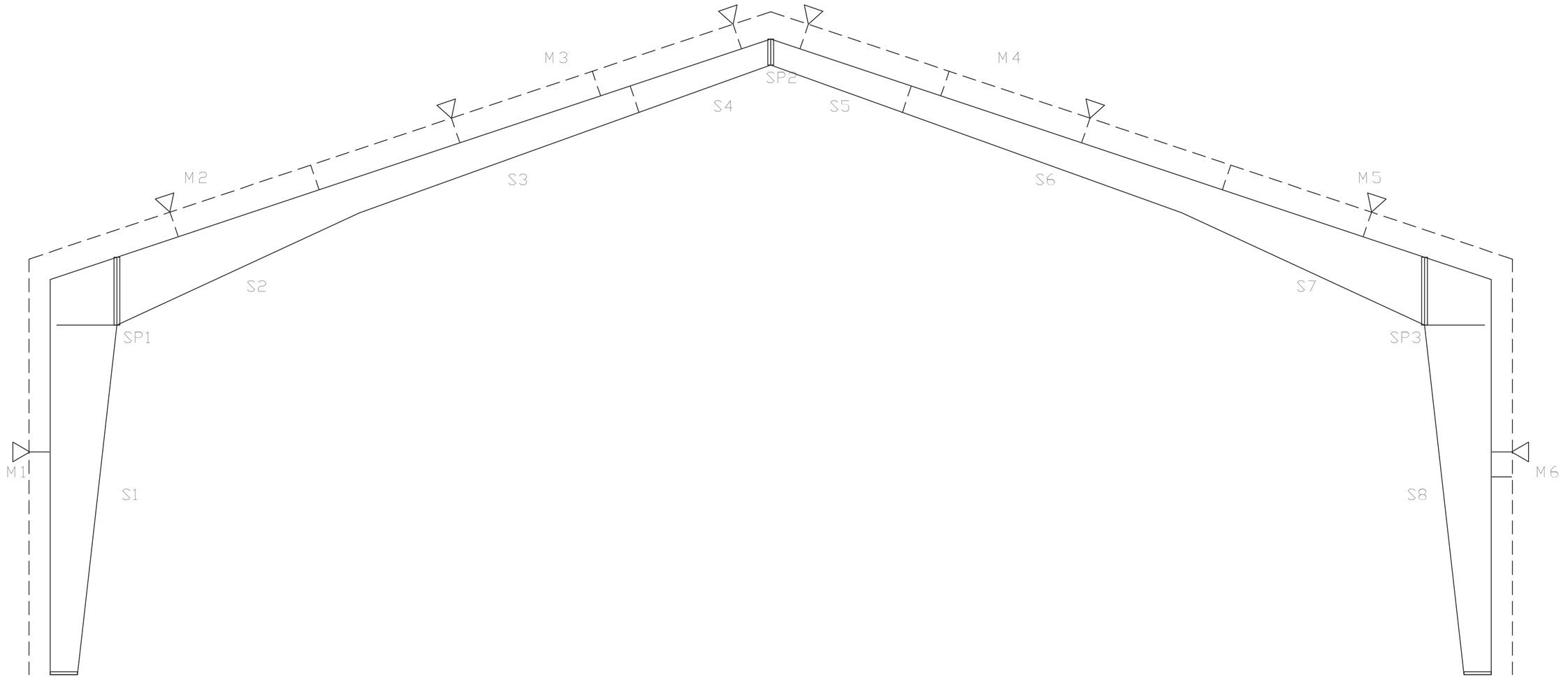
S3
S6
M5
S2
S7
SP1
SP3
M1
S1
S8
M6

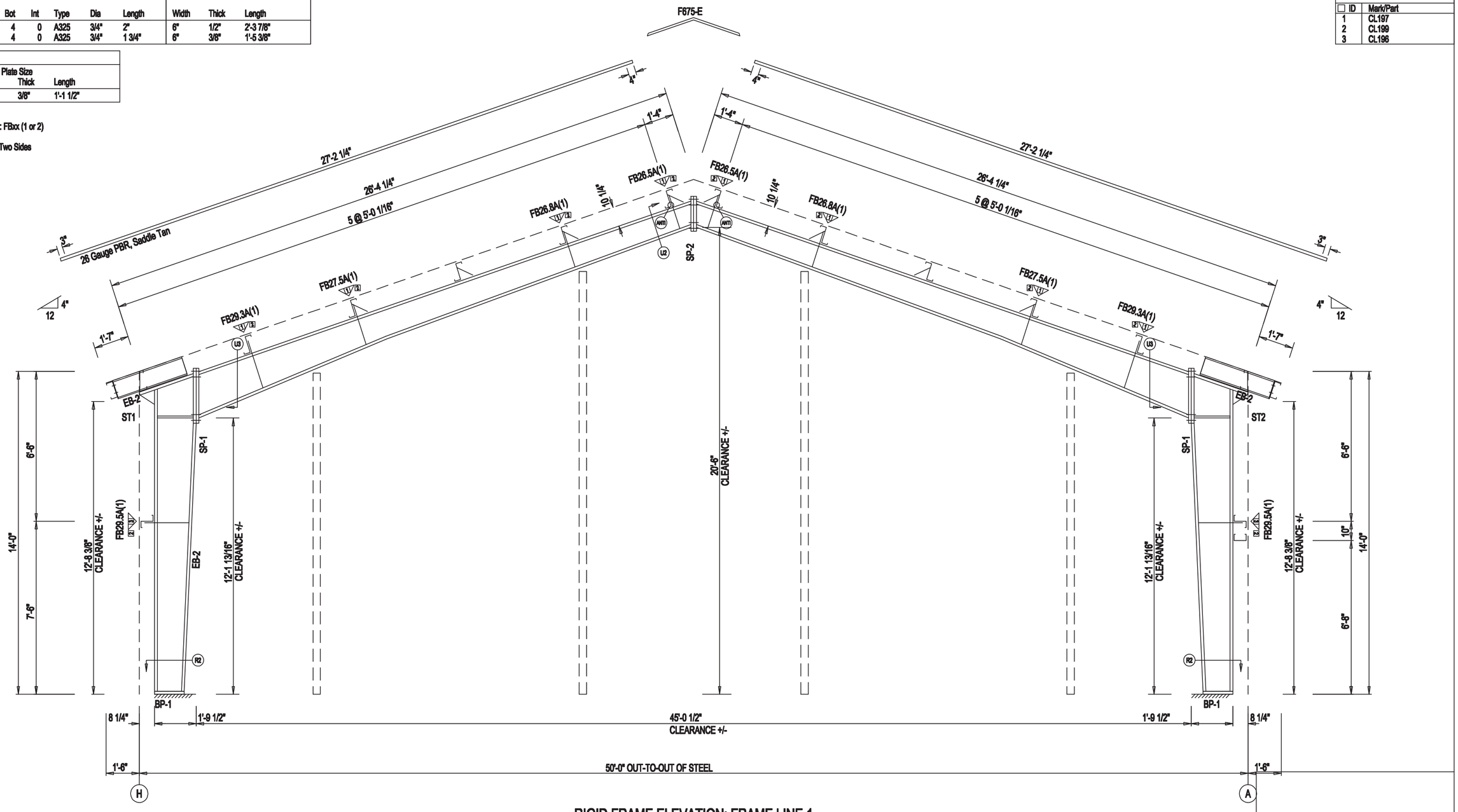

M3
M4
SP2
S4
S5
M2
S3
S6
M5
S2
S7
SP1
SP3
M1
S1
S8
M6

SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	3/4"	2"	6"	1/2"	2'-3 7/8"
SP-2	4	4	0	A325	3/4"	1 3/4"	6"	3/8"	1'-5 3/8"

BASE PLATE TABLE			
Col Mark	Plate Size Width	Thick	Length
BP-1	6"	3/8"	1'-1 1/2"

CONNECTION PLATES	
ID	Mark/Part
1	CL197
2	CL199
3	CL196

FLANGE BRACES: FBxx (1 or 2)
xx=length(in)
(1) One Side; (2) Two Sides
A - L2X2X14G



RIGID FRAME ELEVATION: FRAME LINE 1

GENERAL NOTES:

1. BOLT TIGHTENING - ALL BOLTED JOINTS WITH A325 TYPE 1 BOLTS ARE SPECIFIED AS SNUG-TIGHTENED JOINTS IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. PRE-TENSIONING METHODS, INCLUDING TURN-OF-NUT, CALIBRATED WRENCH, TWIST-OFF-TYPE TENSION-CONTROL BOLTS OR DIRECT-TENSION-INDICATOR ARE NOT REQUIRED. INSTALLATION INSPECTION REQUIREMENTS FOR SNUG TIGHT BOLTS DIRECT-TENSION-INDICATOR ARE NOT REQUIRED. INSTALLATION INSPECTION REQUIREMENTS FOR SNUG TIGHT BOLTS (SPECIFICATION FOR STRUCTURAL JOINTS SECTION 9.1) IS SUGGESTED.
2. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A325 BOLTS.
3. INSTALL ALL FLANGE BRACES ON COLUMN AND RAFTER AS SHOWN.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD. STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:
CUSTOMER: OWNER:
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E7	0

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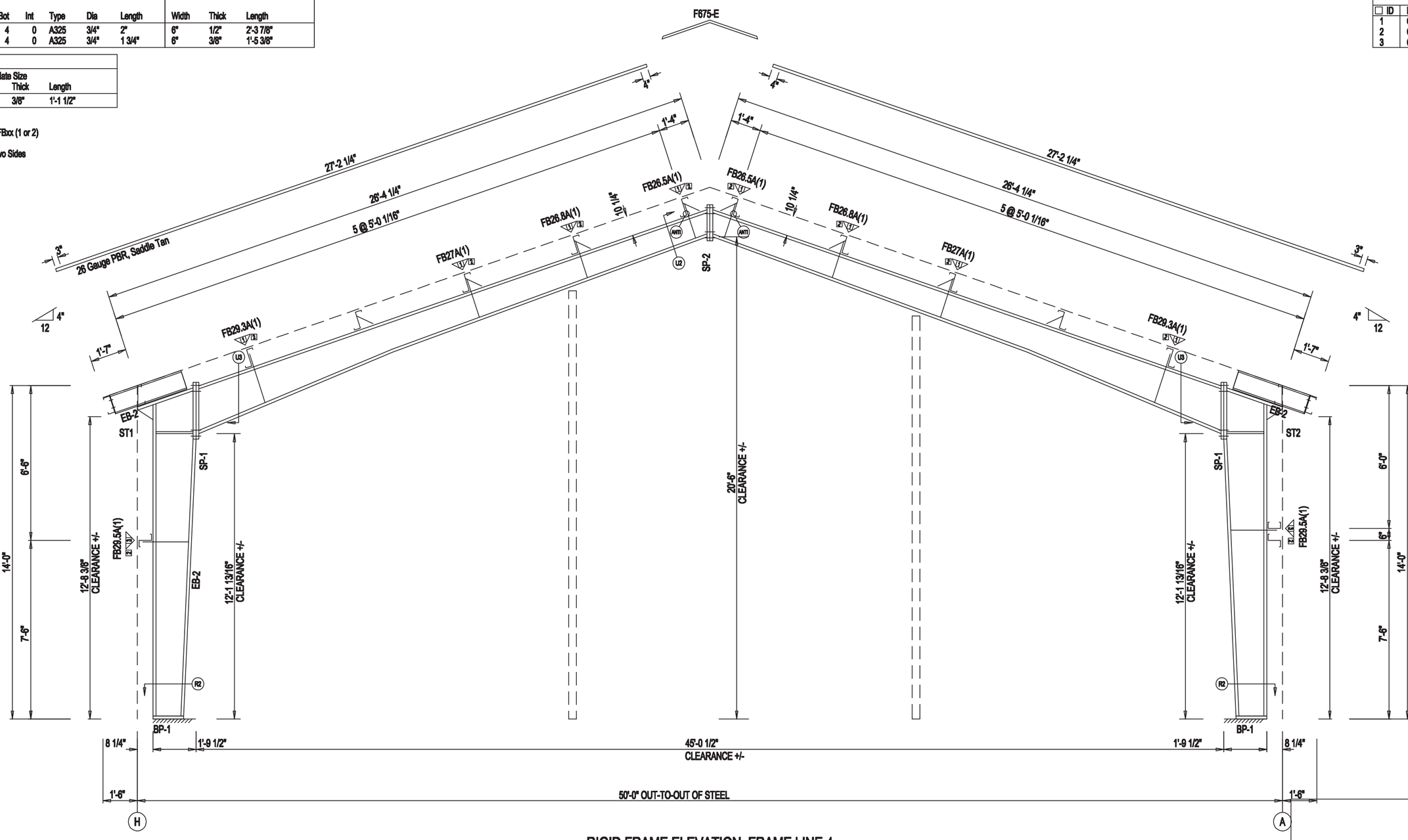
SPLICE PLATE & BOLT TABLE									
Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	0	A325	3/4"	2"	6"	1/2"	2'-3 7/8"
SP-2	4	4	0	A325	3/4"	1 3/4"	6"	3/8"	1'-5 3/8"

BASE PLATE TABLE			
Col Mark	Plate Size Width	Thick	Length
BP-1	6"	3/8"	1'-1 1/2"

CONNECTION PLATES	
ID	Mark/Part
1	CL197
2	CL199
3	CL196

FLANGE BRACES: FBxx (1 or 2)
xx=length(in)
(1) One Side; (2) Two Sides
A - L2X2X14G



RIGID FRAME ELEVATION: FRAME LINE 4

GENERAL NOTES:

1. BOLT TIGHTENING - ALL BOLTED JOINTS WITH A325 TYPE 1 BOLTS ARE SPECIFIED AS SNUG-TIGHTENED JOINTS IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. PRE-TENSIONING METHODS, INCLUDING TURN-OF-NUT, CALIBRATED WRENCH, TWIST-OFF-TYPE TENSION-CONTROL BOLTS OR DIRECT-TENSION-INDICATOR ARE NOT REQUIRED. INSTALLATION INSPECTION REQUIREMENTS FOR SNUG TIGHT BOLTS DIRECT-TENSION-INDICATOR ARE NOT REQUIRED. INSTALLATION INSPECTION REQUIREMENTS FOR SNUG TIGHT BOLTS (SPECIFICATION FOR STRUCTURAL JOINTS SECTION 9.1) IS SUGGESTED.
2. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A325 BOLTS.
3. INSTALL ALL FLANGE BRACES ON COLUMN AND RAFTER AS SHOWN.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD, STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:
CUSTOMER: OWNER:
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E8	0

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SPLICE PLATE & BOLT TABLE

Mark	Qty Top	Bot	Int	Type	Dia	Length	Width	Thick	Length
SP-1	4	4	2	A325	3/4"	2"	6"	1/2"	2'-10 1/4"
SP-2	4	4	0	A325	3/4"	1 3/4"	6"	3/8"	1'-5 3/8"

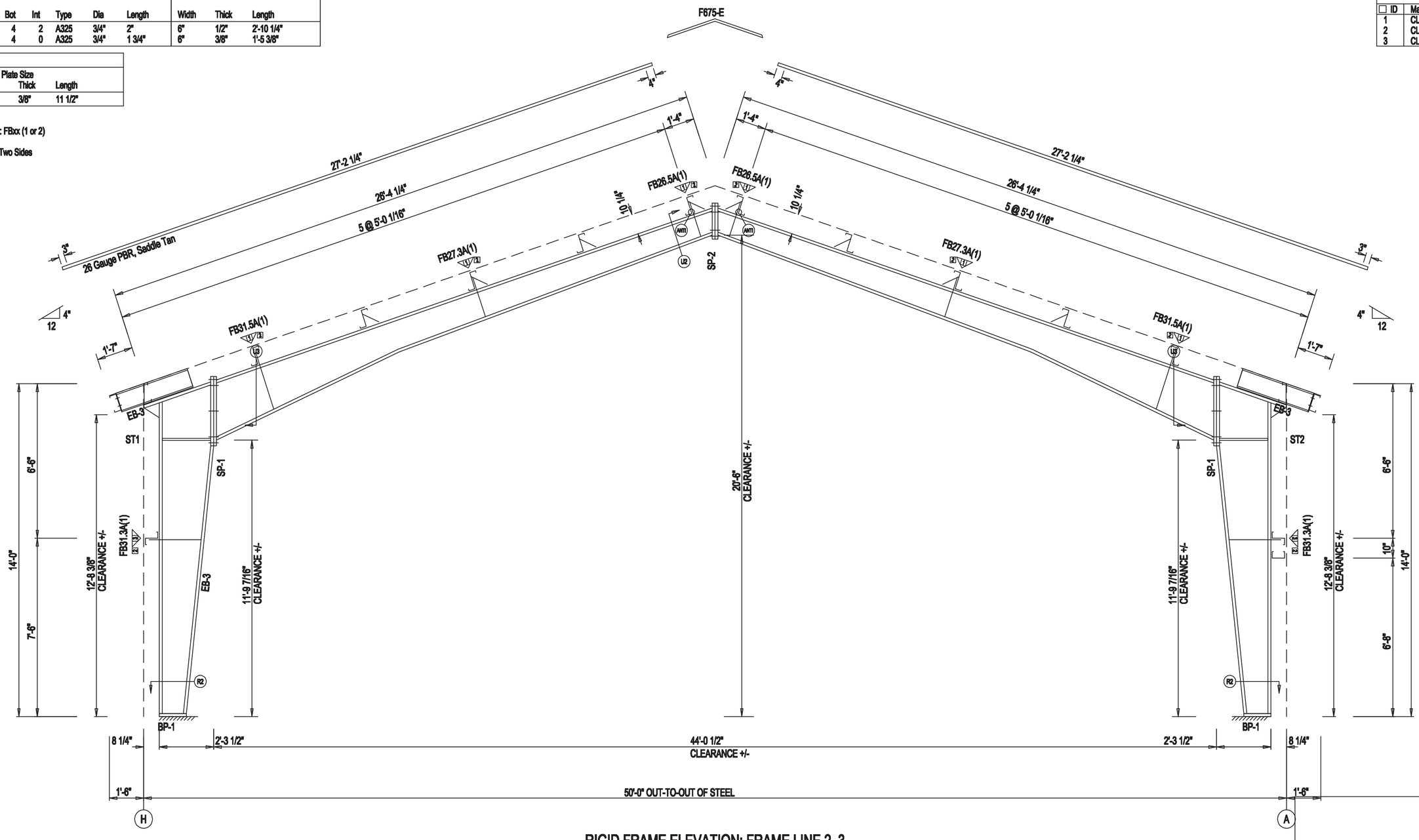
BASE PLATE TABLE

Col Mark	Plate Size Width	Thick	Length
BP-1	6"	3/8"	11 1/2"

CONNECTION PLATES

ID	Mark/Part
1	CL197
2	CL199
3	CL196

FLANGE BRACES: FBxx (1 or 2)
xx=length(in)
(1) One Side; (2) Two Sides
A - L2X2X14G



RIGID FRAME ELEVATION: FRAME LINE 2 3

GENERAL NOTES:

1. BOLT TIGHTENING - ALL BOLTED JOINTS WITH A325 TYPE 1 BOLTS ARE SPECIFIED AS SNUG-TIGHTENED JOINTS IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. ACCORDANCE WITH THE MOST RECENT EDITION OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. PRE-TENSIONING METHODS, INCLUDING TURN-OF-NUT, CALIBRATED WRENCH, TWIST-OFF-TYPE TENSION-CONTROL BOLTS OR DIRECT-TENSION-INDICATOR ARE NOT REQUIRED. INSTALLATION INSPECTION REQUIREMENTS FOR SNUG TIGHT BOLTS DIRECT-TENSION-INDICATOR ARE NOT REQUIRED. INSTALLATION INSPECTION REQUIREMENTS FOR SNUG TIGHT BOLTS (SPECIFICATION FOR STRUCTURAL JOINTS SECTION 9.1) IS SUGGESTED.
2. ALL FIELD CONNECTIONS OF SECONDARY FRAMING SHALL BE BOLTED WITH A325 BOLTS.
3. INSTALL ALL FLANGE BRACES ON COLUMN AND RAFTER AS SHOWN.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD. STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:
CUSTOMER: OWNER:
LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E9	0

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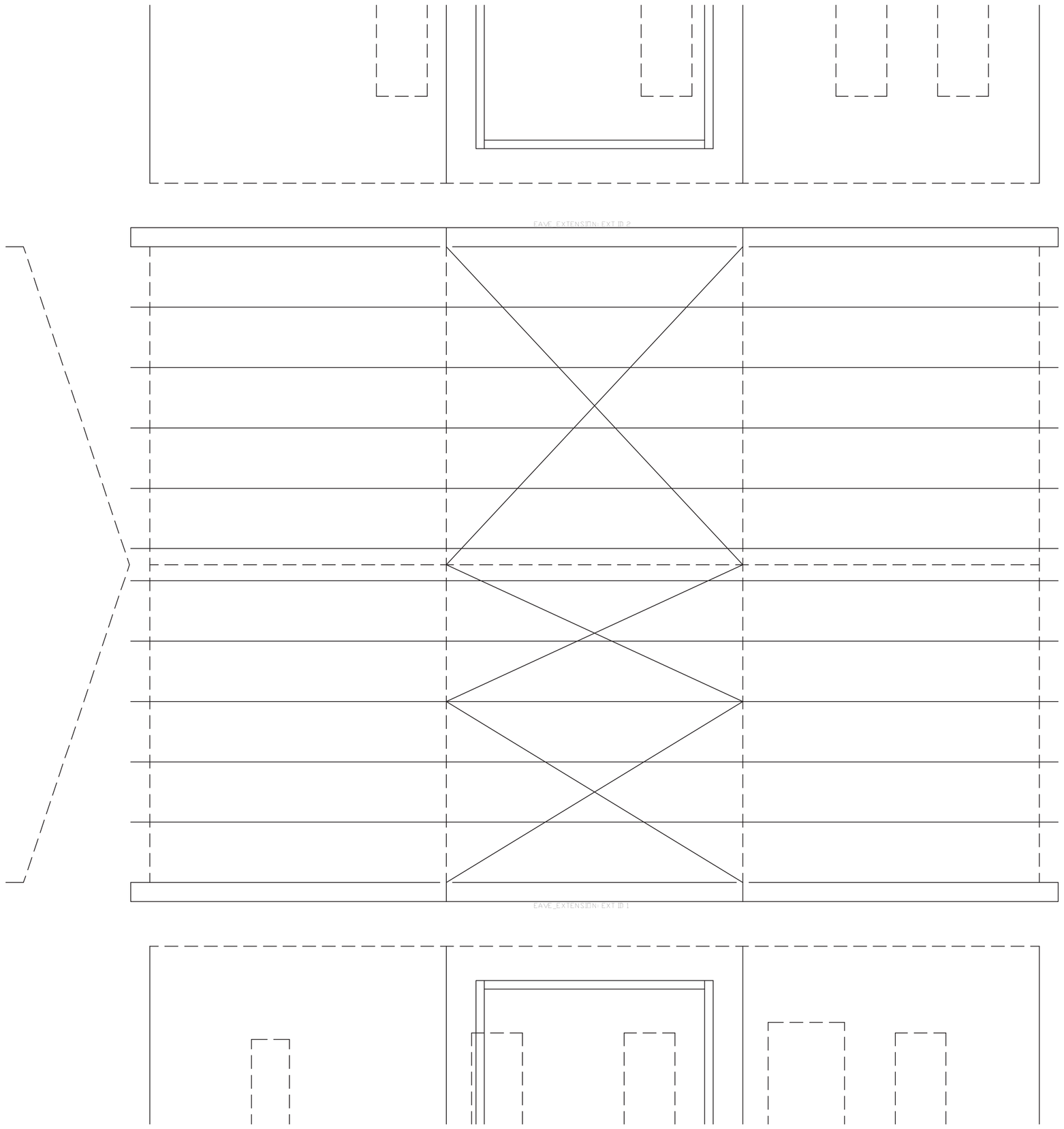
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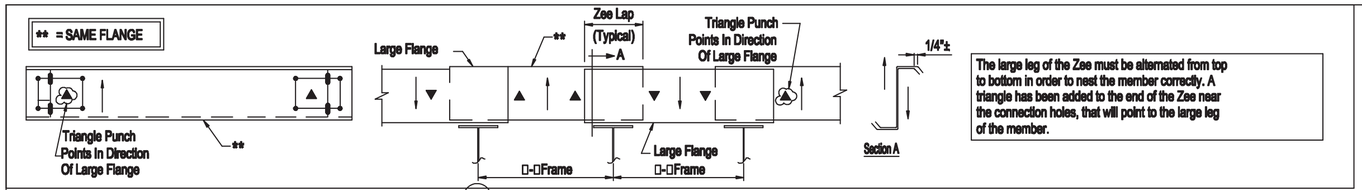
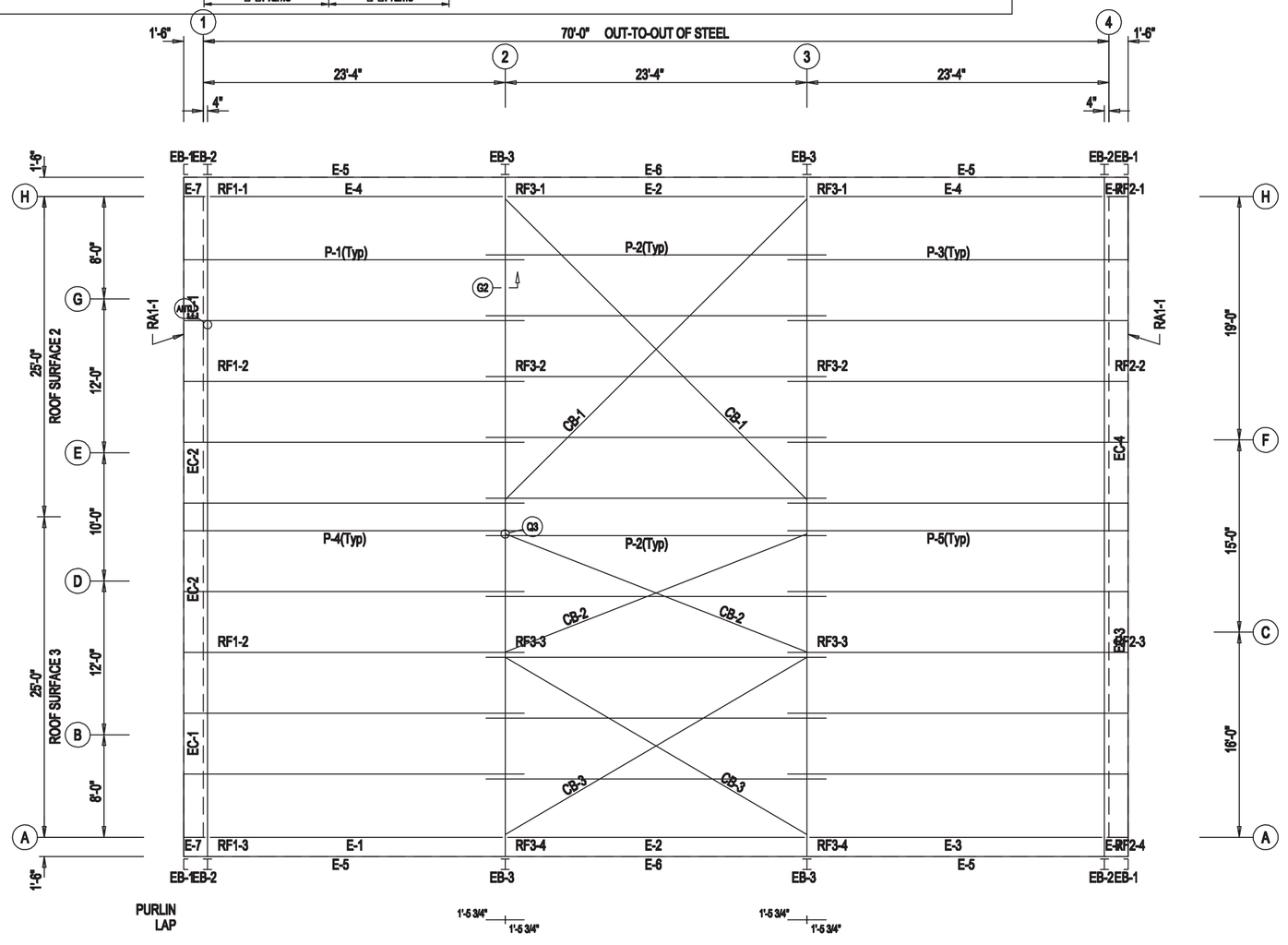


EXTENSION/CANOPY BOLTS ROOF PLAN				
MARK	QUAN	TYPE	DIA	LENGTH
EB-2	4	A325	1/2"	1 1/4"
EB-3	4	A325	1/2"	1 1/4"



ROOF FRAMING PLAN

GENERAL NOTES:

1. INSTALL ALL PURLIN AND FLANGE BRACES (FB) AS SHOWN.
2. ROOF PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. STRUT PURLINS, IF PROVIDED, MUST BE INSTALLED AND FASTENED TO ROOF SHEETING PER "PBR" PANEL ROOF DETAIL.
4. DO NOT ADD ANY ADDITIONAL ROOF OPENINGS WITHOUT BUILDING MANUFACTURER APPROVAL OR PROFESSIONAL ENGINEER APPROVAL.
5. DO NOT STACK SHEET BUNDLES ON ROOF. ONLY RAISE INDIVIDUAL SHEETS AS NEEDED.
6. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE
BUILDING SYSTEMS
2513 MCCAIN BLVD. STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E1	0

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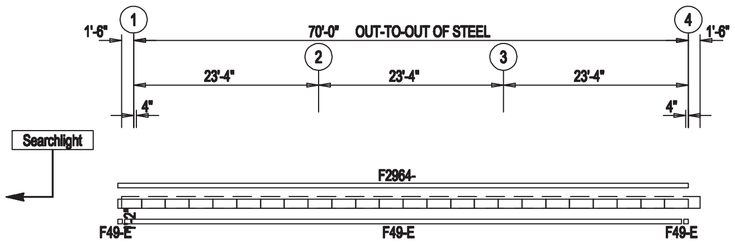
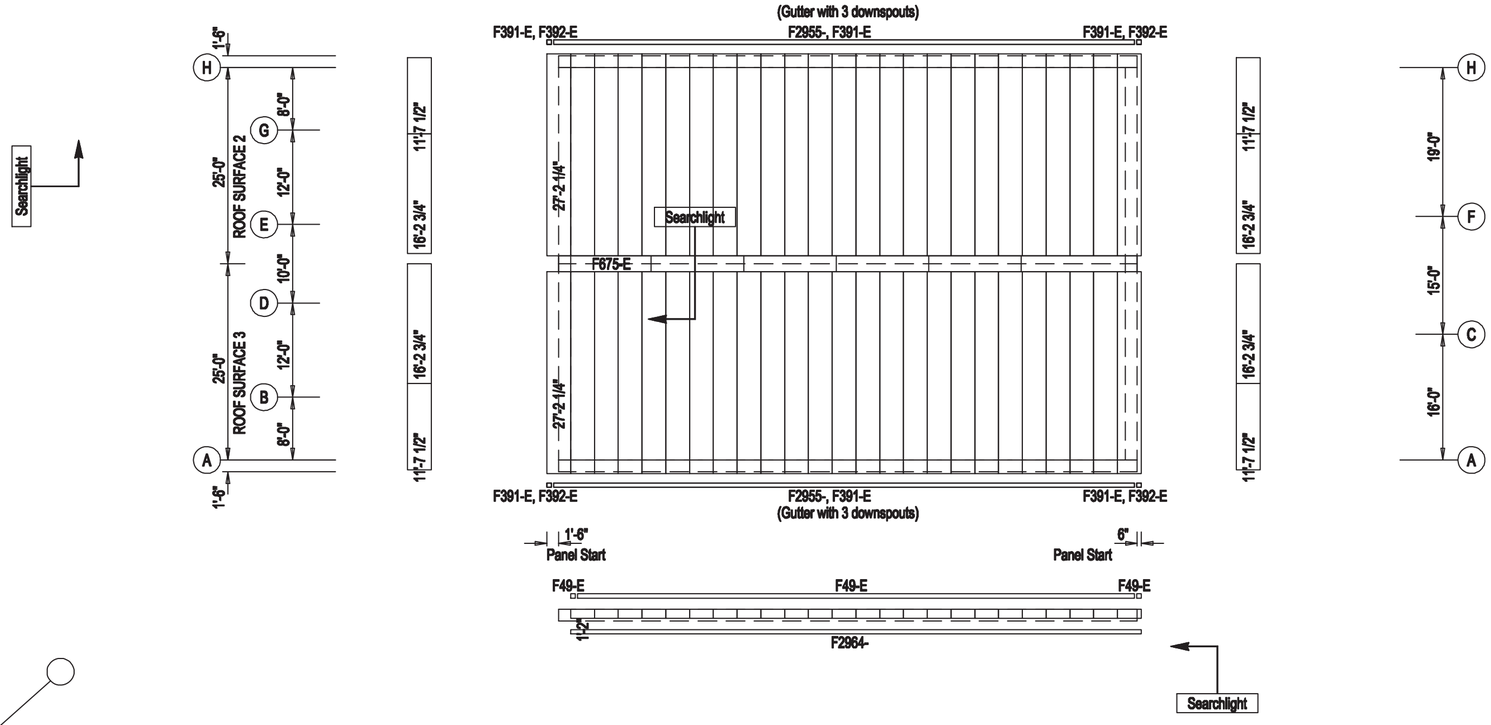
PBR ROOF SHEETING NOTE:

PBR ROOF PANELS ARE TO BE FIELD CUT IF THE PANELS EXTEND OUTSIDE OF THE ROOF PLANE, PANELS ARE NOT TO BE BACK LAPPED.





ROOF SHEETING PLAN

PANELS: 26 Gauge PBR - Saddle Tan

GENERAL NOTES:

1. INSTALL ALL PURLIN AND FLANGE BRACES (FB) AS SHOWN.
2. ROOF PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. STRUT PURLINS, IF PROVIDED, MUST BE INSTALLED AND FASTENED TO ROOF SHEETING PER "PBR" PANEL ROOF DETAIL.
4. DO NOT ADD ANY ADDITIONAL ROOF OPENINGS WITHOUT BUILDING MANUFACTURER APPROVAL OR PROFESSIONAL ENGINEER APPROVAL.
5. DO NOT STACK SHEET BUNDLES ON ROOF. ONLY RAISE INDIVIDUAL SHEETS AS NEEDED.
6. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD, STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E2	0

S-35


17
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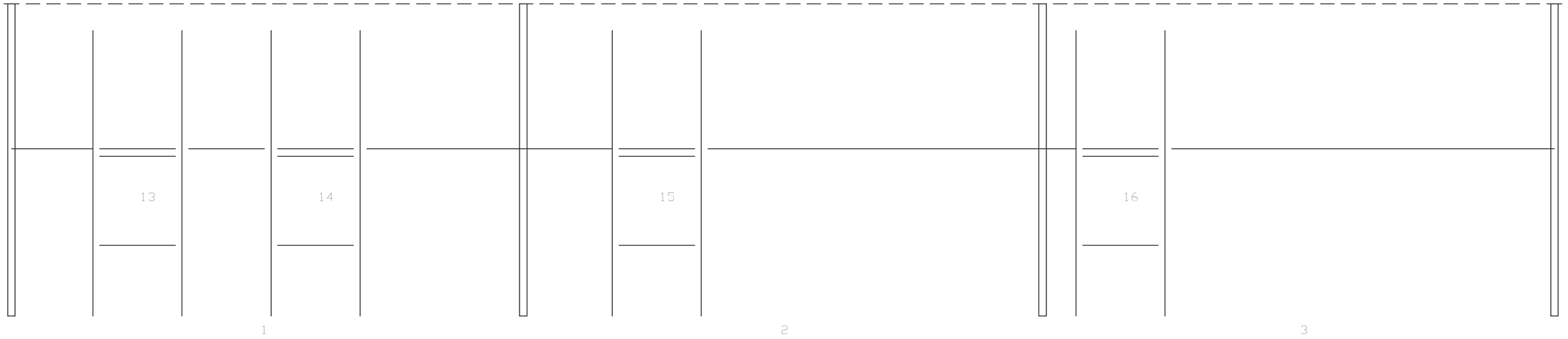
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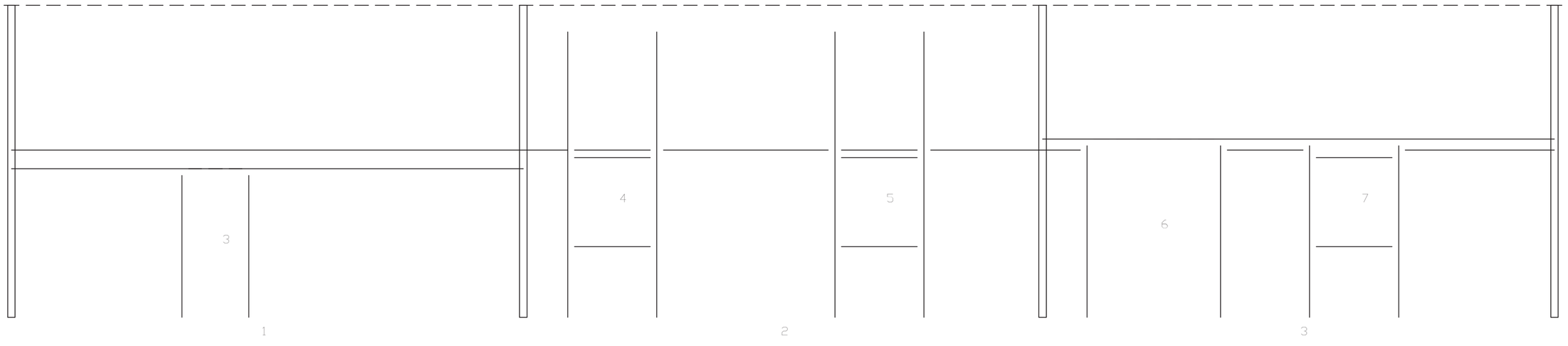

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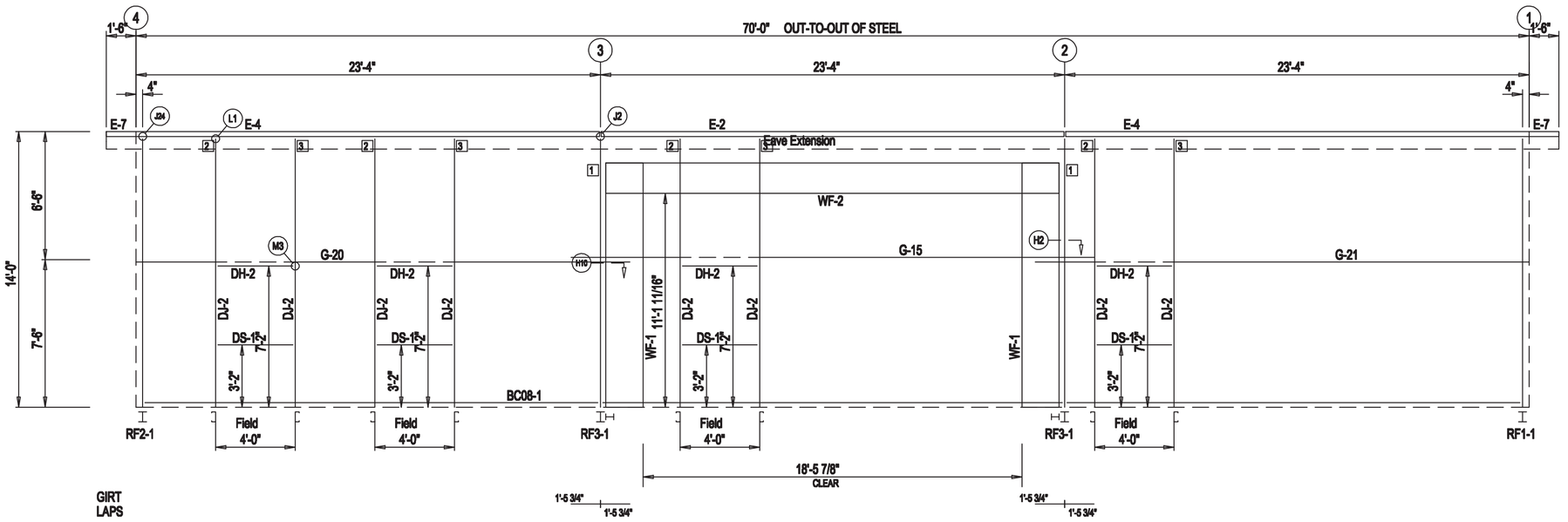
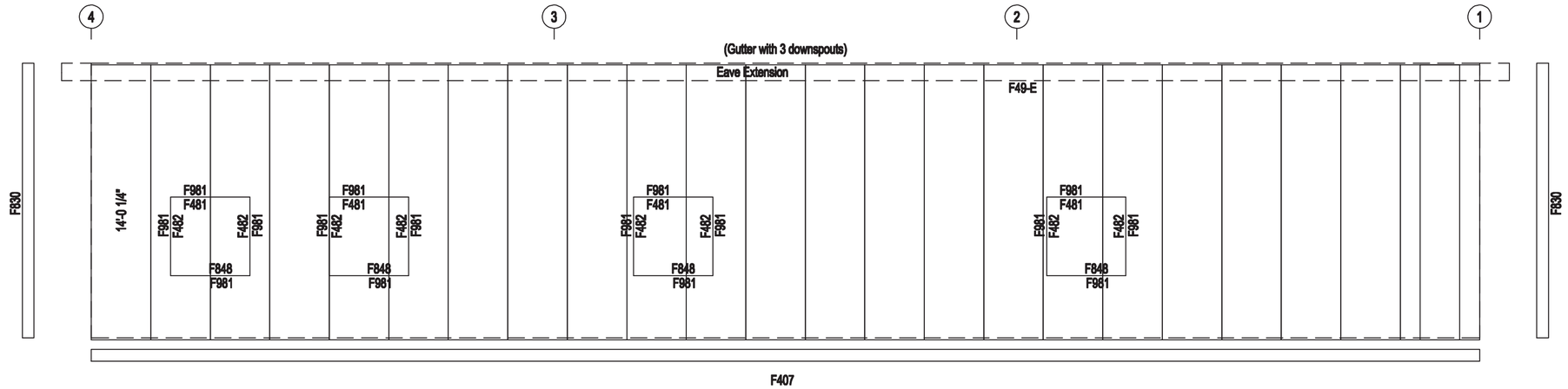
BOLT TABLE FRAME LINE H				
LOCATION	QUAN	TYPE	DIA	LENGTH
WF-1 - WF-2	8	A325	3/4"	2"
WF-1 - RF3-1	8	A325	3/4"	1 1/2"

CONNECTION PLATES FRAME LINE H	
ID	MARK/PART
1	SC479
2	SC587_L
3	SC587_R



SIDEWALL FRAMING: FRAME LINE H



SIDEWALL SHEETING & TRIM: FRAME LINE H

PANELS: 26 Gauge PBR - Light Stone

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD, STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E4	0

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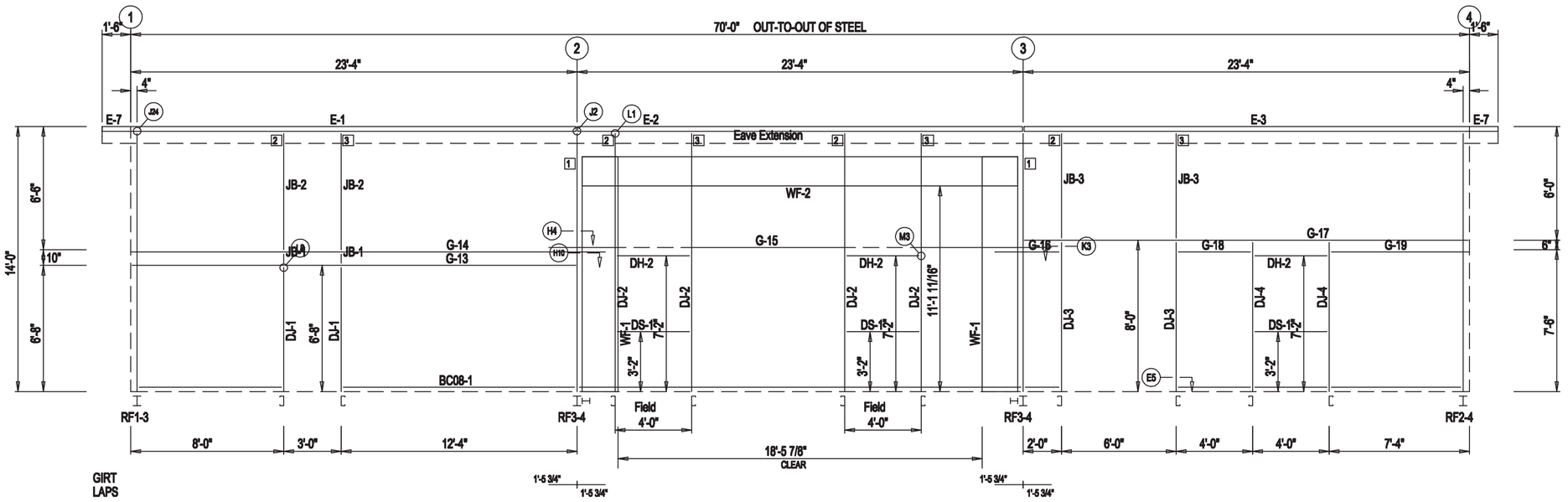
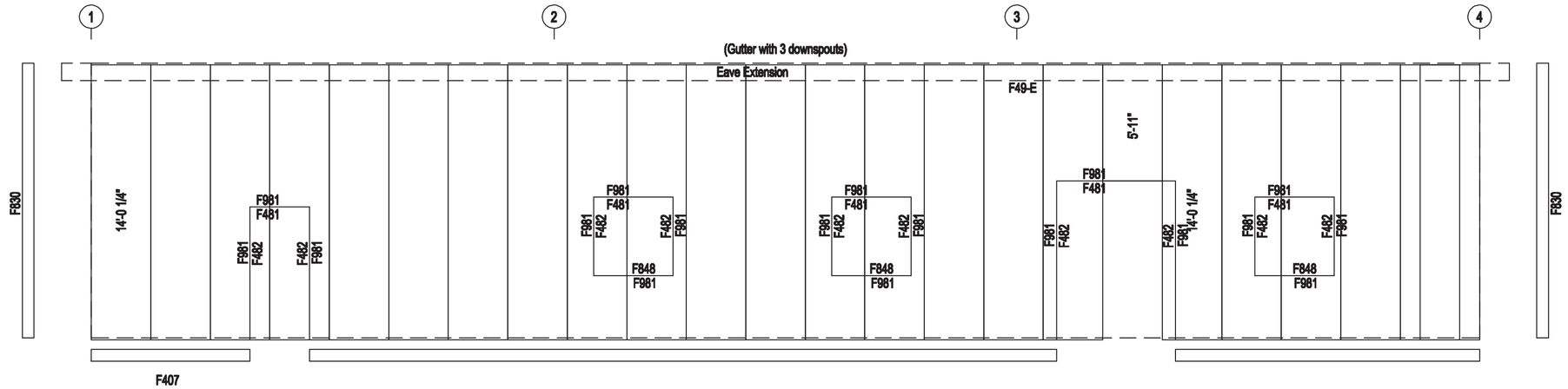
BOLT TABLE FRAME LINE A				
LOCATION	QUAN	TYPE	DIA	LENGTH
WF-1 - WF-2	8	A325	3/4"	2"
WF-1 - RF3-4	8	A325	3/4"	1 1/2"

CONNECTION PLATES FRAME LINE A	
ID	MARK/PART
1	SC479
2	SC587_L
3	SC587_R



SIDEWALL FRAMING: FRAME LINE A



SIDEWALL SHEETING & TRIM: FRAME LINE A

PANELS: 26 Gauge PBR - Light Stone

DOWNSPOUT SPACING LOCATIONS

DOWNSPOUTS ARE TO BE PLACED AT A SPACING NOT TO EXCEED ?? FT. WITH A DOWNSPOUT WITHIN ?? FT. OF EACH END OF THE GUTTER RUN. GUTTER STRAPS TO BE 2'-0" ON CENTER.

GENERAL NOTES:

1. INSTALL ALL GIRTS AND FLANGE BRACES (FB) AS SHOWN.
2. WALL PANEL PROVIDES STRUCTURAL STABILITY TO THE BUILDING.
3. OTHER THAN FOR WALK DOORS AND WINDOWS SHOWN ON THE CONTRACT, DO NOT ADD ADDITIONAL WALL OPENINGS WITHOUT APPROVAL OF BUILDING MANUFACTURER OR PROFESSIONAL ENGINEER.
4. AFTER INSTALLATION, WIPE ALL PANELS CLEAN OF METAL SHAVINGS CAUSED BY DRILLING.

ISSUE	DATE	DESCRIPTION	BY	CK'D	DSN
0	4/12/22	FOR QUOTE			

HERITAGE BUILDING SYSTEMS
2513 MCCAIN BLVD, STE 2 #385
NORTH LITTLE ROCK, AR 72116-7606
1-800-643-5555

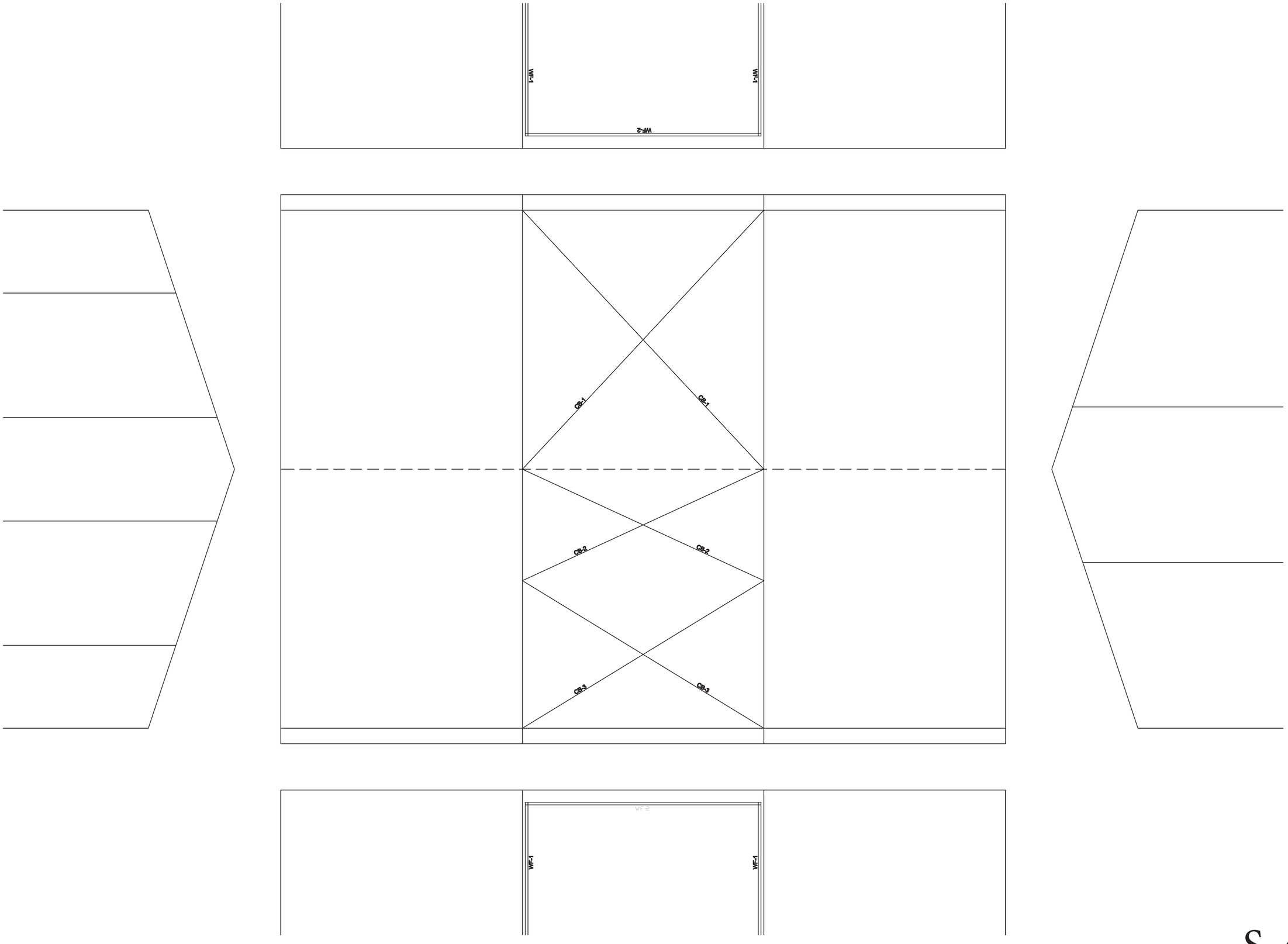
PROJECT:

CUSTOMER: OWNER:

LOCATION:

CAD	DATE	SCALE	PHASE	BUILDING ID	JOB NUMBER	SHEET NUMBER	ISSUE
	4/12/22	N.T.S.	1	A		E3	0

S-41



S-42

STRUCTURAL GENERAL NOTES

STRUCTURAL OBSERVATIONS

1. STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCRURAL SYSTEM IN ACCORDANCE WITH CITY OF SAN JOSE ORDINANCES. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETED STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR.

2. THE OWNER SHALL EMPLOY A CIVIL OR STRUCTURAL ENGINEER OR ARCHITECT TO PERFORM THE STRUCTURAL OBSERVATION. THE ENGINEER OR ARCHITECT SHALL BE REGISTERED OR LICENSED IN THE STATE OF CALIFORNIA. THE DEPARTMENT OF BUILDING & SAFETY RECOMMENDS THE USE OF THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN WHEN THEY ARE INDEPENDENT OF THE CONTACTOR.

3. THE STRUCTURAL OBSERVER SHALL PROVIDE EVIDENCE OF EMPLOYMENT BY THE OWNER. A LETTER FROM THE OWNER OR A COPY OF THE AGREEMENT FOR SERVICES SHALL BE SENT TO THE BUILDING INSPECTOR BEFORE THE FIRST SITE VISIT. THE STRUCTURAL OBSERVER SHALL ALSO INFORM THE OWNER OF THE REQUIREMENTS FOR A PRE-CONSTRUCTION MEETING AND SHALL PRESIDE OVER THAT MEETING.

4. THE OWNER OR OWNER'S REPRESENTATIVE SHALL COORDINATE AND CALL FOR A MEETING BETWEEN THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND DEPUTY INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT THE VERTICAL AND LATERAL LOAD SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT AND SUBMITTED TO THE BUILDING INSPECTOR.

5. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL ENGINEER.

STRUCTURAL OBSERVATION & DESIGNATION OF THE STRUCTURAL OBSERVER			
PROJECT ADDRESS: 10818 CROTHERS ROAD, SAN JOSE, CA 95127			PERMIT APPL. NO.:
DESCRIPTION OF WORK: PROPOSED NEW BARN			
OWNER: LARSON BARN	ARCHITECT: ECO-STRUCTION		ENGINEER: THANG LE, SE
STRUCTURAL OBSERVATION (ONLY CHECKED ITEMS ARE REQUIRED)			
FIRM OR INDIVIDUAL TO BE RESPONSIBLE FOR THE STRUCTURAL OBSERVATIONS: THANG LE, S.E.			
NAME: THANG LE	PHONE: 626-731-1539		CALIF. REGISTRATION: S4978
FOUNDATION	WALL	FRAME	DIAPHRAGM
☑ FTG., STEM WALLS, PIERS	☐ CONCRETE	☐ STL. MMNT. FRM.	☐ CONCRETE
☐ MAT FOUNDATION	☐ MASONRY	☐ STL. BRACED FRM.	☐ STEEL DECK
☐ CAISSON, PILES, GRD. BMS.	☐ WOOD SHEAR	☐ CONC. MMNT. FRM.	☐ WOOD
☐ STEPPED FTG./RETAINING FND. HILLSIDE SPECIAL ANCHORS	☐ WALL GREATER THAN 350 PLF	☐ MAS. WALL FRM.	☐ OTHERS
☐ OTHERS:	☐ RASTRA	☐ OTHERS:	

6. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT ON THE DEPARTMENT FORM B&S 261 FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED. THE ORIGINAL OF THE OBSERVATION REPORT SHALL BE SENT TO THE BUILDING INSPECTOR'S OFFICE AND SHALL BE SIGNED AND SEALED (WET STAMPED) BY THE RESPONSIBLE STRUCTURAL OBSERVER. ONE COPY OF THE OBSERVATION REPORT SHALL BE ATTACHED TO THE APPROVED PLANS. COPIES OF THE REPORT SHALL ALSO BE GIVEN TO THE OWNER, CONTRACTOR AND DEPUTY INSPECTOR.

7. A FINAL OBSERVATION REPORT MUST BE SUBMITTED WHICH SHOWS THAT ALL OBSERVED DEFICIENCIES WERE RESOLVED AND THE STRUCTURAL SYSTEM GENERALLY CONFORMS WITH THE APPROVED PLANS AND SPECIFICATIONS. THE DEPARTMENT OF BUILDING AND SAFETY WILL NOT ACCEPT STRUCTURAL WORK WITHOUT THIS FINAL OBSERVATION REPORT AND THE CORRECTION OF SPECIFIC DEFICIENCIES NOTED DURING NORMAL BUILDING AND DEPUTY INSPECTION.

8. WHEN THE OWNER ELECTS TO CHANGE THE STRUCTURAL OBSERVER OF RECORD, THE OWNER SHALL:
   a) NOTIFY THE BUILDING INSPECTOR IN WRITING BEFORE THE NEXT INSPECTION;
   b) CALL AN ADDITIONAL PRE-CONSTRUCTION MEETING AND
   c) FURNISH THE REPLACEMENT STRUCTURAL OBSERVER WITH A COPY OF ALL PREVIOUS OBSERVATION REPORTS.

   THE REPLACEMENT STRUCTURAL OBSERVER SHALL APPROVE THE CORRECTION OF THE ORIGINAL OBSERVED DEFICIENCIES UNLESS OTHERWISE APPROVED BY PLAN CHECK SUPERVISION. THE POLICY OF THE DEPARTMENT SHALL BE TO CORRECT ANY PROPERLY NOTED DEFICIENCIES WITHOUT CONSIDERATION OF THEIR SOURCE.

9. THE ENGINEER OR ARCHITECT OF RECORD SHALL DEVELOPE ALL CHANGES RELATING TO THE STRUCTURAL SYSTEMS. THE BUILDING DEPARTMENT SHALL REVIEW AND APPROVE ALL CHANGES TO THE APPROVED PLANS AND SPECIFICATIONS.

B. STRUCTURAL STEEL

1. PROVIDE STRUCTURAL STEEL COMPLYING WITH THE 2020 LABC CHAPTER 22 AND THE FOLLOWING ASTM STANDARD SPECIFICATIONS, UNLESS OTHERWISE NOTED:
   a. ALL STRUCTURAL STEEL UNLESS OTHERWISE NOTED BELOW ..... ASTM A36
   b. ANCHOR BOLTS OR UNFINISHED MACHINE BOLTS ..... ASTM A307
   c. PIPES ..... ASTM A53, GRADE B (35 KSI)
   d. TUBES ..... ASTM A500, GRADE B (46 KSI)
   e. W SHAPES ..... ASTM A992 (50 KSI)
   f. THREADED ROUND STOCK ..... ASTM A36
   g. REINFORCING STEEL ..... SEE REINFORCING STEEL SECTION

2. HIGH STRENGTH BOLTS
   a. PROVIDE HIGH STRENGTH BOLTS, NUTS, AND WASHERS COMPLYING WITH ASTM A325 UNLESS OTHERWISE NOTED. ALL HIGH STRENGTH BOLTS SHALL BE BEARING TYPE WITH THREADS INCLUDED IN SHEAR PLANE (A325-N), UNLESS OTHERWISE NOTED. PROVIDE SLIP-CRITICAL HIGH STRENGTH BOLTS (A325-SC) ONLY WHERE SPECIFICALLY INDICATED ON PLANS.
   b. ASSEMBLE HIGH STRENGTH BOLTS IN COMPLIANCE WITH "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 FOR A490 BOLTS" AND THE IBC STANDARD 27-1 AND 27-7.

3. FABRICATE AND ERECT STRUCTURAL STEEL IN COMPLIANCE WITH THE LATEST EDITION OF AISC "LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".

4. WELD STRUCTURAL STEEL IN COMPLIANCE WITH ANSI / AWS D1.1 AND AISC "SPECIFICATIONS," CHAPTER J.
   a. WELDERS SHALL CERTIFIED AS REQUIRED BY GOVERNING CODE AUTHORITY
   b. WELDING SHALL BE DONE BY ELECTRONIC ARC PROCESS USING E70XX ELECTRODES UNLESS OTHERWISE NOTED.
   c. WELDING MAY BE PERFORMED USING SUBMERGED ARC PROCESS WITH AUTOMATIC WELDING (SAW-1).
   d. PERFORM SHOP WELDING AND BY A FABRICATOR APPROVED BY GOVERNING CODE AUTHORITY.
   f. PROVIDE SPECIAL INSPECTION FOR ALL FIELD WELDING.

5. FIELD WELDING TO BE DONE IN WELDERS CERTIFIED BY THE LADBS FOR STRUCTURAL STEEL, REINFORCING STEEL AND LIGHT GAGE STEEL. CONTINUOUS INSPECTION BY A DEPUTY INSPECTOR IS REQQUIRED.

6. SHOP WELDS MUST BE PERFORMED IN THE LADBS LICENSED FABRICATOR SHOP.

7. LADBS LICENSED FABRICATOR IS REQUIRED FOR STRUCTURAL STEEL.

C. METAL STUD – LIGHT GAUGE STEEL (ICC-ES ESR-1538)

1. ALL WORK SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:
   a. AMERICAN IRON AND STEEL INSITUTE (AISI) DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.
   b. AMERICAN WELDING SOCIETY (AWS) D1.1 AND D1.3 SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURE.
   c. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

2. ALL STUD AND TRACK MATERIAL TO COMFORM TO THE FOLLOWING:
   a. 16 GAUGE AND HEAVIER:
      + 50 KSI MINIMUM YIELD, 65 KSI MINIMUM TENSILE STRENGTH
      + PAINTED STEEL ..... ASTM A570 – GRADE 50
      + GALVANIZED STEEL ..... ASTM A653 – GRADE 50
   b. 18 GAUGE AND LIGHTER:
      + 33 KSI MINIMUM YIELD, 45 KSI MINIMUM TENSILE STRENGTH
      + PAINTED STEEL..... ASTM A611 – GRADE C
      + GALVANIZED STEEL ..... ASTM A653 – GRADE 33

3. ALL WELDING TO BE PERFORMED BY CERTIFIED LIGHT GAUGE WELDERS CERTIFIED FOR ALL APPROPRIATE DIRECTION COMPLYING WITH AWS D1.2.

4. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY OR ON AN ANGLE SUCH AS BRACING TO SQUARELY FIT AGAINST ABUTTING MEMBERS. MEMBERS SHALL BE HELD FIRMLY IN POSITION UNTIL PROPERLY FASTENED.

5. LOW VELOCITY FASTENERS (SHOTPINS) WHERE CALLED OUT ON PLAN SHALL BE RAMSET 1500 SERIES INSTALLED IN ACCORD LOCAL BUILDING CODE OR OTHER LISTED MAKE, APPROVED BY BUILDING OFFICIAL. LOW VELOCIT FASTENERS SHALL BE 0.14" DIAMETER WITH 1-1/4" MINIMUM EMBEDMENT, UNLESS OTHERWISE NOTED.

6. EXPANSION ANCHOR SHALL BE RAMSET/REDHEAD TRUBOLTS INSTALLED IN ACCORD WITH BUILDING DEPARMENT OR OTHER LISTED MAKE, APPROVE BY BUILDING OFFICIAL.

7. SCREWS SHALL BE "DART" BRAND SELF DRILLING/SELF-TAPPING STEEL SCREWS INSTALL ED IN ACCORD WITH BUILDING DEPARTMENT. SCEWS SHALL BE SUFFICIENT LENGTH TO ENSURE PENETRATION INTO STEEL STUD BY AT LEAST 2 FULL DIAMETER THREADS.

STATEMENT OF SPECIAL INSPECTIONS

1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTION DURING CONSTRUCTION. THE SPECIAL INSPECTOR(S) SHALL BE QUALIFIED TO THE SATISFACTION OF THE BUILDING OFFICIAL TO INSPECT THE KIND OF CONSTRUCTION BEING EMPLOYED IN THIS PROJECT. THE SPECIAL INSPECTOR SHALL SUBMIT REPORTS INDICATING RESULTS AND OBSERVATIONS OF TESTS AND INSPECTIONS AND STATING COMPLIANCE OR NONCOMPLIANCE WITH CONTRACT DOCUMENTS TO STRUCTURAL ENGINEER AND TO GOVERNING CODE AUTHORITY.

2. TESTING LABORATORY SHALL PROVIDE SPECIAL INSPECTION, COMPLYING WITH LABC SECTION 1701 (UNLESS OTHERWISE NOTED), FOR THE FOLLOWING:

A. EPOXY ANCHORS
B. BOLTS INSTALLED IN CONCRETE
C. CONCRETE STRENGTH f'c > 2,500 PSI
D. SHEATHED SHEAR WALL WHEN SHEAR EXCEEDS 350 POUNDS PER LINEAR FOOT WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS.

3. CONTRACTORS RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT LISTED IN THE "STATEMENT OF SPECIAL INSPECTIONS" SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE LADBS INSPECTORS AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER SECTION 1704.4.

4. CONTINUOUS SPECIAL INSPECTOR BY A REGISTERED DEPUTY INSPECTOR IS REQUIRED FOR FIELD WELDING, POST-INSTALLED ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED TO RESIST SUSTAINED TENSION LOADS, SHOTCRETE PLACEMENT, CONCRETE STRENGTH f'c > 2,500 PSI, HIGH STRENGTH BOLTING, SPRAYED-ON FIREPROOFING, ENGINEERED MASONRY, HIGH-LIFT GROUTING, PRE-STRESSED CONCRETE, HIGH LOAD DIAPHRAGMS, SPECIAL MOMENT-RESISTING CONCRETE FRAMES, AND HELICAL PILE FOUNDATIONS.

5. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM. SPECIAL INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS.

B. FOUNDATION

1. PERFORM FOUNDATION WORK COMPLYING WITH REPORT AND ADDENDA. GEOTECHNICAL REPORT AND ADDENDA HERERY BECOME PART OF THESE CONTRACT DOCUMENTS AND SHALL BE KEPT ON JOB SITE AT ALL TIMES.

   FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS OF
   BUTANO GEOTECHNICAL ENGINEERING, INC.
   231 GREEN VALLEY ROAD, SUITE E
   FREEDOM, CALIFORNIA 95019
   REPORT NO. 19-150-SCL
   DATED MAY 8, 2020

   ALLOWABLE SOIL BEARING = 1,500 PSF
   MAXIMUM SOIL BEARING = 3,000 PSF
   MINIMUM FOOTING DEPTH = 24 INCHES
   MINIMUM FOOTING WIDTH = 12 INCHES FOR CONTINUOUS FOOTINGS
   = 24 INCHES FOR PAD FOOTINGS

2. FOUNDATION EXCAVATIONS ARE TO BE OBSERVED BY AND ACCEPTABLE TO A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE PRIOR TO PLACEMENT OF FILL, REINFORCING STEEL, OR CONCRETE.

3. PERFORM FILLING, BACKFILLING, COMPACTION, ETC... AS INDICATED IN GEOTECHNICAL REPORT AND ONLY UNDER SUPERVISION OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE.

5. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS PRIOR TO COMPLETION AND INSPECTION OF WATERPROOFING. ADEQUATELY SHORE RETAINING WALLS DURING BACKFILL OPERATION. UNLESS ADEQUATELY SHORED, DO NOT PLACE BACKFILL BEHIND BUILDING STRUCTURE RETAINING WALLS, EXCLUDING SITE RETAINING WALLS, UNTIL CONCRETE AT ELEVATED FLOOR LEVELS ADJACENT TO WALLS ARE COMPLETELY POURED AND HAVE CURED FOR AT LEAST 7 DAYS.

6. THE APPROVED SOILS REPORT SHALL BE A PART OF THE PLANS AND SHALL BE KEPT AT THE JOB SITE AT ALL TIMES.

C. REINFORCING STEEL

1. REINFORCING STEEL COMPLYING WITH ASTM A615, GRADE 60 DEFORMED BARS, EXCEPT #3 BAR CAN BE GRADE 40 OR STRONGER.

2. WELDED REINFORCING STEEL COMPLYING WITH ASTM A706, GRACE 60 DEFORMED BARS.

3. SMOOTH WELDED WIRE FABRIC COMPLYING WITH ASTM A185. LAP FABRIC 1-1/2 SPACES (12" MINIMUM). PROVIDE DEFORMED WIRE STIRRUPS, SIZE D4 AND LARGER ONLY, COMPLYING WITH ASTM 497.

2. SPLICE REINFORCING STEEL WHERE INDICATED. IF SPLICE LOCATIONS ARE NOT SPECIFICALLY SHOWN OR INDICATED, VERIFY SPLICE LOCATIONS WITH ARCHITECT/ ENGINEER PRIOR TO DEVELOPING REINFORCING STEEL SHOP DRAWINGS.

3. LAP REINFORCING STEEL AT SPLICES TO THE FOLLOWING MINIMUM LENGTHS, UNLESS OTHERWISE NOTED, (APPLICABLE TO 3,000 PSI OR HIGHER, NORMAL WEIGHT CONCRETE ONLY):

BAR SIZE	TOP BARS	OTHER BARS	BAR SIZE	TOP BARS	OTHER BARS
#3	1'-9"	1'-4"	#8	6'-10"	5'-3"
#4	2'-4"	1'-10"	#9	8'-8"	6'-8"
#5	2'-11"	2'-3"	#10	11'-0"	8'-6"
#6	3'-10"	2'-11"	#11	13'-6"	10'-6"
#7	5'-3"	4'-0"			

TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW REBAR.

OTHER BARS ARE HORIZONTAL BARS WITH LESS THAN 12 INCHES OF CONCRETE CAST BELOW BARS AND ALL VERTICAL BARS.

4. MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL, INCLUDING SPLICED REINFORCING STEEL, SHALL BE 1 INCH OR 1 BAR DIAMETER, WHICHEVER IS GREATER. FOR BUNDLED BARS, MINIMUM CLEAR DISTANCES BETWEEN UNITS OF BUNDLED BARS SHALL BE SAME AS SINGLE BARS EXCEPT BAR DIAMETER IS DERIVED FROM EQUIVALENT TOTAL AREA OF BUNDLE.

5. MAINTAIN THE FOLLOWING MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL AND FACE OF CONCRETE UNLESS OTHERWISE NOTED:
   a. SLAB-ON-GRADE ..... C/L OF SLAB
   b. CONCRETE BELOW GRADE, FORMED ..... 2 INCHES
   c. CONCRETE BELOW GRADE, UNFORMED ..... 3 INCHES
   d. WALLS ABOVE GRADE, EXPOSED TO WEATHER ..... 2 INCHES
   e. WALLS ABOVE GRADE, NOTE EXPOSED TO WEATHER ..... 1 INCHES
   f. COLUMNS, CLEAR TO FACE OF TIES ..... 1-1/2 INCHES
   g. BEAMS, CLEAR TO FACE OF TIES ..... 1-1/2 INCHES

6. BEND REINFORCING STEEL COLD UNLESS OTHERWISE ACCEPTED BY ARCHITECT OR ENGINEER.

7. CHAIRS OR SPACERS FOR REINFORCING SHALL BE PLASTIC OR PLASTIC COATED WHEN RESTING ON EXPOSED SURFACES.

8. WELD REINFORCING STEEL COMPLYING WITH AWS D1.4. DO NOT WELD REINFORCING STEEL OTHER THAN THOSE CONFORMING TO ASTM A706.

9. SECURELY TIE ANCHOR BOLTS, REINFORCING STEEL, INSERTS, ETC... IN PLACE PRIOR TO PLACING CONCRETE OR GROUT.

10. SUBMIT REINFORCING STEEL SHOP DRAWINGS INDICATING REINFORCING PLACEMENT, INCLUDING SPLICE LOCATIONS AND LENGTHS, TO ARCHITECT/ENGINEER FOR REVIEW AND ACCEPTANCE.

D. CAST-IN-PLACE CONCRETE

1. NORMAL WEIGHT AGGREGATES OF NATURAL SAND AND ROCK COMPLYING WITH ASTM C33.

2. PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE II.

3. NORMAL WEIGHT CONCRETE (145 PCF), WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.05%, ATTAINING MINIMUM COMPRESSIVE STRENGTHS (f'c) AT 28 DAYS AS FOLLOWS:
   FOUNDATIONS ..... 3,000 PSI
   CONCRETE WALLS ..... 3,000 PSI
   SLAB-ON-GRADE ..... 3,000 PSI
   UNLESS OTHERWISE NOTED ..... 3,000 PSI

4. SLUMP NOT TO EXCEED 4 INCHES.

5. DO NOT USE CONCRETE OR GROUT CONTAINING CHLORIDES

6. DO NOT EMBED CONDUITS, PIPES, OR SLEEVES OTHER THAN ELECTRICAL CONDUITS 1 INCH DIAMETER AND SMALLER IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY DETAILED OR ACCEPTED BY ARCHITECT OR ENGINEER.

7. FORM EXPOSED CORNERS OF COLUMNS, BEAMS, WALLS, ETC... WITH 3/4 INCH CHAMFERS UNLESS OTHERWISE DETAILED.

8. PROVIDE KEYS IN CONSTRUCTION JOINTS UNLESS OTHERWISE DETAILED.

9. ROUGHED CONCRETE SURFACE TO FULL AMPLITUDE OF 1/16 INCH WHERE MASONRY WALLS INTERSECT CONCRETE.

A. GENERAL

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CALIFORNIA BUILDING CODE 2019 EDITION (CBC 2019), REFERENCED STANDARDS OF CHAPTER 35 AND ALL APPLICABLE CODES AND ORDINANCES.

   BASIS OF DESIGN:
   a. SEISMIC LOADS
      + IMPORTANCE FACTOR, Ie = 1.0
      + Ss = 2.356g
      + S1 = 0.911g
      + SITE CLASS: C
      + Sds = 1.885g
      + Sd1 = 0.850g
      + Rho = 1.3 (REDUNDANCY FACTOR)
      + SEISMIC DESIGN CATEGORY: E
      + BASIC SEISMIC-FORCE-RESISTING SYSTEM: SHEATHED SHEAR BEARING WALLS
      + SEISMIC RESPONSE COEFFICIENT, Cs = 0.290 (STRENGTH) = 0.207 (SERVICE)
      + RESPONSE MODIFICATION FACTOR, R = 6.5
      + ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE
   b. WIND LOAD
      + BASIC WIND SPEED = 110 MPH (ULTIMATE)
      + EXPOSURE C
      + IMPORTANCE FACTOR, Iw=1.0
      + INTERNAL PRESSURE COEFFICIENT = 0.18
      + DESIGN WIND PRESSURE = 27.5 PSF
      + COMPONENTS AND CLADDING WIND PRESSURE = 39 PSF
   c. LIVE LOADS
      + ROOF = 20 PSF
      + FLOOR = 40 PSF
      + DECK/BALCONY = 60 PSF
   d. DEAD LOADS
      + ROOF = 18 PSF
      + FLOOR = 18 PSF

2. AISC – SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING.

3. ACI-318 – BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

4. ALL ASTM SPECIFICATIONS NOTED ON THESE DRAWINGS SHALL BE OF THE LATEST REVISION.

5. WRITTEN INFORMATION AND DIMENSIONS SHALL TAKE PRECEDENCE OVER GRAPHIC INFORMATION. DO NOT SCALE DRAWINGS.

6. ALL DIMENSIONS ARE TO TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, ELEVATIONS, SECTIONS, AND DETAILS.

7. ANY DISCREPANCIES ON THE PLANS OR ANY DEVIATIONS FROM THE PLANS WHICH ARE NECESSITATED BY FIELD CONDITIONS OR ANY CONDITION DIFFERENT FROM THOSE INDICATES ON THE PLANS, SHALL BE CALLED TO THE ATTENTION OF THANG LE, S.E. PRIOR TO CONTINUING CONSTRUCTION. ALL WORK IS TO BE COORDINATED SO THAT COOPERATION BETWEEN THE TRADES WHERE REQUIRED, IS ACCOMPLISHED.

8. SEE ARCHITECTURAL DRAWING FOR KINDS OF FLOOR FINISH, DEPRESSION IN SLAB, OPENINGS IN WALLS AND ROOF REQUIRED BY DOOR, WINDOWS, DUCTS, VENTS, HATCHES, PLUMBING, ETC...; ALL TYPE OF FLASHING, INSERTS, ANCHORS, HANGERS, ETC... EMBEDDED OR ATTACHED TO CONCRETE STRUCTURE; PAVING, WALKS, STAIRS, RAMPS, CURBS, PARAPETS, TERRACES, ETC...; EXTERIOR GRADES; ROOF SLABS, CRICKETS AND DRAINS.

9. THE CONTRACTOR SHALL COMPARE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS AS TO LAYOUT DIMENSIONS AND ELEVATIONS. ALL DISCREPANCIES SHALL BE REPORTED TO THANG LE, S.E. AND THE OWNER FOR PROPER ADJUSTMENT BEFORE PROCEEDING WITH THE WORK.

10. IN THE EVENT THAT CERTAIN FEATURES OF THE CONSTRUCTION ARE NOT FULLY SHOWN ON THE DRAWINGS OR CALLED FOR IN THE THE GENERAL NOTES, THEN THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR CONDITIONS THAT ARE SHOWN OR CALLED FOR.

11. THE BUILDER SHALL TAKE FULL AND FINAL RESPONSIBILITY FOR CONSTRUCTING A FINAL PRODUCT OF APPROPRIATE QUALITY AND SERVICEABILITY CONSISTENT WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION DOCUMENTS OR REASONABLY INFERABLE THEREFROM, AND/OR CONTAINED IN THE REQUIREMENTS OF ANY GOVERNMENTAL ENTITY WITH JURISDICTION OVER THE PROJECT.

12. THE BUILDER SHALL TAKE FULL RESPONSIBILITY FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES INCLUDING WITHOUT LIMITATION DEMOLITION, EXCAVATION AND ERECTION PROCEDURES.

13. STRUCTURAL OBSERVATION VISITS TO SITE BY REPRESENTATIVES OF THANG LE, S.E. DO NOT INCLUDE INSPECTIONS OF CONSTRUCTION MEANS AND METHODS. OBSERVATIONS PERFORMED BY ENGINEER DURING CONSTRUCTION ARE NOT CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE PERFORMED BY OTHERS. OBSERVATIONS PERFORMED BY ENGINEER ARE PERFORMED SOLELY FOR THE PURPOSE OF DETERMINING IF THE CONTRACTOR UNDERSTAND DESIGN INTENT CONVEYED IN CONTRACT DOCUMENTS. OBSERVATIONS DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND ARE NOT TO BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

14. MODIFICATIONS OR SUBSTITUTIONS: DESIGN, MATERIALS, EQUIPMENT AND PRODUCTS OTHER THAN THOSE INDICATED OR SPECIFIED MAY BE CONSIDERED FOR USE PROVIDED A WRITTEN REQUEST, SUBJECT TO REVIEW, IS SUBMITTED TO OWNER, ARCHITECT, ENGINEER AND GOVERNING CODE AUTHORITY PRIOR TO ITS USE OR INCLUSION ON ANY SHOP DRAWING.

15. BRACE PIPING AND DUCTS COMPLYING WITH LATEST ADDITION OF GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION.

16. INSTALL AND ANCHOR MECHANICAL AND ELECTRICAL EQUIPMENT TO STRUCTURE COMPLYING ASCE/SEI 7-05, CHAPTER 13, AS MODIFIED BY CBC 1614.1.11 THROUGH 1614.1.16. ISOLATORS, FASTENERS AND ANY OTHER ELEMENT PROVIDING STABILITY FOR EQUIPMENT SHALL BE APPROVED BY ICC-ES OR EQUIVALENT TESTING PROCEDURE. PROVIDE SUSPENDED EQUIPMENT WITH APPROVED LATERAL OR SWAY BRACING.

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THANG LE & ASSOCIATES
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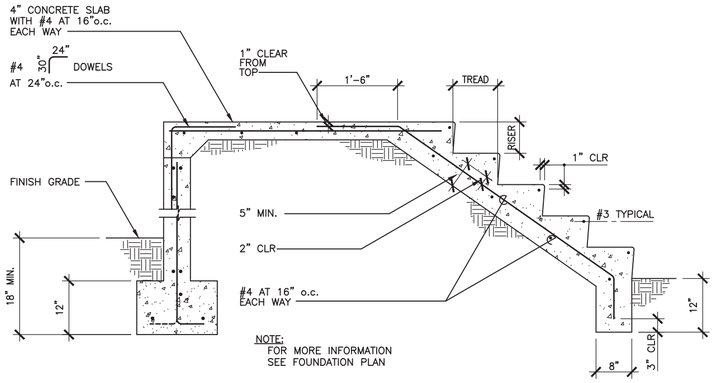
REGISTERED PROFESSIONAL ENGINEER
THANG H. LE
S 4978
EXP 06/30/24
STRUCTURAL
STATE OF CALIFORNIA
10.15.2022

LARSON BARN
10818 CROTHERS ROAD
SAN JOSE, CALIFORNIA 95127

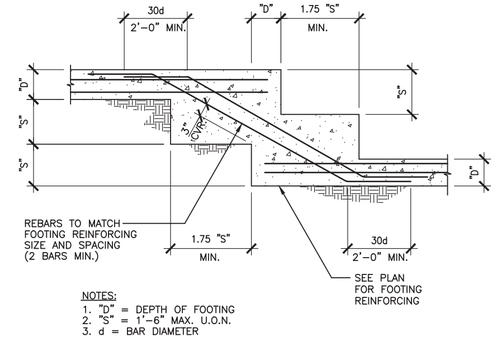
GENERAL NOTES

S1.1



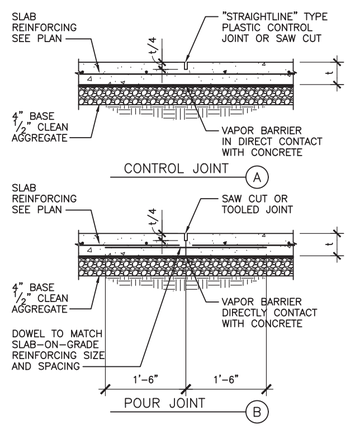
TYPICAL STAIR ON GRADE

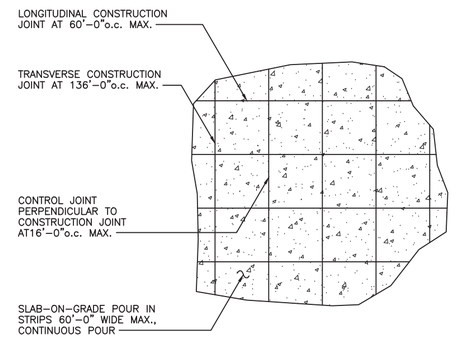
3/4"=1' — 6



TYPICAL STEPPED FOOTING

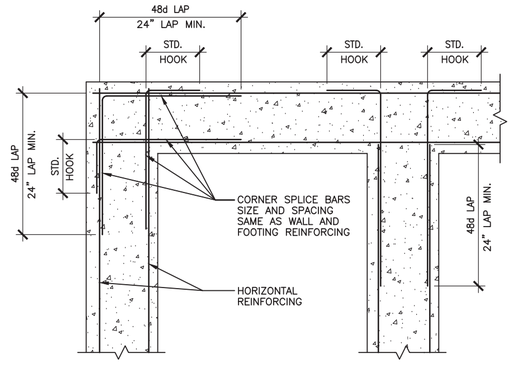
3/4"=1' — 3





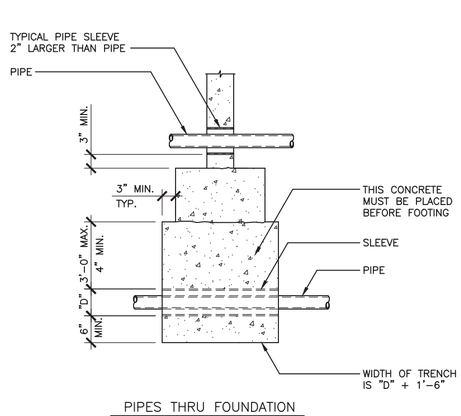
TYPICAL SLAB-ON-GRADE DETAIL

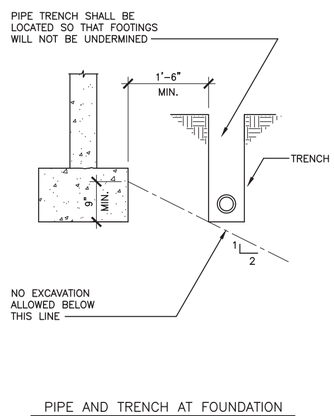
3/4"=1' — 5



TYPICAL FOOTING/WALL CORNER REINFORCING

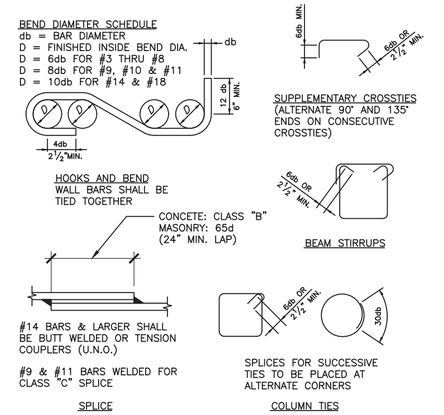
3/4"=1' — 2





TYPICAL PIPE AT FOOTING

3/4"=1' — 4



TYPICAL REBAR BENT

3/4"=1' — 1

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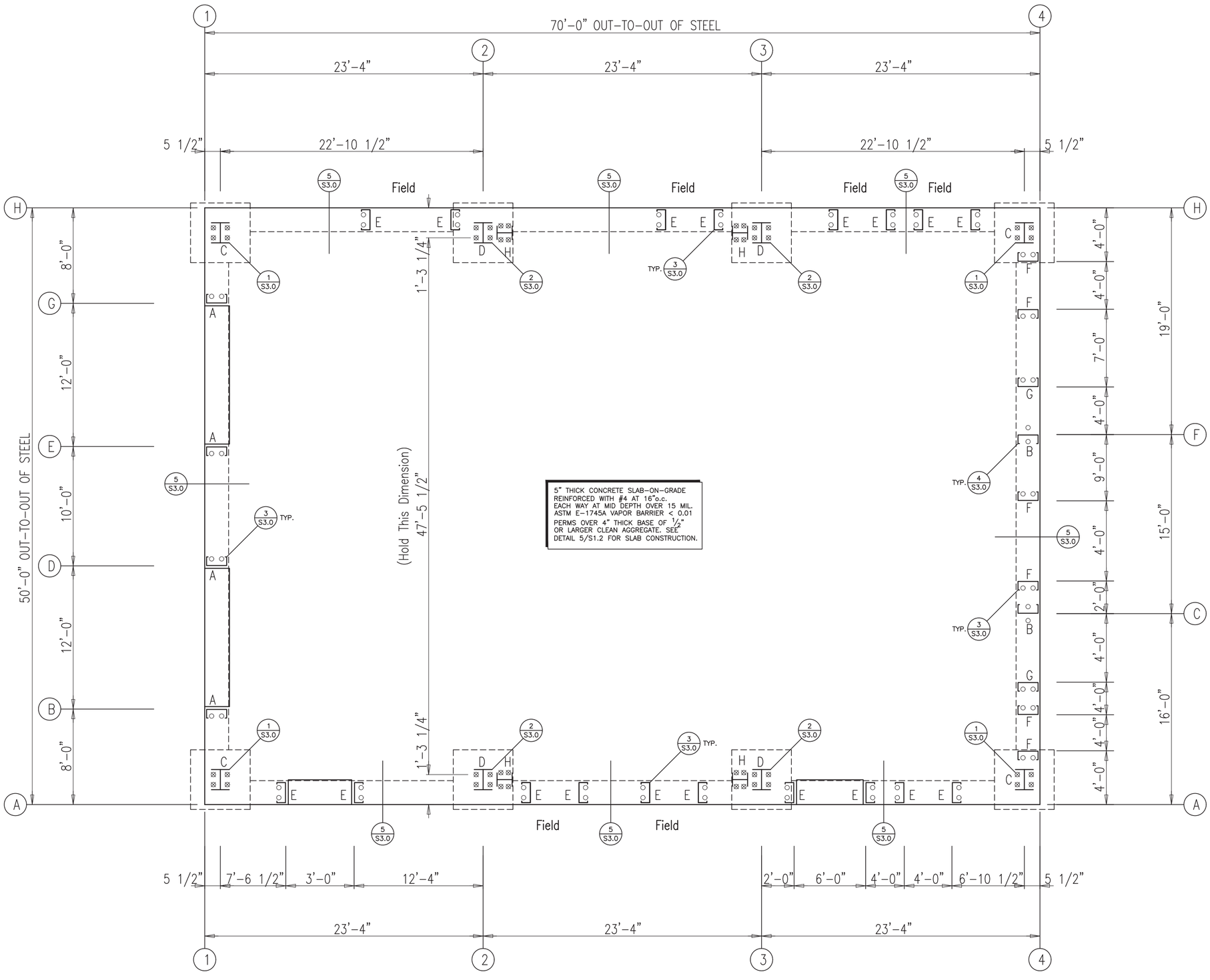
REGISTERED PROFESSIONAL ENGINEER — THANG H. LE — S 4978 EXP 06/30/24 — STRUCTURAL — STATE OF CALIFORNIA

10.15.2022

LARSON BARN
10818 CROTHERS ROAD
SAN JOSE, CALIFORNIA 95127

TYPICAL CONCRETE DETAILS

S1.2



FOUNDATION PLAN

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

NOTES:

1. ALL COLUMN FOOTINGS ARE CENTERED ON COLUMNS AND COLUMNS ARE CENTERED ON GRIDS U.O.N. WALL FOOTINGS ARE CENTERED BENEATH WALLS U.O.N.
2. SEE SHEET S1.1 FOR GENERAL STRUCTURAL NOTES.
3. SEE SHEET S1.2 FOR TYPICAL CONCRETE DETAILS.
4. VERIFY SIZE, LOCATION AND DEPTH OF UTILITIES AND SLEEVES WITH OTHER TRADES. FOR MECH LINES BELOW FOUNDATION, STEP AND THICKEN FOOTING AS INDICATED IN DETAIL
5. VERIFY SHOWN DIMENSIONS WITH ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS. NOTIFY ARCHITECT OF DISCREPANCIES PRIOR TO CONSTRUCTION.
6. FOR TYPICAL FOOTING/WALL CORNER BAR REINFORCING SEE 2/S1.2
7. - - - DESIGNATES GRADE BEAM
   - - - SEE PLAN FOR REINFORCEMENT
8. [ ] DESIGNATES NEW PAD FOOTING, SEE PLAN FOR REINFORCEMENT 4/S1.2
9. IF ADVERSE SOIL CONDITIONS ARE ENCOUNTERED, A SOILS INVESTIGATION REPORT MAY BE REQUIRED.

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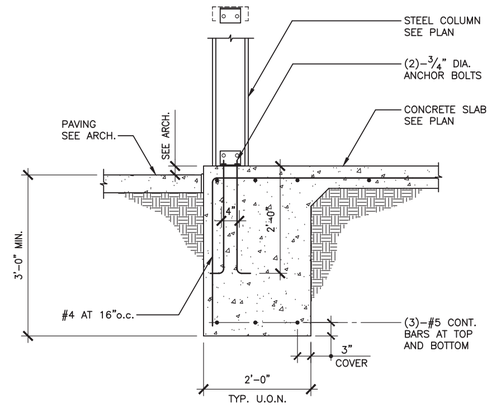
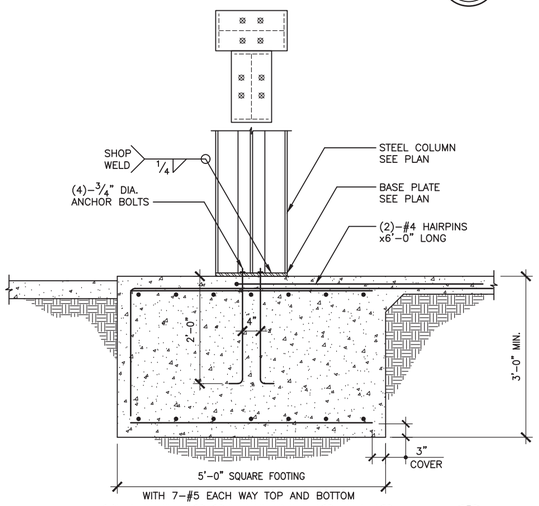
FOUNDATION PLAN

S2.0



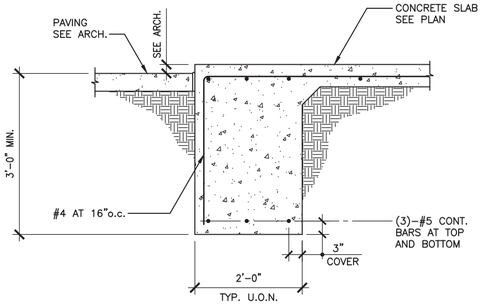
THICKENED SLAB EDGE 3

3/4"=1"



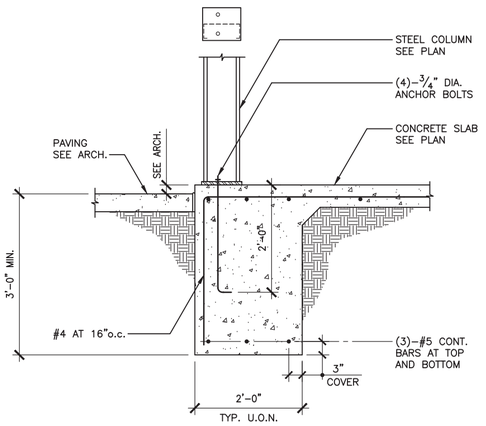
STEEL COLUMN TO FTG 2

3/4"=1"



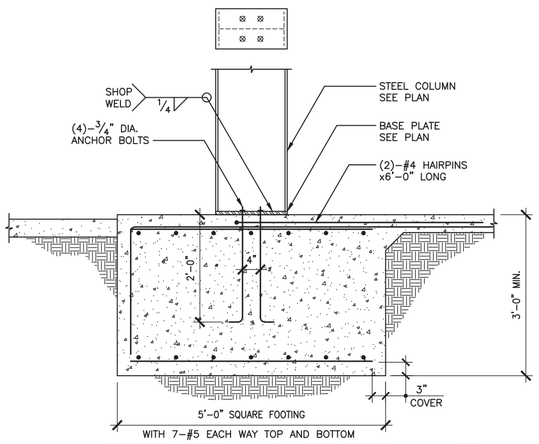
THICKENED SLAB EDGE 5

3/4"=1"



THICKENED SLAB EDGE 4

3/4"=1"



STEEL COLUMN TO FTG 1

3/4"=1"

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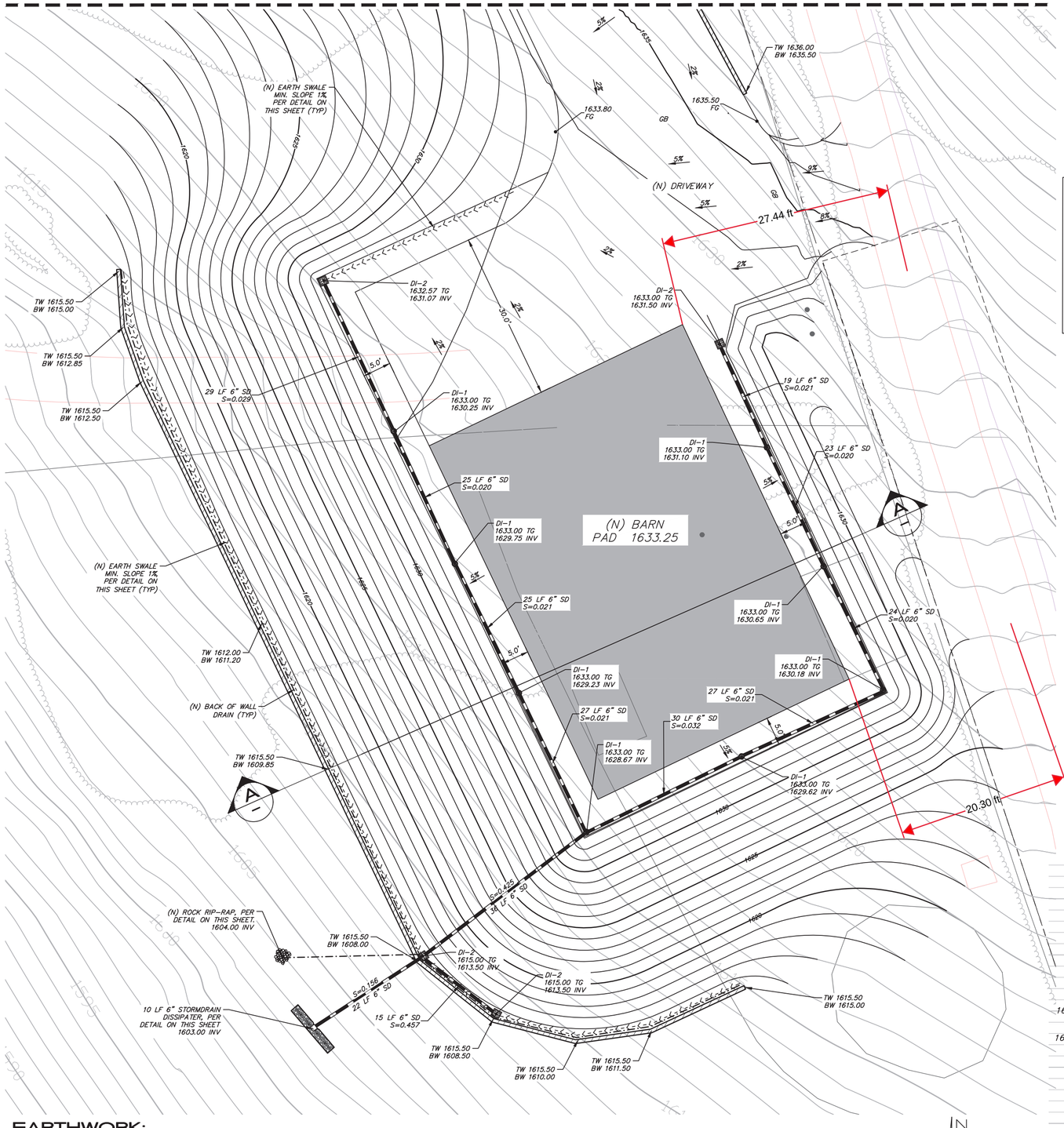
FOUNDATION DETAILS

S3.0

MATCH LINE SEE SHEET C7

MATCH LINE SEE SHEET C7



EARTHWORK:

	CUT	FILL	NET
BARN	10 CY	5520 CY	5510 CY FILL
TOTAL	10 CY	5520 CY	5510 CY FILL <IMPORT>

NOTE: NO DEDUCTION FOR PAD/CONCRETE WAS ASSUMED.

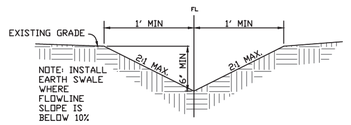
BARN ROUGH GRADING PLAN

SCALE: 1" = 10'

0 10 20 30

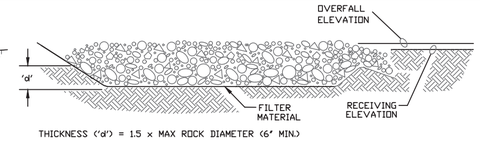
(GRAPHIC SCALE IN FEET)

N W E S



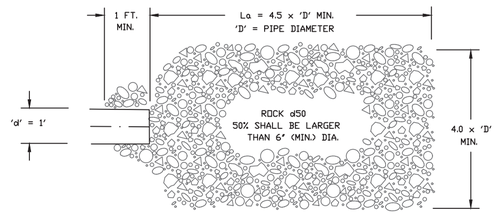
EARTH SWALE

NOT TO SCALE



THICKNESS ('d') = 1.5 x MAX ROCK DIAMETER (6" MIN.)

SECTION



PLAN

DRAINAGE SCHEDULE

DI-1: ◉	6" ROUND ATRIUM GRATE (OR APPROVED EQUAL)
DI-2: ▣	12"x12" OLDCASTLE PRECAST CONCRETE INLET (OR APPROVED EQUAL)
TD-1:	TRAFFIC RATTED TRENCH DRAIN (OR APPROVED EQUAL)

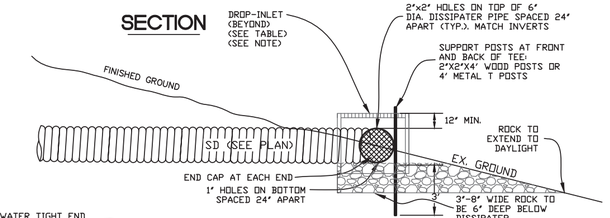
ALL 6" STORM DRAIN PIPE TO BE HDPE DUAL WALL.
ALL 4" STORM DRAIN AND ROOF LEADER DRAIN PIPE TO BE PVC SCHEDULE 40.

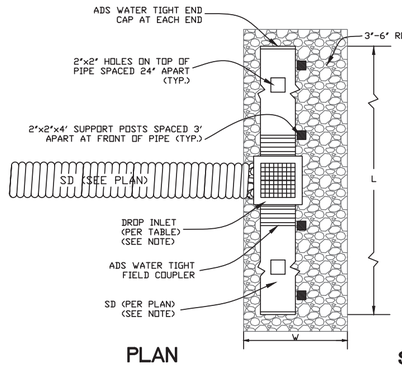
NOTES:

1. 'La' = LENGTH OF APRON. DISTANCE 'La' SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.
2. APRON SHALL BE SET AT A ZERO GRADE AND ALIGNED STRAIGHT.
3. FILTER MATERIAL SHALL BE FILTER FABRIC OR 6' THICK (MIN.) GRADED GRAVEL LAYER.

ROCK OUTLET FOR BACK OF WALL DRAIN

NOT TO SCALE





PLAN

NOTE:
STORM DRAIN DISSIPATER SHALL BE SET AT ZERO GRADE (COMPLETELY FLAT) PARALLEL TO CONTOURS BY USE OF SURVEY STAKES

IF LENGTH > 20', A CLEANOUT SHALL BE INSTALLED ON EACH END

IF GROUND SLOPE ≥ 4H:1V, INLET SHALL BE PRECAST CONCRETE INLET PER TABLE DIMENSIONS

IF GROUND SLOPE ≤ 4H:1V AND SD 8" OR LESS, INLET SHALL BE NDS ROUND INLET (MATCHING DISSIPATER SIZE) WITH NDS ROUND GRATE

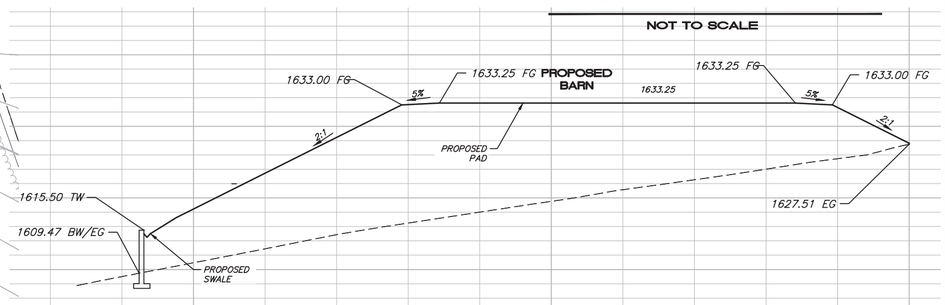
PRECAST CONCRETE INLET SIZING TABLE

SD PIPE SIZE (IN.)	INLET SIZE (IN.)	OLD CASTLE PRECAST MODEL NO.*
4" – 10"	12" X 12"	CB1212
12" – 15"	18" X 18"	CB1818
15" – 18"	24" X 24"	CB2424
18" – 24"	30" X 30"	CB3030

*OR APPROVED EQUAL

STORM DRAIN DISSIPATER

NOT TO SCALE



PROFILE A-A'

1" = 10' HORIZONTAL
1" = 10' VERTICAL

REVISION	DESCRIPTION	BY	DATE

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PLANNING • ENGINEERING • C.M.
513 CENTER STREET
HEALDSBURG, CA 95448
(707) 395-0988

REGISTERED PROFESSIONAL ENGINEER • DANIEL JOHN HUGHES • No. 60225 • 6-30-22 • STATE OF CALIFORNIA • CIVIL

DANIEL JOHN HUGHES DATE
RCE 60225

10818 CROTHERS ROAD
BARN ROUGH GRADING PLAN

612-44-033
10818 CROTHERS ROAD
SAN JOSE CA

NOVEMBER 28, 2022

JOB NO. 06-21

SHEET NO. C8

OF 8 SHEETS