

CASA DEL SOL DESIGN INTENT AND TARGET MARKET

THE CASA DEL SOL HOUSE IS THOUGHTFULLY DESIGNED TO REFLECT SOUTHERN CALIFORNIA'S SPANISH HERITAGE, GRACIOUS MEDITERRANEAN CLIMATE, DESERT LANDSCAPE, AND DYNAMIC POSITION BETWEEN THE OCEAN AND MOUNTAINS OF ORANGE COUNTY. AFTER THE SOLAR DECATHLON 2015 COMPETITION, CASA DEL SOL WILL MOVE TO ANOTHER PART OF THE ORANGE COUNTY GREAT PARK, AND REMAIN ON DISPLAY TO THE PUBLIC AS A TEMPLATE OF SHINING LIGHT FOR FUTURE GREAT PARK HOUSING DEVELOPMENTS.

CHANGING DEMOGRAPHICS REQUIRE A HOME WITH A SEPARATE, YET CLOSE LIVING UNIT THAT CAN FLEX TO TODAY'S DEMANDS AND CHALLENGING ECONOMIC CLIMATE. THIS SEPARATE UNIT, LIKE A GRANNY FLAT, CAN ATTEND TO AN AGING PARENT, FUNCTION AS A 'RECESSION ROOM' PROVIDING A PLACE OF REFUGE TO THE BOOMERANG GENERATION, OR SIMPLY BE RENTED OUT TO PROVIDE ADDITIONAL INCOME FOR THE HOME AND AN OUTLET FOR AN OVERCROWDED RENTAL DEMAND.

WHEN APPROACHING CASA DEL SOL, ONE ENTERS THROUGH THE SEMI-PRIVATE 'GREAT OUTDOOR ROOM' FRAMED BY A HALO. BEYOND THE GREAT OUTDOOR ROOM ARE PIVOT PANELS. BIOPHILIC FEATURES INSPIRED BY THE NATIVE CALIFORNIA POPPY FLOWER UNIQUELY ADAPT OUR HOME TO ITS SOUTHERN CALIFORNIA CLIMATE. SIMILAR TO THE CALIFORNIA POPPY FLOWER, PETAL-LIKE TENSILE STRUCTURES ACCOMPANY OUR PIVOT PANELS TO OPEN, SHUT, ROTATE, AND REDIRECT WIND AND SUNLIGHT, ALLOWING THE RESIDENTS TO DEFINE AND ADJUST THEIR ENVIRONMENT. UPON ENTERING OUR HOME, ONE IS ENVELOPED IN A GRACIOUS OPEN LIVING AREA WITH CLEARSTORY WINDOWS THAT ALLOW NATURAL VENTILATION AND A VISUAL EXPANSE TO THE SOUTHERN CALIFORNIA SKY. LARGE WALLS OF RETRACTABLE GLASS DOORS OPEN THE INDOOR LIVING SPACES TO OUTDOOR LIVING AREAS WITH NATURAL VEGETATION USED FOR THE HOME'S COOLING EFFECTS. A BRISE SOLEIL IN THE STUDIO SOFTENS BOUNDARIES, IMPROVES THE MICROCLIMATE, AND PROMOTES THE INTERIORIZATION OF THE EXTERIOR.

THE HEALTH OF THE OCCUPANTS IS NURTURED WITH BEAUTIFUL AESTHETICS, ABUNDANT NATURAL LIGHT AND COLORS, AND EXCEPTIONAL ENVIRONMENTAL FEATURES. NATURAL FORMS, PATTERNS AND PROCESSES WILL INSPIRE OUR HUMAN SCALED ERGONOMIC INTERIOR AND EXTERIOR DESIGN ELEMENTS. THE USE OF RAPID PROTOTYPING TECHNOLOGIES LIKE INDUSTRIAL GRADE 3D PRINTERS WILL CREATE NUMEROUS PARTS OF THE HOME LIKE 3D PRINTED FURNITURE, LIGHTING FIXTURES, NON-STRUCTURAL 'LIGHT DIRECTING' UNITS FOR THE BRISE SOLEIL, ALONG WITH OTHER CODE COMPLIANT ELEMENTS.

THE ROOF OF THE HOME IS THE TECH DECK, PROVIDING A LARGE AREA FOR SOLAR ENERGY COLLECTION FOR A NET ZERO ENERGY HOME WITH INTEGRATED TECHNOLOGY IN GLAZING, WATERPROOFING, AND THERMAL ENVELOPE SYSTEMS. RESPECTING THE REGIONAL SOLAR PATH, WE USE WIND-CATCHING AND A PASSIVE ENVELOPE DESIGN SOLUTIONS. PASSIVE TECHNIQUES INCLUDE SHADE AND VEGETATION FEATURES IMMEDIATELY OUTSIDE WINDOWS OR IN OUTDOOR LIVING AREAS TO PRE-COOL AIR ENTERING THE HOUSE.

CASA DEL SOL PERSONIFIES THE CULTURAL SHIFT TO A SUSTAINABLE SOUTHERN CALIFORNIA LIFESTYLE, LIVING LIGHTLY ON THE LAND, AFFORDABLY, USING FEWER RESOURCES, WHILE EMBRACING CURRENT TECHNOLOGY, ALLOWING FOR FUTURE TECHNOLOGY, SUPPORTING ADVANCED HUMAN FACTORS DESIGN, AND ALLOWING EFFORTLESS SOCIALIZATION IN THE COMMUNITY. OUR HOME SUPPORTS THE DEMANDS ON HEALTHY FAMILIES AND THRIVING COMMUNITIES. IN MASTER-PLANNED IRVINE, IT PROVIDES A PATHWAY TO THE FUTURE, AND IMPROVES UPON THE URBAN DESIGN OF THE PAST FIFTY YEARS.

Drawing List

Sheet Issue Date	Sheet Number	Sheet Name
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FIRE PROTECTION

08/17/15	F-001	FIRE SPRINKLER GENERAL NOTES AND DETAILS
08/17/15	F-100	FIRE PROTECTION PLAN

PLUMBING

08/17/15	P-001	PLUMBING SYMBOLS, NOTES, AND SCHEDULES
08/17/15	P-001(U)	UPONOR - PLUMBING NOTES
08/17/15	P-002(U)	UPONOR- PLUMBING TABLES
08/17/15	P-101	PLUMBING DOMESTIC WATER PLAN
08/17/15	P-101(U)	UPONOR- MAIN FLOOR
08/17/15	P-102	PLUMBING SANITARY WASTE PLAN
08/17/15	P-103	PLUMBING LIQUID LOCATION AND SPILL CONTAINMENT PLAN
08/17/15	P-104	PLUMBING ROOF PLAN
08/17/15	P-200(U)	UPONOR- ISOMETRIC
08/17/15	P-301	PIPING ISOMETRIC DIAGRAMS

MECHANICAL

08/17/15	M-001	MECHANICAL SYMBOLS, NOTES, AND SCHEDULES
08/17/15	M-100(U)	UPONOR- MAIN LEVEL
08/17/15	M-101	MECHANICAL HVAC PLAN
08/17/15	M-102	MECHANICAL PIPING PLAN
08/17/15	M-201	MECHANICAL HVAC ISOMETRIC DIAGRAMS

ELECTRICAL

08/17/15	E-001	ELECTRICAL LEGEND AND GENERAL NOTES
08/17/15	E-002	ELECTRICAL LEGEND AND GENERAL NOTES
08/17/15	E-101	SINGLE LINE DIAGRAM AND SCHEDULES
08/17/15	E-102	SINGLE LINE DIAGRAM AND SCHEDULES
08/17/15	E-201	POWER AND SIGNAL PLAN
08/17/15	E-301	LIGHTING PLAN AND DETAILS
08/17/15	E-302	LIGHTING PLAN AND DETAILS
08/17/15	E-401	ELECTRICAL ROOF PLAN
08/17/15	E-501	FIRE ALARM PLAN
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08/17/15	E-602	DETAILS
08/17/15	E-603	DETAILS

SIGNAGE

08/17/15	X-101	PUBLIC EXHIBIT SIGNAGE
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OPERATIONS

08/17/15	O-601	TRANSPORTATION CONFIGURATION AND ARRIVAL SEQUENCE
08/17/15	O-602	DEPARTURE SEQUENCE
08/17/15	O-603	WATER DELIVERY AND REMOVAL
08/17/15	O-604	THERMAL MASS DELIVERY AND REMOVAL

Grand total: 98

Drawing List

Sheet Issue Date	Sheet Number	Sheet Name
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GENERAL

08/17/15	G-000	COVER SHEET
08/17/15	G-001	TABLE OF CONTENTS
08/17/15	G-002	GENERAL NOTES AND SYMBOLS
08/17/15	G-101	FINISHED SQUARE FOOTAGE COMPLIANCE
08/17/15	G-102	EGRESS PLAN
08/17/15	G-103	ADA TOUR ROUTE COMPLIANCE PLAN
08/17/15	G-201	SOLAR ENVELOPE COMPLIANCE ELEVATIONS
08/17/15	G-202	SOLAR ENVELOPE COMPLIANCE ELEVATIONS
08/17/15	G-601	SHADING DIAGRAMS

LANDSCAPE

08/17/15	L-101	LANDSCAPE AND PLANTING SITE PLAN
08/17/15	L-102	LANDSCAPE PLANTING PLAN
08/17/15	L-103	LANDSCAPE IRRIGATION LEGEND
08/17/15	L-201	LANDSCAPE ELEVATIONS
08/17/15	L-202	LANDSCAPE ELEVATIONS
08/17/15	L-203	LANDSCAPE ELEVATIONS
08/17/15	L-401	LANDSCAPE SCALE PLANTING PLAN
08/17/15	L-602	LANDSCAPE PLANT LIST, NOTES & DETAILS

STRUCTURAL

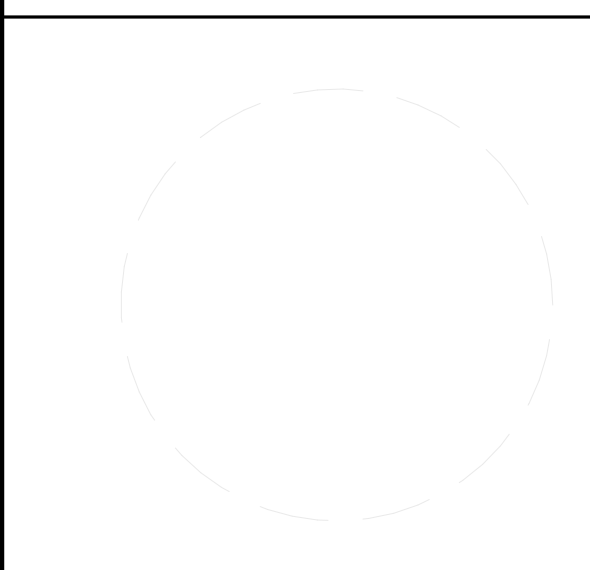
08/17/15	S-001	GENERAL NOTES
08/17/15	S-002	GENERAL NOTES
08/17/15	S-041	TYPICAL WOOD FRAMING DETAILS
08/17/15	S-042	TYPICAL WOOD FRAMING DETAILS
08/17/15	S-043	TYPICAL WOOD FRAMING DETAILS
08/17/15	S-200	FOUNDATION PLAN
08/17/15	S-201	LOW ROOF FRAMING PLAN
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08/17/15	S-204	ENLARGED ROOF PLAN - STUDIO CANOPY
08/17/15	S-205	ENLARGED SECTIONS - STUDIO CANOPY
08/17/15	S-206	ENLARGED ROOF PLAN - BREEZEWAY CANOPY
08/17/15	S-600	FLOOR FRAMING DETAILS
08/17/15	S-601	ROOF FRAMING DETAILS
08/17/15	S-602	ROOF FRAMING DETAILS
08/17/15	S-603	PIVOT PANEL CANOPY AND STUDIO CANOPY DETAILS
08/17/15	S-604	BREEZEWAY CANOPY DETAILS
08/17/15	S-901	STRUCTURAL FRAMING ISOMETRIC

ARCHITECTURAL

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08/17/15	A-111	FLOOR PLAN
08/17/15	A-112	ROOF PLAN
08/17/15	A-113	FINISH PLAN
08/17/15	A-114	FURNITURE PLAN
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08/17/15	A-521	EXTERIOR DOOR DETAILS
08/17/15	A-522	EXTERIOR WINDOW DETAILS
08/17/15	A-523	6-PART PIVOT SCREEN SYSTEM
08/17/15	A-524	PIVOTING GATE
08/17/15	A-525	ENLARGED CARPORT PLANS AND ELEVATIONS
08/17/15	A-526	CARPORT EXTERIOR ELEVATIONS
08/17/15	A-581	CASEWORK DETAILS
08/17/15	A-600	DOOR AND WINDOW SCHEDULE



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	02/12/2015	95% DOE

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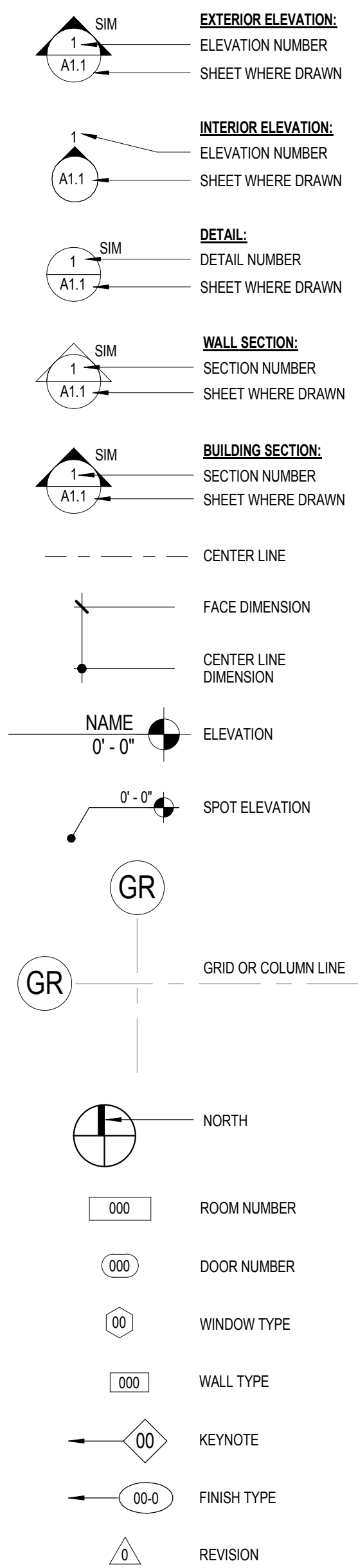
SHEET TITLE
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G-001

ARCHITECTURAL ABBREVIATIONS

A.B.	ANCHOR BOLT	FLR.	FLOOR	PL.	PROPERTY LINE / PLATE
A.C.	ASPHALTIC CONCRETE / ACUSTICAL	FLUOR.	FLUORESCENT	P.D.	PLANTER DRAIN
ACUST.	ACUSTICAL	F.O.	FACE OF (SPECIFY ITEM)	P.D.	PERPENDICULAR
A.D.	ACCESS DOOR / AREA DRAIN	F.O.C.	FACE OF CONCRETE	P.H.	PANIC HARDWARE
ADJ.	ADJUSTABLE	F.O.F.	FACE OF FINISH	PLAM.	PLASTIC LAMINATE
AESS	ARCHITECTURALL EXPOSED STRUCTURAL STEEL	F.O.M.	FACE OF MASONRY	PLAS.	PLASTER
A.F.F.	ABOVE FINISH FLOOR	F.O.P.	FACE OF PANEL	PLYWD.	PLYWOOD
ALT.	ALTERNATE	F.O.S.	FACE OF STUD	PR.	PAIR
ALUM.	ALUMINUM	FT.	FOOT / FEET	P.S.F.	POUNDS PER SQUARE FOOT
&	AND	FTG.	FLOOR FINISH	P.S.I.	POUNDS PER SQUARE INCH
<	ANGLE	F.S.	FLOOR SINK	P.T.D.F.	PRESSURE TREATED DOUGLAS FIR
ANOD.	ANODIZED	F.S.R.	FIRE SPRINKLER RISER	PVC.	POLYVINYL CHLORIDE
ARCH.	ARCHITECT(URAL)	GA.	GAUGE	R.	RADIUS / RISER
ASPH.	ASPHALT	GALV.	GALVANIZED	R.C.P.	REFLECTED CEILING PLAN
@	AT	G.C.	GENERAL CONTRACTOR	R.D.	ROOF DRAIN
BD.	BOARD	G.F.R.C.	GLASS FIBER REINFORCED CONC.	REF.	REFER(ENCE)
BLDG.	BUILDING	G.I.	GALVANIZED IRON	REINF.	REINFORCING
BLKG.	BLOCKING	G.L.B.	GLU LAM BEAM	REQ(D).	REQUIRED
BM.	BEAM	GWB.	GYPSPUM BOARD	REQUIREMENTS	
B.N.	BOUNDARY NAIL	GYP. BD.	GYPSPUM BOARD	RESIL.	RESILIENT
B.O.	BOTTOM OF	H.	HEIGHT / HIGH	RET.	RETAINING
B.O.F.	BOTTOM OF FOOTING	H.B.	HOSE BIB	RM.	ROOM
BOT.	BOTTOM	H.C.	HOLLOW CORE	R.O.	ROUGH OPENING
BSMT.	BASEMENT	HDR.	HEADER	S.	SOUTH
BTWN	BETWEEN	HDRWR.	HARDWARE	S.A.F.M.	SELF-ADHERING FLASHING MEMBRANE
B.U.R.	BUILT-UP ROOFING	H.M.	HOLLOW METAL	S.C.F.	SOLID CORE
C	CHANNEL	HORIZ.	HORIZONTAL	SCD	SEE CIVIL DRAWINGS
C.B.	CATCH BASIN	H.R.	HOUR	SCHED.	SCHEDULE
CB	CALIFORNIA BUILDING CODE	HT.	HEIGHT	SED	SEE ELECTRICAL DRAWINGS
CER.	CERAMIC	HVAC.	HEATING, VENTILATING AND AIR CONDITIONING	S.F.	SQUARE FEET
C.G.	CORNER GUARD	H.W.	HOT WATER	SHT.	SHEET
C.I.P.	CAST-IN-PLACE	H.W.	HOT WATER	SIM.	SIMILAR
C.J.	CONTROL JOINT	IBC	INTERNATIONAL BUILDING CODE	SLD	SEE LANDSCAPE DRAWINGS
CL	CENTERLINE / CLOSET	I.D.	INSIDE DIAMETER	SMD	SEE MECHANICAL DRAWINGS
CLG.	CEILING	IN.	INCLUDE	S.M.S.	SHEET METAL SCREWS
CLR.	CLEAR(ANCE)	INCL.	INCLUDED	SPD	SEE PLUMBING DRAWINGS
CLOS.	CLOSET	I.E.	INVERT ELEVATION	SPEC.	SPECIFICATION
CMU	CONCRETE MASONRY UNIT	INSUL.	INSULATION	SQ.	SQUARE
C.O.	CLEAN OUT	INT.	INTERIOR	S.S.	STAINLESS STEEL
COL.	COLUMN	INT.	INTERIOR	SSD	SEE STRUCTURAL DRAWINGS
CONC.	CONCRETE	INV.	INVERT	STC.	SOUND TRANSMISSION CLASS
CONSTR.	CONSTRUCTION	JAN.	JANITOR	STD.	STANDARD
CONT.	CONTINUOUS	JST.	JOIST	STL.	STEEL
COORD.	COORDINATE	JT.	JOINT	STR.	STRUCTURAL
CORR.	CORRIDOR	K.B.	KNOX BOX	SUSP.	SUSPENDED
CSK.	COUNTERSINK	KIT.	KITCHEN	SYM.	SYMMETRICAL
CTR.	CENTER	K.J.	KEYED JOINT	T.	TEMPERED / TREAD
d	PENNEY (NAILS)	K.O.	KNOCKOUT	T.B.D.	TO BE DETERMINED
D.F.	DRINKING FOUNTAIN	L.	LENGTH	TEL(E).	TELEPHONE
DIA. (or Ø)	DIAMETER	LAM	LAMINATED	T&G	TONGUE AND GROOVE
DIAG.	DIAGONAL	LAV	LAVATORY	THK.	THICKNESS
DIAPH.	DIAPHRAGM	LB.	POUND	T.I.	TENANT IMPROVEMENT
DIM.	DIMENSION	L.L.	LIVE LOAD	T.J.	TOOLED JOINT
DN.	DOWN	LLH	LONG LEG HORIZONTAL	T.O.	TOP OF (SPECIFY ITEM)
DP.	DAMPPOOFING	LLV	LONG LEG VERTICAL	T.O.C.	TOP OF CURB / CONCRETE
D.S.	DOWNSPOUT	LP.	LOW POINT	T.O.P.	TOP OF PARAPET/PAVEMENT
DTL.	DETAIL	L.P.	LOW POINT	T.O.S.	TOP OF STEEL
DWG.	DRAWING	L.W.C.	LIGHT WEIGHT CONCRETE	T.O.W.	TOP OF WALL
DW	DISHWASHER	MATL.	MATERIAL	T.V.	TELEVISION
(E)	EXISTING	MAX.	MAXIMUM	TYP.	TYPICAL
E	EAST	MECH.	MECHANICAL	U.O.N.	UNLESS NOTED OTHERWISE
EA	EACH	MEMB.	MEMBRANE	UL	UNDERWRITERS LABORATORY
E.B.	EXPANSION BOLT	MFR.	MANUFACTURER	V.C.T.	VINYL COMPOSITION TILE
E.J.	EXPANSION JOINT	MIN.	MINIMUM	VENT.	VENTILATOR / VENTILATION
ELEC.	ELECTRICAL	MISC.	MISCELLANEOUS	VERT.	VERTICAL
ELEV.	ELEVATION/ELEVATOR	M.O.	MASONRY OPENING	VEST.	VESTIBULE
ENCL.	ENCLOSURE	MTD.	MOUNTED	V.I.F.	VERIFY IN FIELD
EQ.	EQUAL	MTL.	METAL	V.R.	VAPOR RETARDER
EQUIP.	EQUIPMENT	(N)	NEW	VTR.	VENT THRU ROOF
ETC.	ETCETERA	N.	NORTH	VWC.	VINYL WALL COVERING
E.W.	ELECTRIC WATER COOLER	N.A.	NOT APPLICABLE	W.	WEST
EXP.	EXPANSION	N.I.C.	NOT IN CONTRACT	W.C.	WATER CLOSET
EXT.	EXTERIOR	NO.	NUMBER	WD.	WOOD
F.D.	FLOOR DRAIN	N.T.S.	NOT TO SCALE	WDW.	WINDOW
F.E.	FIRE EXTINGUISHER	O.C.	ON CENTER	W.	WITH
F.E.C.	FIRE EXTINGUISHER CABINET	O.D.	OUTSIDE DIAMETER	W.H.	WATER HEATER
F.F.	FINISH FLOOR / FACTORY FINISH	O.F.	OVERFLOW / OUTSIDE FACE	WID	WITHOUT
F.F.E.	FINISHED FLOOR ELEVATION	O.F.C.I	OWNER FURNISHED/ CONTRACTOR INSTALLED	W.P.	WATERPROOF
F.G.	FINISH GRADE	O.F.O.I.	OWNER FURNISHED/ OWNER INSTALLED	W.P.J.	WEAKENED PLANE JOINT
F.H.	FIRE HYDRANT	O.H.	OPPOSITE HAND / OVERHEAD	W.R.B.	WATER RESISTIVE BARRIER
F.H.V.C.	FIRE HOSE VALVE CABINET	OPNG.	OPENING	WT.	WEIGHT
FIN.	FINISH	OPP.	OPPOSITE	W.W.F.	WELDED WIRE FABRIC
				W.W.M.	WELDED WIRE MESH

ARCHITECTURAL LEGEND



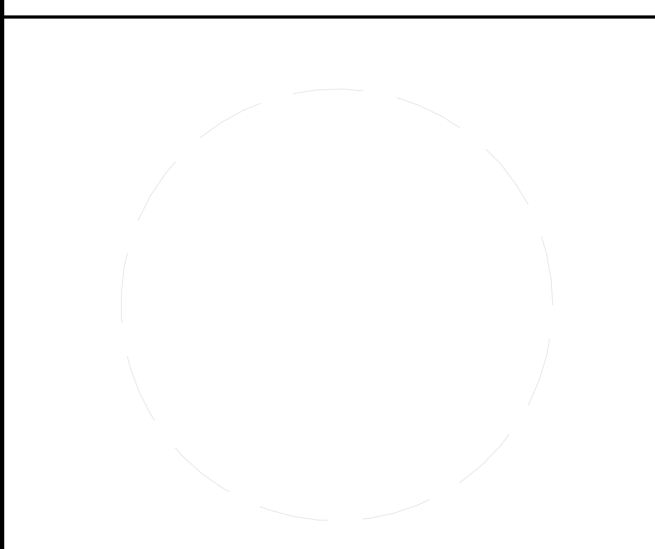
- FACILITY ADVISORS:
- PROJECT MANAGER:
- ASSISTANT PROJECT MANAGER:
- CONSTRUCTION MANAGER:
- ASSISTANT CONSTRUCTION MANAGER:
- CONSTRUCTION:
- BUDGET:
- SPONSORSHIP:
- HEALTH AND SAFETY:
- PUBLIC RELATIONS:
- WEB DESIGN:
- ARCHITECTURE:
- INTERIORS:
- EXTERIORS:
- BUILDING CODE:
- ELECTRICAL:
- HVAC:
- PLUMBING:
- CONTROLS SYSTEMS:
- STRUCTURAL:

GENERAL SHEET NOTES

1. ALL CONSTRUCTION, MATERIALS AND INSTALLATIONS SHALL CONFORM TO THE SOLAR DECATHLON 2015 BUILDING CODE AND WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.
2. ANY OMISSIONS OR CONFLICTS WITHIN THE DRAWINGS, NOTES OR DETAILS SHALL BE REPORTED TO THE ENGINEERS BEFORE PROCEEDING WITH WORK.
3. UNLESS NOTED OTHERWISE PLAN CUT LINE IS TAKEN AT 4'-0" ABOVE FINISHED FLOOR.
4. ALL ABBREVIATIONS USED ARE REFERENCED FROM THE UNIFORM DRAWING SYSTEM TERMS AND ABBREVIATIONS MODULE PUBLISHED IN THE NATIONAL CAD STANDARD VERSION 5.
5. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER REPEATED OR NOT. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE SHOWN.



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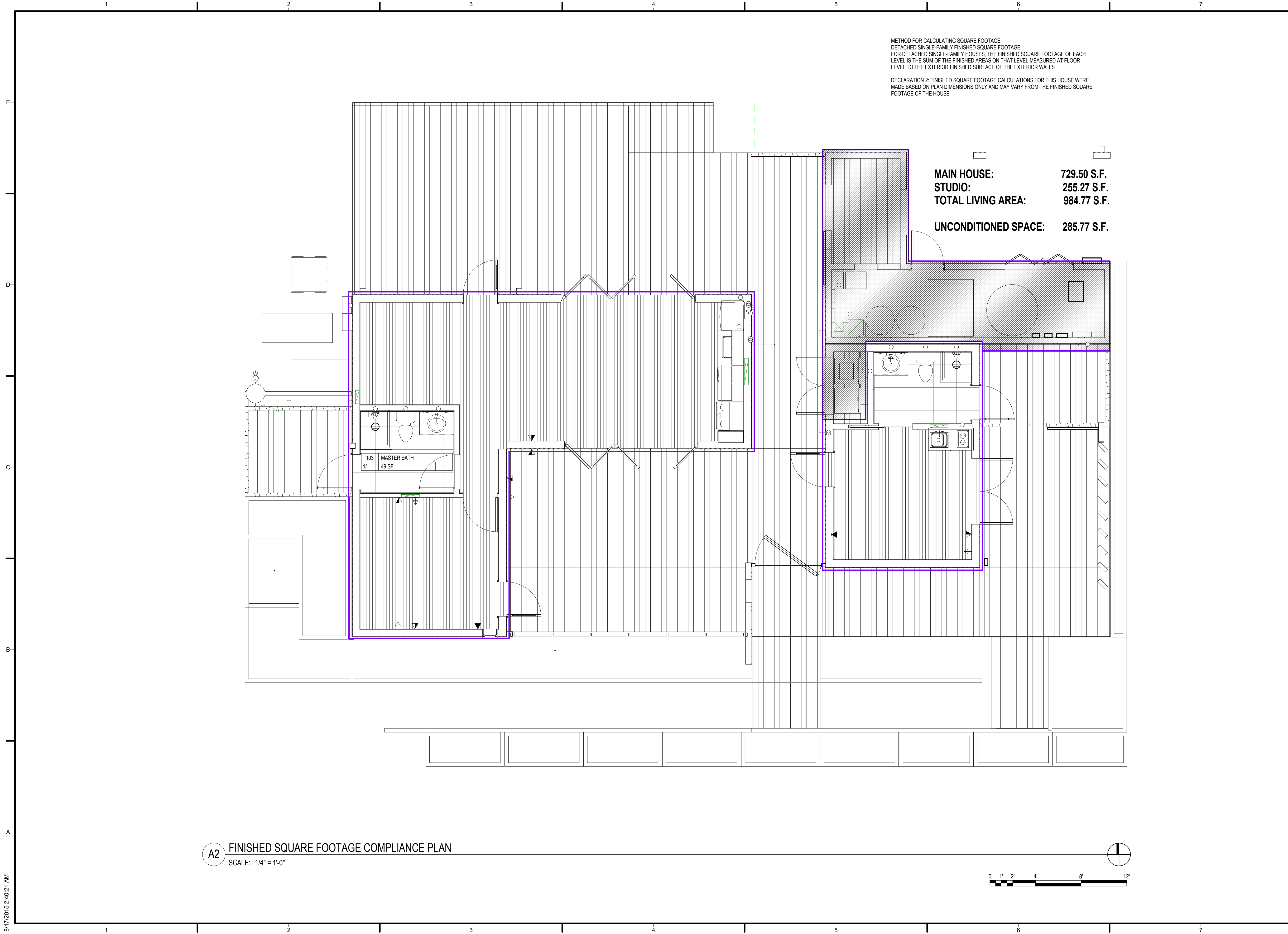


MARK	DATE	DESCRIPTION
	08/17/2015	AS-BUILT SET
	02/12/2015	95% DOE

LOT NUMBER: #203
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SHEET TITLE
GENERAL NOTES AND SYMBOLS

G-002



METHOD FOR CALCULATING SQUARE FOOTAGE:
 DETACHED SINGLE-FAMILY FINISHED SQUARE FOOTAGE
 FOR DETACHED SINGLE-FAMILY HOUSES, THE FINISHED SQUARE FOOTAGE OF EACH
 LEVEL IS THE SUM OF THE FINISHED AREAS ON THAT LEVEL MEASURED AT FLOOR
 LEVEL TO THE EXTERIOR FINISHED SURFACE OF THE EXTERIOR WALLS

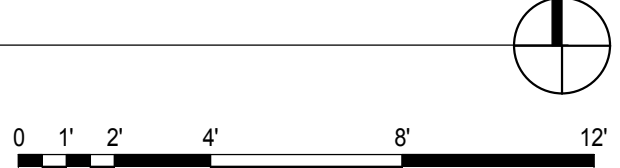
DECLARATION 2: FINISHED SQUARE FOOTAGE CALCULATIONS FOR THIS HOUSE WERE
 MADE BASED ON PLAN DIMENSIONS ONLY AND MAY VARY FROM THE FINISHED SQUARE
 FOOTAGE OF THE HOUSE

MAIN HOUSE: 729.50 S.F.
STUDIO: 255.27 S.F.
TOTAL LIVING AREA: 984.77 S.F.

UNCONDITIONED SPACE: 285.77 S.F.

103 MASTER BATH
 1/ 49 SF

A2 FINISHED SQUARE FOOTAGE COMPLIANCE PLAN
 SCALE: 1/4" = 1'-0"



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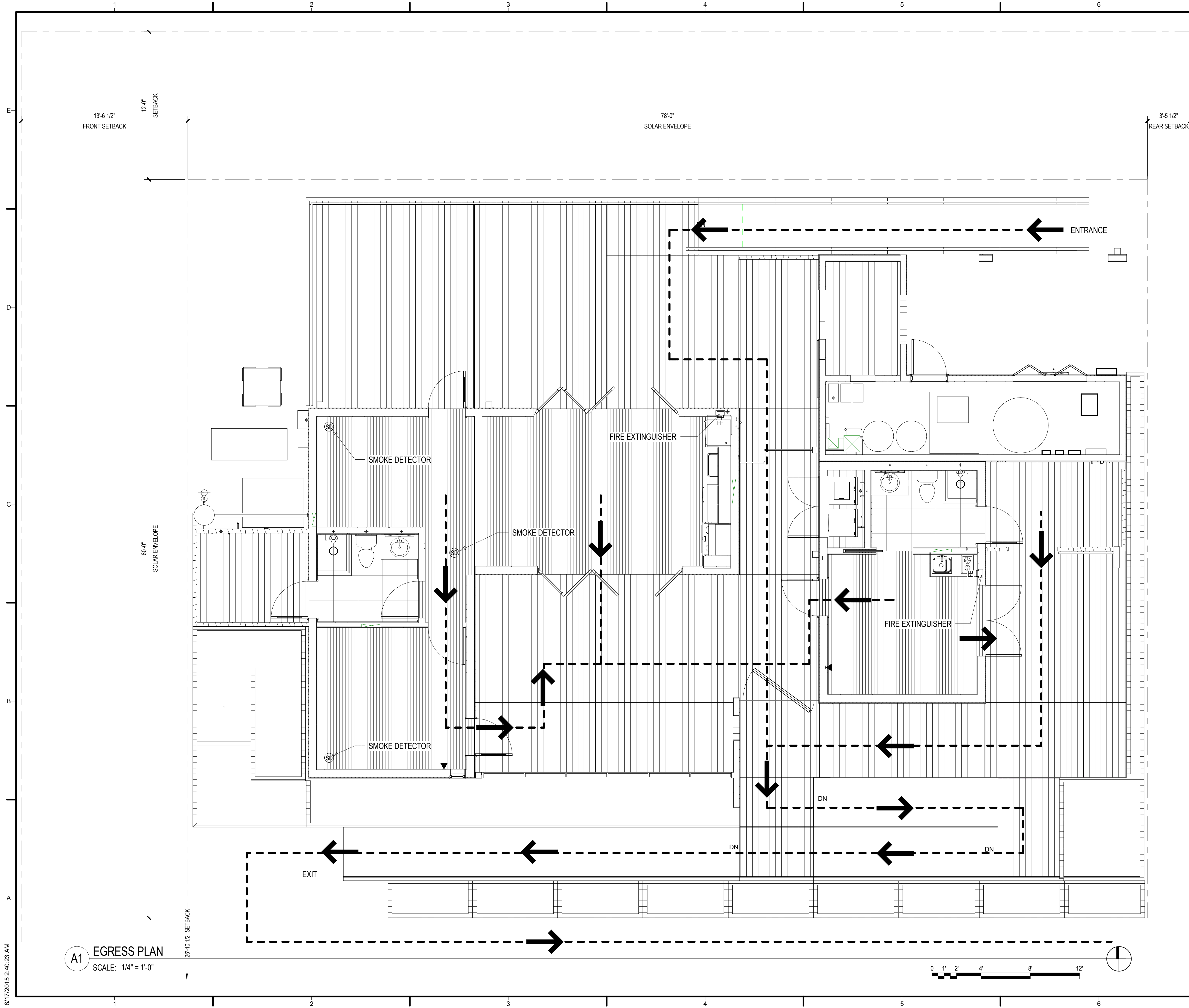
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SHEET TITLE
**FINISHED SQUARE
 FOOTAGE
 COMPLIANCE**

G-101

8/17/2015 2:40:21 AM



GENERAL NOTES

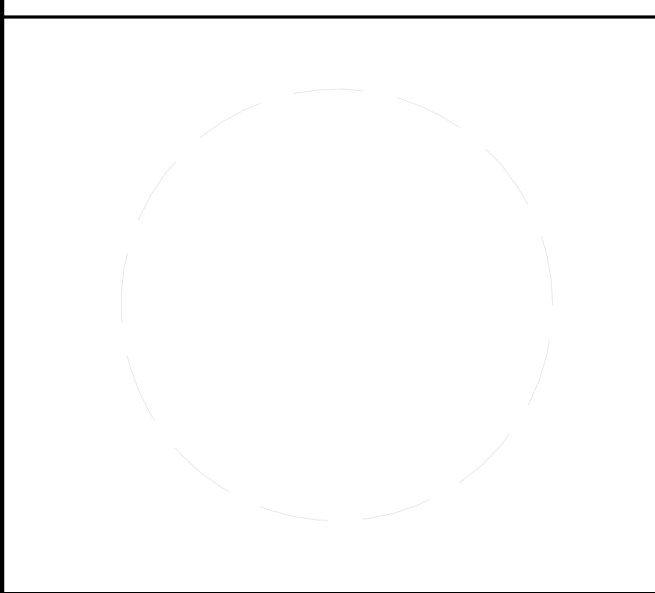
1. FINISH DECK HEIGHT IS 2'-0" FROM GRADE. GUARDRAILS NOT REQUIRED.
2. EGRESS DOOR IN ACCORDANCE WITH IRC 311.2 AND MEET 32" MINIMUM CLEARANCE IN THE 90 DEGREE OPEN POSITION. RAMP TRANSITION PLATE TO BE INSTALLED
- 3.

FIRE PROTECTION SYMBOLS

- ← DIRECTION OF EXIT
- FE FIRE EXTINGUISHER MINIMUM UL 2A-10BC
- SD SMOKE DETECTOR
- MEETING ZONE



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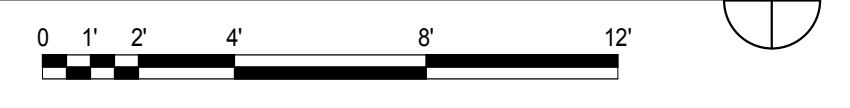
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	02/12/2015	95% DOE

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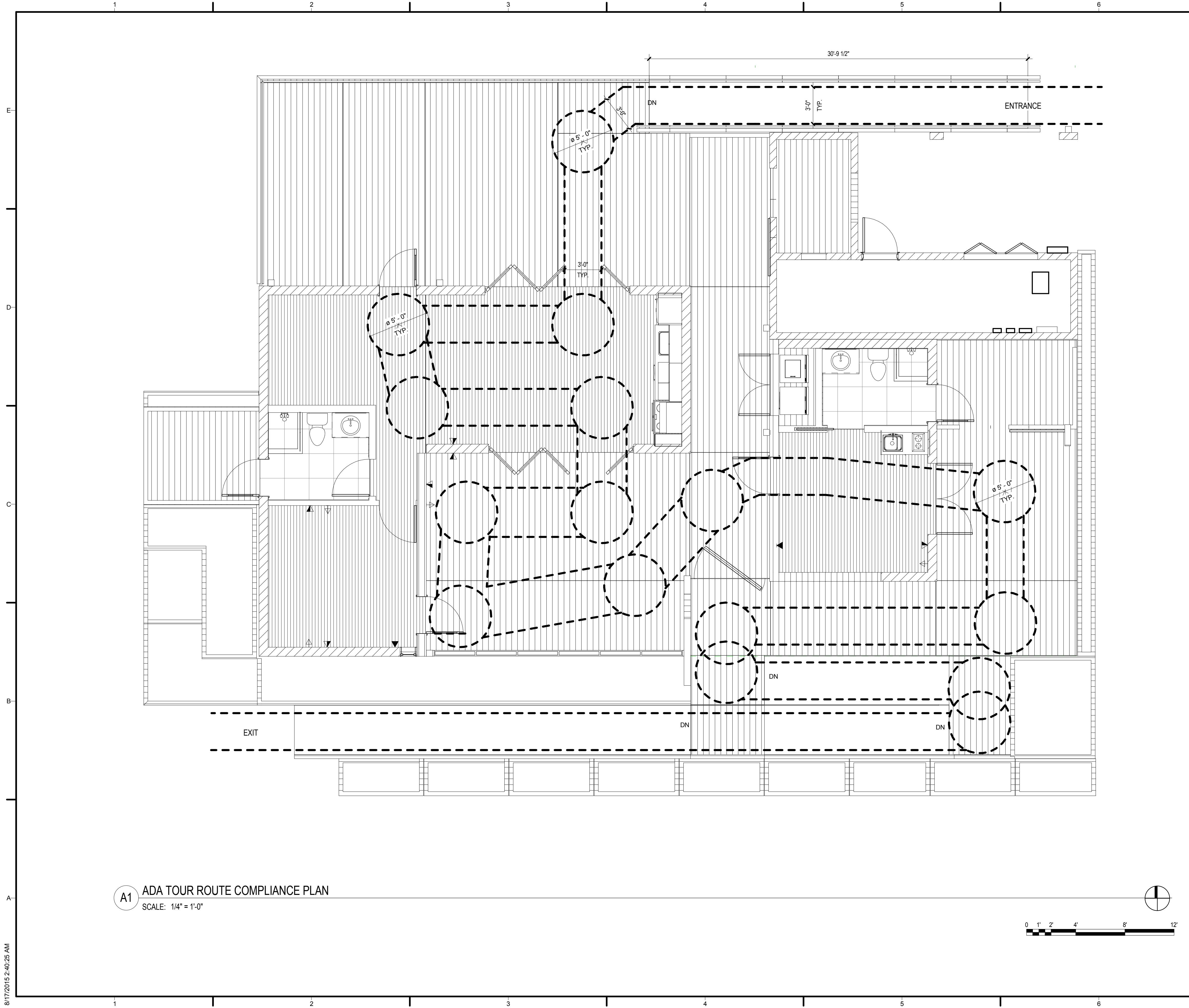
SHEET TITLE
EGRESS PLAN

G-102

A1 EGRESS PLAN
 SCALE: 1/4" = 1'-0"



8/17/2015 2:40:23 AM



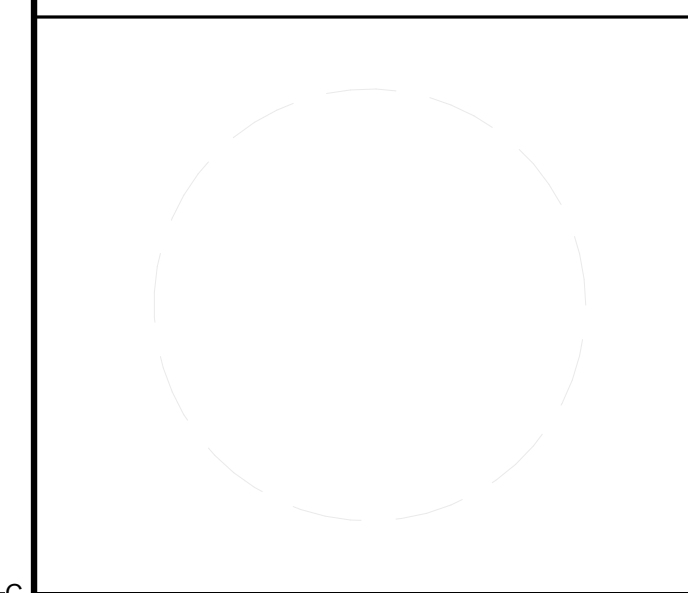
A1 ADA TOUR ROUTE COMPLIANCE PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES

- 5'-0" DIAMETER ADA COMPLIANT TURNING AREA TYPICAL



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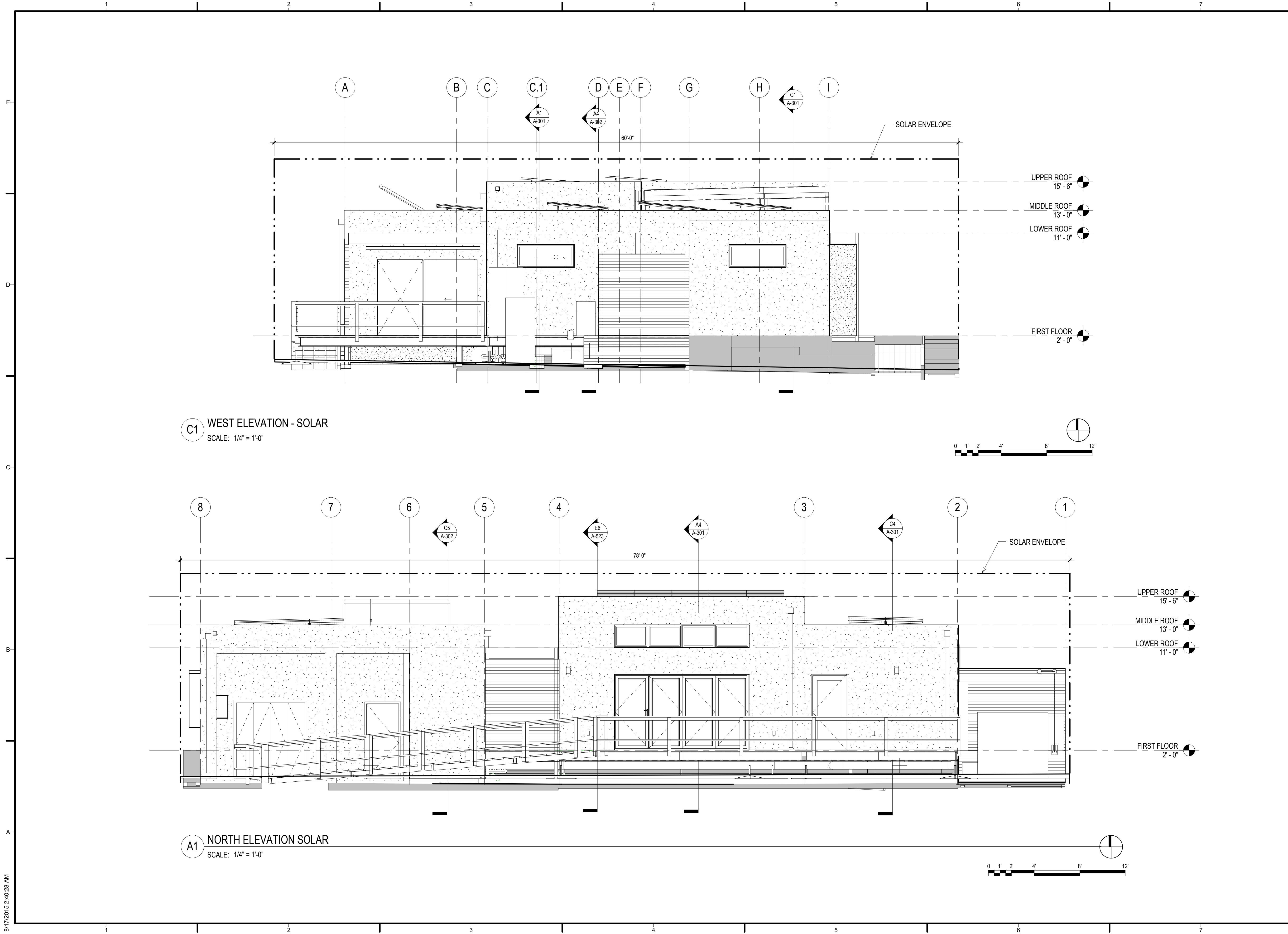
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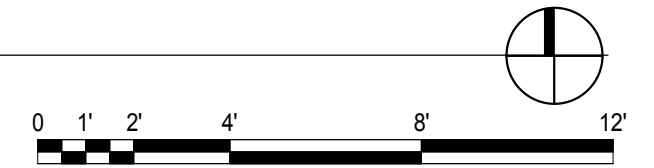
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ADA TOUR ROUTE COMPLIANCE PLAN

G-103

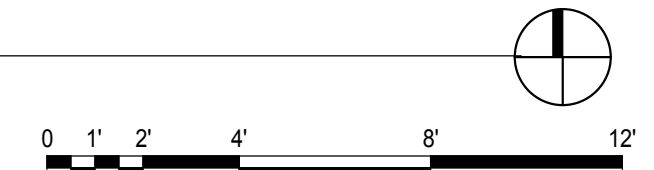
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C1 WEST ELEVATION - SOLAR
SCALE: 1/4" = 1'-0"



A1 NORTH ELEVATION SOLAR
SCALE: 1/4" = 1'-0"



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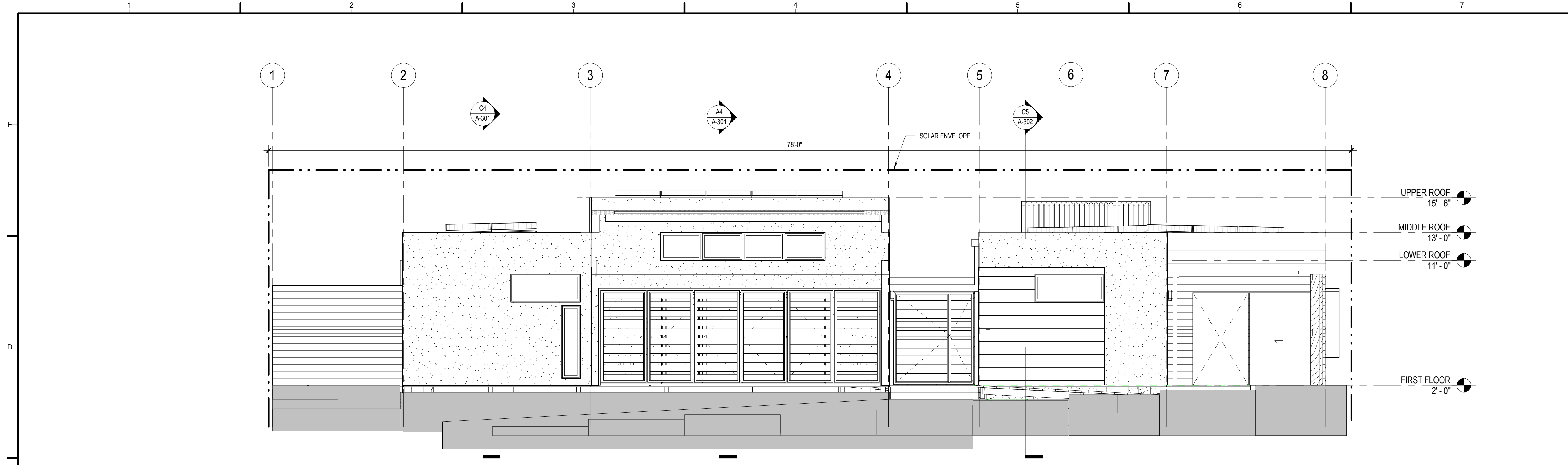
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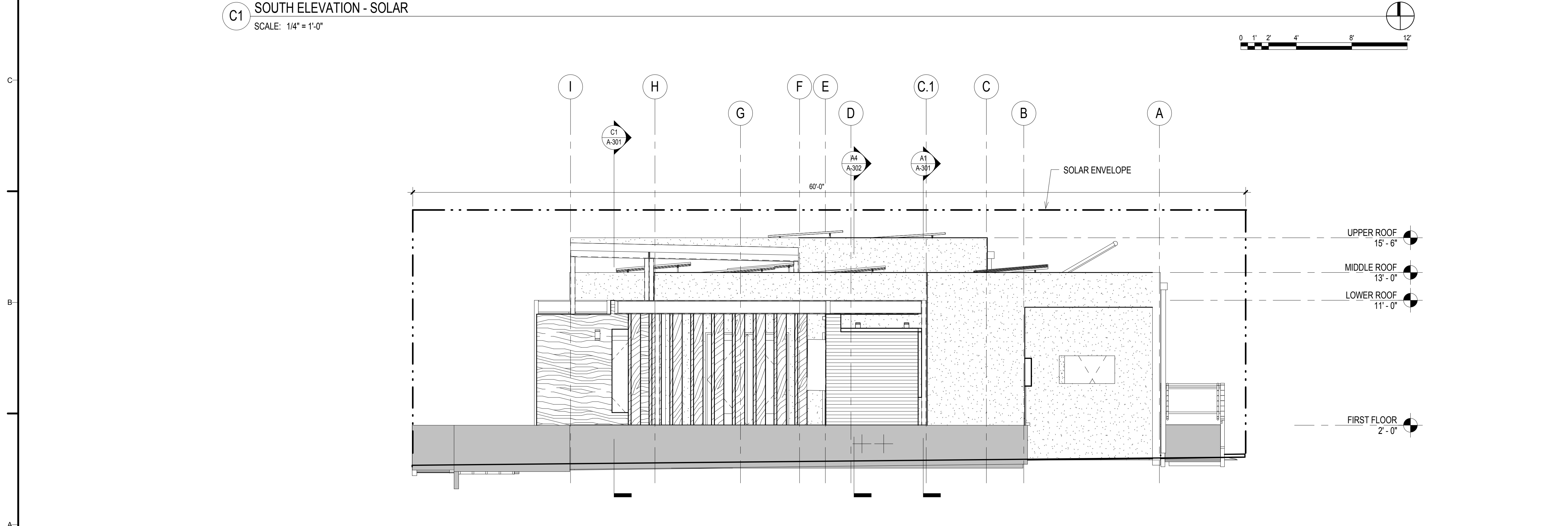
SHEET TITLE
 SOLAR ENVELOPE
 COMPLIANCE
 ELEVATIONS

G-201

8/17/2015 2:40:28 AM



C1 SOUTH ELEVATION - SOLAR
SCALE: 1/4" = 1'-0"



A1 EAST ELEVATION - SOLAR
SCALE: 1/4" = 1'-0"



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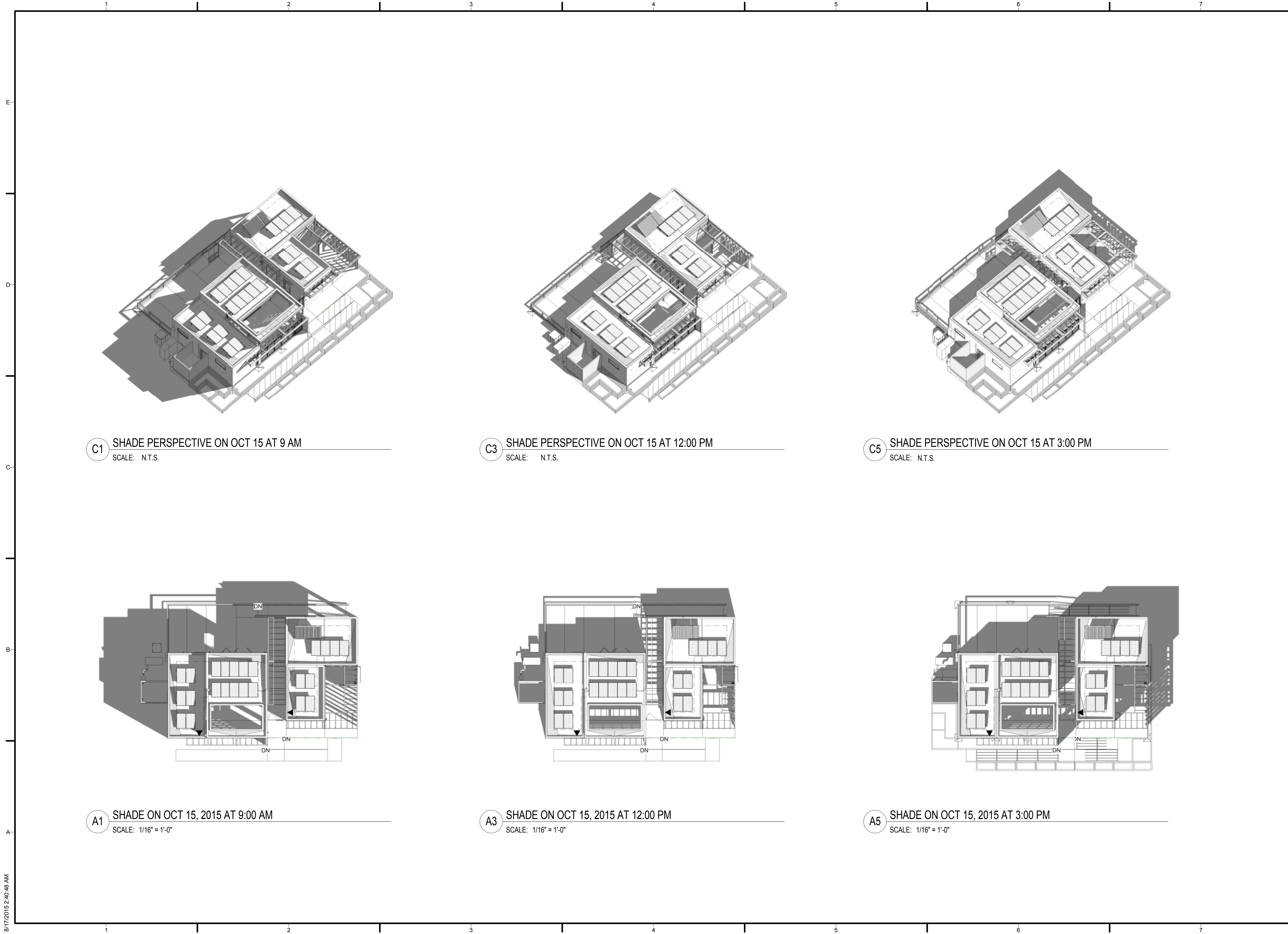


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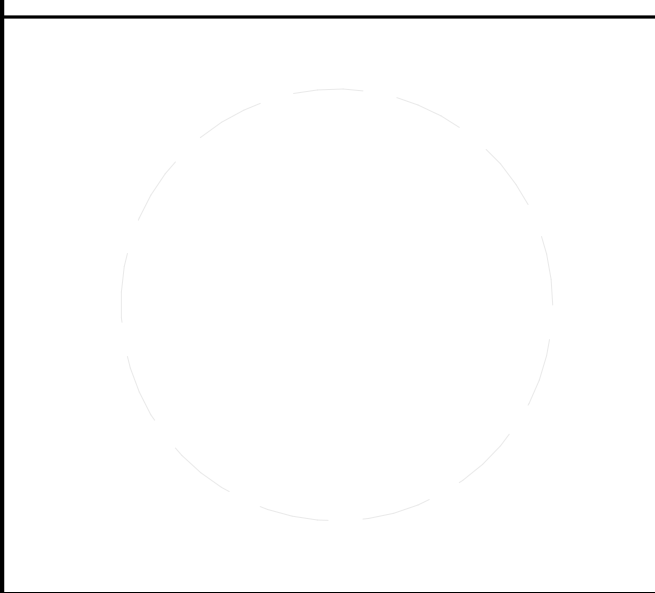
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SHEET TITLE
 SOLAR ENVELOPE
 COMPLIANCE
 ELEVATIONS

G-202



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SHEET TITLE
SHADING DIAGRAMS

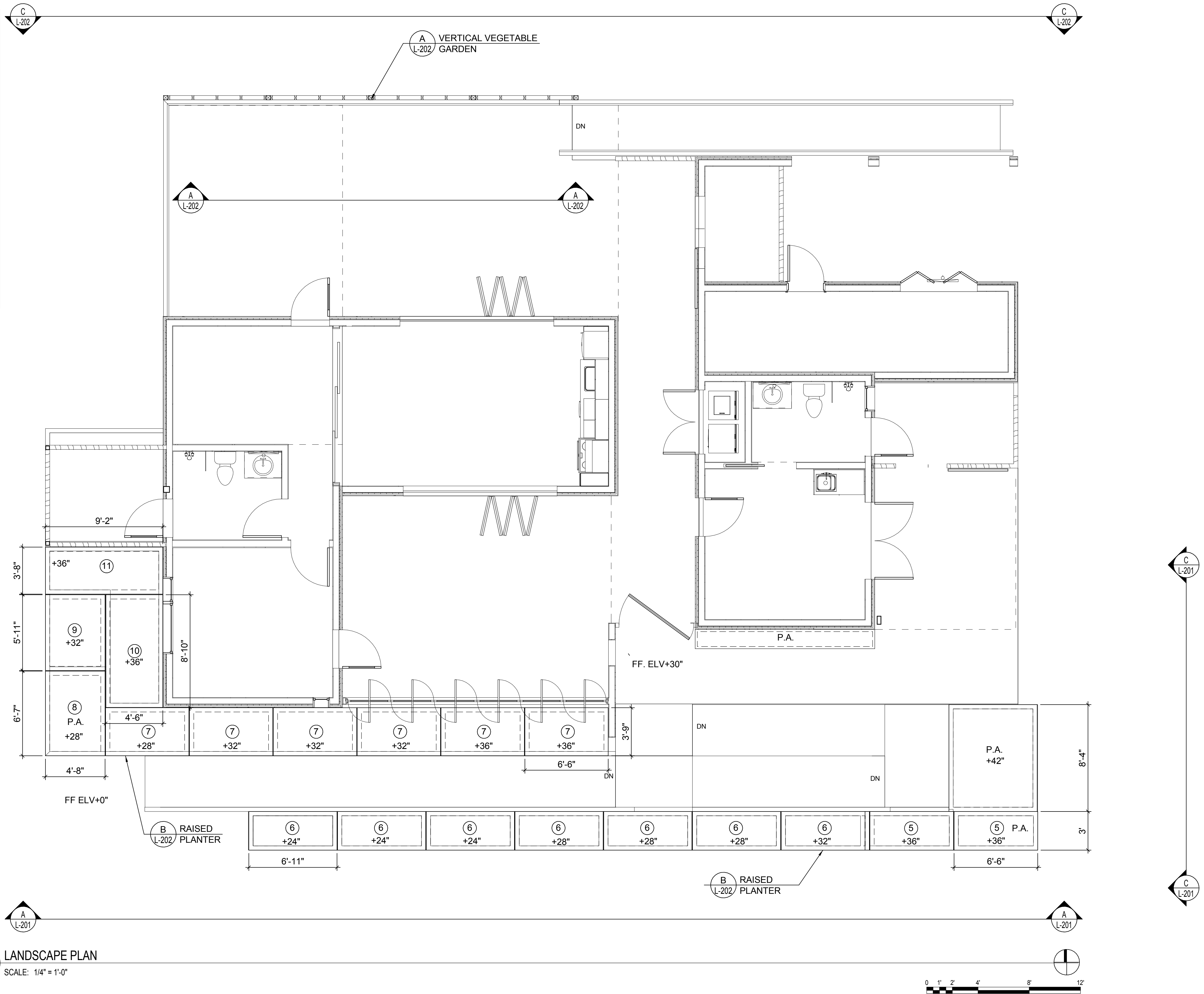
G-601

8/17/2015 2:40:48 AM

PLANTER LEGEND:

- ① N/A
- ② N/A
- ③ N/A
- ④ N/A
- ⑤ 3'-0" x 6'-6" PLANTER
- ⑥ 3'-0" x 6'-11" PLANTER
- ⑦ 3'-9" x 6'-6" PLANTER
- ⑧ 4'-8" x 6'-7" PLANTER
- ⑨ 4'-8" x 5'-11" PLANTER
- ⑩ 4'-6" x 8'-10" PLANTER
- ⑪ 3'-8" x 9'-2" PLANTER

① A VERTICAL VEGETABLE GARDEN



A1 LANDSCAPE PLAN
SCALE: 1/4" = 1'-0"



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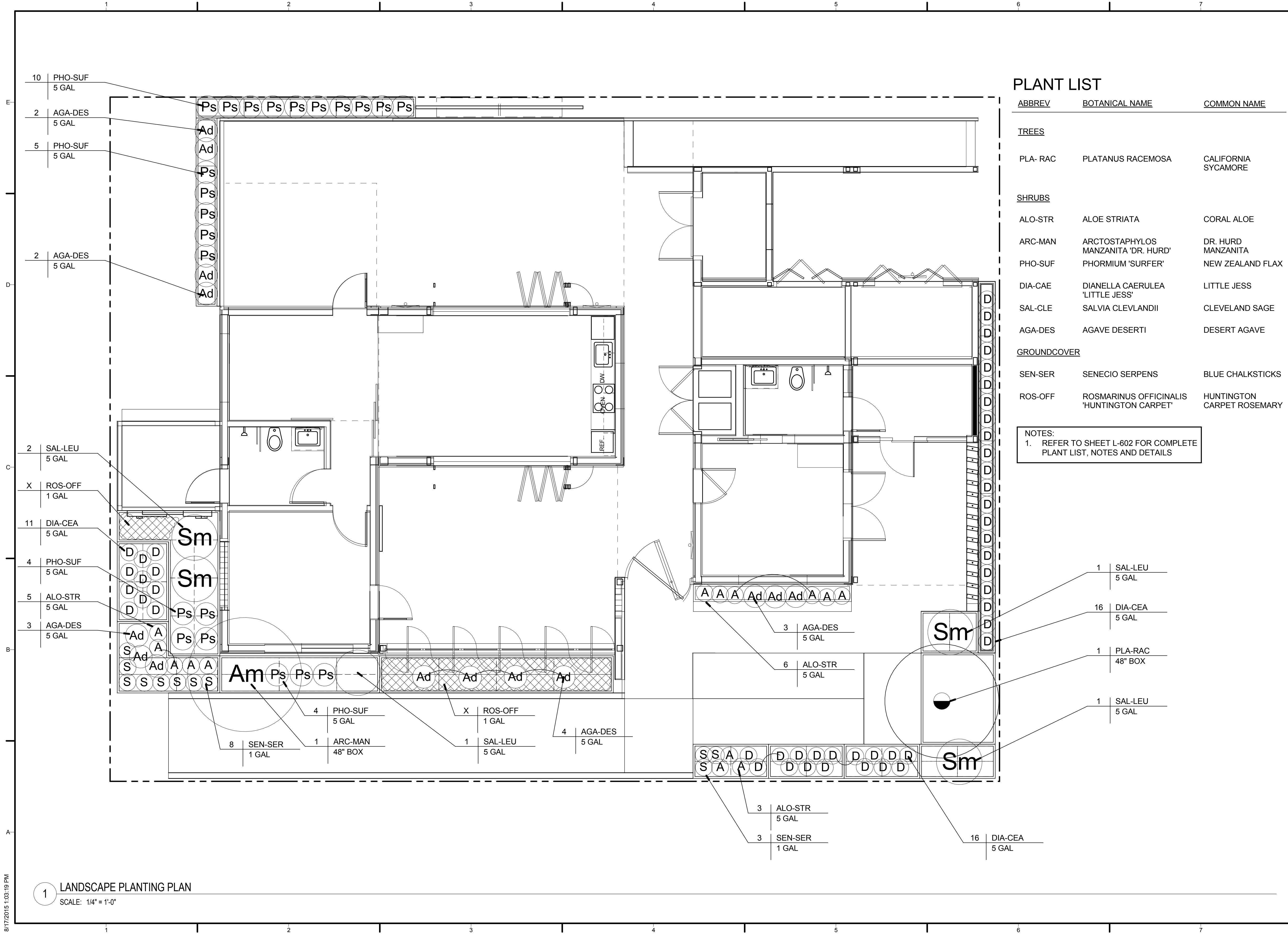
MARK	DATE	DESCRIPTION
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SHEET TITLE
LANDSCAPE AND PLANTING SITE PLAN

L-101

8/17/2015 1:03:19 PM



PLANT LIST

ABBREV	BOTANICAL NAME	COMMON NAME
TREES		
PLA-RAC	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE
SHRUBS		
ALO-STR	ALOE STRIATA	CORAL ALOE
ARC-MAN	ARCTOSTAPHYLOS MANZANITA 'DR. HURD'	DR. HURD MANZANITA
PHO-SUF	PHORMIUM 'SURFER'	NEW ZEALAND FLAX
DIA-CAE	DIANELLA CAERULEA 'LITTLE JESS'	LITTLE JESS
SAL-CLE	SALVIA CLEVELANDII	CLEVELAND SAGE
AGA-DES	AGAVE DESERTI	DESERT AGAVE
GROUNDCOVER		
SEN-SER	SENECIO SERPENS	BLUE CHALKSTICKS
ROS-OFF	ROSMARINUS OFFICINALIS 'HUNTINGTON CARPET'	HUNTINGTON CARPET ROSEMARY

NOTES:
1. REFER TO SHEET L-602 FOR COMPLETE PLANT LIST, NOTES AND DETAILS



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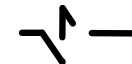




MARK	DATE	DESCRIPTION
	02/12/2015	95% DOE

LOT NUMBER: #203
 DRAWN BY:
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 COPYRIGHT:

SHEET TITLE
LANDSCAPE PLANTING PLAN

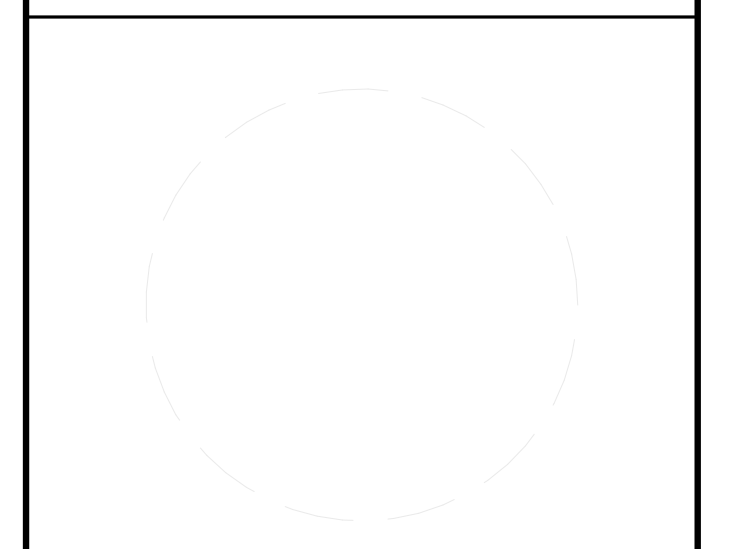
L-102

IRRIGATION MATERIAL LEGEND

SYMBOL	MANUFACT.	MODEL NO. / DESCRIPTION
NO SYMBOL	HUNTER	HE-10-B SELF-PIERCING BARB POINT SOURCE EMITTERS. INSTALL ON 1/2" BLANK DRIP LINE TUBING. INSTALL WITH 1/4" DISTRIBUTION TUBING FROM EMITTER TO PLANTING.
NO SYMBOL	HUNTER	PLD-BLANK 1/2" DIA. BLANK DRIP LINE TUBING. USE HUNTER PLD BARB FITTINGS
	P.O.C.	CONNECT TO GREY WATER STUB-OUT PROVIDED BY OTHERS
	NIBCO	T-585-80-LF BRONZE GATE VALVE, LINE SIZE, WITH STAINLESS STEEL HANDLE
	HUNTER	PCZ-101 DRIP CONTROL ZONE KITS. INSTALL ON FINISHED SURFACE
	HUNTER	X-CORE AUTOMATIC OUTDOOR CONTROLLER. INSTALL ON WALL AT APPROXIMATE LOCATION SHOWN
	N.A.	120 VAC ELECTRICAL POWER SOURCE
—————	AS APPROVED	PVC PIPE 3/4" SCHEDULE 40 AS LATERAL LINES. FASTEN TO BUILDING STRUCTURE PER DETAIL
NO SYMBOL	AS APPROVED	IRRIGATION CONTROL WIRE #14UF AWG DIRECT BURIAL (U.L. APPROVED)
NO SYMBOL	3M	DBY DIRECT BURIAL WATER-PROOF WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS



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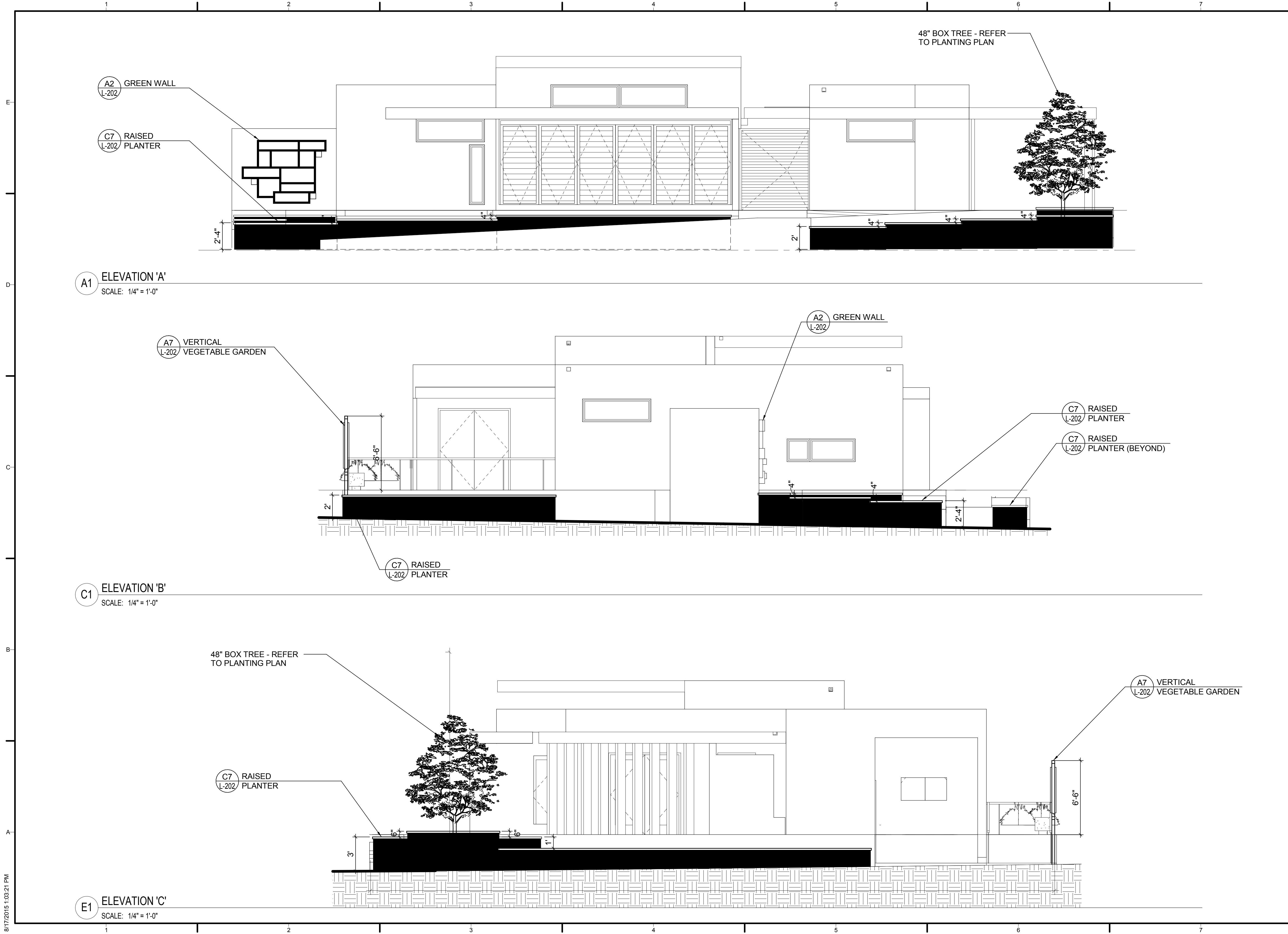


MARK	DATE	DESCRIPTION
	02/12/2015	95% DOE

LOT NUMBER: #203
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SHEET TITLE
**LANDSCAPE
 IRRIGATION LEGEND**

L-103



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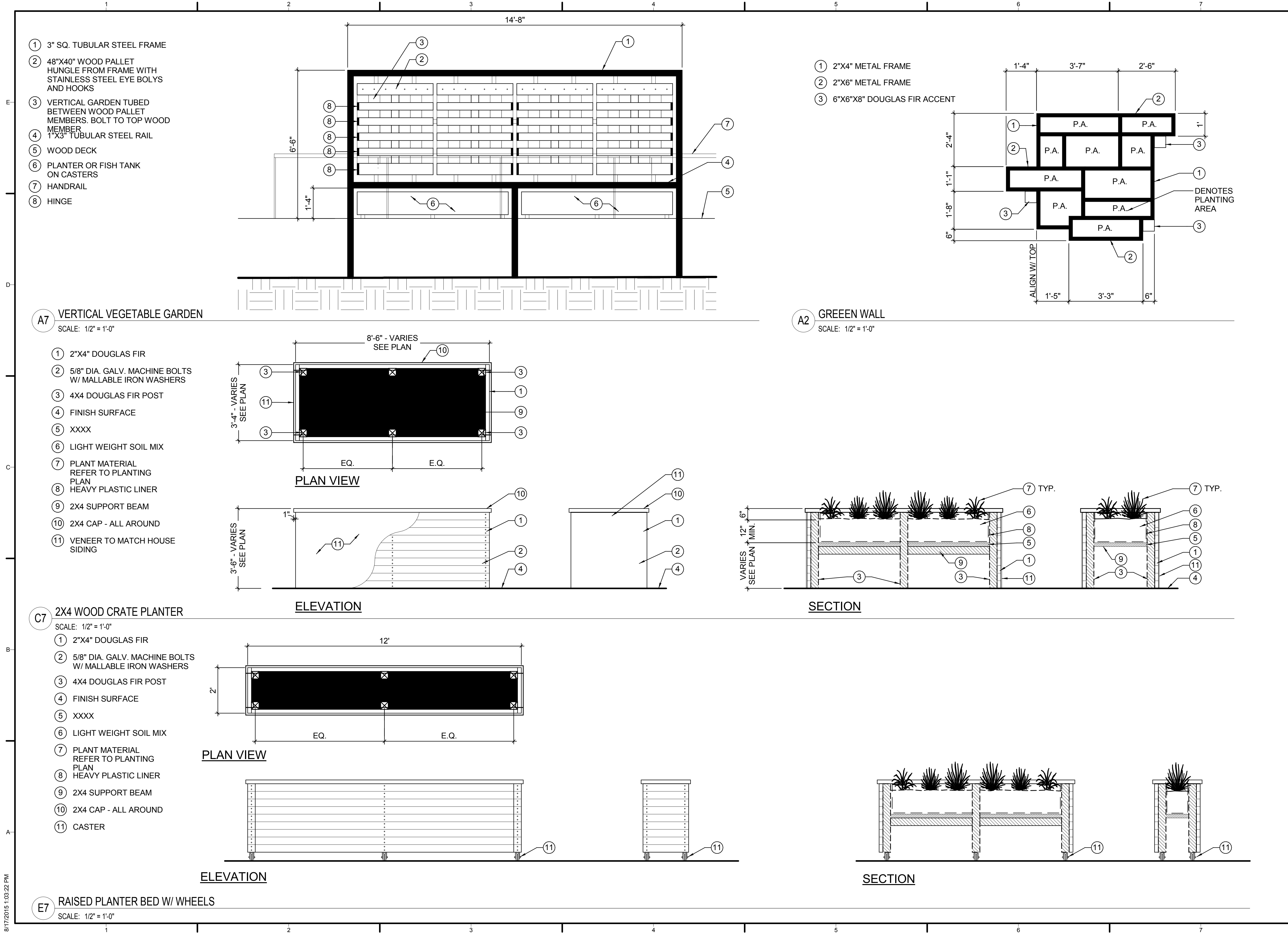
MARK	DATE	DESCRIPTION
	02/12/2015	95% DOE

LOT NUMBER: #203
 DRAWN BY:
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 COPYRIGHT:

SHEET TITLE
LANDSCAPE ELEVATIONS

L-201

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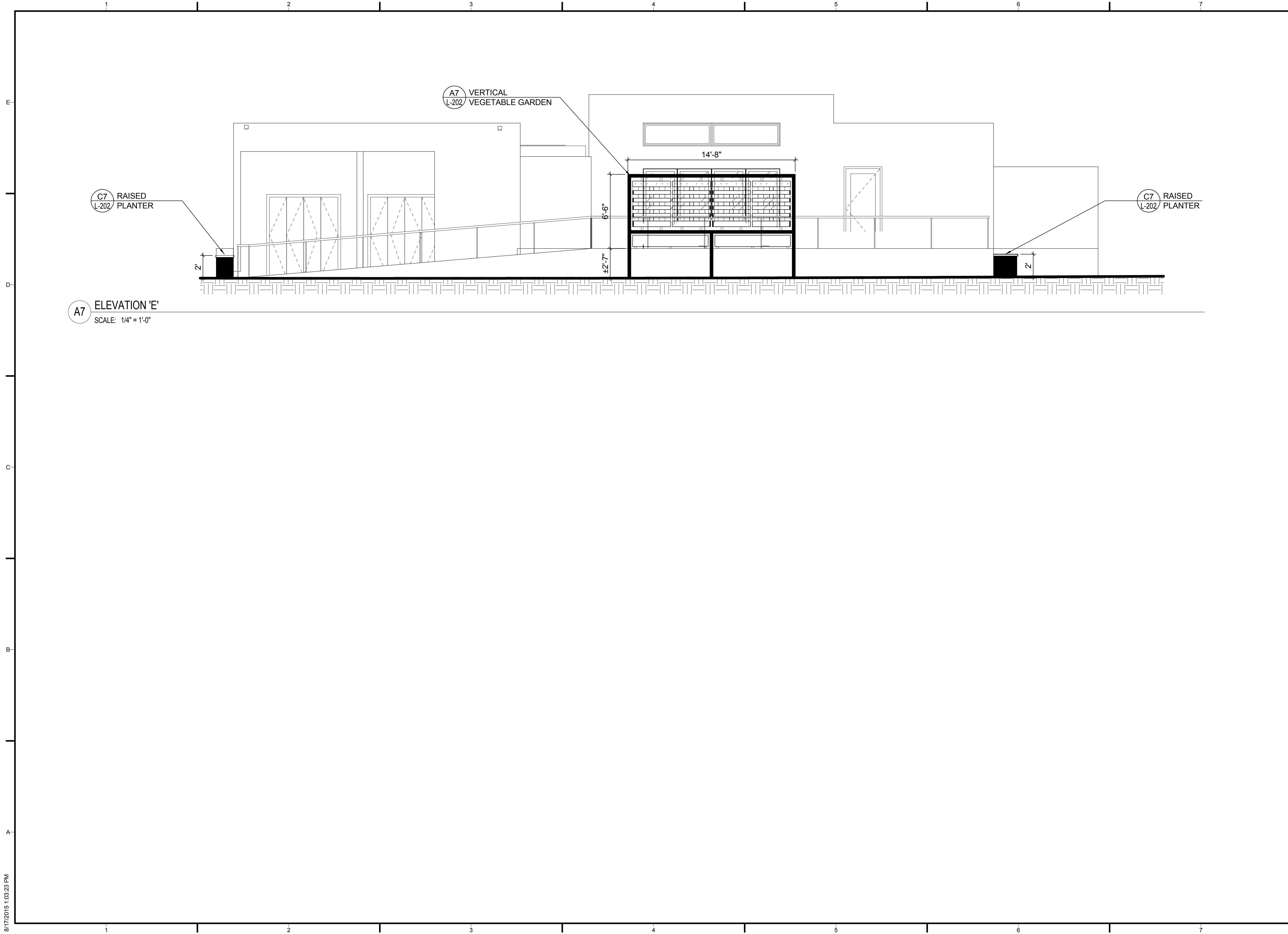
MARK	DATE	DESCRIPTION
	02/12/2015	95% DOE

LOT NUMBER: #203
 DRAWN BY:
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 COPYRIGHT:

SHEET TITLE
LANDSCAPE ELEVATIONS

L-202

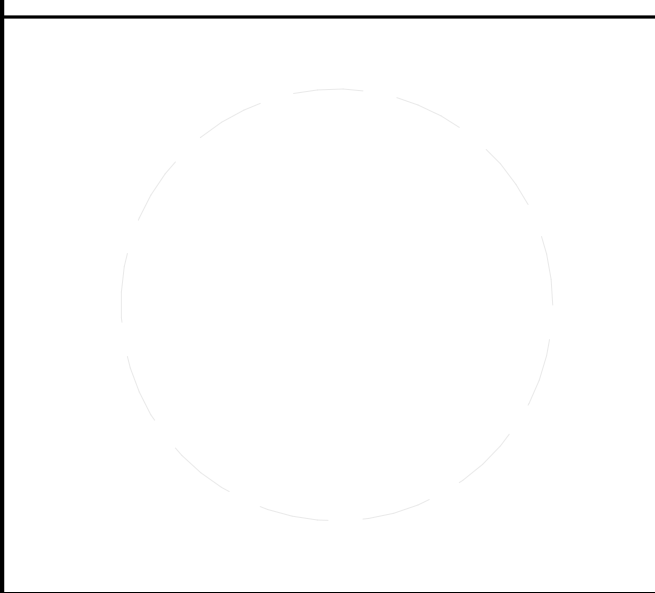
8/17/2015 1:03:22 PM



A7 ELEVATION 'E'
SCALE: 1/4" = 1'-0"



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SHEET TITLE
LANDSCAPE ELEVATIONS

L-203

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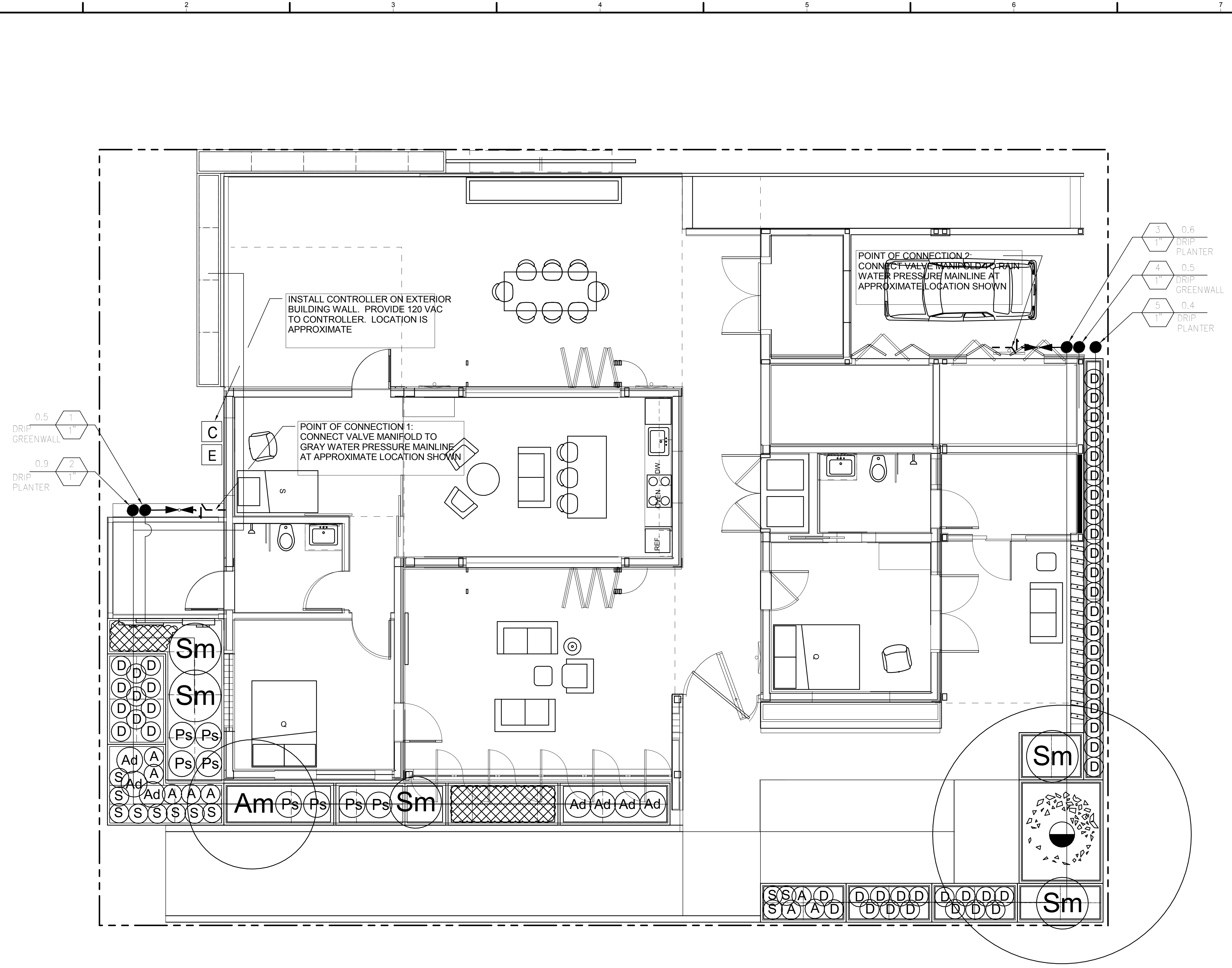


MARK	DATE	DESCRIPTION
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LOT NUMBER: #203
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SHEET TITLE
**LANDSCAPE SCALE
 PLANTING PLAN**

L-401



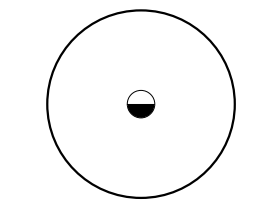
1 LARGE SCALE PLANTING PLAN
 SCALE: 1/4" = 1'-0"



PLANT LIST

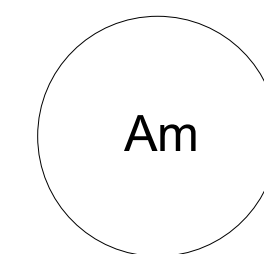
ABBREV	BOTANICAL NAME	COMMON NAME	SIZE
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TREES



PLA- RAC	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	48" BOX
----------	-------------------	---------------------	---------

SHRUBS



(A) ALO-STR	ALOE STRIATA	CORAL ALOE	5 GAL.
-------------	--------------	------------	--------

ARC-MAN	ARCTOSTAPHYLOS MANZANITA 'DR. HURD'	DR. HURD MANZANITA	48" BOX
---------	-------------------------------------	--------------------	---------

(Ps) PHO-SUF	PHORMIUM 'SURFER'	NEW ZEALAND FLAX	5 GAL
--------------	-------------------	------------------	-------

(D) DIA-CAE	DIANELLA CAERULEA 'LITTLE JESS'	LITTLE JESS	5 GAL
-------------	---------------------------------	-------------	-------

(Sm) SAL-CLE	SALVIA CLEVELANDII	CLEVELAND SAGE	5 GAL
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(Ad) AGA-DES	AGAVE DESERTI	DESERT AGAVE	5 GAL.
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GROUNDCOVER

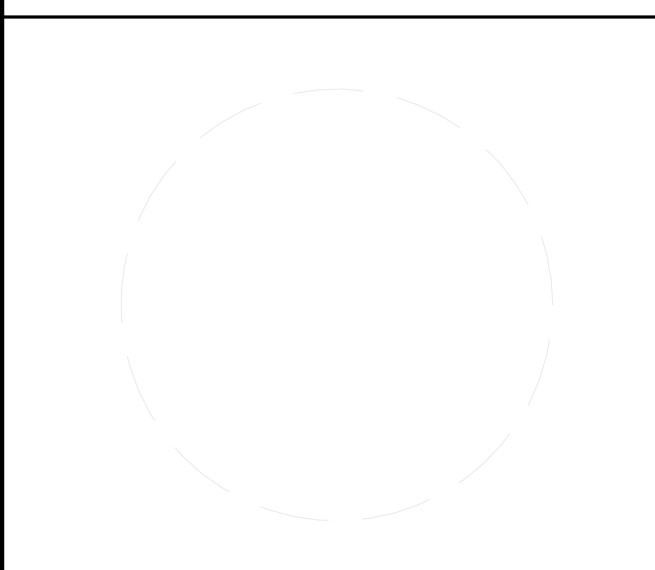
(S) SEN-SER	SENECIO SERPENS	BLUE CHALKSTICKS	1 GAL.
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ROS-OFF	ROSMARINUS OFFICINALIS 'HUNTINGTON CARPET'	HUNTINGTON CARPET ROSEMARY	1 GAL.
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APPLY A 2" LAYER OF MULCH IN ALL SHRUB AND GROUNDCOVER AREAS.



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SHEET TITLE
LANDSCAPE PLANT LIST, NOTES & DETAILS

L-602

STRUCTURAL ABBREVIATIONS

- A. GENERAL**
- Applicable Code: 2013 California Building Code (CBC) and 2009 International Residential Code (IRC). References to industry standards herein shall be latest edition as adopted by Applicable Code. References to ICC-ES Evaluation Reports for proprietary materials herein shall be latest edition as adopted by Governing Code Authority.
 - Design Wind Speed: 85 mph, Exposure C, Importance Factor = 1.0
 - Seismic Importance Factor I: 1.0
 - Spectral Acceleration (S_s, S₁): X, X (respectively)
 - Spectral Response Coefficient (SDS, SD1): X, X (respectively)
 - System Coefficient R: 0.5
 - Site Coefficient (F_a, F_v): 1.0, 1.5 (respectively)
 - Site Class: D
 - Seismic Source: Type II
 - Occupancy Category: Class D
 - Seismic Design Category: D
 - Basic Seismic Resisting Force System: Light-Framed Walls with Wood Structural Panels
 - Analysis Procedure: Linear Static
 - Governing Code Authority: Department of Energy, City of Irvine.
 - Field Verification: Field verify existing conditions and dimensions prior to construction. Promptly notify Architect (Structural Engineer) in case of discrepancies.
 - Design Intent: Contract Documents indicate design intent for structure in its completed state. They do not indicate method of construction. Promptly notify Architect (Structural Engineer), prior to proceeding with Work, if design intent requires further clarification.
 - Deviations, Modifications and Substitutions to Approved Structural Drawings: Must be accepted in writing by Architect (Structural Engineer) and approved by Governing Code Authority. No deviation, modification or substitution will be accepted via shop drawing review.
 - Procedures of Construction: Contractor is responsible for procedures of construction complying with national, state and local safety ordinances. Site visits (including Structural Observation) by Architect (Structural Engineer) do not constitute supervision of methods of construction.
 - Protection of Utilities: Locate existing utilities, including those not shown on Contract Documents, and protect them from damage. Contractor bears expense of repair or replacement of utilities in conjunction with execution of Work.
 - Excavations: Protect structure, adjacent structures, adjacent properties, streets, and utilities during excavation utilizing lagging, shoring, underpinning and related procedures as may be required. Provide necessary supports for soil at sides of excavations. Contractor and affected trades shall refer to Geotechnical Report for more information.
 - Protection of Structure: Provide necessary measures to protect structure during execution of Work.
 - Contractor Proposed Revisions: Where a revision of structural design or connection is proposed by Contractor to accommodate construction tolerances, construction sequence and/or dimension modifications, Contractor shall retain a structural engineer licensed in State of California to perform design. Submit stamped and signed design drawings and calculations to the Architect (Structural Engineer) for review and the Governing Code Authority for approval.
 - Erection Plans: Determine phases of Work requiring erection plans according to applicable safety regulations. Maintain certified copies of erection plans at site during construction.
 - Shoring, Bracing, and Other Temporary Supports: Design and erect shoring, bracing, and other temporary supports where structure has not attained design strength and as required for safe erection. Ensure floor, roof, and wall members are securely shored and braced during construction. Provide shoring at elevated beams and slabs supporting concrete or masonry walls during and after wall pour until wall attains design strength.
 - Temporary Loading: Ensure construction loads do not exceed indicated design live load values. Notify affected sub-contractor trades of these design load limits.
 - Fabrication, Shipment, and Erection of Structural Steel: Ensure stresses occurring during fabrication, shipment, and erection of structural steel are temporary and are less than design and allowable stress capacities of individual members. Do not impair full design and load carrying capacity of members due to fabrication, shipment, or erection. Contractor is responsible for controlling erection sequence, erection procedure, temperature differentials and weld shrinkage to minimize residue stresses. Provide additional materials for the erection of structural steel such as temporary bracing and guy cables as may be necessary at no additional cost. Remove these materials unless approved in writing by Owner. Do not tighten bolts in typical beam to column connections for erection purposes.
 - Securing Reinforcing Steel, Dowels, Anchor Bolts and Embeds: Firmly support and accurately place complying with ACI standards prior to casting concrete or grout in masonry walls. Use ties and support bars in addition to reinforcing steel shown where necessary. No welding of reinforcing steel, including tack welding, is permitted unless otherwise accepted in writing by Architect (Structural Engineer). Provide plastic or plastic coated chairs and spacers when resting on exposed surfaces.
 - Coordination Responsibility: Contractor is responsible for coordination of Work including that of sub-contractor trades.
 - Submittals: Submit to Architect (Structural Engineer) as indicated on structural drawings and specifications. General Contractor shall review submittal for completeness and compliance with Contract Documents prior to submission.
 - Request for Information (RFI) Submittals: Accompany RFI's with partial structural foundation or framing plans showing location in question and affected structural members. Copy partial plan from structural drawings and indicate grid line locations and floor level. Also provide properly drawn engineering sketches illustrating issues and Contractor's proposed solutions. Photographs are not acceptable substitutes to engineering sketches.
 - Contract Documents Use: Review Contract Documents in their entirety before performing structural related Work and before developing shop drawings. Bring discrepancies to immediate attention of Architect (Structural Engineer) before starting Work.
 - Scaling of Drawings: Not permitted.
 - Additional Structural Requirements: See specifications.
 - Building Geometry: See architectural drawings for building geometry including, but not limited to, top of floor and roof elevations; depressions; slopes; curbs; drains; trenches; slab and deck edge locations; wall overall dimensions; and size and locations of openings in floors, roof, and walls.
 - Non-structural Items Requiring Special Provisions: See architectural, mechanical, plumbing, and electrical drawings for non-structural items requiring special provisions during construction. They include, but are not limited to, non-structural walls; size and locations of openings and sleeves penetrating structure; size and location of concrete curbs and pads; and size and location of piping, ductwork, and equipment anchorages mounted or suspended from structure. Verify exact size and location of equipment with equipment manufacturer.
 - Materials: Furnish and install in compliance with legally constituted public authorities having jurisdiction including county and local ordinances and safety orders of State Industrial Accident Commission, OSHA.
 - Penetrations, Embedments, and Openings in Structural Members: No penetration, embedment, opening, sleeve, pipe, or conduit shall occur in structural members including footings, slabs, walls, columns, and beams unless specifically shown or indicated on structural drawings.
 - Typical Details: Details on S0 series sheets are applicable throughout Project wherever the described condition occurs and may or may not be specifically referenced on structural drawings. Contractor is responsible for identifying these details and understanding extent of their application prior to performing Work.

- B. DESIGN LOADS**
- DEAD LOADS:**
 ROOF 17 PSF
 FLOOR 17 PSF
- LIVE LOADS:**
 ROOF 20 PSF
 FLOOR 50 PSF
 EXTERIOR PATIO 100 PSF
 ACCESSIBLE PATH 100 PSF

- & _____ AND
 ° _____ DEGREE
 Ø _____ DIAMETER
 > _____ GREATER THAN
 ≥ _____ GREATER THAN OR EQUAL TO
 < _____ LESS THAN
 ≤ _____ LESS THAN OR EQUAL TO
 || _____ PARALLEL
 ⊥ _____ PERPENDICULAR
 ± _____ PLUS OR MINUS
 # _____ POUNDS, NUMBER
- AA _____ ADHESIVE ANCHOR
 AB _____ ANCHOR BOLT(S)
 ABV _____ ABOVE
 ADDL _____ ADDITIONAL
 ADDN _____ ADDITION
 ADJ _____ ADJACENT, ADJUSTABLE
 AESS _____ ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
 ALT _____ ALTERNATE
 ANCH _____ ANCHOR
 APPROX _____ APPROXIMATE
 ARCH _____ ARCHITECTURAL
- B _____ BOTTOM
 BAL _____ BALANCE
 BC _____ BOTTOM CHORD
 BEL _____ BELOW
 BLDG _____ BUILDING
 BLL _____ BOTTOM LOWER LAYER
 BM _____ BEAM
 B0 _____ BOTTOM OF
 B0BP _____ BOTTOM OF BASE PLATE
 B0S _____ BOTTOM OF STEEL
 B0T _____ BOTTOM
 BP _____ BASE PLATE
 BRCG _____ BRACING
 BRDG _____ BRIDGING
 BRG _____ BEARING
 BS _____ BOTH SIDES
 BSMT _____ BASEMENT
 BTWN _____ BETWEEN
 BU _____ BUILT-UP
 BUL _____ BOTTOM UPPER LAYER
- C _____ CAMBER
 CA _____ COLUMN ABOVE
 CANT _____ CANTILEVER
 CB _____ COLUMN BELOW
 CBF _____ CONCENTRIC BRACED FRAME
 CC _____ CENTER TO CENTER
 CHKD _____ CHECKERED
 CIP _____ CAST-IN-PLACE
 CJ _____ CONSTRUCTION JOINT
 CJP _____ COMPLETE JOINT PENETRATION
 CL or C _____ CENTERLINE
 CLG _____ CEILING
 CLR _____ CLEAR
 CMU _____ CONCRETE MASONRY UNIT
 COL _____ COLUMN
 CONC _____ CONCRETE
 CONN _____ CONNECTION
 CONST _____ CONSTRUCTION
 CONT _____ CONTINUOUS, CONTINUITY
 COORD _____ COORDINATE, COORDINATES
 CTRL _____ CENTER
 CTRL JT _____ CONTROL JOINT

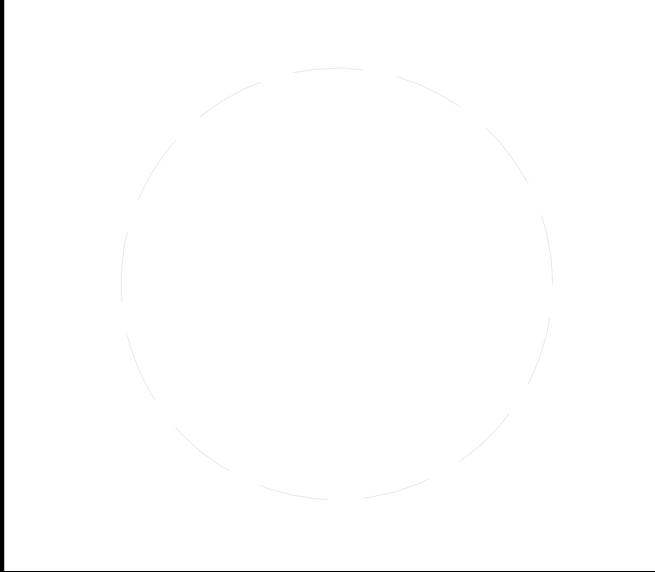
- DBA _____ DEFORMED BAR ANCHOR
 DBL _____ DOUBLE
 DBLR _____ DOUBLER
 DEG _____ DEGREE
 DET _____ DETAIL
 DIA _____ DIAMETER
 DIAG _____ DIAGONAL
 DIAPH _____ DIAPHRAGM
 DIM _____ DIMENSION
 DN _____ DOWN
 DO _____ DITTO
 DWG _____ DRAWING
 DWL _____ DOWEL
- (E) _____ EXISTING
 EA _____ EACH
 EB _____ EXPANSION (ANCHOR) BOLT
 EBF _____ ECCENTRICALLY BRACED FRAME
 EF _____ EACH FACE
 EFF _____ EFFECTIVE
 EJ _____ EXPANSION JOINT
 EL _____ ELEVATION
 ELEC _____ ELECTRICAL
 ELEV _____ ELEVATOR
 EMBD _____ EMBEDMENT, EMBED
 EOR _____ ENGINEER OF RECORD
 EOS _____ EDGE OF SLAB
 EPL _____ EMBEDDED PLATE
 EQ _____ EQUAL
 EQUIP _____ EQUIPMENT
 ES _____ EACH SIDE
 EW _____ EACH WAY
 EWTB _____ EACH WAY TOP AND BOTTOM
 EXP _____ EXPANSION
 EXT _____ EXTERIOR
- F _____ FAHRENHEIT
 FDN _____ FOUNDATION
 FF _____ FAR FACE
 FIN _____ FINISH
 FJ _____ FLOOR JOIST
 FLG _____ FLANGE
 FLR _____ FLOOR
 FO _____ FACE OF
 FOC _____ FACE OF CONCRETE
 FOF _____ FACE OF FINISH
 FOS _____ FACE OF STUD
 FOW _____ FACE OF WALL
 FRMG _____ FRAMING
 FS _____ FAR SIDE
 FT _____ FOOT, FEET, FLUSH TOP
 FTG _____ FOOTING
- GA _____ GAGE, GAUGE
 GALV _____ GALVANIZED
 GR _____ GRADE
 GRND _____ GROUND
 GRTG _____ GRATING
- HCA _____ HEADED CONCRETE ANCHOR
 HGR _____ HANGER
 HORIZ, (H) _____ HORIZONTAL
 HP _____ HIGH POINT
 HR _____ HANDRAIL
 HS _____ HIGH STRENGTH
 HSB _____ HIGH STRENGTH BOLT
 HT _____ HEIGHT
- ICC-ES _____ INTERNATIONAL CODE COUNCIL EVALUATION SERVICE
 ID _____ INSIDE DIAMETER
 IE _____ INVERT ELEVATION
 I.F _____ INSIDE FACE
 IN _____ INCH
 INFO _____ INFORMATION
 INSU _____ INSULATING
 INT _____ INTERIOR
 INTER _____ INTERMEDIATE

- JST _____ JOIST
 JT _____ JOINT
- K _____ KIP
 KSF _____ KIP PER SQUARE FOOT
 KSI _____ KIP PER SQUARE INCH
- LG _____ LONG
 LLBB _____ LONG LEG BACK TO BACK
 LLH _____ LONG LEG HORIZONTAL
 LLV _____ LONG LEG VERTICAL
 LONGIT _____ LONGITUDINAL
 LP _____ LOW POINT
 LSH _____ LONG SLOTTED HOLE
 LT _____ LIGHT
 LWC _____ LIGHTWEIGHT CONCRETE
- MAX _____ MAXIMUM
 MB _____ MACHINE BOLT
 MC _____ MOMENT CONNECTION
 MECH _____ MECHANICAL
 MEZZ _____ MEZZANINE
 MFR _____ MANUFACTURE(R)
 MIN _____ MINIMUM
 MISC _____ MISCELLANEOUS
 MTL _____ METAL
- (N) _____ NEW
 NF _____ NEAR FACE
 NIC _____ NOT IN CONTRACT
 NIP _____ NOT IN PERMIT
 N0 _____ NUMBER, NORTH
 NOM _____ NOMINAL
 NS _____ NEAR SIDE
 NTS _____ NOT TO SCALE
 NWC _____ NORMAL WEIGHT CONCRETE
- O/ _____ OVER
 OC _____ ON CENTER
 OCBF _____ ORDINARY CONCENTRICALLY BRACED FRAME
 OD _____ OUTSIDE DIAMETER
 O.F _____ OUTSIDE FACE
 OH _____ OPPOSITE HAND
 OPNG _____ OPENING
 OVS _____ OVERSIZED
- P/C _____ PRECAST
 PC _____ PIECE, PILECAP
 PERP _____ PERPENDICULAR
 PJ _____ POUR JOINT
 PJP _____ PARTIAL JOINT PENETRATION
 PL or P _____ PLATE
 PLCS _____ PLACES
 PLMB _____ PLUMBING
 PQR _____ PROCEDURE QUALIFICATION RECORD
 PROJ _____ PROJECTION
 PSF _____ POUNDS PER SQUARE FOOT
 PSI _____ POUNDS PER SQUARE INCH
- R _____ RADIUS, RISER
 REF _____ REFERENCE
 REINF _____ REINFORCING
 REMV _____ REMOVABLE, REMOVE
 REQD _____ REQUIRED
 RET _____ RETURN
 RF _____ ROOF
 RJ _____ ROOF JOIST
 ROTN _____ ROTATION
 RTNG _____ RETAINING

- SAD _____ SEE ARCHITECTURAL DRAWING(S)
 SCBF _____ SPECIAL CONCENTRICALLY BRACED FRAME
 SCHED _____ SCHEDULE
 SECT _____ SECTION
 SEOR _____ STRUCTURAL ENGINEER OF RECORD
 SEP _____ SEPARATION
 SHT _____ SHEET
 SIM _____ SIMILAR
 SL _____ SLOPE
 SLBB _____ SHORT LEG BACK TO BACK
 SLRS _____ SEISMIC LOAD RESISTING SYSTEM
 SMS _____ SHEET METAL SCREW
 SO _____ SOUTH
 SOF _____ SOFFIT
 SOG _____ SLAB-ON-GRADE
 SPECS _____ SPECIFICATIONS
 SQ _____ SQUARE
 SSH _____ SHORT SLOTTED HOLE
 SSMF _____ SPECIAL STEEL MOMENT FRAME
 STAG _____ STAGGER
 STD _____ STANDARD
 STIFF _____ STIFFENER
 STIR _____ STIRRUP
 STL _____ STEEL
 STRUCT _____ STRUCTURAL
 SYMM _____ SYMMETRY
- T _____ TREAD, TOP
 T&B _____ TOP AND BOTTOM
 TC _____ TOP CHORD
 THD _____ THREAD
 THK _____ THICK, THICKNESS
 TLL _____ TOP LOWER LAYER
 T.O _____ TOP OF
 TOC _____ TOP OF CONCRETE
 TOD _____ TOP OF STEEL DECK
 TOF _____ TOP OF FOOTING
 TOG _____ TOP OF GRATING
 TOPC _____ TOP OF PILE CAP
 TOS _____ TOP OF STEEL
 TOW _____ TOP OF WALL
 TUL _____ TOP UPPER LAYER
 TYP _____ TYPICAL
- UNO _____ UNLESS NOTED OTHERWISE
- VERT, (V) _____ VERTICAL
 VIF _____ VERIFY IN FIELD
- W _____ WITH
 W/O _____ WITHOUT
 WL _____ WORK LINE
 WP _____ WORK POINT
 WPS _____ WELD PROCEDURE SPECIFICATIONS
 WT _____ WEIGHT
 WWF _____ WELDED WIRE FABRIC



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GENERAL NOTES

S-001

B. STRUCTURAL STEEL

1. Detailing, Fabrication, and Erection: AISC "Design Standard for Load and Resistance Factor Design Specification for Structural Steel Buildings", AISC "Design Standard for Specification for Structural Steel Buildings Allowable Stress Design and Plastic Design", and AISC "Seismic Provisions for Structural Steel Buildings" except as amended in Applicable Code Chapter 22 and as modified by supplemental requirements herein.
2. Structural Steel: Provide readily identifiable structural steel in compliance with Applicable Code Section 2203A.1. Furnish structural steel complying with the following ASTM standard specifications, unless noted otherwise:
 - A. Structural Steel Unless Indicated Otherwise: ASTM A992, Grade 50
 - B. Angles and Channels: ASTM A36
 - C. Plates: ASTM A572, Grade 50
 - D. Pipes: ASTM A53, Grade B (35 ksi)
 - E. Tubes: ASTM A500, Grade B (46 ksi)
 - F. Anchor Bolts: ASTM F1554, grade 55 (weldable)
3. Holes for Bolted Connections and Anchor Bolts: AISC "standard" holes limited to 1/16-inch larger in diameter than nominal bolt diameter, unless noted otherwise.
4. High Strength Bolts, Nuts and Washers: AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".
 - A. Hardened Washers: ASTM A436, under nuts except where plate washers are used. Provide beveled washers where joint face slope is greater than 1:20.
 - B. Tightening: Snug tight for all high strength bolts except tighten A325-SC and A490-SC bolts to at least the minimum proper tension according to AISC Specification.
5. Welding:
 - A. Applicable Welding Standard: Applicable Code and latest adopted edition of AWS D1.1 including, but not limited to, the following:
 - a. Section 6.4 for qualified welders.
 - b. Section 4.2 and AISC 360-05 Specification Section J2-7 for jumbo sections for preheat and interpass temperature requirements.
 - c. Section 4, Parts 8c and 8d technique for arc welding.
 - d. Section 6 and Section 8, Part D, for inspection.
 - B. Pre-qualified and Non Pre-qualified Welds: Welds shall be pre-qualified in compliance with Applicable Welding Standard. Where non pre-qualified welds are to be used, qualify by test and procedure qualification test record complying with Applicable Welding Standard.
 - C. Work performed by Welders and Inspectors: Adhere to approved Welding Procedure Specification (WPS). Each welder and inspector shall retain a copy of WPS.
 - D. Pre-construction Meeting: Conduct to include Architect (Structural Engineer), fabricator, erector, Contractor and inspectors to discuss Welding Procedure Specification (WPS).
 - E. Welding Procedure Specification (WPS): Fabricator/erector to develop WPS in compliance with Applicable Welding Standard. Submit to Architect (Structural Engineer) for acceptance and Governing Code Authority for approval prior to fabrication. WPS submittal to include the following:
 - a. Welding manufacturers' specifications.
 - b. Information required by Applicable Code, Contract Documents and any other information necessary to produce welds that are in compliance with Applicable Welding Standard.
 - c. Detailed sequence of weld sketches addressing effects of welding heat for welds at joints and within seismic frame assemblies as a whole. Plan sequence of erection and welding to minimize locked in stresses and distortion considering effects of welding heat. Procedures submitted shall result in completed connections which comply with design intent of structural drawings. No deviation from structural drawings is permitted unless otherwise accepted by Architect (Structural Engineer) and approved by Governing Code Authority.
 - d. Welding parameters recommended by electrode manufacturer.
 - e. List of applicable base metal types and thicknesses.
 - f. Welding joint sketches including joint type, weld type, joint geometry, and applicable dimensions. Individual weld passes shall be identified in sketches and numbered to identify the sequence of their deposition. Sketches shall identify the maximum layer thicknesses and bead widths. In no case shall layer thickness exceed 1/4-inch, nor shall maximum bead width exceed 5/8-inch.
 - g. Applicable welding process.
 - h. Position of welding.
 - i. List of filler metal per Applicable Welding Standard and electrode specification and classification. Include details showing shielding material to be used.
 - j. Minimum preheat requirements, interpass temperatures and post weld heat treatment. Minimum specified preheat shall meet requirements of AWS D1.1, table 4.3, and AISC 360-05 Section J2-7 requirements for jumbo sections.
 - k. List of applicable electrical characteristics for process employed. Clearly indicate specific values required for each welding pass. These electrical characteristics shall include at a minimum the following:
 1. Electrode diameter.
 2. Type of current and acceptable ranges of current measured in amperage. For wire feed processes, indicate manufacturers' recommended melt-off rate, deposition rate, and wire feed speed.
 3. Voltage (for all processes).
 4. Actual field condition travel speed and manufacturer's data for travel speed.
 5. Electrode extension (stick out) for wire feed processes.
 6. Amperage, voltage and electrode extension (as applicable) shall be within filler metal manufacturer's recommendations (compare to AWS D1.1, Section 4.6.2).
 7. Electrode manufacturer's technical information, with identification number listed, and welding parameter recommendations.
 - F. Welding Electrodes (Filler Metal): E70XX (70 ksi), unless indicated otherwise. Provide filler metal with Charpy V-notch toughness of 20 ft/lbs average at -20 degrees Fahrenheit at complete penetration groove welds. Use low-hydrogen electrodes only.
 - G. Welding Toughness Requirements: Certify conformance to Charpy V-notch toughness requirements with tests by an independent testing laboratory for each AWS classification, manufacturer and trade name. Testing procedures shall be in accordance to Applicable Welding Standard and 341-05 AISC Seismic Provisions, Appendix X.
 - H. Approved Fabricators: Perform shop welds by fabricators approved by Governing Code Authority. i. Welder Qualification: Welders, regardless if Work is performed in shop or in field, shall be qualified for the Work they will be doing and shall have certifications current and acceptable to Governing Code Authority.
 - J. Welds Exposed to View:
 - a. Faces of fillet welds exposed to view shall have as-welded surfaces that are reasonably smooth and uniform. No finishing or grinding shall be required, except where clearances or fit of other items may so necessitate.
 - b. Partial and full penetration welds exposed to view shall be ground smooth and flush with finish surface of steel. Remove backup bars and weld tabs. Fill holes with weld metal or body solder and smooth by grinding or filing.
 - K. Groove Preparation: Clean groove preparation thermal cuts by grinding.
 - L. Termination of Welds: Terminate at joint ends in a manner that ensures sound welds. Use extension bars and run-off tabs whenever necessary.
 - M. Hand-held Calibrated Amp and Volt Meters: To be used by fabricator, erector and inspectors to assure proper amperage and voltage of welding process. Measure amperage and voltage at arc. Verify travel speed and electrode stick-out in compliance with electrode manufacturer's recommendations and with approved WPS.
 - N. Storage of Electrodes: Adhere to Section 4.5.2 of AWS D1.1.
 - O. Weld each flange of moment frame beam to column connections in one continuous process without cooling below pre-heat temperature.
 - P. Welding of ASTM A913 Materials: Perform according to requirements of latest edition of AWS standard, structural drawings and specifications, whichever is more stringent.
 - Q. Minimum Fillet Weld Size: Where minimum fillet weld size, as stipulated by AISC ASD Section J2 and Table J2.4, exceeds fillet weld size indicated on structural drawings, use AISC stipulated size.
 - R. Minimum Groove or Butt Weld Size: Provide complete penetration unless indicated otherwise.
 - S. Weld Length: Length of welds shown are net effective lengths. Where length of weld is not indicated, provide weld full length of joint.
6. Shop Drawings: Submit To Architect (Structural Engineer) for review and, upon request, to Governing Code Authority. Include sequence of erection procedures from approved WPS:

B. STRUCTURAL STEEL - CONTINUED

7. Fabrication:
 - A. Moment Connections: Orient flange stiffener plates and cap plates used in moment connections so that rolling direction of plate is parallel with direction of principal stress.
 - B. Horizontal Members: Place natural camber up.
 - C. Filler Plates: Provide at splices of parts having more than 1/8-inch difference in thickness. Filler plates to match grade of material spliced.
 8. Cleaning: After fabrication, clean steel surfaces free of rust, loose mill scale, and oil.
 9. Oversized Holes for Anchor Bolts in Base Plates: Where oversized holes occur, provide 3-1/2-inch square plate washers under nuts. Thickness of plate washer shall be 0.375 times diameter of anchor bolt. Weld plate washer to base plate with 5/16-inch fillet weld all sides.
 10. Exposure to Soil: Encase structural steel in lean concrete with 4-inches concrete cover where exposed to soil.
 11. Exposure to Weather: All structural steel (including connection elements) exposed to weather shall be galvanized. Coordinate finishes with architect at AESS.
 12. Structural Steel Allowance: In addition to the steel shown or implied in this document, allow for an additional 2 tons of structural steel to be constructed at the direction of the Structural Engineer during construction. The allowed steel may be of any shape or sizes, including plates, wide flanges, tubes, pipes, channels, angles, and/or any other structural shapes. The number of pieces may vary. The locations of applications may vary. Direction may be given in multiple occasions during construction. The allowance should include all fabrication and construction related services, such as shop drawings, shop preparation, field erection and coordination, bolted connections and field welding. Expenditure of any part of this allowance shall be approved in writing by the Structural Engineer prior to any fabrication and erection.
- C. ROUGH CARPENTRY**
1. Structural Lumber: Grade marked Douglas Fir-Larch structural lumber complying with Standard Grading Rules No. 17 (1993) of the West Coast Lumber Inspection Bureau. Provide air-dry lumber with 19 percent maximum moisture content.
 2. Classifications and Grades:

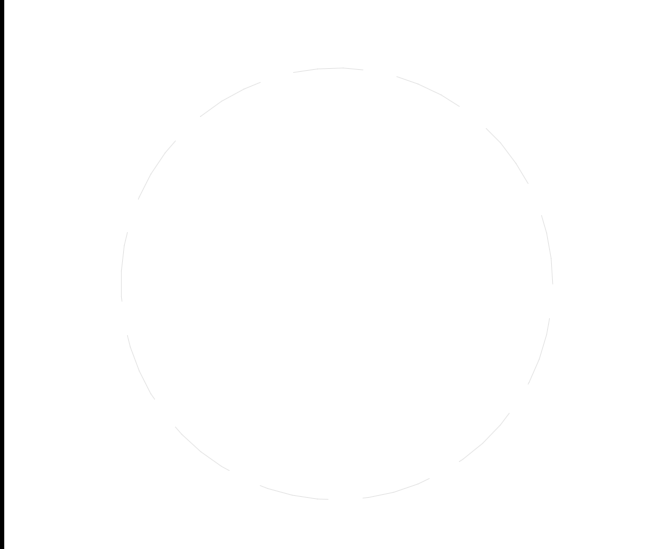
Member	Size Classification	Grade
Rafters and Joists Larger Than 2x4	2" to 4" thick, 2" and wider	No. 1
2x4 Joists and Rafters		No. 1
4x Beams, Headers and Stringers	2" to 4" thick, 2" and wider	No. 1
Beams, Headers and Stringers Larger Than 4x4		No. 1
4x Posts	2" to 4" thick, 2" and wider	No. 1
Posts Larger Than 4x4	Beams and Stringers	No. 1
Studs, Plates and Blocking in bearing or shear walls	4" thick, 4" and wider	No. 2
	Posts and Timbers	
 3. Plywood: U.S. Product Standard PS 1-83 and UBC Standard 23-2 and classified as Exposure 1. Each sheet of plywood shall be identified with appropriate trademark of the American Plywood Association.
 4. Pressure Treat Structural Lumber Bearing on Asphalt, Concrete or Masonry: See Specifications. Provide hot dipped galvanized or stainless steel fasteners and hardware connectors for fasteners and connectors in contact with pressure treated structural lumber.
 5. Nails: Common nails with dimensional properties complying with CBC Table 23-III-C-2. Install nails in compliance with CBC Chapter 23, including Table 23-II-B-1 (repeated below).
 6. Bolts: ASTM A307 bolts with standard cut washer under bolt head and nut. Provide holes for bolts 1/32 to 1/16 inch larger than nominal bolt diameter. Re-tighten bolts prior to application of sheathing or finish.
 7. Anchor Bolts: ASTM F1554, Grade 36.
 8. Lag Screws: ANSI/ASME Standard B18.2.1-81 (Reference 6) including Appendix I for lag screw dimensions. Pre-drill all holes. Hole at shank portion to match diameter of shank. Holes at threaded portion to be 60 to 75 percent of shank diameter and equal to length of threaded portion. Use soap and lubricants to facilitate installation. Driving with hammer is not permitted.
 9. Plate Washers: Provide under heads or nuts of bolts (including anchor bolts at sill plates) and lag screws of the following sizes when anchoring wood:

1/2" diameter	3/16"x2" sq.	5/8" diameter	1/4"x2-1/2" sq.
3/4" diameter	5/16"x2-3/4" sq.	7/8" diameter	5/16"x3" sq.
1" diameter	3/8"x3-1/2" sq.		
 10. Wood Hardware Connectors: Manufactured by Simpson Strong-Tie Company, Inc. complying with ICC-BO Evaluation Report No's 1211, 1258, 1746 and NER 209. Install connectors using fasteners in accordance with manufacturer's written instructions. For connectors requiring nails, use common nails unless shorter nails (sinkers) are specifically indicated.
 11. Notching or Cutting Structural Lumber: Not permitted unless specifically detailed or indicated.
 12. Lateral Support for Beams, Rafters and Joists: CBC Section 2320.8.3.
 13. Do not suspend ceilings, soffits, sprinklers, piping, mechanical ducts, nor any other element from 2x4 roof framing unless specifically detailed.
- D. NAILING SCHEDULE (PORTION OF CBC TABLE 23-II-B-1)**
1. All nails are common nails unless written acceptance by Architect (Structural Engineer) is attained.

1. Joist to sill or girder, toenail	3-8d
2. Bridging to joist, toe nail each end	2-8d
3. 1"x6" subfloor or less to each joist, face nail	2-8d
4. Wider than 1"x6" subfloor to each joist, face nail	3-8d
5. 2" subfloor to joist or girder, blind and face nail	2-16d
6. Sole plate to joist or blocking, typical face nail	16d @ 6" o/c
7. Sole plate to joist or blocking, at braced wall panels	3-16d per 16"
8. Top plate to stud, end nail	2-16d
9. Stud to sole plate	4-8d, toe nail or 2-16d, end nail
10. Double studs, face nail	16d @ 24" o/c
11. Doubled top plates, typical face nail	16d @ 16" o/c
12. Doubled top plates, lap splice	8-16d
13. Blocking between joists or rafters to top plate, toe nail	3-8d
14. Rim joist to top plate, toe nail	8d @ 6" o/c
15. Top plates, laps and intersections, face nail	2-16d
16. Continuous header, two pieces	16d @ 16" o/c along each edge
17. Ceiling joist to plate, toe nail	3-8d
18. Continuous header to stud, toe nail	4-8d
19. Ceiling joists, laps over partitions, face nail	3-16d
20. Ceiling joists to parallel rafters, face nail	3-16d
21. Rafter to plate, toe nail	3-8d
22. 1" brace to each stud and plate, face nail	2-8d
23. 1"x8" sheathing or less to each bearing, face nail	2-8d
24. Wider than 1"x8" sheathing to each bearing, face nail	3-8d
25. 2" planks	2-16d at each bearing
26. Built-up corner studs	16d @ 24" o/c
27. Built-up girder and beams	20d @ 32" o/c at top and bottom and staggered 2-20d at ends and at each splice



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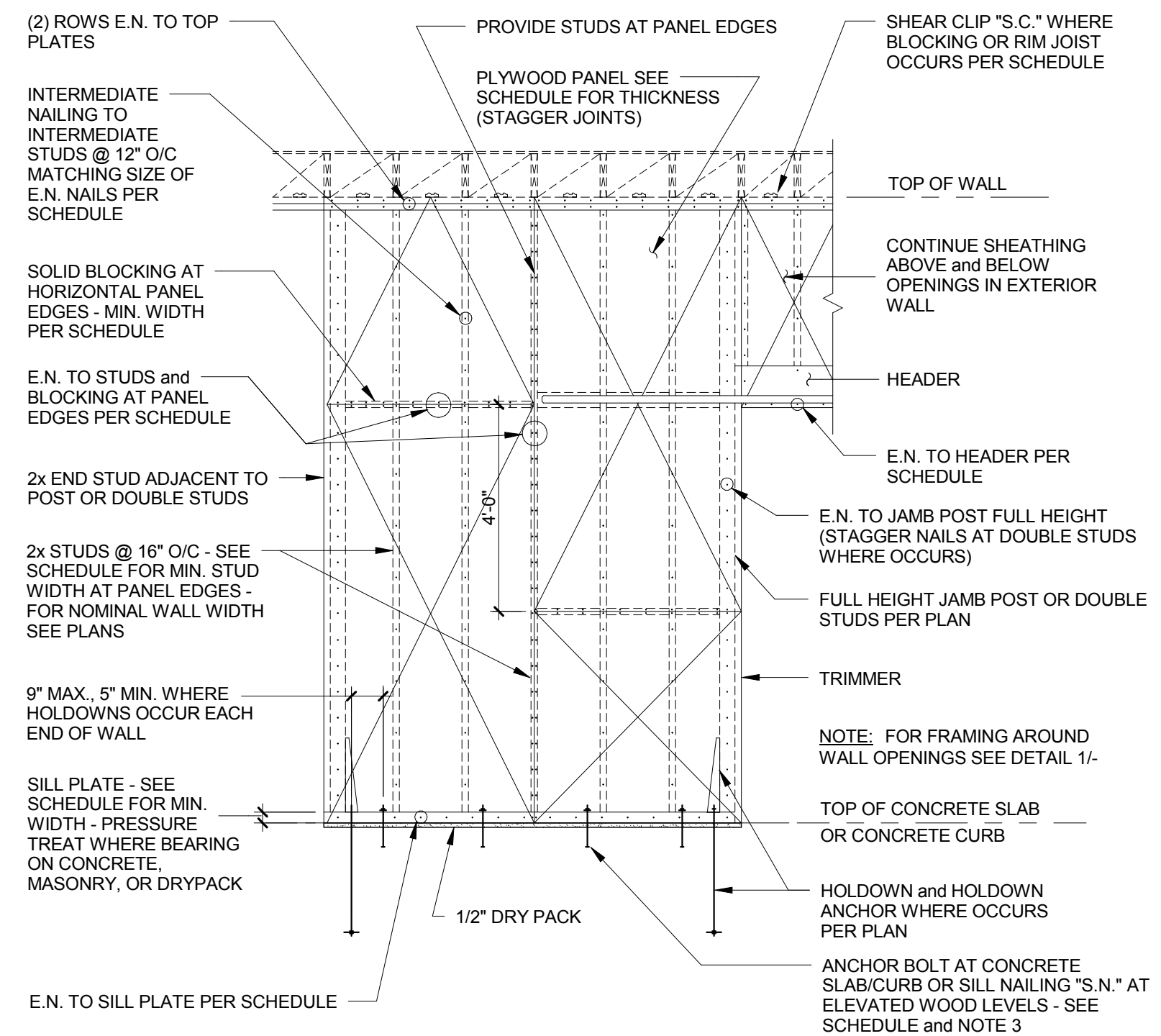
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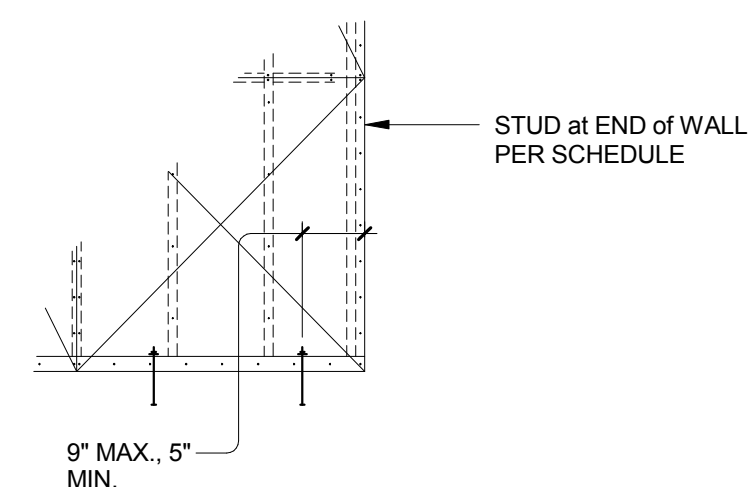
GENERAL NOTES

S-002



TYPICAL ELEVATION

- SHEAR WALL SCHEDULE NOTES:**
1. STAGGER SHEATHING JOINTS and NO INDIVIDUAL PIECE OF SHEATHING SHALL BE LESS THAN 2'-0" IN ANY DIRECTION.
 2. MINIMUM EDGE DISTANCES FROM NAILS TO EDGE OF PLYWOOD, STUDS, SILL and TOP PLATES, and BLOCKING SHALL BE AS FOLLOWS:
FOR NAIL SPACING GREATER THAN 3" O/C 3/8"
FOR NAIL SPACING 3" O/C OR LESS 1/2"
W/ NAILS STAGGERED PER DETAIL 6/S0 42.
 3. PROVIDE GALV. PLATE WASHERS AT SILL PLATE ANCHOR BOLTS BETWEEN NUTS and SILL PLATE PER GENERAL NOTES.
 4. ALL PLYWOOD TO BE MINIMUM 5 PLY, P1 IN SCHEDULE INDICATES PANEL SPAN RATING.
 5. PLYWOOD MAY BE INSTALLED EITHER VERTICALLY (AS SHOWN) OR HORIZONTALLY.
 6. WHERE PLYWOOD SHEATHING OCCURS EACH SIDE OF WALL, STAGGER NAILS ON EACH SIDE.
 7. RETIGHTEN ALL BOLTS BEFORE INSTALLING PLYWOOD.
 8. EXTENT OF PLYWOOD SHALL BE FULL LENGTH OF WALL (SEE PLAN FOR MIN. LENGTH) and SHALL INCLUDE WALLS ABOVE DOORS and ABOVE and BELOW WINDOWS.
 9. SMALL OPENINGS MAY PENETRATE SHEAR WALL PER 6/. 10. NAILS TO BE GALV. AT PRESSURE TREATED WOOD.



TYPICAL ELEVATION at WALL END WITHOUT HOLDOWN

PLYWOOD SHEAR WALL SCHEDULE								
SHEAR WALL MARK	PLYWOOD EA. SIDE of WALL?	APA RATED PLYWOOD SEE NOTE 4	MIN. STUD and BLKG. WIDTHS AT JOINTS - MIN. SILL PLATE WIDTH	EDGE NAILING (INDICATED "E.N." ON DETAILS) - SEE NOTE 2	GALV. ANCHOR BOLTS at SILL PLATE to CONCRETE SLAB	SILL NAILING (INDICTED S.N. ON DETAILS)	SHEAR CLIP "S.C." WHERE INDICATED ON DETAILS	ALLOWABLE SHEAR PER FOOT
A	NO	15/32" DOC PS1 (PI 32/16)	2X	8d @ 6" O/C	5/8" @ 32" O/C	SIMPSON SDS 1/4"x6" SCREWS @ 8" O/C - INSTALL PER MANUFACTURER'S RECOMMENDATIONS	SIMPSON A35 OR LTP4 @ 16" O/C	260 PLF
B	NO	15/32" DOC PS1 (PI 32/16)	3X	8d @ 4" O/C	5/8" @ 32" O/C	SIMPSON SDS 1/4"x6" SCREWS @ 6" O/C - INSTALL PER MANUFACTURER'S RECOMMENDATIONS	SIMPSON A35 OR LTP4 @ 10" O/C	380 PLF
C	NO	15/32" DOC PS1 (PI 32/16)	3X	8d @ 3" O/C	5/8" @ 24" O/C	SIMPSON SDS 1/4"x4" SCREWS @ 4" O/C - INSTALL PER MANUFACTURER'S RECOMMENDATIONS	SIMPSON A35 OR LTP4 @ 8" O/C	490 PLF
D	NO	15/32" DOC PS1 (PI 32/16)	3X	8d @ 2" O/C	5/8" @ 12" O/C	SIMPSON SDS 1/4"x4" SCREWS @ 3" O/C - INSTALL PER MANUFACTURER'S RECOMMENDATIONS	SIMPSON A35 OR LTP4 @ 8" O/C	640 PLF

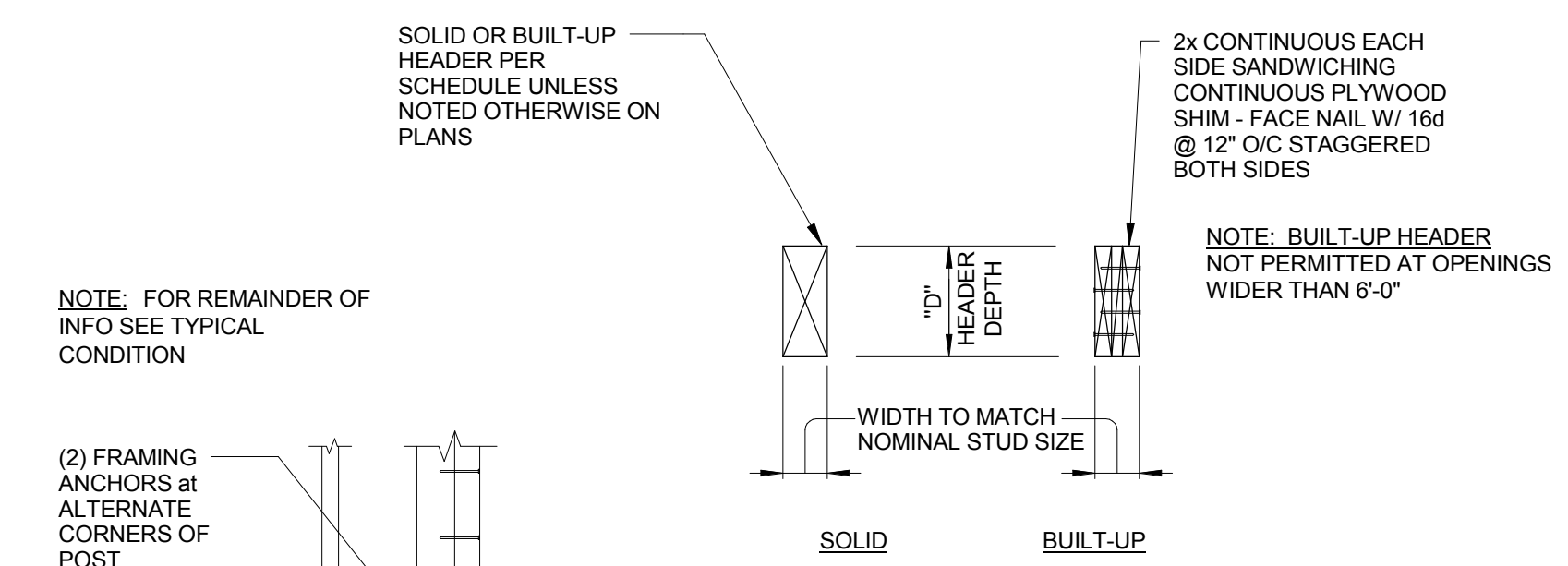
TYPICAL PLYWOOD SHEAR WALL FRAMING WLEVATIONS and SCHEDULE

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6 / S-600

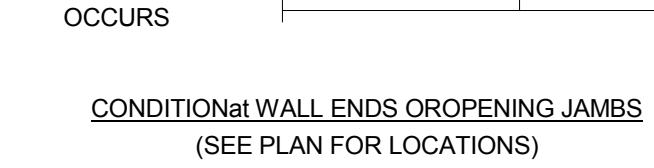
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MAXIMUM OPENING WIDTH	WALL OPENING SCHEDULE				TRIMMER WIDTH
	HEADER - MINIMUM NOMINAL HEADER DEPTH "D"		JAMB POST		
	LOAD BEARING WALL AND/OR SHEAR WALL	NON-LOAD BEARING WALL	LOAD BEARING WALL AND/OR SHEAR WALL	NON-LOAD BEARING WALL	
3'-0"	4"	4"	2x	2x	2x
6'-0"	6"	6"	4x	4x	2x
8'-0"	8"	8"	4x	4x	DBL 2x
10'-0"	10"	10"	6x	6x	DBL 2x
12'-0"	12"	12"	6x	6x	DBL 2x

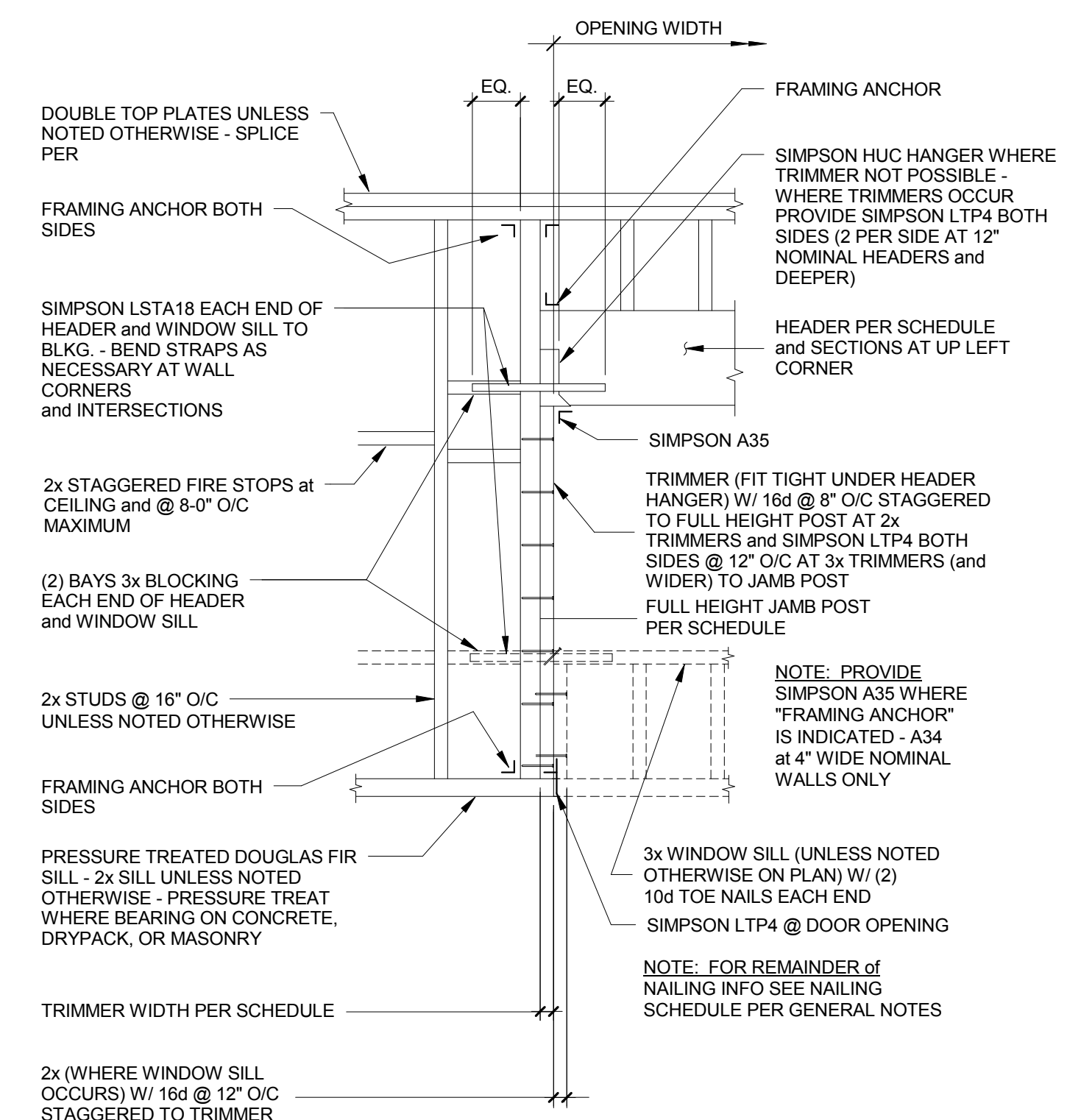
NOTE: ALL PERIMETER WALLS ARE TO BE CONSIDERED LOAD BEARING WALLS AND/OR SHEAR WALLS.



SECTIONS thru HEADER



CONDITION at WALL ENDS OROPENING JAMBS (SEE PLAN FOR LOCATIONS)



TYPICAL CONDITION

TYP. WOOD STUD WALL CONSTRUCTION at OPENING and WALL ENDS

N.T.S.

1



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TYPICAL WOOD FRAMING DETAILS

S-041

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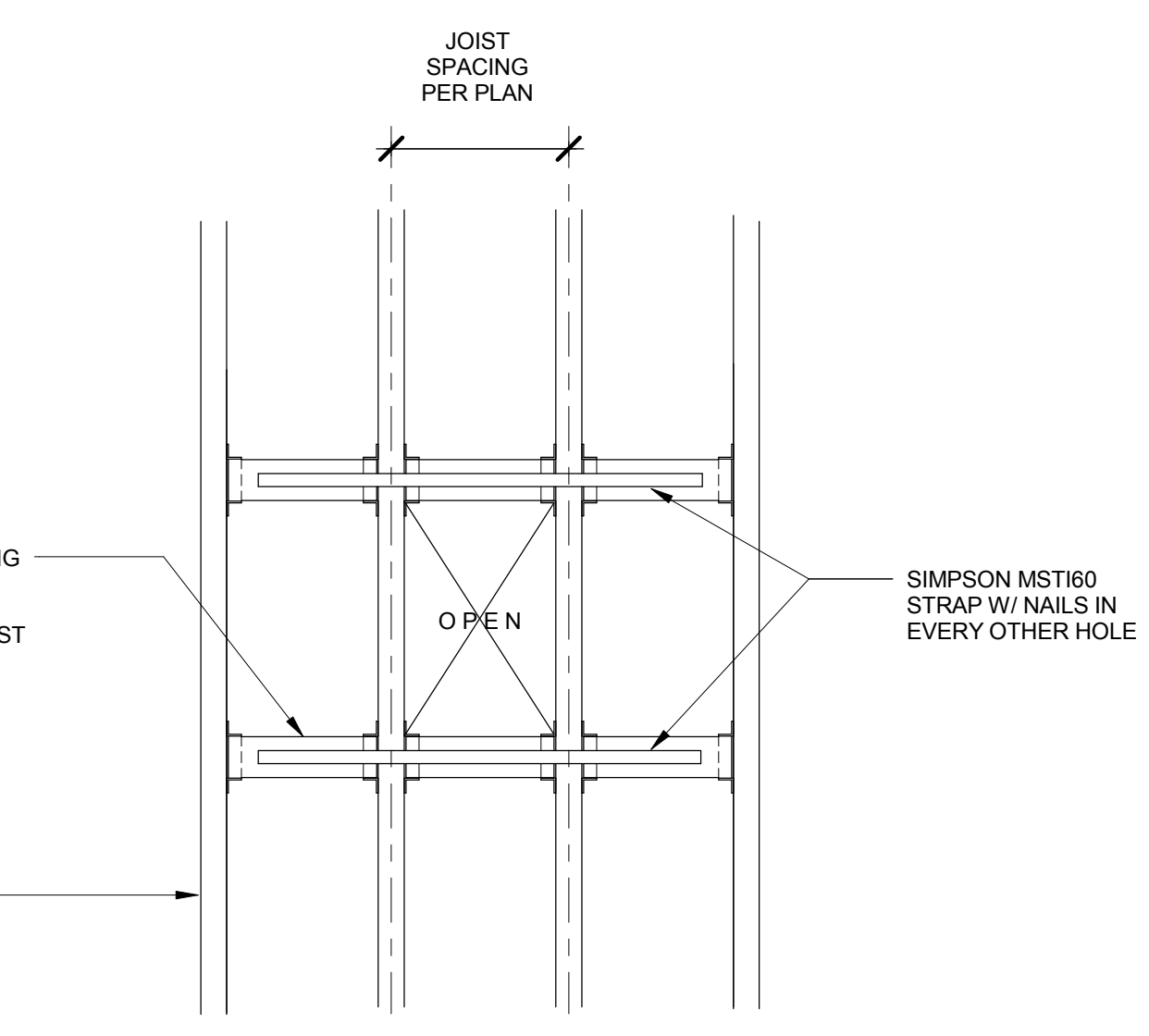


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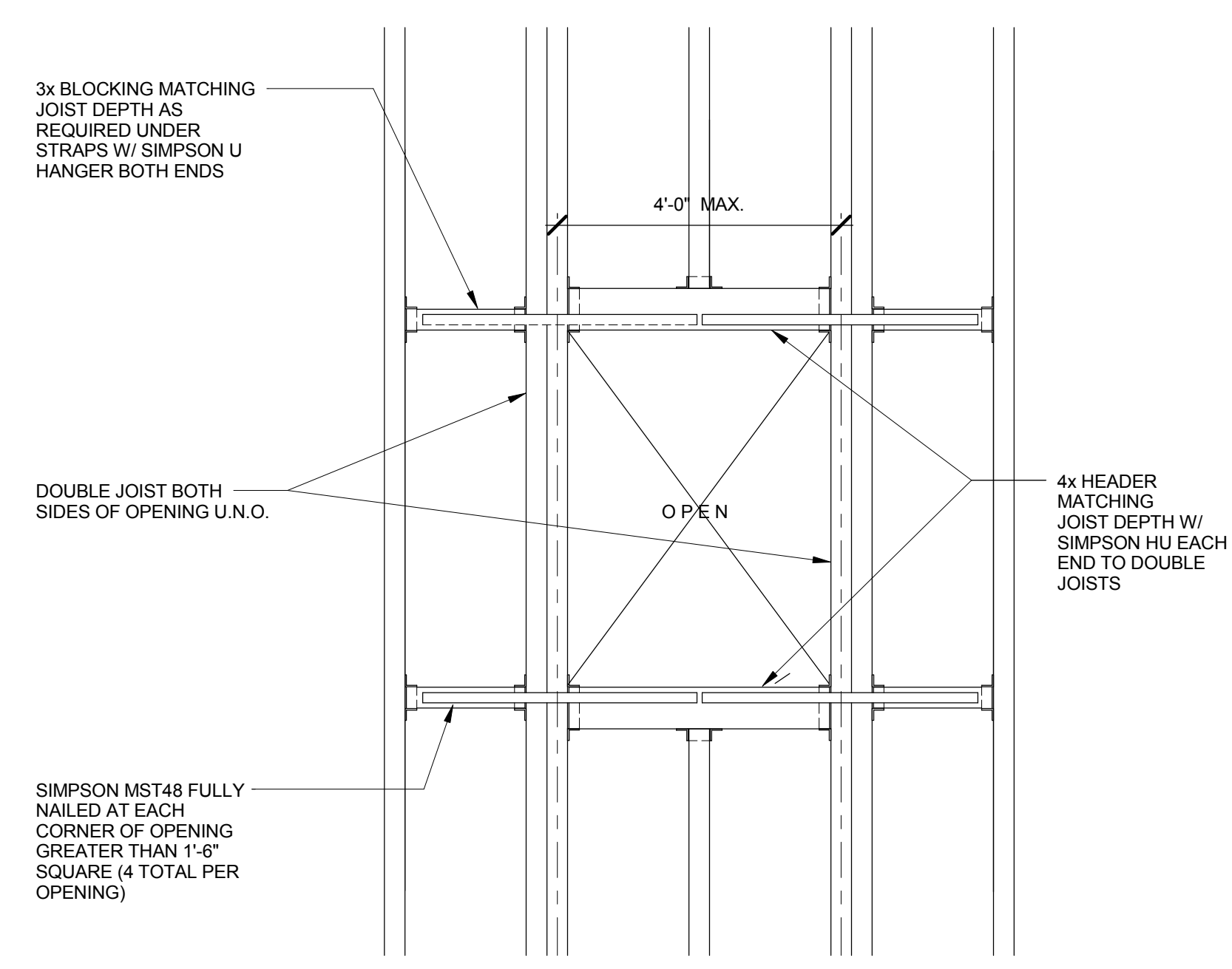
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TYPICAL WOOD FRAMING DETAILS

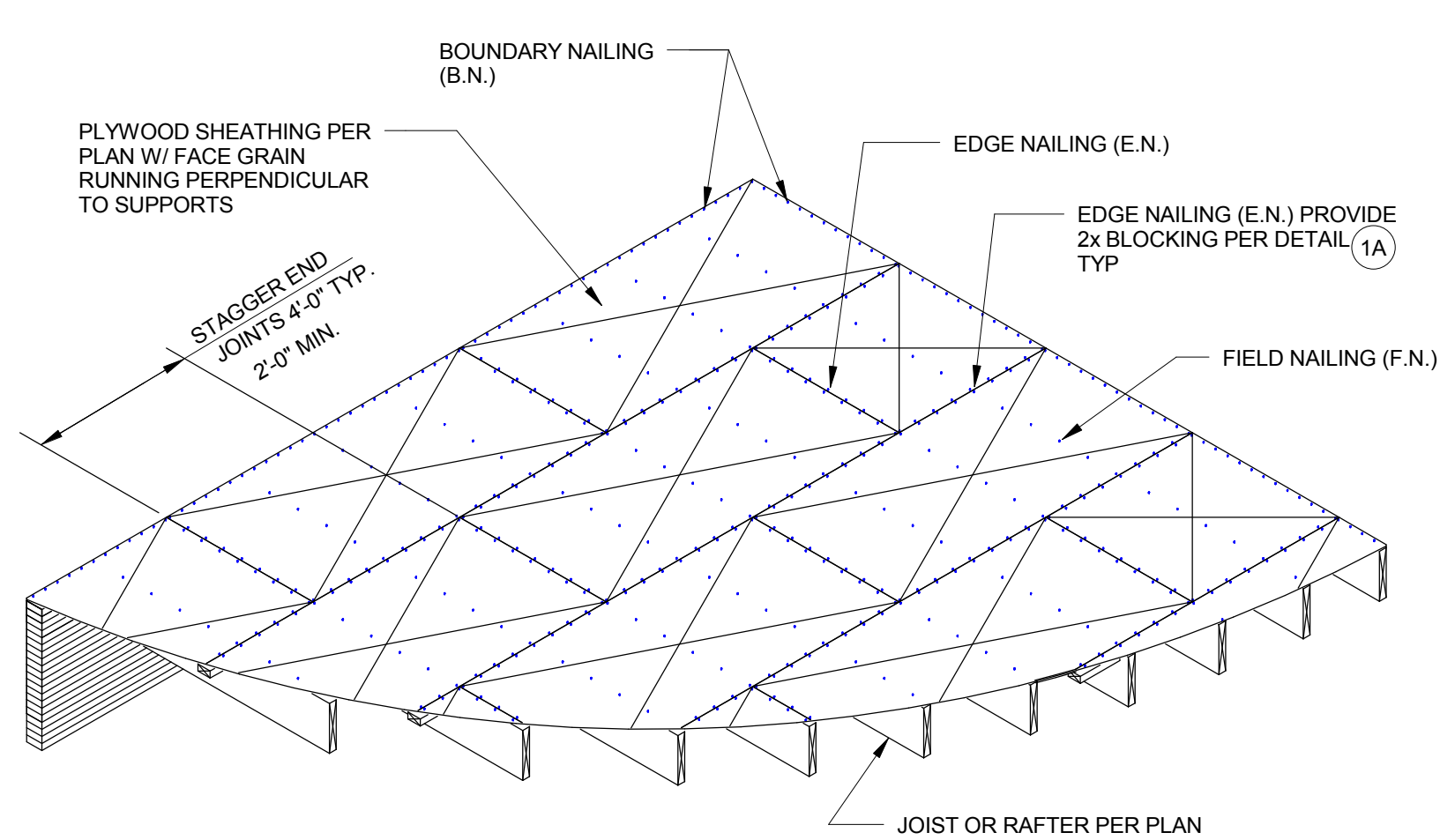
S-042



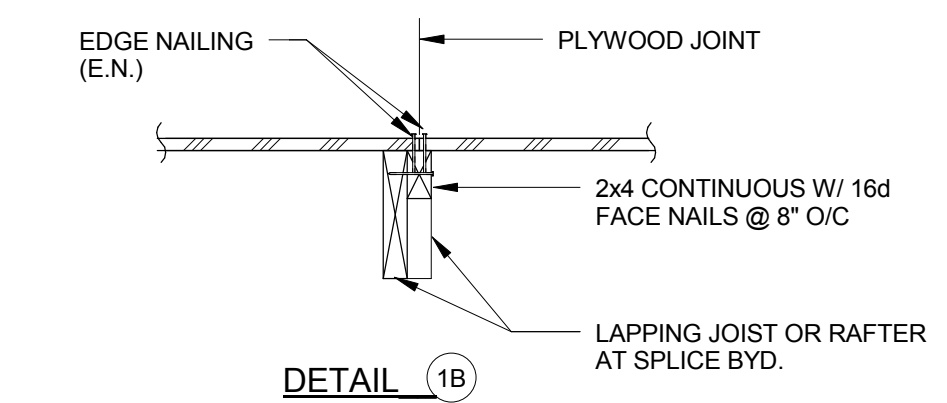
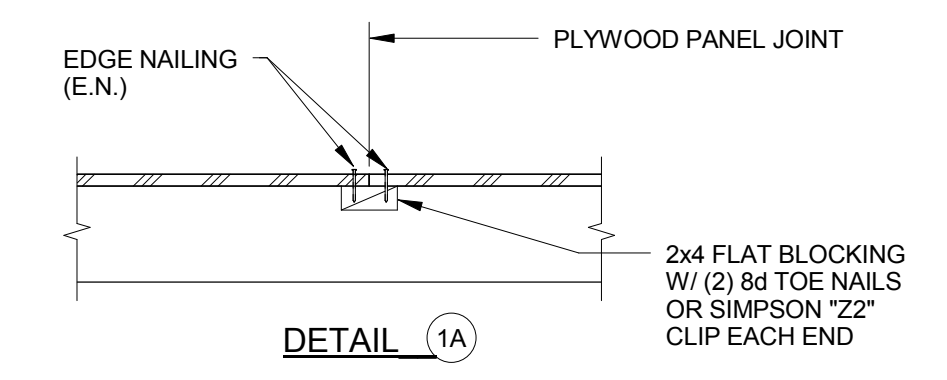
PLAN VIEW AT SMALL OPENINGS and PENETRATIONS 3B



PLAN VIEW AT LARGER OPENINGS 3A

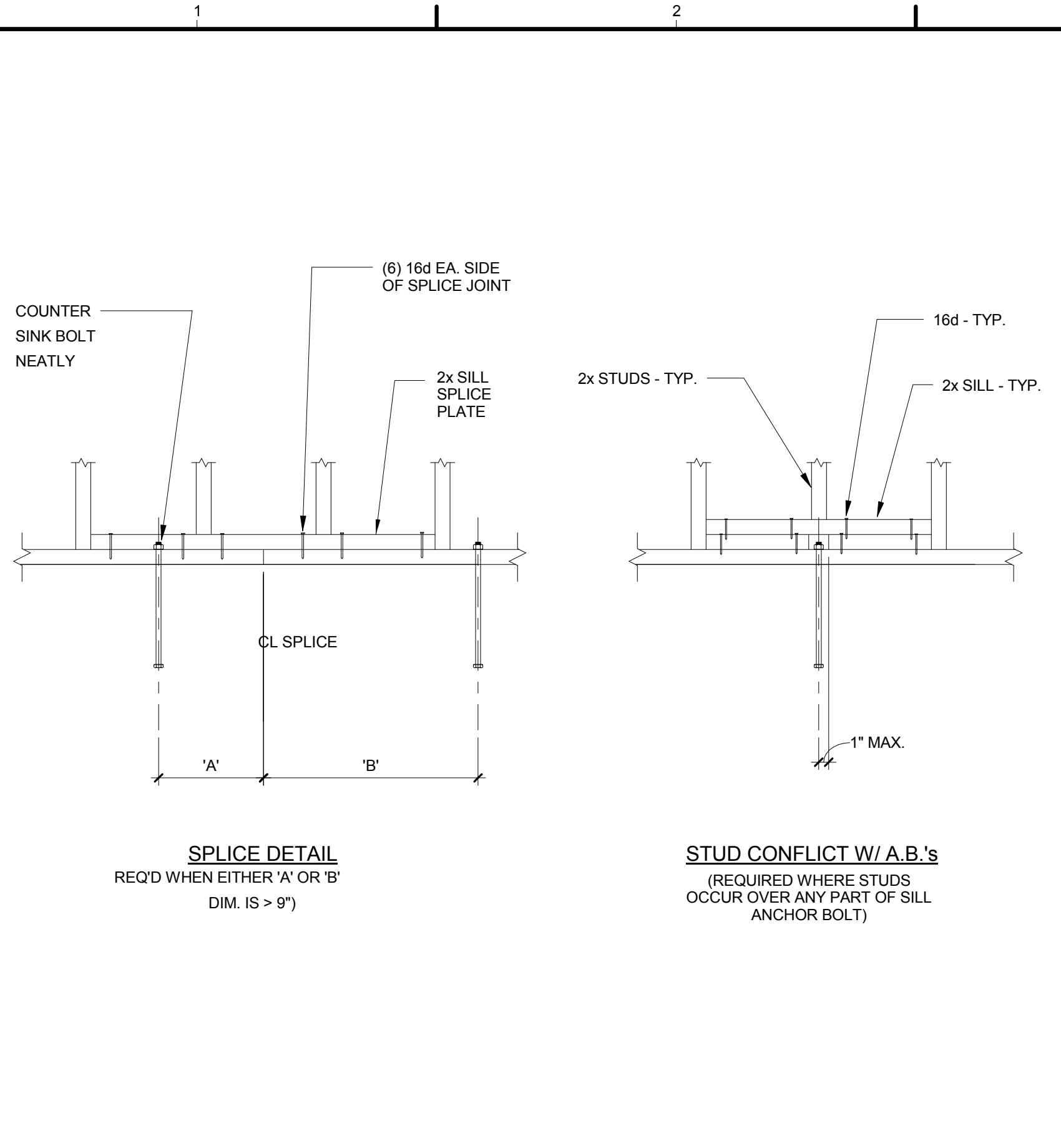


ISOMETRIC VIEW

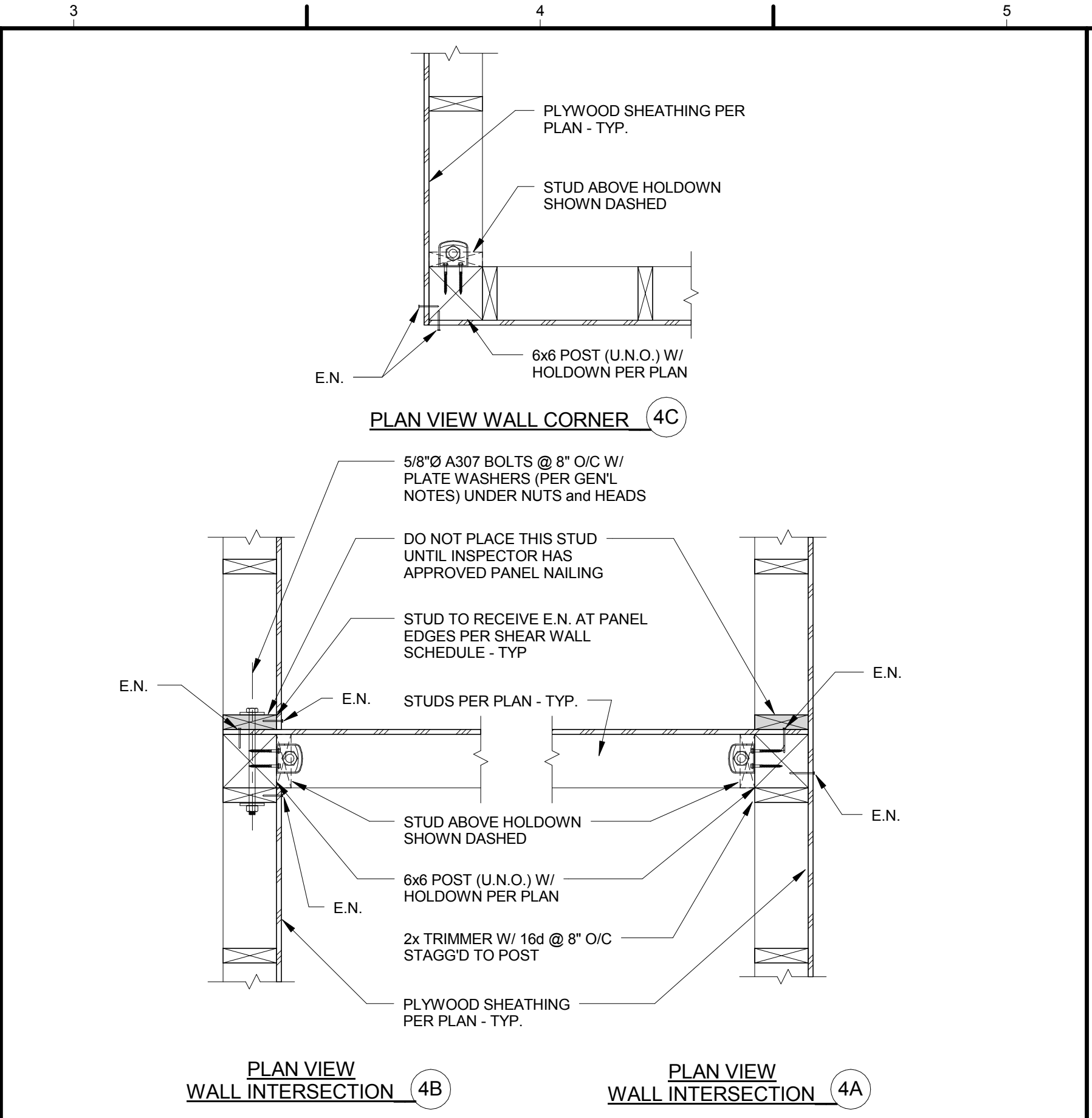


- NOTES:
1. RUN LONG DIMENSION OF PLYWOOD PANELS PERPENDICULAR TO JOIST OR RAFTER.
 2. NAILING SIZE AND SPACING AS NOTED ON PLAN.
 3. NAILS SHALL HAVE A MINIMUM 3/8" EDGE DISTANCE.
 4. LAY OUT JOISTS IN A 4 FOOT MODULE TO COINCIDE WITH PLYWOOD PATTERN.
 5. WHERE NAILS ARE SPACED @ 3" O/C OR LESS AT ADJOINING PANEL EDGES, SEE DETAIL 6/S-OX.
 6. WHERE JOIST OR RAFTER LAP SPLICE OCCURS and PLYWOOD JOINT IS CONTINUOUS, PROVIDE 2x4 CONTINUOUS PER 1B.

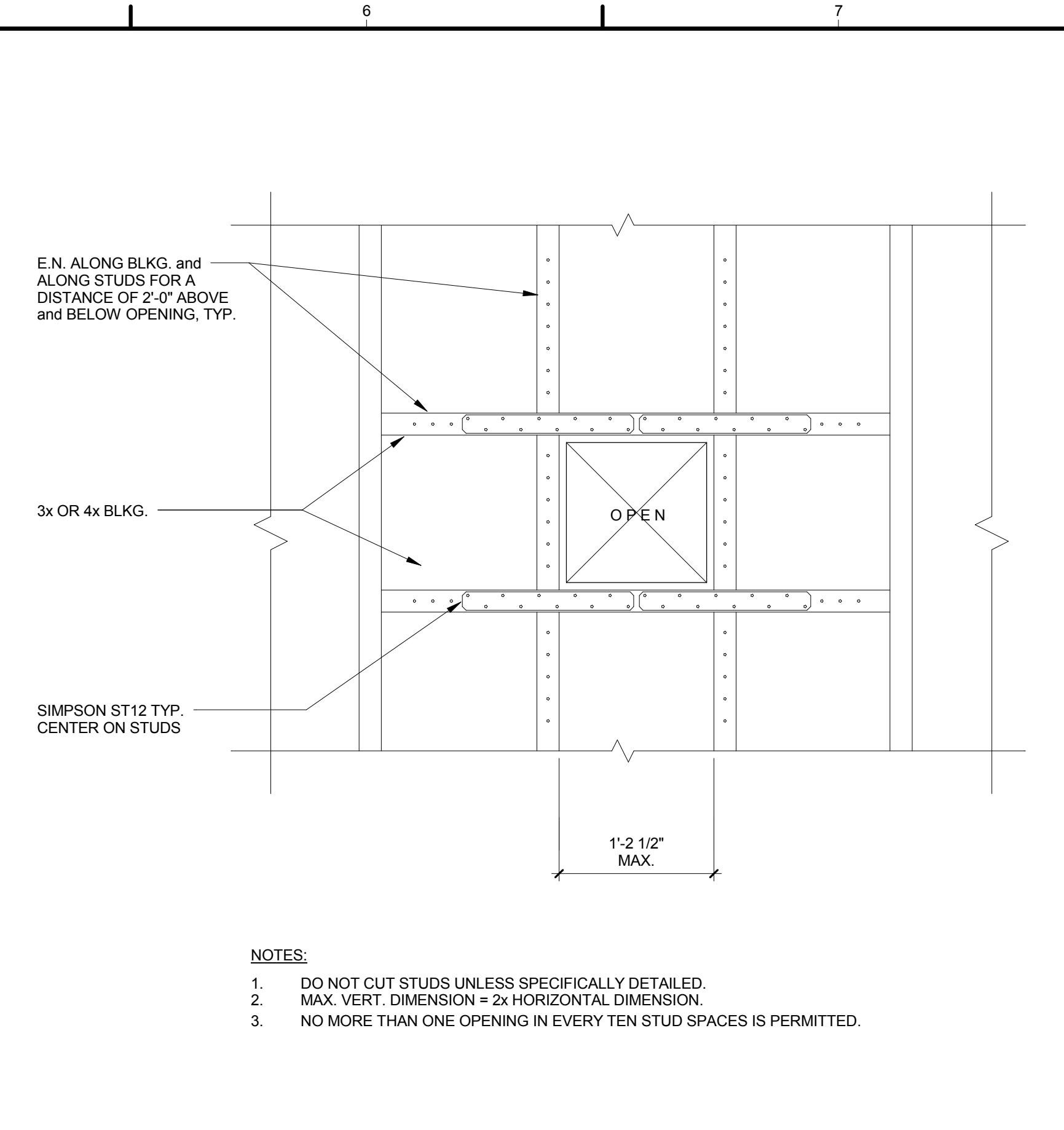
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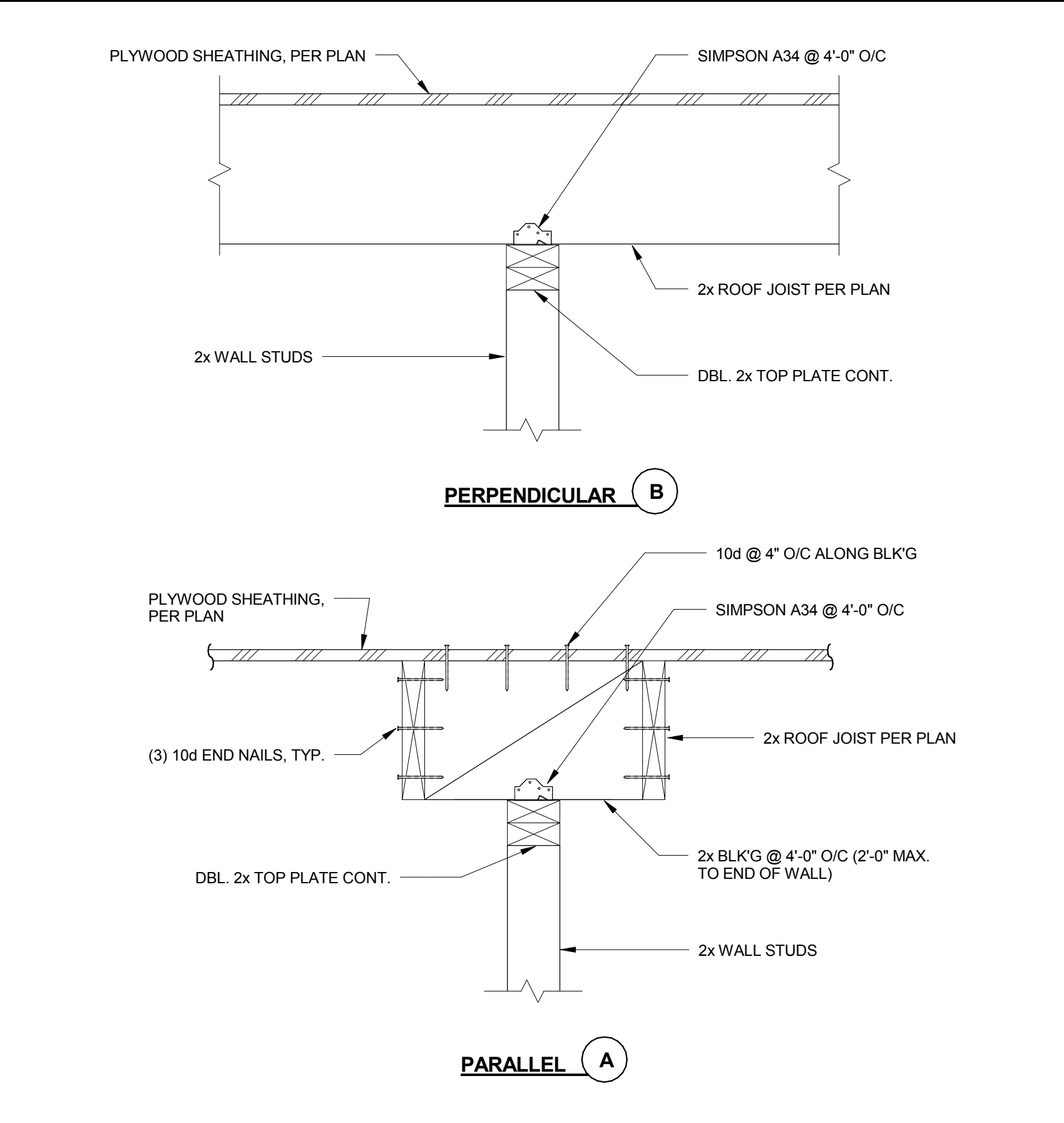
TYP. SILL PLATE DETAIL at SPLICES and CONFLICT W/ A.B.'s N.T.S. 6



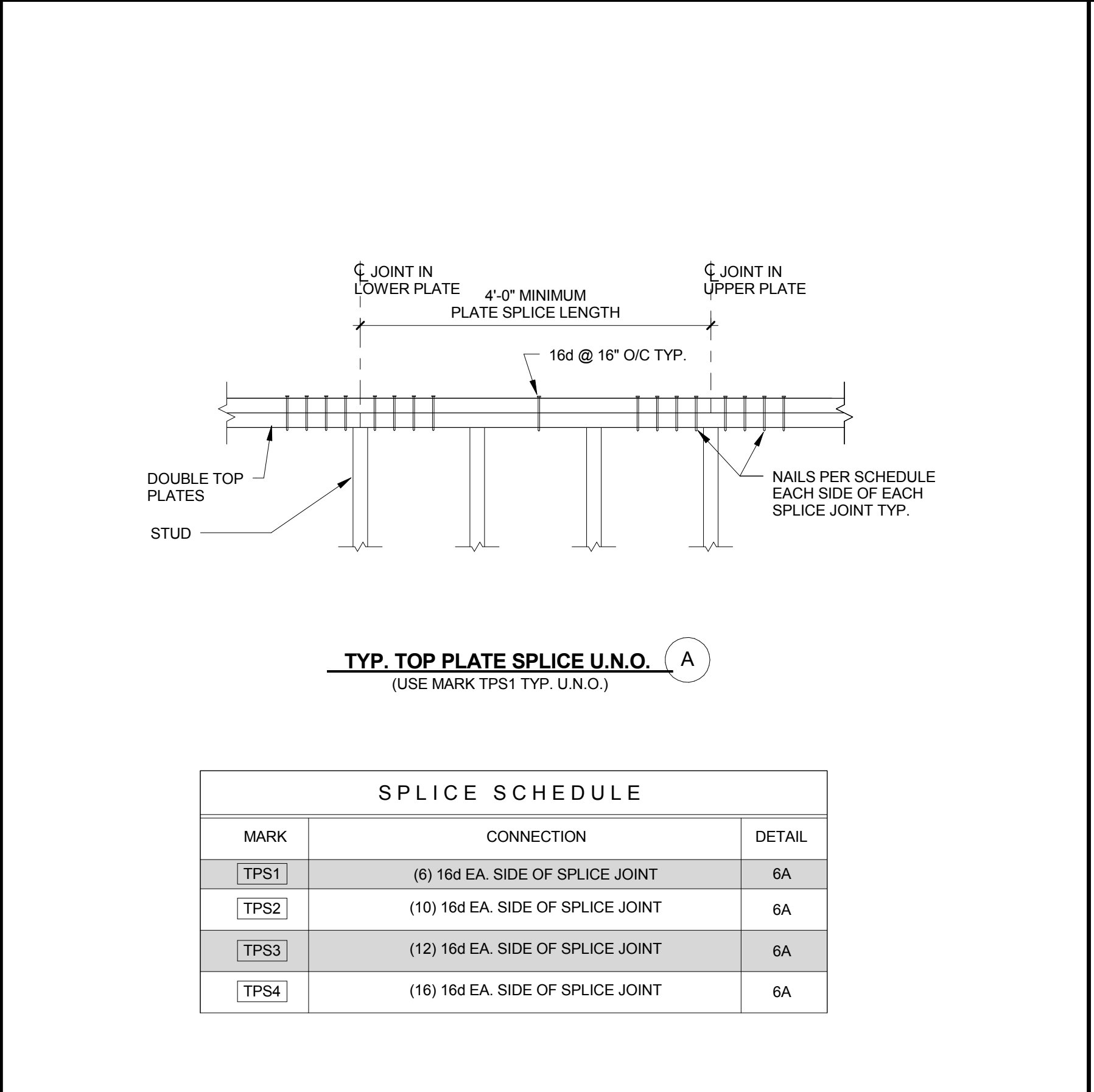
TYP. WALL CONSTRUCTION at CORNERS and INTERSECTIONS WHERE POST and HOLDDOWNS OCCUR IN SHEAR WALL N.T.S. 4



TYP. SMALL OPENINGS IN PLYWOOD SHEAR WALL N.T.S. 2

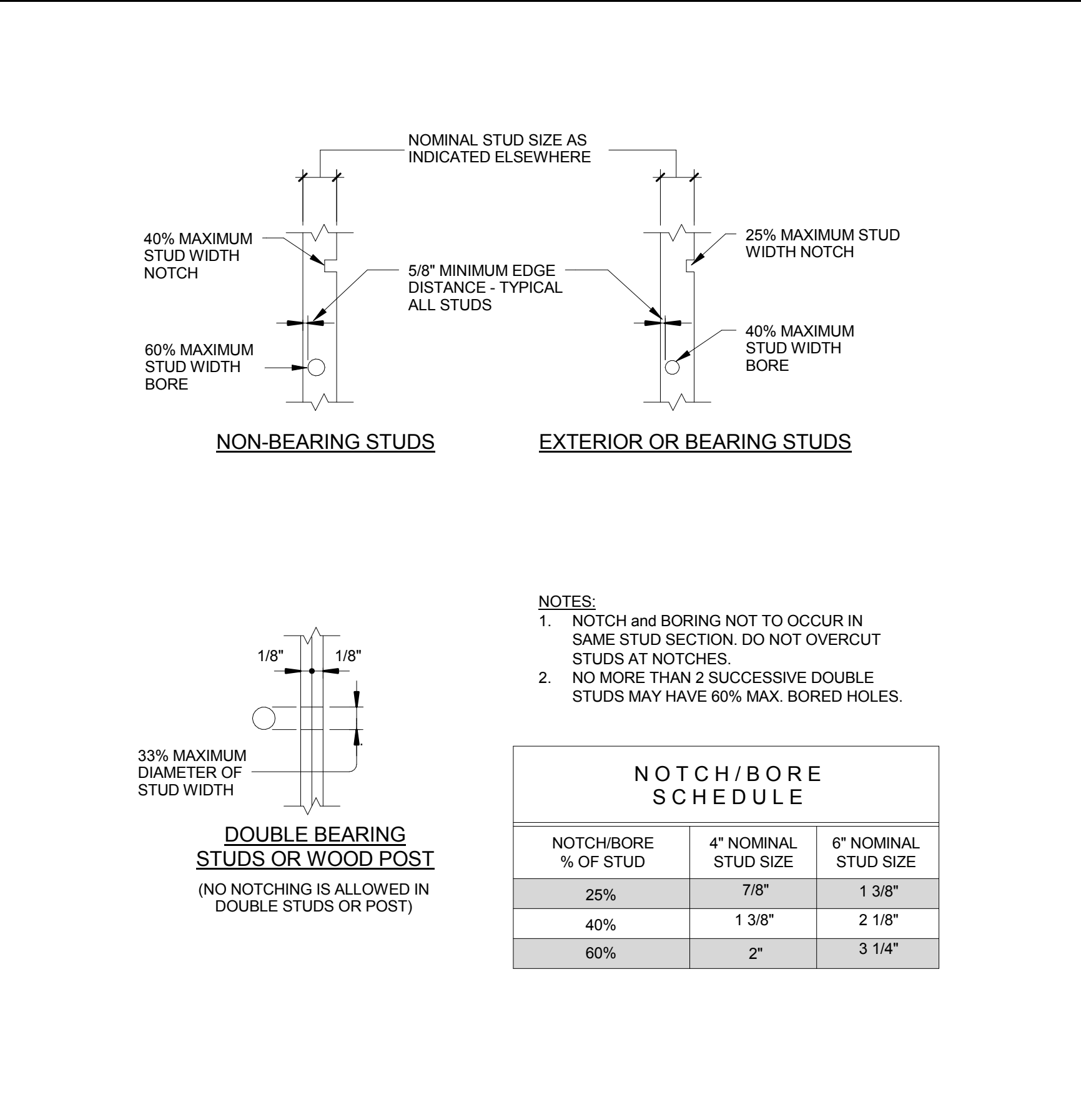


TYP. INTERIOR WALL TOP ATTACHMENT DETAIL N.T.S. 5



SPLICE SCHEDULE		
MARK	CONNECTION	DETAIL
TPS1	(6) 16d EA. SIDE OF SPLICE JOINT	6A
TPS2	(10) 16d EA. SIDE OF SPLICE JOINT	6A
TPS3	(12) 16d EA. SIDE OF SPLICE JOINT	6A
TPS4	(16) 16d EA. SIDE OF SPLICE JOINT	6A

TYP. DOUBLE TOP PLATE SPLICE SCHED. and DTLs. N.T.S. 3

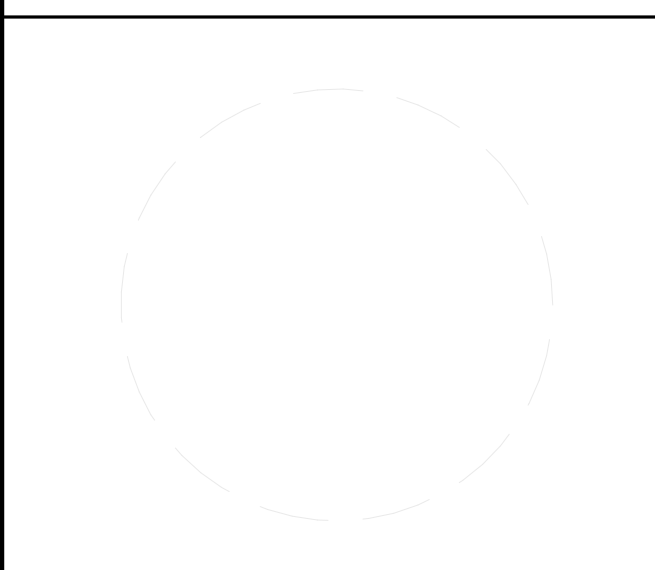


NOTCH/BORE SCHEDULE		
NOTCH/BORE % OF STUD	4\"/>	
25%	7/8"	1 3/8"
40%	1 3/8"	2 1/8"
60%	2"	3 1/4"

TYP. STUD WALL NOTCHING and BORING DETAIL N.T.S. 1



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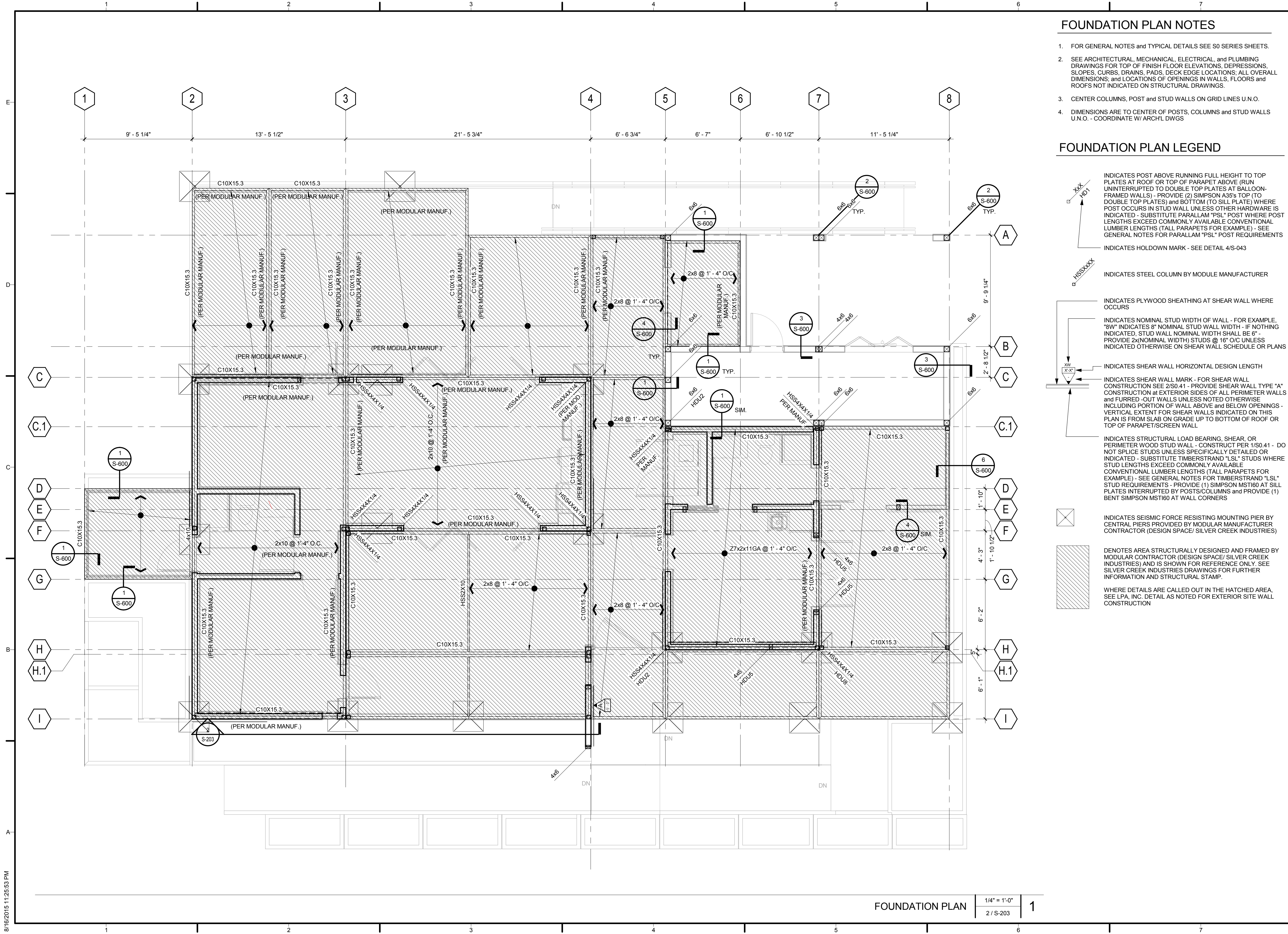
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 TYPICAL WOOD FRAMING DETAILS

S-043

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FOUNDATION PLAN NOTES

- FOR GENERAL NOTES and TYPICAL DETAILS SEE S0 SERIES SHEETS.
- SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, and PLUMBING DRAWINGS FOR TOP OF FINISH FLOOR ELEVATIONS, DEPRESSIONS, SLOPES, CURBS, DRAINS, PADS, DECK EDGE LOCATIONS; ALL OVERALL DIMENSIONS; and LOCATIONS OF OPENINGS IN WALLS, FLOORS and ROOFS NOT INDICATED ON STRUCTURAL DRAWINGS.
- CENTER COLUMNS, POST and STUD WALLS ON GRID LINES U.N.O.
- DIMENSIONS ARE TO CENTER OF STUBS, COLUMNS and STUD WALLS U.N.O. - COORDINATE W/ ARCHL DWGS

FOUNDATION PLAN LEGEND

- INDICATES POST ABOVE RUNNING FULL HEIGHT TO TOP PLATES AT ROOF OR TOP OF PARAPET ABOVE (RUN UNINTERRUPTED TO DOUBLE TOP PLATES AT BALLOON-FRAMED WALLS) - PROVIDE (2) SIMPSON A35's TOP (TO DOUBLE TOP PLATES) and BOTTOM (TO SILL PLATE) WHERE POST OCCURS IN STUD WALL UNLESS OTHER HARDWARE IS INDICATED - SUBSTITUTE PARALLAM "PSL" POST WHERE POST LENGTHS EXCEED COMMONLY AVAILABLE CONVENTIONAL LUMBER LENGTHS (TALL PARAPETS FOR EXAMPLE) - SEE GENERAL NOTES FOR PARALLAM "PSL" POST REQUIREMENTS
- INDICATES HOLDDOWN MARK - SEE DETAIL 4/S-043
- INDICATES STEEL COLUMN BY MODULE MANUFACTURER
- INDICATES PLYWOOD SHEATHING AT SHEAR WALL WHERE OCCURS
- INDICATES NOMINAL STUD WIDTH OF WALL - FOR EXAMPLE, "8W" INDICATES 8" NOMINAL STUD WALL WIDTH - IF NOTHING INDICATED, STUD WALL NOMINAL WIDTH SHALL BE 6" - PROVIDE 2x4 MINIMUM BY STUDS @ 16" O/C UNLESS INDICATED OTHERWISE ON SHEAR WALL SCHEDULE OR PLANS
- INDICATES SHEAR WALL HORIZONTAL DESIGN LENGTH
- INDICATES SHEAR WALL MARK - FOR SHEAR WALL CONSTRUCTION SEE 2/S0.41 - PROVIDE SHEAR WALL TYPE "A" CONSTRUCTION at EXTERIOR SIDES OF ALL PERIMETER WALLS and FURRED -OUT WALLS UNLESS NOTED OTHERWISE INCLUDING PORTION OF WALL ABOVE and BELOW OPENINGS - VERTICAL EXTENT FOR SHEAR WALLS INDICATED ON THIS PLAN IS FROM SLAB ON GRADE UP TO BOTTOM OF ROOF OR TOP OF PARAPET/SCREEN WALL
- INDICATES STRUCTURAL LOAD BEARING, SHEAR, OR PERIMETER WOOD STUD WALL - CONSTRUCT PER 1/S0.41 - DO NOT SPLICE STUDS UNLESS SPECIFICALLY DETAILED OR INDICATED - SUBSTITUTE TIMBERSTRAND "LSL" STUDS WHERE STUD LENGTHS EXCEED COMMONLY AVAILABLE CONVENTIONAL LUMBER LENGTHS (TALL PARAPETS FOR EXAMPLE) - SEE GENERAL NOTES FOR TIMBERSTRAND "LSL" STUD REQUIREMENTS - PROVIDE (1) SIMPSON MST160 AT SILL PLATES INTERRUPTED BY POSTS/COLUMNS and PROVIDE (1) BENT SIMPSON MST160 AT WALL CORNERS
- INDICATES SEISMIC FORCE RESISTING MOUNTING PIER BY CENTRAL PIERS PROVIDED BY MODULAR MANUFACTURER CONTRACTOR (DESIGN SPACE/ SILVER CREEK INDUSTRIES)
- DENOTES AREA STRUCTURALLY DESIGNED AND FRAMED BY MODULAR CONTRACTOR (DESIGN SPACE/ SILVER CREEK INDUSTRIES) AND IS SHOWN FOR REFERENCE ONLY. SEE SILVER CREEK INDUSTRIES DRAWINGS FOR FURTHER INFORMATION AND STRUCTURAL STAMP.
- WHERE DETAILS ARE CALLED OUT IN THE HATCHED AREA, SEE LPA, INC. DETAIL AS NOTED FOR EXTERIOR SITE WALL CONSTRUCTION



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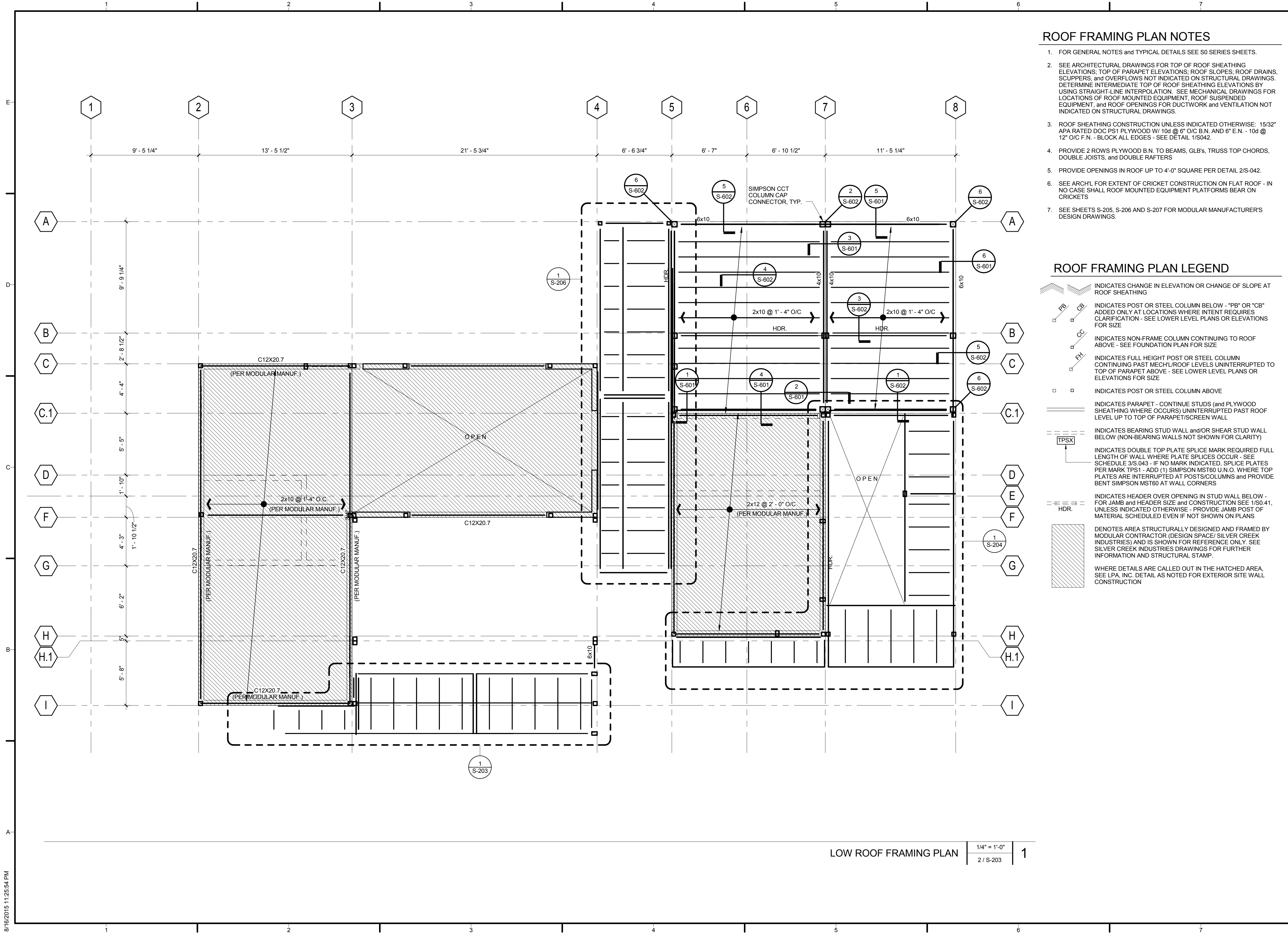
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FOUNDATION PLAN

S-200

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ROOF FRAMING PLAN NOTES

- FOR GENERAL NOTES and TYPICAL DETAILS SEE S0 SERIES SHEETS.
- SEE ARCHITECTURAL DRAWINGS FOR TOP OF ROOF SHEATHING ELEVATIONS; TOP OF PARAPET ELEVATIONS; ROOF SLOPES; ROOF DRAINS, SCUPPERS, and OVERFLOWS NOT INDICATED ON STRUCTURAL DRAWINGS. DETERMINE INTERMEDIATE TOP OF ROOF SHEATHING ELEVATIONS BY USING STRAIGHT-LINE INTERPOLATION. SEE MECHANICAL DRAWINGS FOR LOCATIONS OF ROOF MOUNTED EQUIPMENT, ROOF SUSPENDED EQUIPMENT, and ROOF OPENINGS FOR DUCTWORK and VENTILATION NOT INDICATED ON STRUCTURAL DRAWINGS.
- ROOF SHEATHING CONSTRUCTION UNLESS INDICATED OTHERWISE: 15/32" APA RATED DCC PS1 PLYWOOD W/ 10d @ 6" O/C B.N. AND 6" E.N. - 10d @ 12" O/C F.N. - BLOCK ALL EDGES - SEE DETAIL 1/S042.
- PROVIDE 2 ROWS PLYWOOD B.N. TO BEAMS, GLB's, TRUSS TOP CHORDS, DOUBLE JOISTS, and DOUBLE RAFTERS
- PROVIDE OPENINGS IN ROOF UP TO 4'-0" SQUARE PER DETAIL 2/S-042.
- SEE ARCH'L FOR EXTENT OF CRICKET CONSTRUCTION ON FLAT ROOF - IN NO CASE SHALL ROOF MOUNTED EQUIPMENT PLATFORMS BEAR ON CRICKETS
- SEE SHEETS S-205, S-206 AND S-207 FOR MODULAR MANUFACTURER'S DESIGN DRAWINGS.

ROOF FRAMING PLAN LEGEND

- INDICATES CHANGE IN ELEVATION OR CHANGE OF SLOPE AT ROOF SHEATHING
- INDICATES POST OR STEEL COLUMN BELOW - "PB" OR "CB" ADDED ONLY AT LOCATIONS WHERE INTENT REQUIRES CLARIFICATION - SEE LOWER LEVEL PLANS OR ELEVATIONS FOR SIZE
- INDICATES NON-FRAME COLUMN CONTINUING TO ROOF ABOVE - SEE FOUNDATION PLAN FOR SIZE
- INDICATES FULL HEIGHT POST OR STEEL COLUMN CONTINUING PAST MECH/ROOF LEVELS UNINTERRUPTED TO TOP OF PARAPET ABOVE - SEE LOWER LEVEL PLANS OR ELEVATIONS FOR SIZE
- INDICATES POST OR STEEL COLUMN ABOVE
- INDICATES PARAPET - CONTINUE STUDS (and PLYWOOD SHEATHING WHERE OCCURS) UNINTERRUPTED PAST ROOF LEVEL UP TO TOP OF PARAPET/SCREEN WALL
- INDICATES BEARING STUD WALL and/OR SHEAR STUD WALL BELOW (NON-BEARING WALLS NOT SHOWN FOR CLARITY)
- INDICATES DOUBLE TOP PLATE SPLICE MARK REQUIRED FULL LENGTH OF WALL WHERE PLATE SPLICES OCCUR - SEE SCHEDULE 3/S.043 - IF NO MARK INDICATED, SPLICE PLATES PER MARK TPS1 - ADD (1) SIMPSON MST60 U.N.O. WHERE TOP PLATES ARE INTERRUPTED AT POSTS/COLUMNS and PROVIDE BENT SIMPSON MST60 AT WALL CORNERS
- INDICATES HEADER OVER OPENING IN STUD WALL BELOW - FOR JAMB and HEADER SIZE and CONSTRUCTION SEE 1/S0.41, UNLESS INDICATED OTHERWISE - PROVIDE JAMB POST OF MATERIAL SCHEDULED EVEN IF NOT SHOWN ON PLANS
- DENOTES AREA STRUCTURALLY DESIGNED AND FRAMED BY MODULAR CONTRACTOR (DESIGN SPACE/ SILVER CREEK INDUSTRIES) AND IS SHOWN FOR REFERENCE ONLY. SEE SILVER CREEK INDUSTRIES DRAWINGS FOR FURTHER INFORMATION AND STRUCTURAL STAMP.
WHERE DETAILS ARE CALLED OUT IN THE HATCHED AREA, SEE LPA, INC. DETAIL AS NOTED FOR EXTERIOR SITE WALL CONSTRUCTION



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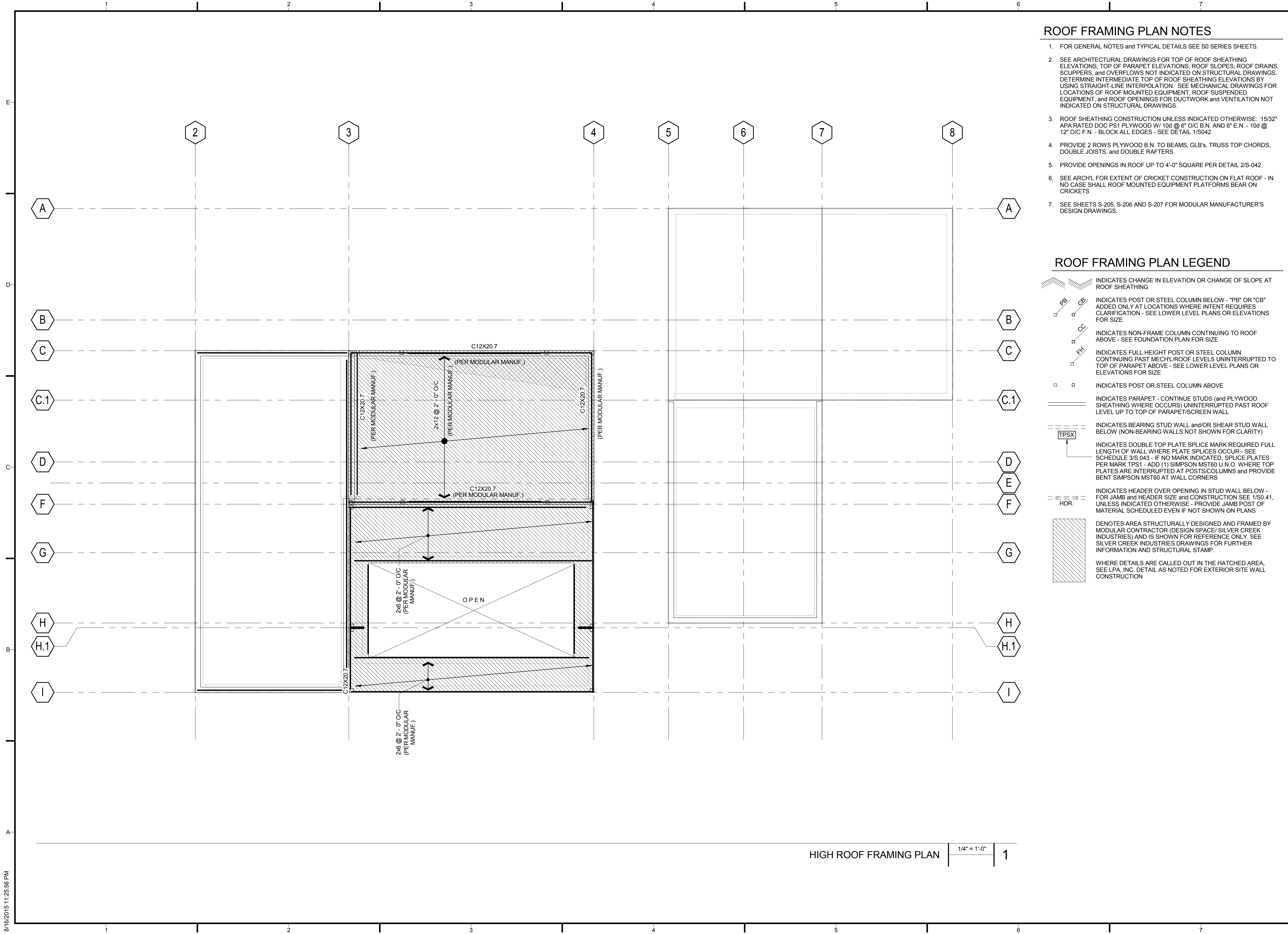
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SHEET TITLE
LOW ROOF FRAMING PLAN

S-201

LOW ROOF FRAMING PLAN 1/4" = 1'-0" 1
 2 / S-203

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ROOF FRAMING PLAN NOTES

- FOR GENERAL NOTES and TYPICAL DETAILS SEE S0 SERIES SHEETS.
- SEE ARCHITECTURAL DRAWINGS FOR TOP OF ROOF SHEATHING ELEVATIONS, TOP OF PARAPET ELEVATIONS, ROOF SLOPES, ROOF DRAINS, SCUPPERS, and OVERFLOWS NOT INDICATED ON STRUCTURAL DRAWINGS. DETERMINE INTERMEDIATE TOP OF ROOF SHEATHING ELEVATIONS BY USING STRAIGHT-LINE INTERPOLATION. SEE MECHANICAL DRAWINGS FOR LOCATIONS OF ROOF MOUNTED EQUIPMENT, ROOF SUSPENDED EQUIPMENT, and ROOF OPENINGS FOR DUCTWORK and VENTILATION NOT INDICATED ON STRUCTURAL DRAWINGS.
- ROOF SHEATHING CONSTRUCTION UNLESS INDICATED OTHERWISE: 15/32" APA RATED DOC PS1 PLYWOOD W/ 10d @ 6" O/C B.N. AND 6" E.N. - 10d @ 12" O/C F.N. - BLOCK ALL EDGES - SEE DETAIL 1/8042.
- PROVIDE 2 ROWS PLYWOOD B.N. TO BEAMS, G.L.B's, TRUSS TOP CHORDS, DOUBLE JOISTS, and DOUBLE RAFTERS
- PROVIDE OPENINGS IN ROOF UP TO 4'-0" SQUARE PER DETAIL 2/S-042.
- SEE ARCH'L FOR EXTENT OF CRICKET CONSTRUCTION ON FLAT ROOF - IN NO CASE SHALL ROOF MOUNTED EQUIPMENT PLATFORMS BEAR ON CRICKETS
- SEE SHEETS S-205, S-206 AND S-207 FOR MODULAR MANUFACTURER'S DESIGN DRAWINGS.

ROOF FRAMING PLAN LEGEND

- INDICATES CHANGE IN ELEVATION OR CHANGE OF SLOPE AT ROOF SHEATHING
- INDICATES POST OR STEEL COLUMN BELOW - "PB" OR "CB" ADDED ONLY AT LOCATIONS WHERE INTENT REQUIRES CLARIFICATION - SEE LOWER LEVEL PLANS OR ELEVATIONS FOR SIZE
- INDICATES NON-FRAME COLUMN CONTINUING TO ROOF ABOVE - SEE FOUNDATION PLAN FOR SIZE
- INDICATES FULL HEIGHT POST OR STEEL COLUMN CONTINUING PAST MECH/L/ROOF LEVELS UNINTERRUPTED TO TOP OF PARAPET ABOVE - SEE LOWER LEVEL PLANS OR ELEVATIONS FOR SIZE
- INDICATES POST OR STEEL COLUMN ABOVE
- INDICATES PARAPET - CONTINUE STUDS (and PLYWOOD SHEATHING WHERE OCCURS) UNINTERRUPTED PAST ROOF LEVEL UP TO TOP OF PARAPET/SCREEN WALL
- INDICATES BEARING STUD WALL and/OR SHEAR STUD WALL BELOW (NON-BEARING WALLS NOT SHOWN FOR CLARITY)
- INDICATES DOUBLE TOP PLATE SPLICE MARK REQUIRED FULL LENGTH OF WALL WHERE PLATE SPLICES OCCUR - SEE SCHEDULE 3/S.043 - IF NO MARK INDICATED, SPLICE PLATES PER MARK TSP1 - ADD (1) SIMPSON MST60 U.N.G. WHERE TOP PLATES ARE INTERRUPTED AT POSTS/COLUMNS and PROVIDE BENT SIMPSON MST60 AT WALL CORNERS
- INDICATES HEADER OVER OPENING IN STUD WALL BELOW - FOR JAMB and HEADER SIZE and CONSTRUCTION SEE 1/S0.41, UNLESS INDICATED OTHERWISE - PROVIDE JAMB POST OF MATERIAL SCHEDULED EVEN IF NOT SHOWN ON PLANS
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HIGH ROOF FRAMING PLAN

S-202

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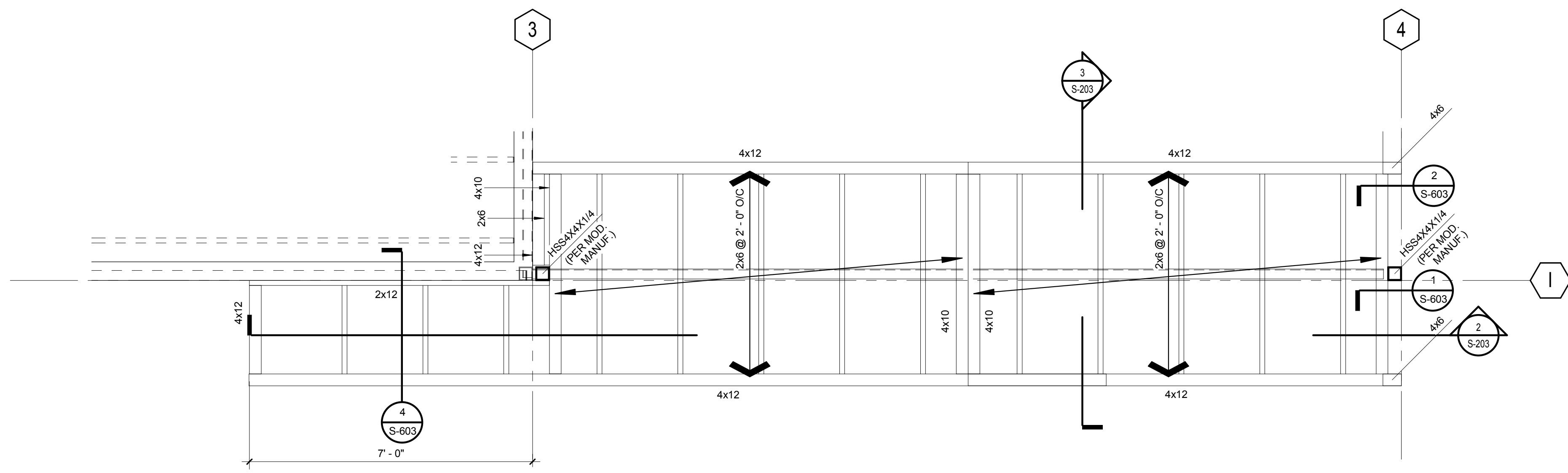


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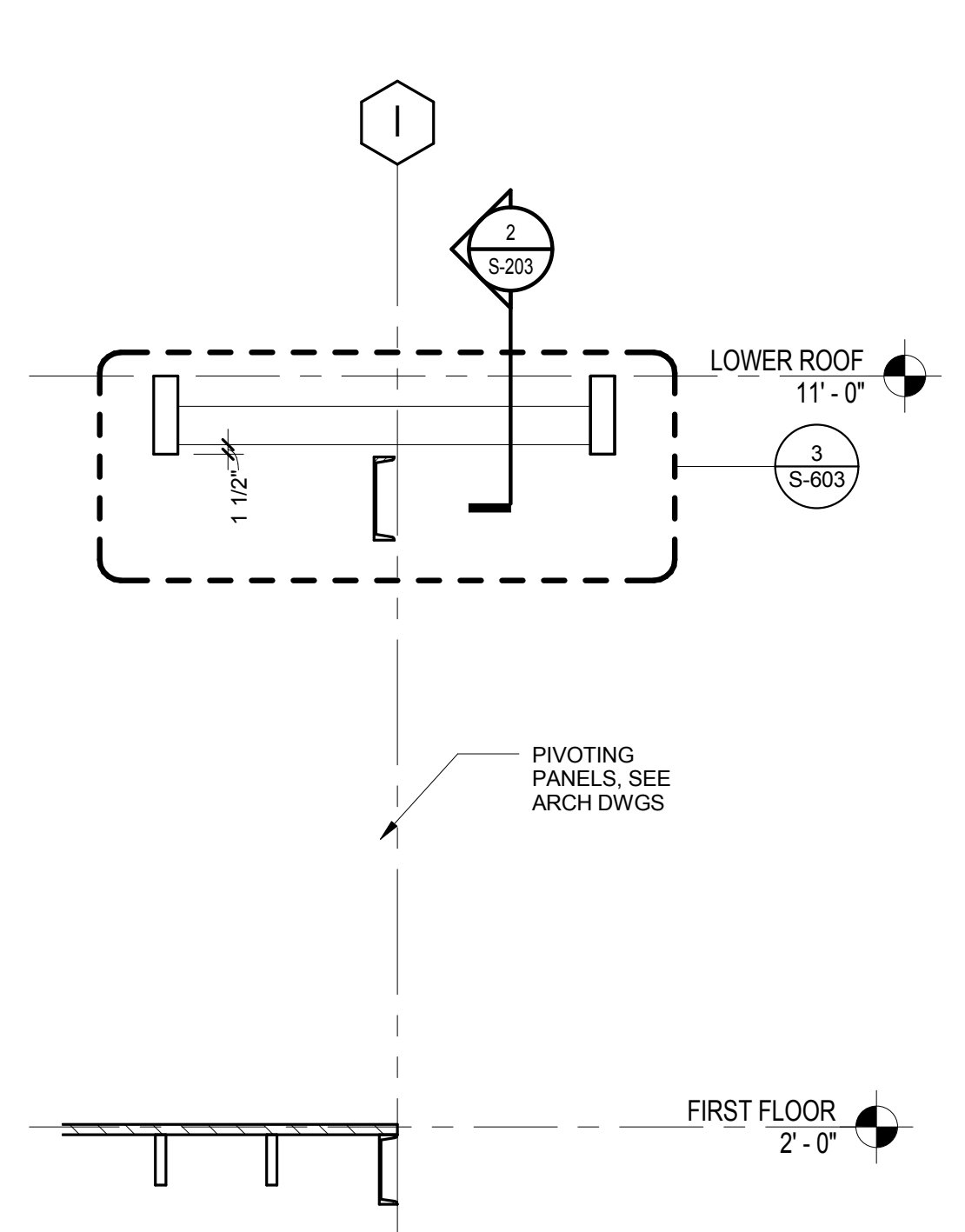
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SHEET TITLE
**ENLARGED ROOF PLAN
 - PIVOT PANEL CANOPY**

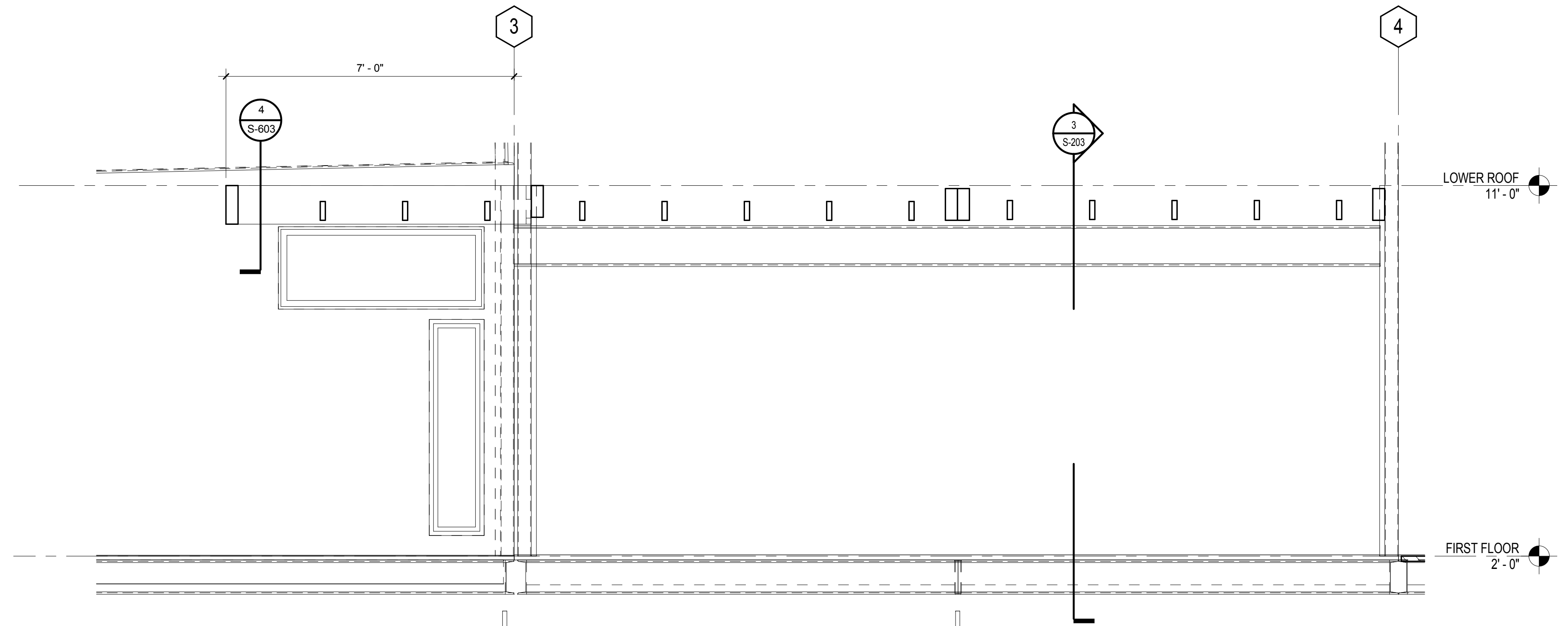
S-203



CANOPY PLAN - SUNSHADE OVER PIVOTING PANELS | 1/2" = 1'-0" | 1 / S-201

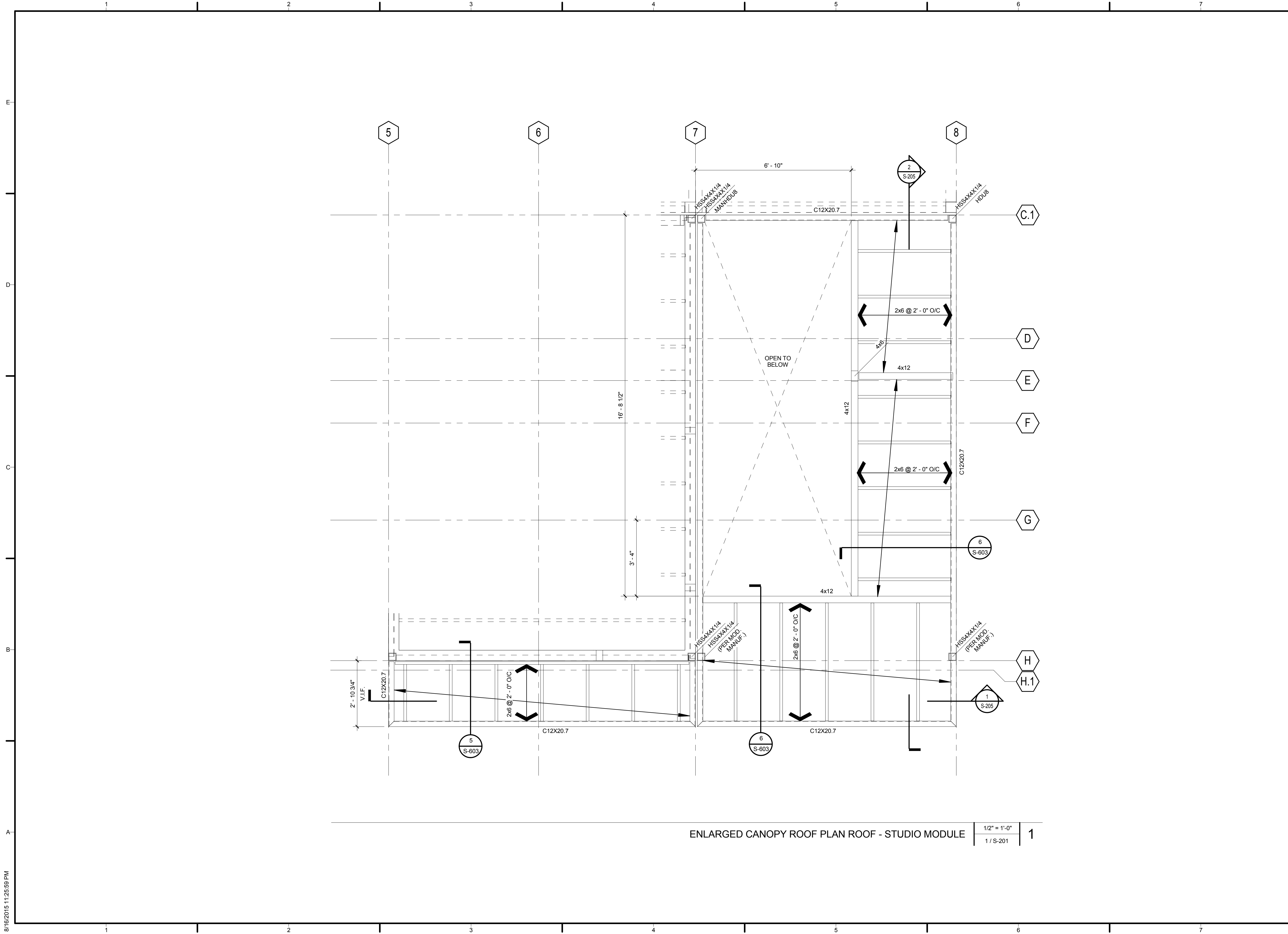


PIVOTING PANEL CANOPY SECTION | 1/2" = 1'-0" | 3 / S-203



PIVOTING PANEL CANOPY SECTION 1 | 1/2" = 1'-0" | 2 / S-200

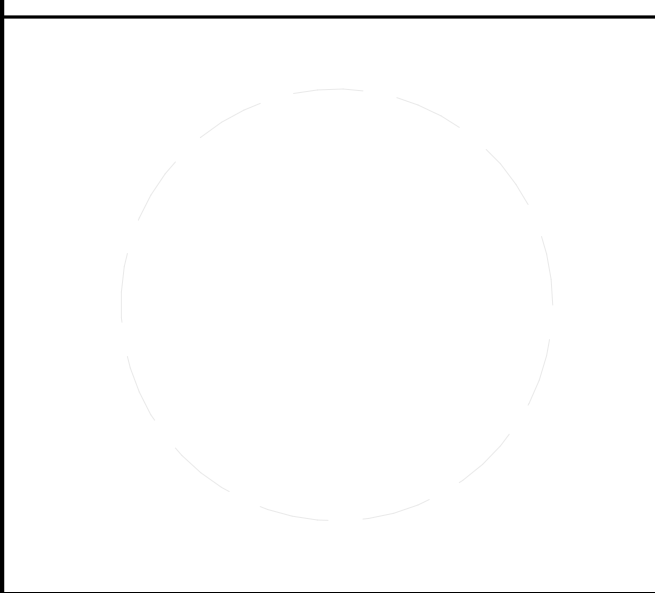
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ENLARGED CANOPY ROOF PLAN ROOF - STUDIO MODULE 1/2" = 1'-0" | 1
1 / S-201



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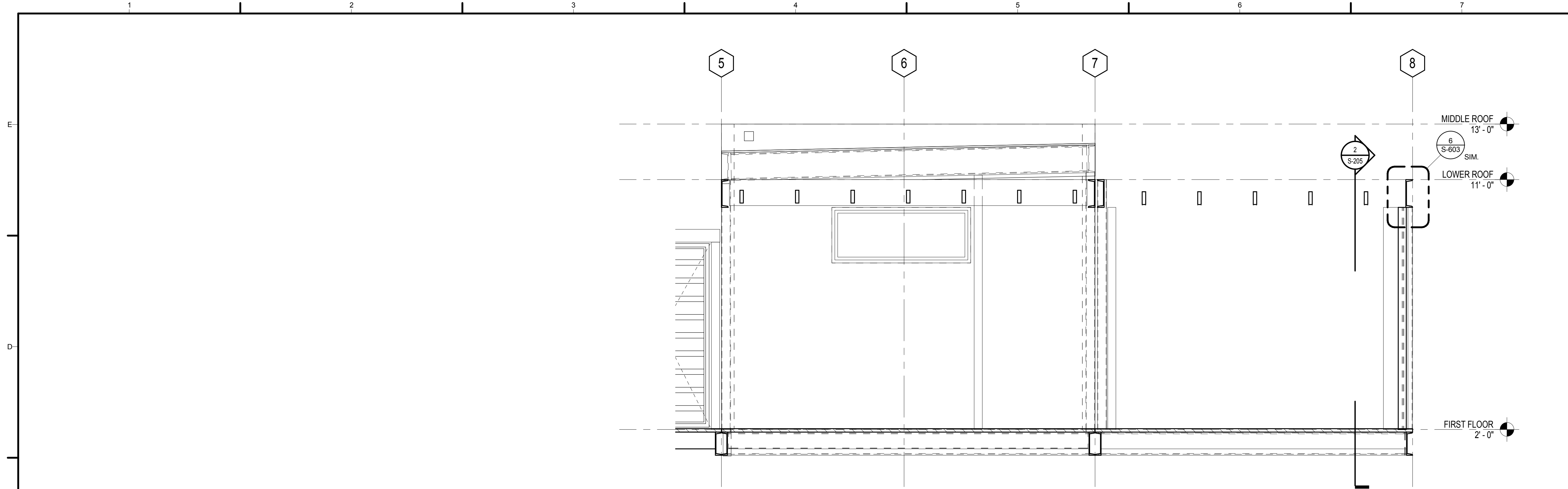
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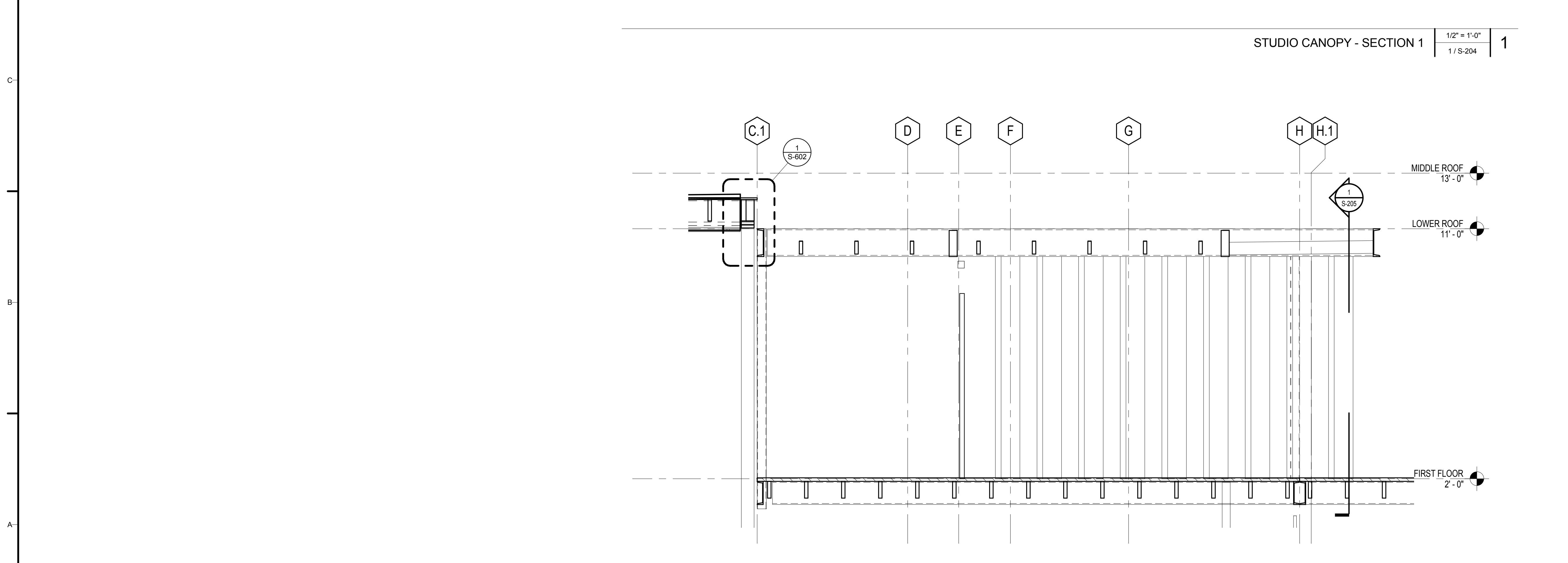
SHEET TITLE
**ENLARGED ROOF PLAN
 - STUDIO CANOPY**

S-204

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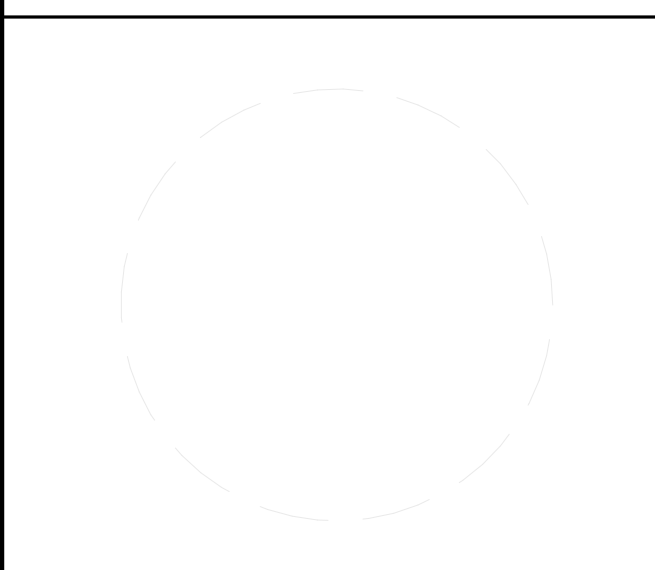
STUDIO CANOPY - SECTION 1 | 1/2" = 1'-0" | 1 / S-204 | 1



STUDIO CANOPY - SECTION 2 | 1/2" = 1'-0" | 1 / S-204 | 2



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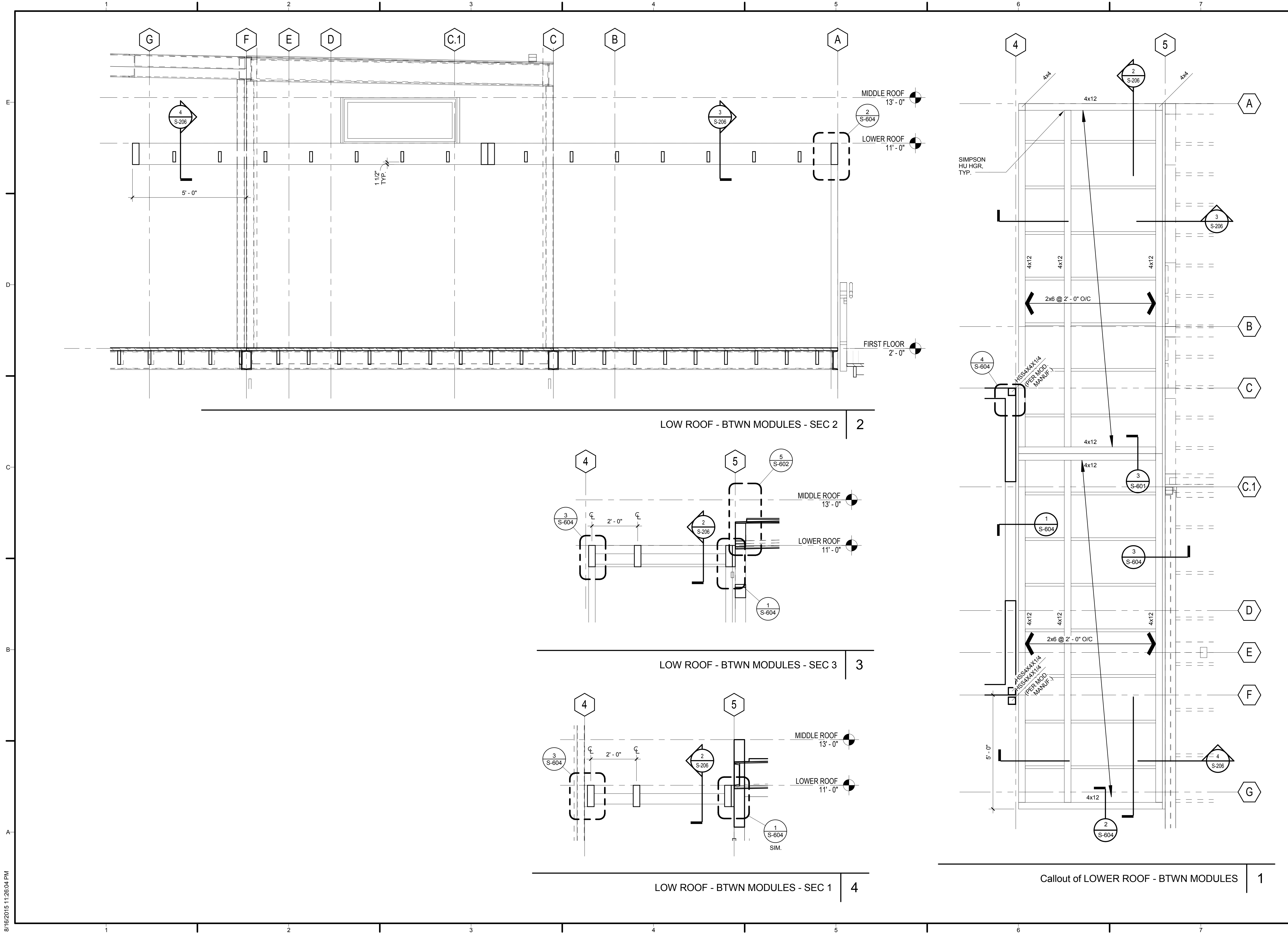


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SHEET TITLE
 ENLARGED SECTIONS -
 STUDIO CANOPY

S-205



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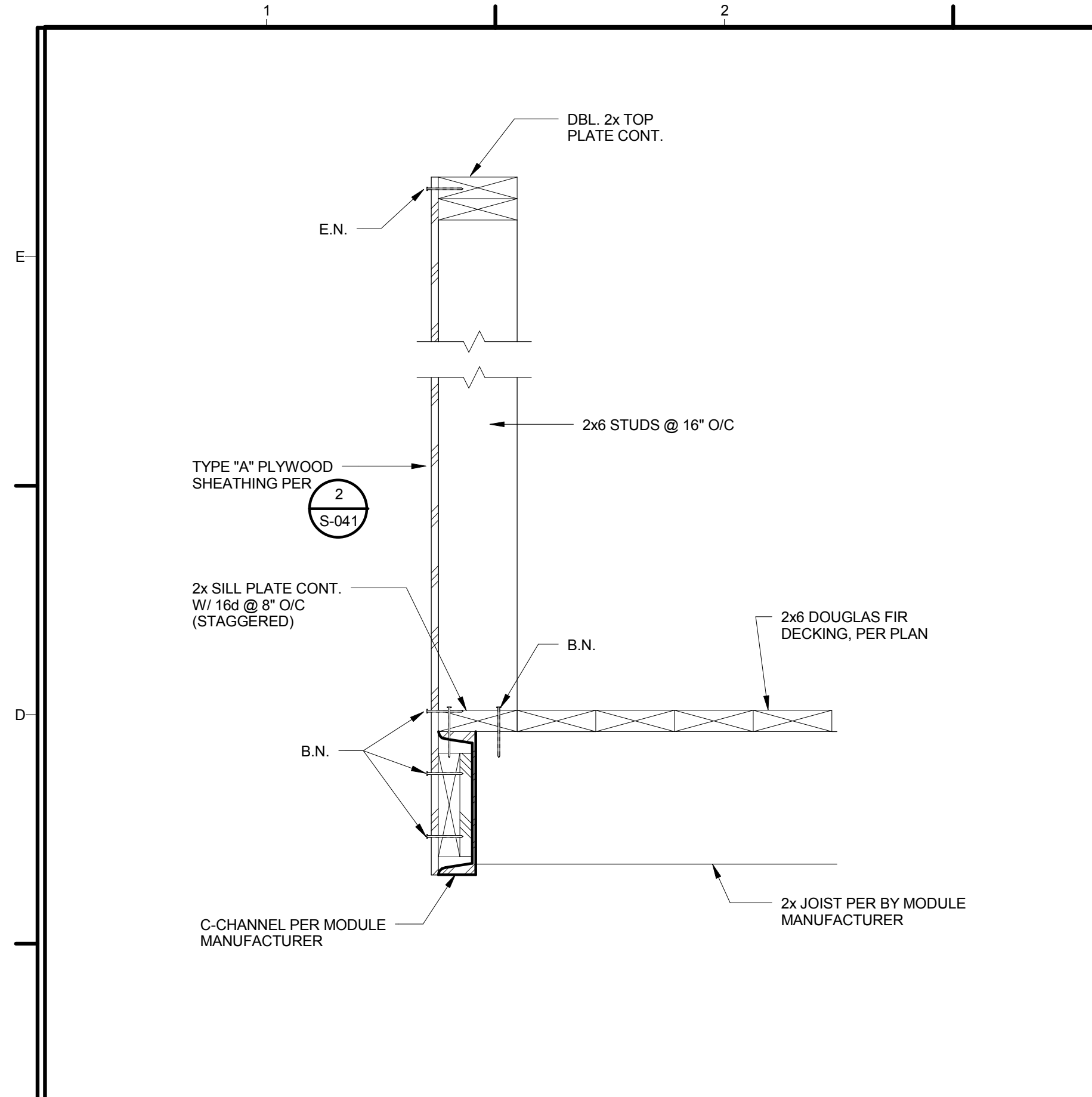
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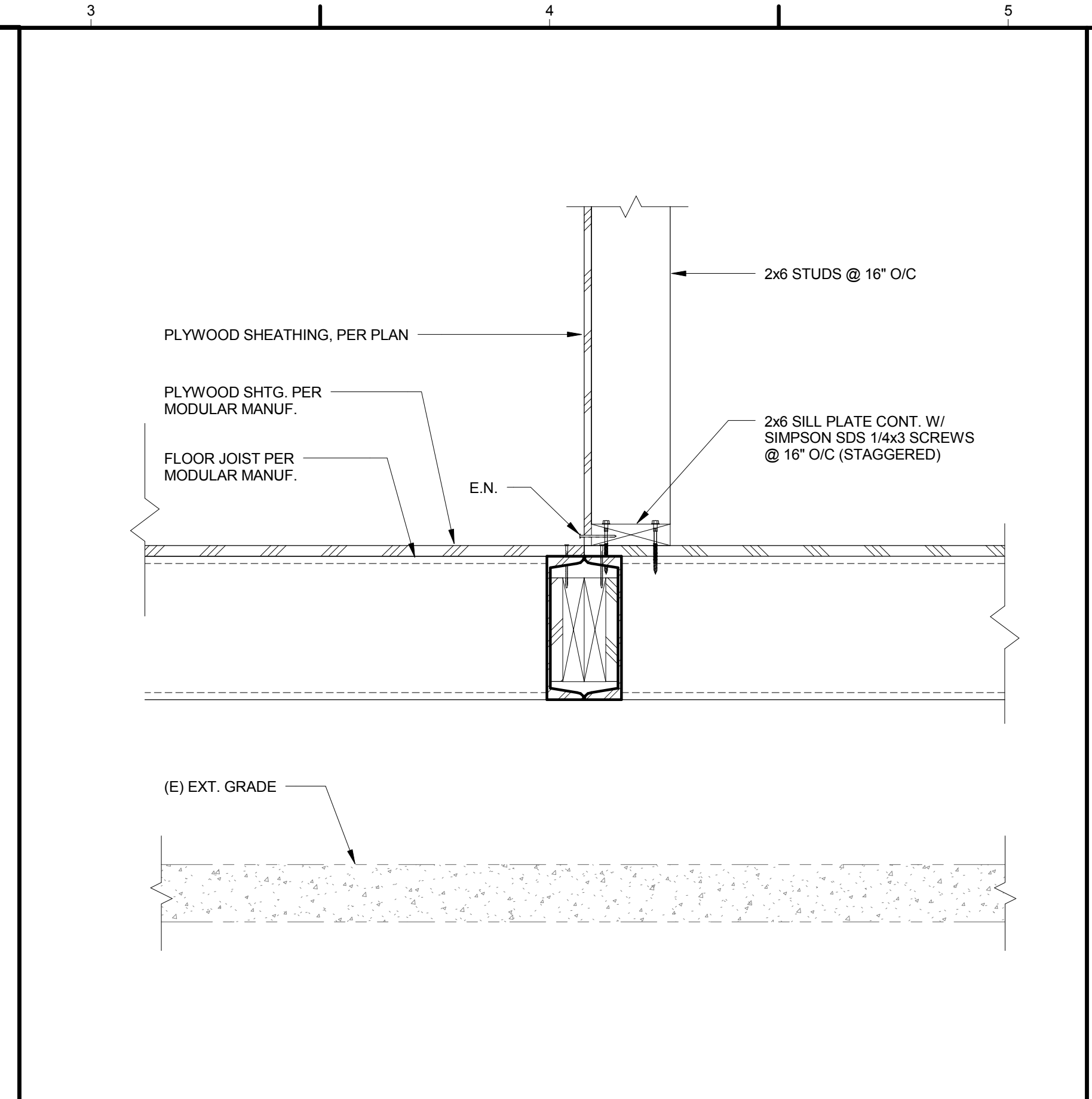
SHEET TITLE
**ENLARGED ROOF PLAN
 - BREEZEWAY CANOPY**

S-206

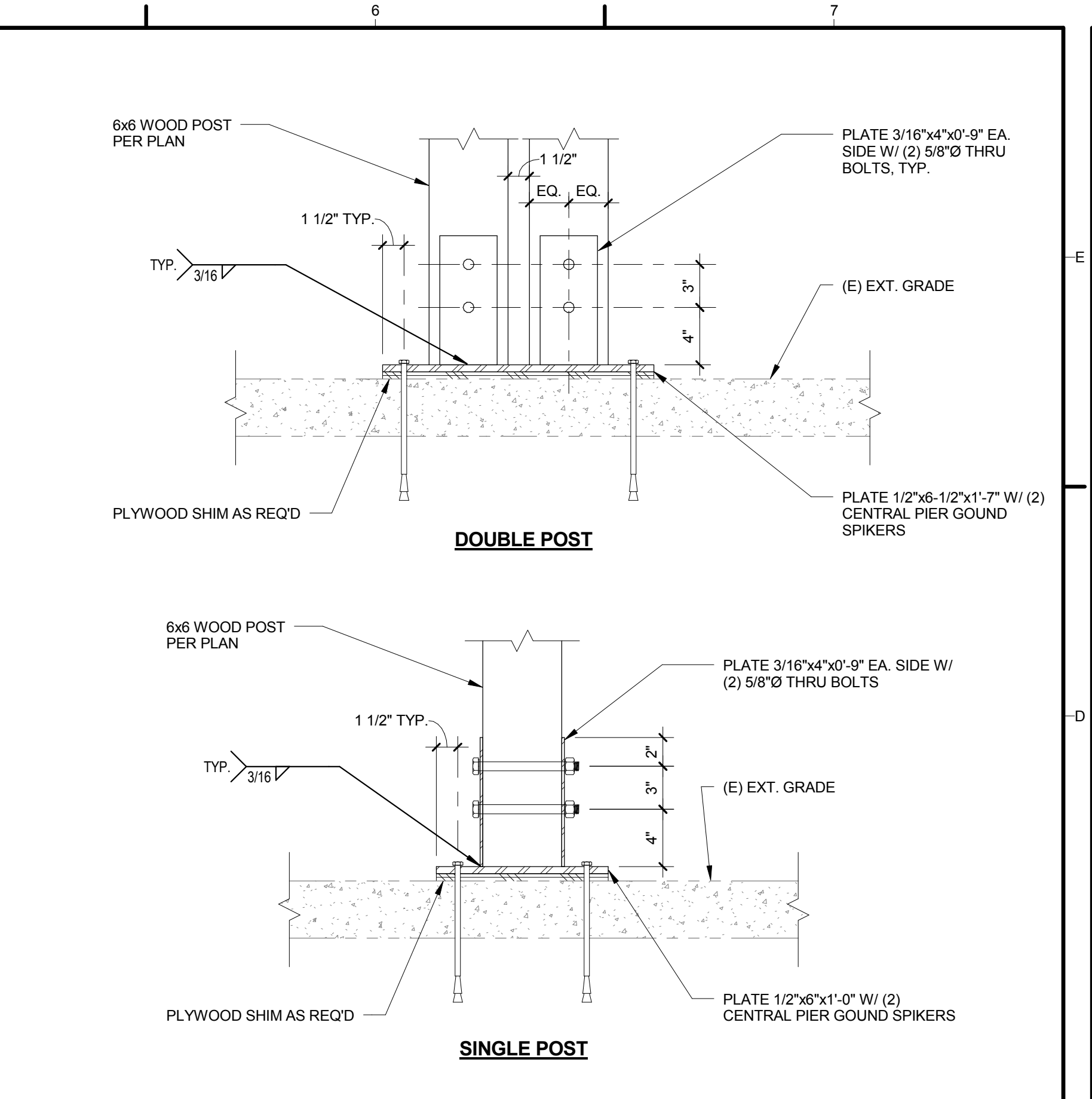
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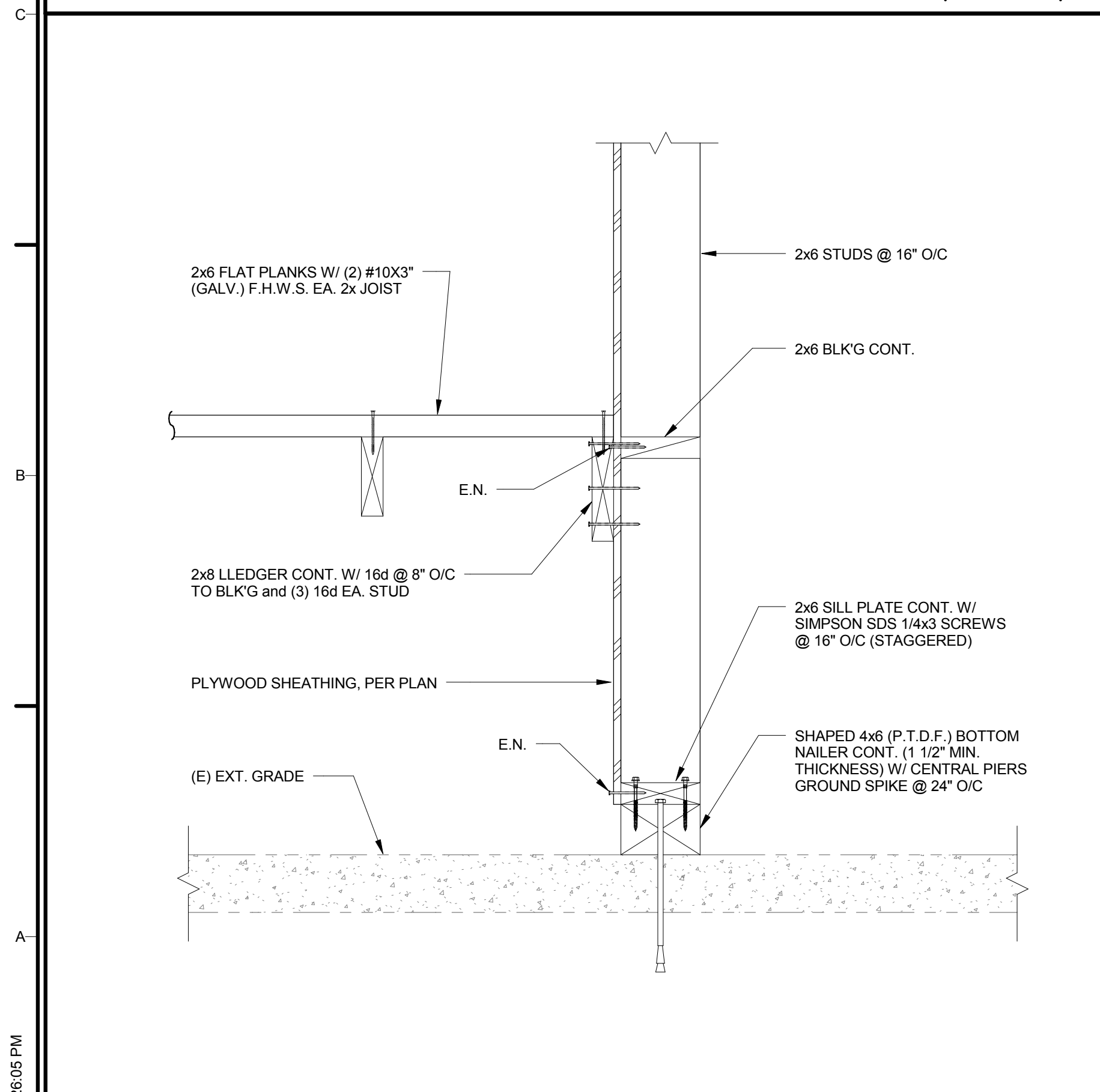
TYP. EXTERIOR PATIO FLOOR DETAIL 1 1/2" = 1'-0" 1/S-200 6



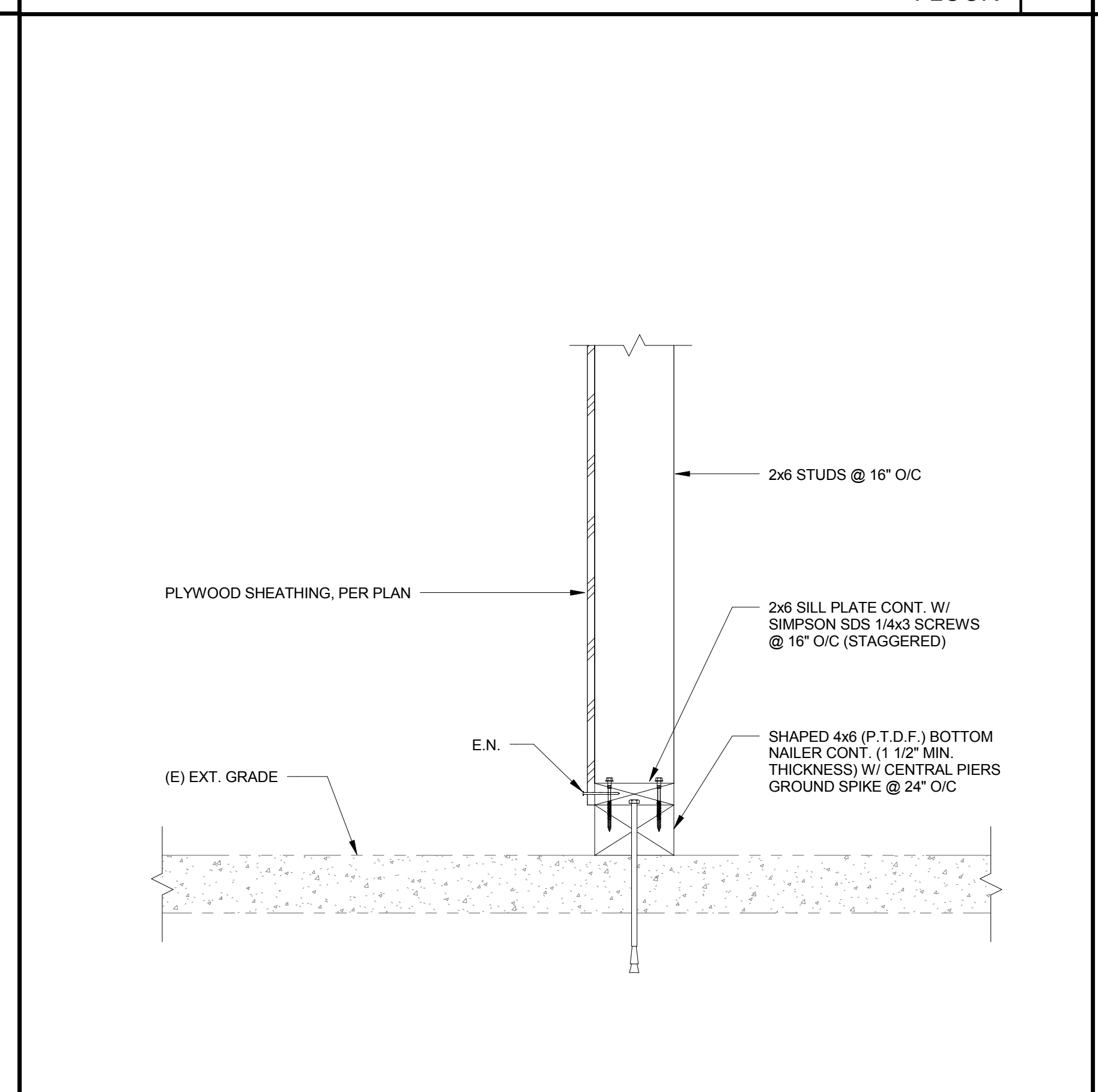
TYP. EXT. WALL CONN. ON MODULAR FLOOR 4



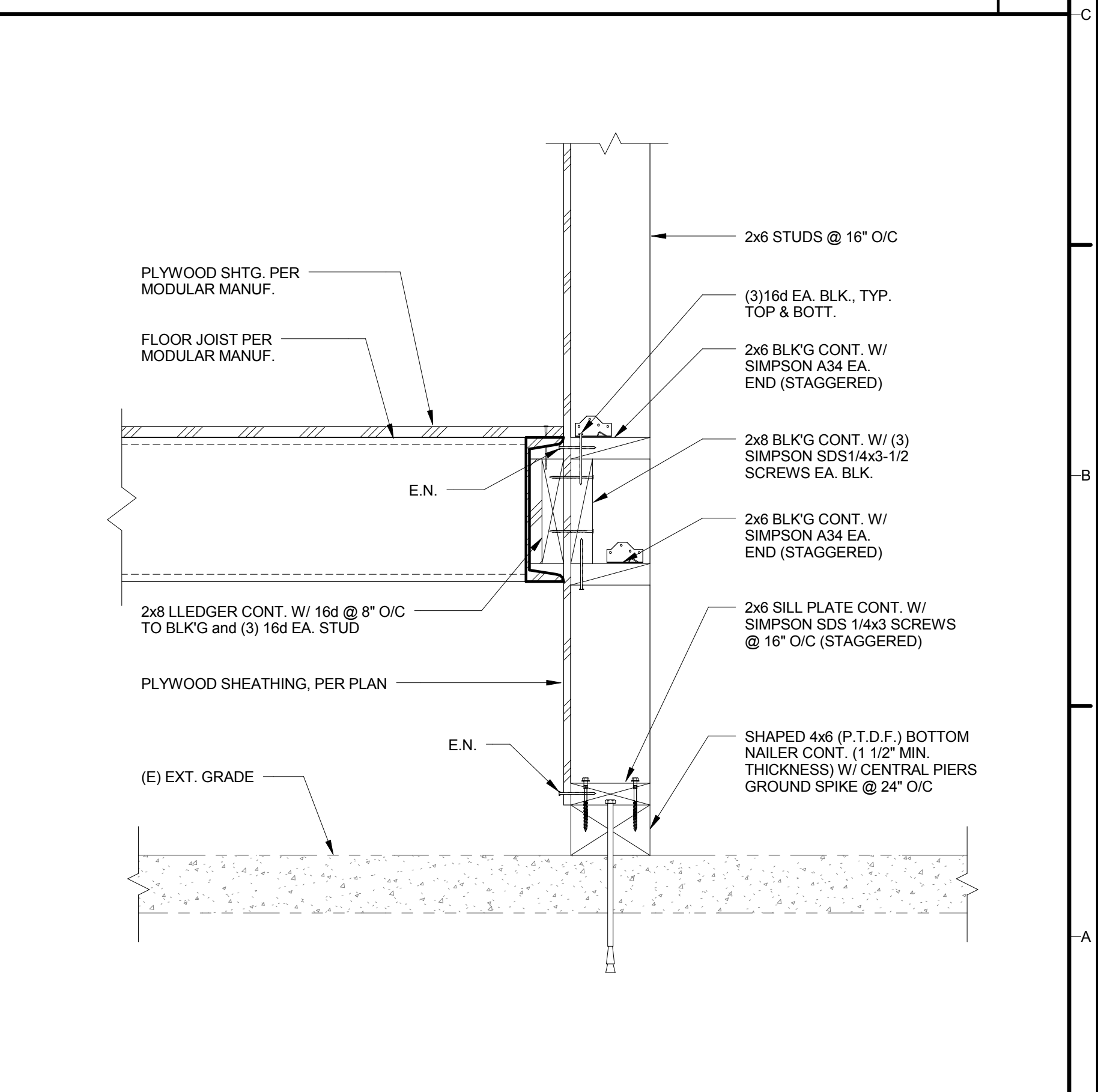
TYP. WOOD POST TO (E) GRADE CONN. 2



TYP. EXT. WALL CONN. TO (E) GRADE 1 1/2" = 1'-0" 5

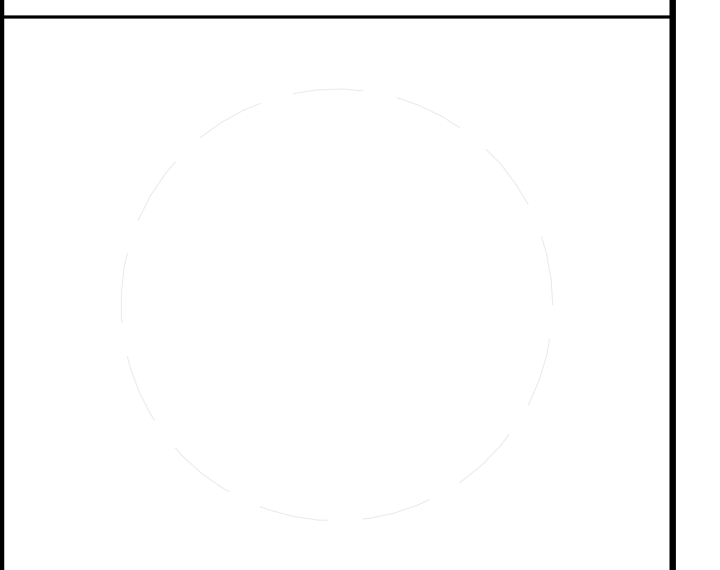


TYP. EXT. WALL CONN. TO (E) GRADE 3



TYP. EXT. WALL CONN. TO (E) GRADE @ MODULAR FLOOR 1

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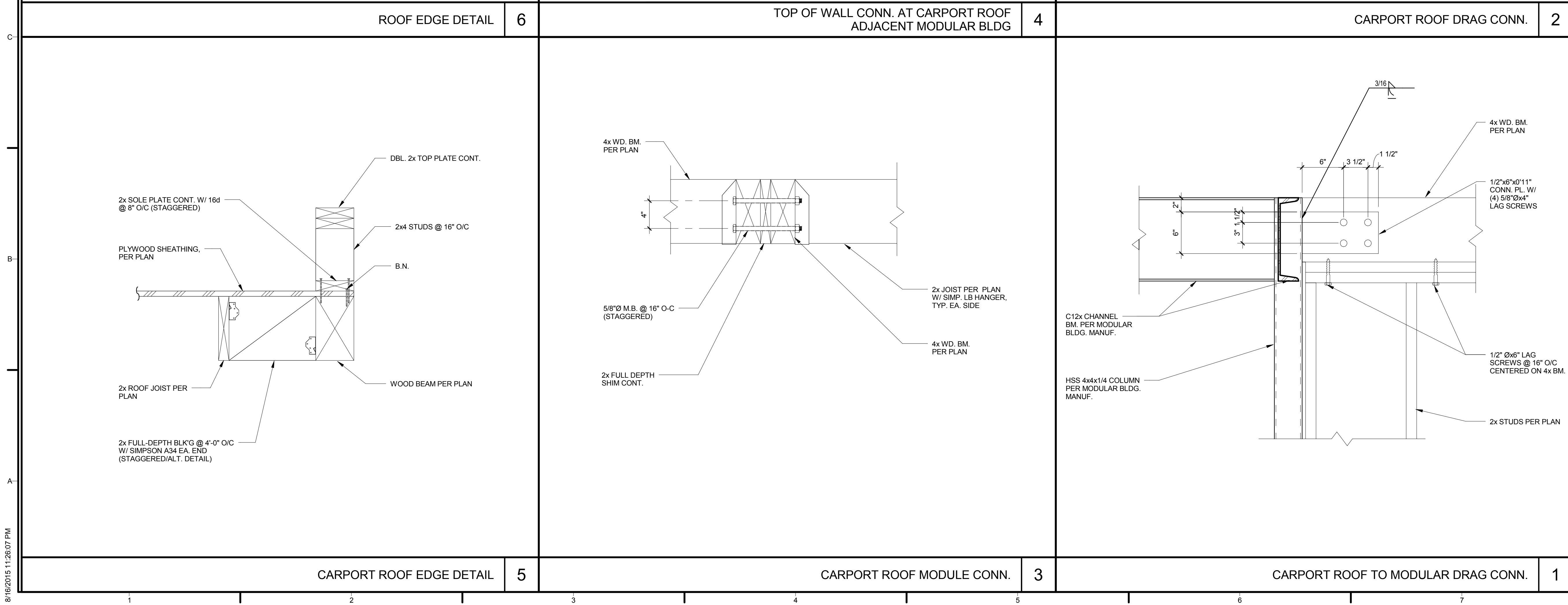
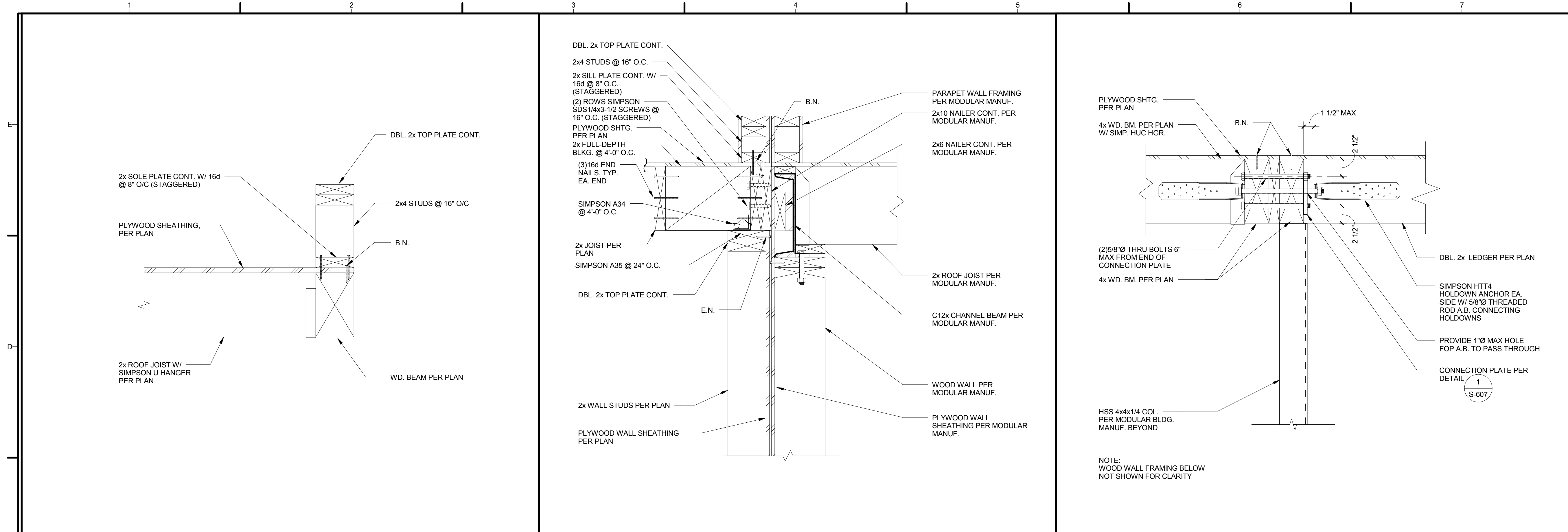


MARK	DATE	DESCRIPTION
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LOT NUMBER: #203
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SHEET TITLE
**FLOOR FRAMING
 DETAILS**

S-600



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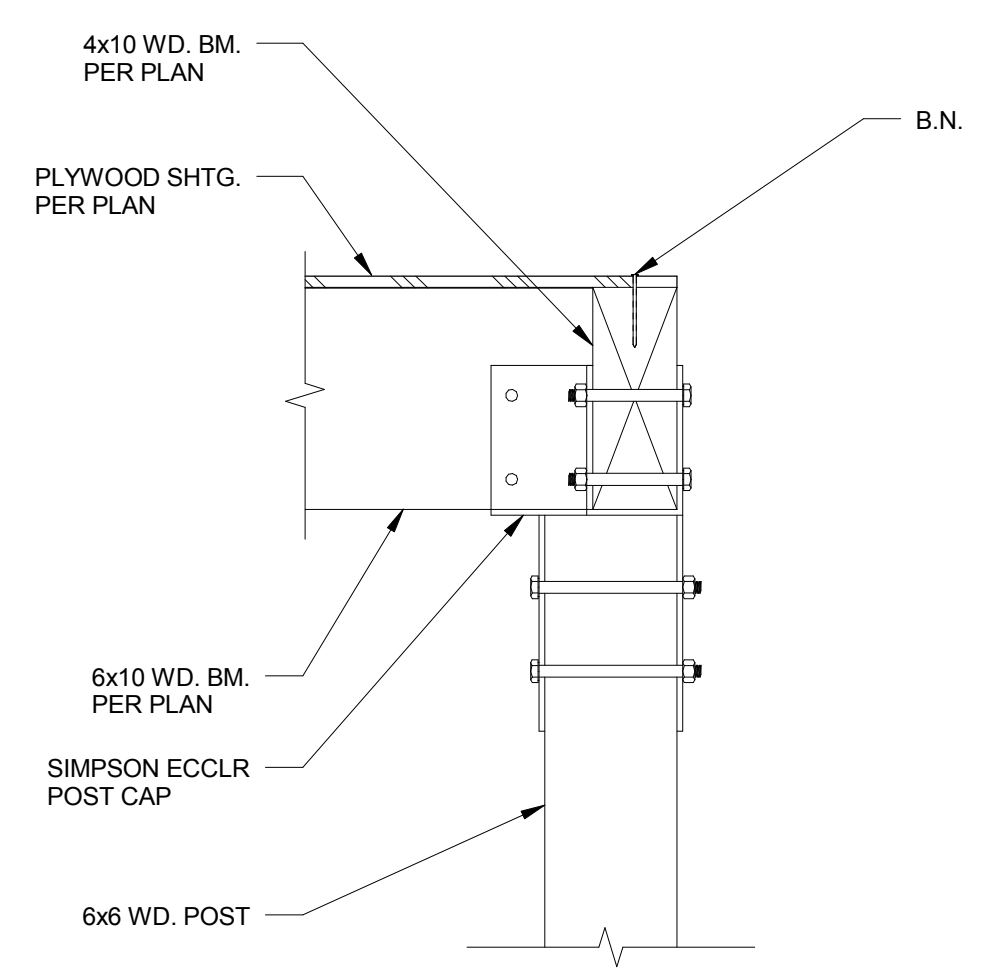
MARK	DATE	DESCRIPTION
	08/17/2015	AS-BUILT SET

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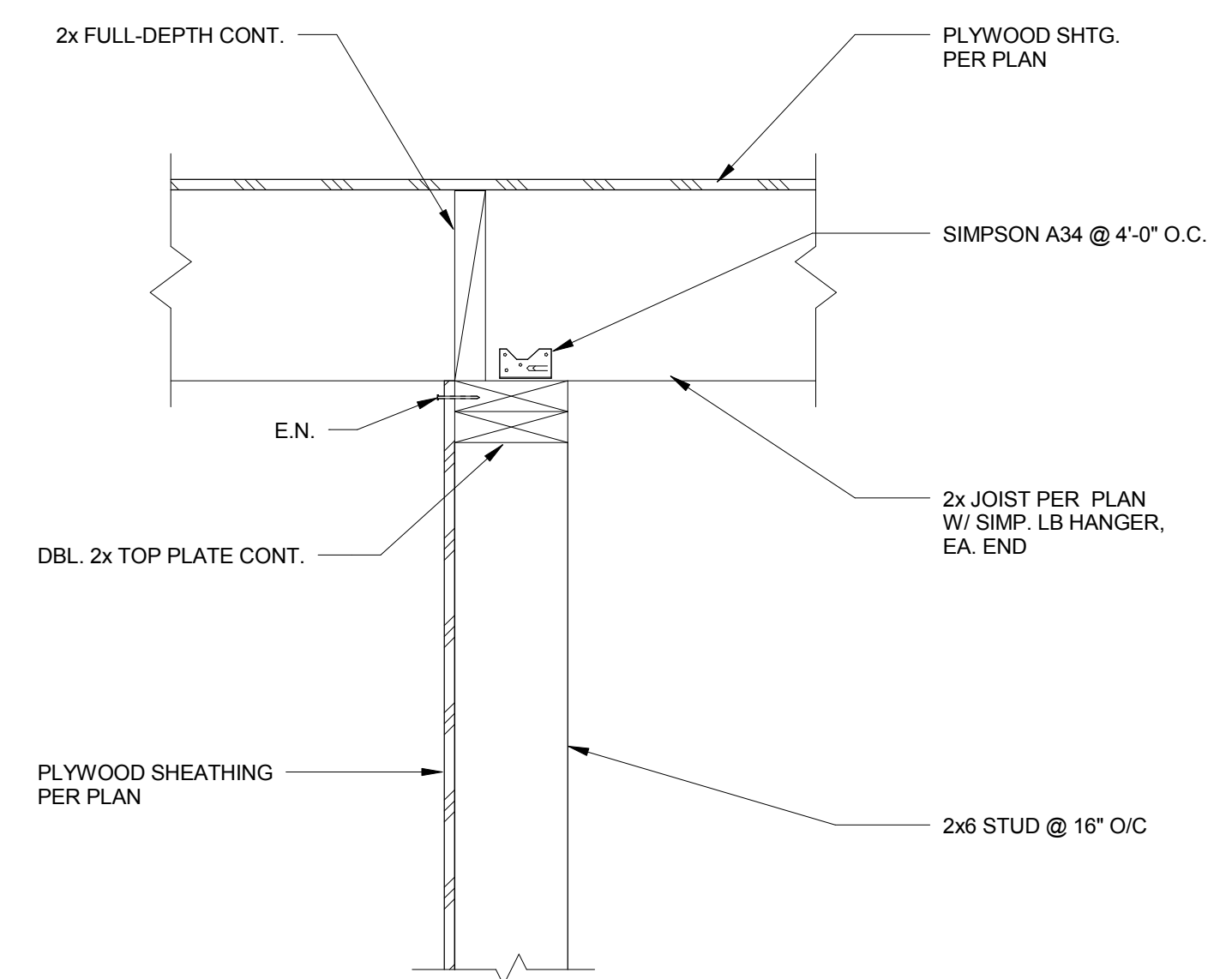
SHEET TITLE
ROOF FRAMING DETAILS

S-601

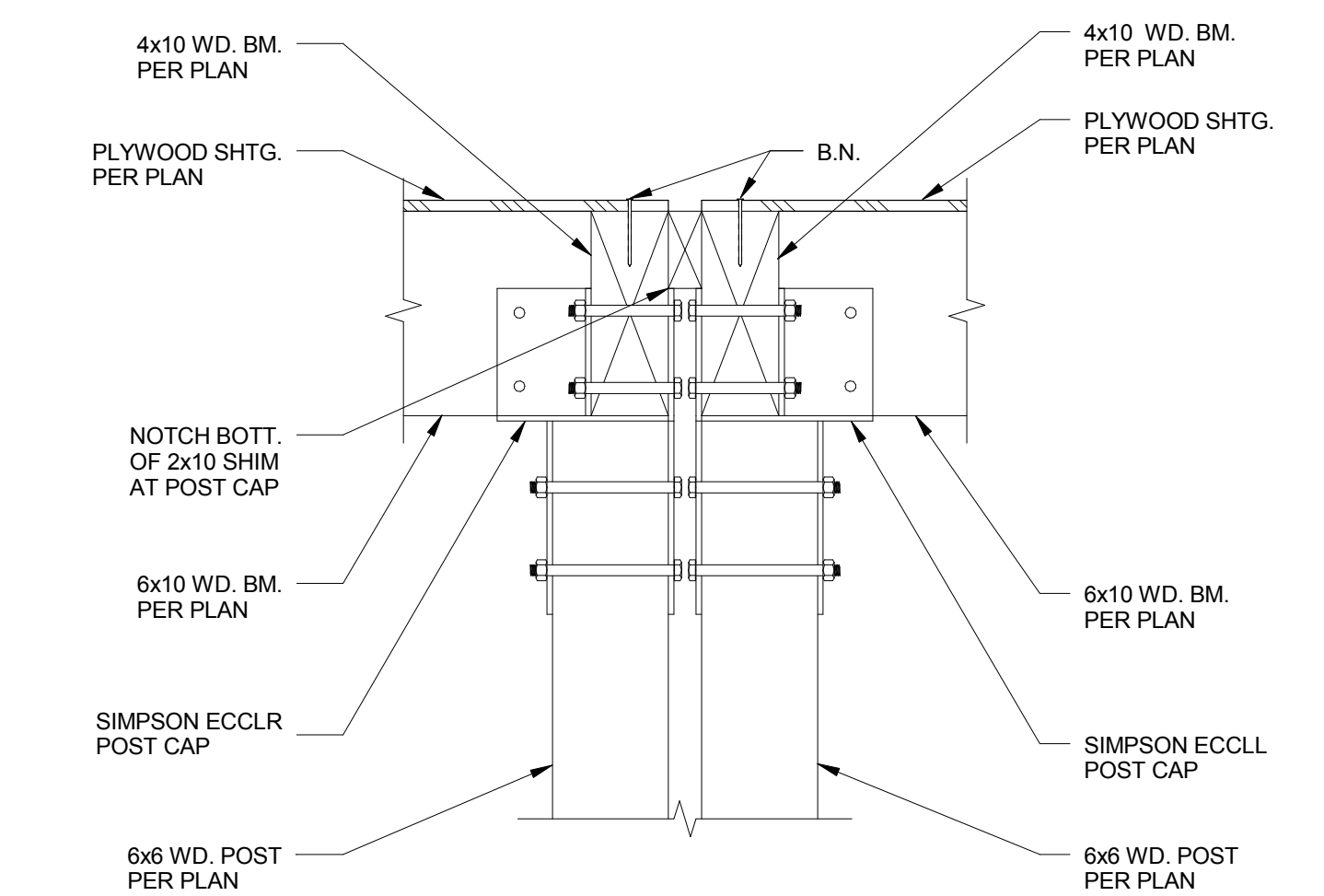
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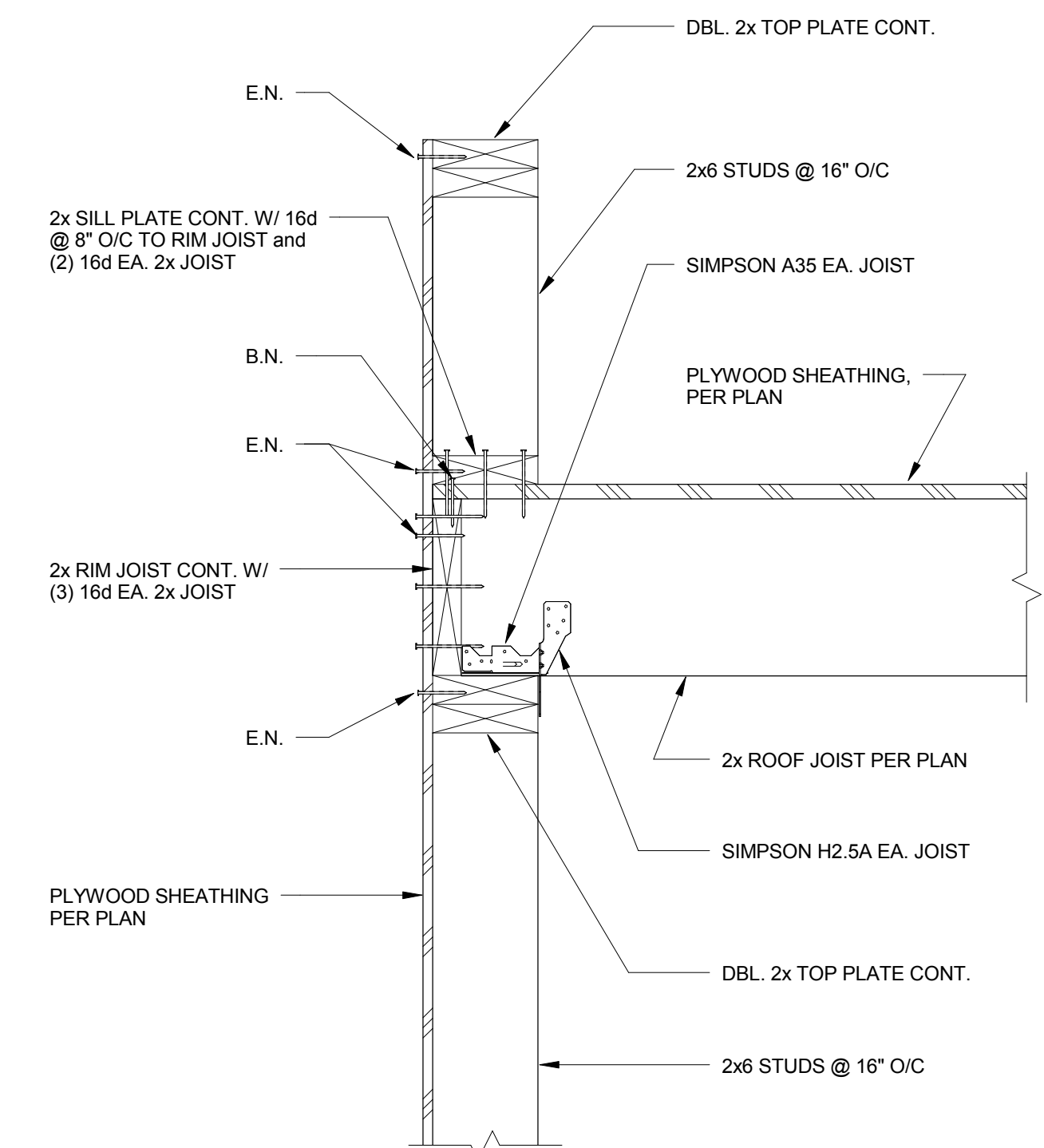
CARPORT ROOF SINGLE POST 6



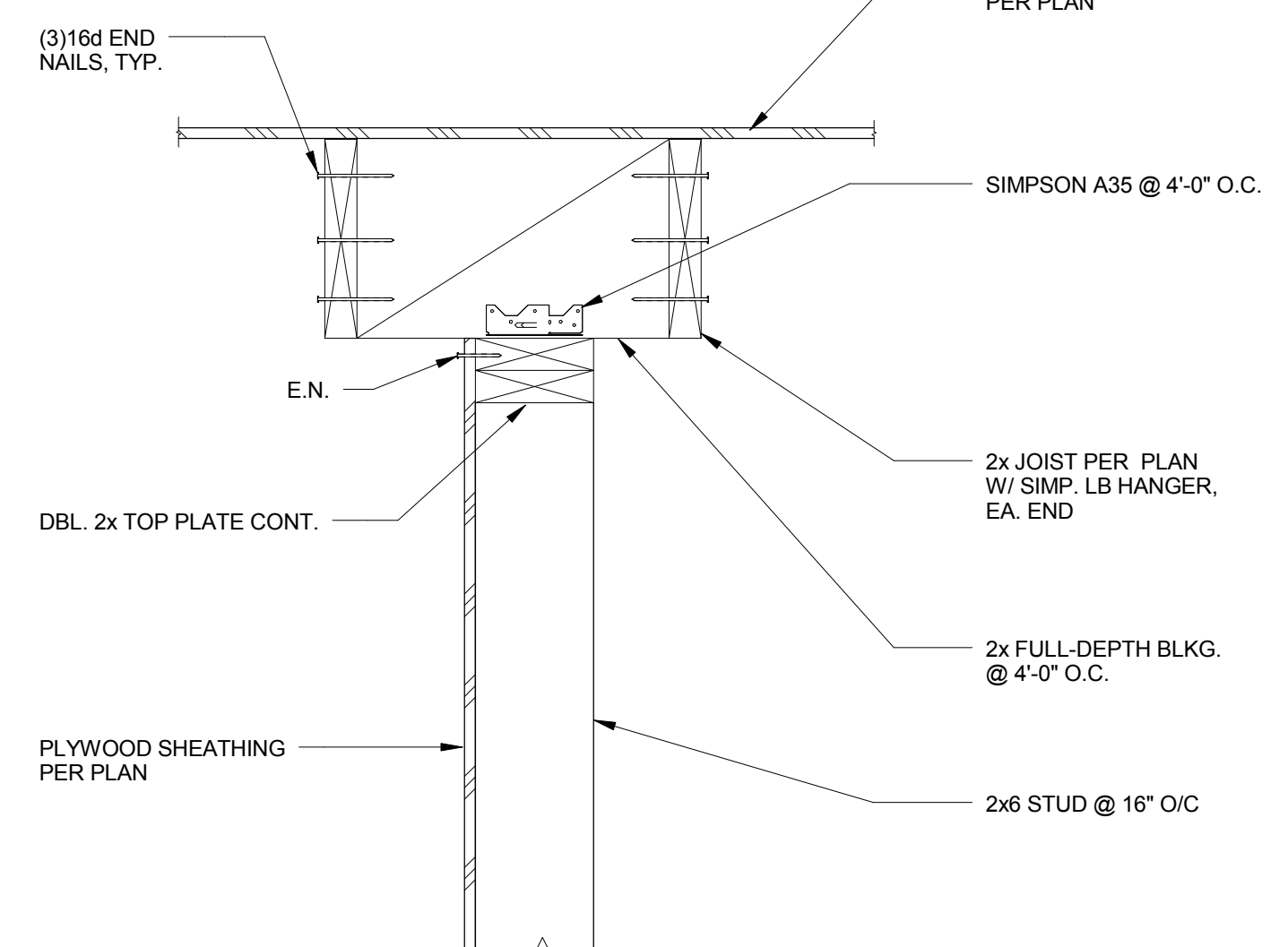
TOP OF WALL AT CARPORT ROOF (PERPENDICULAR) 4



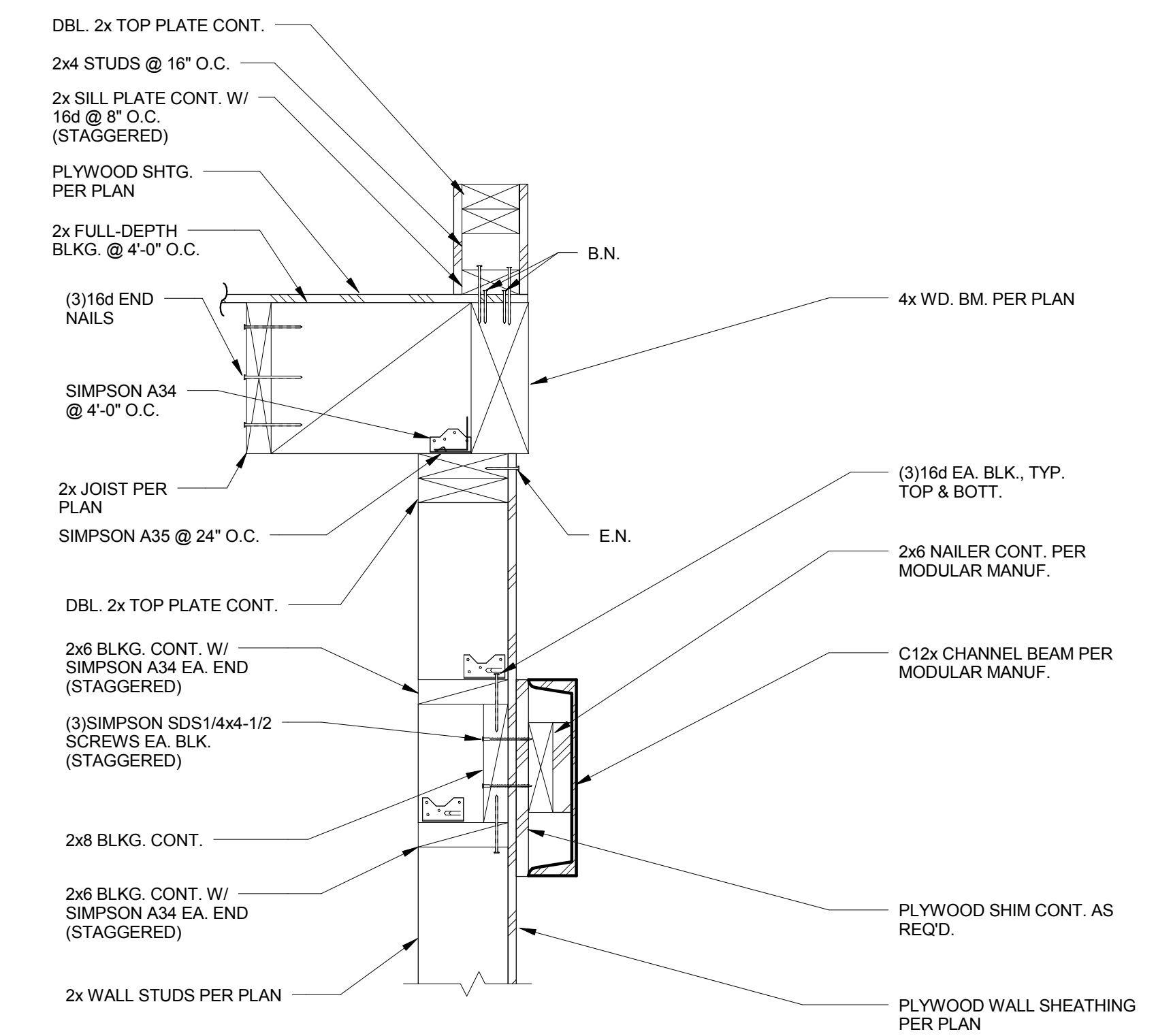
CARPORT ROOF AT MODULAR BREAK 2



TYP. ROOF EDGE DETAIL (PERPENDICULAR) 5



TOP OF WALL AT CARPORT ROOF (PARALLEL) 3



CARPORT ROOF DETAIL AT ROOF CANOPY 1



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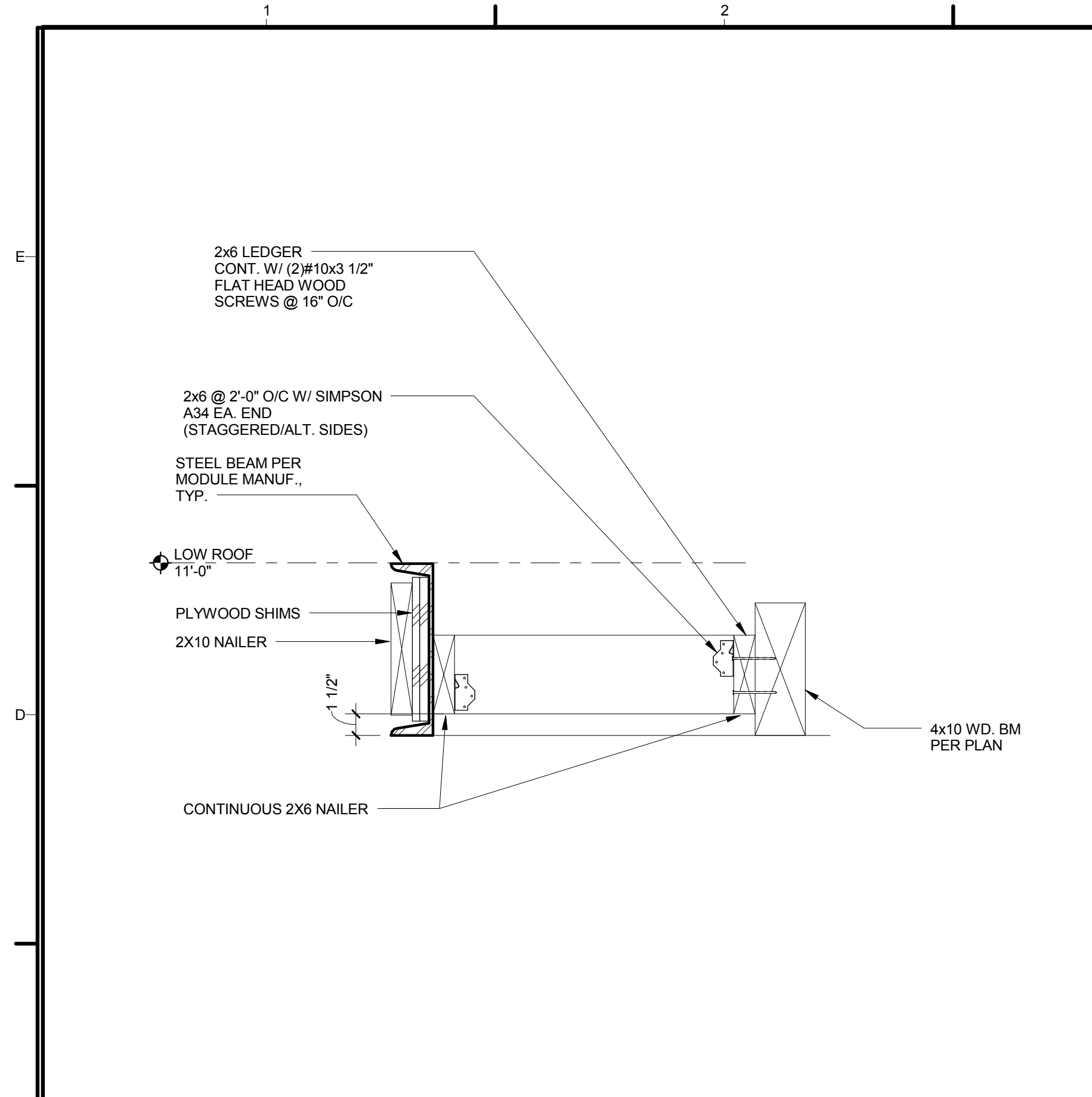
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	08/17/2015	AS-BUILT SET

LOT NUMBER: #203
 DRAWN BY:
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 COPYRIGHT:

SHEET TITLE
**ROOF FRAMING
 DETAILS**

S-602

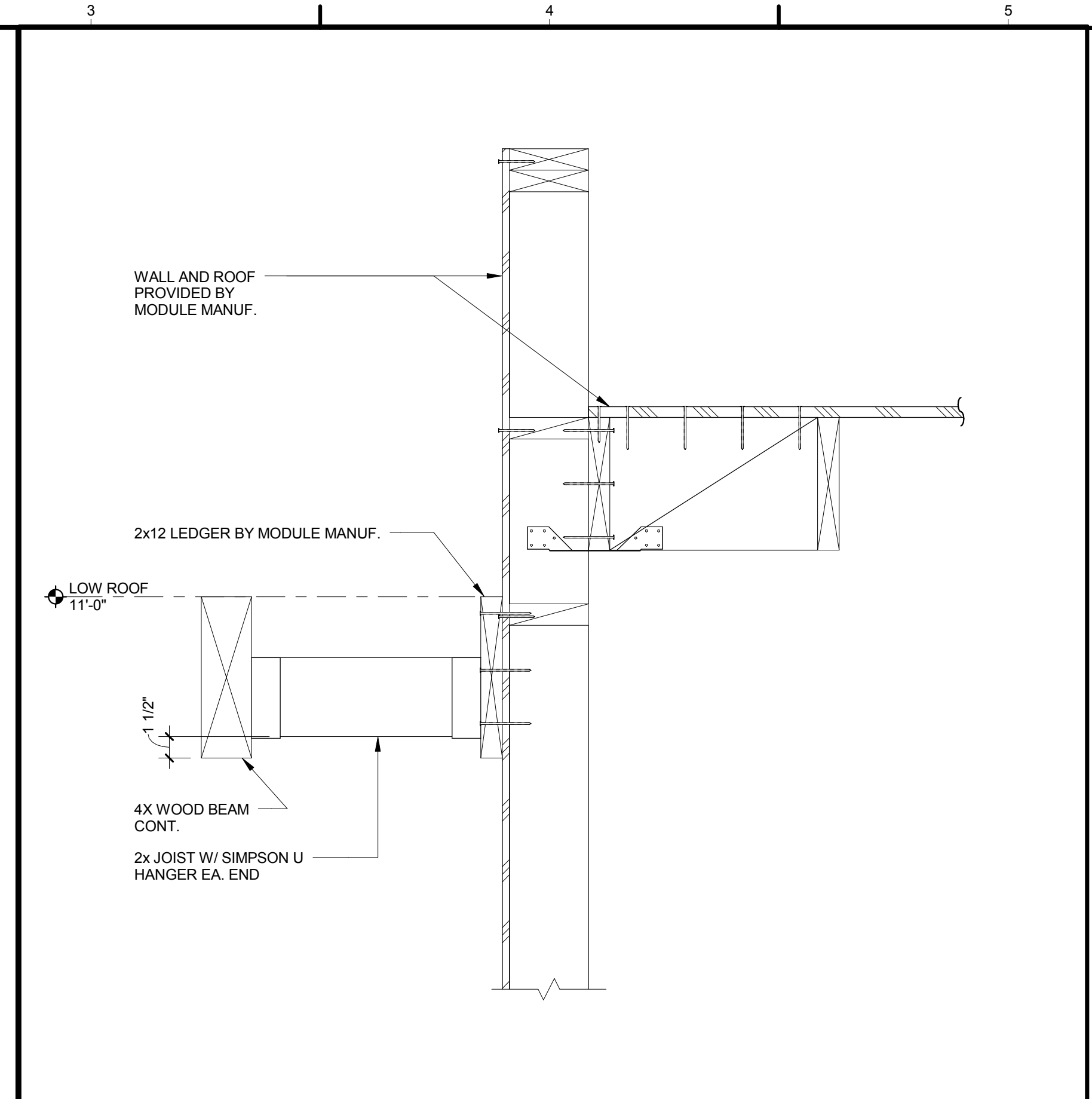
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STUDIO CANOPY ROOF FRAMING DETAIL 1

N.T.S.
1 / S-204

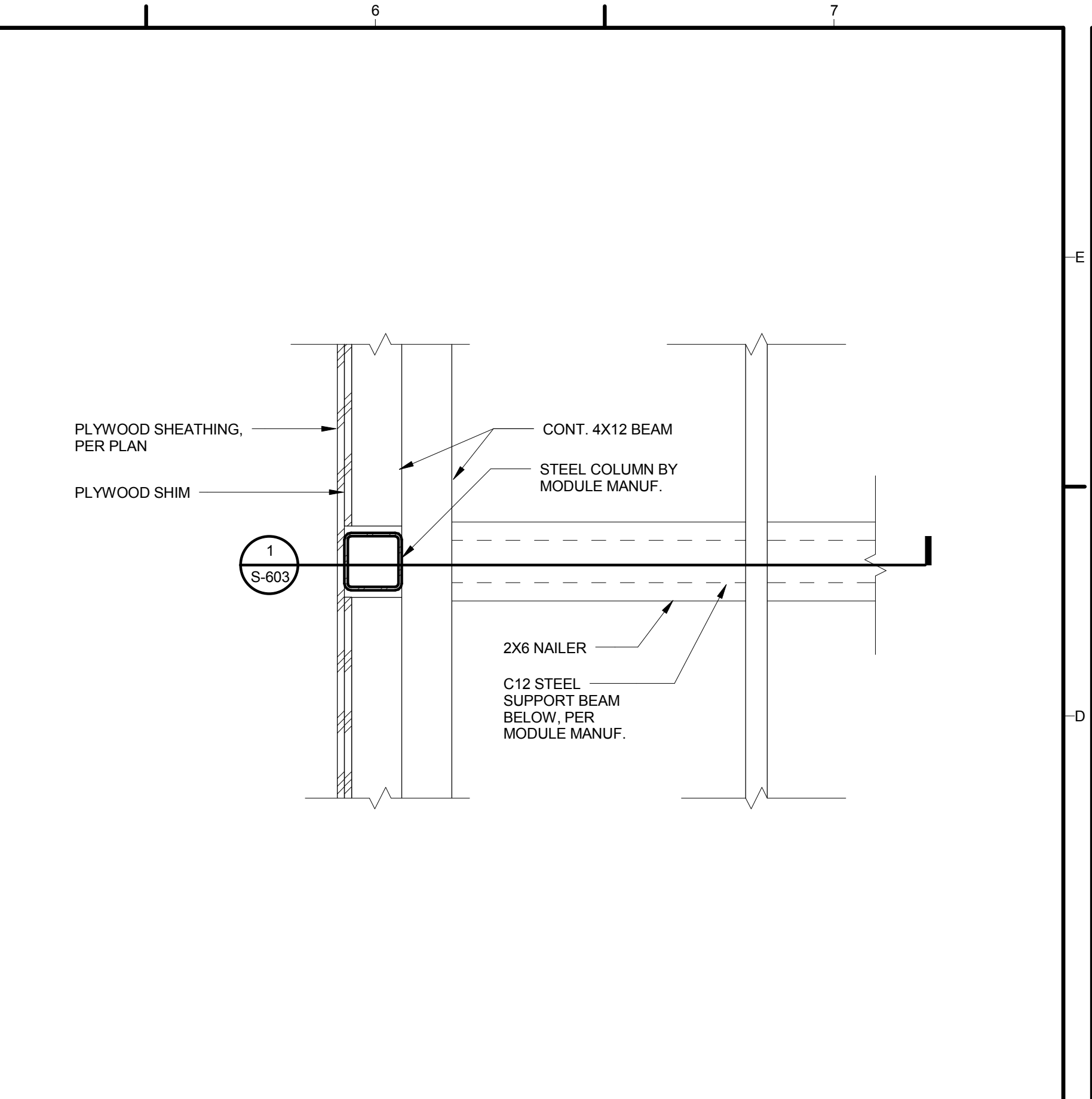
6



PIVOT PANEL CANOPY ROOF FRAMING AT EXTERIOR WALL

1 1/2" = 1'-0"
1 / S-203

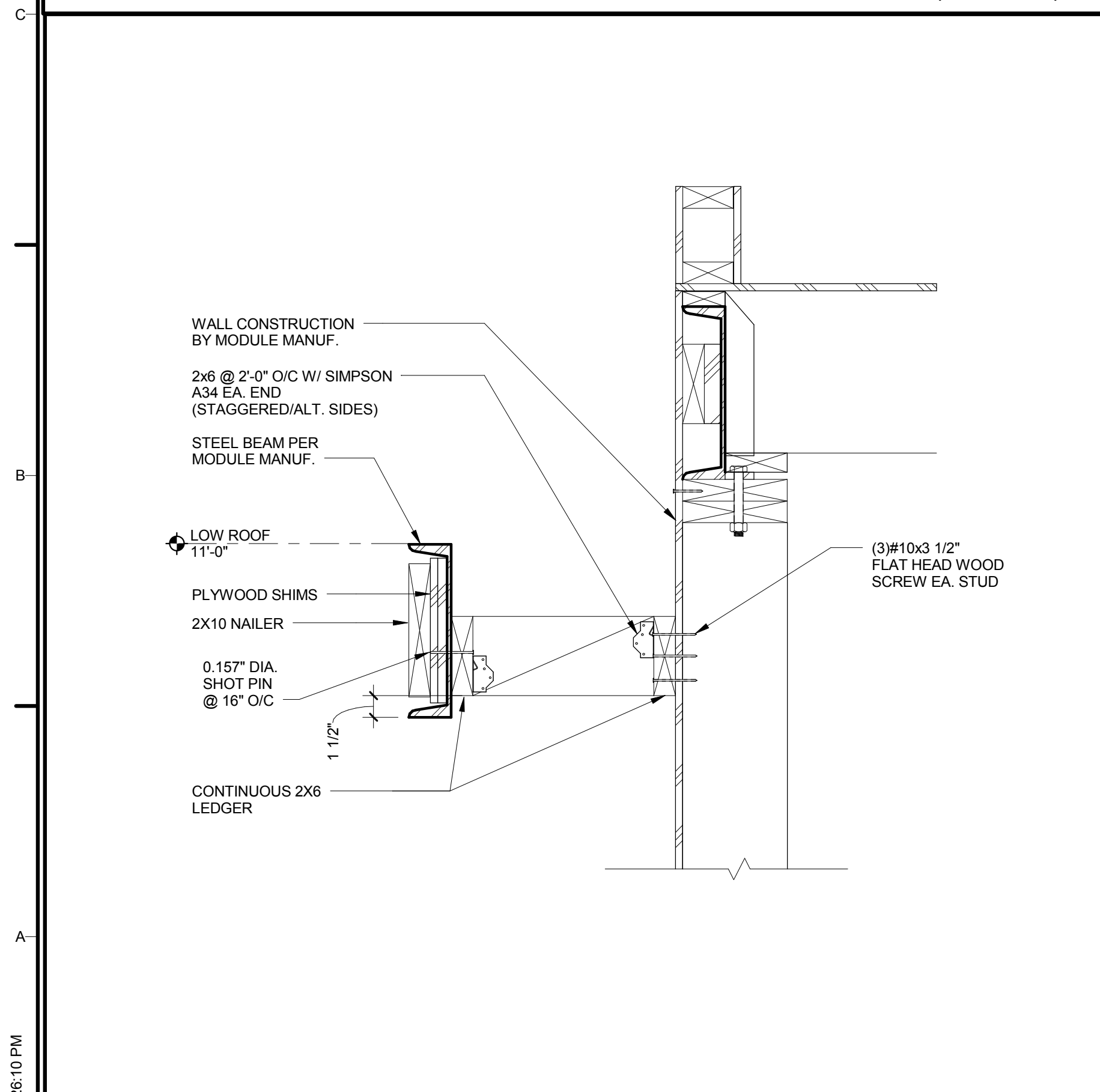
4



PIVOTING PANEL CANOPY BM. FRAMING AT SUPPORT WALL

N.T.S.
1 / S-203

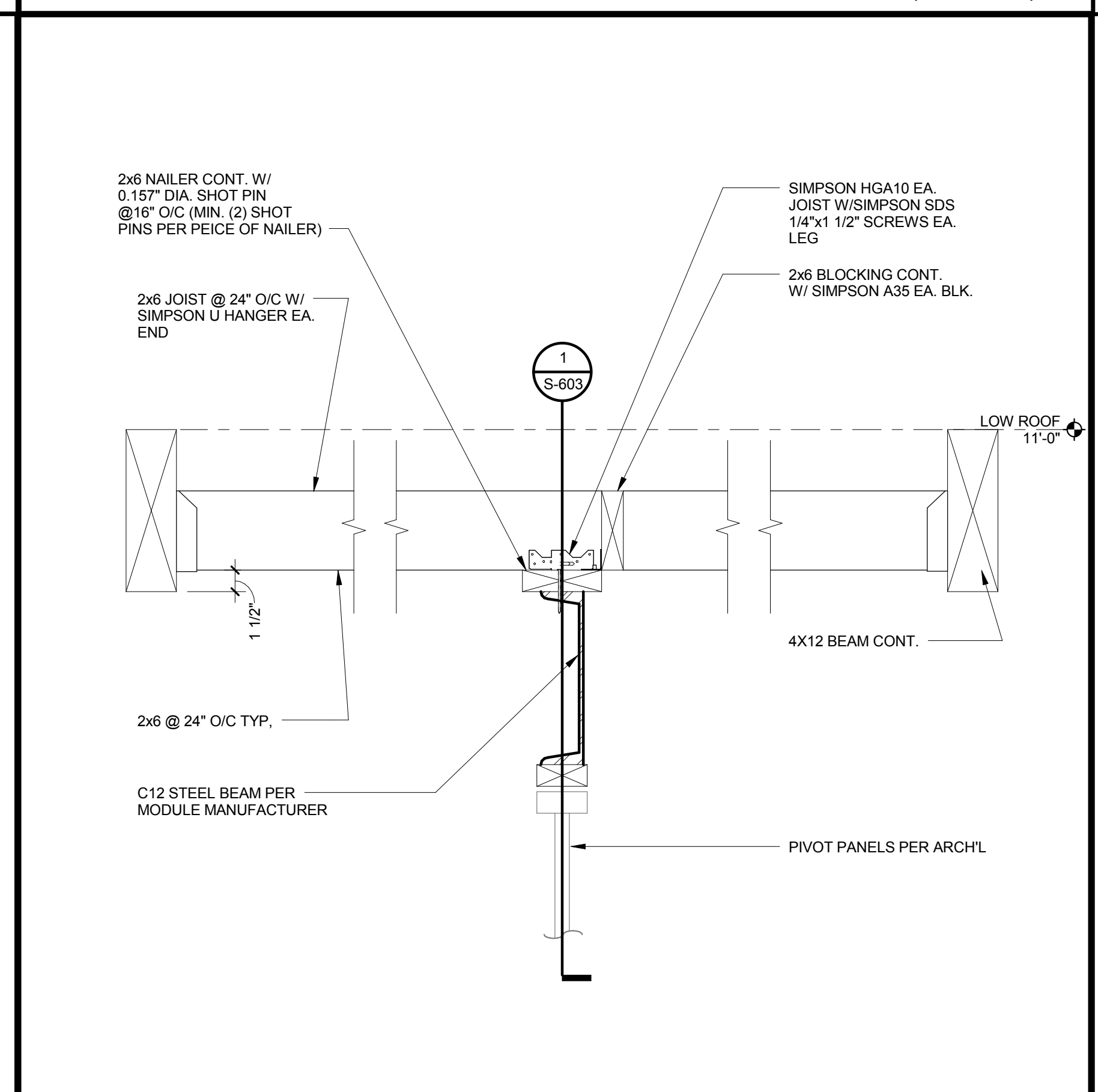
2



STUDIO CANOPY ROOF FRAMING DETAIL 2

N.T.S.
1 / S-204

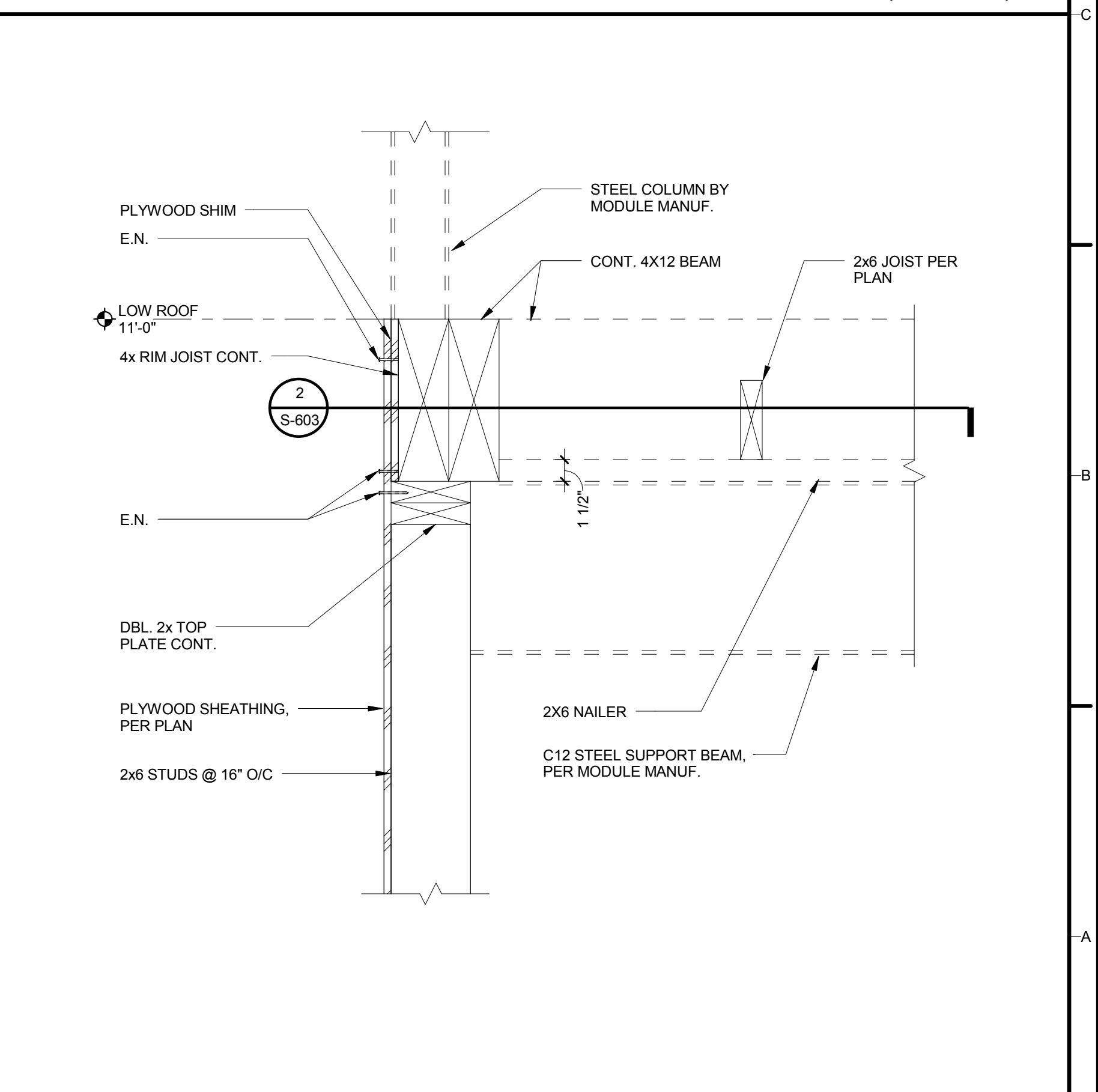
5



PIVOTING PANEL CANOPY ROOF DETAIL

1 1/2" = 1'-0"
3 / S-203

3

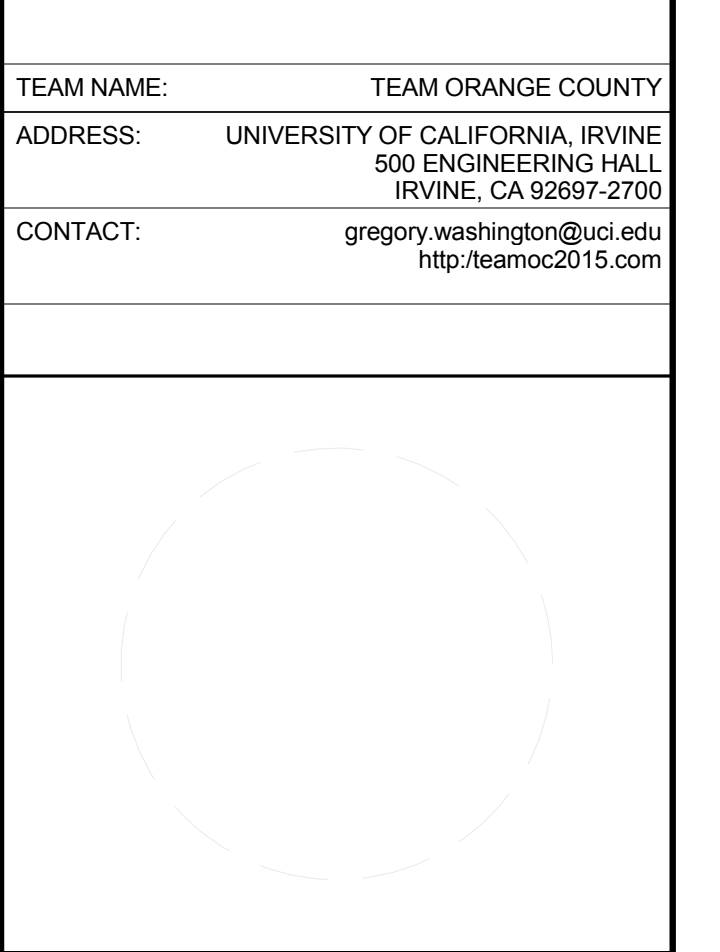


PIVOTING PANEL CANOPY EDGE FRAMING AT SUPPORT

N.T.S.
1 / S-203

1

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SHEET TITLE
PIVOT PANEL CANOPY AND STUDIO CANOPY DETAILS

S-603

1 2 3 4 5 6 7

E

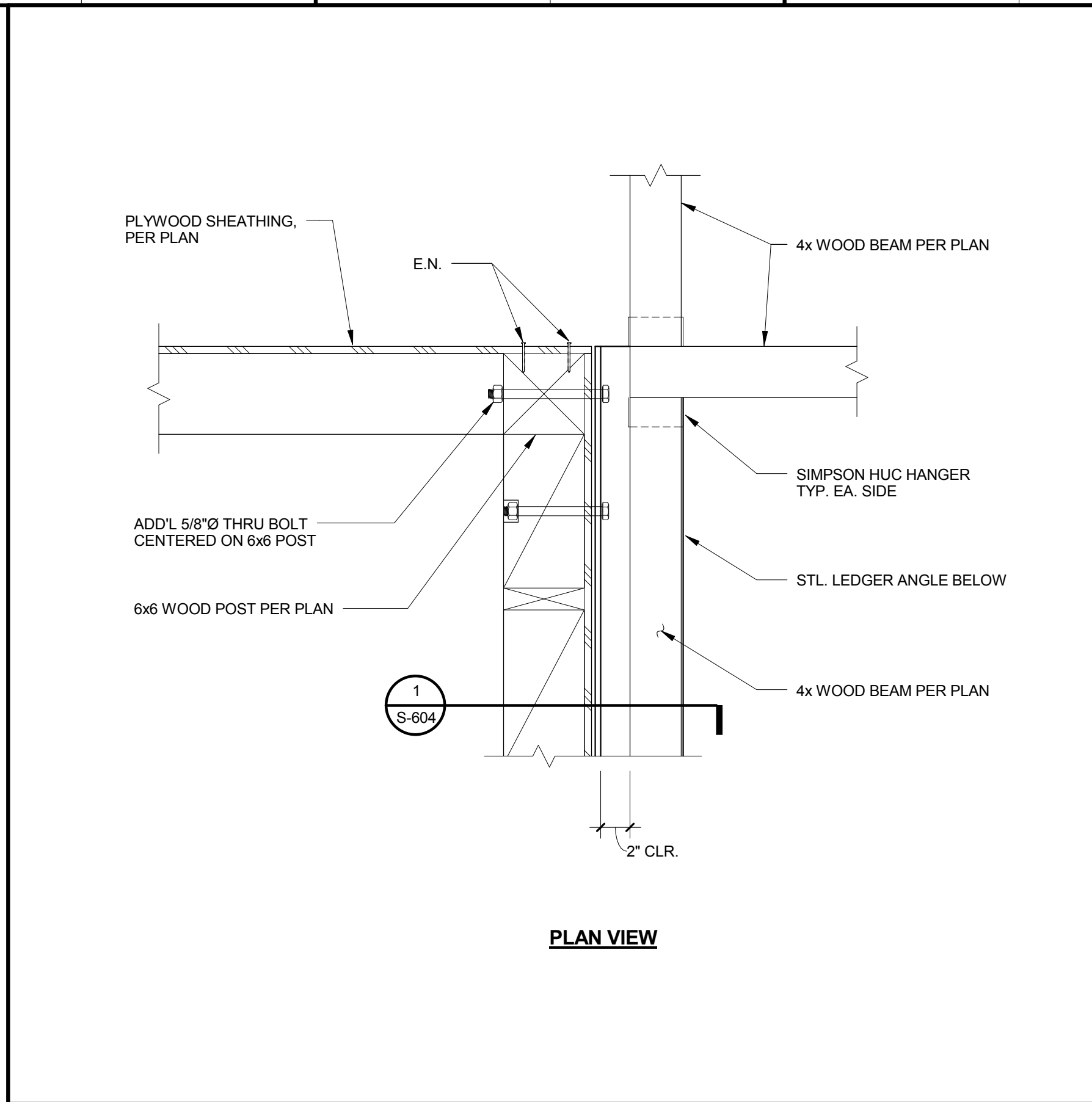
D

C

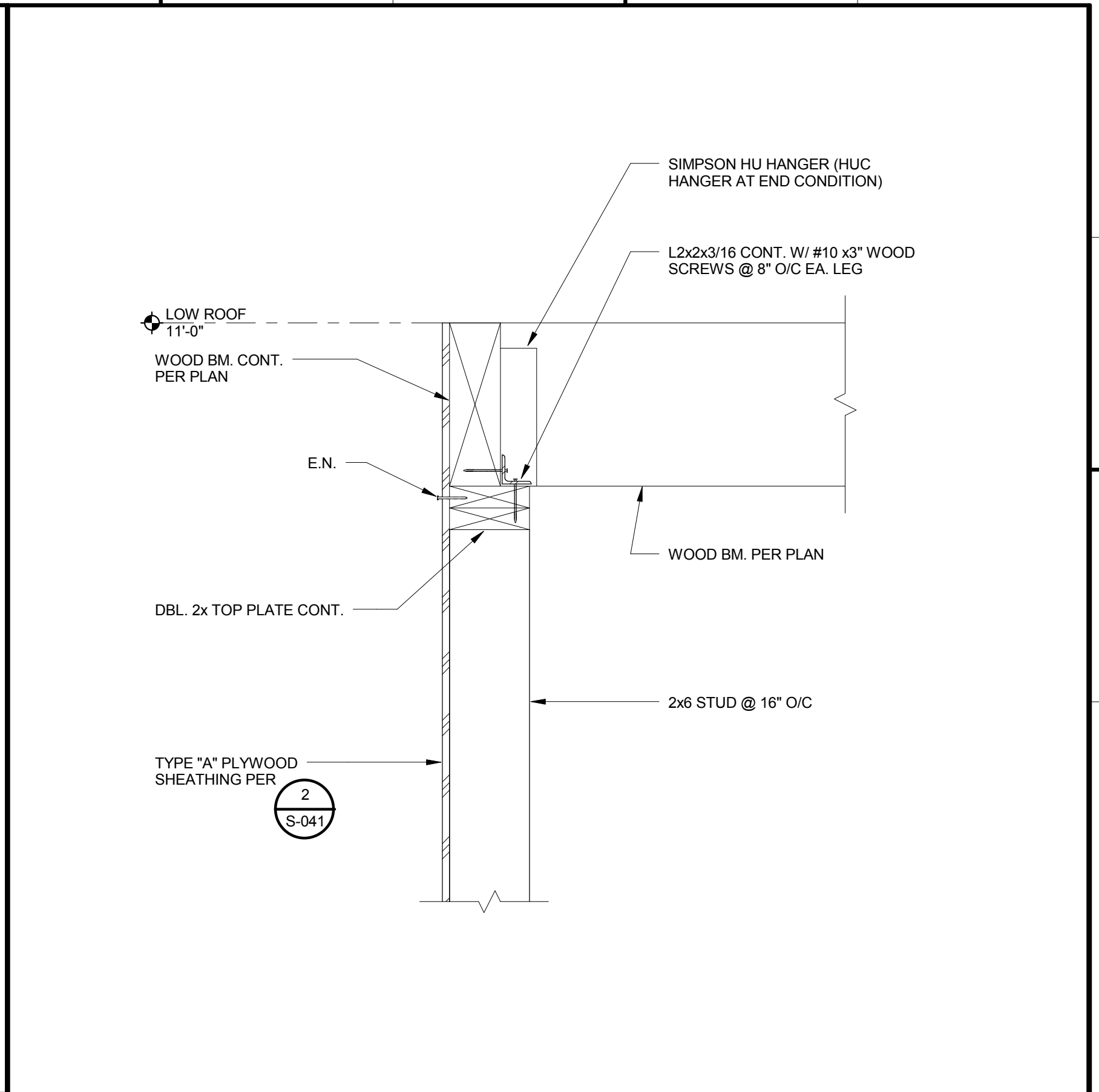
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A

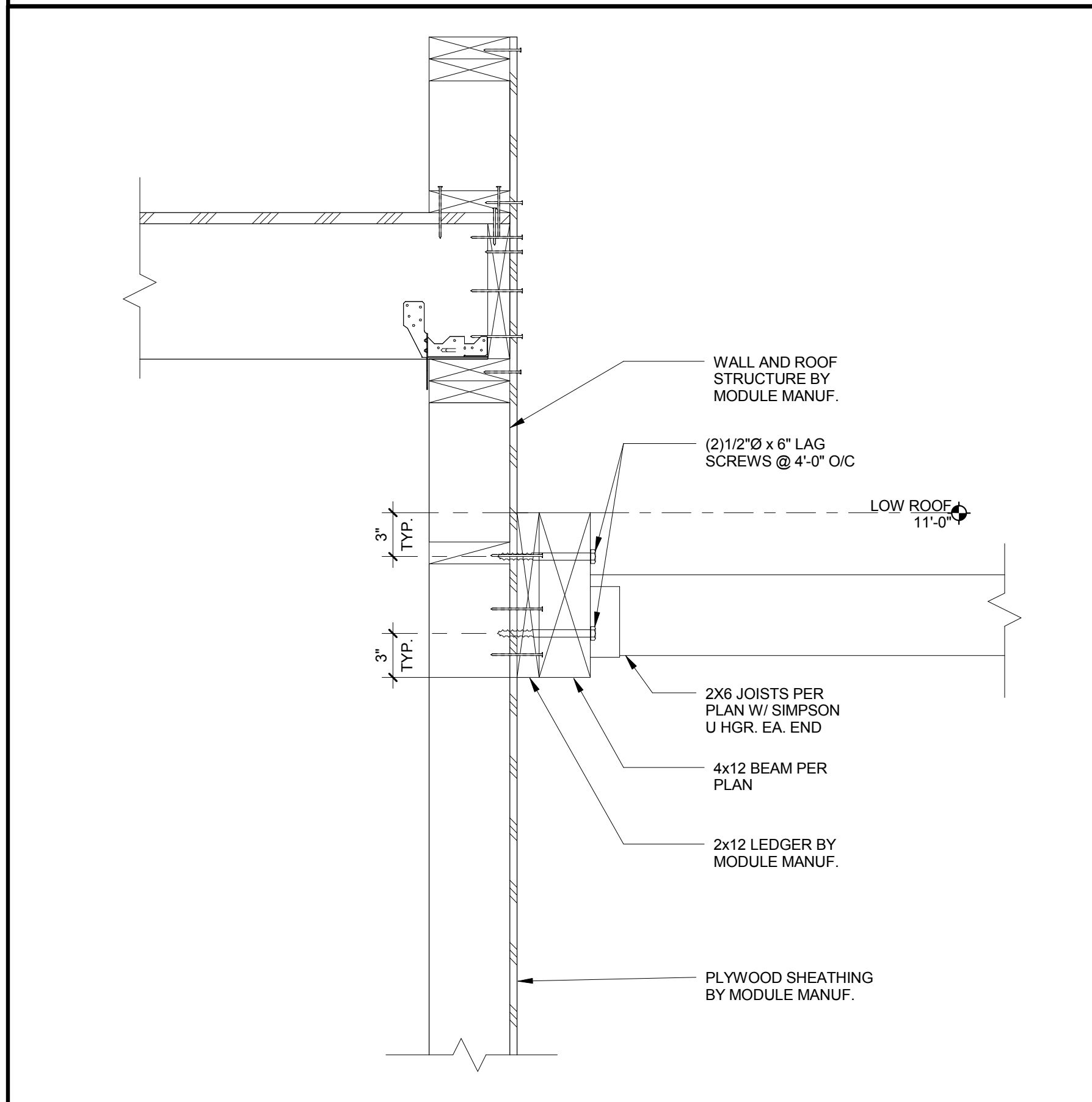
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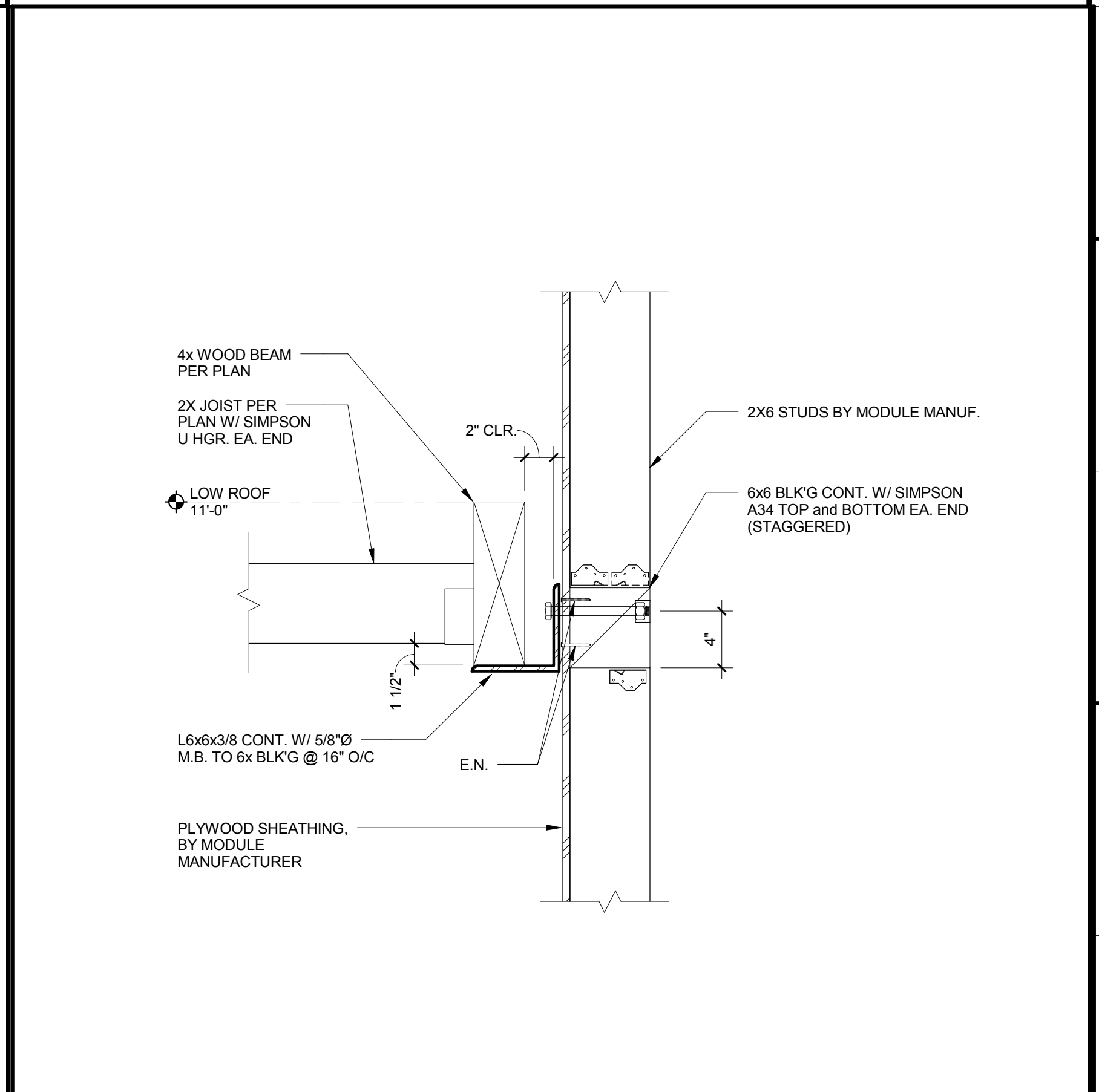
BREEZEWAY BEAM SUPPORT DETAIL N.T.S. 4
1 / S-206



BREEZEWAY EDGE FRAMING AT SUPPORT WALL 1 1/2" = 1'-0" 2
1 / S-206



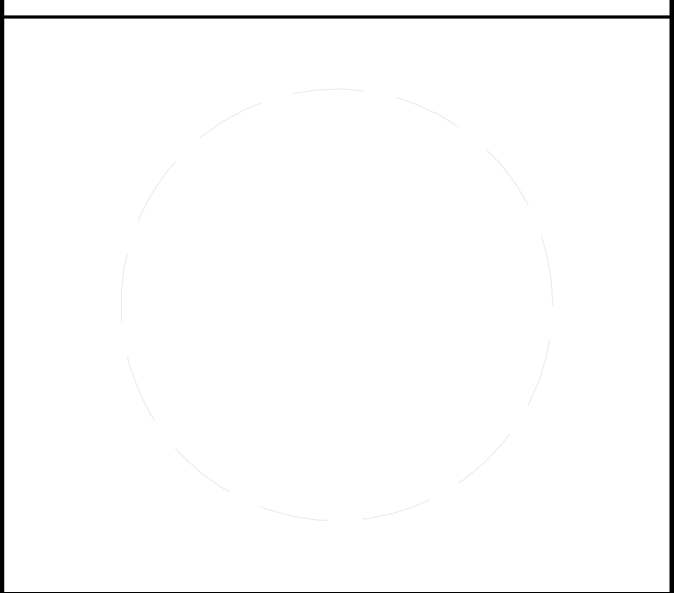
BREEZEWAY ROOF EDGE DETAIL 1 1/2" = 1'-0" 3
1 / S-206



BREEZEWAY LEDGER ANGLE CONN. AT CANOPY 1 1/2" = 1'-0" 1
1 / S-206



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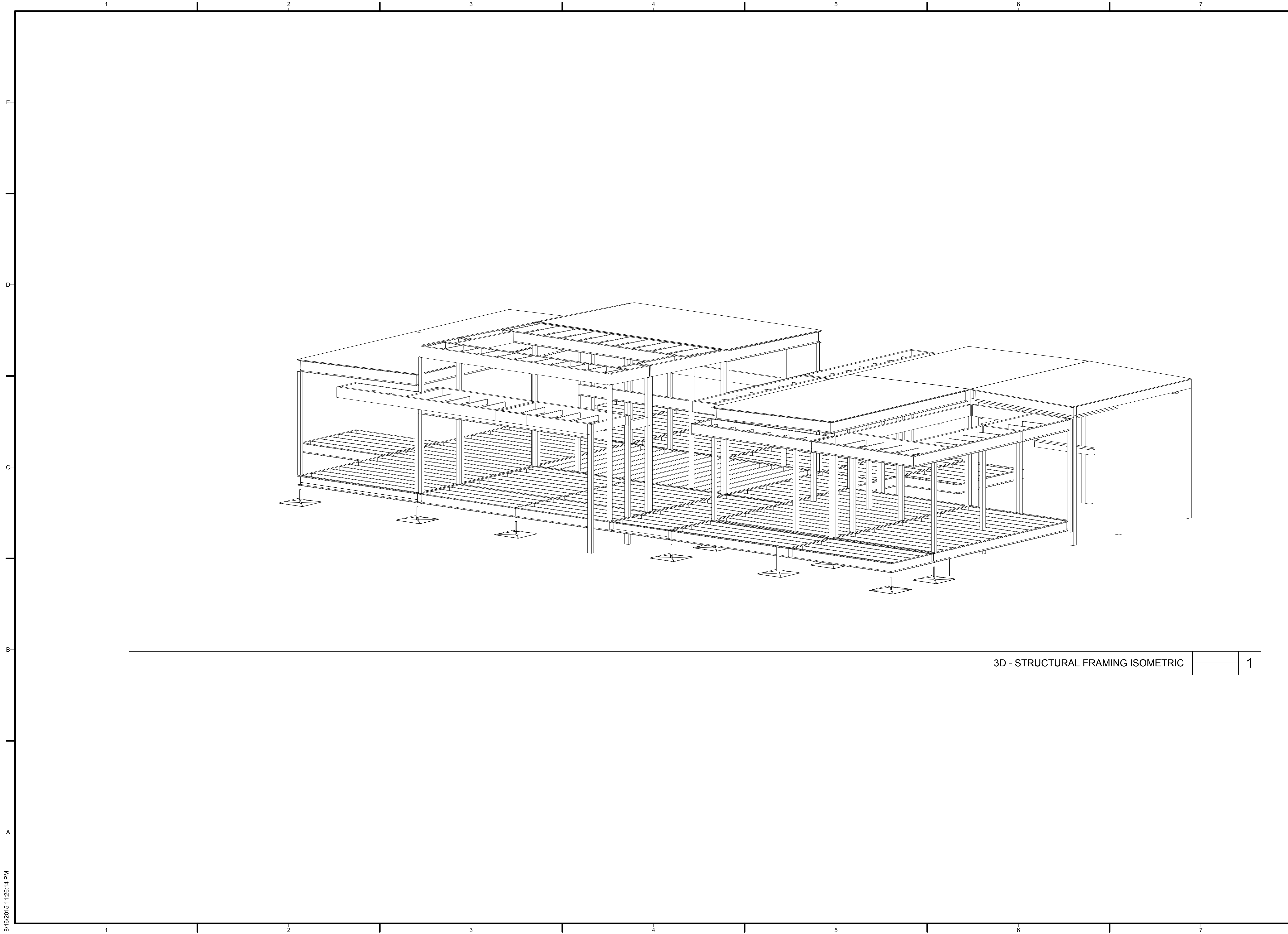


MARK	DATE	DESCRIPTION
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SHEET TITLE
**BREEZEWAY CANOPY
 DETAILS**

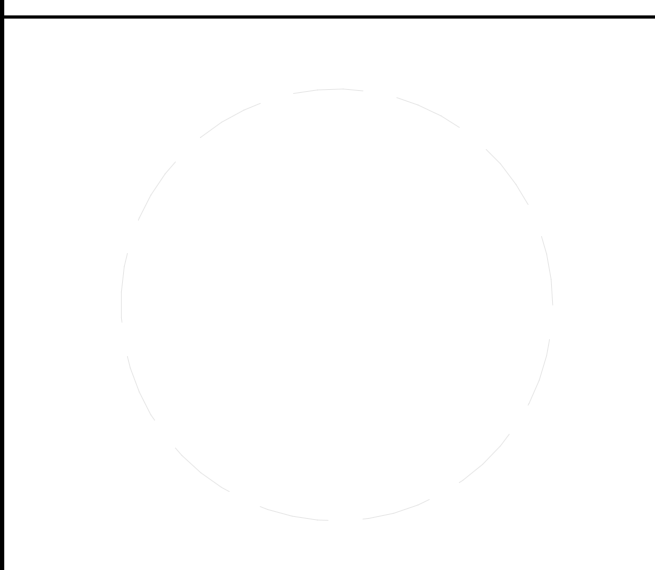
S-604



3D - STRUCTURAL FRAMING ISOMETRIC | 1



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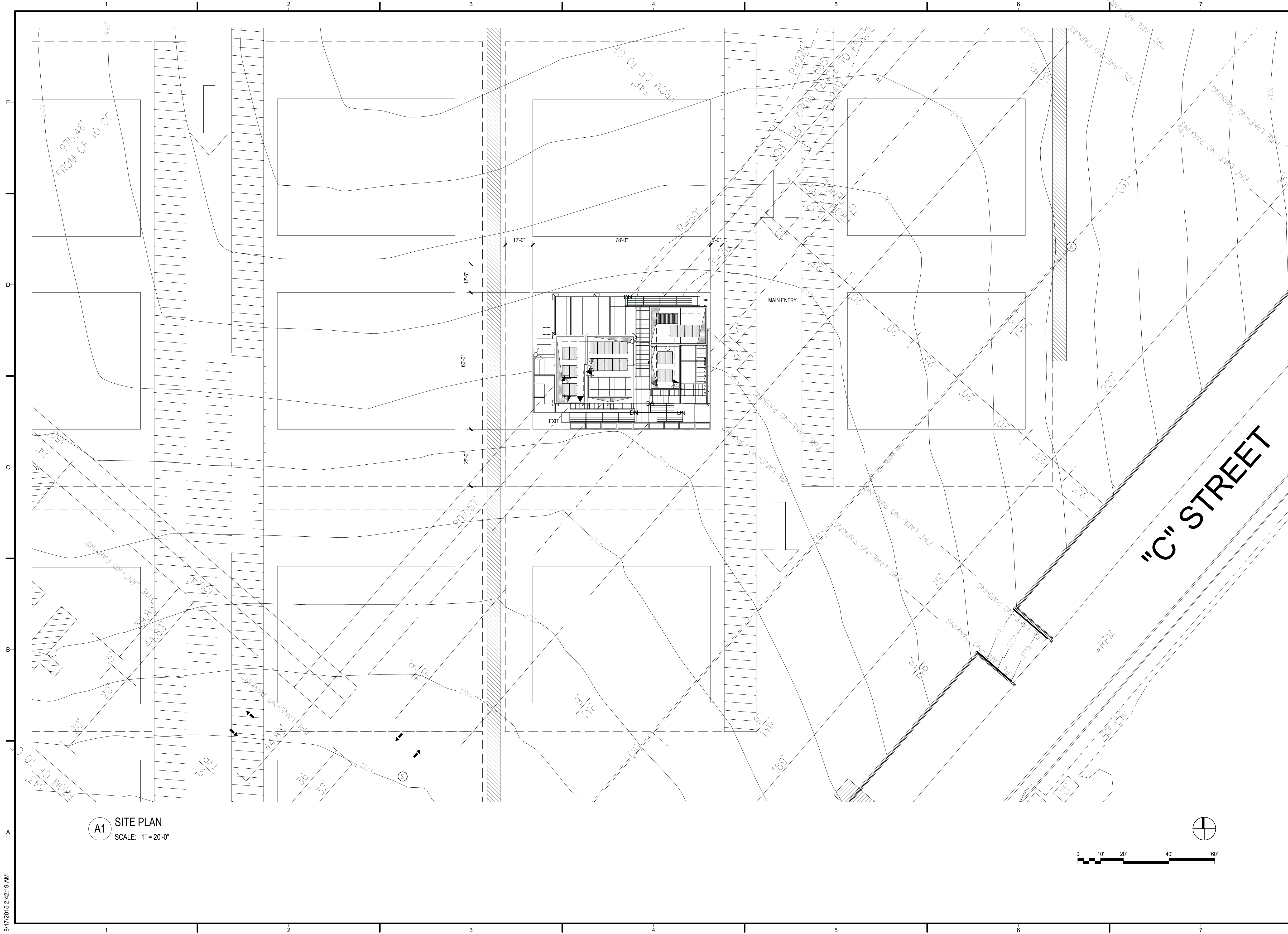


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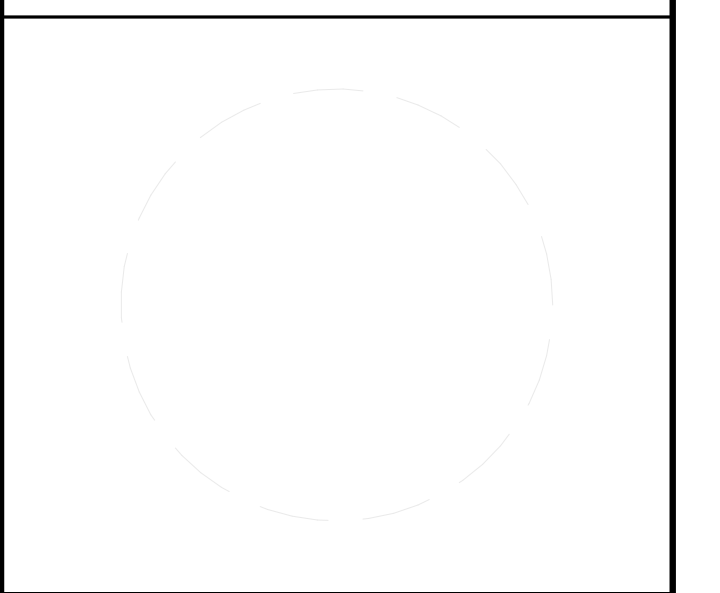
LOT NUMBER: #203
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SHEET TITLE
 STRUCTURAL FRAMING
 ISOMETRIC

S-901



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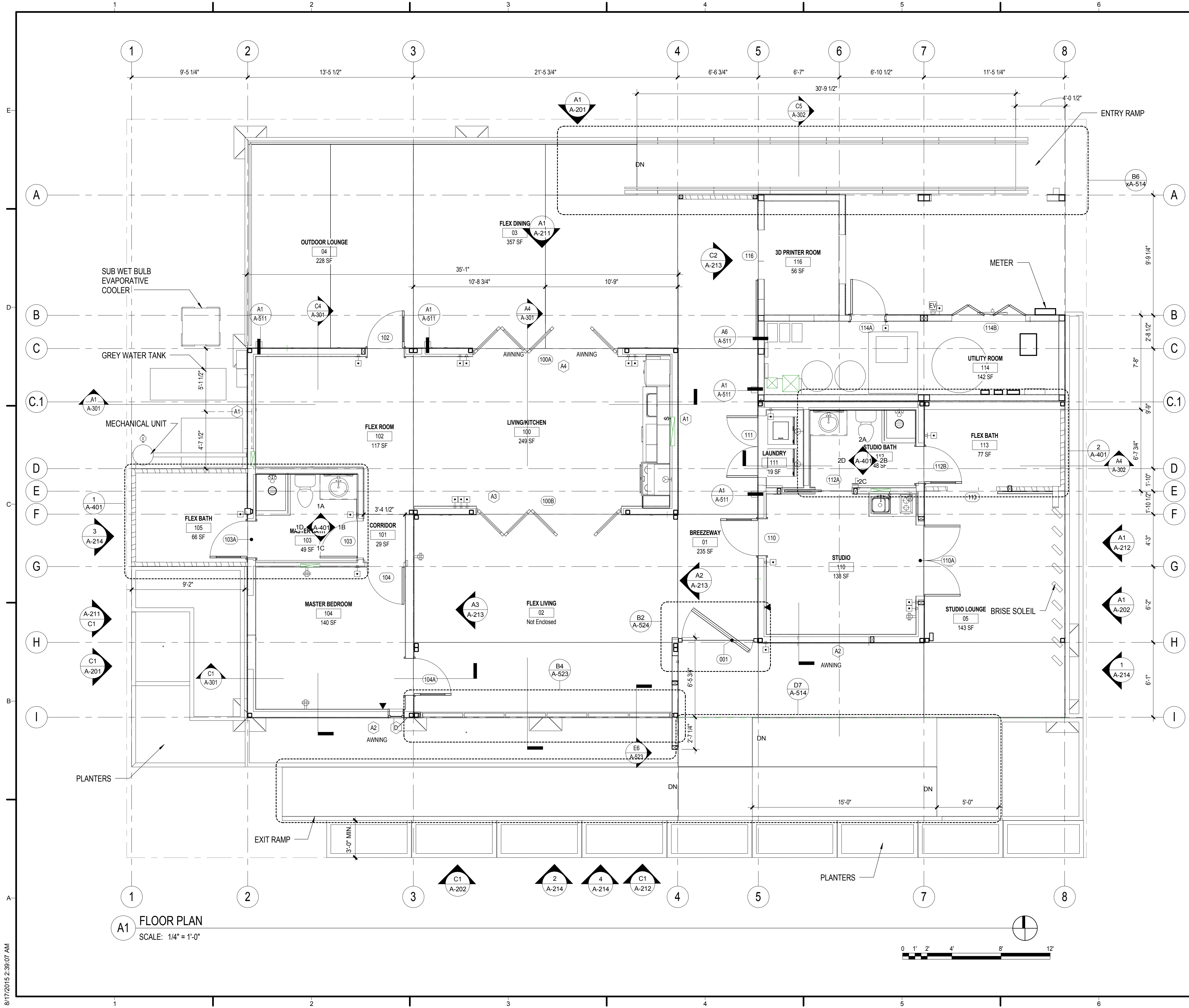
LOT NUMBER: #203
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SHEET TITLE
GREAT PARK SITE PLAN

A-101

A1 SITE PLAN
 SCALE: 1" = 20'-0"

8/17/2015 2:42:19 AM



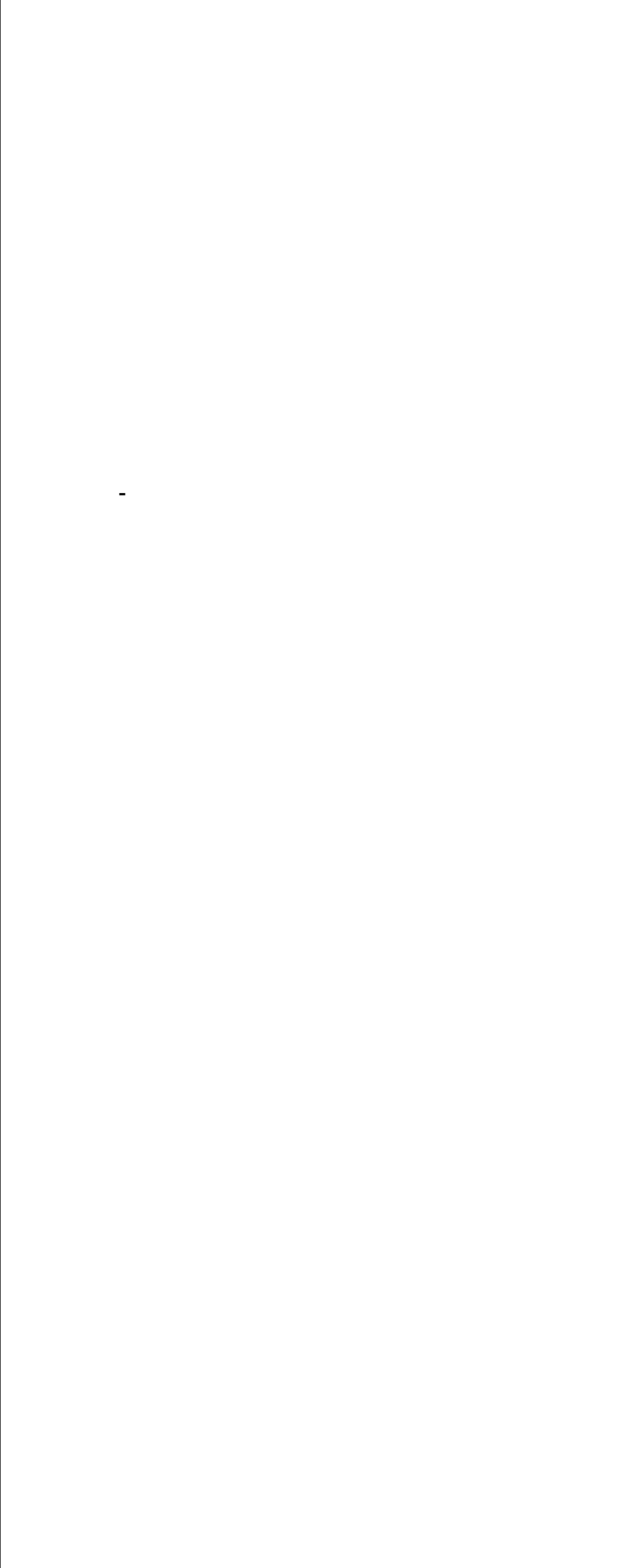
A1 FLOOR PLAN
SCALE: 1/4" = 1'-0"

FLOOR PLAN NOTES

DIMENSIONS:
ALL DIMENSIONS ARE TO FINISH FACE OR COLUMN GRID LINES U.O.N. WINDOW AND DOOR LOCATIONS ARE DIMENSIONED TO ROUGH OPENING. ALL "HOLD" OR "CLR" DIMENSIONS MUST BE MAINTAINED.

ALIGNMENT:
WHERE NEW PARTITIONS ARE TO ALIGN WITH EXISTING PARTITIONS, REMOVE EXISTING CORNER BEAD(S), ALIGN, TAPE, AND SPACKLE WITH NEW PARTITION.

WALL BACKING:
BLOCKING OR BACKING SHALL BE PROVIDED IN PARTITIONS AS REQUIRED FOR WALL ATTACHED ITEMS. PROVIDE 6" HIGH, 16 GA. BACKING FOR CABINETRY, SHELVING, HANDRAILS, FIXTURES, EQUIPMENT, FURNISHINGS AND OTHER ITEMS AS REQUIRED. ALL WOOD BLOCKING, GROUNDS, ROUGH BUCKS AND MISCELLANEOUS BLOCKING SHALL BE FIRE RETARDANT TREATED IN ACCORDANCE WITH FIRE CODES.

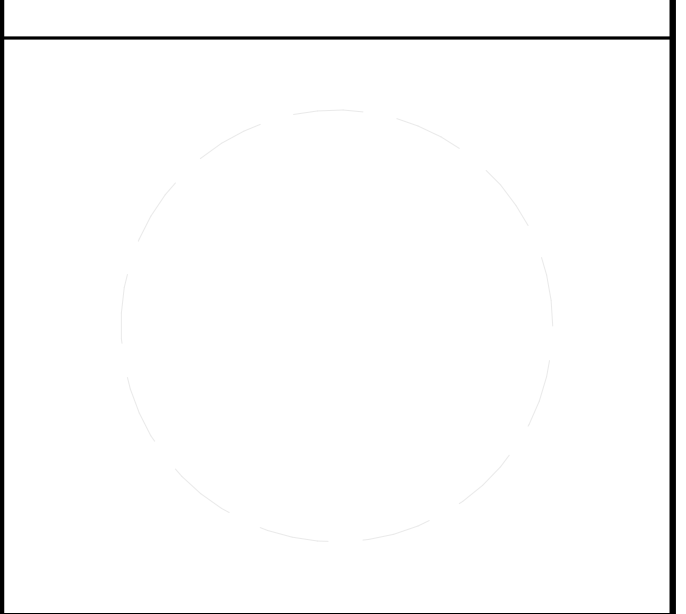


SYMBOL	WALL TYPE	DESCRIPTION
[Solid Line]	WD	WOOD STUD WALL
[Hatched]	SH	SHEAR WALL
[Dotted]	ST	STRUCTURAL WALL
[Cross-hatched]	HFX	24" HFX PANELS

NOTE: ALL WALLS/PARTITIONS SHOWN ON PLANS ARE TYPICAL UNLESS SPECIFICALLY NOTED OTHERWISE BY WALL TAG



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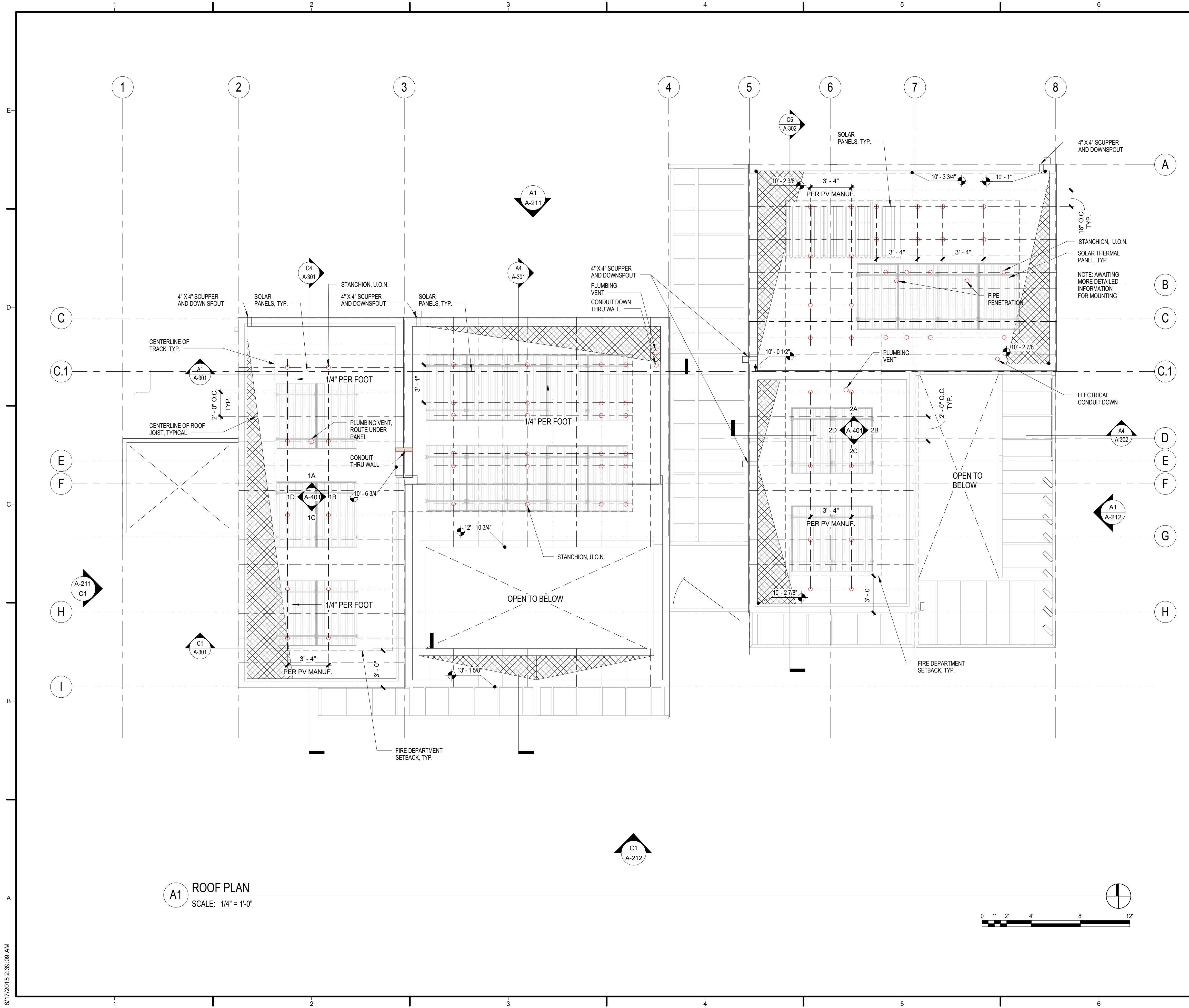
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SHEET TITLE
FLOOR PLAN
A-111



ROOF PLAN NOTES

ROOF INSULATION:
10" MINERAL WOOL

ROOF SLOPE:
TYPICAL ROOF SLOPE IS 1/4"=12" (2%) SLOPE MINIMUM U.O.N.

TOP OF PLATE:
TYPICAL TOP OF PLATE HEIGHT IS +9'-0" U.O.N. AT LOW ROOF
TYPICAL TOP OF PLATE HEIGHT IS +12'-0" U.O.N. AT HIGH ROOF

FLASHING LOCATIONS:
AT THE JUNCTURE OF THE ROOF AND VERTICAL SURFACES, ROOF EDGES, ROOF PENETRATIONS, ETC., FLASHING AND COUNTERFLASHING SHALL BE PROVIDED PER THE ROOF MANUFACTURER'S RECOMMENDATIONS AND, WHEN OF METAL, SHALL NOT BE LESS THAN NO. 26 GALVANIZED SHEET GAGE CORROSION-RESISTANT METAL. (CBC 1503) ALL ROOF FLASHINGS SHALL CONFORM TO SMACNA AND NRCA STANDARDS. FLASHING AND COUNTERFLASHING SHALL BE PAINTED U.O.N.

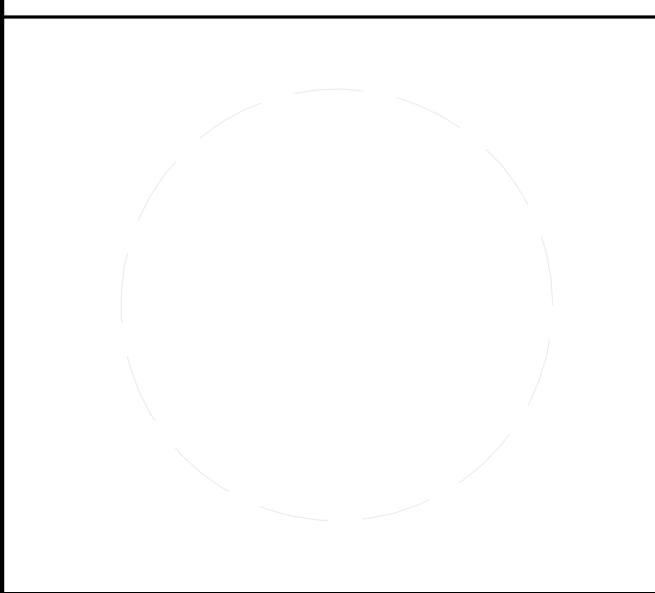
ROOF PLAN LEGEND

0'-0" H.P. HIGH POINT ELEVATION

0'-0" L.P. LOW POINT ELEVATION



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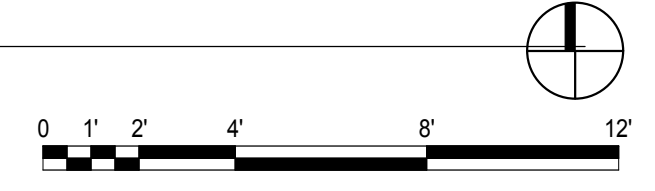
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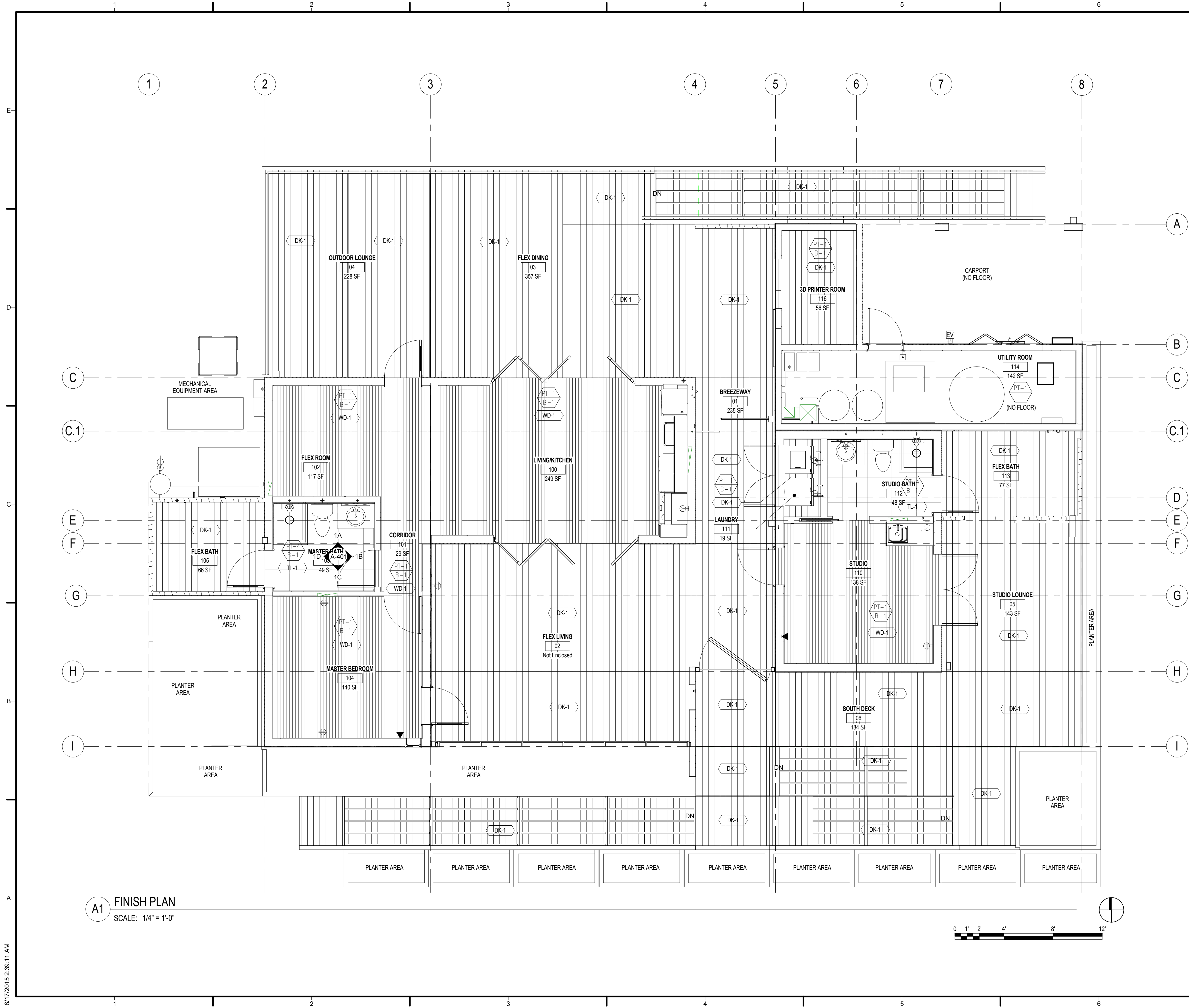
SHEET TITLE
 ROOF PLAN

A-112

A1 ROOF PLAN
 SCALE: 1/4" = 1'-0"



8/17/2015 2:39:09 AM



FINISH SCHEDULE

PAINT:

PT-1 (MAIN INTERIOR COLOR): COLOR TO MATCH VISTA PAINT: 8307 FADING FOG SHEEN: EGGSHELL

PT-2 (DOORS, BASE BOARDS AND TRIM): COLOR TO MATCH VISTA PAINT: IC (IRVINE COMPANY STANDARD) SHEEN: SEMI-GLOSS

PT-3 (CEILING): COLOR TO MATCH VISTA PAINT: IC (IRVINE COMPANY STANDARD) SHEEN: FLAT

PT-4 (EXTERIOR DECK): COLOR TO MATCH WILSONART D96-60 SHADOW SHEEN: FLAT

PT-5 (EXTERIOR TRIM, HANDRAILS AND RAILINGS): COLOR TO MATCH FRAZEE PAINT: MASCARA CL 3207N STAIN AND SEALER, LOW-GLOSS

PT-6 (BATHROOM WALLS AND CEILING): COLOR TO MATCH VISTA PAINT: IC (IRVINE COMPANY STANDARD) SHEEN: EGGSHELL

PT-7 (EXTERIOR PAINT ON CEMENT BOARD AND SOFFITS): COLOR TO MATCH SHERWIN WILLIAMS: WHITE COTTON HGSW4027 SHEEN: FLAT

PT-8 (EXTERIOR PAINT ON WOOD SIDING): COLOR TO MATCH FRAZEE PAINT: CONBOY CL 3247N SHEEN: FLAT

ACCENT WALL FINISH:

TL-2: (RESTROOM WALL TILE) 24" X 24" PORCELAIN TILE; 3/8" THICKNESS

BASE:

B-1: 1" X 4" WOOD BASE, PAINTED PT-2

FLOOR:

DK-1: 2"X6" DOUGLAS FIR DECKING, PAINTED PT-6

WD-1: ENGINEERED WOOD FLOOR TO MATCH _____

TL-1: (RESTROOM FLOOR TILE)

FLOORING TRANSITIONS:
TYPICAL FLOOR COVERING TRANSITION IS AT THE CENTERLINE OF THE DOOR OR AT THE CENTERLINE OF THE OPENING WHERE NO DOOR IS PRESENT. U.O.N. PROVIDE A TEE TRANSITION STRIP BETWEEN FLOORING MATERIAL CHANGES. TRANSITIONS TO BE PROVIDED BY FLOORING MANUFACTURER

RESTROOM FINISHES:
SEE ENLARGED RESTROOM SHEET

MILLWORK FINISHES: FLOOR FINISH SEE ENLARGED MILLWORK SHEET

SYMBOL LEGEND:

WALL FINISH (X-X)

WALL BASE (X-X)

FINISH MATERIAL (?)

VINYL TRANSITION STRIP, COLOR TO MATCH WALL BASE

A1 FINISH PLAN
SCALE: 1/4" = 1'-0"



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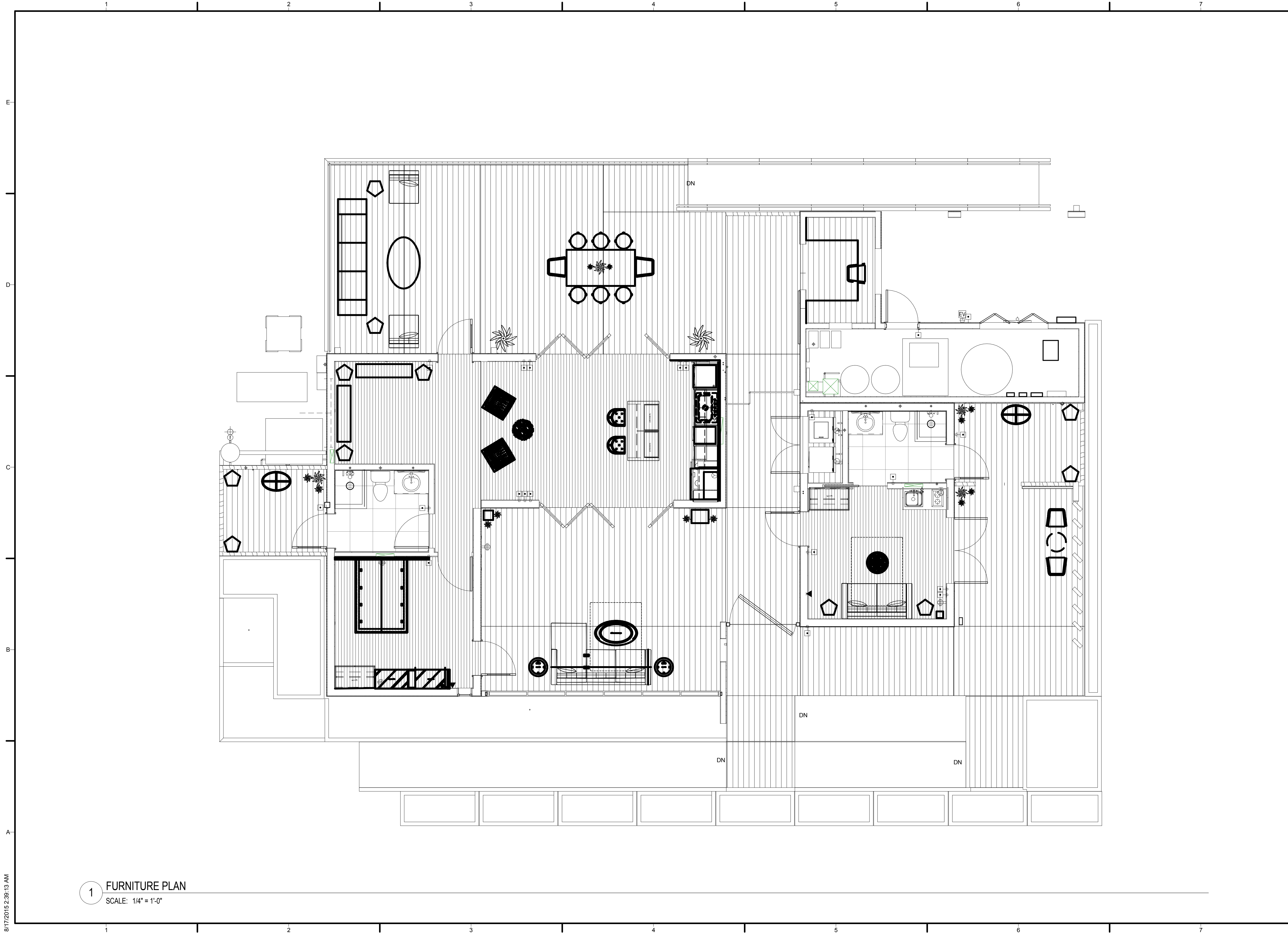
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SHEET TITLE
FINISH PLAN

A-113

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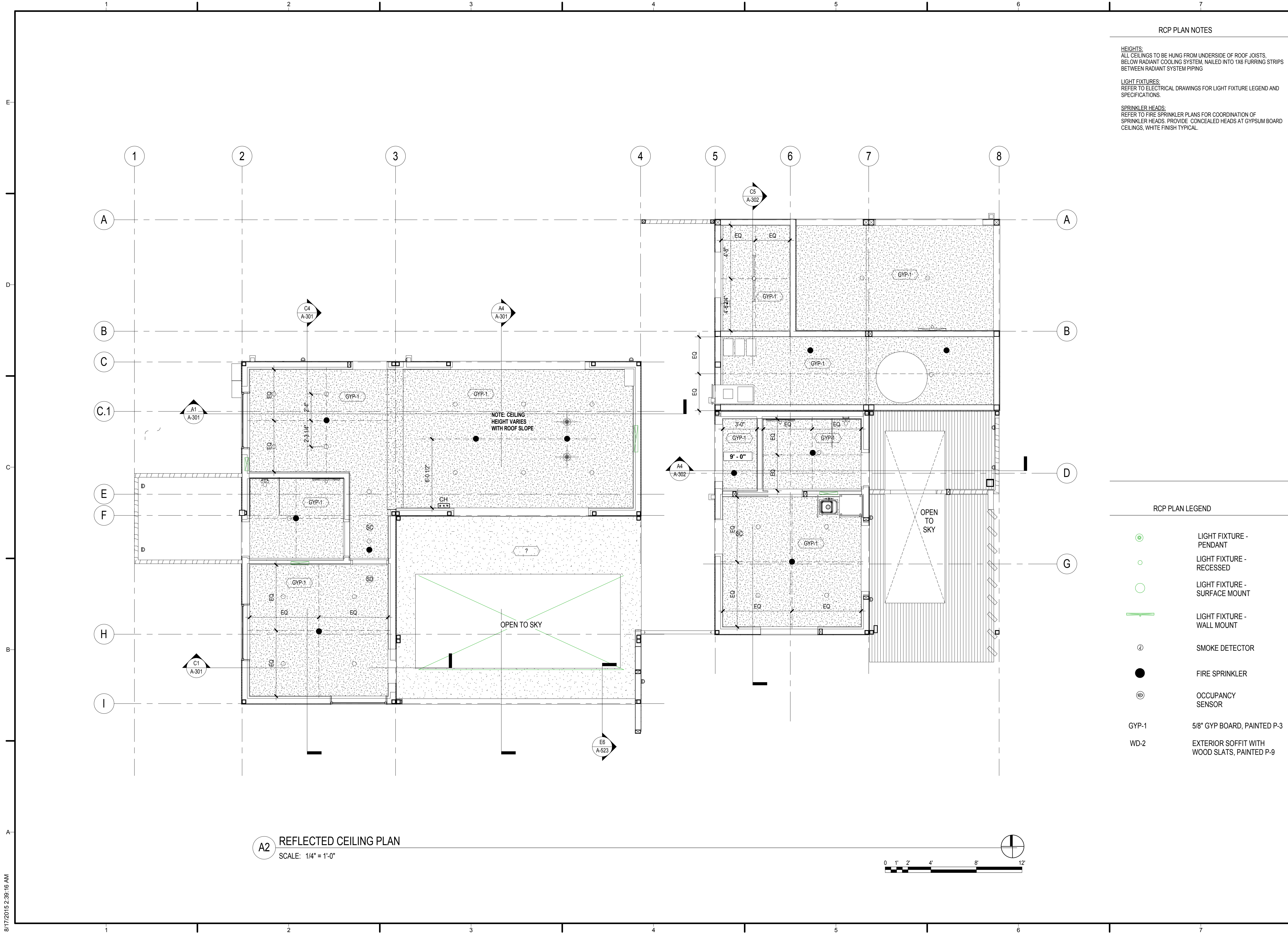
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SHEET TITLE
FURNITURE PLAN

A-114

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

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RCP PLAN NOTES

HEIGHTS:
ALL CEILINGS TO BE HUNG FROM UNDERSIDE OF ROOF JOISTS, BELOW RADIANT COOLING SYSTEM, NAILED INTO 1X6 FURRING STRIPS BETWEEN RADIANT SYSTEM PIPING

LIGHT FIXTURES:
REFER TO ELECTRICAL DRAWINGS FOR LIGHT FIXTURE LEGEND AND SPECIFICATIONS.

SPRINKLER HEADS:
REFER TO FIRE SPRINKLER PLANS FOR COORDINATION OF SPRINKLER HEADS. PROVIDE CONCEALED HEADS AT GYPSUM BOARD CEILINGS, WHITE FINISH TYPICAL.

RCP PLAN LEGEND

	LIGHT FIXTURE - PENDANT
	LIGHT FIXTURE - RECESSED
	LIGHT FIXTURE - SURFACE MOUNT
	LIGHT FIXTURE - WALL MOUNT
	SMOKE DETECTOR
	FIRE SPRINKLER
	OCCUPANCY SENSOR
GYP-1	5/8" GYP BOARD, PAINTED P-3
WD-2	EXTERIOR SOFFIT WITH WOOD SLATS, PAINTED P-9

A2 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

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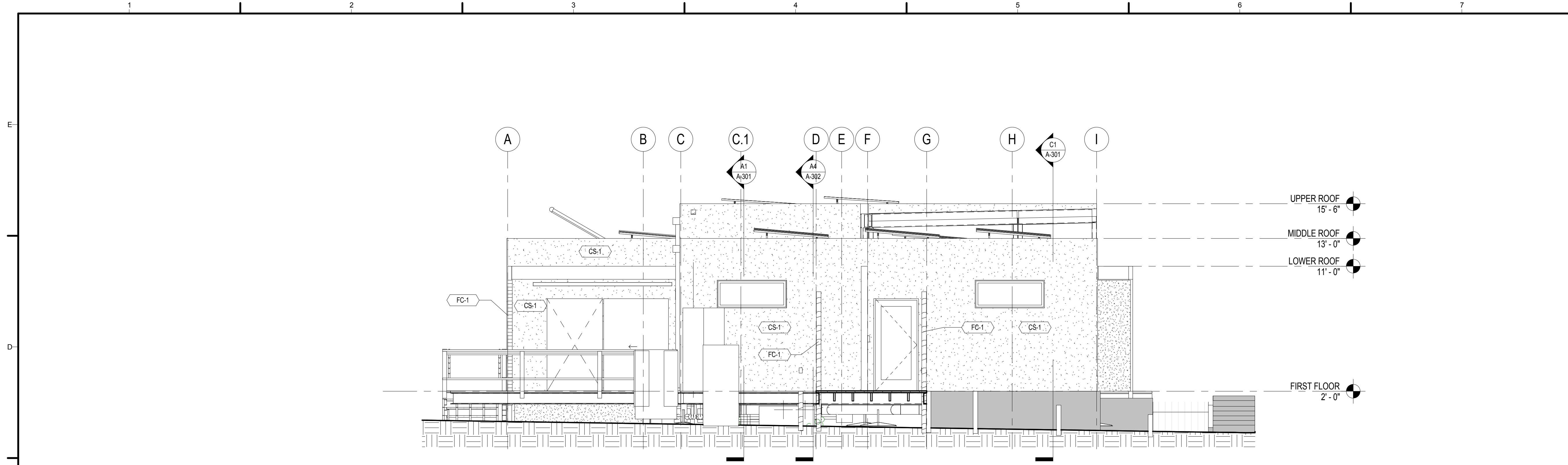
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	02/12/2015	95% DOE

LOT NUMBER: #203
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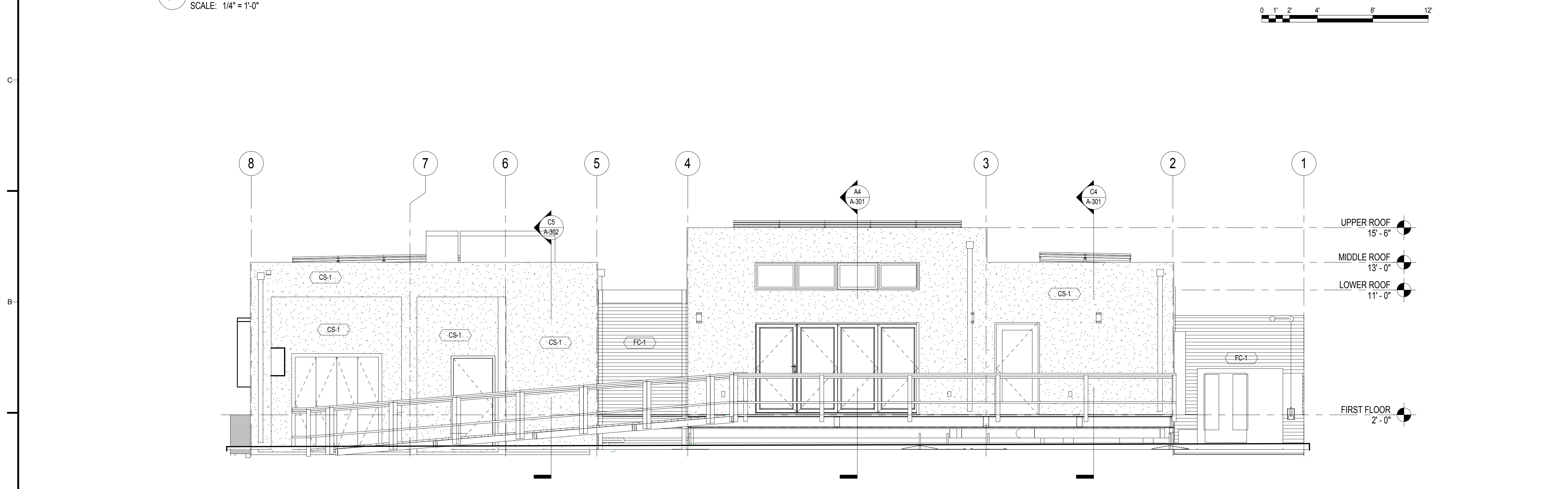
SHEET TITLE
REFLECTED CEILING PLAN

A-121

8/17/2015 2:39:16 AM



C1 WEST ELEVATION - SITE
SCALE: 1/4" = 1'-0"



A1 NORTH ELEVATION - SITE
SCALE: 1/4" = 1'-0"



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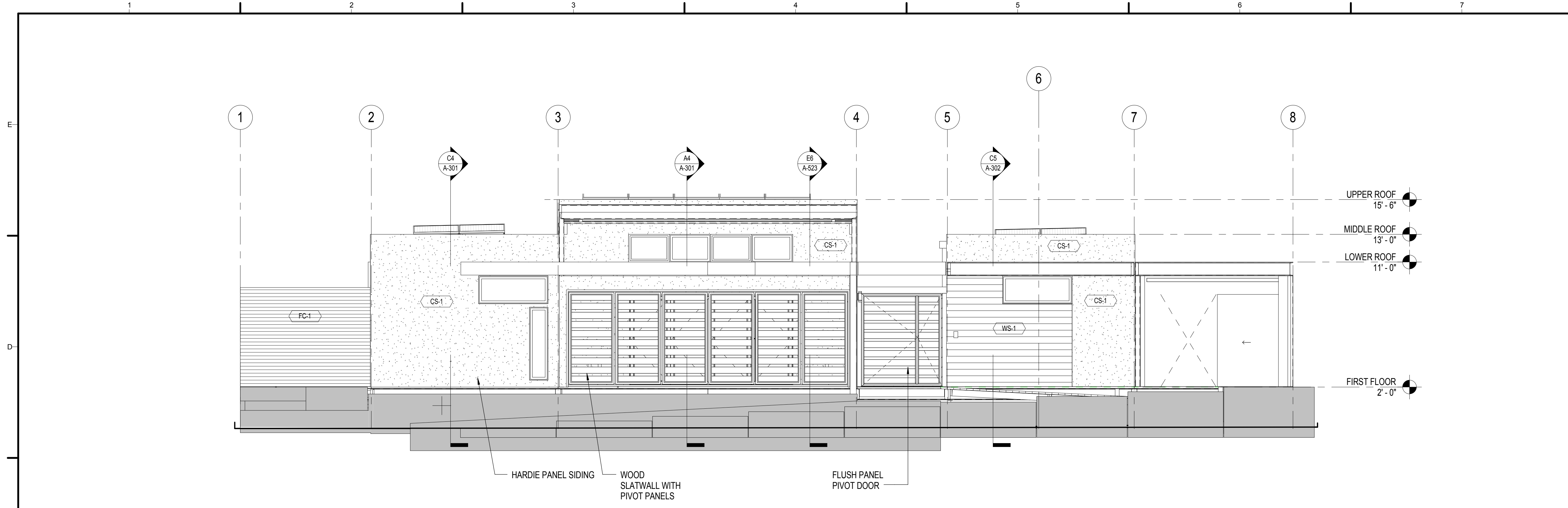


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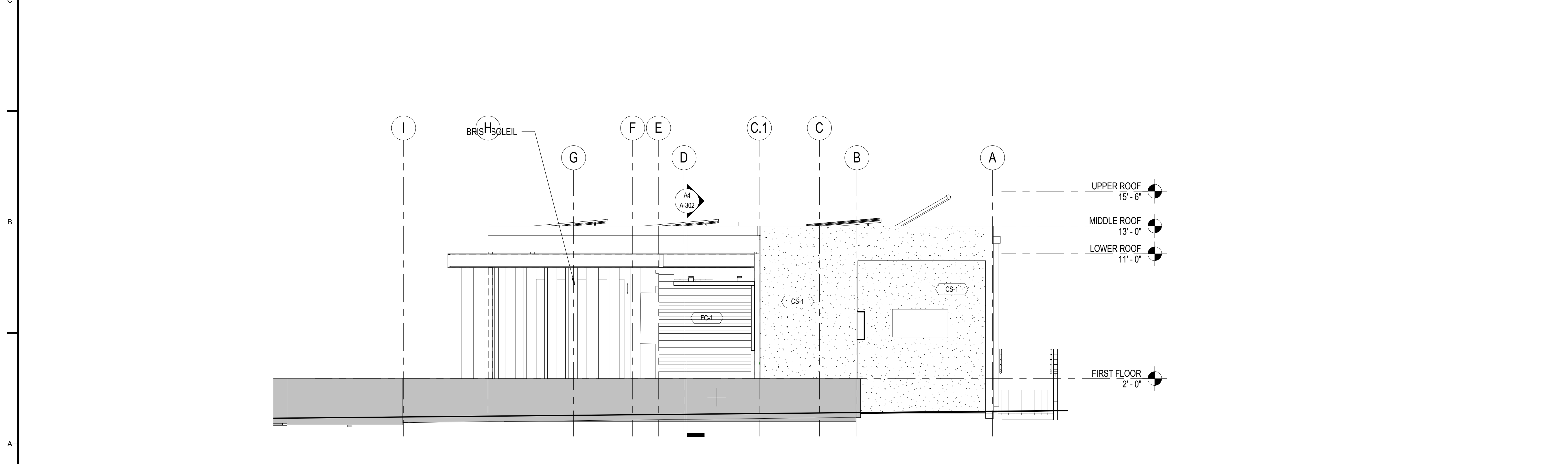
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SHEET TITLE
SITE ELEVATIONS

A-201



C1 SOUTH ELEVATION - SITE
SCALE: 1/4" = 1'-0"



A1 EAST ELEVATION - SITE
SCALE: 1/4" = 1'-0"



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SHEET TITLE
SITE ELEVATIONS

A-202

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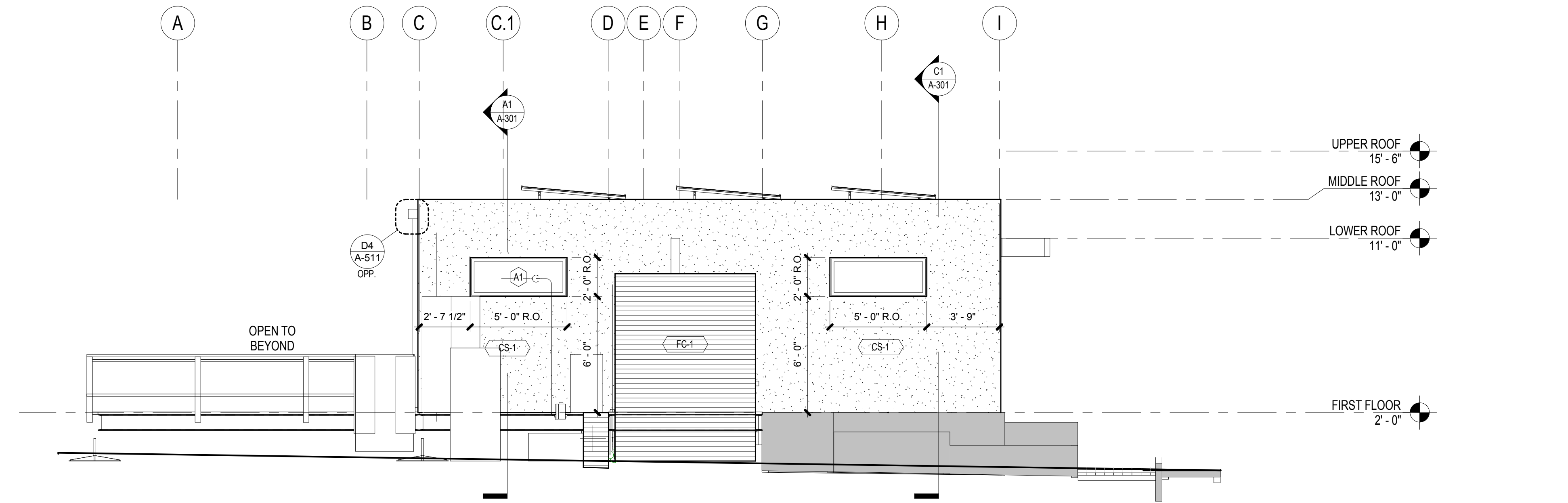


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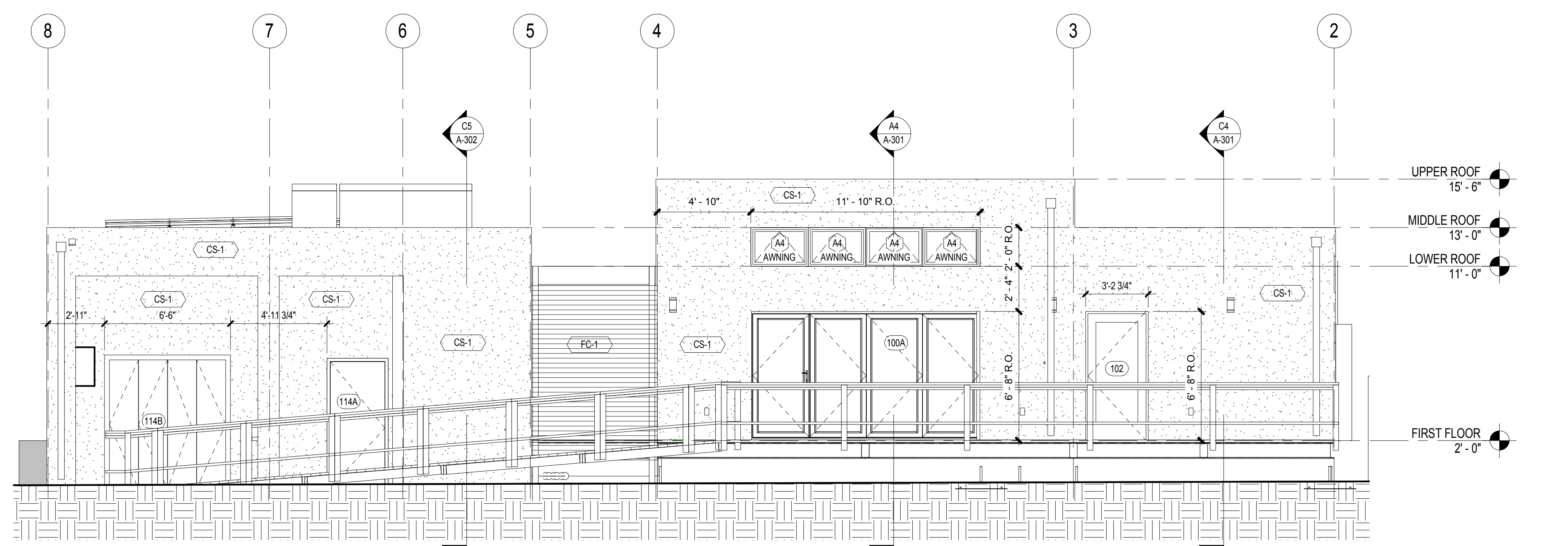
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SHEET TITLE
BUILDING ELEVATIONS

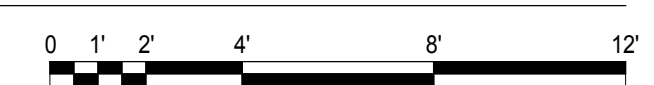
A-211



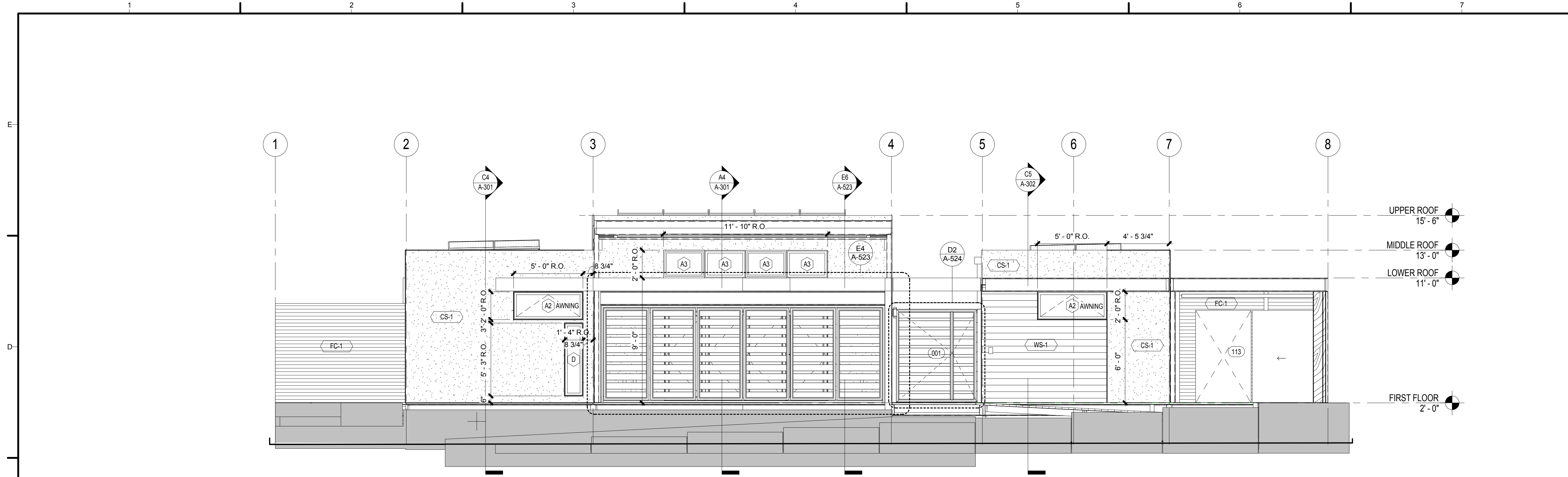
C1 WEST ELEVATION
 SCALE: 1/4" = 1'-0"



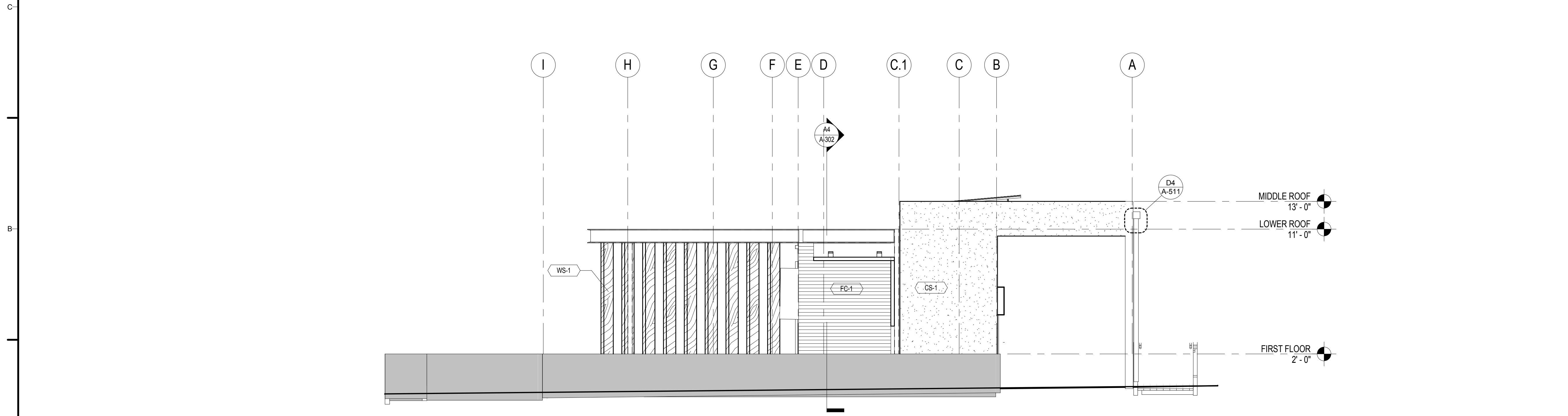
A1 NORTH ELEVATION
 SCALE: 1/4" = 1'-0"



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C1 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



A1 EAST ELEVATION
SCALE: 1/4" = 1'-0"



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BUILDING ELEVATIONS

A-212

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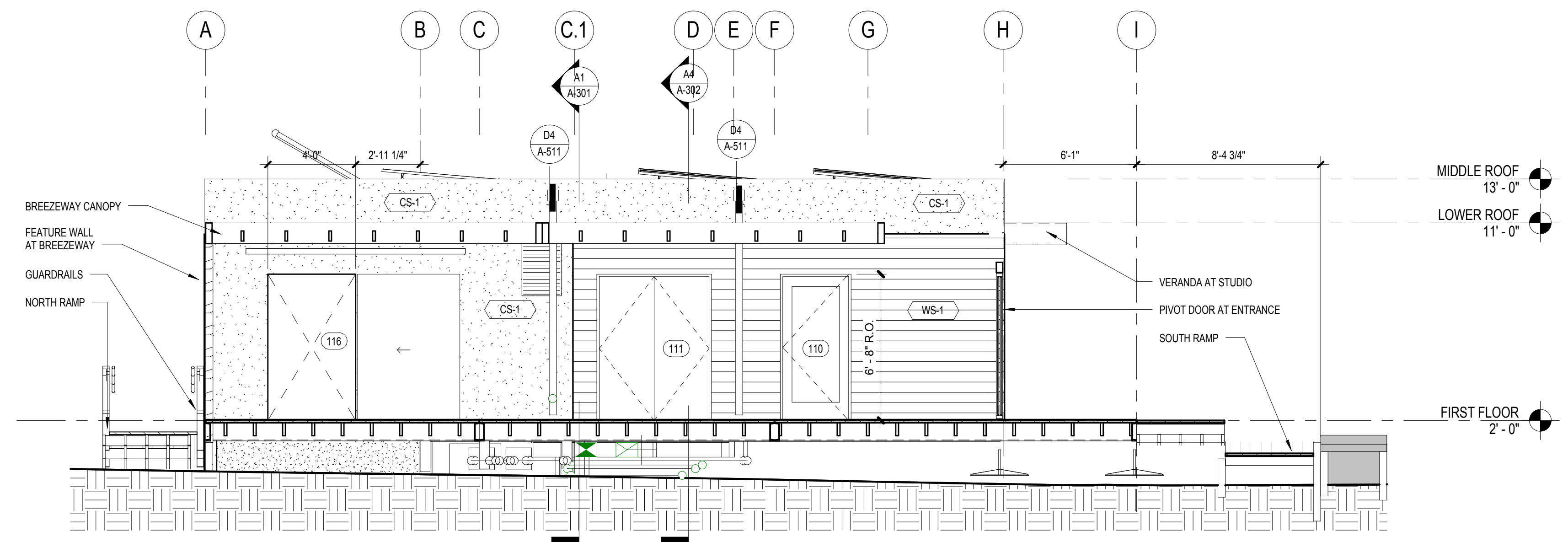


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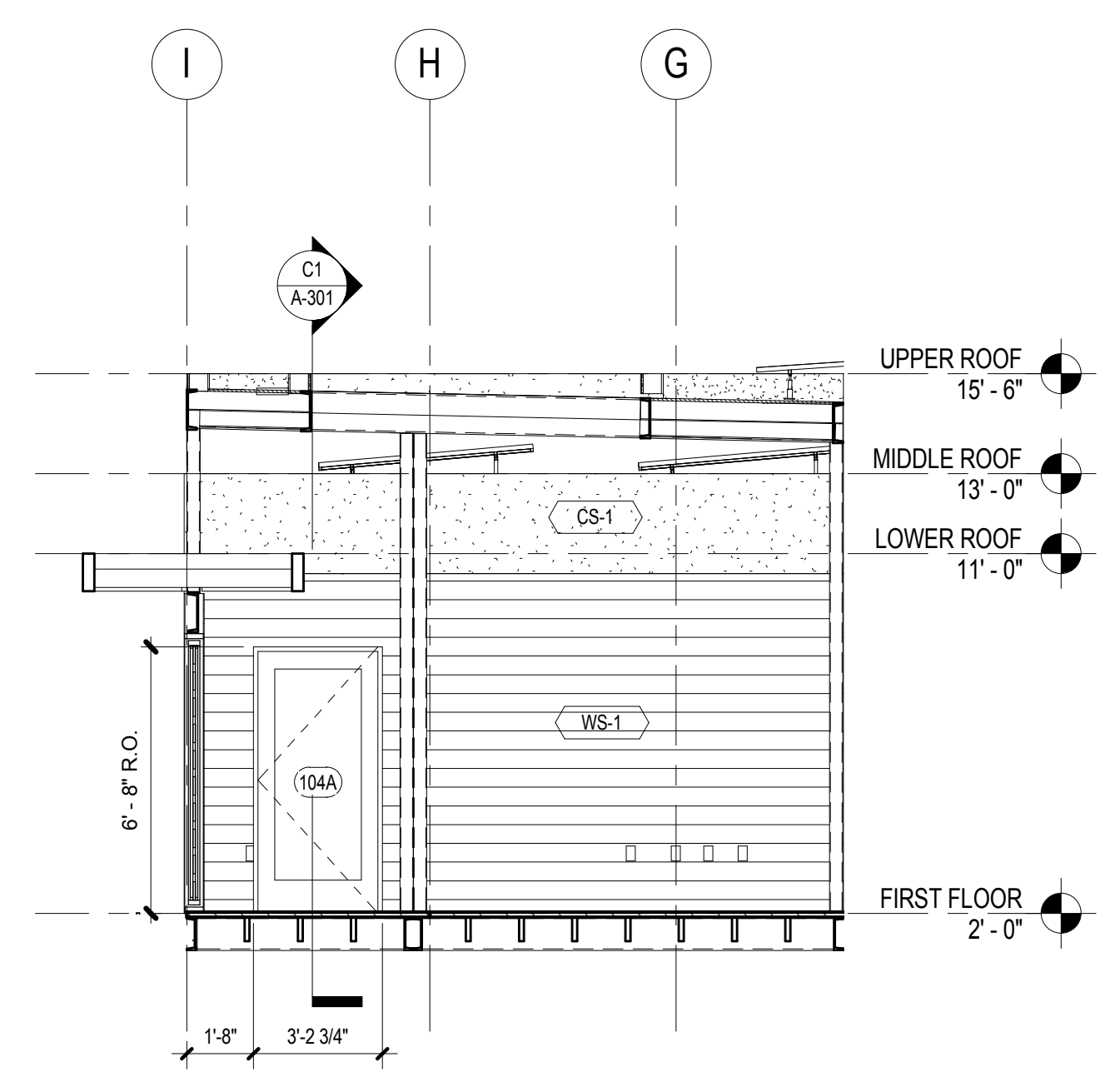
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BUILDING ELEVATIONS

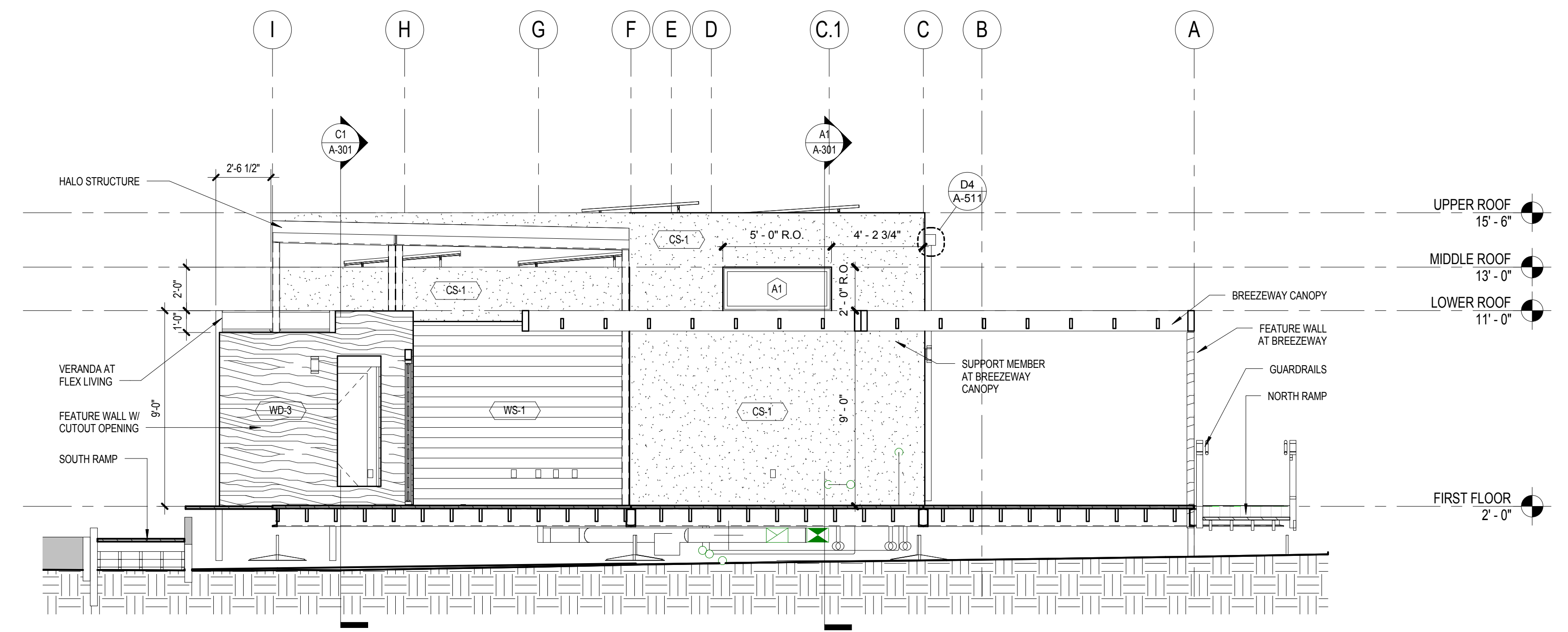
A-213



C2 WEST ELEVATION - STUDIO FROM BREEZEWAY
 SCALE: 1/4" = 1'-0"

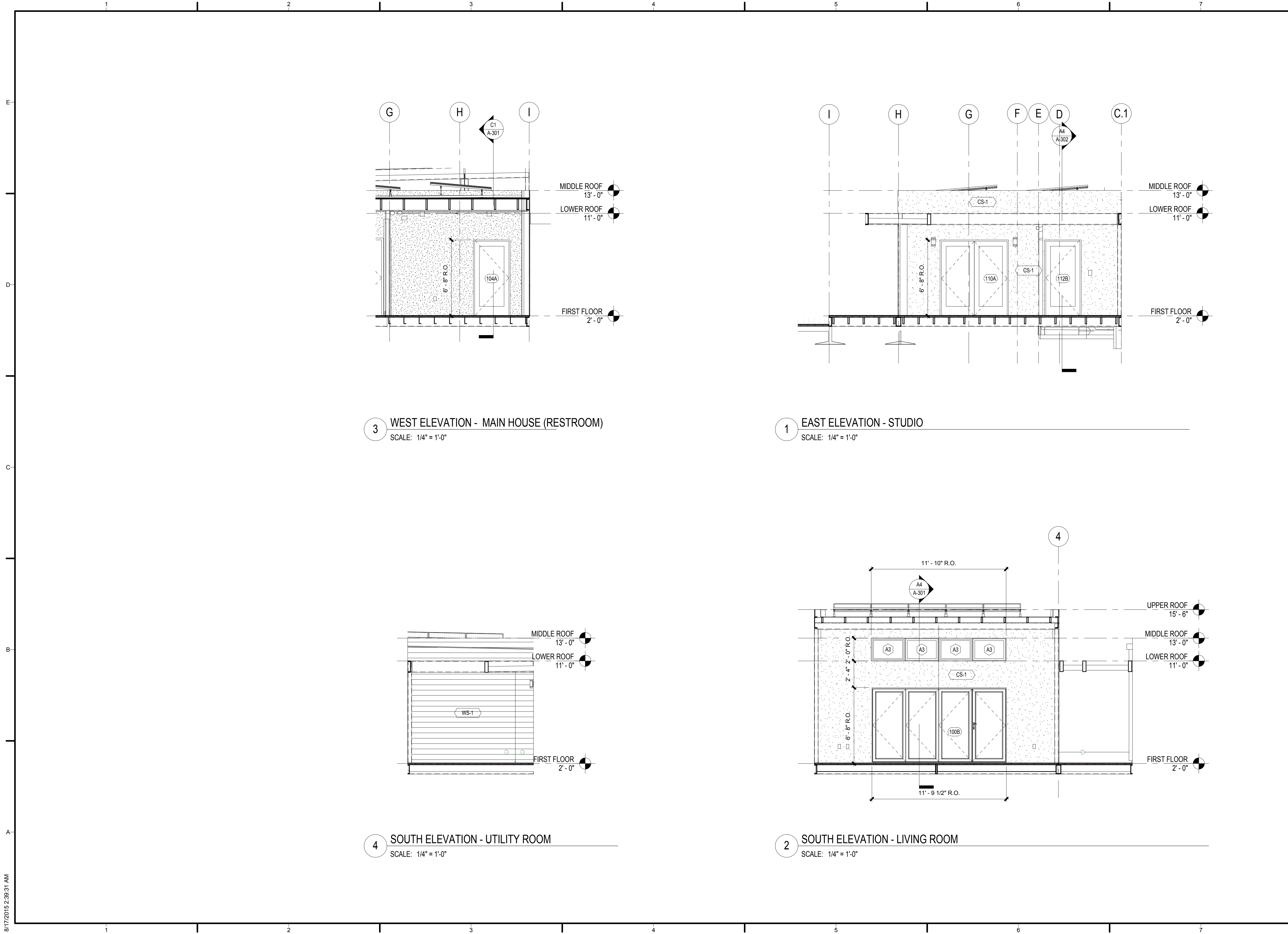


A3 EAST ELEVATION - MAIN HOUSE (BEDROOM)
 SCALE: 1/4" = 1'-0"



A2 EAST ELEVATION - MAIN HOUSE FROM BREEZEWAY
 SCALE: 1/4" = 1'-0"





3 WEST ELEVATION - MAIN HOUSE (RESTROOM)
SCALE: 1/4" = 1'-0"

1 EAST ELEVATION - STUDIO
SCALE: 1/4" = 1'-0"

4 SOUTH ELEVATION - UTILITY ROOM
SCALE: 1/4" = 1'-0"

2 SOUTH ELEVATION - LIVING ROOM
SCALE: 1/4" = 1'-0"



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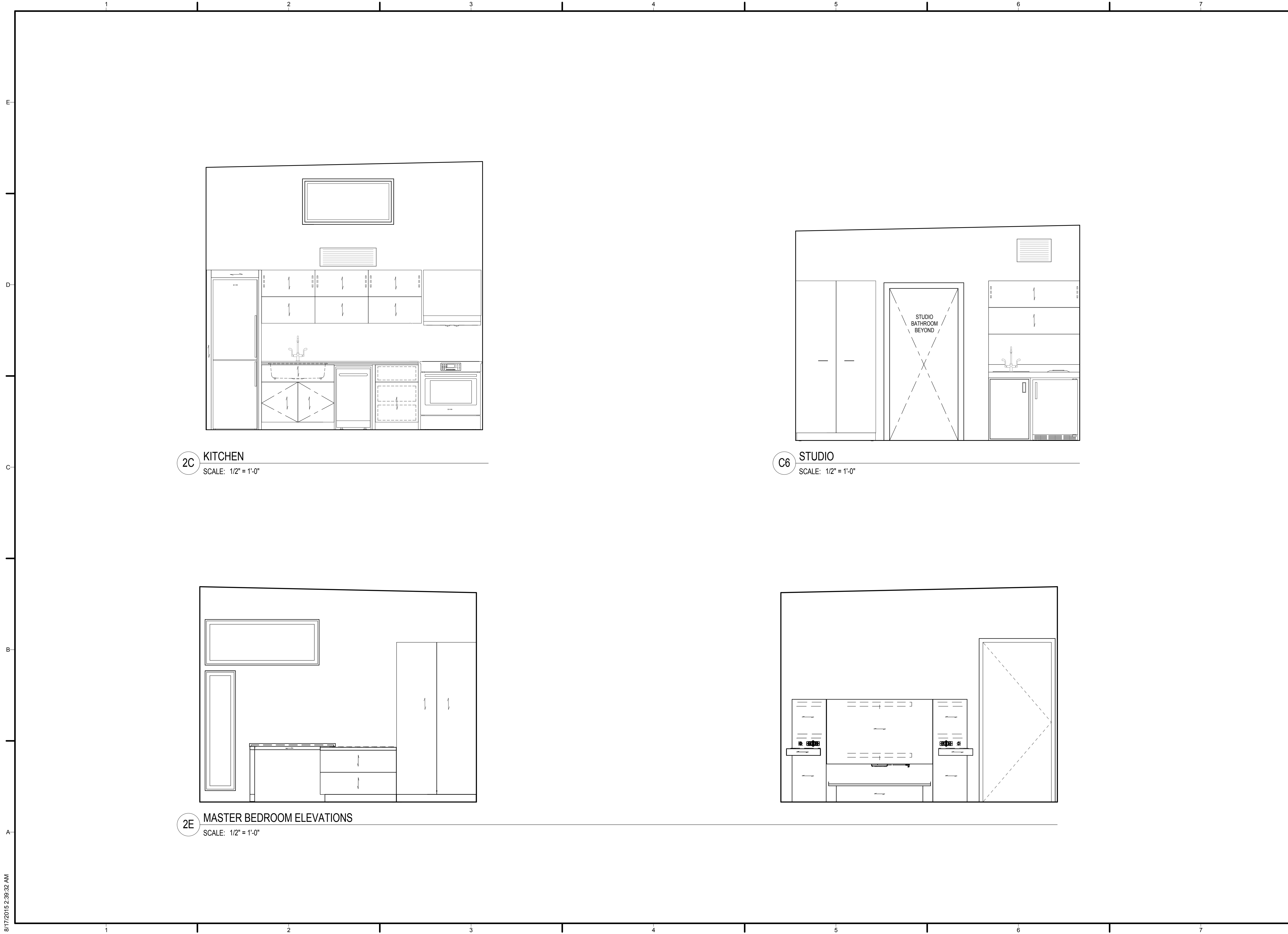
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SHEET TITLE
BUILDING ELEVATIONS

A-214

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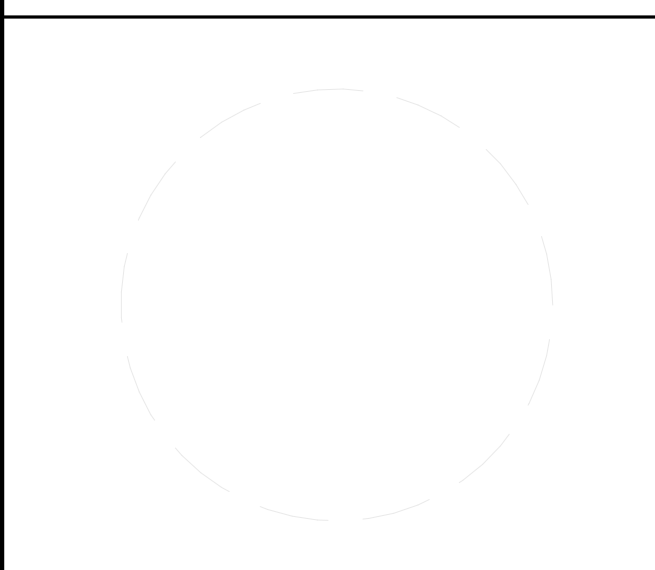
2C KITCHEN
SCALE: 1/2" = 1'-0"

C6 STUDIO
SCALE: 1/2" = 1'-0"

2E MASTER BEDROOM ELEVATIONS
SCALE: 1/2" = 1'-0"



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SHEET TITLE
INTERIOR ELEVATIONS

A-220

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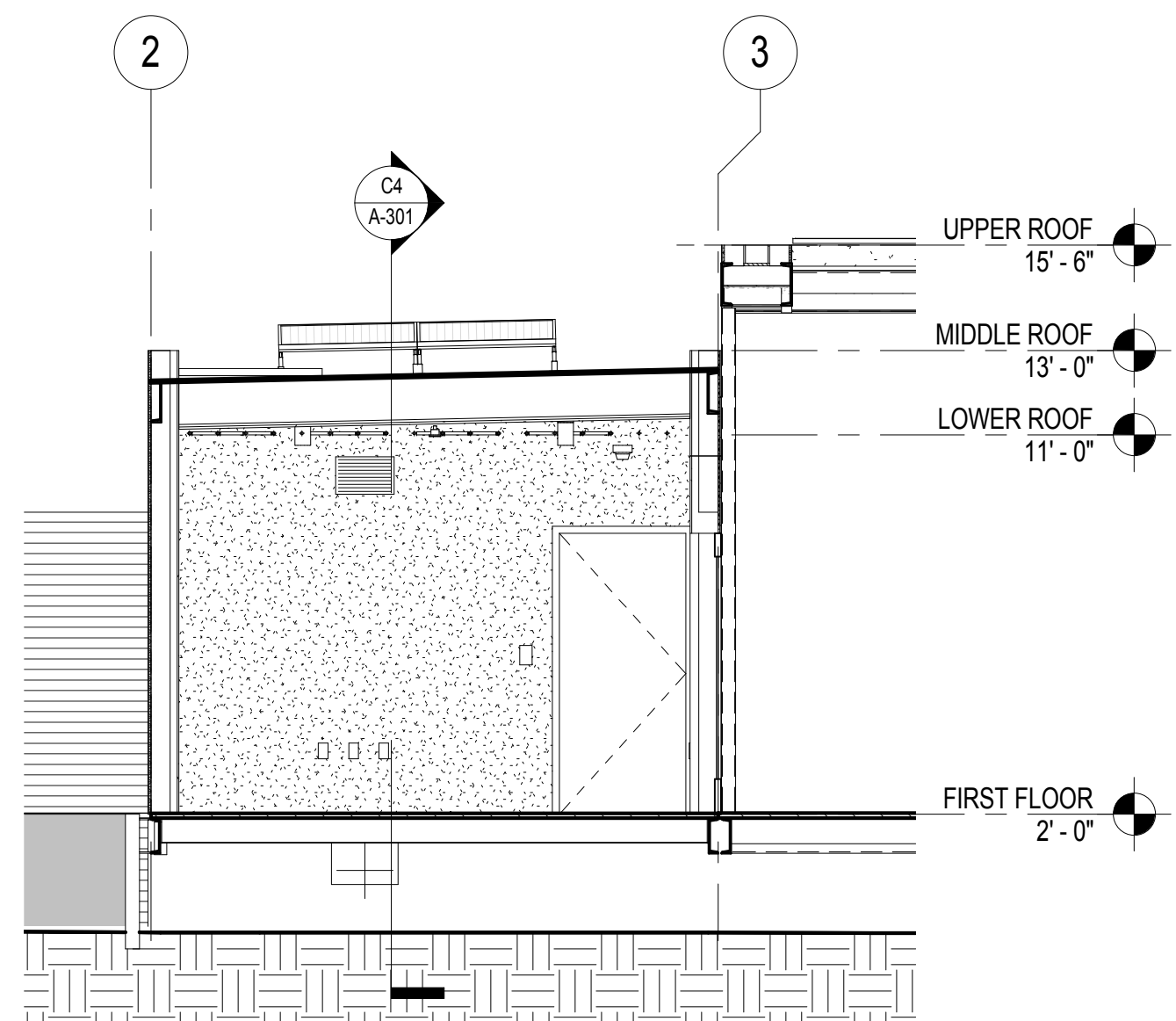


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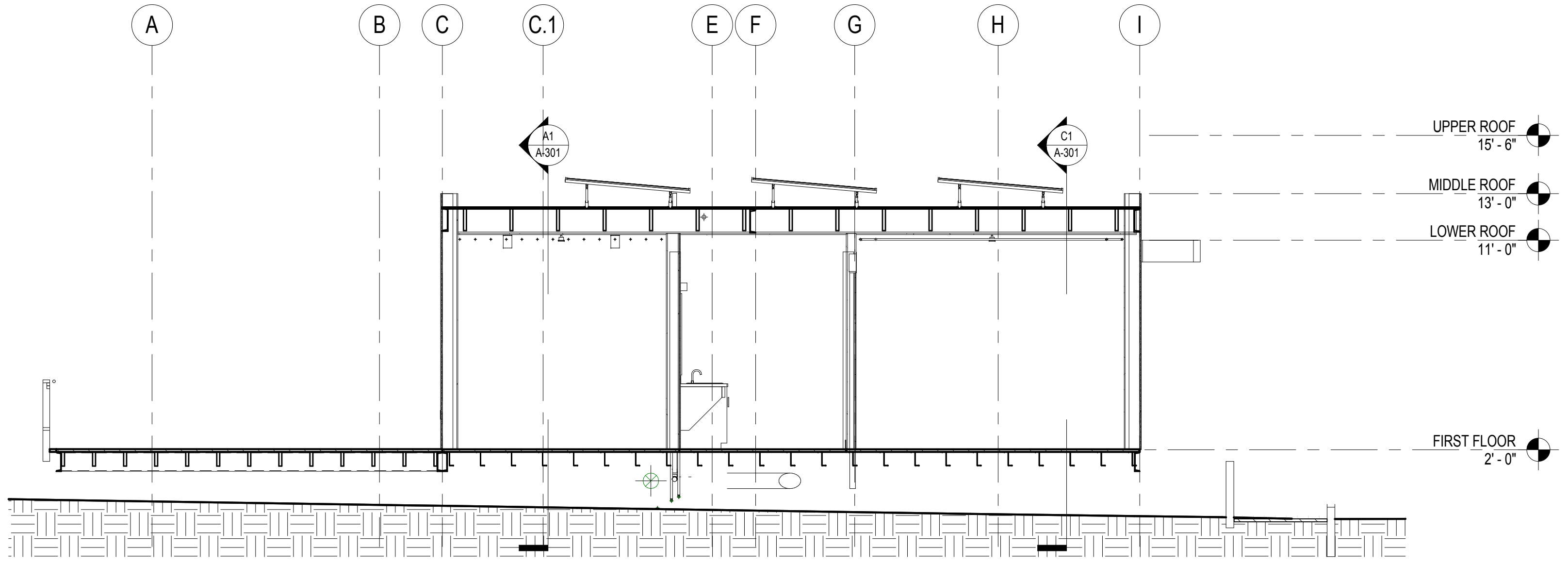
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SHEET TITLE
BUILDING SECTIONS

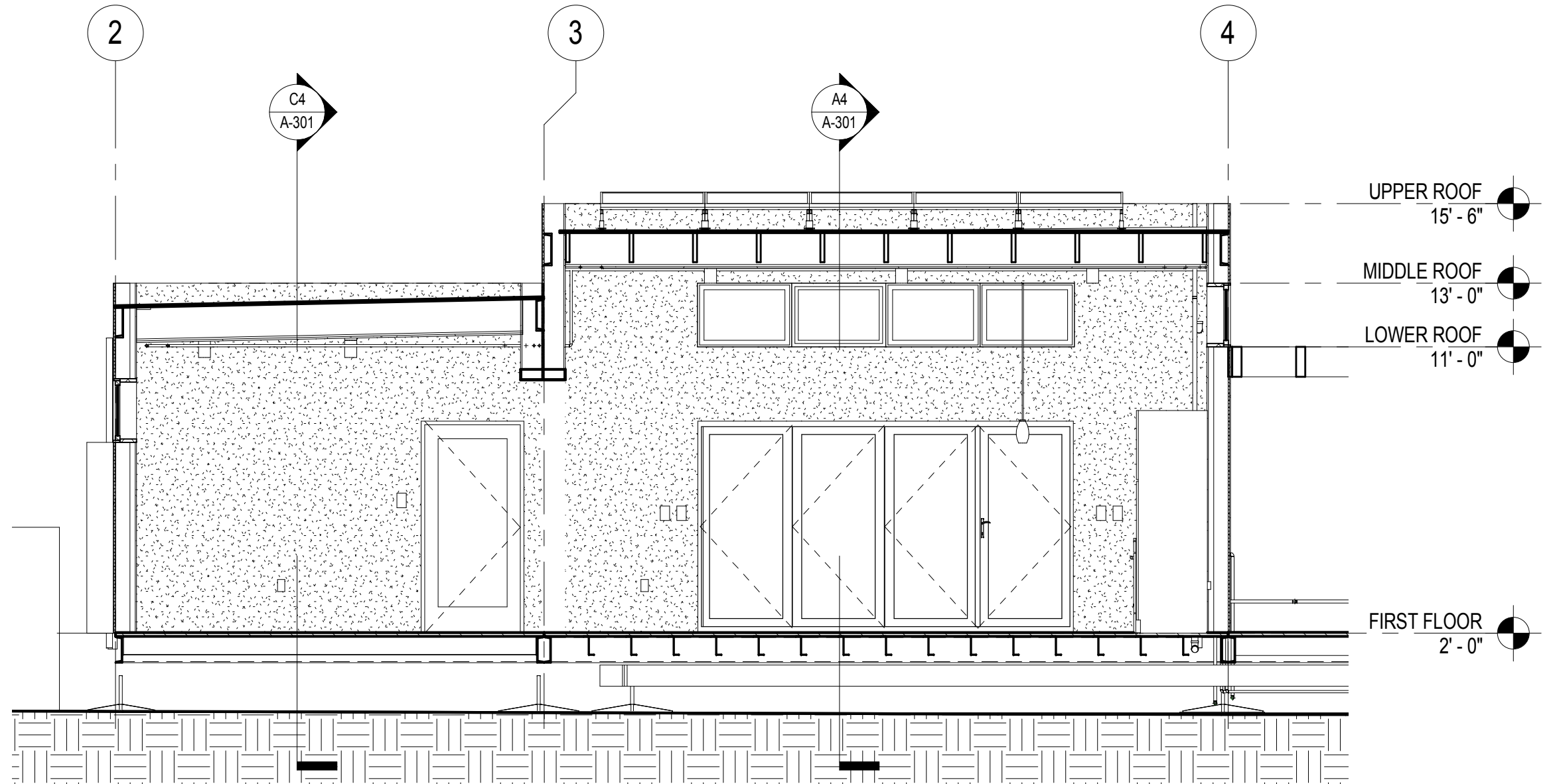
A-301



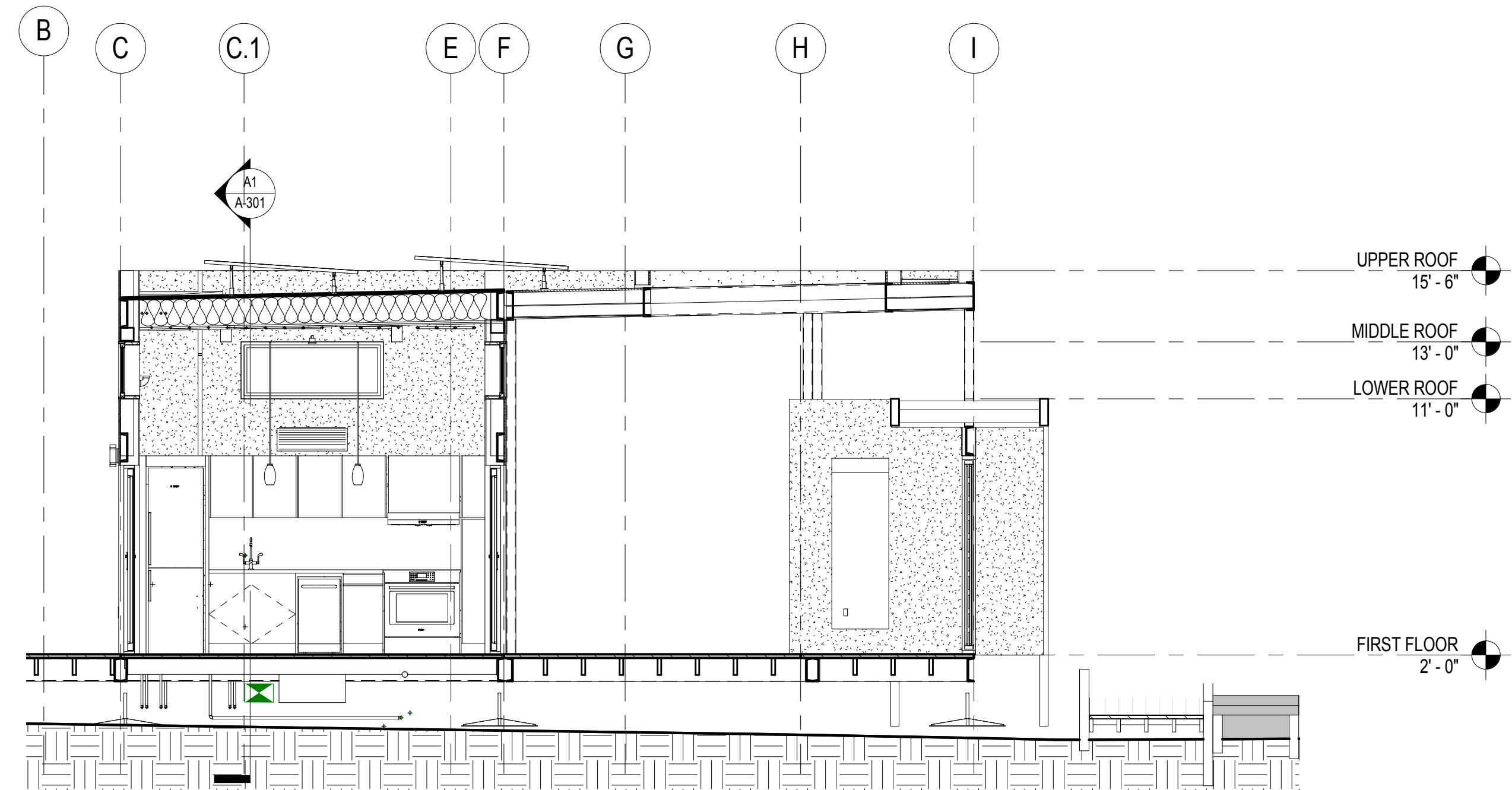
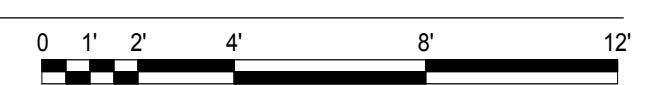
C1 MAIN BUILDING SECTION LOOKING NORTH
 SCALE: 1/4" = 1'-0"



C4 MAIN BUILDING SECTION LOOKING EAST
 SCALE: 1/4" = 1'-0"



A1 MAIN BUILDING SECTION LOOKING NORTH
 SCALE: 1/4" = 1'-0"



A4 MAIN BUILDING SECTION LOOKING EAST - KITCHEN
 SCALE: 1/4" = 1'-0"



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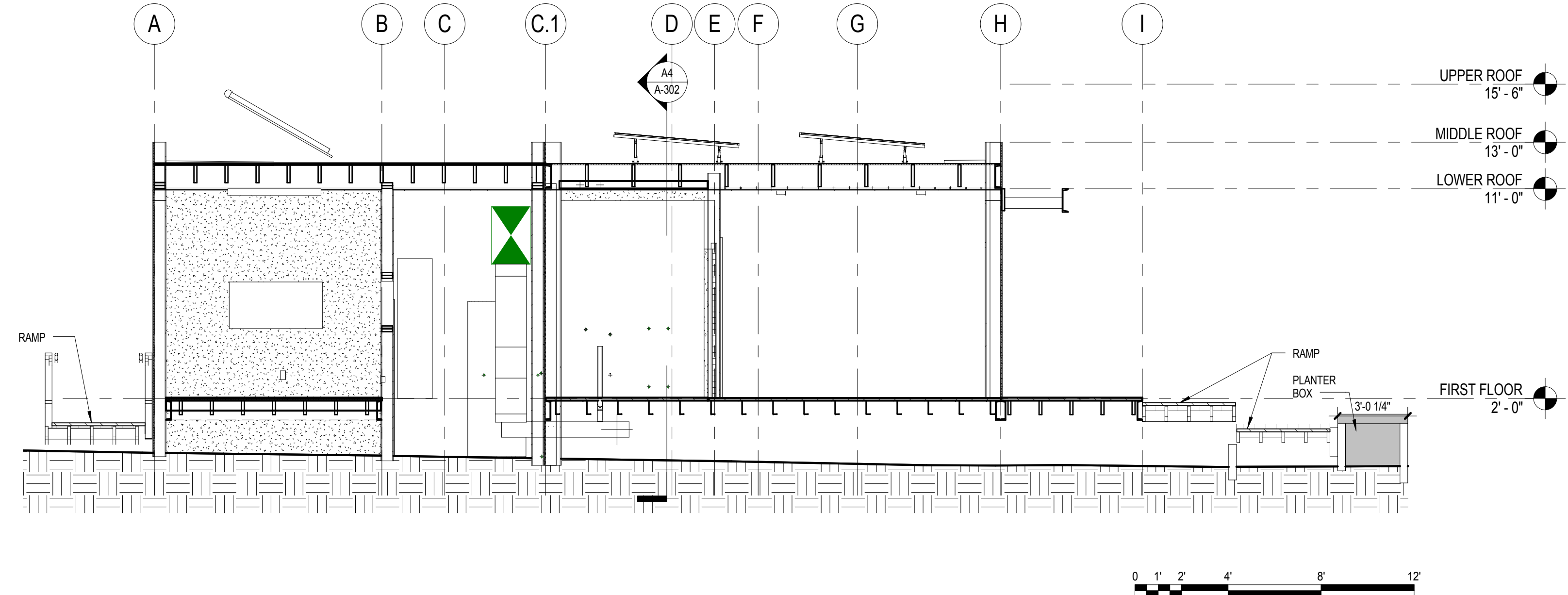


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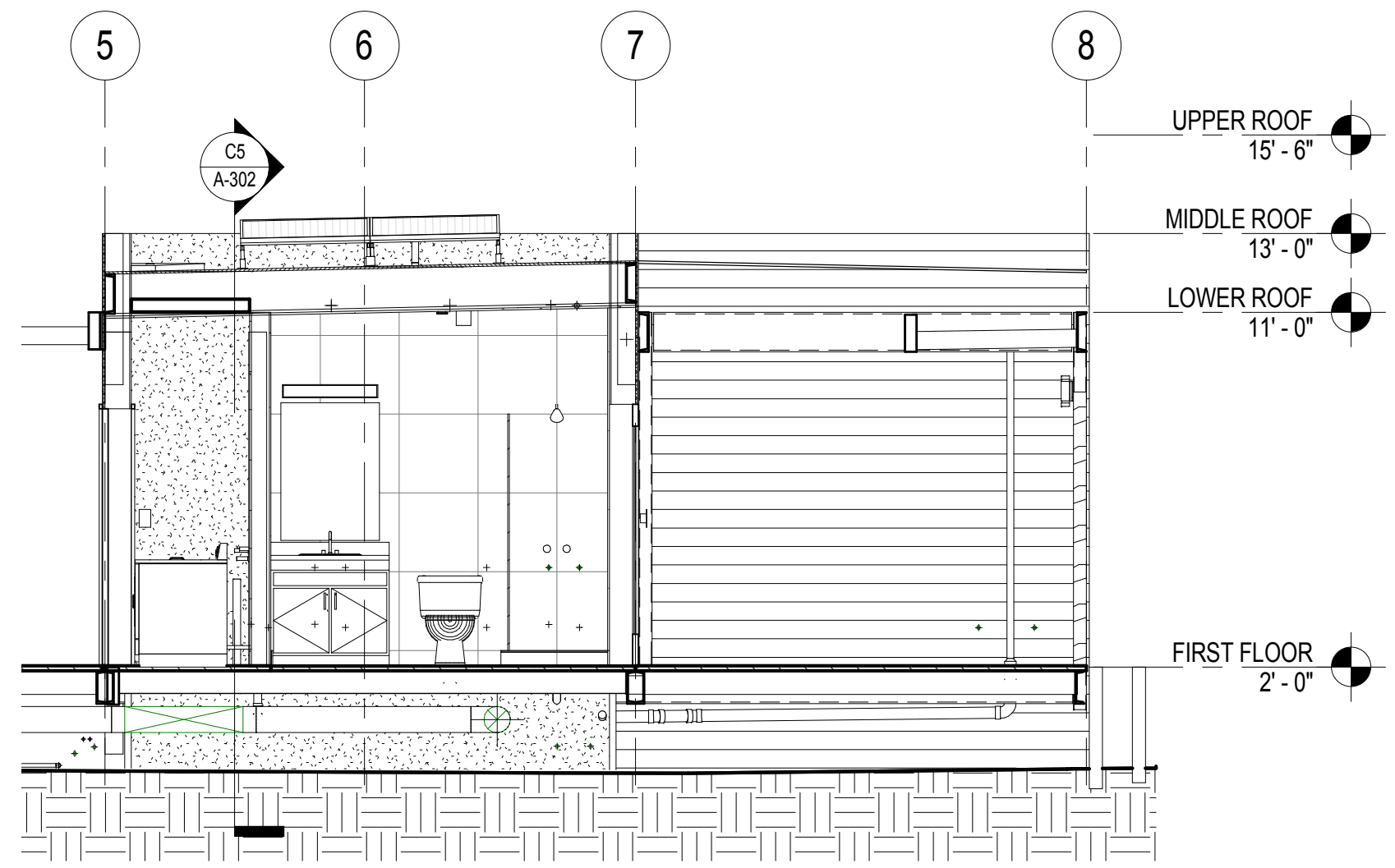
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SHEET TITLE
BUILDING SECTIONS

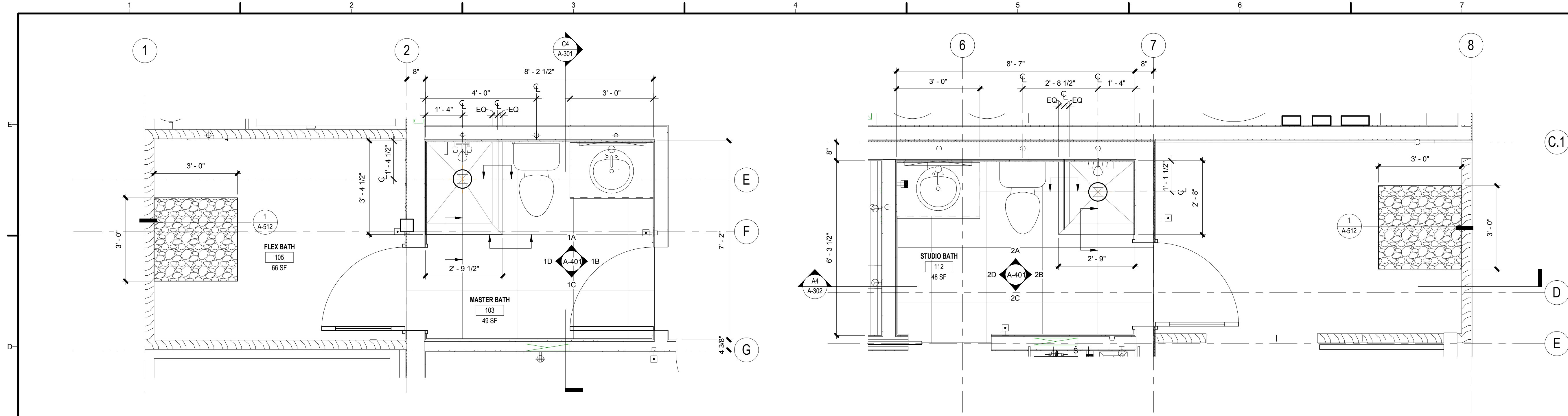
A-302



C5 STUDIO SECTION LOOKING WEST
 SCALE: 1/4" = 1'-0"

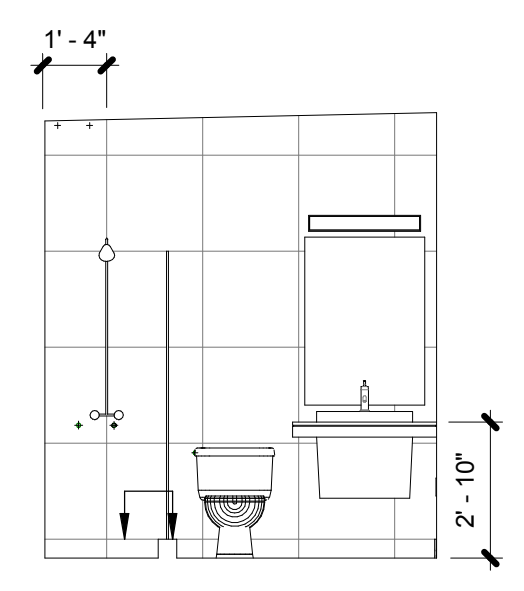


A4 STUDIO SECTION LOOKING NORTH
 SCALE: 1/4" = 1'-0"

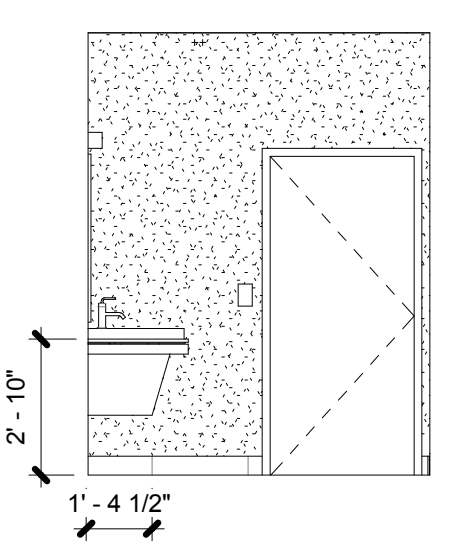


1 ENLARGED PLAN_A103 MASTER BATH
SCALE: 1/2" = 1'-0"

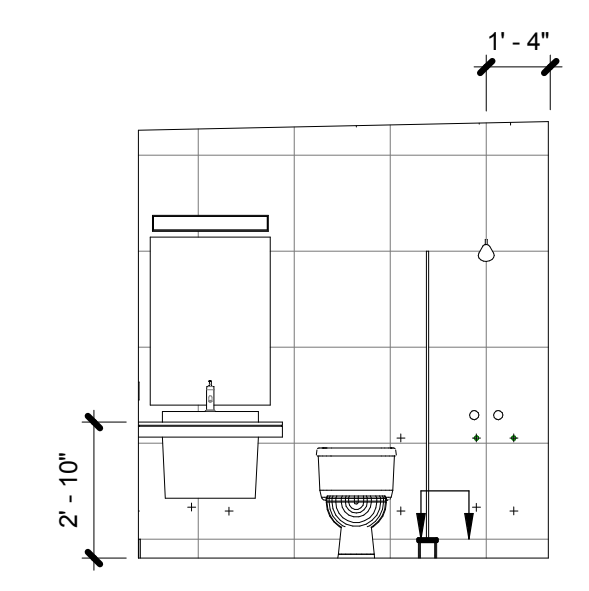
2 ENLARGED PLAN_A112 STUDIO BATH
SCALE: 1/2" = 1'-0"



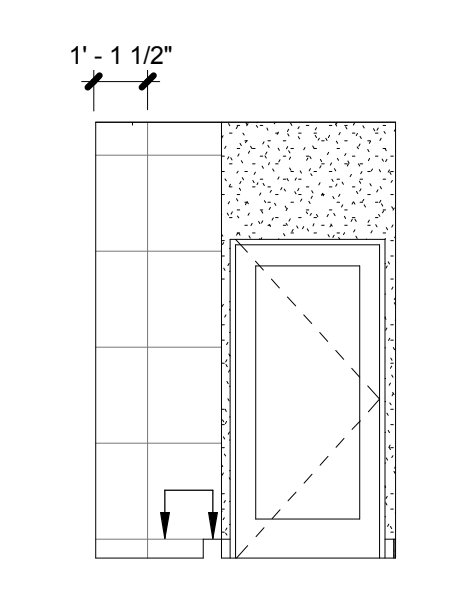
1A Master Bath_North
SCALE: 1/4" = 1'-0"



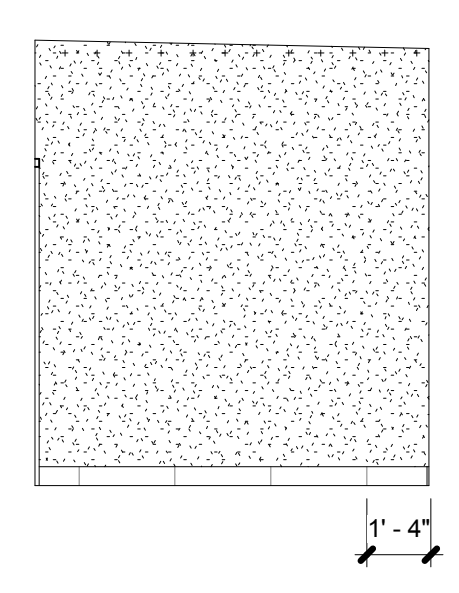
1B Master Bath_East
SCALE: 1/4" = 1'-0"



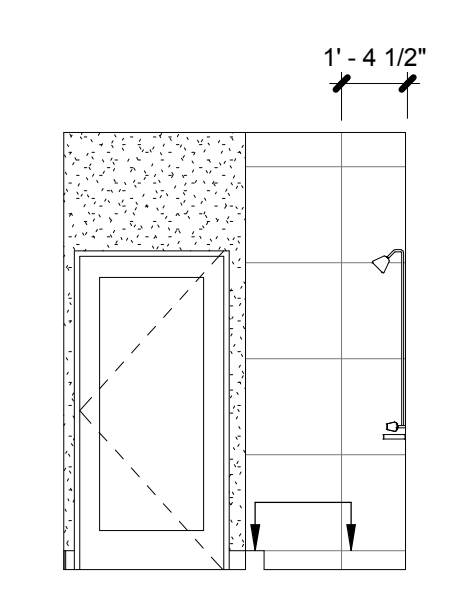
2A STUDIO BATHROOM - NORTH
SCALE: 1/4" = 1'-0"



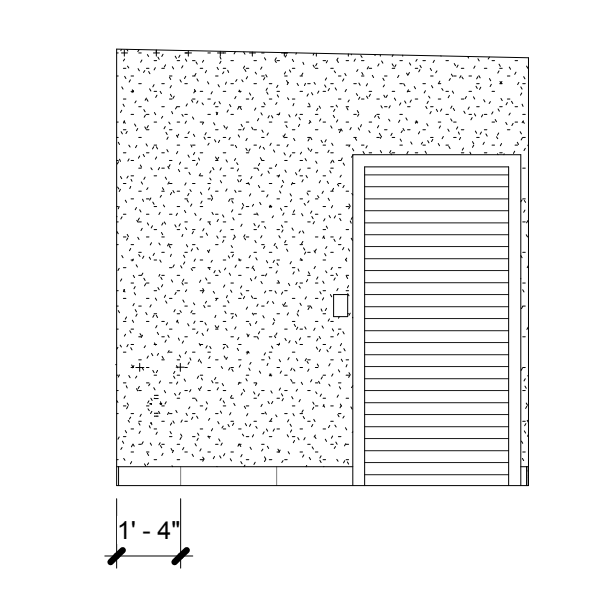
2B STUDIO BATHROOM - EAST
SCALE: 1/4" = 1'-0"



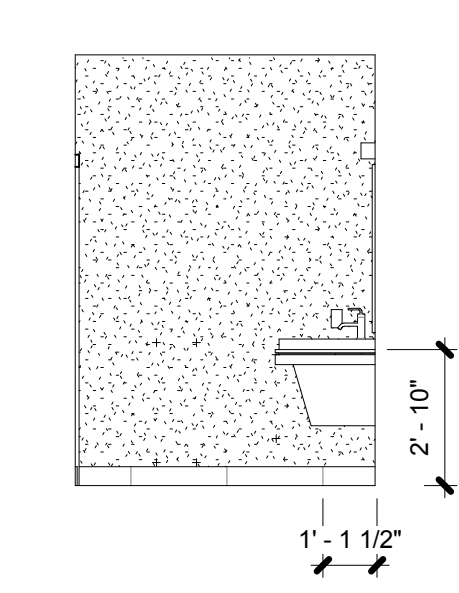
1C Master Bath_South
SCALE: 1/4" = 1'-0"



1D Master Bath_West
SCALE: 1/4" = 1'-0"



2C STUDIO BATHROOM - SOUTH
SCALE: 1/4" = 1'-0"



2D STUDIO BATHROOM - WEST
SCALE: 1/4" = 1'-0"



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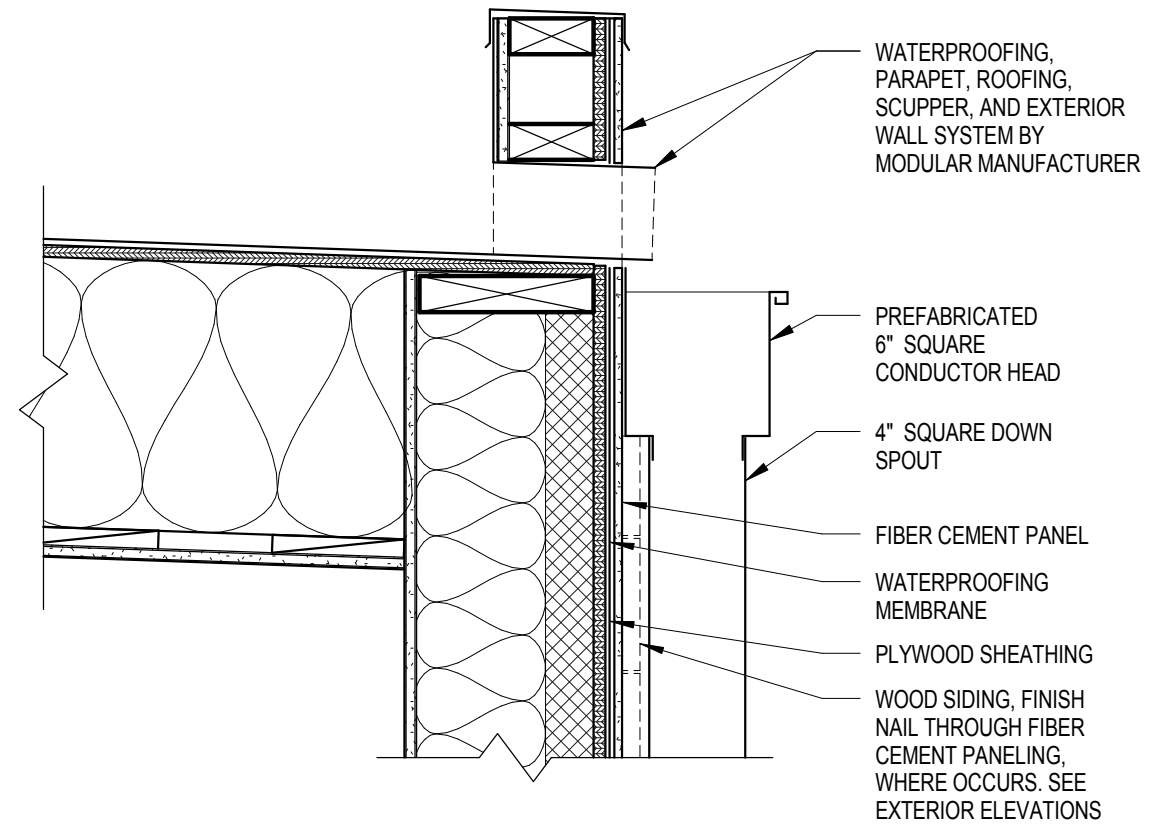


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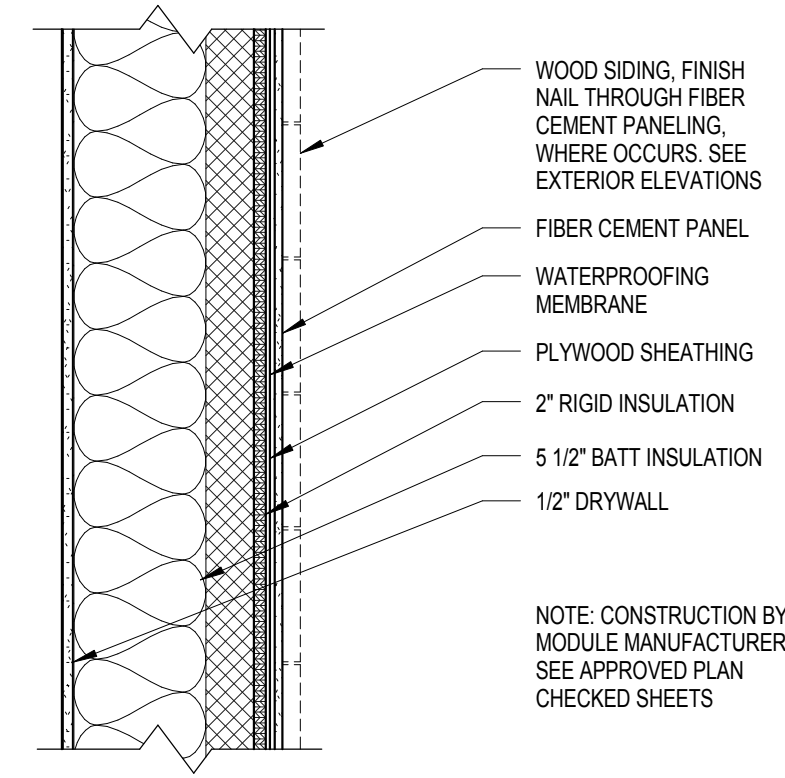
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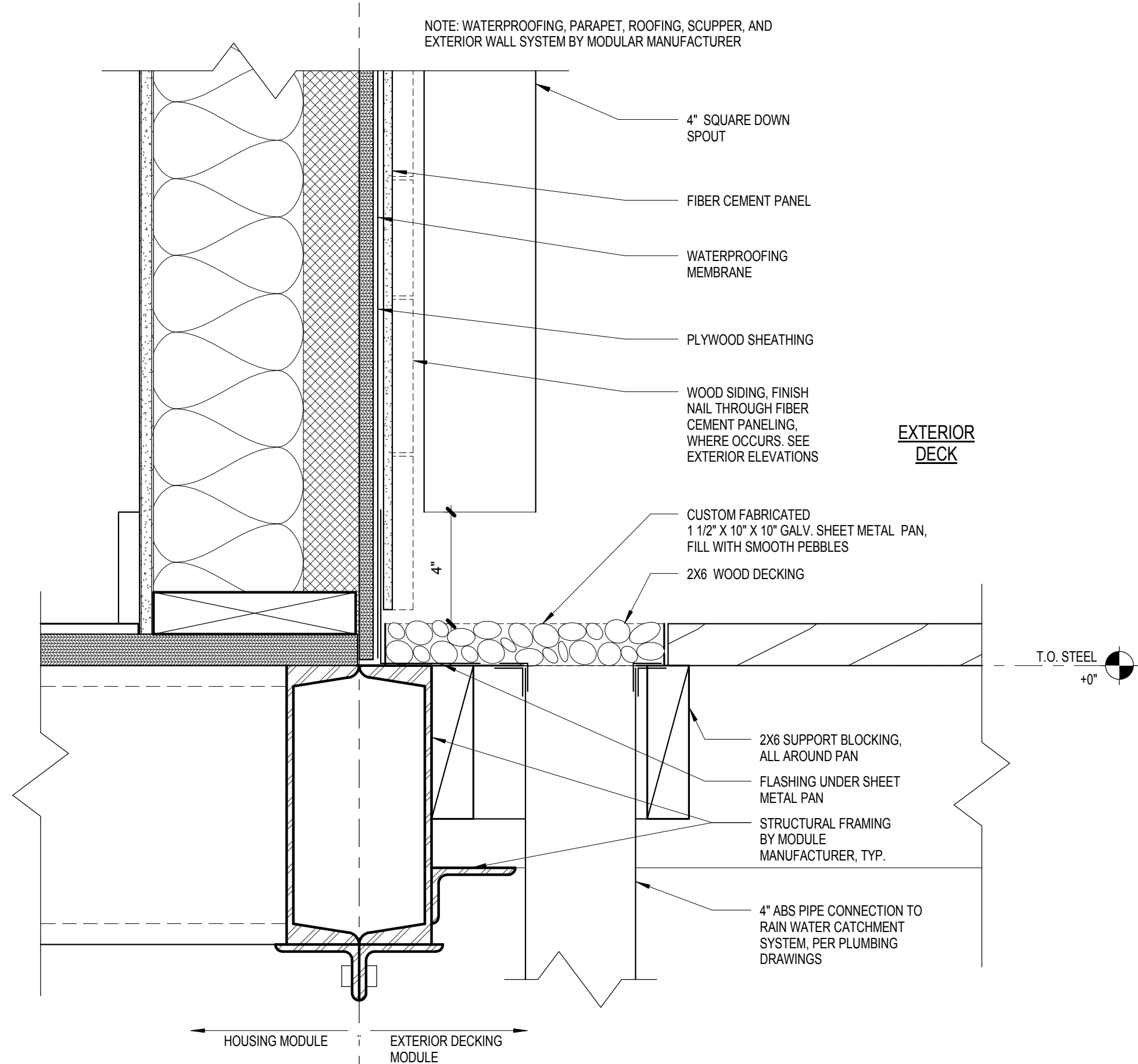
A-401



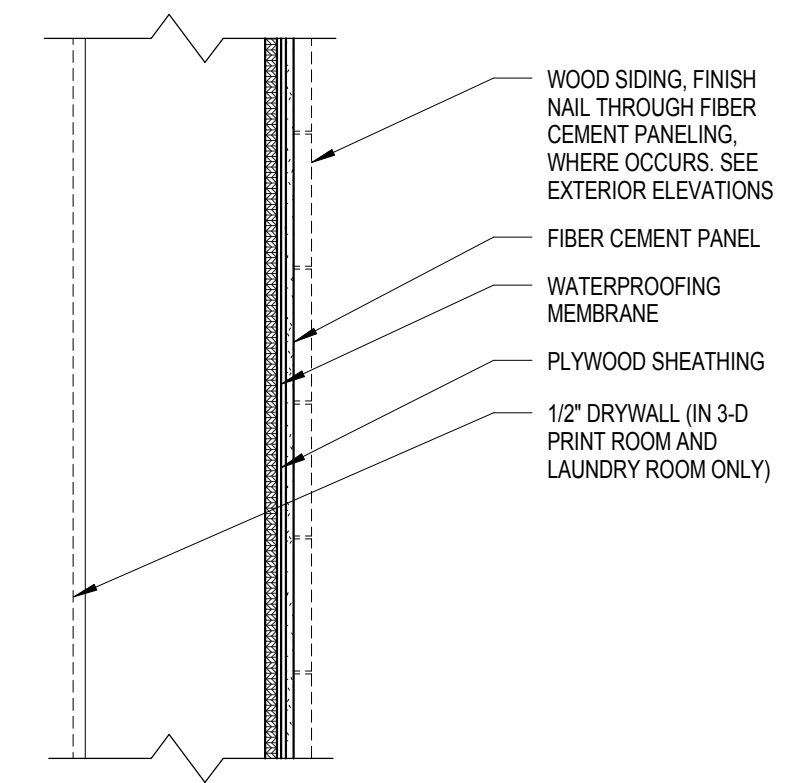
D4 CONDUCTOR HEAD AND DOWNSPOUT DETAIL
SCALE: 1 1/2" = 1'-0"



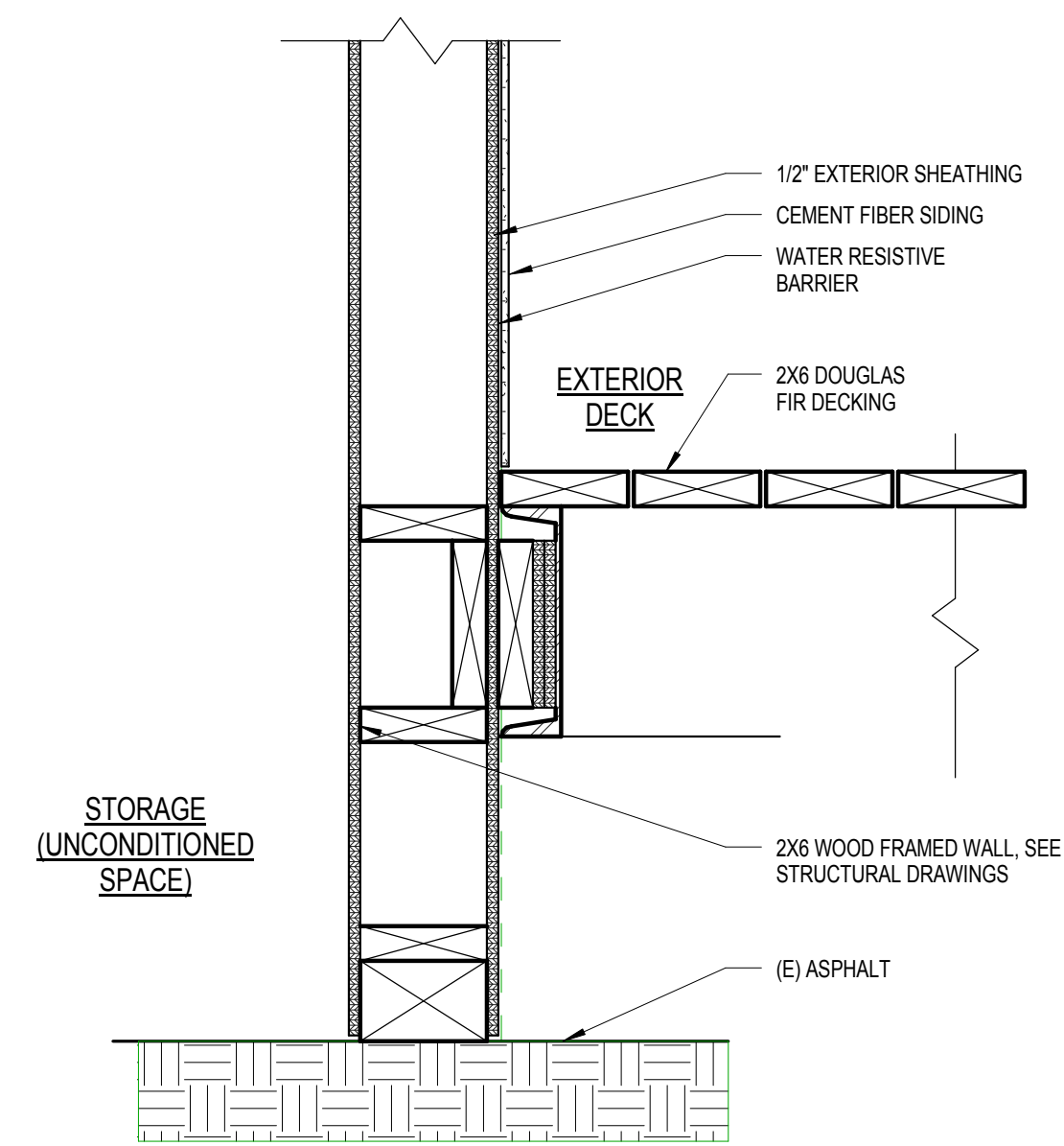
D6 TYPICAL EXTERIOR WALL DETAIL
SCALE: 1 1/2" = 1'-0"



A1 DOWNSPOUT COLLECTOR PAN DETAIL
SCALE: 3" = 1'-0"



C6 EXTERIOR WALL AT UNCONDITIONED SPACE
SCALE: 1 1/2" = 1'-0"



A6 WALL AT DECK EDGE
SCALE: 1 1/2" = 1'-0"



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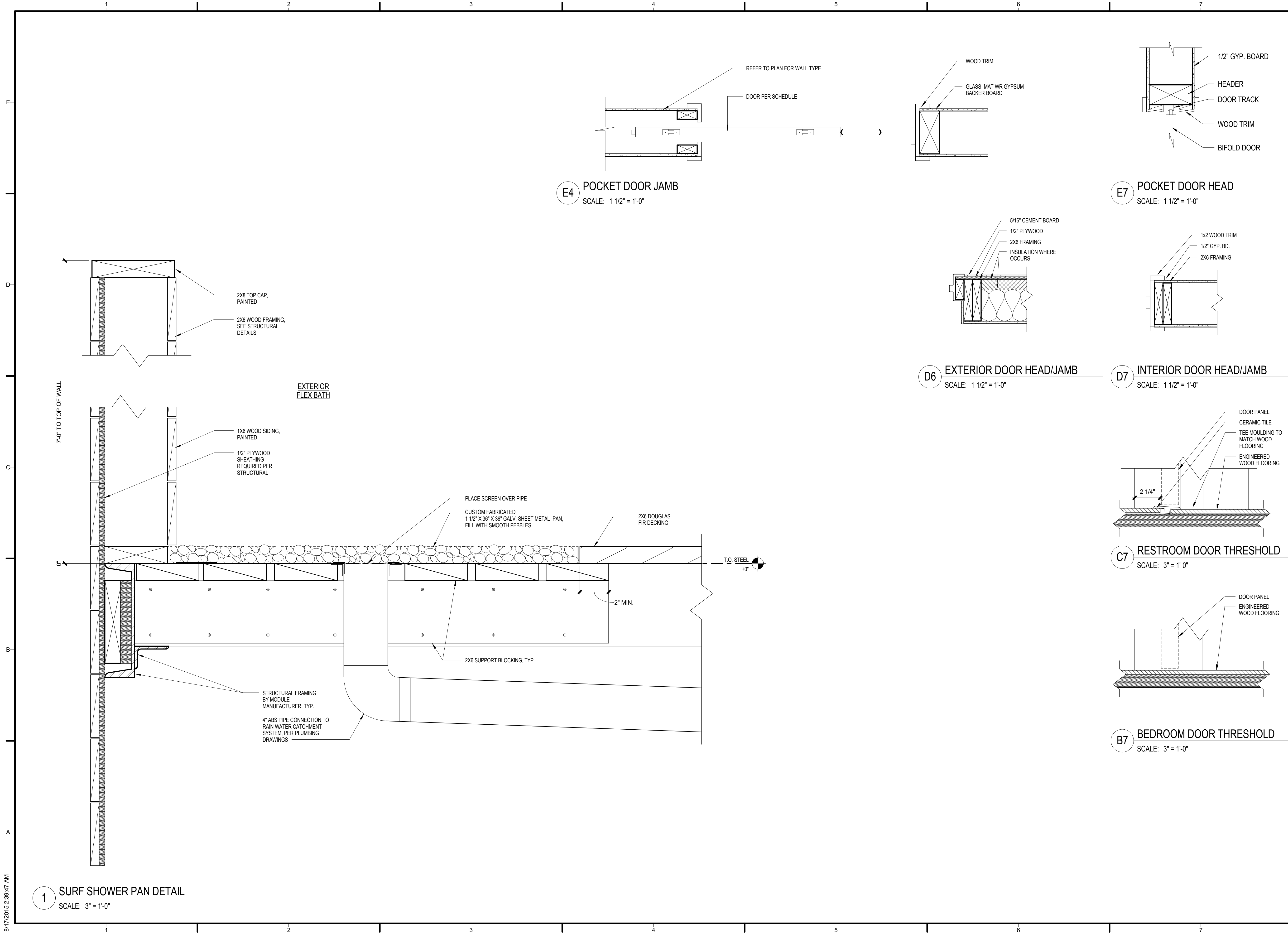
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DETAILS

A-511

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SHEET TITLE
DETAILS

A-512

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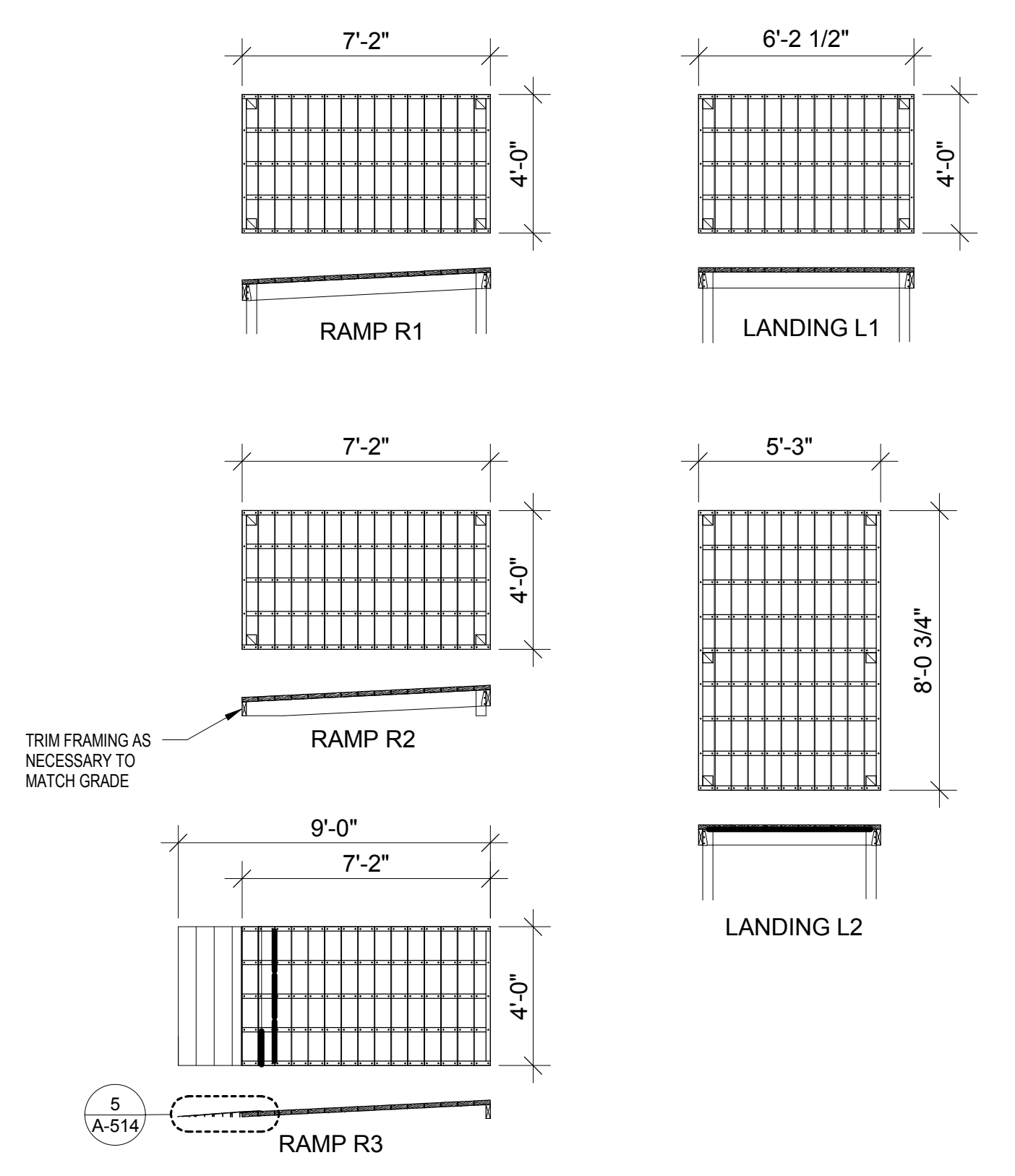
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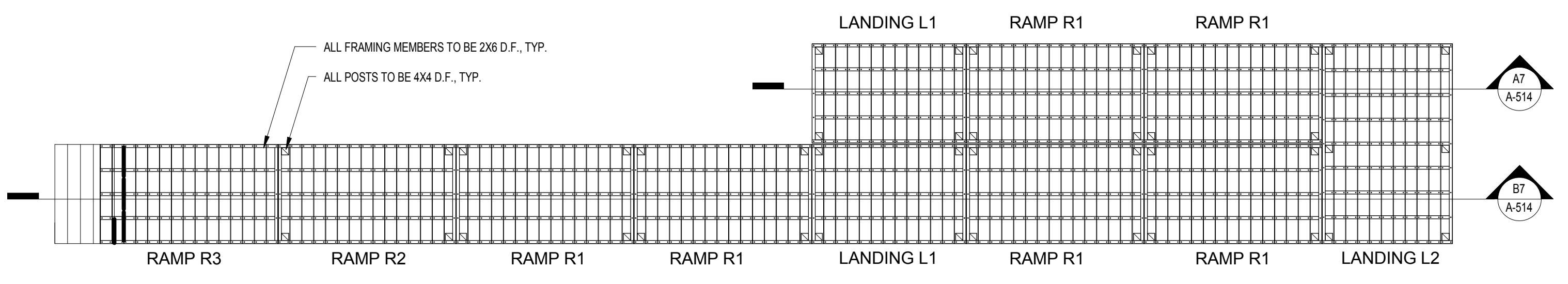
SHEET TITLE

SOUTH RAMP

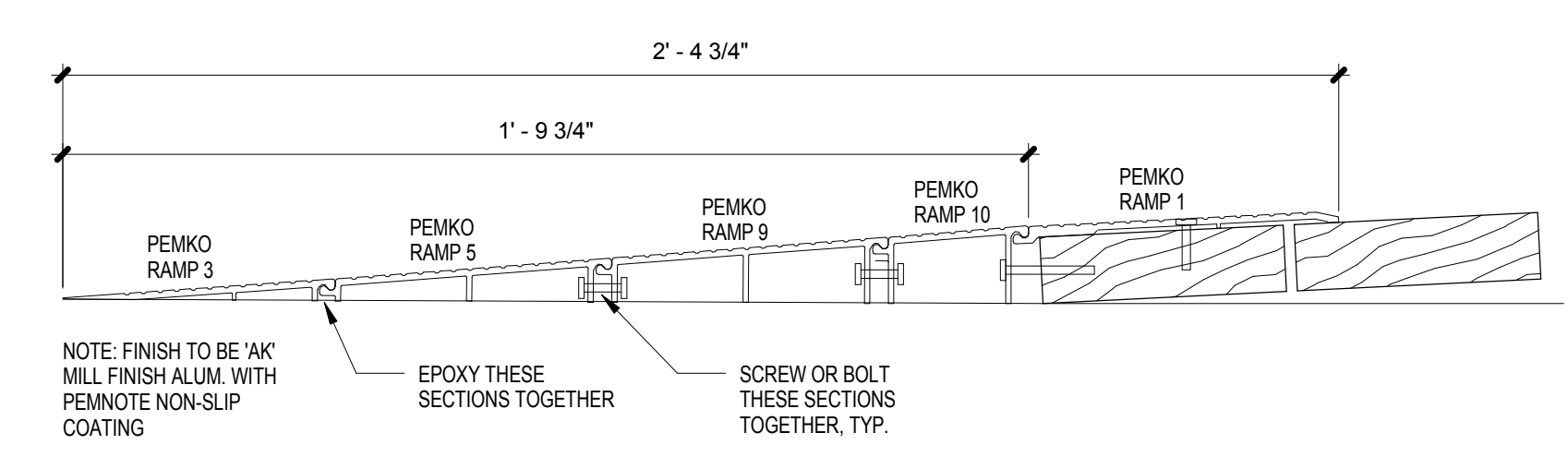
A-514



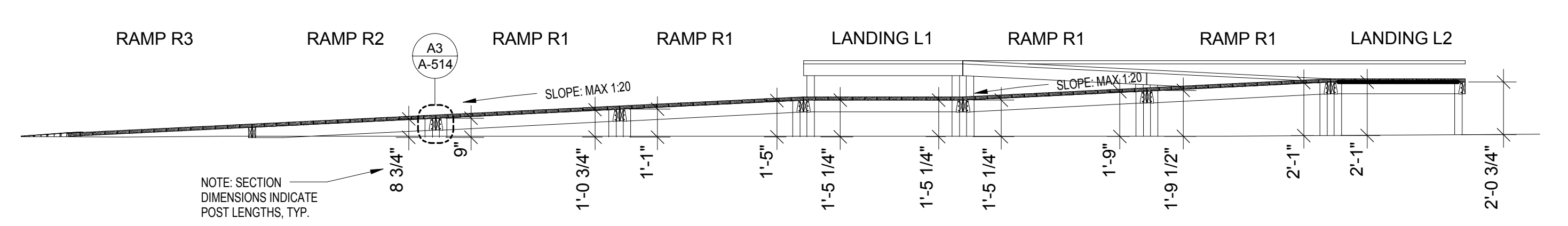
RAMP MODULE KEY - PLAN VIEW OF MODULES 1/4" = 1'-0" C3



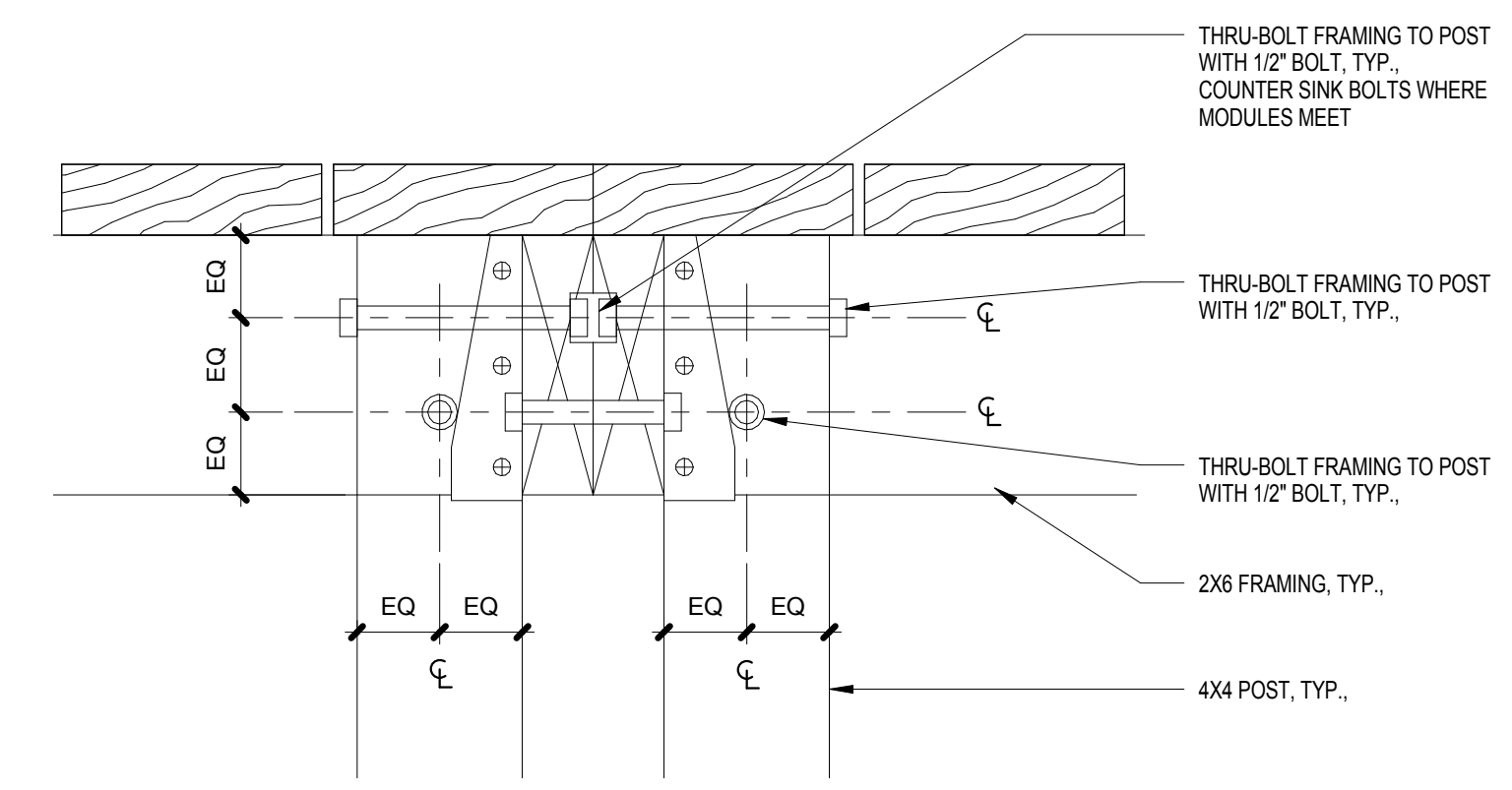
SOUTH RAMP PLAN VIEW 1/4" = 1'-0" A1 / A-111 D7



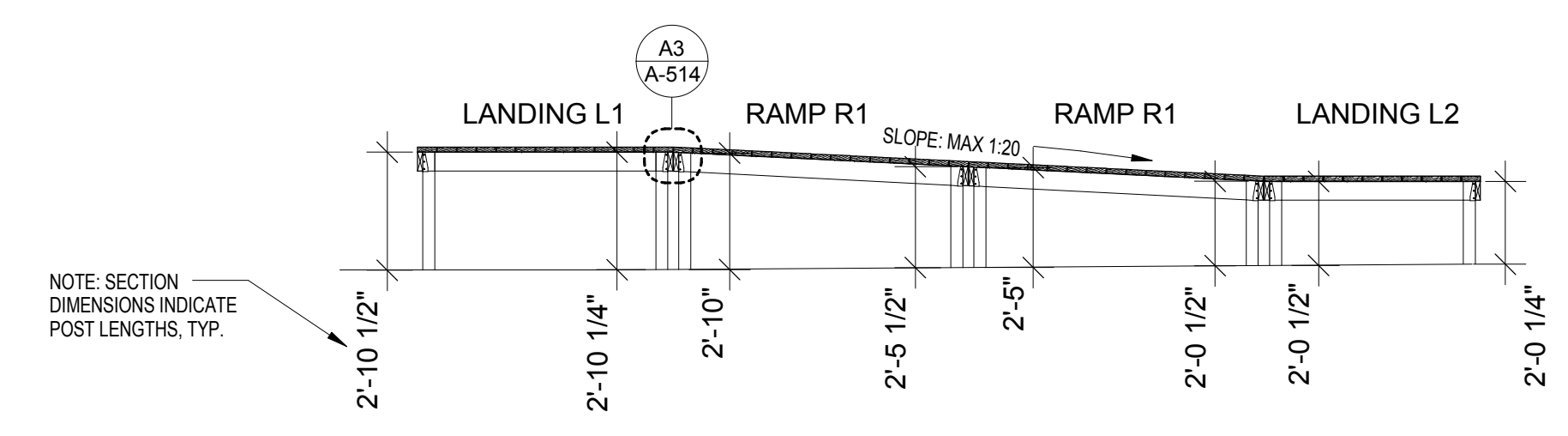
RAMP BASE DETAIL 3" = 1'-0" C3 / A-514 5



SOUTH RAMP - SECTION A 1/4" = 1'-0" D7 / A-514 B7

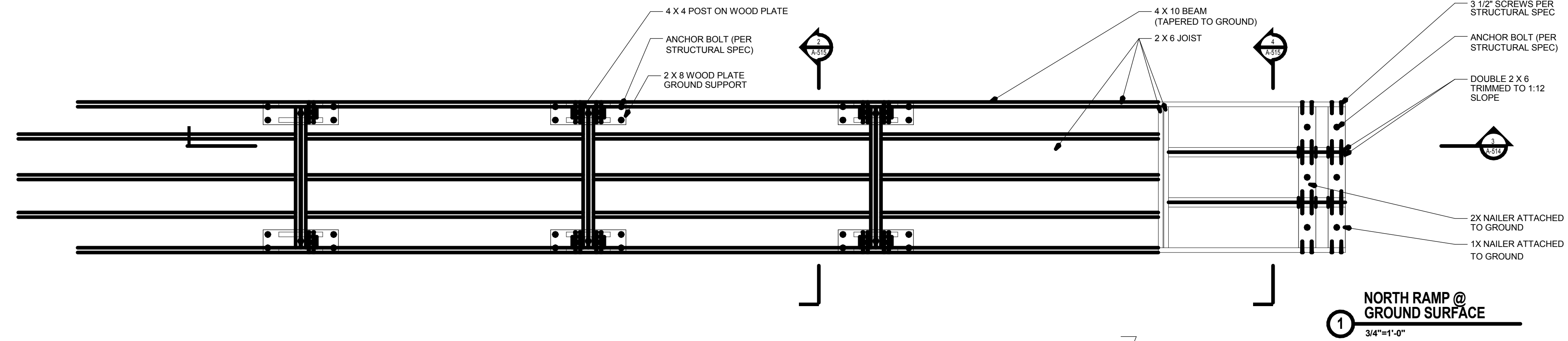


MODULE TO MODULE DETAIL 3" = 1'-0" A7 / A-514 A3

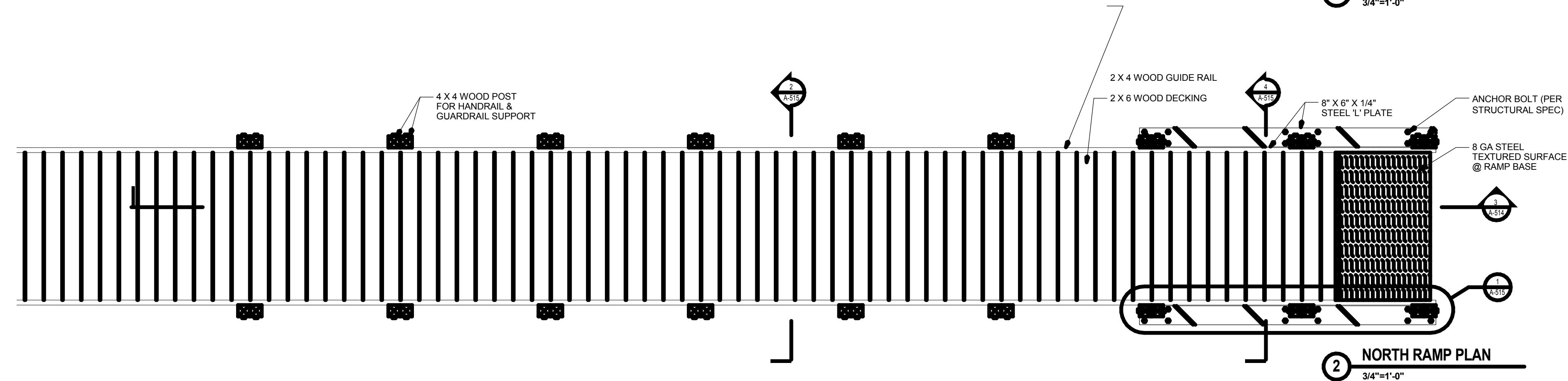


SOUTH RAMP - SECTION B 1/4" = 1'-0" D7 / A-514 A7

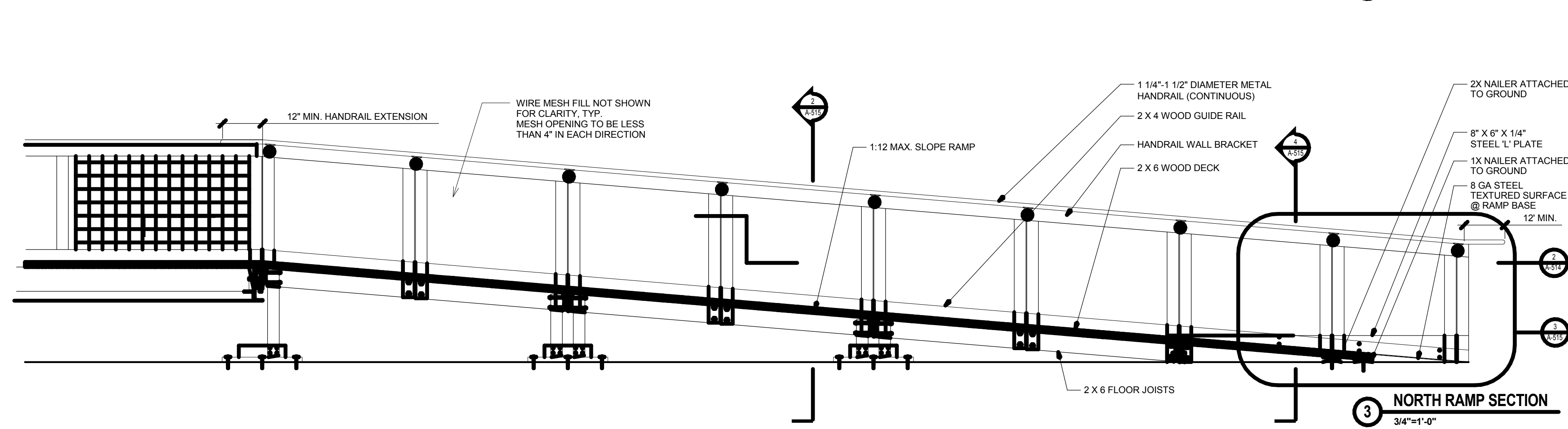
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1 NORTH RAMP @ GROUND SURFACE
3/4"=1'-0"



2 NORTH RAMP PLAN
3/4"=1'-0"



3 NORTH RAMP SECTION
3/4"=1'-0"

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



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SHEET TITLE
 NORTH RAMP

A-515

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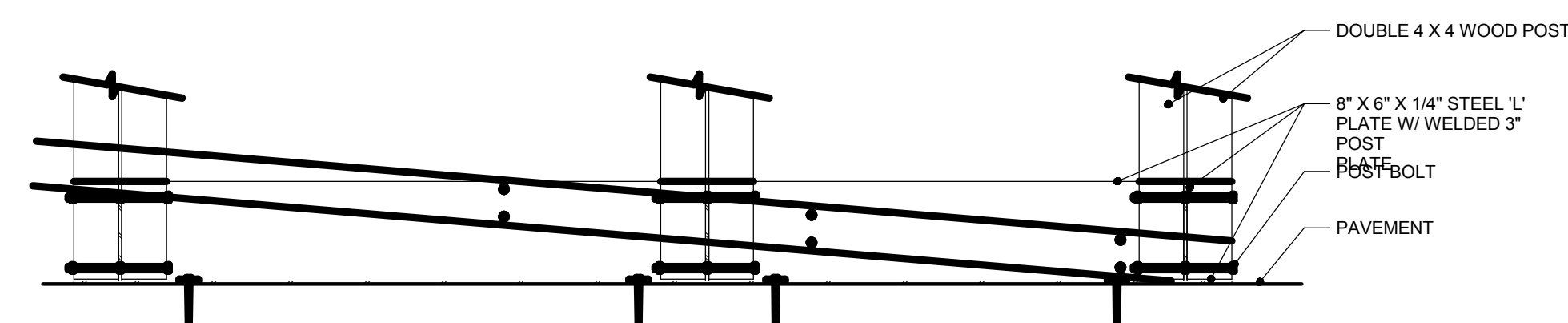


MARK	DATE	DESCRIPTION
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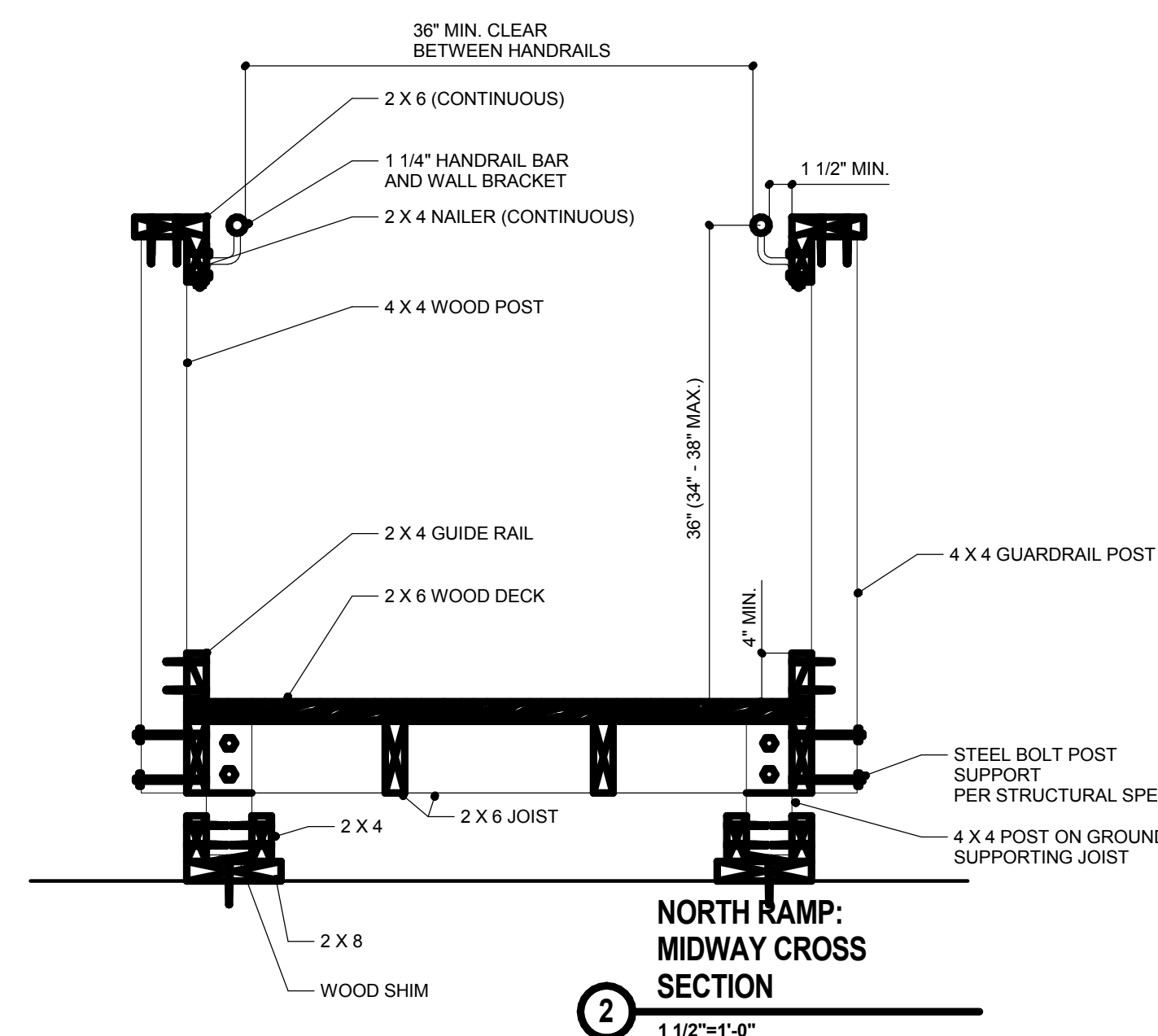
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NORTH RAMP DETAILS

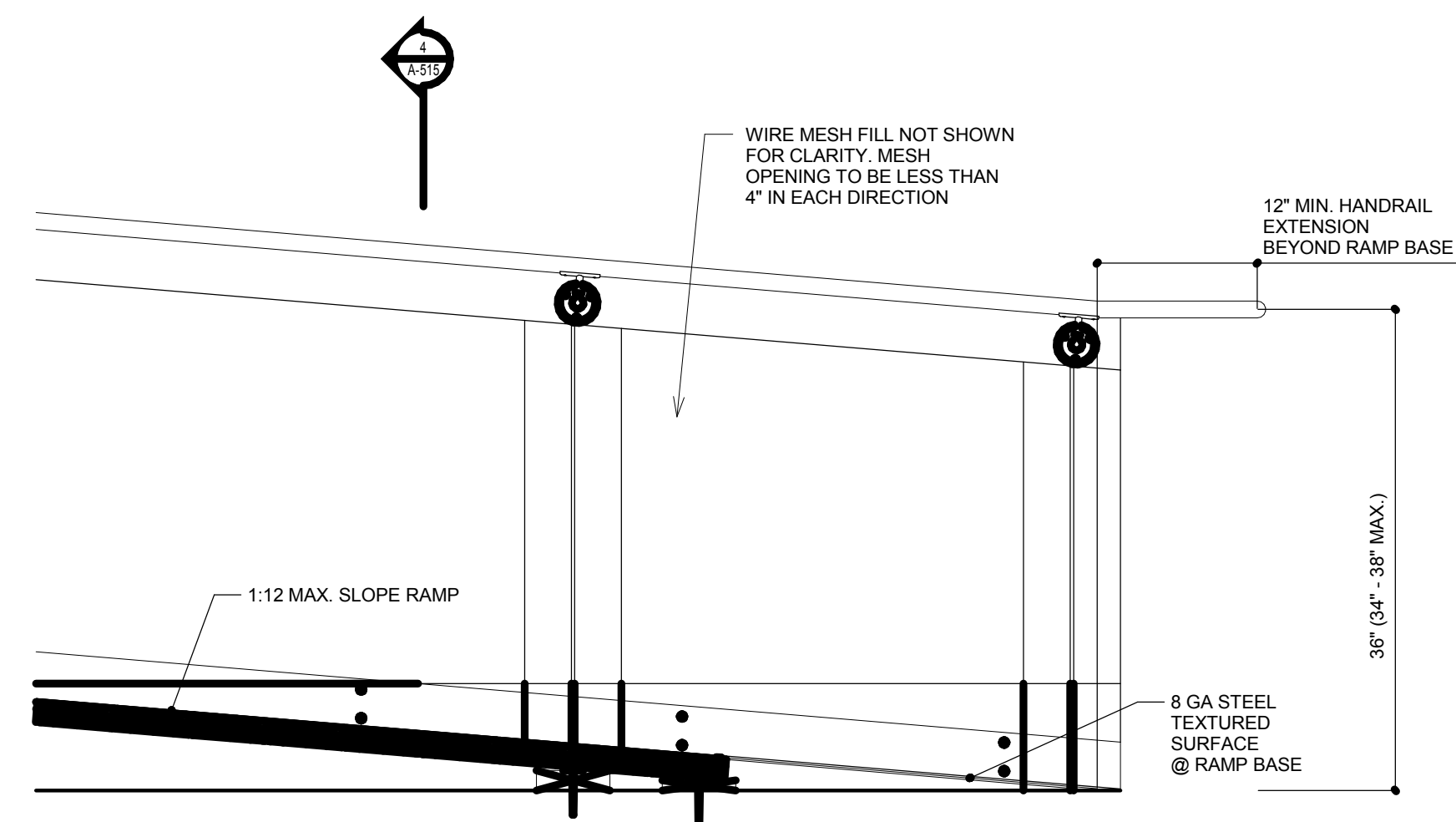
A-516



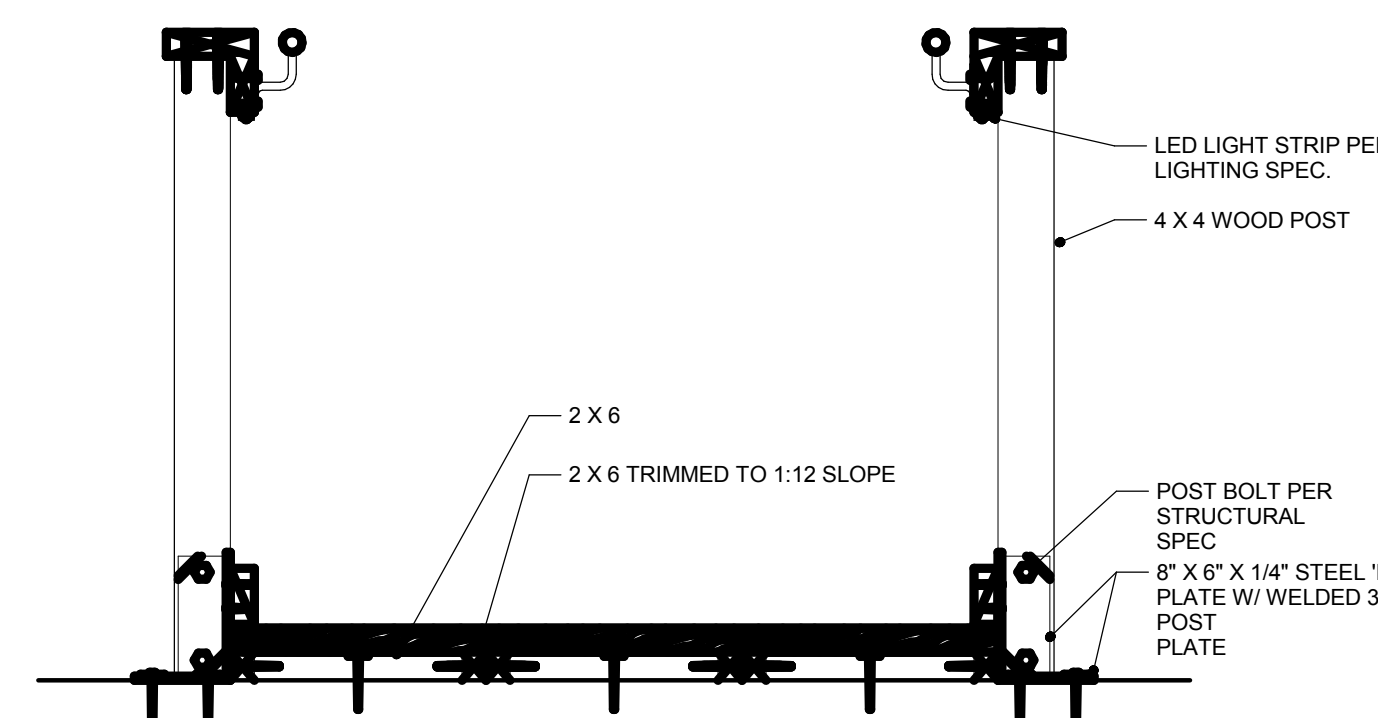
METAL PLATE FOR WOOD POST DETAIL
 1 1/2"=1'-0"



NORTH RAMP: MIDWAY CROSS SECTION
 1 1/2"=1'-0"

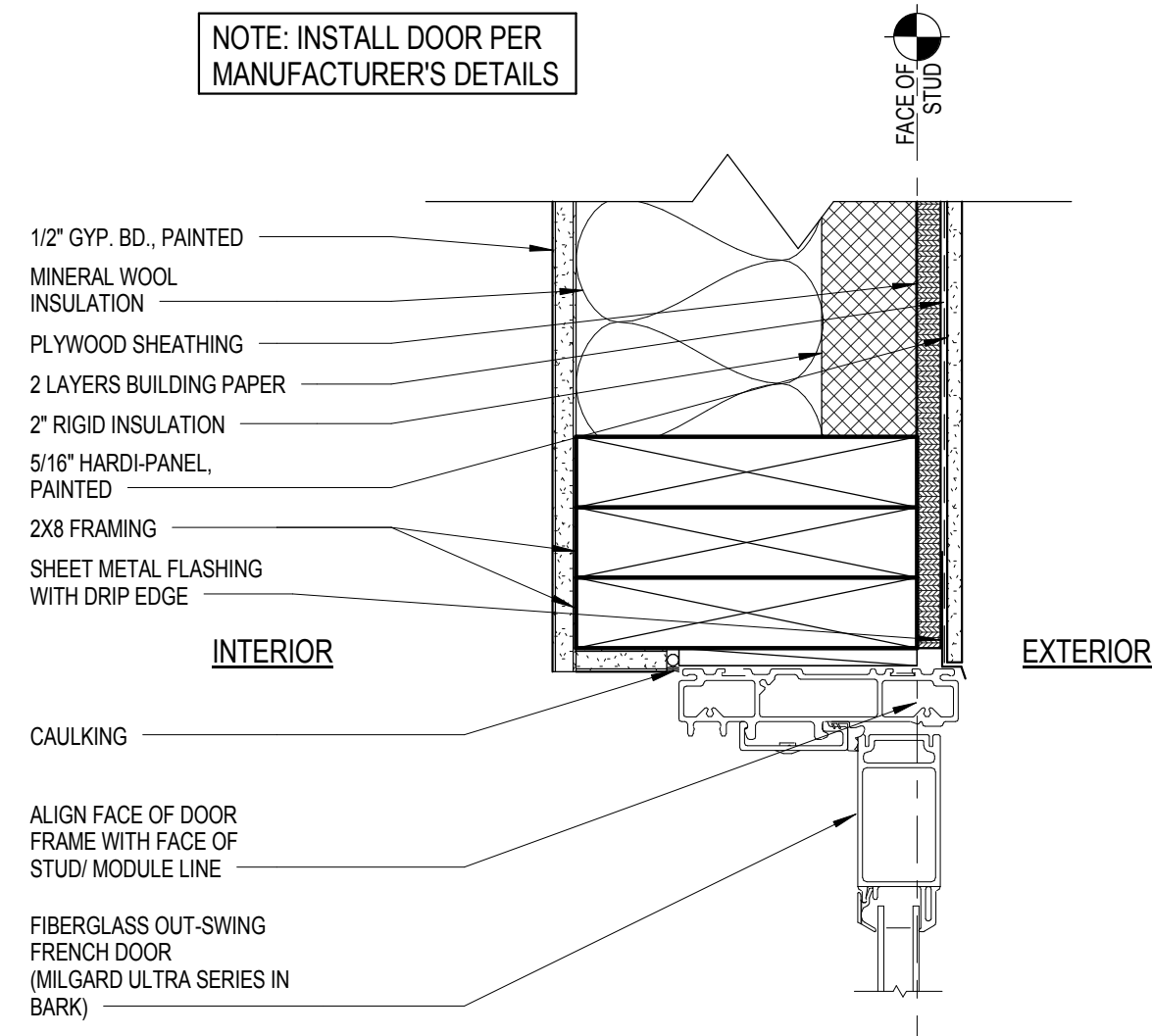


NORTH RAMP: LOWER LONG SECTION
 1 1/2"=1'-0"

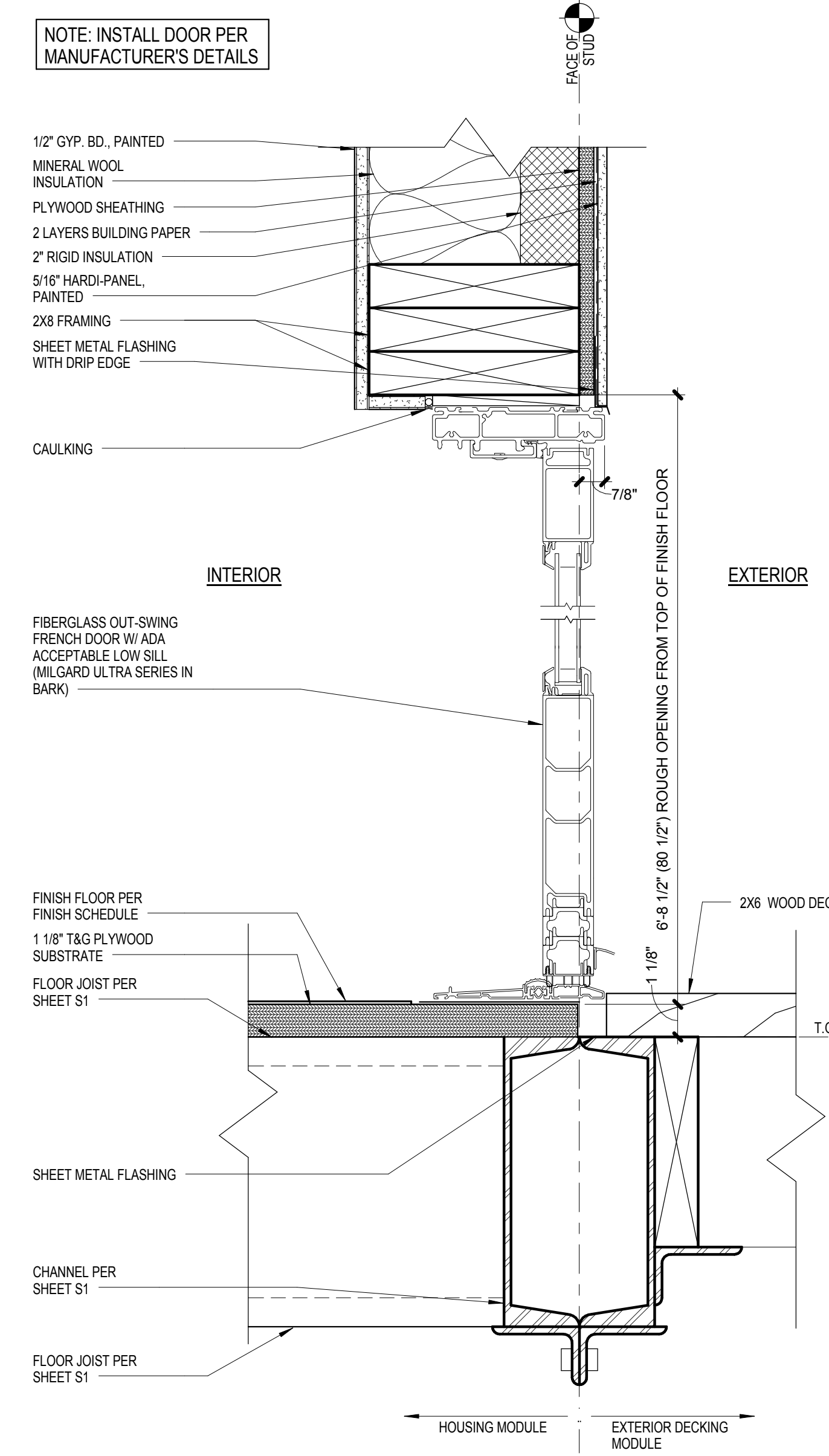


NORTH RAMP: LOWER CROSS SECTION
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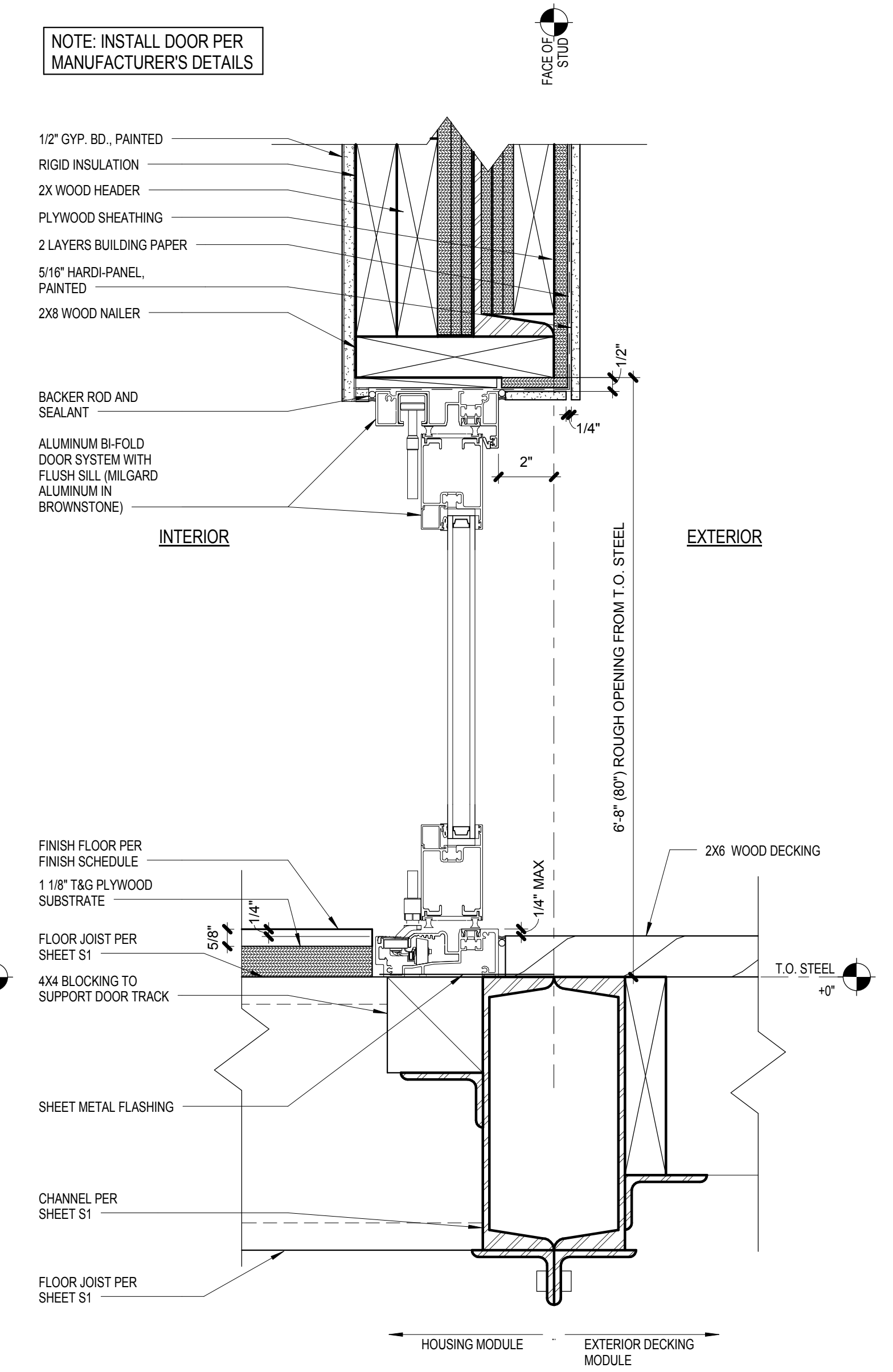
1 NORTH RAMP DETAILS
 SCALE: 1"=1'-0"



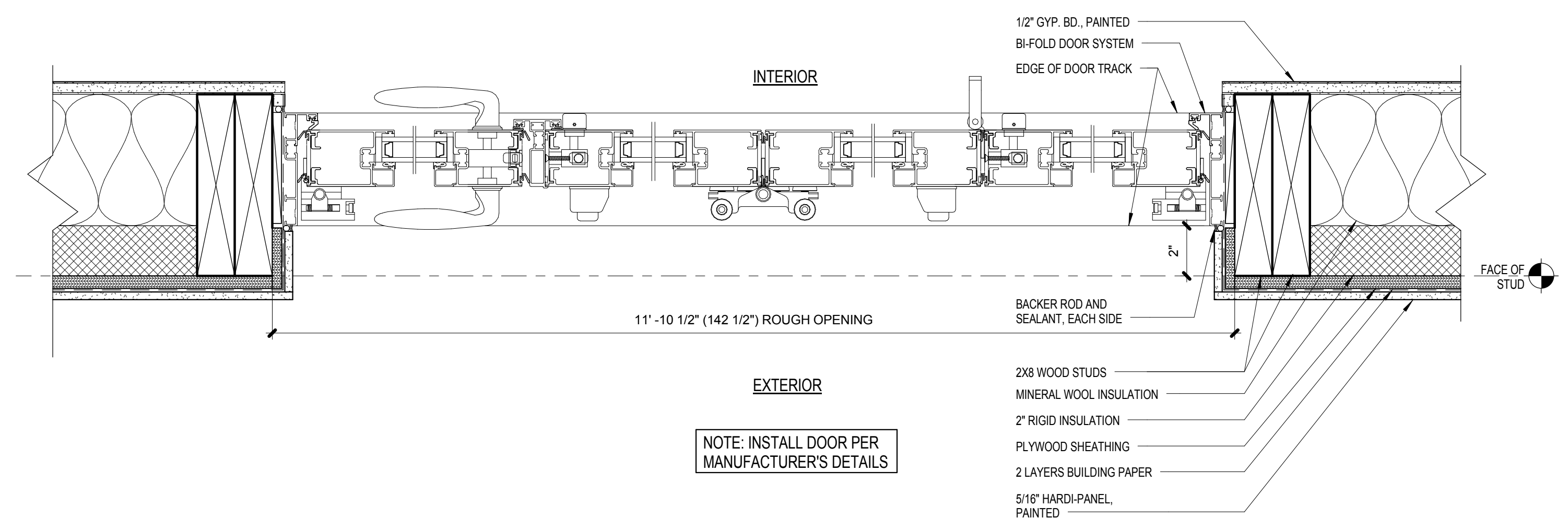
B6 FRENCH DOOR - JAMB
SCALE: 3" = 1'-0"



C4 FRENCH DOOR - HEAD AND THRESHOLD
SCALE: 3" = 1'-0"



C2 BI-FOLD DOOR - HEAD AND SILL
SCALE: 3" = 1'-0"



E4 BI-FOLD DOOR - JAMB DETAIL
SCALE: 3" = 1'-0"



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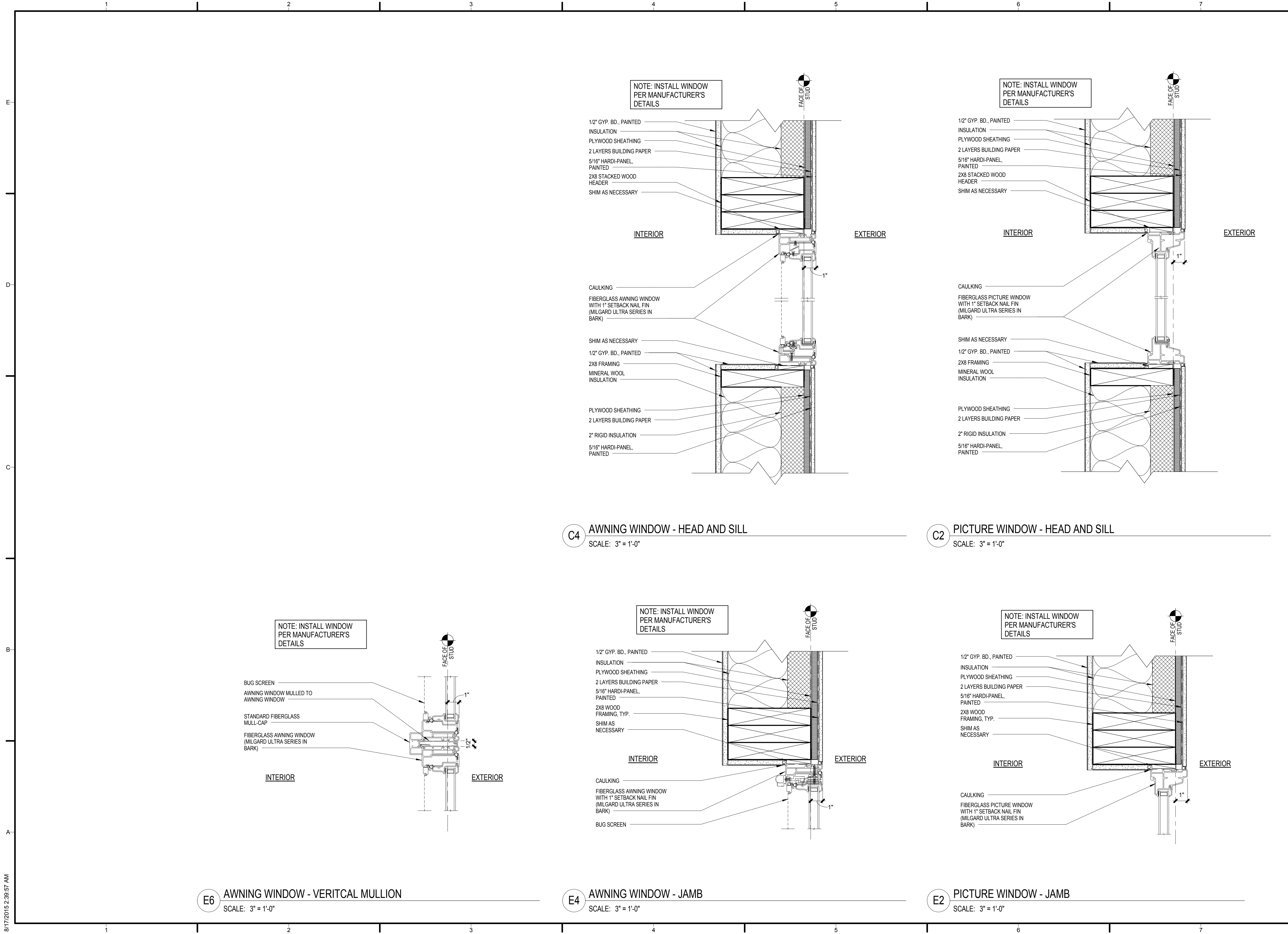


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EXTERIOR DOOR DETAILS

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EXTERIOR WINDOW DETAILS

A-522

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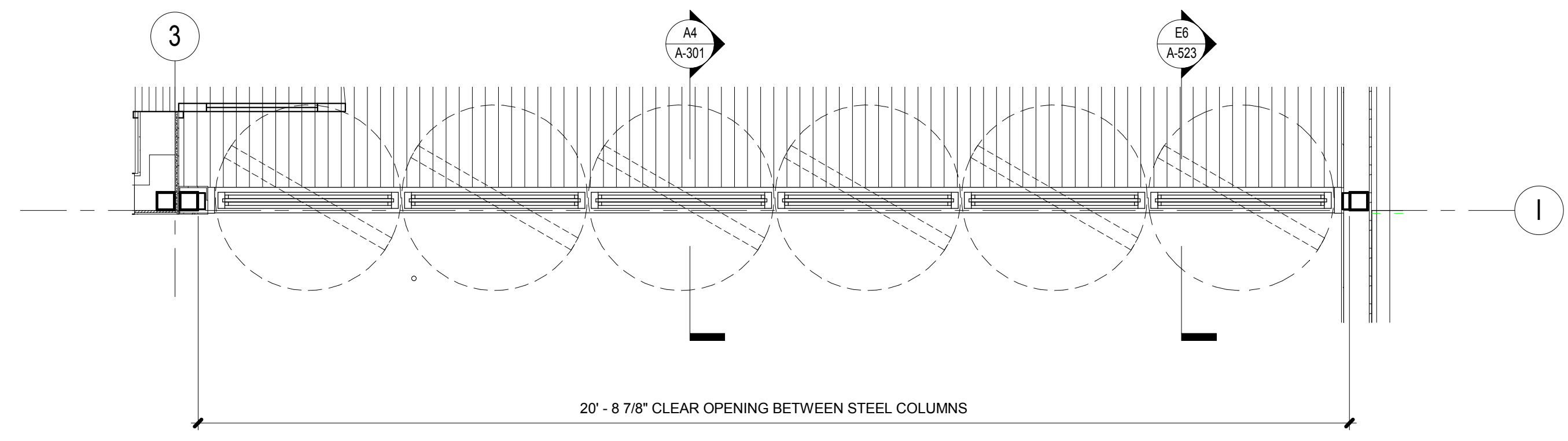


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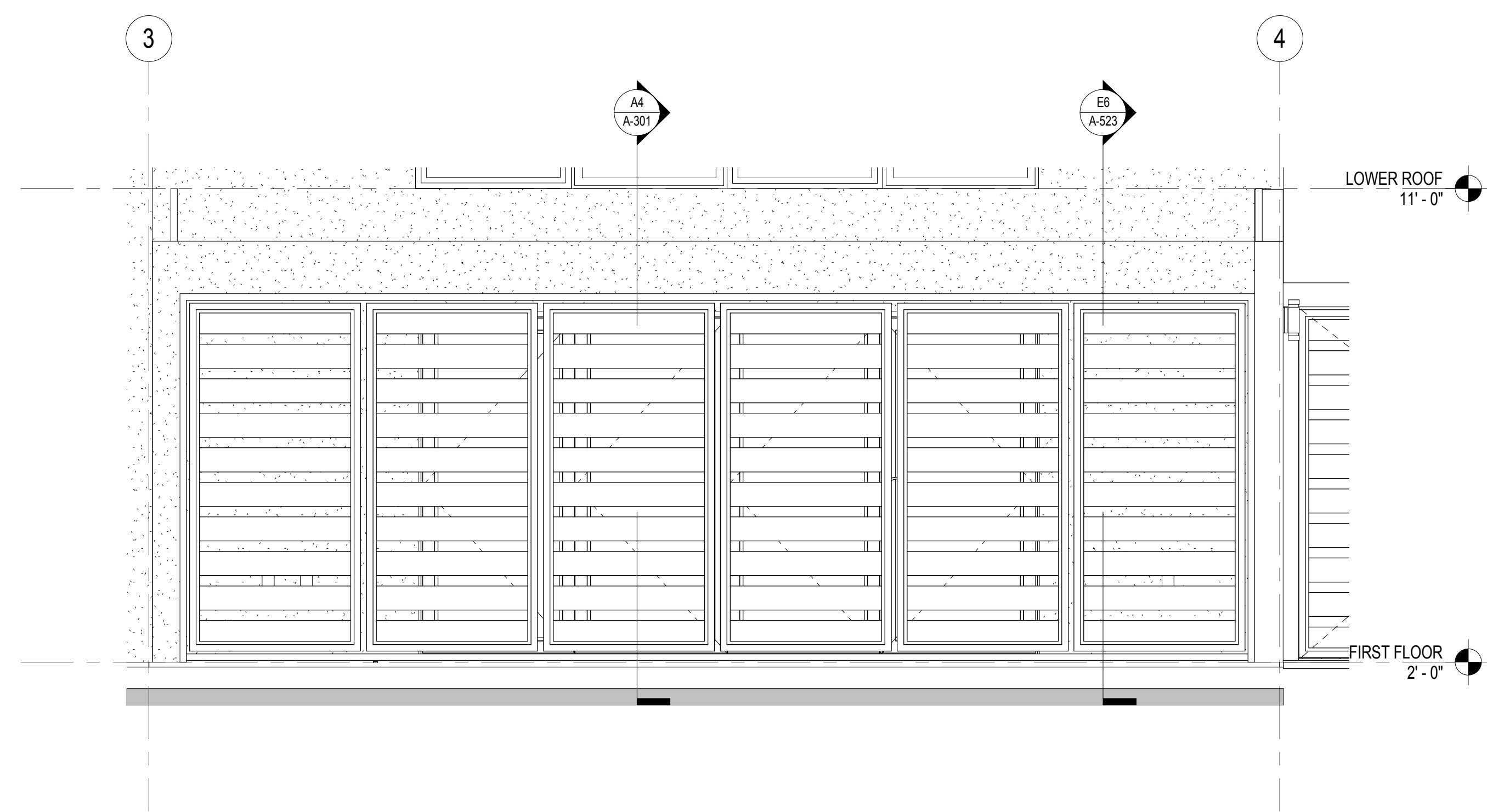
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SHEET TITLE
6-PART PIVOT SCREEN SYSTEM

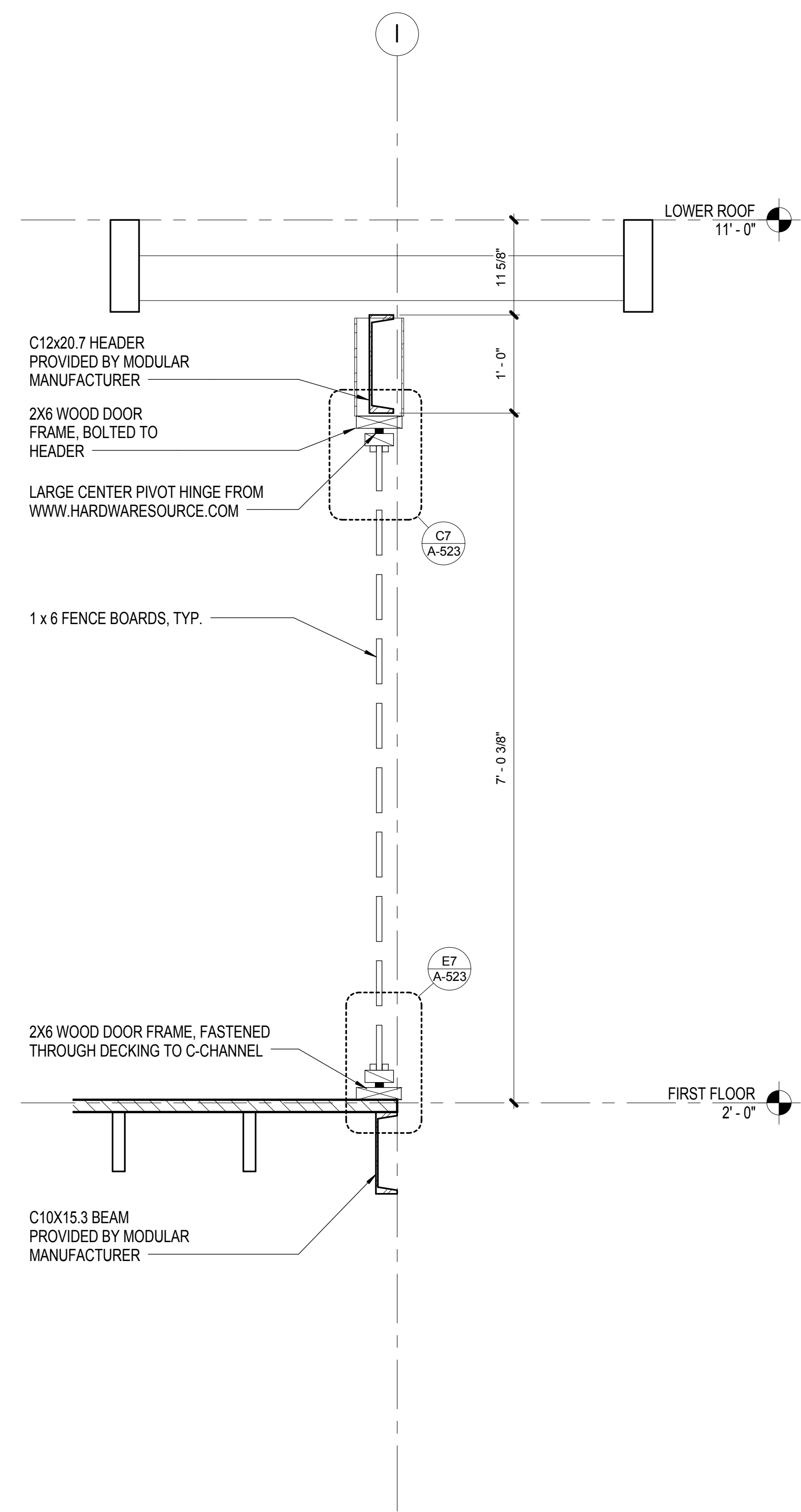
A-523



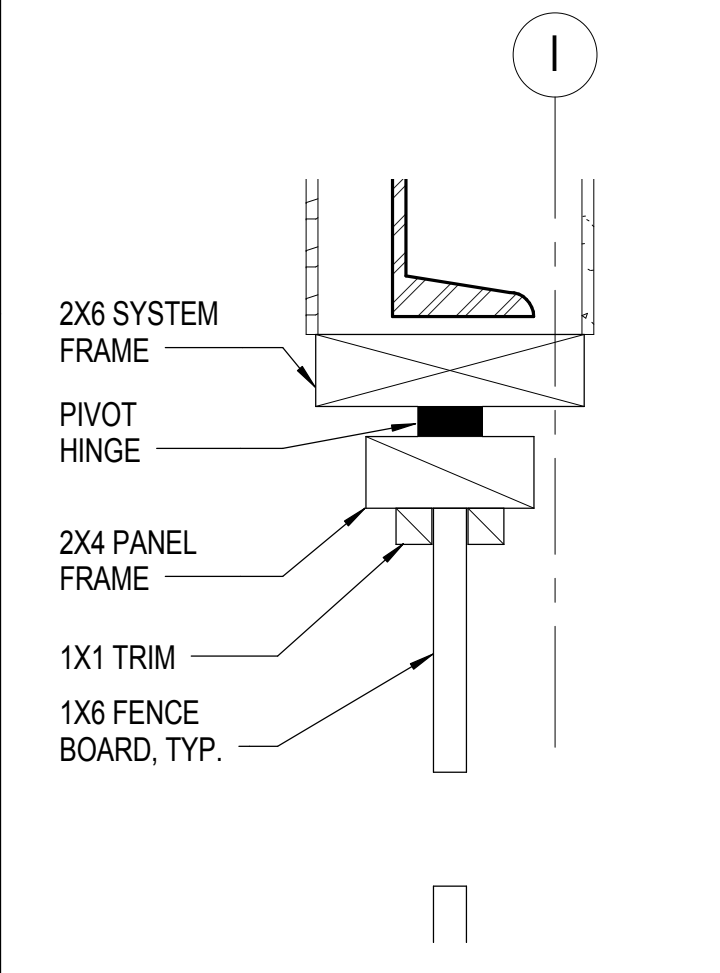
B4 6-PANEL DOOR SYSTEM PLAN
 SCALE: 1/2" = 1'-0"



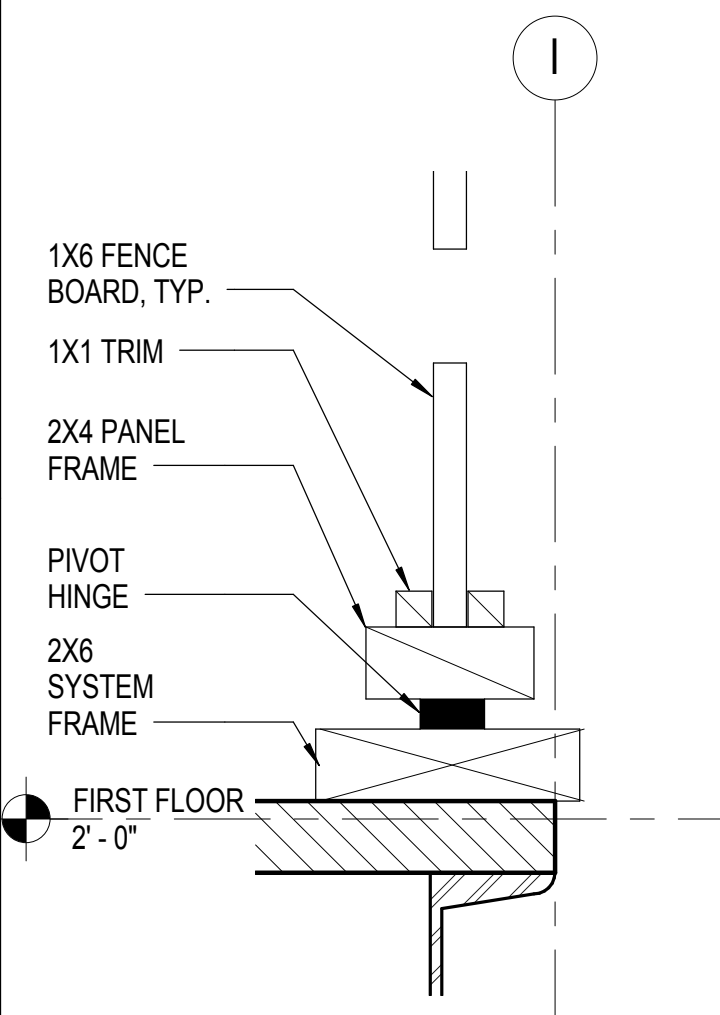
E4 6-PANEL SCREEN SYSTEM ELEVATION
 SCALE: 1/2" = 1'-0"



E6 WALL SECTION AT PRIVACY SCREEN SYSTEM
 SCALE: 1" = 1'-0"

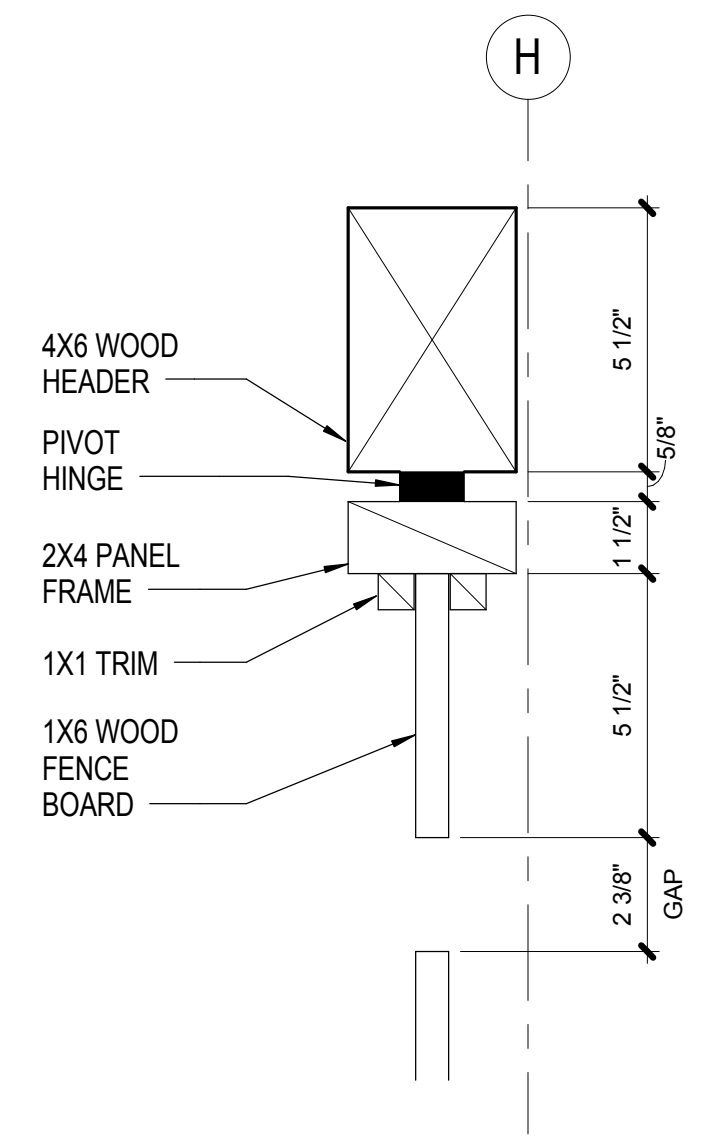


C7 PIVOT SCREEN HEAD DETAIL
 SCALE: 3" = 1'-0"

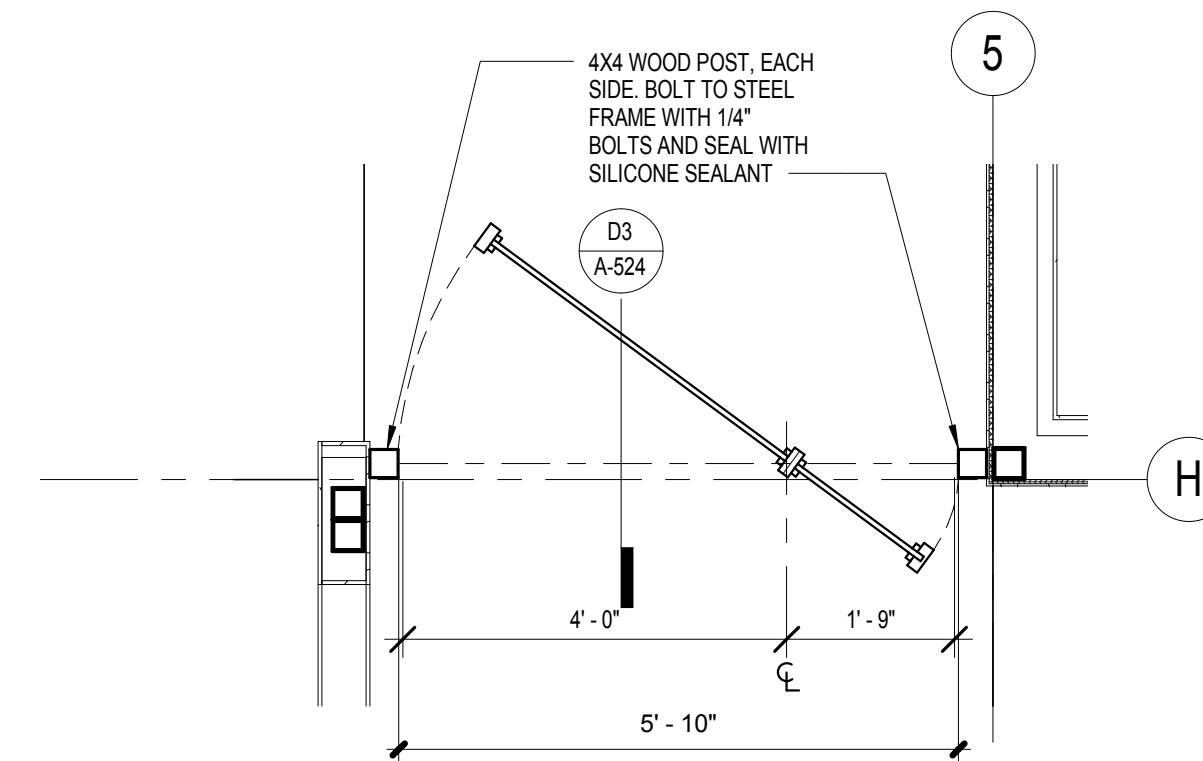


E7 PIVOT SCREEN THRESHOLD
 SCALE: 3" = 1'-0"

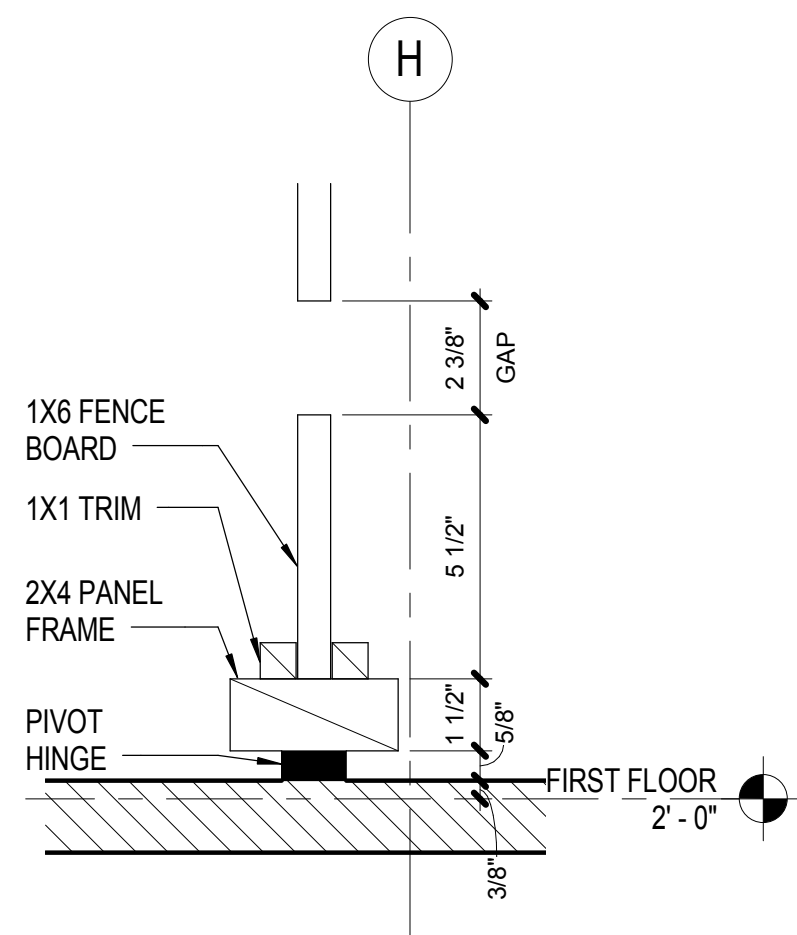
8/17/2015 2:40:00 AM



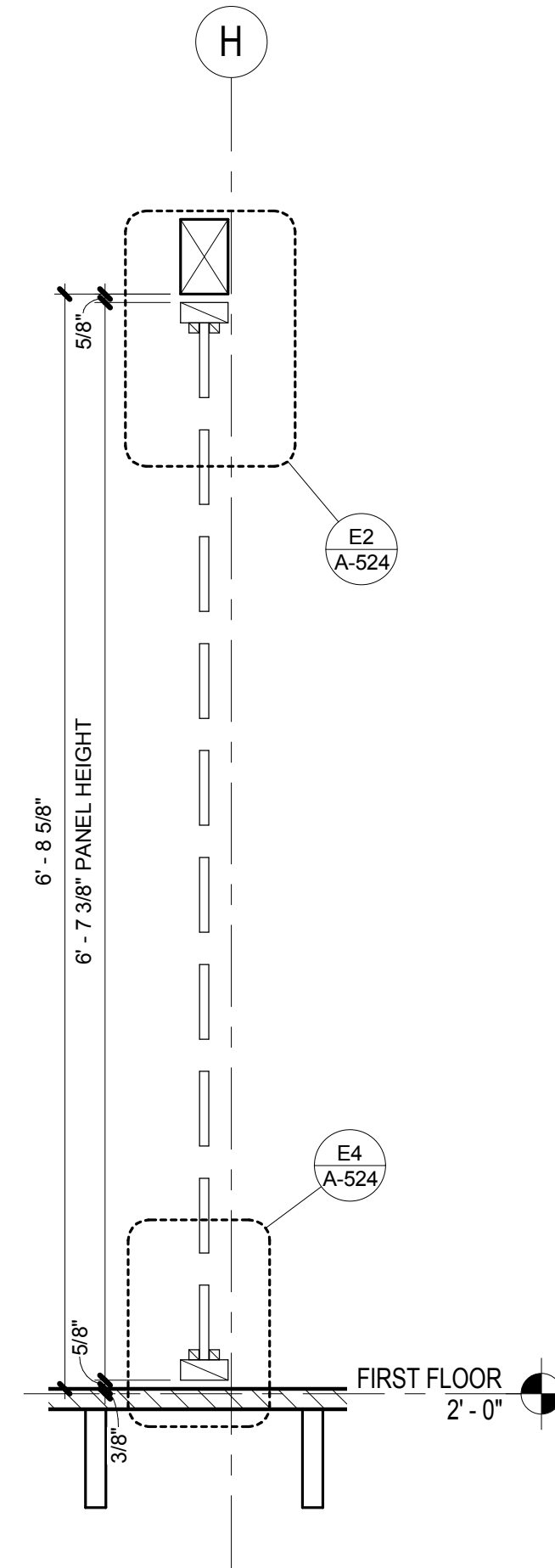
E2 PIVOT GATE HEAD DETAIL
SCALE: 3" = 1'-0"



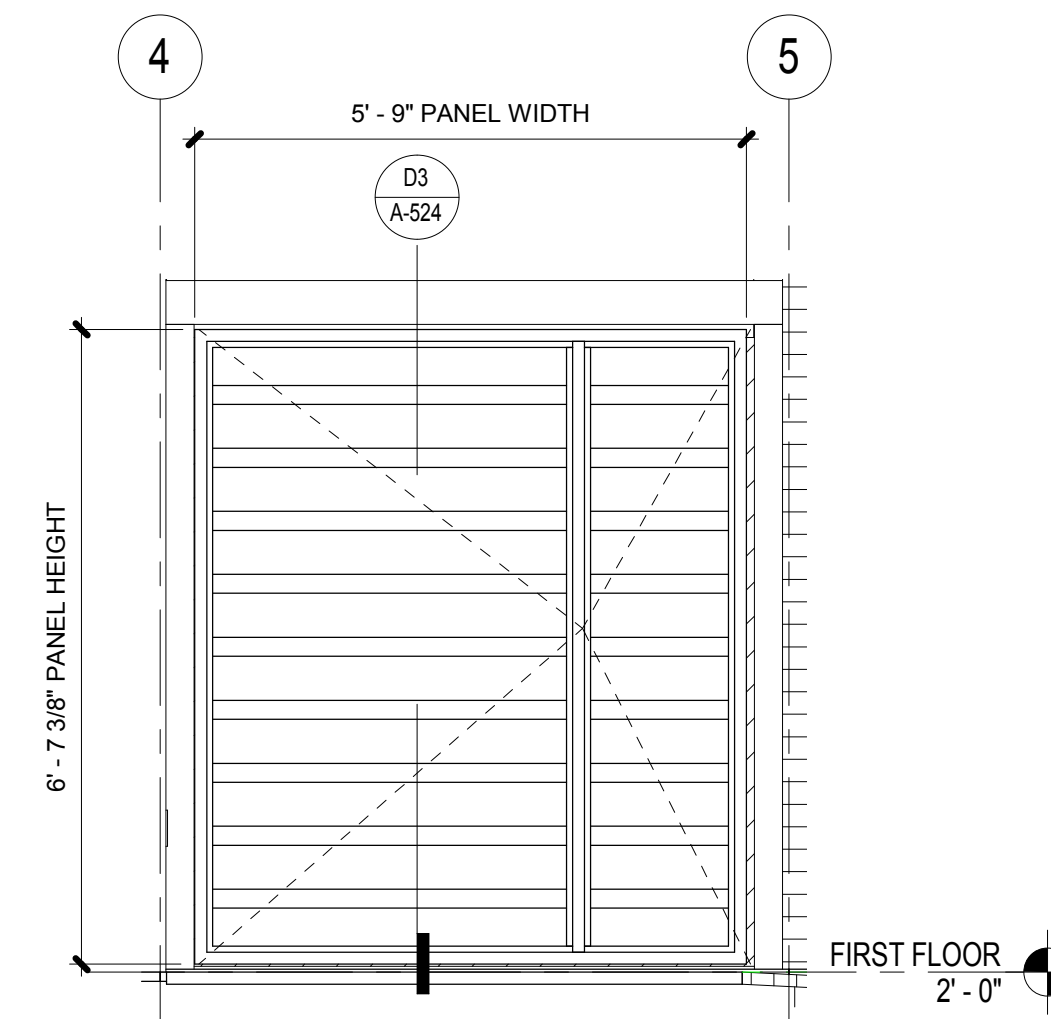
B2 PIVOT GATE ENLARGED PLAN
SCALE: 1/2" = 1'-0"



E4 PIVOT GATE THRESHOLD DETAIL
SCALE: 3" = 1'-0"



D3 PIVOT ENTRY DOOR SECTION
SCALE: 1" = 1'-0"



D2 PIVOT ENTRY GATE ELEVATION
SCALE: 1/2" = 1'-0"



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PIVOTING GATE

A-524



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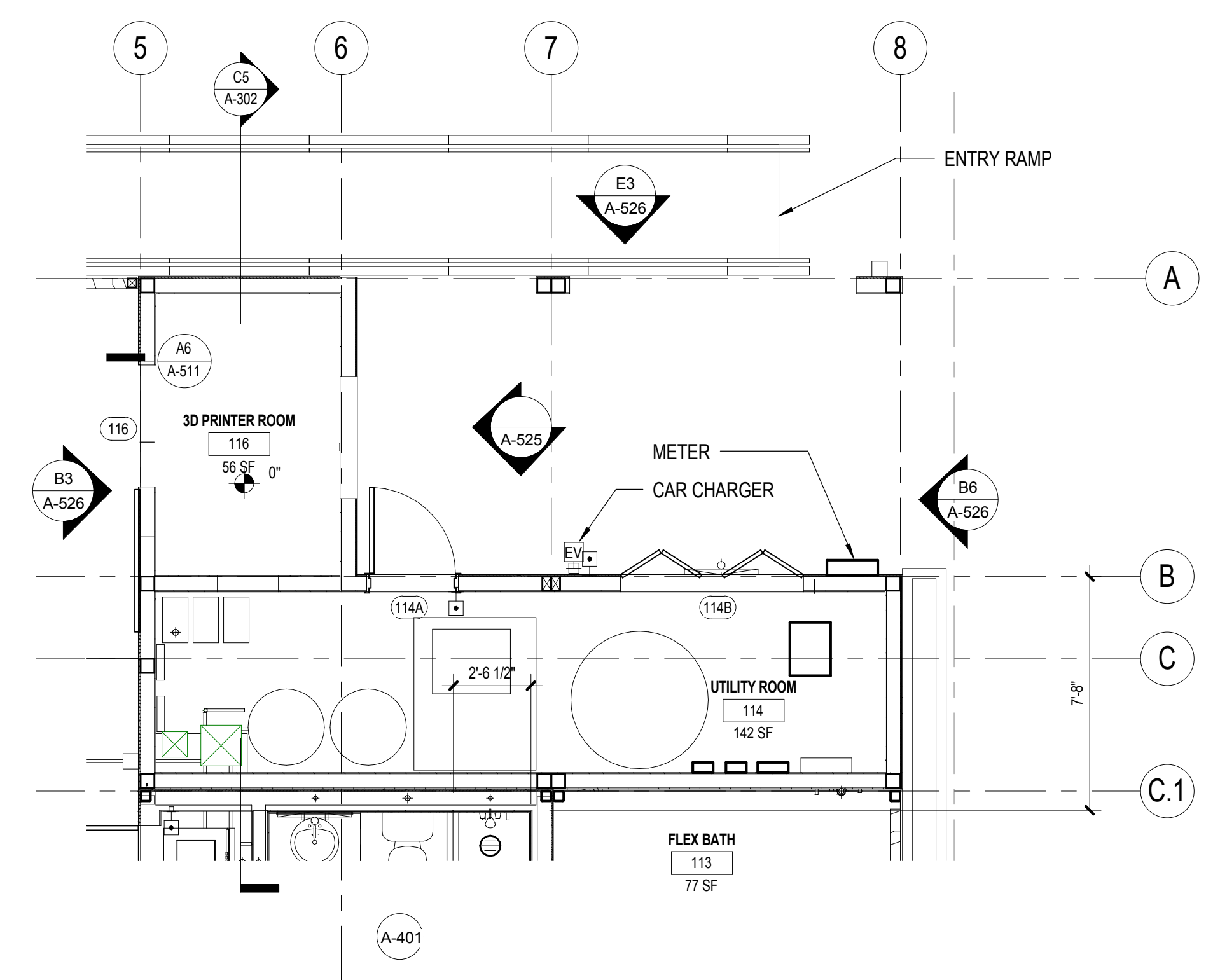


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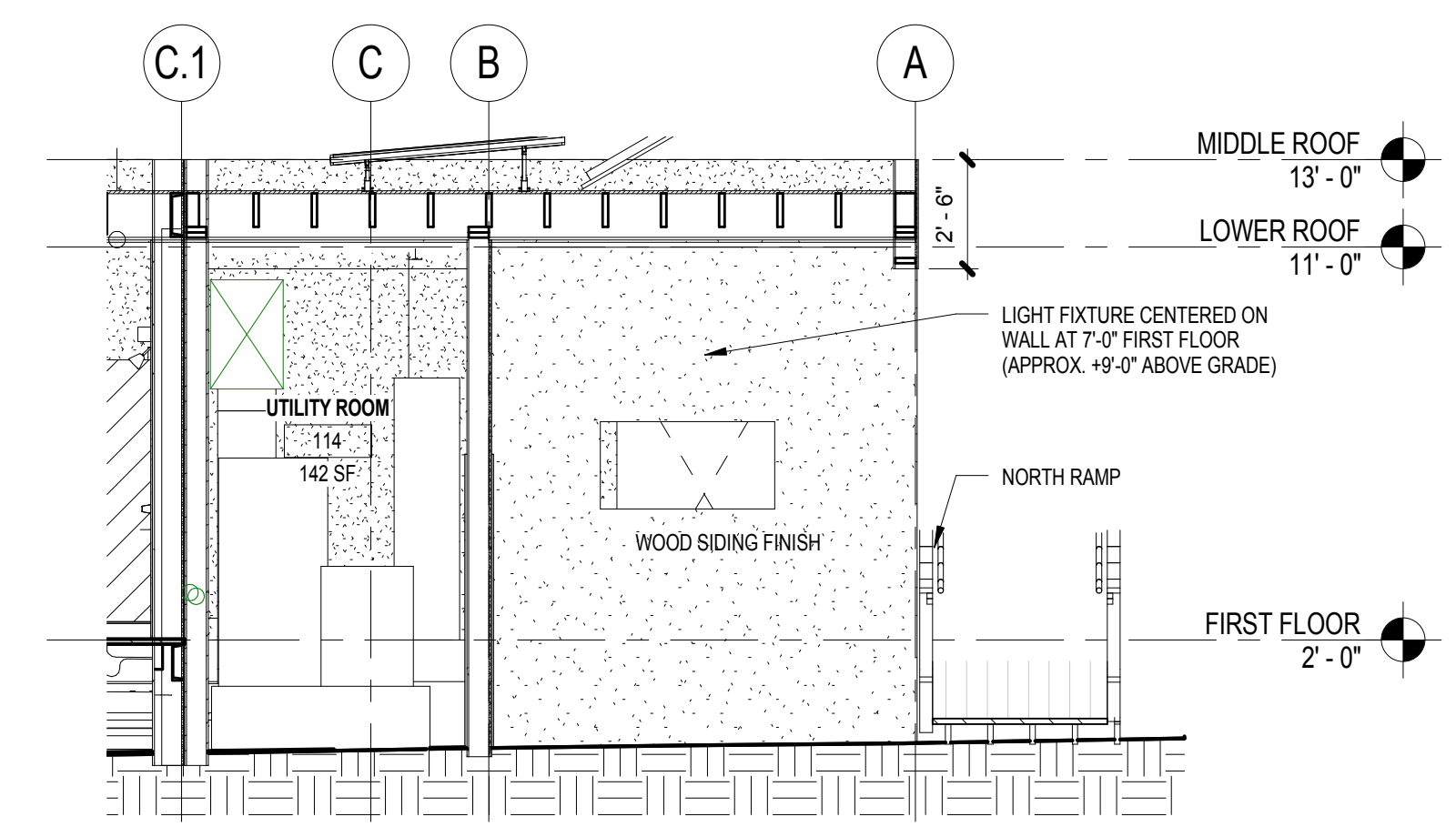
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ENLARGED CARPORT PLANS AND ELEVATIONS

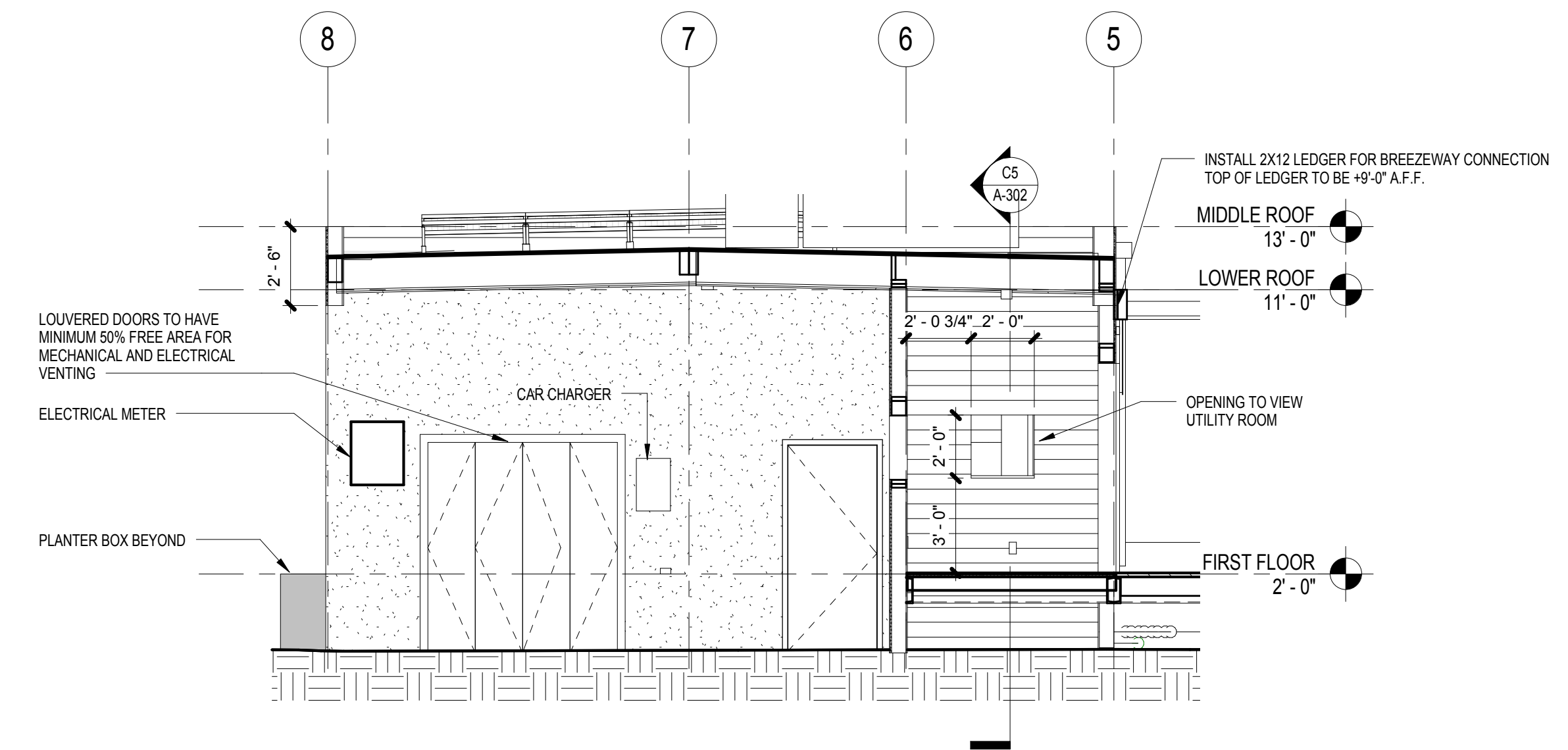
A-525



C4 CARPORT FLOOR PLAN
 SCALE: 1/4" = 1'-0"

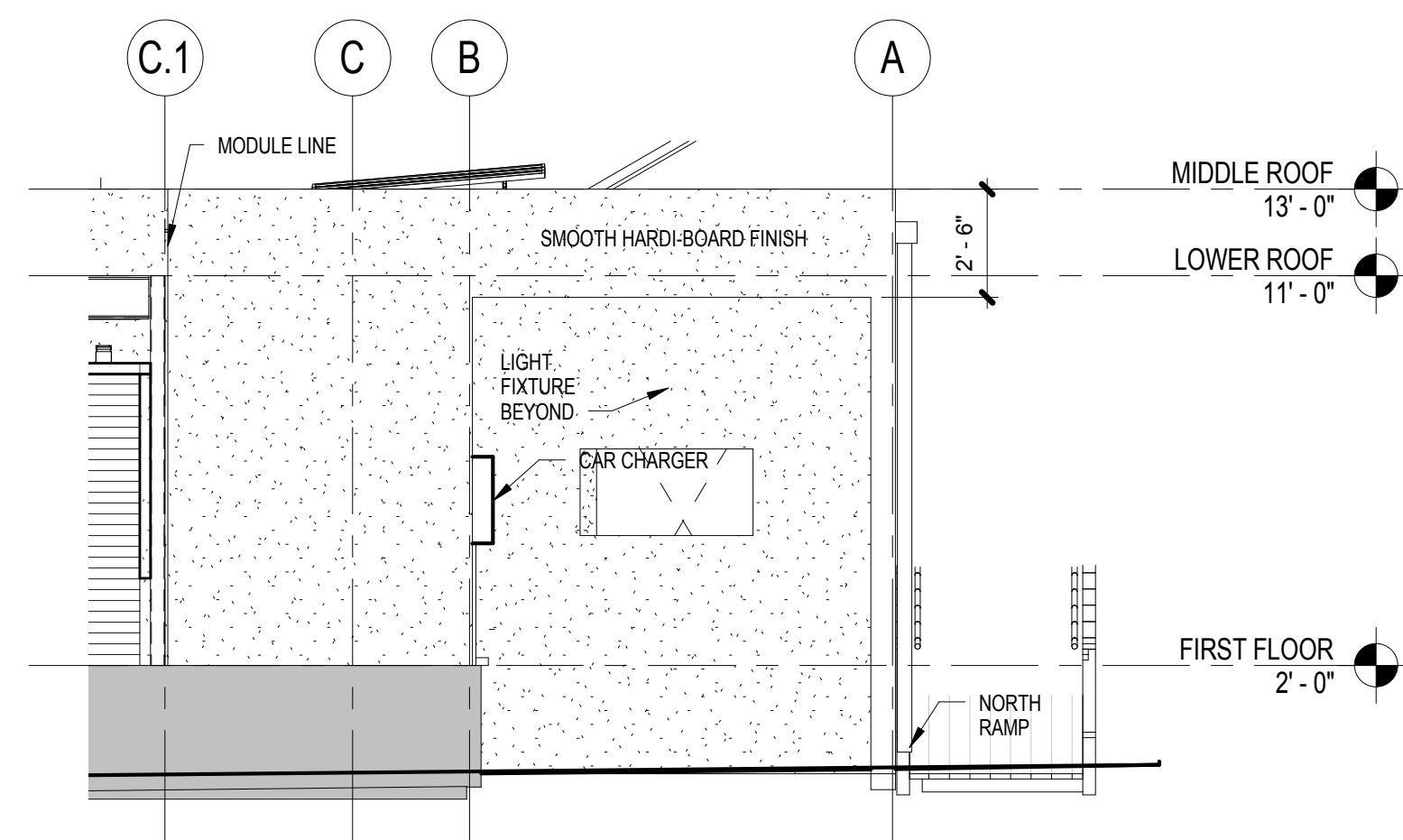


E7 INTERIOR CARPORT ELEVATION 1
 SCALE: 1/4" = 1'-0"

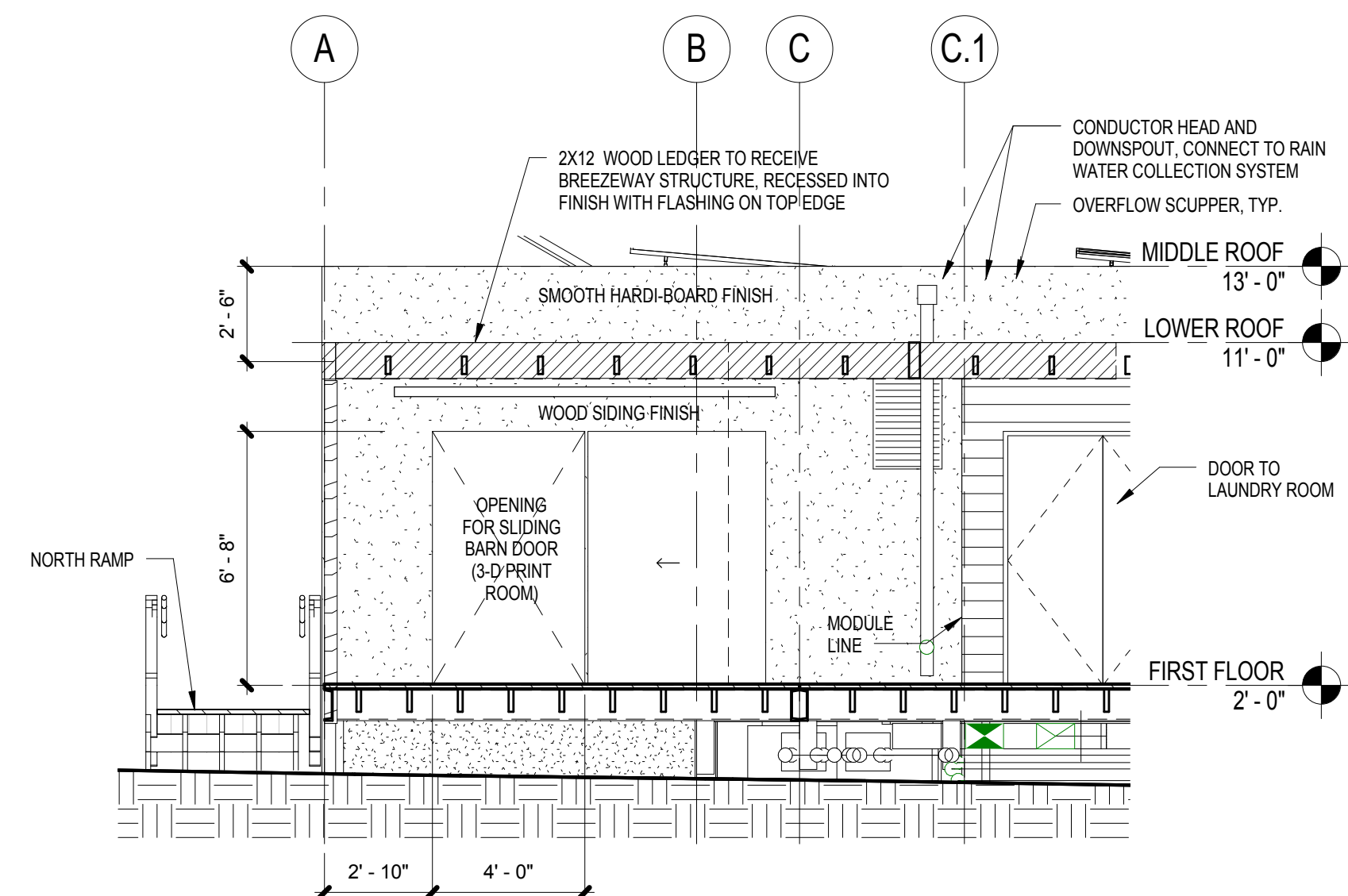


E4 INTERIOR CARPORT ELEVATION 2
 SCALE: 1/4" = 1'-0"

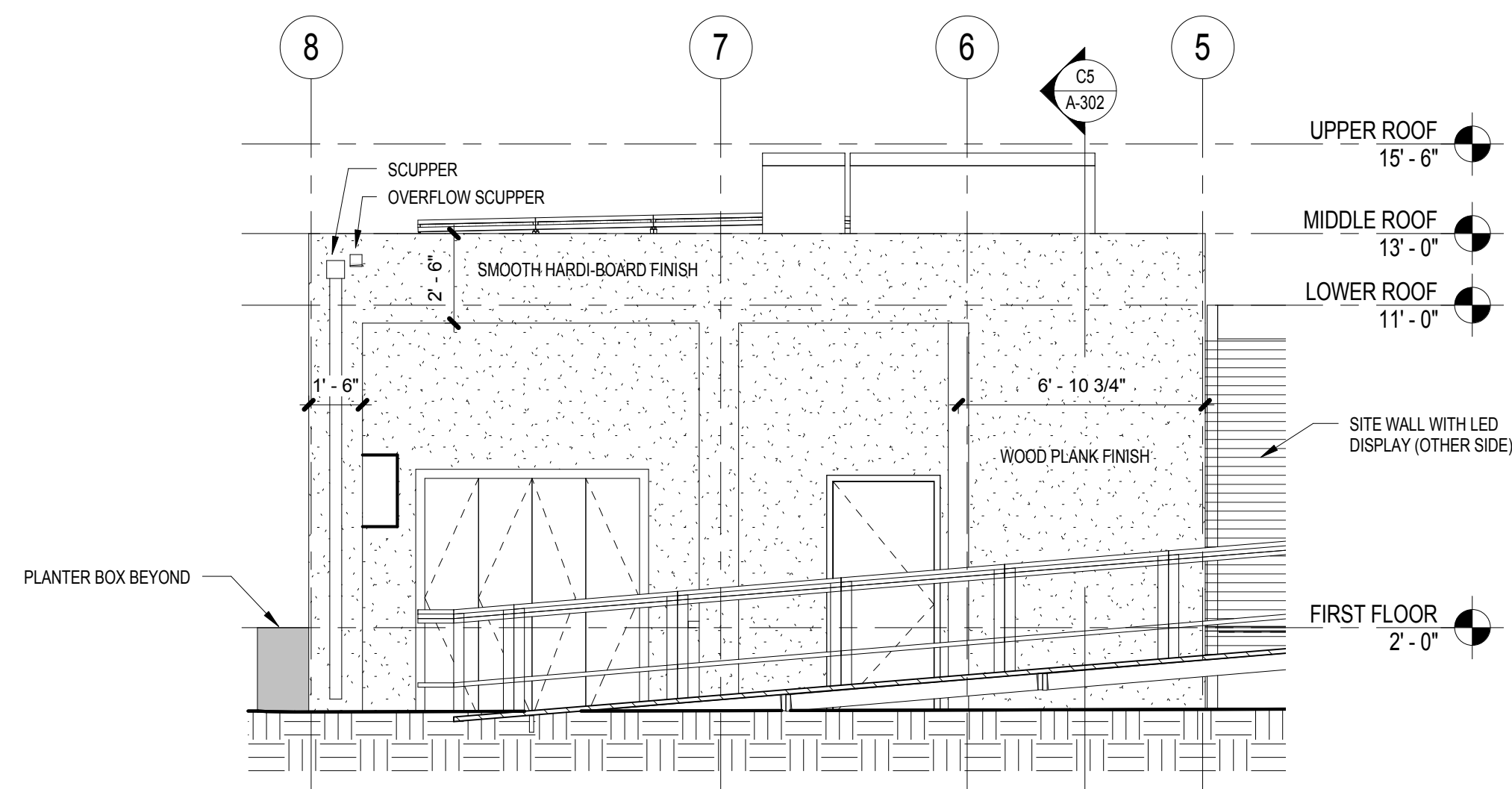
8/17/2015 2:50:46 AM



B6 EAST CARPORT ELEVATION
SCALE: 1/4" = 1'-0"



B3 WEST CARPORT ELEVATION
SCALE: 1/4" = 1'-0"



E3 NORTH CARPORT ELEVATION
SCALE: 1/4" = 1'-0"



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CARPORT EXTERIOR ELEVATIONS

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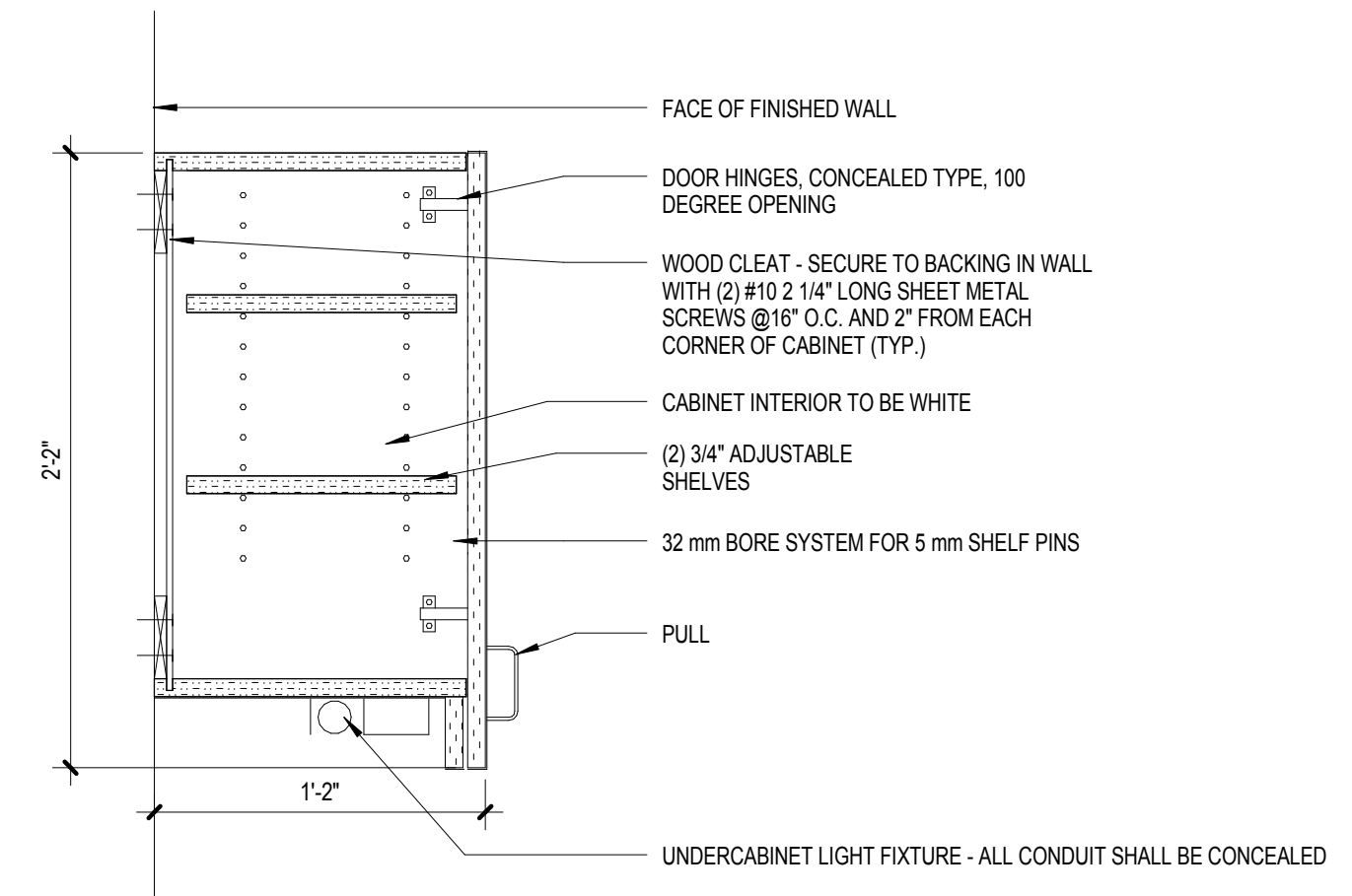


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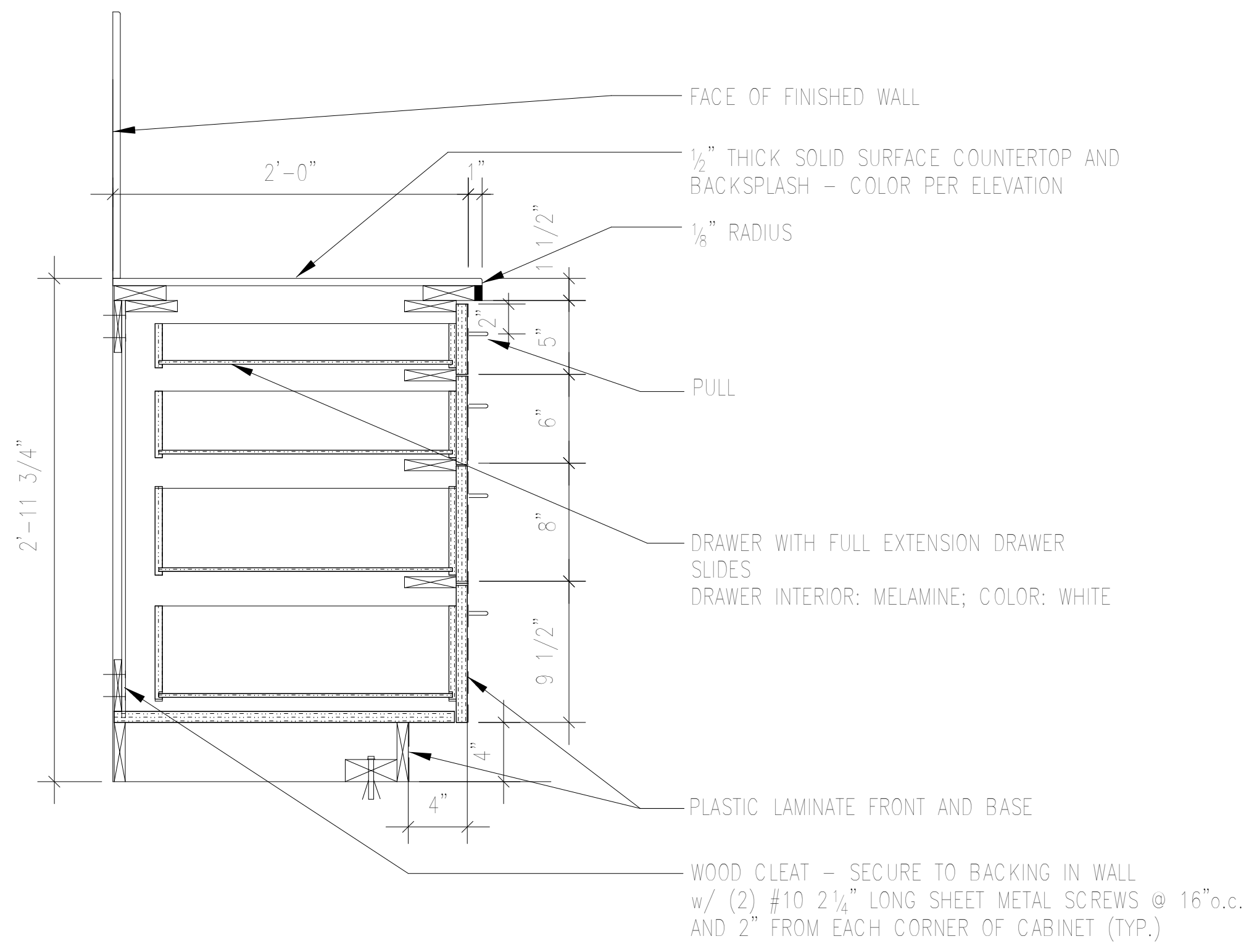
LOT NUMBER: #203
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SHEET TITLE
CASEWORK DETAILS

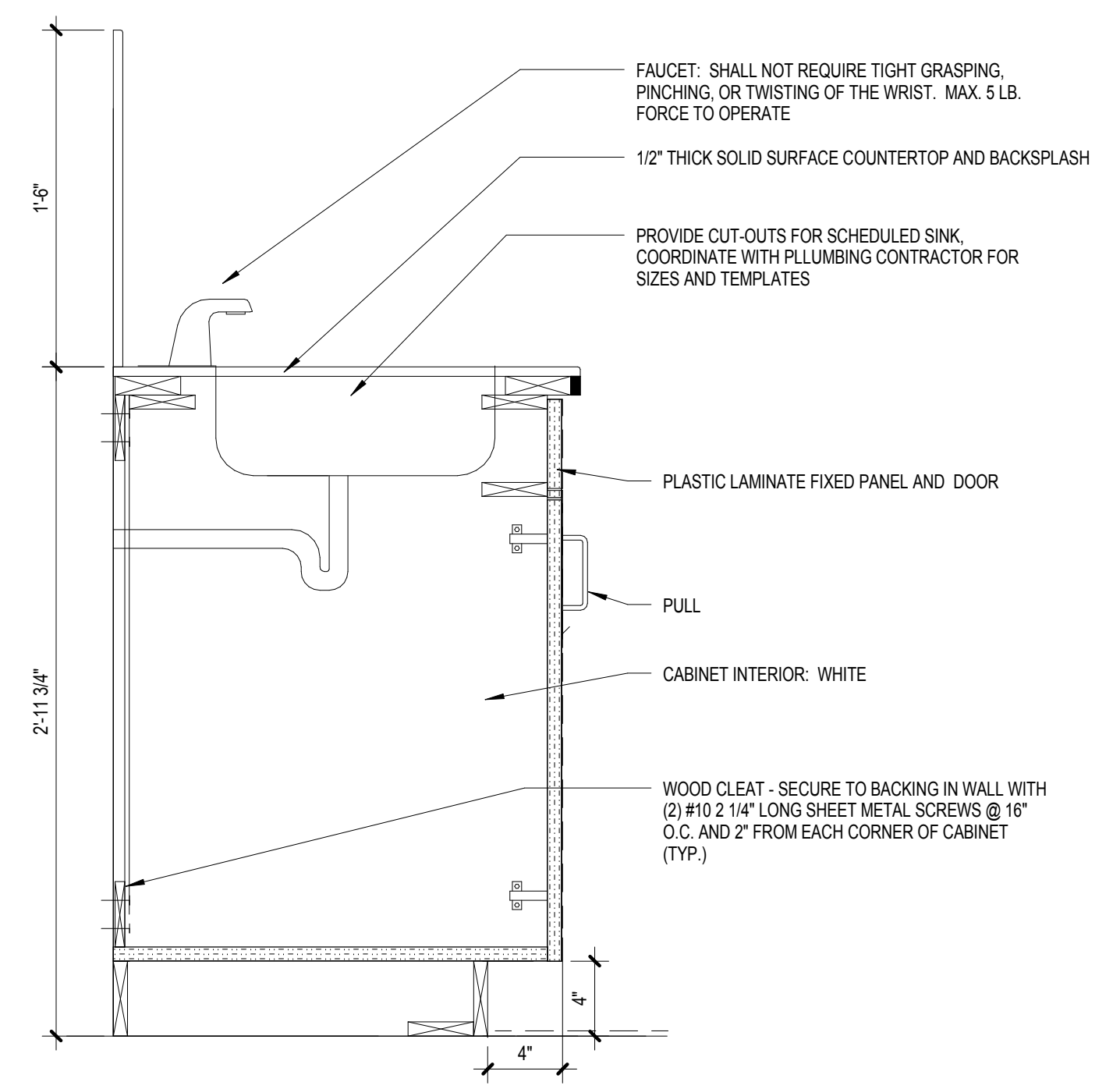
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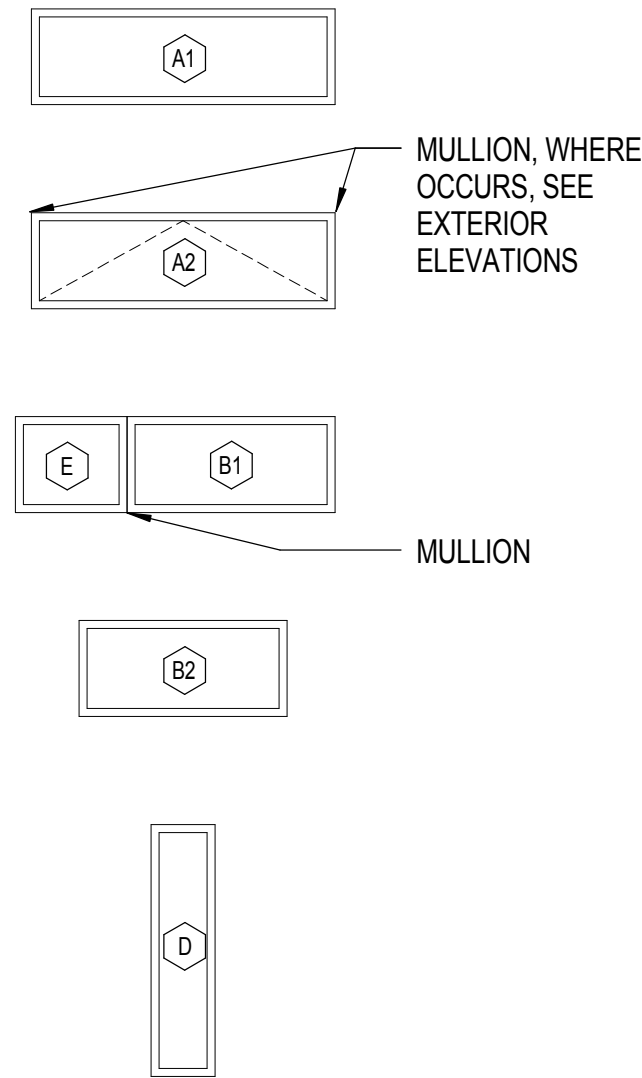
C6 UPPER CABINET WITH VALANCE
 SCALE: 1 1/2" = 1'-0"



A3 BASE CABINET WITH DRAWERS
 SCALE: 1 1/2" = 1'-0"



A6 BASE CABINET WITH SINK
 SCALE: 1 1/2" = 1'-0"



WINDOW TYPE	WINDOW SIZE		WINDOW HEAD	WINDOW JAMB LEFT	MULLION	WINDOW JAMB RIGHT	WINDOW SILL	FRAME				GLAZING TYPE	NOTES
	WIDTH	HEIGHT						MATERIAL	FINISH	SILL HT.	HEAD HT.		
A1	5' - 0"	2' - 0"	C2/A-522	E2/A-522	(NONE)	E2/A-522	C2/A-522	MILGARD ULTRA - FIBERGLASS	F.F. - BARK	SEE A-211 TO A-214	SEE A-211 TO A-214	CLEAR SUNCOATMAX, LOW-E, ARGON FILLED, DUAL GLAZED	FIXED
A2	5' - 0"	2' - 0"	C4/A-522	E4/A-522	E6/A-522	E4/A-522	C4/A-522	MILGARD ULTRA - FIBERGLASS	F.F. - BARK	6' - 0" SEE A-211 TO A-214	8' - 0" SEE A-211 TO A-214	CLEAR SUNCOATMAX, LOW-E, ARGON FILLED, DUAL GLAZED	AWNING WINDOW, HINGES ONLY, 3RD PARTY ACTUATOR
A3	2' - 11 1/2"	2' - 0"	C2/A-522	E2/A-522	(NONE)	E2/A-522	C2/A-522	MILGARD ULTRA - FIBERGLASS	F.F. - BARK			CLEAR SUNCOATMAX, LOW-E, ARGON FILLED, DUAL GLAZED	FIXED
A4	2' - 11 1/2"	2' - 0"	C4/A-522	E4/A-522	E6/A-522	E4/A-522	C4/A-522	MILGARD ULTRA - FIBERGLASS	F.F. - BARK	9' - 0"	11' - 0"	CLEAR SUNCOATMAX, LOW-E, ARGON FILLED, DUAL GLAZED	AWNING WINDOW, HINGES ONLY, 3RD PARTY ACTUATOR
D	1' - 4"	5' - 3"	C2/A-522	E2/A-522	(NONE)	E2/A-522	C2/A-522	MILGARD ULTRA - FIBERGLASS	F.F. - BARK	6"	5' - 9"	CLEAR SUNCOATMAX, LOW-E, ARGON FILLED, DUAL GLAZED	FIXED

ABBREVIATIONS

- AL = ALUMINUM
- F.F. = FACTORY FINISH
- GL = GLASS
- HC = HOLLOW CORE WOOD
- HM = HOLLOW METAL
- PT = FIELD PAINTED, SEMI-GLOSS
- SC = SOLID CORE WOOD
- SF = STOREFRONT
- ST = STAINED
- T = TEMPERED GLASS, 1/4" CLEAR U.O.N.
- THK = THICKNESS
- WD = WOOD VENEER



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GENERAL NOTES

DOOR SIZES:
 DOOR SIZES SHOWN ARE NOMINAL OPENING SIZES. VERIFY THROAT SIZES PER WALLS TYPES INDICATED ON FLOOR PLANS. UNDERCUT DOORS WHERE REQUIRED TO CLEAR FLOORING MATERIALS BY 1/2".

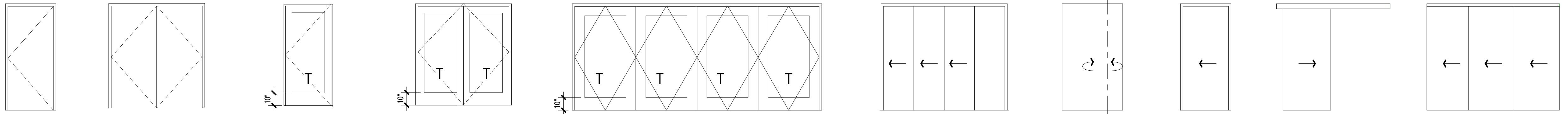
THRESHOLDS:
 HEIGHT: 1/2" MAXIMUM, CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED AT A MAXIMUM SLOPE OF 1 VERTICAL : 2 HORIZONTAL

OPENING HARDWARE:
 EGRESS DOORS SHALL BE READILY OPENABLE FROM EGRESS SIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPENING DEVICES ON DOORS REQUIRED TO BE ACCESSIBLE, SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE, AND SHALL BE CENTERED BETWEEN 34" MINIMUM AND 44" MAXIMUM ABOVE THE FINISHED FLOOR.

OPENING FORCE:
 MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS. FOR EXTERIOR AND INTERIOR DOORS, SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS, WHERE FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MAXIMUM ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 LBS.

DOOR NUMBER	DOOR TYPE	OPENING		DOOR HEAD	DOOR JAMB 1	DOOR JAMB 2	DOOR SILL	DOOR CORE FINISH FACE	DOOR FRAME		DOOR THRESHOLD	REMARKS
		WIDTH	HEIGHT						MATERIAL	FINISH		
001	F	5' - 9"	7' - 0"	E2/A-524	B2/A-524	B2/A-524	E4/A-524	WOOD	WOOD	STAINED	NONE	(SITE) DESIGN FEATURE - CUSTOM BUILT BY STUDENTS
100A	D	11' - 9 1/2"	6' - 8"	C2/A-521	E4/A-521	E4/A-521	C2/A-521	GLASS	ALUMINUM	F.F.-DARK BRONZE	ADA COMPLIANT TRACK	(EXTERIOR) MFG: MILGARD BI-FOLD
100B	D	11' - 9 1/2"	6' - 8"	C2/A-521	E4/A-521	E4/A-521	C2/A-521	GLASS	ALUMINUM	F.F.-DARK BRONZE	ADA COMPLIANT TRACK	(EXTERIOR) MFG: MILGARD BI-FOLD
102	C1	3' - 0"	6' - 8"	C4/A-521	B6/A-521	B6/A-521	C4/A-521	GLASS	ALUMINUM	F.F.-BARK	ADA COMPLIANT	(EXTERIOR) MFG: MILGARD ULTRA SERIES, SINGLE FRENCH DOOR WITH ADA COMPLIANT 10" BOTTOM RAIL
103	A	3' - 0"	6' - 8"	D7/A-512	D7/A-512	D7/A-512	C7/A-512	WOOD	WOOD	PAINTED	NONE	(INTERIOR)
103A	C1	3' - 0"	6' - 8"	C4/A-521	B6/A-521	B6/A-521	C4/A-521	GLASS	ALUMINUM	F.F.-BARK	ADA COMPLIANT	(EXTERIOR) MFG: MILGARD ULTRA SERIES, SINGLE FRENCH DOOR WITH ADA COMPLIANT 10" BOTTOM RAIL
104	A	3' - 0"	6' - 8"	D7/A-512	D7/A-512	D7/A-512	B7/A-512	WOOD	WOOD	PAINTED	NONE	(INTERIOR)
104A	C1	3' - 0"	6' - 8"	C4/A-521	B6/A-521	B6/A-521	C4/A-521	GLASS	ALUMINUM	F.F.-BARK	ADA COMPLIANT	(EXTERIOR) MFG: MILGARD ULTRA SERIES, SINGLE FRENCH DOOR WITH ADA COMPLIANT 10" BOTTOM RAIL
110	C1	3' - 0"	6' - 8"	C4/A-521	B6/A-521	B6/A-521	C4/A-521	GLASS	ALUMINUM	F.F.-BARK	ADA COMPLIANT	(EXTERIOR) MFG: MILGARD ULTRA SERIES, SINGLE FRENCH DOOR WITH ADA COMPLIANT 10" BOTTOM RAIL
110A	C2	6' - 0"	6' - 8"	C4/A-521	B6/A-521	B6/A-521	C4/A-521	GLASS	ALUMINUM	F.F.-BARK	ADA COMPLIANT	(EXTERIOR) MFG: MILGARD ULTRA SERIES, DOUBLE FRENCH DOOR WITH ADA COMPLIANT 10" BOTTOM RAIL
111	I	5' - 0"	6' - 8"	D6/A-512	D6/A-512	D6/A-512	N/A	GLASS	FIBERGLASS	F.F.-BARK	ADA COMPLIANT	(EXTERIOR)
112A	G	3' - 0"	6' - 8"	E7/A-512	E4/A-512	E4/A-512	E4/A-512	WOOD	WOOD	PAINTED	NONE	(INTERIOR) SLIDING POCKET DOOR
112B	C1	3' - 0"	6' - 8"	C4/A-521	B6/A-521	B6/A-521	C4/A-521	GLASS	ALUMINUM	F.F.-BARK	ADA COMPLIANT	(EXTERIOR) MFG: MILGARD ULTRA SERIES, SINGLE FRENCH DOOR WITH ADA COMPLIANT 10" BOTTOM RAIL
113	H	3' - 0"	6' - 8"	STUDENT BUILT	STUDENT BUILT	STUDENT BUILT	STUDENT BUILT	WOOD	WOOD	STAINED	NONE	(SITE) SLIDING BARN DOOR
114A	A	3' - 0"	6' - 8"	D6/A-512	D6/A-512	D6/A-512	N/A	HOLLOW METAL	HM	PAINTED	ADA COMPLIANT	(EXTERIOR)
114B	E	6' - 0"	6' - 8"	D6/A-512	D6/A-512	D6/A-512	N/A	HOLLOW METAL	HM	PAINTED	ADA COMPLIANT	(EXTERIOR)
114C	K	20' - 5"	7' - 0"	C7/A-523	B4/A-523	B4/A-523	C7/A-523	WOOD	WOOD	PAINTED	NOT APPLICABLE	(EXTERIOR) PIVOT PANELS, NOT TRUE DOORS
116	H	3' - 0"	6' - 8"	STUDENT BUILT	STUDENT BUILT	STUDENT BUILT	STUDENT BUILT	WOOD	WOOD	STAINED	ADA COMPLIANT	(EXTERIOR) SLIDING BARN DOOR

NOTE:
 1. ALL DOOR HARDWARE TO BE DARK BRONZE, BLACK AS ALTERNATE IF DARK BRONZE IS UNAVAILABLE.
 2. DOOR HANDLES SHALL BE ADA COMPLIANT MERIDIAN LEVER TYPE



- A FLUSH
- B FLUSH
- C1 1/4" CLEAR TEMPERED GLASS
- C2 1/4" CLEAR TEMPERED GLASS
- D MILGARD BI-FOLD DOOR 1/4" CLEAR TEMPERED GLASS
- E BI FOLDING
- F PIVOT
- G POCKET DOOR
- H SLIDING BARN DOOR
- J SEGMENTED SLIDING DOOR

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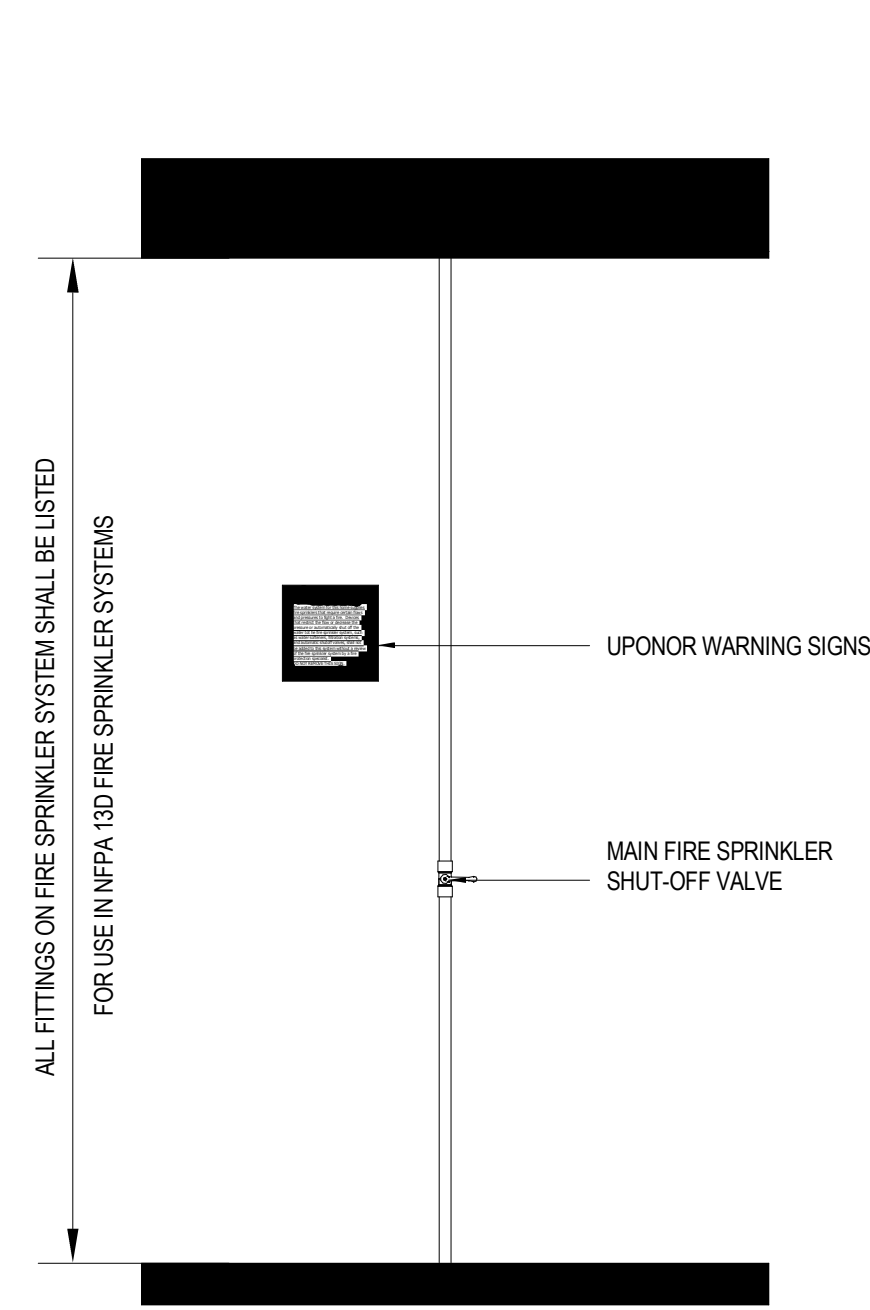
MARK	DATE	DESCRIPTION
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	02/12/2015	95% DOE

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SHEET TITLE
DOOR AND WINDOW SCHEDULE

A-600

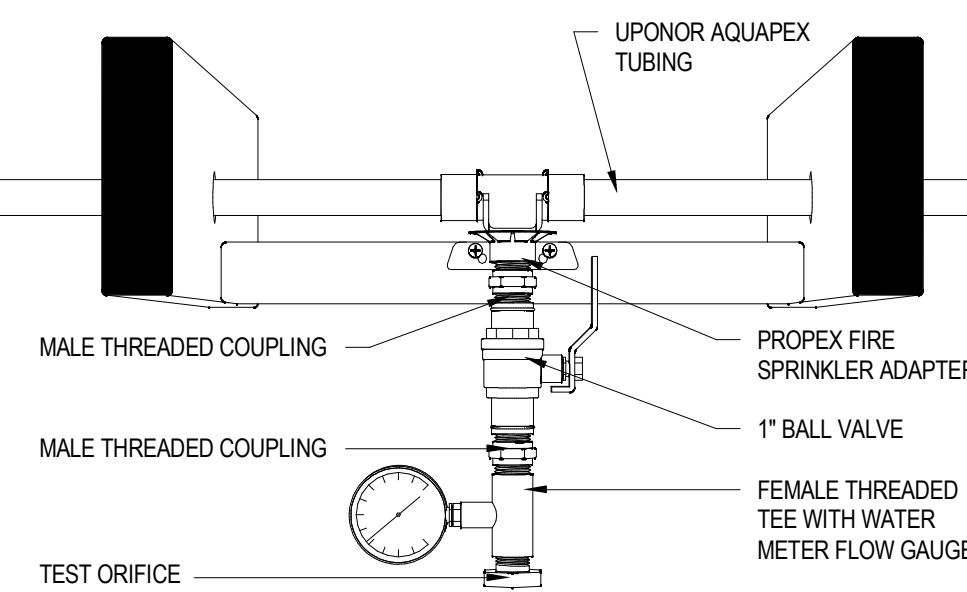
STANDARD RISER ASSEMBLY
IN A MULTI-PURPOSE SYSTEM A SINGLE CONTROL VALVE CONTROLS BOTH DOMESTIC AND FIRE SAFETY NEEDS.



AQUASAFE™ GENERAL NOTES:

- UPONOR COMPANY RESERVES THE EXCLUSIVE RIGHTS TO ALL DETAILS AND DRAWINGS AS SHOWN ON THIS SHEET. THESE DETAILS AND DRAWINGS ARE PROPRIETARY INFORMATION OF UPONOR COMPANY AND UNAUTHORIZED USE MAY BE SUBJECT TO PROSECUTION TO THE FULL EXTENT OF THE LAW.
- THE DESIGN OF THIS SYSTEM IS DICTATED BY SPECIFIC CEILING HEIGHTS AND ROOM SIZES. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT THE CONDITIONS SHOWN ON THESE PLANS ARE EXACTLY AS THEY EXIST IN THE FIELD. DEVIATIONS FROM THE DESIGN MAY CAUSE THE SYSTEM TO BE UNABLE TO CONTROL A FIRE. IF THE BUILDING CONSTRUCTION DIFFERS FROM THE FIRE SPRINKLER PLAN, CONTACT THE SYSTEM DESIGNER IMMEDIATELY.
- ALL PIPING, FIXTURES, FITTINGS AND SPRINKLER HEADS MUST COMPLY WITH THE LEAD FREE REQUIREMENTS OF AB1953. ALL OF THE ABOVE NOTED ITEMS ARE NOT PERMITTED TO EXCEED 0.25% LEAD CONTENT. IF THESE REQUIREMENTS ARE NOT ABLE TO BE MET WITH THE CURRENTLY UTILIZED MATERIAL A SEPARATE PIPE FEEDING ALL POTABLE WATER FIXTURES MUST BE INSTALLED AND SEPARATED FROM THE NON AB1953 COMPLIANT MATERIAL.
- "STAND ALONE" OR "MULTI-PURPOSE, WET PIPE" SYSTEMS ARE NOT PERMITTED TO USE ANTI-FREEZE 2013 CRC R313.3.1
- THE SYSTEM DESIGNED FOR THIS HOUSE IS A MULTI-PURPOSE FIRE SPRINKLER SYSTEM.
- SYSTEM MUST COMPLY WITH NFPA 13D 2013 EDITION, OR THE 2013 CALIFORNIA RESIDENTIAL CODE R313.3, WHICH IS CONSIDERED TO BE EQUIVALENT.
- MODIFICATIONS ARE PROHIBITED. SPRINKLERS THAT HAVE BEEN PAINTED, CAULKED, MODIFIED OR DAMAGED MUST BE REPLACED, 2013 CRC R313.3.2.6
- IF STAND ALONE SYSTEM IS USED, A WATER BELL AND DOUBLE CHECK VALVE ARE REQUIRED.
- WATER SHUT OFF VALVE IS NOT PERMITTED, 2013 CRC R313.3.3.2
- OWNERS MANUAL MUST BE PROVIDED TO THE OWNER, 2013 CRC R313.3.7
- AT THE MAIN SHUT OFF VALVE, A TAG OR A SIGN STATING THE FOLLOWING IS REQUIRED, "WARNING, THE WATER SYSTEM FOR THIS HOME SUPPLIES FIRE SPRINKLERS THAT REQUIRE CERTAIN FLOWS AND PRESSURES TO FIGHT A FIRE. DEVICES THAT RESTRICT THE FLOW OR DECREASE THE PRESSURE OR AUTOMATICALLY SHUT OFF THE WATER TO THE FIRE SPRINKLER SYSTEM, SUCH AS WATER SOFTENERS, FILTRATION SYSTEMS AND AUTOMATIC SHUT OFF VALVES, SHALL NOT BE ADDED TO THIS SYSTEM WITHOUT REVIEW OF THE FIRE SPRINKLER SYSTEM BY A FIRE PROTECTION SPECIALIST. DO NOT REMOVE THIS SIGN" 2013 CRC R313.3.7
- ALL INTERIOR PIPING TO BE UPONOR WIRSBO "AQUAPEX" UNLESS NOTED.
- UPONOR WIRSBO "AQUAPEX" TUBING TO BE SUPPORTED PER NFPA 13D AND MANUFACTURER'S RECOMMENDATIONS.
- MINIMUM SPACING BETWEEN SPRINKLERS IS 8'-0" REFER TO SPACING CHARTS FOR MAXIMUM SPACING BETWEEN SPRINKLERS AND FROM WALLS.
- SPRINKLERS ARE NOT NECESSARILY CENTERED IN ROOMS DUE TO LIGHT FIXTURES OR OTHER CEILING MOUNTED OBSTRUCTIONS.
- THE PLUMBING TIE IN CONNECTIONS ARE SCHEMATIC IN NATURE AND CAN BE INSTALLED OFF THE SPRINKLER LOOP ANYWHERE BETWEEN SPRINKLER TO SPRINKLER CONNECTION.
- THIS SUGGESTED LAYOUT IS BASED UPON INFORMATION PROVIDED BY OTHERS. CHANGES IN CONSTRUCTION OR FIELD CONDITIONS MAY OCCUR WHICH MAY REQUIRE CHANGES TO THE LAYOUT. IT IS THE RESPONSIBILITY OF THE INSTALLER TO NOTIFY UPONOR TECHNICAL SERVICES OF SUCH CHANGES.
- INSULATION GUIDE LINES PER NFPA 13D 9.1.1 WET PIPE SYSTEMS. A WET PIPE SYSTEM SHALL BE PERMITTED TO BE USED WHERE ALL PIPING IS INSTALLED IN AREAS MAINTAINED ABOVE 40°F, INCLUDING AREAS PROPERLY INSULATED TO MAINTAIN 40°F. A.3.1.1 IN AREAS SUBJECT TO FREEZING, CARE SHOULD BE TAKEN IN UNHEATED ATTIC SPACES TO COVER SPRINKLER PIPING COMPLETELY WITH INSULATION. INSTALLATION SHOULD FOLLOW THE GUIDELINES OF THE INSULATION MANUFACTURER. FIGURE A.8.3.1(A) THROUGH FIGURE A.8.3.1(E) SHOW SEVERAL METHODS THAT CAN BE CONSIDERED. (SEE 2013 CRC R313.3.2.3 FOR CA REQUIREMENTS)

IN-LINE FLOW TEST
THE IN-LINE FLOW TEST CAN BE CONSTRUCTED ON SITE. IT PERFORMS A FLOW TEST TO ENSURE PROPER SYSTEM OPERATION AND FLOW.



FLOW TEST
TO ENSURE THE SYSTEM PROVIDES ENOUGH WATER FOR PROPER FIRE SPRINKLER PERFORMANCE, YOU SHOULD CONDUCT A FLOW VERIFICATION TEST.

NOTE: THE NFPA 13D INSTALLATION STANDARD DOES NOT REQUIRE FLOW VERIFICATION.

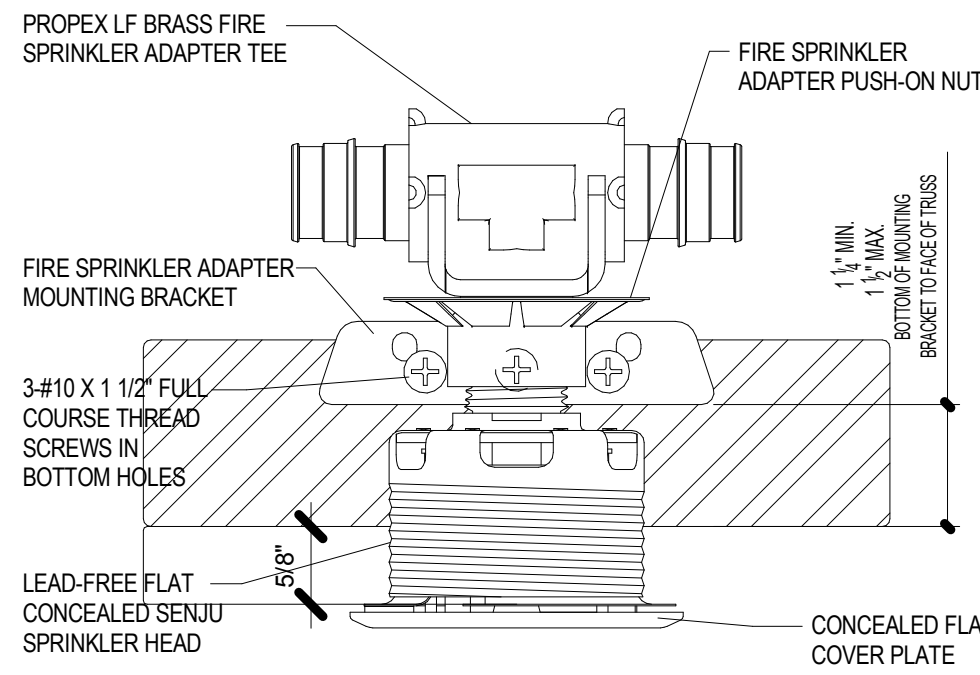
BEFORE PERFORMING A FLOW VERIFICATION TEST, CONFIRM THE WATER PRESSURES BY CONTACTING THE WATER AND SEWER DEPARTMENT OF YOUR LOCAL CITY. ENSURE THE AVAILABLE WATER PRESSURE MATCHES THE PRESSURE USED IN THE SYSTEM DESIGN.

NOTE: THE SPRINKLER PLAN INDICATES THE MOST HYDRAULICALLY REMOTE SPRINKLER (OR PAIR OF SPRINKLERS). FOR TEST REQUIREMENTS ON OTHER SPRINKLERS, CONSULT YOUR LOCAL CODE.

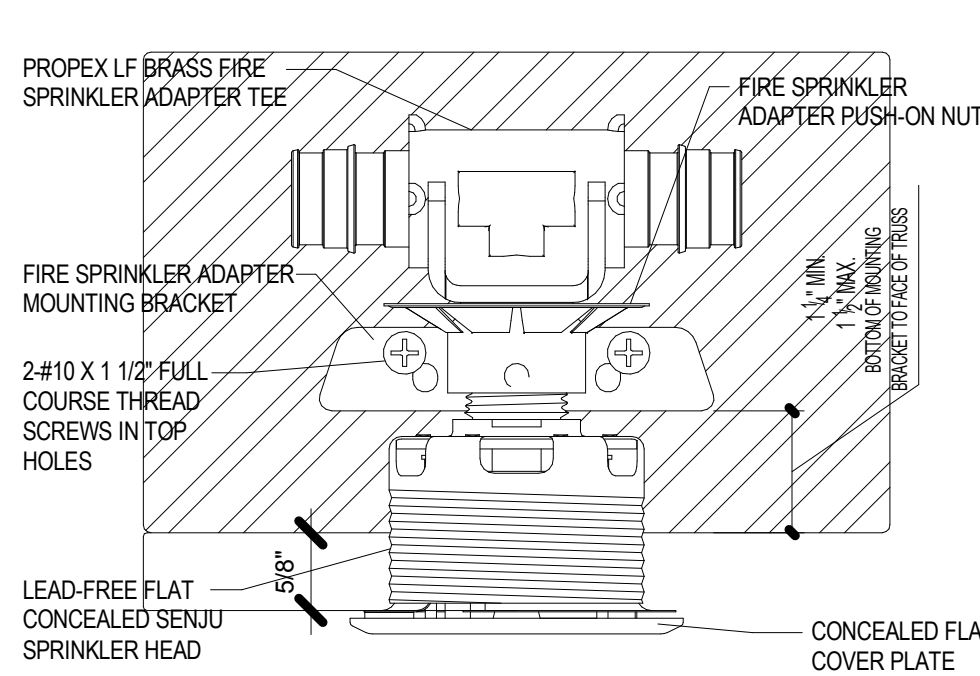
NOTE: IT IS A GOOD IDEA TO NOTIFY THE FIRE INSPECTOR AT LEAST 24 HOURS PRIOR TO PERFORMING A FLOW VERIFICATION TEST. THIS MAY SPEED UP THE INSPECTION PROCESS AND ELIMINATE THE NEED TO REPEAT THE TEST FOR THE INSPECTOR.

NOTE: SEE "AQUASAFE FLOW TEST INSTRUCTION SHEET" (PROVIDED IN CONTRACTORS DOCUMENTS PACKAGE OR ONLINE AT WWW.UPONORPRO.COM) FOR MORE INFORMATION ON FLOW TEST SETUP, ASSEMBLY, PERFORMING THE TEST AND TROUBLESHOOTING. IF THERE ARE ANY QUESTIONS PLEASE CONTACT UPONOR.

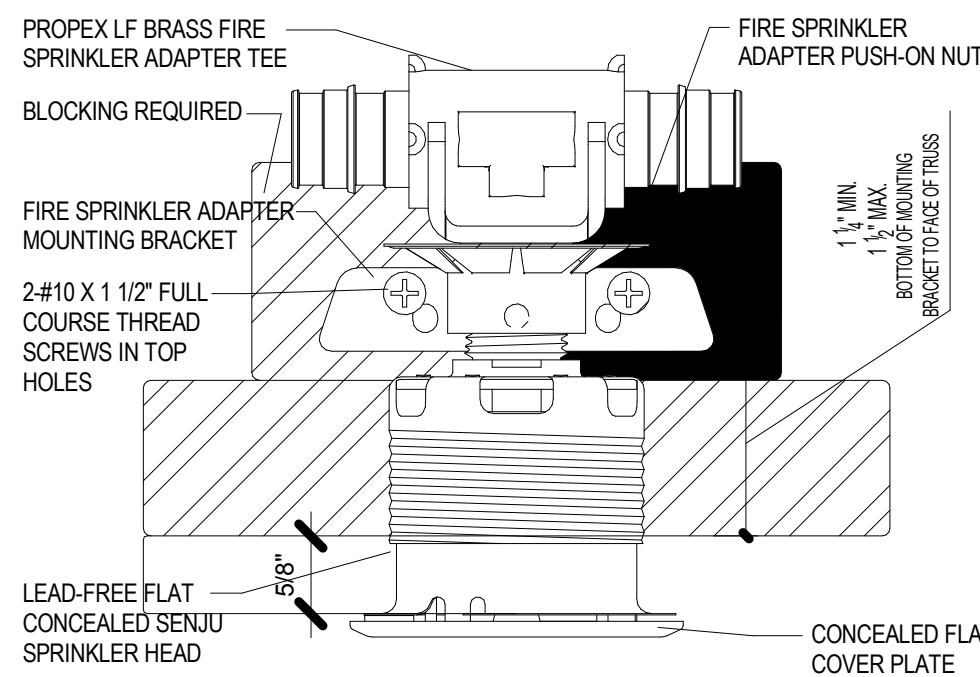
SENJU RC-RES: OPEN WEB TRUSS CONSTRUCTION



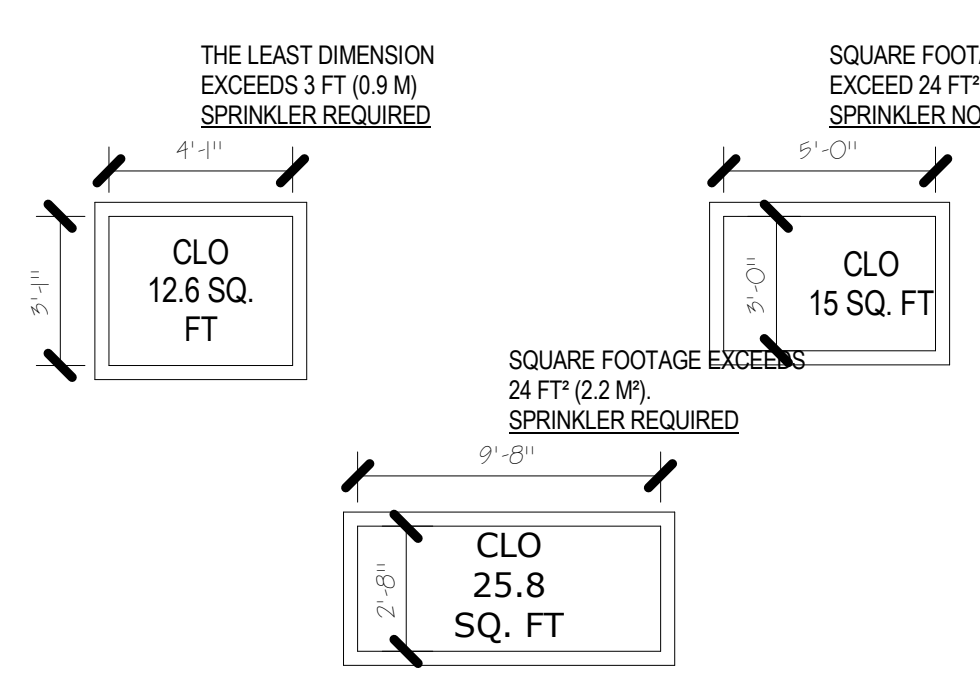
SENJU RC-RES: TRADITIONAL WOOD FRAMING CONSTRUCTION



SENJU RC-RES: TJI CONSTRUCTION



SEE GENERAL NOTES 8.6.3 FOR CLOSET REQUIREMENTS



INSULATION RECOMMENDATIONS

IN AREAS SUBJECT TO FREEZING, CARE SHOULD BE TAKEN IN UNHEATED ATTIC SPACES TO COVER UPONOR AQUAPEX TUBING COMPLETELY WITH INSULATION. INSULATION SHOULD FOLLOW THE GUIDELINES OF THE INSULATION MANUFACTURER. SEE UPONOR DOCUMENT "UPONOR AQUASAFE ATTIC INSULATION GUIDELINES" FOR ATTIC INSTALLATION GUIDELINES (PROVIDED IN CONTRACTORS DOCUMENTS PACKAGE OR ONLINE AT WWW.UPONORPRO.COM).

EXTREME TEMPERATURE INSTALLATIONS

AQUASAFE RESIDENTIAL FIRE SAFETY SYSTEMS ARE OFTEN INSTALLED IN ATTICS OR OTHER AREAS EXPOSED TO TEMPERATURE EXTREMES OF HEAT AND/OR COLD. FOLLOW THE RECOMMENDED EXTREME WEATHER INSTALLATION INSTRUCTIONS TO ISOLATE AND PROTECT SYSTEM COMPONENTS FROM EXTREME TEMPERATURES. BECAUSE THIS SYSTEM ALSO DELIVERS DOMESTIC COLD WATER DIRECTLY TO PLUMBING FIXTURES, UPONOR HIGHLY RECOMMENDS THAT YOU PROTECT THE TUBING WITH ADEQUATE INSULATION IN WARM WEATHER AREAS TO MINIMIZE HEATING OF THE COLD WATER SUPPLY.

INSTALLATION METHODS INCLUDE, BUT ARE NOT LIMITED TO:

- TENTING OVER THE FIRE SPRINKLER PIPING.
- ADDITIONAL LAYERS OF BATT INSULATION.
- INCREASED DEPTH OF BLOWN-IN INSULATION.

CAUTION: IF YOU WILL BE INSTALLING SPRAY FOAM INSULATION, MAKE SURE TO PROTECT ALL COMPONENTS DURING APPLICATION. CONSULT WITH THE SPRAY FOAM MANUFACTURER TO ENSURE COMPATIBILITY WITH ALL PRODUCTS BEFORE APPLICATION.

CONSULTATION WITH LOCAL BUILDING OFFICIALS IS ENCOURAGED TO ENSURE COMPLIANCE WITH LOCAL BUILDING CODES.

BENDING PEX TUBING

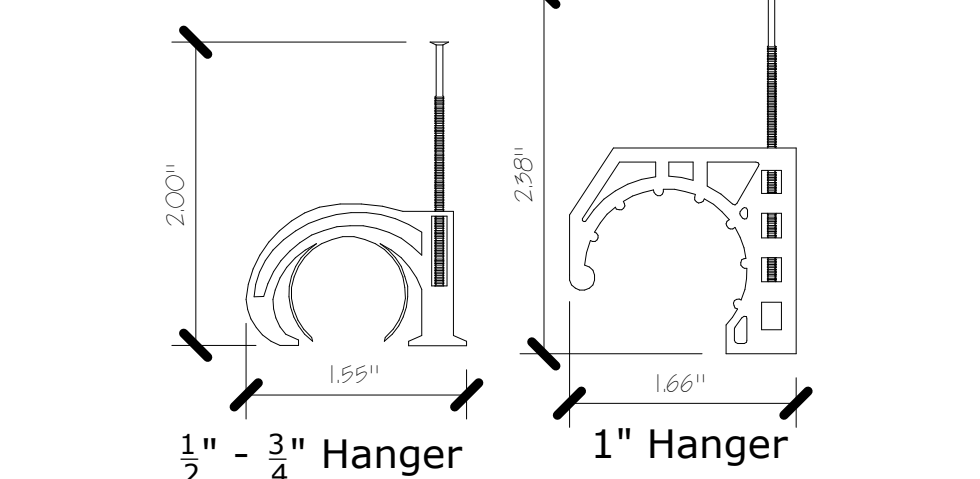
THE MINIMUM BEND RADIUS OF UPONOR PEX TUBING IN ANY DIRECTION IS SIX TIMES THE OUTSIDE DIAMETER (6 X OD). BEND SUPPORTS ARE AVAILABLE FOR 3/8", 1/2", 3/4" AND 1" UPONOR AQUAPEX TUBING TO FACILITATE 90-DEGREE RIGID BENDS.

RECOMMENDED TUBING LENGTH BETWEEN FITTINGS	
FITTING SIZE	MINIMUM TUBING LENGTH
3/8" PROPEX FITTING	2"
1/2" PROPEX FITTING	2 1/2"
3/4" PROPEX FITTING	3 1/2"
1" PROPEX FITTING	4 1/2"
1 1/4" PROPEX FITTING	5 1/2"

SLOPE GUIDE			
SLOPE: RISE/RUN	PITCH: DEGREES	SLOPE: RISE/RUN	PITCH: DEGREES
0/12	0°	9/12	36.87°
1/12	4.76°	10/12	39.81°
2/12	9.46°	11/12	42.51°
3/12	14.04°	12/12	45°
4/12	18.43°	13/12	47.29°
5/12	22.62°	14/12	49.40°
6/12	26.57°	15/12	51.34°
7/12	30.26°	16/12	53.13°
8/12	33.69°	17/12	54.78°
		18/12	56.31°

NFPA 13D Table 7.5.5.3 Distances From Heat Sources

Heat Source	Ordinary Temp. 135°-170°	Intermediate Temp. 175°-225°
Side of Fireplace	36"	12"
Front of Fireplace	60"	36"
Wood Burning Stove	42"	12"
Kitchen Range	18"	9"
Wall Oven	18"	9"
Hot Air Flues	18"	9"
Uninsulated Heat Ducts	18"	9"
Uninsulated Hot Water Pipes	12"	6"
Side of Hot Air Diffuser	24"	12"
Front of Hot Air Diffuser	36"	18"
Hot Water Heater	6"	3"
Furnace	6"	3"
SOW-250W Light Fixture	6"	3"
25OW-499W Light Fixture	12"	6"



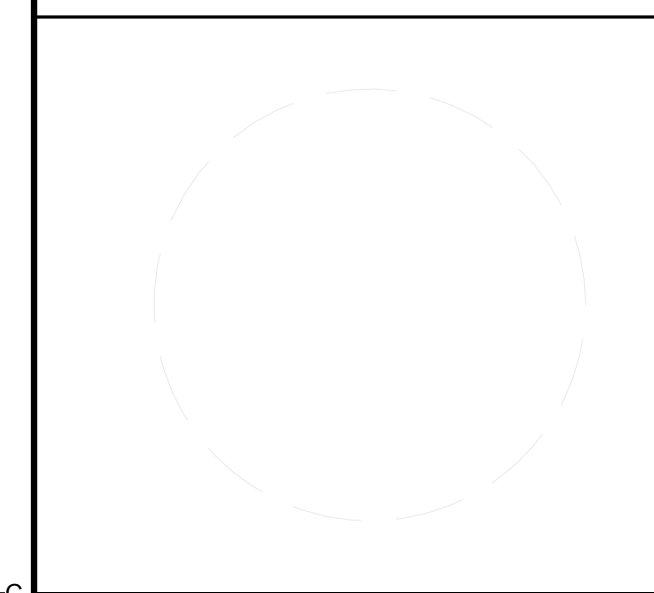
Tubing Support Spacing:
(Anchor AquaPEX Tubing Securely Enough to Support the Tubing, Yet Relaxed Enough to Allow the Tubing to Expand and Contract)

- Along Horizontal Runs, Install Supports Every 32", if Horizontal Runs are Continuously Supported, Place Tubing Supports at Six-Foot Intervals.
- Along Vertical Runs, Install Supports Every Four to Five Feet, at Each Floor and at a Mid-story Guide.

- NFPA 13D 8.3 LOCATION OF SPRINKLERS (SEE CRC R313.3.1.1 FOR CA REQUIREMENTS)
 - SPRINKLERS SHALL BE INSTALLED IN ALL AREAS EXCEPT WHERE OMISSION IS PERMITTED BY 8.3.2 THROUGH 8.3.8.
 - SPRINKLERS SHALL NOT BE REQUIRED IN BATHROOMS OF 55 FT² (5.1 MP) AND LESS
 - SPRINKLERS SHALL NOT BE REQUIRED IN CLOTHES CLOSETS, LINEN CLOSETS, AND PANTRIES THAT MEET ALL OF THE FOLLOWING CONDITIONS:
 - THE AREA OF THE SPACE DOES NOT EXCEED 24 FT² (2.2 MP).
 - THE LEAST DIMENSION DOES NOT EXCEED 3 FT (0.9 M).
 - THE WALLS AND CEILINGS ARE SURFACED WITH NONCOMBUSTIBLE OR LIMITED-COMBUSTIBLE MATERIALS AS DEFINED IN NFPA 220, STANDARD ON TYPES OF BUILDING CONSTRUCTION.
 - SPRINKLERS SHALL NOT BE REQUIRED IN GARAGES, OPEN ATTACHED PORCHES, CARPORTS, AND SIMILAR STRUCTURES
 - A.8.3.4 ALTHOUGH NFPA 13D DOES NOT REQUIRE GARAGES TO BE SPRINKLERED, SOME AUTHORITIES HAVING JURISDICTION TAKE IT UPON THEMSELVES TO ADD THIS REQUIREMENT LOCALLY. IN SUCH CIRCUMSTANCES, RESIDENTIAL OR QUICK-RESPONSE SPRINKLERS WITH A TWO-SPRINKLER DESIGN IN THE GARAGE WITH THE SAME PIPING USED IN THE REST OF THE DWELLING MAY BE USED. IT IS RECOGNIZED THAT RESIDENTIAL SPRINKLERS HAVE NOT BEEN TESTED SPECIFICALLY FOR FIRES IN GARAGES, BUT FIELD EXPERIENCE HAS SHOWN THAT THE SPRINKLERS HELP TO ALERT OCCUPANTS TO THE FACT THAT THERE IS A FIRE. CAN REDUCE THE POSSIBILITY OF FLASHOVER, AND CAN IMPROVE THE CHANCES FOR OCCUPANTS TO ESCAPE.
 - SPRINKLERS SHALL NOT BE REQUIRED IN ATTICS, PENTHOUSE EQUIPMENT ROOMS, ELEVATOR MACHINE ROOMS, CONCEALED SPACES DEDICATED EXCLUSIVELY TO AND CONTAINING ONLY DWELLING UNIT VENTILATION EQUIPMENT, FLOOR/CEILING SPACES, ELEVATOR SHAFTS CRAWL SPACES, AND OTHER CONCEALED SPACES THAT ARE NOT USED OR INTENDED FOR LIVING PURPOSES.
 - SUCH SPACES THAT CONTAIN FUEL-FIRED EQUIPMENT SHALL ALSO COMPLY WITH 8.3.5.1.1 OR 8.3.5.1.2
 - WHERE THE FUEL-FIRED EQUIPMENT IS ABOVE AL OF THE OCCUPIED AREAS OF THE DWELLING UNIT, NO SPRINKLER PROTECTION SHALL BE REQUIRED IN THE CONCEALED SPACE
 - WHERE FUEL-FIRED EQUIPMENT IS BELOW OR ON THE SAME LEVEL AS OCCUPIED AREAS OF THE DWELLING UNIT, AT LEAST ONE QUICK-RESPONSE INTERMEDIATE TEMPERATURE SPRINKLER SHALL BE INSTALLED ABOVE THE EQUIPMENT OR AT THE WALL SEPARATING THE SPACE WITH THE FUEL-FIRED EQUIPMENT FROM THE OCCUPIED SPACE
 - SPRINKLERS SHALL NOT BE REQUIRED IN COVERED UNHEATED PROJECTIONS OF THE BUILDING AT ENTRANCES/EXITS AS LONG AS THERE IS ANOTHER MEANS OF EGRESS FROM THE DWELLING UNIT.
 - SPRINKLERS SHALL NOT BE REQUIRED FOR CEILING POCKETS THAT MEET THE FOLLOWING CONDITIONS:
 - THE TOTAL VOLUME OF UNPROTECTED CEILING POCKET DOES NOT EXCEED 100 FT³ (2.83 M³).
 - THE ENTIRE FLOOR UNDER THE UNPROTECTED CEILING POCKET IS PROTECTED BY THE SPRINKLERS AT THE LOWER CEILING ELEVATION.
 - EACH UNPROTECTED CEILING POCKET IS SEPARATED FROM ANY ADJACENT UNPROTECTED CEILING POCKET BY A MINIMUM 10 FT (3.05 M) HORIZONTAL DISTANCE.
 - THE INTERIOR FINISH OF THE UNPROTECTED CEILING POCKET IS NONCOMBUSTIBLE OR LIMITED-COMBUSTIBLE MATERIAL.
 - SKYLIGHTS NOT EXCEEDING 32 FT² (2.97 MP) SHALL BE PERMITTED TO HAVE A PLASTIC COVER.
 - SPRINKLERS SHALL NOT BE REQUIRED IN CLOSETS IN GARAGES AND EXTERIOR CLOSETS (REGARDLESS OF SIZE) LOCATED ON EXTERIOR BALCONIES, EXTERIOR BREEZEWAYS/CORRIDORS, OR ACCESSED FROM OUTDOORS WHERE THE CLOSET DOES NOT HAVE DOORS OR UNPROTECTED PENETRATIONS DIRECTLY INTO THE DWELLING UNIT
 - SPRINKLERS SHALL BE INSTALLED IN ANY CLOSET USED FOR HEATING AND/OR AIR-CONDITIONING EQUIPMENT, WASHERS AND/OR DRYERS, OR WATER HEATERS EXCEPT AS ALLOWED BY 8.3.8



TEAM NAME: TEAM ORANGE COUNTY
 ADDRESS: UNIVERSITY OF CALIFORNIA, IRVINE
 500 ENGINEERING HALL
 IRVINE, CA 92697-2700
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 http://teamoc2015.com



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SHEET TITLE
**FIRE SPRINKLER
 GENERAL NOTES AND
 DETAILS**

F-001

Markup Legend	
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Add Line	
Add Tee	
Add Elbow	
Add Coupling	
Add Head	
Delete Head	
Move Head	

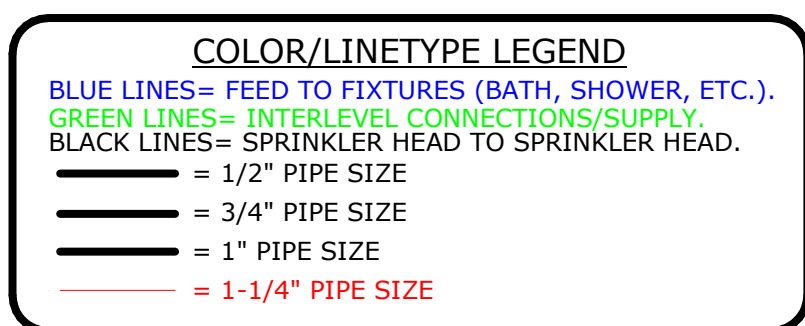
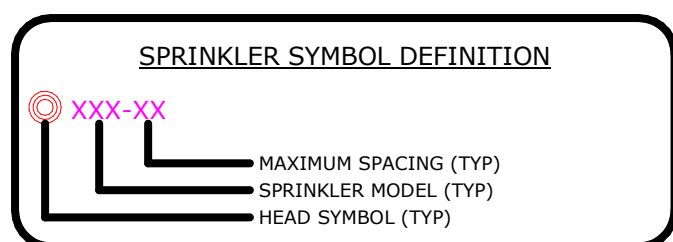
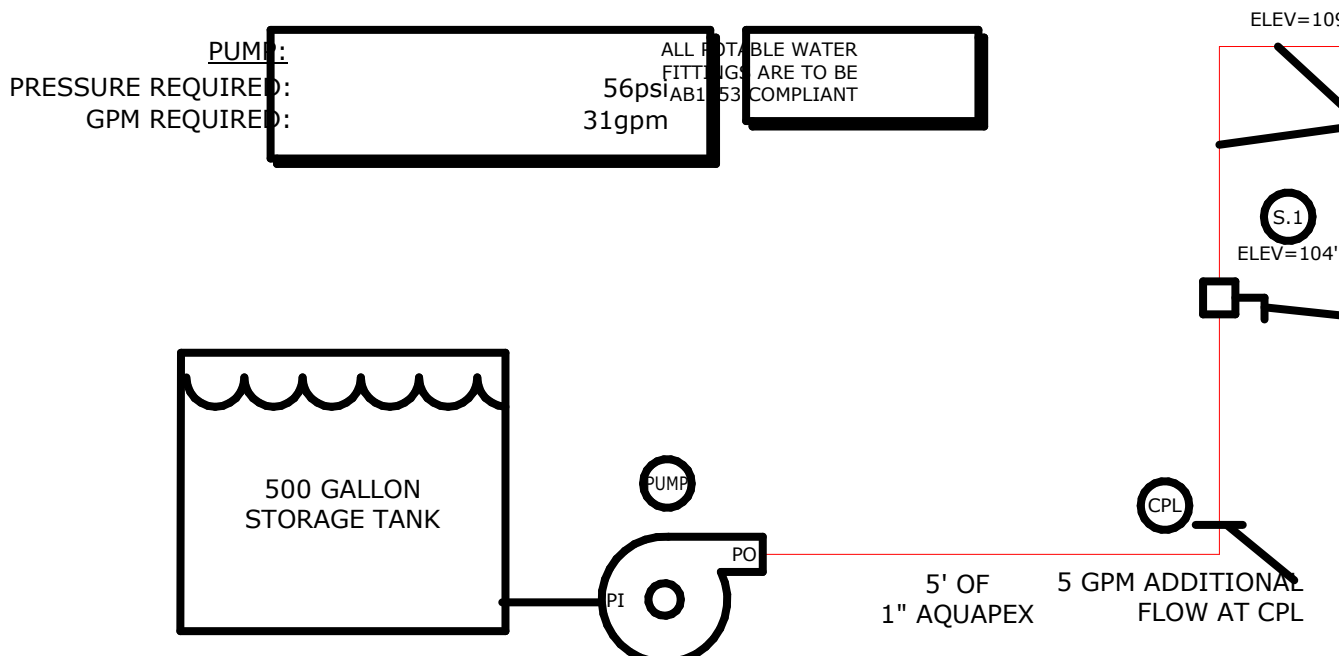
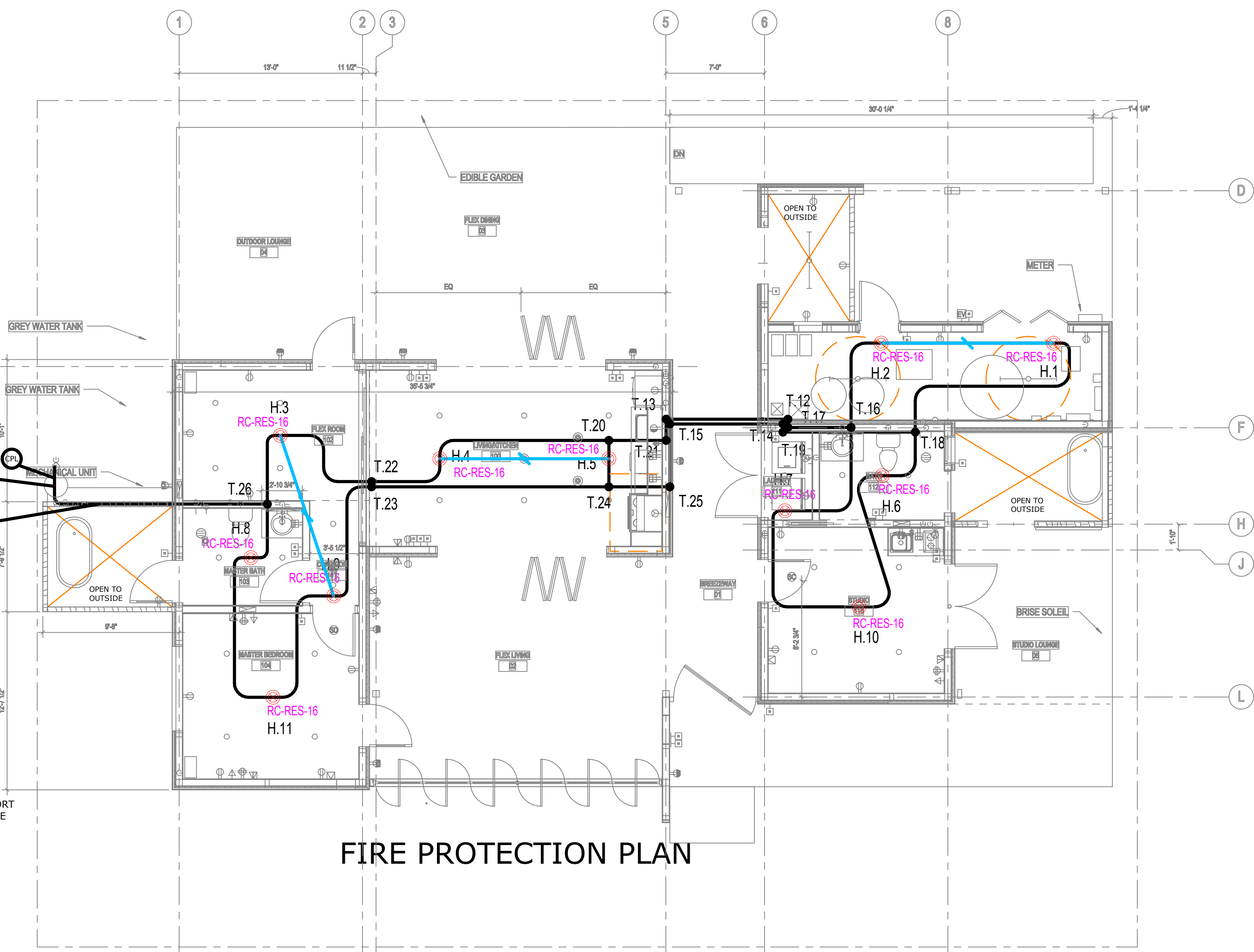


Table F002-1
Multipurpose Fire Safety Systems
 The Uponor Residential Fire Safety System is a residential fire protection system installed in combination with the cold side of the domestic potable water system. Only licensed contractors trained by Uponor can install this system.

What to do if Changes are Required
 If any features or obstructions require the addition or deletion of sprinkler heads, or significant relocation of sprinkler heads, contact the Uponor Design Department to determine if observed changes require a redesign (888.594.7726).

MOST HYDRAULICALLY REMOTE HEADS			
HEAD #	GPM	PRESSURE REQ'D AT STREET	
1 HEAD H.10	13	22.75	
2 HEAD H.1 & H.2	26.0326	50.85	

--- 11 SENJU SPRINKLER Model RC-RES Flat Concealed Pendant Quick Response
 RC-RES-16 K=4.9, 162F°, 7/16" Orifice, Maximum Spacing 16'x16'
 Sprinkler head demand: 13 gpm @ 7.04



WATER SERVICE DETAIL

A1 FLOOR PLAN
 SCALE: 1/4" = 1'-0"

1 FIRE SPRINKLER PLAN
 SCALE: 3/16" = 1'-0"



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SHEET TITLE
FIRE PROTECTION PLAN

F-100

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TERM	ABBR.
Above Finished Floor	AFF
Backflow Preventer	BFP
Balancing Valve	BLV
Ball Valve	BV
Bathtub	BT
Bathtub/Shower	TB/SH
British Thermal Unit	BTU
Check Valve	CV
Chilled Drinking Water Recirculating	DWR
Chilled Drinking Water Supply	DWS
Cold Water	CW
Deionized Water	DE
Diameter	DIA
Diameter, Inside	ID
Diameter, Outside	OD
Difference or Delta in Temperature	ΔT
Distilled Water	DI
Double Check Valve	DCV
Down	DN
Drawing	DWG
Drinking Fountain	DF
Elevation	ELEV
Expansion Joint	EJ
Fahrenheit	°F
Feet Per Second	FPS
Fixture Unit	FU
Flow Switch	FS
Foot Head	FT HD
Foot or Feet	FT
Foot-pound	FT-LB
Gallons	GAL
Gallons Per Minute	GPM
Head	HD
Hose Bibb	HB
Hot Water	HW
Hot Water Return	HWR
Hot Water Supply	HWS
Inches	IN
International Plumbing Code	IPC
Iron Pipe Size	IPS
Kitchen Sink	KS
Laundry Tray	LT
Lavatory	LAV
Linear Feet	LF
Material Safety and Data Sheet	MSDS
Mechanical Equipment Room	MECH
Minimum	MIN
National Pipe Thread	NPT
National Plumbing Code of Canada	NPC
National Standard Plumbing Code	NSPC
Nominal Pipe Size	NPS
Nonpotable Cold Water	NPCW
Nonpotable Hot Water	NPHW
Nonpotable Hot Water Return	NPHWR
Normal Temperature and Pressure	NTP
Not to Scale	NTS
Number	NO
On Center	OC
Pipe Anchor	PA
Pounds	LB
Pounds Per Square Inch	PSI
Pounds Per Square Inch, Absolute	PSIA
Pounds Per Square Inch, Gauge	PSIG
Pressure Gauge	PG
Pressure reducing Valve	PRV
Pressure Relief Valve	PRV
Pressure Switch	PS
Reduced Pressure Zone	RPZ
Reverse Osmosis Water	RO
Roof Hydrant	RH
Service Sink	SS
Shower	SH
Soft Cold Water	SCW
Sprinkler	SPKR
Standard	STD
Standard Dimensional Ratio	SDR
Temperature and Pressure Relief Valve	TPRV
Tempered Water	TW
Tempered Water Recirculating	TWR
Thermostatic Mixing Valve	TMV
Typical	TYP
Ultraviolet	UV
Uniform Plumbing Code	UPC
Urinal	UR
Vacuum	VAC
Volatile Organic Compound	VOC
Water Closet	WC
Water Fixture Units	WFU
Water Hammer Arrestor	WHA
Water Heater	WH
Water Working Pressure	WWP

Please refer to the Uponor Professional Installation Guide located on www.uponorpro.com for Uponor's manufacturer installation instructions.

Hydrostatic Temperature and Pressure Rating for Uponor AquaPEX Piping.

ASTM F876 Temperature and Pressure Ratings for SDR9 PEX		
Rated Temperature	Hydrostatic Design Stress (HDS) psi	Pressure Rating for Water psi
73.4°F/23°C	630	160
160°F/82°C	400	100
200°F/93°C	315	80

These listings are published in PPI TR-4, a culmination report of the listings that are maintained with PPI.

Uponor AquaPEX UV Resistance Ratings

Product	Marking	UV Resistance
Uponor AquaPEX White	5106	1 month
Uponor AquaPEX Blue	5206	3 months
Uponor AquaPEX Red	5206	3 months

Note: Uponor AquaPEX Purple Reclaimed Water pipe has not been tested for UV resistance and therefore retains a 5006 rating.

Standards, Codes, and Listings

Standards:
Uponor AquaPEX piping, ProPEX EP fittings, ProPEX LF brass fittings, EP multiport products, EP valves and copper valved manifolds are manufactured and tested to meet the following requirements:

Standard	Specification
ASTM F876	Standard Specification for Cross-linked Polyethylene (PEX) Piping
ASTM F877	Standard Specification for Cross-linked Polyethylene (PEX) Plastic Hot and Cold Water Distribution Systems
ASTM F1960	Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) Piping
ASTM F2023	Standard Test Method for Evaluating the Oxidative Resistance of Cross-linked Polyethylene (PEX) Piping and Systems to Hot Chlorinated Water
ASTM F2657	Standard Test Method for Outdoor Weathering Exposure of Cross-linked Polyethylene (PEX) Piping
ASTM E84	Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM E119	Standard Test Method for Fire Tests of Building Construction and Materials
ASTM E814	Standard Test Method for Fire Tests of Through-Penetration Firestop Systems
CAN/CSA B137.5	Crosslinked Polyethylene (PEX) Piping Systems for Pressure Applications
CAN/CSA B214	Installation Code for Hydronic Heating Systems
CAN/ULC-S102.2	Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies
CAN/ULC-S101	Standard Method of Fire Endurance Tests of Building; Construction and Materials
CAN/ULC-S115	Standard Method of Fire Tests of Firestop Systems
CAN/ULC/ORD-C199P	Combustible Piping for Sprinkler Systems
ANSI/NSF Standard 14	Plastics Piping System Components and Related Materials
ANSI/NSF Standard 61	Drinking Water System Components - Health Effects
AWWA C904	Cross-linked Polyethylene (PEX) Pressure Pipe, 1/2" (12mm) through 3" (76mm) for Water Service
ANSI/UL 263	Standard for Safety for Fire Tests of Building Construction and Materials
UL 1821	Standard for Safety for Thermoplastic Sprinkler Pipe and Fittings for Fire Protection Service (NFPA 13D applications only)

Codes
ICC, IPC, IMC, IRC, UPC, UMC, NSPC, HUD, UFGS, NPC of Canada, NBC of Canada

Listings
cNSFus-fs, cNSFus-rfh, cNSFus-pw, cQAUS, UL, CSA, WH, ETL, PPI-TR-4, ICC-ES, IAPMO, BMEC, CCMC

Minimum Distance Between ProPEX Fittings

To ensure a proper ProPEX connection, follow the required minimum distance between fittings chart.

Cut Length of Pipe	
Nominal Fitting Size	Cut Length of Pipe
1/2"	2 1/2"
3/4"	3 1/2"
1"	4 1/2"
1 1/4"	5 1/2"
1 1/2"	6 1/2"
2"	7 1/2"

Uponor ProPEX Lead-Free (LF) Brass Fittings

All Uponor LF brass products comply with NSF/ANSI 61 Annex G, NSF/ANSI 372 and conform to the lead-content requirements for "lead-free" plumbing as defined by California, Vermont, Maryland and Louisiana state laws as well as the U.S. Safe Drinking Water Act, effective January 2014.

All Uponor LF brass fittings marked as NSFus-pw-G comply with the dezincification resistance (DZR) and stress corrosion cracking (SCC) requirements of Sections 5.8.1 and 5.8.2 per the current NSF 14 Standard.

Uponor ProPEX Lead-Free (LF) Brass Fittings (Continued)

Uponor's LF brass is approved for direct burial in soil per NSF/ANSI Standard 14 testing which established minimum performance criteria for DZR/SCC resistance for PEX fittings intended for potable water.

Soldering

Note that soldering LF brass fittings, Uponor recommends using a lead free flux and solder which meet the requirements of NSF/ANSI 372 or NSF/ANSI 61 Annex G. Please refer to the solder and flux manufacturer for details on properly soldering lead-free brass materials.

Fittings by Others

Note that Uponor cautions the use of other manufacturer's PEX pipe with Uponor ProPEX Rings as well as using other's expansion rings with Uponor PEX-a pipe. Because of the lower degree and uniformity of crosslinking in PEX-b and PEX-c pipe, stress cracking of the PEX-b and PEX-c pipe wall can occur during expansion, compromising the strength of the fitting connection. Additionally, the 25-year limited warranty for Uponor PEX-a systems is only valid when both Uponor PEX-a pipe and Uponor ProPEX fittings are used. Mixing the ProPEX Rings with other manufacturer's PEX pipe or other's expansion rings with Uponor PEX-a pipe will limit the warranty. For complete warranty details, refer to www.uponorpro.com/warranties.

Note: Uponor does not permit a press-type fitting to be used with ProPEX sweat or fitting sweat adapters. Brass material is not nearly as malleable as copper material, causing undo stress and affecting the integrity of the connection.

Fire Stopping Solutions

There is a wide range of fire stopping solutions that have been tested and listed with PEX pipe; including intumescent caulks, wrap strips, pass-through devices, collars and cast-in-place sleeves. Some fire stop manufacturers include, but are not limited to, 3M™, HiIti®, RectorSeal®, Passive Fire Protection Partners, Specified Technologies Inc., Holdrite® and ProSet Systems®.

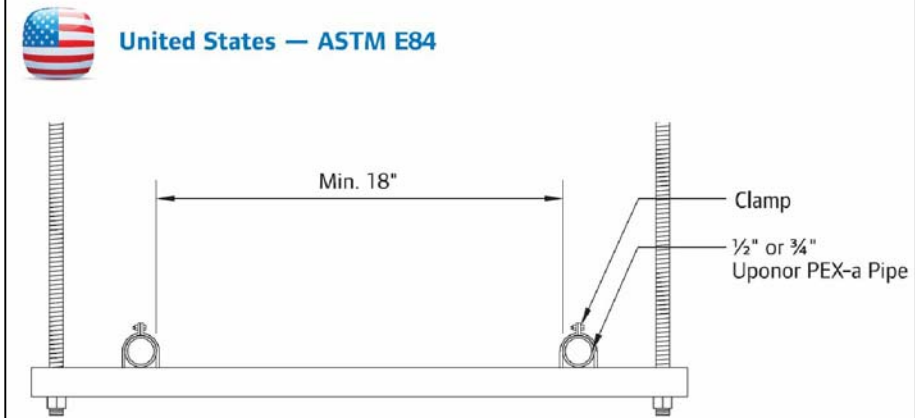
Surface Burning Characteristics

Uponor PEX-a piping systems comprised of Uponor PEX-a pipe, Uponor ProPEX rings, Uponor EP fittings, Uponor LF brass fittings and Uponor PEX-a Pipe Support products are listed for installation in return-air plenums as tested in accordance with ASTM E84.

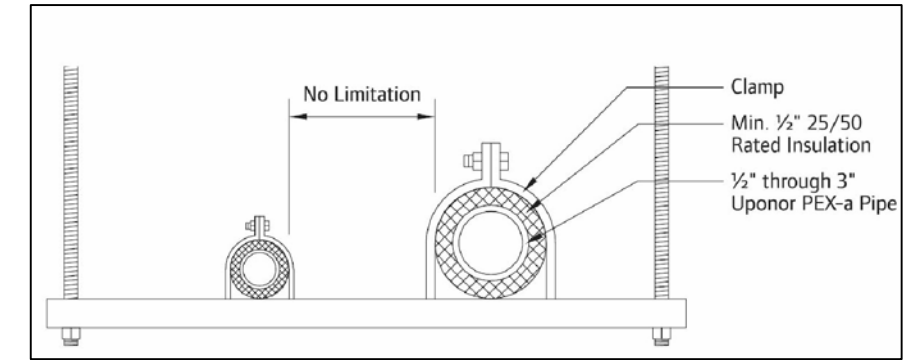
Surface Burning Characteristics

Uponor AquaPEX ASTM E84 Requirements

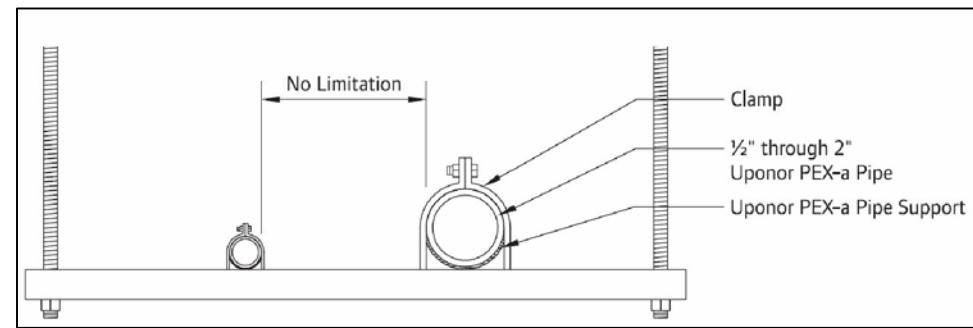
Classified as to Surface Burning Characteristics			
ASTM E84	Flame Spread	Smoke Developed	Limitations
Nominal 1/2" to 3/4" size	25 or less	50 or less	Adjacent pipe runs shall be located at least 18" apart.
2" maximum nominal size Uponor PEX-a Supported with Uponor PEX-a Pipe Support	25 or less	50 or less	Minimum length of PEX-a Pipe Support is 48". Maximum distance of 10" between PEX-a Pipe Support segments.
3" maximum nominal size Uponor PEX-a with 1/2" insulation	25 or less	50 or less	1/2" minimum thickness insulation as specified in Table 3-6.



QAI P321-1
Guidelines: 1/2" through 3/4" (uninsulated)
Limitations: Adjacent runs shall be located at least 18" apart



Intertek Listings 22157
Guidelines: 1/2" through 3" (Insulated)
Limitations: 1/2" minimum thickness insulation as specified



QAI P321-2
Guidelines: 1/2" through 2" (PEX-a Pipe Support)
Limitations: Minimum length of PEX-a Pipe Support is 48" Maximum distance of 10" between PEX-a Pipe Support segments.

Recirculated Hot-water System Design

Uponor AquaPEX piping is tested and listed to PEX 5106 NSF-pw (CL5). Per ASTM F876, the CL5 chlorine resistance rating is intended for an end-use condition of 100% at 140°F/60°C. Uponor requires that the velocity of the recirculation piping shall not exceed 2 ft./sec and the system must be balanced properly. See Uponor's Plumbing Design Assistance Manual or ASPE Plumbing Engineering Design Handbook Volume 2 for more information.

Recirculated Hot-water System Design (Continued)

Uponor AquaPEX Velocities and Flow Rates at 2 ft./sec.

Nominal Pipe Size	Velocity (ft./sec)	Flow Rate (gpm)	Friction Loss per Foot at 120°F/48.9°C
1/2"	2	1.1	0.0195
3/4"	2	2.2	0.0126
1"	2	3.6	0.0092
1 1/4"	2	5.4	0.0072
1 1/2"	2	7.5	0.0059
2"	2	12.9	0.0042

Storing and Handling PEX

Although not comprehensive, the following highlights the most common guidelines when storing and handling Uponor AquaPEX:

- Install Uponor systems according to the installation instructions.
- Do not store PEX piping outdoors.
- Keep PEX piping in the original packaging until time of installation.
- Do not use Uponor AquaPEX piping where temperatures and pressures exceed ratings.
- Do not weld, glue or use adhesives or adhesive tape with Uponor AquaPEX piping.
- Do not use Uponor AquaPEX piping during installation. However, to protect the integrity of the system, the taping should not be permanent. Remove the tape and residual adhesive after completing the installation.
- Do not apply open flame to Uponor AquaPEX piping.
- Do not install Uponor AquaPEX piping within six inches of any gas appliance vents. One exception is double-wall B-vents, which have a minimum clearance of one inch.
- Do not install Uponor AquaPEX piping within 12" of any recessed light fixture unless the PEX piping line is protected with suitable insulation or the can light is Insulation Contact (I.C.) rated.
- Do not install Uponor AquaPEX within 5 ft. of direct view from fluorescent lighting without sleeving the pipe with a UV-blocking material.
- Do not use Uponor AquaPEX piping to convey natural gas or compressed air.
- Do not solder, braze, weld or fusion-weld within 18" of any Uponor AquaPEX piping in the same water line. Make any heat-related connections prior to making the ProPEX connection.

- Do not install Uponor AquaPEX piping between the tub/shower valve and tub spout.
- Do not use Uponor AquaPEX piping for an electrical ground.
- Do not spray on or allow organic chemicals, strong acids or strong bases to come into contact with Uponor AquaPEX piping.
- Do not use petroleum or solvent based paints, greases or sealants on Uponor AquaPEX piping.
- Use only approved and appropriate firestop materials within Uponor AquaPEX piping.
- Do not allow rodents, insects or other pests to come into contact with Uponor AquaPEX piping.
- Do not subject Uponor AquaPEX piping to blunt impact.
- Do not install Uponor AquaPEX piping in soil environments contaminated with solvents, fuels, organic compounds, pesticides or other detrimental materials that may cause permeation, corrosion, degradation or structural failure of the piping. Where such conditions are suspected, perform a chemical analysis of the soil or groundwater for the specific installation. Check local codes for additional requirements.
- Do not press ProPEX brass fittings (i.e. copper press).
- AquaPEX piping passing through drilled or notched metal studs or joists or hollow shell masonry walls shall be protected from abrasion by elastomeric or plastic sleeves or grommets.
- Steel plate protection shall be installed in accordance with the local plumbing code to protect against punctures.
- When using urethane foam insulation/sealant, ensure that you cover the EP fittings with a protective (polyethylene, foil, etc.) sleeve to prevent direct contact.
- Note:** When transitioning from PEX to other piping materials, follow the appropriate installation instructions for that product.

Bending PEX

The minimum bend radius of Uponor AquaPEX piping is six (6) times the outside diameter. Bend supports are available for 3/8", 1/2", 3/4" and 1" piping and may be used to facilitate 90 degree rigid bends. Large diameter PVC conduit can be used to facilitate 90 degree bends in larger diameter Uponor AquaPEX piping.

To alleviate stress on ProPEX connections and fittings, follow minimum distance requirements from penetrations and supports.

Note: When minimum distance cannot be achieved with a bend support, use a ProPEX elbow.

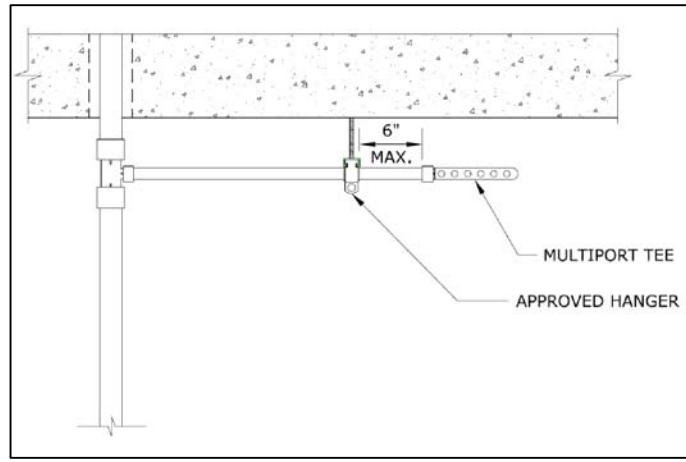
Minimum Distance with and without Bend Support

	Minimum Distances with Bend Support			Minimum Distances without Bend Support		
	A	B	C	D	E	
1/2"	R 2.5	5"	5"	10"	6"	
3/4"	R 3.8	8"	8"	16"	12"	
1"	n/a	n/a	n/a	22"	18"	

Table 2-1: Minimum Distances with and without Bend Support

Piping Supports: General Guidelines

- Uponor recommends using plastic or metal piping supports designed for use with plastic piping.
- Allow for the linear expansion rate of Uponor AquaPEX piping - approximately 1.1" (28 mm) per 10°F (5.6°C) temperature change for every 100' of piping.
- When installing piping runs, thermal expansion calls for an extra 1/8" to 3/16" of longitudinal clearance per foot of run. Do not allow piping to dip excessively between supports. Do not pull piping tight during installation.
- Allow adequate clearance between PEX piping and the structure (bored holes or sleeves) to allow piping to move freely due to thermal expansion and contraction.
- To ensure limited movement of multi-port tees due to flowing water, install a pipe support within 6 inches of the multi-port tee on the supply pipe run.



Thermal Expansion

Horizontal Tubing Runs
Thermal expansion forces on suspended horizontal runs of PEX-A tubing that can experience a 22 °C (40°F) or greater rise in temperature shall be controlled by a means of mitigating temperature-induced stresses to other parts of the water distribution system. Means for controlling thermal expansion include:

- Supporting the tubing with continuous runs of Uponor PEX-a Pipe Support
- Rigid anchor points installed every 20 m (65 ft.)
- Proper strapping (e.g. 27 kg (60 lb.) straps or equivalent) spaced 1 m (3 ft.) and rated for the maximum temperature and UV exposure of the PEX-a tubing application.

- Loops
- Offsets
- Arms with rigid anchor points, and

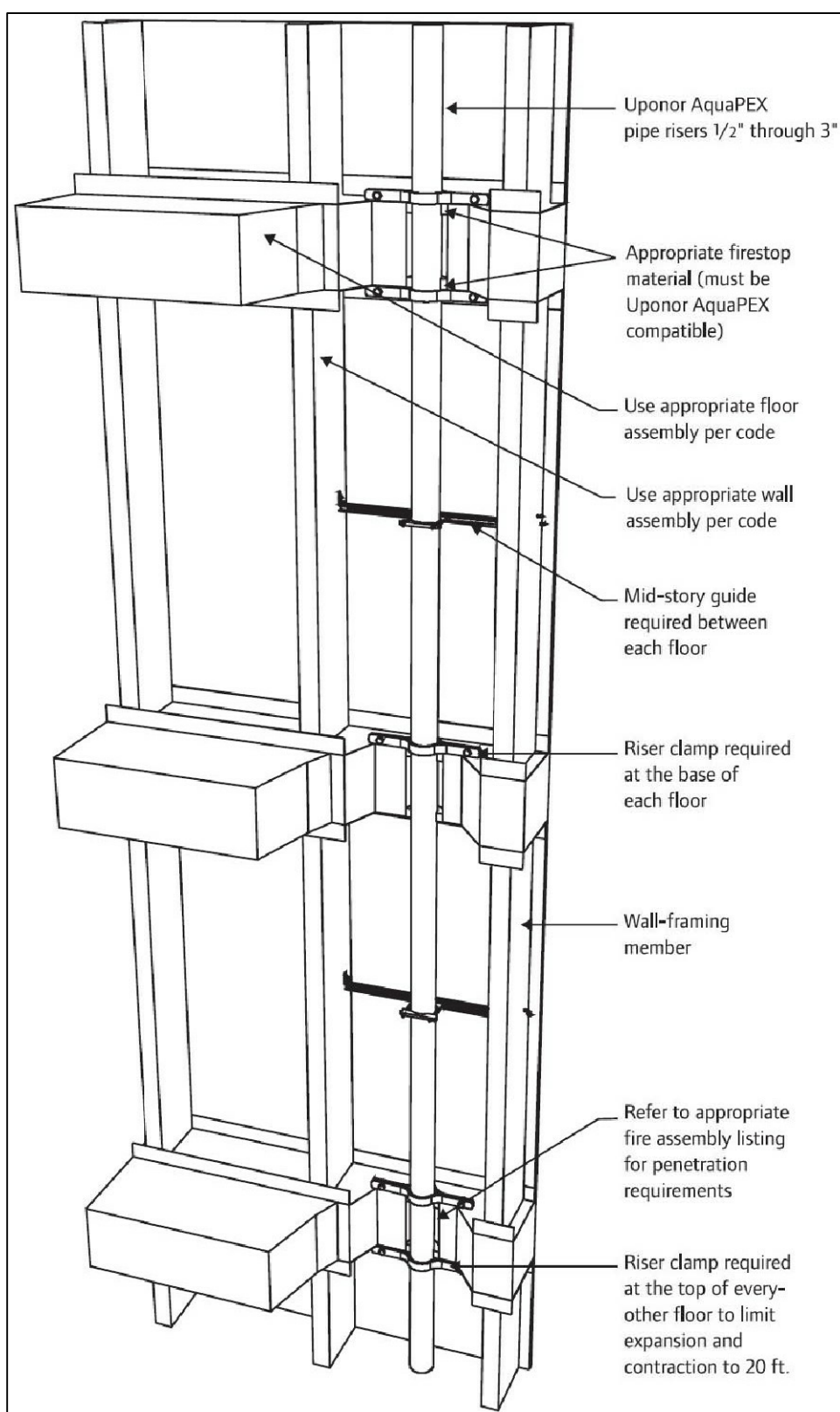
Vertical Tubing Runs

Thermal expansion forces on vertical runs of PEX-A tubing that passes through more than one floor and can experience a 22°C (40°F) or greater rise in temperature shall be controlled by installing:

- A riser clamp at the top of every other floor; and
- Mid-story guides to maintain the alignment of the vertical tubing.

Note: Installing riser clamps isolates expansion to two-floor intervals allowing the PEX-a tubing to naturally compensate for the expansion.

Hot Water Risers



Support Spacing Requirements for Bare PEX-a Pipe as of 2012 Code Cycle.

	Pipe Size	International Plumbing Code (IPC)	Uniform Plumbing Code (UPC)	National Plumbing Code of Canada
Horizontal with PEX-a Pipe Support	1/2" - 3/4"	6' (2m)	6' (2m)	6' (2m)
	1" - 2"	8' (2.6m)	8' (2.6m)	8' (2.6m)
Horizontal without PEX-a Pipe Support	1/2" - 1"	32" (0.8m) O.C.	32" (0.8m) O.C.	32" (0.8m) O.C.
	1 1/4" - 3"	32" (0.8m) O.C.	48" (1.22m) O.C.	32" (0.8m) O.C.
Vertical	All Pipe Sizes	Base of each floor; provide mid-story guide	Base of each floor; provide mid-story guide	Supported at base, and floor levels at alternate stories

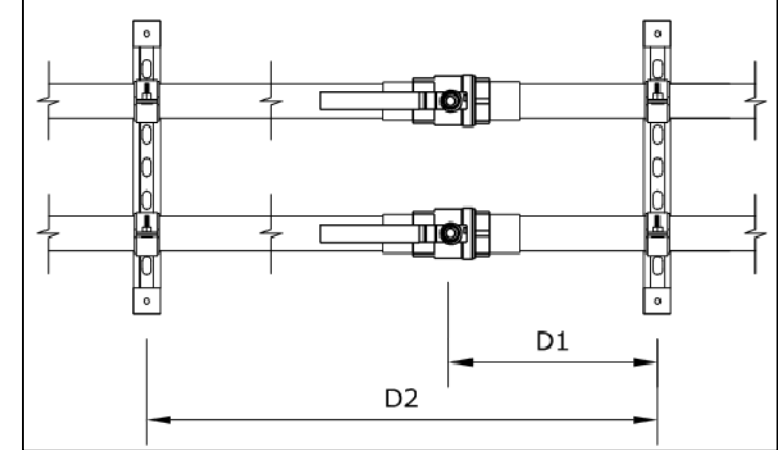
Note: Use of support channel or Uponor PEX-a Pipe Support in conjunction with CTS hangers is an alternative to the 32" (0.8m) or 48" (1.22m) on-center support spacing requirements. Vertical support requirements for non-riser applications is every 4 to 5 feet.

Supporting Valves

Valves of sufficient weight shall be supported in accordance with the following table:

Nominal Pipe Size	Max. Distance (D1)	Maximum Distance (D2)	
		IPC	UPC
1 1/4"	18"	32"	48"
1 1/2"	18"	32"	48"
2"	18"	32"	48"

Table 6-3: Maximum Allowable Distance from a Support to a Valve



Uponor PEX-a Pipe Support

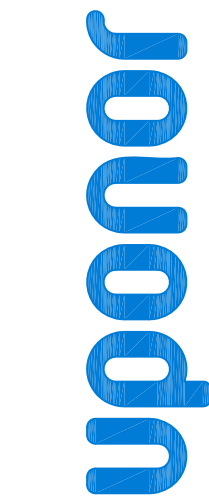
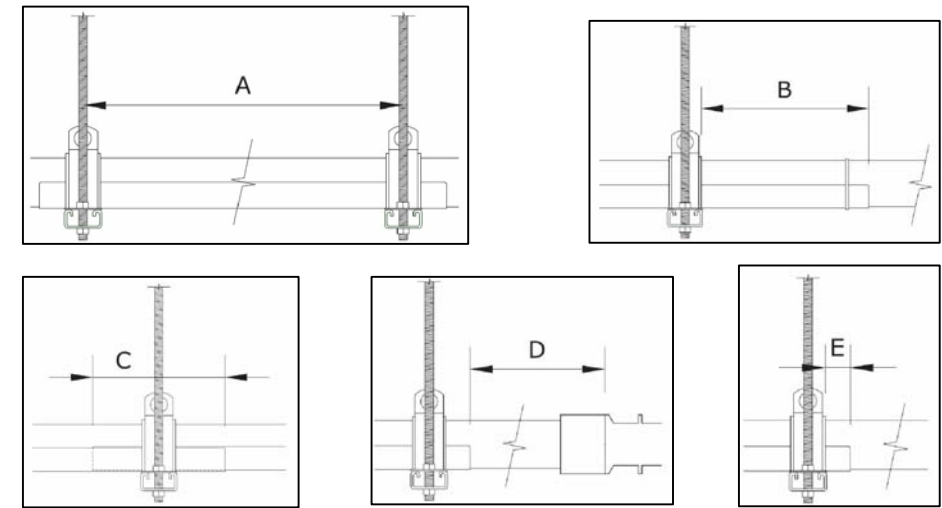
PEX-a Pipe Support is a self-gripping, galvanized-steel channel for PEX piping. It provides continuous, uninterrupted support of PEX-a piping, allowing placement of hangers similar to that of metallic piping.

PEX-a Pipe Support may be insulated with typical CTS (copper tube size) pipe insulation and is available in 9-foot (3m) lengths in 1/2" - 2" sizes.

Uponor PEX-a Pipe support Installation Guidelines



	Max. Support Spacing		Min. Overlap	Min. Distance to Fitting		Min. Overhang
	A	B		C	D	
1/2"				1 1/4"		
3/4"	6'-0"			1 1/4"		
1"		18"	6"	2 1/4"		1"
1 1/4"	8'-0"			2 1/4"		
1 1/2"				3"		
2"				4"		



DISCLAIMER
THIS SERIES OF DRAWINGS HAS BEEN PREPARED BY UPONOR, INC. TECHNICAL SERVICES - DESIGN DEPARTMENT AS AN INITIAL DESIGN FOR PLUMBING, HEATING AND LEAD FIRE SUPPRESSION SYSTEMS FOR YOUR USE IN THE SPECIFICATION, BIDDING AND SALE OF SUCH SYSTEMS. THEY HAVE BEEN PREPARED TO PROFESSIONAL STANDARDS BEFORE STARTING ANY WORK ASSOCIATED WITH THIS DESIGN. IT IS MANDATORY THAT YOU (A) MAKE A CAREFUL CHECK OF PIPE SIZE, CALCULATIONS, MATERIALS, PLUMBING AND/OR FIRE CODES USED AND (B) HAVE THE INITIAL DESIGN REVIEWED BY A PROFESSIONAL ENGINEER AND MARKED OR STAMPED FINAL BY YOURSELF. UPONOR, INC. TECHNICAL SERVICES - DESIGN DEPARTMENT TO DETERMINE IF THE DESIGN REQUIRES REVISION. UPONOR, INC. DISCLAIMS ANY LIABILITY OR RESPONSIBILITY FOR THE DESIGN AND SPECIFICALLY DISCLAIMS ANY WARRANTIES SHALL BE YOUR SOLE RESPONSIBILITY TO ENSURE THE SYSTEM WILL FUNCTION IN ACCORDANCE WITH ALL APPLICABLE CODES AND TO SPECIFICATIONS.

SALES REP:

SOLAR HOUSE
5200 ENGINEERING HALL
IRVINE, CA 92697-2700

DRAWN BY:	K.VANG	PROJECT NUMBER:	16304P
CHECKED BY:	R.MESSMER	SQUARE FEET:	2,900 SQ. FT.
PLOT DATE:	03/30/2015	FITTING BASIS:</	

T:\TechService\2015\16304\Solar_House\16304P\Uponor_Drawing & Calc\Design_Solar_House_16304P.dwg 03/30/15 - 4:02 pm

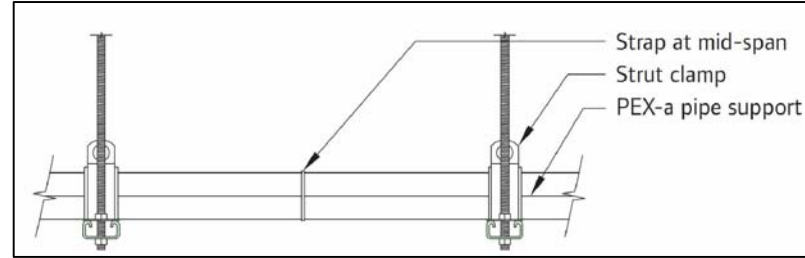
Strapping Requirements for PEX-a Pipe Support

When utilizing PEX-a Pipe Support to achieve greater support spacing, Uponor requires that the PEX-a Pipe Support be strapped with a minimum 50 lb. tensile rated strap that is suitable for the application (i.e. UV, high temperature). When utilizing PEX-a Pipe Support to control thermal expansion, Uponor requires that the PEX-a Pipe Support be strapped with a minimum 60 lb. tensile rated strap that is nylon-coated stainless steel or equivalent and is suitable for the application (i.e. UV, high temperature).

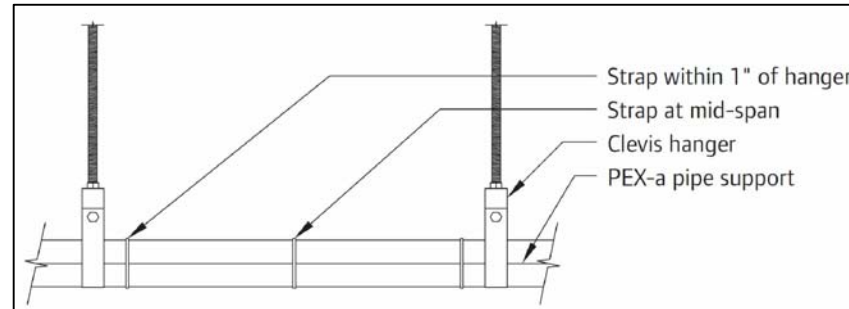
Strapping Requirements for Clamps and Hangers

Application	Maximum Distance
Clamps	Greater than 48" = 1 tie mid-span
Hangers	<ul style="list-style-type: none"> Less than 48" = 2 ties equally spaced Greater than 48" = 3 ties (1 mid-span and 1 on each end placed 2" from end of support)

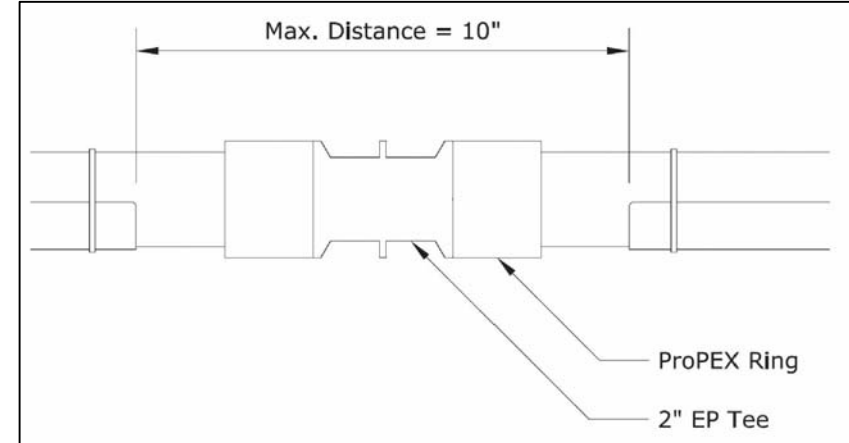
Images for Strapping PEX-a Pipe Support



Strapping for Systems using Strut-clamps or Equivalent



Strapping for Systems using Clevis-type Hangers or Equivalent



PEX-a Pipe Support Installations in ASTM E84 Applications

Strapping Requirements for Uponor AquaPEX Pipe Runs

- Steel straps must be coated or have no sharp edges.
- Cable ties shall not be used for suspension alone.
- Piping shall be isolated from other MEP systems by means of insulation or stand-off brackets.
- For hot-water applications, Uponor recommends a strapping material suitable for the application (i.e. UV, high temperature)
- Approved strapping materials include:
 - Pipe talons
 - Clamps
 - Stand-off brackets
 - Nylon banding and cable ties (50 lb. min.) suited for the application

Bundling

- Parallel runs of Uponor PEX may be bundled together given the following guidelines:
- Entire bundle must be supported at the required O.C. distances.
 - Cable ties may be used to maintain a tight bundle of PEX.
 - Cable ties may not be used as the sole means of supporting the bundle.
 - Keep hot and cold bundles 6" apart if uninsulated.

Under-slab/ Below-grade Fittings

Uponor EP and LF brass fittings are all approved for use in direct-burial applications.

Uponor's LF brass is approved for direct burial in soil per NSF/ANSI Standard 14 testing which established minimum performance criteria for dezincification resistance (DZR) and stress-corrosion cracking (SCC) resistance for PEX fittings intended for potable water.

Pre-insulated Uponor AquaPEX Piping Pre-insulated Uponor AquaPEX piping is approved for use in direct burial applications. However, due to the static load exerted by the soil, Uponor recommends the use of Pre-insulated AquaPEX featuring 1" thick insulation.

When piping will pass through a concrete slab, it must be protected and allowed to move including expansion and contraction of piping. Minimum wall thickness of protective material shall be 0.025 inch (.064mm). Approved protective material includes HDPE wrapping, closed-cell pipe insulation, PVC elbows and sleeves, or equivalent. Ensure proper placement where piping exits the slab. These products are described as slab penetration protection devices.

Under-slab/ Below-grade Fittings (Continued)

Pre-sleeved Uponor AquaPEX Piping When using pre-sleeved Uponor AquaPEX piping or a protection sleeve, an annular gap between these protection devices and the PEX piping will exist. In such installations, the annular gap between the protection device and the PEX piping at the exposed ends must be filled to help prevent pathways for pests and the mistaken application of harmful chemicals into the space between the PEX piping and the protection device. Use only sealants that are compatible with PEX piping.

Note: The following products can be used when sealing PEX piping and slab-penetration protection devices:

- Latex caulk
- Latex foam
- Silicone sealant
- Polyurethane expanding foam

Water Service Requirements

Uponor AquaPEX piping and associated fittings meet the requirements of American Water Works Association (AWWA) C904, Cross-linked Polyethylene (PEX) Pressure Pipe, 1/2" (12mm) through 3" (76mm) for Water Service.

Only SDR9 compression fittings listed in compliance with AWWA C800 as referenced in AWWA C904 shall be used in water service applications when transferring from PEX to a corporation or curb stop. Be sure to use insert stiffeners when assembling a compression fitting with PEX. Commonly available SDR9 compression fitting manufacturers include:

- Ford Meter Box Company, Inc.®
- Mueller Company®
- A.Y. McDonald Mfg. Co.®
- Philmac®

Water System Disinfection

Uponor recommends flushing an AquaPEX plumbing system with clean, potable water. When system disinfection is required, Uponor AquaPEX piping should be disinfected in accordance with AWWA C651-86, Standard for Disinfecting Water Mains, or local codes.

Important: To prevent reduced service life of system components, disinfection solutions should not stand in the system longer than 24 hours. Flush the system with potable water after disinfection. Use a chlorine solution of 50 parts per million (ppm) for 24 hours or 200 ppm for three hours for disinfection.

Pressure-testing Procedures

It is important to properly pressure test an Uponor plumbing system in accordance with local code. If testing with air, it is important that the system pressure not exceed 120 psi.

Importance of Conditioning PEX-a Pipe

Uponor advocates conditioning the system at 1.5 times the test pressure, or 120 psi. See Uponor Installation Manual for proper conditioning procedure.

Print Stream Identification

Print Stream on Tubing	Explanation
UPONOR AquaPEX	Brand Name
PEX 5006	ASTM F2023 Testing I/A/W ASTM F876
2 IN	Tubing Size (Example: 2")
SDR9	Standard Dimensional Ratio of 9
• B137.5 POTABLE	Potable Water Listings by CSA
cNSFus-pw	Potable Water Listings by NSF
UL	Listings by UL
U.P. Code	Uniform Plumbing Code Marking
CCMC 13529-R	Canadian Construction Materials Centre Evaluation Report 13529-R
ASTM F876/F877/F2023	ASTM Pipe Standards
ASTM F1960/F2080/F1807/F2098	ASTM Fitting Standards
cWHIus FS25/SD50	Wannock Hersey Listing for 25/50 FS/SD Plenum Rating
ICC ESR-1099	ICC Evaluation Services Report ESR-1099
ANSI/AWWA C904	American Water Works Association Standard for Water Service
cQAiUs P321	QAI Listing for 25/50 FS/SD Plenum Rating
130 PSI 120F UL 1821	UL Standard for NFPA 13D Fire Protection Service
ULC/ORD-C199P	ULC Standard for Combustible Sprinkler Piping
IAPMO UES 0253	IAPMO Evaluation Services Report ER-0253
ASTM E84	Standard Test Method for Surface Burning Characteristics - US
CAN/ULC-S102.2	Standard Test Method for Surface Burning Characteristics - CA
HUD MR1269d	HUD Material Release Report 1269d
160PSI 73.4°F (23°C)/100PSI 180°F (82°C)/80PSI 200°F (93°C)	Hydrostatic Rating from PPI in Accordance with ASTM F876
UPONOR PEX-a TUBING	Type of Crosslinking (PEX-a)
UN04950127	Manufacturing Code to Audit Material Source (USA, Material Type, Extruder No., Year, Month, Day)
xxxxxx	Footage Marker in Increments of 5 feet

Line Type Identification

-----	Cold Water
-----	Hot Water Supply (120°F)
-----	Hot Water Recirculating (120°F)

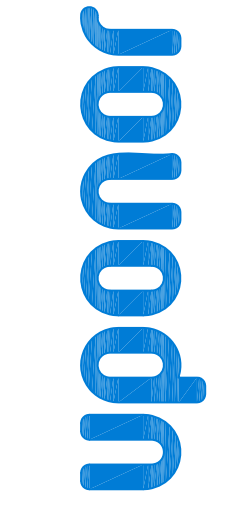
Pipe Sizing Criteria:

DISCLAIMER: THE DOMESTIC WATER SYSTEM ASSOCIATED WITH THIS PROJECT NUMBER IS NOT SIZED BY UPONOR. THE SIZING CRITERIA WAS PROVIDED BY OTHERS. CHECK LOCAL CODE BEFORE INSTALLING; UPONOR WILL NOT BE HELD LIABLE.

2013 California Plumbing Code				
Table 6-5				
Appliances, Appurtenances or Fixtures (2)	Minimum Fixture Branch Pipe Size (1,4)	Load Values, In Water Supply Fixture Units (WSFU) (3)		
		Private	Public	Assembly
Bathtub or Combination Bath/Shower (fill)	1/2"	4.0	4.0	--
3/4" Bathtub Fill Valve	3/4"	10.0	10.0	--
Bidet	1/2"	1.0	--	--
Clothes Washer	1/2"	4.0	4.0	--
Dental Unit, Cuspidor	1/2"	--	1.0	--
Dishwasher, Domestic	1/2"	1.5	1.5	--
Drinking Fountain or Watercooler	1/2"	0.5	0.5	0.75
Hose Bibb	1/2"	2.5	2.5	--
Hose Bibb, Each Additional (8)	1/2"	1.0	1.0	--
Lavatory	1/2"	1.0	1.0	1.0
Lawn Sprinkler, Each Head (5)	--	1.0	1.0	--
Mobilehome, Each (minimum)*	--	12.0	--	--
Sinks				
Bar	1/2"	1.0	2.0	--
Clinic Faucet	1/2"	--	3.0	--
Clinic Flushometer Valve with or without Faucet	1"	--	8.0	--
Kitchen, Domestic	1/2"	1.5	1.5	--
Laundry	1/2"	1.5	1.5	--
Service or Mop Basin	1/2"	1.5	3.0	--
Washup, Each Set of Faucets	1/2"	--	2.0	--
Shower, Per Head	1/2"	2.0	2.0	--
Urinal, 1.0 GPF Flushometer Valve	3/4"	See Footnote (7)	--	--
Urinal, Greater Than 1.0 GPF Flushometer Valve	3/4"	See Footnote (7)	--	--
Urinal, Flush Tank	1/2"	2.0	2.0	3.0
Washfountain, Circular Spray	3/4"	--	4.0	--
Water Closet, 1.6 GPF Gravity Tank	1/2"	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Tank	1/2"	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Valve	1"	See Footnote (7)	--	--
Water Closet, Greater Than 1.6 GPF Gravity Tank	1/2"	3.0	5.5	7.0
Water Closet, Greater Than 1.6 GPF Flushometer Valve	1"	See Footnote (7)	--	--

- Size of the cold branch pipe, or both the hot and cold branch pipes.
- Appliances, Appurtenances or Fixtures not included in this Table may be sized by reference to fixtures having a similar flow rate and frequency of use.
- The listed fixture units values represent their load on their cold water service. The separate cold water and hot water fixture unit value for fixtures having both hot and cold water connections may each be taken as three-quarter (3/4) of the listed total value of the fixture.
- The listed minimum supply branch pipe sizes for individual fixtures are the nominal (I.D.) pipe size.
- For fixtures or supply connections likely to impose continuous flow demands, determine the required flow in gallons per minute (GPM), and add it separately to the demand (in GPM) for the distribution system or portions thereof.
- Assembly (Public Use [See Table 4-1]).
- When sizing flushometer systems, see Section 610.10.
- Reduced fixture unit loading for additional hose bibbs is to be used only when sizing total building demand and for pipe sizing when more than one hose bibb is supplied by a segment of water-distributing pipe. The fixture branch to each hose bib shall be sized on the basis of 2.5 fixture units.

* For fixture unit values related to manufactured housing (mobilehomes) in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2, Article 5, Section 1278. For fixture unit values related to Special Occupancy Parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2.2, Article 5, Section 2278.



TECHNICAL SERVICES - DESIGN DEPARTMENT
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 WEB WWW.UPONOR-USA.COM

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SALES REP:

SOLAR HOUSE
5200 ENGINEERING HALL
IRVINE, CA 92697-2700

DRAWN BY:	K.VANG	PROJECT NUMBER:	16304P
CHECKED BY:	R.MESSMER	SQUARE FEET:	2,900 SQ. FT.
PLOT DATE:	03/30/2015	FITTING BASIS:	
SHEET SCALE:	INTS	FINISHES:	
		REVISIONS:	
NO.	DATE	DESCRIPTION	

SHEET DESCRIPTION

PLUMBING TABLES

SHEET NUMBER

P002



TEAM NAME:
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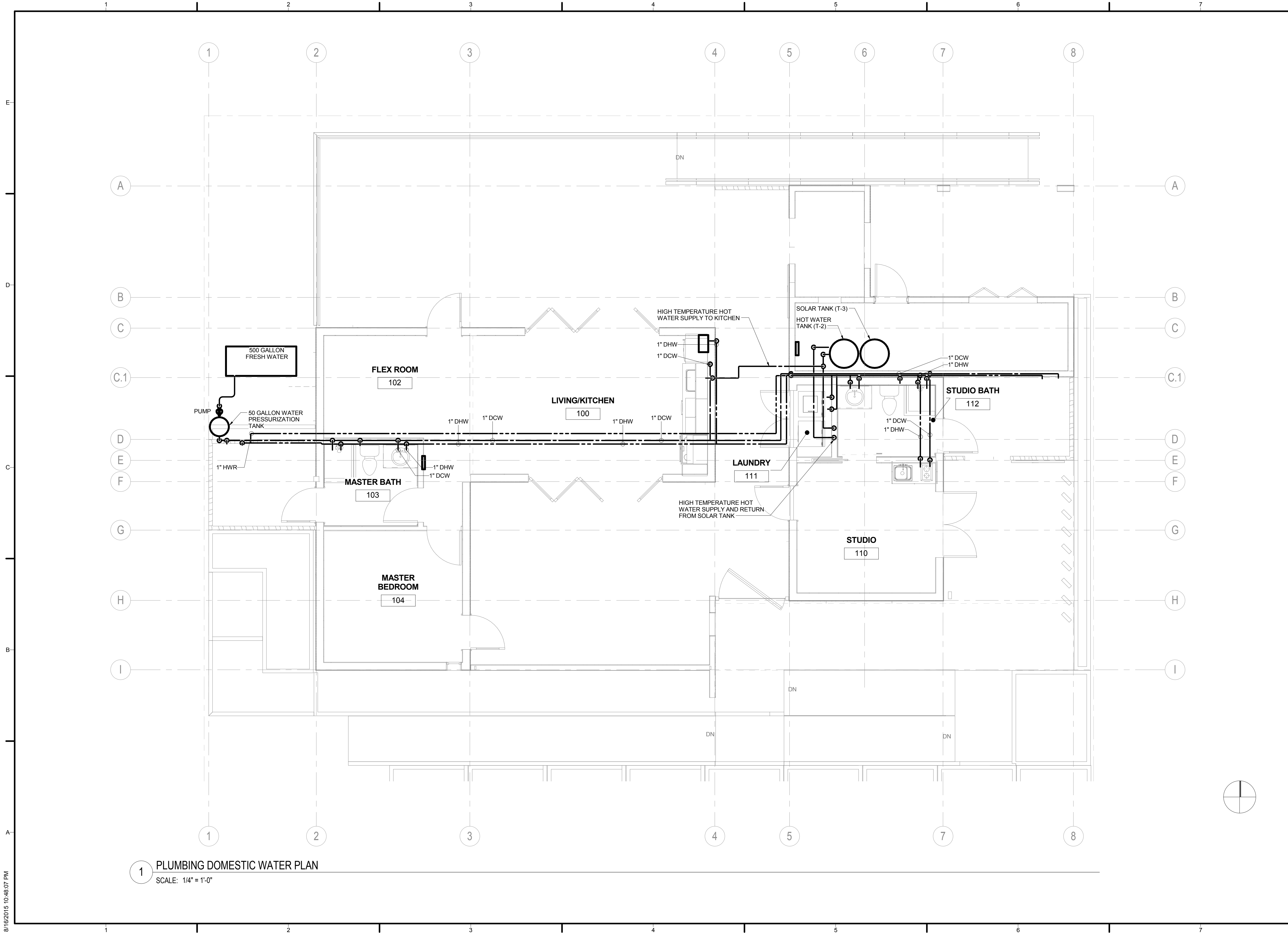
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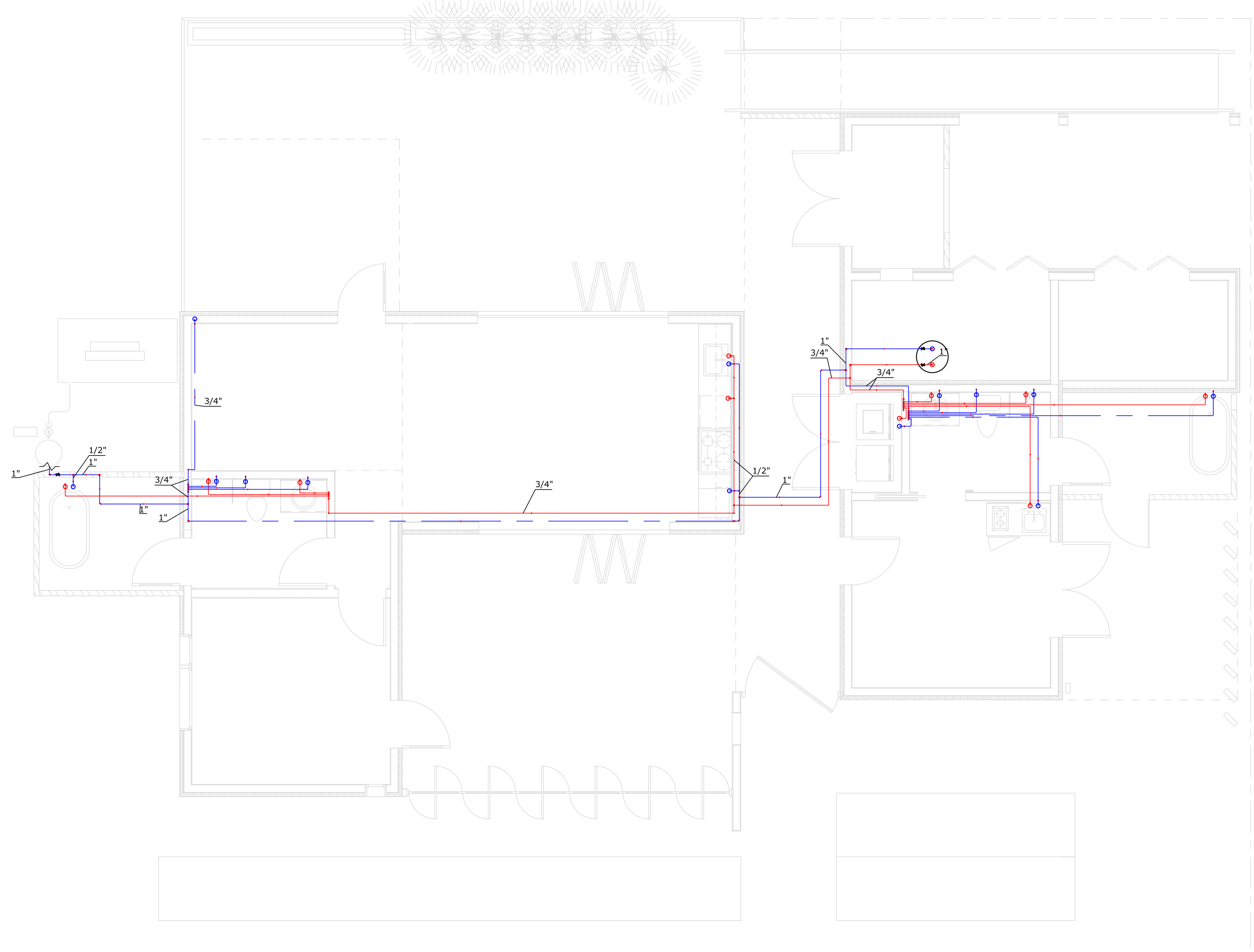
SHEET TITLE
PLUMBING DOMESTIC WATER PLAN

P-101



1 PLUMBING DOMESTIC WATER PLAN
SCALE: 1/4" = 1'-0"

8/16/2015 10:48:07 PM



1
P101

MAIN FLOOR

1/4" = 1'-0"

SOLAR HOUSE
5200 ENGINEERING HALL
IRVINE, CA 92697-2700

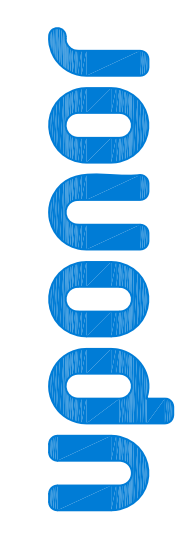
DRAWN BY:	K.VANG	PROJECT NUMBER:	16304P
CHECKED BY:	R.MESSMER	SQUARE FEET:	2,900 SQ. FT.
PLOT DATE:	03/30/2015	FITTING BIOS:	
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NO.	DATE	REVISIONS:	DESCRIPTION

SHEET DESCRIPTION
MAIN FLOOR

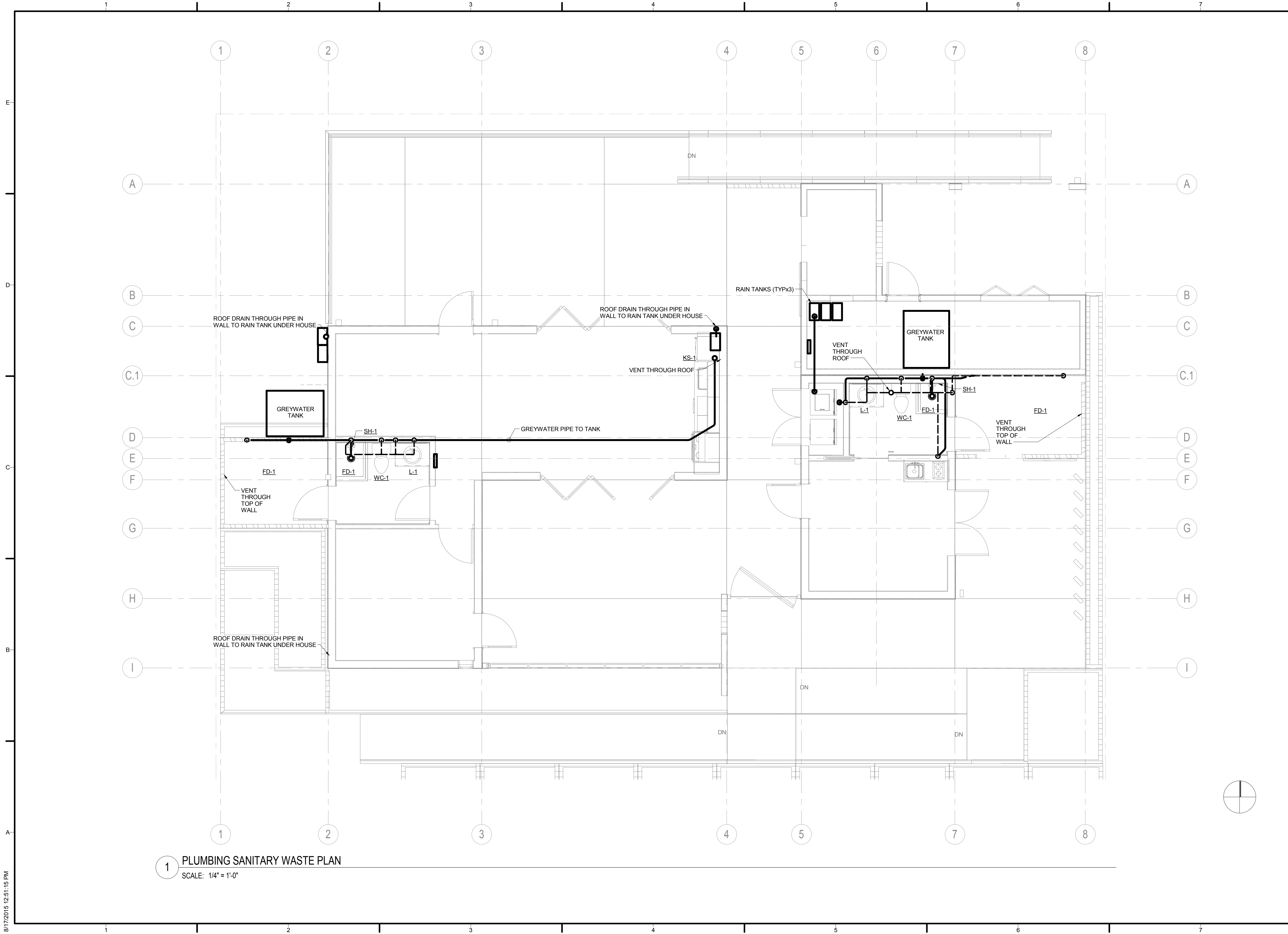
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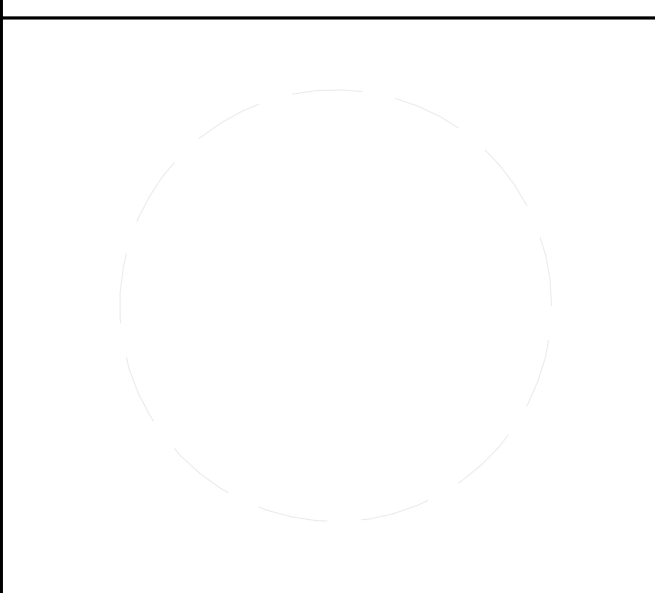
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1 PLUMBING SANITARY WASTE PLAN
SCALE: 1/4" = 1'-0"



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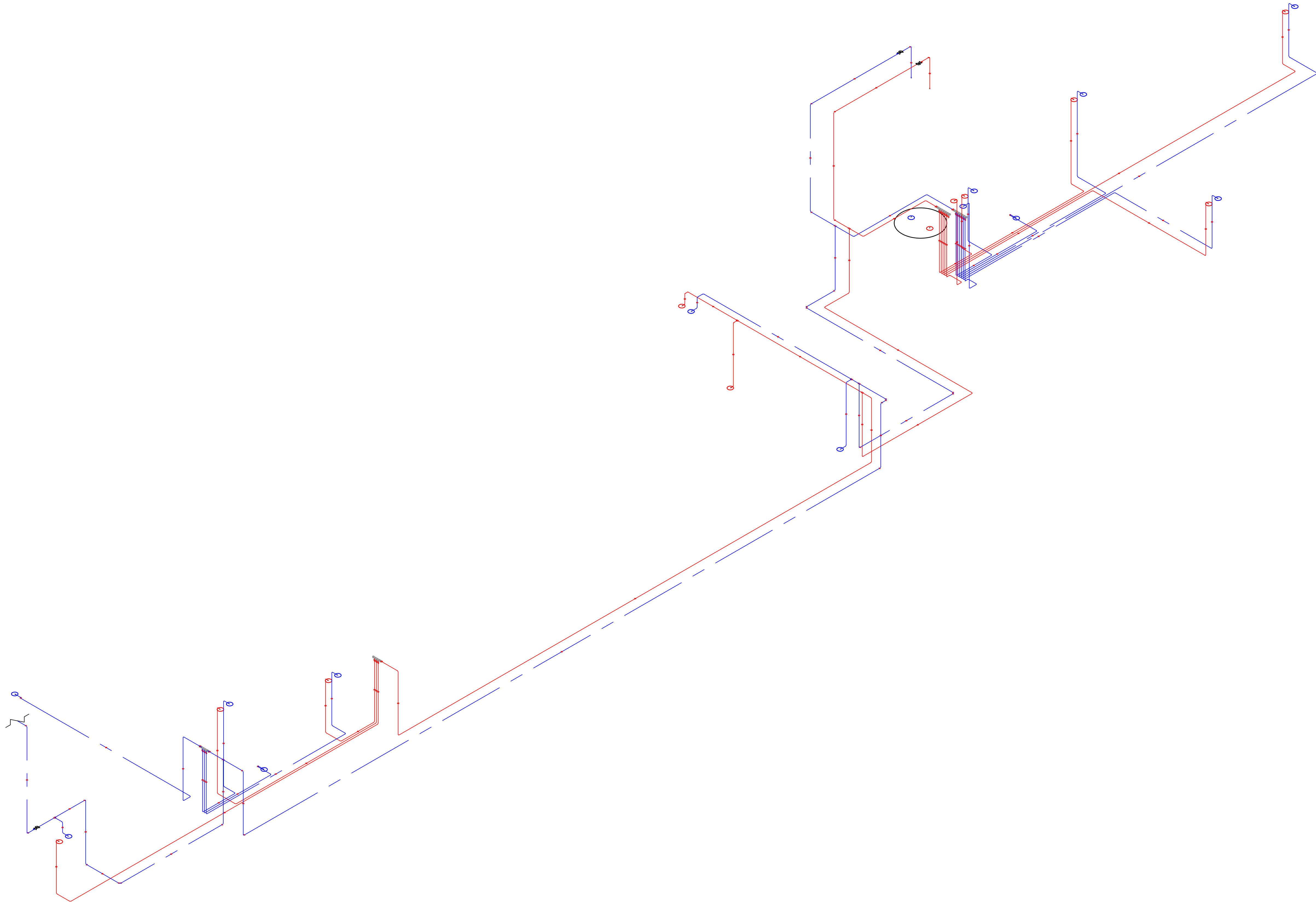
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SHEET TITLE
PLUMBING SANITARY WASTE PLAN

P-102

8/17/2015 12:51:15 PM



1
P200 ISOMETRIC
1/2" = 1'-0"

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5200 ENGINEERING HALL
IRVINE, CA 92697-2700

DRAWN BY:	K.VANG	PROJECT NUMBER:	16304P
CHECKED BY:	R.MESSMER	SQUARE FEET:	2,900 SQ. FT.
PLOT DATE:	03/30/2015	FITTING BIOS:	
SHEET SCALE:	1/2" = 1'-0"	FINISHES:	
NO.	DATE	REVISIONS:	DESCRIPTION

SHEET DESCRIPTION
ISOMETRIC

SHEET NUMBER
P200

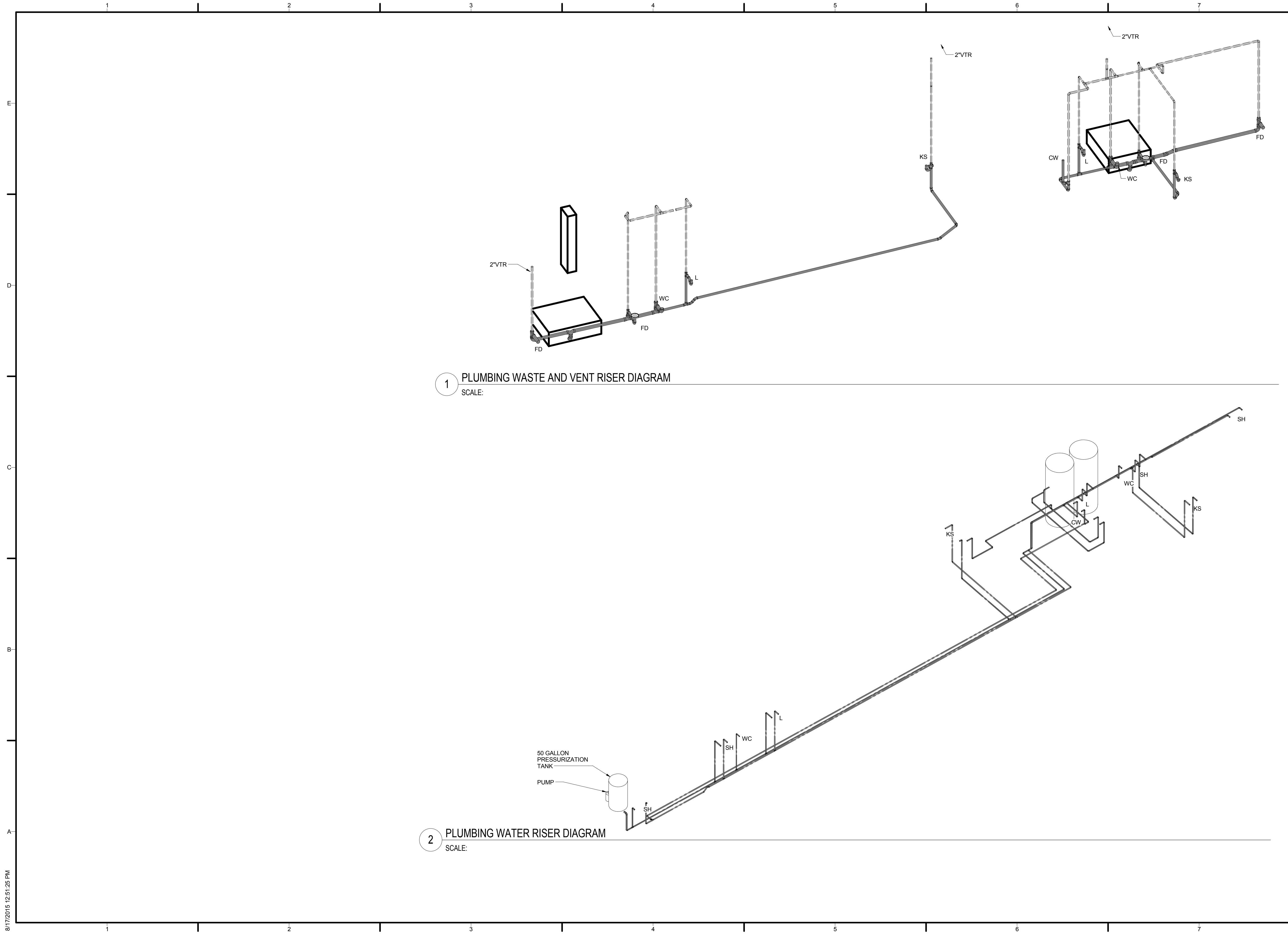
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1 PLUMBING WASTE AND VENT RISER DIAGRAM
SCALE:

2 PLUMBING WATER RISER DIAGRAM
SCALE:



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SHEET TITLE
PIPING ISOMETRIC DIAGRAMS

P-301

PUMP SCHEDULE

MARK	MANUFACTURER	MODEL NO.	LOCATION	SYSTEM SERVED	SIZE IMPELLER DIA.	TYPE	PUMP MOTOR							OPER. WEIGHT (LBS.)	REMARKS		
							GPM	HEAD (FT. H ₂ O)	MIN. NPSH (FT. H ₂ O)	MAX. RPM	HP	VOLT	PH.			CYCLE	
P 1	-	-	MECHANICAL ROOM	RADIANT CEILING	-	INLINE	-	-	-	-	-	-	-	-	-	-	-
P 2	-	-	MECHANICAL ROOM	CHILLED WATER	-	INLINE	-	-	-	-	-	-	-	-	-	-	-
P 3	-	-	MECHANICAL ROOM	EVAPORATIVE CHILLER	-	INLINE	-	-	-	-	-	-	-	-	-	-	-
P 4	-	-	MECHANICAL ROOM	HOT WATER	-	INLINE	-	-	-	-	-	-	-	-	-	-	-
P 5	-	-	MECHANICAL ROOM	SOLAR COLLECTORS	-	INLINE	-	-	-	-	-	-	-	-	-	-	-
P 6	-	-	MECHANICAL ROOM	DRYER	-	INLINE	-	-	-	-	-	-	-	-	-	-	-
P 7	-	-	MECHANICAL ROOM	RADIATOR	-	INLINE	-	-	-	-	-	-	-	-	-	-	-

FAN SCHEDULE

MARK	MANUFACTURER	MODEL NO.	LOCATION	AREA SERVED	TYPE	CFM	SP (IN. H ₂ O)	OV FPM	FAN SIZE (IN.)	FAN RPM	HP WATTS	ELECTRICAL			OPER. WEIGHT (LBS.)	REMARKS
												VOLT	PH.	CYCLE		
SF 1	-	-	MECHANICAL ROOM	HOUSE	INLINE	-	-	-	-	-	-	-	-	-	-	OUTSIDE AIR FAN
EF 1	-	-	MECHANICAL ROOM	HOUSE	INLINE	-	-	-	-	-	-	-	-	-	-	EXHAUST AIR FAN

EVAPORATIVE CHILLER SCHEDULE

MARK	MANUFACTURER	MODEL NO.	LOCATION	SYSTEM SERVED	WATER				AIR WB (°F)	HP	FAN ELECTRICAL			SPRAY PUMP ELECTRICAL			OPER. WEIGHT (LBS.)	REMARKS
					CAP. (TONS)	GPM	ENT. (°F)	LVG. (°F)			VOLT	PH.	CYCLE	HP	VOLT	PH.		
EC 1	-	-	OUTSIDE	CHILLER WATER	-	-	-	-	-	-	-	-	-	-	-	-	-	

WATER-TO-WATER HEAP PUMP SCHEDULE

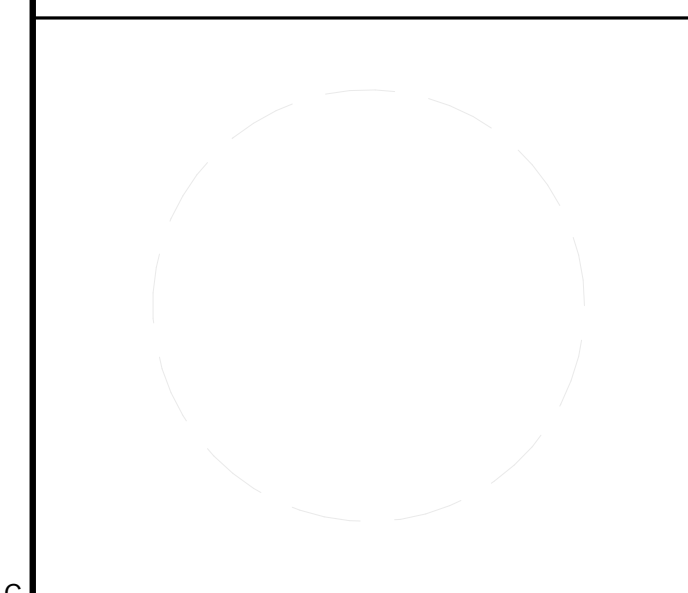
MARK	MANUFACTURER	MODEL NO.	LOCATION	MODE	EWT. (°F)	LWT. (°F)	FLOW GPM	WPD FT	EWT. (°F)	LWT. (°F)	FLOW GPM	WPD FT	CAPACITY MBTUH	HEAT REJECTION MBTUH	EER	V	PH	CYCLE	FLA	MCA	MOC	WEIGHT	REMARKS
					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WHP -	CLIMATE MASTER	-	MECHANICAL ROOM	HEATING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				COOLING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

MECHANICAL LEGEND

SYMBOL	ABBR.	DESCRIPTION
		DUCTWORK
		LINED DUCTWORK
		FLEXIBLE DUCTWORK
		SUPPLY DIFFUSER
		RETURN AIR REGISTER
		EXHAUST AIR GRILLE
		ACCESS DOORS, VERTICAL OR HORIZONTAL
		SUPPLY DUCT SECTION
		RETURN DUCT SECTION
		EXHAUST DUCT SECTION
		ROUND DUCT SECTION
	SR	SIDEWALL REGISTER
		LINEAR SLOT SUPPLY DIFFUSER
		LINEAR SLOT RETURN AIR (DUCTED AND NON-DUCTED)
	FC	FLEXIBLE CONNECTION
	TG	TRANSFER AIR GRILLE BOOT ASSEMBLY
	FD/SFD	FIRE DAMPER OR SMOKE / FIRE DAMPER (DIAGRAMMATIC)
	VD	VOLUME DAMPER
	MD	MOTORIZED CONTROL DAMPER
	MDFA	MOTORIZED DAMPER FIRE ALARM
		RECTANGULAR DUCTWORK (DOUBLE LINE) FIRST NUMBER INDICATES SIDE SHOWN
		ROUND DUCTWORK (DOUBLE LINE)
		RECTANGULAR 90° ELBOW WITH AIRFOIL TURNING VANES
	D/L	DOOR LOUVER (INDICATED FREE AREA)
	U/C	UNDERCUT DOOR (INDICATED AFF CLEARANCE)
	P.O.C.	POINT OF CONNECTION
	SD	SMOKE DETECTOR
	T	THERMOSTAT
	S	SENSOR
	CO ₂	CARBON MONOXIDE REMOTE SENSOR
		DIFFUSER / GRILLE CALLOUT
		CFM



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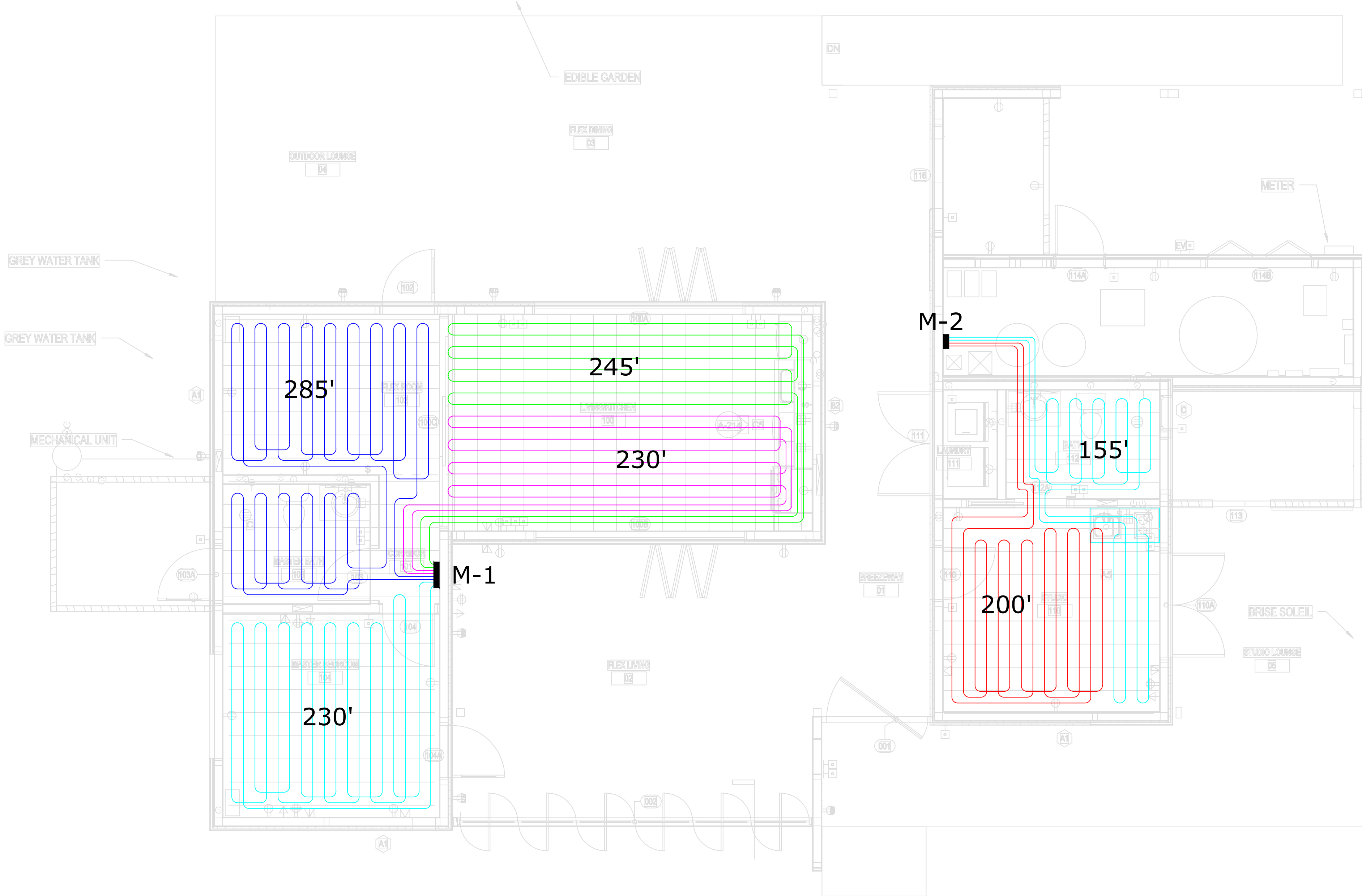
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MECHANICAL SYMBOLS, NOTES, AND SCHEDULES

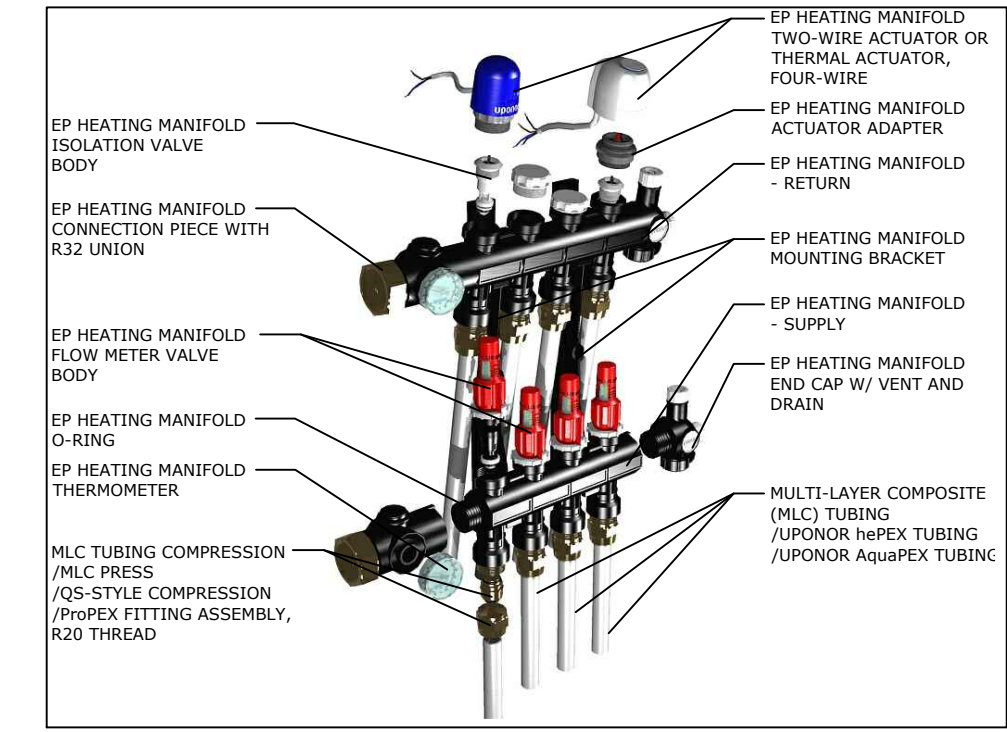
M-001

Radiant Schedule																				
Area Served	Area (ft²)	Zone No.	Manifold No.	Cooling					Heating					Tubing			Flow		Notes	
				Setpoint(F)	Fl. Surface(F)	(Btu/ft²/hr)	(Btu/hr)	EWT/LWT	Setpoint(F)	Fl. Surface(F)	(Btu/ft²/hr)	(Btu/hr)	EWT/LWT	Type	Spacing OC	No. Loops	Loop L (Ft.)	GPM		HD Loss (Ft.)
Main Level																				
Master Bedroom	148	1	M-1	76	68	18.0	2664	54/62	76	82	10.0	1480	110/100	1/2" hePEX	8"	1	230	0.7	5.5	1
Flex Room/Bathroom	200	2	M-1	76	68	18.0	3600	54/62	76	82	9.8	1960	110/100	1/2" hePEX	8"	1	285	1.0	12.6	1
Living Room/Kitchen	267	3	M-1	76	68	18.0	4806	54/62	76	87	17.4	4646	110/100	1/2" hePEX	8"	2	245	1.3	5.2	1
Studio/Bathroom	203	4	M-2	76	68	18.0	3654	54/62	76	85	13.7	2781	110/100	1/2" hePEX	8"	2	200	1.0	2.7	1

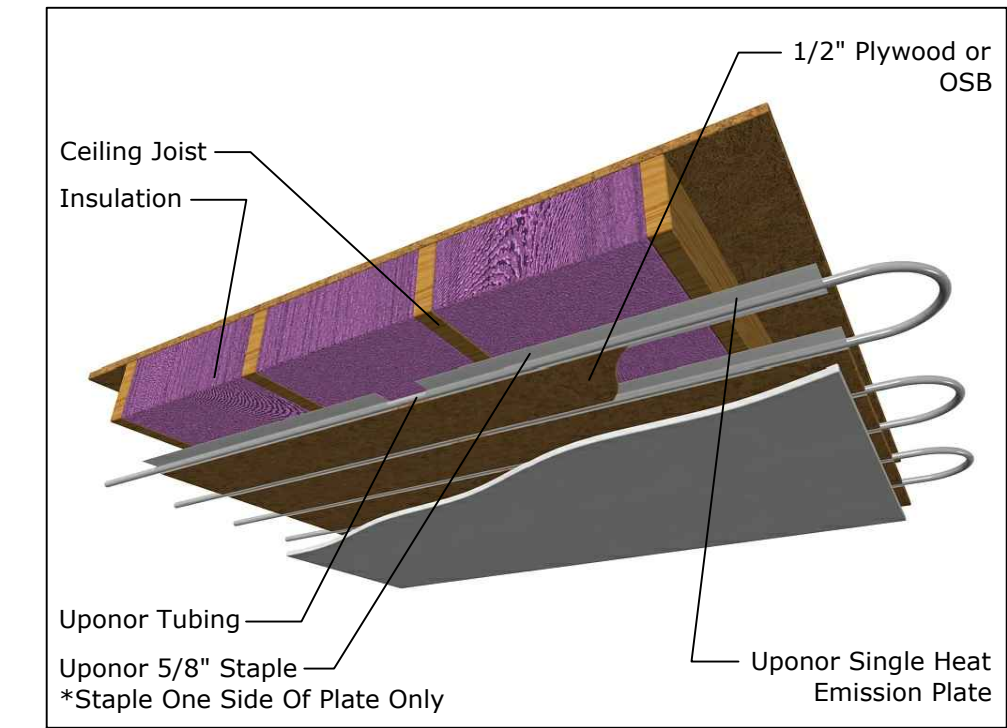
Notes:
1. Ceiling Joist Trak



1 **MAIN LEVEL**
M100 1/4" = 1'-0"



2 **EP Heating Manifold**
M100 Refer to Material List



3 **Radiant Ceiling**
M100 Joist Trak



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9768 FIRESTONE BLVD.
DOWNEY, CA 90241
TELEPHONE: 562.904.3910
FAX: 562.904.3911

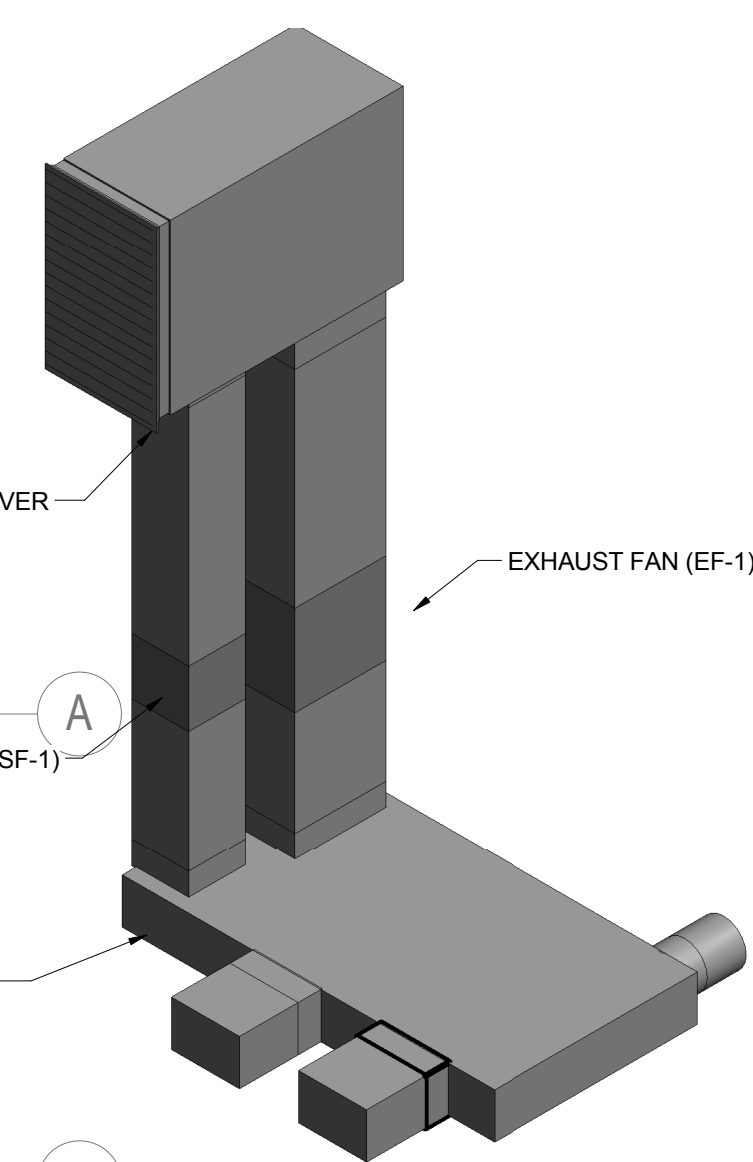
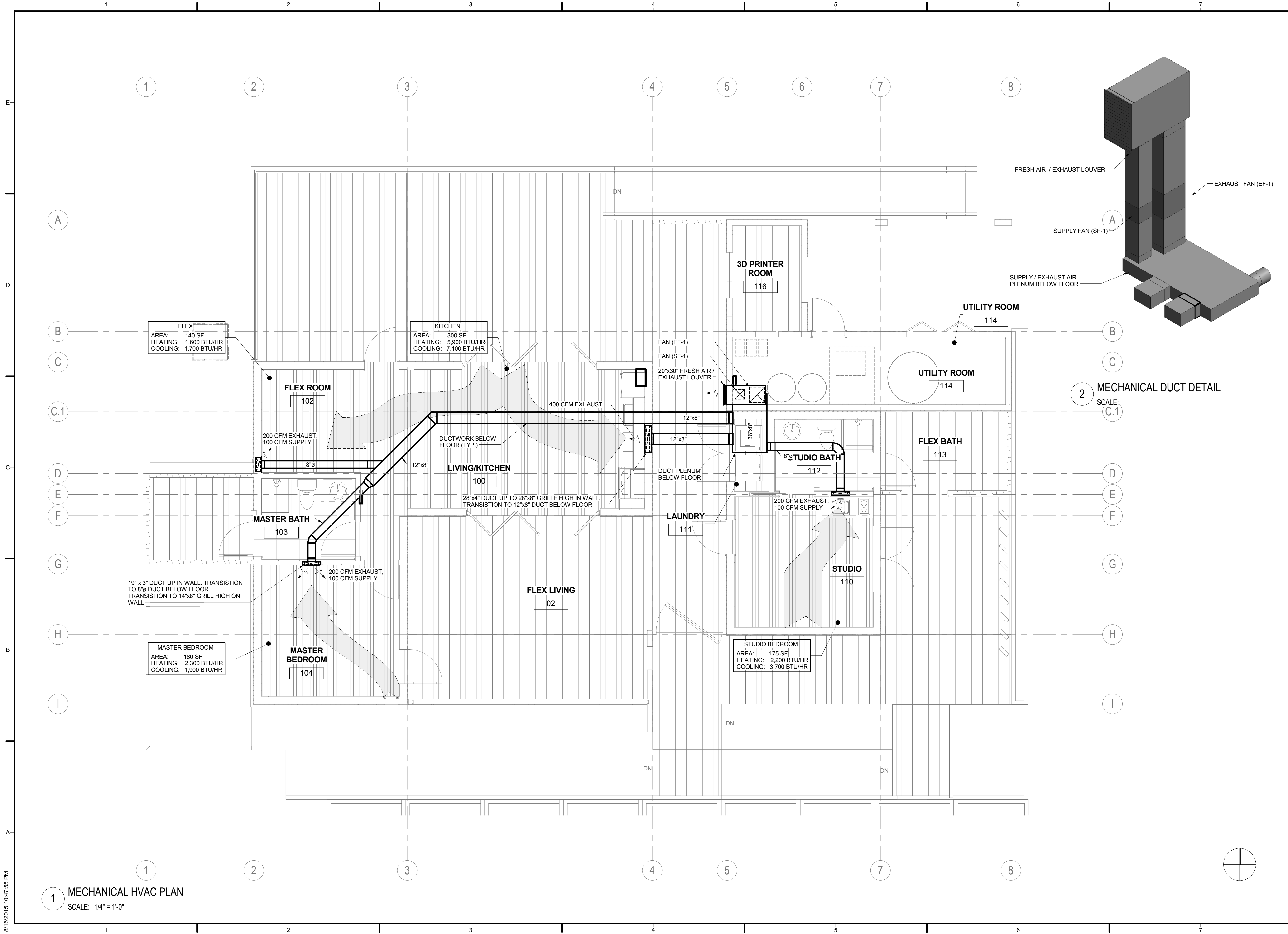
UC SOLAR HOUSE
Irvine, CA 92612

DRAWN BY:	TDS	PROJECT NUMBER:	16304H C
CHECKED BY:	AK	SQUARE FEET:	818 SQ. FT.
PLOT DATE:	04/03/15	SIZE AND TUBE TYPE:	1/2" hePEX Tubing
SHEET SCALE:	1/4" = 1'-0"	O.C. SPACING:	8" O.C.
NO.	DATE	REVISIONS	DESCRIPTION

SHEET DESCRIPTION
MAIN LEVEL

SHEET NUMBER

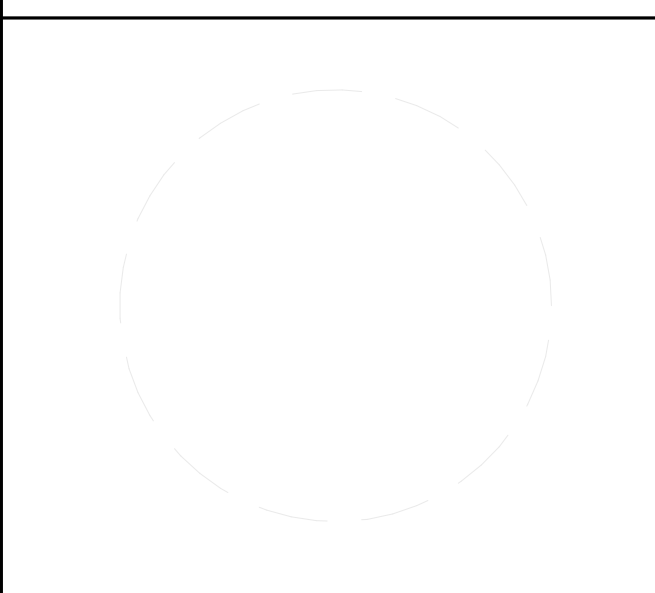
M100



2 MECHANICAL DUCT DETAIL
SCALE: C.1



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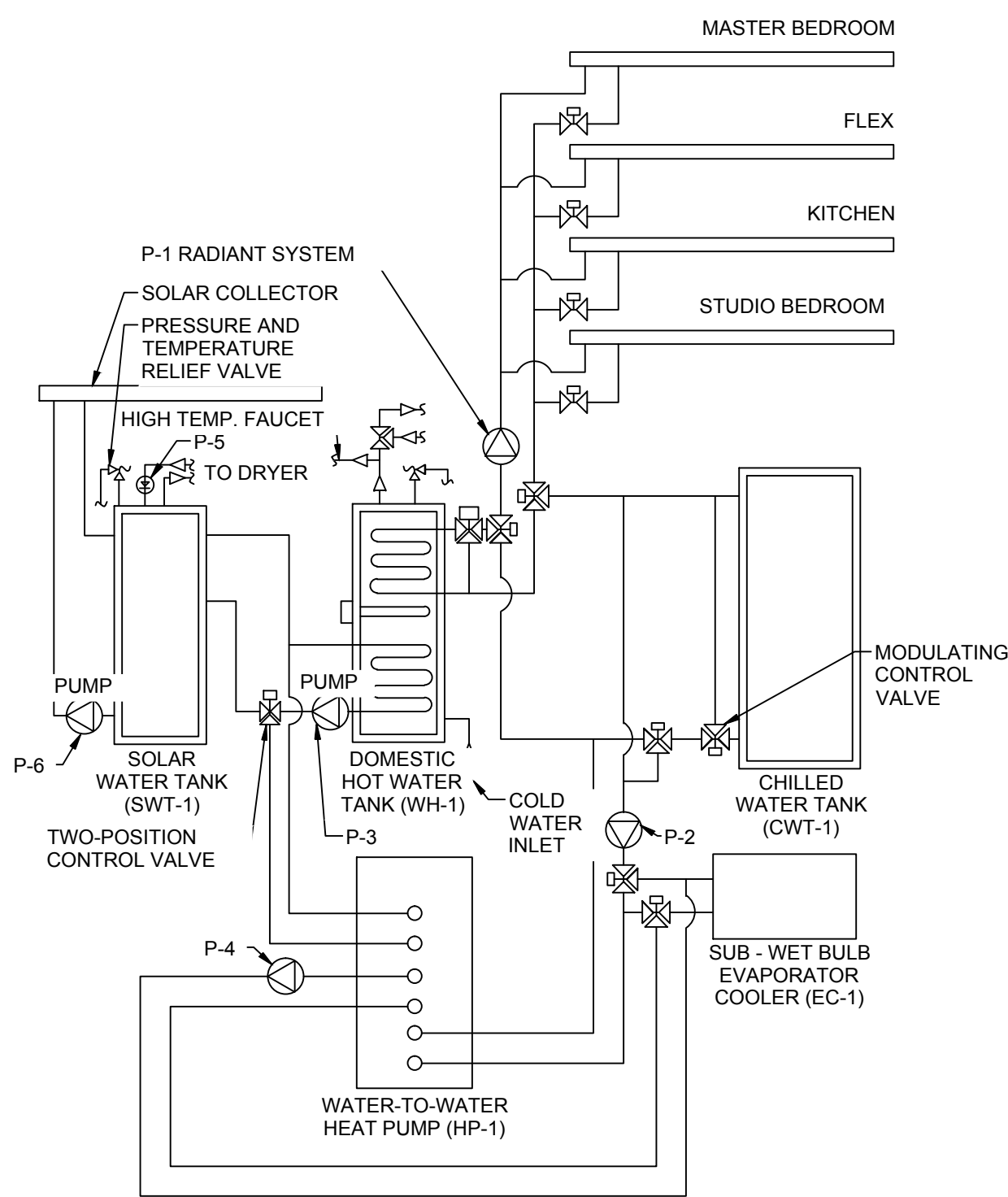
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SHEET TITLE
MECHANICAL HVAC PLAN

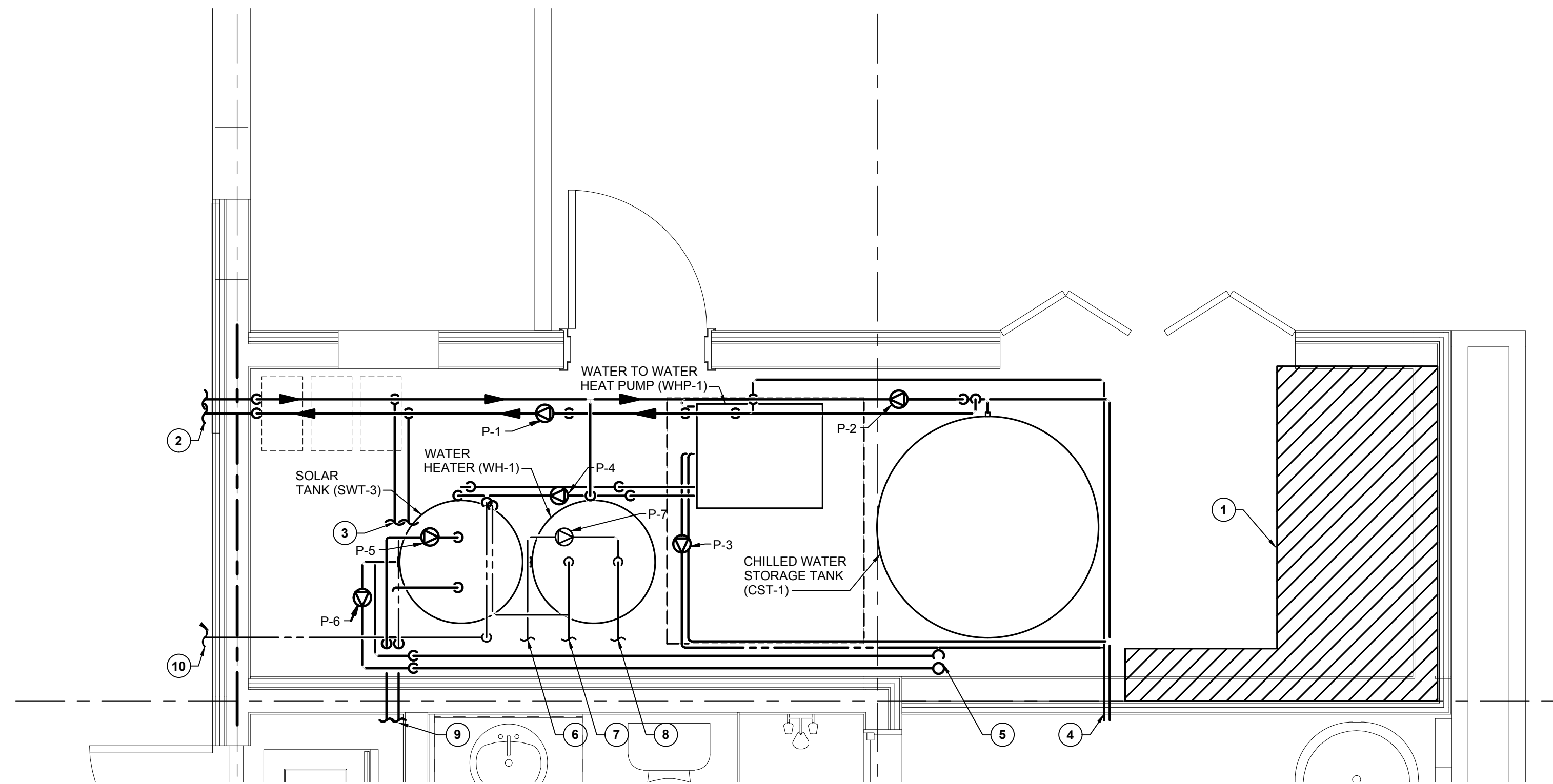
M-101

1 MECHANICAL HVAC PLAN
SCALE: 1/4" = 1'-0"

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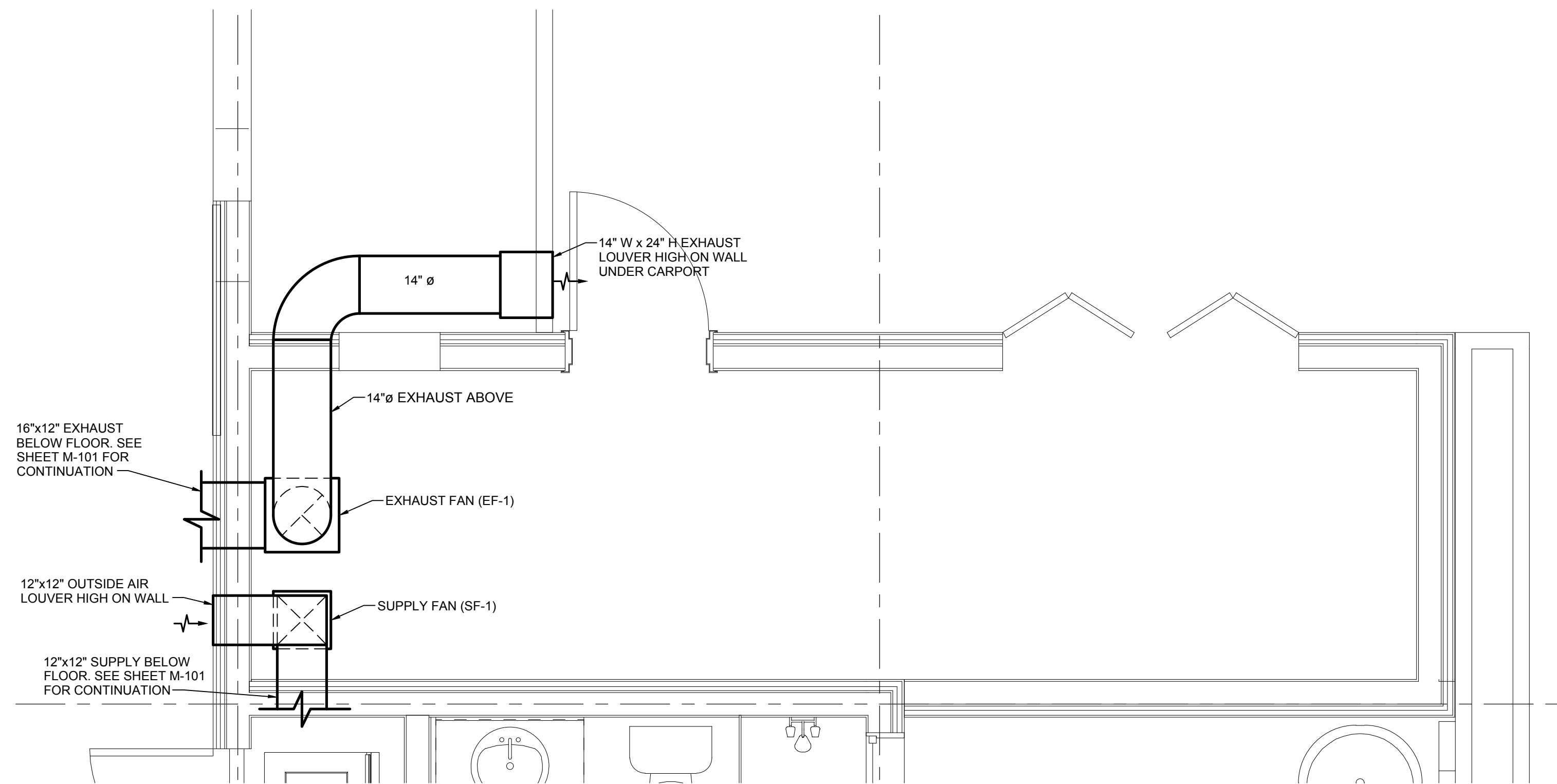


2 RADIANT PIPING DIAGRAM - HEATING MODE
SCALE: NONE



1 UTILITY ROOM ENLARGED PLAN - PIPING
SCALE: 1/2" = 1'-0"

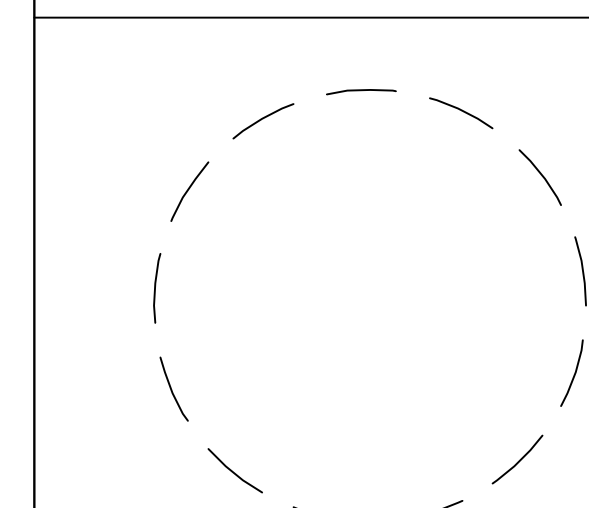
- KEYED NOTES:
- 1 COORDINATE PIPING TO AVOID ELECTRICAL PANELS AND DEVICES
 - 2 1" RADIANT CHW / HHW SUPPLY AND RETURN PIPING TO PRIMARY RADIANT HEADER. FOR CONTINUATION, REFER TO UPONOR PIPING DRAWINGS.
 - 3 3/4" RADIANT CHW / HHW SUPPLY AND RETURN PIPING TO SECONDARY RADIANT HEADER. FOR CONTINUATION, REFER TO UPONOR PIPING DRAWINGS.
 - 4 1" CONDENSER WATER SUPPLY AND RETURN PIPING TO EVAPORATIVE CHILLER (EC-1). FOR CONTINUATION, REFER TO SHEET.
 - 5 SOLAR HOT WATER PIPING TO SOLAR COLLECTORS ON ROOF. FOR SOLAR HOT WATER SYSTEM, REFER TO DRAWINGS BY RITTER GROUP U.S.A.
 - 6 3/4" DOMESTIC HOT WATER RETICULATION PIPE. REFER TO UPONOR PIPING DRAWINGS.
 - 7 3/4" DOMESTIC HOT WATER SUPPLY PIPE. REFER TO UPONOR PIPING DRAWINGS.
 - 8 3/4" COLD WATER FILL PIPING. REFER TO UPONOR PIPING DRAWINGS FOR CONTINUATION.
 - 9 3/4" SOLAR HOT WATER SUPPLY AND RETURN PIPING TO DRYER. FOR CONTINUATION, REFER TO SHEET P-101.
 - 10 1/2" HIGH TEMPERATURE DOMESTIC WATER TO KITCHEN. FOR CONTINUATION REFER TO SHEET P-101.



2 UTILITY ROOM ENLARGED PLAN - DUCTWORK
SCALE: 1/2" = 1'-0"



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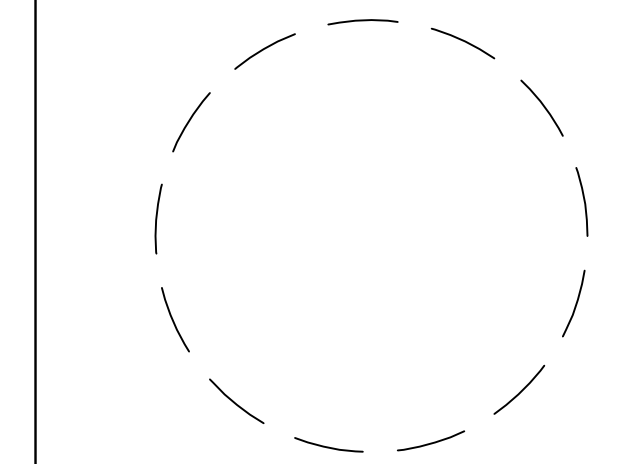
MECHANICAL
ENLARGED UTILITY
ROOM PLAN

M-201



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SHEET TITLE
MECHANICAL
TITLE-24
DOCUMENTATION

M-401

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
Project Name: Casa Del Sol Calculation Date/Time: 11:38, Mon, May 18, 2015
Calculation Description: Title 24 Analysis Input File Name: Solar Decathlon Title 24 Model - Single Zone - Passing.xml

Table with 10 columns (01-10) and multiple rows detailing window specifications including Name, Type, Surface, Width, Height, Multiplier, Area, U-factor, SHGC, and Exterior Shading.

Registration Number: 215-N01319624-00000000-0000 Registration Date/Time: 2015-05-18 12:34:09
CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-02272015-710

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
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Table with 14 columns (01-14) detailing overhangs and fins, including Depth, Dist Up, Left Extent, Right Extent, and Flag Ht.

Table with 7 columns (01-07) detailing opaque surface constructions, including Construction Name, Surface Type, Construction Type, Framing, Total Cavity R-value, Winter Design U-value, and Assembly Layers.

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Table with 8 columns (01-08) detailing opaque surfaces, including Name, Zone, Construction, Azimuth, Orientation, Gross Area, Window & Door Area, and Tilt.

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Table with 11 columns (01-11) detailing opaque surfaces - Cathedral Ceilings, including Name, Zone, Type, Orientation, Area, Skylight Area, Roof Rise, Roof Pitch, Roof Tilt, Roof Reflectance, Roof Emittance, and Framing Factor.

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Table with 21 columns (01-21) detailing general information, including Project Name, Project Location, City, Standards Version, Compliance Manager, Building Type, Project Scope, Total Cond. Floor Area, Addition Cond. Floor Area, and Addition Slab Area.

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

Table with 8 columns (04-08) detailing energy use summary, including Energy Use (kTDV/12-yr), Standard Design, Proposed Design, Compliance Margin, and Percent Improvement for Space Heating, Space Cooling, IAQ Ventilation, Water Heating, Photovoltaic Offset, and Compliance Energy Total.

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Table with 11 columns (01-11) detailing required special features, including Cathedral Ceiling, Floor Insulation, and Window Overhangs.

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 components tables below.

Table with 5 columns (01-05) detailing HERS feature summary, including Building-level Verifications, IAQ mechanical ventilation, Cooling System Verifications, HVAC Distribution System Verifications, and Domestic Hot Water System Verifications.

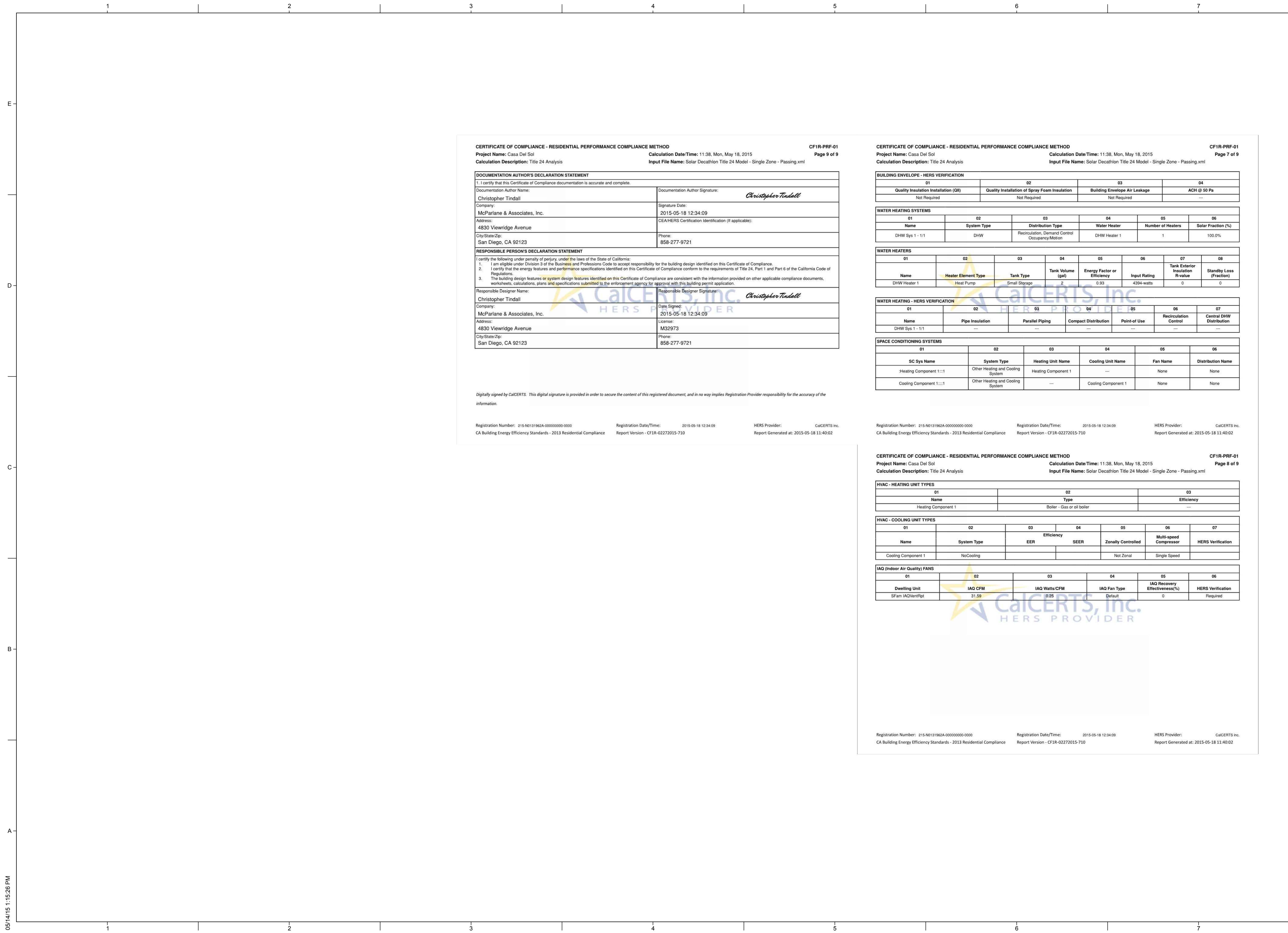
Table with 5 columns (01-05) detailing energy design rating, including Total Energy (kTDV/12-yr), Reference Energy Use, Energy Design Rating, Margin, and Percent Improvement.

* includes calculated Appliances and Miscellaneous Energy Use (AMEU)

Table with 7 columns (01-07) detailing building features information, including Project Name, Conditioned Floor Area, Number of Dwelling Units, Number of Bedrooms, Number of Zones, Number of Ventilation Cooling Systems, and Number of Water Heating Systems.

Table with 7 columns (01-07) detailing zone information, including Zone Name, Zone Type, HVAC System Name, Zone Floor Area, Avg. Ceiling Height, Water Heating System 1, and Water Heating System 2.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01
 Project Name: Casa Del Sol Calculation Date/Time: 11:38, Mon, May 18, 2015 Page 9 of 9
 Calculation Description: Title 24 Analysis Input File Name: Solar Decathlon Title 24 Model - Single Zone - Passing.xml

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Christopher Tindall	Documentation Author Signature: <i>Christopher Tindall</i>
Company: McParlane & Associates, Inc.	Signature Date: 2015-05-18 12:34:09
Address: 4830 Viewridge Avenue	
City/State/Zip: San Diego, CA 92123	
Phone: 858-277-9721	

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: Christopher Tindall	Responsible Designer Signature: <i>Christopher Tindall</i>
Company: McParlane & Associates, Inc.	Date Signed: 2015-05-18 12:34:09
Address: 4830 Viewridge Avenue	
City/State/Zip: San Diego, CA 92123	
Phone: 858-277-9721	

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.

Registration Number: 215-N0131962A-00000000-0000 Registration Date/Time: 2015-05-18 12:34:09 HERS Provider: CalCERTS, Inc.
 CA Building Energy Efficiency Standards - 2013 Residential Compliance Report Version - CF1R-02272015-710 Report Generated at: 2015-05-18 11:40:02

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01
 Project Name: Casa Del Sol Calculation Date/Time: 11:38, Mon, May 18, 2015 Page 7 of 9
 Calculation Description: Title 24 Analysis Input File Name: Solar Decathlon Title 24 Model - Single Zone - Passing.xml

BUILDING ENVELOPE - HERS VERIFICATION			
01	02	03	04
Quality Insulation Installation (QI)	Quality Installation of Spray Foam Insulation	Building Envelope Air Leakage	ACH @ 50 Pa
Not Required	Not Required	Not Required	---

WATER HEATING SYSTEMS					
01	02	03	04	05	06
Name	System Type	Distribution Type	Water Heater	Number of Heaters	Solar Fraction (%)
DHW Sys 1 - 1/1	DHW	Recirculation, Demand Control Occupancy/Motion	DHW Heater 1	1	100.0%

WATER HEATERS							
01	02	03	04	05	06	07	08
Name	Heater Element Type	Tank Type	Tank Volume (gal)	Energy Factor or Efficiency	Input Rating	Tank Exterior Insulation R-value	Standby Loss (Fraction)
DHW Heater 1	Heat Pump	Small Storage	2	0.93	4394-watts	0	0

WATER HEATING - HERS VERIFICATION						
01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Point-of Use	Recirculation Control	Central DHW Distribution
DHW Sys 1 - 1/1	---	---	---	---	---	---

SPACE CONDITIONING SYSTEMS					
01	02	03	04	05	06
SC Sys Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name
Heating Component 1::1	Other Heating and Cooling System	Heating Component 1	---	None	None
Cooling Component 1:::1	Other Heating and Cooling System	---	Cooling Component 1	None	None

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 Project Name: Casa Del Sol Calculation Date/Time: 11:38, Mon, May 18, 2015 Page 8 of 9
 Calculation Description: Title 24 Analysis Input File Name: Solar Decathlon Title 24 Model - Single Zone - Passing.xml

HVAC - HEATING UNIT TYPES		
01	02	03
Name	Type	Efficiency
Heating Component 1	Boiler - Gas or oil boiler	---

HVAC - COOLING UNIT TYPES						
01	02	03	04	05	06	07
Name	System Type	EER	SEER	Zonally Controlled	Multi-speed Compressor	HERS Verification
Cooling Component 1	NoCooling			Not Zonal	Single Speed	

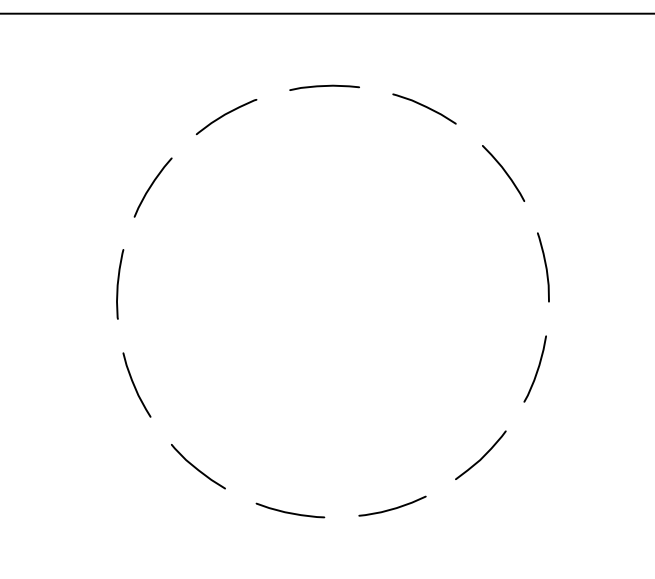
IAQ (Indoor Air Quality) FANS					
01	02	03	04	05	06
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness(%)	HERS Verification
Sfam IAQVentRqt	31.59	0.25	Default	0	Required

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TEAM NAME:

ADDRESS:

CONTACT:



CLIENT
 U.S. DEPARTMENT OF ENERGY
 SOLAR DECATHLON 2015
 WWW.SOLARDECATHLON.GOV



MARK	DATE	DESCRIPTION
	08/17/2015	AS-BUILT SET
C	05/18/2015	HCD SUBMITTAL
B	11/18/2014	ISSUED FOR RESUBMITTAL
A	10/08/2014	ISSUED FOR REVIEW

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SHEET TITLE
**MECHANICAL
 TITLE-24
 DOCUMENTATION**

M-402

REFERENCES & ABBREVIATIONS

ELECTRICAL LEGEND

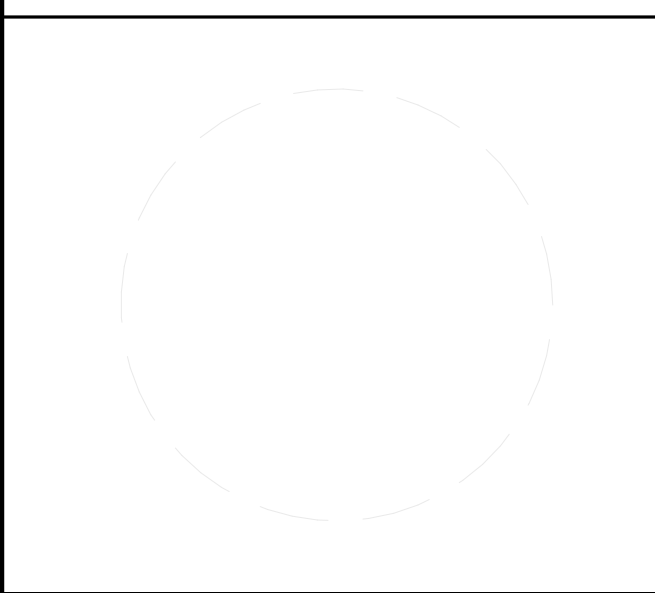
(A)	LIGHTING FIXTURE DESIGNATION	(E)	EXISTING TO REMAIN
(+)	DETAIL REFERENCE	(ER)	EXISTING TO BE RELOCATED
(K)	KEYNOTE REFERENCE	(R)	RELOCATED
(123)	KITCHEN EQUIPMENT DESIGNATION	(X)	EXISTING TO BE DEMOLISHED
A	AMPS	FLA	FULL LOAD AMPS
AFC	ABOVE FINISHED COUNTER	G	GROUND
AFF	ABOVE FINISH FLOOR	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
C	CONDUIT	MCB	MAIN CIRCUIT BREAKER
CO	CONDUIT ONLY W/PULL ROPE	MLO	MAIN LUGS ONLY
CU	COPPER	NL	NIGHT LIGHT
EM	EMERGENCY	OC	ON CENTER
FLA	FULL LOAD AMPS	UON	UNLESS OTHERWISE NOTED
FDR#	FEEDER TAG	V	VOLTS
WP	WEATHERPROOF	VL	VERIFY LOCATION
PH	PHASE		
CKT	CIRCUIT		

	SURFACE MOUNTED FLUORESCENT STRIP LIGHTING FIXTURE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
	CHAIN HUNG FLUORESCENT STRIP LIGHTING FIXTURE. MOUNTING HEIGHT TO BE AS INDICATED ON FIXTURE SCHEDULE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
	SURFACE MOUNTED FLUORESCENT WRAPAROUND TYPE LIGHTING FIXTURE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
	RECESSED FLUORESCENT LIGHTING FIXTURE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
	RECESSED OR SURFACED MOUNTED DOWN LIGHTING FIXTURE. "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
	RECESSED WALLWASHER LIGHTING FIXTURE.
	WALL MOUNTED LIGHTING FIXTURE.
	RECESSED STEP LIGHTING FIXTURE.
	BOLLARD TYPE LIGHTING FIXTURE. PROVIDE CONCRETE FOOTING PER MFGRS. REQUIREMENTS.
	SINGLE OR TWO CIRCUIT LIGHTING TRACK AS SPEC'D IN LTG. FIXTURE SCHEDULE.
	LANDSCAPE FLOOD LIGHTING FIXTURE.
	POLE MOUNTED H.I.D. LIGHTING FIXTURE.
	ILLUMINATED EXIT SIGN WITH NUMBER OF FACES AND DIRECTION OF EGRESS ARROWS AS INDICATED.
	LOW LEVEL EXIT SIGN AS SPECIFIED ON LIGHTING FIXTURE SCHEDULE.
	EGRESS EMERGENCY BATTERY PACK LIGHT FIXTURE (BUGEYE).
	STANDARD 20A, 120/277V-1PH SPST TOGGLE SWITCH MOUNTED AT +48" AFF TO TOP OF BOX - UON.
	a.b - DENOTES TWO SWITCHES AND THEIR RESPECTIVE CONTROL IDENTIFICATION.
	3 - DENOTES 3-WAY SWITCH
	D - DENOTES - 120V. - 1PH (AS NOTED) SLIDING TYPE DIMMER SWITCH. - LUTRON "NOVA-T" SERIES OR APPROVED EQUAL, PROVIDE SEPARATE NEUTRAL FOR EACH DIMMER AND DIMMER RACK CIRCUIT.
	T - DENOTES TIMER SWITCH - PARAGON # ET1100F
	R - DENOTES - 120V. - 1PH (AS NOTED) ROCKER SWITCH FOR LIGHTING AND SLIDING TYPE SPEED CONTROLLER SWITCH FOR CEILING FAN. - LUTRON "SKYLARK" SERIES OR APPROVED EQUAL.
	WALL MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR. USE WATTSTOPPER "DW 100" FOR SINGLE SWITCH AND "DW 200" FOR "ab" SWITCHING OR EQUAL.
	CEILING MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR. USE WATTSTOPPER "DT 200" WITH POWER PACK OR EQUAL.
	CEILING MOUNTED DUAL-TECHNOLOGY OCCUPANCY SENSOR. USE WATTSTOPPER "DT 300" WITH POWER PACK OR EQUAL.
	WALL MOUNTED INFRA-RED VACANCY SENSOR. USE WATTSTOPPER "CW-100" FOR SINGLE SWITCH "MANUAL ON/AUTOMATIC OFF OPERATION" (WITH NO "ON" OVERRIDE)
	WALL MOUNTED INFRA-RED VACANCY SENSOR. USE WATTSTOPPER "RS-350" FOR DUAL RELAY SWITCH "MANUAL ON/AUTOMATIC OFF OPERATION" (WITH NO "ON" OVERRIDE)
	STANDARD 20A, 120V-1PH GROUNDING TYPE SIMPLEX RECEPTACLE MOUNTED AT +18" AFF TO TOP - UON.
	STANDARD 20A, 120V-1PH GROUNDING TYPE DUPLEX RECEPTACLE MOUNTED AT +18" AFF TO TOP - UON.
	STANDARD 20A, 120V-1PH GROUNDING TYPE DUPLEX RECEPTACLE HALF SWITCHED MOUNTED AT +18" AFF TO TOP - UON.
	STANDARD 20A, 120V-1PH GROUNDING TYPE FOUR-PLEX RECEPTACLE MOUNTED AT +18" AFF TO TOP - UON.
	STANDARD 20A, 120V-1PH GROUNDING TYPE "GROUND FAULT INTERRUPTER" (G.F.I.) RECEPTACLE MOUNTED AT +18" AFF TO TOP - UON.
	STANDARD 20A, 120V-1PH GROUNDING TYPE "GROUND FAULT INTERRUPTER" (G.F.I.) RECEPTACLE MOUNTED ABOVE FINISHED COUNTER - UON.
	STANDARD 20A, 120V-1PH GROUNDING TYPE DUPLEX RECEPTACLE MOUNTED ABOVE FINISHED COUNTER - UON.
	STANDARD RECEPTACLE GROUNDING TYPE "GROUND FAULT INTERRUPTER" (G.F.I.) WITH TWO 5V, 3A USB CHARGING PORTS. IN 15A OR 20A CONFIGURATION AND/OR TAMPER RESISTANT AS REQUIRED. (HUBBELL OR LEVITON.) RECEPTACLE MOUNTED ABOVE FINISHED COUNTER - UON.
	STANDARD RECEPTACLE WITH TWO 5V, 3A USB CHARGING PORTS. IN 15A OR 20A CONFIGURATION AND/OR TAMPER RESISTANT AS REQUIRED. (HUBBELL OR LEVITON.) RECEPTACLE MOUNTED ABOVE FINISHED COUNTER - UON.
	STANDARD 20A, 120V-1PH ISOLATED GROUND TYPE DUPLEX RECEPTACLE, ORANGE IN COLOR, MOUNTED AT +18" AFF TO TOP - UON.
	STANDARD 20A, 120V-1PH GROUNDING TYPE DUPLEX RECEPTACLE MOUNTED WITHIN FLUSH FLOOR OUTLET BOX.
	SPECIAL RECEPTACLE MOUNTED AT +18" AFF TO TOP - UON. AMPS - VOLTS & PHASE AS INDICATED ON PLANS. VERIFY NEMA CONFIGURATION WITH INSTALLED EQUIPMENT SUPPLIER PRIOR TO PLACING ORDER.
	SWITCHED OR DIMMED (AS NOTED) SIMPLEX 120V RECEPTACLE MOUNTED AT +18" AFF TO TOP - UON.

	STANDARD 20A, 120V-1PH GROUNDING TYPE DUPLEX RECEPTACLE CEILING MOUNTED - WITHIN UNIT GARAGES FOR GARAGE DOOR OPENER (1/3 HP/7.2A-120V-1PH E.A.) FUSED DISCONNECT SWITCH, AMPS, POLES AND CLASS RK1 FUSE (SIZE AS INDICATED). OPEN - INDICATES NON-FUSED WP - INDICATES NEMA 3R ENCLOSURE
	MAGNETIC MOTOR STARTER. POLES AND NEMA SIZE AS INDICATED. PROVIDE COMPLETE WITH THERMAL OVERLOAD PROTECTION PER MOTOR NAMEPLATE DATA, 120V CONTROL COIL - UON, AND H.O.A. (HAND-OFF-AUTO) SWITCH.
	COMBINATION DISCONNECT SWITCH/MAGNETIC MOTOR STARTER. AMPS, POLES, CLASS RK1 FUSE (SIZE AS INDICATED), AND NEMA SIZE AS INDICATED. PROVIDE COMPLETE WITH THERMAL OVERLOAD PROTECTION PER MOTOR NAMEPLATE DATA, 120V CONTROL COIL - U.O.N., AND H.O.A. (HAND-OFF-AUTO) SWITCH. WP - INDICATES NEMA 3R ENCLOSURE
	MANUAL MOTOR STARTER SWITCH. HORSEPOWER RATED 120V-1PH - UON. PROVIDE COMPLETE WITH THERMAL OVERLOAD PROTECTION.
	JUNCTION BOX. SIZED BY THE CONTRACTOR PER ACTUAL NUMBER OF CONDUITS AND/OR CONDUCTORS PASSING THRU.
	MOTOR OUTLET, H.P. OR F.L.A. - VOLTS & PHASE AS INDICATED. VERIFY ELECTRICAL CHARACTERISTICS AND CONNECTION REQUIREMENTS WITH INSTALLED EQUIPMENT MFG. PRIOR TO ANY ROUGH-IN WORK.
	SERVICE ENTRANCE OR DISTRIBUTION EQUIPMENT AS SPECIFIED.
	BRANCH CIRCUIT PANELBOARD (SURFACE MOUNTED).
	BRANCH CIRCUIT PANELBOARD (FLUSH MOUNTED).
	TRANSFORMER AS SPECIFIED.
	TELEPHONE PLYWOOD BACKBOARD.
	THERMOSTAT FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE J-BOX AT +48" AFF TO TOP OF BOX - UON. PROVIDE 1/2" CO TO ASSOCIATED HVAC UNIT OR ACCESSIBLE CEILING SPACE.
	TELEPHONE OUTLET MOUNTED AT +18" AFF. WITH (2) RJ11 PORTS - UON. PROVIDE 3/4" CO TO POINT ABOVE ACCESSIBLE CEILING SPACE OR AS OTHERWISE INDICATED. W - DENOTES WALL MOUNTED @ +48" AFF TO TOP OF BOX - UON.
	DATA OUTLET MOUNTED AT +18" AFF WITH (2) RJ45 PORTS - UON. PROVIDE 3/4" CO TO POINT ABOVE ACCESSIBLE CEILING SPACE OR AS OTHERWISE INDICATED. W - DENOTES WALL MOUNTED @ +48" AFF TO TOP OF BOX - UON.
	COMBINATION TELE/DATA OUTLET MOUNTED AT +18" AFF WITH (2) RJ11 AND AND (2) RJ45 PORTS - UON. PROVIDE (2) 3/4" CO TO POINT ABOVE ACCESSIBLE CEILING SPACE OR AS OTHERWISE INDICATED. W - DENOTES WALL MOUNTED @ +48" AFF TO TOP OF BOX - UON.
	VIDEO OUTLET WITH "F" TYPE CONNECTOR MOUNTED AT +18" AFF. TO TOP. PROVIDE 3/4" CO STUBBED TO ACCESSIBLE CEILING SPACE ABOVE.
	CATV VIDEO/TELEPHONE OUTLET MOUNTED AT +18" A.F.F. TO TOP.
	TELEPHONE OUTLET MOUNTED AT +18" AFF TO TOP - UON.
	TELEPHONE/DATA/TV COMBO OUTLET MOUNTED AT +18" AFF TO TOP - UON.
	DOOR BELL CHIME UNIT WITH INTEGRAL TRANSFORMER. NUTONE OR EQUAL MOUNTED 7'-0" AFF TO BOTTOM
	CHIME - PUSH BUTTON, NUTONE OR EQUAL - MOUNTED 48" MAX TO TOP A.F.F. PROVIDE WITH WIRED STROBE KIT FOR ACCESSIBLE UNITS.
	CEILING MOUNTED NON-SYSTEM TYPE 120 VOLT COMBO SMOKE/CO DETECTOR WITH 9 VOLT BATTERY BACK UP - KIDDE/FIREX #21007624 MODEL KN-COPE-I
	CEILING MOUNTED NON-SYSTEM TYPE 120 VOLT SMOKE DETECTOR WITH 9 VOLT BATTERY BACK UP.
	WALL MOUNTED NON-SYSTEM TYPE 120 VOLT SMOKE DETECTOR WITH BATTERY BACK UP.
	CONDUIT CONCEALED WITHIN BUILDING WALLS OR CEILING SPACE. TICK MARKS INDICATE QUANTITY OF #12 THHN / THWN CONDUCTORS - U.O.N.. CONDUIT SHOWN WITH NO TICK MARKS INDICATE 2 #12 THHN / THWN CONDUCTORS - UON. CONDUIT SHALL BE 3/4" MINIMUM - UON. INCLUDE CODE SIZED COPPER BOND CONDUCTOR (NOT SHOWN ON PLAN) IN ALL CONDUIT RUNS.
	CONDUIT ROUTED BELOW FINISHED GRADE AND / OR CONCRETE SLAB. TICK MARKS INDICATE QUANTITY OF #12 THHN / THWN CONDUCTORS - UON. CONDUITS SHOWN WITH NO TICK MARKS INDICATE 2 #12 THHN / THWN CONDUCTORS - UON. CONDUIT SHALL BE 3/4" MINIMUM - UON. INCLUDE CODE SIZED COPPER BOND CONDUCTOR (NOT SHOWN ON PLAN) IN ALL CONDUIT RUNS.
	INDICATES GREEN CODE SIZE EQUIPMENT GROUNDING CONDUCTOR.
	HOMERUN TO DESTINATION AS INDICATED. REFER TO CONDUIT SYMBOL ABOVE.
	INDICATES CONDUIT DROP WITHIN BUILDING WALL. REFER TO CONDUIT SYMBOL ABOVE.
	INDICATES CONDUIT RISER WITHIN BUILDING WALL. REFER TO CONDUIT SYMBOL ABOVE.
	FLEXIBLE CONDUIT CONNECTION FROM JUNCTION BOX.



TEAM NAME:	TEAM ORANGE COUNTY
ADDRESS:	UNIVERSITY OF CALIFORNIA, IRVINE 500 ENGINEERING HALL IRVINE, CA 92697-2700
CONTACT:	gregory.washington@uci.edu http://teamoc2015.com



CLIENT	U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2015 WWW.SOLARDECATHLON.GOV
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MARK	DATE	DESCRIPTION
	08/17/2015	AS-BUILT SET
	10/26/2015	95% DOE
	10/09/2014	80% DOE

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SHEET INDEX	
Sheet Number	Sheet Name
E-001	ELECTRICAL LEGEND AND GENERAL NOTES
E-002	ELECTRICAL LEGEND AND GENERAL NOTES
E-101	SINGLE LINE DIAGRAM AND SCHEDULES
E-102	SINGLE LINE DIAGRAM AND SCHEDULES
E-201	POWER AND SIGNAL PLAN
E-301	LIGHTING PLAN AND DETAILS
E-302	LIGHTING PLAN AND DETAILS
E-401	ELECTRICAL ROOF PLAN
E-501	FIRE ALARM PLAN
E-601	DETAILS
E-602	DETAILS
E-603	DETAILS

ELECTRICAL LEGEND AND GENERAL NOTES

E-001

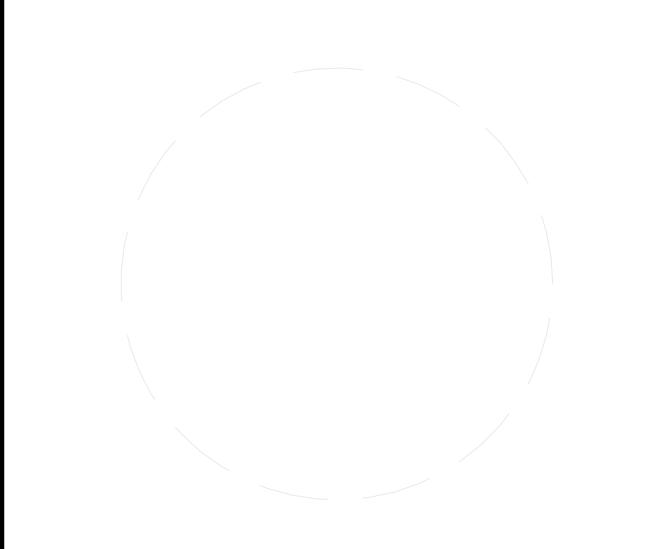
GENERAL NOTES

1. PROVIDE ALL MATERIALS AND LABOR AS REQUIRED TO ACHIEVE A COMPLETE AND OPERATIONAL SYSTEM.
2. COORDINATE AND OBTAIN APPROVALS FROM ALL RESPECTIVE UTILITY COMPANIES AS REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION.
3. INSTALL RACEWAY SYSTEMS AS FOLLOWS:
 - a. USE RIGID GALVANIZED STEEL IN ALL AREAS EXPOSED TO WEATHER OR PHYSICAL DAMAGE.
 - b. USE FLEXIBLE METALLIC CONDUIT ONLY IN AREAS AS PERMITTED BY LOCAL CODE AUTHORITY. USE SEAL-TITE IN AREAS EXPOSED TO WEATHER.
 - c. USE COMPRESSION TYPE FITTINGS FOR ELECTRICAL METALLIC TUBING WHERE UTILIZED.
 - d. USE P.V.C. CONDUIT UNDERGROUND WITH CODE SIZED GROUND. CONDUIT RISERS AND STUBS ABOVE GRADE SHALL BE I.M.C. WITH HALF-LAPPED TAPE COVERING OR P.V.C. COATING.
4. ALL NEW WIRING SHALL BE COPPER TYPE "THHN/THWN" - UON.
5. CONDUIT FOR ROOF MOUNTED EQUIPMENT SHALL BE ROUTED BELOW THE ROOF WITHIN THE BUILDING.
6. ALL FIXTURE, DEVICE, ETC.. LOCATIONS SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS AS WELL AS EQUIPMENT SUPPLIER REQUIREMENTS PRIOR TO ANY ROUGH-IN WORK.
7. ALL LIGHTING FIXTURES SHALL BE MOUNTED AND SUPPORTED IN ACCORDANCE WITH OSHA STANDARDS AND ALL LOCAL, STATE, AND NATIONAL ELECTRICAL CODES.
8. ELECTRONIC BALLASTS FOR FLUORESCENT LIGHTING FIXTURES SHALL HAVE A MINIMUM BALLAST FACTOR (BF) OF 0.90 OR GREATER UNLESS OTHERWISE SPECIFIED.
9. ELECTRICAL CONTRACTOR SHALL PROVIDE LIGHTING FIXTURE MOUNTING KITS AS REQUIRED TO SUIT THE EXACT TYPE OF CEILING TO WHICH THEY ARE MOUNTED.
10. THESE DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE INTENT OF EQUIPMENT, DEVICES, ETC... TO BE CONNECTED AND THE CIRCUITS TO WHICH THEY ARE TO BE CONNECTED TO. CONTRACTOR SHALL INSTALL ALL CONDUIT, J-BOXES, ETC... AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
11. ALL EXTERIOR EQUIPMENT SHALL BE WEATHERPROOF.
12. ELECTRICAL CONTRACTOR SHALL PERFORM ALL WORK IN STRICT ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL GOVERNING CODES.
13. ALL EQUIPMENT SHALL BE NEW AND BEAR A "UL" LABEL - U.O.N..
14. ELECTRICAL CONTRACTOR SHALL SECURE AND PAY FOR ALL NECESSARY BUILDING PERMITS.
15. COMPLETE ELECTRICAL INSTALLATION SHALL BE GUARANTEED IN WRITING FOR A PERIOD OF (1) YEAR - UON.
16. ELECTRICAL CONTRACTOR SHALL INCLUDE IN BID - COSTS FOR ALL HVAC CONTROL COMPONENTS, CONDUITS, DEVICES, ETC... AS DEEMED NECESSARY FOR A COMPLETE AND OPERATIONAL HVAC SYSTEM. REFER TO MECHANICAL DRAWINGS, DIAGRAMS AND SPECS FOR THOSE ITEMS REQUIRED UNDER THE ELECTRICAL SECTION OF THIS CONTRACT.
17. ELECTRICAL CONTRACTOR SHALL VISIT SITE PRIOR TO BID DATE, TO VERIFY ALL EXISTING CONDITIONS, TO BE ENCOUNTERED IN THE INSTALLATION OF ALL NEW EQUIPMENT, FIXTURES, DEVICES, FEEDERS, ETC.. EXACT INSTALLATION METHOD AND REQUIREMENTS SHALL BE VERIFIED AND DETERMINED PRIOR TO BID DATE. CONTRACTORS SHALL IMMEDIATELY NOTIFY THIS ENGINEER OF ANY REQUIRED MODIFICATIONS WHICH ARE NOT SHOWN ON THESE DRAWINGS. SUBMITTAL OF BID INDICATES CONTRACTOR IS AWARE OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED.
18. ALL ELECTRICAL EQUIPMENT CHARACTERISTICS, LOCATIONS, AND CONNECTION REQUIREMENTS SHALL BE VERIFIED PRIOR TO ANY ROUGH-IN WORK.
19. ELECTRICAL CONTRACTOR SHALL FURNISH THE FOLLOWING SHOP DRAWINGS FOR PRIOR APPROVAL:
 - a. ALL SUBSTITUTED LIGHT FIXTURES.
 - b. ALL ELECTRICAL SERVICE EQUIPMENT, DISTRIBUTION EQUIPMENT AND PANELBOARDS.
 - c. OTHER ITEMS AS SPECIFICALLY INDICATED.

THESE ITEMS SHALL BE APPROVED BY THIS OFFICE PRIOR TO ANY COMMENCEMENT OF PLACING ORDERS OR PERFORMING ANY ROUGH-IN WORK.
20. COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE PRESENTLY ADOPTED EDITION OF THE NEC ARTICLE 250.
21. PENETRATIONS OF ALL FIRE RATED WALLS OR CEILINGS SHALL BE FIRE RATED IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES.
22. PROVIDE ENGRAVED PLASTIC NAMEPLATES FOR ALL MAJOR ELECTRICAL EQUIPMENT.
23. PROVIDE THE OWNER AND THIS ENGINEER WITH ONE SET OF ELECTRICAL "AS-BUILTS" AT THE COMPLETION OF JOB.
24. ALL DISCONNECT SWITCHES TO BE PROVIDED WITH REJECTION TYPE FUSE HOLDERS.
26. PROVIDE GREEN EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUIT CONDUITS SIZED PER NEC 250-122.
27. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED BY UL OR A COUNTY APPROVED THIRD PARTY TESTING FACILITY. 110.3(d).
28. ALL WALL MOUNTED FIXTURES IF PROJECTING MORE THAN 4" FROM WALL MUST PROVIDE A MINIMUM OF 80" AFF TO BOTTOM OF LIGHTING FIXTURE.
29. UNIT GENERAL LIGHTING AND POWER BRANCH CIRCUITING SHOWN ON THIS PLAN SHALL BE #14 AWG. MINIMUM - U.O.N.
30. UNIT KITCHEN AND APPLIANCE BRANCH CIRCUITING SHOWN ON THIS PLAN SHALL BE #12 AWG. MINIMUM - U.O.N.
31. ALL 120V SINGLE PHASE, 15 AND 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. [NEC 210.12(A)]
32. SMOKE ALARMS IN HALLWAY ARE TO BE INSTALLED AND LOCATED IN RELATIONSHIP TO THE "RETURN-AIR" GRILLES AS PER MANUFACTURERS RECOMMENDATION. ENSURE APPROPRIATE SPACING IS PROVIDED IN ACCORDANCE WITH NFPA 72, INCLUDING 3-FOOT CLEARANCE FROM CEILING FAN BLADE TIPS.
33. THE CONTRACTOR SHALL PROVIDE AND INSTALL DOOR CHIMES AT ALL UNITS PER HANDICAP CODE REQUIREMENT.
34. ELECTRICAL SUB-PANELS FOR ACCESIBLE UNITS, SHALL BE MOUNTED AT THE MAXIMUM ELEVATION OF 42" AFF TO BOTTOM OF PANEL, PER CALIFORNIA TITLE 24 ACCESSIBILITY REQUIREMENTS 380-8 (c).
35. REFER TO UNIT LIGHTING FIXTURE SCHEDULE FOR TYPE OF FIXTURES TO BE PROVIDED AND INSTALLED
36. ENTIRE INSTALLATION SHALL COMPLY WITH NEC SECTION 210-52 AS A MINIMUM AND SUBJECT TO INSPECTOR APPROVAL COORDINATE PRIOR TO ROUGH-IN.
37. OUTLET BOXES FACING THE SAME WALL SHALL BE SEPARATED HORIZONTALLY BY 24", BACK AND SIDE OF THE BOXES SHALL BE SEALED WITH RESILIENT SEALANT (1/8" MIN.) AND BACK WITH MINERAL FIBER INSULATION (2" MIN.)
38. COMBINATION SMOKE/CARBON MONOXIDE DETECTORS SHALL BE WIRED FOR IN-SERIES OPERATION. PROVIDE INTERLOCK WIRING.
39. ANY COMBINATION OF TELEPHONE/TV/DATA JACKS AND RECEPTACLE OUTLETS SHALL BE LOCATED AT THE SAME STUD WHERE POSSIBLE, OR SAME STUD BAY AS SHOWN IN RESIDENTIAL UNIT MOUNTING DETAIL - PER FAIRFIELD RESIDENTIAL REQUIREMENTS.
40. BATHROOM AND KITCHEN SWITCHES AND RECEPTACLES IN COUNTER TOP AREA TO BE MOUNTED AT +46" TO TOP OF BOX ABOVE FINISHED FLOOR.
41. INSTALLATION OF LUMINARIES IN CLOTHES CLOSET SHALL COMPLY WITH CEC/NEC 410.8
42. ALL 15 AND 20 AMP RECEPTACLES MUST BE TAMPER PROOF
43. ALL RECESSED ELECTRICAL PANELS SHALL BE INSTALLED IN A 1 HR FIRE RATED WALL. SEE ARCH. PLANS FOR ELECTRICAL SUB-PANEL INSTALLATION AT RATED WALLS.
44. REFER TO MECHANICAL PLANS FOR HVAC T-STAT SPECIFICATION, LOCATION AND CONTROL IDENTIFICATION.
45. FOR CEILING FANS, PROVIDE CELING FAN RATED MOUNTING BOX WITH SAFETY BRACE, WITH A MINIMUM LOAD RATING OF 70 LBS. PER NEC-370-23 AND 410-16.
46. VANITY LIGHTS: MOUNT LIGHT BAR FIXTURES AT 84" A.F.F. MEASURED ON CENTER OF LIGHT FIXTURE/J-BOX. CENTER LIGHT FIXTURE OVER VANITY. VERIFY WITH ARCHITECTURAL INTERIOR BATHROOM ELEVATIONS PRIOR TO ROUGH-IN.
47. IN RESTROOMS WITH EXHAUST FANS OVER TUB ROUTE EXHAUST FAN THROUGH RESTROOM GFCI OUTLET LOAD SIDE TO ENSURE GFCI PROTECTION IS PROVIDED AT FAN.
48. MOUNT SWITCH AND RECEPTACLE ON SAME GANG BOX WHERE POSSIBLE.
49. FIFTY PERCENT OF KITCHEN OUTLETS IN KITCHEN COUNTERS TO BE ACCESSIBLE. ACCESSIBLE OUTLETS SHALL BE 38" FROM CORNERS MINIMUM.
50. PROVIDE AT LEAST (1) 20AMP BRANCH CIRCUIT TO SERVE BATHROOM RECEPTACLES. SUCH CIRCUIT(S) SHALL HAVE NO OTHER OUTLETS - [CEC 210.11(C)(1) AND 210.52(B)(1) THROUGH 210.52(B)(3)].
51. PROVIDE AT LEAST (2) 20AMP SMALL APPLIANCE BRANCH CIRCUITS TO SERVE ALL WALL, FLOOR, AND COUNTER TOP RECEPTACLES IN KITCHEN, PANTRY, BREAKFAST ROOM, DINING ROOM, OR SIMILAR AREA. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. [CEC 210.11(C)(1) AND 210.52(B)(1) THROUGH 210.52(B)(3)].
52. FOR DEVICE MOUNTING HEIGHTS AND MOUNTING HEIGHTS OVER OBSTRUCTIONS, SEE DETAIL 1 ON SHEET E-601 FOR TYPICAL REQUIREMENTS.



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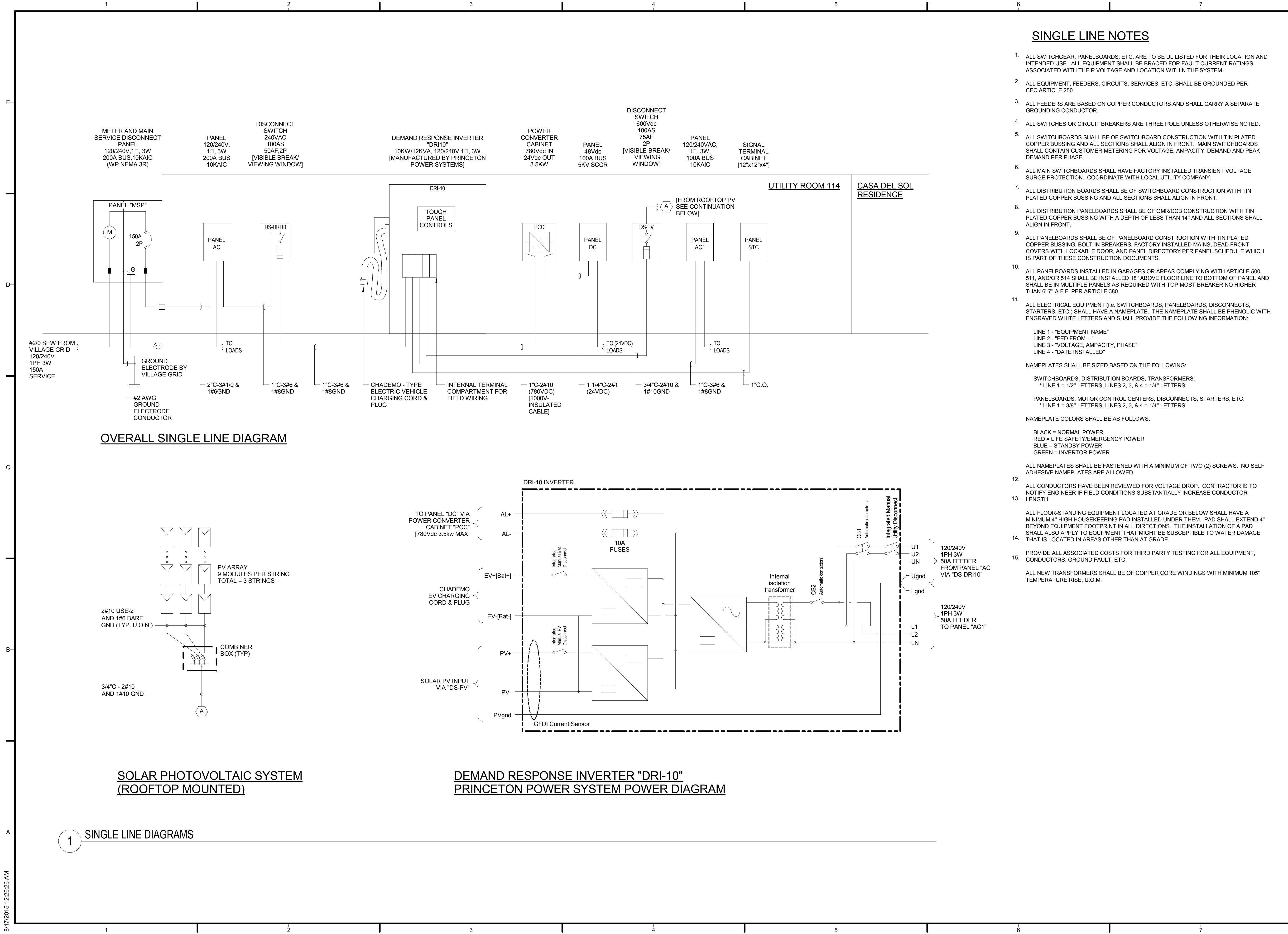


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SHEET TITLE
**ELECTRICAL LEGEND
 AND GENERAL NOTES**

E-002



OVERALL SINGLE LINE DIAGRAM

SOLAR PHOTOVOLTAIC SYSTEM (ROOFTOP MOUNTED)

DEMAND RESPONSE INVERTER "DRI-10" PRINCETON POWER SYSTEM POWER DIAGRAM

1 SINGLE LINE DIAGRAMS

SINGLE LINE NOTES

- ALL SWITCHGEAR, PANELBOARDS, ETC. ARE TO BE UL LISTED FOR THEIR LOCATION AND INTENDED USE. ALL EQUIPMENT SHALL BE BRACED FOR FAULT CURRENT RATINGS ASSOCIATED WITH THEIR VOLTAGE AND LOCATION WITHIN THE SYSTEM.
- ALL EQUIPMENT, FEEDERS, CIRCUITS, SERVICES, ETC. SHALL BE GROUNDED PER CEC ARTICLE 250.
- ALL FEEDERS ARE BASED ON COPPER CONDUCTORS AND SHALL CARRY A SEPARATE GROUNDING CONDUCTOR.
- ALL SWITCHES OR CIRCUIT BREAKERS ARE THREE POLE UNLESS OTHERWISE NOTED.
- ALL SWITCHBOARDS SHALL BE OF SWITCHBOARD CONSTRUCTION WITH TIN PLATED COPPER BUSSING AND ALL SECTIONS SHALL ALIGN IN FRONT. MAIN SWITCHBOARDS SHALL CONTAIN CUSTOMER METERING FOR VOLTAGE, AMPACITY, DEMAND AND PEAK DEMAND PER PHASE.
- ALL MAIN SWITCHBOARDS SHALL HAVE FACTORY INSTALLED TRANSIENT VOLTAGE SURGE PROTECTION. COORDINATE WITH LOCAL UTILITY COMPANY.
- ALL DISTRIBUTION BOARDS SHALL BE OF SWITCHBOARD CONSTRUCTION WITH TIN PLATED COPPER BUSSING AND ALL SECTIONS SHALL ALIGN IN FRONT.
- ALL DISTRIBUTION PANELBOARDS SHALL BE OF QMR/CCB CONSTRUCTION WITH TIN PLATED COPPER BUSSING WITH A DEPTH OF LESS THAN 14" AND ALL SECTIONS SHALL ALIGN IN FRONT.
- ALL PANELBOARDS SHALL BE OF PANELBOARD CONSTRUCTION WITH TIN PLATED COPPER BUSSING, BOLT-IN BREAKERS, FACTORY INSTALLED MAINS, DEAD FRONT COVERS WITH LOCKABLE DOOR, AND PANEL DIRECTORY PER PANEL SCHEDULE WHICH IS PART OF THESE CONSTRUCTION DOCUMENTS.
- ALL PANELBOARDS INSTALLED IN GARAGES OR AREAS COMPLYING WITH ARTICLE 500, 511, AND/OR 514 SHALL BE INSTALLED 18" ABOVE FLOOR LINE TO BOTTOM OF PANEL AND SHALL BE IN MULTIPLE PANELS AS REQUIRED WITH TOP MOST BREAKER NO HIGHER THAN 6'-7" A.F.F. PER ARTICLE 380.
- ALL ELECTRICAL EQUIPMENT (i.e. SWITCHBOARDS, PANELBOARDS, DISCONNECTS, STARTERS, ETC.) SHALL HAVE A NAMEPLATE. THE NAMEPLATE SHALL BE PHENOLIC WITH ENGRAVED WHITE LETTERS AND SHALL PROVIDE THE FOLLOWING INFORMATION:

 LINE 1 - "EQUIPMENT NAME"
 LINE 2 - "FED FROM ..."
 LINE 3 - "VOLTAGE, AMPACITY, PHASE"
 LINE 4 - "DATE INSTALLED"

 NAMEPLATES SHALL BE SIZED BASED ON THE FOLLOWING:

 SWITCHBOARDS, DISTRIBUTION BOARDS, TRANSFORMERS:
 * LINE 1 = 1/2" LETTERS, LINES 2, 3, & 4 = 1/4" LETTERS

 PANELBOARDS, MOTOR CONTROL CENTERS, DISCONNECTS, STARTERS, ETC.:
 * LINE 1 = 3/8" LETTERS, LINES 2, 3, & 4 = 1/4" LETTERS

 NAMEPLATE COLORS SHALL BE AS FOLLOWS:

 BLACK = NORMAL POWER
 RED = LIFE SAFETY/EMERGENCY POWER
 BLUE = STANDBY POWER
 GREEN = INVERTOR POWER

 ALL NAMEPLATES SHALL BE FASTENED WITH A MINIMUM OF TWO (2) SCREWS. NO SELF ADHESIVE NAMEPLATES ARE ALLOWED.
- ALL CONDUCTORS HAVE BEEN REVIEWED FOR VOLTAGE DROP. CONTRACTOR IS TO NOTIFY ENGINEER IF FIELD CONDITIONS SUBSTANTIALLY INCREASE CONDUCTOR LENGTH.
- ALL FLOOR-STANDING EQUIPMENT LOCATED AT GRADE OR BELOW SHALL HAVE A MINIMUM 4" HIGH HOUSEKEEPING PAD INSTALLED UNDER THEM. PAD SHALL EXTEND 4" BEYOND EQUIPMENT FOOTPRINT IN ALL DIRECTIONS. THE INSTALLATION OF A PAD SHALL ALSO APPLY TO EQUIPMENT THAT MIGHT BE SUSCEPTIBLE TO WATER DAMAGE THAT IS LOCATED IN AREAS OTHER THAN AT GRADE.
- PROVIDE ALL ASSOCIATED COSTS FOR THIRD PARTY TESTING FOR ALL EQUIPMENT, CONDUCTORS, GROUND FAULT, ETC.
- ALL NEW TRANSFORMERS SHALL BE OF COPPER CORE WINDINGS WITH MINIMUM 105° TEMPERATURE RISE, U.O.M.



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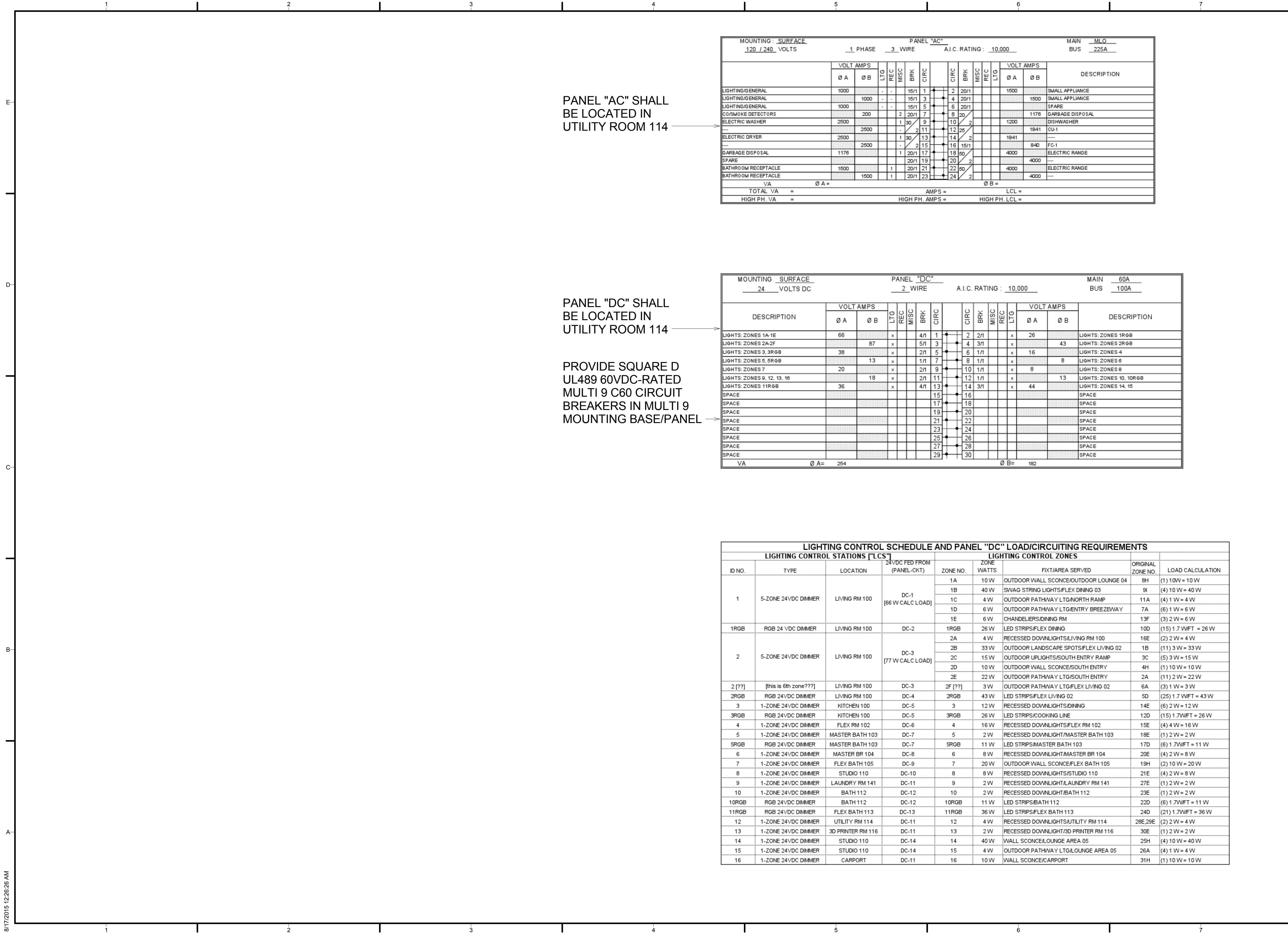
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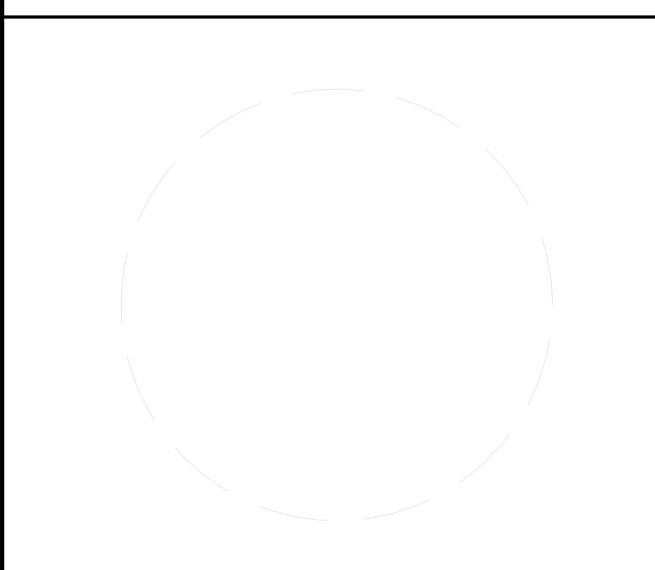
SHEET TITLE
SINGLE LINE DIAGRAM AND SCHEDULES

E-101

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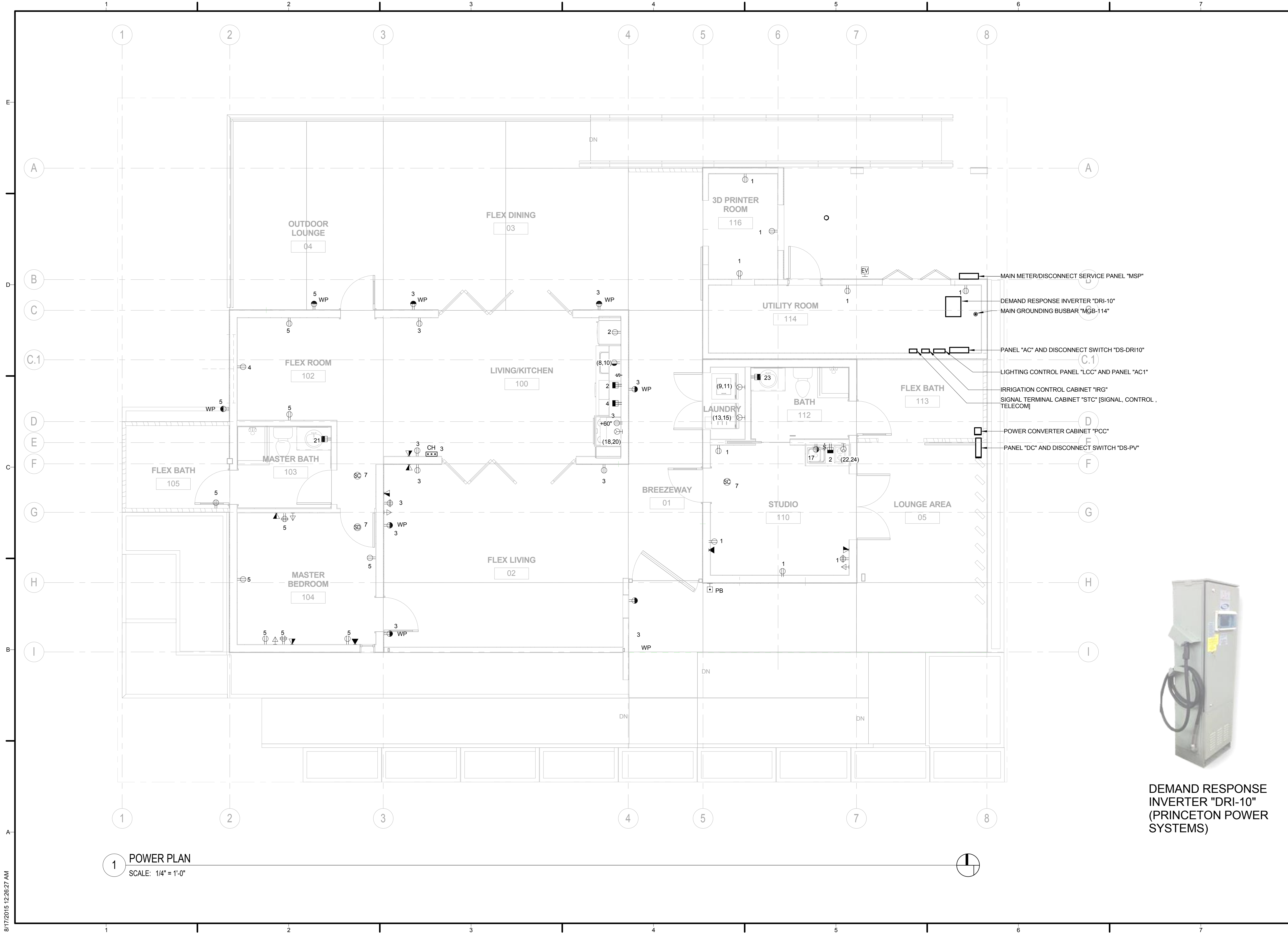
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SINGLE LINE DIAGRAM AND SCHEDULES

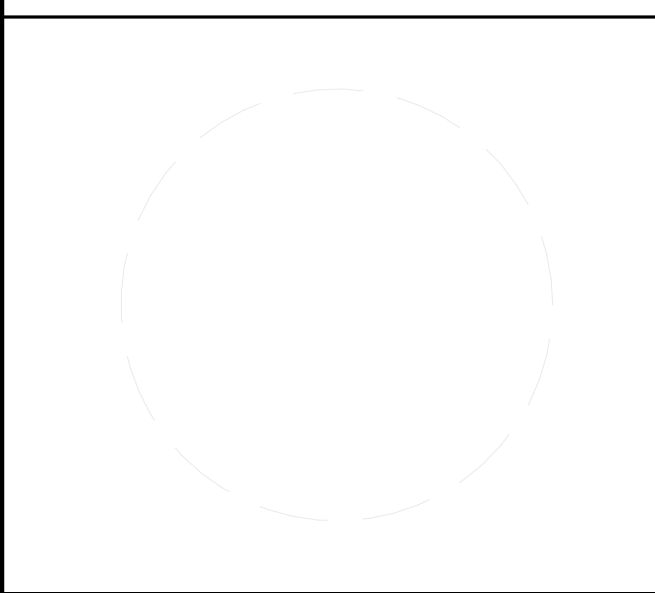
E-102

LIGHTING CONTROL SCHEDULE AND PANEL "DC" LOAD/CIRCUITING REQUIREMENTS															
LIGHTING CONTROL STATIONS [LCS]				LIGHTING CONTROL ZONES											
ID NO.	TYPE	LOCATION	24VDC FED FROM (PANEL-CKT)	ZONE NO.	ZONE WATTS	FIXTURE/AREA SERVED	ORIGINAL ZONE NO.	LOAD CALCULATION							
1	5-ZONE 24VDC DIMMER	LIVING RM 100	DC-1 [66 W CALC LOAD]	1A	10 W	OUTDOOR WALL SCONCE/OUTDOOR LOUNGE 04	8H	(1) 10W = 10 W							
				1B	40 W	SWAG STRING LIGHTS/FLEX DINING 03	9I	(4) 10 W = 40 W							
				1C	4 W	OUTDOOR PATHWAY LTG/NORTH RAMP	11A	(4) 1 W = 4 W							
				1D	6 W	OUTDOOR PATHWAY LTG/ENTRY BREEZEWAY	7A	(6) 1 W = 6 W							
				1E	6 W	CHANDELIER/DINING RM	13F	(3) 2 W = 6 W							
1R0B	RGB 24 VDC DIMMER	LIVING RM 100	DC-2	1R0B	26 W	LED STRIPS/FLEX DINING	10D	(15) 1.7 WFT = 26 W							
				2A	4 W	RECESSED DOWNLIGHTS/LIVING RM 100	16E	(2) 2 W = 4 W							
				2B	33 W	OUTDOOR LANDSCAPE SPOTS/FLEX LIVING 02	1B	(11) 3 W = 33 W							
				2C	15 W	OUTDOOR UPLIGHTS/SOUTH ENTRY RAMP	3C	(5) 3 W = 15 W							
				2D	10 W	OUTDOOR WALL SCONCE/SOUTH ENTRY	4H	(1) 10 W = 10 W							
2	5-ZONE 24VDC DIMMER	LIVING RM 100	DC-3 [77 W CALC LOAD]	2E	22 W	OUTDOOR PATHWAY LTG/SOUTH ENTRY	2A	(11) 2 W = 22 W							
				2F [??]	3 W	OUTDOOR PATHWAY LTG/FLEX LIVING 02	6A	(3) 1 W = 3 W							
				2R0B	43 W	LED STRIPS/FLEX LIVING 02	5D	(25) 1.7 WFT = 43 W							
				3	1-ZONE 24VDC DIMMER	KITCHEN 100	DC-5	3	12 W	RECESSED DOWNLIGHTS/DINING	14E	(6) 2 W = 12 W			
				3R0B	RGB 24VDC DIMMER	KITCHEN 100	DC-5	3R0B	26 W	LED STRIPS/COOKING LINE	12D	(15) 1.7WFT = 26 W			
4	1-ZONE 24VDC DIMMER	FLEX RM 102	DC-6	4	16 W	RECESSED DOWNLIGHTS/FLEX RM 102	15E	(4) 4 W = 16 W							
5	1-ZONE 24VDC DIMMER	MASTER BATH 103	DC-7	5	2 W	RECESSED DOWNLIGHT/MASTER BATH 103	18E	(1) 2 W = 2 W							
5R0B	RGB 24VDC DIMMER	MASTER BATH 103	DC-7	5R0B	11 W	LED STRIPS/MASTER BATH 103	17D	(6) 1.7WFT = 11 W							
6	1-ZONE 24VDC DIMMER	MASTER BR 104	DC-8	6	8 W	RECESSED DOWNLIGHT/MASTER BR 104	20E	(4) 2 W = 8 W							
7	1-ZONE 24VDC DIMMER	FLEX BATH 105	DC-9	7	20 W	OUTDOOR WALL SCONCE/FLEX BATH 105	19H	(2) 10 W = 20 W							
8	1-ZONE 24VDC DIMMER	STUDIO 110	DC-10	8	8 W	RECESSED DOWNLIGHTS/STUDIO 110	21E	(4) 2 W = 8 W							
9	1-ZONE 24VDC DIMMER	LAUNDRY RM 141	DC-11	9	2 W	RECESSED DOWNLIGHT/LAUNDRY RM 141	27E	(1) 2 W = 2 W							
10	1-ZONE 24VDC DIMMER	BATH 112	DC-12	10	2 W	RECESSED DOWNLIGHT/BATH 112	23E	(1) 2 W = 2 W							
10R0B	RGB 24VDC DIMMER	BATH 112	DC-12	10R0B	11 W	LED STRIPS/BATH 112	22D	(6) 1.7WFT = 11 W							
11R0B	RGB 24VDC DIMMER	FLEX BATH 113	DC-13	11R0B	36 W	LED STRIPS/FLEX BATH 113	24D	(21) 1.7WFT = 36 W							
12	1-ZONE 24VDC DIMMER	UTILITY RM 114	DC-11	12	4 W	RECESSED DOWNLIGHTS/UTILITY RM 114	28E,29E	(2) 2 W = 4 W							
13	1-ZONE 24VDC DIMMER	3D PRINTER RM 116	DC-11	13	2 W	RECESSED DOWNLIGHT/3D PRINTER RM 116	30E	(1) 2 W = 2 W							
14	1-ZONE 24VDC DIMMER	STUDIO 110	DC-14	14	40 W	WALL SCONCE/LOUNGE AREA 05	25H	(4) 10 W = 40 W							
15	1-ZONE 24VDC DIMMER	STUDIO 110	DC-14	15	4 W	OUTDOOR PATHWAY LTG/LOUNGE AREA 05	26A	(4) 1 W = 4 W							
16	1-ZONE 24VDC DIMMER	CARPOR	DC-11	16	10 W	WALL SCONCE/CARPOR	31H	(1) 10 W = 10 W							

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SHEET TITLE
POWER AND SIGNAL PLAN

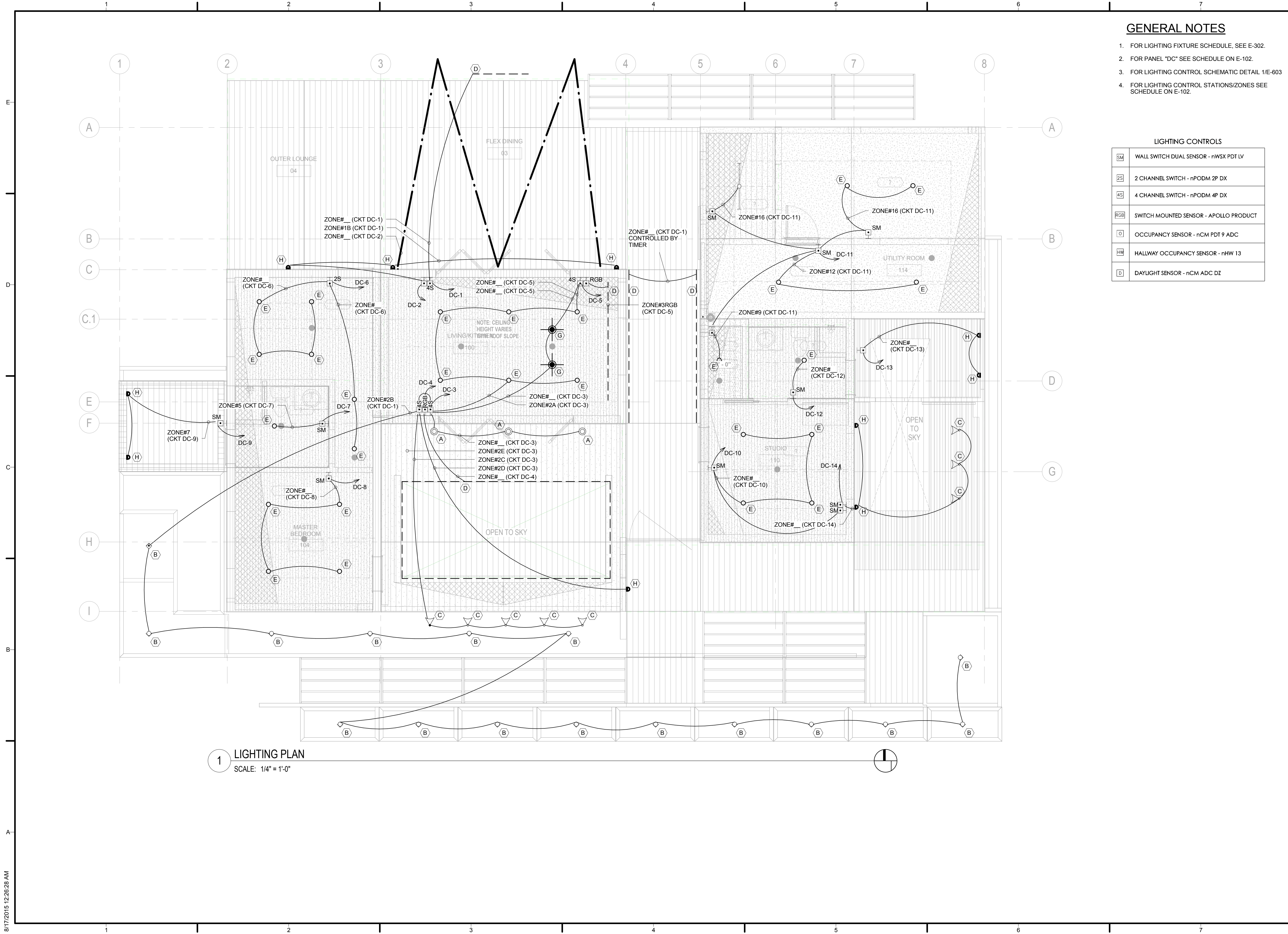
E-201



DEMAND RESPONSE INVERTER "DRI-10" (PRINCETON POWER SYSTEMS)

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

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GENERAL NOTES

1. FOR LIGHTING FIXTURE SCHEDULE, SEE E-302.
2. FOR PANEL "DC" SEE SCHEDULE ON E-102.
3. FOR LIGHTING CONTROL SCHEMATIC DETAIL 1/E-603
4. FOR LIGHTING CONTROL STATIONS/ZONES SEE SCHEDULE ON E-102.

LIGHTING CONTROLS

SM	WALL SWITCH DUAL SENSOR - nWSX PDT LV
2S	2 CHANNEL SWITCH - nPODM 2P DX
4S	4 CHANNEL SWITCH - nPODM 4P DX
RGB	SWITCH MOUNTED SENSOR - APOLLO PRODUCT
D	OCCUPANCY SENSOR - nCM PDT 9 ADC
HW	HALLWAY OCCUPANCY SENSOR - nHW 13
D	DAYLIGHT SENSOR - nCM ADC DZ

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



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LIGHTING PLAN AND DETAILS

E-301

A. RAMP/DECK/DOWNLIGHT

1.15" LED Recessed Light
Screw Down - 12VDC, IP68
Stainless Steel

<http://www.homedepot.com/115-LED-Recessed-Light-Screw-Down-12VDC-IP68-Stainless-Steel>

Model OL-ON-05
White SKU OL-ON-05
Dimensions 1.18" Diameter x 1.65" Depth
Beam Angle 120°
Lifespan 40,000 Hours
Power 12VDC
Watts 0.6 Watts
Operating Temp -4° ~ 131°F
Rating IP68
Warranty Period 1 Years



TYPE A

B/C. OUTDOOR SPOT/UPLIGHT

3 Watt LED Landscape Spot Light
~\$24.95

<http://www.homedepot.com/3-Watt-LED-Landscape-Spot-Light>

TOTAL GROUND STACKE MOUNTED TOTAL MOUNTING BASE

Beam Angle 15 degree/30 degree/60 degree
LED Amount 1 LED
Lumen 150 Lumen
Standards And Certifications CE/FCC/ROHS Compliant
Wire Length 150cm(59in)

IP Rating Waterproof IP68
LED Type CREE
Material Aluminum
Volts 12V AC/DC



TYPE B

B/C. OUTDOOR SPOT/UPLIGHT

3 Watt LED Landscape Spot Light
~\$24.95

<http://www.homedepot.com/3-Watt-LED-Landscape-Spot-Light>

TOTAL GROUND STACKE MOUNTED TOTAL MOUNTING BASE

Beam Angle 15 degree/30 degree/60 degree
LED Amount 1 LED
Lumen 150 Lumen
Standards And Certifications CE/FCC/ROHS Compliant
Wire Length 150cm(59in)

IP Rating Waterproof IP68
LED Type CREE
Material Aluminum
Volts 12V AC/DC



TYPE C

D. OUTDOOR RGB STRIP

Ribbon Star Extreme, RGB
Outdoor LED Strip Light - UL
24VDC - 118" (3m)
\$99.99 PER 118"

<http://www.homedepot.com/Ribbon-Star-Extreme-RGB-Outdoor-LED-Strip-Light>

Model RL-SC-RSX-RGB-10
SKU RL-SC-RSX-RGB-10
Dimensions 118"L x 0.6875"W x 0.46"H
LED Quantity 7 SMDs per 9.5 inches
LEDs Per Strip 84 SMD LEDs
DC Power 24VDC Constant Voltage
Watts 1.7W per foot
Lumens 34 lm/ft
Rating IP68 Outdoor
Warranty Period 2 Years



TYPE D

E. INDOOR RECESSED DOWNLIGHT

12VDC RGB Color Changing Puck
~\$23.25

<http://www.homedepot.com/12VDC-RGB-Color-Changing-Puck>

Finish satin nickel; light weight, durable plastic housing.
LEDs 9 SMD 5050 RGB color changing LEDs
Mounting Surface or recess mount
Lumen output 50 to 150 lumens depending on color set
Power consumption 2W
Requirements Requires transformer and color controller. Some color controllers have a dimming function as well as mode control
Dimensions: 2 3/4" x 15/16"
Warranty 3 year warranty



TYPE E

E. INDOOR BATHROOM RECESSED FIXTURE

Waterproof Recessed RGB LED Downlight, G-LUX series (remote sold separately)

<http://www.homedepot.com/Waterproof-Recessed-LED-Downlight-G-LUX-series>

Beam Angle 60 degree
Current Draw 640mA
LED Amount 3 LEDs
LED Wattage 2 Watts
Total Power Consumption 7.7 Watts
Wavelength 460 nm/520 nm/630nm
Dimensions: 9cm(3.54") x 9cm(3.54") x 6.3cm(2.48")

Color RGB
IP Rating Waterproof IP68
LED Type CREE
Standards And Certifications CE/FCC/ROHS Compliant
Volts 12 VAC/12-16 VDC
Wire Length 150cm(59in)



TYPE E

F. INDOOR CHANDELIER/PENDANT (PLACEHOLDER)

Pearla Collection 4-Light Chrome LED Pendant

<http://www.homedepot.com/Pearla-Collection-4-Light-Chrome-LED-Pendant>

Adjustable Lamp Head No
Adjustable hanging length Yes
Bulb(s) Included Yes
Fixture Color/Finish Chrome
Family Chrome
Hardwired or Plug-In Hardwired
Included Bulbs Included; Hardware Included
Light Source LED

Number of Bulbs Required 4
Pendant Type Large Pendant
Product Weight (lb.) 3.3 lb
Recommended bulb type LED
Returnable 90 Day
Shade Color Family Chrome
Wattage (watts) 3.6



TYPE F

G. INDOOR KITCHEN PENDANT (PLACEHOLDER)

Pearla Collection 1-Light Chrome LED Pendant

<http://www.homedepot.com/Pearla-Collection-1-Light-Chrome-LED-Pendant>

Adjustable Lamp Head No
Adjustable hanging length Yes
Bulb(s) Included Yes
Fixture Color/Finish Chrome
Family Chrome
Hardwired or Plug-In Hardwired
Included Bulbs Included; Hardware Included
Light Source LED

Number of Bulbs Required 1
Pendant Type Mini Pendant
Product Weight (lb.) 2.2 lb
Recommended bulb type LED
Returnable 90-Day
Shade Color Family Chrome
Wattage (watts) 3



TYPE G

H. OUTDOOR WALL DOWNLIGHT

Skyline LED Outdoor Wall Sconce (SMALL OPTION)
~\$99.95

<http://www.homedepot.com/Skyline-LED-Outdoor-Wall-Sconce>

Lighting:
•Small option utilizes one 10 Watt 120 Volt LED array (integrated).
•Large option utilizes two 10 Watt 120 Volt LED arrays (integrated).
Dimensions:
•Small Option Fixture: Height 7.75", Width 5", Depth 4"
•Large Option Fixture: Height 14.5", Width 5", Depth 4"



TYPE H

I. OUTDOOR SWAG LIGHTS

12V 15ft LED Filament Globe Light String Kit - Commercial Grade

<http://www.homedepot.com/12V-15ft-LED-Filament-Globe-Light-String-Kit>

Material Shatter-Resistant Plastic
Voltage 12V
Color Temperature Warm White
Light Source 10 LED bulbs per string
Bulb Spacing 18" between bulbs
Length 15' per string
Maximum Run 75' (5 light strings)
Power Supply UL Listed Transformer w/ 5' Lead Cord
Dimensions 15' string length / 2" bulbs
Certifications UL Rated Transformer

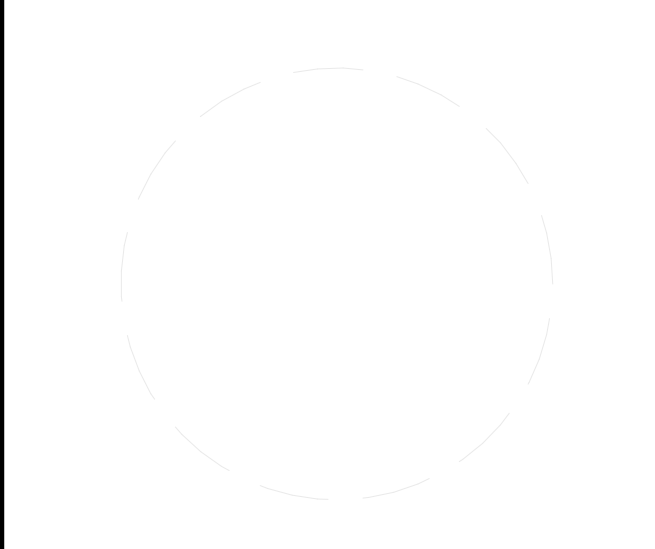


TYPE I

LIGHTING FIXTURE SCHEDULE						
TYPE	MAUFACTURER CATALOG	LAMP QTY. & TYPE	BALLAST	FIXTURE WATTAGE	VOLTS	REMARKS
B	SUPER BRIGHT LEDS #GLUX SERIES	3W LED	NONE	3 W	12 V	LED LANDSCAPE SPOT LIGHT FIXTURE. 12VDC POWER.
C	SUPER BRIGHT LEDS #GLUX SERIES	3W LED	NONE	3 W	12 V	LED LANDSCAPE UPLIGHT FIXTURE. 12VDC POWER.
D	ECOCITYLED #RL-SC-RSX-RGB-10	1.7W PER FT. LED	NONE	2 W	24 V	LED LINEAR STRIP LIGHTS. 24VDC POWER.
E	THELEDLIGHTING #LED PUCK LIGHTS			2 W	12 V	INDOOR RECESSED DOWNLIGHT. 12VDC RGB COLOR POWER.
G	EUROFASE #26231-013	3W LED	NONE	3 W	120 V	PEARLA COLLECTION 1-LIGHT CHROME LED PENDANT.
H	MINKA LAVERY #72501-615B-L	10W LED	NONE	10 W	120 V	OUTDOOR SKYLINE LED WALL SCONCE.
I	AQLIGHTING ROPE LIGHT	10W LED PER STRING	NONE	10 W	12 V	OUTDOOR SWAG ROPE LIGHTS. 12V 15FT LED FILAMENT GLOBE LIGHT STRING.



TEAM NAME: TEAM ORANGE COUNTY
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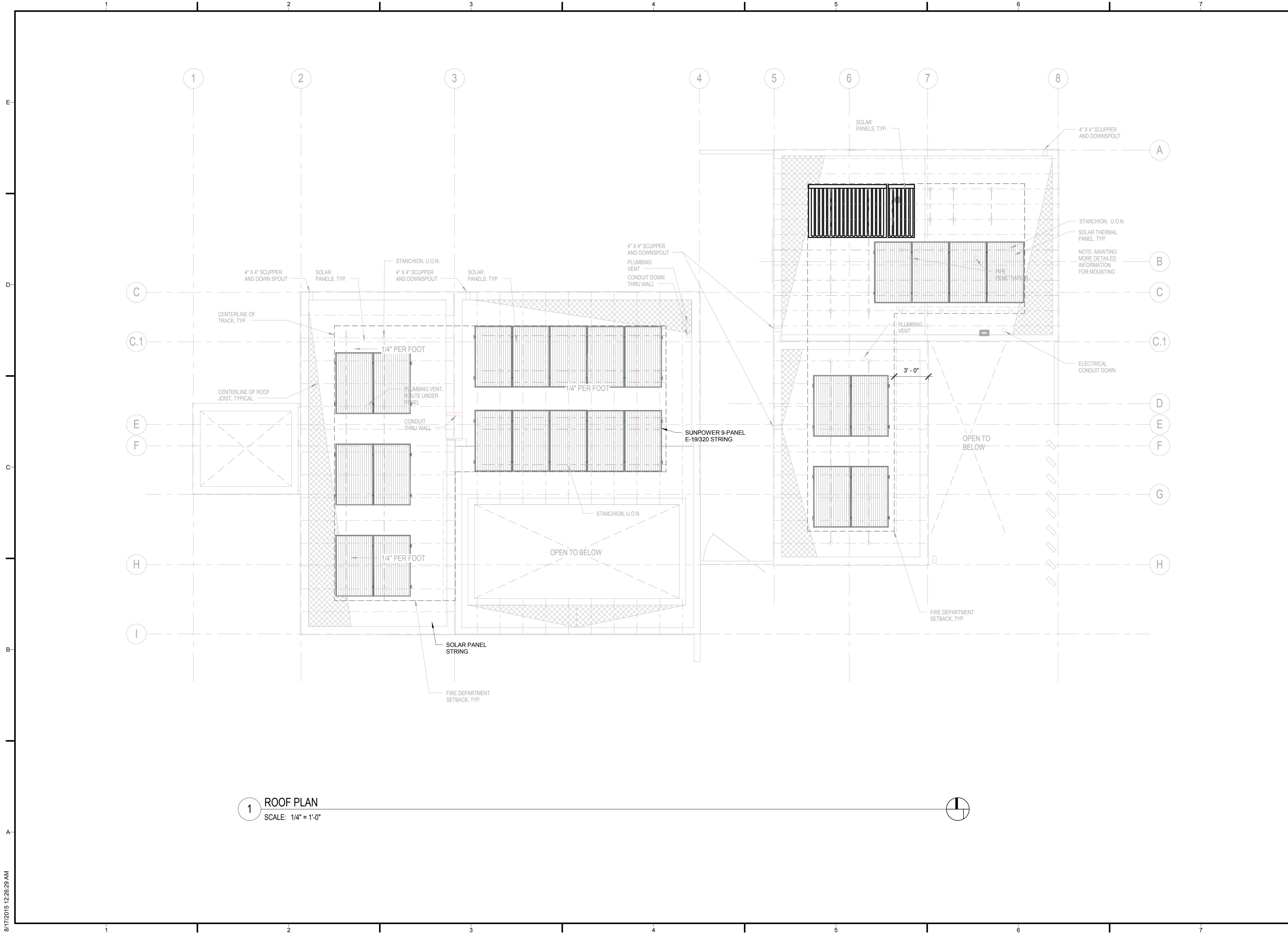


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	10/26/2015	95% DOE
	10/09/2014	80% DOE

LOT NUMBER: #203
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SHEET TITLE
LIGHTING PLAN AND DETAILS

E-302



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



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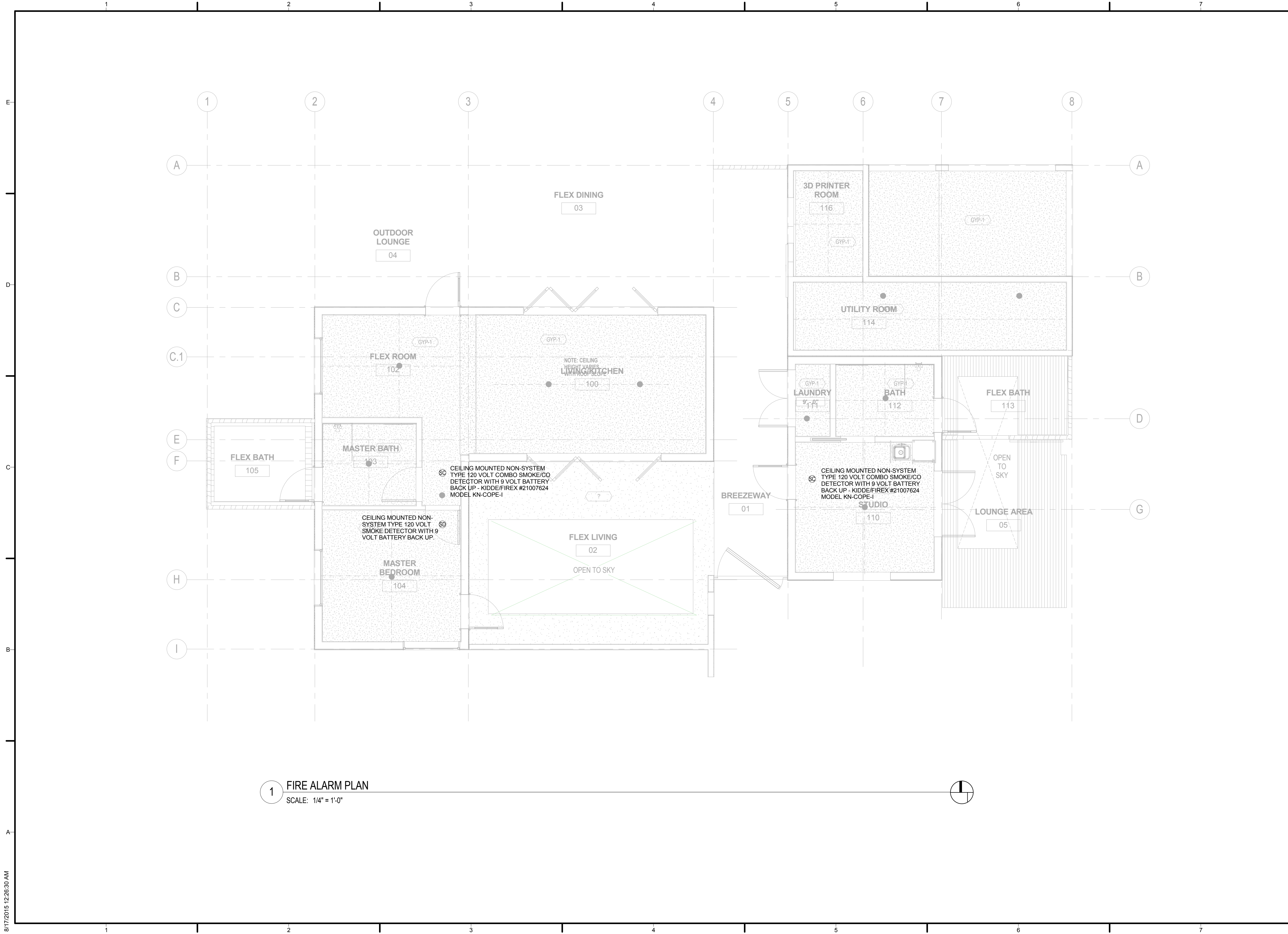
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ELECTRICAL ROOF PLAN

E-401

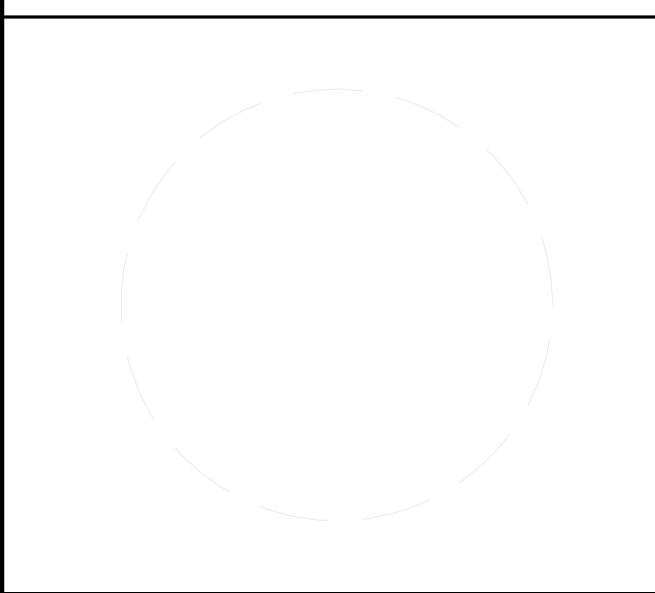
8/17/2015 12:28:29 AM



1 FIRE ALARM PLAN
SCALE: 1/4" = 1'-0"



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	08/17/2015	AS-BUILT SET
	10/26/2015	95% DOE
	10/09/2014	80% DOE

LOT NUMBER: #203
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SHEET TITLE
FIRE ALARM PLAN

E-501

8/17/2015 12:28:30 AM

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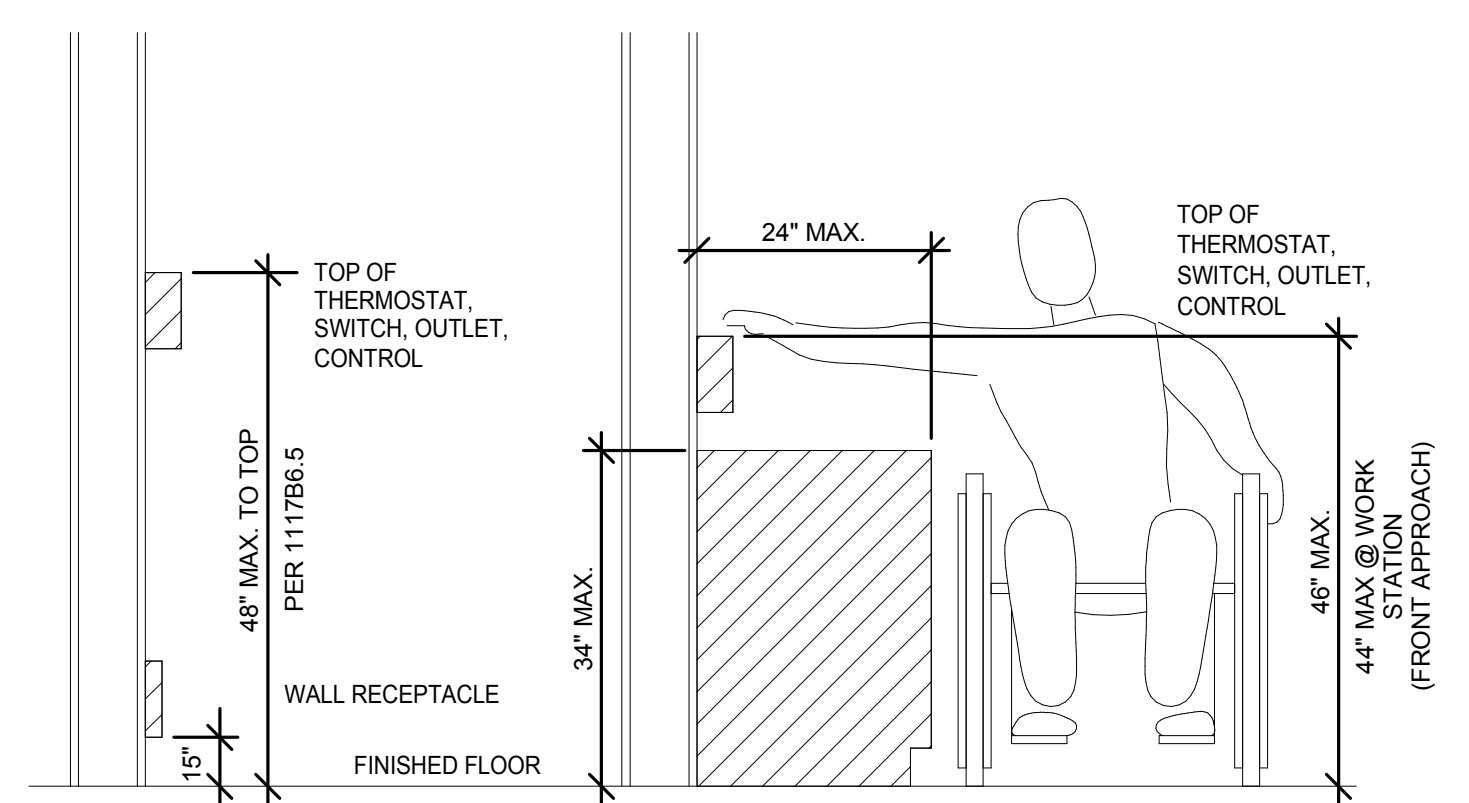
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	10/26/2015	95% DOE
	10/09/2014	80% DOE

LOT NUMBER: #203
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SHEET TITLE

DETAILS

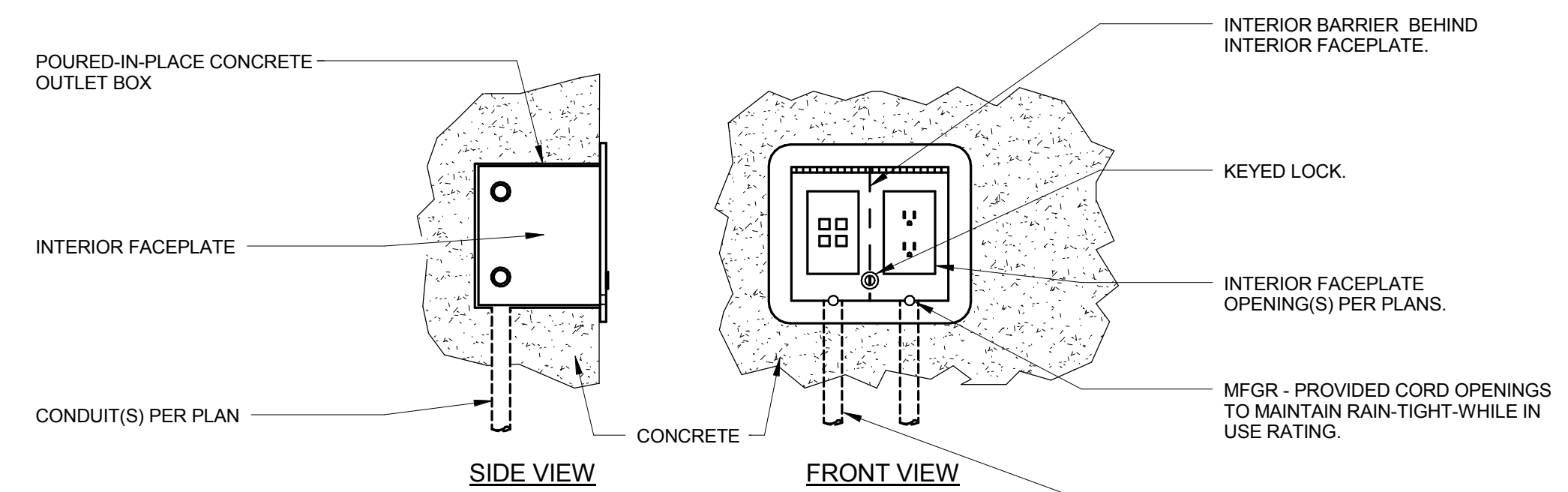
E-601



NOTE:
 CONTRACTOR TO VERIFY/RECONCILE APPLICABLE CODE REQUIREMENTS AND ANY DEVICE HEIGHT REQUIREMENTS DEPICTED ON ARCHITECTURAL OR INTERIOR DESIGN PLANS & SPECIFICATIONS PRIOR TO DEVICE ROUGH-IN. CONFLICTS OR LACK OF MOUNTING HEIGHT SPECIFICITY ON THE ARCHITECTURAL OR INTERIOR DESIGN PLANS & SPECIFICATIONS SHALL BE ISSUED AS FORMAL WRITTEN RFI. DEVICE MOUNTING HEIGHT CLARIFICATIONS/SPECIFICATIONS SHALL NOT RESULT IN AN ADDITIONAL COST TO THE OWNER. MOUNTING HEIGHT INDICATED ARE IN COMPLIANCE WITH CBC SECTION 1117B.6.5 AND FIGURES 11B-5C AND 11B-5D.

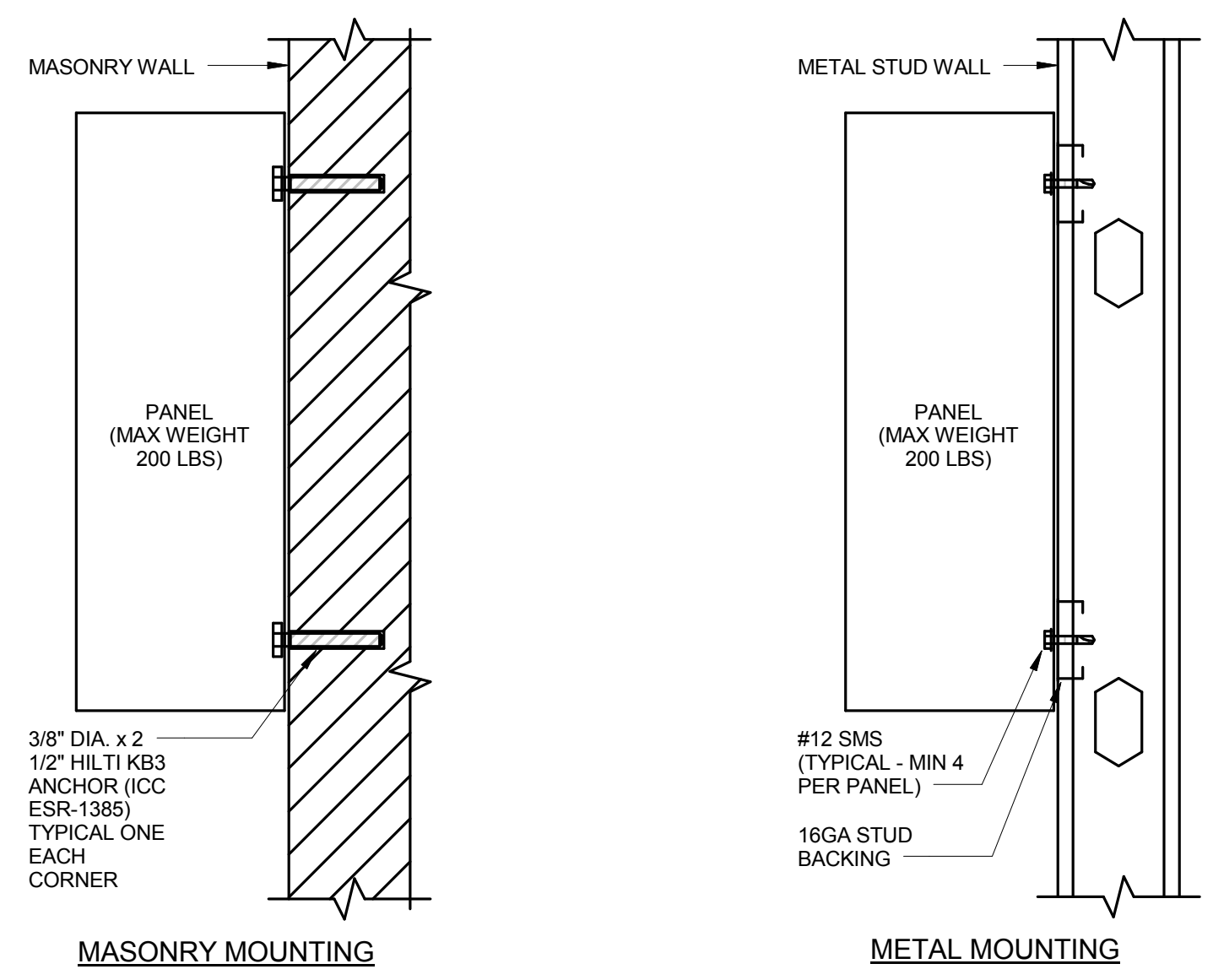
1 MOUNTING HEIGHT OVER OBSTRUCTION

SCALE: 12" = 1'-0"



2 FLUSH EXTERIOR OUTLET BOX "WP-R" DETAIL

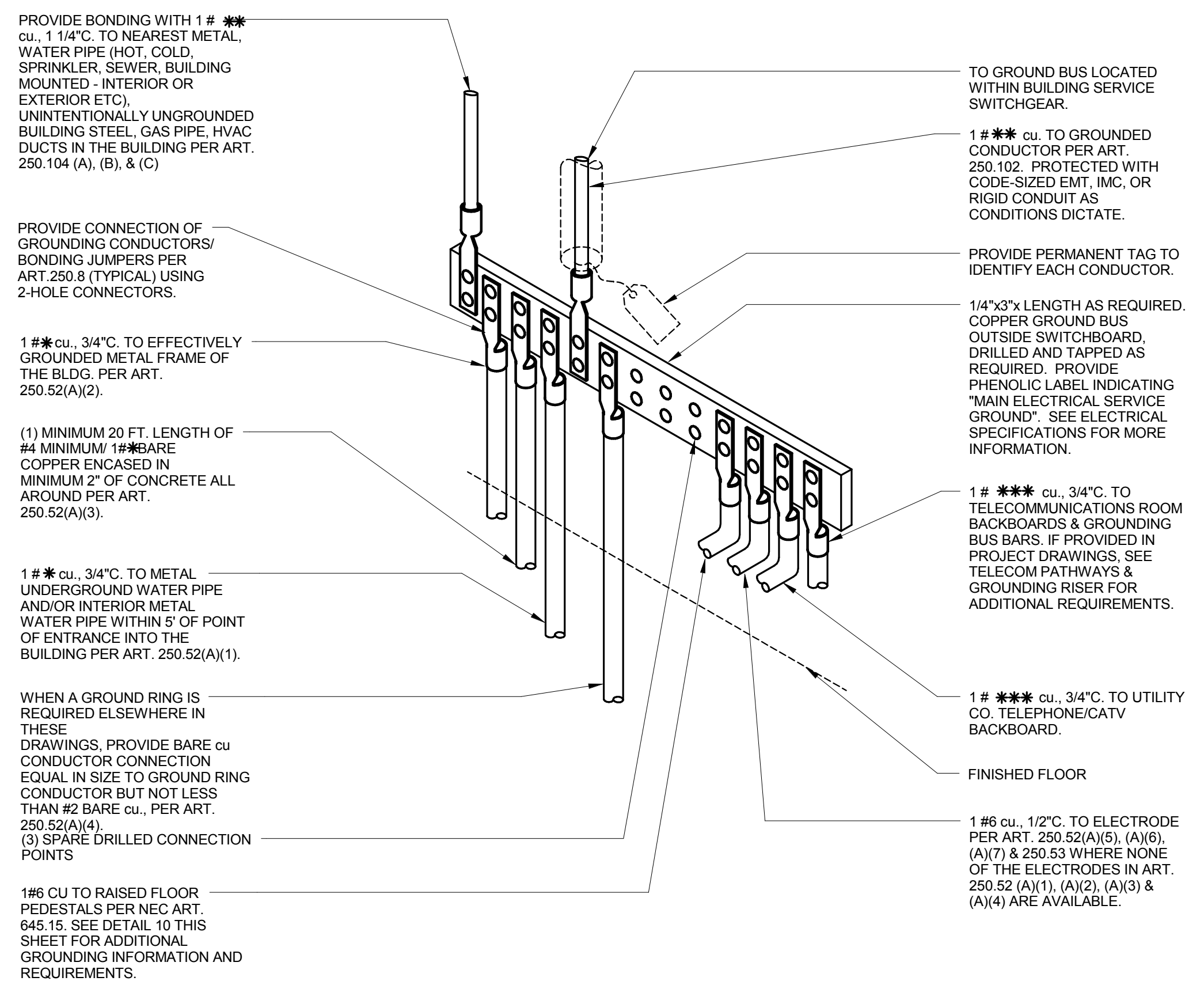
SCALE: N.T.S.



3 SURFACE MOUNTED PANEL DETAILS

SCALE: N.T.S.

*** TELECOMMUNICATIONS GROUND CONDUCTOR MINIMUM SIZE SHALL BE BASED ON DISTANCE BETWEEN TELECOMMUNICATIONS ROOM AND SYSTEM GROUNDING BUS BAR AS FOLLOWS:	
0-200 FT.	#1/0
OVER 200 FT.	#3/0
** MAIN BONDING JUMPER SHALL BE SIZED AS FOLLOWS:	
SERVICE SIZE	M.B.J. SIZE
0-1,000A	#3/0
1,200A	#4/0
1,600A	#250KCMIL
2,000A	#300KCMIL
2,500A	#500KCMIL
3,000A	#500KCMIL
4,000A	#600KCMIL
* GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED AS FOLLOWS:	
SERVICE SIZE	G.E.C. SIZE
0-200A	#4
201-400A	#1/0
OVER 401A	#3/0



4 MAIN GROUNDING BUSBAR "MGB-114" [LOCATED IN UTILITY ROOM 114]

A. RAMP/DECK/DOWNLIGHT

1.15" LED Recessed Light
Screw Down - 12VDC, IP68
Stainless Steel

<http://www.homedepot.com/p/1-15-inch-12-volt-1-watt-led-recessed-light-screw-down-12vdc-ip68-stainless-steel/203202000>

Model 1.15" LED Recessed Light
White SKU OL-ON-05
Dimensions 1.18" Diameter x 1.65" Depth
Beam Angle 120°
Lifespan 40,000 Hours
Power 12VDC
Watts 0.6 Watts
Operating Temp -4" ~ 131°F
Rating IP68
Warranty Period 1 Years



TYPE A

B/C. OUTDOOR SPOT/UPLIGHT

3 Watt LED Landscape
Spot Light
~\$24.95

<http://www.homedepot.com/p/3-watt-led-landscape-spot-light-12vdc-ip68-aluminum/203202000>

TOTAL GROUND STACKE MOUNTED TOTAL MOUNTING BASE

Beam Angle 15 degree/30 degree/60 degree
IP Rating Waterproof IP68
LED Amount 1 LED
LED Type CREE
Lumen 150 Lumen
Material Aluminum
Standards And Certifications CE/FCC/ROHS Compliant
Volts 12V AC/DC
Wire Length 150cm(59in)



TYPE B

B/C. OUTDOOR SPOT/UPLIGHT

3 Watt LED Landscape
Spot Light
~\$24.95

<http://www.homedepot.com/p/3-watt-led-landscape-spot-light-12vdc-ip68-aluminum/203202000>

TOTAL GROUND STACKE MOUNTED TOTAL MOUNTING BASE

Beam Angle 15 degree/30 degree/60 degree
IP Rating Waterproof IP68
LED Amount 1 LED
LED Type CREE
Lumen 150 Lumen
Material Aluminum
Standards And Certifications CE/FCC/ROHS Compliant
Volts 12V AC/DC
Wire Length 150cm(59in)



TYPE C

D. OUTDOOR RGB STRIP

Ribbon Star Extreme, RGB
Outdoor LED Strip Light - UL
24VDC - 118" (3m)
\$99.99 PER 118"

<http://www.homedepot.com/p/ribbon-star-extreme-rgb-outdoor-led-strip-light-118-inch-24vdc-118-3m-99-99-per-118/203202000>

Model Ribbon Star Extreme, RGB, 118" (3m)
SKU RL-SC-RSX-RGB-10
Dimensions 118" x 0.6875" W x 0.46" H
LED Quantity 75 SMDs per 9.5 inches
LEDs Per Strip 84 SMD LEDs
DC Power 24VDC Constant Voltage
Watts 1.7W per foot
Lumens 34 lm/ft
Rating IP68 Outdoor
Warranty Period 2 Years



TYPE D

E. INDOOR RECESSED DOWNLIGHT

12VDC RGB Color
Changing Puck
~\$23.25

<http://www.homedepot.com/p/12vdc-rgb-color-changing-puck-2-watt-12vdc-12vdc-12vdc/203202000>

Finish satin nickel; light weight, durable plastic housing.
Bulbs 9 SMD 5050 RGB color changing LEDs
Mount Surface or recess mount.
Lumen output 50 to 150 lumens depending on color set
Power consumption 2W
Requires transformer and color controller. Some color controllers have a dimming function as well as mode control
Dimensions: 2 3/4" x 15/16"
Warranty 3 year warranty



TYPE E

E. INDOOR BATHROOM RECESSED FIXTURE

Waterproof Recessed RGB
LED Downlight, G-LUX series
(remote sold separately)

<http://www.homedepot.com/p/waterproof-recessed-rgb-led-downlight-g-lux-series-remote-sold-separately-2-watt-12vdc-12vdc-12vdc/203202000>

*** SINCE ITS BEEN DIFFICULT TO FIND RGB RECESSED LIGHT FIXTURES, WE COULD USE THESE HOWEVER THEY HAVE HIGH WATTAGE**

Beam Angle 60 degree
Color RGB
Current Draw 640mA
IP Rating Waterproof IP68
LED Amount 3 LEDs
LED Type CREE
LED Wattage 2 Watts
Standards And Certifications CE/FCC/ROHS Compliant
Total Power Consumption 7.7 Watts
Volts 12 VAC/12~16 VDC
Wavelength 460 nm/520 nm/630nm
Wire Length 150cm(59in)
Dimensions: 9cm(3.54") x 9cm(3.54") x 6.3cm(2.48")



TYPE E

F. INDOOR CHANDELIER/PENDANT (PLACEHOLDER)

Pearla Collection 4-Light
Chrome LED Pendant

<http://www.homedepot.com/p/pearla-collection-4-light-chrome-led-pendant-30-22-010/203202000>

Adjustable Lamp Head No
Adjustable hanging length Yes
Bulb(s) Included Yes
Fixture Color/Finish Chrome
Fixture Color/Finish Family Chrome
Hardwired or Plug-in Hardwired
Included Bulbs Included, Hardware Included
Light Source LED

Number of Bulbs Required 4
Pendant Type Large Pendant
Product Weight (lb.) 3.3 lb
Recommended bulb type LED
Returnable 90-Day
Shade Color Family Chrome
Wattage (watts) 3.6



TYPE F

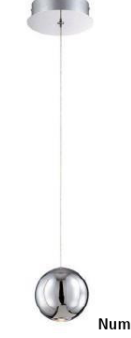
G. INDOOR KITCHEN PENDANT (PLACEHOLDER)

Pearla Collection 1-Light
Chrome LED Pendant

<http://www.homedepot.com/p/pearla-collection-1-light-chrome-led-pendant-12-22-010/203202000>

Adjustable Lamp Head No
Adjustable hanging length Yes
Bulb(s) Included Yes
Fixture Color/Finish Chrome
Fixture Color/Finish Family Chrome
Hardwired or Plug-in Hardwired
Included Bulbs Included, Hardware Included
Light Source LED

Number of Bulbs Required 1
Pendant Type Mini Pendant
Product Weight (lb.) 2.2 lb
Recommended bulb type LED
Returnable 90 Day
Shade Color Family Chrome
Wattage (watts) 3



TYPE G

H. OUTDOOR WALL DOWNLIGHT

Skyline LED Outdoor Wall
Sconce (SMALL OPTION)
~\$99.95

<http://www.homedepot.com/p/skyline-led-outdoor-wall-sconce-small-option-12vdc-12vdc-12vdc/203202000>

Lighting:
•Small option utilizes one 10 Watt 120 Volt LED array (integrated).
•Large option utilizes two 10 Watt 120 Volt LED arrays (integrated).
Dimensions:
•Small Option Fixture: Height 7.75", Width 5", Depth 4"
•Large Option Fixture: Height 14.5", Width 5", Depth 4"



TYPE H

I. OUTDOOR SWAG LIGHTS

12V 15ft LED Filament
Globe Light String Kit -
Commercial Grade

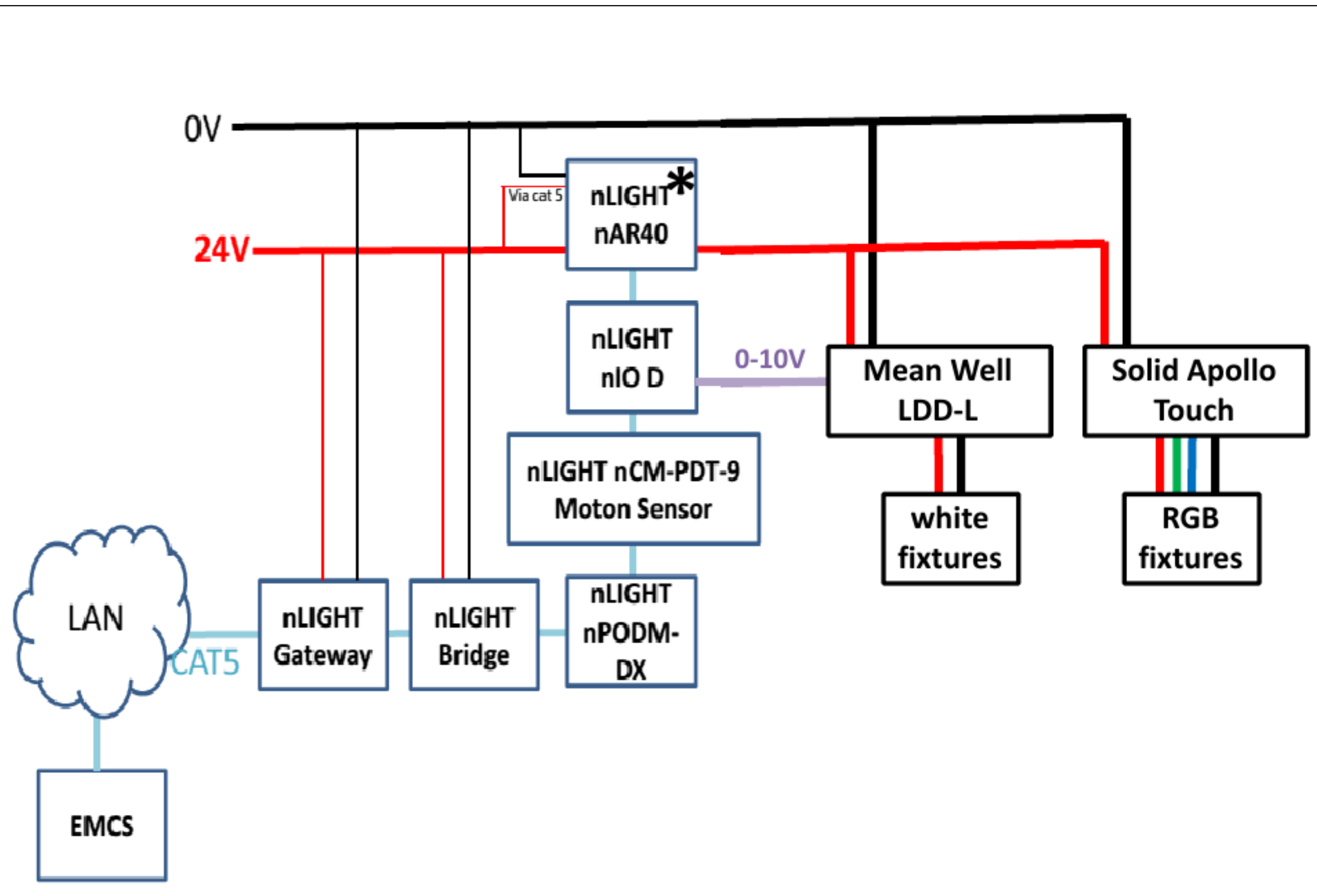
<http://www.homedepot.com/p/12v-15ft-led-filament-globe-light-string-kit-commercial-grade/203202000>

Material Shatter-Resistant Plastic
Voltage 12V
Color Temperature Warm White
Light Source 10 LED bulbs per string
Bulb Spacing 18" between bulbs
Length 15' per string
Maximum Run 75' (5 light strings)
Power Supply UL Listed Transformer w/ 5' Lead Cord
Dimensions 15' string length / 2" bulbs
Certifications UL Rated Transformer



TYPE I

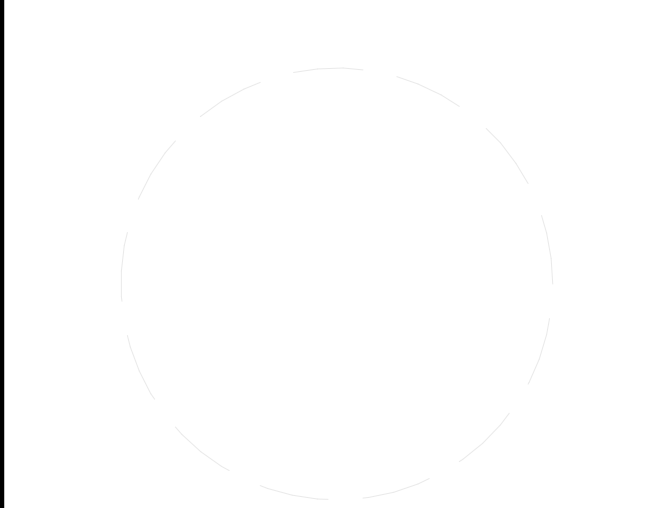
TYPE	MAUFACTURER CATALOG	LAMP QTY. & TYPE	BALLAST	FIXTURE WATTAGE	VOLTS	REMARKS
B	SUPER BRIGHT LEDES #GLUX SERIES	3W LED	NONE	3 W	12 V	LED LANDSCAPE SPOT LIGHT FIXTURE. 12VDC POWER.
C	SUPER BRIGHT LEDES #GLUX SERIES	3W LED	NONE	3 W	12 V	LED LANDSCAPE UPLIGHT FIXTURE. 12VDC POWER.
D	ECOLOICITYLED #RL-SC-RSX-RGB-10	1.7W PER FT. LED	NONE	2 W	24 V	LED LINEAR STRIP LIGHTS. 24VDC POWER.
E	THELEDLIGHTING #LED PUCK LIGHTS				12 V	INDOOR RECESSED DOWNLIGHT. 12VDC RGB COLOR POWER.
G	EUROFASE #26231-013	3W LED	NONE	3 W	120 V	PEARLA COLLECTION 1-LIGHT CHROME LED PENDANT.
H	MINKA LAVERY #72501-615B-L	10W LED	NONE	10 W	120 V	OUTDOOR SKYLINE LED WALL SCONCE.
I	AQLIGHTING ROPE LIGHT	10W LED PER STRING	NONE	10 W	12 V	OUTDOOR SWAG ROPE LIGHTS. 12V 15FT LED FILAMENT GLOBE LIGHT STRING.



1 LIGHTING CONTROL SCHEMATIC
(REFERENCE E-301 LIGHTING PLAN)



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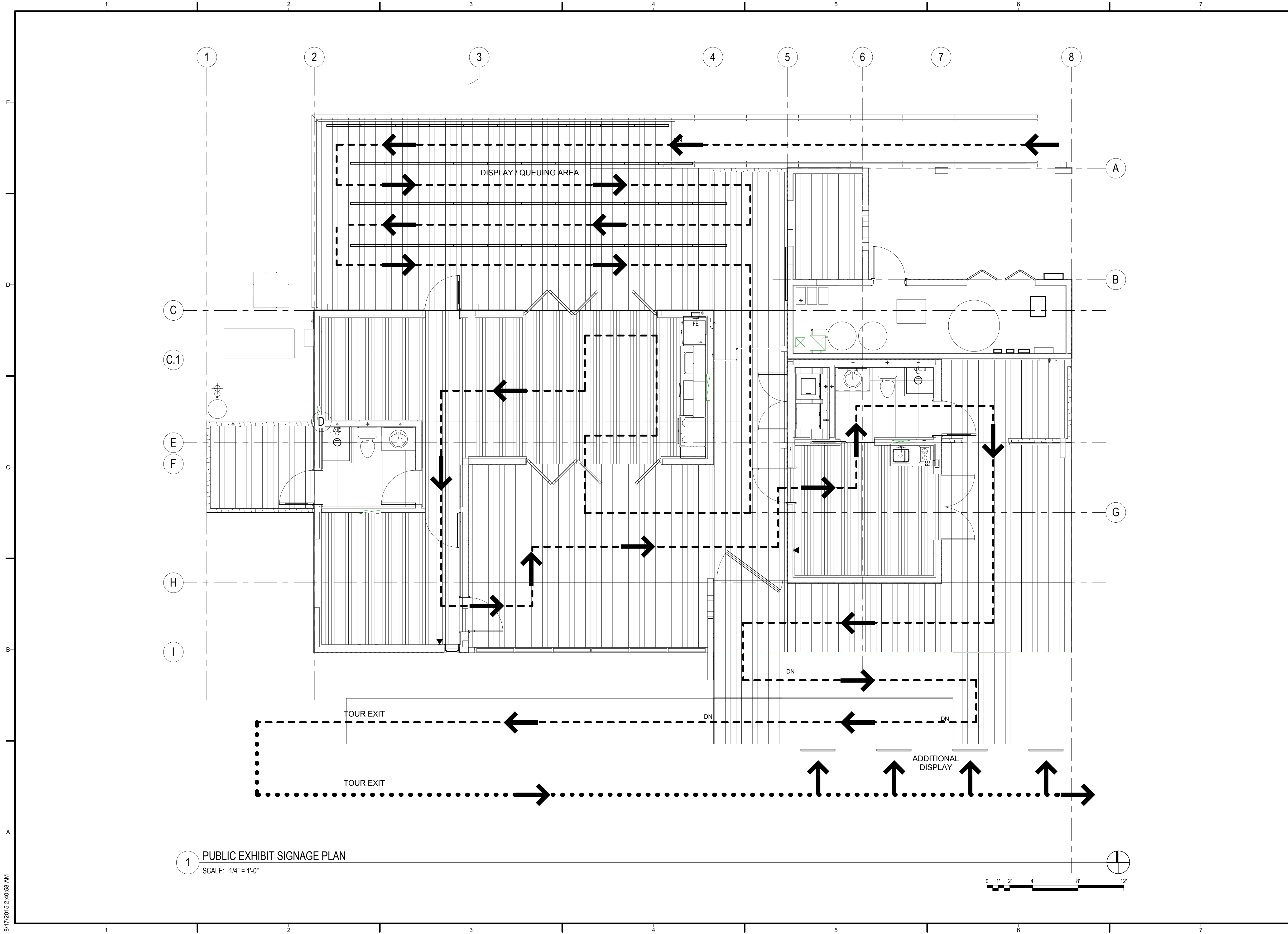
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	10/26/2015	95% DOE
	10/09/2014	80% DOE

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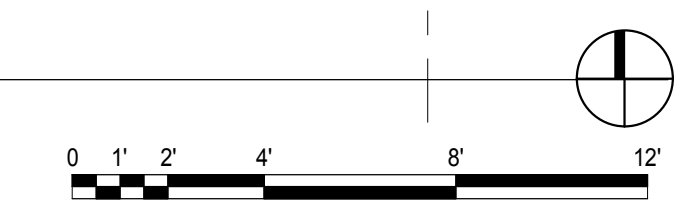
SHEET TITLE

DETAILS

E-603



1 PUBLIC EXHIBIT SIGNAGE PLAN
SCALE: 1/4" = 1'-0"



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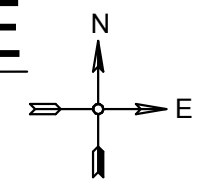
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PUBLIC EXHIBIT SIGNAGE

X-101

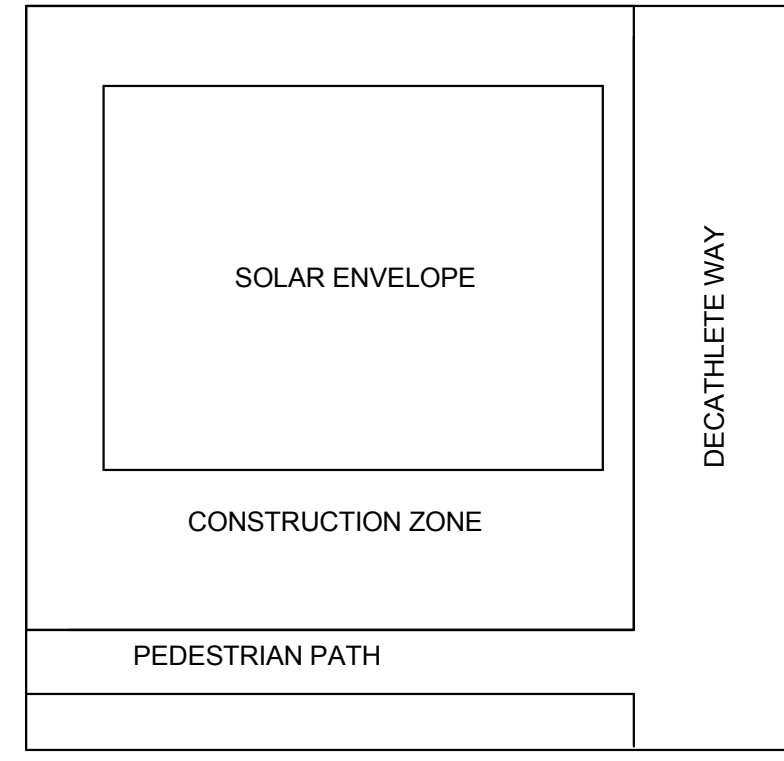
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1 ARRIVAL SEQUENCE

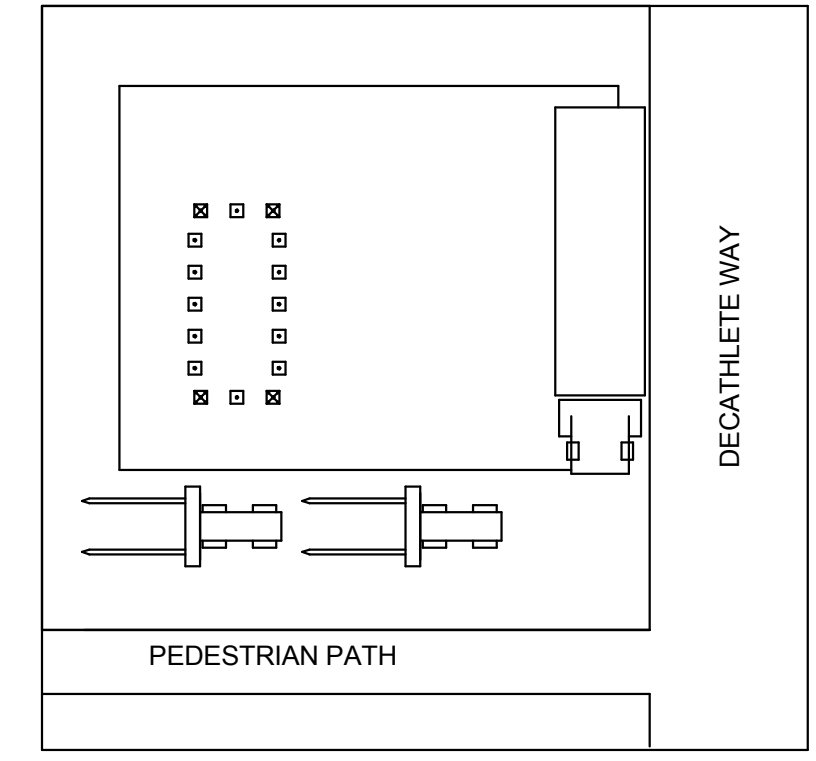
SCALE 1/24" = 1'-0"



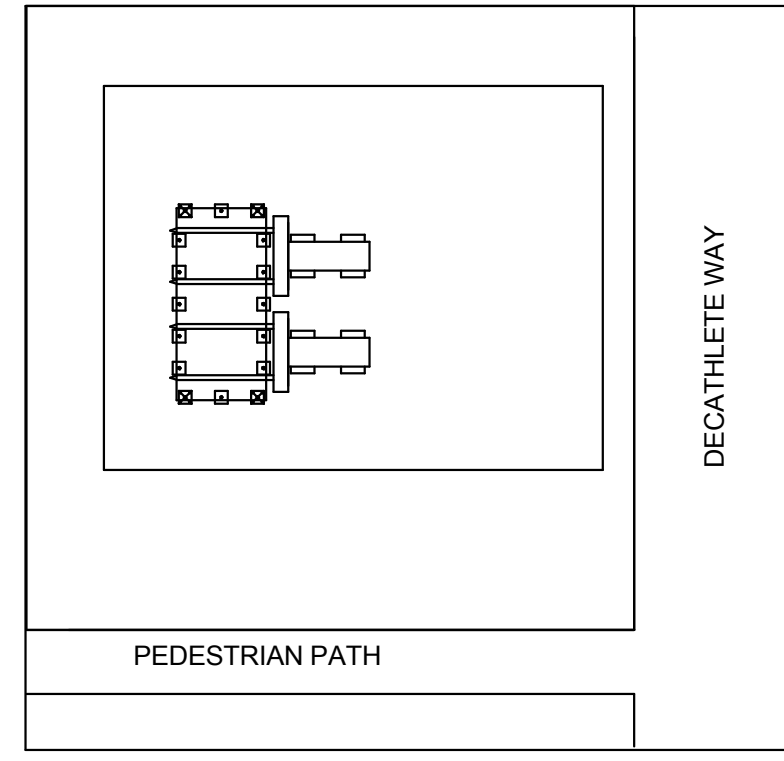
TOTAL DURATION: 5 HOURS 45 MINUTES



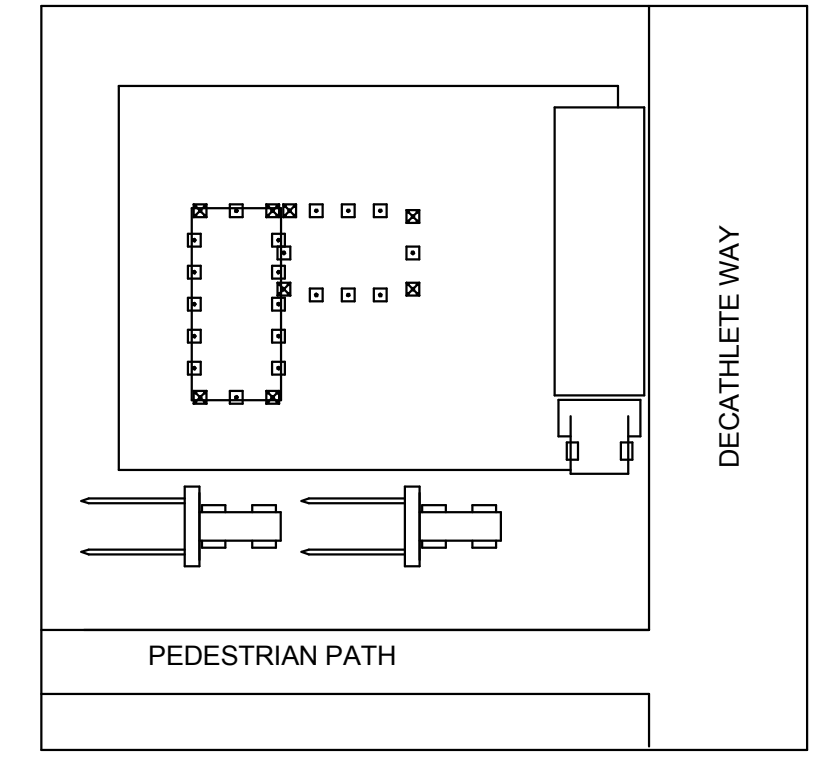
1. INITIAL SITE LAYOUT



2. PLACE MODULE A PIERS AND POSITION VEHICLES (45 MINUTES)



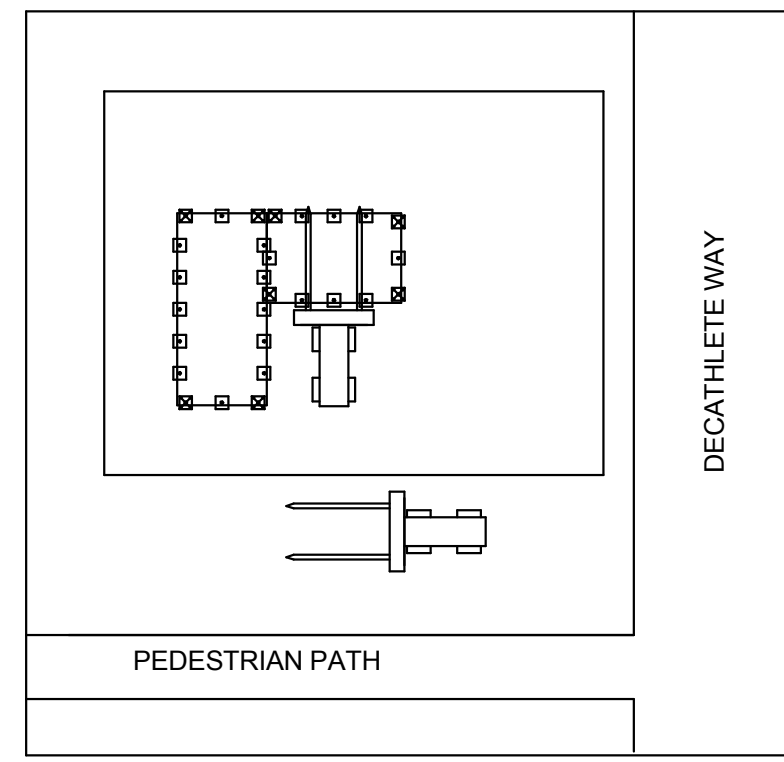
3. PLACE MODULE A (30 MINUTES)



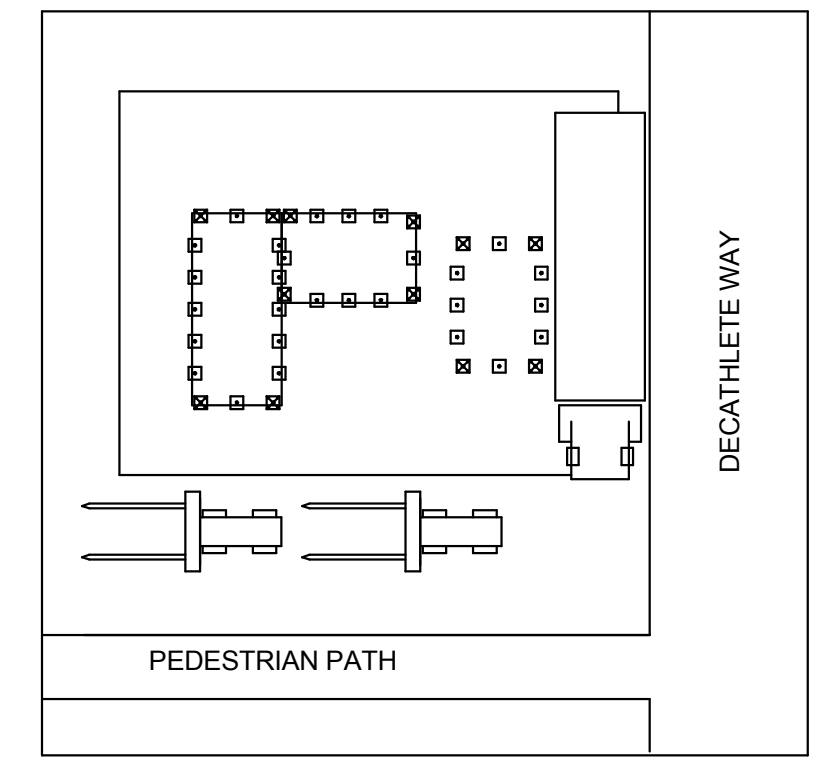
4. PLACE MODULE B PIERS AND POSITION VEHICLES (45 MINUTES)

TRANSPORTATION CONFIGURATION

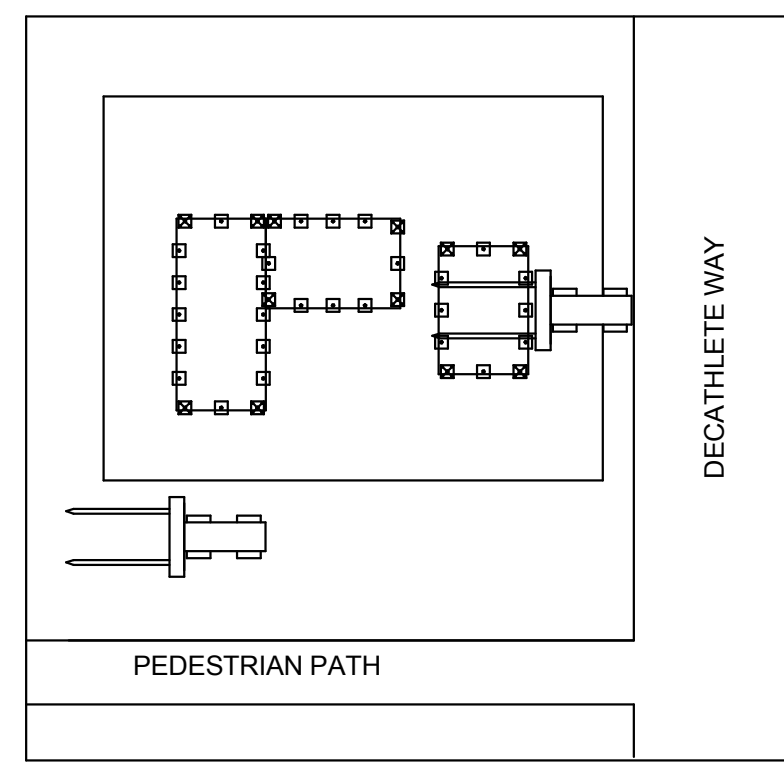
MODULE SCHEDULE		
Label	Item	Quantity
A	BEDROOMS MODULE	1
B	GREAT ROOM MODULE	1
C	STUDIO MODULE	1
D	7'6" FT DECKING	6
E	6'6" FT DECKING	11
F	4'11" FT DECKING	4
G	5'11" FT DECKING	7
H	4'6" FT DECKING	5
I	5'6" FT DECKING	8
J	4'11" FT DECKING	2
K	5'6" FT DECKING	1
L	5'5 1/2" FT DECKING	1
M	6'10" FT DECKING	1
N	4'5 1/2" FT DECKING	1



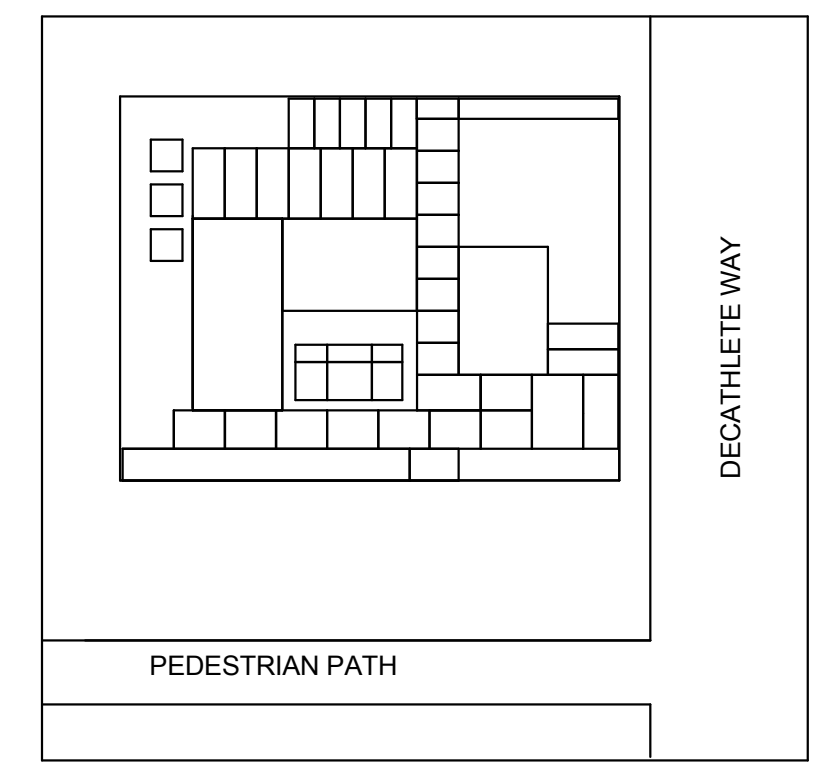
5. PLACE MODULE B (30 MINUTES)



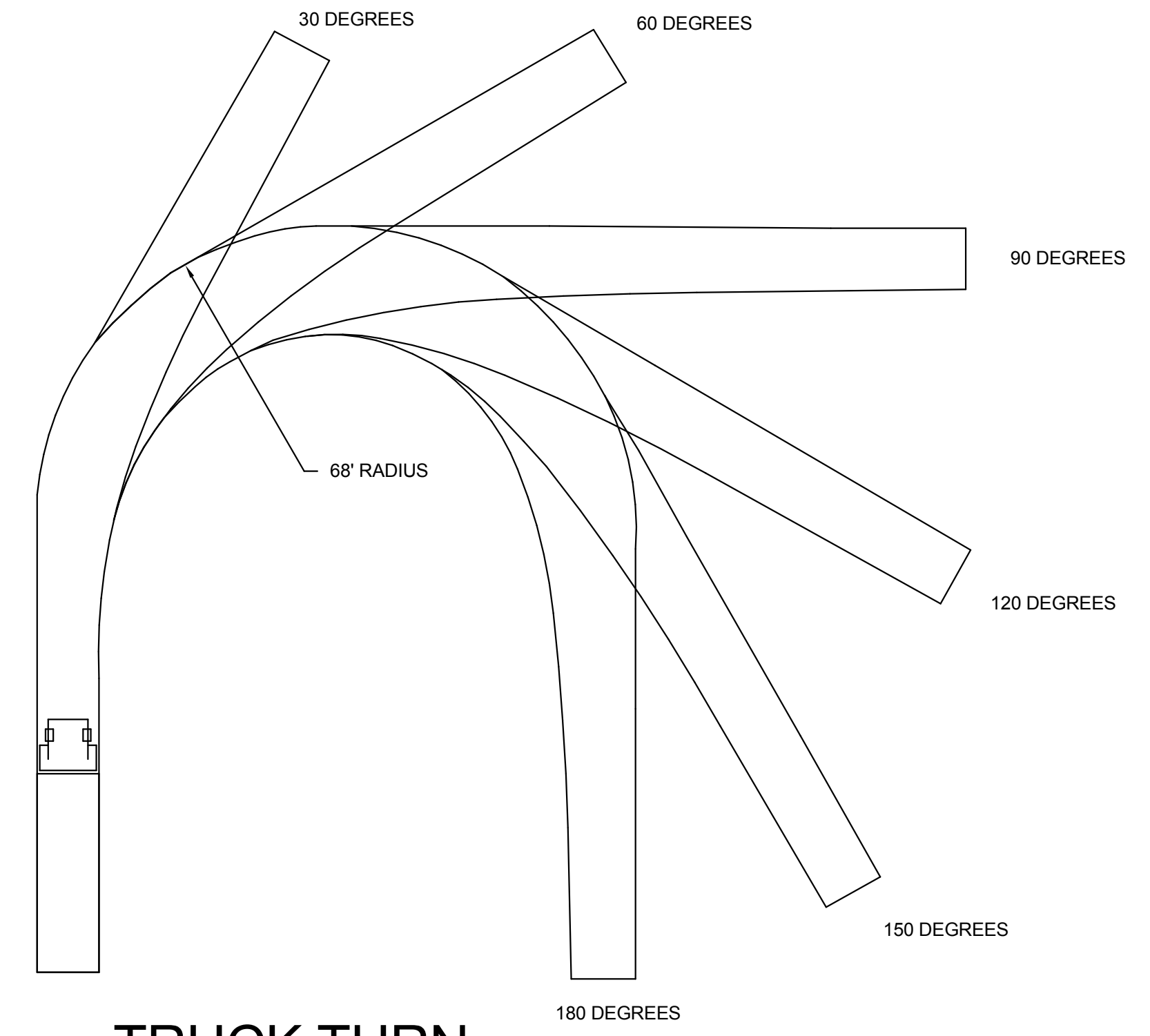
6. PLACE MODULE C PIERS AND POSITION VEHICLES (45 MINUTES)



7. PLACE MODULE C (30 MINUTES)



8. REMOVE VEHICLES AND PLACE DECKING AND REMAINING PREFABRICATED COMPONENTS (2 HOURS)



2 TRUCK TURN RADIUS

SCALE 1/24" = 1'-0"



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MARK	DATE	DESCRIPTION
	08/17/2015	AS-BUILT SET

LOT NUMBER: #203
 DRAWN BY:
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 COPYRIGHT:

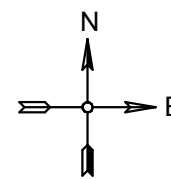
SHEET TITLE
TRANSPORTATION CONFIGURATION AND ARRIVAL SEQUENCE

O-601

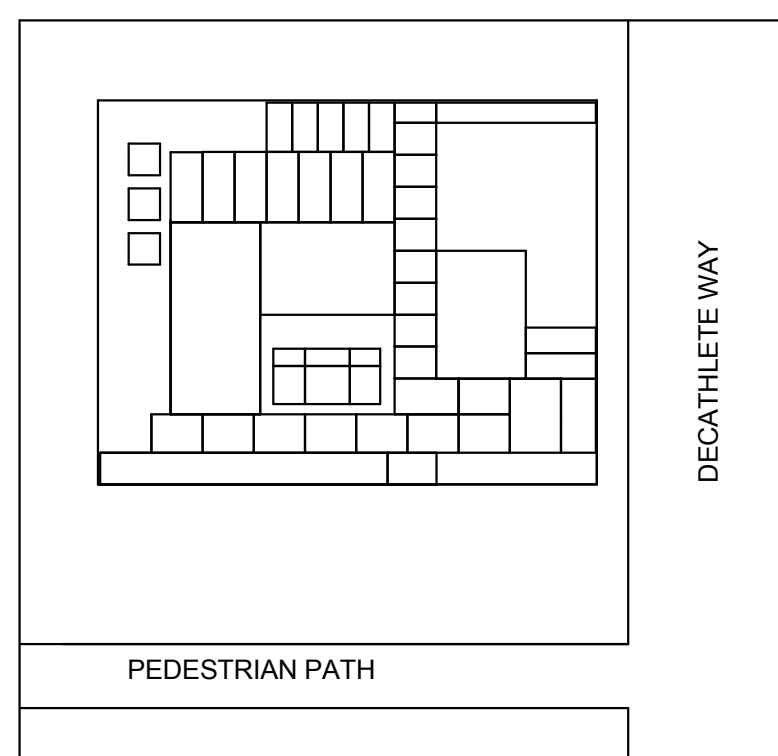
DEPARTURE SEQUENCE

1

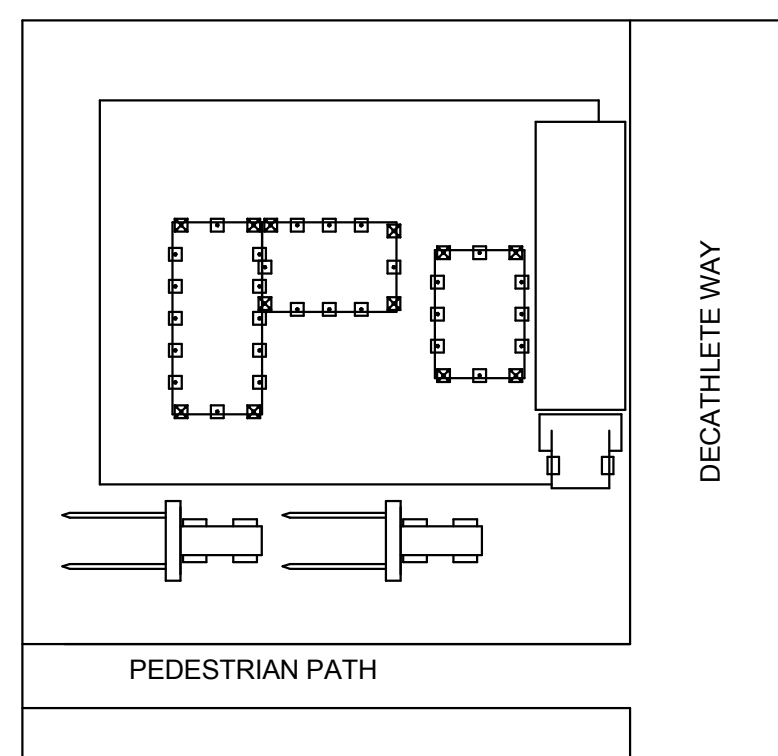
SCALE 1/24" = 1'-0"



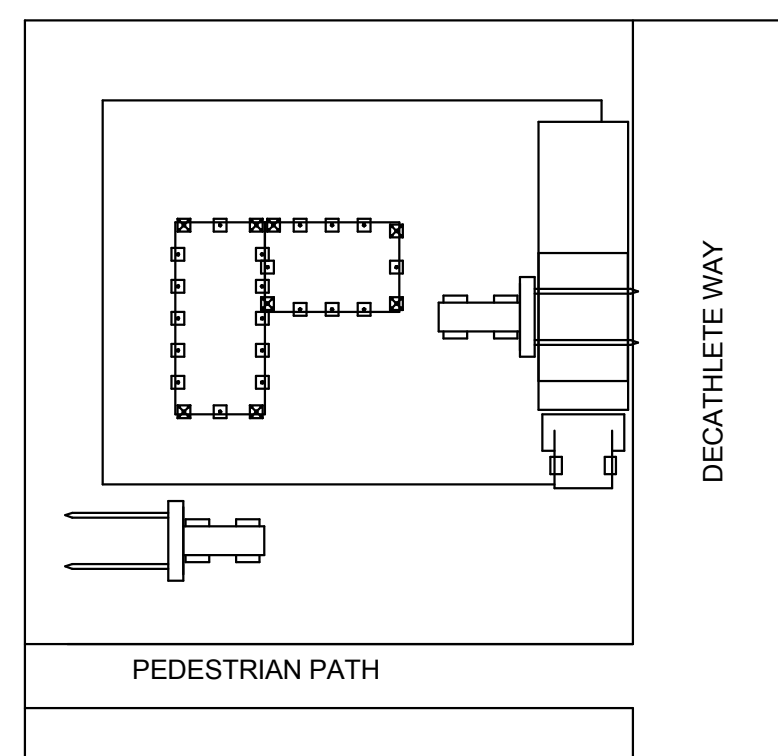
TOTAL DURATION: 4 HOURS 45 MINUTES



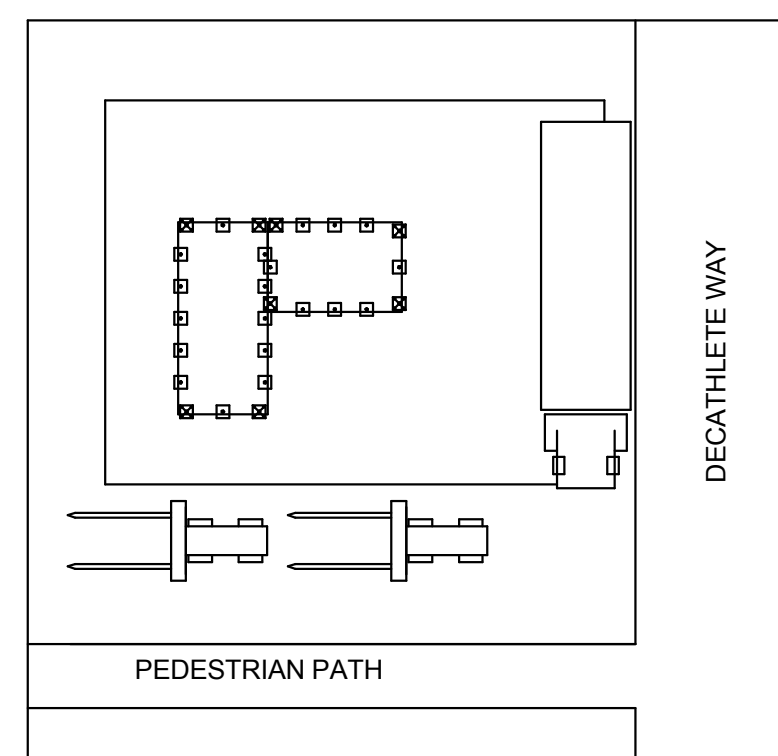
1. INITIAL SITE LAYOUT



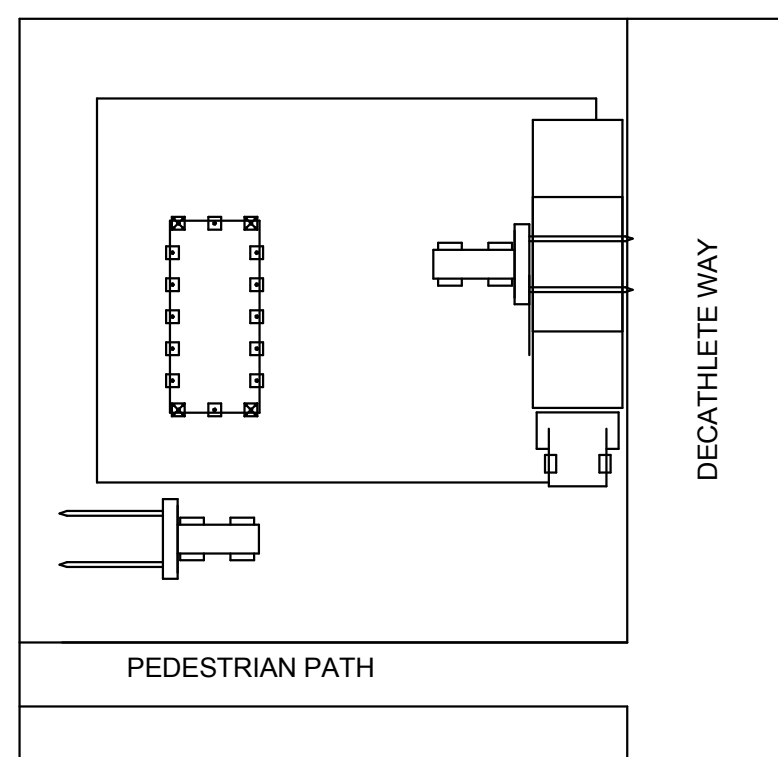
2. POSITION VEHICLES AND REMOVE DECKING AND PREFABRICATED ACCESSORY COMPONENTS (2 HOURS)



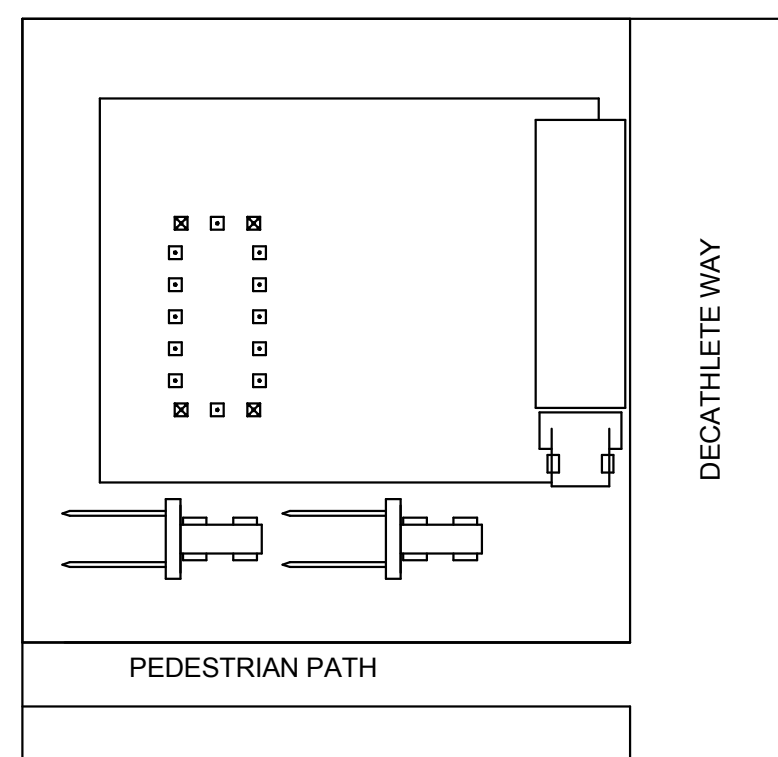
3. REMOVE MODULE C AND ITS PIERS (45 MINUTES)



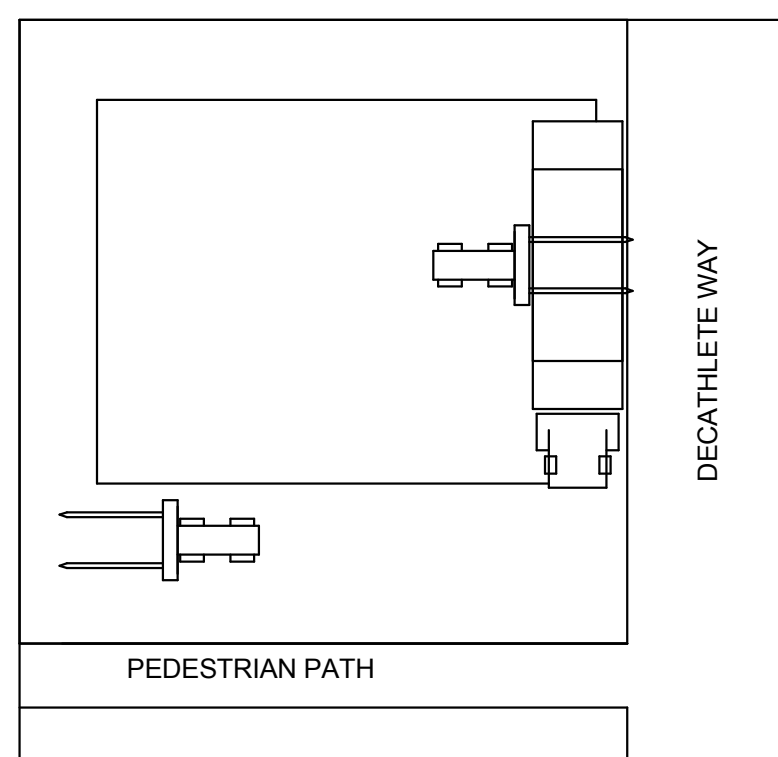
4. POSITION VEHICLES (15 MINUTES)



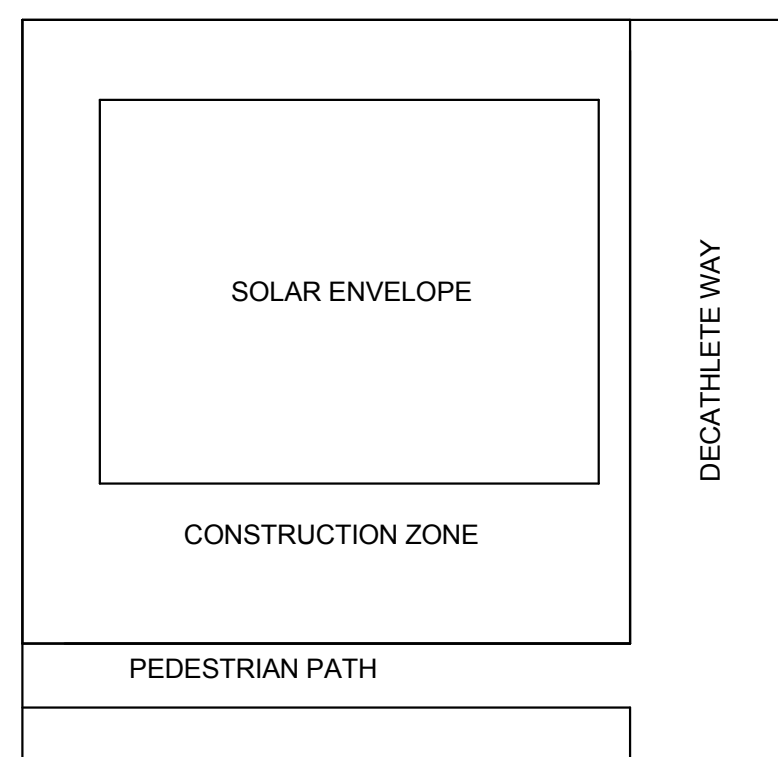
5. REMOVE MODULE B AND ITS PIERS (45 MINUTES)



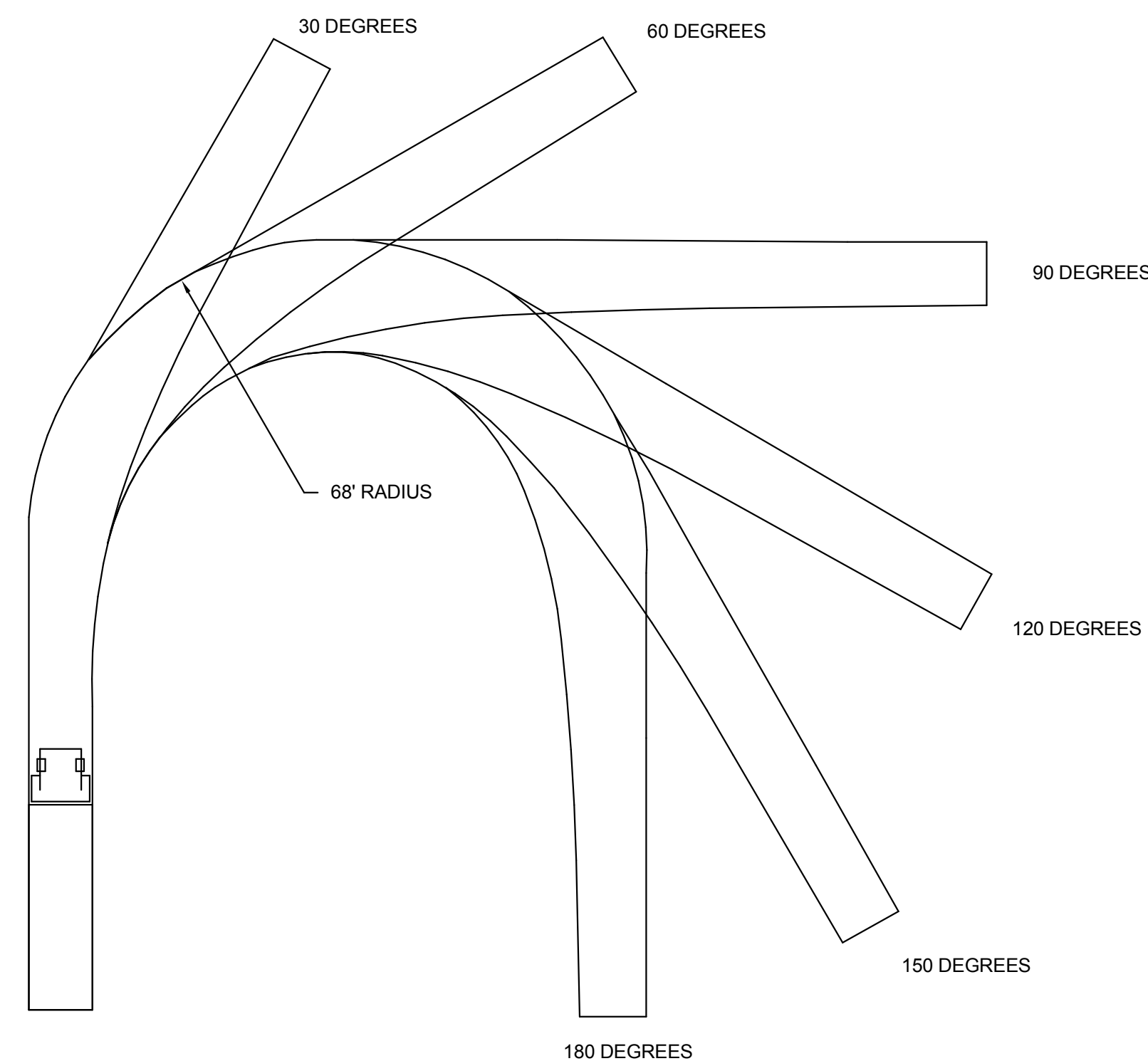
6. POSITION VEHICLES (15 MINUTES)



7. REMOVE MODULE A AND ITS PIERS (45 MINUTES)



8. FINAL SITE LAYOUT



2

TRUCK TURN RADIUS

SCALE 1/24" = 1'-0"



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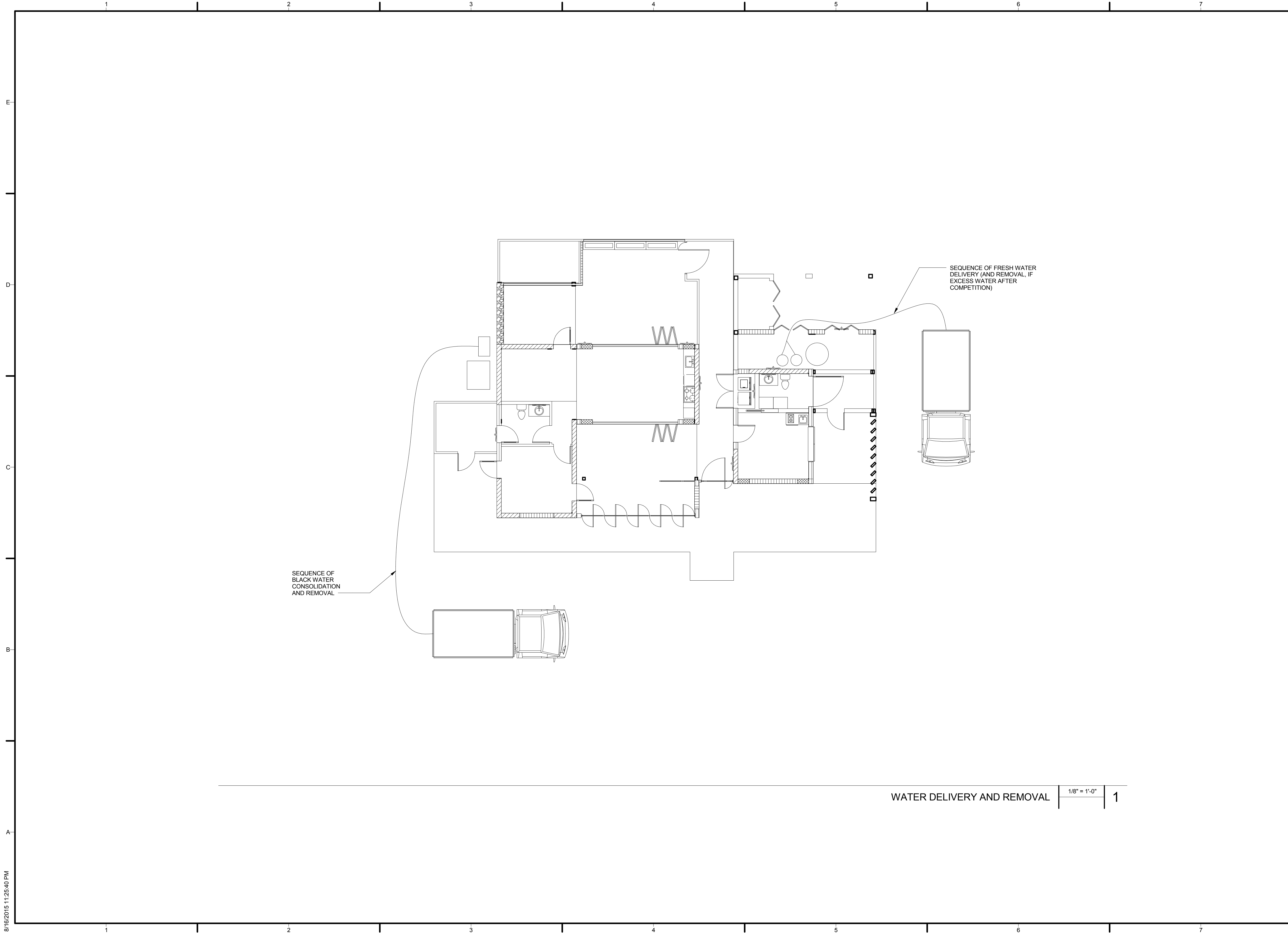
MARK	DATE	DESCRIPTION
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LOT NUMBER: #203
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SHEET TITLE

DEPARTURE SEQUENCE

O-602



SEQUENCE OF BLACK WATER CONSOLIDATION AND REMOVAL

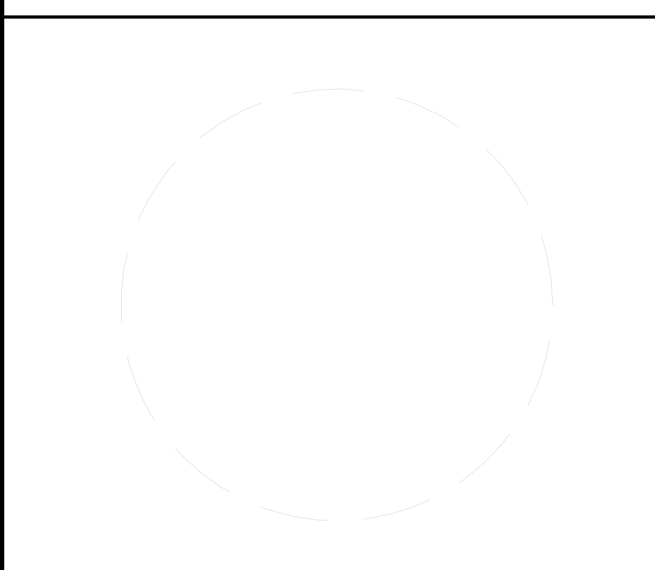
SEQUENCE OF FRESH WATER DELIVERY (AND REMOVAL, IF EXCESS WATER AFTER COMPETITION)

WATER DELIVERY AND REMOVAL | 1/8" = 1'-0" | 1

8/16/2015 11:25:40 PM



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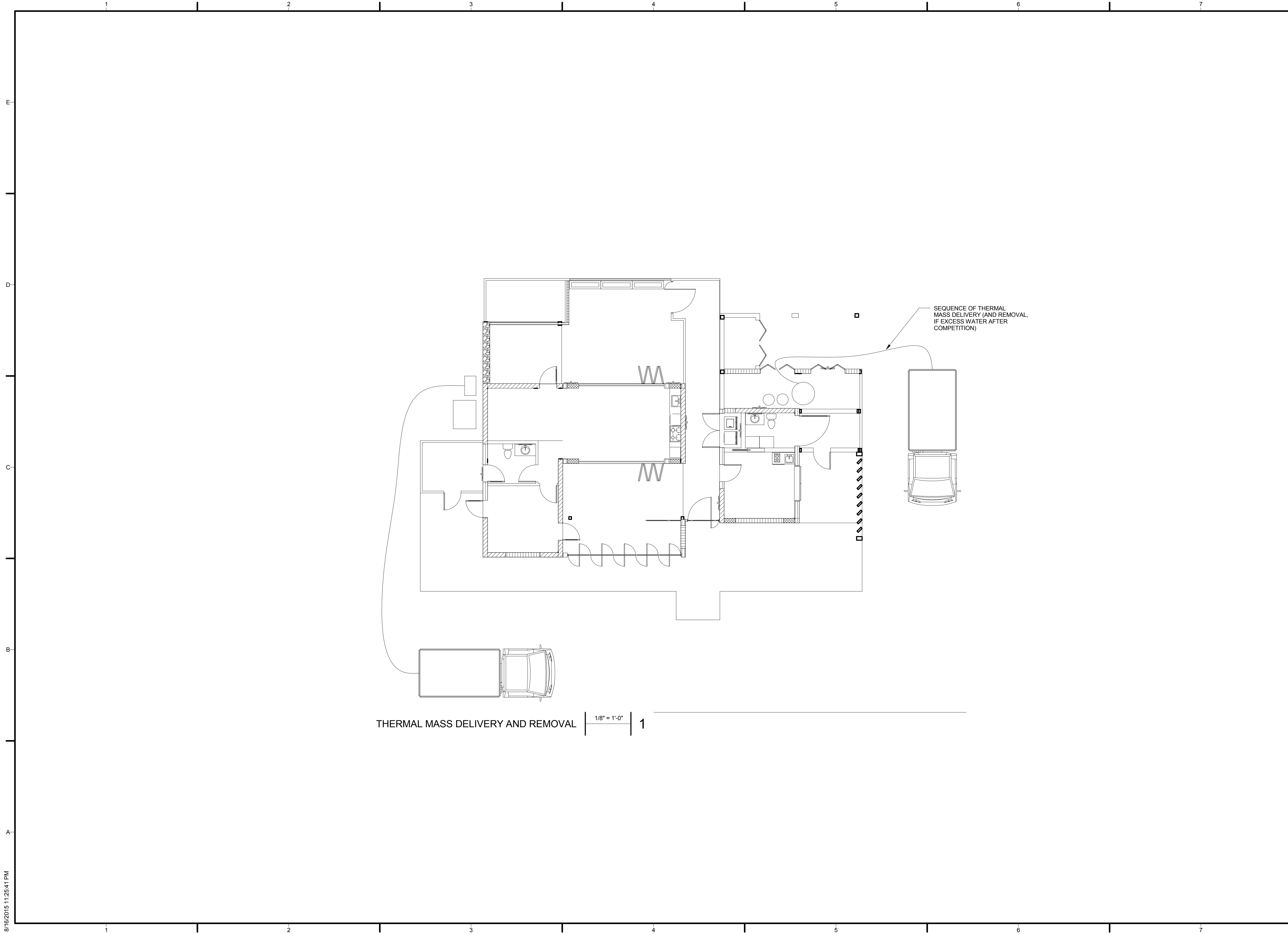


MARK	DATE	DESCRIPTION
	08/17/2015	AS-BUILT SET

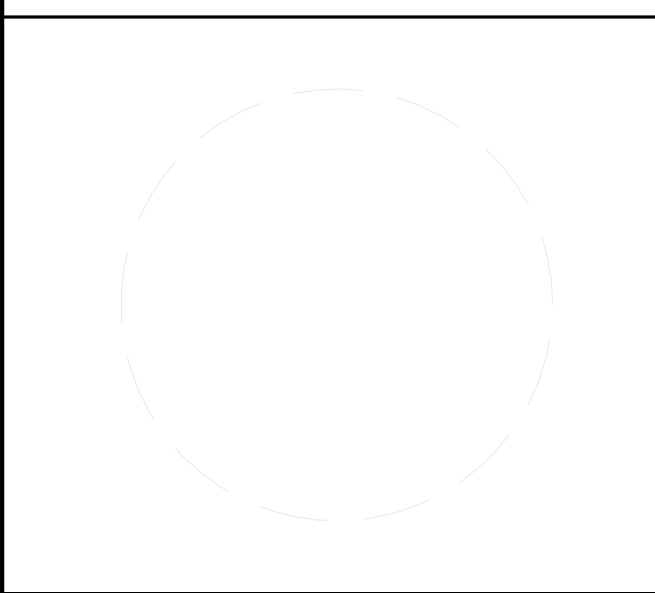
LOT NUMBER: #203
 DRAWN BY:
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 COPYRIGHT:

SHEET TITLE
 WATER DELIVERY AND REMOVAL

O-603



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MARK	DATE	DESCRIPTION
	08/17/2015	AS-BUILT SET

LOT NUMBER: #203
 DRAWN BY:
 CHECKED BY:
 COPYRIGHT:

SHEET TITLE
**THERMAL MASS
 DELIVERY AND
 REMOVAL**

O-604