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SHEET TITLE

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G-001

SYMBOLS

ROOM NAME 150 SF	AREA TAG
1 / A101 SIM	CALL OUT TAG
℄	CENTERLINE
101	DOOR TAG
1 / A101	EXTERIOR ELEVATION TAG
0 4' 8' 16'	GRAPHIC SCALE
1 Ref / 1 Ref / A101 / 1 Ref / 1 Ref	INTERIOR ELEVATION TAG
0	GRID HEAD
USAGE FLOOR AREA	MASS FLOOR TAG
	NORTH ARROW
02	REVISION SYMBOL
ROOM NAME 101	ROOM TAG
A4 / A101	SECTION TAG
	SHEET KEYNOTE TAG
1L	WALL TAG
1T	WINDOW TAG

ABBREVIATIONS

A	AREA
A/C	AIR CONDITIONING
ADA	AMERICANS WITH DISABILITIES ACT
AH	AIR HANDLER (INDOOR UNIT)
ALUM	ALUMINUM
B.O.	BOTTOM OF
BRD	BOARD
BS	BUTTON STATION
CAB	CABINET
CL	CENTER LINE
CSWK	CASEWORK
CW	COLD WATER
DR	DOOR
DS	DOWNSPOUT
DT	DESICCANT TANK
DW	DISHWASHER
ELECT	ELECTRICAL
EQ	EQUAL
ERV	ENERGY RECOVERY VENTILATOR
EXT	EXTERIOR
FIN	FINISH
FL	FLOOR
FRZ	FREEZER
FSW	FLOW SWITCH
FTG	FOOTING
GLAV	GALVANIZED
GEN	GENERAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
H	HEIGHT
HP	HEAT PUMP
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HZ	HEAT EXCHANGER
HXEST	HEAT EXCHANGER FOR EXCESSES SOLAR THERMAL
HW	HOT WATER
IN	INCHES
INSUL	INSULATION
INT	INTERIOR
JB	UNCTION BOX
L	LENGTH
MAT	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MI	MICROINVERTER

NO	NUMBER
OPP	OPPOSITE
PCM	PHASE CHANGE MATERIAL
PE	PLUMBING EQUIPMENT
PFAS	PERSONAL FALL ARREST SYSTEM
PLBG	PLUMBING
PLWD	PLYWOOD
PM	PEX MANFOLD
PSF	POUNDS PER SQUARE FOOT
PV	PHOTOVOLTAIC
R/A	RETURN AIR
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFRIGERATOR
RET	RETURN
RM	ROOM
RR	ROOF RAFTERS
S/A	SUPPLY AIR
SF	SQUARE FEET
SH	HUMIDITY SENSOR
SHAC	SMART HOUSE ADAPTIVE CONTROL
SHT	SHEET
SHWR	SHOWER
SIM	SIMILAR
SIP	STRUCTURALLY INSULATED PANEL
SP	SEISMIC PIER
SSD	SEE STRUCTURAL DRAWINGS
SYS	SYSTEM
THK	THICK
T.O.	TOP OF
TPO	THERMOPLASTIC POLYOLEFIN
TV	TELEVISION
UM	UTILITY METER
V	VALVE
VSF	VARIABLE SPEED FAN CONTROL INPUT
VIF	VERIFY IN FIELD
W	WIDTH
W/	WITH
WC	TOILET
WDW	WINDOW
WH	WATER HEATER
WT	WATER TANK

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GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS

AUGUST 17, 2015

G-002

CODES

U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON BUILDING CODE UPDATED SEPTEMBER 24, 2014

2013 INTERNATIONAL RESIDENTIAL CODE OF THE INTERNATIONAL CODE COUNCIL
2014 NATIONAL ELECTRIC CODE OF THE NATIONAL FIRE PROTECTION AGENCY
AMERICANS WITH DISABILITES ACT
ARCHITECTURAL BARRIERS ACT
2010 STANDARD FOR ACCESSIBLE DESIGN

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SITE AND BUILDING REGULATORY SUMMARY

AUGUST 17, 2015

G-010

THE DESIGN OF THIS HOUSE IS DRIVEN BY CLIMATE. IN_HOUSE IS INTELLIGENTLY DESIGNED TO RESPOND TO THE CONDITIONS OF THE CLIMATE, SUCH THAT THE MAJORITY OF ITS NEEDS FOR HEATING, COOLING AND LIGHTING ARE ADDRESSED ARCHITECTURALLY. THE SUPPLEMENTAL SYSTEMS NECESSARY FOR THE REMAINING SPACE CONDITIONING, LIGHTING, AND POWER NEEDS ARE PROVIDED BY THE MOST EFFICIENT AND EFFECTIVE SYSTEMS COMMERCIALLY AVAILABLE. THE PUBLIC AND PRIVATE WINGS ARE SERVICED BY AN ACTIVE CORE THAT CONTAINS THE HOME'S MECHANICAL, ELECTRICAL, PLUMBING, AND MONITORING SYSTEMS. THE PRIVATE WING INCLUDES A MASTER BEDROOM AND A FLEXIBLE LIBRARY/OFFICE/SECONDARY BEDROOM SPACE. THE PUBLIC WING INCORPORATES ENTERTAINMENT AND DINING SPACES WITH THOUGHTFUL LINKAGES TO THE EXTERIOR SPACES AND THE VIEWS BEYOND.

OUR MISSION IS TO BUILD A HOME THAT MEETS BOTH THE RESIDENTS' AS WELL AS SOCIETY'S NEED FOR ECOLOGICALLY RESPONSIVE HOUSING WHILE SIMULTANEOUSLY CREATING AN ENVIRONMENT THAT DELIGHTS THE RESIDENT BOTH EXPERIENTIALLY AND THERMALLY. AS A DESIGN PROJECT, THE HOUSE HAS ALSO PROVIDED AN OPPORTUNITY FOR STUDENTS AND FACULTY TO EXPLORE, COLLABORATE, AND INTRODUCE INNOVATIVE, APPROPRIATE TECHNOLOGIES THROUGH A HANDS-ON LEARNING OPPORTUNITY, SERVING AS AN OUTREACH OPPORTUNITY AMONGST STUDENTS AND FACULTY AT CAL POLY, THE SURROUNDING COMMUNITY, AND THE RENEWABLE ENERGY INDUSTRY.

THIS HOUSE IS A MANIFESTATION OF CAL POLY'S CORE DIRECTIVE, "LEARN BY DOING." BY DRAWING ON OUR SCHOOL'S UNIQUE CAPABILITY AS A POLYTECHNIC UNIVERSITY, OUR MULTIDISCIPLINARY TEAM ACCOMPLISHES ALL ASPECTS OF DESIGN AND BUILD "IN-HOUSE."

THE SOLAR CAL POLY TEAM HOPES TO PRESENT A NEW STANDARD OF "IN," BY CREATING A NOTION OF ECOLOGICAL LIVING THAT IS ENTICING AS WELL AS ACHIEVABLE. WE WOULD LIKE VISITORS TO SEE IN_HOUSE AS AN APPROACH TO LIVING WELL, WHILE STILL LIVING WITHIN OUR ECOLOGICAL MEANS.

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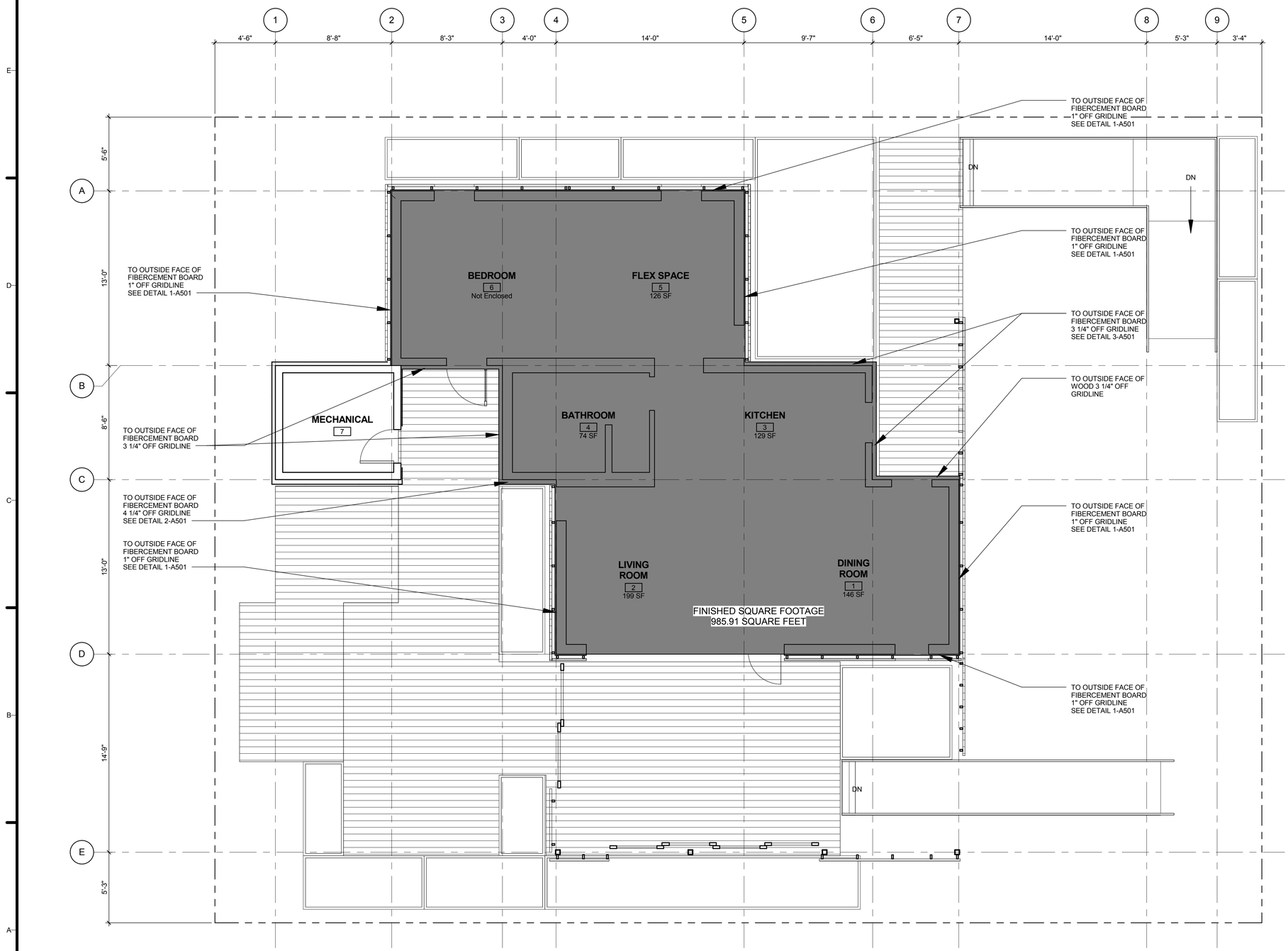
DESIGN INTENT AND TARGET MARKET DESCRIPTION

AUGUST 17, 2015

G-011



1 FINISHED SQUARE FOOTAGE
1/4" = 1'-0"

0 2' 4' 8"

GENERAL SHEET NOTES

1. AS PER ANSI Z765-2003, 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 AS BUILT.

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FINISHED SQUARE FOOTAGE COMPLIANCE PLAN

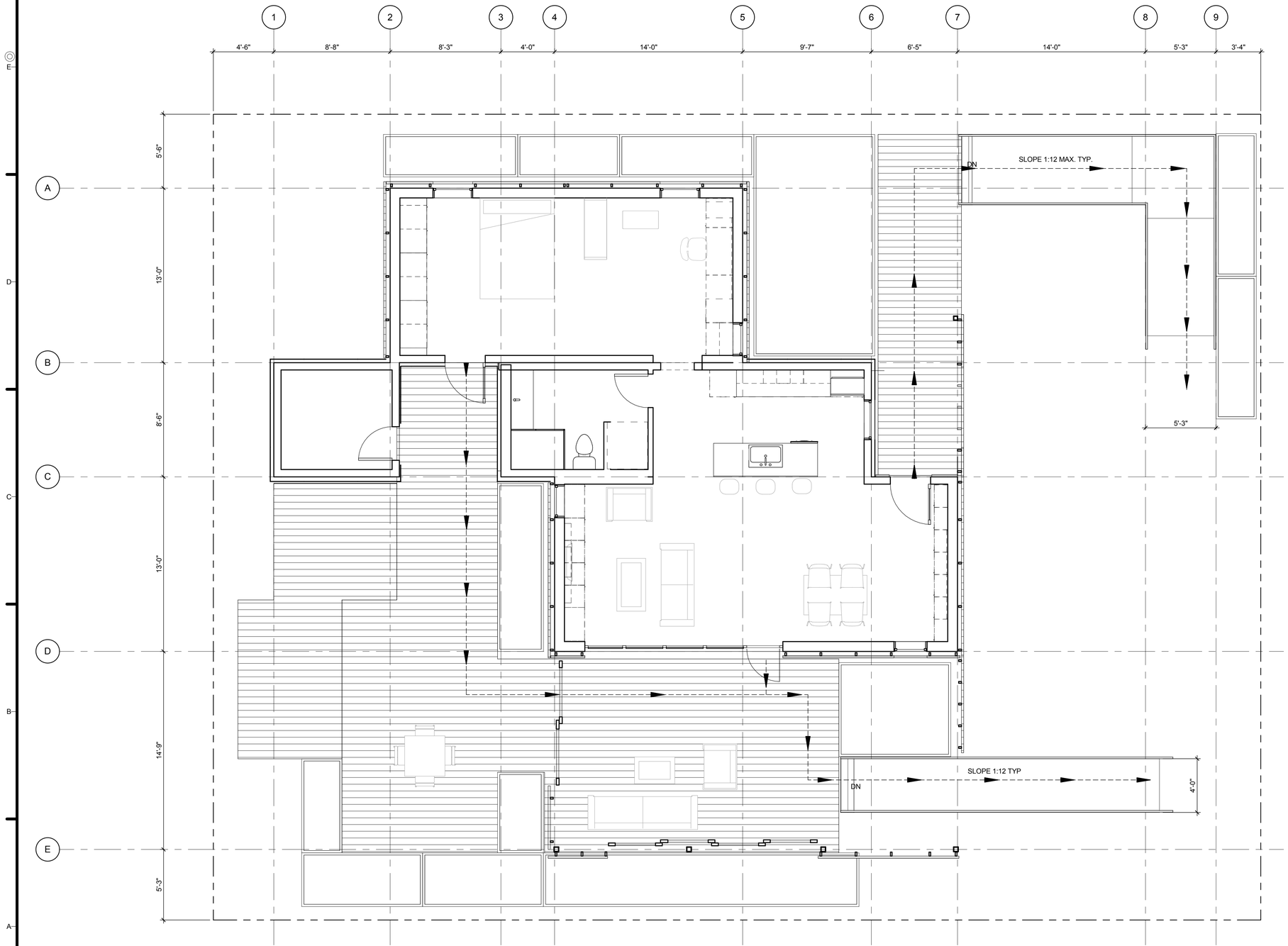
AUGUST 17, 2015

G-101

EGRESS LEGEND

MOVEMENT DIRECTION

PRIMARY MOVEMENT PATH



1 EGRESS PLAN

1/4" = 1'-0"

0 2' 4' 8'

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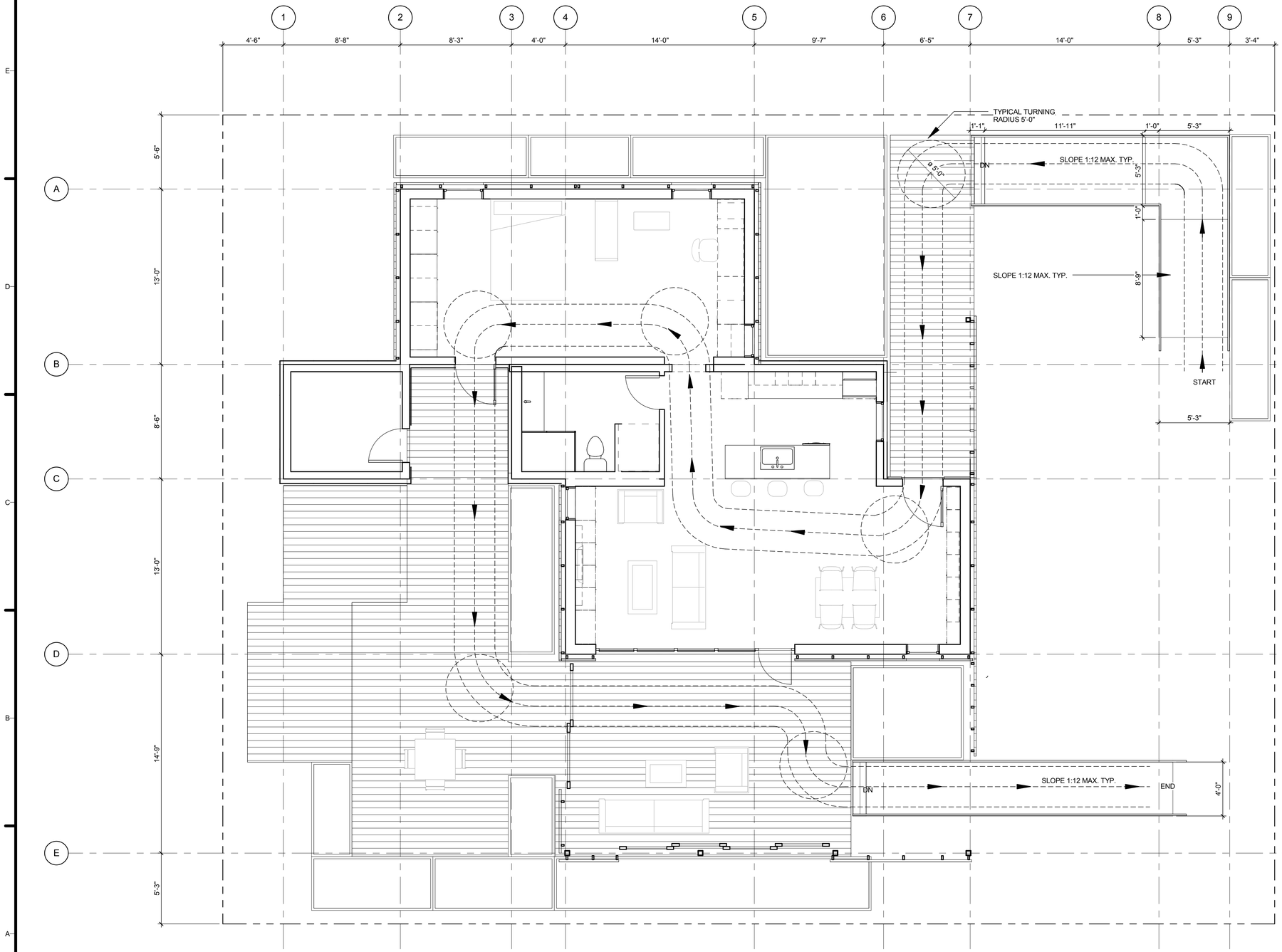
EGRESS PLAN

AUGUST 17, 2015

G-102



1 ADA TOUR ROUTE

1/4" = 1'-0"

0 2' 4' 8'

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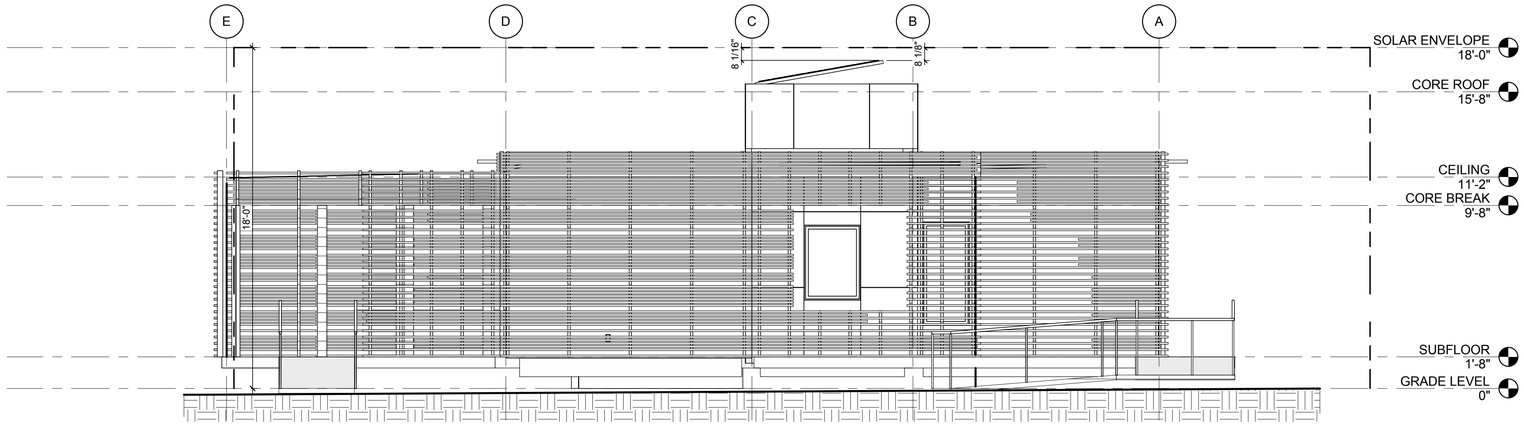
ADA TOUR ROUTE COMPLIANCE PLAN

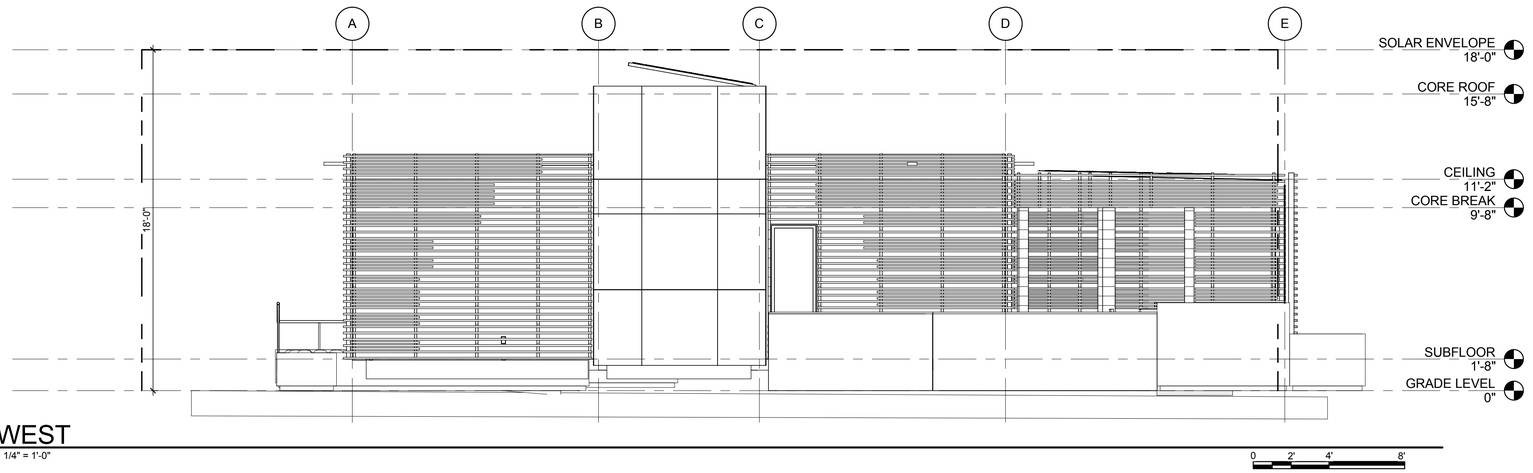
AUGUST 17, 2015

G-103



1 EAST

1/4" = 1'-0"



2 WEST

1/4" = 1'-0"

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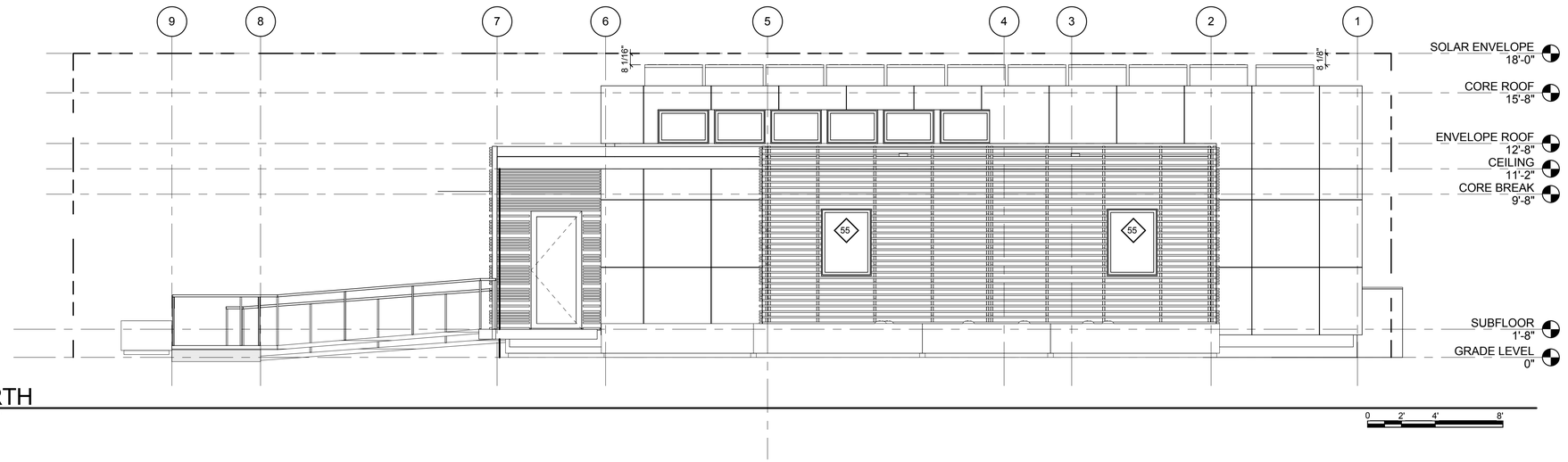
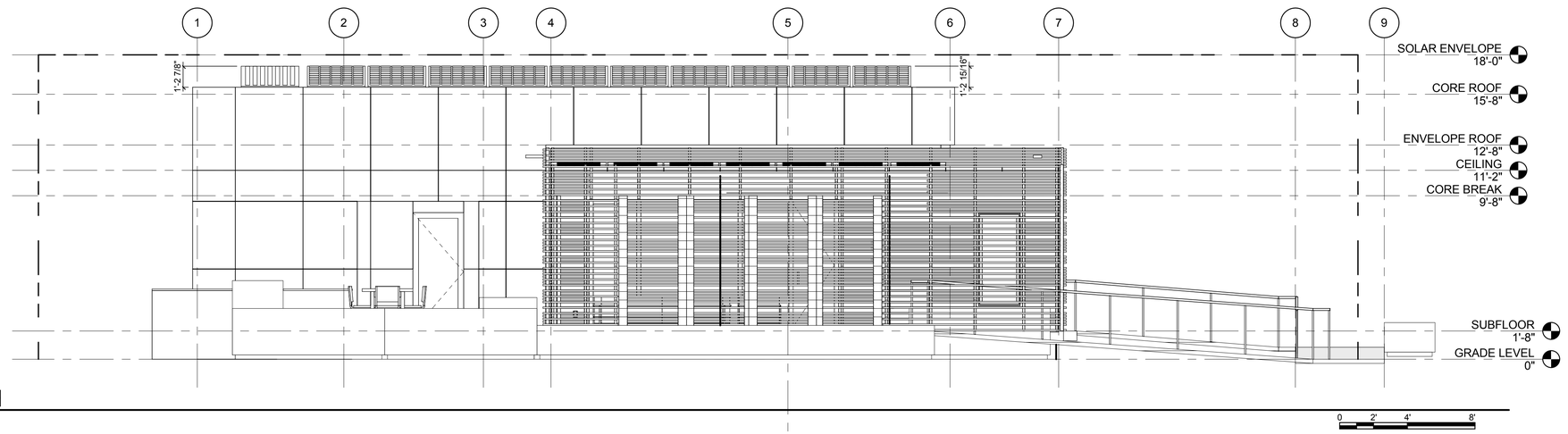
SOLAR ENVELOPE COMPLIANCE ELEVATIONS

AUGUST 17, 2015

G-201



1 NORTH
1/4" = 1'-0"



2 SOUTH
1/4" = 1'-0"

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SOLAR ENVELOPE COPMLIANCE ELEVATIONS

AUGUST 17, 2015

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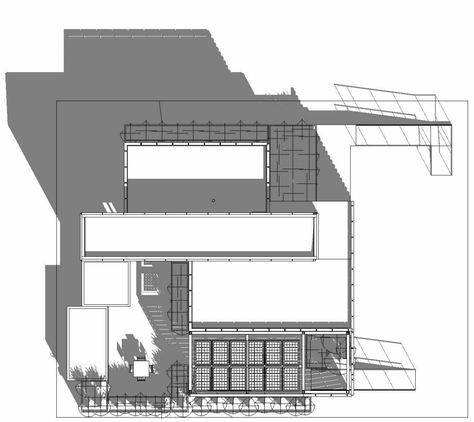
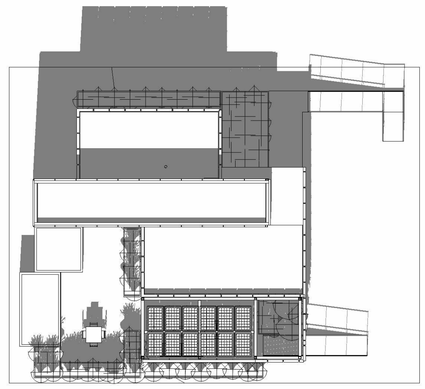
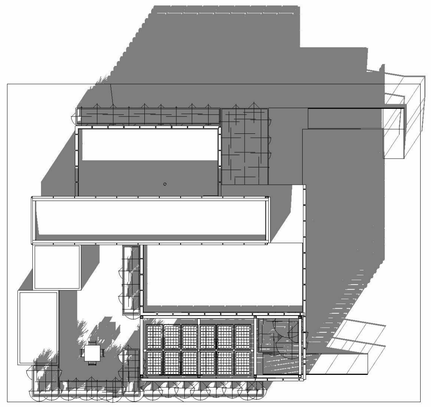


DECEMBER 10AM



DECEMBER 12PM



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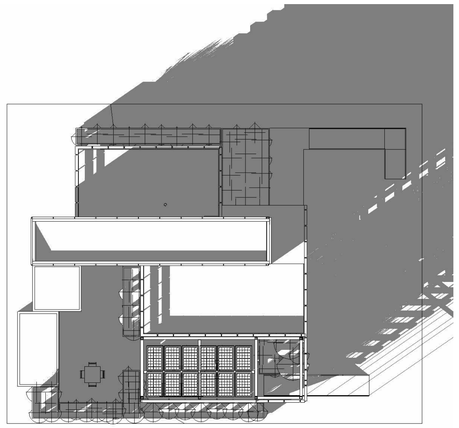

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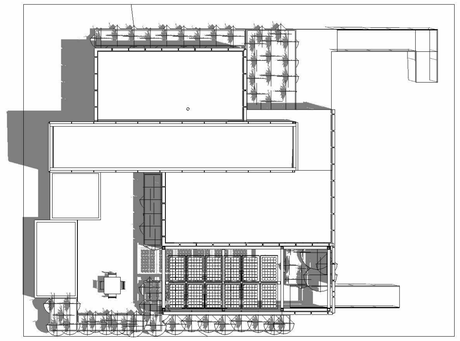
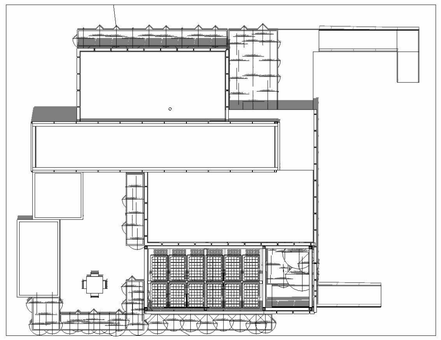


JUNE 10AM



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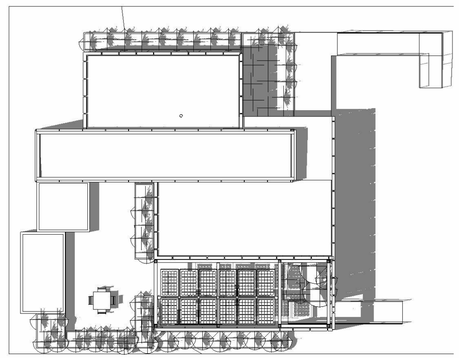

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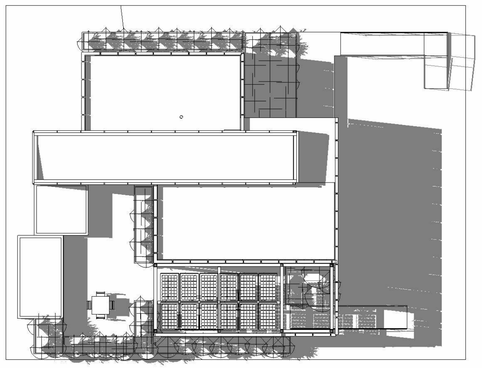

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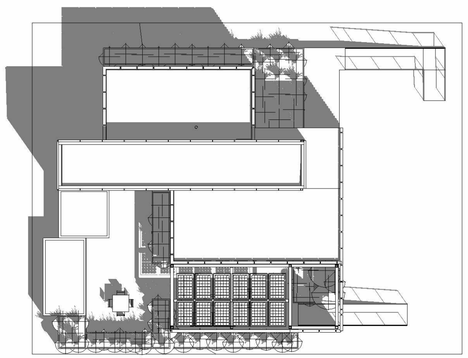
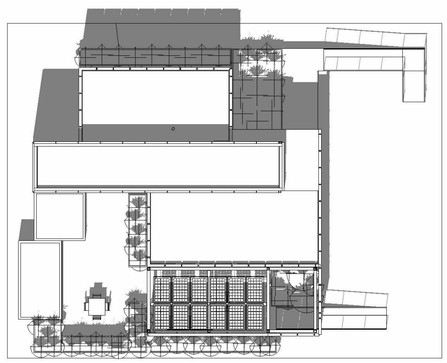
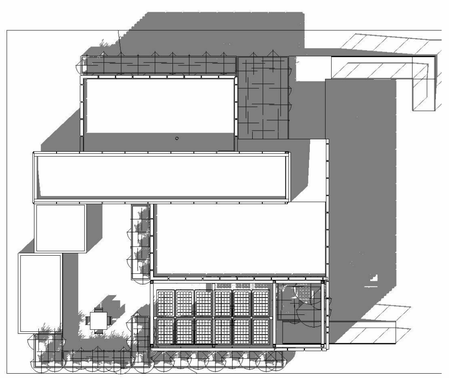


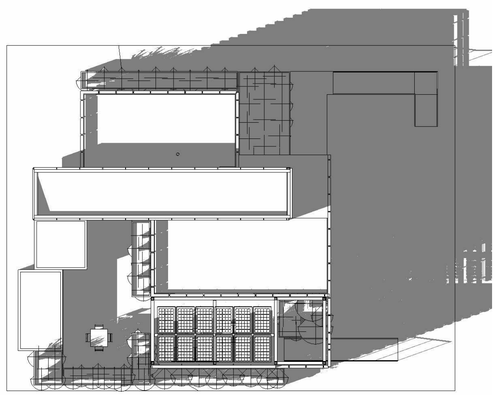
OCTOBER 10AM



OCTOBER 12PM



OCTOBER 2PM



OCTOBER 4PM

SOLAR CAL POLY

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Revision Schedule

Revision Number	Revision Description	Revision Date

LOT NUMBER:	107
DRAWN BY:	
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SHEET TITLE

SHADING DIAGRAMS

AUGUST 17, 2015

G-601

GENERAL INFORMATION

01	Project Name	Residential Building			
02	Calculation Description	Title 24 Analysis			
03	Project Location	Cal Poly			
04	City	San Luis Obispo	05	Standards Version	Compliance 2015
06	Zip Code		07	Compliance Manager Version	BEMCmpMgr 2013-3c (710)
08	Climate Zone	CZ5	09	Software Version	EnergyPro 6.5
10	Building Type	Single Family	11	Front Orientation (deg/Cardinal)	0
12	Project Scope	Newly Constructed	13	Number of Dwelling Units	1
14	Total Cond. Floor Area (FT^2)	966	15	Number of Zones	1
16	Slab Area (FT^2)	0	17	Number of Stories	1
18	Addition Cond. Floor Area	N/A	19	Natural Gas Available	No
20	Addition Slab Area (FT^2)	N/A	21	Glazing Percentage (%)	28.5%

COMPLIANCE RESULTS

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

ENERGY USE SUMMARY

04	05	06	07	08
Energy Use (kTDV/ft2-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	12.02	11.90	0.12	1.0%
Space Cooling	2.21	0.00	2.21	100.0%
IAQ Ventilation	1.19	1.19	0.00	0.0%
Water Heating	30.66	31.53	-0.87	-2.8%
Photovoltaic Offset	----	0.00	0.00	----
Compliance Energy Total	46.08	44.62	1.46	3.2%

REQUIRED SPECIAL FEATURES

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

- **Ducts with high level of insulation**
- **Cathedral Ceiling**
- **Floor has high level of insulation**
- **Window overhangs and/or fins**

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.

Building-level Verifications:
- **Building Envelope Air Leakage**
- **IAQ mechanical ventilation**

Cooling System Verifications:
- **Minimum Airflow**
- **Verified SEER**
- **Fan Efficacy Watts/CFM**

HVAC Distribution System Verifications:
- **Duct Sealing**
- **Verified low-leakage ducts located entirely in conditioned space**

Domestic Hot Water System Verifications:
- **-- None --**

ENERGY DESIGN RATING

This is the sum of the annual TDV energy consumption for energy use components included in the performance compliance approach for the Standard Design Building (Energy Budget) and the annual TDV energy consumption for lighting and components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics) and accounting for the annual TDV energy offset by an on-site renewable energy system.

	Reference Energy Use	Energy Design Rating	Margin	Percent Improvement
Total Energy (kTDV/f2-yr)*	132.81	131.35	1.46	1.1%

* includes calculated Appliances and Miscellaneous Energy Use (AMEU)

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Residential Building	966	1	1	1	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft^2)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Zone 1	Conditioned	HVAC System1	966	10.4	DHW Sys 1	

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window Area (ft^2)	Tilt (deg)
Front Wall SIPS (North)	Zone 1	8.25 SIP Wall	0	Front	250	24	90
Front Wall Stud (North)	Zone 1	2x6 + R-10	0	Front	187	57	90
Left Wall SIPS (East)	Zone 1	8.25 SIP Wall	90	Left	247	15	90
Left Wall Stud (East)	Zone 1	8.25 SIP Wall	90	Left	112	12	90
Rear Wall SIPS (South)	Zone 1	8.25 SIP Wall	180	Back	285	131.478	90
Rear Wall Stud (South)	Zone 1	2x6 + R-10	180	Back	131	21	90
Right Wall SIPS (West)	Zone 1	8.25 SIP Wall	270	Right	247	15	90
Right Wall Stud (West)	Zone 1	2x6 + R-10	270	Right	112	0	90
Raised Floor	Zone 1	R-24 + R-5 Floor			966		

OPAQUE SURFACES – Cathedral Ceilings

01	02	03	04	05			06	07	08	09	10	11
Name	Zone	Type	Orientation	Area (ft^2)	Skylight Area (ft2)		Roof Rise (x in 12)	Roof Pitch	Roof Tilt (deg)	Roof Reflectance	Roof Emmittance	Framing Factor
Roof Framed	Zone 1	2x6 + R-10	Front	234	0	1	0.08	4.76	0.1	0.85	0.07	
Roof SIPS	Zone 1	8.25 EPS SIP Panel + R10	Front	732	0	1	0.08	4.76	0.1	0.85	0	

WINDOWS

01	02	03	04	05	06	07	08	09	10
Name	Type	Surface (Orientation-Azimuth)	Width (ft)	Height (ft)	Multiplier	Area (ft^2)	U-factor	SHGC	Exterior Shading
Window 2- 3x4	Window	Front Wall SIPS (North) (Front-0)	----	----	1	24.0	0.34	0.29	Insect Screen (default)
Window 6- 3x2	Window	Front Wall Stud (North) (Front-0)	----	----	1	36.0	0.34	0.29	Insect Screen (default)
French Dr	Window	Front Wall Stud (North) (Front-0)	----	----	1	21.0	0.34	0.29	Insect Screen (default)
Window 2.5x6	Window	Left Wall SIPS (East) (Left-90)	2.5	6.0	1	15.0	0.34	0.29	Insect Screen (default)
Window 3x4	Window	Left Wall Stud (East) (Left-90)	3.0	4.0	1	12.0	0.34	0.29	Insect Screen (default)
Nana Wall System	Window	Rear Wall SIPS (South) (Back-180)	14.7	7.9	1.003	116.5	0.30	0.23	Insect Screen (default)
Window 2.5x6 2	Window	Rear Wall SIPS (South) (Back-180)	2.5	6.0	1	15.0	0.34	0.29	Insect Screen (default)
French Dr 2	Window	Rear Wall Stud (South) (Back-180)	3.0	7.0	1	21.0	0.34	0.29	Insect Screen (default)
Window 2.5x6 3	Window	Right Wall SIPS (West) (Right-270)	2.5	6.0	1	15.0	0.34	0.29	Insect Screen (default)

OVERHANGS AND FINS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
	Overhang					Left Fin				Right Fin			
Window	Depth	Dist Up	Left Extent	Right Extent	Flap Ht.	Depth	Top Up	DistL	Bot Up	Depth	Top Up	Dist R	Bot Up
Window 2.5x6	0	0	0	0	0	9.5	0	0.1	0	0	0	0	0
Window 3x4	0	0	0	0	0	6.5	0	2	0	0	0	0	0
Nana Wall System	12	0.3	2	12	2	0	0	0	0	0	0	0	0
Window 2.5x6 2	12	0.3	24	2	2	0	0	0	0	0	0	0	0
French Dr 2	8.5	0.3	3	1	0	8.5	0	3.5	0	8.5	0	1	0
Window 2.5x6 3	0	0	0	0	0	21	0	0.1	0	0	0	0	0

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Winter Design U-value	Assembly Layers
R-24 + R-5 Floor	Exterior Floors	Wood Framed Floor	2x8 @ 24 in. O.C.	R 22	0.034	• *Floor Surface: Carpeted* • *Floor Deck: Wood Siding/sheathing/decking* • *Cavity / Framo: R-22 / 2x8* • *Sheathing / Insulation: R5 Sheathing*
8.25 SIP Wall	Exterior Walls	SIPS Wall	8.25 in. Panel, OSB Spline	R 28	0.038	• *Inside Finish: Gypsum Board* • *Panel Rated R (@ 75 F): R-28 / 8.25in. OSE* • *Exterior Finish: Wood Siding/sheathing/decking*
2x6 + R-10	Exterior Walls	Wood Framed Wall	2x6 @ 24 in. O.C.	R 21	0.036	• *Inside Finish: Gypsum Board* • *Cavity / Framo: R-21 / 2x6* • *Sheathing / Insulation: R10 Sheathing* • *Exterior Finish: Wood Siding/sheathing/decking*
2x8 + R-10	Cathedral Ceilings	Wood Framed Ceiling	2x8 @ 24 in. O.C.	R 21	0.032	• *Inside Finish: Gypsum Board* • *Cavity / Framo: R-21 / 2x8* • *Roof Deck: Wood Siding/sheathing/decking* • *Above Deck Insulation: R10 Sheathing* • *Roofing: Light Roof (Asphalt Shingle)*
8.25 EPS SIP Panel + R10	Cathedral Ceilings	SIPS Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.	R 28	0.025	• *Inside Finish: Gypsum Board* • *Cavity / Framo: R-28 / 2x4 Top Chrd* • *Roof Deck: Wood Siding/sheathing/decking* • *Above Deck Insulation: R10 Sheathing* • *Roofing: Light Roof (Asphalt Shingle)*

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04
Quality Insulation Installation (QII)	Quality Installation of Spray Foam Insulation	Building Envelope Air Leakage	ACH @ 50 Pa
Not Required	Not Required	Required	736.7

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	Pipe Insulation, All Lines	DHW Heater 1	1	60.0%

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	none	Small Storage	80	0.88	4500-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
Heat Pump System 1 Air Distribution System 1:HVAC Fan 1.2	Heat Pump Heating and Cooling System	Heat Pump System 1	Heat Pump System 1	HVAC Fan 1	Air Distribution System 1

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10
Name	Type	Heating			Cooling		Zonally Controlled	Multi-speed Compressor	HERS Verification
		HSPF/COP	Cap 47	Cap 17	SEER	EER			
Heat Pump System 1	SplitHeatPump	8.2	17200	9800	15	12.44	No	No	Heat Pump System 1-hers-cool

HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07
Name	System Type	Efficiency		Zonally Controlled	Multi-speed Compressor	HERS Verification
		EER	SEER			
	SplitHeatPump	12.44	15	Not Zonal	Single Speed	

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Revision Schedule

Revision Number	Revision Description	Revision Date

LOT NUMBER: 107
DRAWN BY:
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SHEET TITLE

ENERGY COMPLIANCE

AUGUST 17, 2015

G-700

HVAC COOLING - HERS VERIFICATION

01	02	03	04	05	06
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge
Heat Pump System 1-hers-cool	Required	350	Not Required	Required	Not Required

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07
Name	Type	Duct Leakage	Insulation R-value	Duct Location	Bypass Duct	HERS Verification
Air Distribution System 1	LowLiCod	Sealed and tested	8	n/a	None	Air Distribution System 1-hers-dist

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler
Air Distribution System 1-hers-dist	Required	6.0	Required	Not Required	Not Required	Not Required	---

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	HERS Verification
HVAC Fan 1	Single Speed PSC Furnace Fan	0.58	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

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

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 IAQVentRpt	24.66	0.25	Default	0	Required

Registration Number:
CA Building Energy Efficiency Standards - 2013 Residential Compliance

Registration Date/Time:
Report Version - CF1R-02272015-710

HERS Provider:
Report Generated at: 2015-03-18 10:45:19

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: In Balance Green Consulting	Documentation Author Signature: Jennifer Rennick
Company: Jennifer Rennick	Signature Date: 3/18/2015
Address: 100 Cross Street	CEA/HERS Certification Identification (If applicable): R13-06-10033
City/State/Zip: San Luis Obispo, CAL 93401	Phone: 805 423-8359

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: Cal Poly Solar Decathlon Team	Responsible Designer Signature:
Company: Cal Poly Solar Decathlon Team	Date Signed:
Address: Cal Poly, San Luis Obispo	License:
City/State/Zip: San Luis Obispo, CA	Phone:

Registration Number:
CA Building Energy Efficiency Standards - 2013 Residential Compliance

Registration Date/Time:
Report Version - CF1R-02272015-710

HERS Provider:
Report Generated at: 2015-03-18 10:45:19

2013 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Standards must comply with all applicable mandatory measures listed, regardless of the compliance approach used. Exceptions may apply. Review the respective code section for more information.

Building Envelope Measures:	
§110.6(a)1:	Doors and windows between conditioned and unconditioned spaces are manufactured to limit air leakage.
§110.6(a)5:	Fenestration products (except field-fabricated windows) have a label listing the certified U-Factor, certified Solar Heat Gain Coefficient (SHGC), and infiltration that meets the requirements of §10-111(a).
§110.7:	Exterior doors and windows are weatherstripped, all joints and penetrations are caulked and sealed.
§110.8(a):	Insulation specified or installed meets Standards for Insulating Material. Indicate type and include on the CF2R.
§110.8(i):	The thermal emittance and aged solar reflectance values of the cool roofing material meets the requirements of §110.8(i) when the installation of a cool roof is specified on the CF1R.
§110.8(j):	A radiant barrier shall have an emittance of 0.05 or less when the installation of a radiant barrier is specified on the CF1R.
§150.0(a):	Minimum R-30 insulation in wood-frame ceiling; or the weighted average U-factor shall not exceed 0.031. Minimum R-19 in a rafter roof alteration. Attic access doors shall have permanently attached insulation using adhesive or mechanical fasteners. The attic access shall be gasketed to prevent air leakage.
§150.0(b):	Loose fill insulation shall conform with manufacturer's installed design labeled R-value.
§150.0(c):	Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or 0.074 maximum U-factor).
§150.0(d):	Minimum R-19 insulation in raised wood-frame floor or 0.037 maximum U-factor.
§150.0(g)1:	In Climate Zones 14 and 16 a Class II vapor retarder shall be installed on the conditioned space side of all insulation in all exterior walls, vented attics and unvented attics with air-permeable insulation.
§150.0(g)2:	In Climate Zones 1-16 with unvented crawl spaces the earth floor of the crawl space shall be covered with a Class I or Class II vapor retarder.
§150.0(g)3:	In a building having a controlled ventilation crawl space, a Class I or Class II vapor retarder shall be placed over the earth floor of the crawl space to reduce moisture entry and protect insulation from condensation, as specified in the exception to Section 150.0(d).
§150.0(i):	Slab edge insulation shall: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3%; have water vapor permeance rate is no greater than 2.0 perm/inch, be protected from physical damage and UV light deterioration; and when installed as part of a heated slab floor meets the requirements of §110.8(g).
§150.0(q):	Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors shall have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration shall not exceed 0.58.
Fireplaces, Decorative Gas Appliances and Gas Log Measures:	
§150.0(e)1A:	Masonry or factory-built fireplaces have a closable metal or glass door covering the entire opening of the firebox.
§150.0(e)1B:	Masonry or factory-built fireplaces have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or a combustion-air control device.
§150.0(e)1C:	Masonry or factory-built fireplaces have a flue damper with a readily accessible control.
§150.0(e)2:	Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Conditioning, Water Heating and Plumbing System Measures:	
§110.0-§110.3:	HVAC equipment, water heaters, showerheads, faucets and all other regulated appliances are certified to the Energy Commission.
§110.3(c)5:	Water heating recirculation loops serving multiple dwelling units meet the air release valve, backflow prevention, pump isolation valve, and recirculation loop connection requirements of §110.3(c)5.
§110.5:	Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces, household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt), and pool and spa heaters.
§150.0(h)1:	Heating and/or cooling loads are calculated in accordance with ASHRAE, SMACNA or ACCA using design conditions specified in §150.0(h)2.
§150.0(h)3A:	Installed air conditioner and heat pump outdoor condensing units shall have a clearance of at least five feet from the outlet of any dryer vent.
§150.0(i):	Heating systems are equipped with thermostats that meet the setback requirements of §110.2(c).
§150.0(j)1A:	Storage gas water heaters with an energy factor equal to or less than the federal minimum standards shall be externally wrapped with insulation having an installed thermal resistance of R-12 or greater.
§150.0(j)1B:	Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§150.0(j)2A:	For domestic hot water system piping, whether buried or unburied: the first 5 feet of hot and cold water pipes from the storage tank, all piping with a nominal diameter of 3/4 inch or larger, all piping associated with a domestic hot water recirculation system regardless of the pipe diameter, piping from the heating source to storage tank or between tanks, piping buried below grade, and all hot water pipes from the heating source to kitchen fixtures must be insulated according to the requirements of TABLE 120.3-A.
§150.0(j)2B:	All domestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve that allows for installation, removal, and replacement of the enclosed pipe and insulation.

2013 Low-Rise Residential Mandatory Measures Summary

§150.0(j)2C:	Pipe for cooling system lines shall be insulated as specified in §150.0(j)2A. Piping insulation for steam and hydronic heating systems or hot water systems with pressure > 15 psig shall meet the requirements in TABLE 120.3-A.
§150.0(j)3:	Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
§150.0(j)3A:	Insulation exposed to weather shall either be rated for outdoor use or installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation protected as specified or painted with coating that is water retardant and provides shielding from solar radiation that degrades the material.
§150.0(j)3B:	Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarding facing, or the insulation shall be installed at the thickness that qualifies as a Class I or Class II vapor retarder.
§150.0(n)1:	Systems using gas or propane water heaters to serve individual dwelling units shall include: a 120V electrical receptacle within 3 feet of the water heater; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu/hr.
§150.0(n)2:	Recirculating loops serving multiple dwelling units shall meet the requirements of §110.3(c)5.
§150.0(n)3:	Solar water-heating systems and collectors shall be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a testing agency approved by the Executive Director.
Ducts and Fans Measures:	
§150.0(m)1:	All air-distribution system ducts and plenums installed are sealed and insulated to meet the requirements of CMC §601.0, §602.0, §603.0, §604.0, §605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Supply-air and return-air ducts and plenums are insulated to a minimum installed level of R-6.0 (or higher if required by CMC §605.0) or enclosed entirely in directly conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts are mechanically fastened. Openings shall be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape shall be used. Building cavities, support platforms for air handlers, and plenums defined or constructed with materials other than sheet metal, duct board or flexible duct shall not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms shall not be compressed to cause reductions in the cross-sectional area of the ducts.
§150.0(m)2:	Factory-Fabricated Duct Systems shall comply with specified requirements for duct construction, connections, and closures; joints and seams of duct systems and their components shall not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§150.0(m)3-6:	Field-Fabricated Duct Systems shall comply with requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction; duct insulation R-value ratings, duct insulation thickness; and duct labeling.
§150.0(m)7:	All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers.
§150.0(m)8:	Gravity ventilating systems serving conditioned space have either automatic or readily accessible, manually operated dampers except combustion inlet and outlet air openings and elevator shaft vents.
§150.0(m)9:	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind but not limited to the following: insulation exposed to weather shall be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation shall be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§150.0(m)10:	Flexible ducts cannot have porous inner cores.
§150.0(m)11:	When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts shall be sealed and tested and verified, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(m)12:	Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporative coolers, shall be provided with air filter devices that meet the requirements of §150.0(m)12.
§150.0(m)13:	Space conditioning systems that utilize forced air ducts to supply cooling to an occupiable space shall have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(m)15:	Zonally controlled central forced air cooling systems shall be capable of simultaneously delivering, in every zonal control mode, an airflow from the dwelling, through the air handler fan and delivered to the dwelling, of ≥ 350 CFM per ton of nominal cooling capacity, and operating at an air-handling unit fan efficacy of ≤ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
§150.0(o):	All dwelling units shall meet the requirements of ASHRAE Standard 62.2: Neither window operation nor continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are permissible methods of providing the Whole Building Ventilation.
§150.0(o)1A:	Whole Building Ventilation airflow shall be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.
Pool and Spa Heating Systems and Equipment Measures:	
§110.4(a):	Any pool or spa heating system shall be certified to have: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting, a permanent weatherproof plate or card with operating instructions, and shall not use electric resistance heating.

2013 Low-Rise Residential Mandatory Measures Summary

§110.4(b)1:	Any pool or spa heating equipment shall be installed with at least 36 inches of pipe between filter and heater or dedicated suction and return lines, or built-up connections for future solar heating.
§110.4(b)2:	Outdoor pools or spas that have a heat pump or gas heater shall have a cover.
§110.4(b)3:	Pools shall have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or pre-grammed to run only during off-peak electric demand periods.
§110.5:	Natural gas pool and spa heaters shall not have a continuous burning pilot light.
§150.0(p):	Residential pool systems or equipment shall meet specified pump sizing, flow rate, piping, filters, and valve requirements.
Lighting Measures:	
§110.9:	All lighting control devices and systems, ballasts, and luminaires shall meet the applicable requirements of §110.9.
§150.0(k)1A:	Installed luminaires shall be classified as high-efficacy or low-efficacy for compliance with §150.0(k) in accordance with TABLE 150.0-A or TABLE 150.0-B, as applicable.
§150.0(k)1B:	When a high efficacy and low efficacy lighting system are combined in a single luminaire, each system shall separately comply with the applicable provisions of §150.0(k).
§150.0(k)1C:	The wattage and classification of permanently installed luminaires in residential kitchens shall be determined in accordance with §130.0(c). In residential kitchens, the wattage of electrical boxes finished with a blank cover or where no electrical equipment has been installed, and where the electrical box can be used for a luminaire or a surface mounted ceiling fan, shall be calculated as 180 watts of low efficacy lighting per electrical box.
§150.0(k)1D:	Ballasts for fluorescent lamps rated 13 watts or greater shall be electronic and shall have an output frequency no less than 20 kHz.
§150.0(k)1E:	Permanently installed night lights and night lights integral to installed luminaires or exhaust fans shall be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with §130.0(c). Night lights do not need to be controlled by vacancy sensors.
§150.0(k)1F:	Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) shall meet the applicable requirements of §150.0(k).
§150.0(k)2A:	High efficacy luminaires must be switched separately from low efficacy luminaires.
§150.0(k)2B:	Exhaust fans shall be switched separately from lighting systems.
§150.0(k)2C:	Luminaires shall be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.
§150.0(k)2D:	Controls and equipment are installed in accordance with manufacturer's instructions.
§150.0(k)2E:	No control shall bypass a dimmer or vacancy sensor function if the control is installed to comply with §150.0(k).
§150.0(k)2F:	Lighting controls comply with applicable requirements of §110.9.
§150.0(k)2G:	An Energy Management Control System (EMCS) may be used to comply with dimmer requirements if: it functions as a dimmer according to §110.9; meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2.
§150.0(k)2H:	An Energy Management Control System (EMCS) may be used to comply with vacancy sensor requirements of §150.0(k) if: it functions as a vacancy sensor according to §110.9, meets Installation Certificate requirements of §130.4; the EMCS requirements of §130.5; and all other requirements in §150.0(k)2.
§150.0(k)2I:	A multilevel programmable controller may be used to comply with dimmer requirements of this section if it provides the functionality of a dimmer according to §110.9, and complies with all other applicable requirements in §150.0(k)2.
§150.0(k)3A:	A minimum of 50 percent of the total rated wattage of permanently installed lighting in kitchens shall be high efficacy.
§150.0(k)3B:	Kitchen lighting includes all permanently installed lighting in the kitchen except internal lighting in cabinets that illuminate only the inside of the cabinets. Lighting in areas adjacent to the kitchen, including but not limited to dining and nook areas, are considered kitchen lighting if they are not separately switched from kitchen lighting.
§150.0(k)4:	Permanently installed lighting that is internal to cabinets shall use no more than 20 watts of power per linear foot of illuminated cabinet.
§150.0(k)5:	A minimum of one high efficacy luminaire shall be installed in each bathroom; and all other lighting installed in each bathroom shall be high efficacy or controlled by vacancy sensors.
§150.0(k)6:	Lighting installed in attached and detached garages, laundry rooms, and utility rooms shall be high efficacy luminaires and controlled by vacancy sensors.
§150.0(k)7:	Lighting installed in rooms or areas other than in kitchens, bathrooms, garages, laundry rooms, and utility rooms shall be high efficacy, or shall be controlled by either dimmers or vacancy sensors.
§150.0(k)8:	Luminaires recessed into ceilings shall: be listed for zero clearance insulation contact (IC) by Underwriters Laboratories or other nationally recognized testing/rating laboratory; have a label that certifies that the luminaire is airtight with air leakage less than 2.0 CFM at 75 Pascals when tested in accordance with ASTM E283; be sealed with a gasket or caulk between the luminaire housing and ceiling, and shall have all air leak paths between conditioned and unconditioned spaces sealed with a gasket or caulk; and allow ballast maintenance and replacement without requiring cutting holes in the ceiling. For recessed compact fluorescent luminaires with ballasts to qualify as high efficacy for compliance with §150.0(k), the ballasts shall be certified to the Energy Commission to comply with the applicable requirements in §110.9.
§150.0(k)9A:	For single-family residential buildings, outdoor lighting permanently mounted to a residential building or other buildings on the same lot shall be high efficacy, or may be low efficacy if it meets all of the following requirements: i. Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of Items ii or iii below; and ii. Controlled by a motion sensor not having an override or bypass switch that disables the motion sensor, or controlled by a motion sensor having a temporary override switch which temporarily bypasses the motion sensing function and automatically reactivates the motion sensor within 6 hours; and iii. Controlled by one of the following methods:

2013 Low-Rise Residential Mandatory Measures Summary

§150.0(k)9B:	a. Photocontrol not having an override or bypass switch that disables the photocontrol; or b. Astronomical time clock not having an override or bypass switch that disables the astronomical time clock, and which is programmed to automatically turn the outdoor lighting OFF during daylight hours; or c. Energy management control system which meets all of the following requirements: At a minimum provides the functionality of an astronomical time clock in accordance with §110.9; meets the Installation Certification requirements in §130.4; meets the requirements for an EMCS in §130.5; does not have an override or bypass switch that allows the luminaire to be always ON; and, is programmed to automatically turn the outdoor lighting OFF during daylight hours.
§150.0(k)9B:	For low-rise multifamily residential buildings, outdoor lighting for private patios, entrances, balconies, and porches; and outdoor lighting for residential parking lots and residential carports with less than eight vehicles per site shall comply with one of the following requirements: i. Shall comply with §150.0(k)9A; or ii. Shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
§150.0(k)9C:	For low-rise residential buildings with four or more dwelling units, outdoor lighting not regulated by §150.0(k)9B or 150.0(k)9D shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
§150.0(k)9D:	Outdoor lighting for residential parking lots and residential carports with a total of eight or more vehicles per site shall comply with the applicable requirements in §110.9, §130.0, §130.2, §130.4, §140.7 and §141.0.
§150.0(k)10:	Internally illuminated address signs shall comply with §140.8; or shall consume no more than 5 watts of power as determined according to §130.0(c).
§150.0(k)11:	Lighting for residential parking garages for eight or more vehicles shall comply with the applicable requirements for nonresidential garages in §110.9, §130.0, §130.1, §130.4, §140.6, and §141.0.
§150.0(k)12A:	In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building shall be high efficacy luminaires or controlled by an occupant sensor.
§150.0(k)12B:	In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting in that building shall: i. Comply with the applicable requirements in §110.9, §130.0, §130.1, §140.6 and §141.0; and ii. Lighting installed in corridors and stairwells shall be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors shall be capable of turning the light fully On and Off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§110.10(a)1:	Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete, by the enforcement agency, on or after January 1, 2014, shall comply with the requirements of §110.10(b) through §110.10(e).
§110.10(a)2:	Low-rise multi-family buildings shall comply with the requirements of §110.10(b) through §110.10(d).
§110.10(b)1:	The solar zone shall have a minimum total area as described below. The solar zone shall comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area shall be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences the solar zone shall be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone shall be located on the roof or overhang of the building or on the roof or overhang of another structure located within 250 feet of the building or on covered parking installed with the building project and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area.
§110.10(b)2:	All sections of the solar zone located on steep-sloped roofs shall be oriented between 110 degrees and 270 degrees of true north.
§110.10(b)3A:	No obstructions, including but not limited to, vents, chimneys, architectural features, and roof mounted equipment, shall be located in the solar zone.
§110.10(b)3B:	Any obstruction, located on the roof or any other part of the building that projects above a solar zone shall be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.
§110.10(b)4:	For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.
§110.10(c):	The construction documents shall indicate: a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service (for single family residences the point of interconnection will be the main service panel); a pathway for routing of plumbing from the solar zone to the water-heating system.
§110.10(d):	A copy of the construction documents or a comparable document indicating the information from §110.10(b) through §110.10(c) shall be provided to the occupant.
§110.10(e)1:	The main electrical service panel shall have a minimum busbar rating of 200 amps.
§110.10(e)2:	The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space shall be: positioned at the opposite (load) end from the input feeder location or main circuit location, and permanently marked as "For Future Solar Electric".

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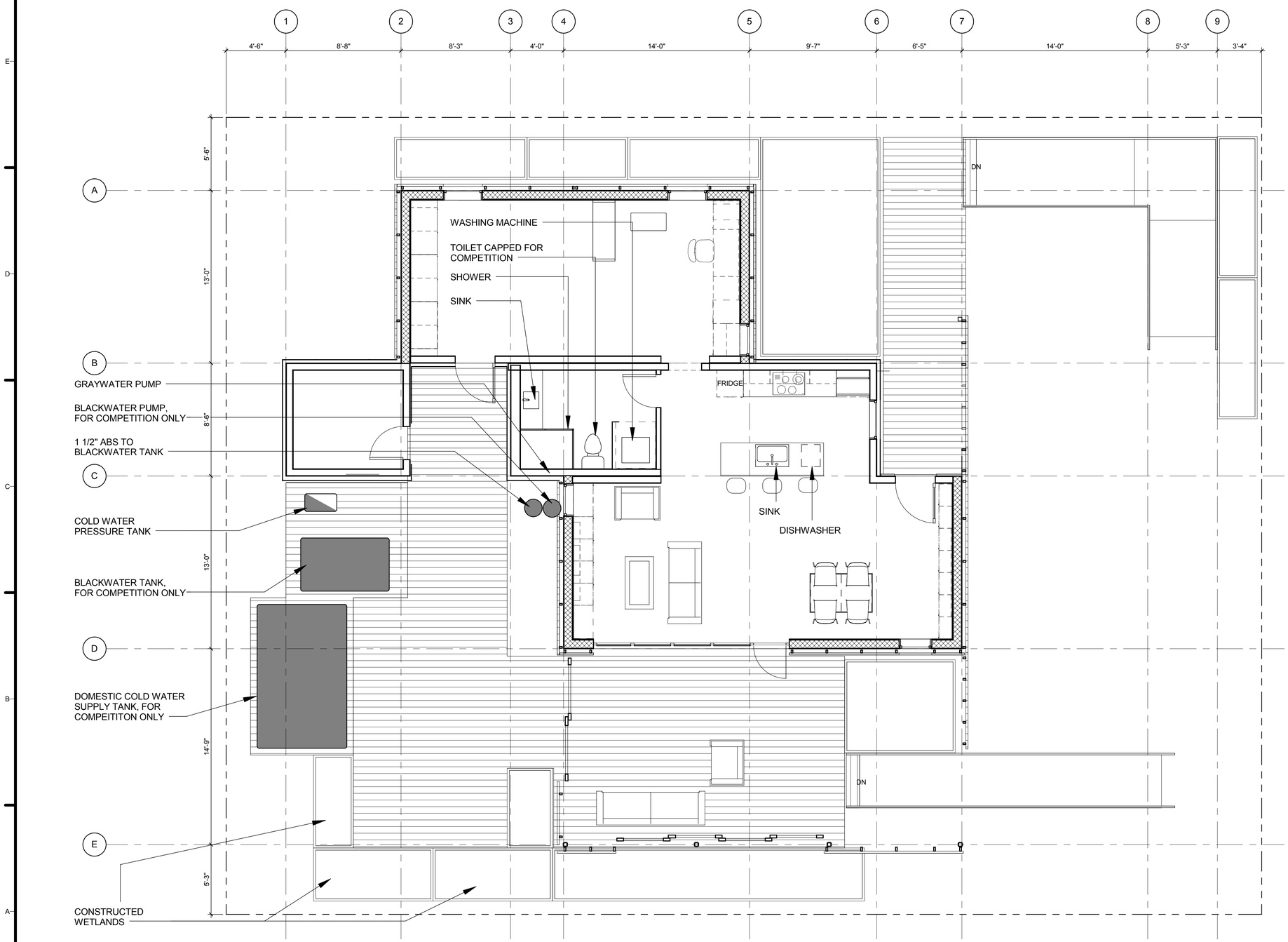
ENERGY COMPLIANCE

AUGUST 17, 2015

G-701



1 LIQUID LOCATION PLAN

1/4" = 1'-0"

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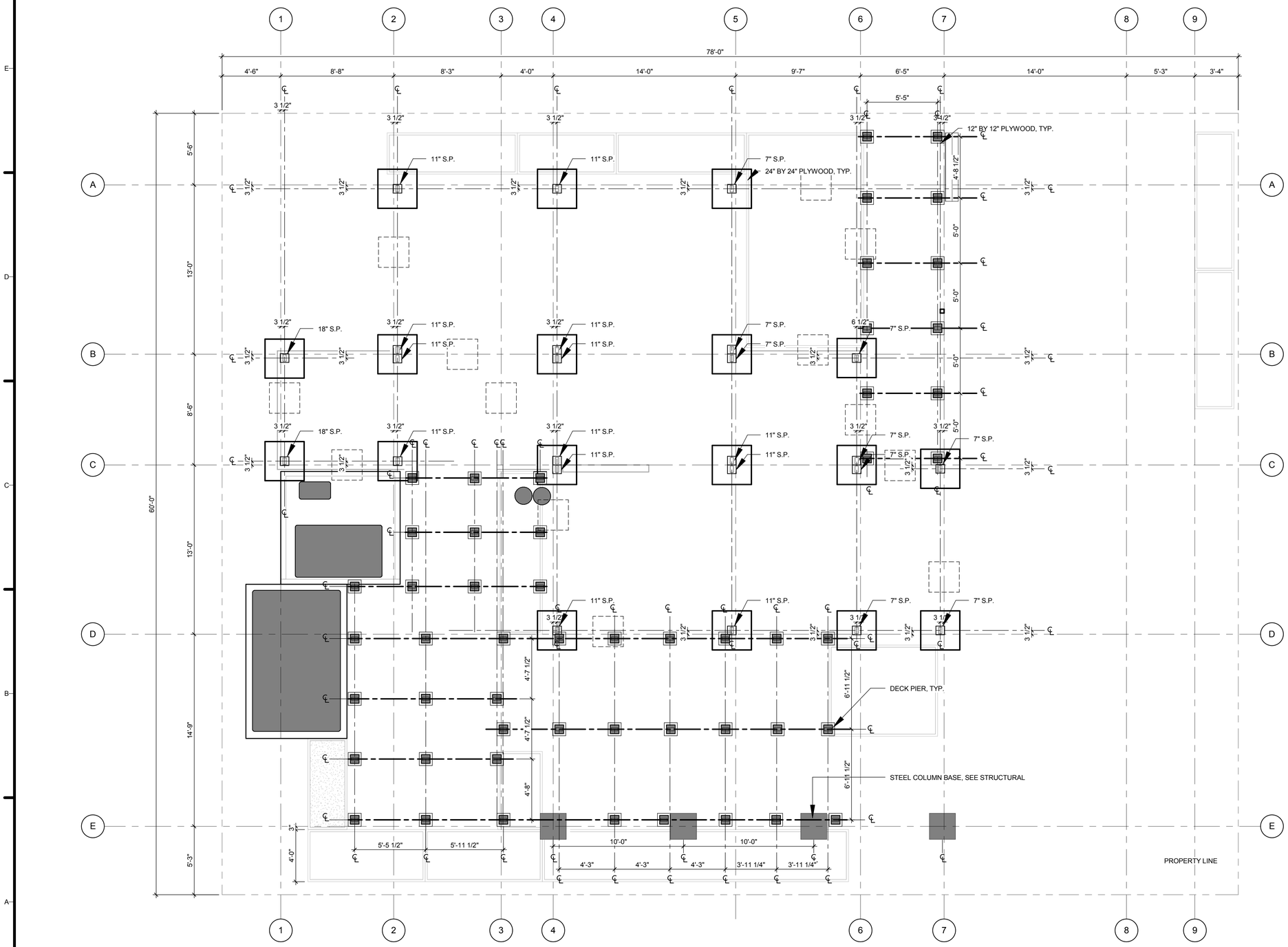
LIQUID LOCATION AND SPILL CONTAINMENT PLAN

AUGUST 17, 2015

H-101



1 GROUND CONTACT PLAN
1/4" = 1'-0"

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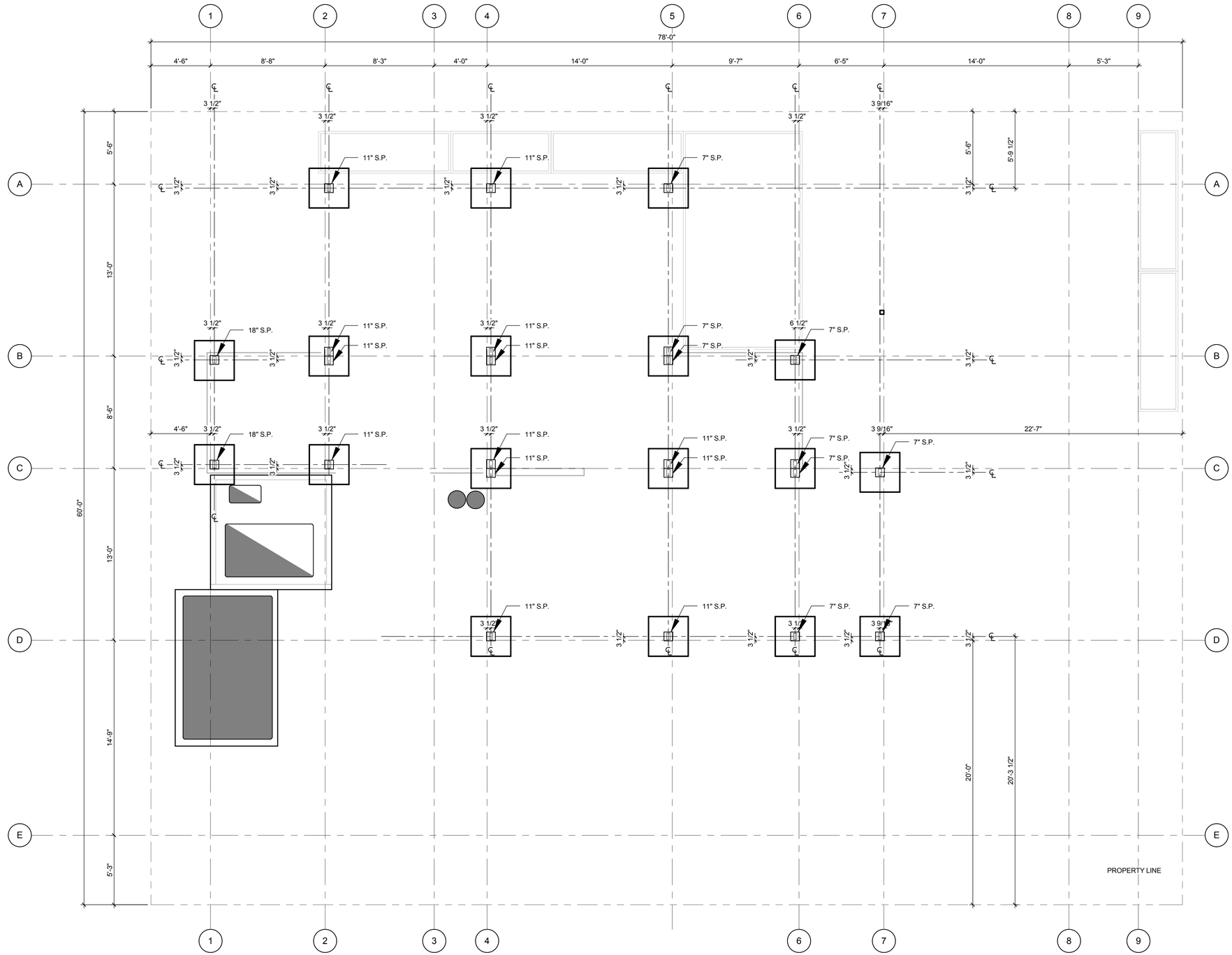
GROUND CONTACT PLAN

AUGUST 17, 2015

C-101



1 GROUND CONTACT MODULES

1/4" = 1'-0"

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GROUND CONTACT MODULES

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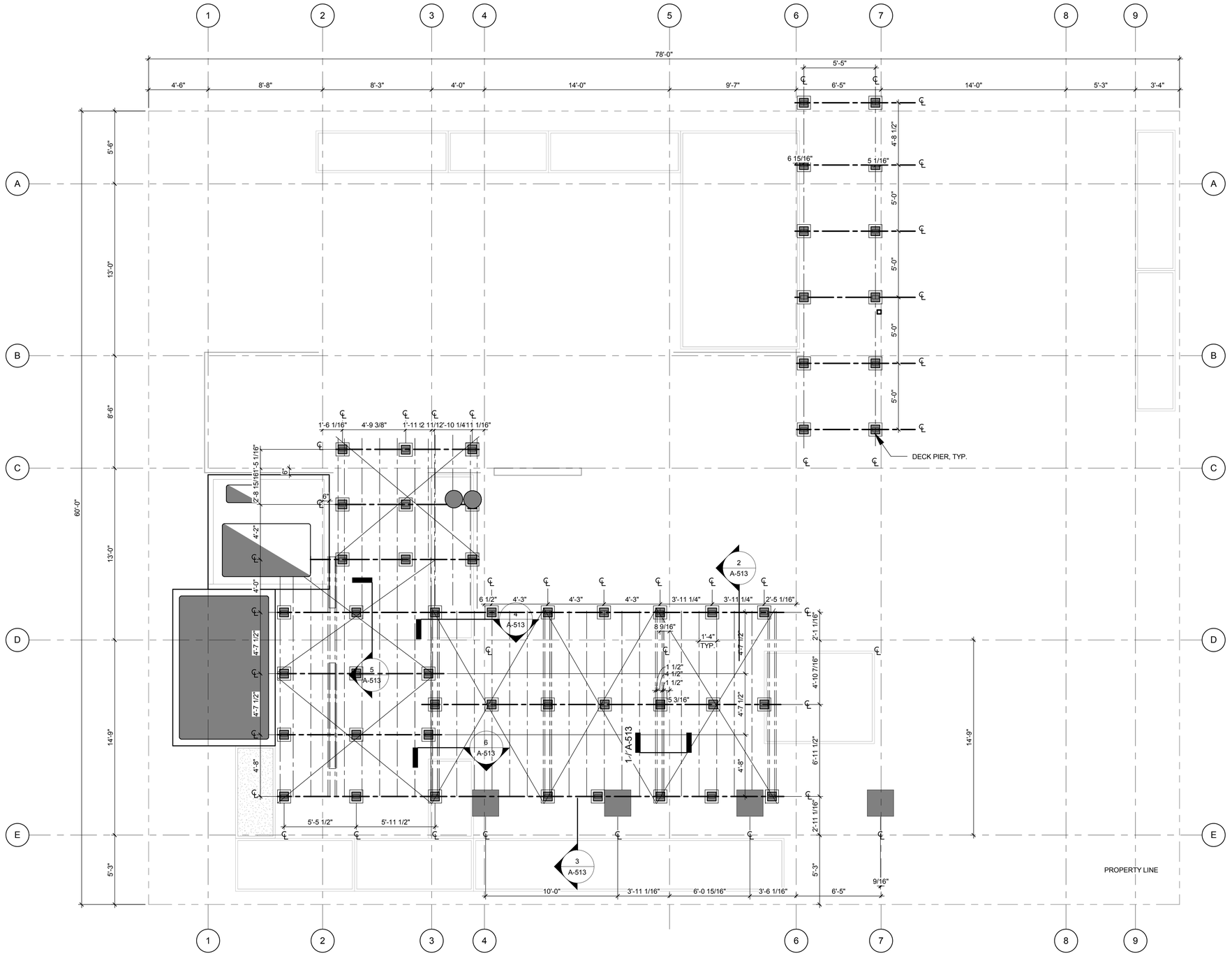
C-101A



1 GROUND CONTACT DECK

1/4" = 1'-0"

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GROUND CONTACT DECK FRAMING

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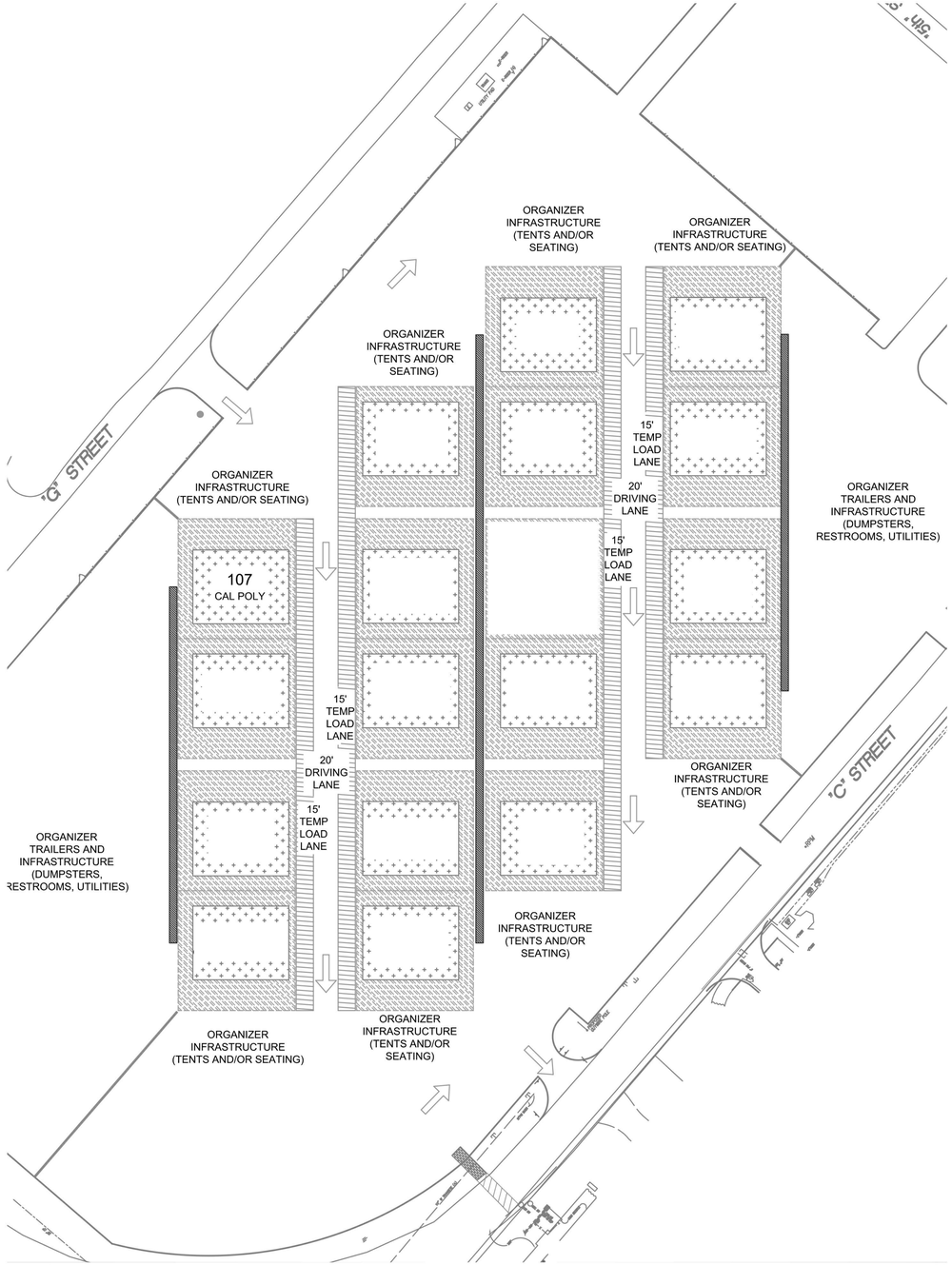
C-101B



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ORGANIZER SUPPLIED PAVING PLAN

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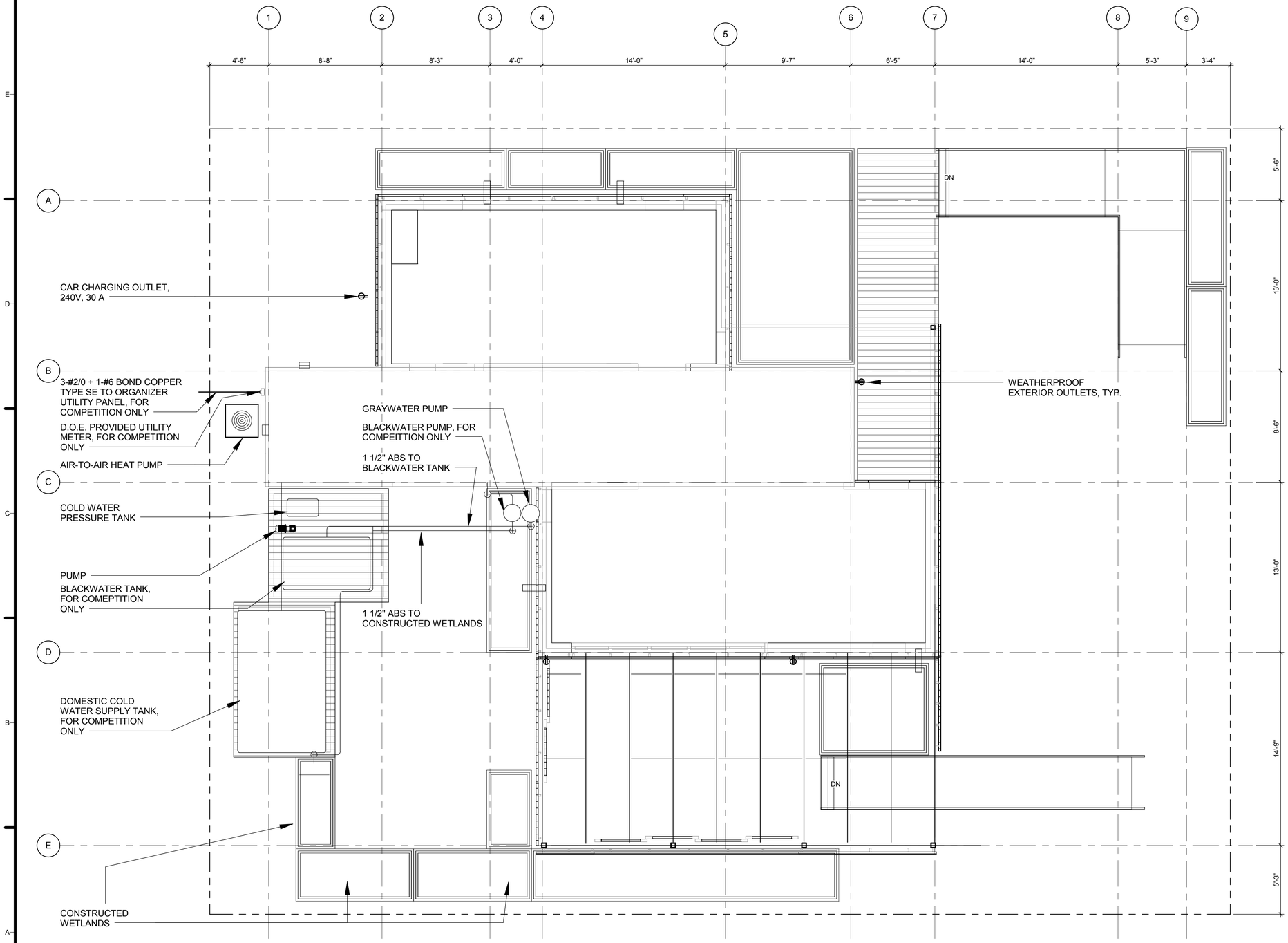
C-102



1 SITE UTILITY PLAN
1/4" = 1'-0"

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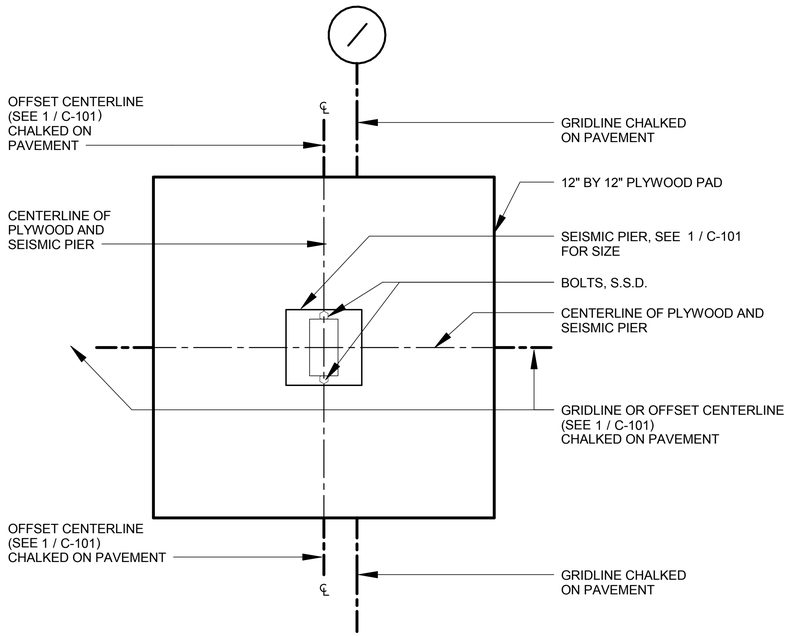
SITE UTILITY PLAN

AUGUST 17, 2015

C-103



1 GROUND CONTACT SESIMIC PIER DETAIL

1 1/2" = 1'-0"

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GROUND CONTACT DETAILS

AUGUST 17, 2015

C-501

PLANT ACCENT	
	1
	2
	3
	4
	5

NUMBER	GENERAL FORM	USE IN LANDSCAPE	GENERAL PLANT RADIUS	GENERAL PLANT HEIGHT	PURCHASE SIZE
1	TEXTURAL PLANTS	XERISCAPE	30-36"	30 - 36"	5 GALLON
2	PLANTS WITH TIGHT HABIT	XERISCAPE	12-24"	12-36"	1 GALLON
3	LOW MOUNDING PLANTS	XERISCAPE	12-24"	12-24"	1 GALLON
4	PLANTS WITH DENSE TIGHT HABIT	WETLANDS	12-24"	12-48"	5 GALLON
5	SUCCULENT PLANT	XERISCAPE	12-24"	18"	1 GALLON

1 LANDSCAPE LEGEND
1/4" = 1'-0"

2 PLANTING SCHEDULE
1" = 40'-0"

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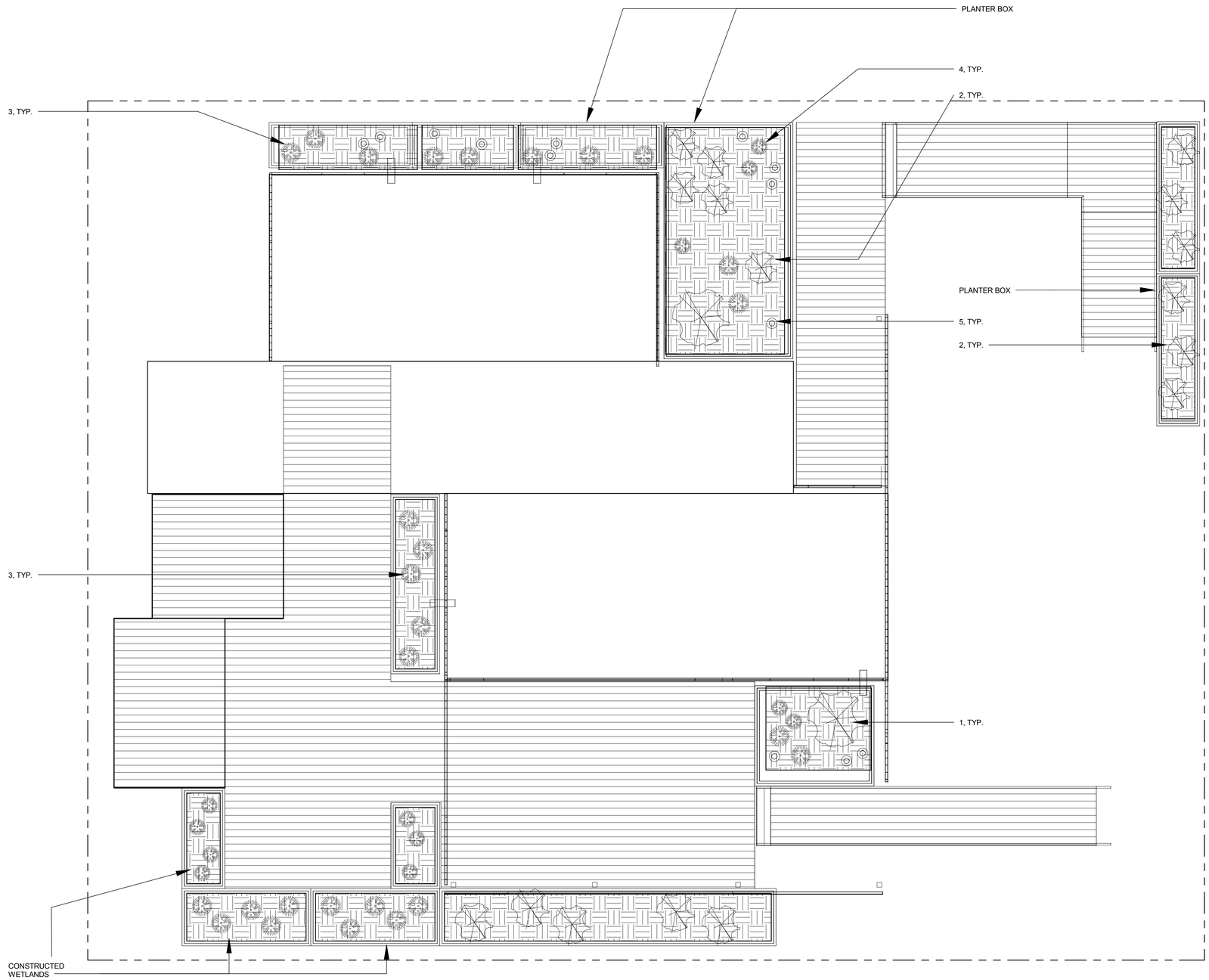
LANDSCAPE NOTES AND SYMBOLS

AUGUST 17, 2015

L-001



1 LANDSCAPE PLAN
1/4" = 1'-0"

0 2' 4' 8'

GENERAL SHEET NOTES

PLEASE REFERENCE SHEET L-001 FOR PLANTING LEGEND AND SCHEDULE.

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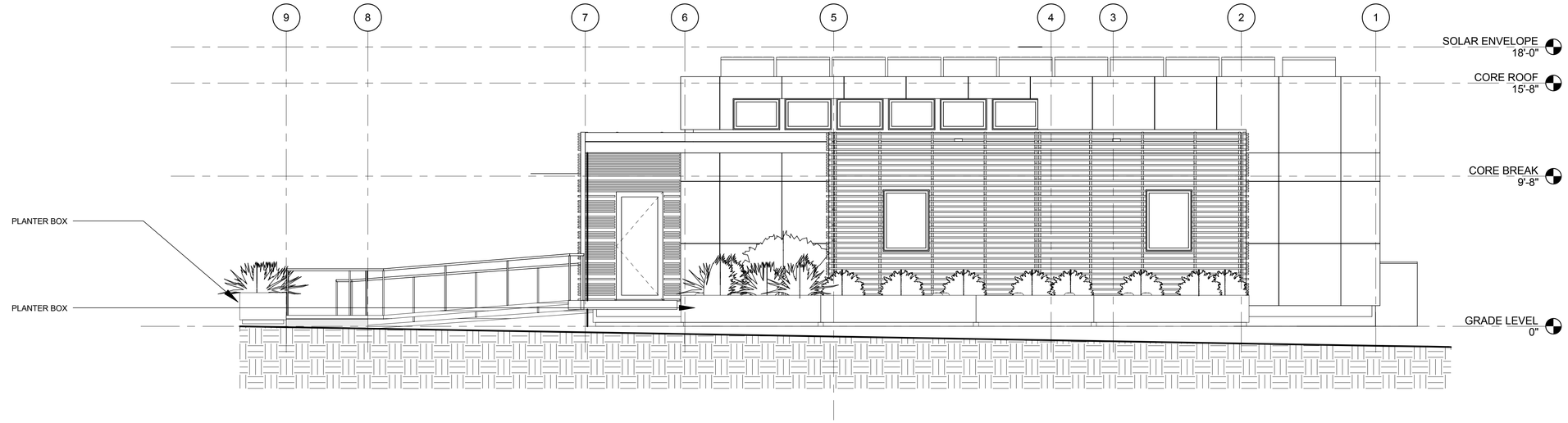
LANDSCAPE AND PLANTING SITE PLAN

AUGUST 17, 2015

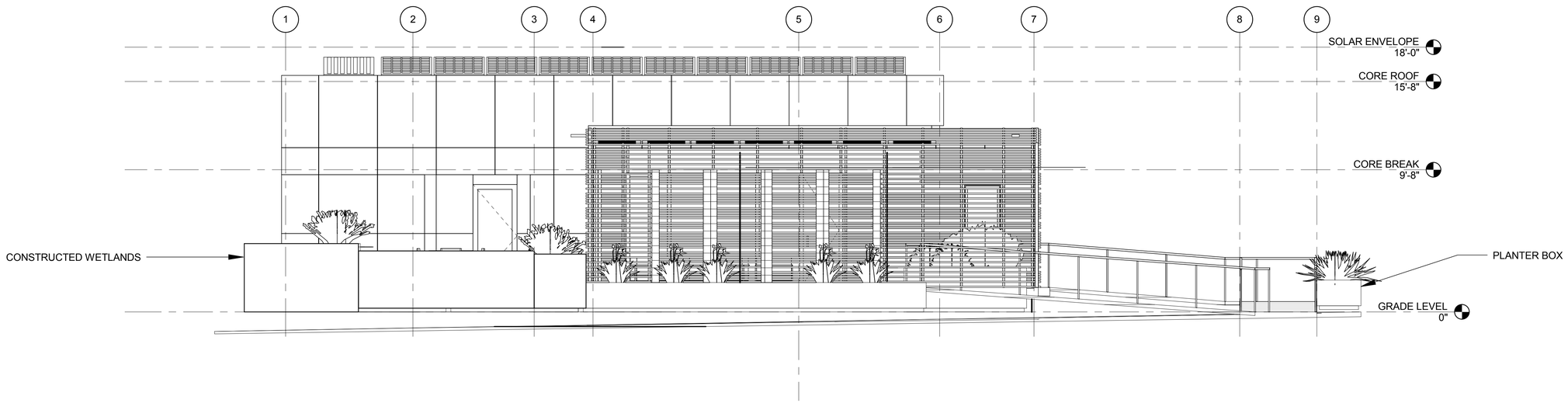
L-101



1 NORTH LANDSCAPE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'



2 SOUTH LANDSCAPE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

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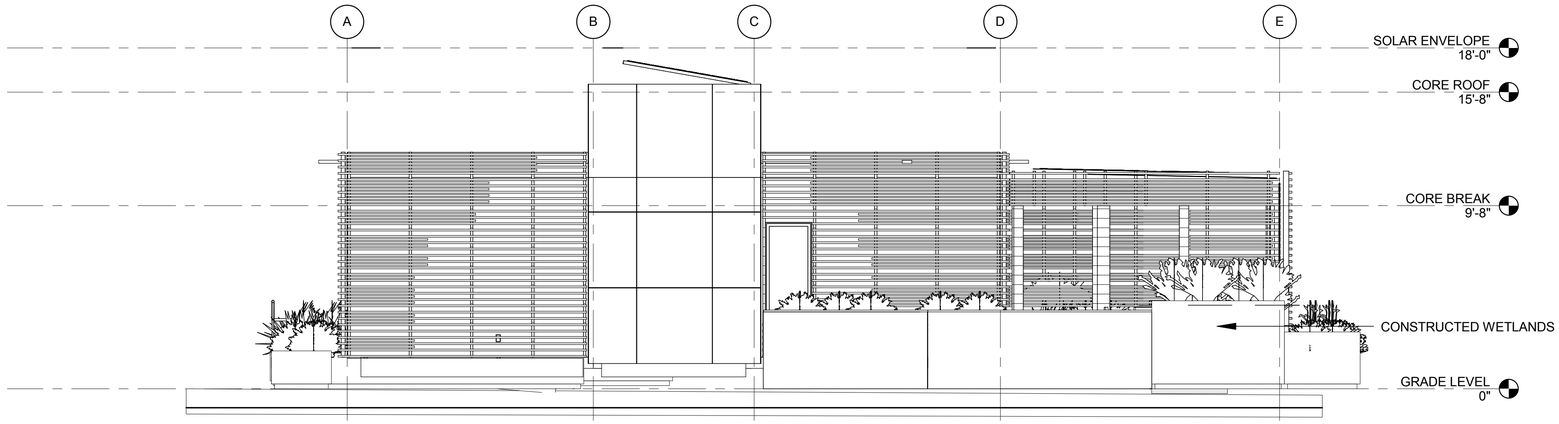
LANDSCAPE ELEVATIONS

AUGUST 17, 2015

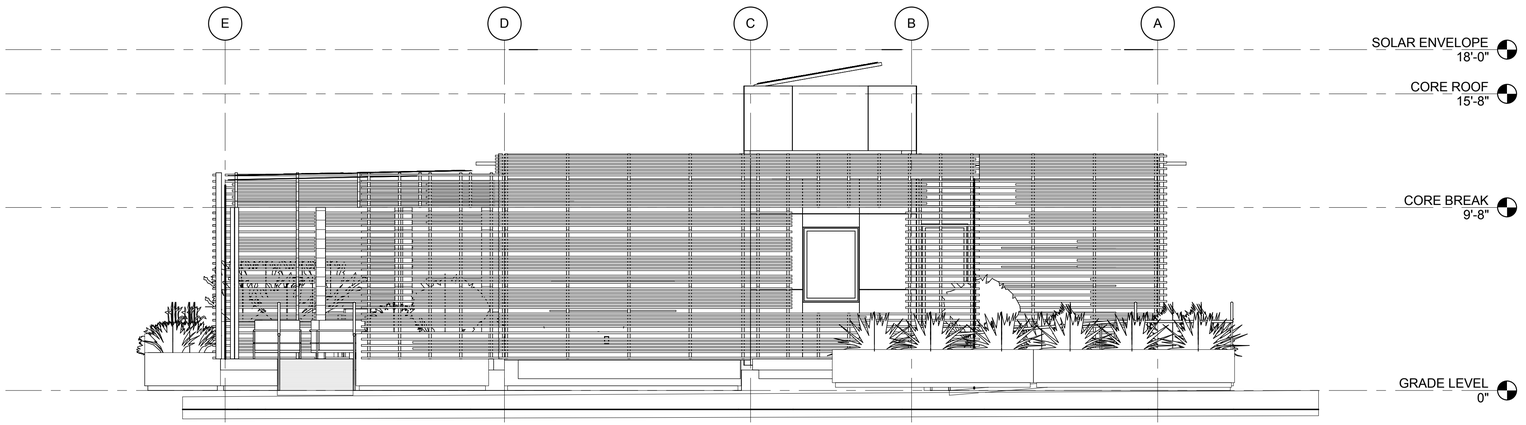
L-201



1 WEST LANDSCAPE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'



2 EAST LANDSCAPE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

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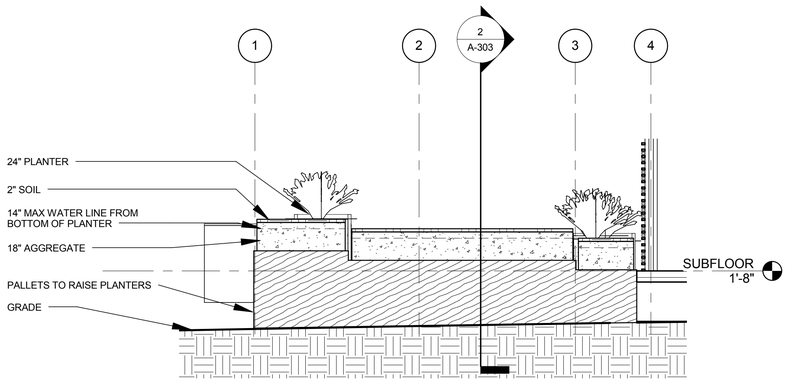
LANDSCAPE ELEVATIONS

AUGUST 17, 2015

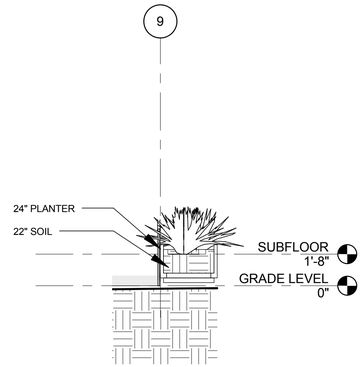
L-202



1 CONSTRUCTED WETLANDS SECTION

1/4" = 1'-0"

0 2' 4' 8'



2 PLANTER DETAIL

1/4" = 1'-0"

0 2' 4' 8'

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PLANTING DETAILS

AUGUST 17, 2015

L-601

GENERAL

ALL MATERIALS, WORKMANSHIP, DESIGN AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, THE CALIFORNIA BUILDING CODE (CBC, 2013 EDITION) AND CALIFORNIA STATE UNIVERSITY, SAN LUIS OBISPO BUILDING STANDARDS.

DESIGN LOADING CRITERIA:

ROOF LIVE LOAD .....20 PSF
FLOOR LIVE LOAD ..... 50 PSF
FLOOR LIVE LOAD (RESIDENTIAL DECKS) .....100 PSF
PARITTION LOADING (RESIDENTIAL) .....10 PSF
GUARDRAILS ..... 50 PLF
GUARDRAILS CONCENTRATED LOAD ....200 LBS
MECHANICAL UNITS ..... WEIGHTS FURNISHED BY MANUFACTURER
SNOW 20PSF
DESIGN WIND LOAD:
BASIC WND SPEED= 110 MPH, 3 SECOND GUSTS, EXPOSURE "C". (IBC)

BASE SHEAR V= Cs*W

SEE PLANS FOR ADDITIONAL LOADING CRITERIA

A. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES, AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.
CONTRACTOR SHALL PROVIDE TEMPORARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE CONTRACTORS WORK. THE UNIVERSITY REPRESENTATIVE HAS NO SUPERVISORY AUTHORITY OR DIRECT RESPONSIBILITY FOR THE SPECIFIC WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR. THE UNIVERSITY REPRESENTATIVE HAS NO DUTY TO INSPECT, SUPERVISE, NOTE, CORRECT, OR REPORT ANY HEALTH OR SAFETY DEFICIENCIES OF THE OWNER, CONTRACTORS, OR OTHER ENTITIES OR PERSONS AT THE PROJECT SITE.

C. CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE UNIVERSITY REPRESENTATIVE FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY THIS REQUIREMENT.

D. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE UNIVERSITY REPRESENTATIVE.

E. STRUCTURAL OBSERVATION SHALL BE PERFORMED IN ACCORDANCE WITH SECTIONS ***1709 OF THE CALIFORNIA BUILDING CODE*** FOR THE FOLLOWING BUILDING ELEMENTS:

- SHEARWALLS
- HOLDOWNS
- STRUCTURAL STEEL CONSTRUCTION

F. THE CONTRACTOR SHALL PROVIDE THE UNIVERSITY REPRESENTATIVE ADEQUATE NOTICE TO SCHEDULE APPROPRIATE SITE VISITS FOR STRUCTURAL OBSERVATION.

FOUNDATION

A. ALLOWABLE SOIL BEARING PRESSURE ..... 6000 PSF
FACTOR OF SAFETY FOR OVERTURNING ANCHORAGE 2

B. MAXIMUM TIE-DOWN ANCHORAGE DEPTH SHALL NOT EXCEED 36" BELOW ADJACENT FINISHED GRADE. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL ADJACENT UNDERGROUND UTILITIES PRIOR TO THE PLACEMENT OF TIEDOWN ANCHORS INTO SOIL.

METAL PIER STAND

STAND MANUFACTURE AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE CALIFORNIA STATE SUPPLEMENTAL CERTIFICATION REPORT FOR PIER LISTING NUMBER 2440-1. PIER STANDS SHALL BE CONNECTED TO FOUNDATION BEAMS AND PADS IN ACCORDANCE WITH THE FOLLOWING DETAIL DRAWINGS.

STEEL

A. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON ***AISC-HSS AND SECTION 2205.2 OF THE INTERNATIONAL BUILDING CODE.***

B. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:

TYPE OF MEMBER	ASTM SPECIFICATION	Fy
1. ROLLED SHAPES INCLUDING PLATES	ASTM A36	36 KSI
2. STRUCTURAL TUBING	ASTM 500 GR B	46 KSI
3. CONNECTION BOLTS	ASTM 307	--

C. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A. W.S. DI.I STANDARDS AND SHALL BE PERFORMED BY CALIFORNIA STATE CERTIFIED WELDERS USING E70 XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY A.W.S.) SHALL BE USED. ALL COMPLETE JOINT PENETRATION WELDS SHALL BE MADE WITH A FILLER MATERIAL THAT HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT-20 DEGREES FAHRENHEIT, AS DETERMINED BY A WS CLASSIFICATION OR MANUFACTURER CERTIFICATION.

WOOD

A. FRAMING LUMBER SHALL BE KILN DRIED OR MC-19, GRADED AND MARKED IN CONFORMANCE WITH W.C.L.B. STANDARD GRADING RULES FOR WEST COAST LUMBER N0.17. FURNISH TO THE FOLLOWING MINIMUM STANDARDS:

JOISTS AND BEAMS:	(2x & 3x MEMBERS)	DFL #2
	(4x & 6x MEMBERS)	DFL #1
POSTS	(4x & 6x MEMBERS)	DFL #2
STUDS, PLATES, & MISC FRAMING		DFL #2

B. MANUFACTURED LUMBER PRODUCTS SHALL BE INSTALLED WITH A MOISTURE CONTENT OF 12% OR LESS. THE CONTRACTOR SHALL MAKE PROVISIONS DURING CONSTRUCION TO PREVENT THE MOISTURE CONTENT OF INSTALLED BEAMS FROM EXCEEDING 12%. EXCESSIVE DEFLECTIONS MAY OCCUR IF MOISTURE CONTENT EXCEEDS THIS VALUE.

PLYWOOD

A. PLYWOOD SHEATHING SHALL BE GRADE C-D, EXTERIOR GLUE OR STRUCTURAL II, EXTERIOR GLUE IN CONFORMANCE WITH DOC PS - I. ORIENTED STRAND BOARD OR THE EQUNALENT THICKNESS, EXPOSURE RATING AND PANEL INDEX MAY BE USED IN LIEU OF PLYWOOD.

B. FLOOR SHEATHING SHAIL BE TONGUE AND GROOVE CDX/ OSB.

SIPS

A. STRUCTURAL INSULATED ROOF AND WALL PANELS (S.I.P.) MANUFACTURED BY PREMIER SIPS SHALL CONFORM TO ***ESR REPORT 2233 OR EQUIVALENT CODE*** APPROVED PANELS. MANUFACTURE AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH *ICBO REPORT NO. PFC-5002.* PANELS SHALL BE CONNECTED TOGETHER WITH FIELD INSTALLED STUDS. THE OSB FACINGS SHALL BE CONNECTED TO THE STUD LUMBER SPLINES WITH 8d BOX NAILS AT 6" O.C.

B. WALLS SPLINES SHALL BE 4x8 #1 DFL CONTINUOUS TO TOP PLATES/SPLINE UNO. HEADER SPLINES SHALL BE PROVIDED ABOVE ALL WINDOWS UNO ON PLANS. PROVIDE CONTINUOUS 4x8 ROOF SIP SPLINES UNO.

C. PRESSURE TREATED WOOD SHALL BE TREATED PER A WPA STANDARD C2 FOR LUMBER OR C9 FOR PLYWOOD. WOOD IN CONTINUOUS CONTACT WITH FRESH WATER OR SOIL SHALL BE TREATED TO A RETENTION OF 0.40 PCF. PRESSURE TREATED WOOD FOR ABOVE GROUND USE SHALL BE TREATED TO A RETENTION OF 0.25 PCF. SODIUM BORATE (SBX) TREATED WOOD SHALL NOT BE USED WHERE EXPOSED TO WEATHER. FASTENERS AND TIMBER CONNECTORS IN DIRECT WITH ACQ-A, CBA-A, CA-B TREATED WOOD SHALL BE GI85 OR A18S HOT DIPPED OR CONTINUOUS HOT-GALVANIZED PER ASTM A6S3. FASTENERS AND TIMBER CONNECTORS IN DIRECT CONTACT WITH ACZA TREATED WOOD SHALL BE TYPE 304 OR 316 STAINLESS STEEL. TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR CATALOG NUMBER C-2004. EQUIVALENT DEVICES BY OTHER MANUFACTIJRERS MAY BE SUBSTITUTED, PROVIDED THEY HA VE ICBO OR ICC-ES APPROVAL FOR EQUAL OR GREATER LOAD CAPACITIES. PROVIDE NUMBER.AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTIJRER'S RECOMMENDATIONS.

D. ALL 2x JOISTS SHALL BE CONNECTED TO FLUSH BEAMS WITH "LB" SERIES JOIST HANGERS. ALL DOUBLE-JOIST BEAMS SHALL BE CONNECTED TO FLUSH BEAMS WITH "HUS" SERIES JOIST HANGERS.

WOOD FASTENERS

A. NAIL SIZES SPECIFIED ON DRAWINGS ARE BASED ON THE FOLLOWING SPECIFICATIONS:

SIZE	LENGTH	DIAMETER
6d	2"	0.113"
8d	2-1/2"	0.131"
10d	3"	0.148"
12d	3-1/4"	0.148"
16d.	BOX 3-1/2"	0.135"

IF THE CONTRACTOR PROPOSES THE USE OF ALTERNATE NAILS, THEY SHALL SUBMIT NAIL SPECIFICATIONS TO THE UNIVERSITY REPRESENTATIVE (PRIOR TO CONSTRUCTION) FOR REVIEW AND APPROVAL. NAILS- PLYWOOD (APA RATED SHEATHING) FASTENERS TO FRAMING SHALL BE DRIVEN FLUSH TO FACE OF SHEATHING WITH NO COUNTERSINKING PERMITTED.

B. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307.

C. PROVIDE WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG BOLTS BEARING ON WOOD. INSTALLATION OF LAG BOLTS SHALL CONFORM TO THE ***NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (2012 EDITION)*** WITH A LEAD BORE HOLE OF 60 TO 70 PERCENT OF THE SHANK DIAMETER LEAD HOLES ARE NOT REQUIREED FOR 3/8" AND SMALLER LAG SCREWS.

WOOD FRAMING

WOOD FRAMING NOTES-THE FOLOWING APPLY UNLESS SHOWN OTHERWISE ON PLANS.

A. ALL WOOD FRAMING DETAILS NOT SHOWN OTHERWISE SHALL BE CONSTRUCTED TO THE MINIMUM STANDARDS OF THE ***INTERNATIONAL RESIDENTIAL CODE (2013 EDITON)***. MINIMUM NAILING, UNLESS NOTED OTHERWISE, SHALL CONFORM TO ***TABLE 2304.9.1*** OF THE INTERNATIONAL BUILDING CODE. COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH MECHANICAL

B. WALL FRAMING: TWO STUDS MINIMUM SHALL BE PROVIDED AT THE END OF ALL WALLS AND AT EACH SIDE OF ALL OPENINGS, AND AT BEAM OR HEADER LOCATIONS. WHERE BEAMS OR HEADERS ARE NOT NOTED ON PLAN SIP PANELS WITH LUMBER SPLINED EDGES AS DESCRIBED IN TYPICAL DETAILS SHALL BE USED.

- ALL WALLS SHALL HAVE A SINGLE BOTTOM PLATE AND A SINGLE TOP PLATE UNLESS NOTED OTHERWISE ON PLAN
- END NAIL TOP PLATE TO EACH STUD WITH TWO 16d NAILS, AND TOENAIL OR END NAIL EACH STUD TO BOTTOM PLATE WITH TWO 16d NAILS.
- INDIVIDUAL MEMBERS OF BUILT-UP POSTS SHALL BE NAILED TO EACH OTHER WITH TWO ROWS OF 16d@ 12" ON-CENTER. UNLESS OTHERWISE NOTED
- GYPSUM WALL BOARD SHALL BE FASTENED TO THE INTERIOR SURFACE OF ALL STUDS AND PLATES WITH NO. 6 xl-114" TYPE 'S' OR WOOD SCREWS @ 8" ON-CENTER. UNLESS INDICATED OTHERWISE,
- TYPE 'L' PREMIER BUILDING SYSTEM SIP'S SHALL BE NAILED TO ALL EXTERIOR SURFACES WITH 8d NAILS @ 6" ON-CENTER AT PANEL EDGES AND TOP AND BOTTOM PLATES (BLOCK UNSUPPORTED EDGES) AND TO ALL INTERMEDIATE STUDS AND BACKING WITH SD NAILS @ 12" ON-CENTER.

C. NAIL ALL BUILT-UP BEAMS AND HEADERS WITH 16d@ 12" ON CENTER

D. ALL FLOOR SHEATHING EDGES SHALL HAVE APPROVED TONGUE AND GROOVE JOINTS OR SHALL BE SUPPORTED WITH SOLID BLOCKING. TONGUE AND GROOVE EDGES SHALL BE GLUED WITH CONSTRUCTION ADHESIVE WHERE NOTED ON PLAN.

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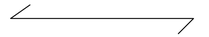
SHEET TITLE
GENERAL NOTES

S-001

SYMBOLS

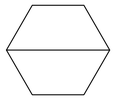


DIRECTION OF SPAN

SECTION DETAIL

SECTION DETAIL BUBBLE

SHEAR WALL



SHEAR WALL CALLOUT

HOLD DOWN

STRAP

STUD FRAMED WALL

SIP WALL

SHEET INDEX

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Number	Description	Date

LOT NUMBER: 107

DRAWN BY:

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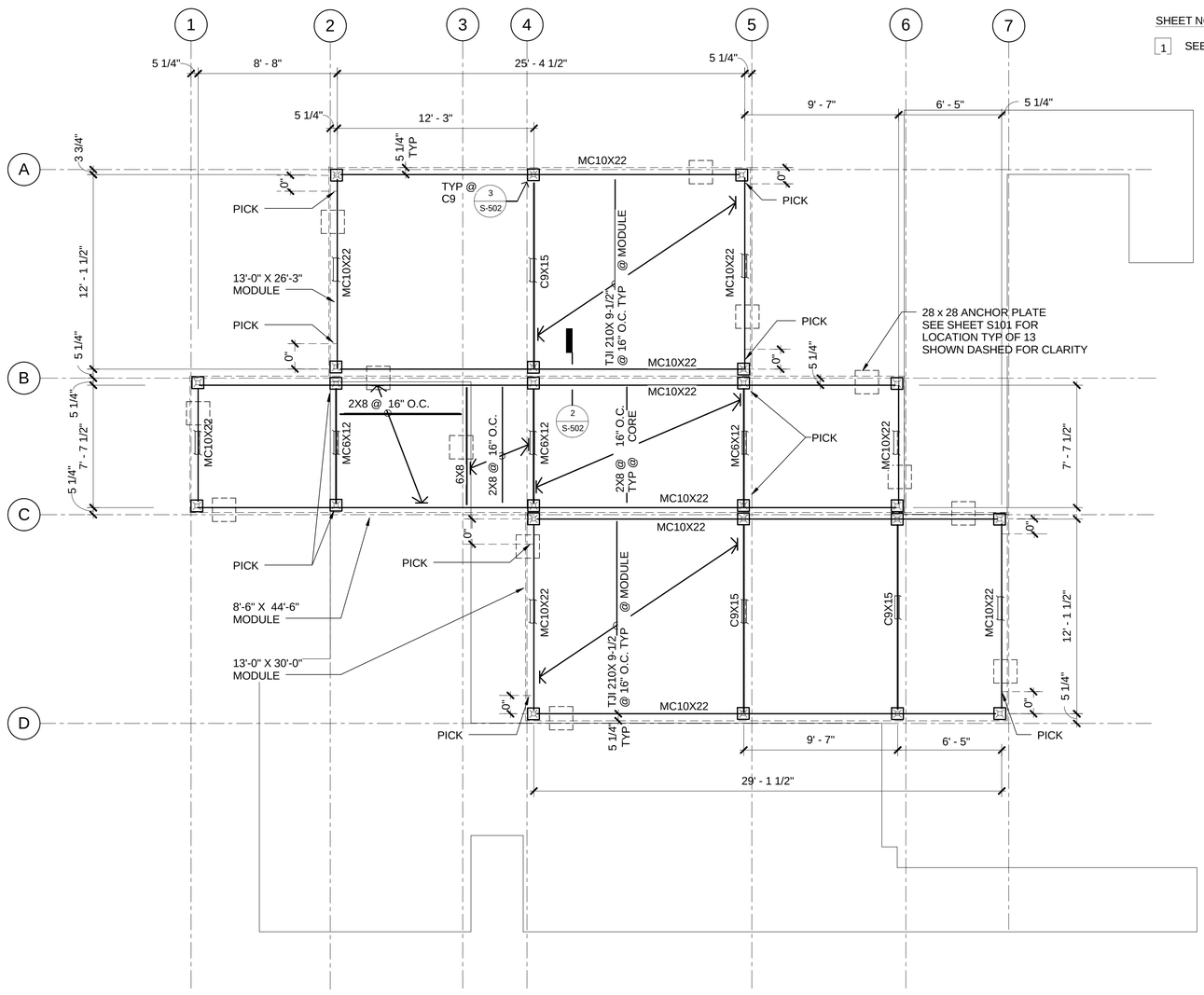
SHEET TITLE

GENERAL NOTES

S-002



SHEET NOTES

1 SEE SHEET NOTES ON S101

1 CHASSIS FRAMING PLAN

1/4" = 1'-0"

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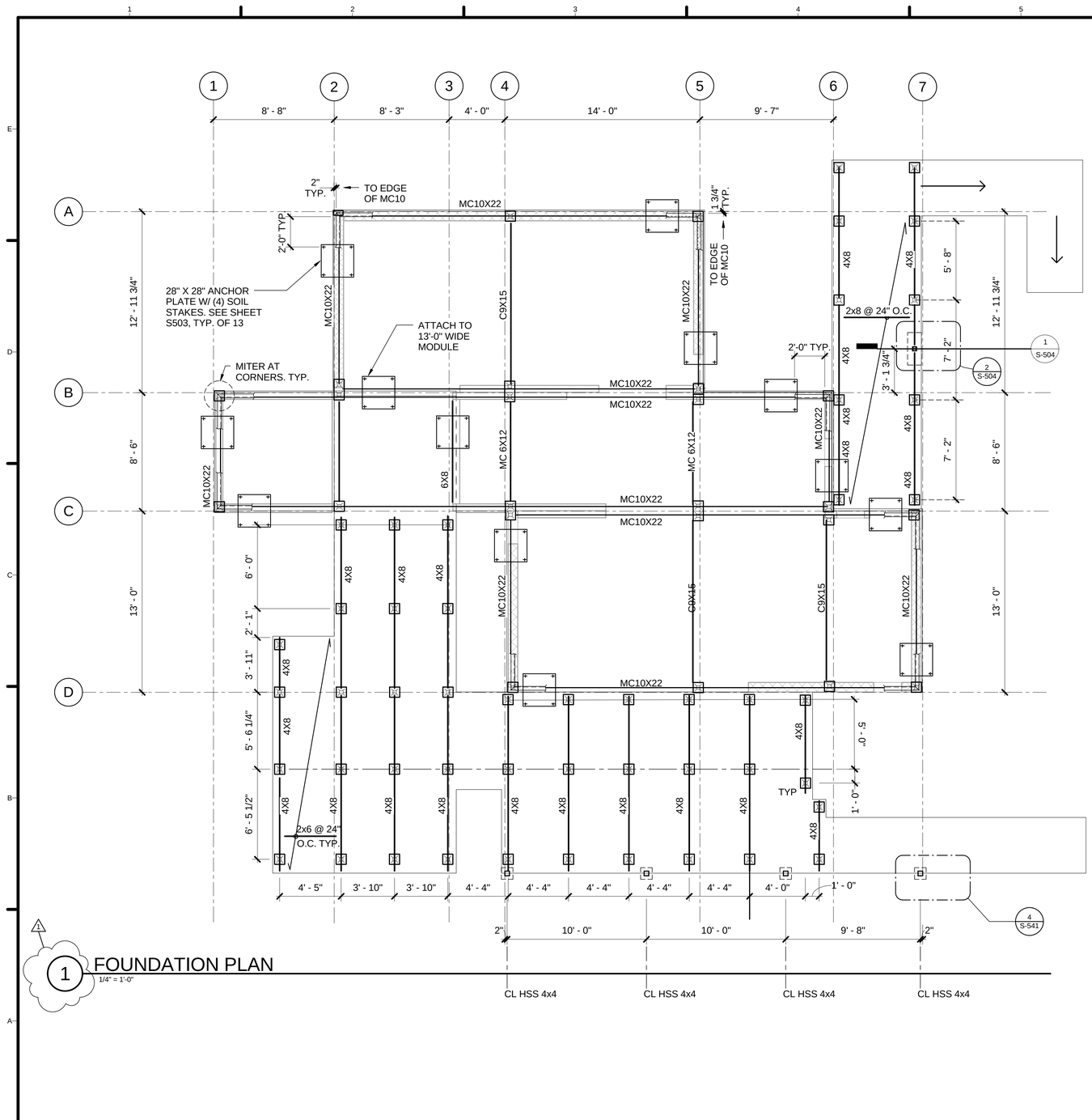
SHEET TITLE

CHASSIS FRAMING

S-100



1 FOUNDATION PLAN

1/4" = 1'-0"

FOUNDATION NOTES

1. DENOTES METAL PIER STAND
2. AT ADJACENT PIERS, USE ONE BASE PLATE
3. SEE DETAILS ON SHEET S501 FOR CHASSIS AND PICK POINT DETAILS
4. SEE DETAILS ON SHEET S503 FOR CHASSIS ANCHORAGE DETAILS

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1	DOE Submittal	17 Aug 2015

LOT NUMBER: 107

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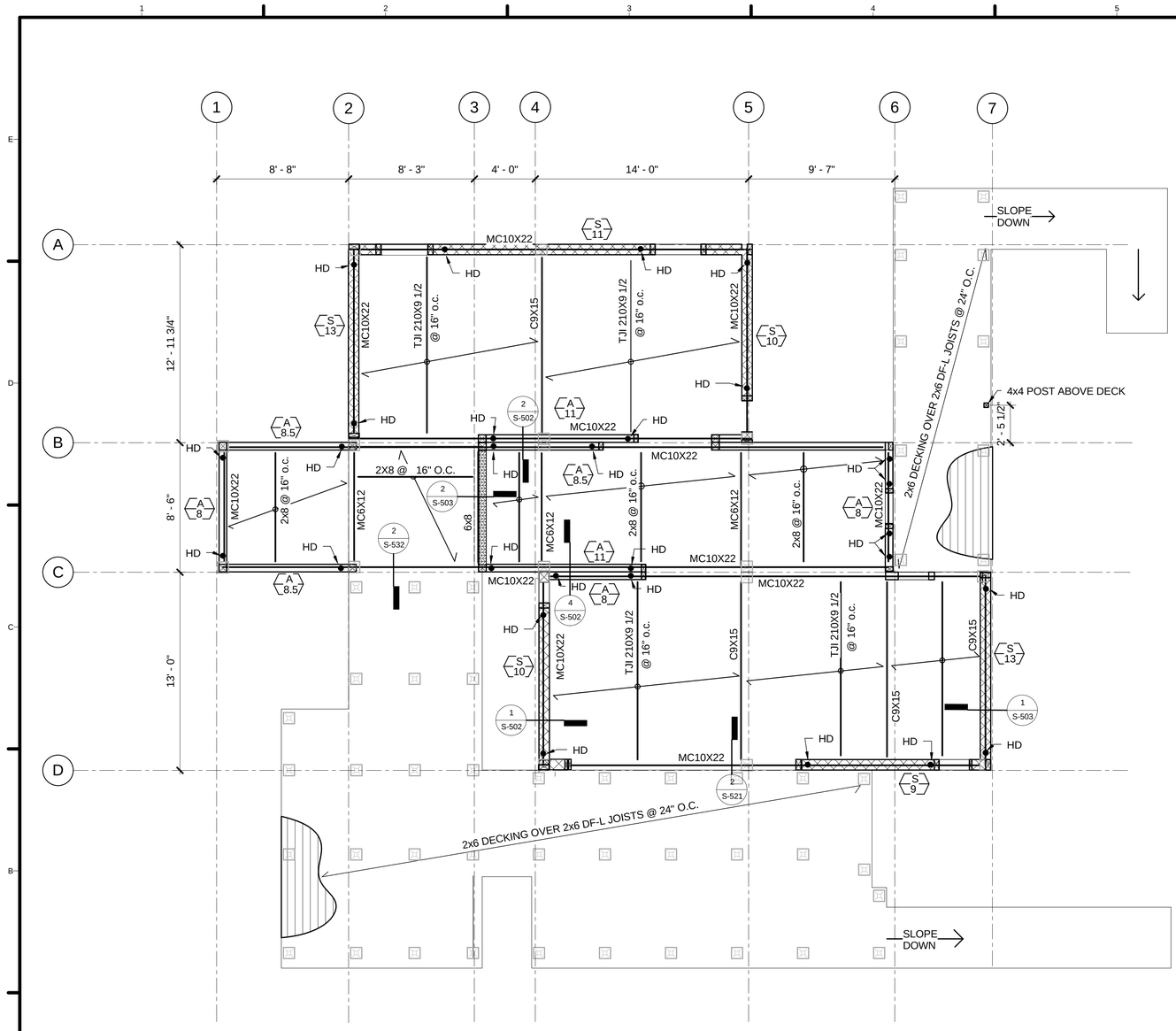
FOUNDATION

S-101



1 FIRST FLOOR & DECK FRAMING PLAN

1/4" = 1'-0"

FIRST FLOOR FRAMING NOTES

1. FLOOR SHEATHING INSTALLED LONG DIMENSION PERPENDICULAR TO FLOOR FRAMING, 3/4" T&G CDX/OSB FASTENED w/ 0.170 dia. PNEUMOATIC FASTENERS OR #12 S.D.S.T.S. 6" O.C. @ EDGES 12" O.C. FIELD. FASTENERS SHALL PENETRATE 1/4" MIN THROUGH BASE STEEL.
2. TYPICAL FLOOR FRAMING @ +1'-8"
3. TYPICAL DECK FRAMING 2x6 DECK JOISTS @ 24" O.C. w/ 2x6 FLAT DECKING
4. SEE SHEET S-511 FOR TYPICAL SIP DETAILS

SHEAR WALL SCHEDULE

TYPE	SHEATHING/FRAMING	NAILING	POST	SILL PLATE	HOLD DOWNS
A 10'-6"	1/2" STRUCUTURAL SHEATHING w/ 2X STUD FRAMING	8d common @ 6" o.c. EN w/ 12" o.c. FIELD NAILING	4x	2x w/ 5/8" ATS @ 16" o.c.	HDU2-SDS2.5
S 10'-6"	6 1/2" SIP w/ 4x8 DF#1 SPLINES	8d common @ 6" o.c. @ SIP EDGES	4x	2x w/ 5/8" ATS @ 16" o.c.	HDU2-SDS2.5

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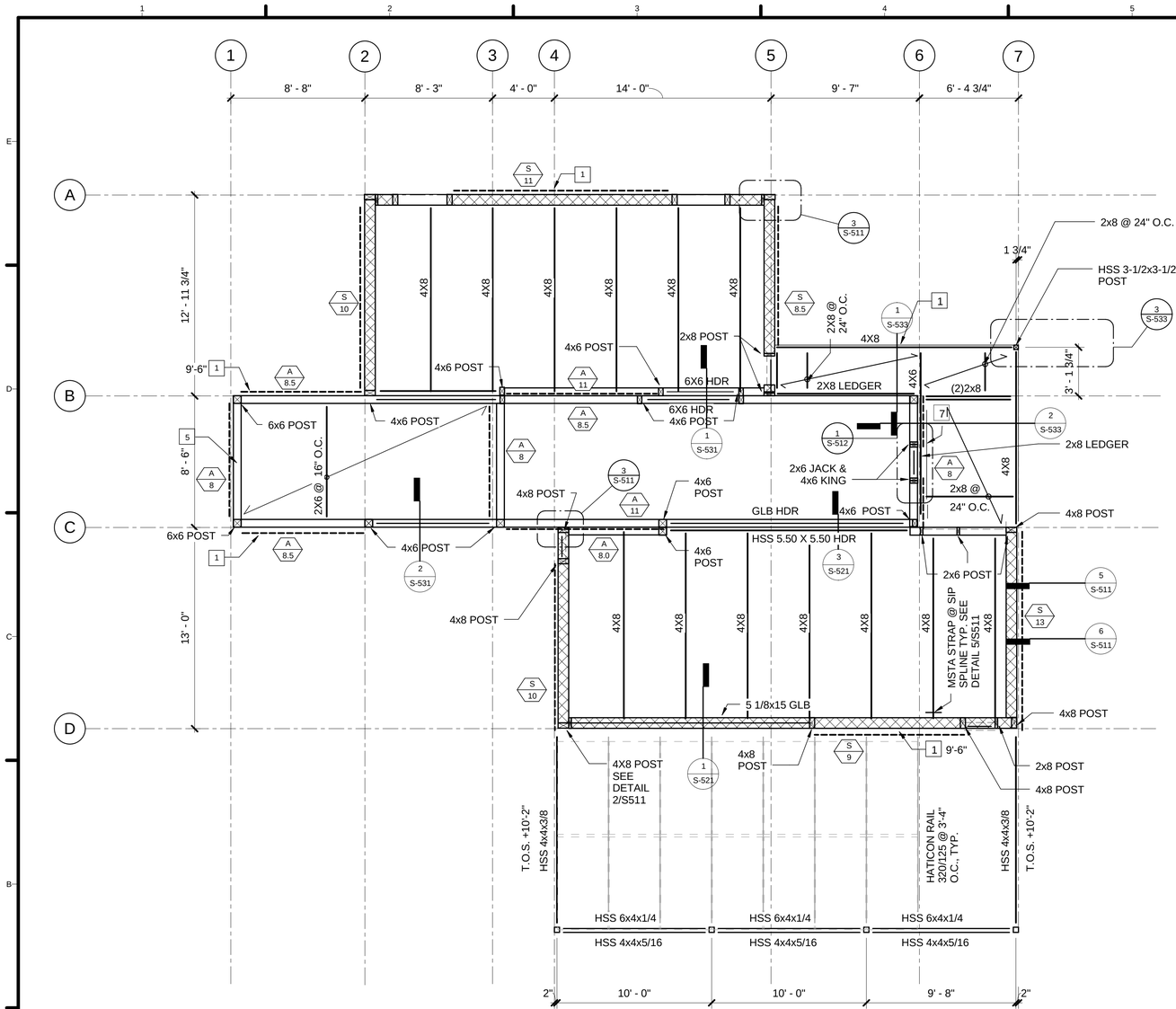
FIRST FLOOR FRAMING

S-102



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

LOW ROOF FRAMING NOTES

1. PLATE HEIGHT AFF VERIFY WITH ARCHITECTURAL
2. PROVIDE (2) 2x8 HEADERS ABOVE ALL WINDOWS UNO
3. SIP ROOF SHALL BE 8 1/4" SIPS w/ 8d NIALS @ 6" O.C.
4. ALL BEARING WALLS SHALL BE 8 1/4" SIPS w/ 4X8 DFL #1 SPLINE AT ADJOINING PANELS OR 6" NOMINAL STUD FRAMED WALLS
5. PROVIDE 2X6 LEDGER AT FACE OF WALL
6. USE LUS26 SIMPSON HANGER FOR 2X6 CEILING JOISTS AT CENTER MODULE
7. USE LSTA 24 SIMPSON STRAP TO 2x BLOCKING ABOVE AND BELOW WINDOW OPENING
8. STRAP BREAKS IN TOP PLATE WITH CS16 x 36" UNO ON PLANS

SHEAR WALL SCHEDULE

TYPE	SHEATHING/FRAMING	NAILING	POST	SILL PLATE	HOLD DOWNS
A 10'-6"	1/2" STRUCUTURAL SHEATHING w/ 2X STUD FRAMING	8d common @ 6" o.c. EN w/ 12" o.c. FIELD NAILING	2-2x	2x w/ 5/8" ATS @ 16" o.c.	HDU2 UNO
S 10'-6"	6 1/2" SIP w/ 4x8 DF#1 SPLINES	8d common @ 6" o.c. @ SIP EDGES	4x	2x w/ 5/8" ATS @ 16" o.c.	HDU2

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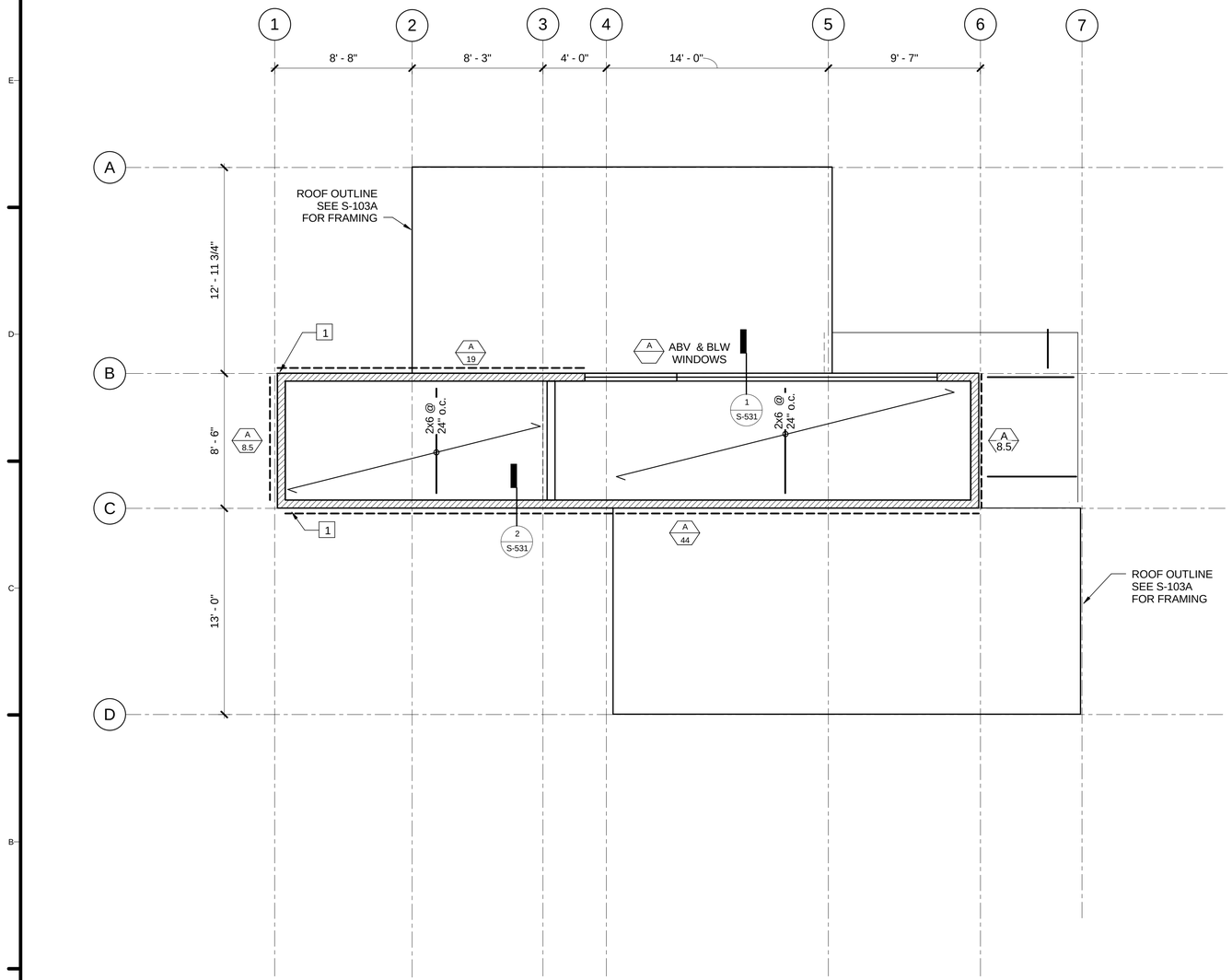
SHEET TITLE
LOW ROOF FRAMING

S-103A



1 HIGH ROOF FRAMING PLAN

1/4" = 1'-0"

HIGH ROOF FRAMING NOTES

1. PLATE HEIGHT VERIFY WITH ARCHITECTURAL
2. ALIGN BEAM WITH WALL ABOVE
3. 4X8 #1 BEAM WHERE APPLICABLE FOR PV ANCHOR
4. ROOF PANELS NAILED w/ 8d COMMON NAILS; 6" O.C. EDGE NAILING; 12" O.C. FIELD NAILING
5. USE LUS26 SIMPSON HANGER FOR 2X6 ROOF RAFTERS AT CENTER MODULE
6. SEE DETAIL 1/S-532 FOR CORE BREAK CONNECTION
7. STRAP BREAKS IN TOP PLATE WITH CS16 x 36" UNO ON PLANS

SHEAR WALL SCHEDULE

TYPE	SHEATHING/FRAMING	NAILING	POST	SILL PLATE	HOLD DOWNS
A 10'-6"	1/2" STRUCUTURAL SHEATHING w/ 2X STUD FRAMING	8d common @ 6" o.c. EN w/ 12" o.c. FIELD NAILING	2-2x	2x w/ 5/8" ATS @ 16" o.c.	HDU2 UNO
S 10'-6"	6 1/2" SIP w/ 4x8 DF#1 SPLINES	8d common @ 6" o.c. @ SIP EDGES	4x	2x w/ 5/8" ATS @ 16" o.c.	HDU2

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Revision Schedule

Number	Description	Date

LOT NUMBER: 107

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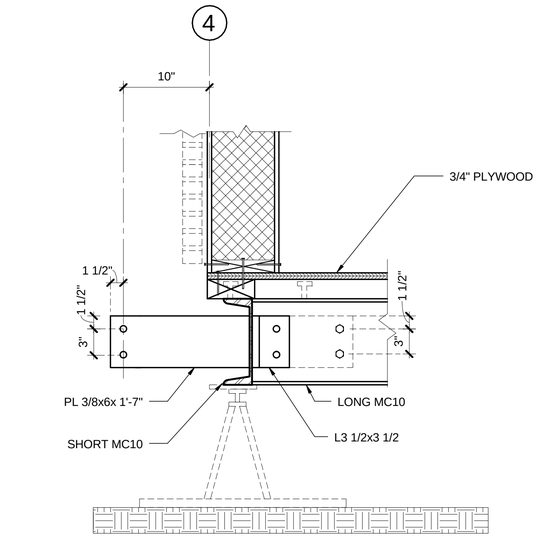
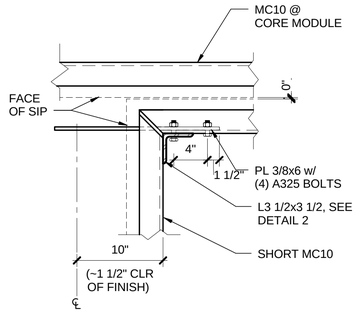
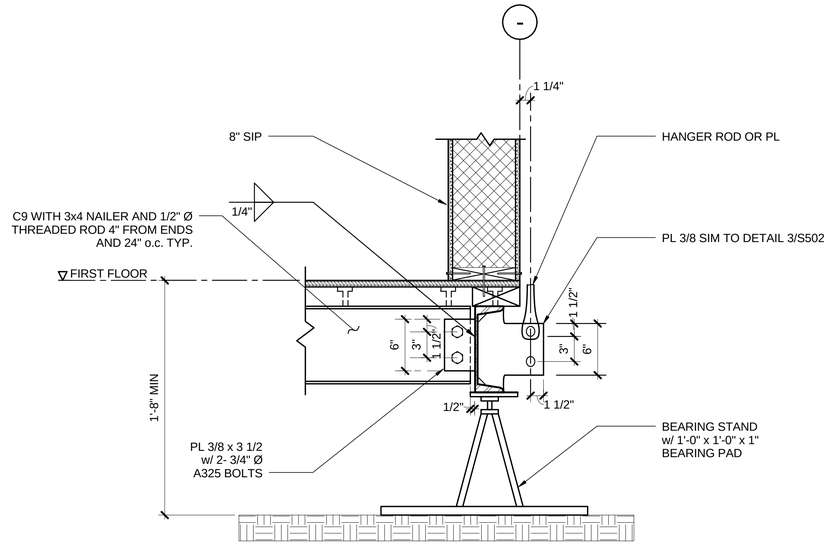
SHEET TITLE

HIGH ROOF FRAMING

S-103B

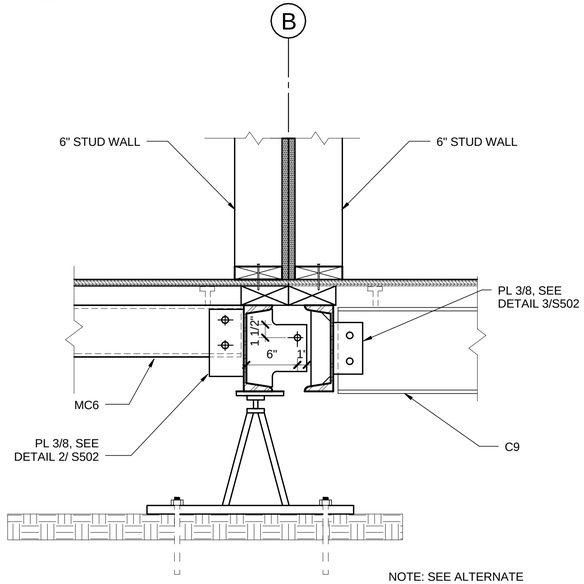




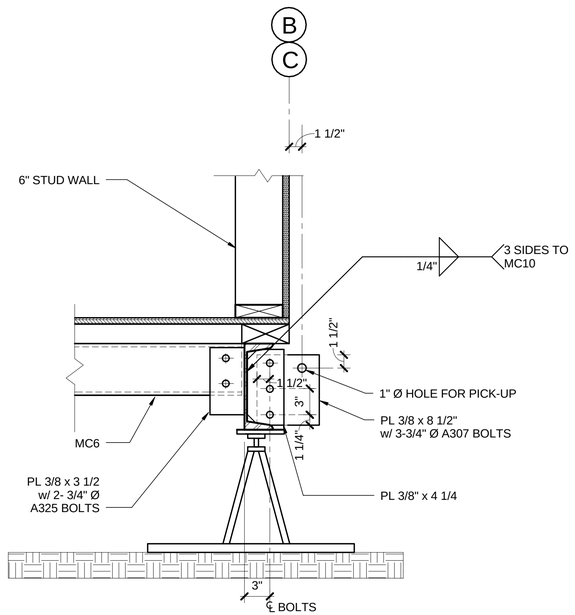


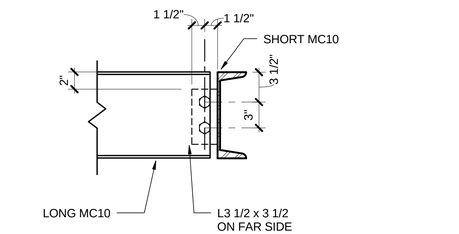
3 CHASIS TO CORE CONNECTION
1 1/2" = 1'-0"

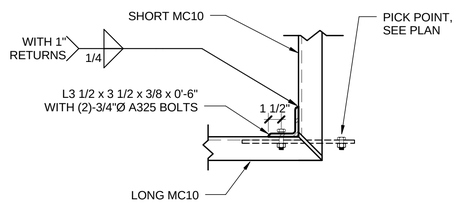
1 FLOOR SUPPORT AT PICKUP
1 1/2" = 1'-0"



NOTE: SEE ALTERNATE
PICK UP CONNECTION
DETAIL 1/ S503
USE AT CONTRACTOR'S OPTION







NOTE: SEE DETAILS 1 AND 3 FOR CONNECTION AT PICK POINT

5 FLOOR SUPPORT AT PICKUP: CORE MODULE
1 1/2" = 1'-0"

4 ALTERNATE PICK-UP CONNECTION CORE MODULE
1 1/2" = 1'-0"

2 TYPICAL CORNER CHASSIS DETAIL
1 1/2" = 1'-0"

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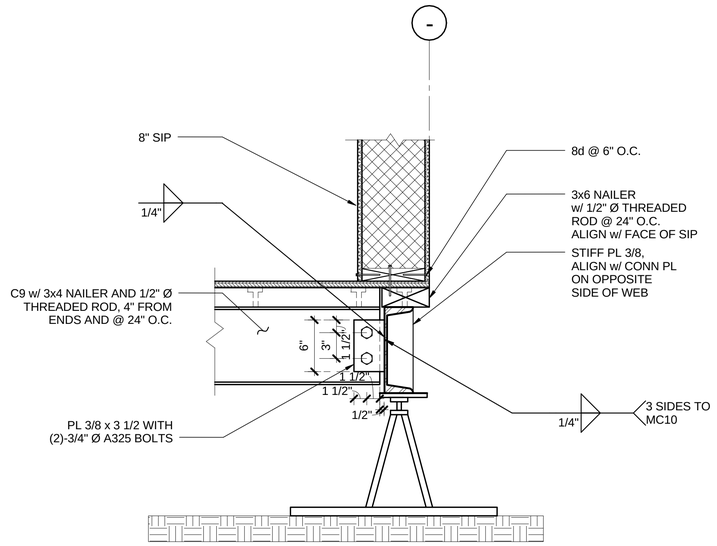
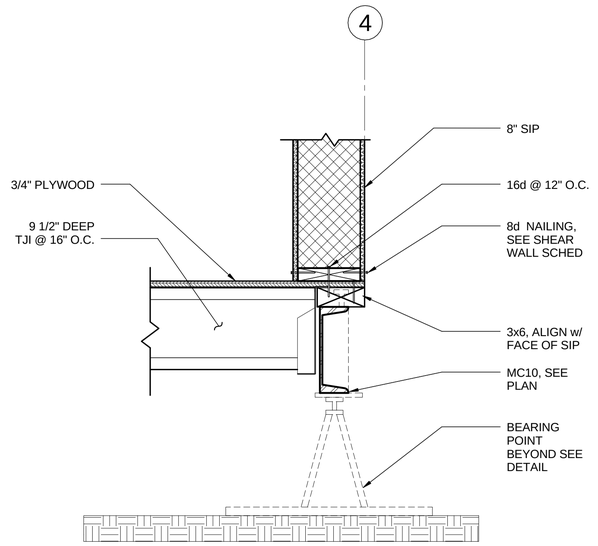
SHEET TITLE
FLOOR DETAILS

S-501



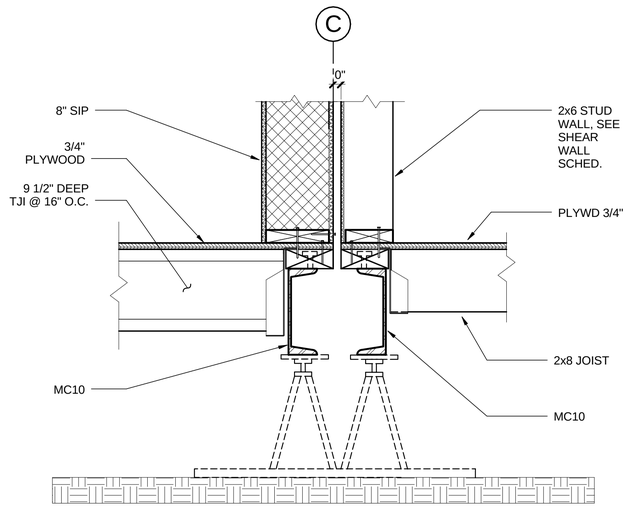
3 TYPICAL FLOOR SUPPORT AT BEARING

1 1/2" = 1'-0"



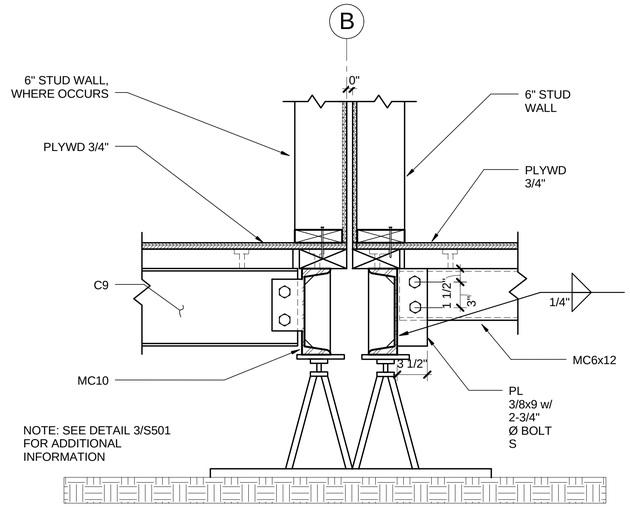
1 TYPICAL FLOOR SUPPORT AT EDGE

1 1/2" = 1'-0"



4 FLOOR SUPPORT BETWEEN SIP AND STUD WALL

1 1/2" = 1'-0"



2 ADJACENT BEARING PADS

1 1/2" = 1'-0"

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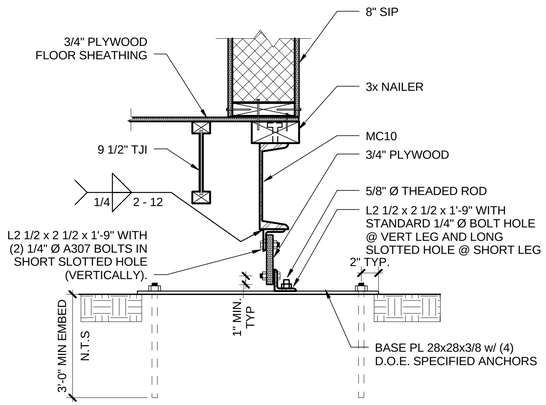
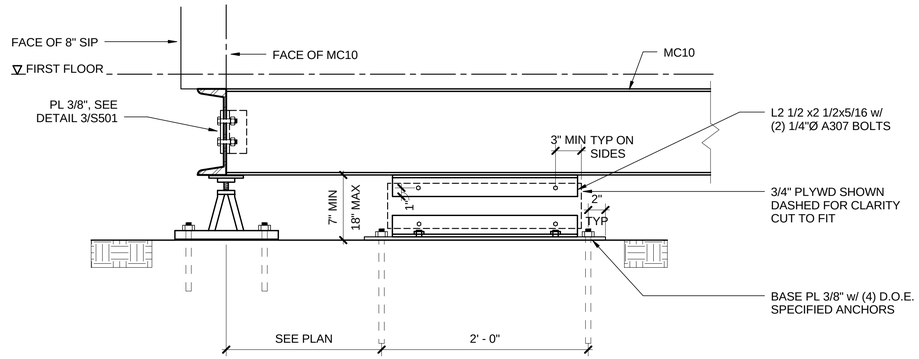
FLOOR DETAILS

S-502



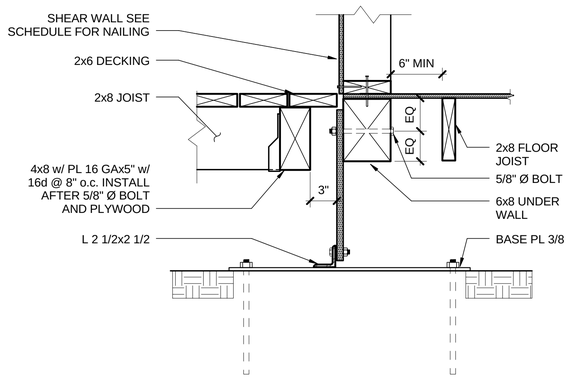
SECTION @ ANCHOR



SECTION @ ANCHOR

1 ANCHOR DETAILS

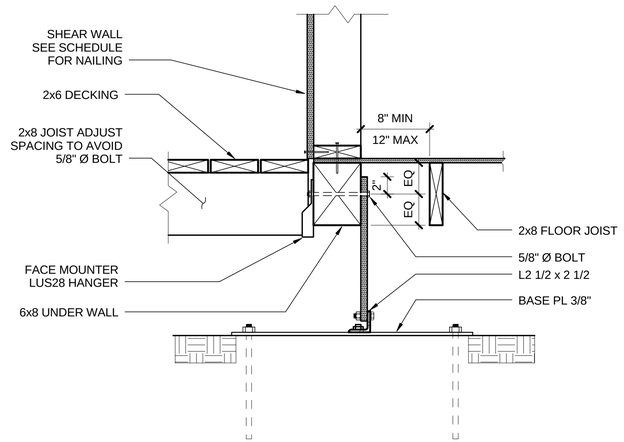
1 1/2" = 1'-0"



NOTE: SEE DETAIL 1/S503 FOR ADDITIONAL INFORMATION

3 ALTERNATE WALL ANCHORAGE

1 1/2" = 1'-0"



NOTE: SEE DETAIL 1/S5.03 FOR ADDITIONAL INFORMATION, & SEE DETAIL 4/S5.03 FOR ALTERNATE CONNECTION

2 ANCHORAGE @ SHEARWALL

1 1/2" = 1'-0"

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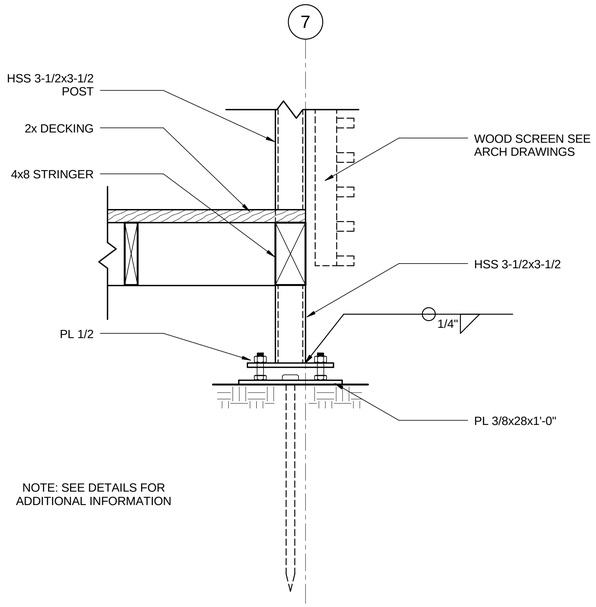
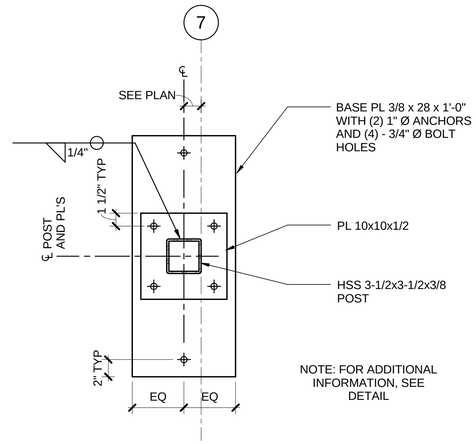
FLOOR DETAILS

S-503



1 ENTRY COLUMN BASE SECTION

1 1/2" = 1'-0"



2 ENTRY COLUMN BASE PL DETAIL

1 1/2" = 1'-0"

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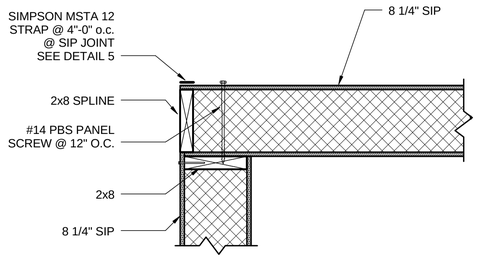
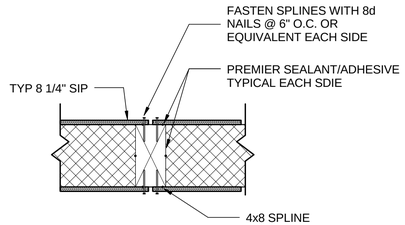
FLOOR DETAILS

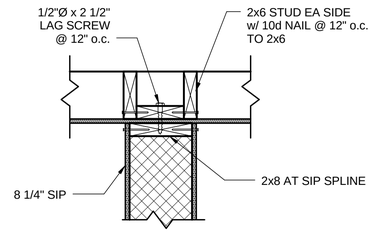
S-504



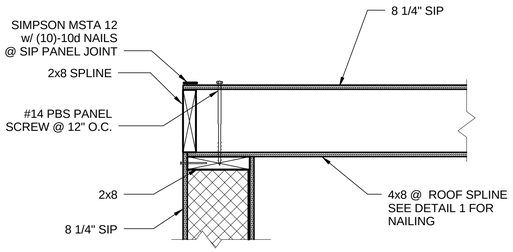
4 SIP WALL TO SIP ROOF
1 1/2" = 1'-0"



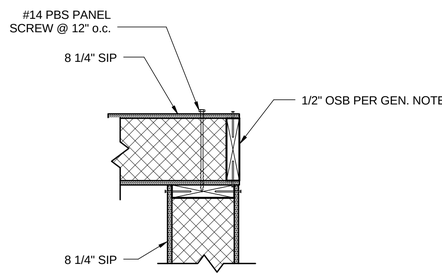
1 SPLINE CONNECTION @ ROOF
1 1/2" = 1'-0"



1A PLAN @ SIP WALL TO STUD WALL
1 1/2" = 1'-0"



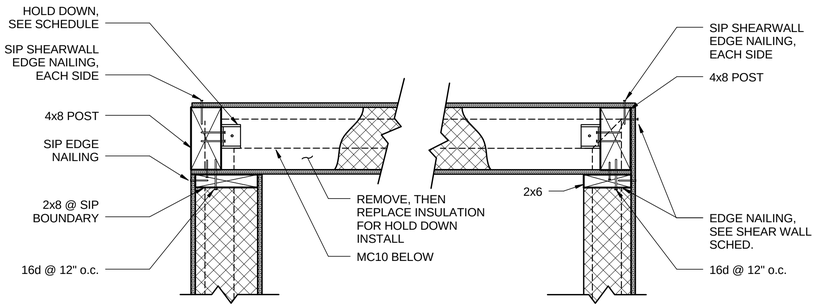
5 SIP WALL TO SIP ROOF @ WALL SPLINE
1 1/2" = 1'-0"



NO HOLD DOWN

2 PLAN @ SIP WALL TO SIP WALL CORNER
1 1/2" = 1'-0"

6 STUD WALL TO SIP ROOF
1 1/2" = 1'-0"



3 HOLD DOWN @ SIP SHEAR WALL
1 1/2" = 1'-0"

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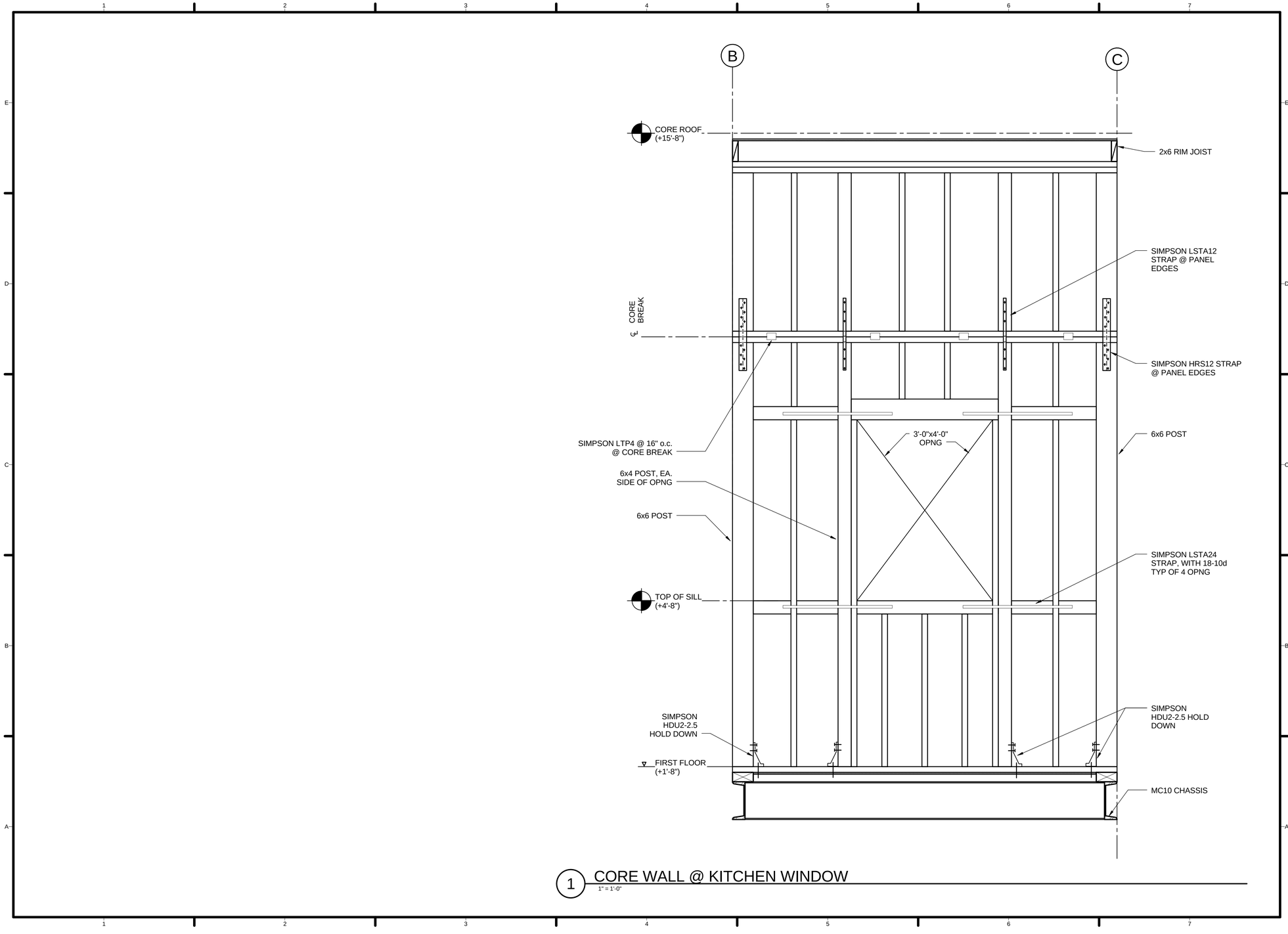
SIP DETAILS

S-511



1 CORE WALL @ KITCHEN WINDOW

1" = 1'-0"

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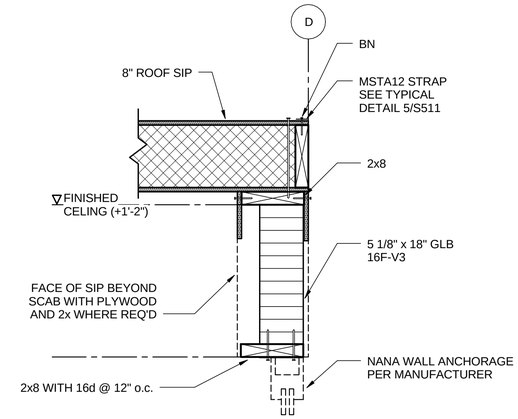
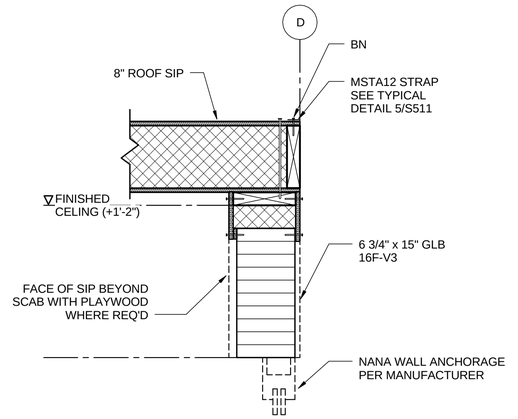
WALL DETAILS

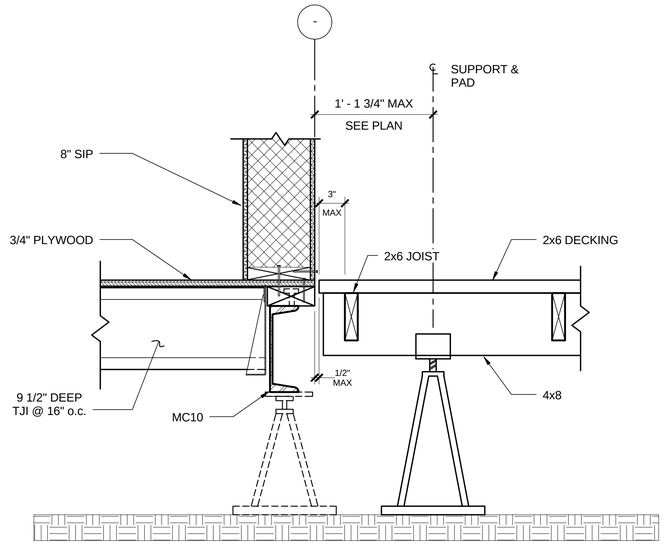
S-512



3 SECTION @ NANA WALL (ALTERNATE)
1 1/2" = 1'-0"



1 SECTION @ NANA WALL
1 1/2" = 1'-0"



2 TYPICAL SUPPORT AT FLOOR AND DECK EDGE
1 1/2" = 1'-0"

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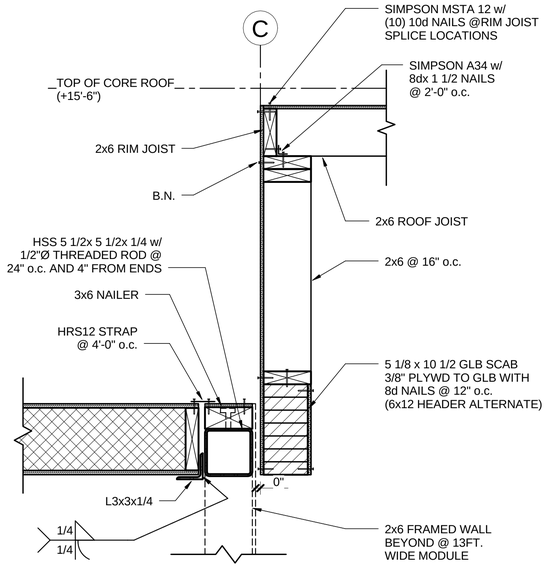
WOOD DETAILS

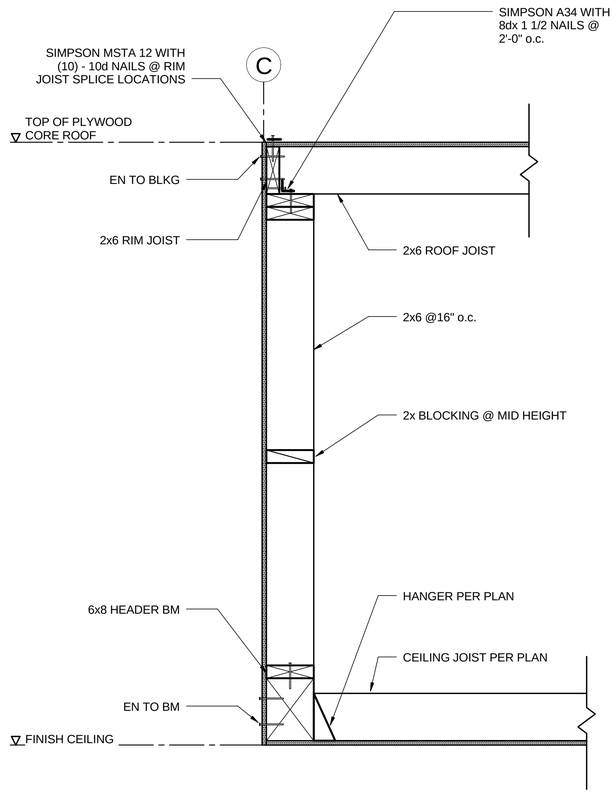
S-521



NOTE: SHIM @ 8x4 SPLINE w/ 3/8" PLYWOOD.
SEE DETAIL 4 FOR HSS HEADER SUPPORT.

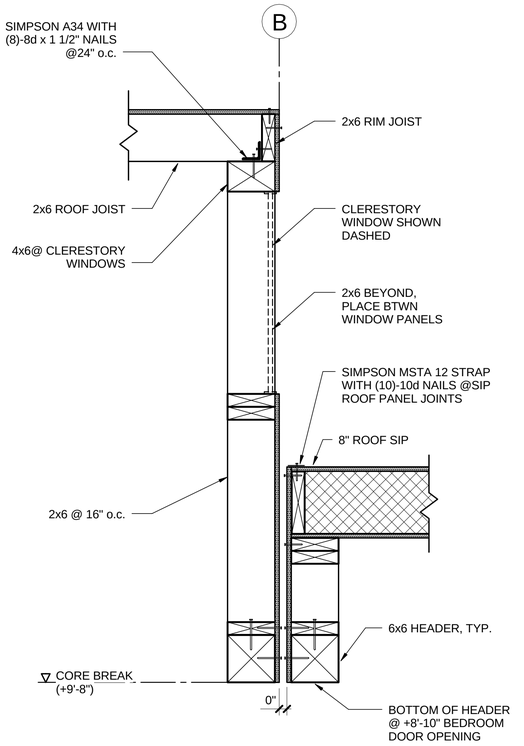
3 HEADER ON LINE C

1 1/2" = 1'-0"



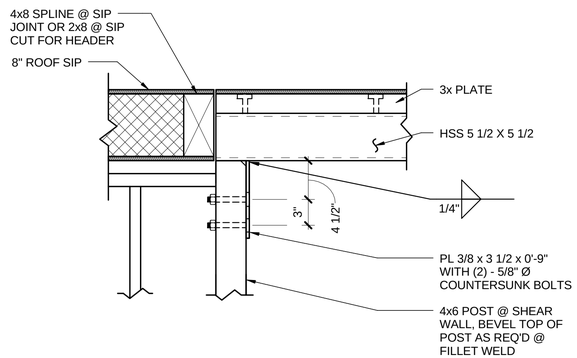
2 CORE WALL OVER ALCOVE

1 1/2" = 1'-0"



1 ROOF ON LINE B

1 1/2" = 1'-0"



4 HSS HEADER CONNECTION

1 1/2" = 1'-0"

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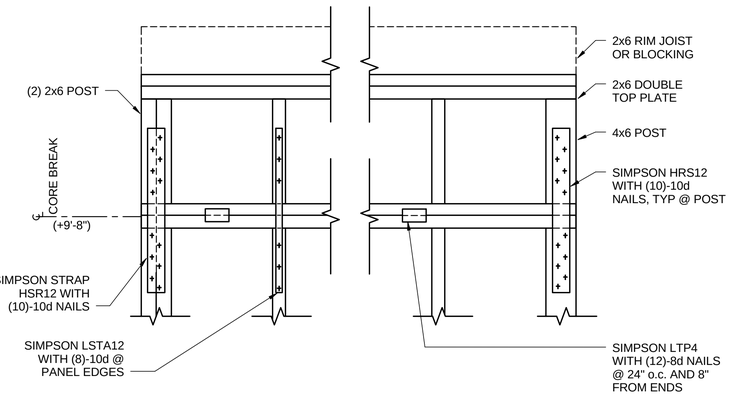
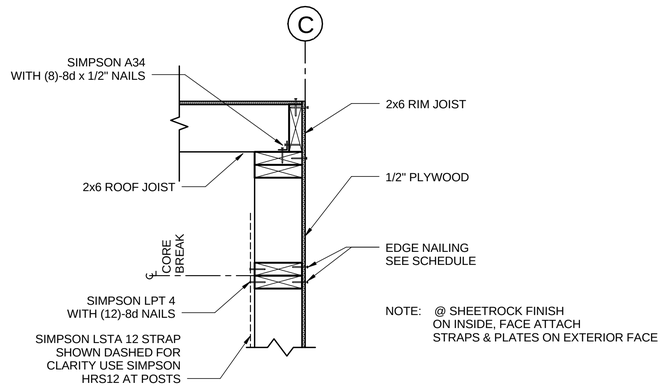
WOOD DETAILS

S-531



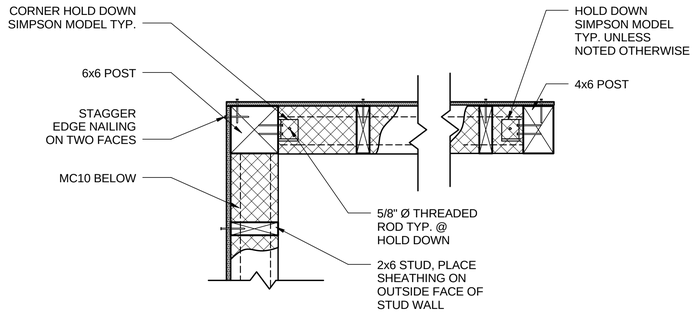
ELEVATION



SECTION

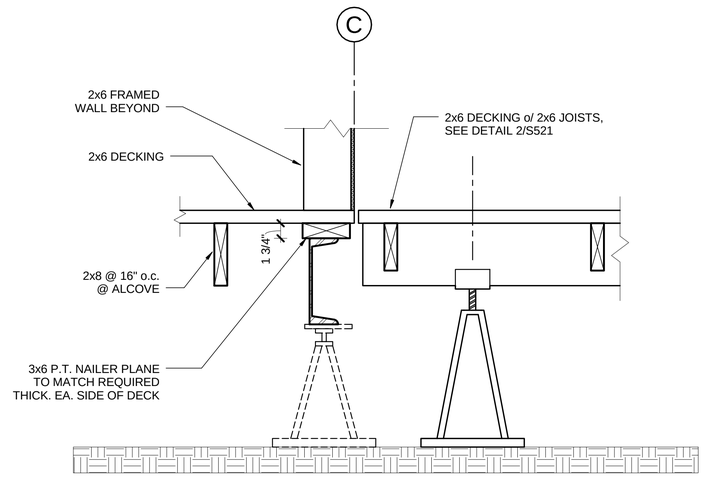
1 TYPICAL DETAIL @ CORE BREAK

1 1/2" = 1'-0"



3 PLAN @ 6x STUD WALL CORNER

1 1/2" = 1'-0"



2 SECTION @ ALCOVE

1 1/2" = 1'-0"

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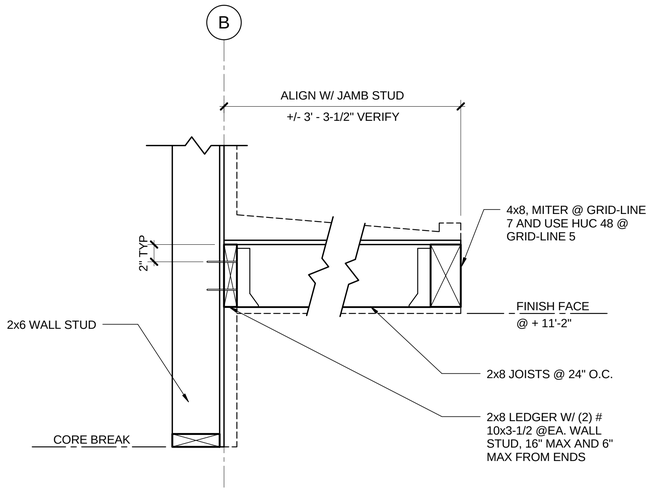
SHEET TITLE

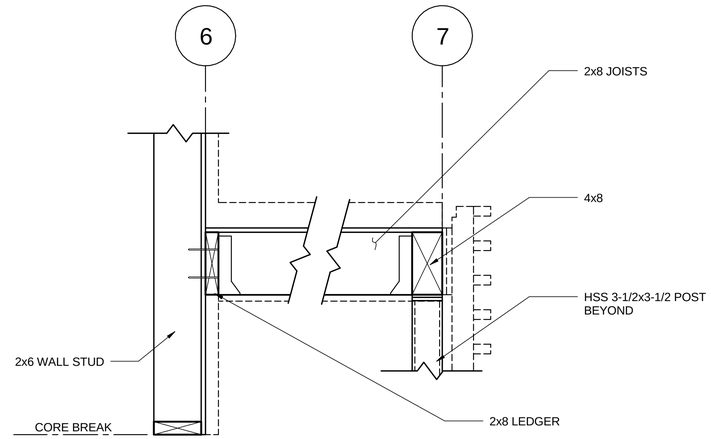
WOOD DETAILS

S-532



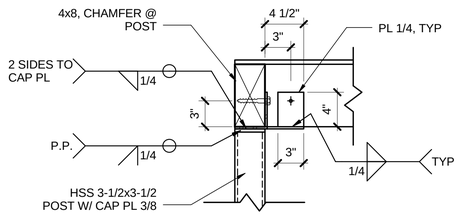
1 ENTRY OVERHANG SECTION @ GRID-LINE B

1 1/2" = 1'-0"

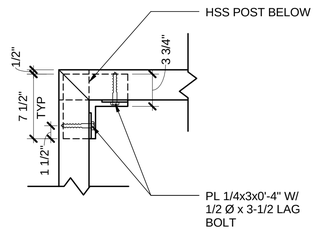


2 ENTRY OVERHANG SECTION @ GRID-LINES 6 AND 7

1 1/2" = 1'-0"



SECTION



PLAN

3 ENTRY OVERHANG COLUMN CAP DETAILS

1 1/2" = 1'-0"

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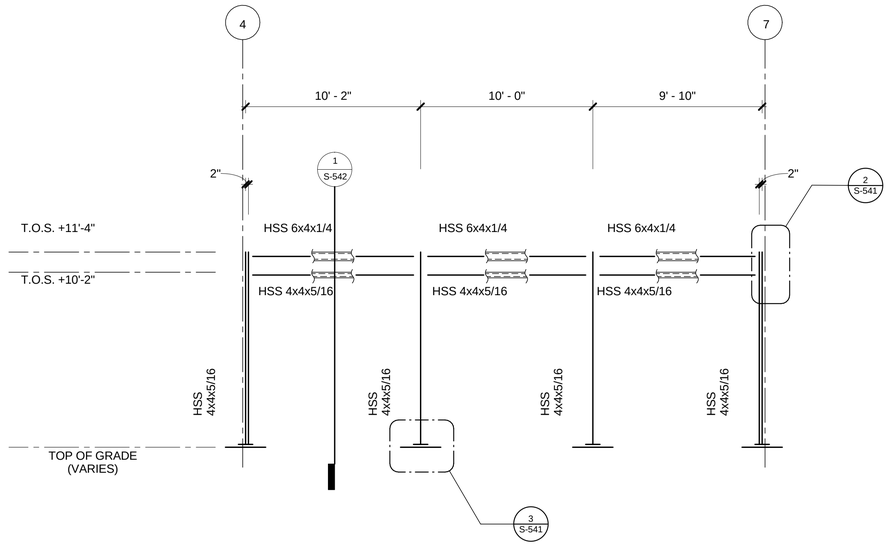
SHEET TITLE

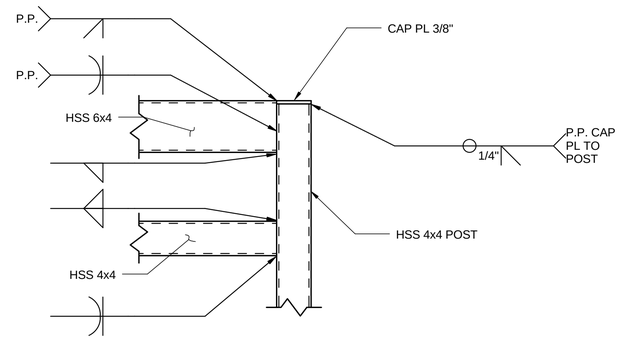
WOOD DETAILS

S-533



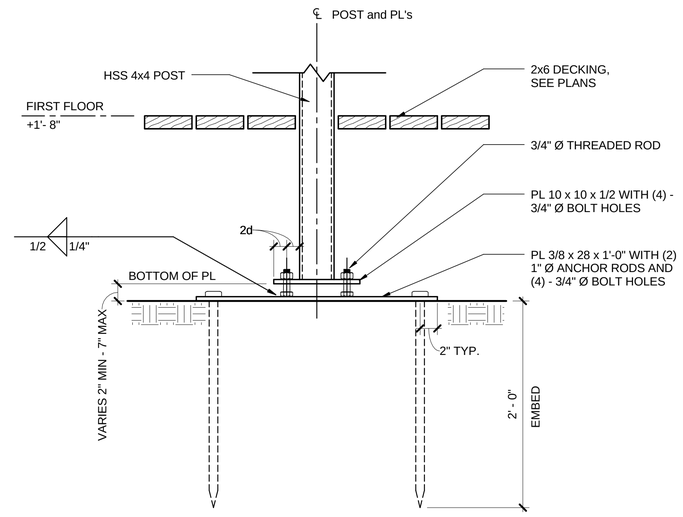
1 FRAME ELEVATION

1/4" = 1'-0"



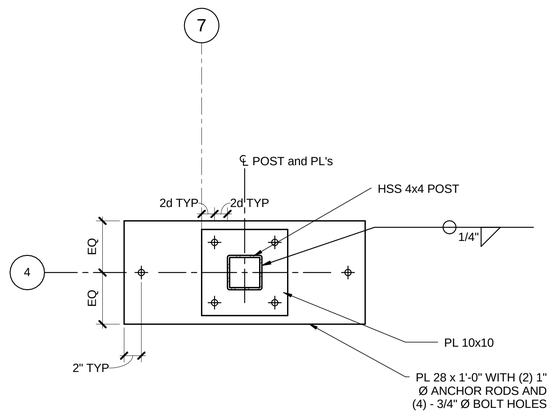
2 FRAME DETAIL

1 1/2" = 1'-0"



3 FRAME BASE PLATE SECTION DETAIL

1 1/2" = 1'-0"



4 BASE PLATE PLAN DETAIL

1 1/2" = 1'-0"

SOLAR CAL POLY

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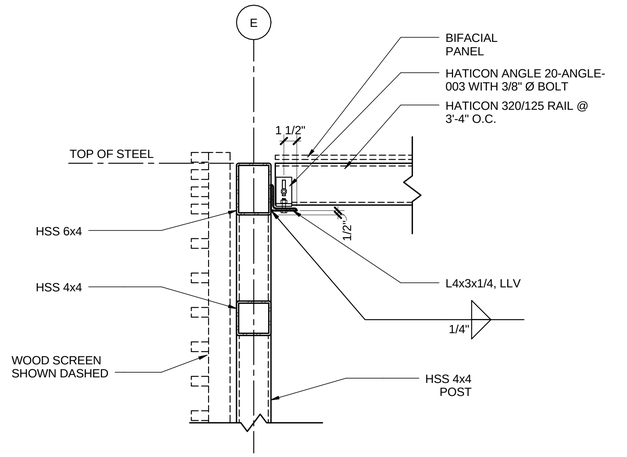
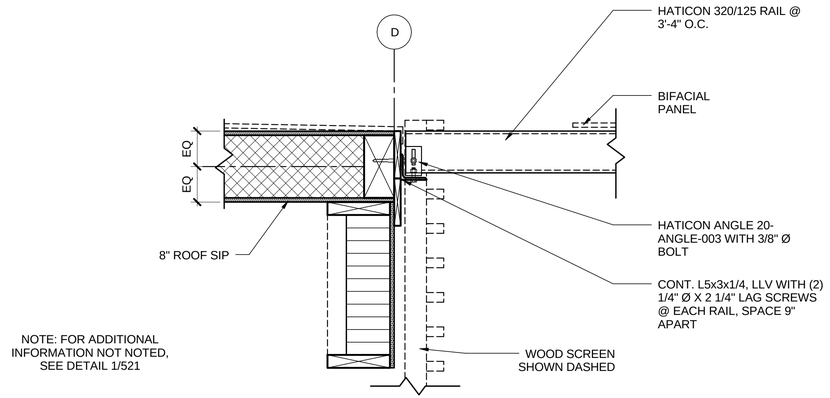
BIFACIAL ROOM DETAILS

S-541



1 PANEL/RAIL SUPPORT SECTION DETAIL @ LINE E

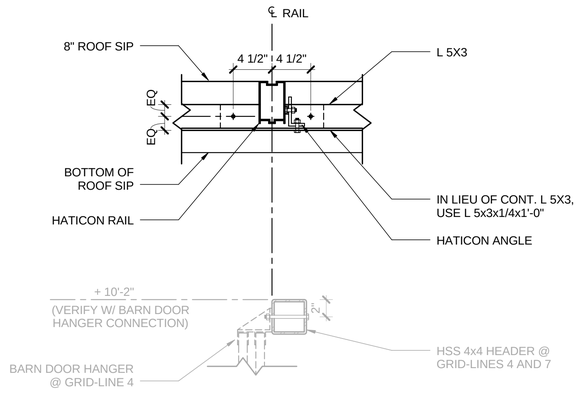
1 1/2" = 1'-0"



NOTE: FOR ADDITIONAL INFORMATION NOT NOTED, SEE DETAIL 1/521

2 PANEL/RAIL SUPPORT SECTION DETAIL @ LINE D

1 1/2" = 1'-0"



3 PANEL/RAIL SUPPORT DETAIL

1 1/2" = 1'-0"

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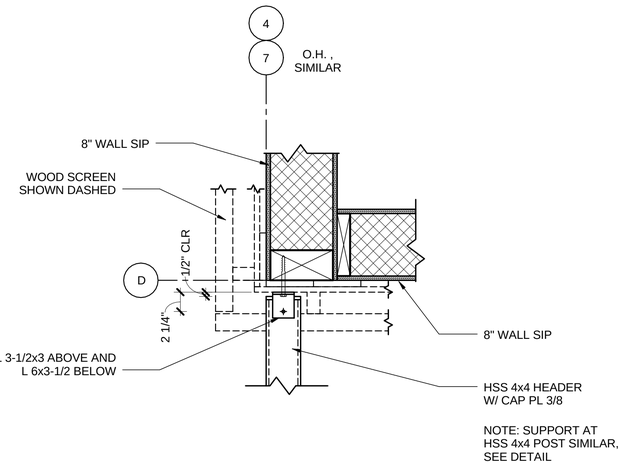
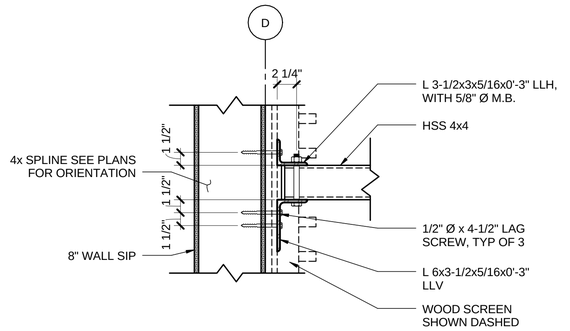
BIFACIAL ROOM DETAILS

S-542



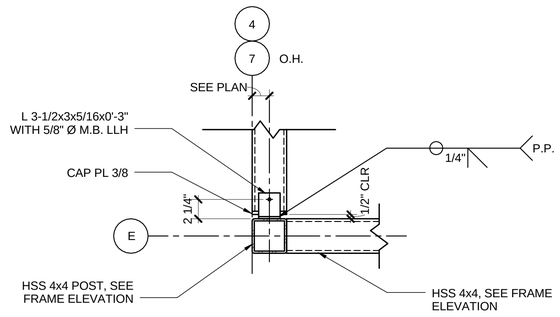
1 HEADER SUPPORT PLAN DETAIL

1 1/2" = 1'-0"



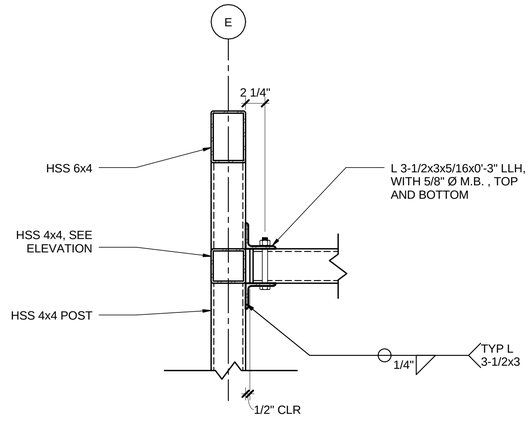
2 HEADER SUPPORT SECTION DETAIL

1 1/2" = 1'-0"



3 HEADER SUPPORT PLAN DETAIL @ GRID-LINE E

1 1/2" = 1'-0"



4 HEADER SUPPORT SECTION DETAIL @ GRID-LINE E

1 1/2" = 1'-0"

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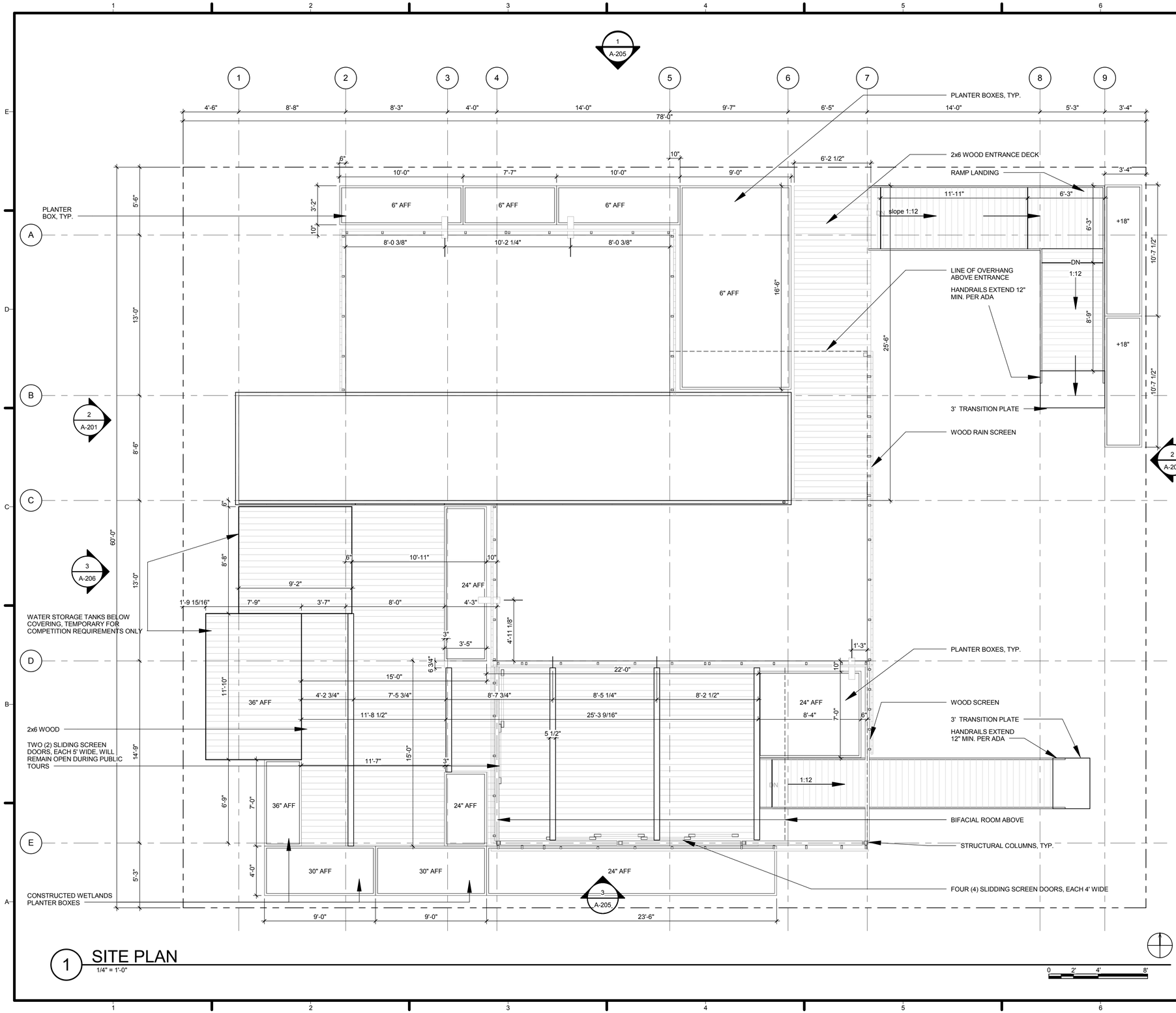
BIFACIAL ROOM DETAILS

S-543



1 SITE PLAN
1/4" = 1'-0"

0 2' 4' 8'

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES

SOLAR CAL POLY

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SITE PLAN

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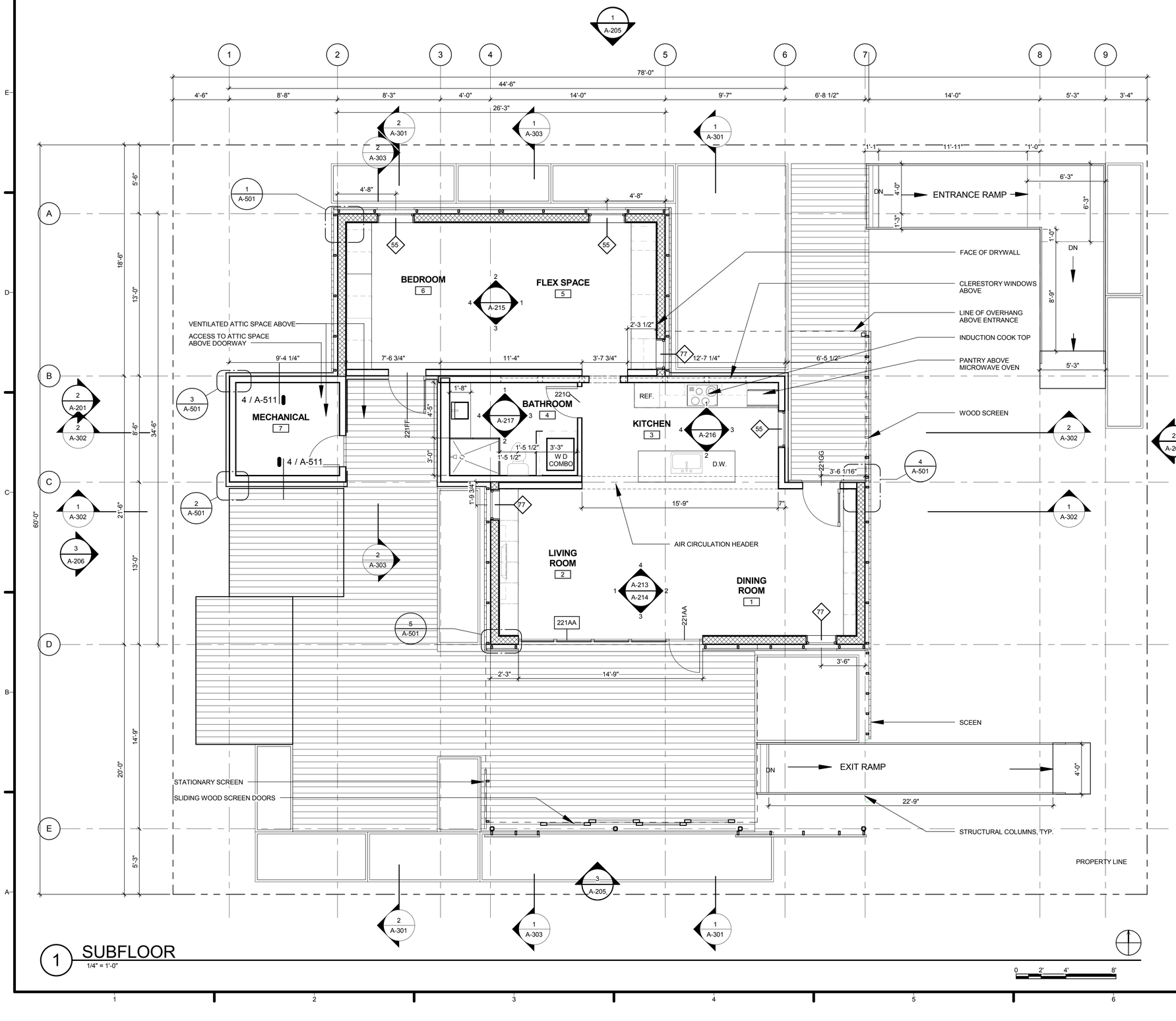
A-101



1 SUBFLOOR
1/4" = 1'-0"

GENERAL SHEET NOTES

SOLAR CAL POLY

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FLOOR PLAN

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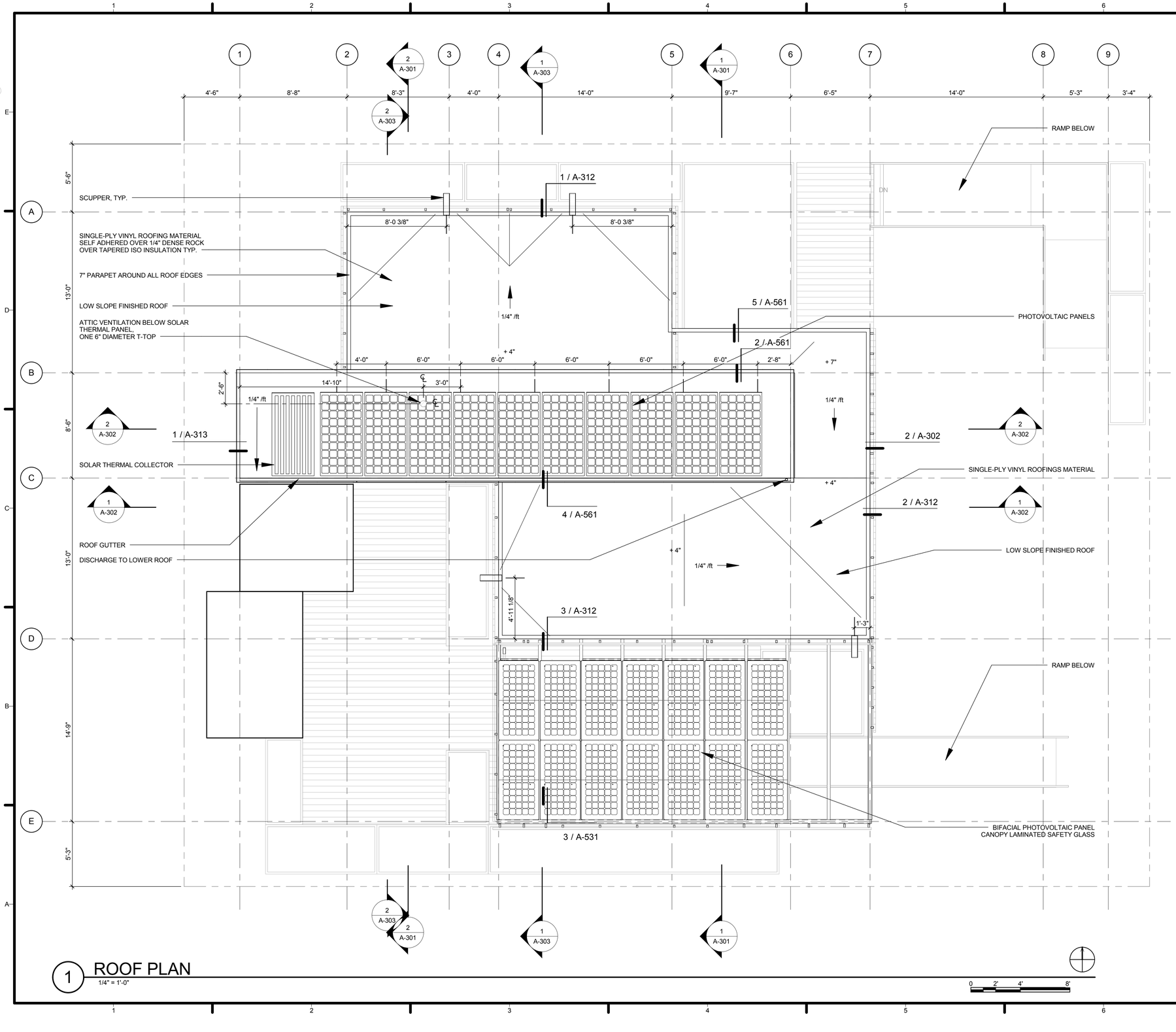
A-111



1 ROOF PLAN

1/4" = 1'-0"

0 2' 4' 8'

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES

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ROOF PLAN

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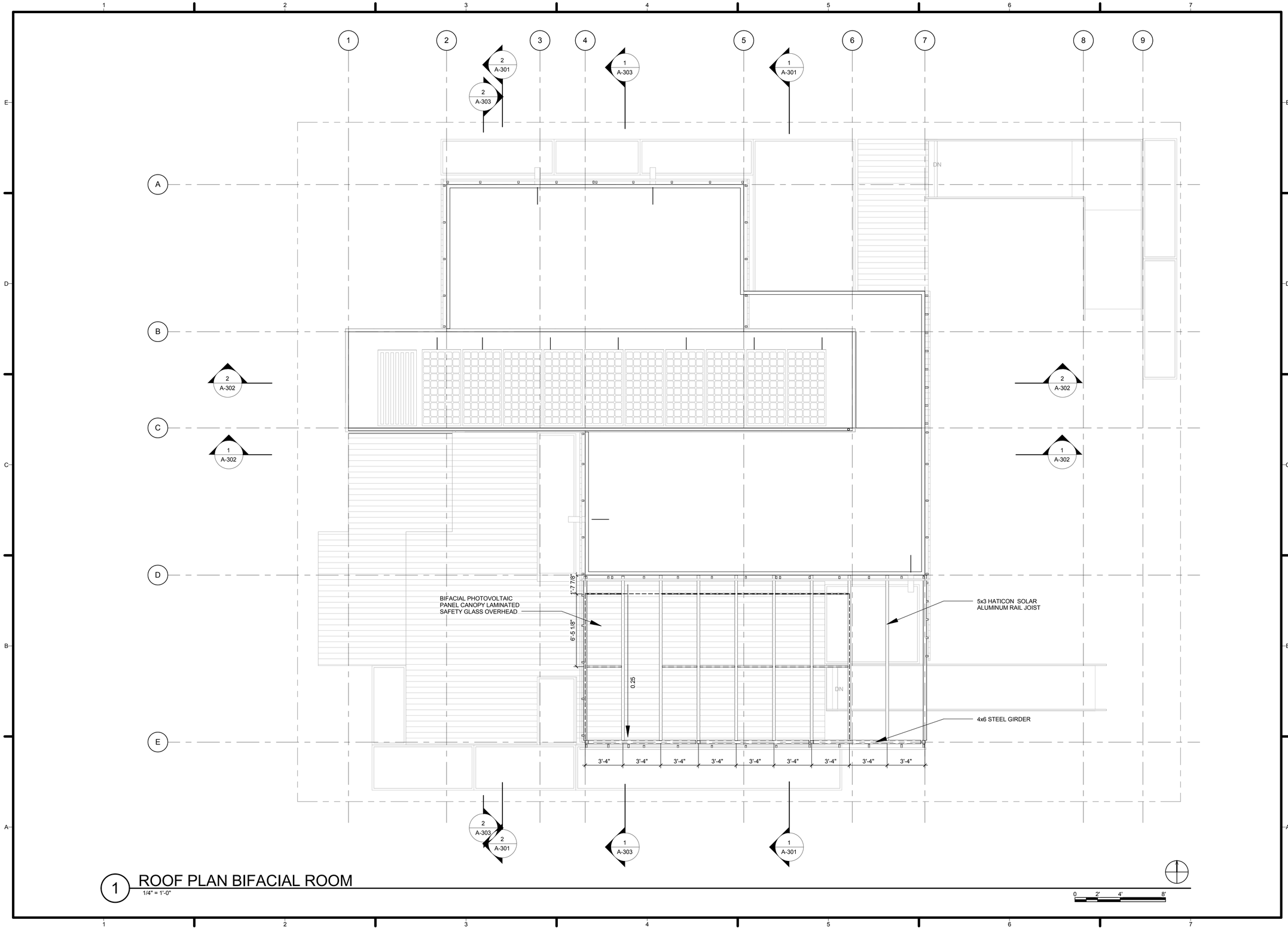
A-112



1 ROOF PLAN BIFACIAL ROOM

1/4" = 1'-0"

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BIFACIAL ROOM PLAN

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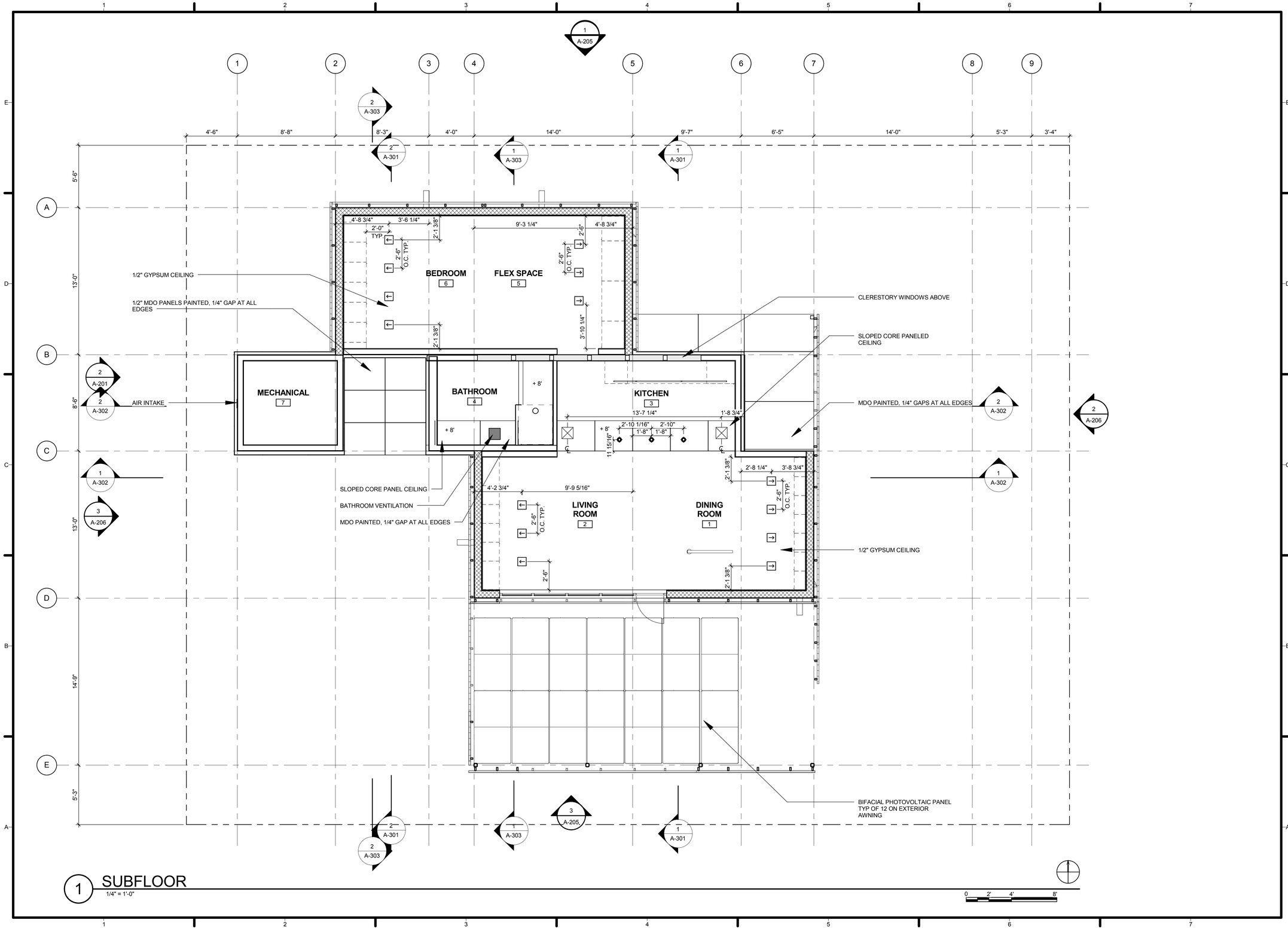
A-113



1 SUBFLOOR

1/4" = 1'-0"

0 2' 4' 8'

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REFLECTED CEILING PLAN

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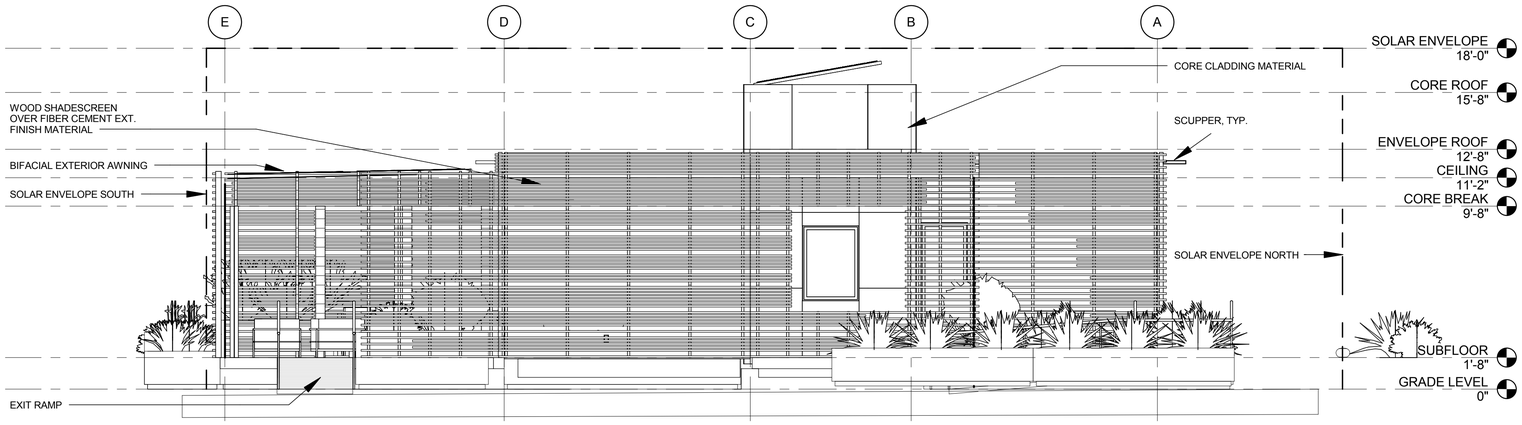
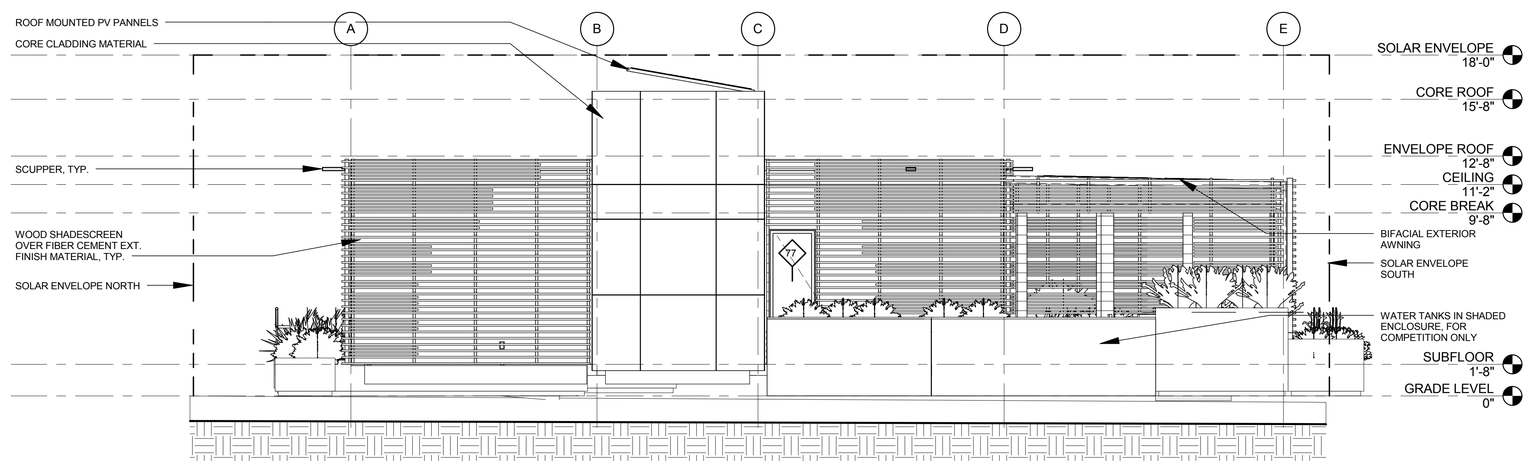
A-121



1 EAST SITE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'



2 WEST SITE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

GENERAL SHEET NOTES

ALL EXTERIOR WOOD SIDING IS UNTREATED REDWOOD, U.O.N.

ALL DECKS ARE UNTREATED REDWOOD U.O.N.

ALL DECK FRAMING IS PRESSURE TREATED U.O.N.

ALL CORE CLADDING MATERIAL IS MIDNIGHT IRON RICHLITE RAINSHADOW PANELING.

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SITE ELEVATIONS

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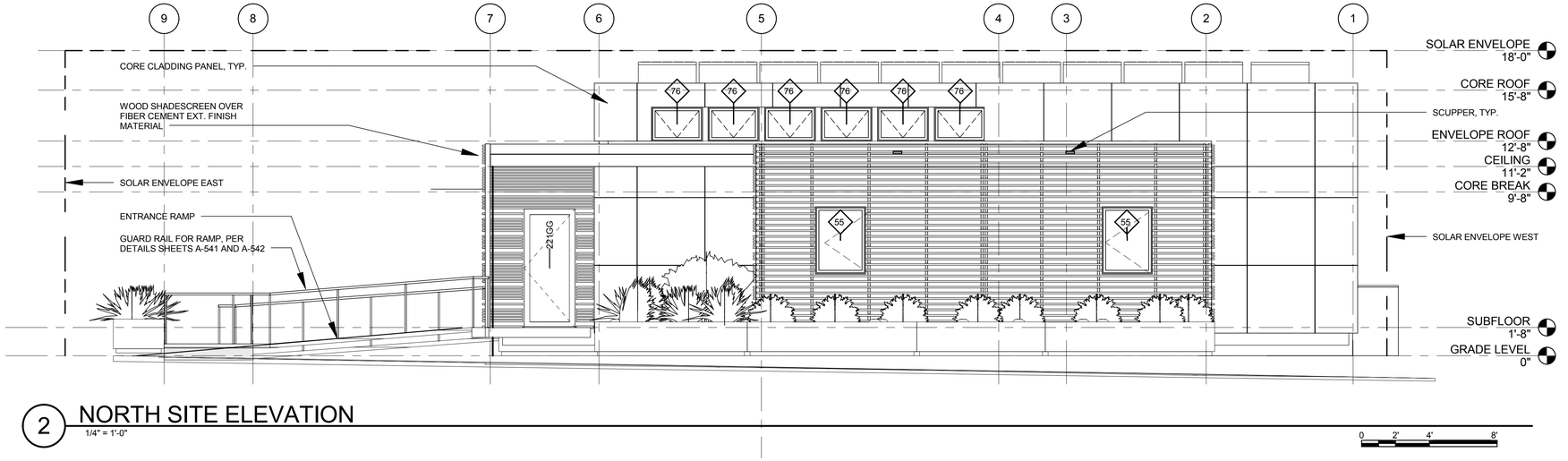
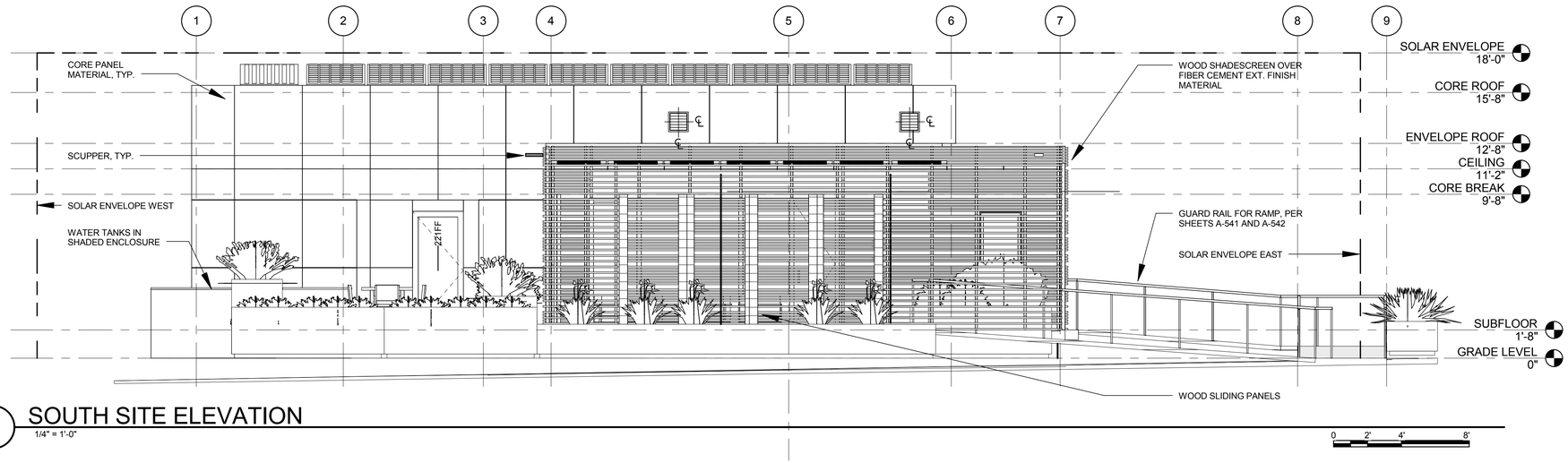
A-201



2 NORTH SITE ELEVATION

1/4" = 1'-0"



1 SOUTH SITE ELEVATION

1/4" = 1'-0"

GENERAL SHEET NOTES

ALL EXTERIOR WOOD SIDING IS UNTREATED REDWOOD, U.O.N.

ALL DECKS ARE UNTREATED REDWOOD U.O.N.

ALL DECK FRAMING IS PRESSURE TREATED U.O.N.

ALL CORE CLADDING MATERIAL IS MIDNIGHT IRON RICHLITE RAINSHADOW PANELING.

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SITE ELEVATIONS

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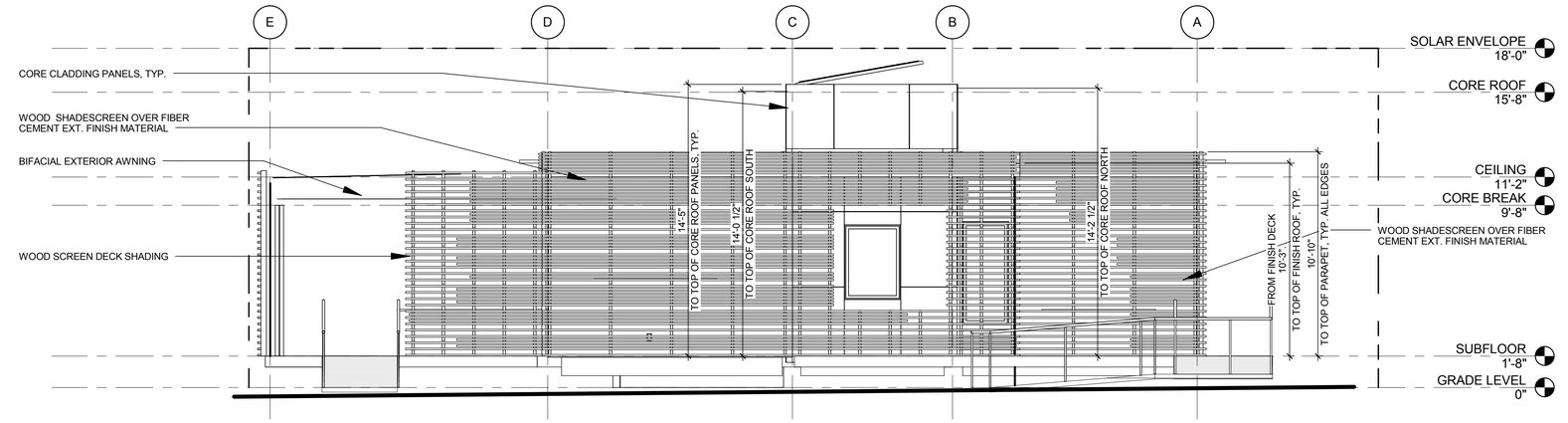
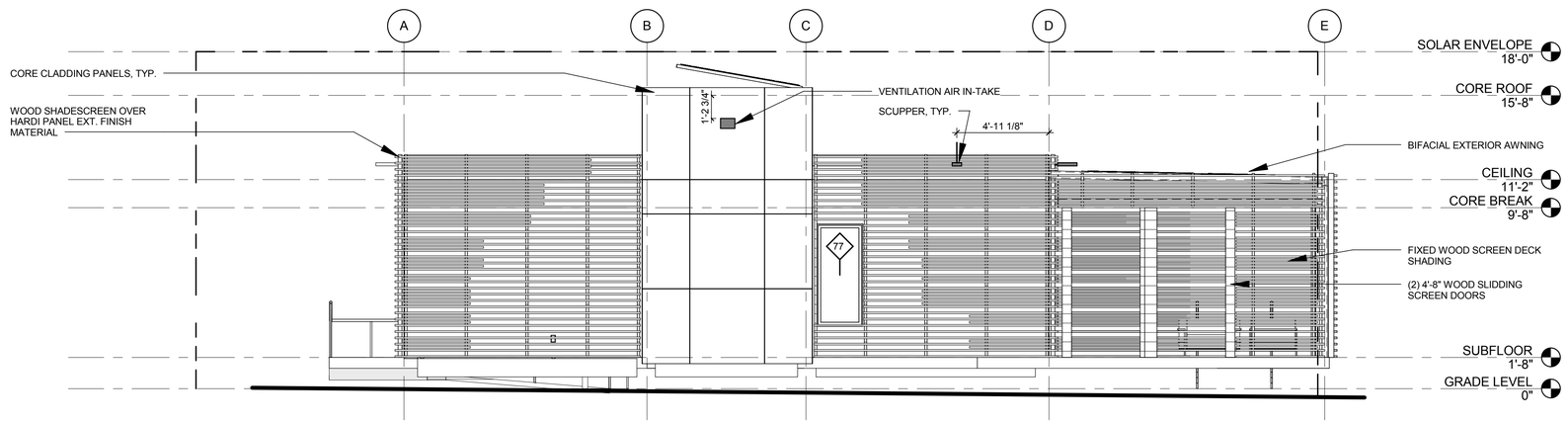
A-202



1 EAST BUILDING ELEVATION

1/4" = 1'-0"

0 2' 4' 8'



2 WEST BUILDING ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

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ELEVATIONS

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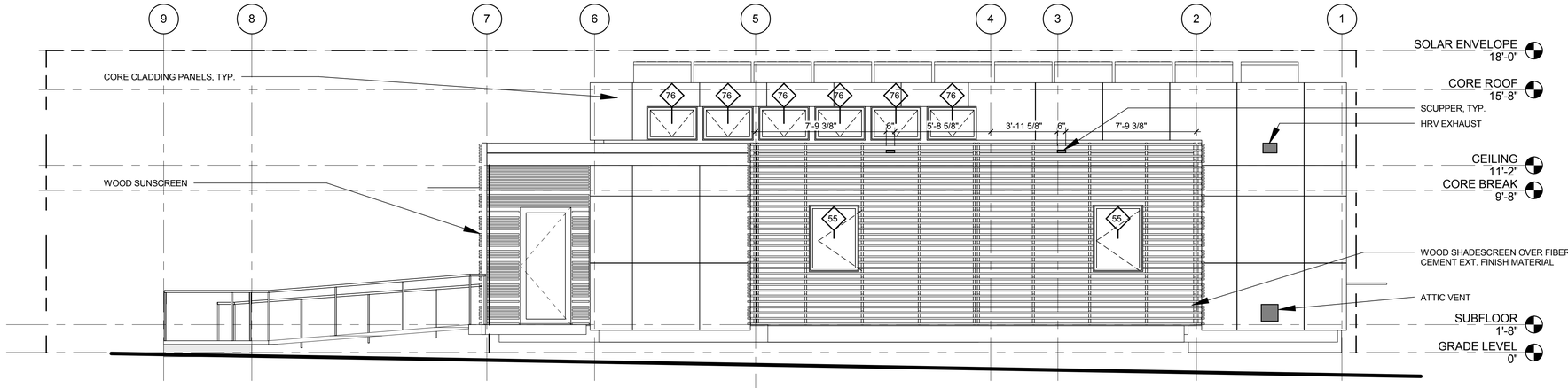
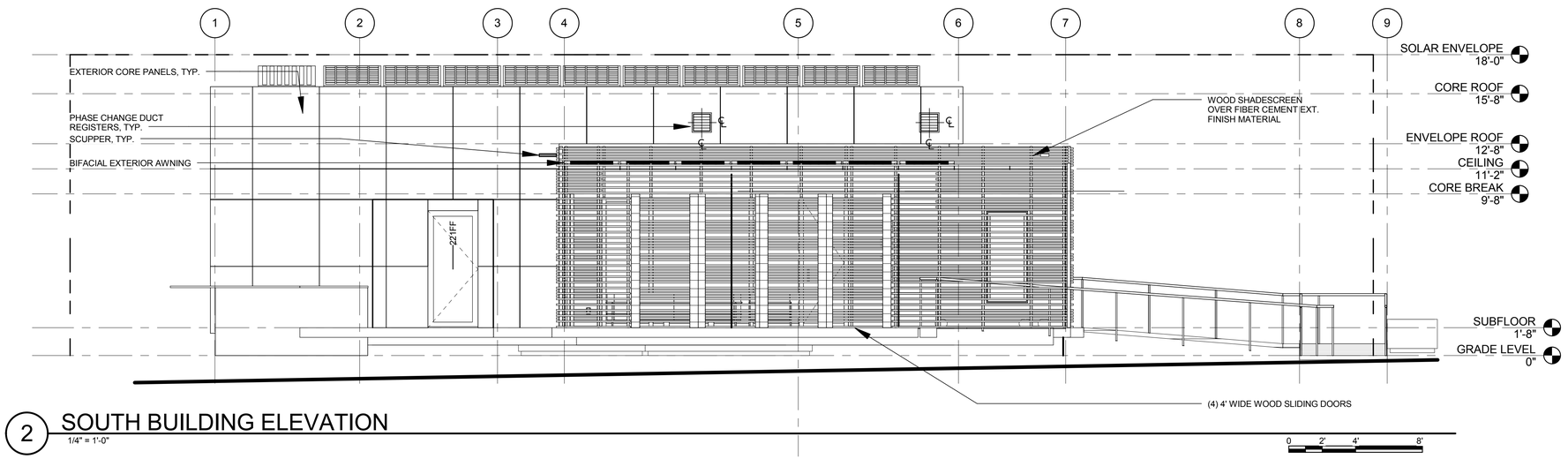
A-203



1 NORTH BUILDING ELEVATION

1/4" = 1'-0"



2 SOUTH BUILDING ELEVATION

1/4" = 1'-0"

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ELEVATIONS

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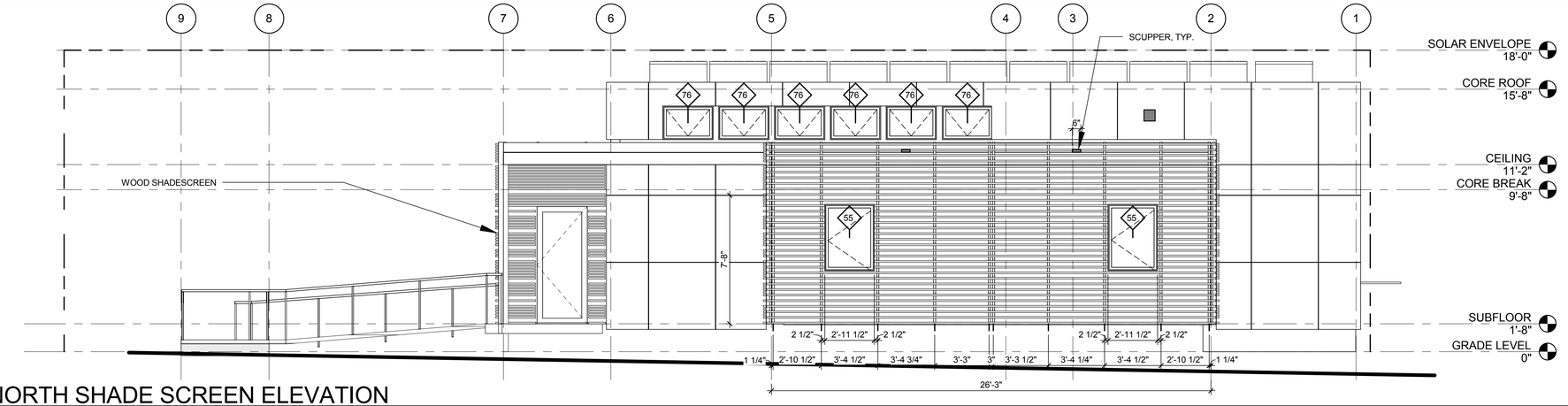


1 NORTH SHADE SCREEN ELEVATION

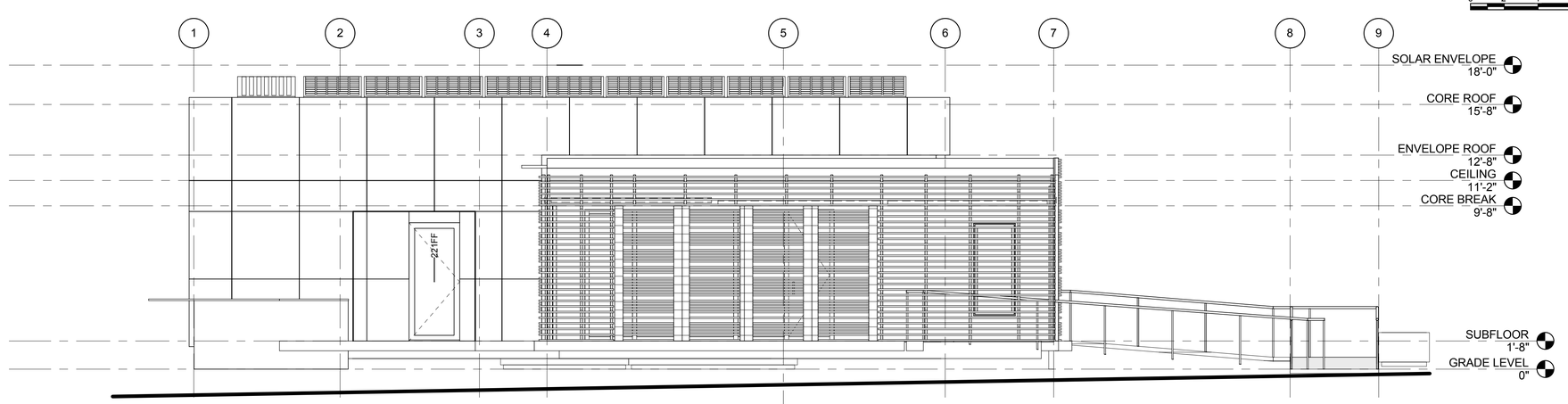
1/4" = 1'-0"

0 2' 4' 8'

2 SOUTH SHADE SCREEN ELEVATION

1/4" = 1'-0"

0 2' 4' 8'



3 SOUTH BIFACIAL SHADE SCREEN ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

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ELEVATION SHADE SCREEN

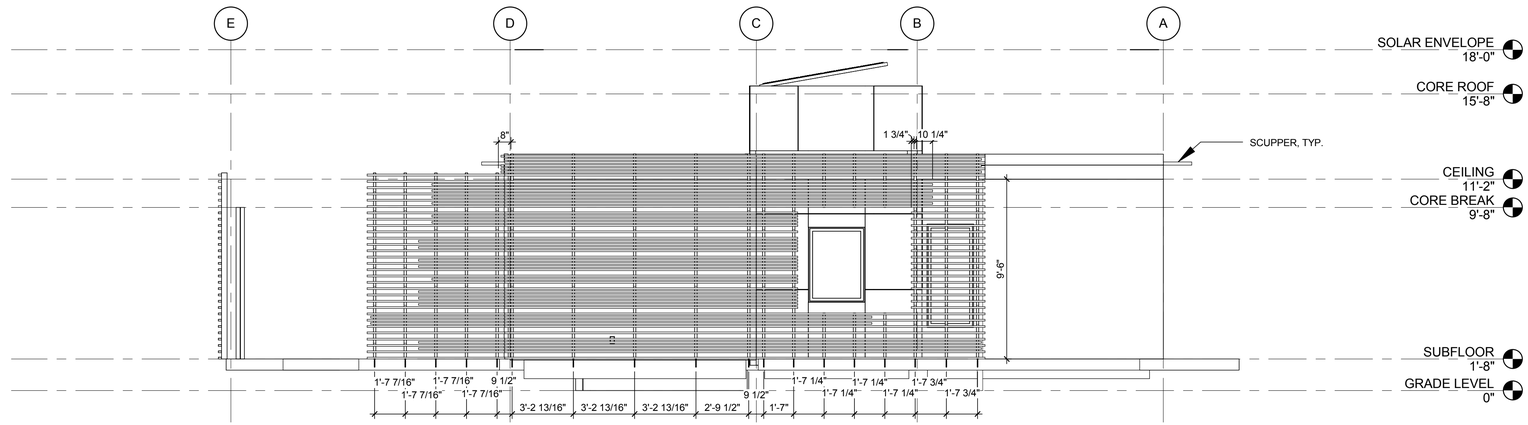
AUGUST 17, 2015

A-205

1 EAST SHADE SCREEN ELEVATION

1/4" = 1'-0"

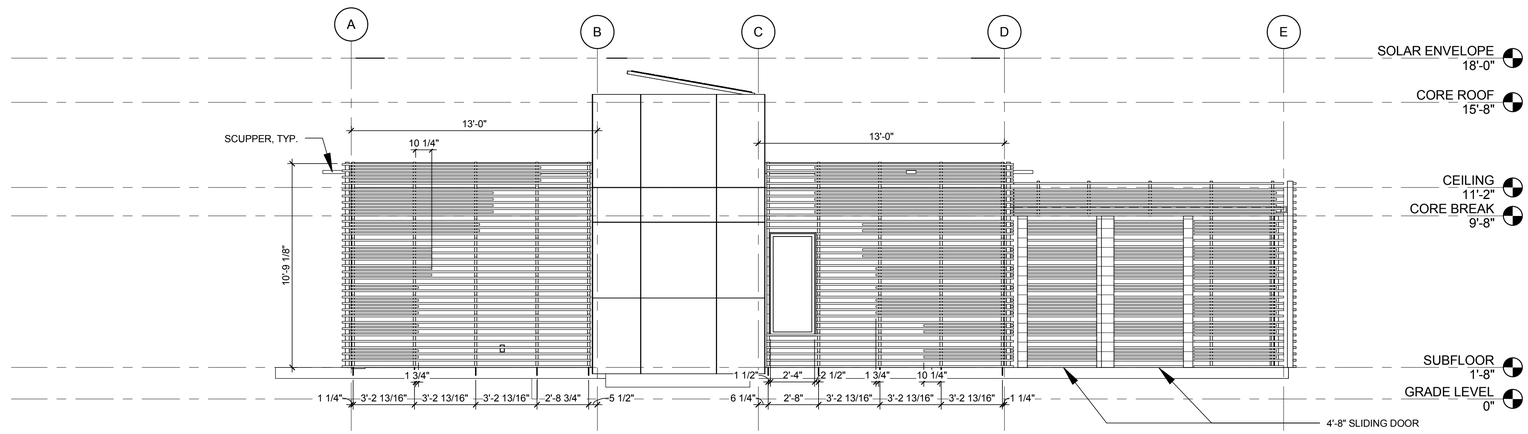
0 2' 4' 8'



2 EAST SHADE SCREEN ELEVATION ENTRY

1/4" = 1'-0"

0 2' 4' 8'



3 WEST SHADE SCREEN ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

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ELEVATION SHADE SCREEN

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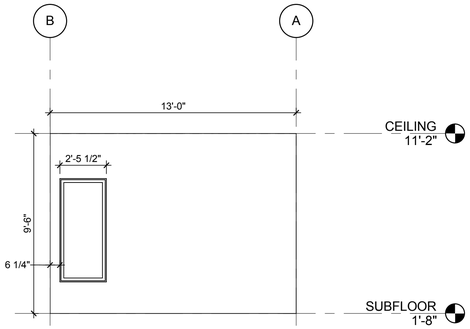
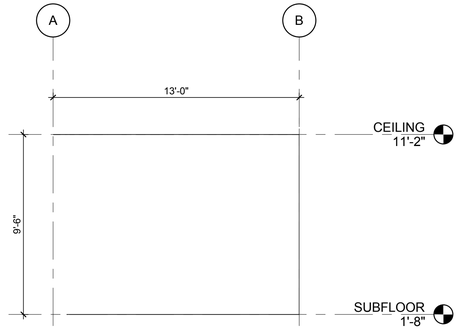
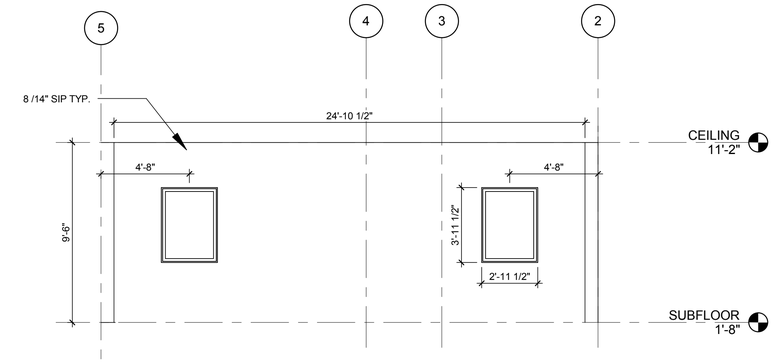


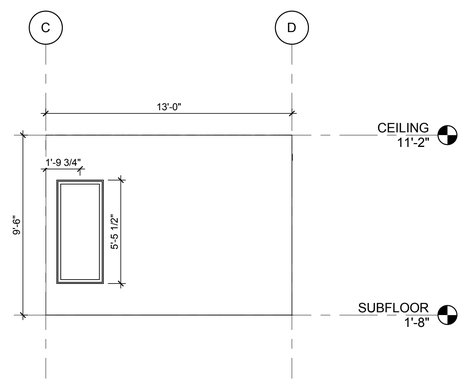
1 EAST PRIVATE MODULE ELEVATION
1/4" = 1'-0"
0 2' 4' 8'



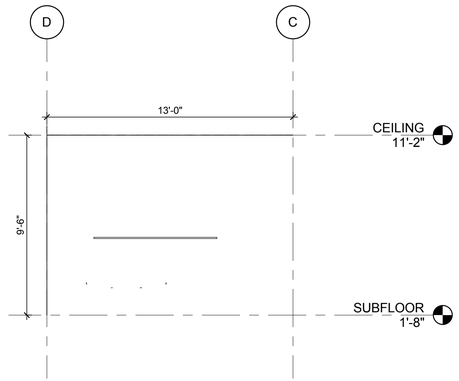
3 WEST PRIVATE MODULE ELEVATION
1/4" = 1'-0"
0 2' 4' 8'



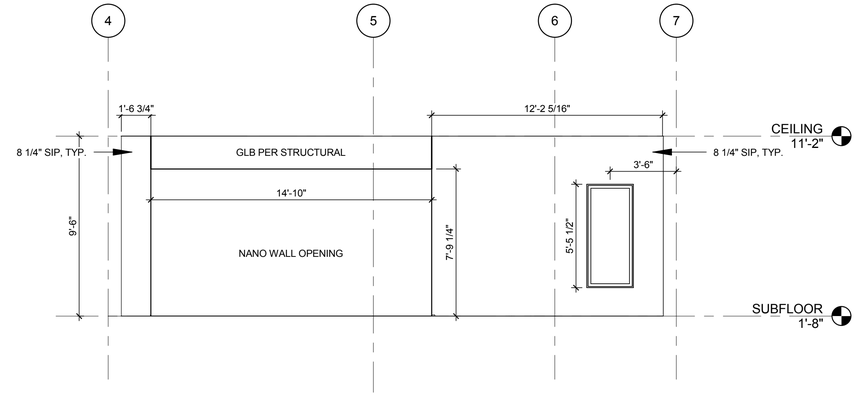
2 NORTH PRIVATE MODULE ELEVATION
1/4" = 1'-0"
0 2' 4' 8'



4 WEST LIVING MODULE ELEVATION
1/4" = 1'-0"
0 2' 4' 8'



5 EAST LIVING MODULE ELEVATION
1/4" = 1'-0"
0 2' 4' 8'



6 SOUTH LIVING MODULE ELEVATION
1/4" = 1'-0"
0 2' 4' 8'

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SIP PANEL ELEVATIONS

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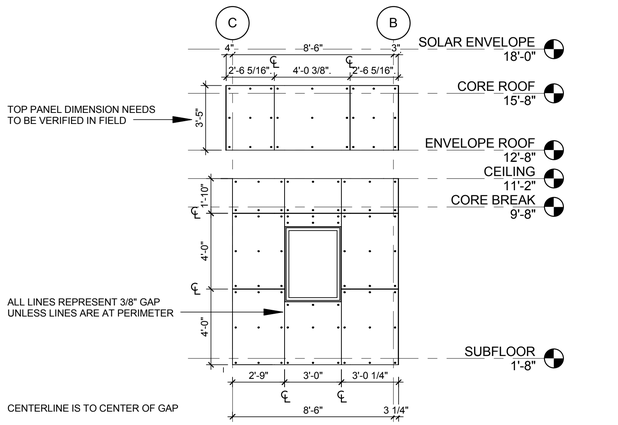


1 EAST CORE MODULE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

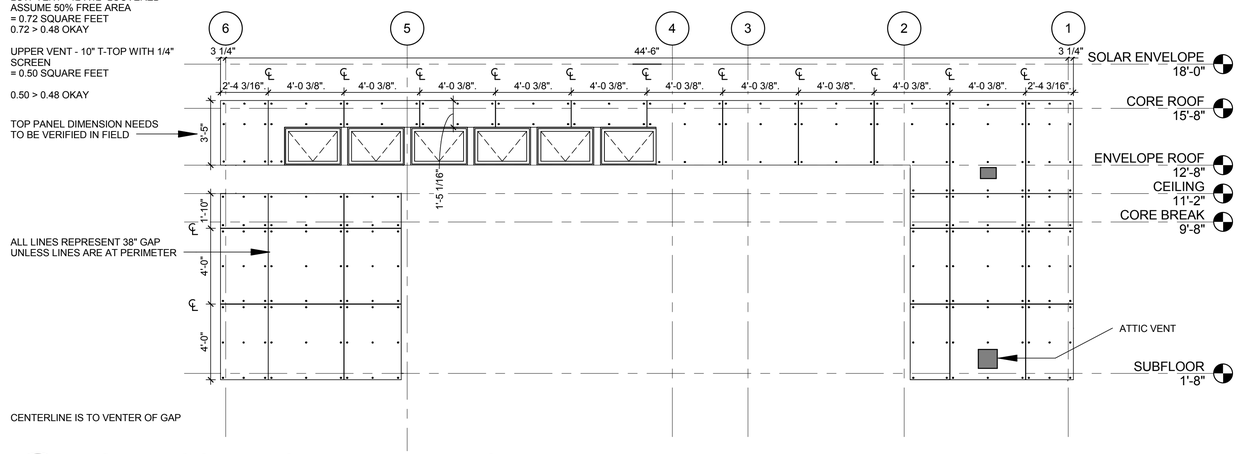
VENTILATION FOR ATTIC SPACE
ATTIC = 145 SQUARE FEET
145 / 150 = 0.96 SQUARE FEET

1/2 LOW = 0.48 SQUARE FEET

LOW VENT - 12"X12" LOUVERED
ASSUME 50% FREE AREA
= 0.72 SQUARE FEET
0.72 > 0.48 OKAY

UPPER VENT - 10" T-TOP WITH 1/4" SCREEN
= 0.50 SQUARE FEET

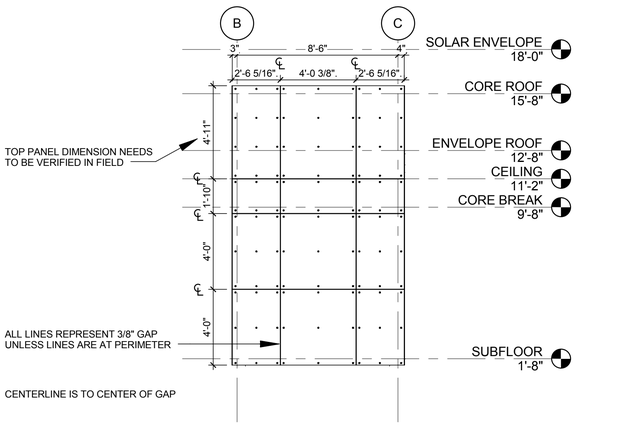
0.50 > 0.48 OKAY



2 NORTH CORE MODULE ELEVATION

1/4" = 1'-0"

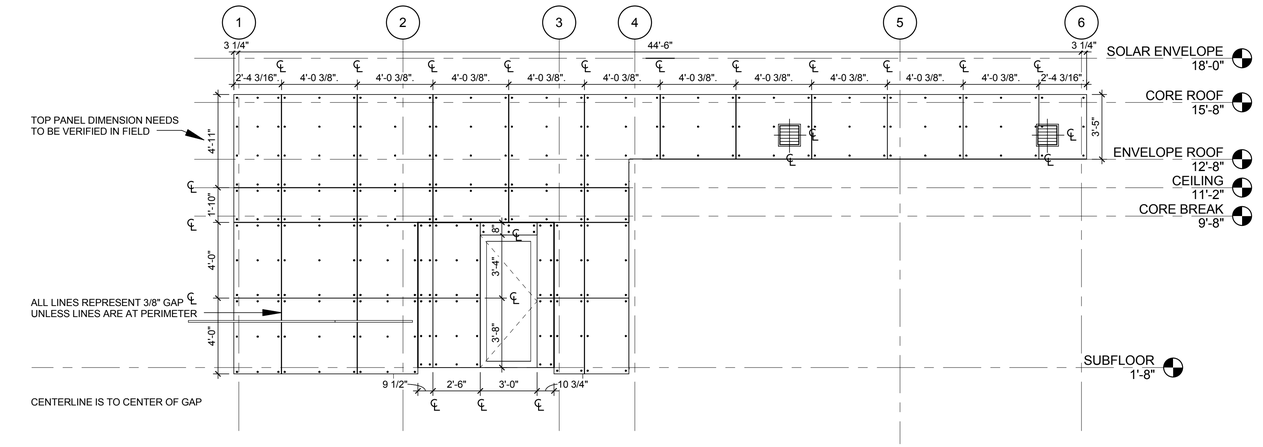
0 2' 4' 8'



3 WEST CORE MODULE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'



4 SOUTH CORE MODULE ELEVATION

1/4" = 1'-0"

0 2' 4' 8'

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CORE ELEVATIONS

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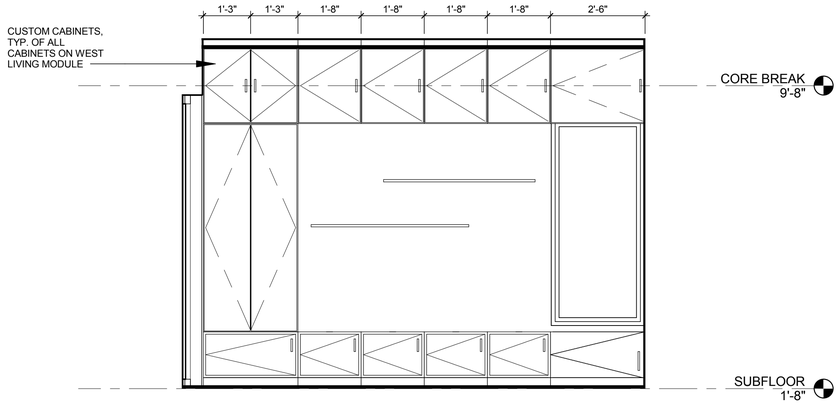
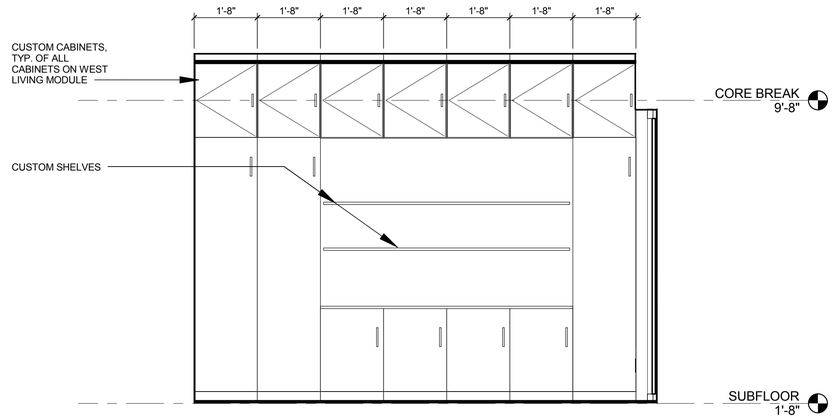


1 LIVING MODULE WEST INTERIOR

1/2" = 1'-0"

0 1' 2' 4'



2 LIVING MODULE EAST INTERIOR

1/2" = 1'-0"

0 1' 2' 4'

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INTERIOR ELEVATION LIVING

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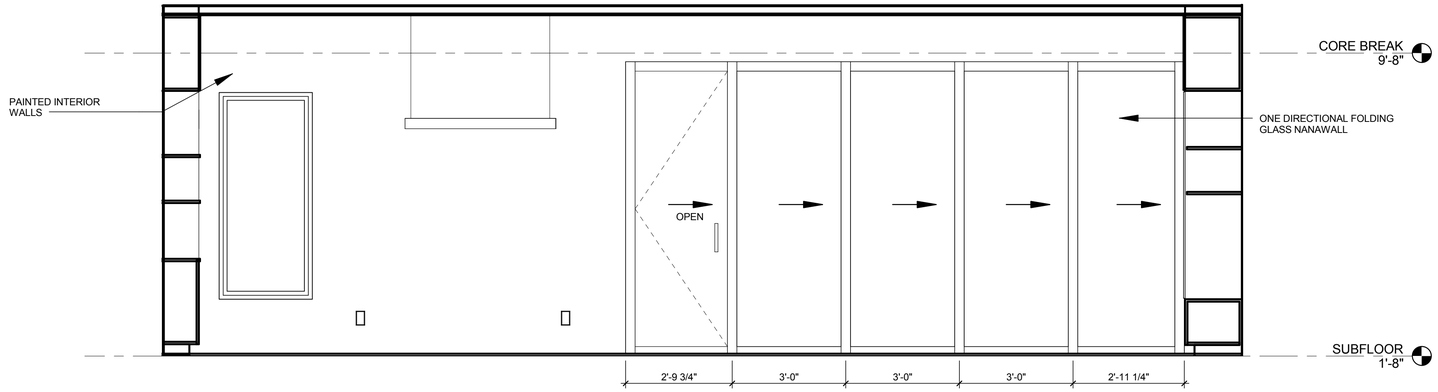
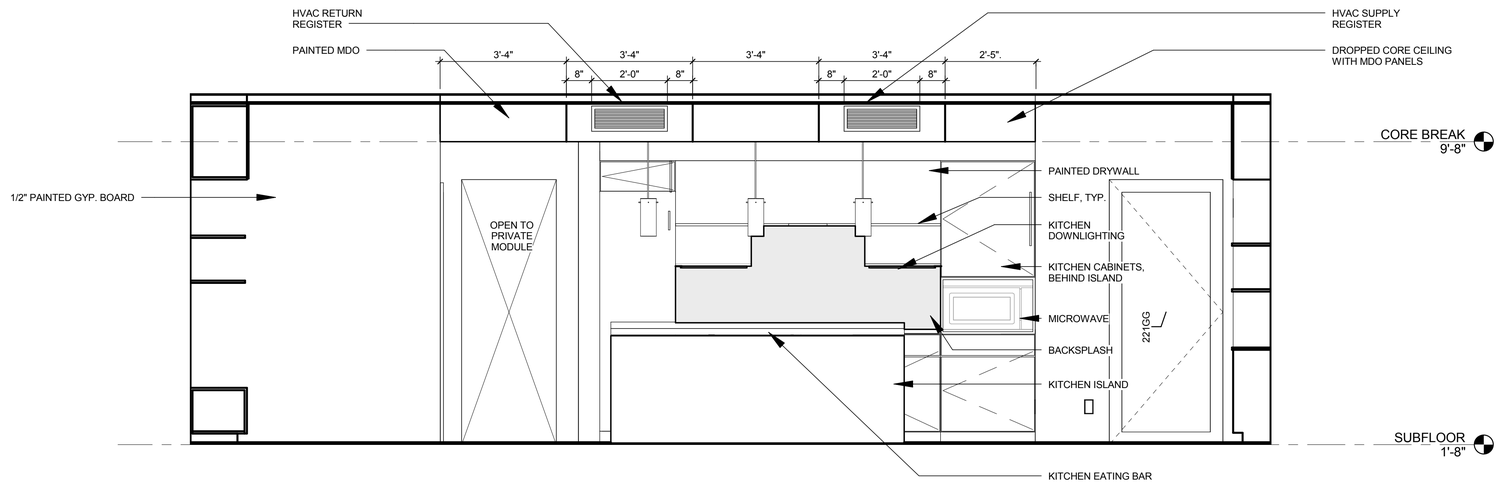


3 LIVING MODULE SOUTH INTERIOR

1/2" = 1'-0"

0 1' 2' 4'



4 LIVING MODULE NORTH INTERIOR

1/2" = 1'-0"

0 1' 2' 4'

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INTERIOR ELEVATIONS LIVING

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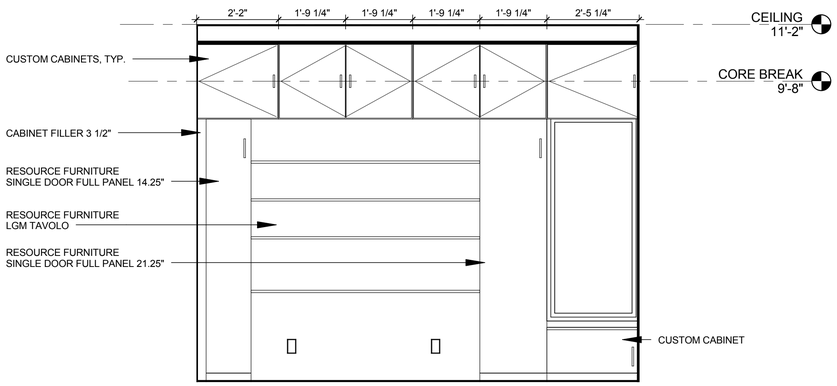
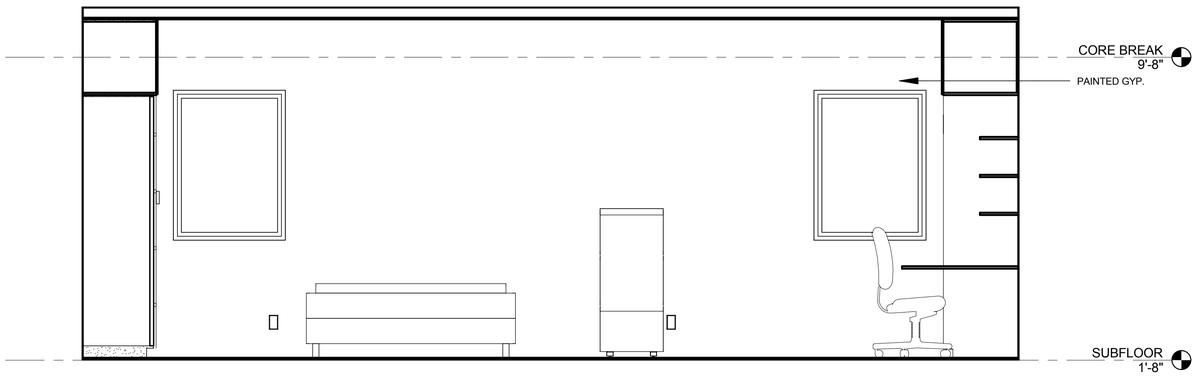


1 BEDROOM MODULE EAST INTERIOR

1/2" = 1'-0"

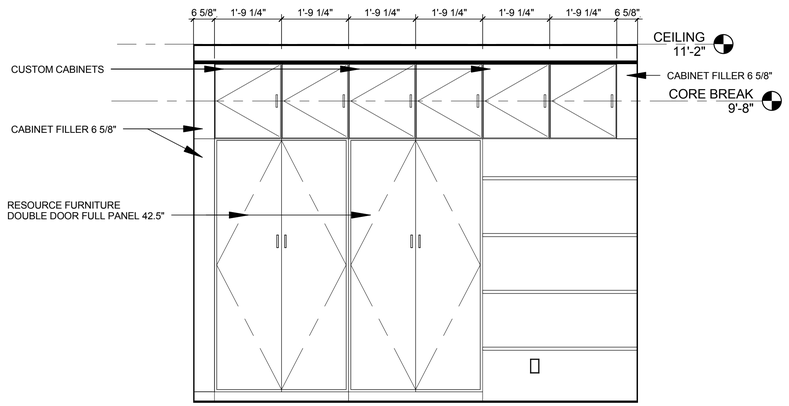
0 1' 2' 4'



2 BEDROOM MODULE NORTH INTERIOR

1/2" = 1'-0"

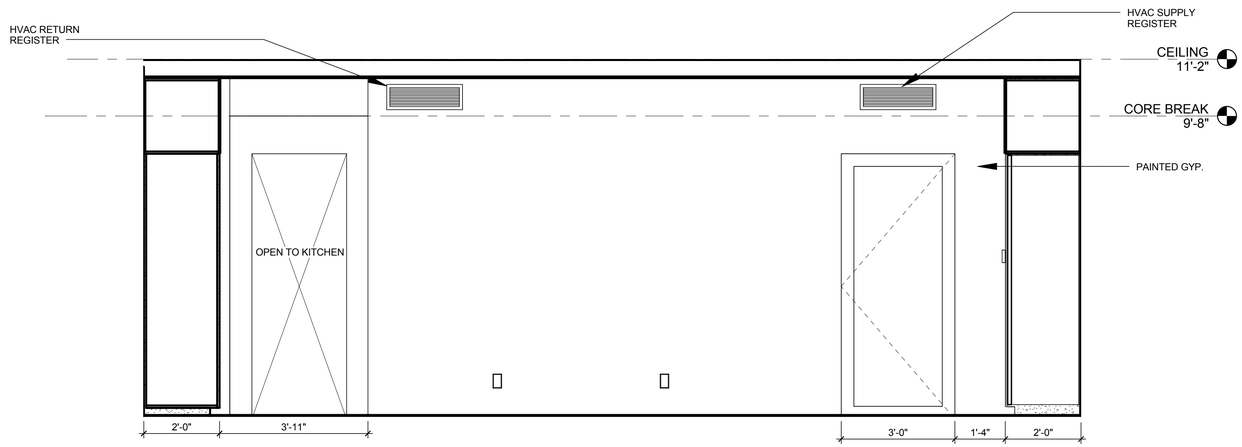
0 1' 2' 4'



4 BEDROOM MODULE WEST INTERIOR

1/2" = 1'-0"

0 1' 2' 4'



3 BEDROOM MODULE SOUTH INTERIOR

1/2" = 1'-0"

0 1' 2' 4'

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INTERIOR ELEVATIONS BEDROOM

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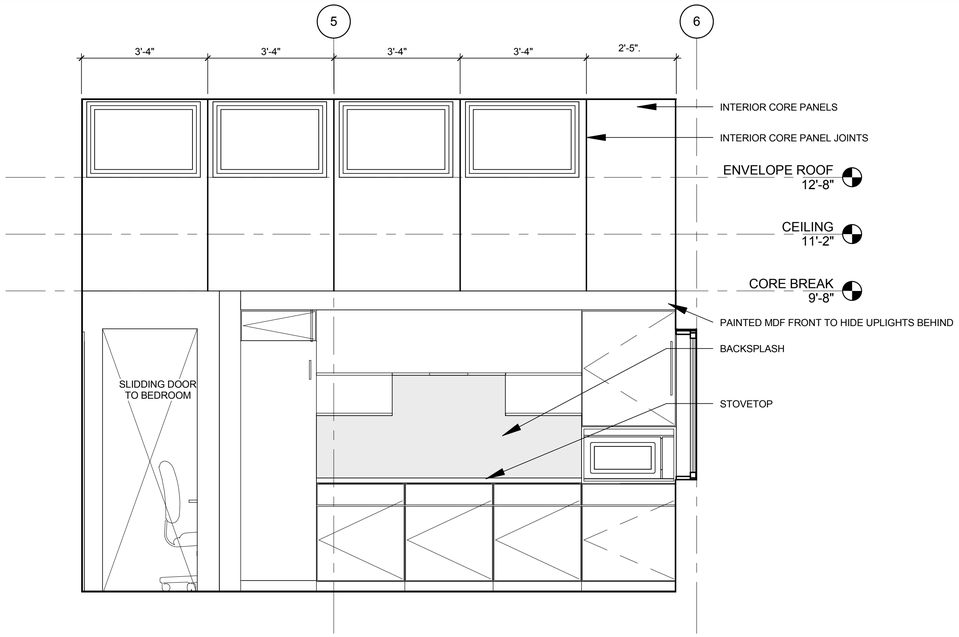
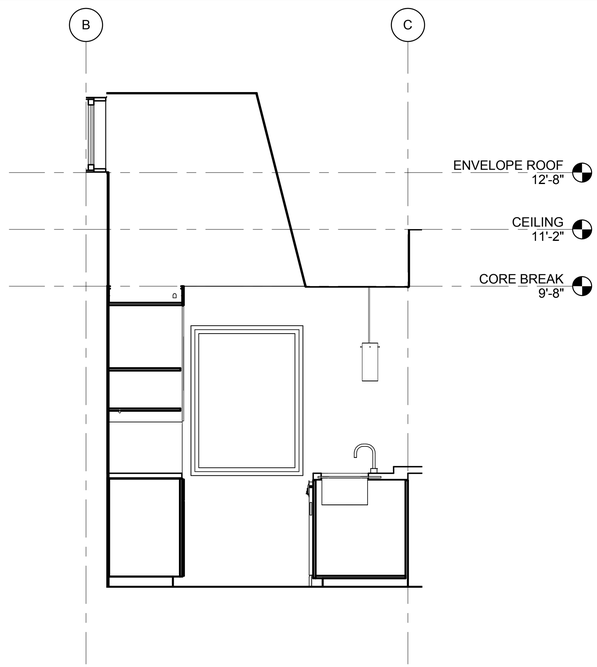


1 KITCHEN NORTH

1/2" = 1'-0"

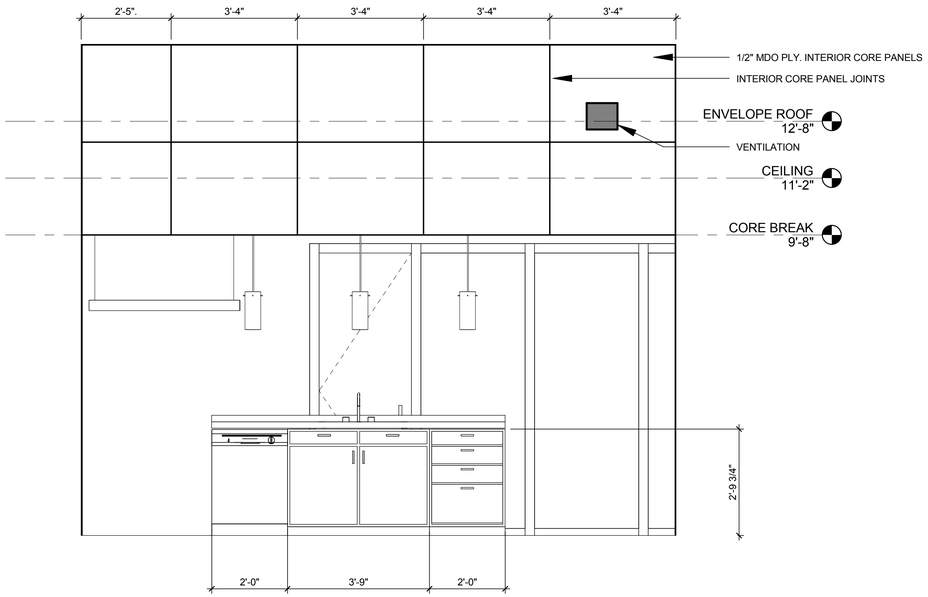
0 1' 2' 4'



3 KITCHEN EAST

1/2" = 1'-0"

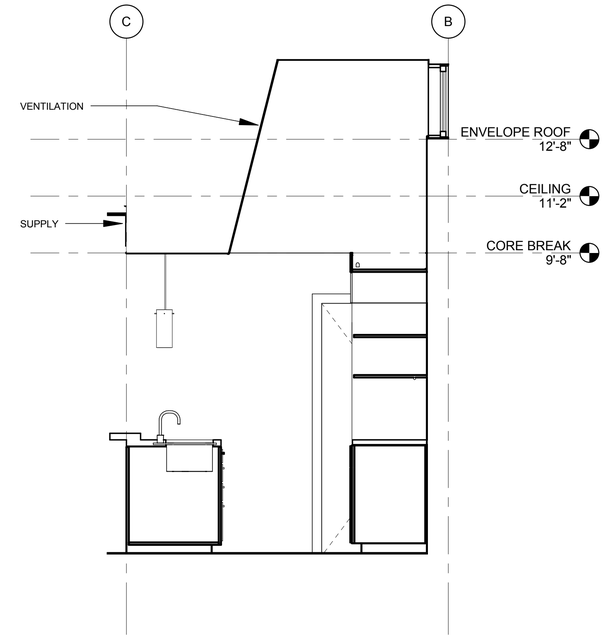
0 1' 2' 4'



2 KITCHEN SOUTH

1/2" = 1'-0"

0 1' 2' 4'



4 KITCHEN WEST

1/2" = 1'-0"

0 1' 2' 4'

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INTERIOR ELEVATIONS KITCHEN

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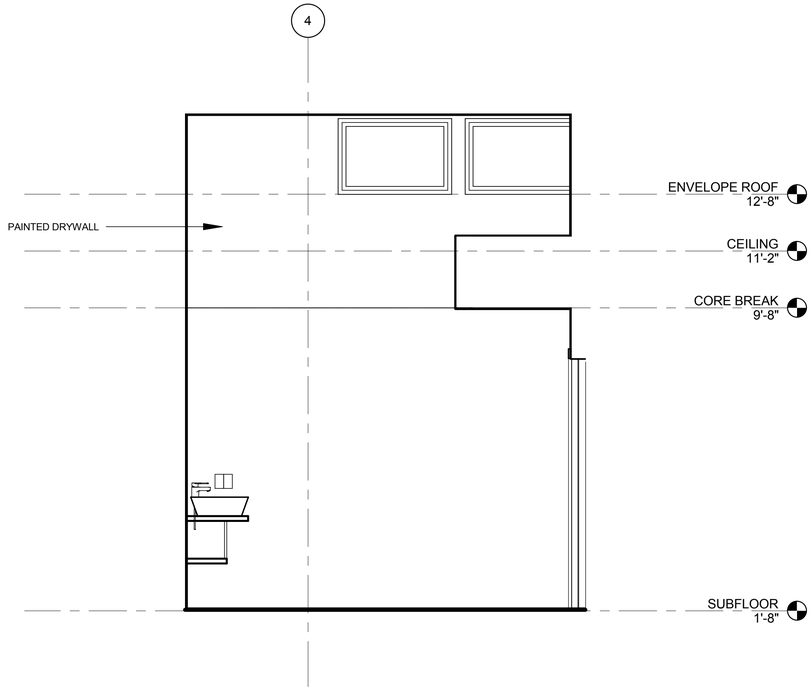
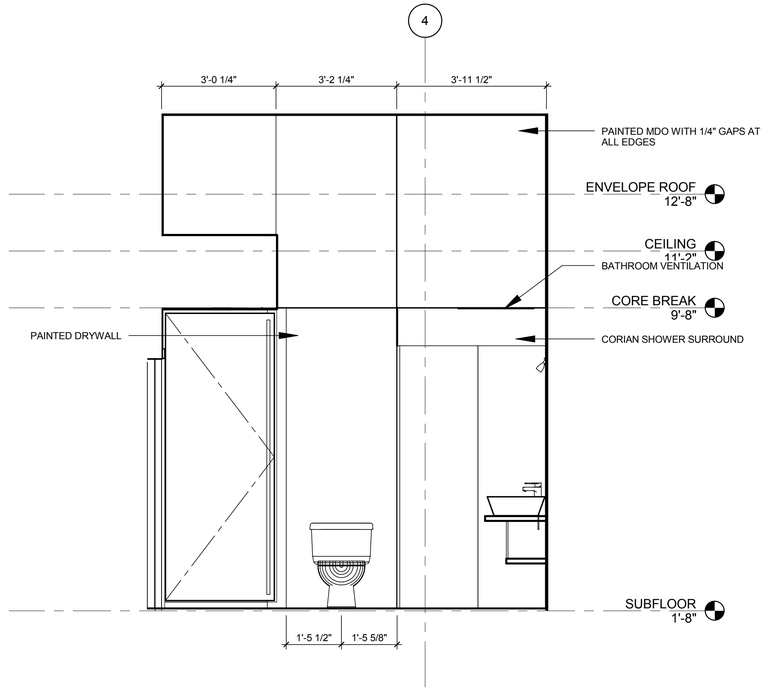


1 BATHROOM NORTH

1/2" = 1'-0"

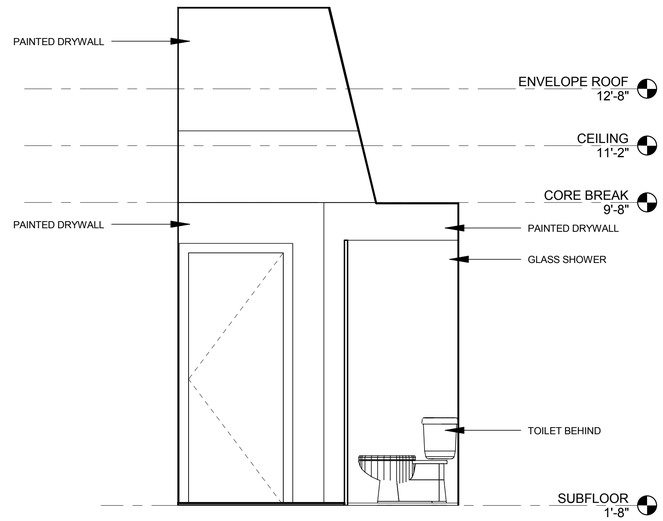
0 1' 2' 4'



2 BATHROOM SOUTH

1/2" = 1'-0"

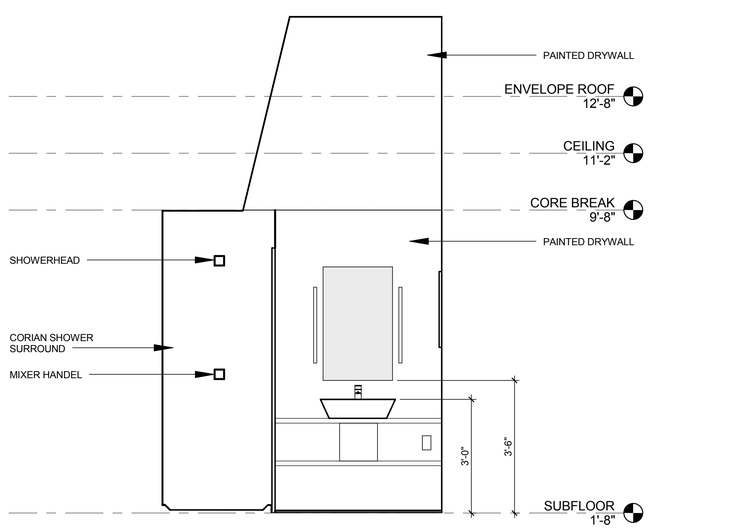
0 1' 2' 4'



3 BATHROOM EAST

1/2" = 1'-0"

0 1' 2' 4'



4 BATHROOM WEST

1/2" = 1'-0"

0 1' 2' 4'

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INTERIOR ELEVATIONS BATHROOM

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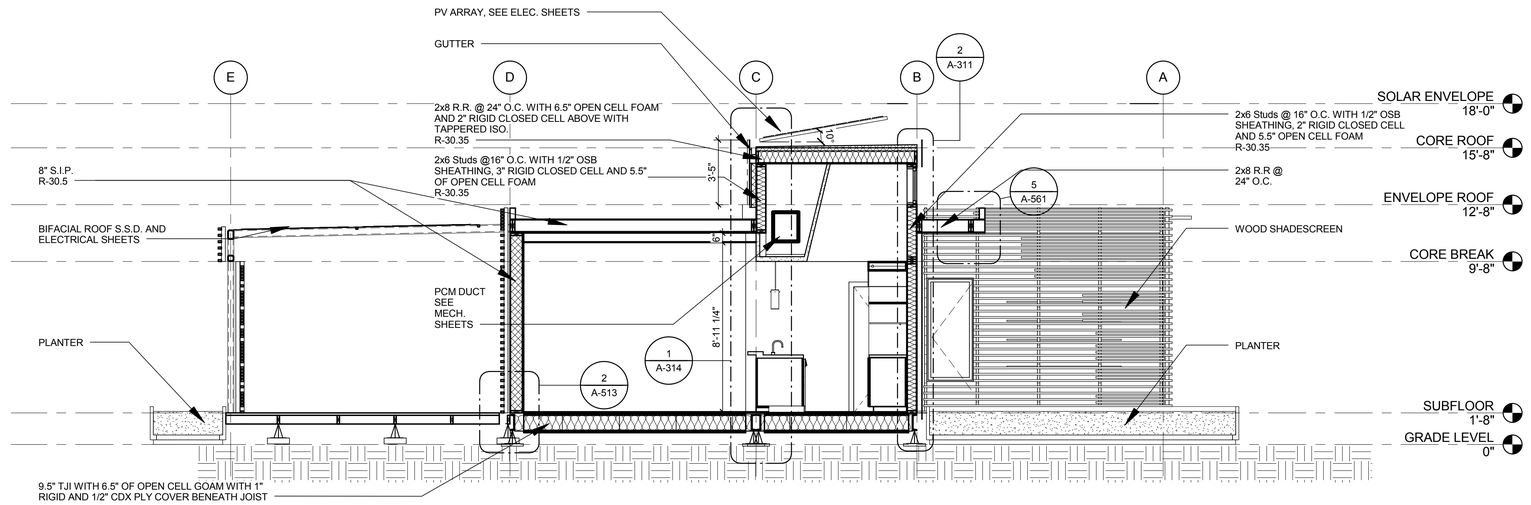
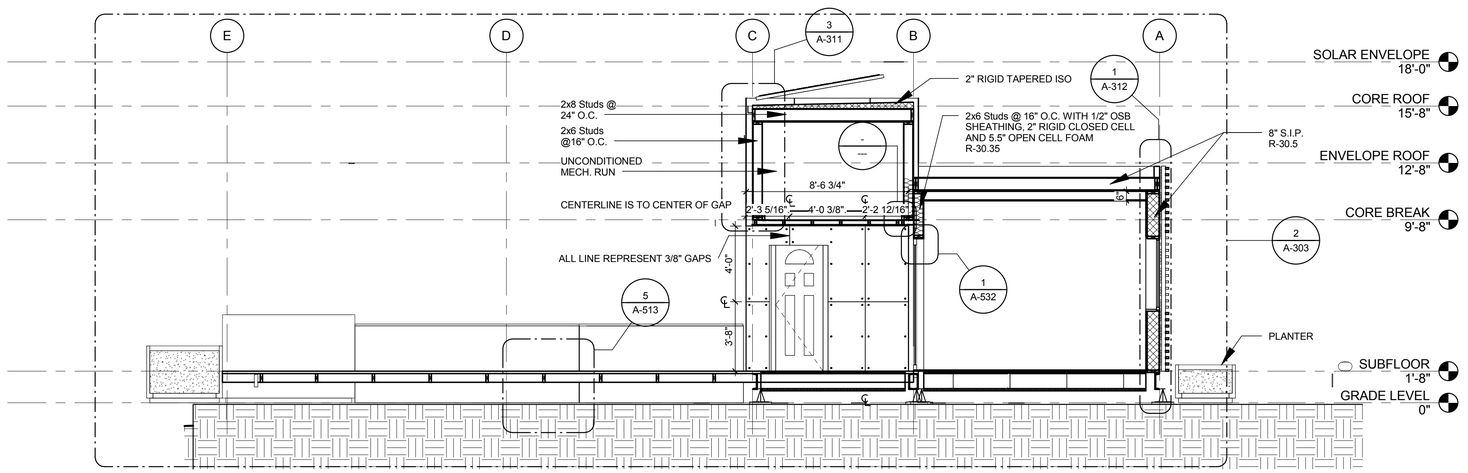


1 BUILDING SECTION 1

1/4" = 1'-0"

0 2' 4' 8'



2 BUILDING SECTION 2

1/4" = 1'-0"

0 2' 4' 8'

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BUILDING SECTIONS

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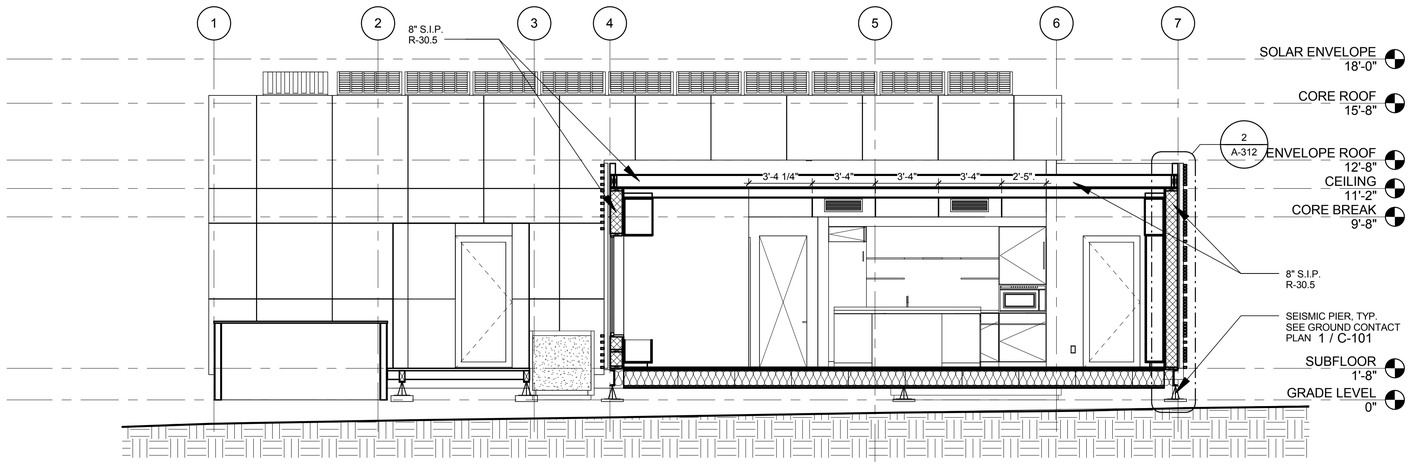
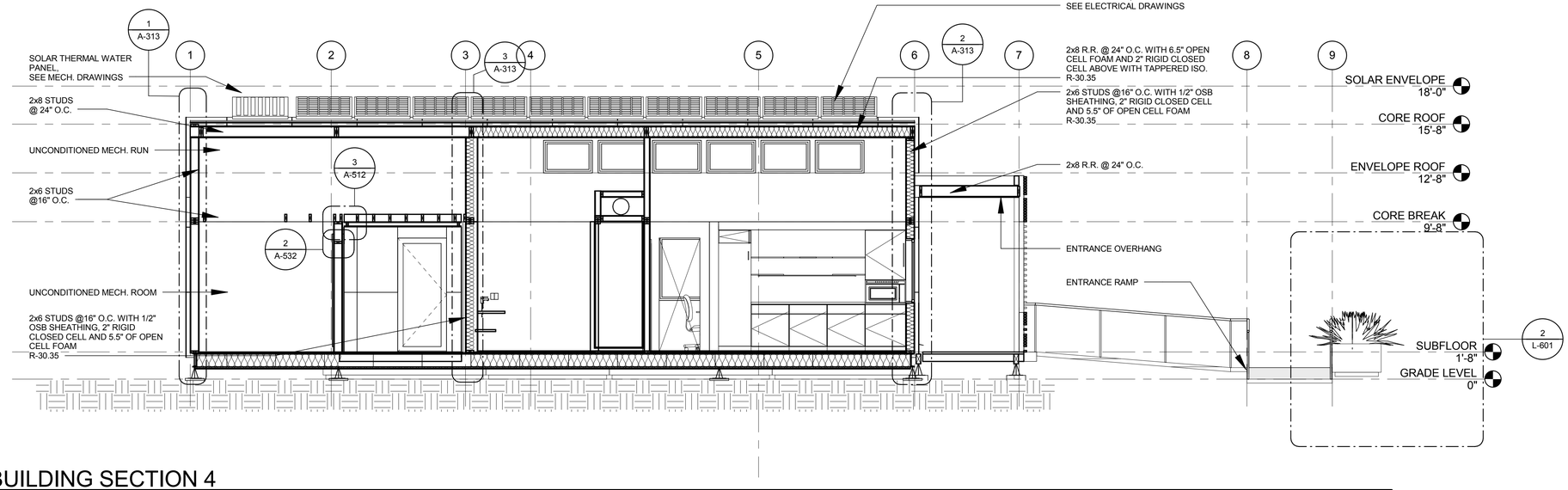


1 BUILDING SECTION 3

1/4" = 1'-0"

0 2' 4' 8'



2 BUILDING SECTION 4

1/4" = 1'-0"

0 2' 4' 8'

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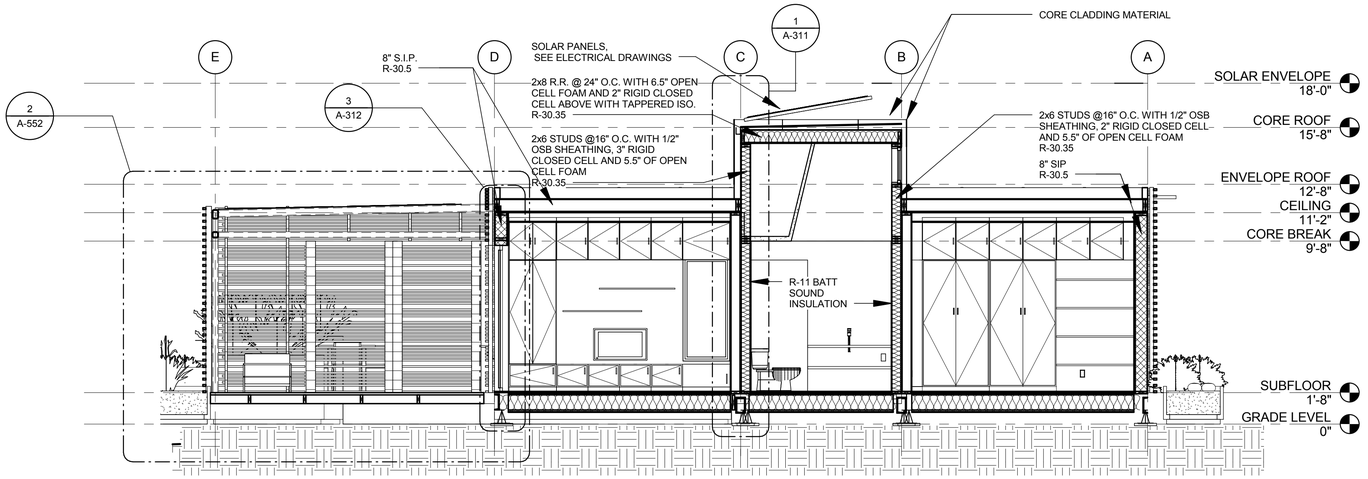
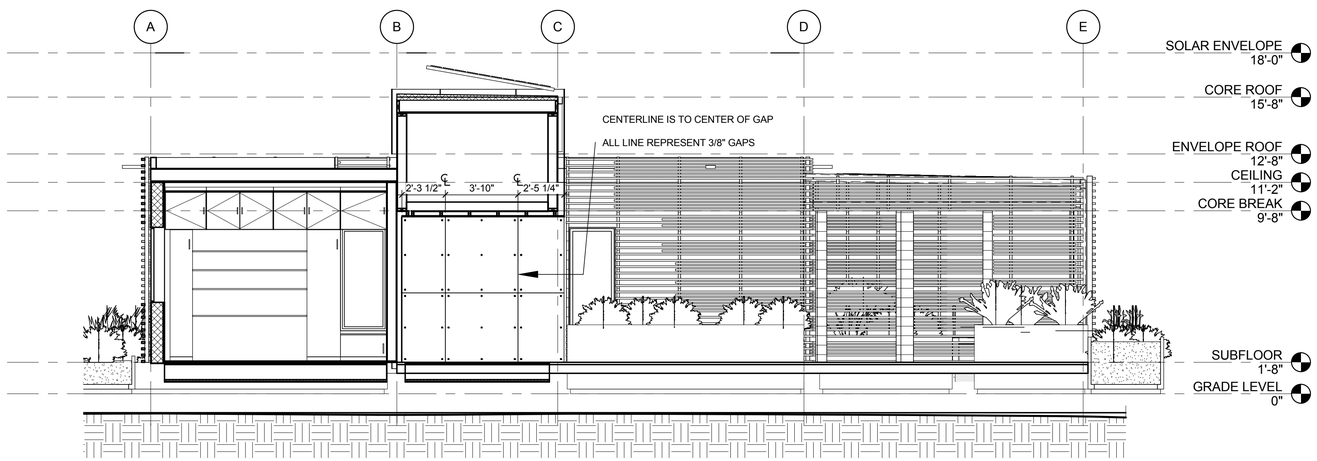


1 BUILDING SECTION 5

1/4" = 1'-0"

0 2' 4' 8'



2 BUILDING SECTION 6

1/4" = 1'-0"

0 2' 4' 8'

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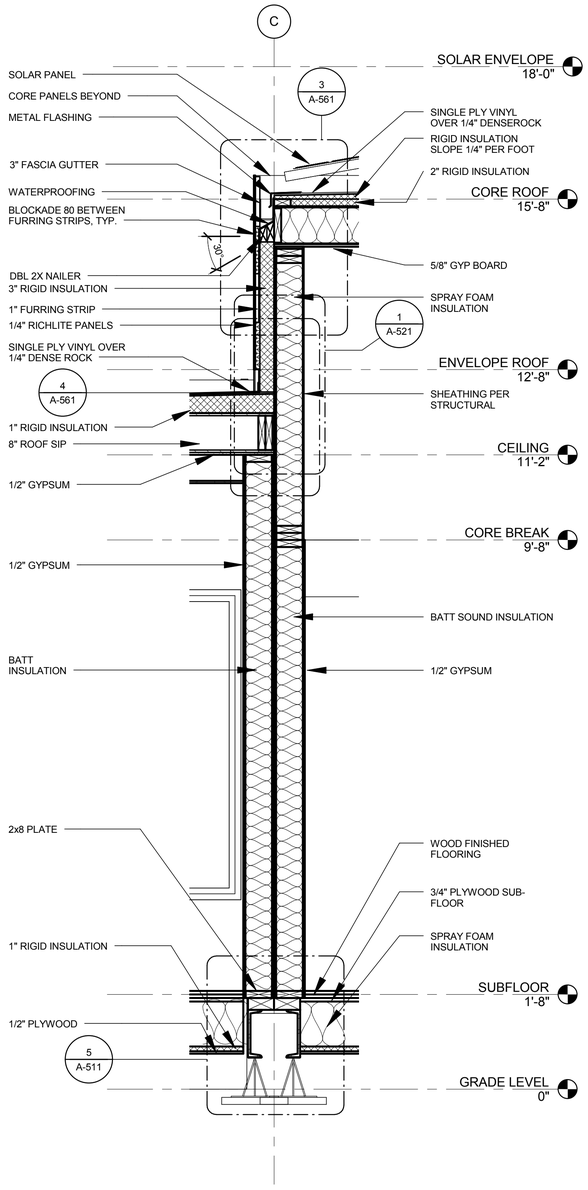
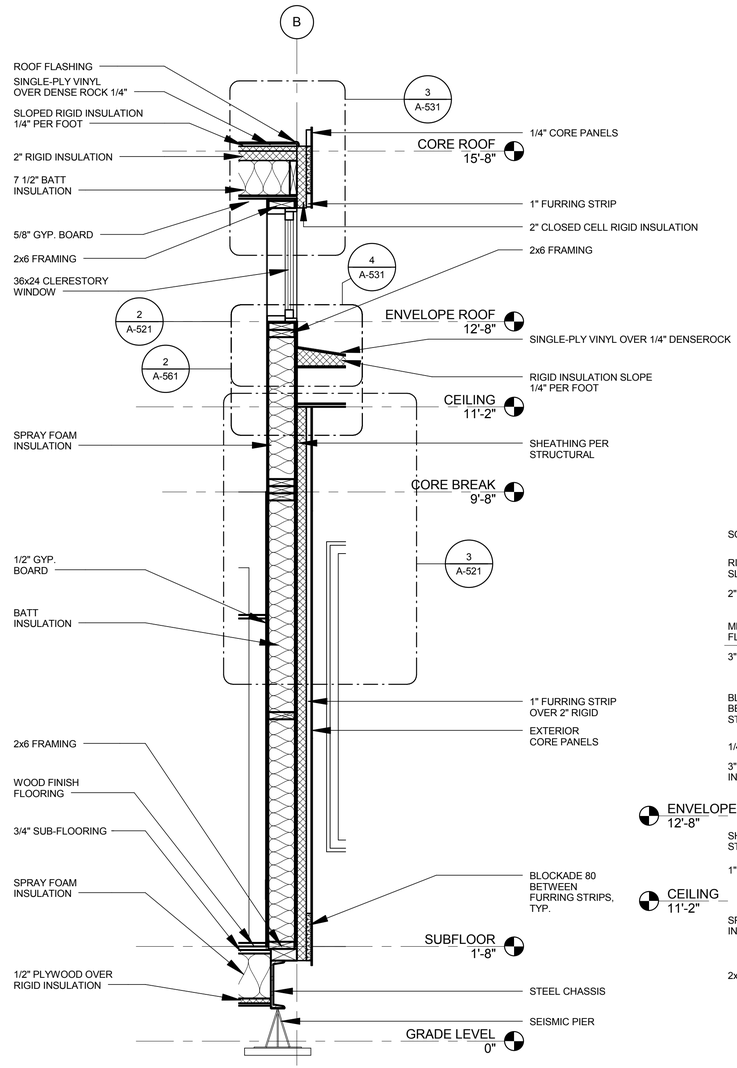


1 SOUTH BATHROOM WALL

3/4" = 1'-0"

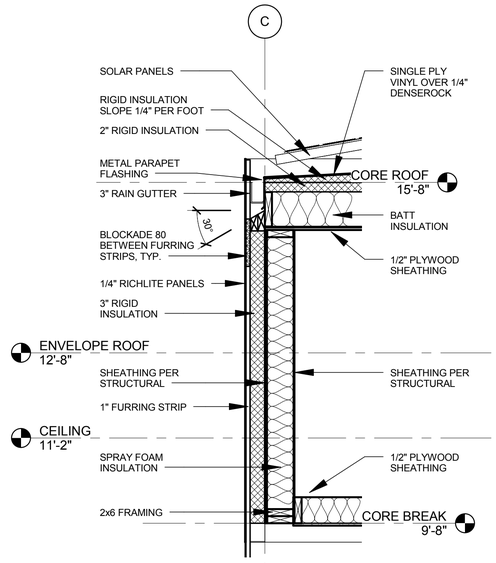
0 1' 2' 3'



2 NORTH KITCHEN WALL

3/4" = 1'-0"

0 1' 2' 3'



3 SOUTH CORE OVERHANG WALL

3/4" = 1'-0"

0 1' 2' 3'

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WALL SECTIONS

AUGUST 17, 2015

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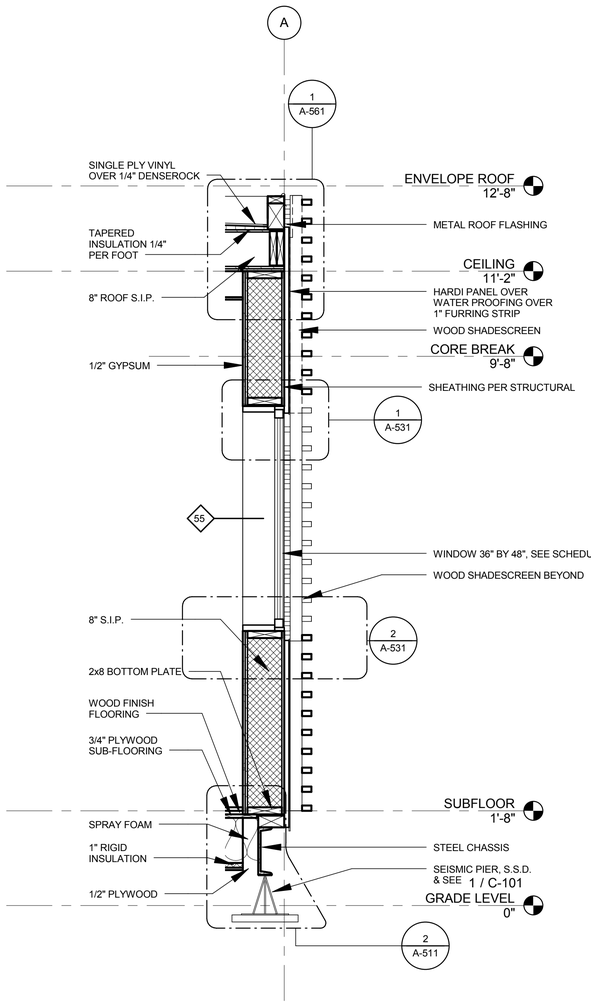
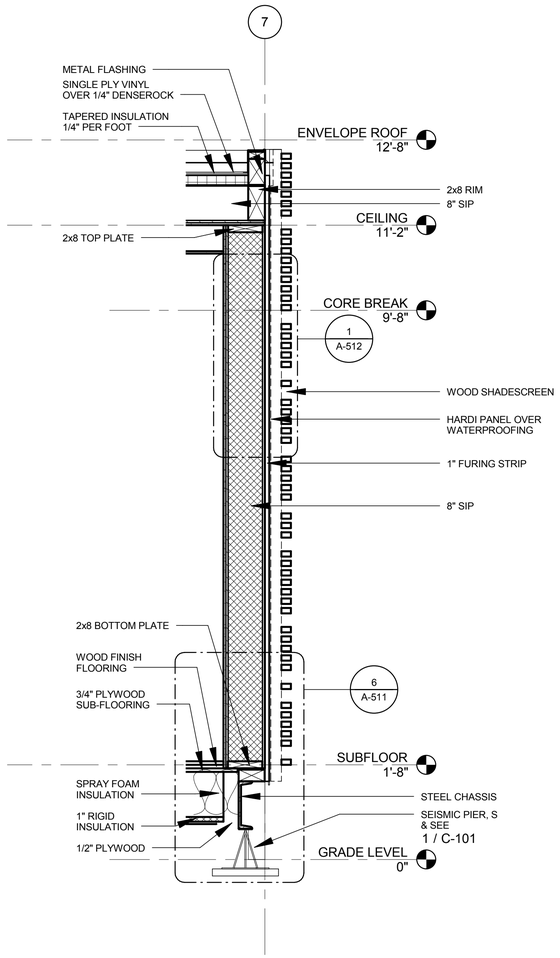


1 NORTH BEDROOM WALL

3/4" = 1'-0"

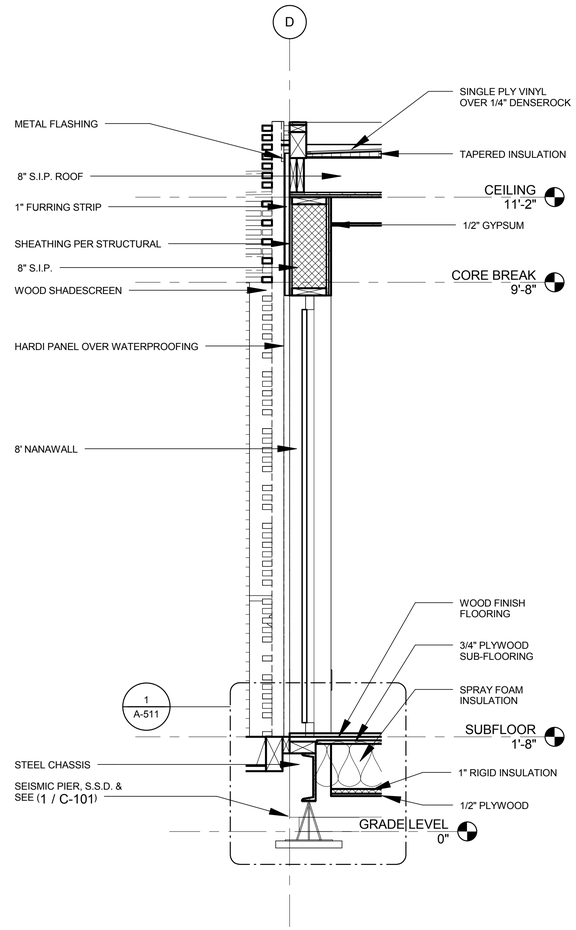
0 1' 2' 3'



2 EAST LIVING ROOM WALL

3/4" = 1'-0"

0 1' 2' 3'



3 SOUTH LIVING ROOM NANAWALL

3/4" = 1'-0"

0 1' 2' 3'

SOLAR CAL POLY

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WALL SECTIONS

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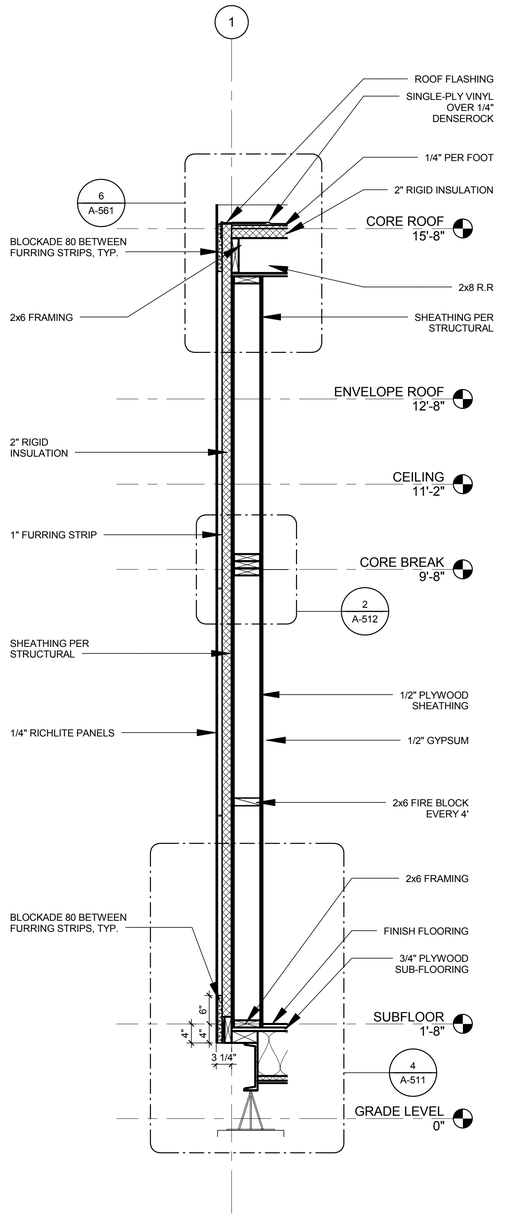
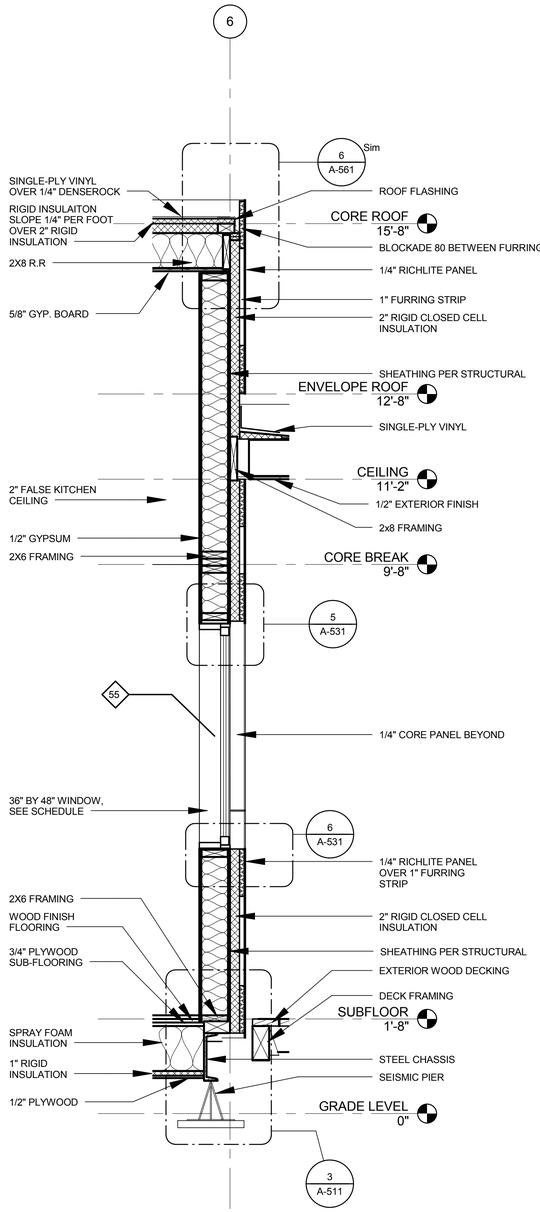


1 WEST MECHANICAL ROOM WALL

3/4" = 1'-0"

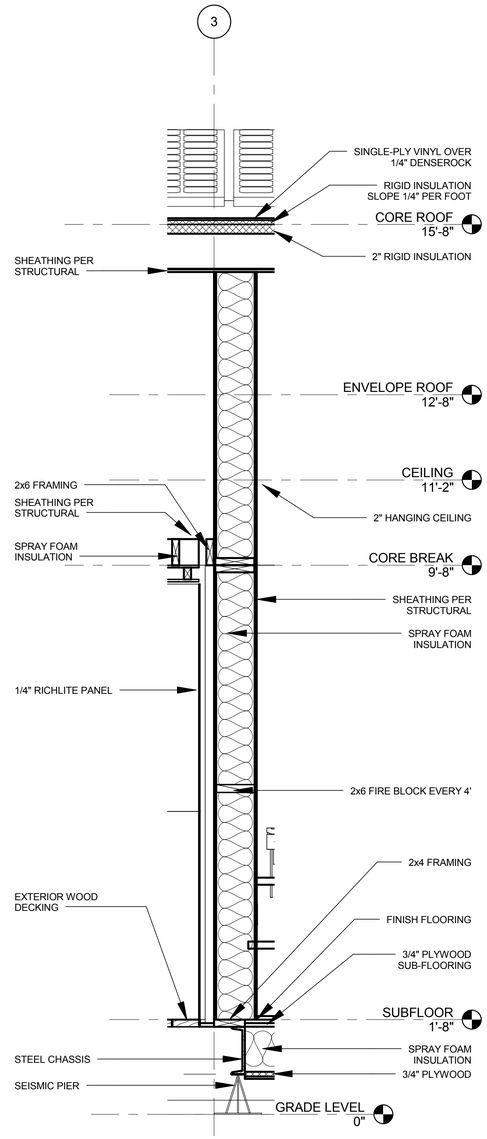
0 1' 2' 3'



2 EAST KITCHEN WALL

3/4" = 1'-0"

0 1' 2' 3'



3 WEST BATHROOM WALL

3/4" = 1'-0"

0 1' 2' 3'

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WALL SECTIONS

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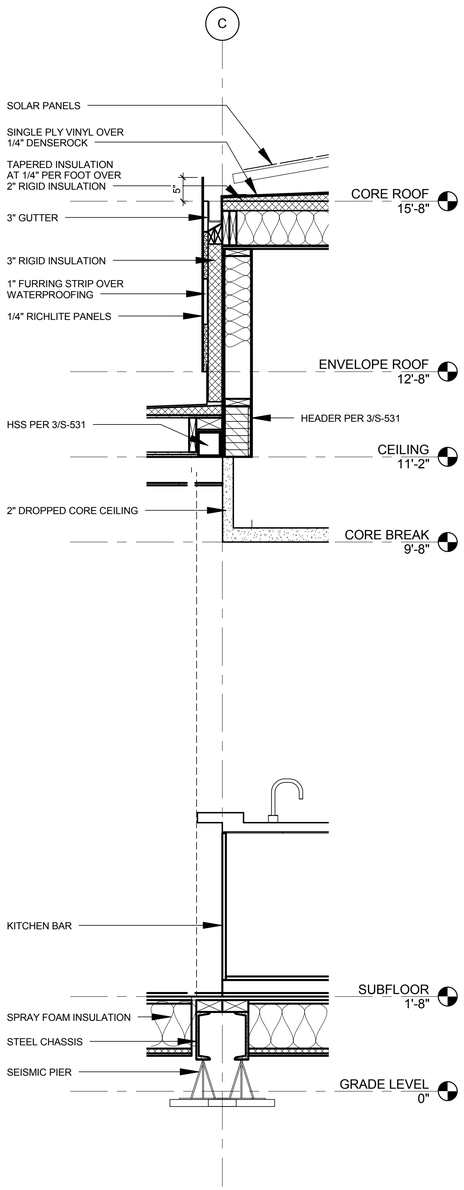

1 SOUTH KITCHEN TO LIVING ROOM
3/4" = 1'-0"

SOLAR CAL POLY

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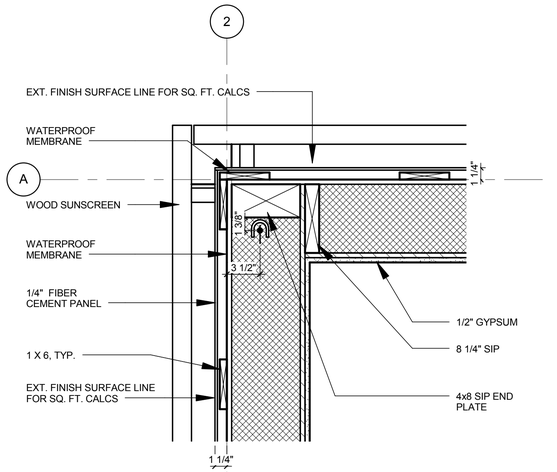
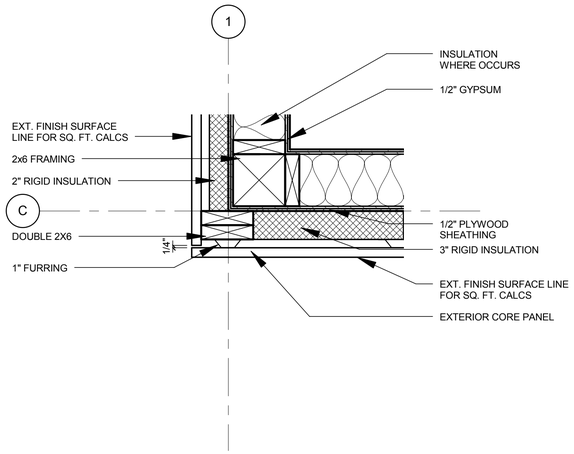


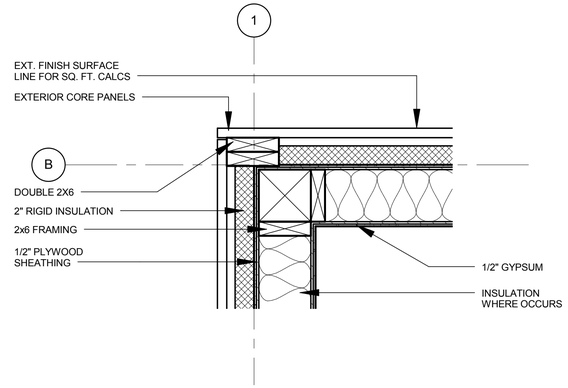
1 BEDROOM CORNER NORTH

1 1/2" = 1'-0"



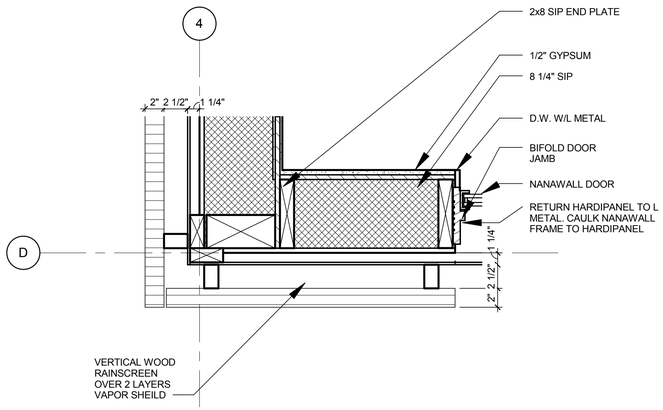
2 CORE CORNER SOUTH

1 1/2" = 1'-0"



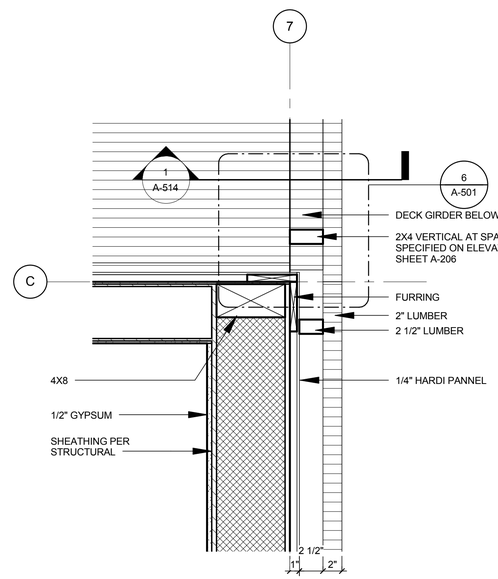
3 CORE CORNER NORTH

1 1/2" = 1'-0"



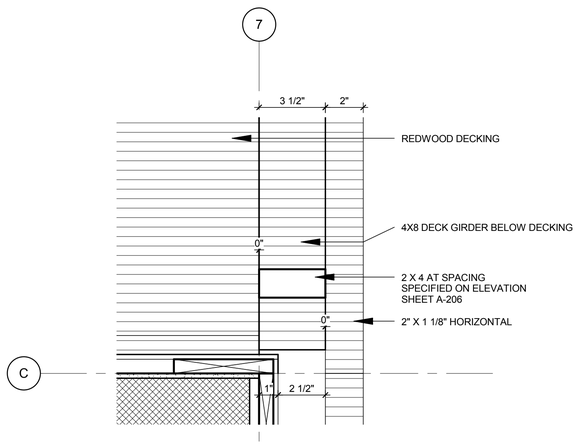
5 LIVING ROOM DOOR JAMB

1 1/2" = 1'-0"



4 EXTERIOR SCREEN TO DECK DETAIL

1 1/2" = 1'-0"



6 VERTICAL SCREEN TO DECK PLAN DETAIL

3" = 1'-0"

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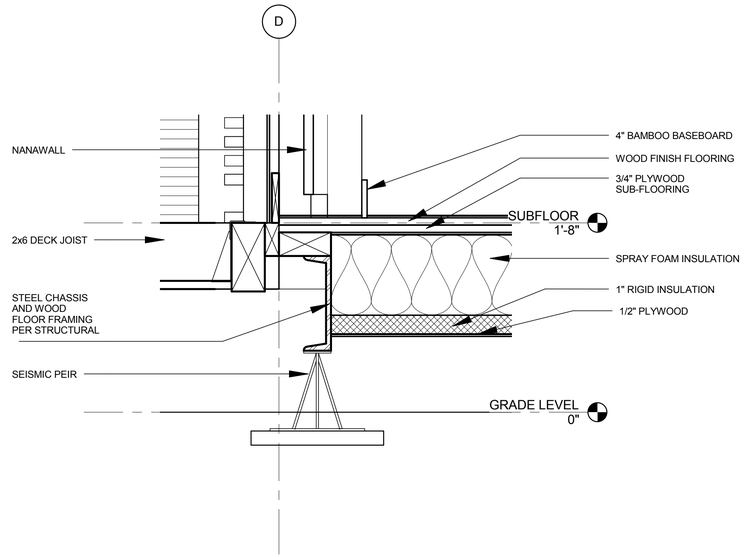
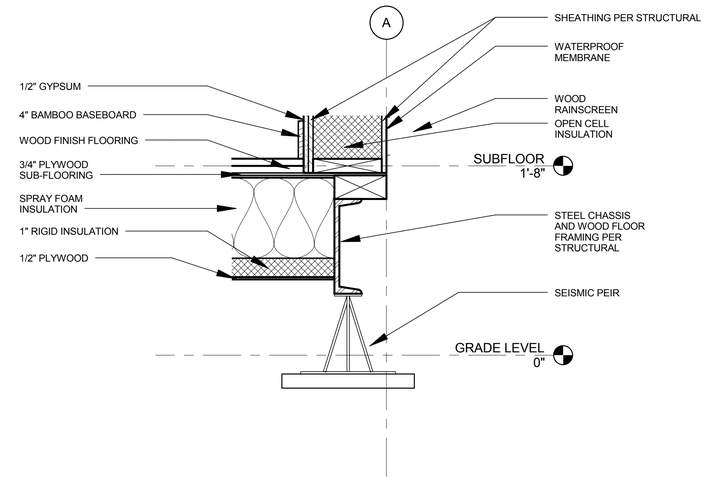
PLAN DETAILS

AUGUST 17, 2015

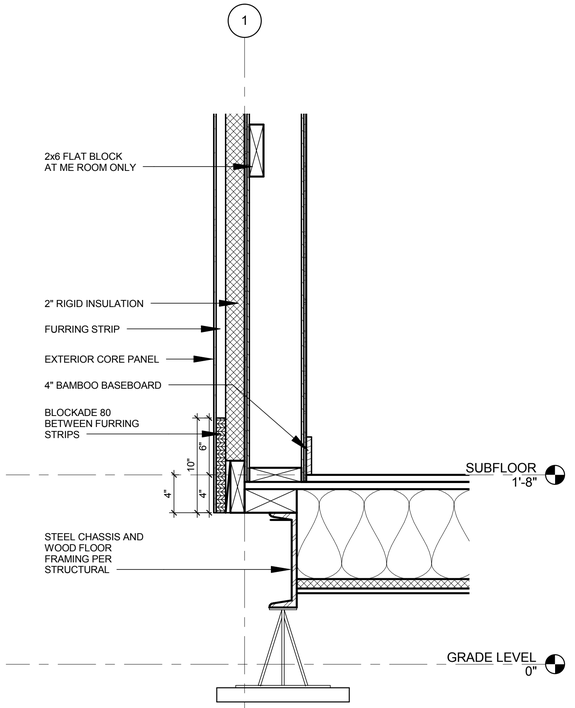
A-501



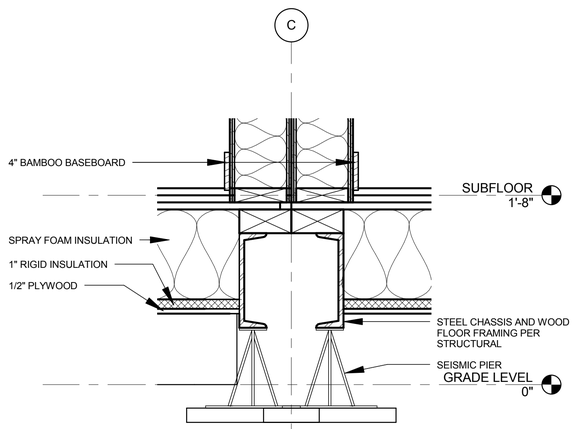
1 NANAWALL CHASSIS DETAIL
1 1/2" = 1'-0"



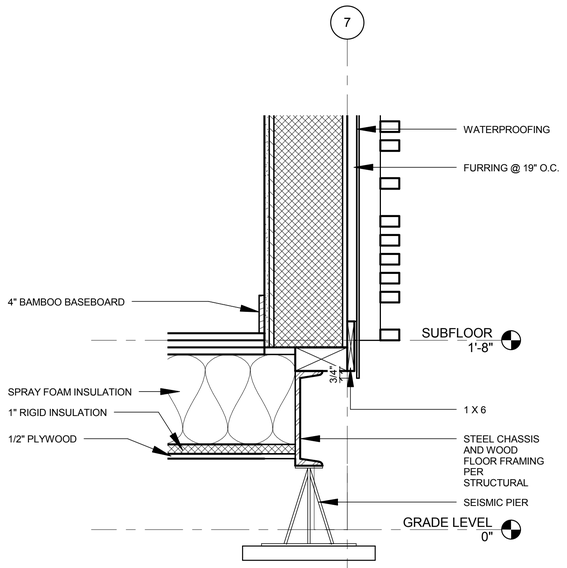
2 SIP WALL CHASSIS DETAIL
1 1/2" = 1'-0"



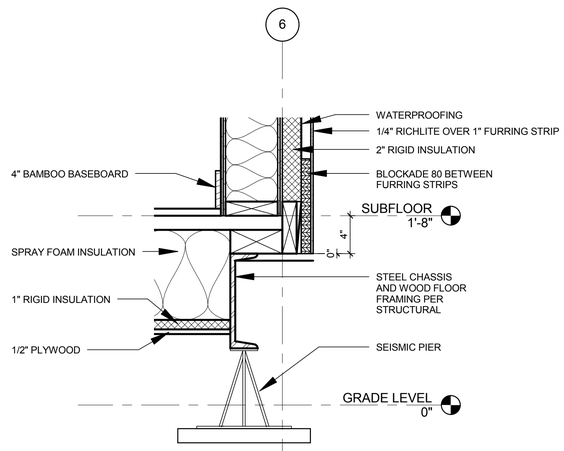
4 MECHANICAL ROOM CHASSIS DETAIL
1 1/2" = 1'-0"



5 CHASSIS CONNECTION
1 1/2" = 1'-0"



6 SHADESCREEN CHASSIS DETAILS
1 1/2" = 1'-0"



3 EAST KITCHEN WALL FOUNDATION
1 1/2" = 1'-0"

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SECTION DETAILS - CHASSIS

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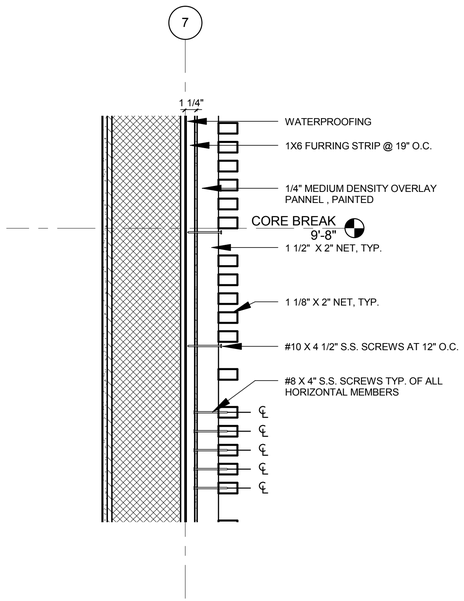
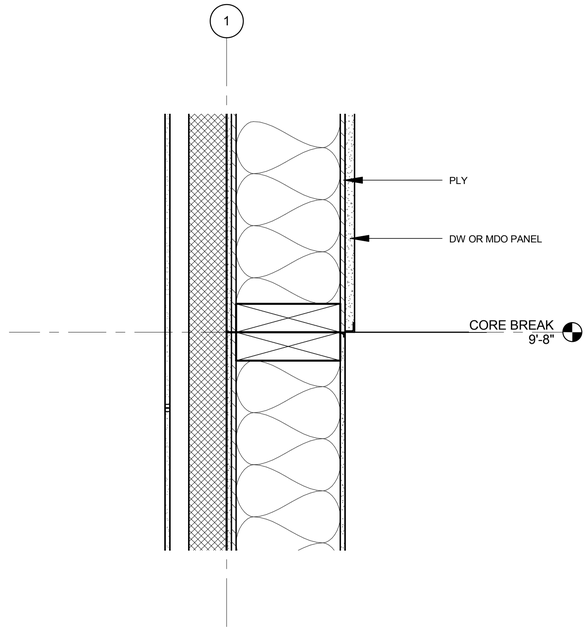
A-511



1 SHADESCREEN DETAIL

1 1/2" = 1'-0"

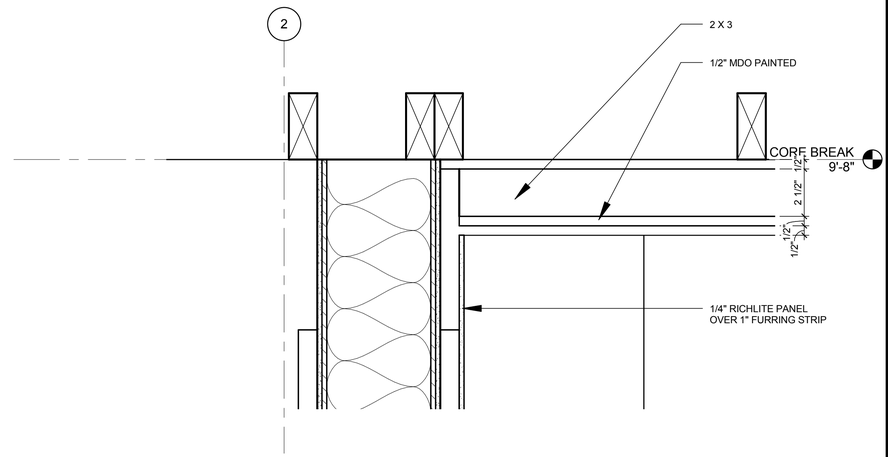
0 1/2" 1' 1 1/2'



2 CORE BREAK FINISH DETAIL

3" = 1'-0"

0 1/2" 1' 1 1/2'



3 PASS-THROUGH CEILING DETAIL

3" = 1'-0"

0 3" 6" 1'

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SECTION DETAILS

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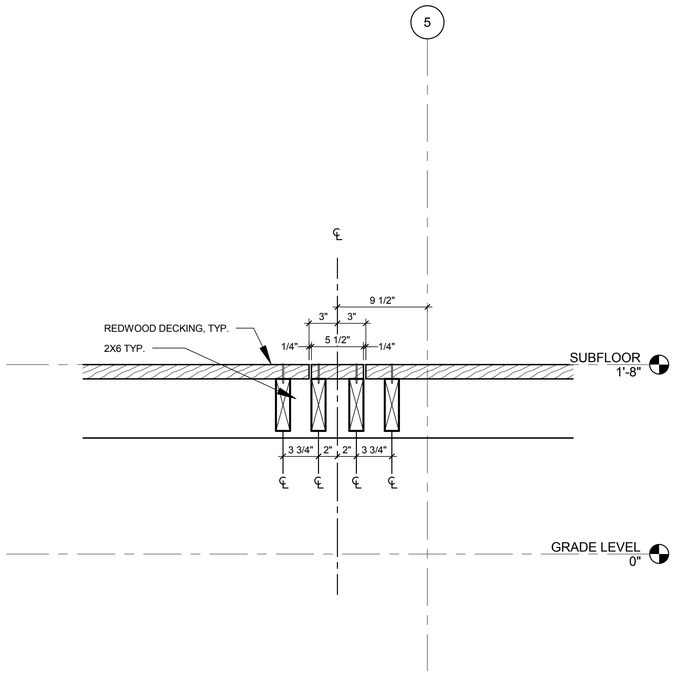
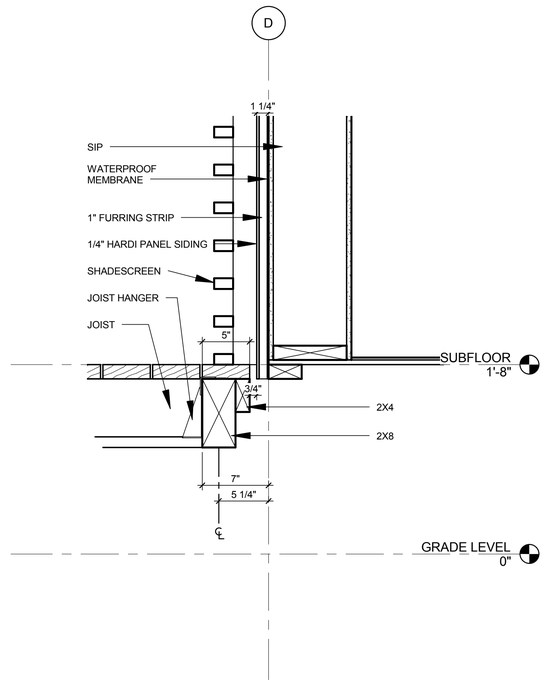
A-512



1 DECK MODULE 4, 5, 6 CONNECTION DETAIL

1 1/2" = 1'-0"

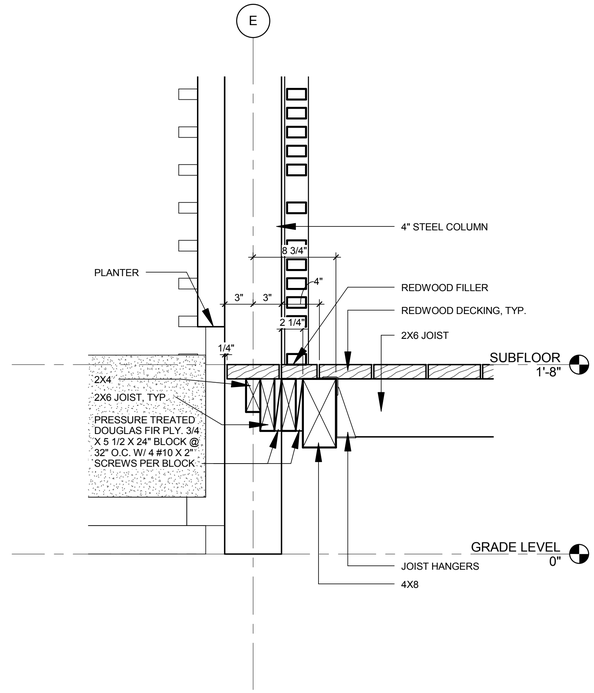
0 1/2" 1' 1 1/2"



2 DECK NORTH EDGE DETAIL

1 1/2" = 1'-0"

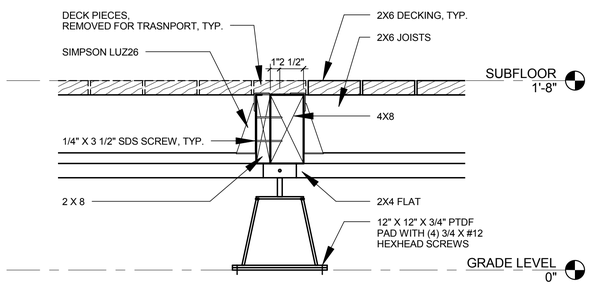
0 1/2" 1' 1 1/2"



3 DECK SOUTH EDGE DETAIL

1 1/2" = 1'-0"

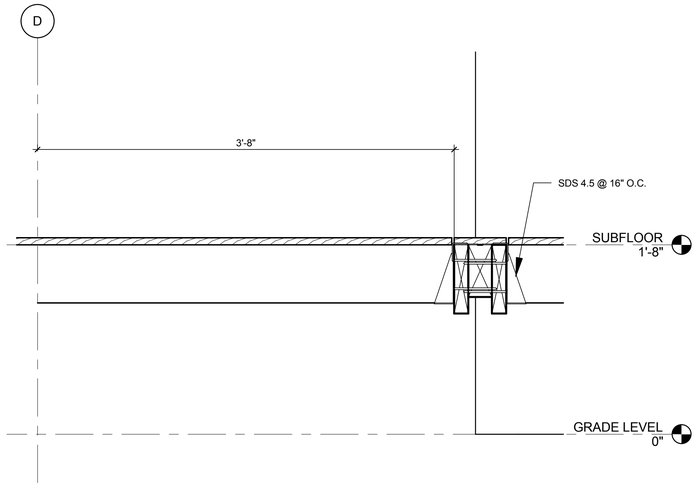
0 1/2" 1' 1 1/2"



4 DECK MODULE 1, 2, 3 CONNECTIONS

1 1/2" = 1'-0"

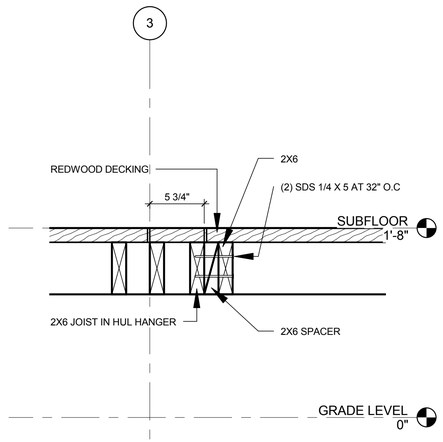
0 1/2" 1' 1 1/2"



5 DECK MODULE 1 TO MODUEL 2

1 1/2" = 1'-0"

0 1/2" 1' 1 1/2"



6 MODULE 2&3 TO MODULE 4 CONNECTION

1 1/2" = 1'-0"

0 1/2" 1' 1 1/2"

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DECK DETAILS

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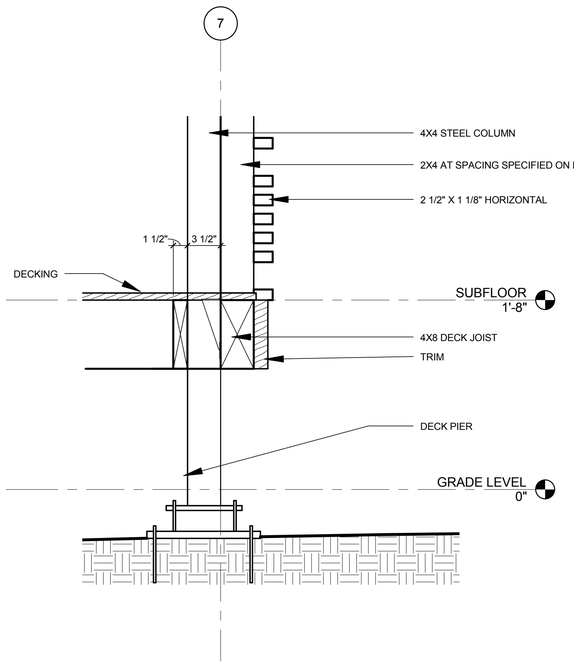
A-513



1 SECTION AT LINE 7, TYP.

1 1/2" = 1'-0"

0 1/2" 1' 1 1/2"

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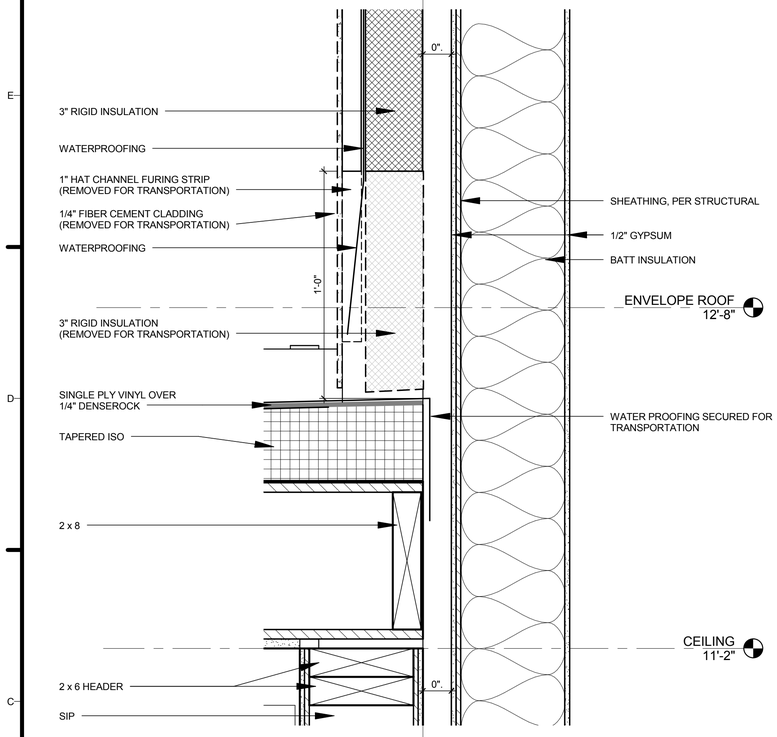
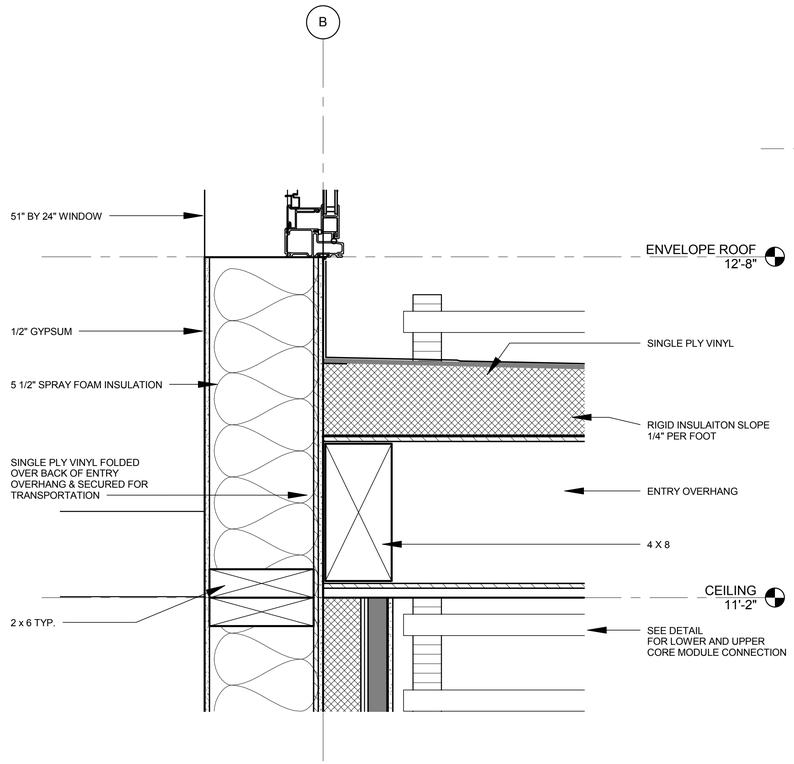


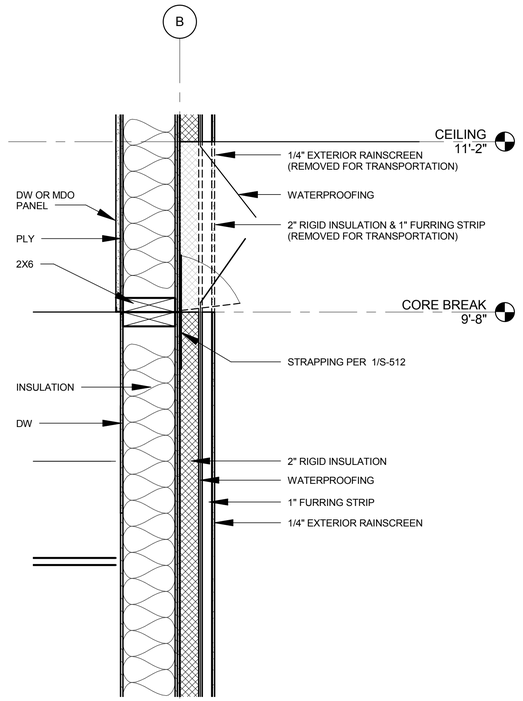
1 TRANSPORTATION - SIP ROOF TO BATHROOM WALL

3" = 1'-0"



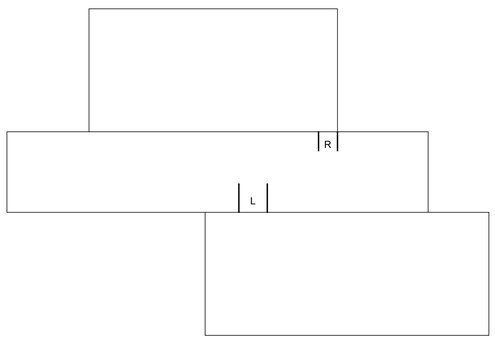
2 TRANSPORTATION - NORTH KITCHEN WALL TO OVERHANG

3" = 1'-0"



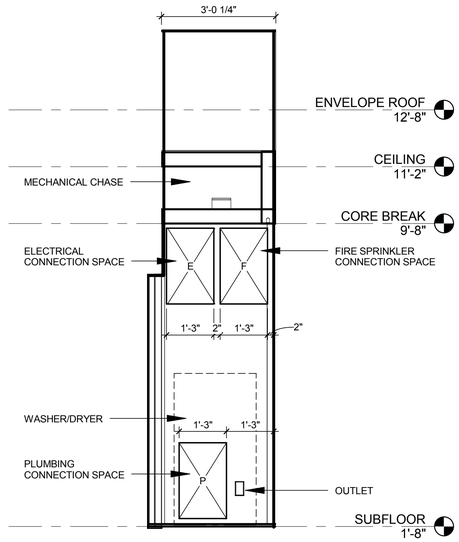
3 NORTH CORE UPPER TO LOWER

1 1/2" = 1'-0"



4 MODULE CONNECTION KEYPLAN

1/8" = 1'-0"



5 L - BATHROOM SOUTH FOR MODULE CONNECTIONS

1/2" = 1'-0"

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MODULE CONNECTION DETAILS

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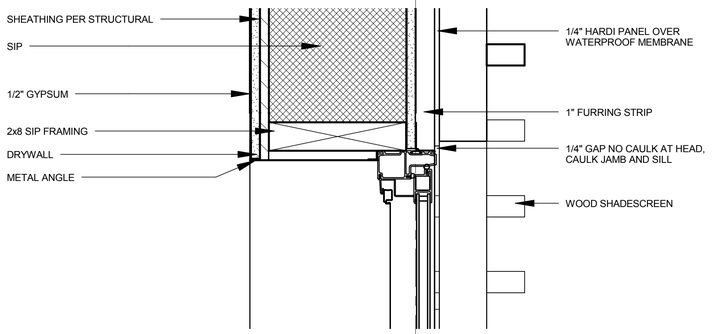
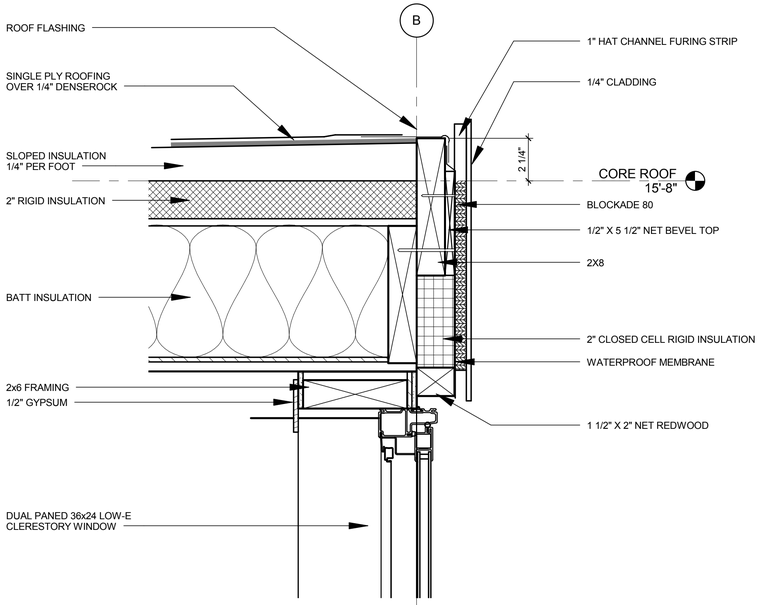


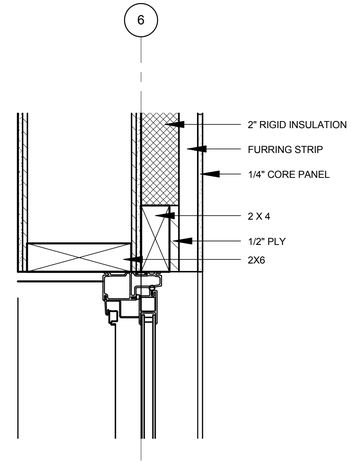
1 BEDROOM NORTH WINDOW HEAD

3" = 1'-0"



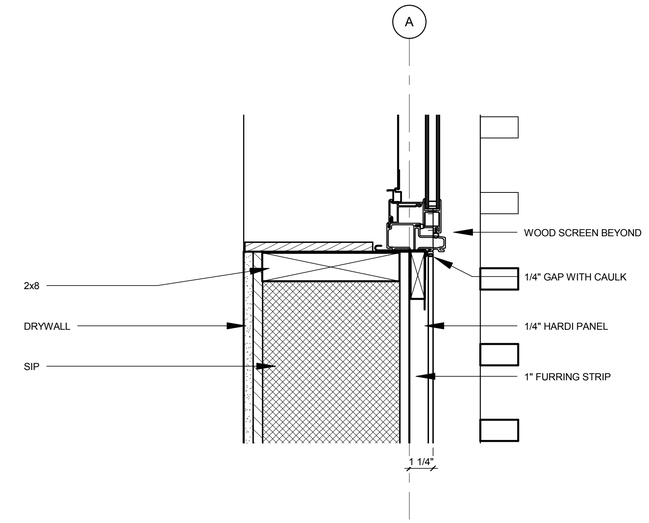
3 CORE CLERESTORY WINDOW

3" = 1'-0"



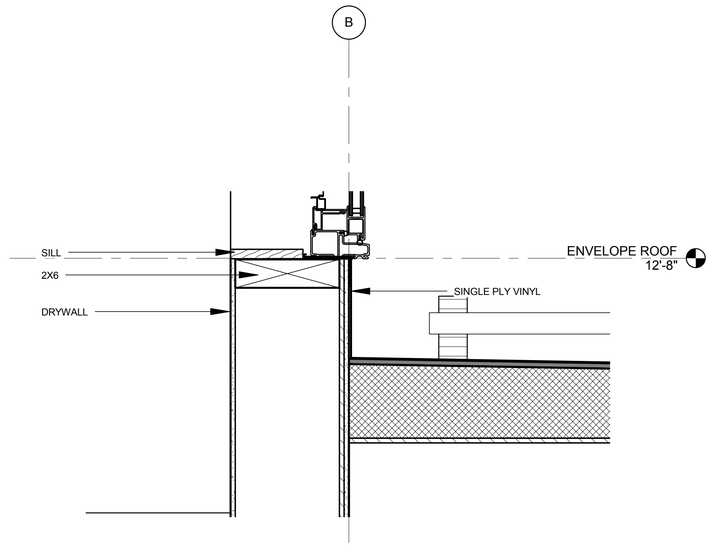
5 KITCHEN EAST WINDOW HEAD

3" = 1'-0"



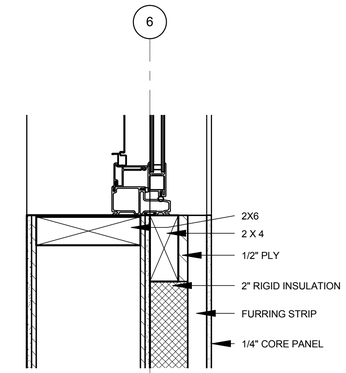
2 BEDROOM NORTH WINDOW SILL

3" = 1'-0"



4 CORE CLERESTORY WINDOW SILL

3" = 1'-0"



6 KITCHEN EAST WINDOW SILL

3" = 1'-0"

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WINDOW DETAILS

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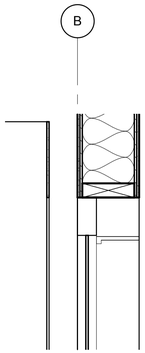
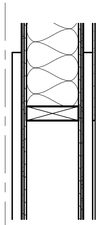
A-531



1 BEDROOM DOUBLE DOOR

1 1/2" = 1'-0"

0 1/2" 1' 1 1/2'



2 MECHANICAL SLIDING DOOR

1 1/2" = 1'-0"

0 1/2" 1' 1 1/2'

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DOOR DETAILS

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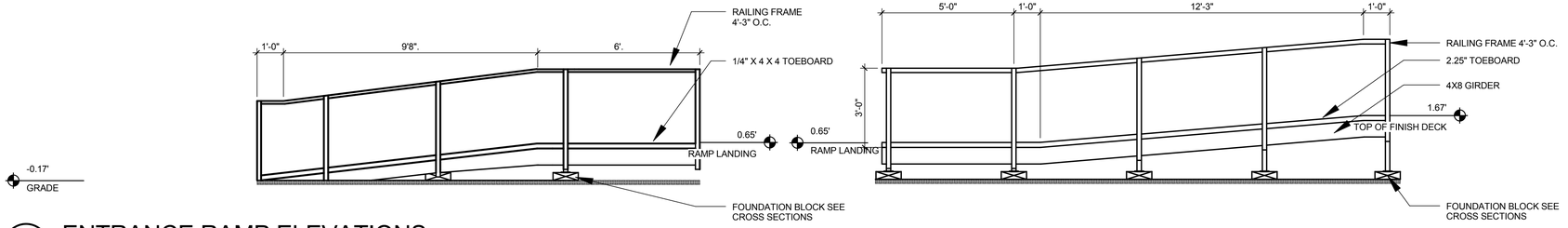
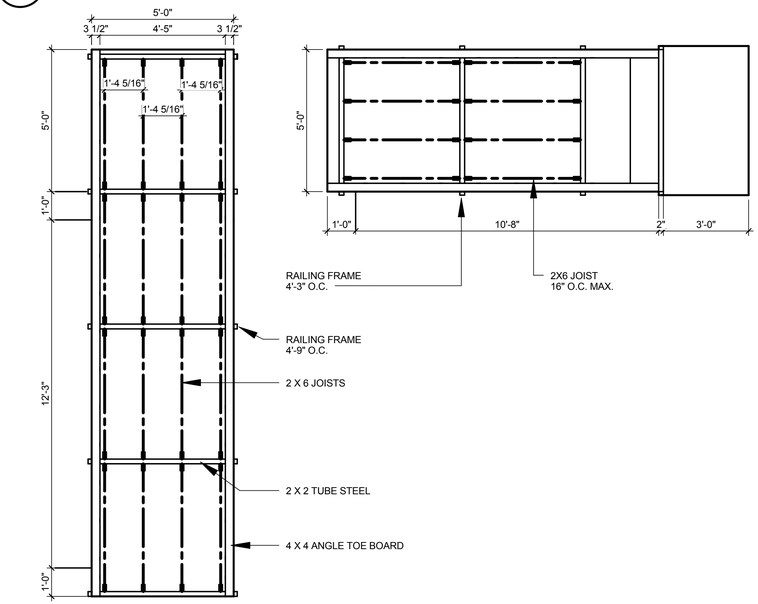


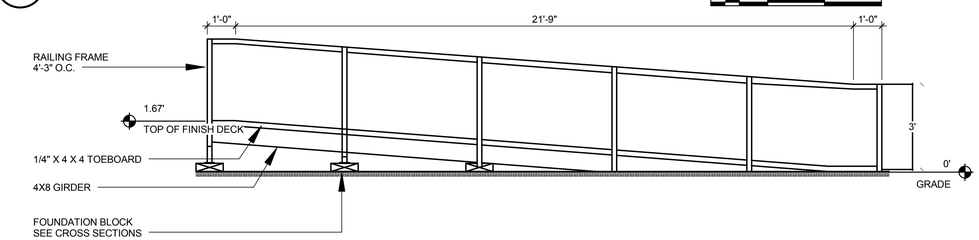
1 ENTRANCE RAMP ELEVATIONS

3/8" = 1'-0"



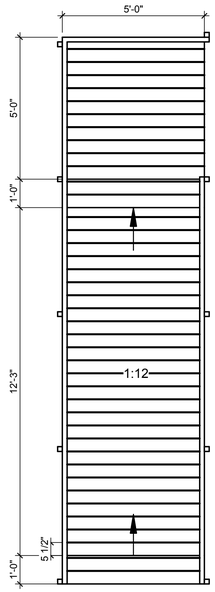
2 ENTRANCE RAMP FRAMING

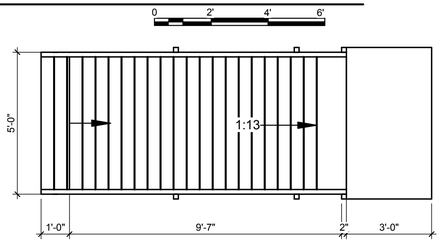
3/8" = 1'-0"

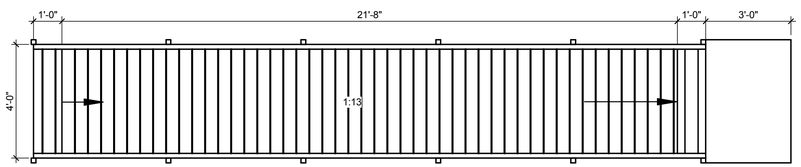


3 ENTRANCE RAMP PLAN

3/8" = 1'-0"

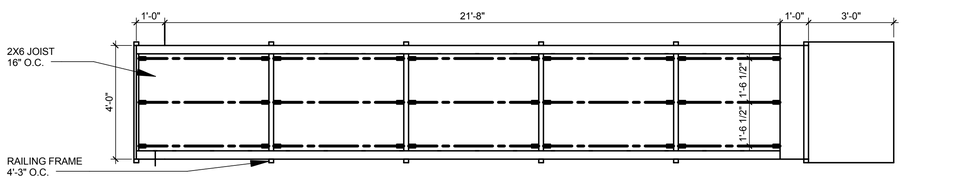






4 EXIT RAMP ELEVATION

3/8" = 1'-0"



5 EXIT RAMP FRAMING

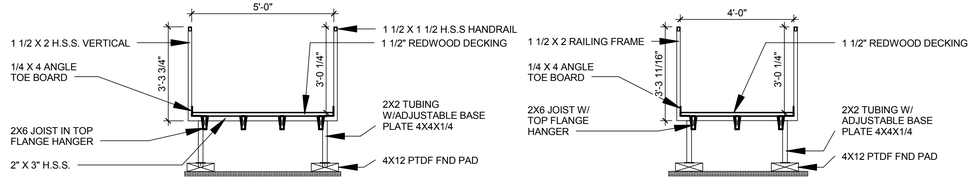
3/8" = 1'-0"

6 EXIT RAMP PLAN

3/8" = 1'-0"

7 RAMP SECTIONS

3/8" = 1'-0"



0 2' 4' 6'

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RAMP DETAILS

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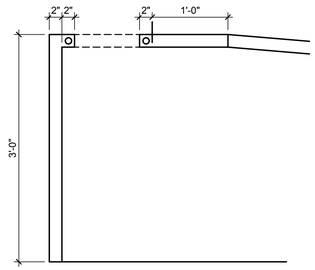
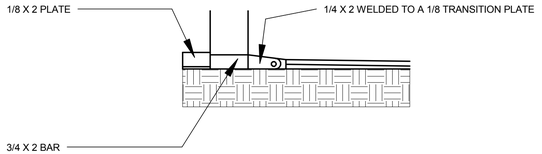


1 HANDRAIL CONNECTION DETAIL

1" = 1'-0"

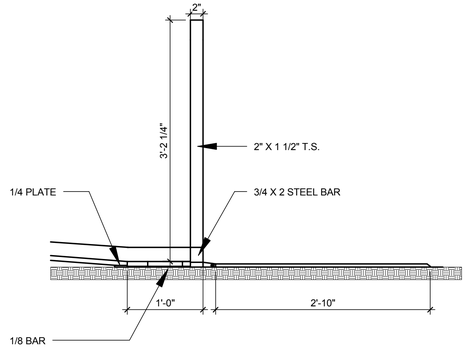
0 1/2' 1' 2'



4 RAMP THRESHOLD SECTION

3" = 1'-0"

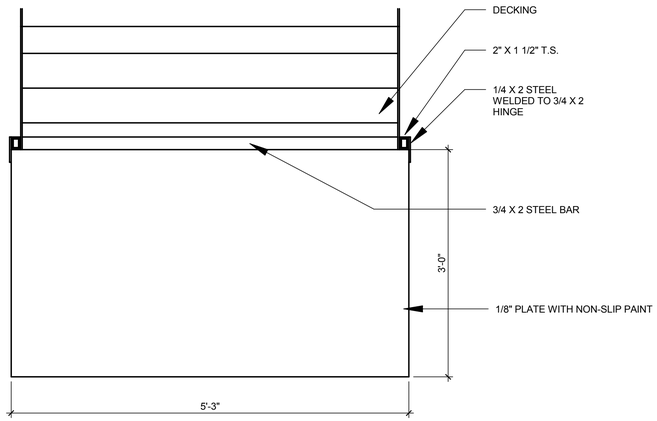
0 3" 6" 1'



2 RAMP THRESHOLD DETAIL

1" = 1'-0"

0 1/2' 1' 2'



3 RAMP THRESHOLD PLAN

1" = 1'-0"

0 1/2' 1' 2'

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RAMP DETAILS

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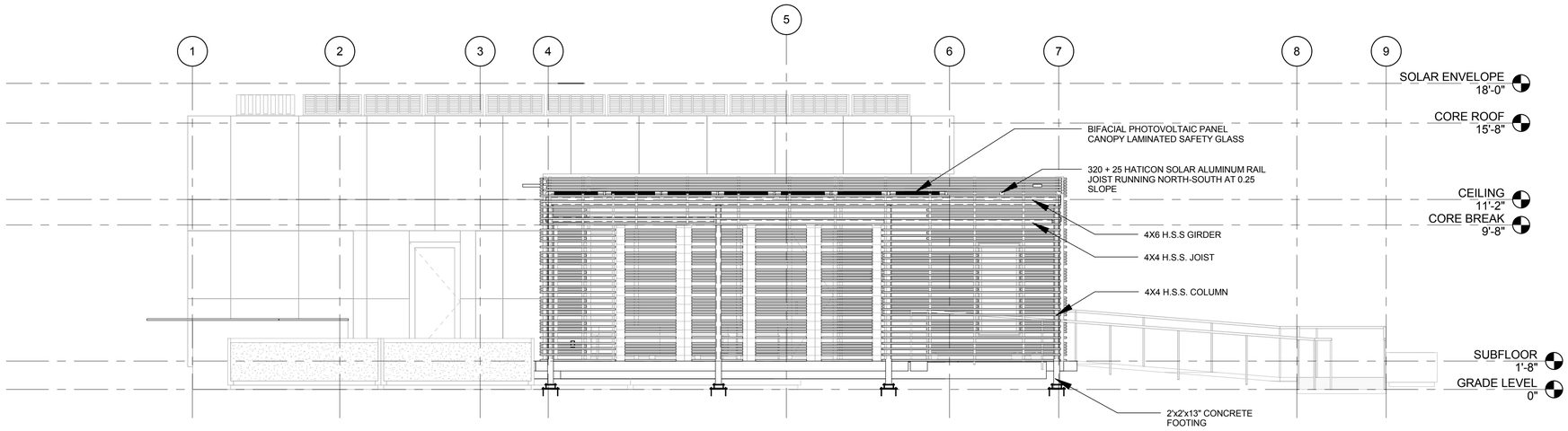
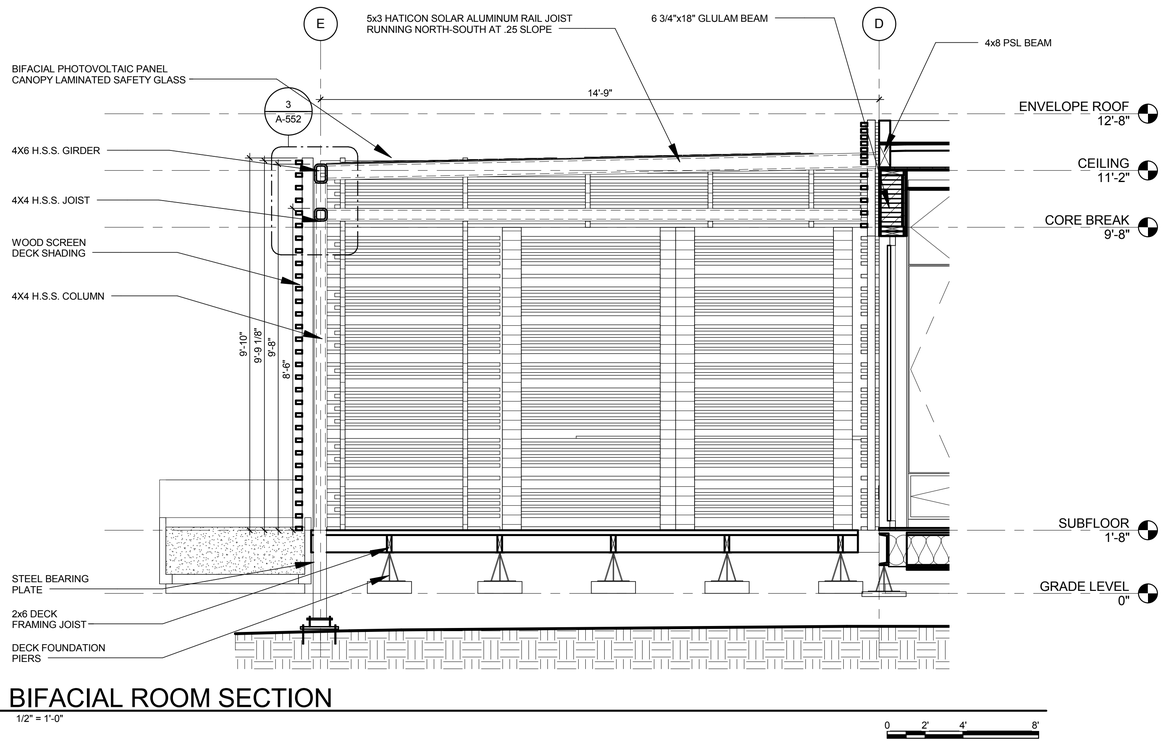


1 SOUTH BIFACIAL ROOM ELEVATION

1/4" = 1'-0"

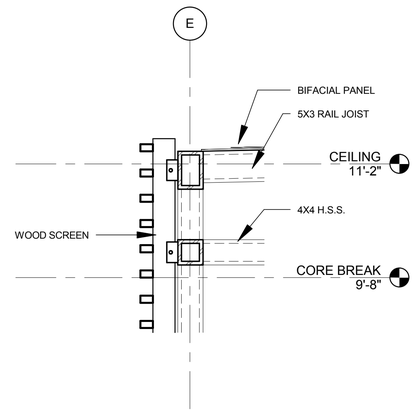
0 2' 4' 8'



2 BIFACIAL ROOM SECTION

1/2" = 1'-0"

0 2' 4' 8'



3 BIFACIAL ROOM STEEL DETAIL

1" = 1'-0"

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BIFACIAL ROOM DETAILS

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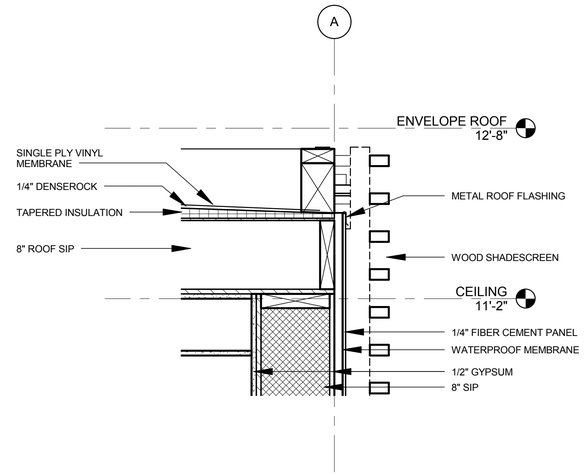
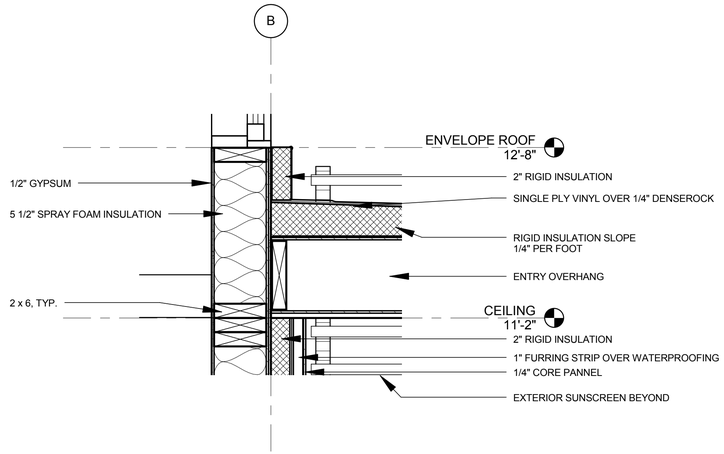
A-552



1 SIP WALL TO SIP ROOF

1 1/2" = 1'-0"

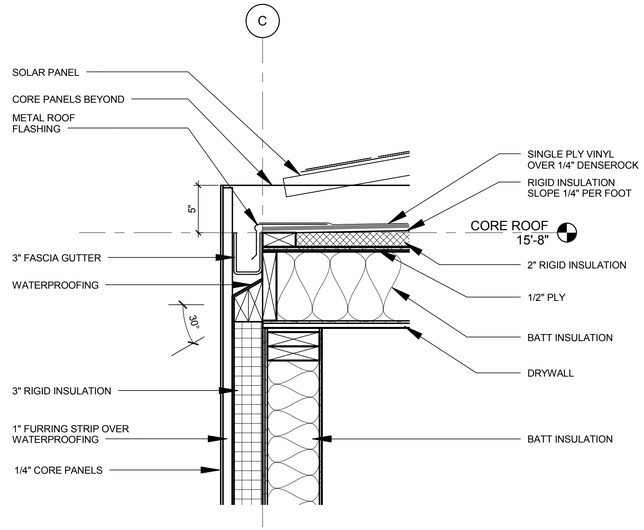
0 1/2" 1' 1 1/2'



2 NORTH KITCHEN WALL TO OVERHANG

1 1/2" = 1'-0"

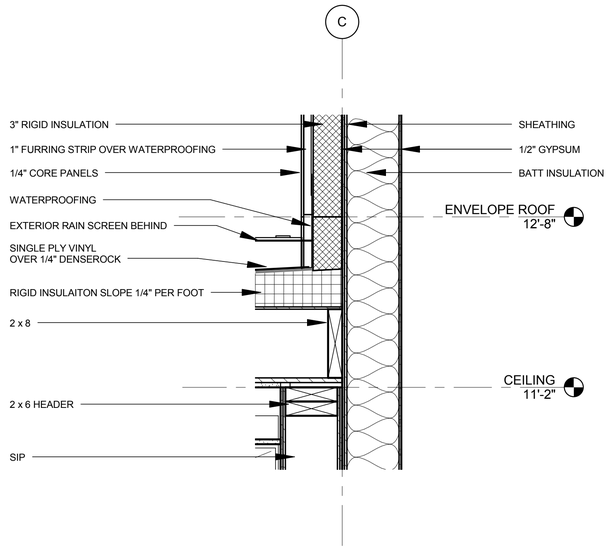
0 1/2" 1' 1 1/2'



3 CORE ROOF DETAIL

1 1/2" = 1'-0"

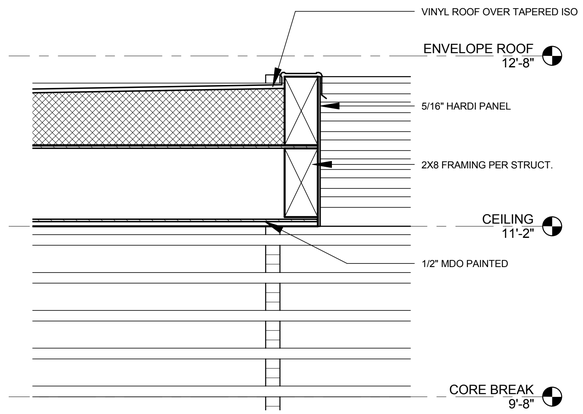
0 1/2" 1' 1 1/2'



4 SIP ROOF TO BATHROOM WALL

1 1/2" = 1'-0"

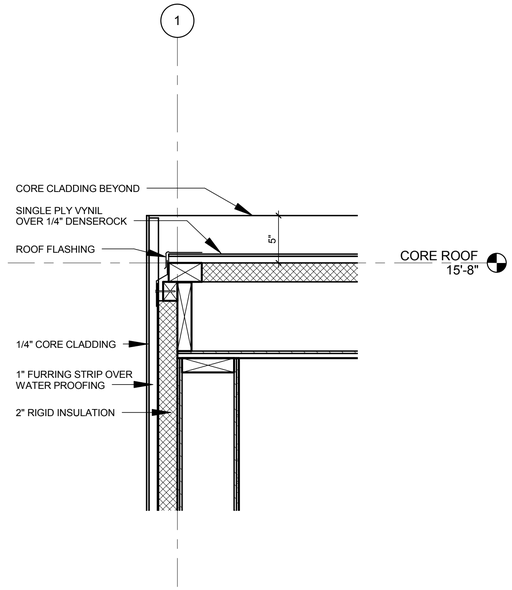
0 1/2" 1' 1 1/2'



5 ENTRY OVERHANG NORTH

1 1/2" = 1'-0"

0 1' 2' 4'



6 WEST CORE ROOF

1 1/2" = 1'-0"

0 1/2" 1' 1 1/2'

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ROOF DETAILS

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A-561

INSULATION SCHEDULE

NAME	TYPE	R-VALUE PER INCH	TOTAL R-VALUE
CORE FLOOR 7-1/4" JOIST	OPEN CELL SPRAY FOAM 6-1/2"	R-3.7	R-24
CORE FLOOR BENEATH JOIST - 1" RIGID	CLOSED CELL	R-5	R-5
PRIVATE AND LIVING MODULES FLOOR -9-1/2" JOIST	OPEN CELL SPRAY FOAM 6-1/2"	R-3.7	R-24
PRIVATE AND LIVING MODULES BENEATH JOIST -1" RIGID	CLOSED CELL	R-5	R-5
PRIVATE AND LIVING MODULES WALLS AND CEILING - 8-1/4" SIPS	EPS FOAM		R-30
CORE WALLS - 5-1/2" STUD WALL	OPEN CELL SPRAY FOAM 5-1/2"	R-3.7	R-20.35
CORE WALLS - 2" RIGID	CLOSED CELL	R-5	R-10
CORE CEIING - 7 1/4" ROOF JOIST	OPEN CELL SPRAY FOAM 6-1/2"	R-3.7	R-24
CORE ROOF - 2" RIGID	CLOSED CELL	R-5	R-10

PLUMBING SCHEDULE

	NAME	MANUFACTURER	MODEL NUMBER	FINISH	LOCATION
P1	UNDERMOUNT SINGLE BOWL	MIRABELLE	MIRUC309	STAINLESS STEEL	KITCHEN
P2	PULL-OUT SPRAY KITCHEN FAUCET	DELTA FAUCET	9159ARDST	ARCTIC STAINLESS	KITCHEN
P3	VESSEL STYLE SINK	RONBOW	200005	WHITE	BATHROOM
P4	VESSEL FILLER SINK FAUCET	DELTA FAUCET	768LF	CHROME	BATHROOM
P5	LAVATORY DRAIN 1-9/16" DIAM.	RONBOW	700204PC	CHROME	BATHROOM
P6	SINGLE HANDED SHOWER FAUCET	DELTA FAUCET	T14267-H2O	CHROME	BATHROOM
P7	TUB & SHOWER ROUGH IN VALVE	DELTA FAUCET	R10000UNWS	ROUGH BRASS	BATHROOM
P8	TUB/SHOWER DRAIN	KOHLER	K9136CP	POLISHED SCRHOME	BATHROOM
P10	SHOWER PAN	SWAN	FF03453MD.010	POLISHED CHROME	BATHROOM
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X

DOOR SCHEDULE

MARK	DR SIZE	MANUFACTURER	MODEL	FRAME TYPE	COLOR	DETAILS			DESCRIPTION	FINISH		
						HEAD	JAMB	SILL		DOOR	FRAME	COMPONENTS
221AA	14'-9" X 7'-10"	NANA WALL	SL60RL TRIPLE GLAZED	ALUMINUM THERMAL BROKEN					U 0.28 SHGC 0.23	1/3/8 SC		
221BB	-- -- -- -- --	BY CABINET MAKER	FLUSH WOOD	CABINET								
221CC	30" x 84"		FLUSH FIBERGLASS								3/4" P.G.	
221FF	36" x 84"	INTEGRITY ULTREX	SINGLE LITE FRENCH DOOR	FIBER GLASS	PEBBLE GREY				U = 0.27 SHGC = 0.19		F.G.	
221GG	-- 68" X 80" --	INTEGRITY ULTREX	SINGLE LITE FRENCH DOOR	FIBER GLASS	PEBBLE GREY				U = 0.27 SHGC = 0.19		F.G.	
221Q	30" x 80"		FLUSH WOOD							1/3/8 SC	3/4" P.F.	

WINDOW SCHEDULE

MARK	ROUGH OPENING		TYPE	MODEL	MATERIAL	FINISH	DETAIL			INT.	HEAD HEIGHT	COMMENTS	Description
	WIDTH	HEIGHT					HEAD	JAMB	SILL	COLOR			
55	2'-11 1/2"	3'-11 1/2"	CASEMENT	INTEGRITY ULTREX	FIBERGLASS	PEBBLE GRAY				EBONY			U = 0.27 SHGC = 0.24
76	3'-0"	2'-0"	AWNING	INTEGRITY ULTREX	FIBERGLASS	BLACK				EBONY		WITH SENTRY 11 WLS OPERATOR AND REMOTE	U = 0.27 SHGC = 0.24
77	2'-5 1/2"	5'-5 1/2"	CASEMENT	INTEGRITY ULTREX	FIBERGLASS	PEBBLE GRAY				EBONY		TEMPERED GLASS	U = 0.27 SHGC = 0.24

ROOM FINISH SCHEDULE

ROOM NO	ROOM NAME	FINISH					COMMENTS
		FLOOR	BASE	WALL	CEILING	CEILING HEIGHT	
1	DINING ROOM	WOOD	WOOD	PAINT	PAINT	9.5	
2	LIVING ROOM	WOOD	WOOD	PAINT	PAINT	9.5	
3	KITCHEN	WOOD	WOOD	TILE AND PAINT AND MDO	MDO	14	SLOPED CEILING, SEE SECTION
4	BATHROOM	WOOD	WOOD	TILE AND PAINT AND MDO	PAINT AND MDO	14	SLOPED CEILING, SEE SECTION
5	FLEX SPACE	WOOD	WOOD	PAINT	PAINT	9.5	
6	BEDROOM	WOOD	WOOD	PAINT	PAINT	11.5	
7	MECHANICAL	VINYL	WOOD	PAINT	PAINT	14	

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SCHEDULES

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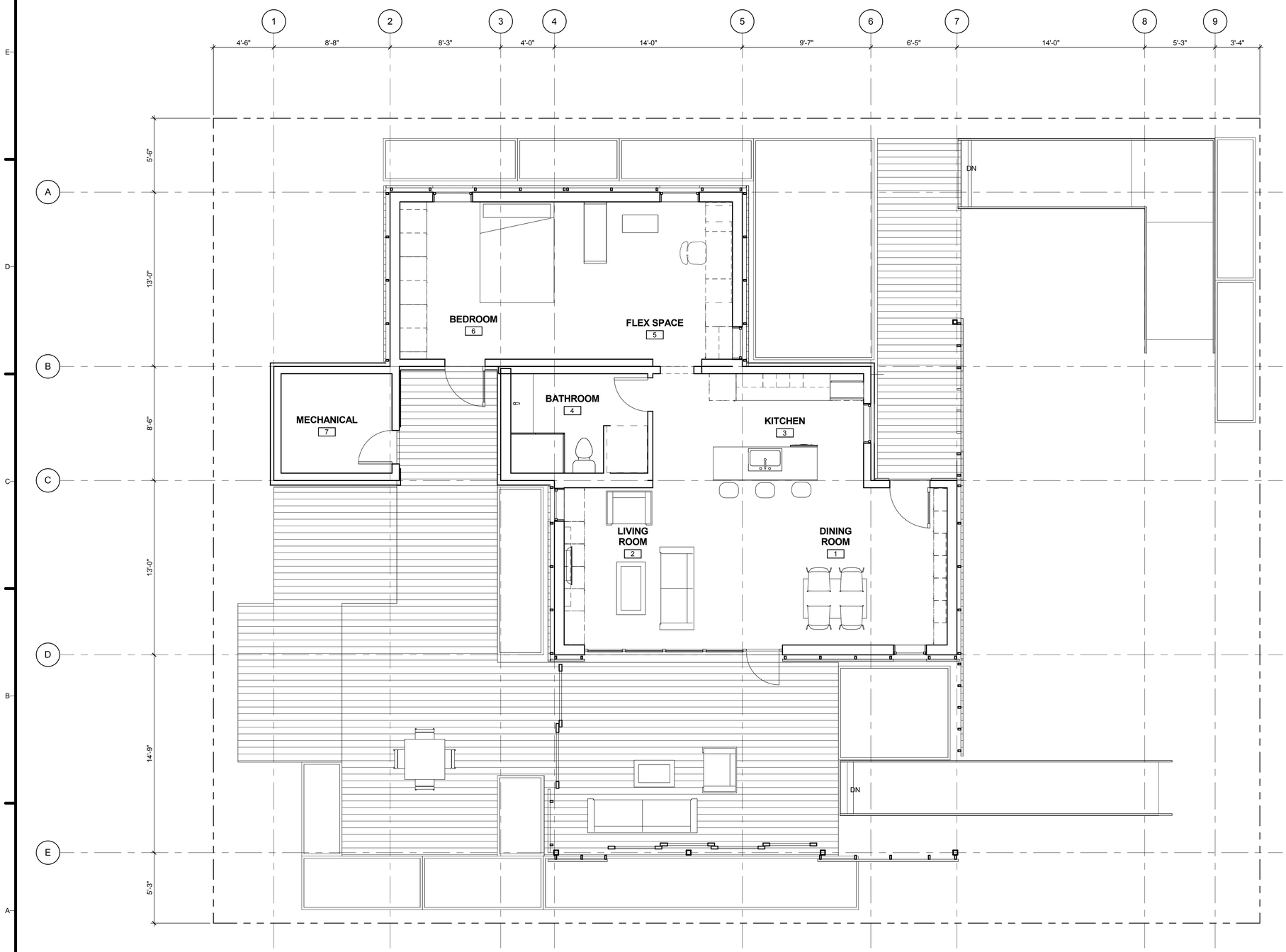

1 INTERIOR AND EXTERIOR FURNISHINGS PLAN

1/4" = 1'-0"

0 2' 4' 8'

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INTERIOR AND EXTERIOR FURNISHING PLAN

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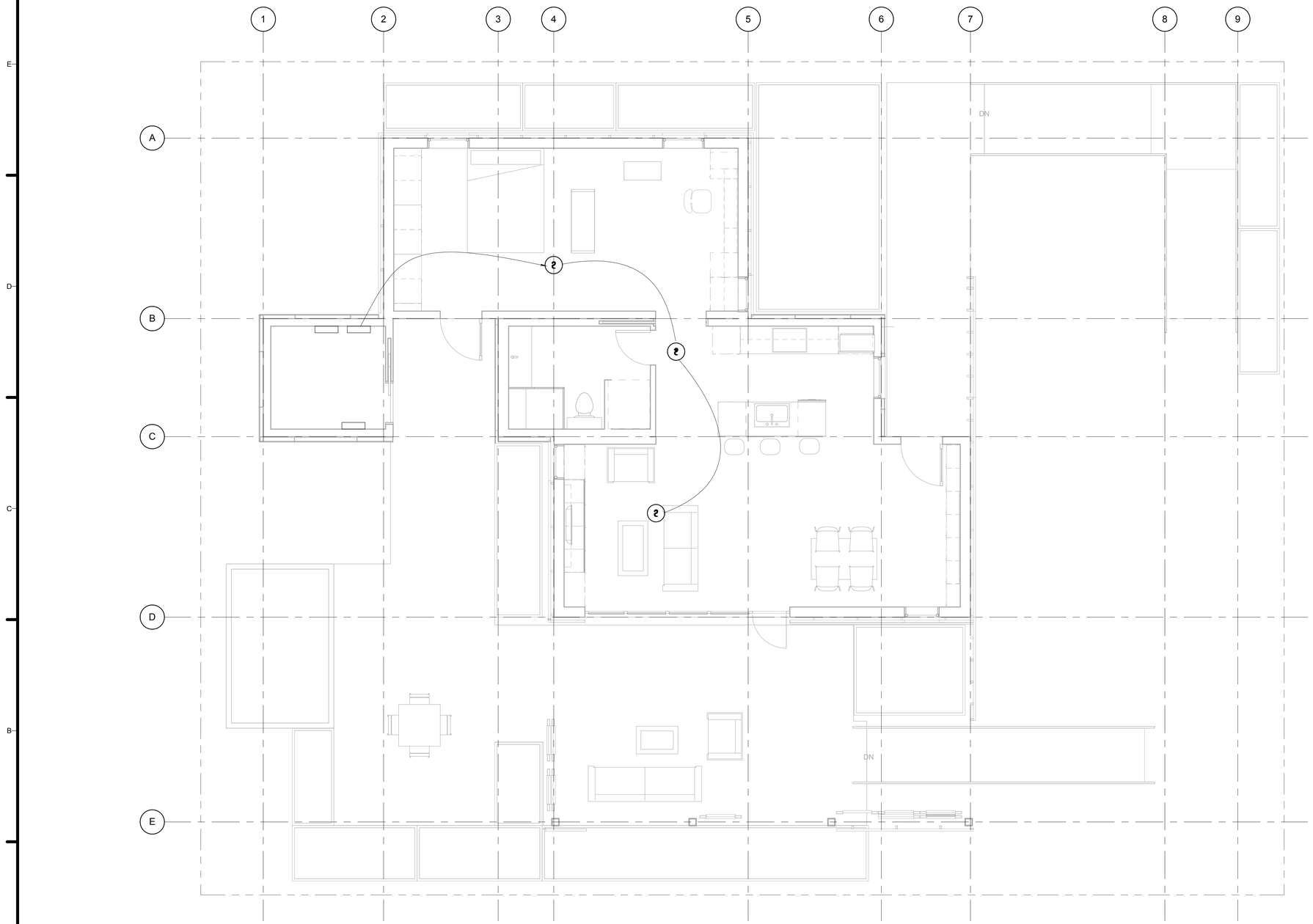
I-102



1 FIRST FLOOR ELECTRICAL FIRE ALARM

1/4" = 1'-0"

0 2' 4' 8'

SYMBOLS AND ABBREVIATIONS	
2	SMOKE AND CARBON MONOXIDE DETECTOR/ ALARM

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FIRE DETECTION AND ALARM

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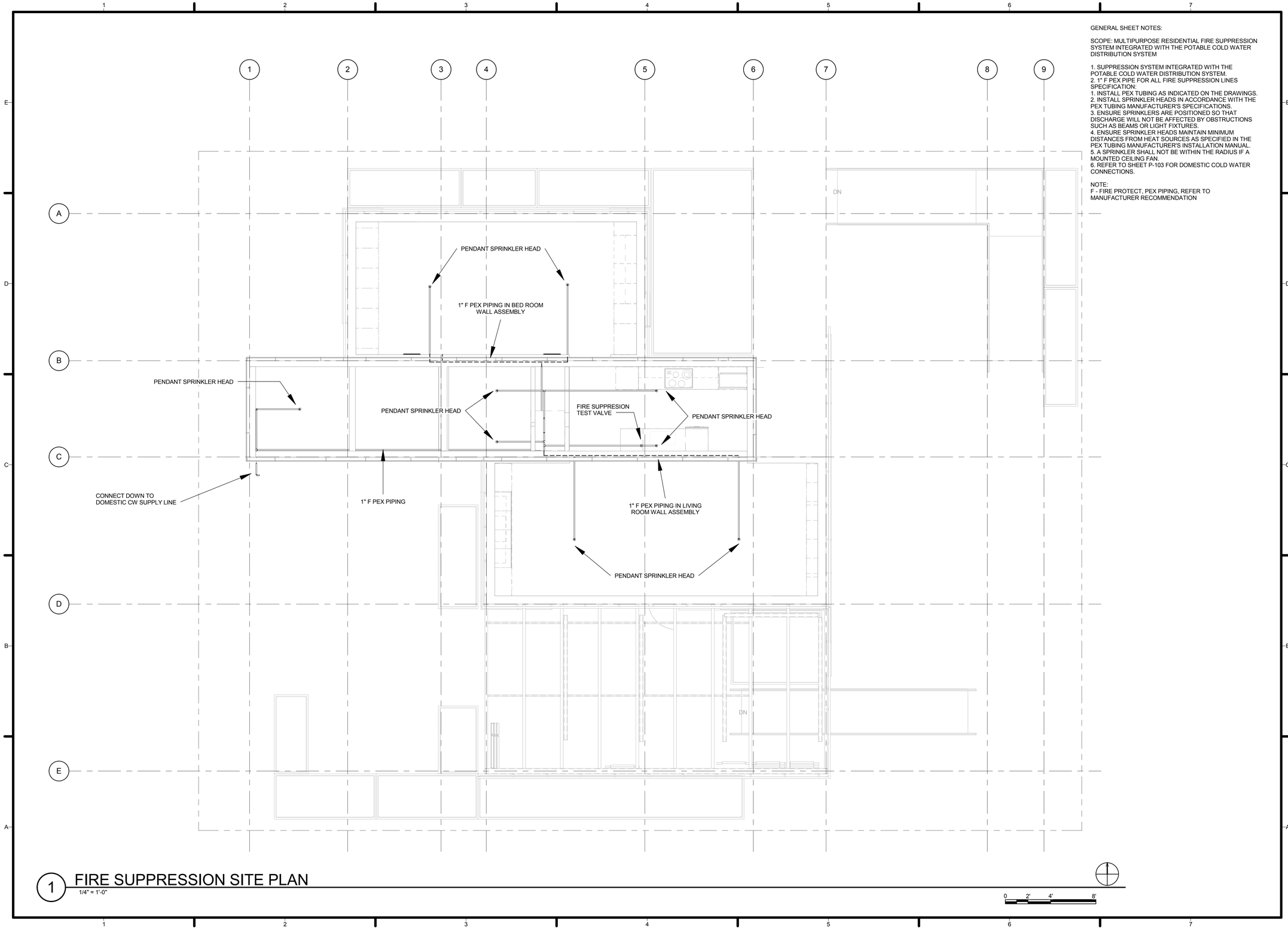
F-101



1 FIRE SUPPRESSION SITE PLAN
1/4" = 1'-0"

0 2' 4' 8'

GENERAL SHEET NOTES:

SCOPE: MULTIPURPOSE RESIDENTIAL FIRE SUPPRESSION SYSTEM INTEGRATED WITH THE POTABLE COLD WATER DISTRIBUTION SYSTEM

1. SUPPRESSION SYSTEM INTEGRATED WITH THE POTABLE COLD WATER DISTRIBUTION SYSTEM.
2. 1" F PEX PIPE FOR ALL FIRE SUPPRESSION LINES SPECIFICATION:
1. INSTALL PEX TUBING AS INDICATED ON THE DRAWINGS.
2. INSTALL SPRINKLER HEADS IN ACCORDANCE WITH THE PEX TUBING MANUFACTURER'S SPECIFICATIONS.
3. ENSURE SPRINKLERS ARE POSITIONED SO THAT DISCHARGE WILL NOT BE AFFECTED BY OBSTRUCTIONS SUCH AS BEAMS OR LIGHT FIXTURES.
4. ENSURE SPRINKLER HEADS MAINTAIN MINIMUM DISTANCES FROM HEAT SOURCES AS SPECIFIED IN THE PEX TUBING MANUFACTURER'S INSTALLATION MANUAL.
5. A SPRINKLER SHALL NOT BE WITHIN THE RADIUS IF A MOUNTED CEILING FAN.
6. REFER TO SHEET P-103 FOR DOMESTIC COLD WATER CONNECTIONS.

NOTE:
F - FIRE PROTECT, PEX PIPING, REFER TO MANUFACTURER RECOMMENDATION

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Revision Schedule

Revision Number	Revision Description	Revision Date

LOT NUMBER: 107
DRAWN BY:
CHECKED BY:

SHEET TITLE

FIRE SUPPRESSION SITE PLAN

AUGUST 17, 2015

F-102

GENERAL SHEET NOTES:

SCOPE: MULTIPURPOSE RESIDENTIAL FIRE SUPPRESSION SYSTEM INTEGRATED WITH THE POTABLE COLD WATER DISTRIBUTION SYSTEM

1. SUPPRESSION SYSTEM INTEGRATED WITH THE POTABLE COLD WATER DISTRIBUTION SYSTEM.
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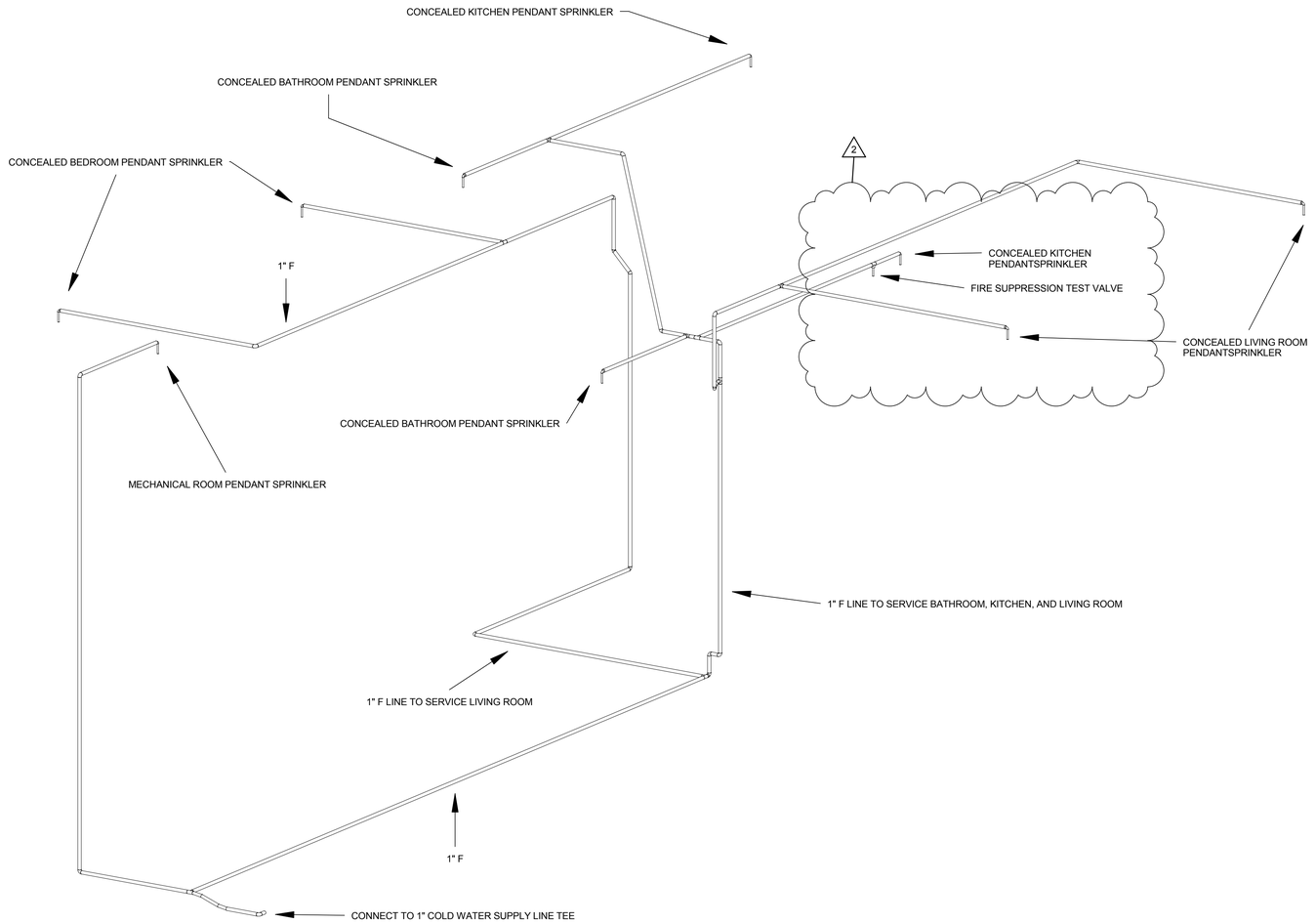
6. REFER TO SHEET P-103 FOR DOMESTIC COLD WATER CONNECTIONS.

NOTE:
F - FIRE PROTECT, PEX PIPING, REFER TO MANUFACTURER RECOMMENDATION



1 FIRE SUPPRESSION ISOMETRIC

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2	CORRECTIONS	JUNE 12, 2015

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FIRE SUPPRESSION DETAILS

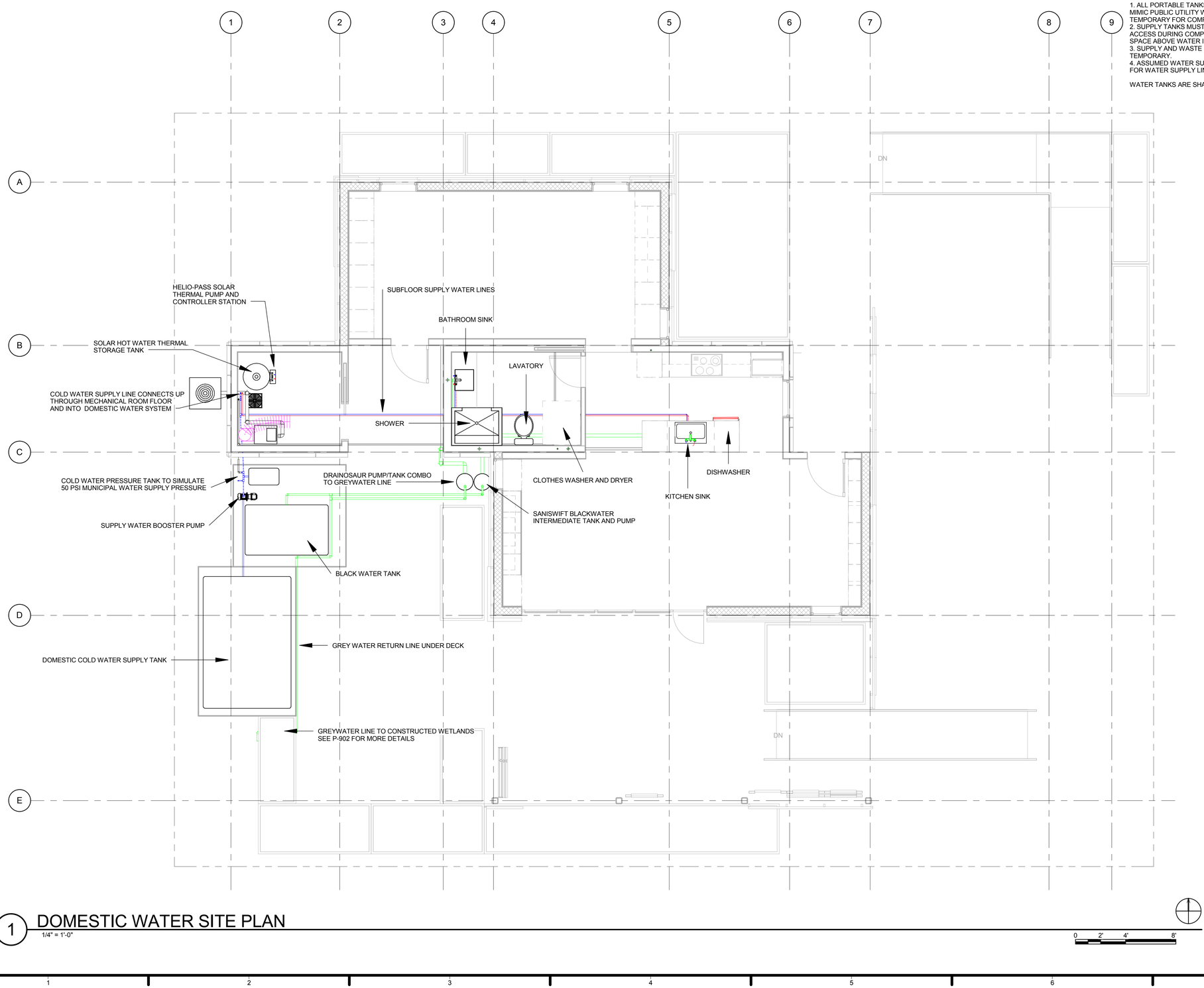
AUGUST 17, 2015

F-501

GENERAL SHEET NOTES

1. ALL PORTABLE TANKS, PUMPS, AND VALVES INTENDED TO MIMIC PUBLIC UTILITY WATER SUPPLY AND SEWAGE ARE TEMPORARY FOR COMPETITION PURPOSE ONLY.
2. SUPPLY TANKS MUST ALLOW FOR WATER DELIVERY ACCESS DURING COMPETITION. MUST ALLOW FOR A 12" SPACE ABOVE WATER INLET.
3. SUPPLY AND WASTE LINES FROM TANKS TO HOUSE ARE TEMPORARY.
4. ASSUMED WATER SUPPLY PRESSURE FROM TANK IS 50 PSI FOR WATER SUPPLY LINE SIZING

WATER TANKS ARE SHADED WITH SHADING DEVICE



1 DOMESTIC WATER SITE PLAN
1/4" = 1'-0"

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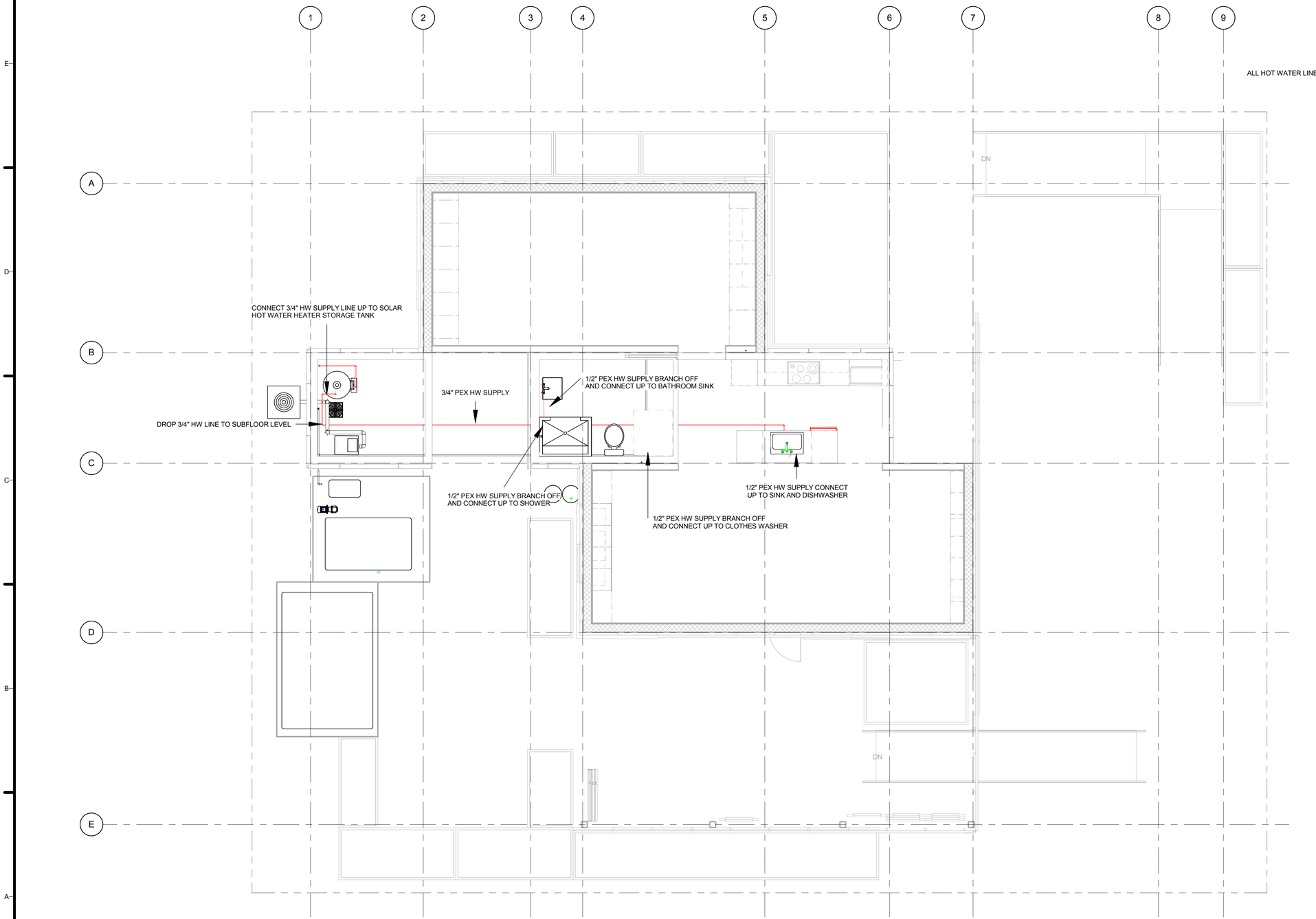
PLUMBING SITE PLAN

AUGUST 17, 2015

P-101



1 DOMESTIC HOT WATER SITE PLAN

1/4" = 1'-0"

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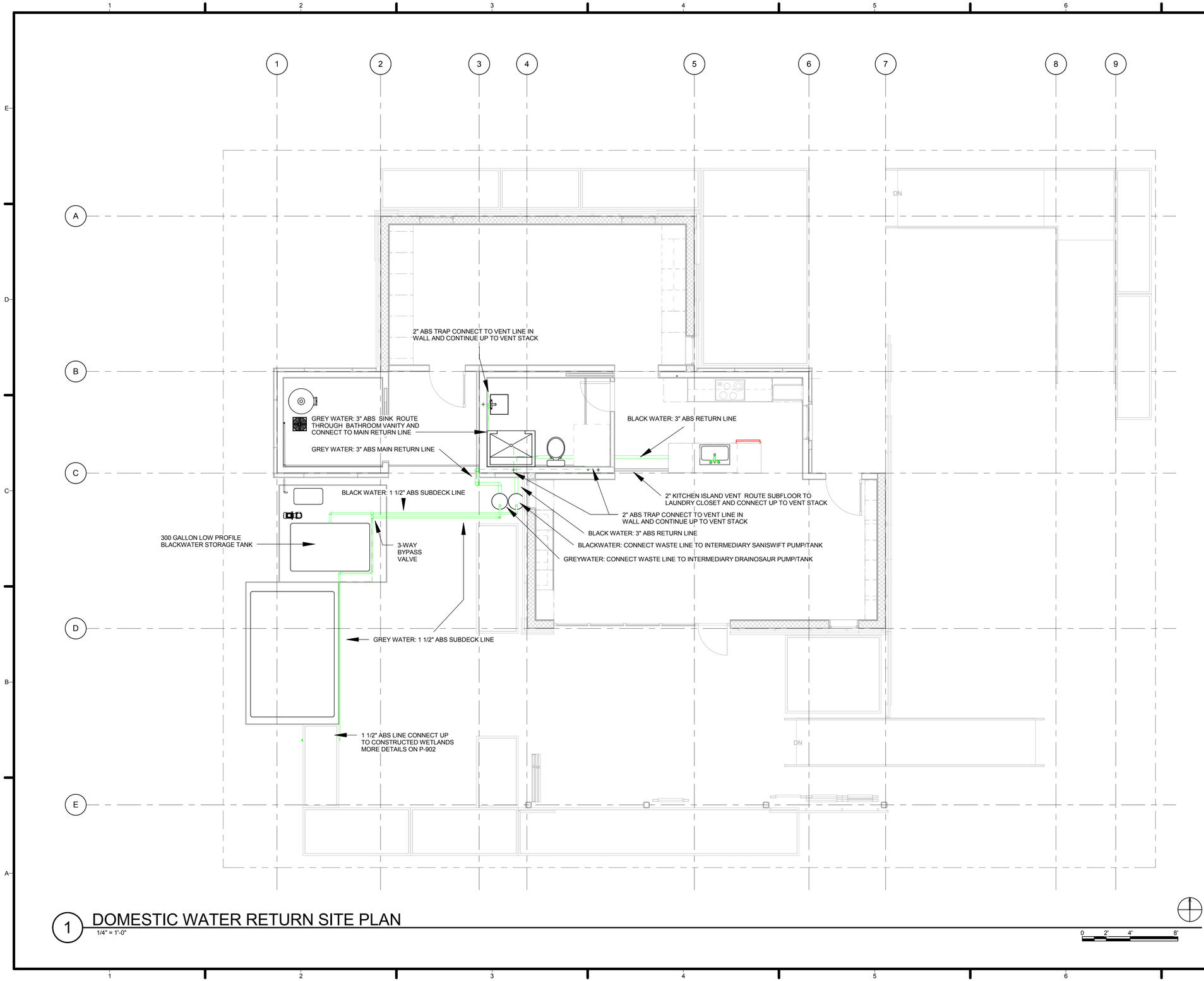
DOMESTIC HOT WATER SUPPLY

AUGUST 17, 2015

P-102



1 DOMESTIC WATER RETURN SITE PLAN

1/4" = 1'-0"

0 2' 4' 8'

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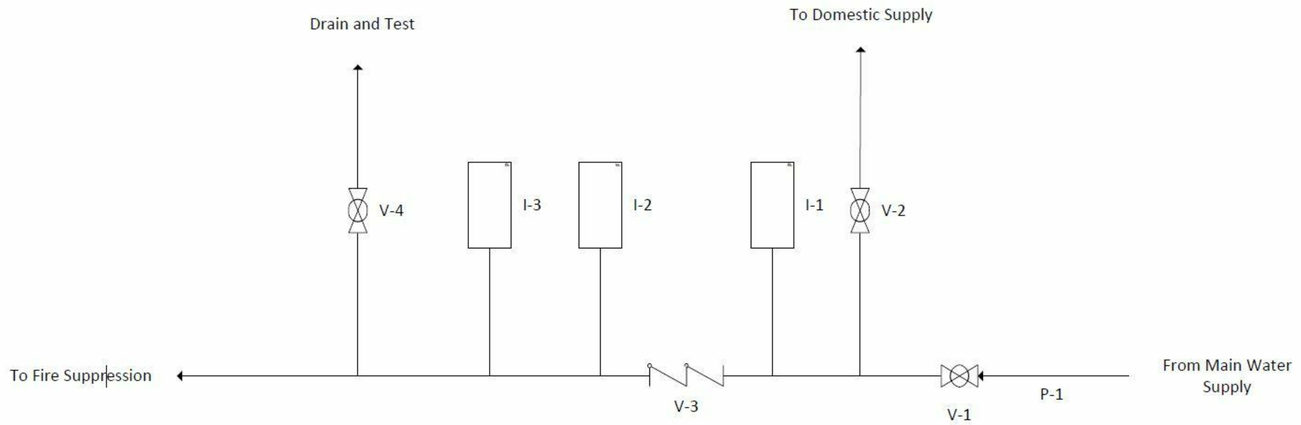
DOMESTIC RETURN

AUGUST 17, 2015

P-104

GENERAL SHEET NOTES

P-1: 1" PEX piping
V-1: 1" Ball Valve
V-2: 1" Ball Valve
V-3: 1" Double Check Valve
V-4: 1" Ball Valve with Drain
I-1: Pressure Gauge
I-2: Waterflow Alarm
I-3: Pressure Gauge



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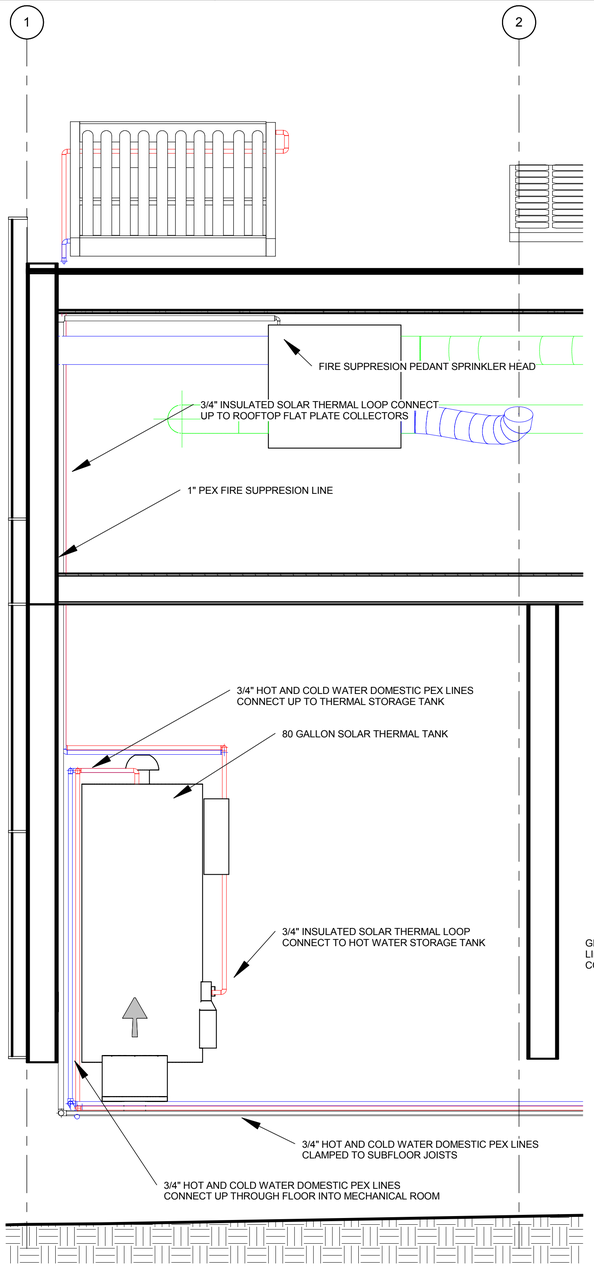
WATER SUPPLY P&ID

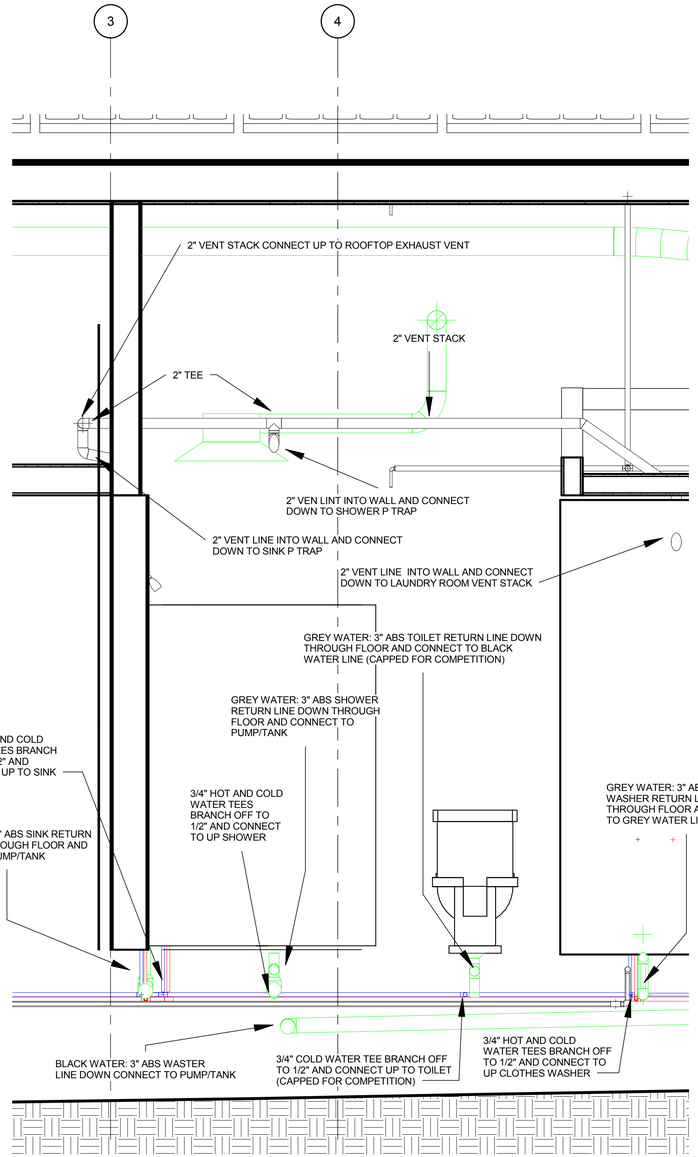
AUGUST 17, 2015

P-105



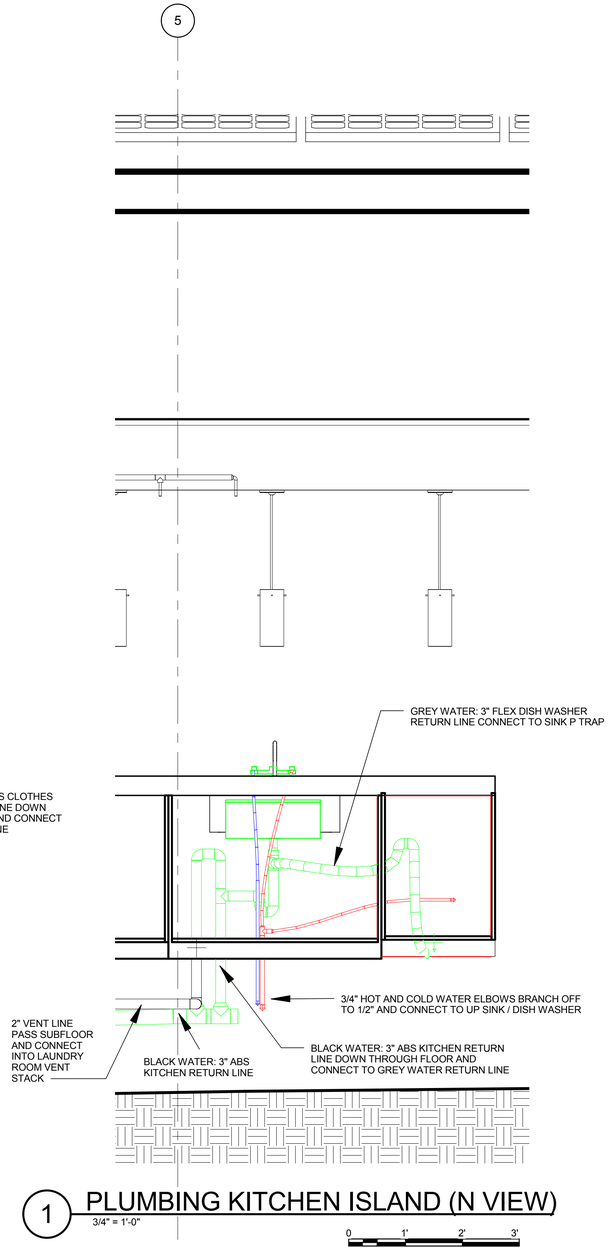
3 PLUMBING MECHANICAL ROOM (N VIEW)

3/4" = 1'-0"



2 PLUMBING BATHROOM (N VIEW)

3/4" = 1'-0"



1 PLUMBING KITCHEN ISLAND (N VIEW)

3/4" = 1'-0"

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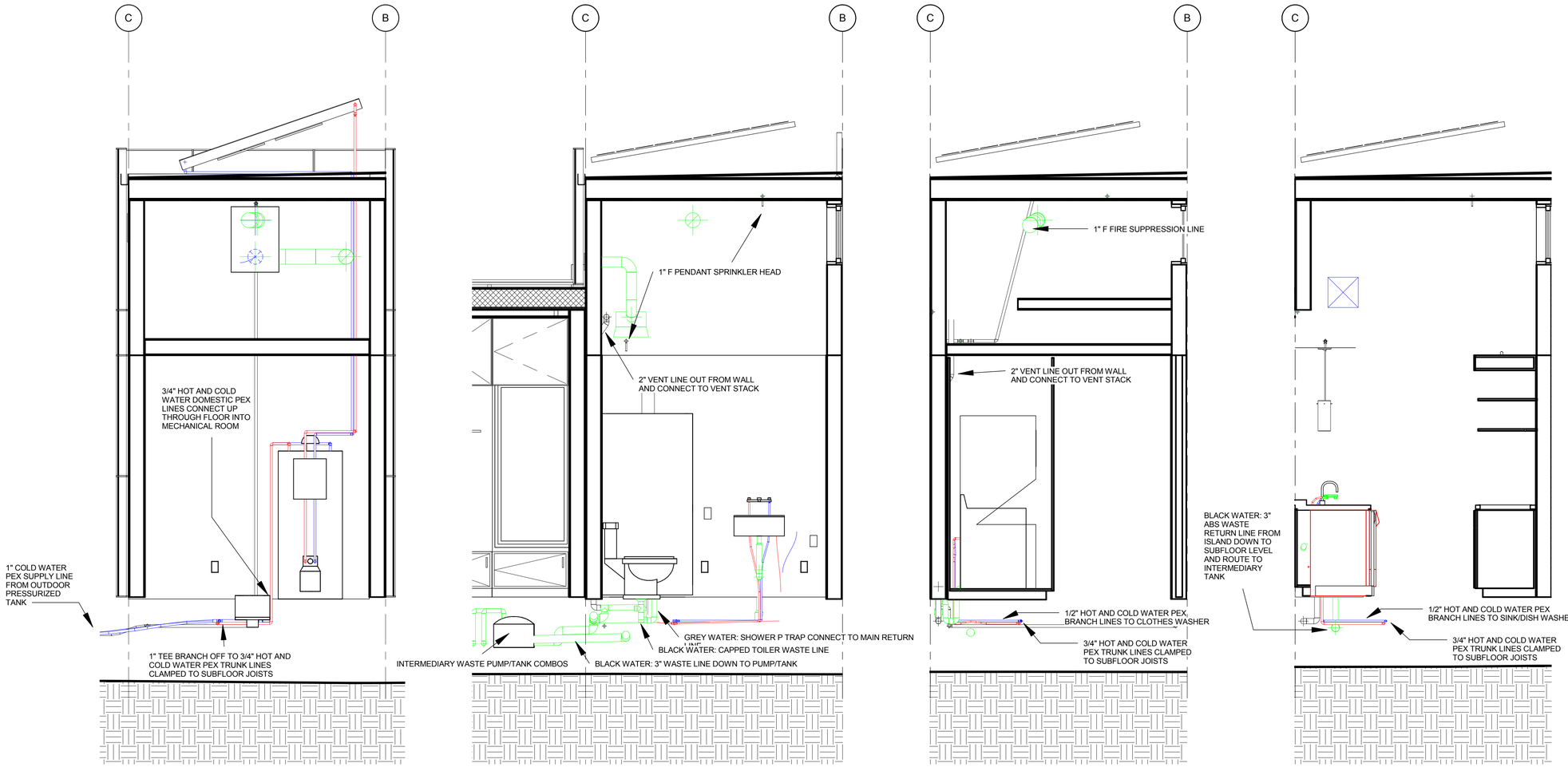
PLUMBING DETAILS

AUGUST 17, 2015

P-501



1 PLUMBING MECHANICAL ROOM (W VIEW)
1/2" = 1'-0"

2 PLUMBING BATHROOM (W VIEW)
1/2" = 1'-0"

3 PLUMBING LAUNDRY ROOM (W VIEW)
1/2" = 1'-0"

4 PLUMBING KITCHEN ISLAND (W VIEW)
1/2" = 1'-0"

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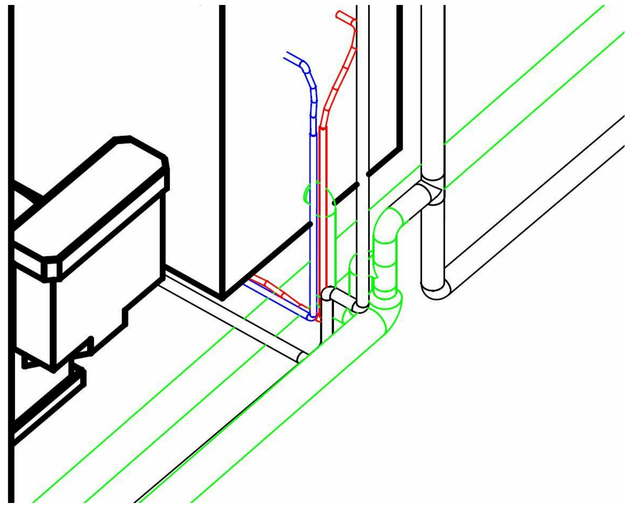
PLUMBING DETAILS

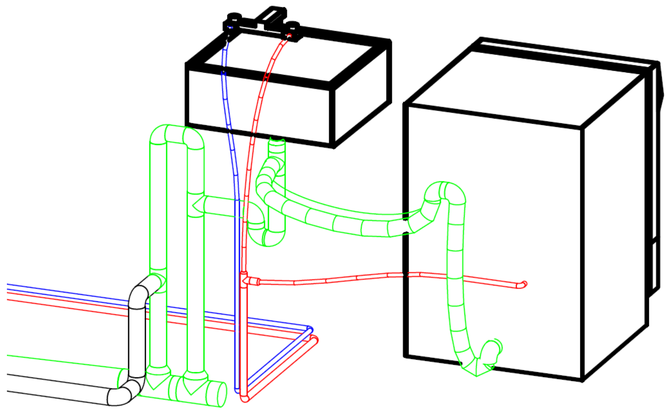
AUGUST 17, 2015

P-502

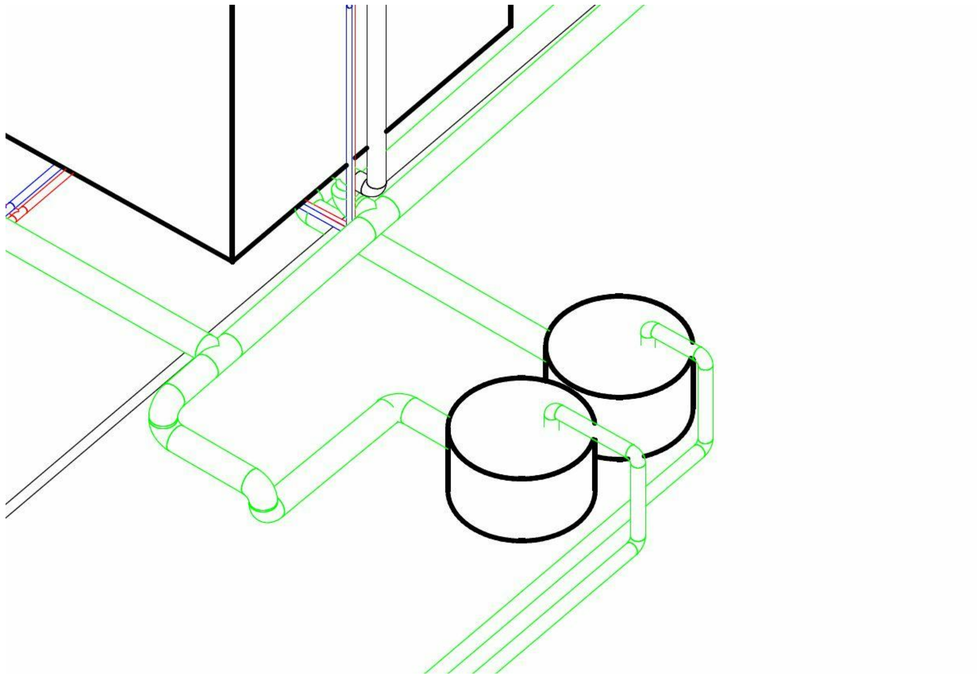
2



VIEW OF THE WASHER ROOM PLUMBING ASSEMBLY



VIEW OF THE KITCHEN ISLAND PLUMBING ASSEMBLY



VIEW OF THE GREY AND BLACK WATER PUMP PLUMBING ASSEMBLY

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2	CORRECTIONS	JUNE 12, 2015

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PLUMBING DETAILS

AUGUST 17, 2015

P-503

GENERAL NOTES (Mechanical Gray Water)				
Description	Quantity	Brand	Model	Specification
3 Way Valve	1	Orbit	38314	1-1/2 to 2 in
Supply Water Connector Kit	1	Boschart	TFP-2TK252UCV02NL	
2x4's	3	Home Depot	20496UPPS	2" x 4" x 96"
Wetland Base Wood	3	Home Depot	431178	7/32 in. x 4 ft. x 8 ft
Plastic Lining	3	Husky	RSHK3510-25C-U	10 ft x 25 ft
Fasteners	4	GRK Fasteners	#8 x 1-1/4"	110 per box
Fasteners	2	GRK Fasteners	#10 x 4"	50 per box
Fasteners	1	GRK Fasteners	#10 x 3-1/8"	70 per box

GENERAL NOTES (Mechanical Plumbing)

	Description	Quantity	Brand	Model	Specification
1	3000 Gallon Low Profile Water Tank	1	Norwesco	43011	1275 gal, low profile
2	300 Gallon Low Profile Utility Tank	1	Ace / DenHartod	LP0300-RT	50 gallon, low profile
3	Pressurized Well Tank	1	Water Worker	HT20HB	20 gallon
4	Drainosaur Pump/Tank Combo	1	Little Giant	WRSC-6-506065	1/3 HP, 115 V
5	Supply Water Booster Pump	1	Walrus	TQ800	1 HP, 115 V
6	Black Water Pump (SaniSwift)	1	Saniflo	SANISWIFT	3/10 HP
7	Fire Detection and Alarm	5	Home Depot	21009992	10-Year Battery Operated Ionization Smoke Alarm
8	Fire Sprinkler (Viking VK468 Flush Pendent)	1	Viking	VK468	4.9 K-Factor
11	Fire Sprinkler (Viking VK476 Flush Pendent)	5	Viking	VK476	4.9 K-Factor
12	Fire Sprinkler (Tyco Flush Horizontal Sidewall)	2	Tyco	TY2384	4.9 K-Factor
13	1 in. x 6 ft. Tubolit Self-Seal Foam Pipe Insulation	4	Armacell	OES11838	1" PEX
14	1/2 in x 1/2 in PEX Female Thread Adapter Elbows	7	SharkBite	U308LFA	1/2" PEX x 1/2" Female Thread
15	3/4 in x 1/2 in Brass PEX Barb Reducer Coupling	8	SharkBite	UC058LF	3/4" x 1/2" PEX
16	3/4 in. Brass PEX Barb Tee	2	SharkBite	UC370LFA	3/4" x 3/4" x 3/4" PEX
17	1 in x 1 in Brass PEX Barb Elbow	3	SharkBite	UC260LFA	1"x 1" PEX
18	1 in x 1 in x 1 in Brass PEX Barb Tee	7	SharkBite	UC374LFA	1" x 1" x 1" PEX
19	1 in. x 3/4 in. Brass PEX Barb Reducer Coupling	8	SharkBite	UC060LFA	1" x 3/4" PEX
20	1 in. Brass PEX Barb x Male Pipe Thread Adapter	1	SharkBite	UC140LFA	1" PEX x 1" male thread
21	1 in. Supply PEX Piping	120'	SharkBite	U880B100	1" PEX
22	3/4 in Cold Water PEX Piping	60'	SharkBite	U870B100	3/4" PEX
23	1/2" Insulated Cold Water PEX Piping	20'	SharkBite	U860I100	1/2" Insulated PEX
24	3/4" Hot Water PEX Piping	60'	SharkBite	U870R100	3/4" PEX
25	1/2" Insulated Hot Water PEX Piping	20'	SharkBite	U860I100	1/2" Insulated PEX
26	3/4" Pipe Insulation	120'	Pratt Retail Specialties	419921	3/4" Insulation ONLY
27	3/4 in. x 1/2 in 3-Port Open PEX Manifold	2	SharkBite	22784	3/4" x 1/2" x 1/2" x 1/2" x 3/4" PEX
28	1/2 in. PEX Clamps	1	SharkBite	UC953CPA100	100-Pack
29	3/4 in. PEX Clamps	1	SharkBite	UC955CPA100	100-Pack
30	1 in. PEX Clamps	5	SharkBite	UC956A	10-Pack
31	3/4 in. Brass PEX Barb x Female Threaded Adapter	2	SharkBite	UC088LFA	3/4" PEX x 3/4" female thread
32	3/4 in. x 1/2 in PEX reducer Tee	1	SharkBite	UC454LFA	3/4" x 1/2" x 1/2"
33	1/2 in. Brass PEX Barb x Female Threaded Adapter	1	SharkBite	UC072LFA	1/2" PEX x 1/2" female thread
34	3/4 in. Brass MPT x MHT Quarter-Turn Hose Bibb Valve	1	Homewerks Worldwide	VHBQTCF4B	3/4" male thread x hose bib
35	16 oz. ABS Cement in Black	2	SharkBiteOatey	308923	ABS Bonding Agent
36	3 in. x 20 ft. ABS Sch. 40 Plain-End Foamcore Pipe	6	Nibco	57737	3" straight ABS
37	2 in. x 2 ft. Plastic ABS Pipe	8	Nibco	1202	2" straight ABS
38	2 in. ABS DWV Hub x Hub x Hub Sanitary Tee	5	Nibco	02753H	2" x 2" x 2" sanitary tee
39	2 in. ABS DWV Hub x Hub Coupling	10	Nibco	C5801HD2	2" coupling
40	3 in. Black ABS DWV H x H Coupling	8	Nibco	C5801HD3	3" coupling
41	2 in. ABS P-Trap	3	Nibco	C5885HD2	2" P-trap
42	2 in. ABS DWV 90 Degree Hub x Hub Elbow	4	Nibco	C5807HD2	2" 90°
43	3 in. ABS DWV SPG x FIPT Female Street Adapter	1	Nibco	C58032HD3	3" x 3" female prep for plug
44	3 in. ABS DWV MIPT Cleanout Plug	1	Nibco	C5818HD3	3" plug
45	3 in. x 3 in. x 2 in. ABS DWV Hub x Hub x Hub Sanitary Tee	4	Nibco	C5811HD332	3" x 2" x 3" sanitary tee
46	3 in. ABS DWV 90 Degree Hub x Hub Elbow	4	Nibco	C5807HD3	3" 90°
47	1/2 in. Plastic Polymer PEX Pipe 90-Degree Bend Support with Mounting Bracket	25	SharkBite	23050	1/2" PEX bend
48	3/4 in. Plastic Polymer PEX Pipe 90-Degree Bend Support with Mounting Bracket	5	SharkBite	23051	3/4" PEX bend

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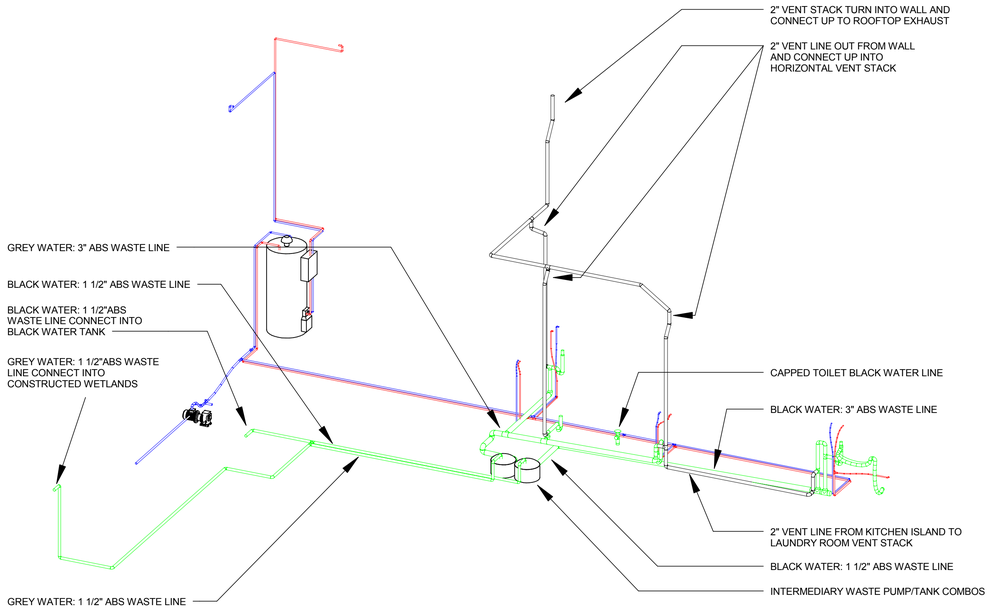
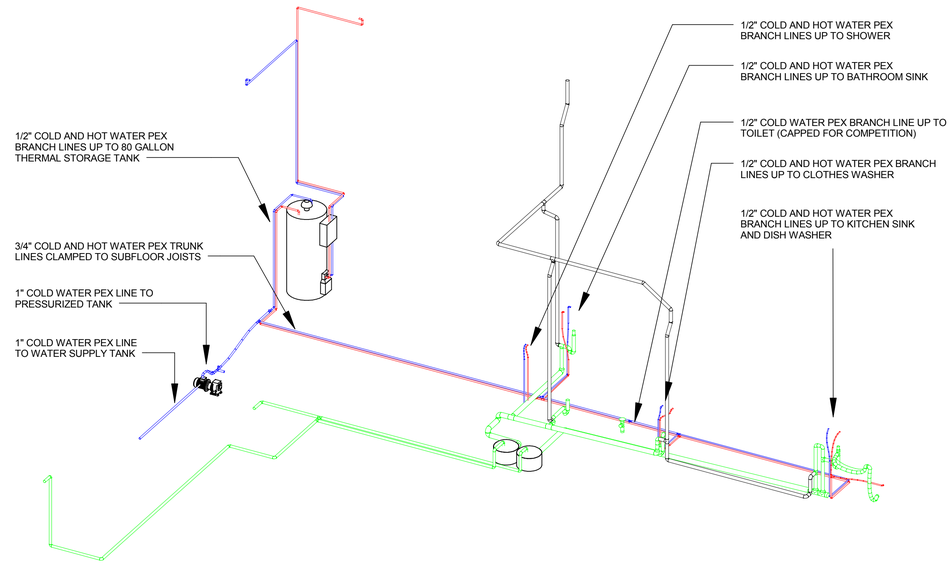
SCHEDULES

AUGUST 17, 2015

P-601



1 WATER RETURN ISOMETRIC



2 WATER SUPPLY ISOMETRIC

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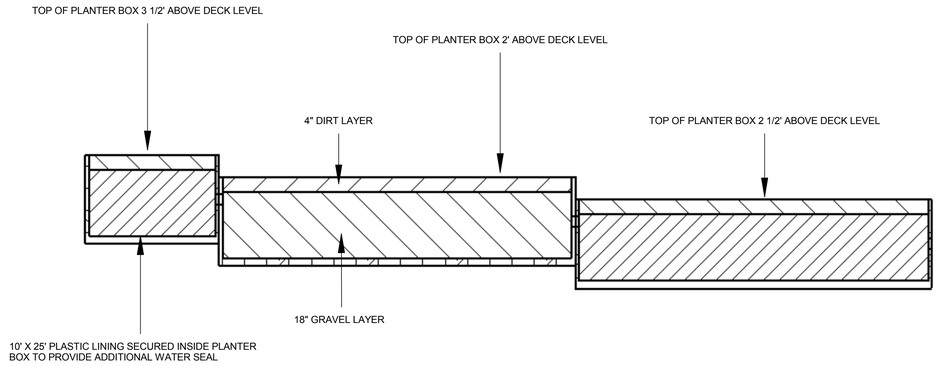
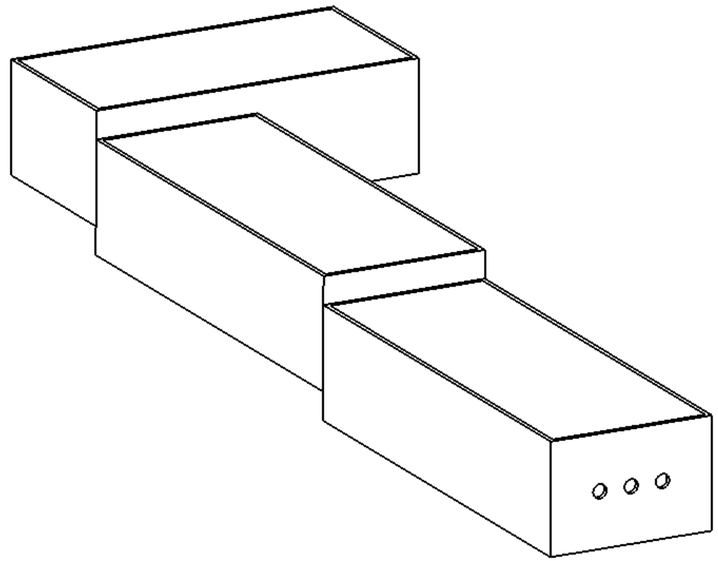
DOMESTIC WATER ISOMETRICS AND DETAILS

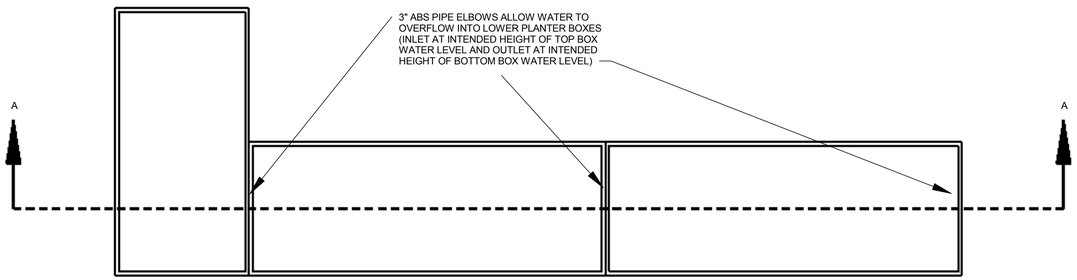
AUGUST 17, 2015

P-901



CONSTRUCTED WETLANDS SECTION A-A





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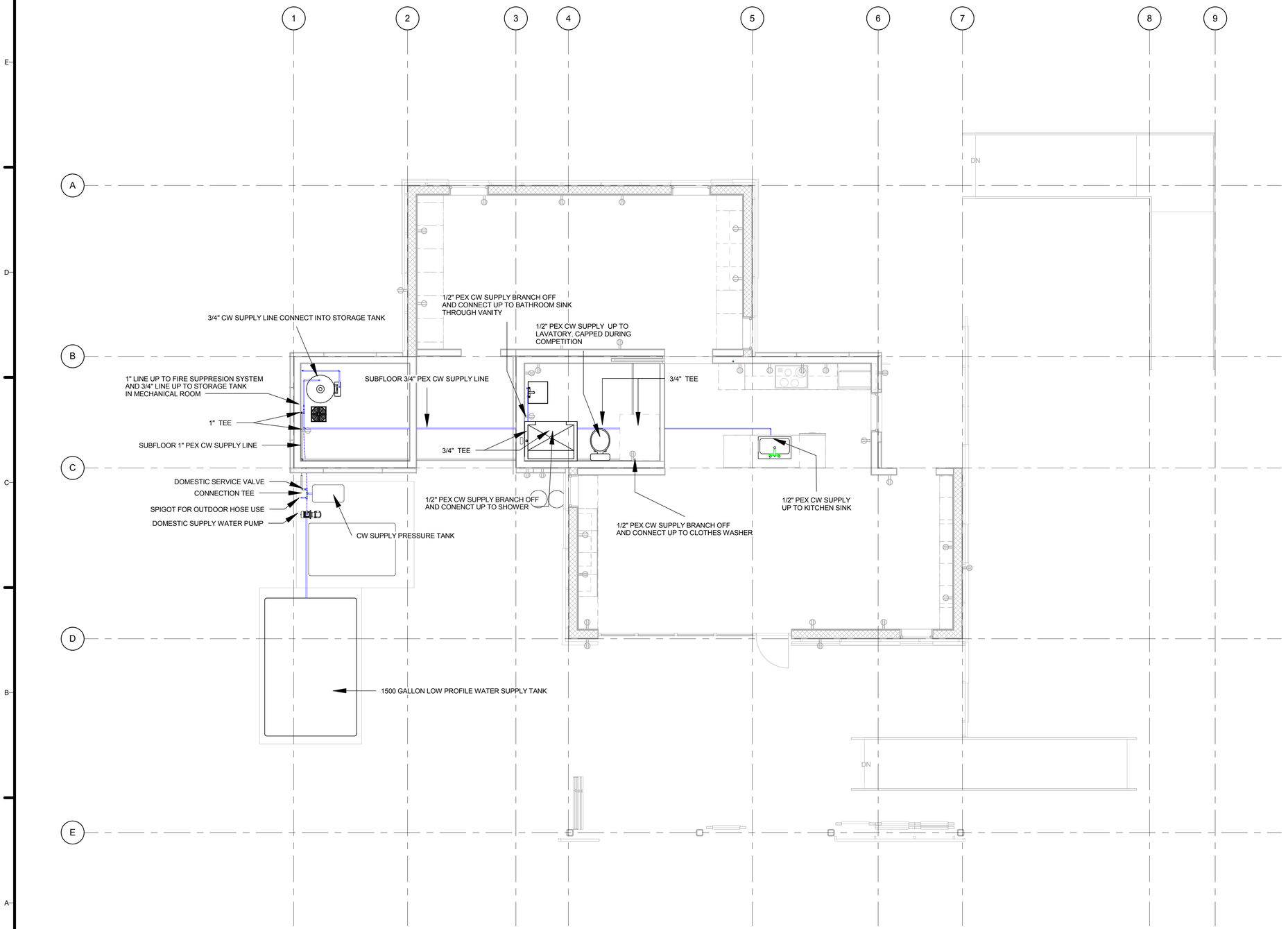
WETLANDS ISOMETRIC

AUGUST 17, 2015

P-902



1 DOMESTIC COLD WATER SITE PLAN

1/4" = 1'-0"

0 2' 4' 8'

SOLAR CAL POLY

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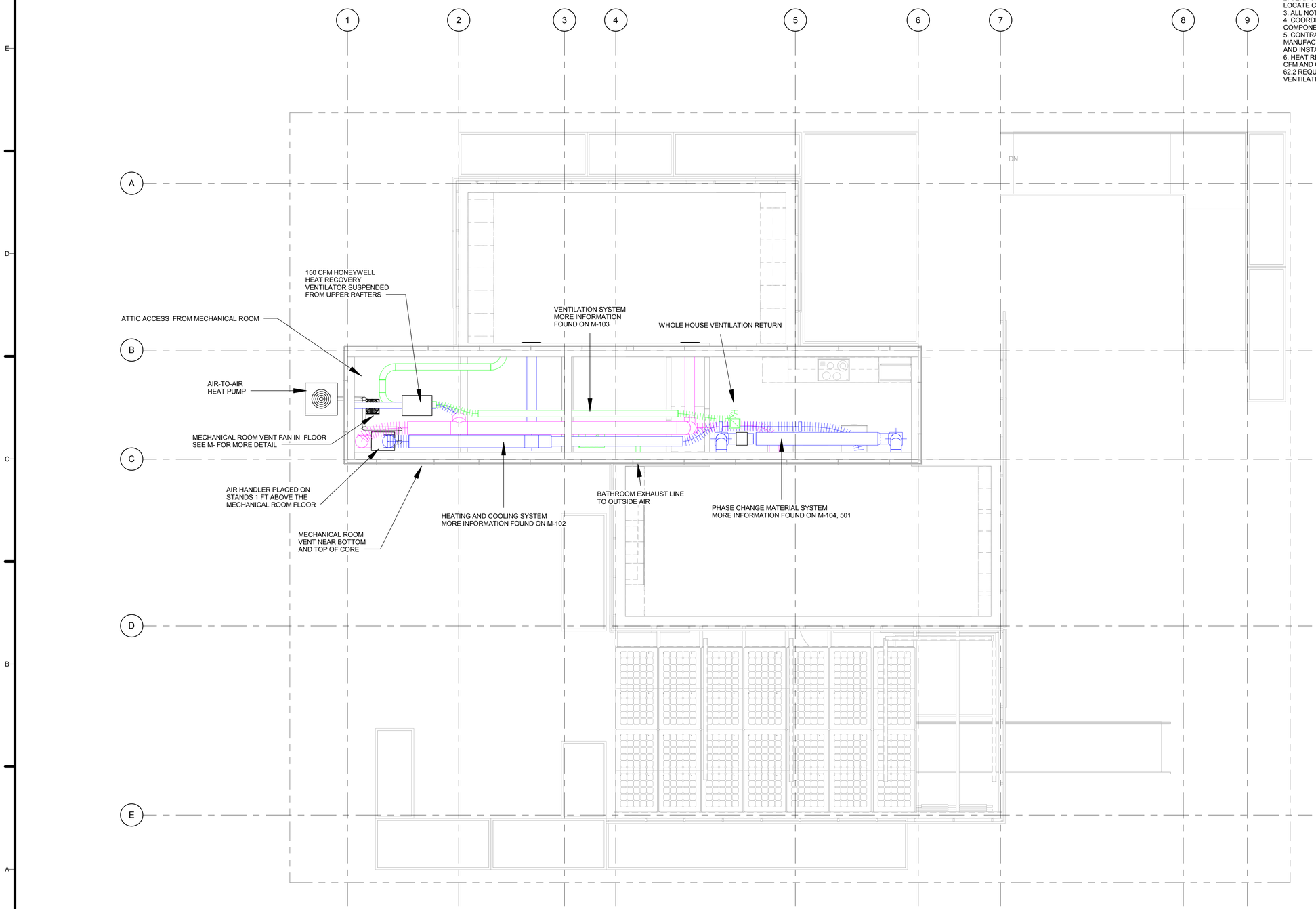
DOMESTIC COLD WATER SUPPLY

AUGUST 17, 2015

P-103

GENERAL SHEET NOTES

1. GENERAL NOTES SHALL APPLY TO ALL WORK SHOWN.
2. VERIFY ALL MESUREMENTS TO PROPERLY LOCATE COMPONENTS.
3. ALL NOTES COINCIDE WITH SIMILAR DRAWINGS.
4. COORDINATE ALL WORK AND PLACEMENT OF COMPONENTS WITH OTHER TRADES.
5. CONTRACTOR SHALL FOLLOW EQUIPMENT MANUFACTURERS INSTRUCTIONS FOR HANDLING AND INSTALLATION.
6. HEAT RECOVERY VENTILATOR RATED AT 150 CFM AND COMPLIANT WITH ASHRAE STANDARD 62.2 REQUIREMENT OF 40 CFM CONTINUOUS VENTILATION



1 HVAC SITE PLAN
1/4" = 1'-0"

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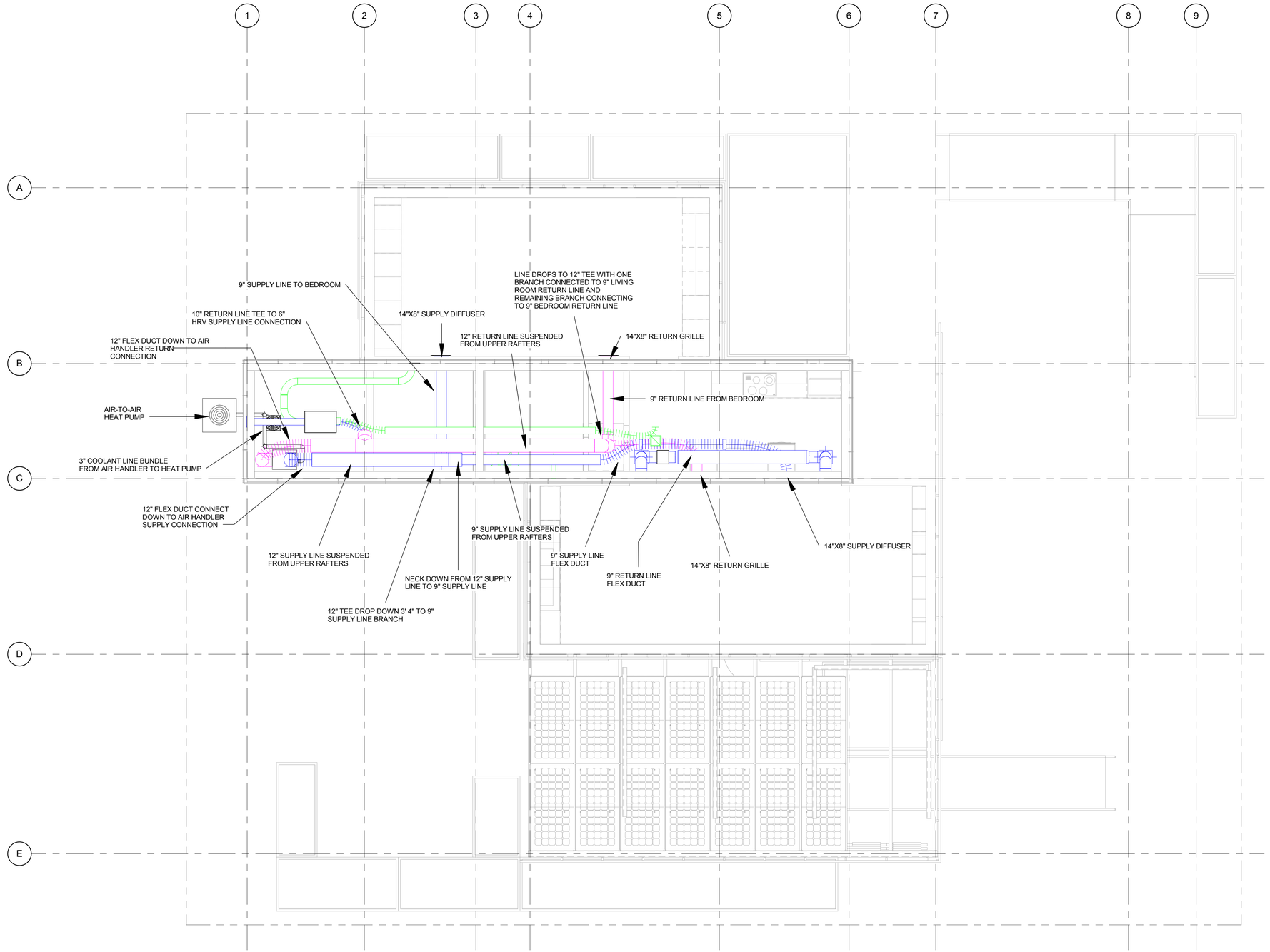
HVAC EQUIPMENT AND DISTRIBUTION PLAN

AUGUST 17, 2015

M-101

GENERAL SHEET NOTES

1. ALL DUCTWORK IS ROUND



1 HEATING AND COOLING SITE PLAN

1/4" = 1'-0"

0 2' 4' 8'

SOLAR CAL POLY

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HEATING AND COOLING SITE PLAN

AUGUST 17, 2015

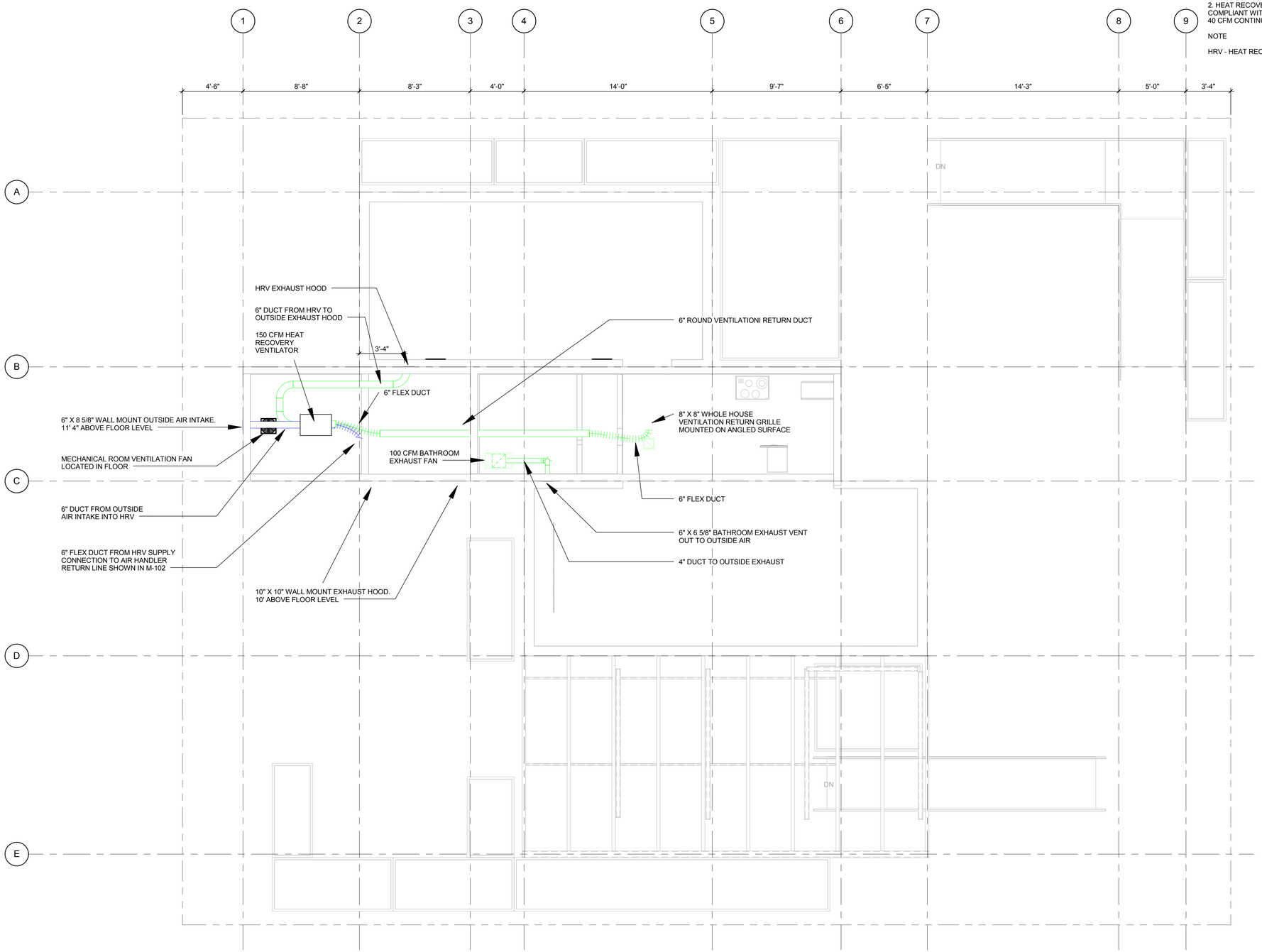
M-102

GENERAL SHEET NOTES

1. ALL DUCTWORK IS ROUND
2. HEAT RECOVERY VENTILATOR RATED AT 150 CFM AND COMPLIANT WITH ASHRAE STANDARD 62.2 REQUIREMENT OF 40 CFM CONTINUOUS VENTILATION

NOTE

HRV - HEAT RECOVERY VENTILATOR



1 VENTILATION SITE PLAN
1/4" = 1'-0"

0 2' 4' 8'

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VENTILATION SITE PLAN

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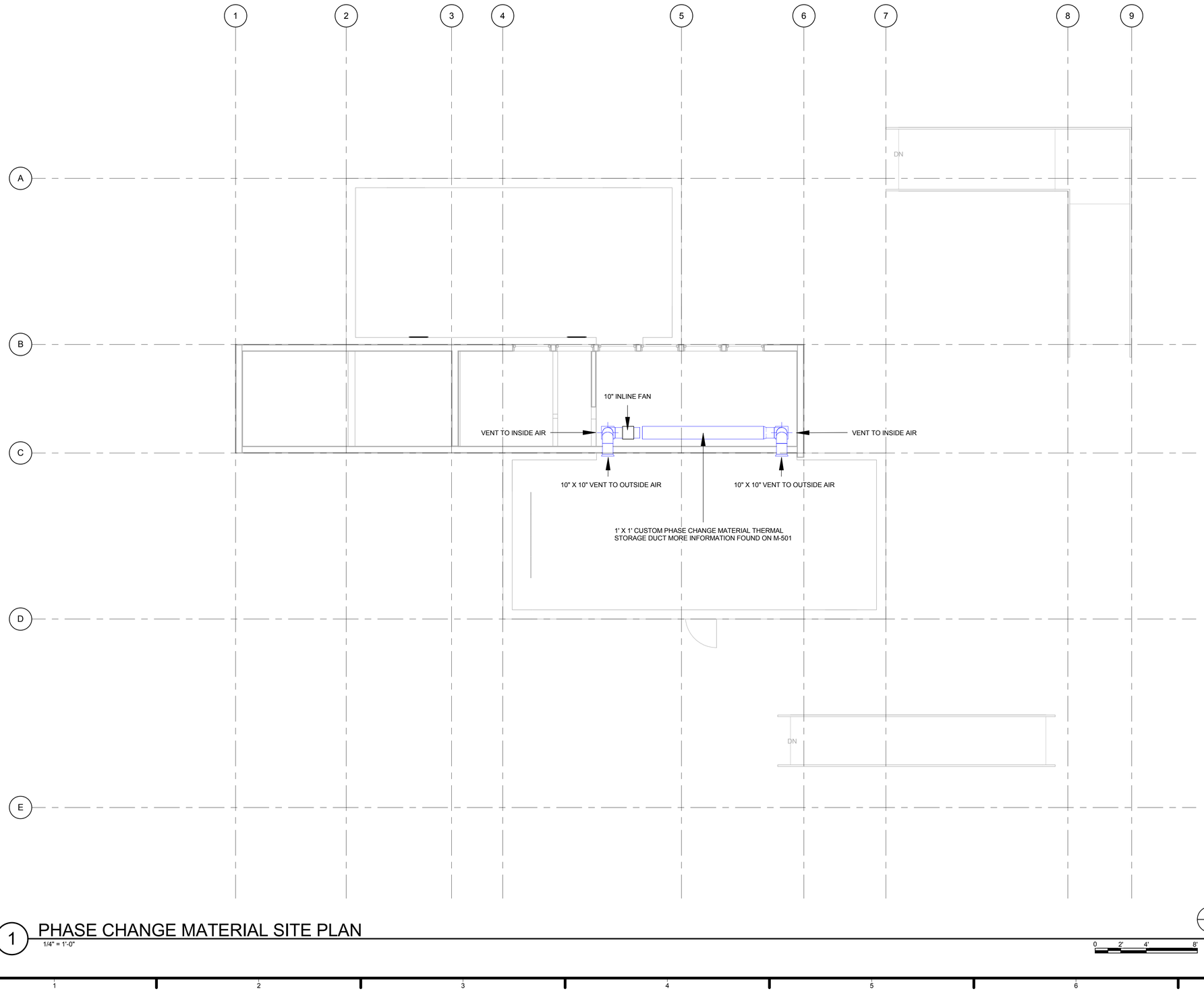
M-103



1 PHASE CHANGE MATERIAL SITE PLAN
1/4" = 1'-0"

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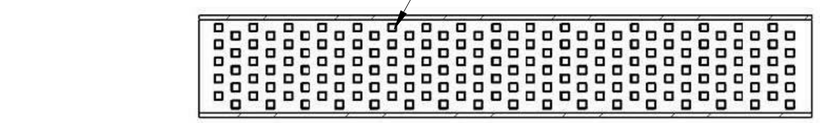
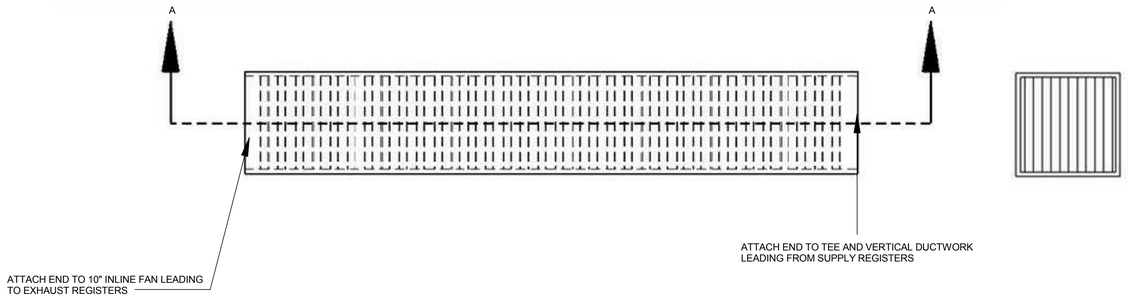
PHASE CHANGE MATERIAL SITE PLAN

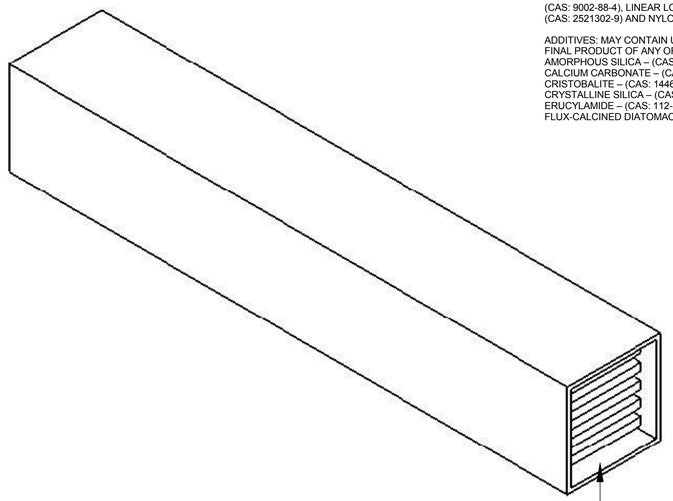
AUGUST 17, 2015

M-104



PCM DUCT SECTION A-A





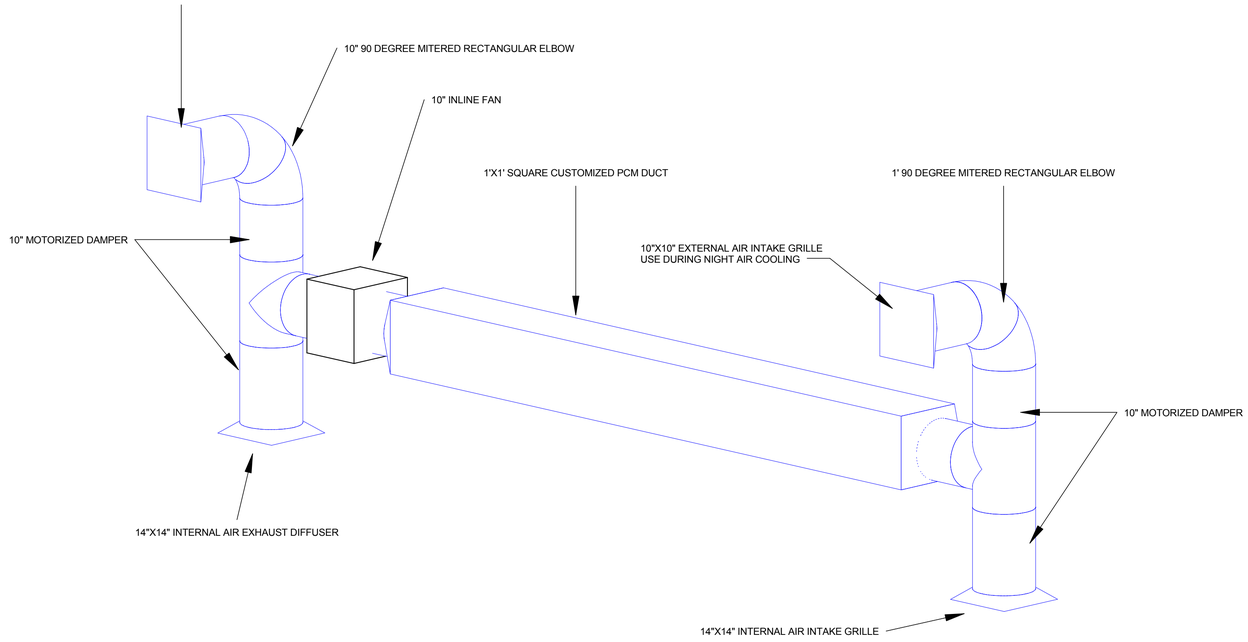
GENERAL SHEET NOTES

PCM - PHASE CHANGE MATERIAL

BioPCM CHEMICAL COMPOSITION:

CHEMICAL FAMILY: THERMOPLASTIC OLEFIN POLYMERS
COMPOSITION: PROPRIETARY BLEND CONTAINING LOW AND HIGH DENSITY POLYETHYLENE
(CAS: 9002-88-4), LINEAR LOW DENSITY POLYETHYLENE
(CAS: 2521302-9) AND NYLON 6 (CAS: 25038-54-4)

ADDITIVES: MAY CONTAIN UP TO 0.03% BY WEIGHT OF THE FINAL PRODUCT OF ANY OF THE FOLLOWING:
AMORPHOUS SILICA – (CAS: 60676-86-0)
CALCIUM CARBONATE – (CAS: 471-34-1)
CRISTOBALITE – (CAS: 14464-46-1)
CRYSTALLINE SILICA – (CAS: 15468-32-3)
ERUCYLAMIDE – (CAS: 112-84-5)
FLUX-CALCINED DIATOMACEOUS EARTH – (CAS: 68855-54-9)



1 PHASE CHANGE MATERIAL ISOMETRIC

0 1 2

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SHEET TITLE

MECHANICAL DETAILS

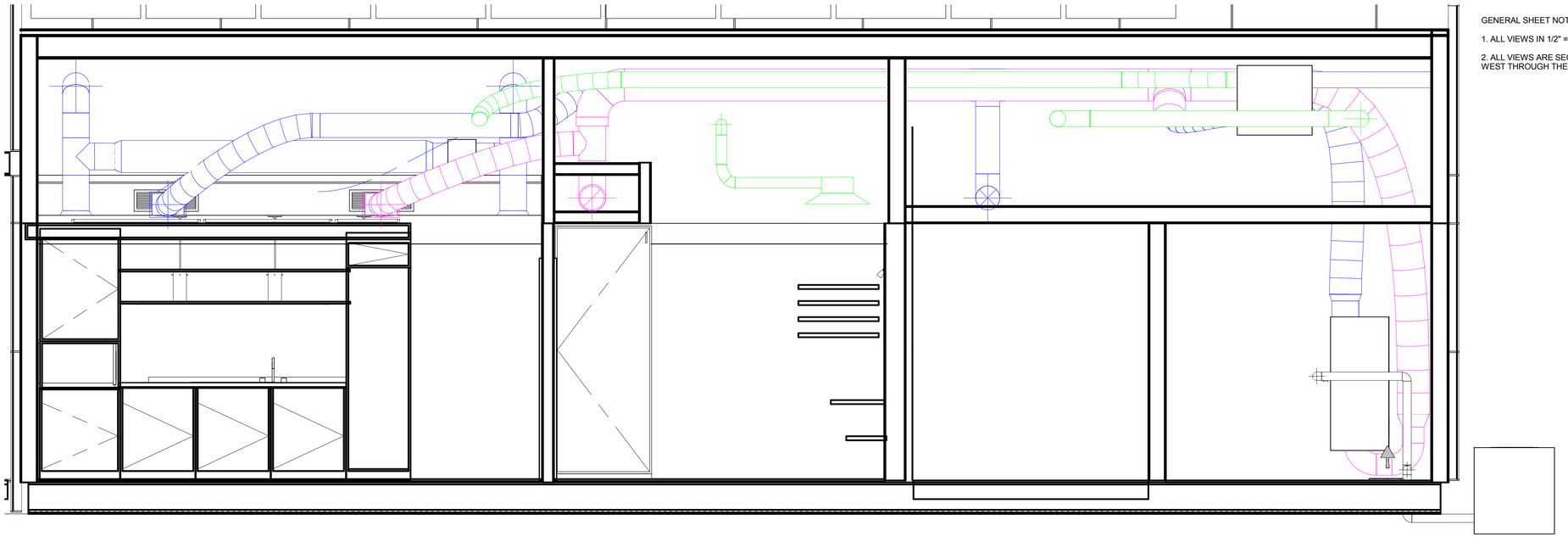
AUGUST 17, 2015

M-501

GENERAL SHEET NOTES

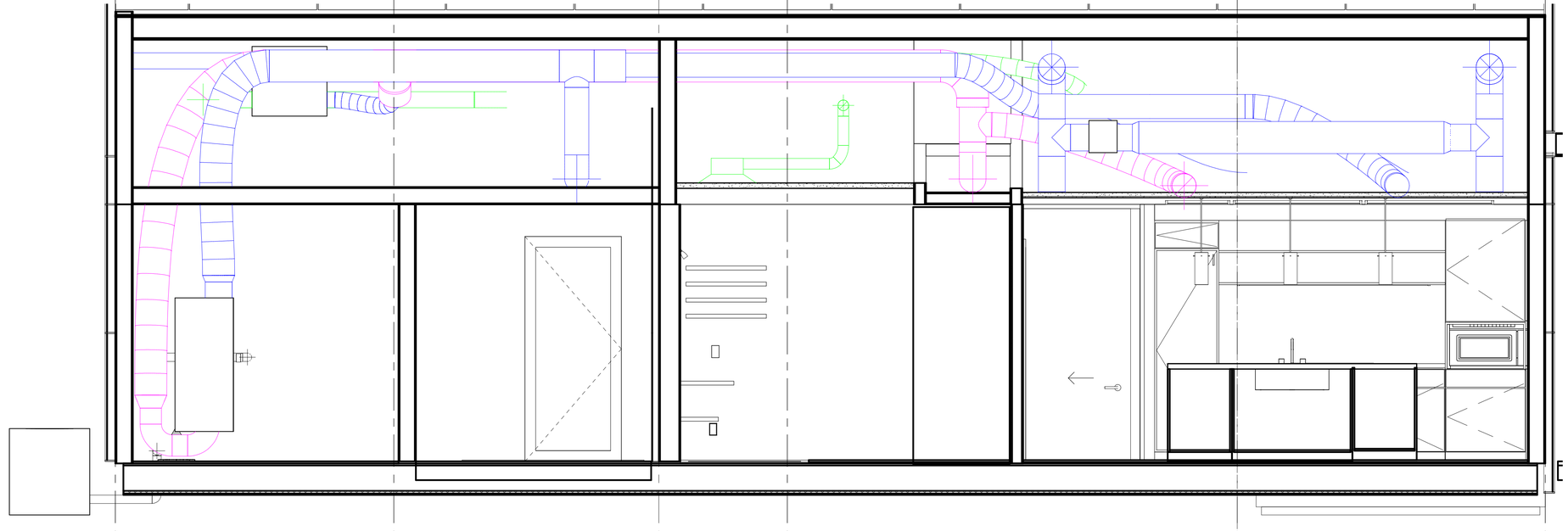
1. ALL VIEWS IN 1/2" = 1 FT

2. ALL VIEWS ARE SECTIONS CUT EAST TO WEST THROUGH THE CENTRAL HOUSE MODULE



2 HVAC CENTRAL MODULE (S VIEW)
1/2" = 1'-0"

0 1' 2' 4'



1 HVAC CENTRAL MODULE (N VIEW)
1/2" = 1'-0"

0 1' 2' 4'

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SHEET TITLE

HVAC SECTIONS

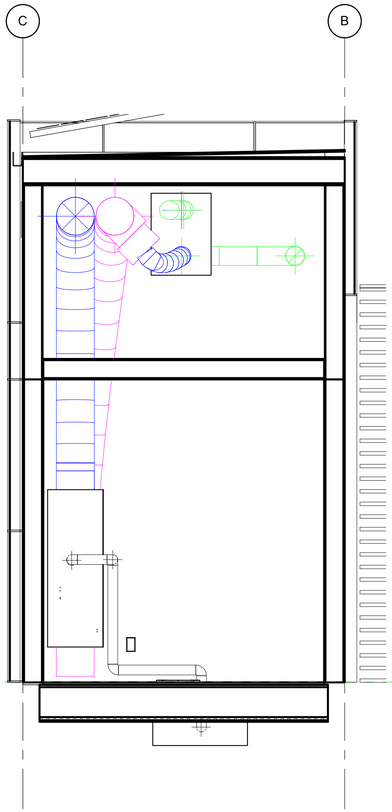
AUGUST 17, 2015

M-502

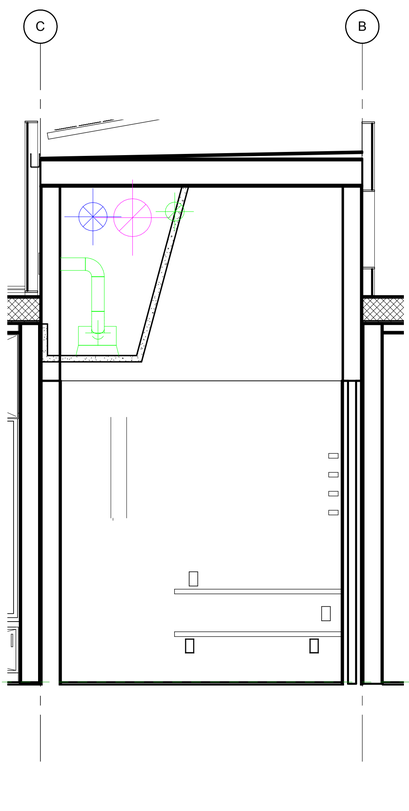
GENERAL SHEET NOTES

1. ALL VIEWS IN 1/2" = 1 FT

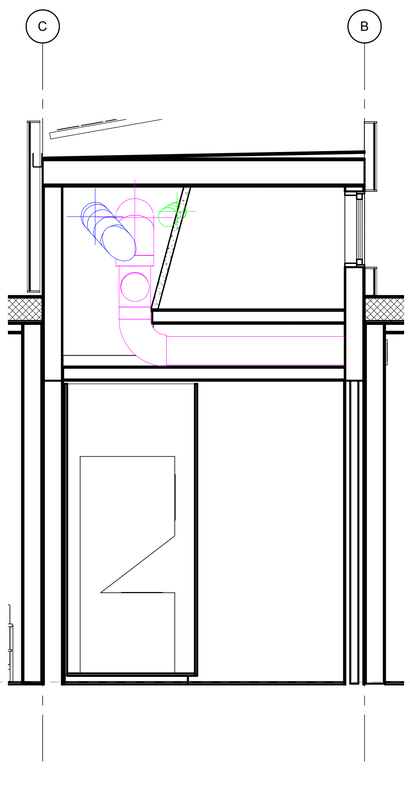
2. ALL VIEWS ARE SECTIONS CUT NORTH TO SOUTH THROUGH THE CENTRAL HOUSE MODULE



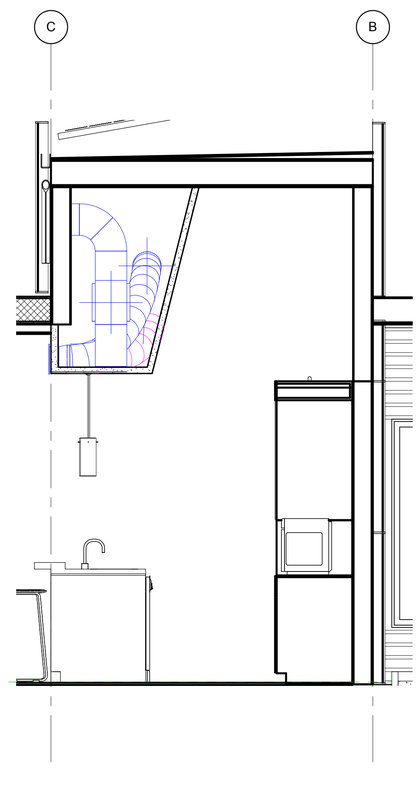
1 HVAC MECHANICAL ROOM (W VIEW)
1/2" = 1'-0"
0 1' 2' 4'



2 HVAC BATHROOM (W VIEW)
1/2" = 1'-0"
0 1' 2' 4'



3 HVAC LAUNDRY ROOM (W VIEW)
1/2" = 1'-0"
0 1' 2' 4'



4 HVAC KITCHEN (W VIEW)
1/2" = 1'-0"
0 1' 2' 4'

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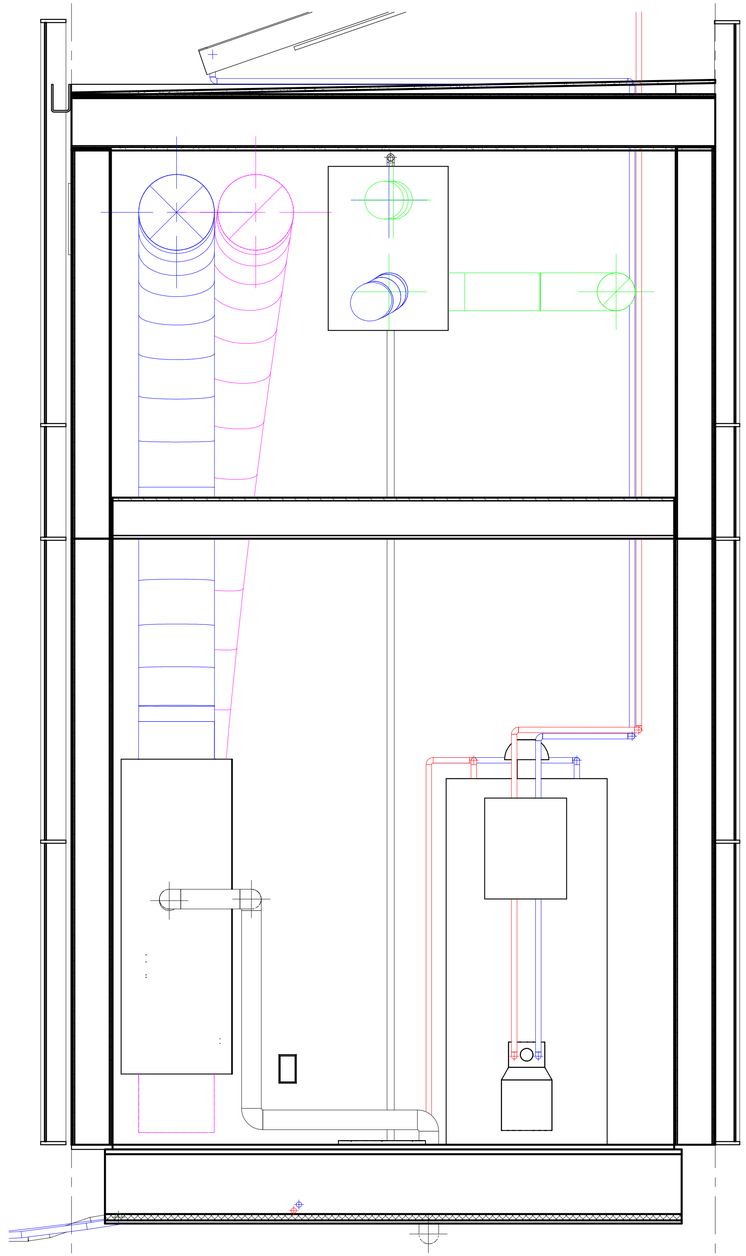
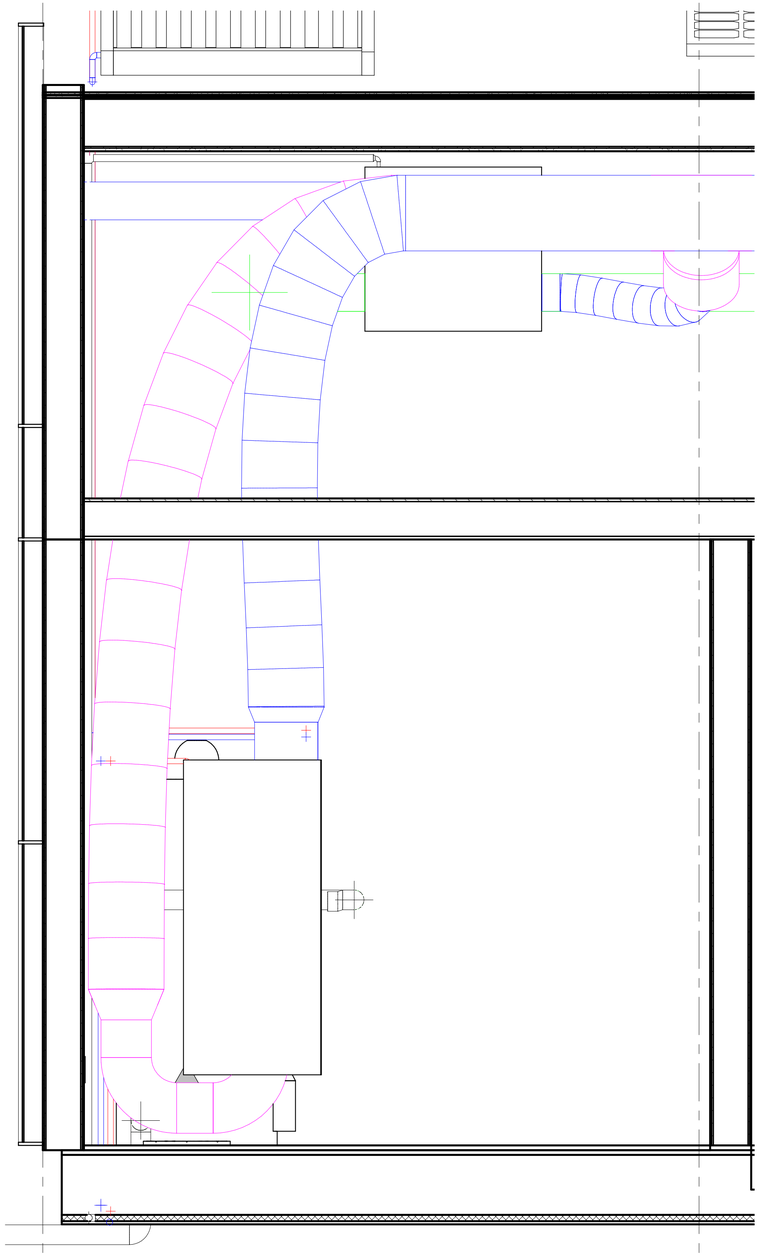
HVAC SECTIONS

AUGUST 17, 2015

M-503



1 MECHANICAL ROOM (W VIEW)
1" = 1'-0"



2 MECHANICAL ROOM (N VIEW)
1" = 1'-0"

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MECHANICAL ROOM

AUGUST 17, 2015

M-504

GENERAL SHEET NOTES (MECAHNICAL HVAC)					
	Description	Quantity	Brand	Model	Specification
1	Heat Pump	1	XR15	4TWR5018	15 SEER (19400 Btuh, 1.5 ton(nom),600 cfm
2	Air Handler	1	Hyperion	GAM5A0A18	18,000 Btuh, 50"x22"x17"
3	SA Diffusers	2		A618	Deflection G, 14"x 8", 275 cfm @ 600 fpm
4	RA Grilles	2		A650	h = 14", w=8", 211 cfm @400 fpm, 1/3" fin spacing
5	HRV	1		VNT5150H100	30-160 cfm, 28" x 14" x 46", 48 lbs
6	Bathroom Exhaust Fan	1		QTRE100S	100 cfm @ 0.10", 4" duct, 13" x 13-3/4"
7	Mechanical Room Fan	1	Ventamatic	CX1500	1300 cfm, 300W, Gable Mount Attic Vent Mill
8	12" Tee	1	Snappy Snappy	M10-136 (6-126)	26 gauge, Crimped
11	12" to 9" Reducer	2	Snappy	M80-227 (66-129)	No crimp
12	9" 90° Elbow	2	Snappy	M80-034 (3-096)	26 gauge, Crimped
13	9" Tee	1	Snappy	M10-134 (6-096)	26 gauge, Crimped
14	6" 90° Elbow	2	Snappy	M80-028 (3-066)	26 gauge, Crimped
15	12" Flex Duct (F216)	25'	Hart & Cooley	R94-142 (051330)	Metalized Jacket, Insulated (R=6.0)
16	9" Flex Duct (F216)	25'	Hart & Cooley	R94-140 (051328)	Metalized Jacket, Insulated (R=6.0)
17	6" Flex Duct (F216)	25'	Hart & Cooley	R94-137 (051325)	Metalized Jacket, Insulated (R=6.0)
18	12" Round Duct	7	Speedi Products	SM-2860GR 12	60" long, Galvanized sheet metal, 28 gauge
19	9" Round Duct	10	Speedi Products	SM-2860GR 09	60" long, Galvanized sheet metal, 28 gauge
20	6" Round Duct	7	Master Flow	SM-3060GR 06	60" long, Galvanized sheet metal, 28 gauge
21	6" Wall Vent (screen only)	3		SWVA6	6" x 8.625" wall mount, Aluminum
22	6" Wall Vent (screen&damper)	1		SDWVA6	6" x 8.625" wall mount, Aluminum
23	4" Wall Vent (screen&damper)	1		SDWVA4	6.0625" x 6.625" wall mount, Aluminum

GENERAL SHEET NOTES (MECHANICAL PCM)					
	Description	Quantity	Brand	Model	Specifications
1	In-line fan	1	hurrican-fans	#736140	10 in dia
2	Round to Square transition	1	SPEEDI-BOOT	SBH-121210 SRA	12x12" square to 10" round
3	Back Draft Damper	1	Speedie-Products	# AC-BD 08	10 in dia
4	Speed Control	1	DAYTON	#G5287764	4-1/2 X 2-3/4
5	PCM - Thermasticks	40	Phase Change Solutions	M91/Q23	2in dia x 6ft
6	PCM - Sheets	10	Phase Change Solutions	M91/Q23	4' x 4' x 1.46"
7	Programmable Thermostat	1	LUX	PSP511C	4-1/2" x 3-1/4" x 1-1/4"

GENERAL NOTES (MECAHNICAL SOLAR THERMAL)					
	Description	Quantity	Brand	Model	Specifcations
1	Expansion Tank	1	Caleffi	259012	3 gal (capacity)
2	Automatic Air Vent	1	Bell & Gossett	6ETU7	3/4" M NPT thread
3	Flat Plate Collector	2	Heliodyne	GOBI 406 001	26.94 sq. ft. gross area
4	Circulation Pump	1	Taco	110-113	3/4" flanges
5	Check Valve	2	Grainger	6VDT4	3/4" F NPT Threads
6	Isolation Valve	5	Caleffi	NA39589	3/4" F NPT Threads
7	Temperature Sensor	3	FLIR	35KP94	Dual Channel Type K Thermocouple
8	Pressure Sensor/Flowmeter	1	Duro	9JEE7	3/4" F hose thread
9	Steel Pipe	40'	Galvanized Pipe	GS3_410GTBE	3/4" Galvanized Pipe MPT Threads
10	Piping Insulation	40'	ITP Tundra	PB38078TWTU0	3/4" x 3/8" Rubber Piping Insulation
11	Heat Transfer Fluid	10 gal	Greenway		1,3 Propanediol
12	Solar Storage Tank	1	Solaraide	81V80HE-1	80 gallon

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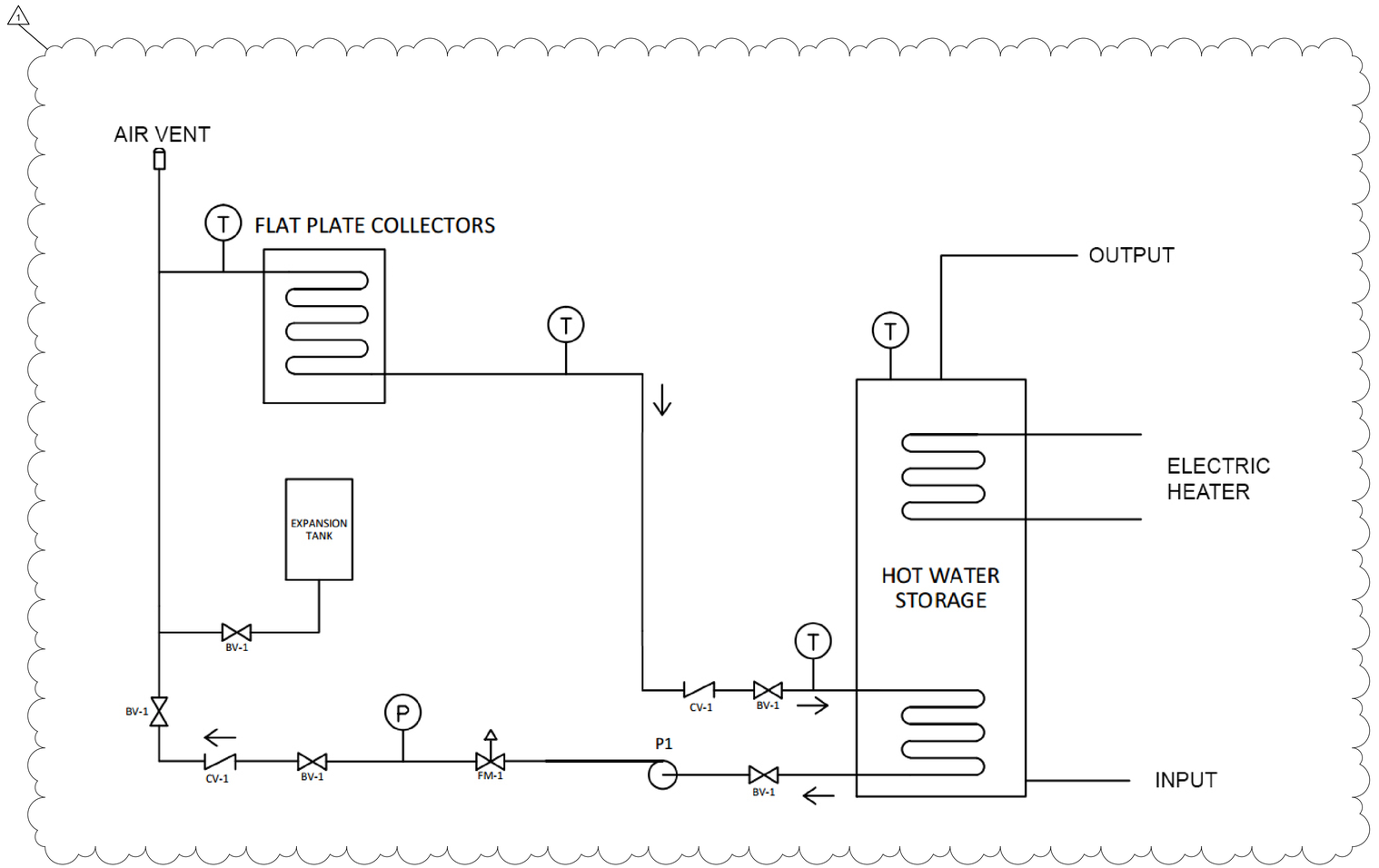
SCHEDULES

AUGUST 17, 2015

M-601



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Revision Number	Revision Description	Revision Date
1	PLAN CHECK CORRECTIONS	MAY 11, 2015

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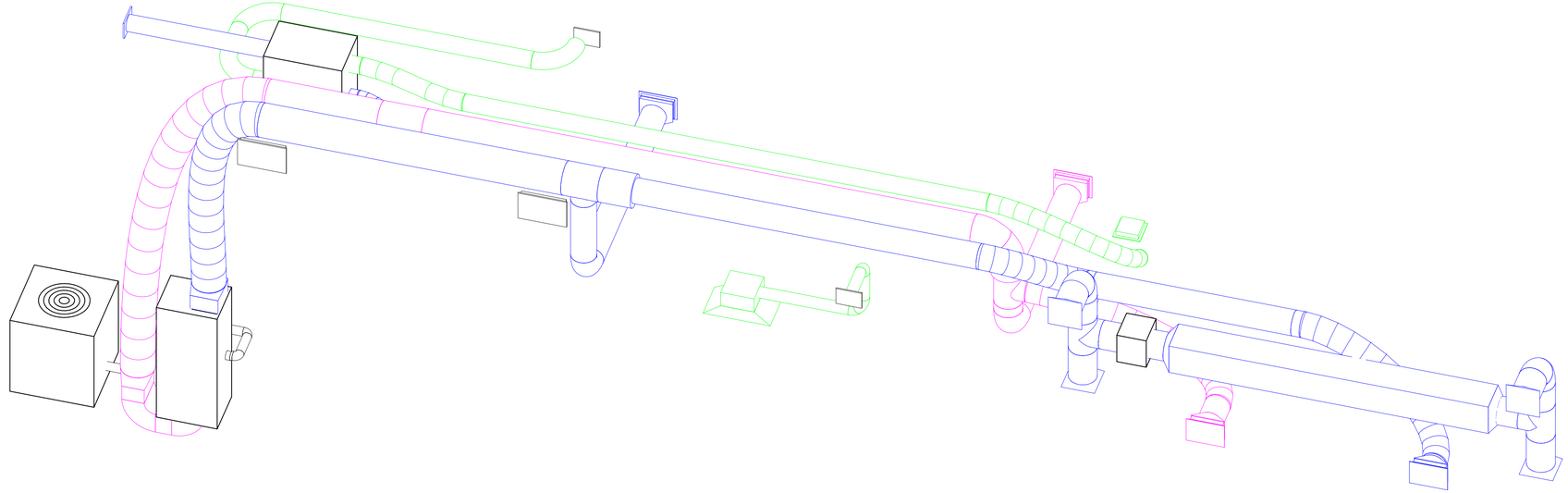
SOLAR WATER DIAGRAMS

AUGUST 17, 2015

M-603



1 HVAC AND PCM ISOMETRIC

SOLAR CAL POLY

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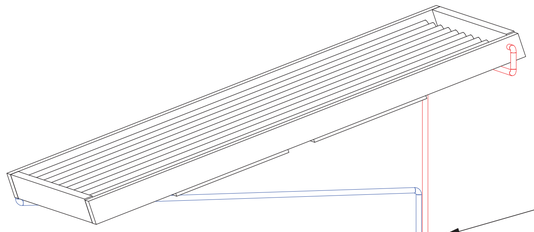
HVAC ISOMETRICS

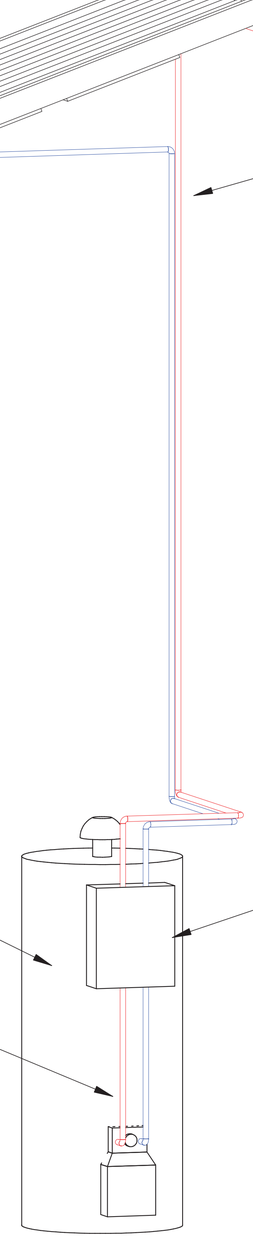
AUGUST 17, 2015

M-901



GOBI 406 001 SOLAR THEMAL COLELCTOR PANEL

CONNECT 3/4" INSULATED SOLAR THERMAL LOOP LINES UP TO ROOFTOP FLAT PLATE COLLECTOR



80 GALLON THERMAL STORAGE TANK

HELIO-PASS SOLAR THEMAL PUMPING AND CONTROL STATION

CONNECT3/4" INSULATED SOLAR THERMAL LOOP TO THERMAL STORAGE TANK

1 SOLAR WATER ISOMETRIC

SOLAR CAL POLY

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SOLAR WATER ISOMETRIC

JUNE 12, 2015

M-902

SYMBOL LEGEND	
ELECTRICAL EQUIPMENT AND DEVICES	
	DUPLEX RECEPTACLE
$_{1}$	DUPLEX RECEPTACLE (AFCI, TR)
$_{2}$	DUPLEX RECEPTACLE (GFCI, TR)
$_{3}$	DUPLEX RECEPTACLE (GFCI, TR, WP)
$_{4}$	DUPLEX RECEPTACLE (GFCI, TR, DEDICATED 20A)
$_{5}$	DUPLEX RECEPTACLE (GFCI, TR, DEDICATED 50A)
$_{6}$	DUPLEX RECEPTACLE (GFCI, TR, +40")
	QUADRAPLEX RECEPTACLE
$_{1}$	QUADRAPLEX RECEPTACLE (AFCI, TR)
$_{2}$	QUADRAPLEX RECEPTACLE (GFCI, TR)
J	JUNCTION BOX
	CIRCUIT BREAKER
	WATER PUMP
SWITCHES	
$	SINGLE POLE LIGHT SWITCH
$_{LKP}	LUTRON 6-BUTTON KEYPAD

TABLE OF ABBREVIATIONS	
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
EWH	ELECTRIC WATER HEATER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
MP	MAIN PANEL
PV	PHOTOVOLTAIC
TR	TAMPER RESISTANT
WP	WEATHER PROOF

GENERAL NOTES (ELECTRICAL)

1 ALL ELECTRICAL WORK PERFORMED UNDER THIS CONTRACT SHALL COMPLY WITH THE ENFORCED VERSION OF THE NATIONAL ELECTRIC CODE.

2 REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS, CEILING PLANS, ELEVATIONS, AND DETAILS FOR LOCATION OF ALL CEILING ELEMENTS AND OTHER WALL MOUNTED DEVICES NOT INCLUDED IN ELECTRICAL DRAWINGS.

3 EXTERIOR RECEPTACLES SHALL BE A GFCI TYPE DEVICE IN A WEATHER PROOF COVER.

4 THE ELECTRICAL SYSTEM SHOWN ON THE DRAWINGS IS ONLY GRAPHICAL AND NECESSARY CIRCUITRY SHALL BE PROVIDED TO MAKE THE SYSTEM COMPLETE AND IN SAFE WORKING ORDER, AND SHALL BE COORDINATED WITH OTHER TRADES.

5 POWER RECEPTACLES WITHIN 6 FEET DISTANCE FROM ANY PLUMBING FIXTURE AND/OR SINK SHALL BE EQUIPPED WITH GFCI.

6 ALL WORKING CLEARANCES AROUND ELECTRICAL EQUIPMENT SHALL BE MAINTAINED IN ACCORDANCE WITH NATIONAL ELECTRIC CODE.

7 ALL PENETRATIONS OF WALLS OR CEILINGS SHALL BE SLEEVED AND SEALED TO COMPLY WITH BUILDING CODE REQUIREMENTS.

8 SEE F-101 FOR SMOKE DETECTOR AND FIRE ALARM PLAN PLACEMENT.

9 SEE T-602 FOR SENSOR PLACEMENT AND DATA WIRING.

10 THE BUILDING SHALL BE WIRED AS TO ALLOW FOR MODULAR CONSTRUCTION AND TRANSPORTATION. JUNCTION BOXES SHALL SERVE AS THE CONNECTION POINT BETWEEN ALL WIRES DISCONNECTED BETWEEN MODULES.

11 STRUCTURALLY INTEGRATED PANELS IN CEILINGS AND WALLS WILL REQUIRE WIRE CHASES AND WIRE WILL BE FED THROUGH THE FLOOR UP INTO THE WIRE CHASES.

12 MOUNTING HEIGHTS FOR RECEPTICLES SHALL BE 12" AFF. MOUNTING HEIGHTS FOR SWITCHES SHALL BE 44" AFF, UNLESS NOTED OTHERWISE.

13 PRIOR TO ROUGH-IN, CONTRACTOR SHALL VERIFY ALL MOUNTING, HEIGHTS, FIXTURE LOCATIONS, APPLIANCE SPECS, EXACT LOCATION OF FIXTURES, SPLASHES, DOOR AND WINDOW TREATMENTS/TRIM WITH OWNER. ALL DEVICES SHALL BE PLACED TO AVOID CONFLICTS WITH SPLASHES, SHELVING, TRIM.

14 COORDINATE AND INSTALL ALL ELECTRICAL DEVICES INSTALLED IN CABINETRY. ALL HOLES AND CHASES BY OTHERS.

15 ALL GENERAL BUILDING WIRING CONDUCTORS TO BE THHN/THWN.

16 ALL CONDUCTORS REGARDLESS OF SIZE WILL BE ORDERED AND INSTALLED IN THEIR CORRESPONDING PHASE COLOR. PHASE TAPE IS NOT ACCEPTABLE. THE FOLLOWING COLOR CODE WILL BE ADHERED TO: BLACK FOR PHASE A, RED FOR PHASE B, WHITE FOR NUETRAL, PINK OR PURPLE FOR SWITCH LEG/TRAVELERS, GREEN FOR GROUND.

TABLE OF CONTENTS (ELECTRICAL)

1 ELECTRICAL SYMBOLS AND NOTES
1/4" = 1'-0"

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LOT NUMBER: 107
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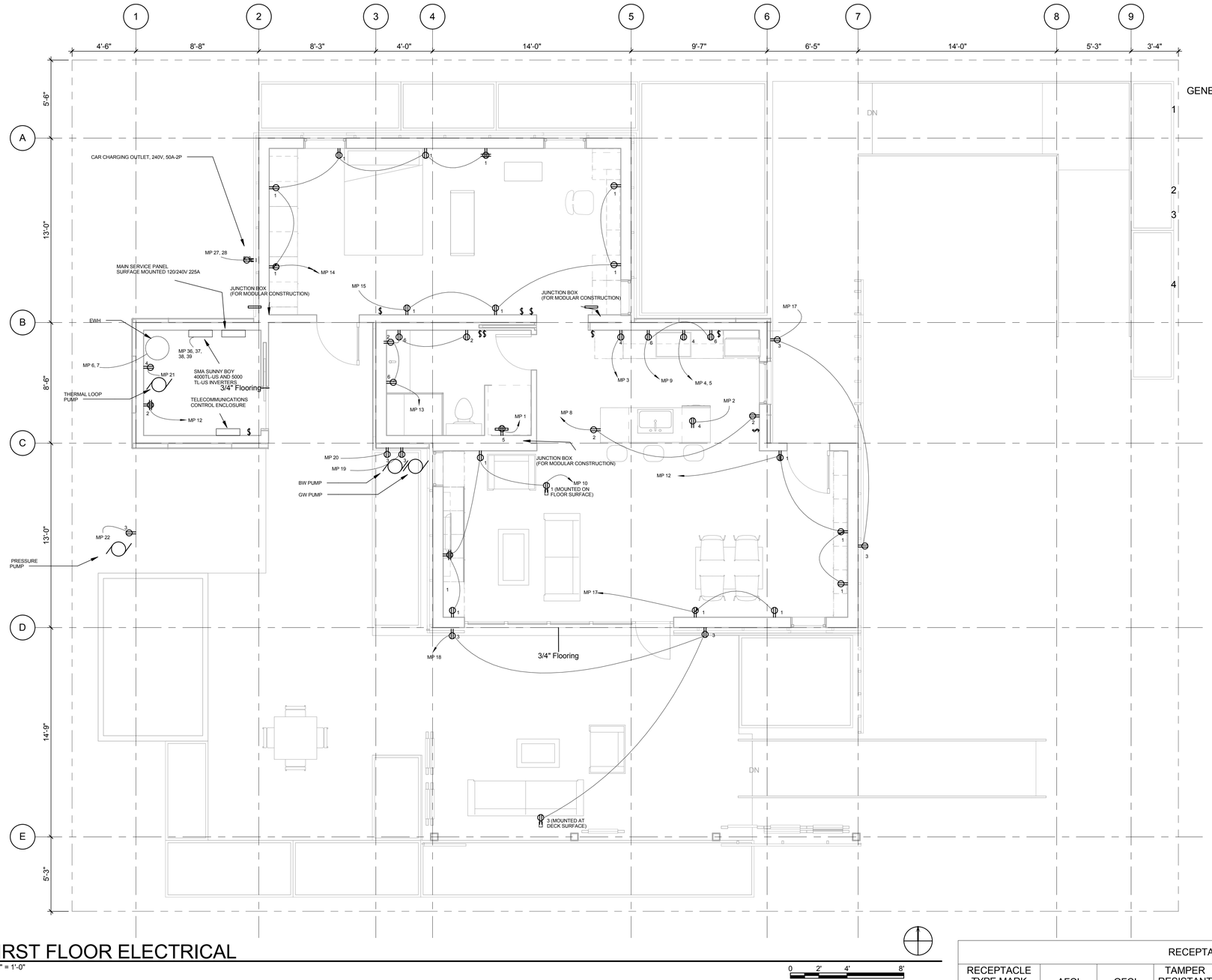
SHEET TITLE
ELECTRICAL SYMBOLS AND NOTES

AUGUST 17, 2015

E-001



1 FIRST FLOOR ELECTRICAL

1/4" = 1'-0"

0 2' 4' 8'

GENERAL SHEET NOTES (DISTRIBUTION PLAN)

1 ALL BRANCH CIRCUITS WITH RECEPTACLES RUNNING AT 120 V, 15 A, AND 20 A WILL BE WILL HAVE AFCI PROTECTION IMPLEMENTED BY HAVING THE FIRST OUTLET IN THE BRANCH CIRCUIT BE AN AFCI RECEPTACLE [NEC 210.12(A)

2 INSTALL PV INVERTERS AS PER MANUFACTURER'S SPECIFICATIONS

3 ALL JUNCTION BOXES FOR CONSTRUCTABILITY OF MODULE SEPARATION ARE 5 FEET FROM FLOOR TO BOTTOM OF BOX. SIZE OF BOX APPROXIMATELY 1.63" DEEP BY 4.5" HIGH BY 10.44" WIDE

4 INVERTERS IN THE MECHANICAL ROOM ARE STACKED ON TOP OF EACH OTHER

RECEPTACLES							
RECEPTACLE TYPE MARK	AFCI	GFCI	TAMPER RESISTANT	WEATHER-PROOF	DEDICATED (20A)	DEDICATED (50A)	+40" AFF
1	X		X				
2		X	X				
3		X	X	X			
4		X	X		X		
5		X	X			X	
6		X	X				X

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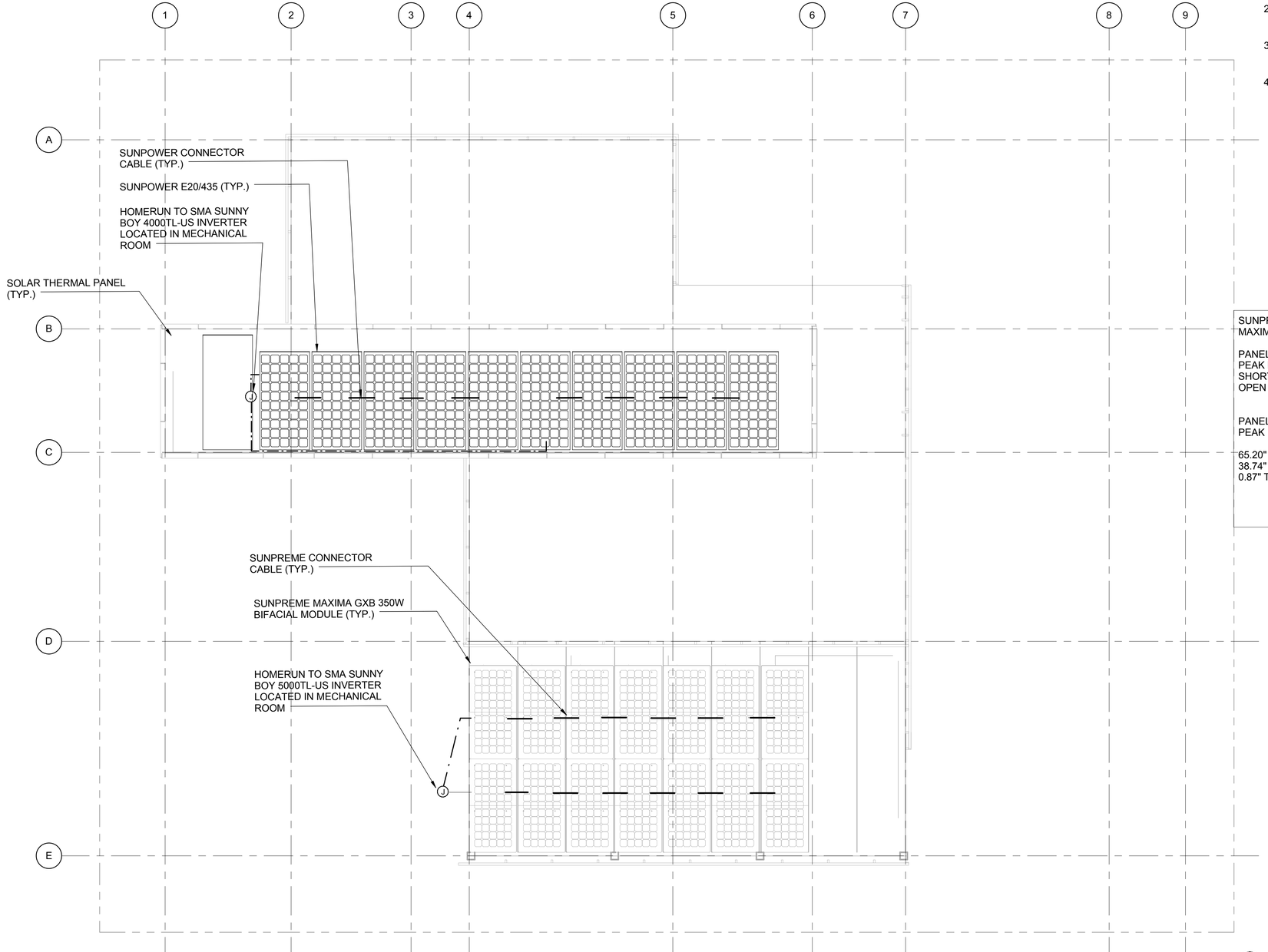
ELECTRICAL DISTRIBUTION PLAN

AUGUST 17, 2015

E-101

PV WIRING LEGEND	
WIRE	FUNCTION
— · —	PANEL-TO-PANEL SERIES CONNECTION
	STRING-TO-JUNCTION BOX CONNECTION



1 ROOF PLAN ELECTRICAL
1/4" = 1'-0"

0 2' 4' 8'

GENERAL NOTES (PV WIRING)

1. SUNPOWER E20 435W SOLAR PANELS ARE ROOF MOUNTED IN A CONFIGURATION OF 2 STRINGS OF 5 PANELS.
2. SUNPREME MAXIMA GXB 350W SOLAR PANELS ARE CANOPY MOUNTED IN A CONFIGURATION OF 2 STRINGS OF 7 PANELS.
3. BOTH THE CANOPY AND ROOFTOP INVERTERS ARE LOCATED IN MECHANICAL ROOM (SEE SHEET E-101).
4. SEE SHEET E-604 FOR LOAD CALCULATIONS OF PV SYSTEM.

SUNPOWER E20/435
SPR-435NE-WHT-D

STC CHARACTERISTICS
PANEL EFFICIENCY: 20.1%
PEAK POWER: 435 W
RATED CURRENT: 5.97 A
RATED VOLTAGE: 72.9 V
OPEN CIRCUIT VOLTAGE: 85.6 V
MAX DC SHORT CIRCUIT CURRENT: 6.43 A

81.36" LONG
41.18" WIDE
1.16" THICK

SUNPREME BIFACIAL MODULE
MAXIMA GXB 350W

PANEL EFFICIENCY (STC): 20.7%
PEAK POWER (STC): 350 W
SHORT CIRCUIT CURRENT (STC): 9.1 A
OPEN CIRCUIT VOLTAGE (STC): 51.7 V

PANEL EFFICIENY (20% BACKSIDE IRRADIATION): 21.6%
PEAK POWER (20% BACKSIDE IRRADIATION): 420 W

65.20" LONG
38.74" WIDE
0.87" THICK

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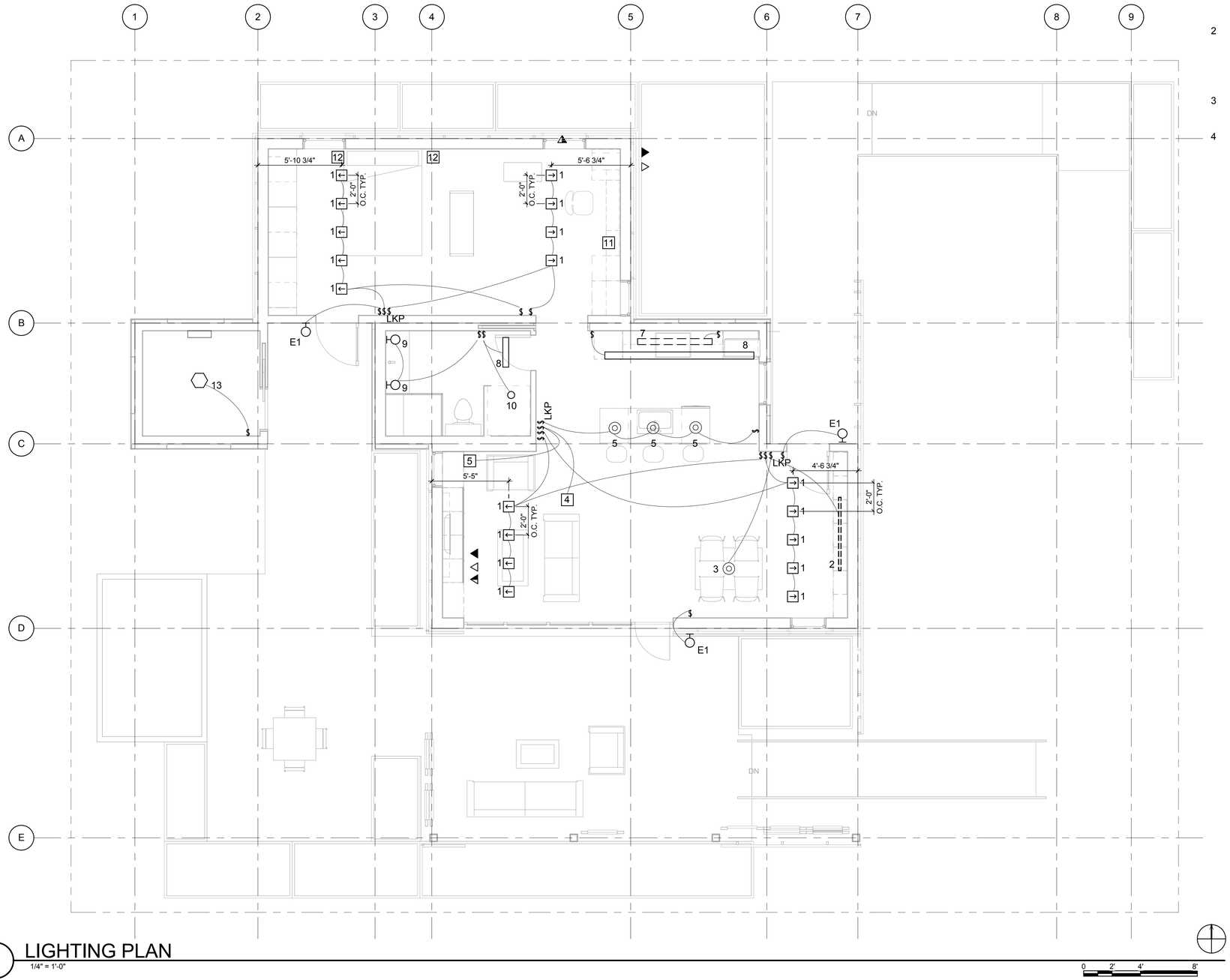
SHEET TITLE
PV WIRING PLAN

AUGUST 17, 2015

E-102



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

0 2' 4' 8'

GENERAL NOTES (LIGHTING PLAN)

1 EXTERIOR LIGHTING OUTLETS INCLUDED AS DICTATED BY NEC 210.70(A)(2)(b)

2 ALL LIGHTING FIXTURES WILL BE CONTROLLED BY THE MANUAL LUTRON DIMMER SWITCHES SHOWN WHICH ARE REMOTE-CONTROLLABLE (IN WIRELESS COMMUNICATION WITH LUTRON CONTROL SYSTEM).

3 ALL LIGHTING FIXTURES WITH WIRING NOT SHOWN SHALL BE POWERED BY INSTALLED WALL RECEPTACLES.

4 FIXTURE TAGS CORRESPOND TO LUMINAIRE SCHEDULE ON SHEET E-603

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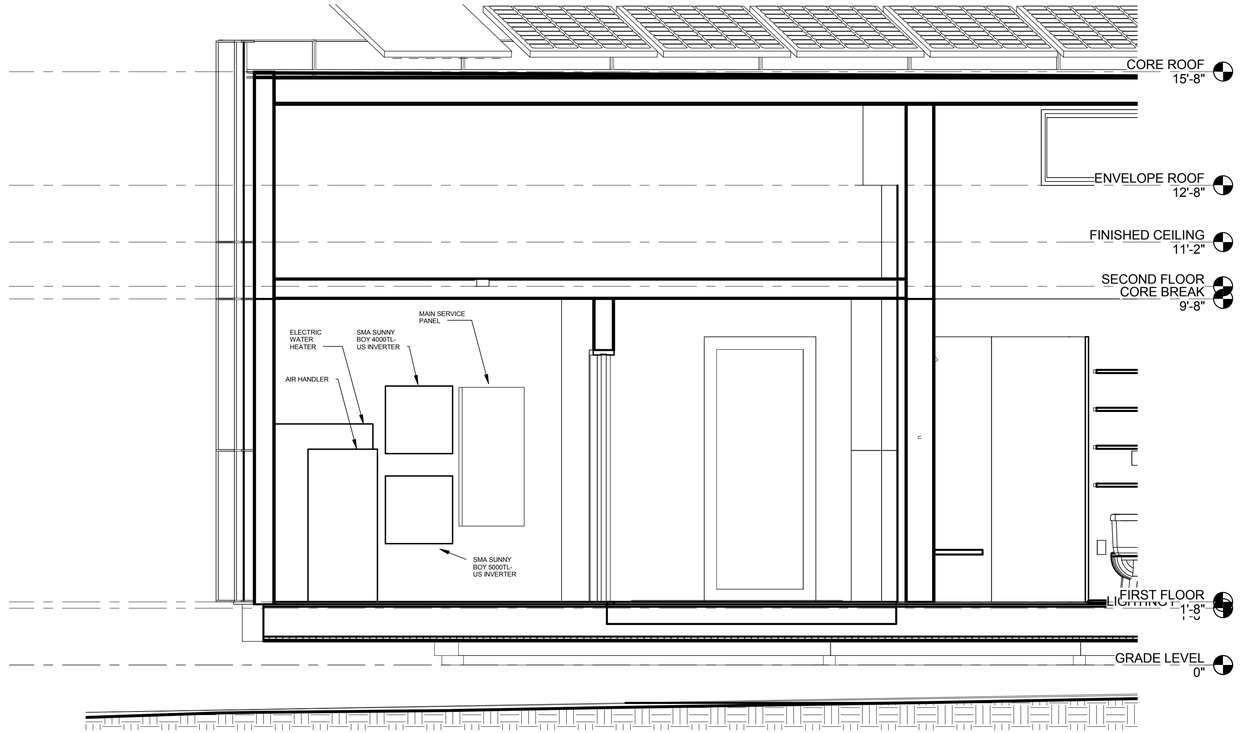
LIGHTING PLAN

AUGUST 17, 2015

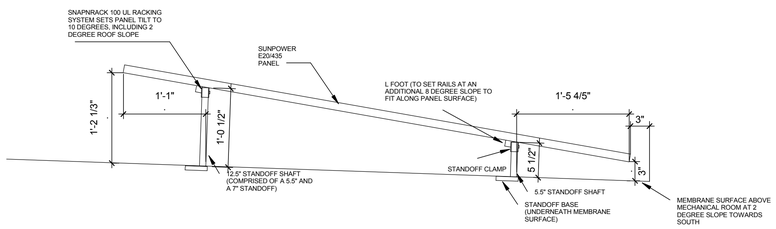
E-103



3 ELEVATION MECHANICAL ROOM (FROM NORTH)

1/2" = 1'-0"

0 1' 2' 4'



1 ROOFTOP PV RACKING DETAIL (FROM WEST)

1" = 1'-0"

0 1 2

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ELECTRICAL ELEVATIONS

AUGUST 17, 2015

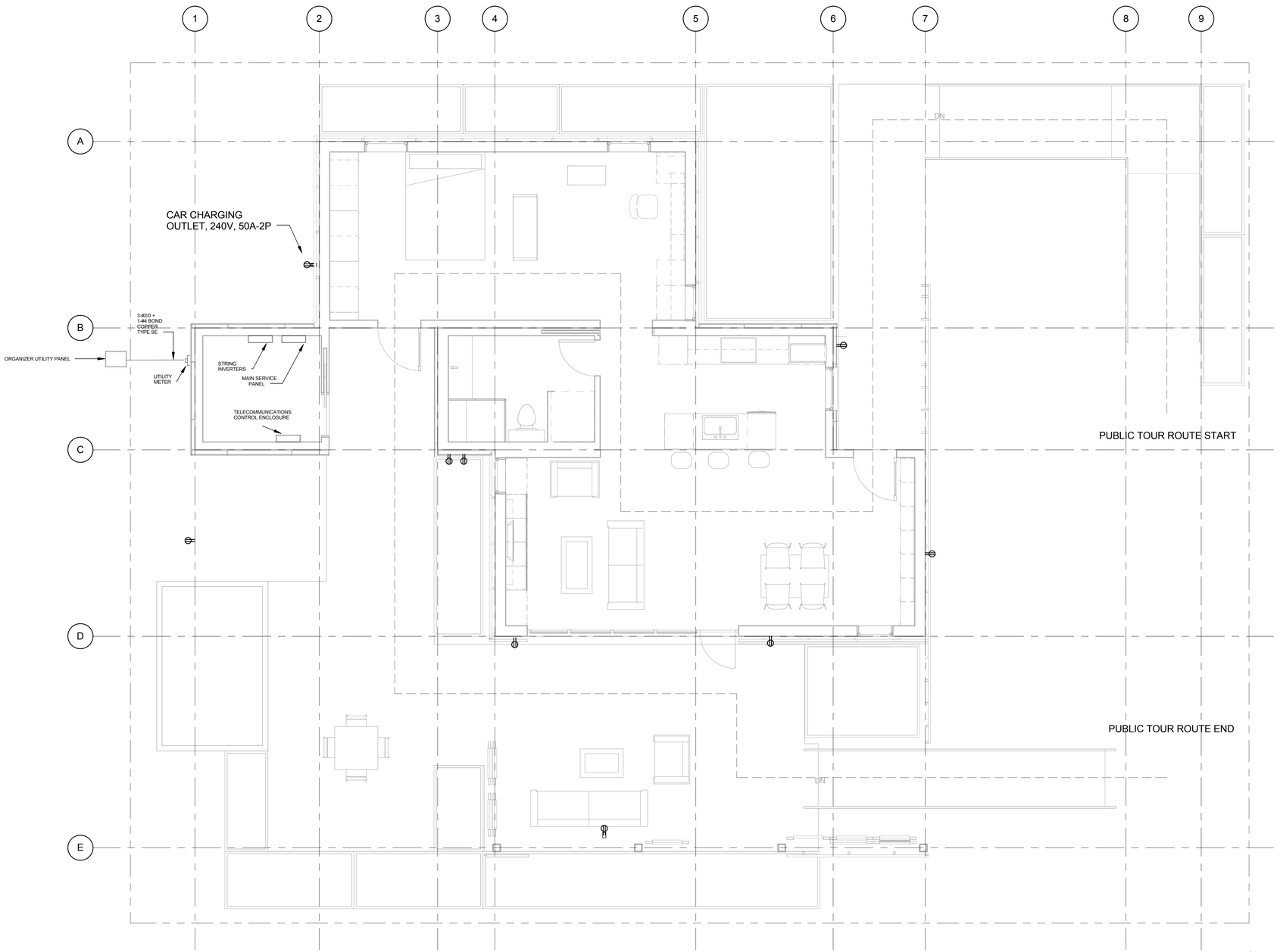
E-201

GENERAL NOTES (SITE PLAN)

1 ALL CABLE ROUTING SHALL AVOID TOUR ROUTES AND OTHER WALKWAYS.

2 UTILITY PANEL AND GRID INTERCONNECTION TO BE DETERMINED BY ORGANIZER.

3 AC AND DC DISCONNECTS ARE INTEGRATED INTO INVERTER ENCLOSURE.



1 UTILITY PLAN
1/4" = 1'-0"

0 2' 4' 8'

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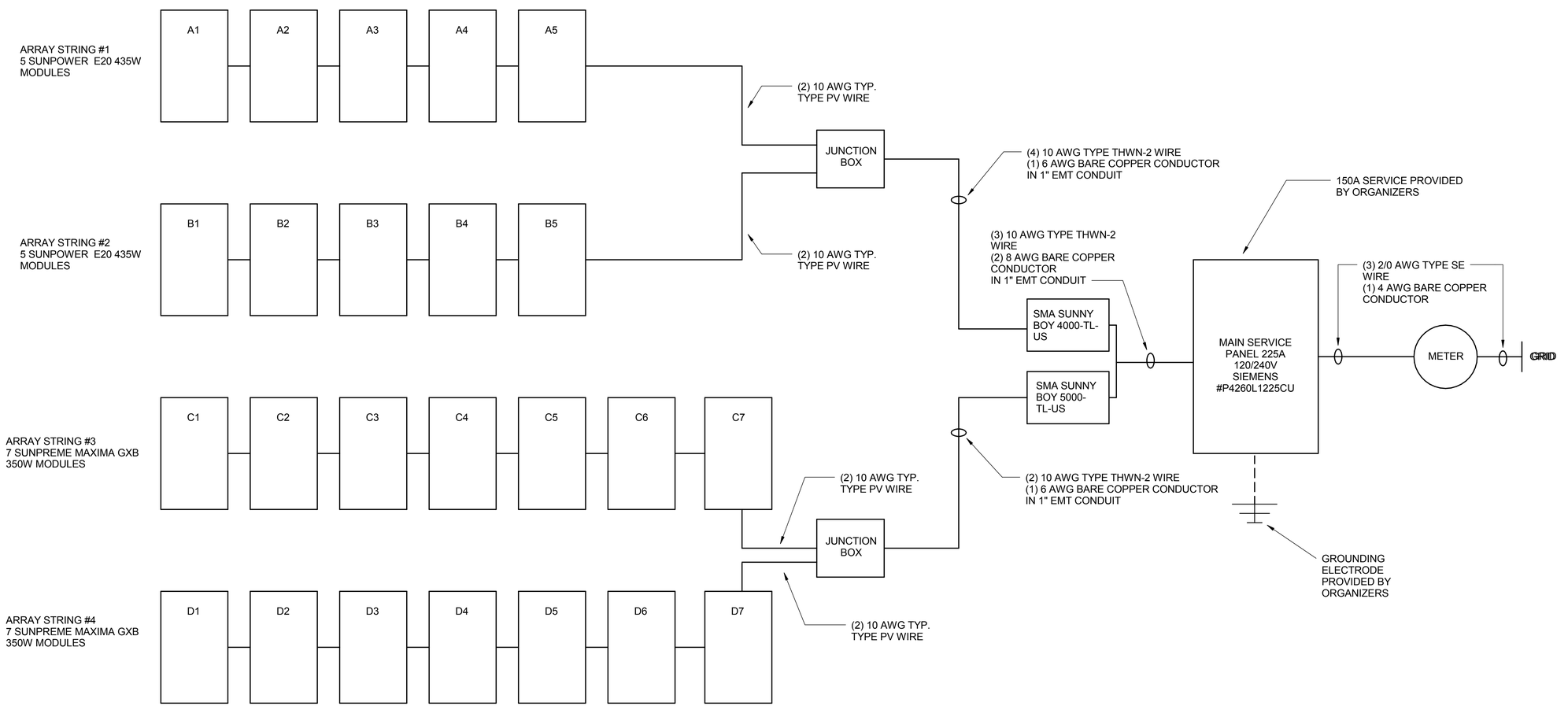
SITE PLAN

AUGUST 17, 2015

E-401



1 ONE-LINE DIAGRAM

6" = 1'-0"

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ONE-LINE DIAGRAM

AUGUST 17, 2015

E-601

CONDUCTOR	LINE TYPE
HOT	———
NEUTRAL	— · — · —
GROUND	– – – –

ARRAY STRING #1
5 SUNPOWER E20 435W
MODULES

A1 A2 A3 A4 A5

ARRAY STRING #2
5 SUNPOWER E20 435W
MODULES

B1 B2 B3 B4 B5

10 AWG TYP.
TYPE PV WIRE

10 AWG TYP.
TYPE PV WIRE

WEATHERPROOF
JUNCTION BOX

(4) 10 AWG TYPE THWN-2 WIRE
(1) 10 AWG BARE COPPER
CONDUCTOR
IN 1" EMT CONDUIT

6 AWG BARE
COPPER
CONDUCTOR

INPUT 1 (- +)

SMA SUNNY BOY
4000-TL-US

SMA SUNNY BOY
5000-TL-US

INPUT 2 (+ -)

ARRAY STRING #3
7 SUNPREME MAXIMA GXB
350W MODULES

C1 C2 C3 C4 C5 C6 C7

ARRAY STRING #4
7 SUNPREME MAXIMA GXB
350W MODULES

D1 D2 D3 D4 D5 D6 D7

10 AWG TYP.
TYPE PV WIRE

10 AWG TYP.
TYPE PV WIRE

WEATHERPROOF
JUNCTION BOX

(3) 10 AWG TYPE THWN-2
WIRE
(2) 10 AWG BARE COPPER
CONDUCTOR
IN 1" EMT CONDUIT

(2) 10 AWG TYPE THWN-2 WIRE
(1) 10 AWG BARE COPPER
CONDUCTOR
IN 1" EMT CONDUIT

6 AWG BARE
COPPER
CONDUCTOR

MAIN SERVICE PANEL
SIEMENS
#P4040B1200CU
200A 120/240v

A B

50A, 2P
BREAKER

(1) 6 AWG COPPER
BONDING JUMPER

NEUTRAL BUSBAR

GROUND BUSBAR

GROUNDING
ELECTRODE
PROVIDED BY
ORGANIZERS

1 THREE-LINE DIAGRAM

6" = 1'-0"

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THREE-LINE DIAGRAM

AUGUST 17, 2015

E-602

PANEL SCHEDULE

BREAKER LOAD	A (KVA)	B (KVA)	BREAKER	CIRCUIT
DRYER/WASHER	5	0	50A-1P	1
DISHWASHER	0	1.08	20A-1P	2
REFRIGERATOR	1.35	0	20A-1P	3
INDUCTION STOVE	0	2.9	50A-2P	4
	2.9	0		5
EWH SOLAR WATER HEATER	0	3.6	50A-2P	6
	3.6	0		7
KITCHEN RECEPS 1	0	1.5	20A-1P	8
KITCHEN RECEPS 2	0	1.5	20A-1P	9
LIVING RECEPS	0	0.54	20A-1P	10
DINING RECEPS 1	1.5	0	20A-1P	11
DINING RECEPS 2	0	1.5	20A-1P	12
BATHROOM RECEPS	0	0.36	20A-1P	13
BEDROOM RECEPS 1	0	0.9	20A-1P	14
BEDROOM RECEPS 2	0.54	0	20A-1P	15
MECHANICAL RECEPS	0	0.18	20A-1P	16
ENTRY RECEPS	0	0.36	20A-1P	17
EXTERIOR RECEPS	0	0.54	20A-1P	18
GREY WATER PUMP RECEP	0	0.23	20A-1P	19
BLACK WATER PUMP RECEP	0	0.23	20A-1P	20
THERMAL LOOP PUMP RECEP	0	0.1	20A-1P	21
WATER SUPPLY PUMP RECEP	0	0.34	20A-1P	22
WATER SUPPLY BOOSTER PUMP RECEP	0	0.373	20A-2P	25
	0.373	0		26
VEHICLE CHARGIING RECEP	0	3.6	50A-2P	27
	3.6	0		28
HEAT PUMP RECEP	1.725	0	20A-2P	29
	0	1.725		30
AIR HANDLER RECEP	0.322	0	20A-2P	31
	0	0.322		32
LIGHTING 1	1.57	0	15A-1P	33
LIGHTING 2	0	1.57	15A-1P	34
FIRE ALARM CIRCUIT	0	0.03	15A-1P	35
PV INVERTER 1	2.1	0	50A-2P	36
	0	2.1		37
PV INVERTER 2	2.65	0	50A-2P	38
	0	2.65		39
SPARE				40
SPARE				41
SPARE				42
PHASE A	22.48			
PHASE B		23.48		
TOTAL KVA		45.96		

PV SYSTEM SCHEDULE

SHORT ARRAY DESCRIPTION	PANEL OPEN CIRCUIT VOLTAGE (V)	STRING OPEN CIRCUIT VOLTAGE (V)	STRING OPEN CIRCUIT VOLTAGE @ MIN T FOR IRVINE REGION (V)	INVERTER	MAX INVERTER DC INPUT VOLTAGE (V)	MAX INVERTER AC CURRENT OUT (A)	COMMENTS
10 SUNPOWER E20/435, ROOFTOP	85.6	428	455.1	SMA SUNNY BOY 4000TL-US	600	20	
14 SUNPREME MAXIMA GXB 350W, CANOPY	51.7	361.9	380.2	SMA SUNNY BOY 5000TL-US	600	22	ASSUMING STC RATING (NO BACKSIDE IRRADIANCE)

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SCHEDULES

AUGUST 17, 2015

E-603

LIGHTING FIXTURE SCHEDULE

ITEM NUMBER	DESCRIPTION	MANUFACTURER	QTY	MODEL NUMBER	FINISH	LAMP
	EXTERIOR LIGHTING					
E1	MINI-MICRO™ TWIN CYLINDER SOLID STATE...	BK LIGHTING	3			
E1 ALT	CATSKILL SERIES™ SOLID STATE (BKSSL®)					
	INTERIOR LIGHTING					
1	BOOKEND WALL WASH 2SE-WG-1 WALLWASH MIRAGE	LUCIFER LIGHTING	18	FIXTURE EXTENSION MODEL NUMBER: 2SE-WG-1-WH-95X-07B-30-2-I-1; HOUSING EX. MODEL...	WHITE	LED SOURCE 95+ CRI 3000 K
2	FEATURE LIGHT - DEPENDENT ON LIGHTING BUDGET	COLOR KINETICS/...				
3	DINING PENDENT GLIDE WOOD LINEAR SUSPENSION HTTP://WWW.LIGHTOLOGY.COM/INDEX.PHP?MODULE=PROD_DETAIL&PROD_ID=167539&CAT_ID=109	EDGE LIGHTING	1	GL-D1-C-60IN-27K-WE-SN EDG201138	WOOD ESPRESSO/ SATIN NICKEL	LED 3000K, 82CRI LEDS
3 ALT	DINING PENDENT STILETTO 32"" LED PENDENT HTTP://SHOP.FERGUSON.COM/PRODUCT/SONNEMAN-LIGHTING-SON2346-SATIN-BLACK-848092?TB=	SONNEMAN	1	S234625	SATIN BLACK	LED 1050 LUMENS 3000 K 80 CRI DIMMABLE BY ELV
4	READING LAMP IN LIVING ROOM SALFORD FLOOR LAMP HTTP://WWW.LIGHTOLOGY.COM/INDEX.PHP?MODULE=PROD_DETAIL&PROD_ID=213498&CAT_ID=43	DIAMOND LIGHTING	1	D2121-LED DMD213498	SATIN NICKEL/ WHITE	LED 1 X A19/MEDIUM (E26)/9.5W/120V NOT DIMMABLE 900 LUMENS 3000K...
5	BAR PENDENTS GRAPES LED PENDANT W/ MICRO - DOME CANOPY DIMENSIONS: LRG: 3 3/4"" H X 3 3/4"" DIA HTTP://WWW.SONNEMANAWAYOFLIGHT.COM/GRAPESLARGELEDPENDANTWMICRODOME-P-987.HTML	SONNEMAN	3	2910.01-LRG	SATIN NICKEL	LED 3000K 80CRI LUMENS/WATT: 40.91
5 ALT	CANDLE PLUS LED PENDENT HTTP://WWW.SONNEMANAWAYOFLIGHT.COM/CANDLEPLUSLEDPENDANT-P-287.HTML	SONNEMAN	3	3025.01	POLISHED CHROME / WHITE &...	LED 80 CRI 3000K
6	VODE WING RAIL ZIPPER CLEAR LENS 8FT (TOTAL); HTTP://VODE.COM/WINGRAIL-CEILING-WALL-ARM-LED-107	VODE LIGHTING	1	107-WG-01-4-48-WA-24-IP-?? POWER TYPE [LUTRON QUESTION]-1-0-Z-SO-30-0-0-WH-0	WHITE PAINTED	LED 3000K
7	UNDER CABINET KITCHEN LIGHTING WUNDERCAB HTTP://WWW.BRUCKLIGHTING.COM/PRODUCTS/LIGHTS/LINEAR-SYSTEMS/123456-UNDERCAB-DETAIL	BRUCK	3 (24.17" EACH)	138 - 544 - WH - 3 DIRECT WIRE (138521WH) 6"" FLEXIBLE CONNECTOR	WHITE	LED SDCM OF 3 IN 3000 KELVIN FOR 250 LUMENS PER FOOT
7 ALT	UNDER CABINET KITCHEN LIGHTING; HTTP://WWW.ACUITYBRANDS.COM/PRODUCTS/DETAIL/122065/LITHONIA-LIGHTING/LINKABLE-LED-CABI...	LITHONIA	3	UCLD-24-WH DIRECT WIRE UCD JB SPLICE BOX - ALLOWS FOR QUICK AND...	WHITE	LED, 3000K, COMES WITH DIMMABLE DRIVER [LUTRON COMPATIBLE] 83 CRI
8	TRACK LIGHTING STEP BAFFLE BR20 LED TRACK HTTP://WWW.ACUITYBRANDS.COM/PRODUCTS/DETAIL/248474/LITHONIA-LIGHTING/STEP-BAFFLE-BR20-LED-TRACK/LED-LAMP-HEAD/	ACUITY BRANDS LIGHTING	1	HEAD: LTHSTBF BR20 LED KIT: LTKSTBF BR20 LED	MATTE WHITE	LED LUMEN OUTPUT : 500 LM, 850 LM 2700 K 80 CRI HIGH EFFICIENCY INTEGRAL DRIVER 110-120VAC.
9	MIRROR LIGHTS STILETTO 24-INCH LED BATH BAR HTTP://WWW.YLIGHTING.COM/CUTSHEETS/SONNE...	SONNEMAN	2	2340- STILETTO 24-INCH	BRIGHT SATIN ALUMINUM	LED 3000K 80 CRI...
10	LAUNDRY LIGHT 6"" LED GIMBAL MODULE HTTP://WWW.ACUITYBRANDS.COM/PRODUCTS/DETAIL/196907/LITHONIA-LIGHTING/6-GIMBAL-LED-MODULES/LED-INGRADE-CANS	ACUITY BRANDS LIGHTING	1	6G1MW LED L7XLED T24	MATTE WHITE	GIMBAL LED MODULES 3000 K LUMEN OUTPUT: 620 LM
11	DESK LIGHT IN FLEX SPACE FLEX LED DESK LAMP HTTP://WWW.CIELUX.COM/PRODUCTS/FLEX.PHP	CIELUX	1	FLEX - BK - BA	BLACK	LED 3200 K INPUT VOLTAGE: 24 VDC
12	BEDSIDE LAMP CERNO ALO TABLE LIGHT - DESIGNER IS A CAL POLY GRAD!!! HTTP://WWW.OLIGHTING.COM/CERNO-ALO-TABLE-LIGHT.HTML...	CERNO	2	CERNO-ALO-TABLE-LIGHT 02-130-AWW	BRUSHED ALUMINUM AND CONCRETE	LED 3000 K 420 LUMENS 82 CRI FULLY DIMMABLE, NO FLICKER
13	MECHANICAL ROOM LIGHT; LITHONIA 2FT WRAP AROUNDLED ; HTTP://WWW.ACUITYBRANDS.COM/PRODUCTS/DETAIL/347674/LITHONIA-LIGHTING/LBL-LED/LB-SERIES-CONFIGURABLE-LED-WRAPAROUND/-/MEDIA/PRODUCTS/LITHONIA_LIGHTING/347674/DOCUMENT/LBL...	LITHONIA	1	LBL2LP835	WHITE	3500K
13 ALT	MECHANICAL ROOM LIGHT; LITHONIA 4FT WRAP AROUNDLED ; HTTP://WWW.ACUITYBRANDS.COM/PRODUCTS/DETAIL/347674/LITHONIA-LIGHTING/LBL-LED/LB-SERIES-...	LITHONIA	1	LBL4LP835	WHITE	3500K

<LIGHTING FIXTURE SCHEDULE CONTINUED>

ITEM NUMBER	WATTS	TOTAL WATTS	VOLTS	COMMENTS	REP
	EXTERIOR LIGHTING				
E1					
E1 ALT					
	INTERIOR LIGHTING				
1	9.2	165.6	120	PUBLIC SPACE FLEX SPACE	PRUDENTIAL LIGHTING PRODUCTS SANTA BARBRA (805) 715-6400
2					
3	37.5	37.5	24	DINING ROOM	FERGUSON SAN LUIS OBISPO TIM WEST (805) 541-2241
3 ALT	12	12	120VAC INPUT WITH...	DINING ROOM	FERGUSON SAN LUIS OBISPO TIM WEST...
4	9.5	9.5	120	LIVING ROOM	
5	6	16	120	KITCHEN	FERGUSON SAN LUIS OBISPO TIM WEST (805) 541-2241
5 ALT	5	15	120	KITCHEN	FERGUSON SAN LUIS OBISPO TIM WEST...
6	26.8	26.8	120	KITCHEN-ABOVE CABINETS	ALR LIGHTING
7	8	24	120	KITCHEN	FERGUSON SAN LUIS OBISPO TIM WEST (805) 541-2241
7 ALT	11.8	35.4	120		
8	8	8	120	BATHROOM	FERGUSON SAN LUIS OBISPO TIM WEST (805) 541-2241
9	8	16	120	BATHROOM	FERGUSON SAN LUIS OBISPO TIM WEST (805) 541-2241
10	10.8	10.8	120	BATHROOM	FERGUSON SAN LUIS OBISPO TIM WEST (805) 541-2241
11	13	13	100-240 VAC	FLEX SPACE	RICHMOND, CALIFORNIA (510) 620-5154
12	8.3	16.6	12	FLEX SPACE	
13	23	23	120	MECHANICAL ROOM	HOME DEPOT
13 ALT	41	41	120	MECHANICAL ROOM	HOME DEPOT
	TOTAL (NOT...	368.8			

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SHEET TITLE

LUMINAIRE SCHEDULE

AUGUST 17, 2015

E-604

ELECTRICAL LOAD CALCULATIONS					
	VOLTAGE (V)	RATING (VA)		TOTAL (VA)	NOTES
GENERAL LOADS					220.82(B)
LIGHTING AND GENERAL USE				3137.67	1045.87 SQFT x 3VA/SQFT
SMALL APPLIANCES				3000	2 x 1500VA/CRCT
LAUNDRY CIRCUIT				1500	1 x 1500VA/CRCT
DISHWASHER	120	1800		1800	
ELECTRIC WATER HEATER	240	7200		7200	
DRYER/WASHER	120	1440		1440	
COOKTOP	240	5800		5800	
REFRIDGERATOR	120	1800		1800	
MICROWAVE	120	1080		1080	
BATHROOM VENT	120	36.2		36.2	
KITCHEN FUME HOOD	120	180		180	
BLACK WATER PUMP	120	230		230	
GREY WATER PUMP	120	230		230	
WATER SUPPLY PUMP	120	250		250	
WATER SUPPLY BOOSTER PUMP	240	746		746	
SOLAR THERMAL CIRCULATION PUMP	120	63		63	
			GENERAL LOAD SUBTOTAL	28492.81	
			FIRST 10 KVA AT 100%	10000	
			REMAINDER AT 40%	7397.12	
			NET GENERAL LOAD TOTAL	17397.12	
ELECTRICAL VEHICLE CHARGING LOADS					625.41(B)
CHARGING STATION	240	7200		7200	
HEATING AND AIR CONDITIONING LOADS					220.82(C)
HEAT RECOVERY VENTILATOR	240	204		204	
HEAT PUMP	240	3450		3450	
AIR HANDLER	240	920		644	
			HVAC LOAD SUBTOTAL	4298	
FEEDER LOAD TOTAL				28895.12	FEEDER LOAD CURRENT:121 A
NEUTRAL LOAD					220.61
LIGHTING AND GENERAL USE				1570	
DISHWASHER				1080	
COOKTOP				2520	220.61(B)
PUMPS				2998	
VEHICLE CHARGING				3600	
AIR HANDLER				323	
FIRE ALARM				30	
NUETRAL LOAD TOTAL				11041	NEUTRAL LOAD CURRENT: 92 A

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ELECTRICAL LOAD CALCULATIONS

AUGUST 17, 2015

E-605

TELECOMMUNICATIONS AND CONTROLS SYMBOLS	
▼	CATEGORY 5E 8P8C RECEPTACE
▼	PHONE 6P4C RECEPTACE
▽	COAXIAL F-CONNECTOR RF RECEPTACLE (FOR CABLE OR OTHER)
DS	CATEGORY 5E DATA SWITCH AND WIRELESS ROUTER
TH	TEMPERATURE AND HUMIDITY SENSOR MODULE WITH ARDUINO MINI IN SINGLE-GANG-BOX
OC	LUTRON OCCUPANCY/MOTION SENSOR
A	AMMETER
M	MODEM
TNI	TELEPHONE NETWORK INTERFACE BOX
RASPBERRY PI	RASPBERRY PI CENTRAL CONTROLLER
UI	USER INTERFACE / CONTROL CENTER
LDIM	LUTRON DIMMER
CTRL	AUTOMATION SYSTEM CONTROL PANEL
———	COPPER CONDUCTOR
— — —	WIRELESS CONNECTION
— · —	CAT 5E NETWORK CABLE

1 TELECOMMUNICATIONS SYMBOLS
1/4" = 1'-0"

GENERAL SHEET NOTES (TELECOMMUNICATIONS SYMBOLS)

1 ALL WIRELESS COMMUNICATION IS ROUTED THROUGH 802.11 WIFI NETWORK

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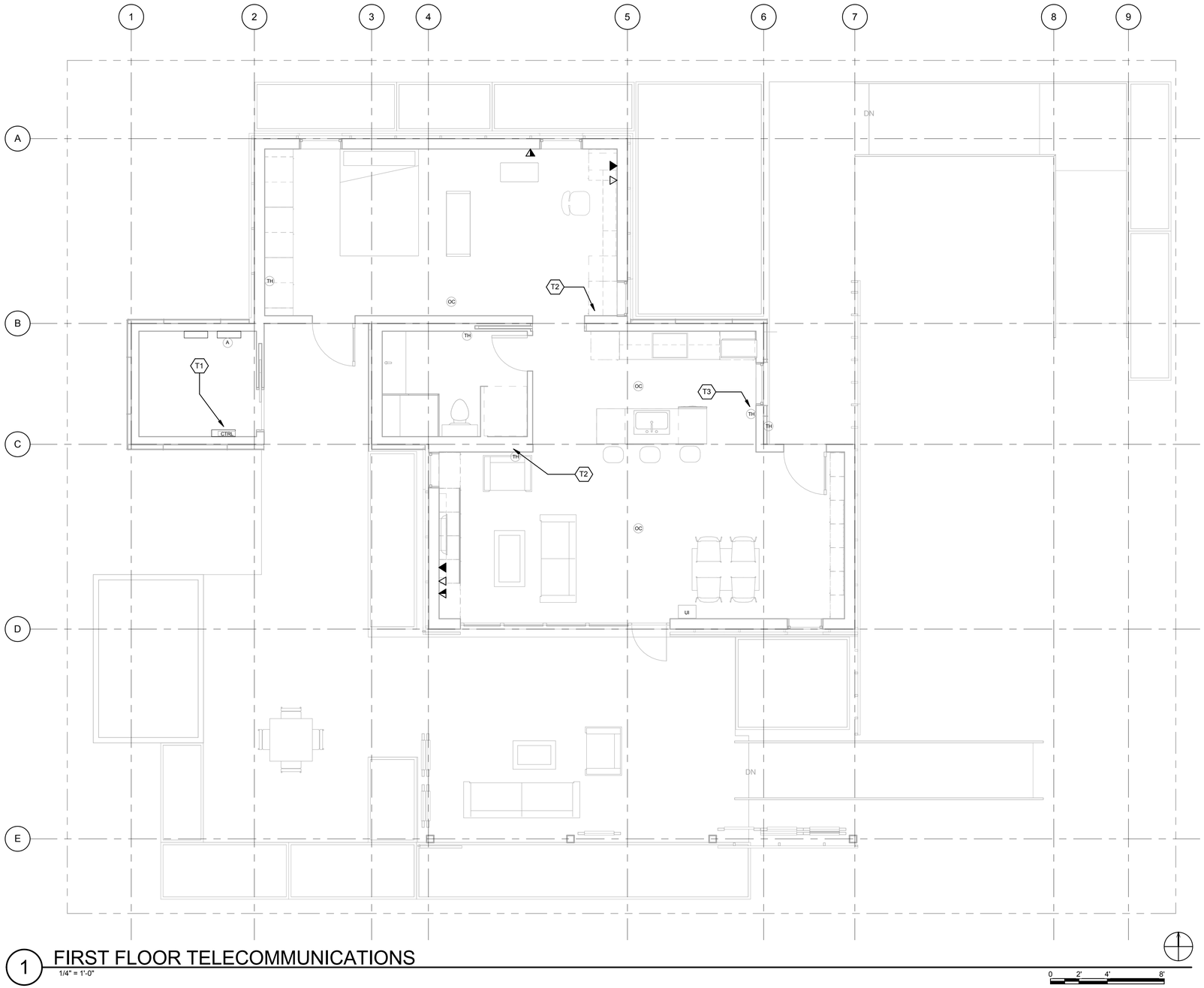
TELE-COMMUNICATIONS SYMBOLS AND NOTES

AUGUST 17, 2015

T-001



1 FIRST FLOOR TELECOMMUNICATIONS
1/4" = 1'-0"

0 2' 4' 8'

GENERAL SHEET NOTES (CONTROLS WIRING PLAN)

1 CONNECTIVITY OF SYSTEMS SHOWN ON "CONTROLS WIRING DIAGRAM" SHEET T-602

2 SYMBOL LEGEND SHOWN ON SHEET T-001

3 ELEVATION FOR ALL TEMPERATURE/HUMIDITY MODULES IS 5 FEET FROM FLOOR TO BOTTOM OF SINGLE-GANG-BOX

4 ELEVATION FOR ALL DATA RECEPTACLES IS 2 FEET FROM FLOOR TO BOTTOM OF SINGLE-GANG-BOX

5 LUTRON AMBIENT OCCUPANCY SENSORS ARE CEILING MOUNTED

6 CAT 5E CABLE FOR POWER AND DATA OF SENSOR CLUSTERS IS ROUTED THROUGH ELECTRICAL CHASES IN SIPS

8 PLACEMENT OF SENSOR CLUSTERS IS NOT CRITICAL. APPROXIMATE PLACEMENTS SHOWN. EXACT POSITOINS WILL BE DETERMINED WHEN EXACT SPACING OF ELECTRICAL CHASES IN SIPS IS KNOWN.

9 SENSOR CLUSTERS AND CONTROL MODULES TO BE ASSEMBLED BY INSTRUMENTATION TEAM.

10 RUNS OF CAT 5E CABLE AND PLACEMENT OF SENSOR CLUSTERS HANDLED BY ELECTRICIAN.

11 ARDUINO MODULES IN HOUSE AND IN MECHANICAL ROOM ARE ASSEMBLED AND PROVIDED BY AUTOMATION TEAM (INCLUDING GANG BOXES FOR SENSOR CLUSTERS)

SHEET KEYNOTES (TELECOM WIRING PLAN)

T1 ARRANGEMENT OF WALL MOUNTED CONTROL MODULES SHOWN ON SHEET T-604

T2 JUNCTION BOX FOR MODULE SEPARATION. 5 FEET FROM FLOOR TO BOTTOM OF BOX. SIZE OF BOX APPROXIMATELY 1.63" DEEP BY 4.5" HIGH BY 10.44" WIDE

T3 MOUNTED AT 7 FEET FROM FLOOR

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TELE-COMMUNICATIONS WIRING PLAN

AUGUST 17, 2015

T-101

TELECOMMUNICATIONS SCHEDULE

NO.	QTY.	ITEM	DESCRIPTION	LOCATION	MANUFACTURER	VENDOR	CONNECTOR TYPE	MOUNTING HEIGHT	ENCLOSURE TYPE	FINISH
1	1	ASUS RT-N66U WIRELESS ROUTER	Switches data from modem to 4 other network cables providing internet to both bedrooms and the living room. Provides wireless networks for whole house and enables communication between tablet and control...	MECHANICAL ROOM	ASUS	newegg.com	CAT 5E 8P8C	SEE T-603	N/A	N/A
2	1	ASUS GX-D1051 V3 DATA SWITCH	Provides more Cat5e ports by which to connect all of our network-connected devices.	MECHANICAL ROOM	ASUS	newegg.com	CAT 5E 8P8C	SEE T-603	N/A	N/A
3	1	MODEM	Changes serial coaxial cable protocol into ethernet protocol.	MECHANICAL ROOM	PROVIDED BY ISP	PROVIDED BY ISP	RF TYPE F, CAT 5E 8P8C	SEE T-603	N/A	N/A
4	12	FEMALE CAT5E CONNECTORS	Standard sources of wired internet for the bedrooms and living room.	BEDROOMS, LIVING ROOM,...	MONOPRICE	monoprice.com	CAT 5E 8P8C	SEE T-603, SEE T-101	BLUE PLASTIC GANG BOX	CAT 5E SWITCH PLATE COVER
6	4	FEMALE RF COAXIAL RECEPTACLES	Standard coaxial receptacles for cable television, satelite, and modem input.	BEDROOMS, LIVING ROOM,...	CE TECH	homedepot.com	RF TYPE F	SEE T-101	BLUE PLASTIC GANG BOX	CAT 5E SWITCH PLATE COVER
7	1	CAT 5E NETWORK CABLE 300 FEET	Connects data receptacles to data switch.	UNDER CORE FLOOR	MONOPRICE	monoprice.com	N/A	UNDER-FLOOR CHANNEL	CONDUIT _____	N/A
8	1	PHONE CABLE 300 FEET	Connects phone receptacles to telephone network interface box.	UNDER CORE FLOOR	CAROL CABLE	parts-express.com	N/A	UNDER-FLOOR CHANNEL	CONDUIT _____	N/A
9	1	RG-59 COAXIAL CABLE 300 FEET	Connects RF type F receptacles together.	UNDER CORE FLOOR	SOUTHWIRE	homedepot.com	N/A	UNDER-FLOOR CHANNEL	CONDUIT _____	N/A
10	10	PATCH CABLES 3 FEET	Connects data switch to in-wall CAT 5e network cables.	MECHANICAL ROOM	LEVITON	homedepot.com	CAT 5E 8P8C	SEE T-603	N/A	N/A

CONTROLS SCHEDULE

NO.	QTY.	ITEM	DESCRIPTION	LOCATION	MANUFACTURER	VENDOR	PART NUMBER	MOUNTING HEIGHT	ENCLOSURE TYPE	FINISH
1	5	HUMIDITY - TEMERATURE SENSOR	Measures the outside temperature and relays that information to the controler and the home owner.	NORTH OUTSIDE WALL, BEDROOM, BATHROOM, LIVING ROOM	MAXDETECT	sparkfun.com	SEN-10167	5 FT	BLUE PLASTIC GANG BOX	CAT 5E SWITCH PLATE COVER
2	3	OCCUPANCY - MOTION SENSOR	Measures if there is at least one person in the room. For automatically switching off unneeded lights.	BEDROOM, LIVING ROOM, KITCHEN				CEILING		
3	1	ARDUINO MEGA 2560 R3	Recieves input from the sensors and home owner's commands and controls the ambient light and color...	MECHANICAL ROOM	ARDUINO	sparkfun.com	DEV-11061	SEE T-603	LUTRON LOW VOLTAGE ENCLOSURE	N/A
4	4	ARDUINIO PRO MINI 328	Collects sensor data and sends data packets to Atduino Mega central controller.	BEDROOM, MECHANICAL ROOM, LIVING ROOM, BATHROOM	ARDUINO	sparkfun.com	DEV-11113	5 FT	BLUE PLASTIC GANG BOX	CAT 5E SWITCH PLATE COVER
5	1	USER INTERFACE TABLET	The user interface which will display all information about the sensors and allow the user to make changes to the...	LIVING ROOM SOUTH WALL	SAMSUNG	samsung.com	SM-T530NZWA XAR	N/A	N/A	N/A
6	1	RASPBERRY PI - B+	Communicates with app and Arduino network. Stores information in database.	BEDROOM, BATHROOM, LIVING ROOM	RASPBERRY PI FOUNDATION	alliedelec.com	70377493	SEE T-603	METAL HINGED JUNCTION BOX	.
7	14	LUTRON DIMMERS	Control the intensity and color of each downlight according to a signal it recieves from the Bridge	ELECTRICAL CHASES	TBD	TBD	TBD	HIDDEN ABOVE EACH LIGHT FIXTURE	TBD	N/A
9	1	LARGE ELECTRICAL ENCLOSURE	Houses the arduino and raspberri pi central microcontrollers	MECHANICAL ROOM	LUTRON	TBD	L-LV14-120	SEE T-603	THIS IS THE ENCLOSURE	N/A
10	1	CASETA SMART BRIDGE	Processor of the Lutron lighting control system	MECHANICAL ROOM	LUTRON	TBD	L-BDG2-WH	SEE T-603	LARGE ELECTRICAL ENCLOSURE	N/A
11	1	5V POWER SUPPLY	Supplies power to the Arduino network and raspberry pi system.	MECHANICAL ROOM	N/A	sparkfun.com	TOL-00298	SEE T-603	LARGE ELECTRICAL ENCLOSURE	N/A
12	5	CASETA PICO REMOTE	Remote control that sets dimming levels for certain lights in the house.	BEDROOM, LIVING ROOM, AND KITCHEN	LUTRON	TBD	PJ2-3BRL-WH-L 01R	SEE T-603	LARGE ELECTRICAL ENCLOSURE	N/A
13	5	SINGLE-GANG-BOX	Enclosure and mounting type for Arduino Mini-Temperature-Humidity-Sensor module.	ENTRY WAY OUTSIDE WALL, BEDROOM, BATHROOM, KITCHEN, LIVING ROOM		homedepot.com				

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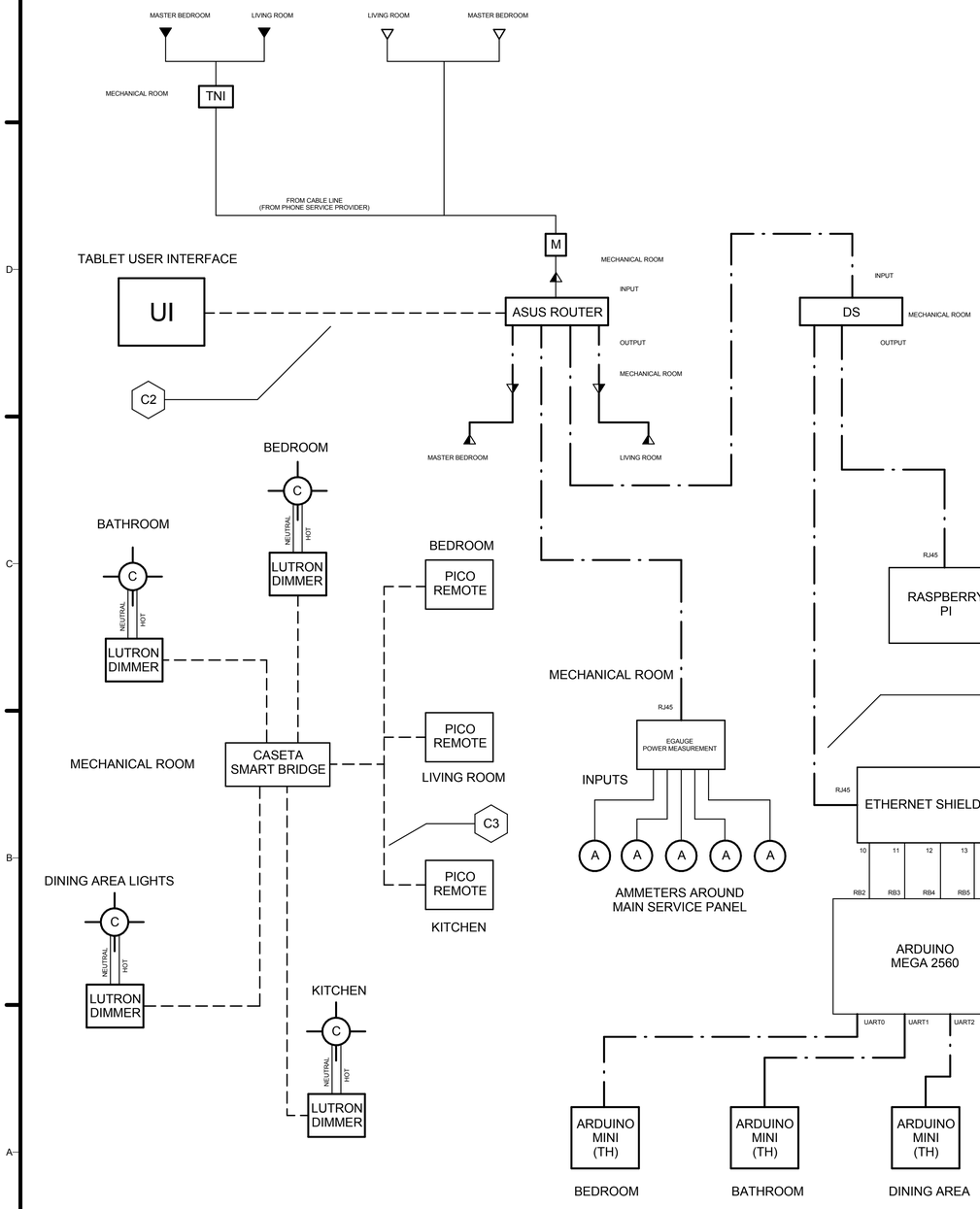
SCHEDULES

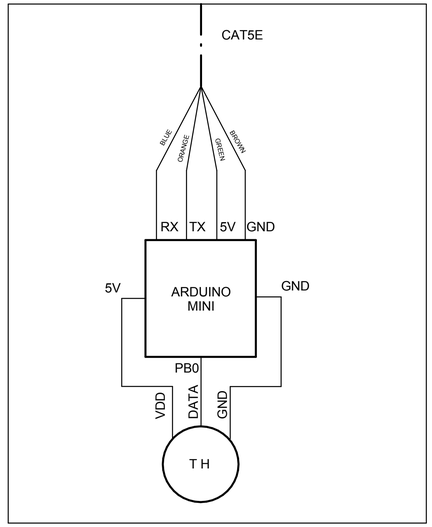
AUGUST 17, 2015

T-601



1 CONTROLS DIAGRAMS
1" = 1'-0"

ARDUINO MINI DETAIL WIRING



PASSIVE HVAC SYSTEM CONTROLS

(HIDDEN IN TOP OF CORE)

GENERAL SHEET NOTES (CONTROLS WIRING DIAGRAM)

1 CONNECTIVITY SHOWN, BUT WIRE LENGTHS ARE NOT TO SCALE

SHEET KEYNOTES (CONTROLS DIAGRAMS)

C1 CAT 5E NETWORK CABLE

C2 WIRELESS COMMUNICATION ROUTED THROUGH 802.11 WIFI NETWORK

C3 WIRELESS RF LINK

C4 15 FEET OF SMALL GAUGE BLUE HOOKUP WIRE PROVIDED BY AUTOMATION TEAM

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DATA WIRING DIAGRAMS

AUGUST 17, 2015

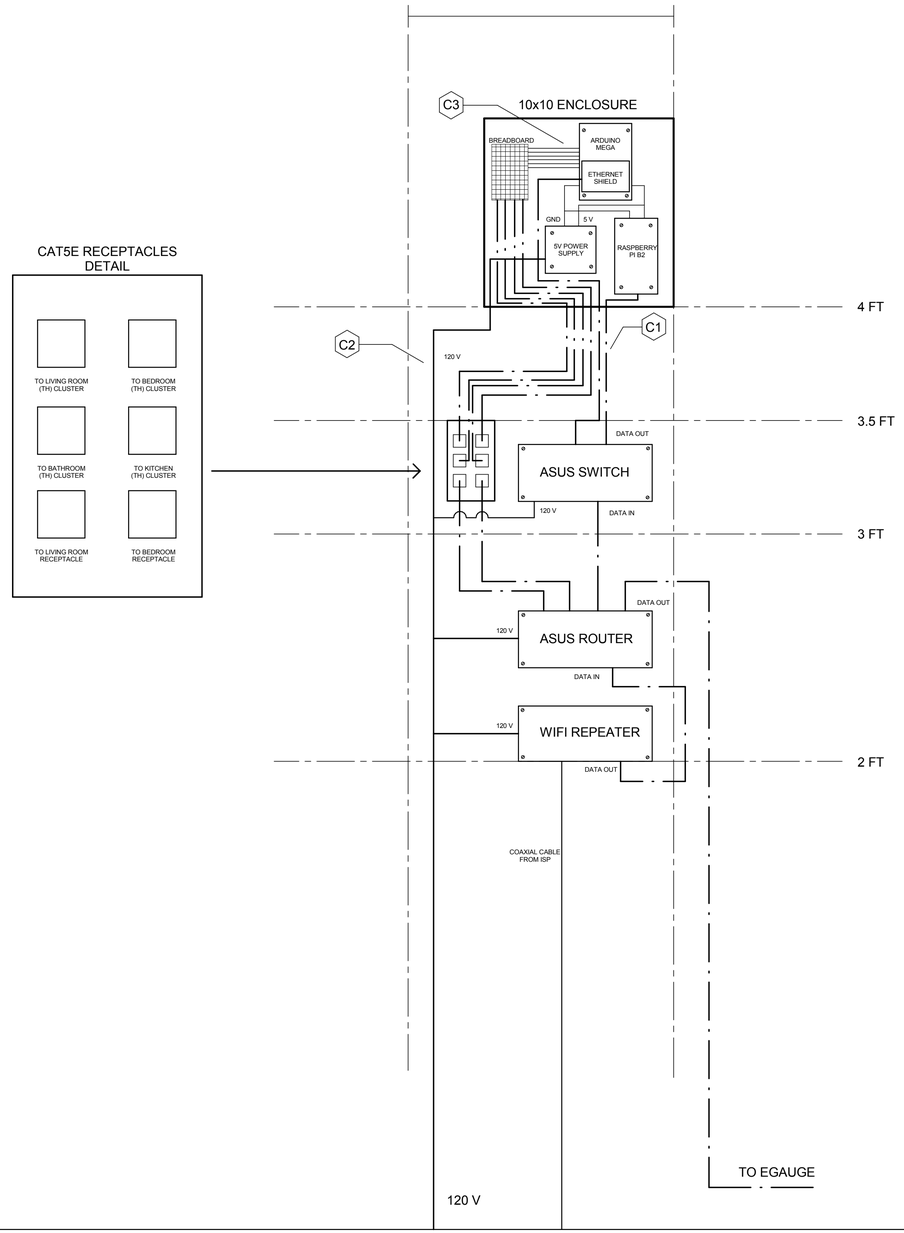
T-602

SHEET KEYNOTES (CONTROL PANEL)

C1 CAT 5E NETWORK CABLE

C2 18 AWG HOOKUP WIRE

C3 22 AWG JUMPER WIRE



1 MECHANICAL ROOM CONTROL PANEL

1/4" = 1'-0"

0 2' 4' 8'

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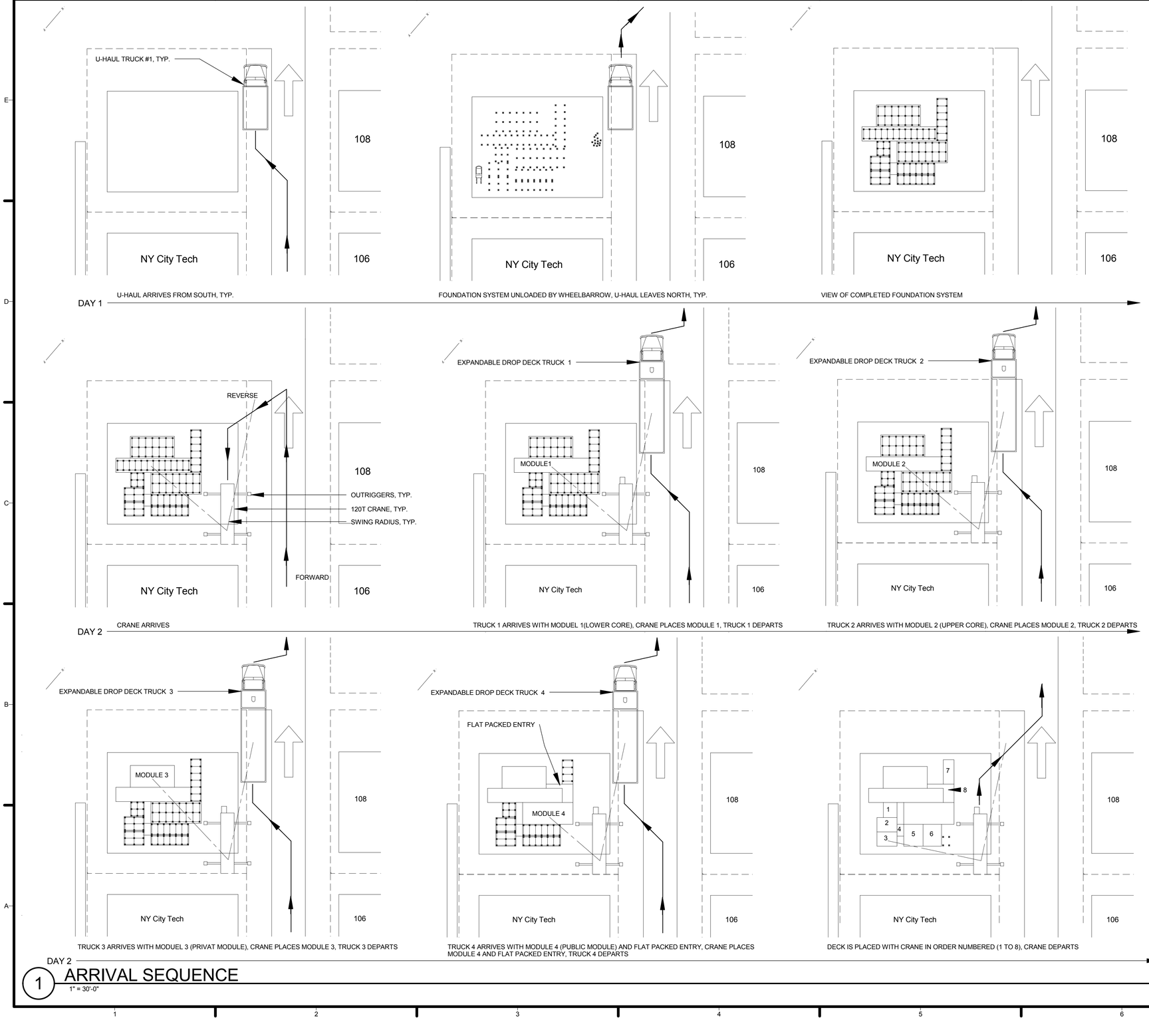
CONTROL PANEL WIRING PLAN

AUGUST 17, 2015

T-603



GENERAL SHEET NOTES

ALL VEHICLES ARRIVE FROM THE SOUTH THROUGH THE 20' DRIVING LANE.

ALL CEHICLES DEPART TO THE NORTH THROUGH THE 20' DRIVING LANE.

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ARRIVAL SEQUENCE PLAN

AUGUST 17, 2015

O-101

1 ARRIVAL SEQUENCE PLAN 1

1" = 30'-0"

0 30' 60'

GENERAL SHEET NOTES

ALL VEHICLES ARRIVE FROM THE SOUTH THROUGH THE 20' DRIVING LANE.

ALL CEHICLES DEPART TO THE NORTH THROUGH THE 20' DRIVING LANE.

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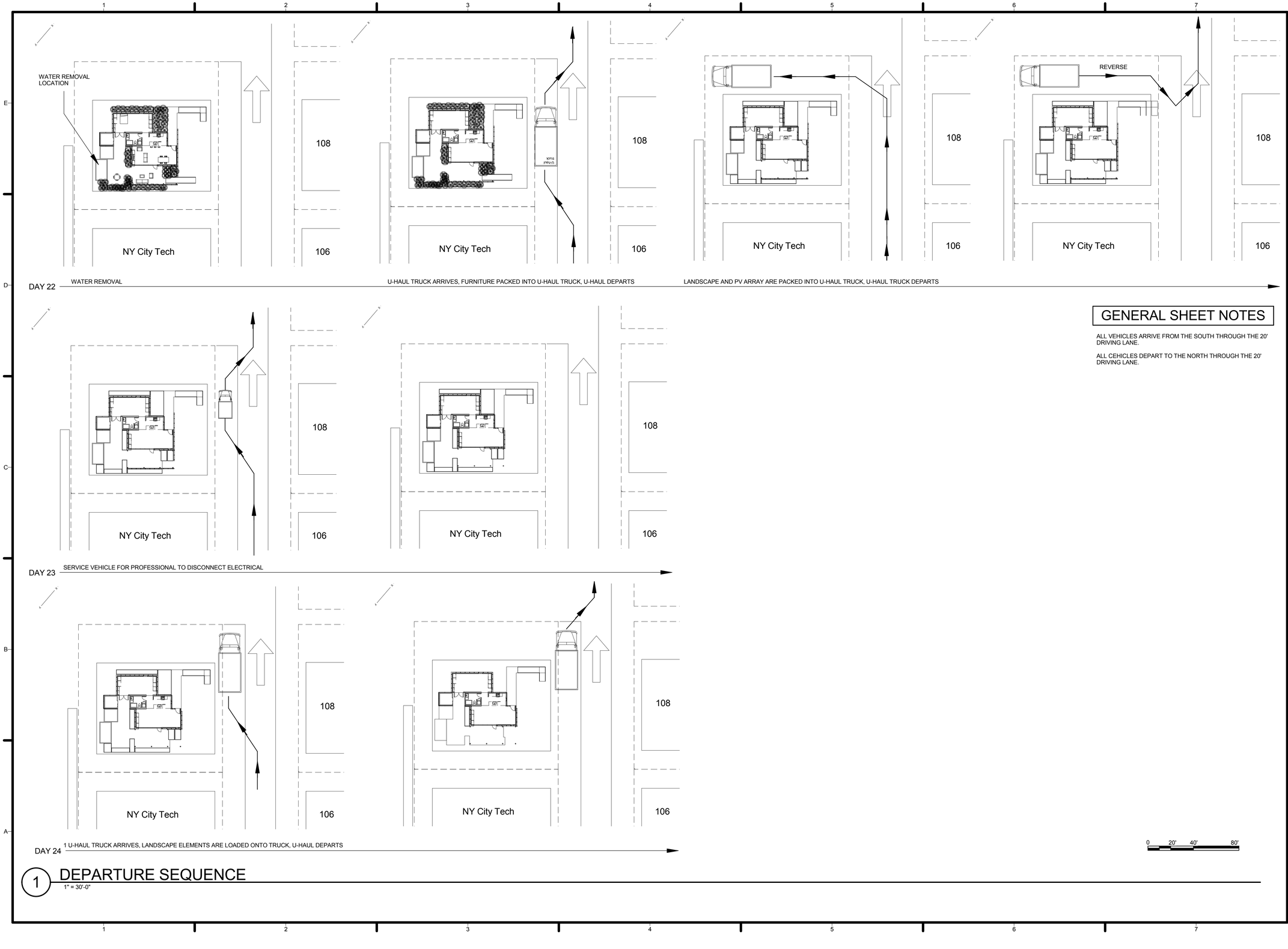
ARRIVAL SEQUENCE PLAN

AUGUST 17, 2015

O-102



1 DEPARTURE SEQUENCE
1" = 30'-0"

GENERAL SHEET NOTES

ALL VEHICLES ARRIVE FROM THE SOUTH THROUGH THE 20' DRIVING LANE.

ALL CEHICLES DEPART TO THE NORTH THROUGH THE 20' DRIVING LANE.

0 20' 40' 80'

SOLAR CAL POLY

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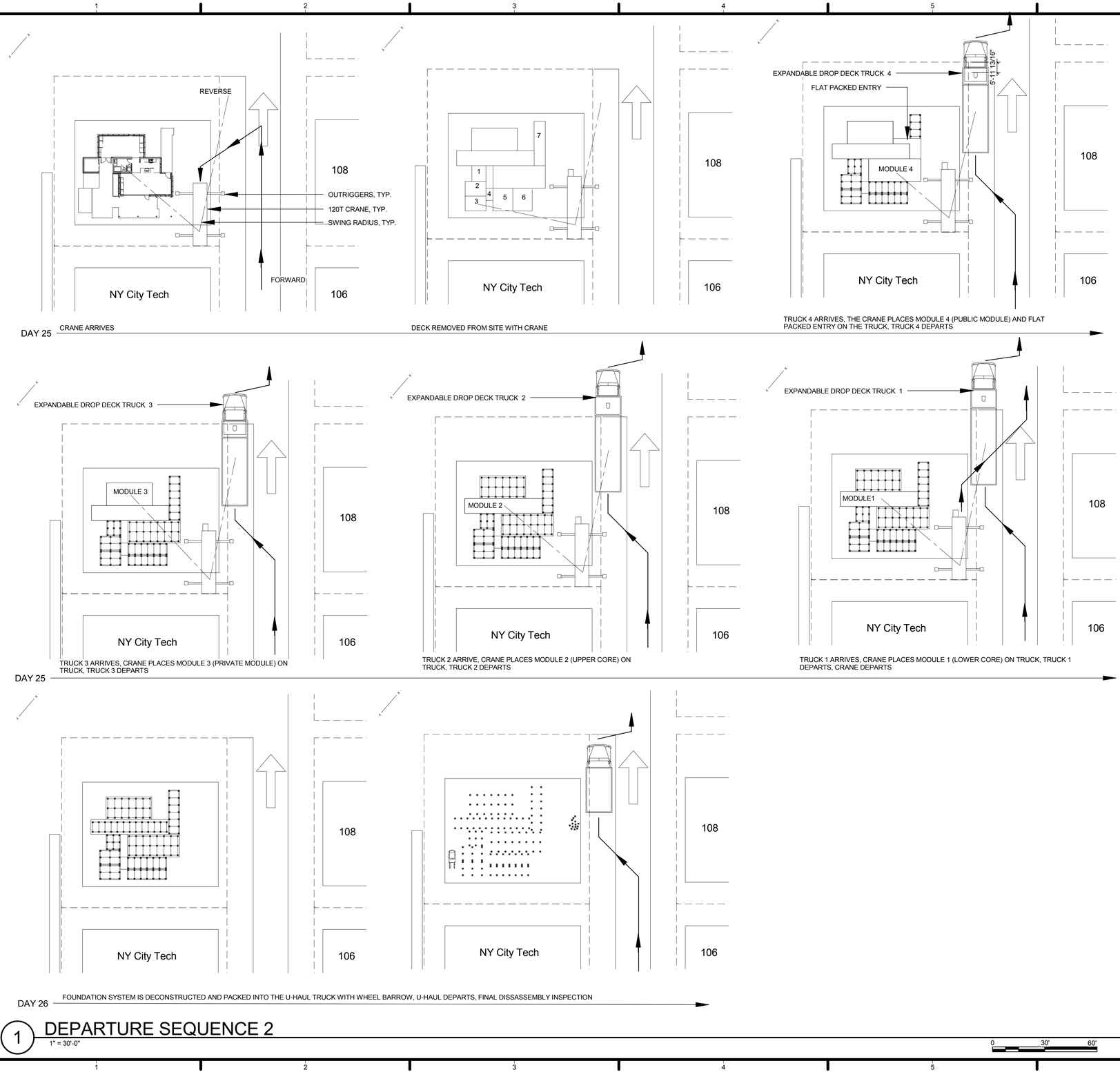
DEPARTURE SEQUENCE PLAN

AUGUST 17, 2015

O-103



1 DEPARTURE SEQUENCE 2

1" = 30'-0"

0 30' 60'

GENERAL SHEET NOTES

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DEPARTURE SEQUENCE PLAN

AUGUST 17, 2015

O-104

CONSTRUCTION EQUIPMENT

(2) FLAT BED TRAILERS
(2) REGULAR HEIGHT TRAILERS
(1) 120T CRANE
(1) U-HAUL TRUCK
(1) FORKLIFT

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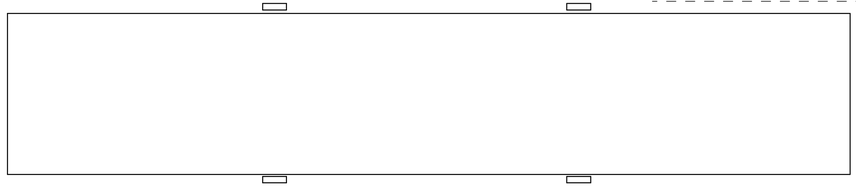
CONSTRUCTION EQUIPMENT SCHEDULE

AUGUST 17, 2015

O-601

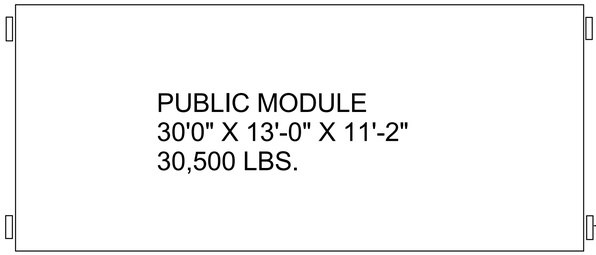
LOWER CORE MODULE
44'-6" X 8'-6" X 9'-0"
23,800 LBS.

TRUCK 1



UPPER CORE MODULE
44'-6" X 8'-6" X 6'-0"
15,900 LBS.

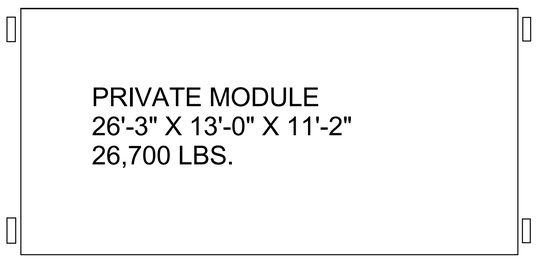
TRUCK 2



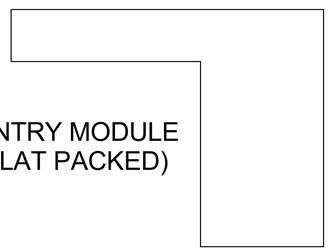
PUBLIC MODULE
30'0" X 13'-0" X 11'-2"
30,500 LBS.

PICK POINTS, TYP. SEE STRUCTURAL

TRUCK 3



PRIVATE MODULE
26'-3" X 13'-0" X 11'-2"
26,700 LBS.



ENTRY MODULE
(FLAT PACKED)

TRUCK 4

1 TRUCK LOADING DIAGRAM
1/4" = 1'-0"

0 2' 4' 8'

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TRUCK LOADING DIAGRAM

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