Team **Puerto Rico**
Caribbean **A**ffordable **S**olar **H**ouse

carve |karv| *verbe [trans.]*
(often **be carved**) cut (a hard material) in order to produce an aesthetically pleasing object or design : *the wood was carved with runes* | [as adj.] (**carved**) *bookcases of carved oak*
cas•cade |kaskad| *noun*
a small waterfall, typically one of several that fall in stages down a steep ricky slope. A mass of something that falls or hangs in copious or luxuriant quantities : *a cascade of pink bougainwillea*
case |kas| *noun*
an instance of a particular situation; an examble of something occuring : *a case of mistaken identity* | **in many cases**, *valid statistics are not available*
case•ment |kasment| *noun*
a window or part of a window set on a hinge so that it opens like a door : [as adj.] *casement windows*
cash |ka sh| *noun*
caribbean affordable solar house. A research project developed by the University of Puerto Rico, School of Architecture. *Cash is green, cash makes sense*
cash•ew ap•ple *noun*
the swollen edible fruit of the cashew tree, from which the cashew nut hangs, sometimes used to make wine
cash•ier |ka sh i(e)r| *noun*
a person handling payments and receipts in a store, bank, or other business
cash•mere |ka zh mi(e); ka sh-| *noun*
fine soft wool, originally that from the Kashmir goat

www.theCASHproject.com

ALL PARTS OF THE PROJECT MANUAL DOCUMENT AND THE CONSTRUCTION DRAWINGS DOCUMENTS MUST BE REVIEWED. CHANGES HAVE BEEN PERFORMED TO ALL PARTS OF BOTH DOCUMENTS FROM ITS LAST VERSION OF APRIL 16, 2009. THIS NEW VERSION HAS BEEN SUMMITED ON JUNE 2, 2009.

PROFESSIONAL SEAL:

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DRAWING TITLE

SUMMARY OF CHANGES

DRAWING NO.

G-000

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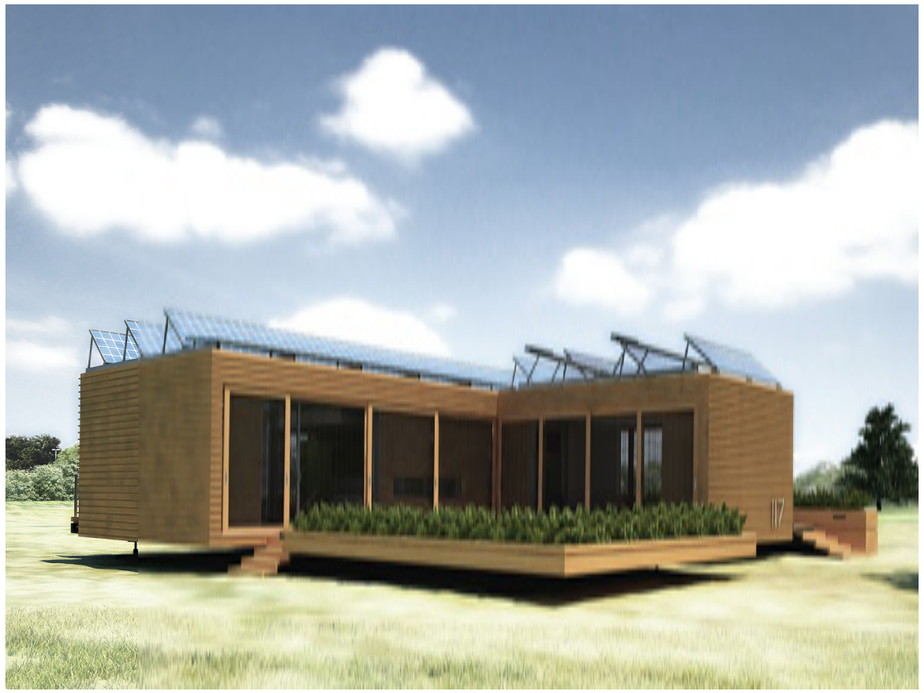

A1 Exterior Renderings

scale: not to scale

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EXTERIOR RENDERINGS

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CASH final location: Caguas Municipality Botanic Garden

Our house as a prototype model will be used as an educational facility at a local public permanent exhibit. The destination will be the Botanical Garden at Caguas Municipality. This public park is concerned with the preservation of our natural resources.

As a prototype, its market purpose is to educate the general public on the viability of the solar energy technology. This is accomplished by physically demonstrating how a solar powered home can work with the same features as a standard home and be more efficient through the use of different design strategies.

MARKET I.D. PARAMETER	TARGET MARKET
Location of permanent site	Caribbean
Housing type	Weekend lodge
# of occupants	2
Occupant demographics	Middle-aged investors
Household annual income	$52,000
# of bedrooms	1 (loft type)
Site area minimum required	3,600 sq. ft. (334m²) Minimum required to respect solar envelope
Site characteristics	Open area with direct solar radiation. Maximum slope of site equals to 18° max.
Needs + Desires	Experience Caribbean nature and its surroundings within the comfort and protection of a modern home. Experience living in a solar and sustainable home.

PRODUCT CHARACTERISTICS	
Construction area	800 sq. ft. of house + 1,430 sq. ft. of deck
Conditioned space	484 sq. ft.
Porch area	182 sq. ft.
Access	3 access points through deck (one is ADA compliant), 5 access points through house, plus the bathroom has an alternative exterior entrance.
Naturally ventilated areas	All areas can be naturally ventilated. House has HVAC at main living areas.
Assembly time required	5 days (site preparation, modules coupling, deck assembly, PV panel system, interior finishes)
PV System	34 Sun Power panels, 305 W each
System energy production capacity	41.9 kWh
Average daily energy usage	33 kWh
Energy Surplus	8.9 kWh
Energy savings based on local rate	$277 monthly ($9.24 daily) Puerto Rico has a variable local utility rate, which had a mean of $0.28/kWh for residences, last year.
Average Profit resulting from energy surplus due to Net Metering system	8.9 kWh $2.49 daily = $74.76 monthly
Advantages of Materials (consider Concrete as a comparable due to its dominance in the local construction industry)	Wood veneers: reclaimed eco-friendly redwood and teak, Caribbean aesthetic, insulated walls, craftsmanship and local trades. Steel structure: hurricane resistant, earthquake resistant, transportable. Designed to meet and exceed local codes.
Usability	Readily available products: appliances, electronics, lighting
Advantages of solar system	Quiet, clean, and safe 20-25yrs warranty Carbon footprint reduction CO2 emissions reduction Low maintenance
Annual Carbon Emission	13,528 pounds of CO2*
Annual Carbon Emission reduction by taking energy saving actions **	25,740 pounds of CO2*
Annual Potential dollar savings by taking energy saving actions **	$2,114*

* www.epa.gov, Household Emissions Calculator

** Energy saving actions taken into consideration: setting the air conditioner at 75° F, using cold water in the washing machine for 2 loads per week, enabling sleep feature on computer monitor, air drying 50% of laundry, using 10 20-watts Energy Star lights, and using an Energy Star refrigerator.

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DRAWING TITLE
TARGET MARKET DESCRIPTION

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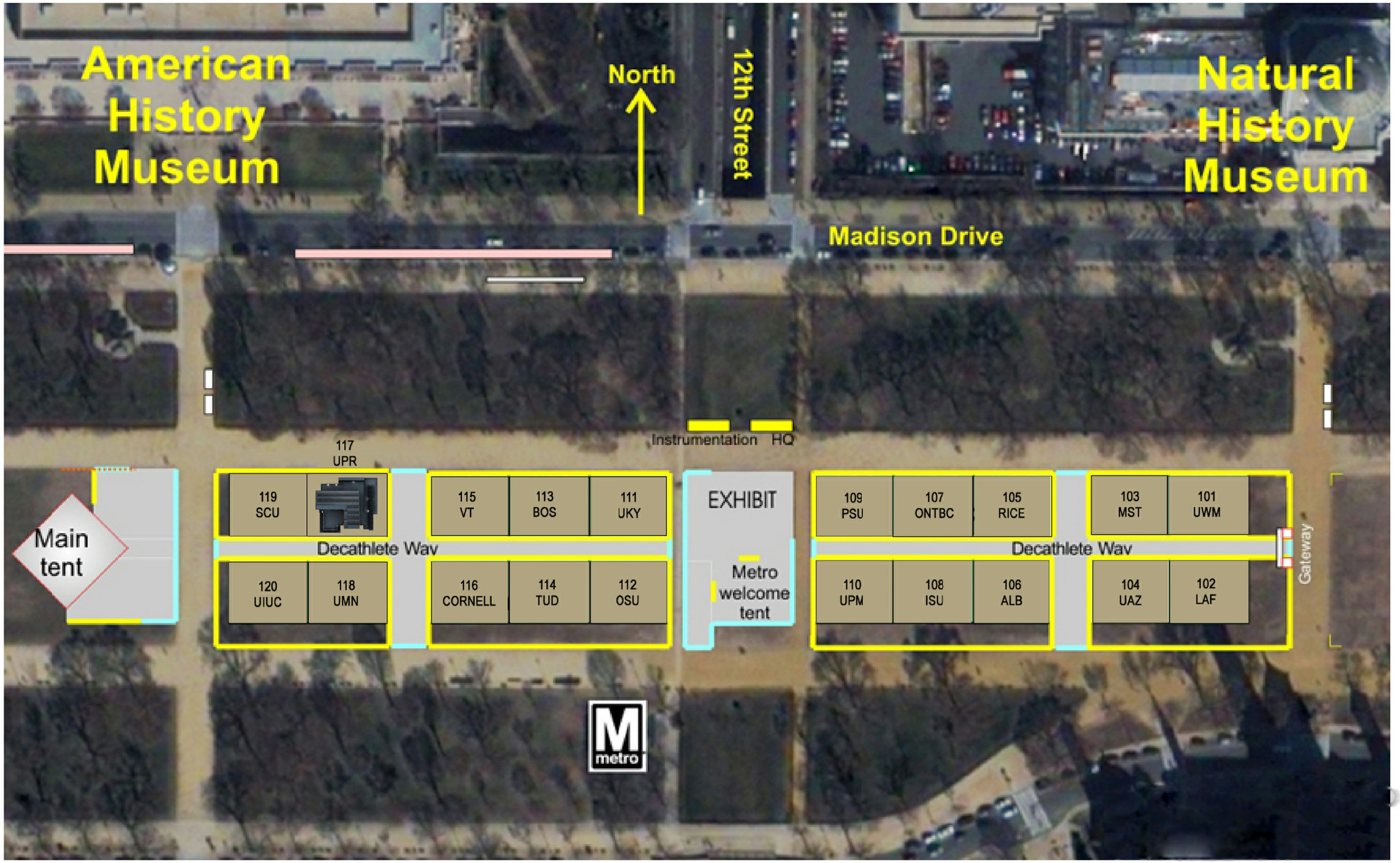
G-601

ISSUE FOR: ISSUE FOR

A1 Target Market Description scale: not to scale



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DRAWING TITLE
VILLAGE SITE PLAN

DRAWING NO.
C-101

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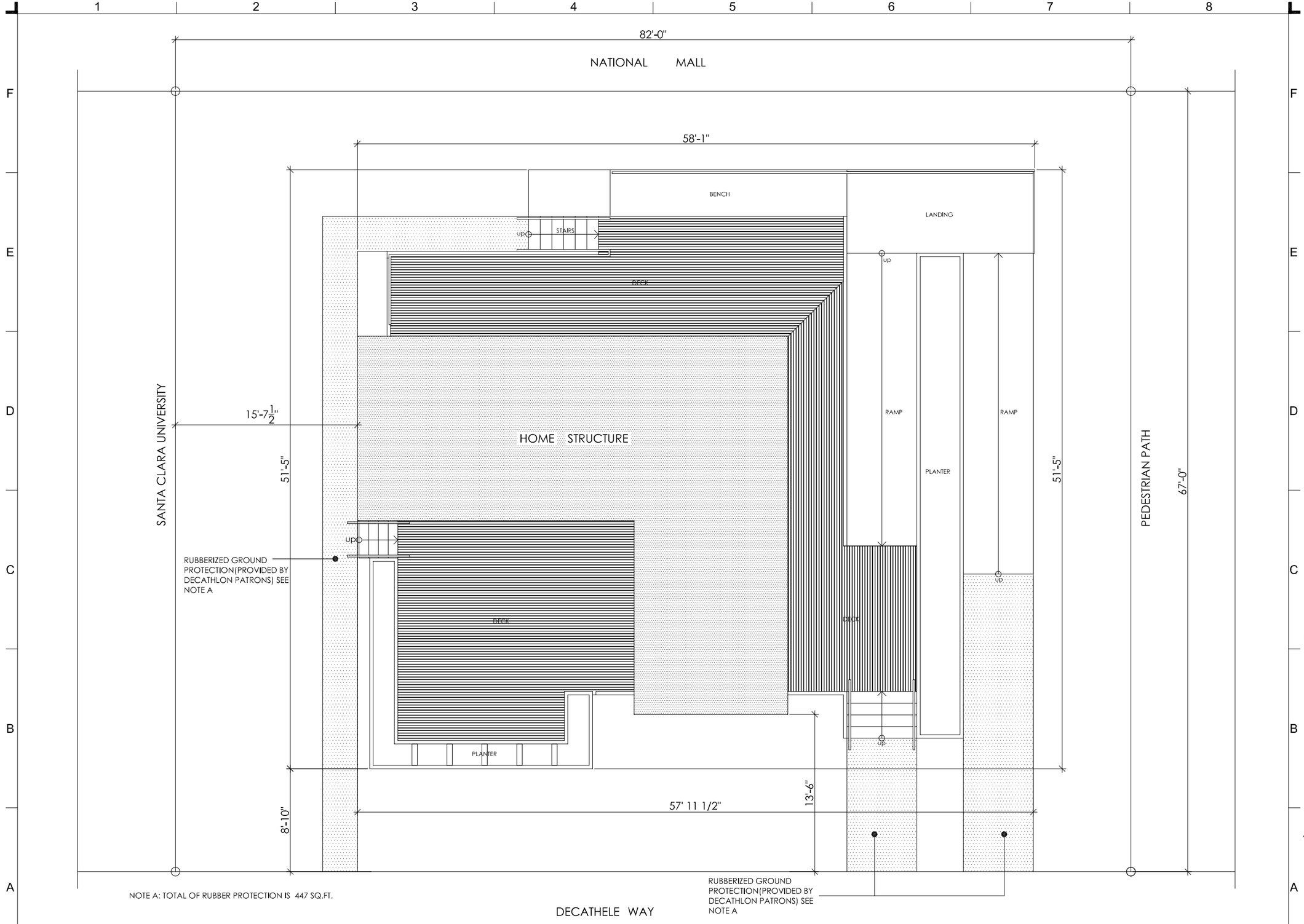
A1 Village Site Plan scale: not to scale



A1 | Site # 117 Plan

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

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DRAWING TITLE

Site # 117 Plan

DRAWING NO.

C-102

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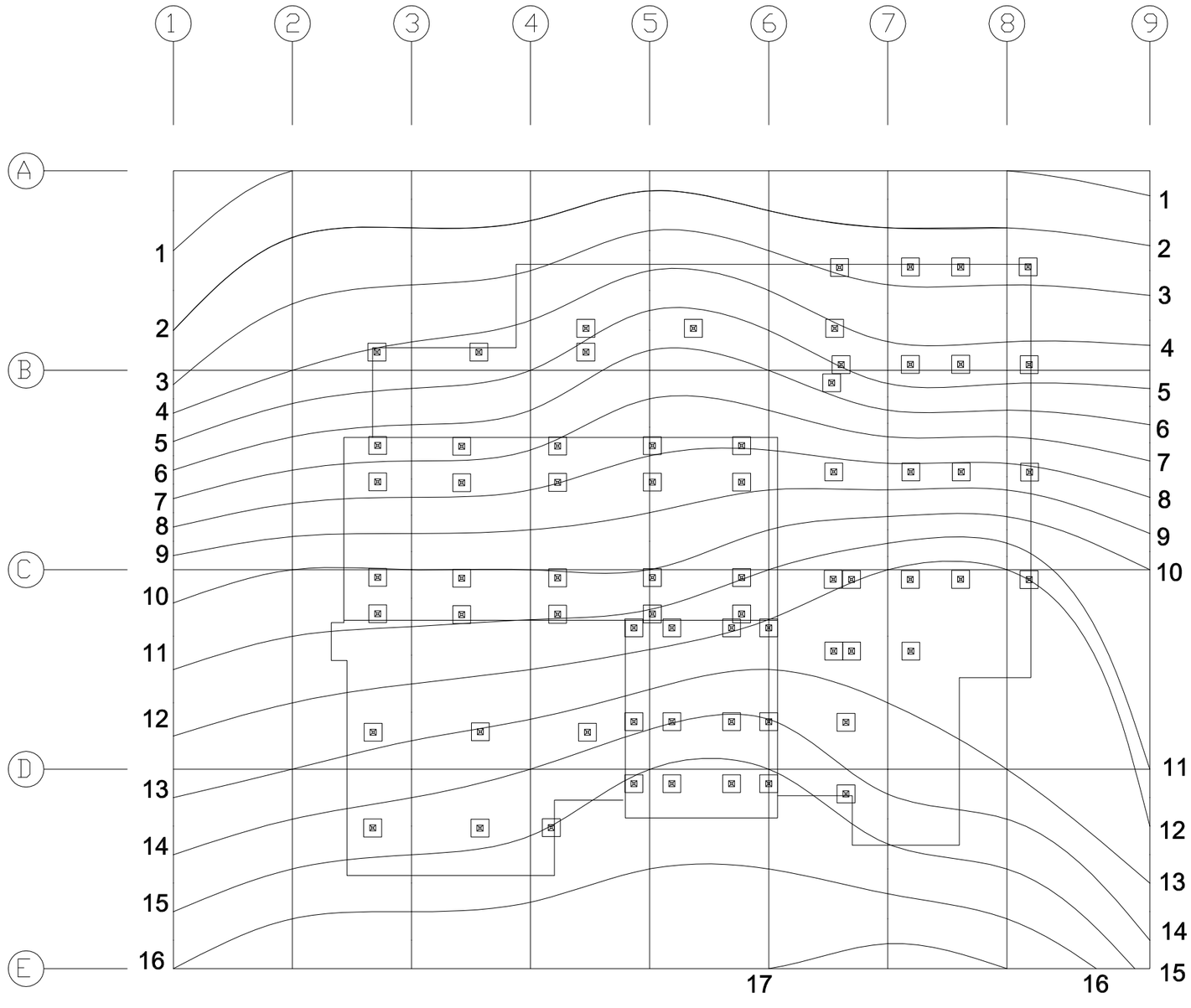

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DRAWING TITLE

SITE GRADING

DRAWING NO.

C-103

ISSUE FOR: FINAL DESIGN

A1 Site Grading

scale: $\frac{3}{32}$" = 1'-0"

STRUCTURAL NOTES :

GENERAL:

1 – UNLESS OTHERWISE INDICATED, THESE NOTES APPLY TO ALL STRUCTURAL DRAWINGS OF THIS SET OF PLANS.

2 – IN CASE OF DISCREPANCY BETWEEN THESE NOTES AND THE CONSTRUCTION DRAWINGS, SPECIFICATIONS OR ANY REFERRED STANDARD, THE MORE RESTRICTIVE PROVISION SHALL APPLY.

3 – STRUCTURAL DRAWINGS SHALL BE COORDINATED AND SUPPLEMENTED BY ARCHITECTURAL, ELECTRICAL, MECHANICAL AND ANY OTHER BUILDING DRAWINGS.

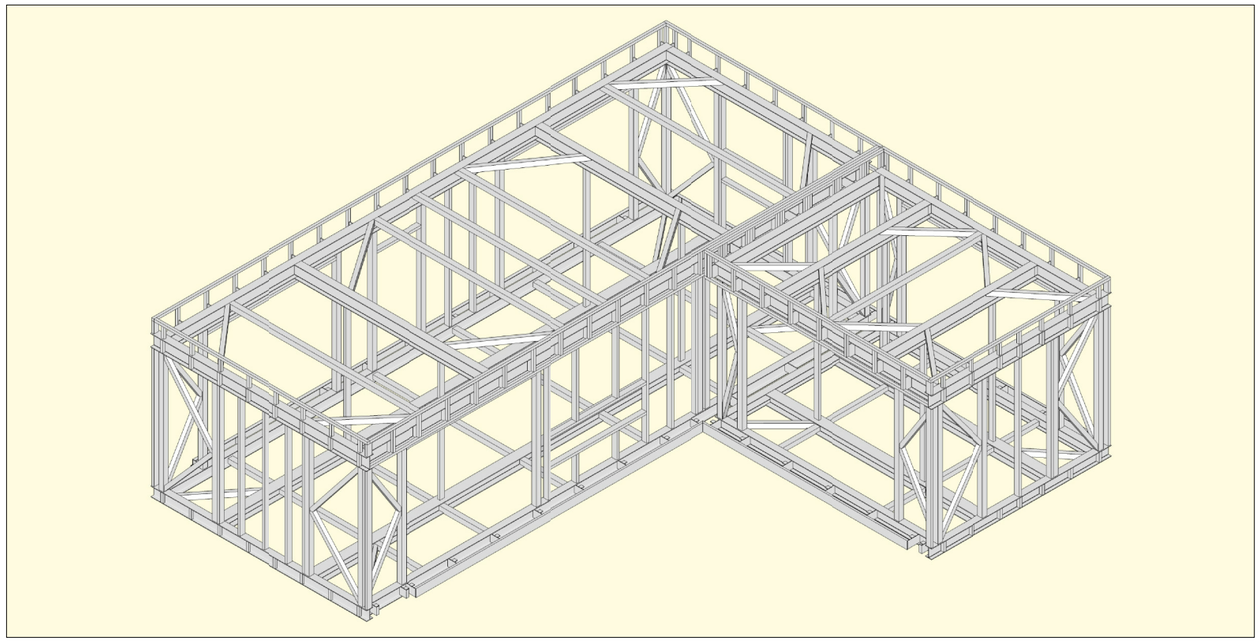
4 – CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND BEFORE ORDERING ANY MATERIAL. DIFFERENCES BETWEEN PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF ENGINEER AND NO ACTION SHALL BE TAKEN UNTIL APPROVED BY ENGINEER.

5 – CONTRACTOR SHALL SUBMIT FOR APPROVAL ANY DETAIL OR DIMENSION THAT IS OMITTED OR NOT SPECIFICALLY SHOWN ON PLANS.

6 – CONTRACTOR SHALL PROTECT ALL PROPERTY FROM DAMAGE. ANY DAMAGED PROPERTY SHALL BE PROMPTLY REPLACED BY EQUAL AND/OR BETTER QUALITY.

ABBREVIATIONS:

ADD.....ADDITIONAL
B.....BOTTOM
C.C.....CENTER TO CENTER
CL.....CLEAR
COL.....COLUMN
CONST.....CONSTRUCTION
CONT.....CONTINUOUS
DTL.....DETAIL
DWG.....DRAWING
EA.....EACH
E.E.....EACH END
ELEV.....ELEVATION
F.F.E.....FINISH FLOOR ELEVATION
FT.....FEET
L.G.....LONG
MAX.....MAXIMUM
MIN.....MINIMUM
SPECS.....SPECIFICATIONS
S.S.....STAINLESS STEEL
STD.....STANDARD
STL.....STEEL
SUP.....SUPPLEMENTARY
T.....TOP
TYP.....TYPICAL



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DRAWING TITLE

STRUCTURAL NOTES AND SYMBOLS

DRAWING NO.

S-001

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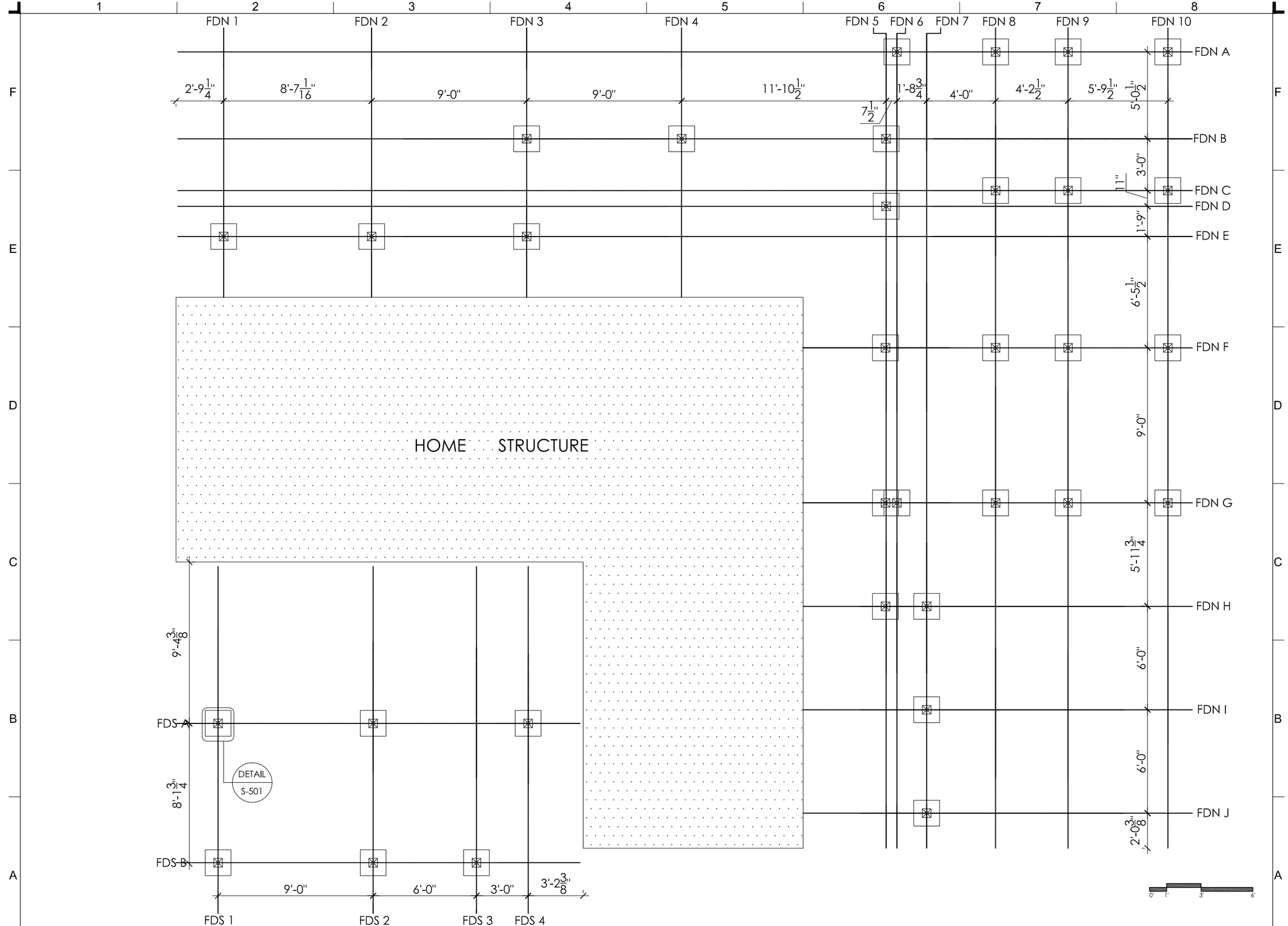
A1 Structural Notes

scale: not to scale



A1 Deck Foundation Plan

scale: 3/16" = 1'-0"

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DRAWING TITLE

DECK FOUNDATION PLAN

DRAWING NO.

S-101

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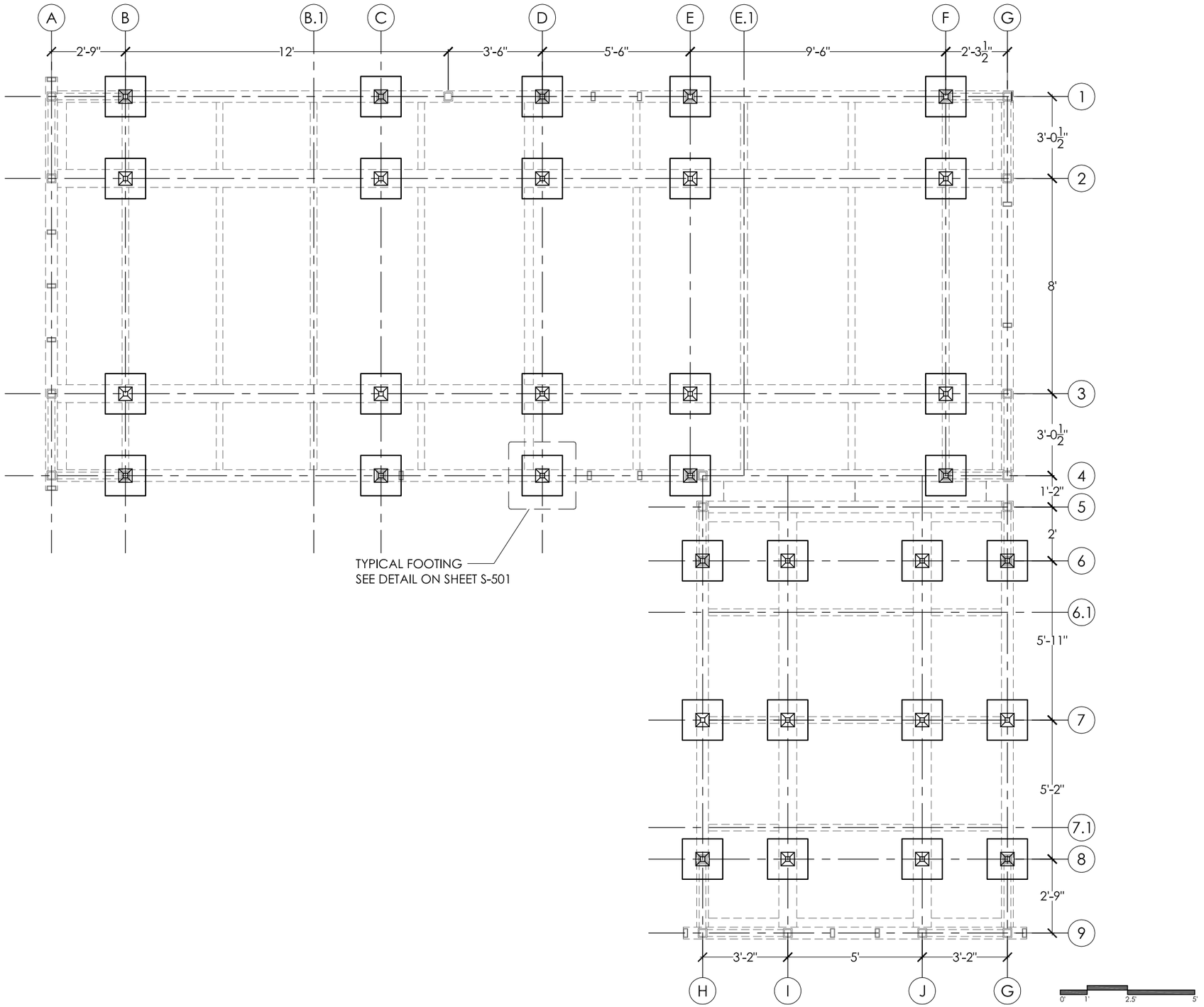

A1 House Foundation Plan

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

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DRAWING TITLE

HOUSE FOUNDATION PLAN

DRAWING NO.

S-102

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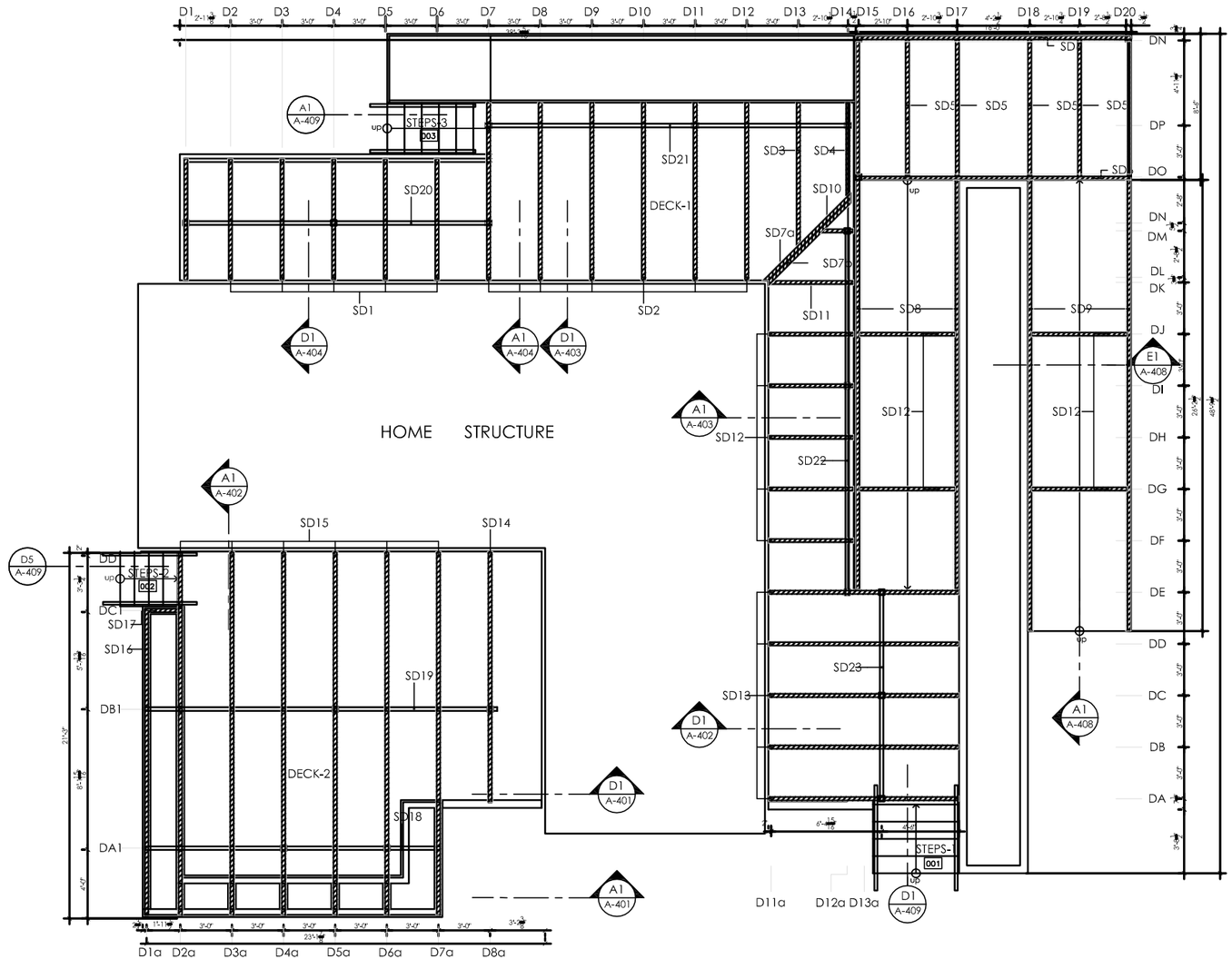

0' 1' 2.5' 5' 10'

A1 Structural Deck Plan

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

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DRAWING TITLE

STRUCTURAL DECK PLAN

DRAWING NO.

S-103

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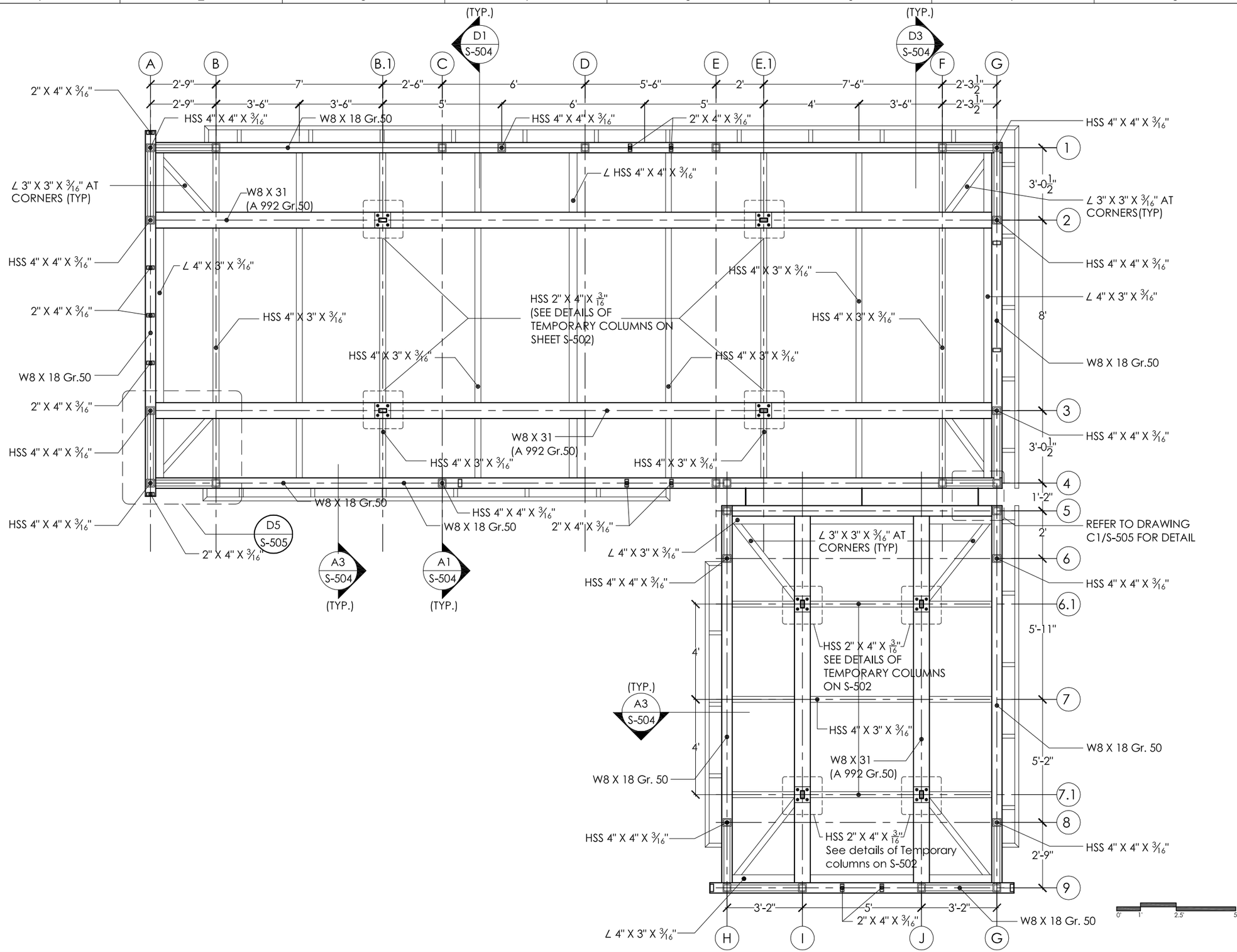

A1 Structural Floor Plan

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

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DRAWING TITLE

STRUCTURAL FLOOR PLAN

DRAWING NO.

S-104

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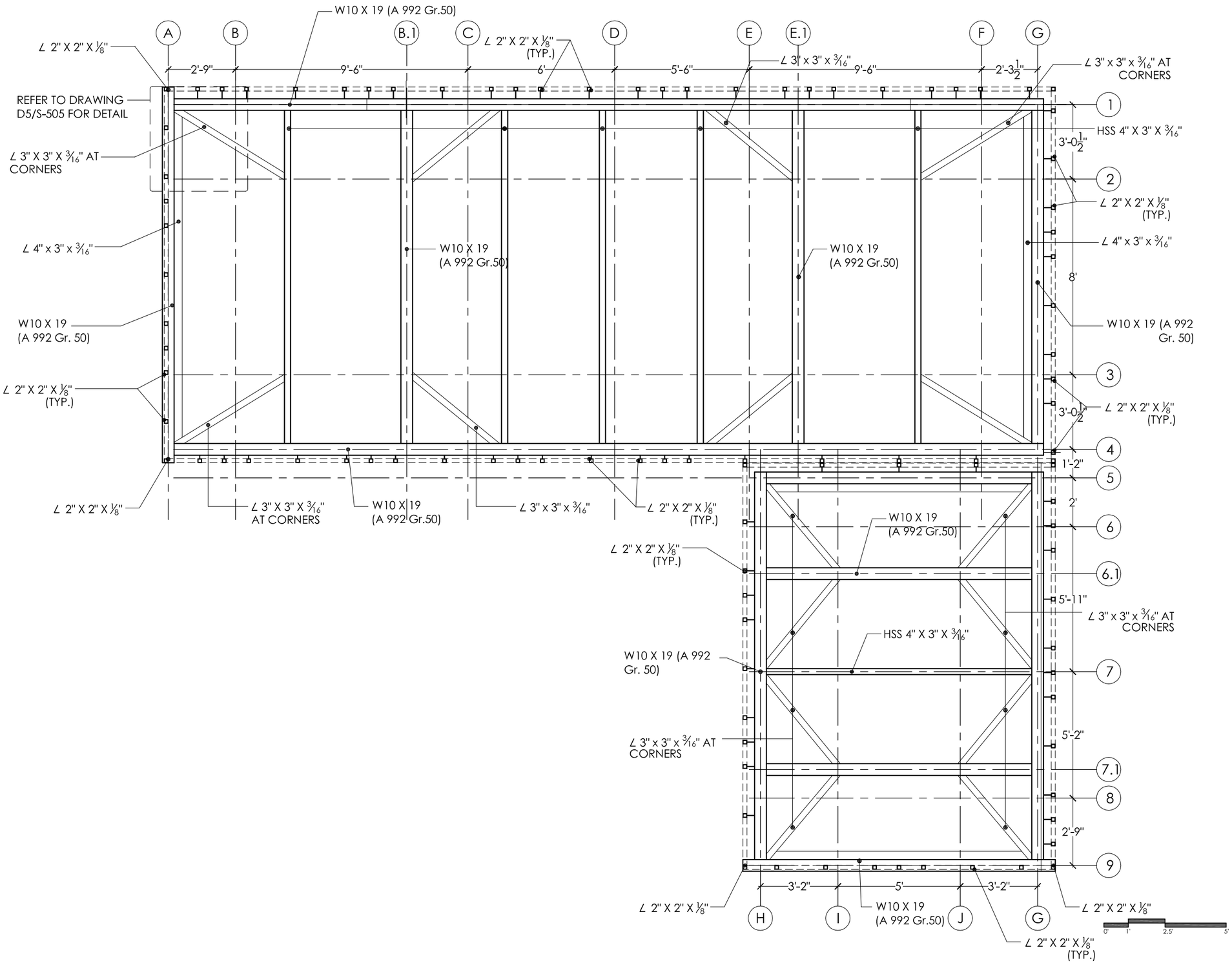

A1 Structural Roof Plan

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

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DRAWING TITLE

STRUCTURAL ROOF PLAN

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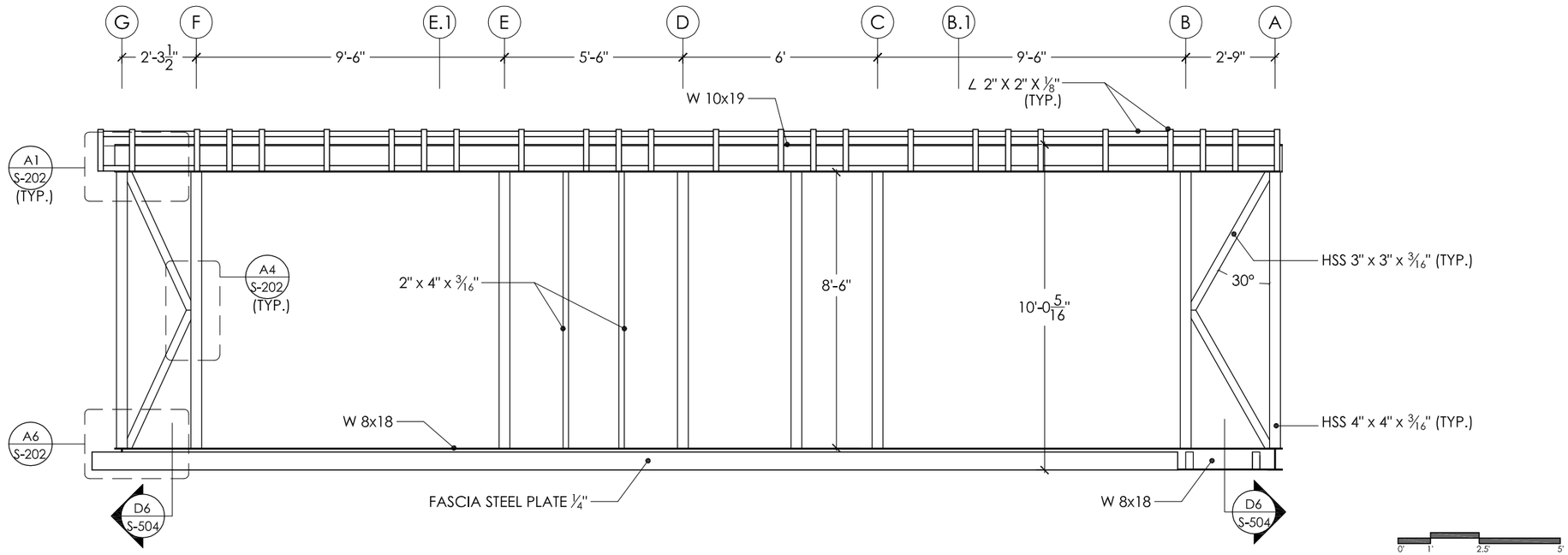
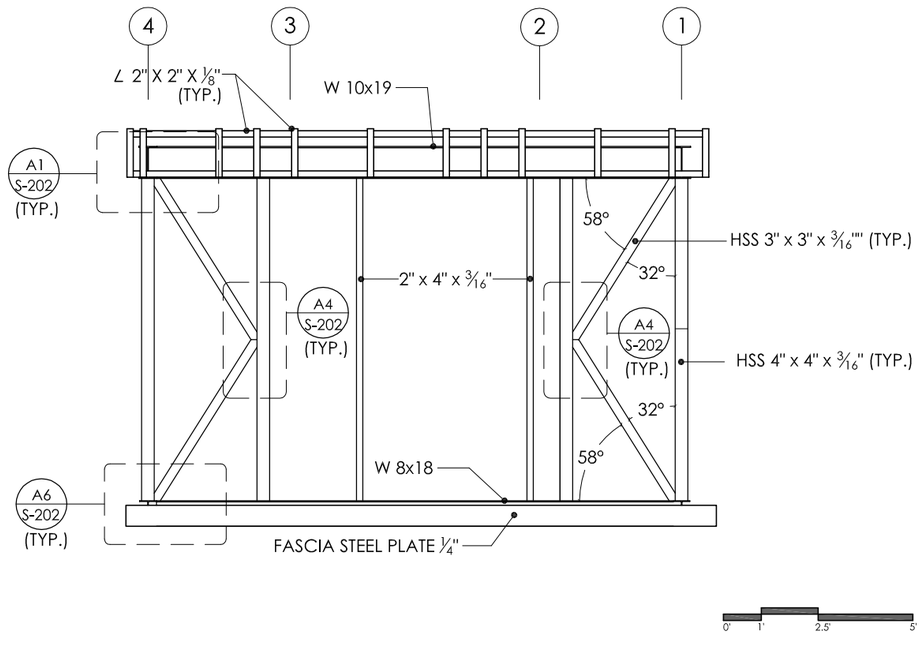
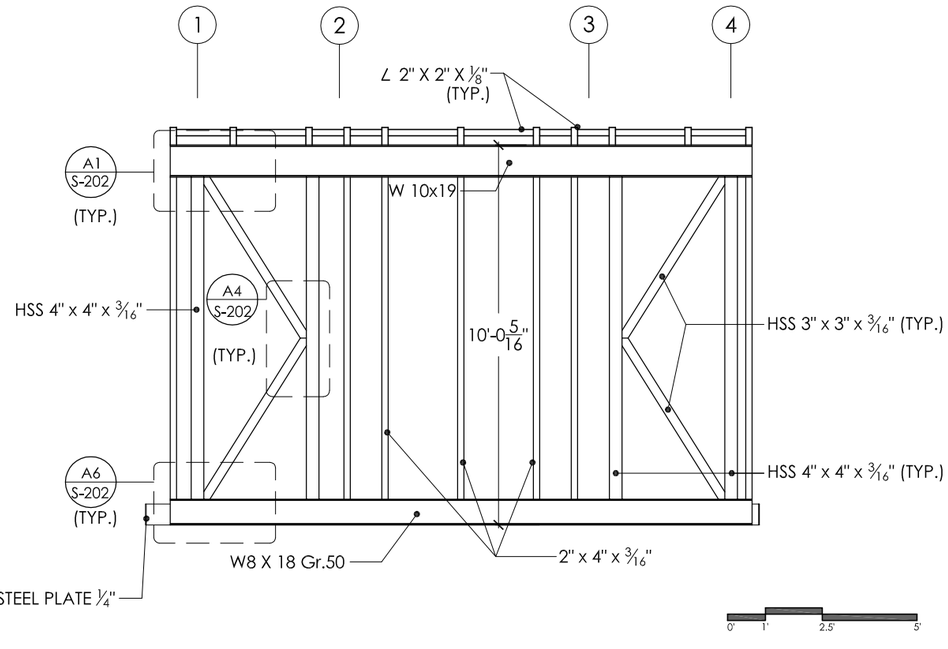


D1 Structural Elevation Along Axis 1 — scale: 1/4" = 1'-0"



A1 Structural Elevation Along Axis G — scale: 1/4" = 1'-0"



A5 Structural Elevation Along Axis A — scale: 1/4" = 1'-0"

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DRAWING TITLE
STRUCTURAL ELEVATIONS

DRAWING NO.
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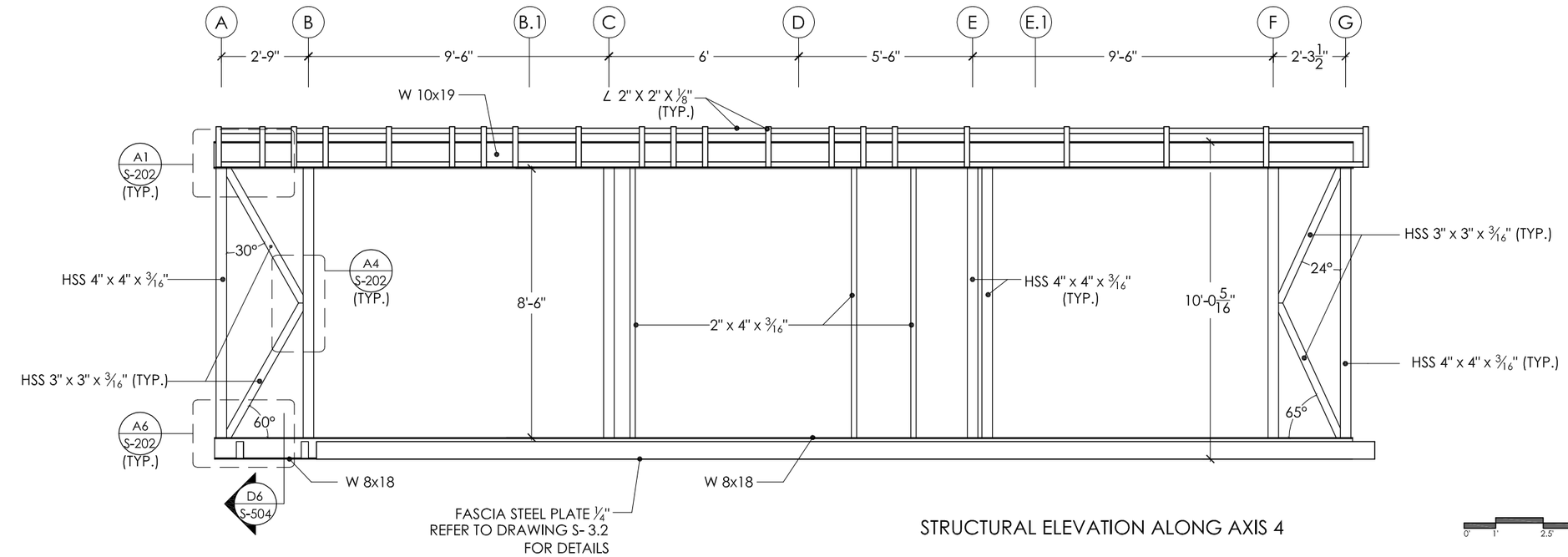
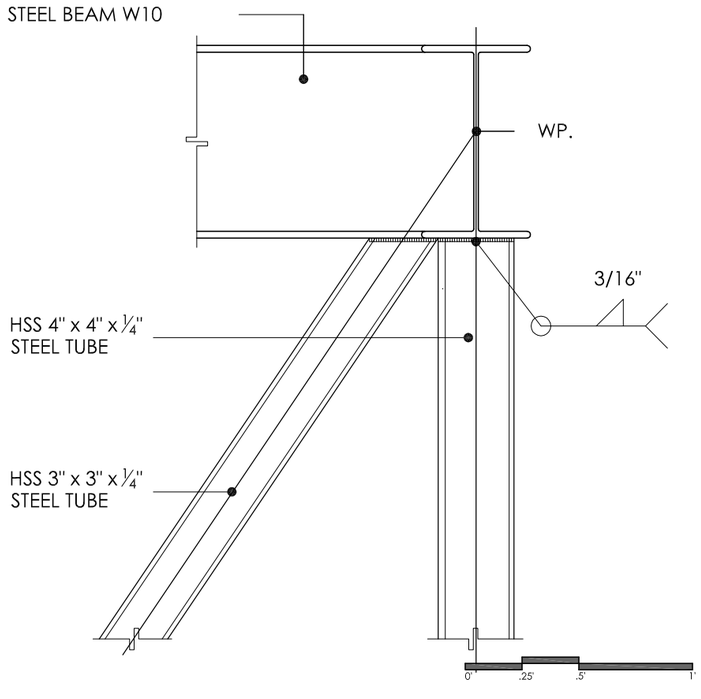
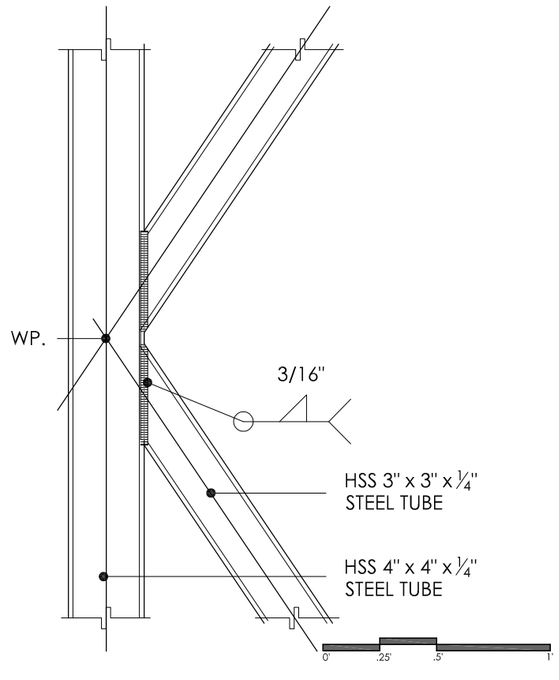


STRUCTURAL ELEVATION ALONG AXIS 4

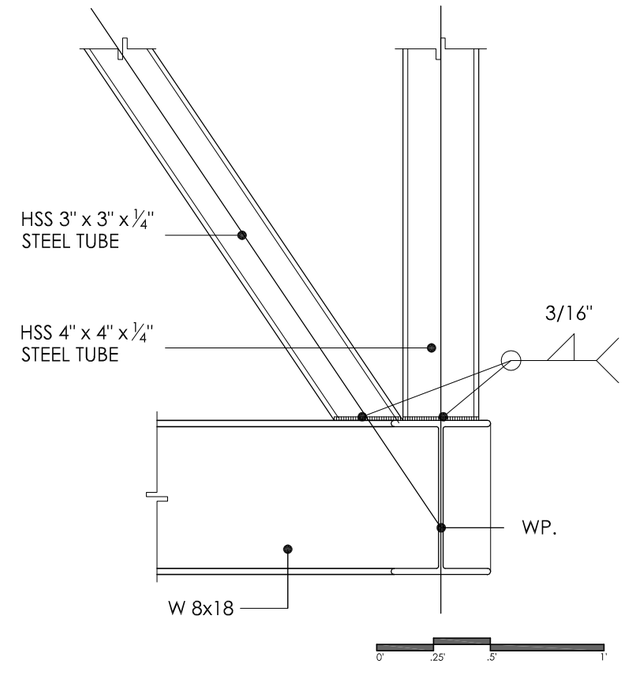
D1 Structural Elevation Along Axis 4 — scale: 1/4" = 1'-0"



A1 Detail — scale: 1 1/2" = 1'-0"



A4 Detail — scale: 1 1/2" = 1'-0"



A6 Detail — scale: 1 1/2" = 1'-0"

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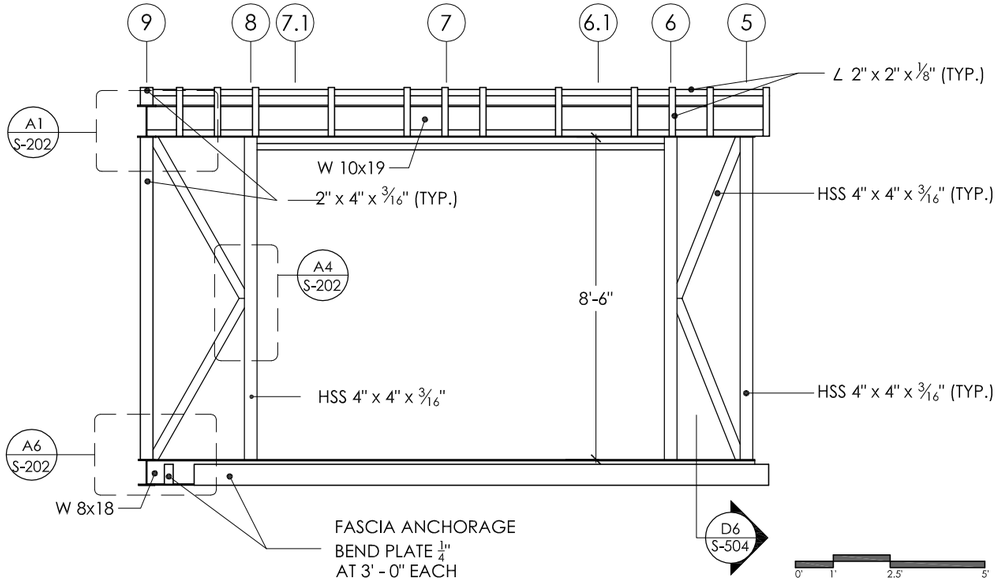
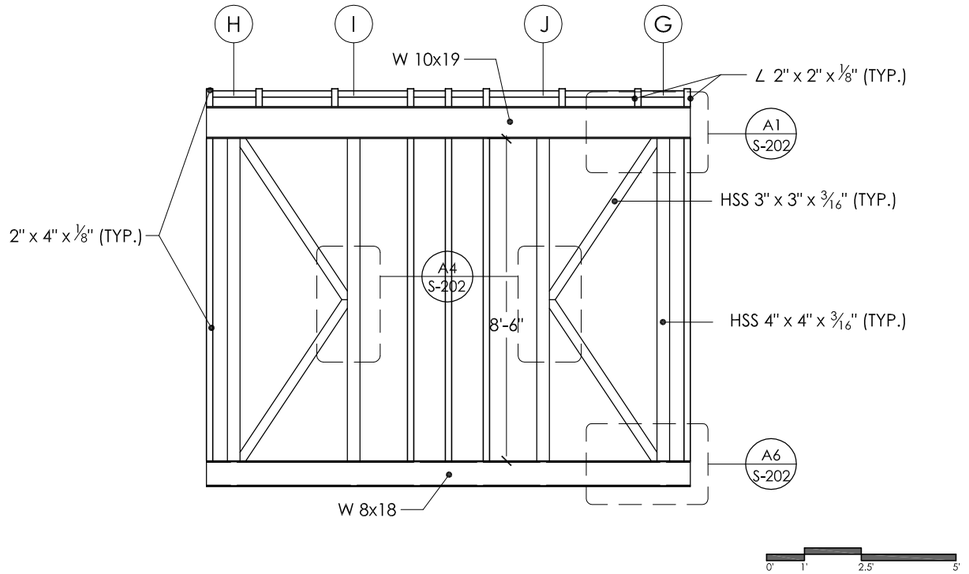
DRAWING TITLE
STRUCTURAL ELEVATIONS AND CROSS BRACING DETAILS

DRAWING NO.
S-202

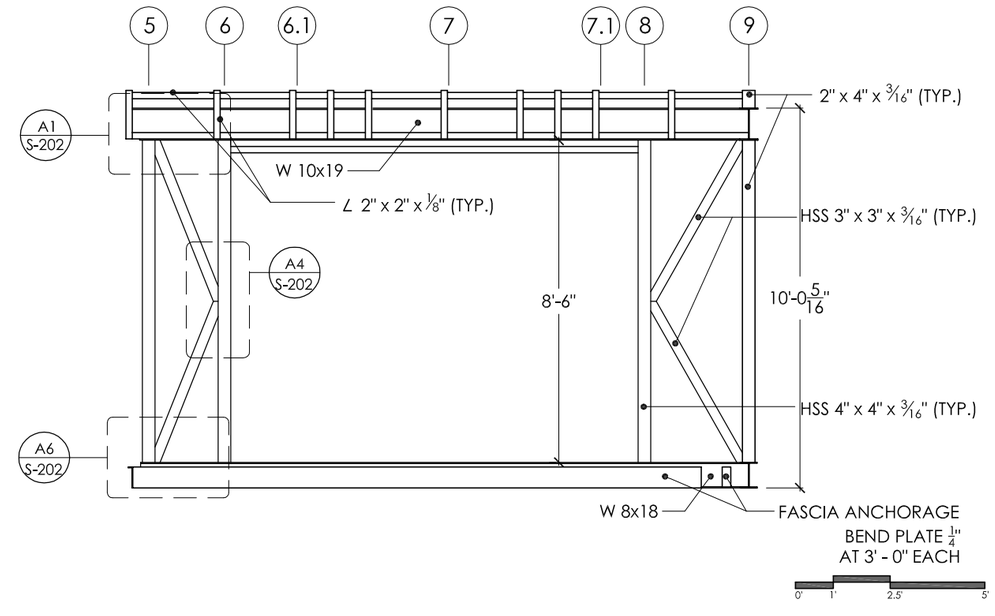
ISSUE FOR: FINAL DESIGN



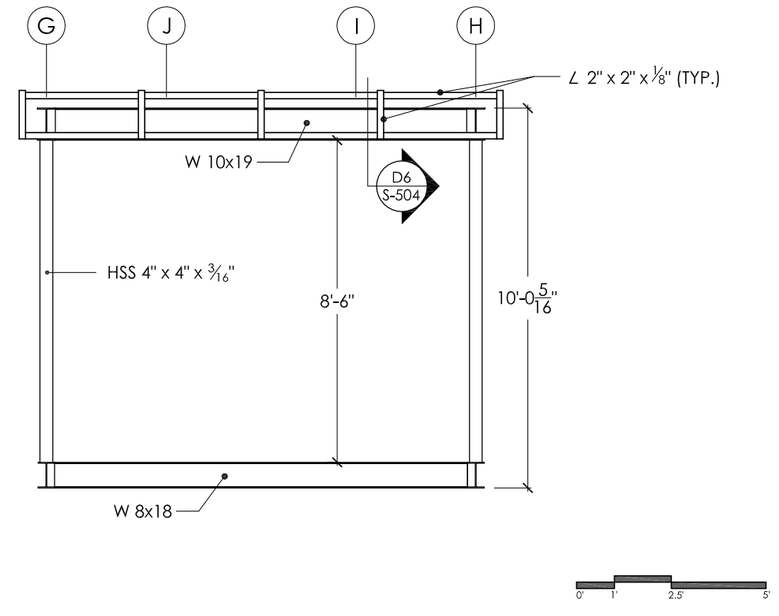
D1 Structural Elevation Along Axis G — scale: 1/4" = 1'-0"



D5 Structural Elevation Along Axis 9 — scale: 1/4" = 1'-0"



A1 Structural Elevation Along Axis H — scale: 1/4" = 1'-0"



A5 Structural Elevation Along Axis 5 — scale: 1/4" = 1'-0"

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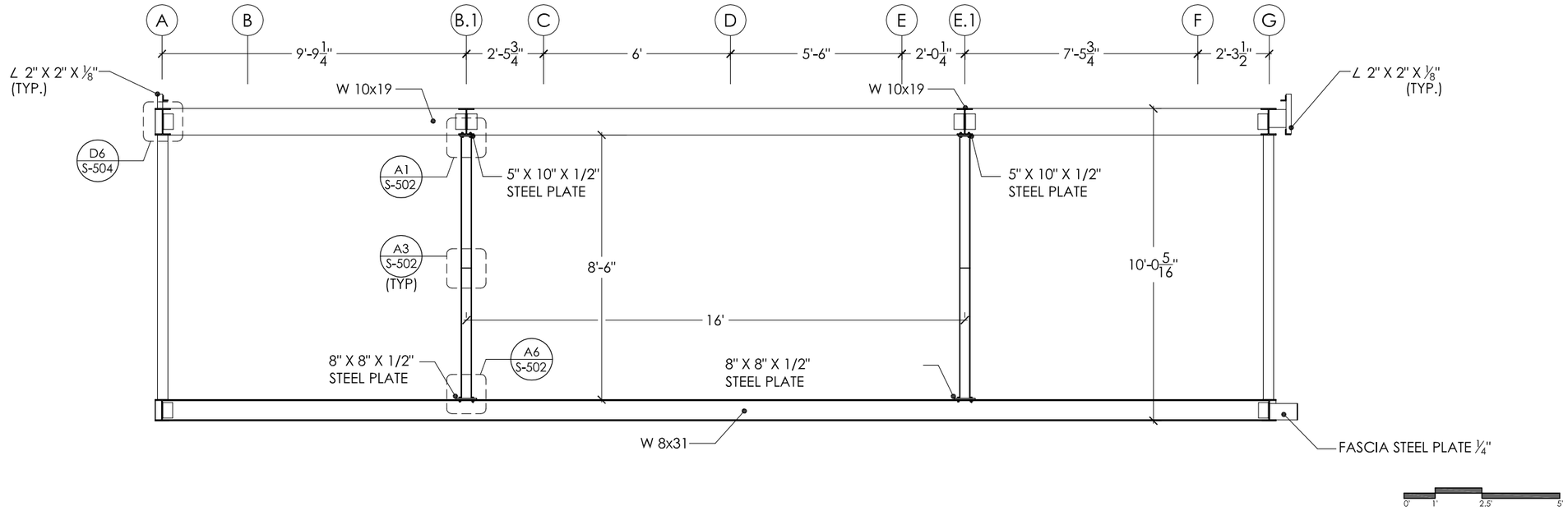
DRAWING TITLE
STRUCTURAL
ELEVATIONS

DRAWING NO.
S-203

ISSUE FOR: FINAL DESIGN

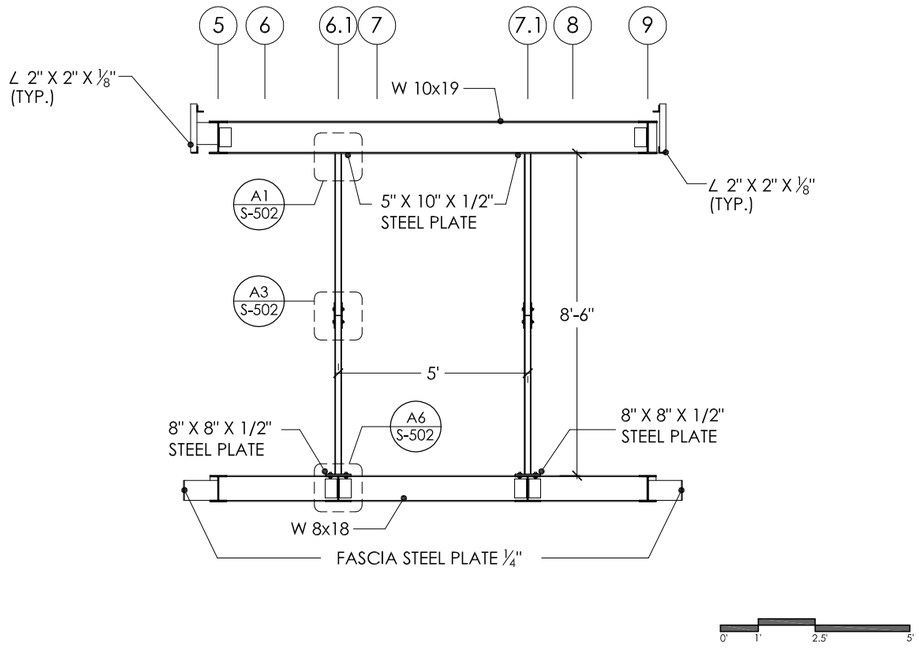
D1 Structural Elevation Along Axes 2 & 3 (Module N.1)

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



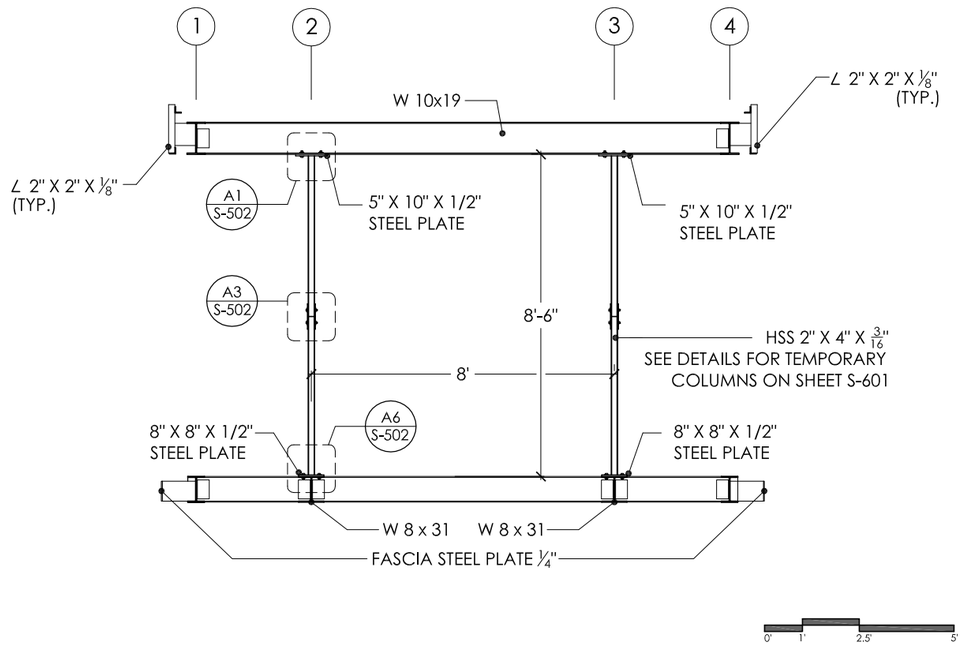
A1 Structural Elevation Along Axes 6.1 & 7.1 (Module N.2)

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



A5 Structural Elevation Along Axes B.1 & E.2 (Module N.1)

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



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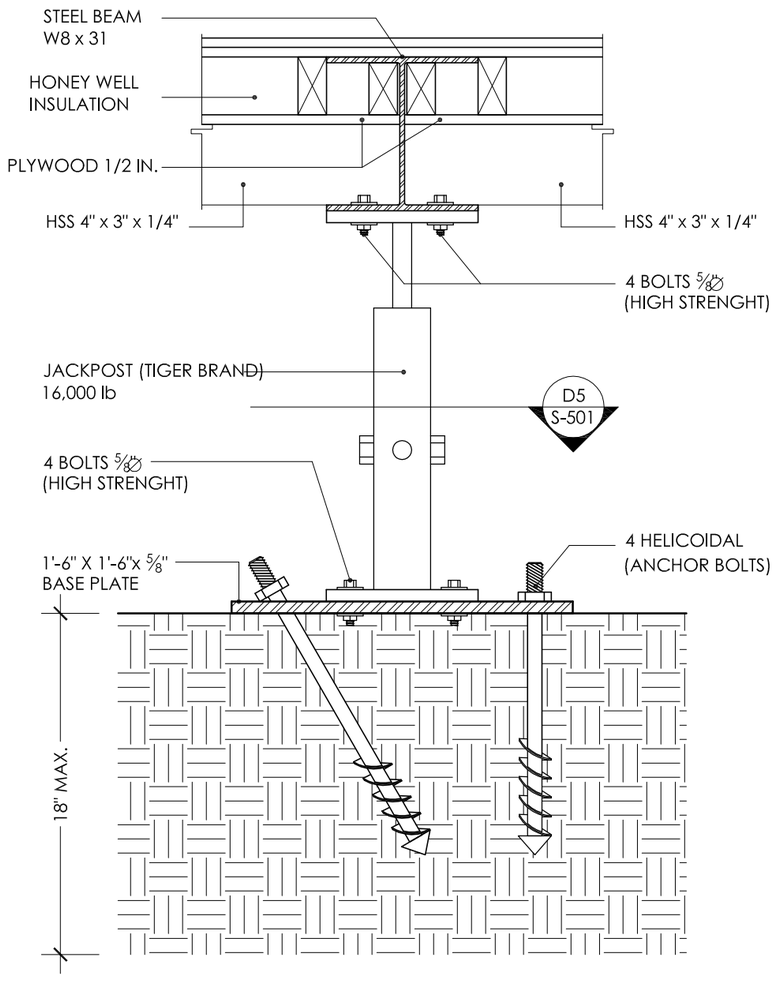
DRAWING TITLE

STRUCTURAL SECTIONS- TEMPORARY COLUMNS

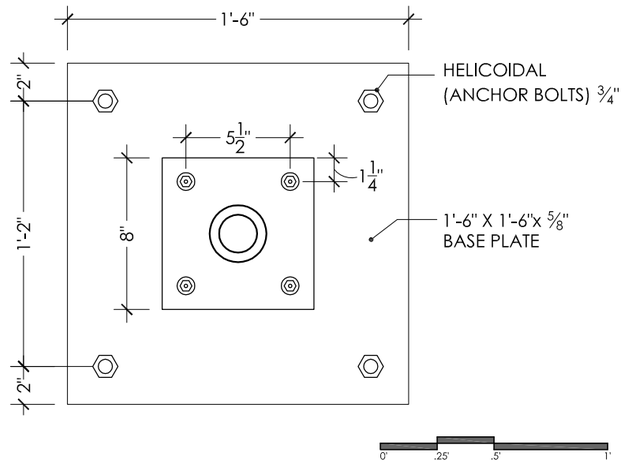
DRAWING NO.

S-301

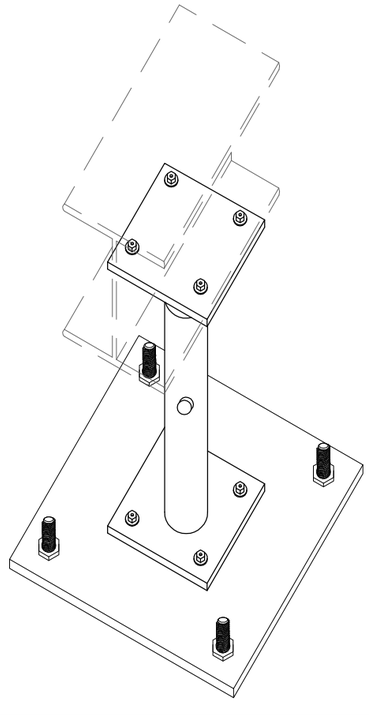
ISSUE FOR: FINAL DESIGN



A1 Foundation Base Plate Detail scale: 1-1/2" = 1'-0"



D5 Foundation Base Plate Detail scale: 1-1/2" = 1'-0"



A5 Foundation Axonometric scale: not to scale

NOTES:

1. MINIMUM JACK POST CAPACITY SHALL

BE:

W_{D+L}= 59,676 lb

W_{D+L} PER FOOTING= 2,990 lbs

$q_{SOIL} = \frac{2990\ lb}{1.5' \times 1.5} = 1329\ lb/ft^2$

$q_{allowable}$=1500 psf > ok

A8 Notes

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DRAWING TITLE
HOUSE FOOTING DETAILS

DRAWING NO.
S-501

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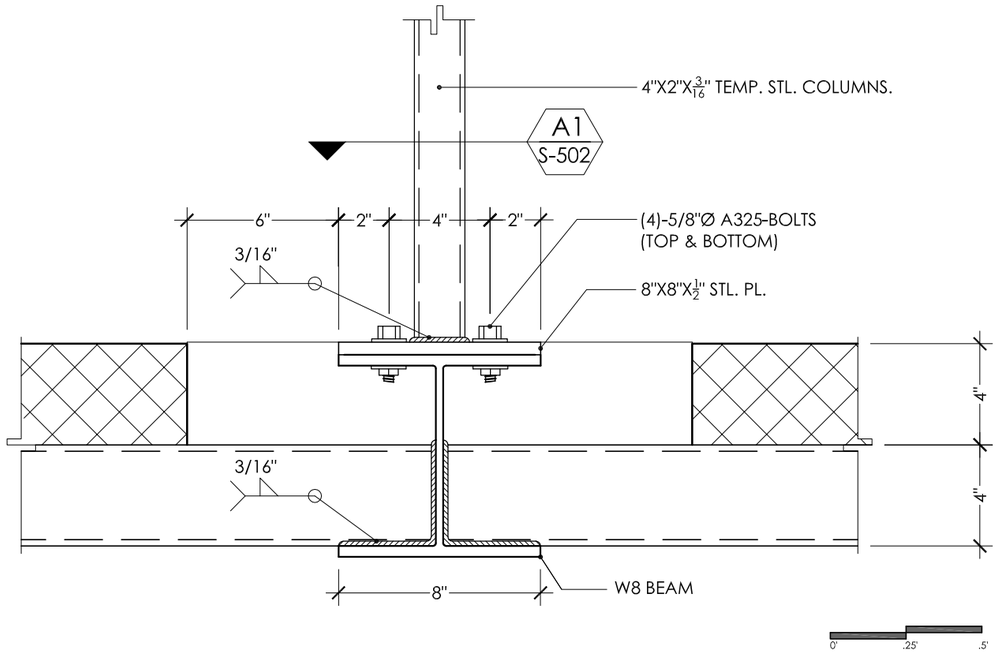
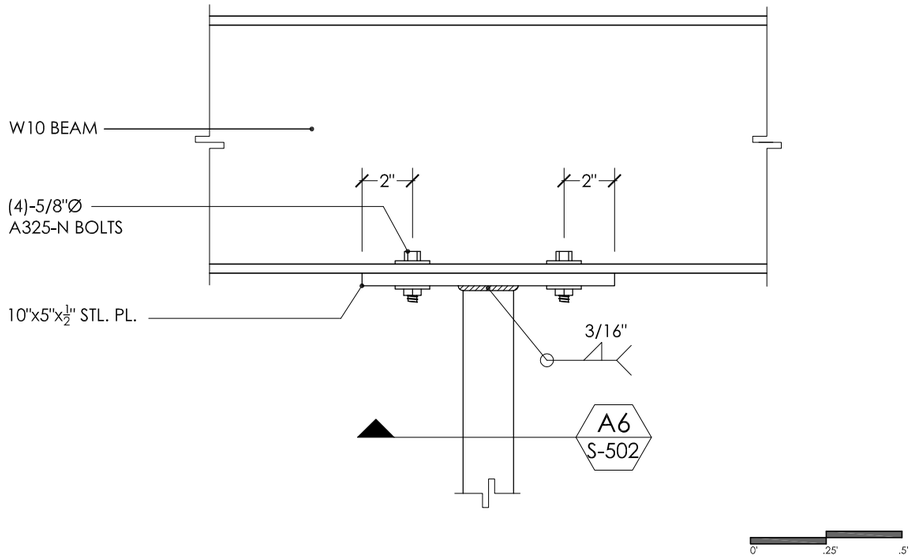


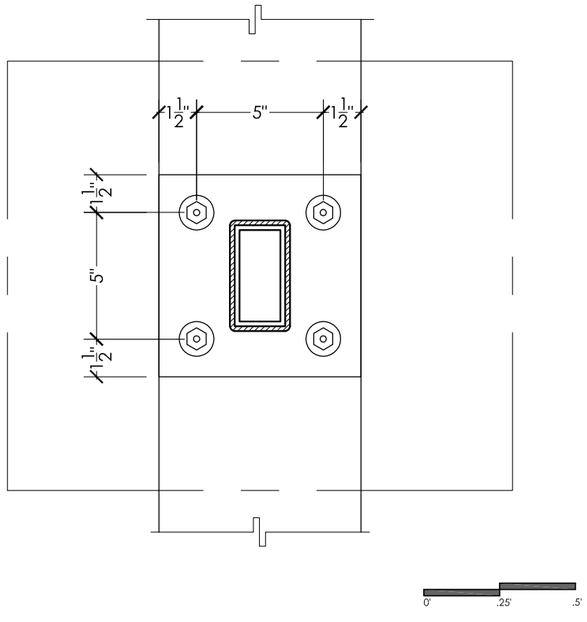
Bottom Connection

D1 Detail — scale: 2" = 1'-0"



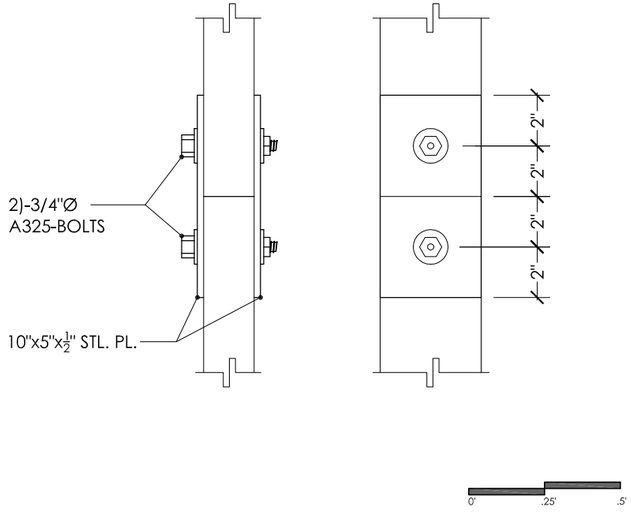
Upper Connection

D5 Detail — scale: 2" = 1'-0"



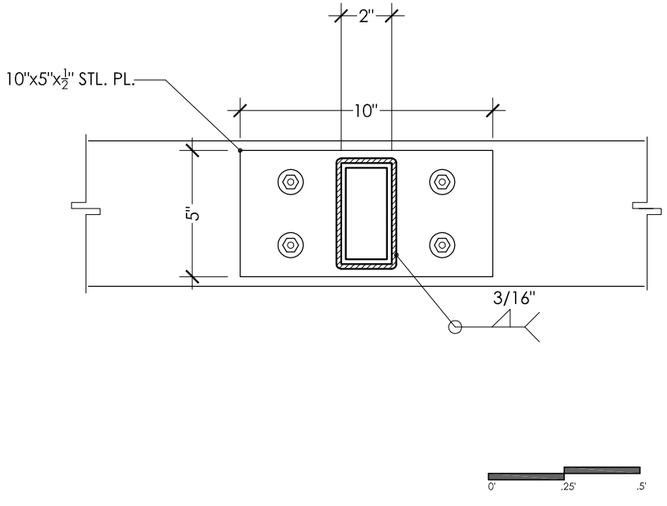
Bottom Connection

A1 Detail — scale: 2" = 1'-0"



Middle Connection

A3 Detail — scale: 2" = 1'-0"



Upper Connection

A6 Detail — scale: 2" = 1'-0"

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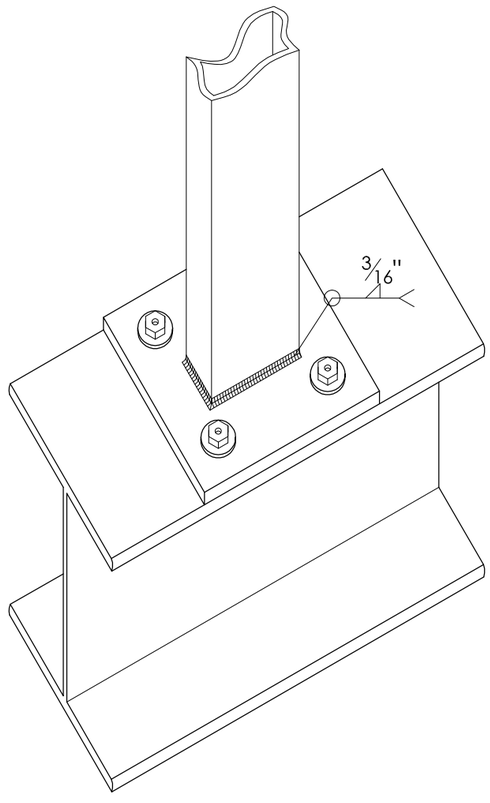
DRAWING TITLE

STRUCTURAL DETAILS- TEMPORARY COLUMNS

DRAWING NO.

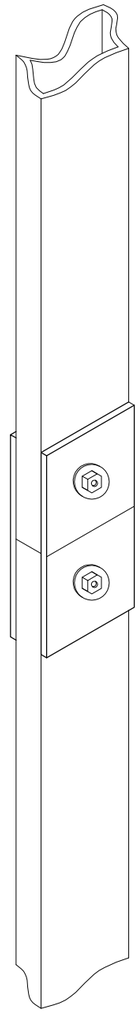
S-502

ISSUE FOR: FINAL DESIGN



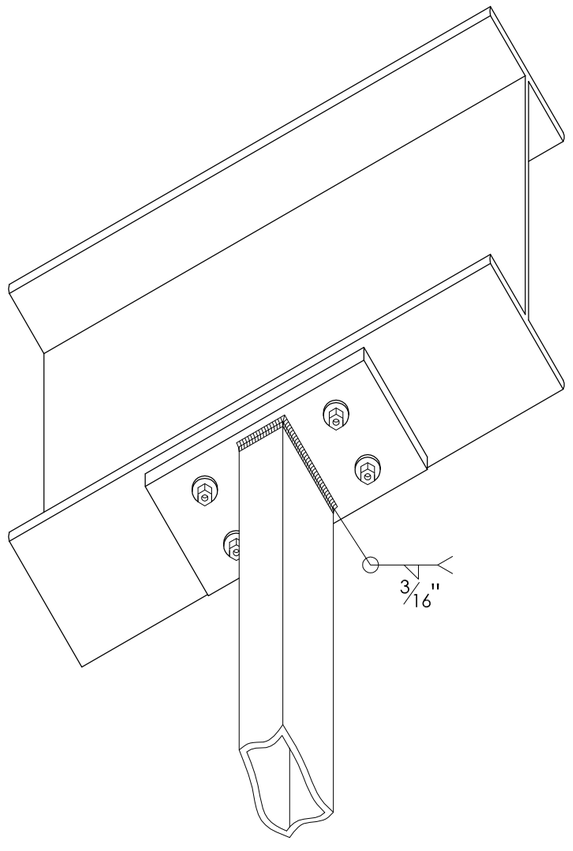
Bottom Connection

A1 Detail scale: 2" = 1'-0"



Middle Connection

A4 Detail scale: 2" = 1'-0"



Upper Connection

A6 Detail scale: 2" = 1'-0"

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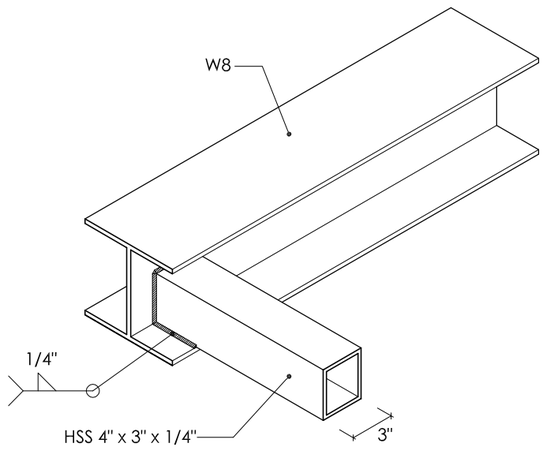
DRAWING TITLE

STRUCTURAL DETAILS- TEMPORARY COLUMNS

DRAWING NO.

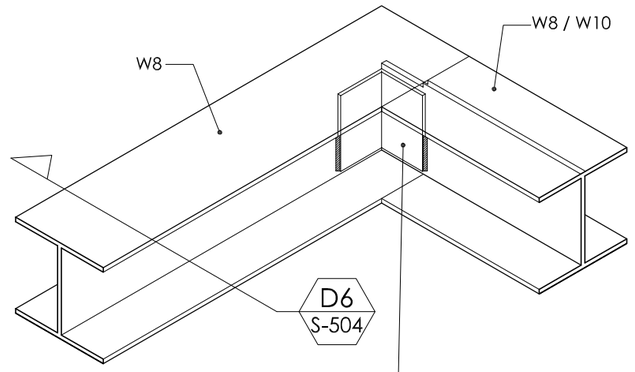
S-503

ISSUE FOR: FINAL DESIGN



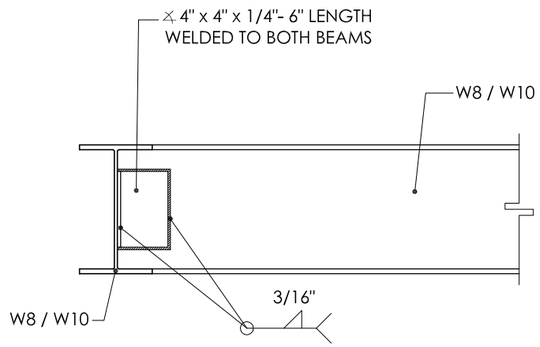
Section With W8 Beams

D1 | Typical Connection of HSS | scale: 1" = 1'-0"

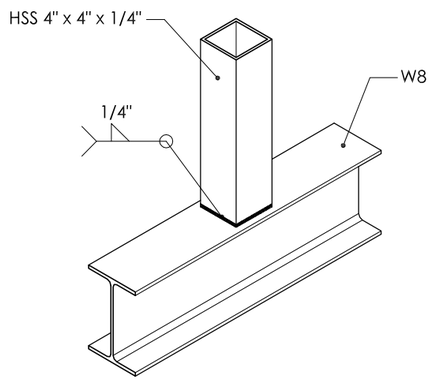


Typical Corner Beam Connection

D3 | Connection Detail of Beams | scale: 1" = 1'-0"

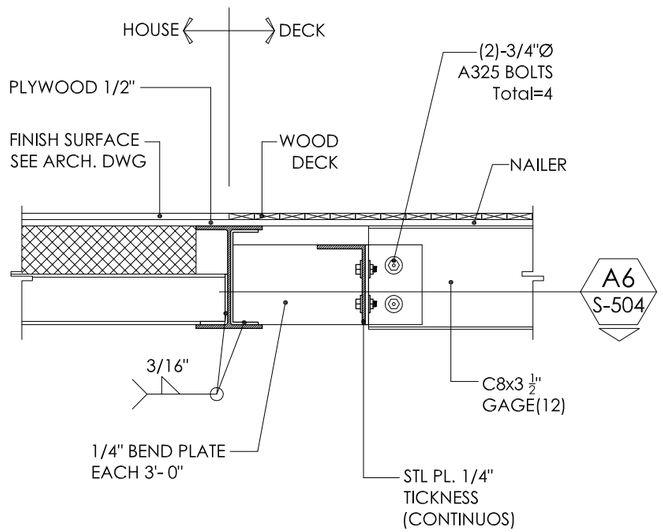


D6 | Typical Detail | scale: 1" = 1'-0"

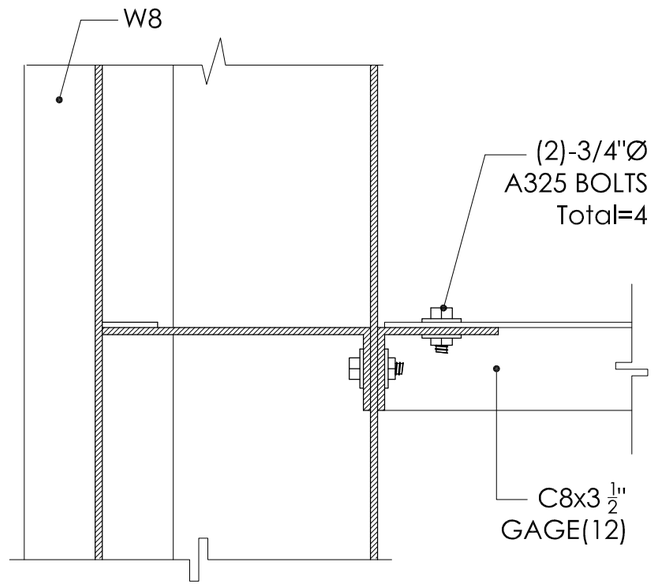


4" x 4" x1/4" to W8 Beams

A1 | Typical Connection of HSS | scale: 1" = 1'-0"



A3 | Typical Detail | scale: 1" = 1'-0"



A6 | Typical Detail | scale: 1 1/2" = 1'-0"

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DRAWING TITLE
STRUCTURAL
DETAILS

DRAWING NO.
S-504

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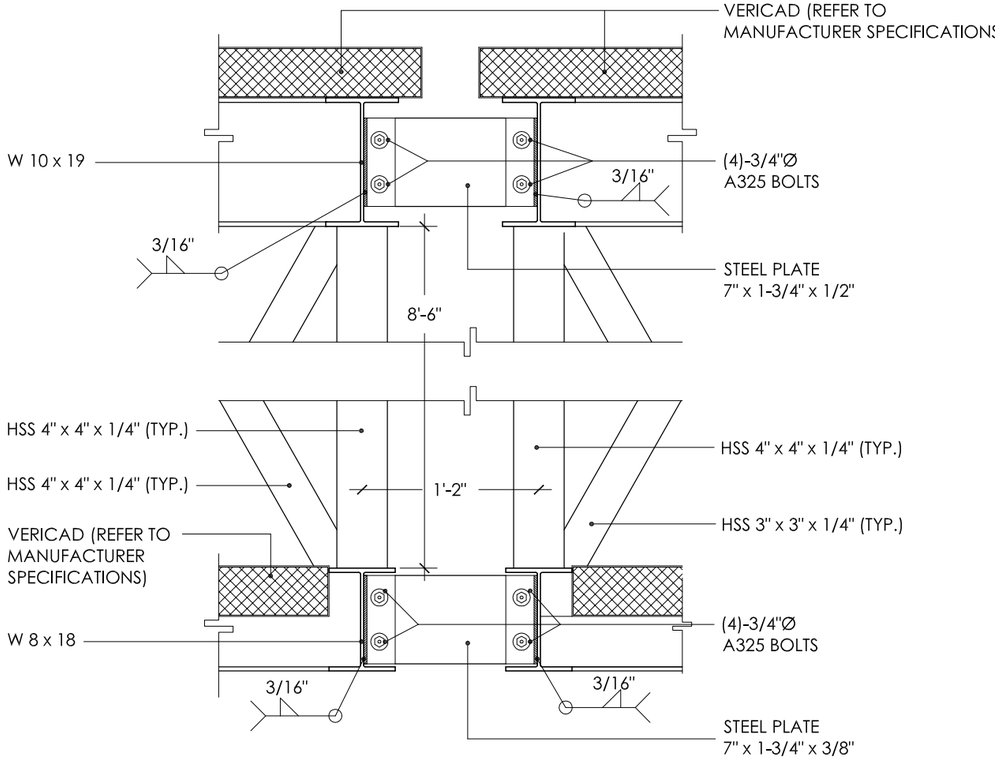
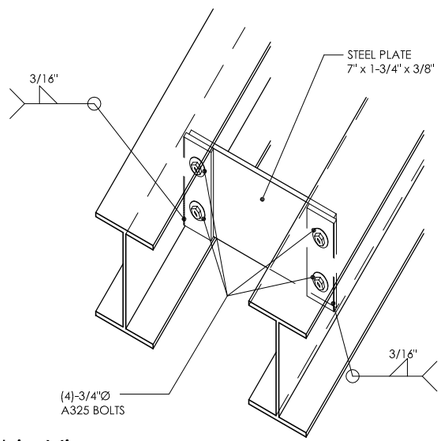
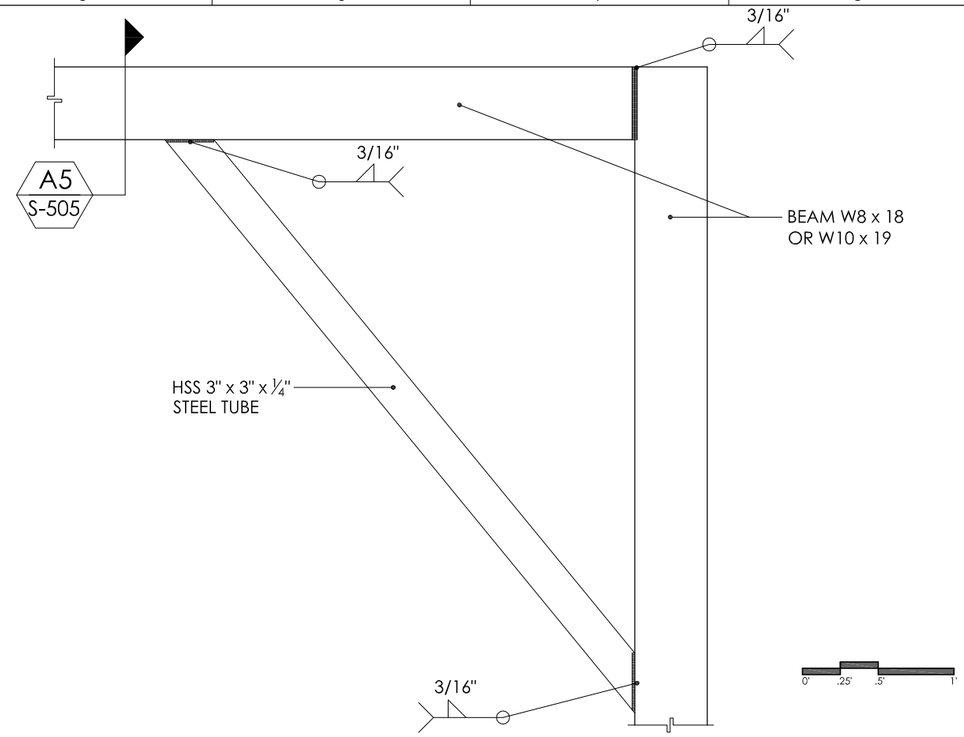


C1 Typical Connection Between Modules (Section) scale: 1" = 1'-0"

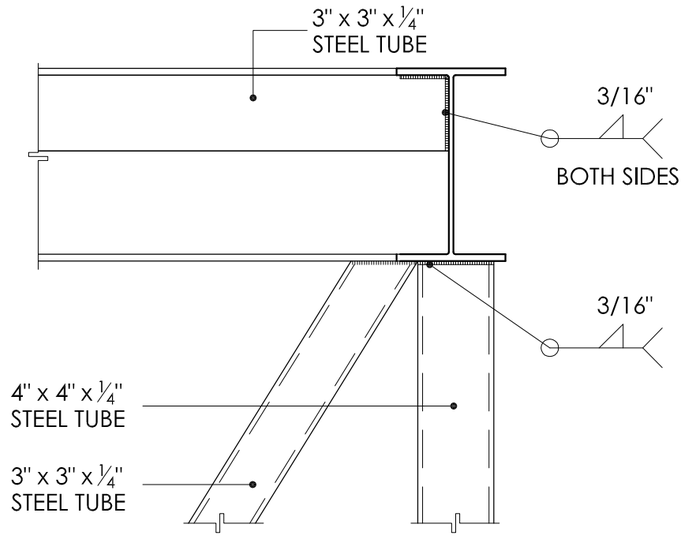


Axonometric View

A1 Typical Connection Between Modules scale: 1" = 1'-0"



D5 Section Roof Detail scale: 1" = 1'-0"



A5 Section Roof Detail scale: 1 1/2" = 1'-0"

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STRUCTURAL DETAILS

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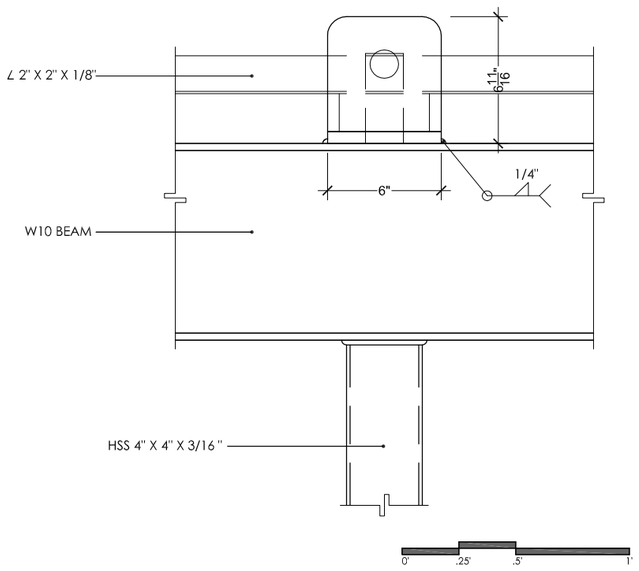
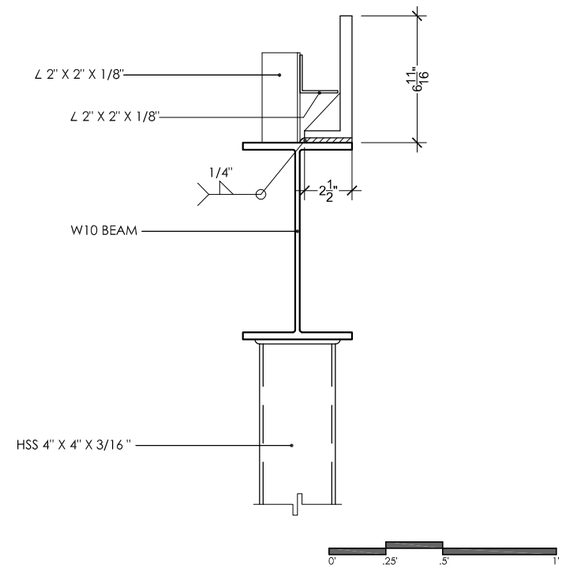
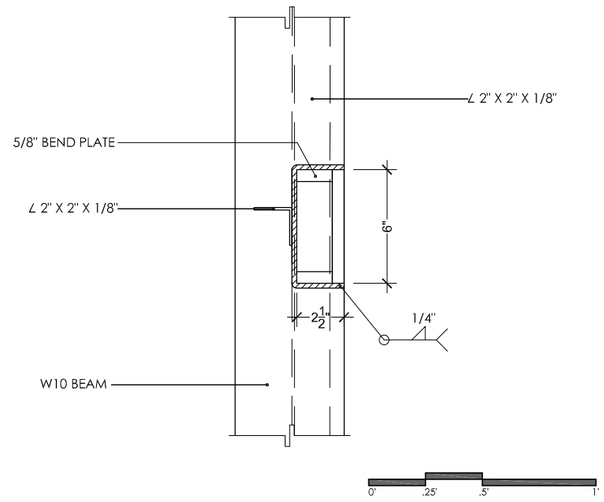


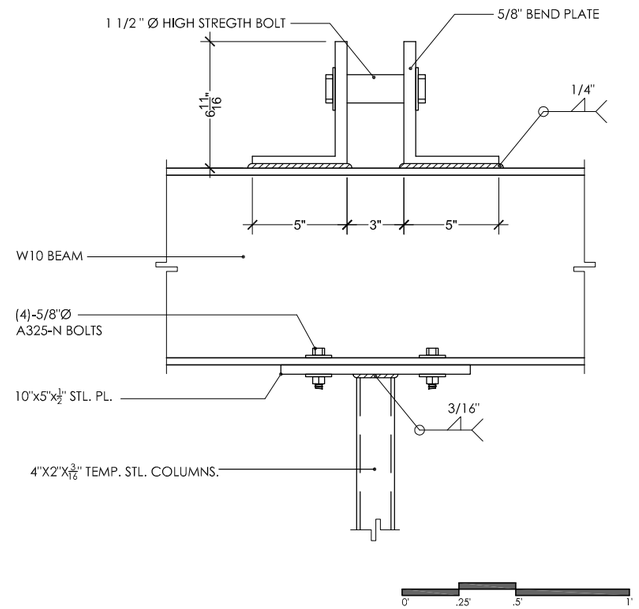
D1 | Hook Front Elevation | scale: 1 1/2" = 1'-0"



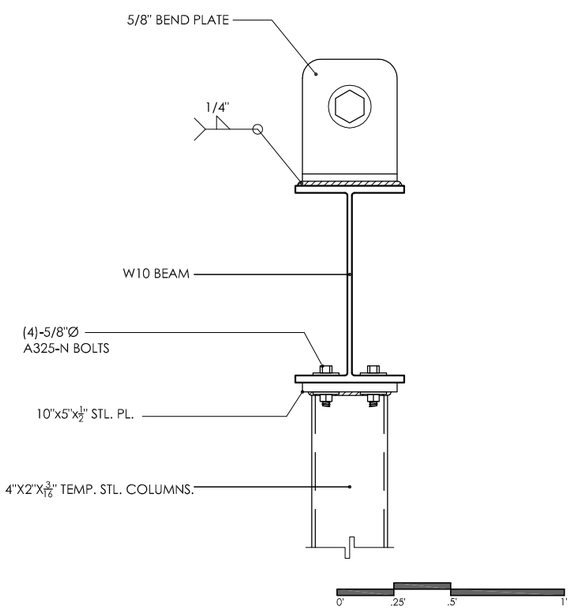
D3 | Hook Transversal Elevation | scale: 1 1/2" = 1'-0"



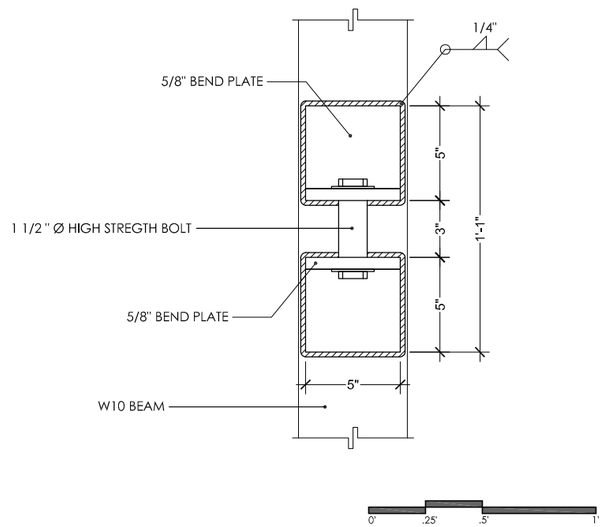
D6 | Hook Detail Plan | scale: 1 1/2" = 1'-0"



A1 | Hook Front Elevation | scale: 1 1/2" = 1'-0"



A3 | Hook Transversal Elevation | scale: 1 1/2" = 1'-0"



A6 | Hook Detail Plan | scale: 1 1/2" = 1'-0"

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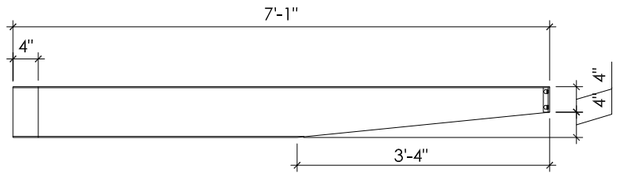
DRAWING TITLE

HOOK DETAILS

DRAWING NO.

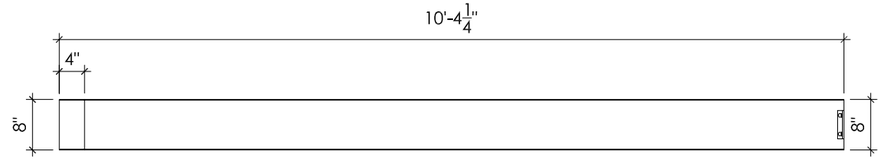
S-506

ISSUE FOR: FINAL DESIGN



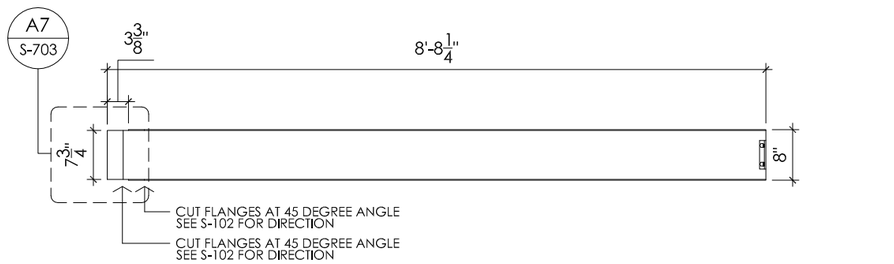
Use for Beams D1, D2, D3, D4, D5, D6

E1 Typical Beam SD1 scale: 1/2" = 1'-0"



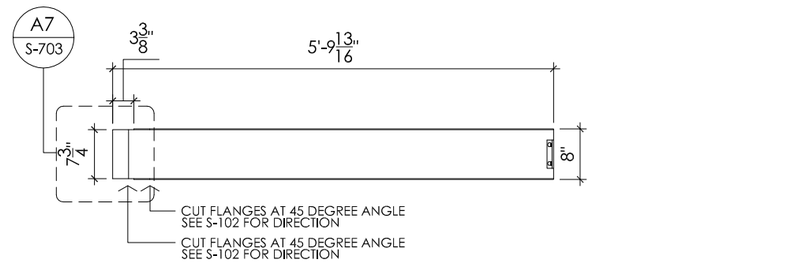
Use for Beams D8, D9, D10, D11

E5 Typical Beam SD2 scale: 1/2" = 1'-0"



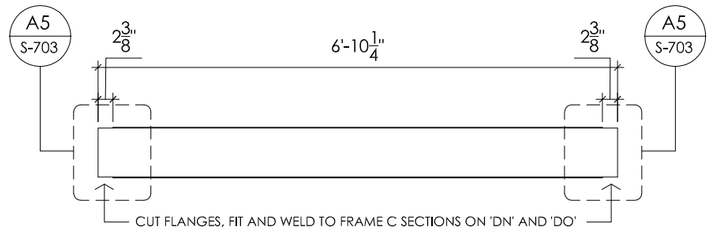
Use for Beam D12

D1 Typical Beam SD3 scale: 1/2" = 1'-0"



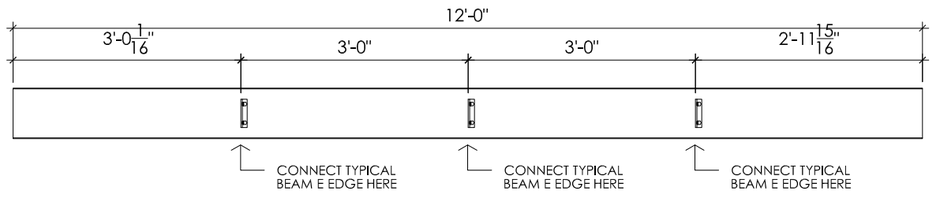
Use for Beam D13

D5 Typical Beam SD4 scale: 1/2" = 1'-0"



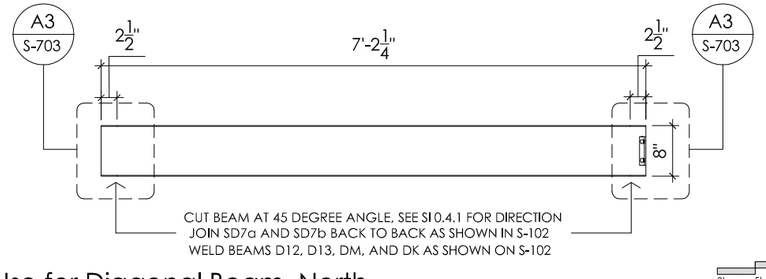
Use for Beams D15, D16, D17

B1 Typical Beam SD5 scale: 1/2" = 1'-0"



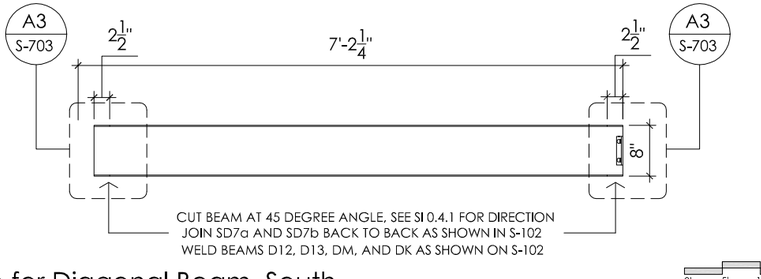
Use for Beams DN, DO

B5 Typical Beam SD6 scale: 1/2" = 1'-0"



Use for Diagonal Beam, North

A1 Typical Beam SD7a scale: 1/2" = 1'-0"



Use for Diagonal Beam, South

A5 Typical Beam SD7b scale: 1/2" = 1'-0"

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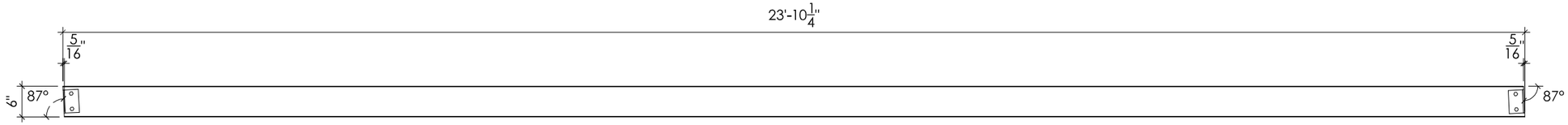
DRAWING TITLE

DECK C CHANNEL ELEVATIONS

DRAWING NO.

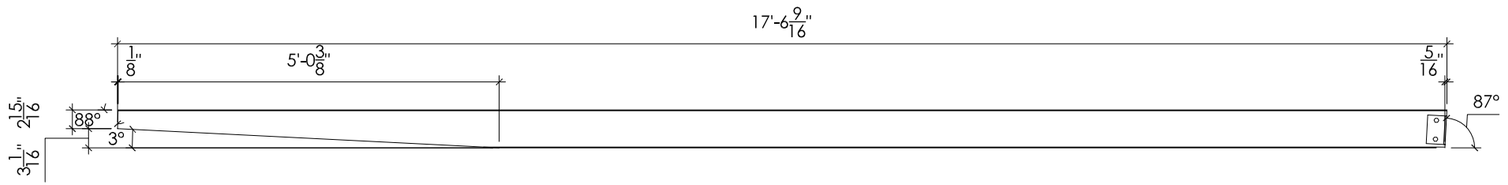
S-701

ISSUE FOR: FINAL DESIGN



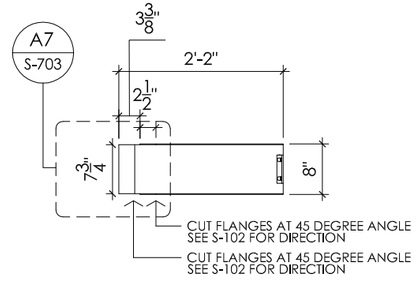
Use for Ramp Beams, First Section

E1 | Typical Beam SD8 | scale: 1/2" = 1'-0"



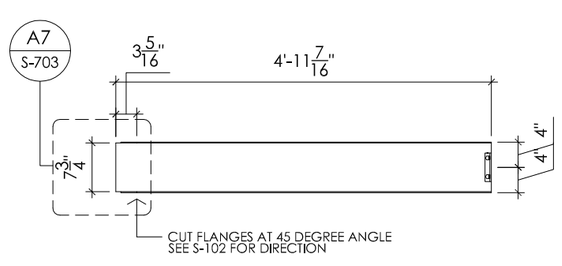
Use for Ramp Beams, Second Section

D1 | Typical Beam SD9 | scale: 1/2" = 1'-0"



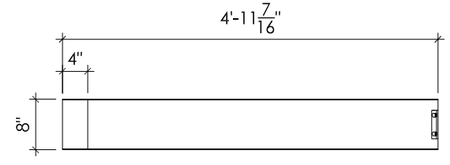
Use for Beam DM

B1 | Typical Beam SD10 | scale: 1/2" = 1'-0"



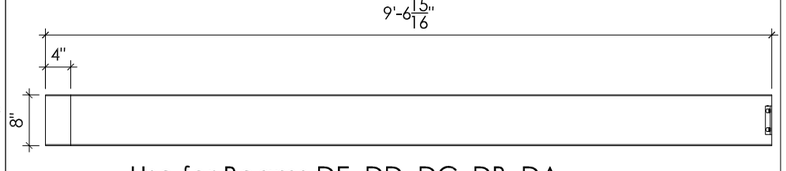
Use for Beam DK

B3 | Typical Beam SD11 | scale: 1/2" = 1'-0"



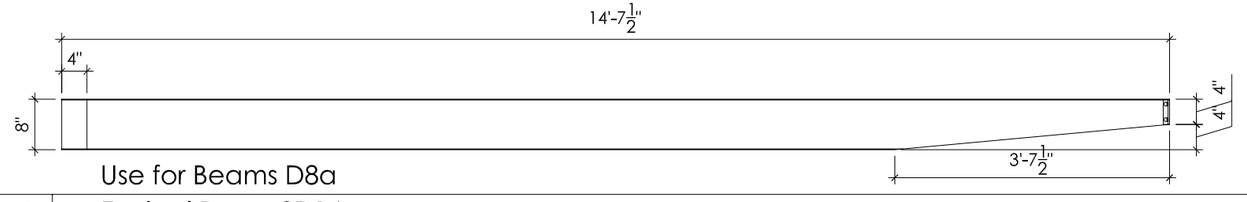
Use for Beams DJ, DI, DH, DG, DF

B6 | Typical Beam SD12 | scale: 1/2" = 1'-0"



Use for Beams DE, DD, DC, DB, DA

A1 | Typical Beam SD13 | scale: 1/2" = 1'-0"



Use for Beams D8a

A4 | Typical Beam SD14 | scale: 1/2" = 1'-0"

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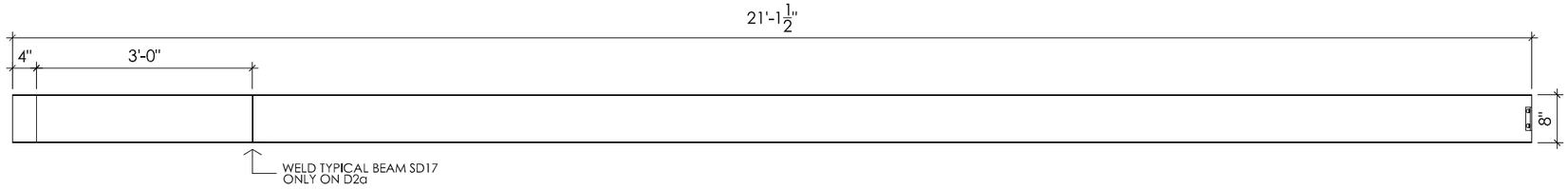
DRAWING TITLE

Deck C Channel Elevations

DRAWING NO.

S-702

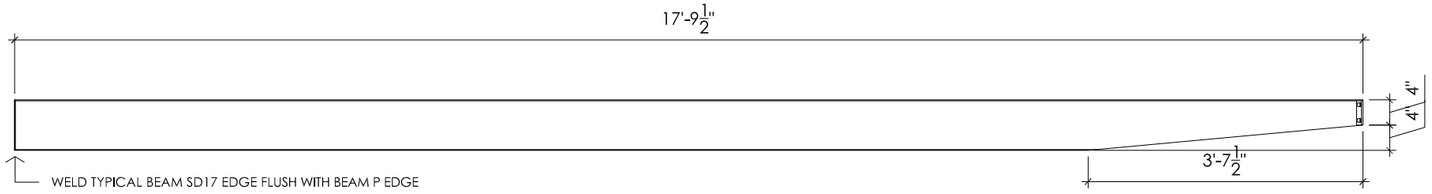
ISSUE FOR: FINAL DESIGN



Use for Beams D2a, D3a, D4a, D5a, D6a, D7a

E1 Typical Beam SD15

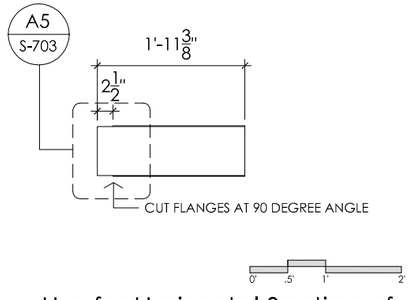
scale: 1/2" = 1'-0"



Use for Beam D1a

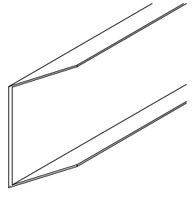
C1 Typical Beam SD16

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



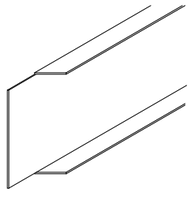
Use for Horizontal Section of Beam D1a

A1 Typical Beam SD17 scale: 1/2" = 1'-0"



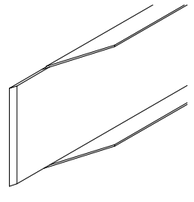
45 Degree Angle Cut

A3 DETAIL scale: not to scale



90 Degree Flange Cut

A5 DETAIL scale: not to scale



45 Degree Angle Flange Cut

A7 DETAIL scale: not to scale

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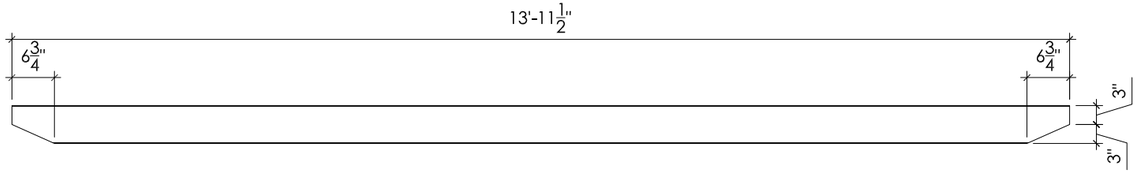
DRAWING TITLE

DECK C CHANNEL ELEVATIONS

DRAWING NO.

S-703

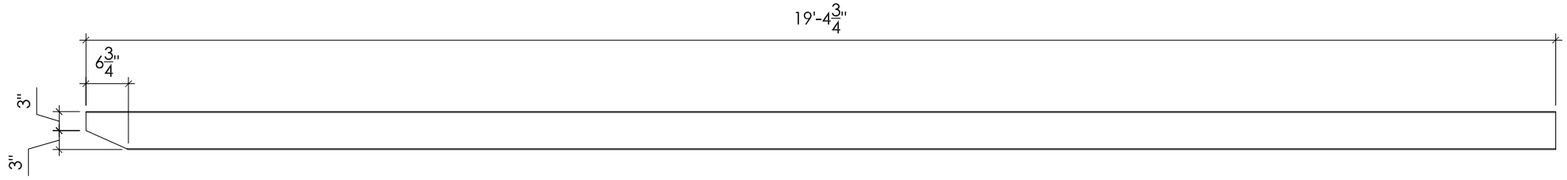
ISSUE FOR: FINAL DESIGN



Use for Labeled Supporting I-Beam

E1 | Typical Beam SD18

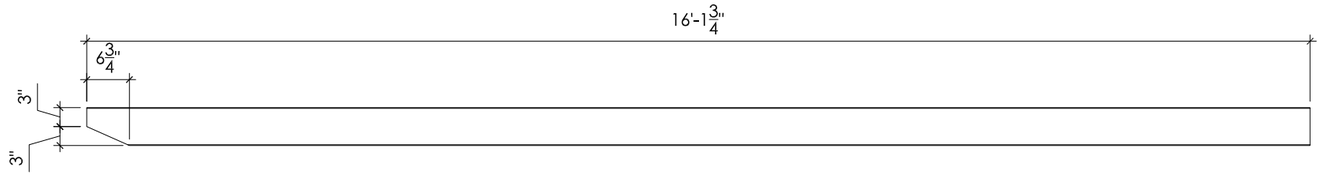
scale: 1/2" = 1'-0"



Use for Labeled Supporting I-Beam

D1 | Typical Beam SD19

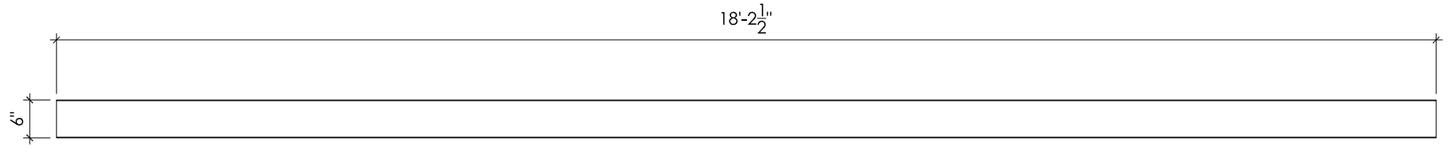
scale: 1/2" = 1'-0"



Use for Labeled Supporting I-Beam

B1 | Typical Beam SD20

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



Use for Labeled Supporting I-Beam

A1 | Typical Beam SD21

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

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DRAWING TITLE

DECK I CHANNEL ELEVATIONS

DRAWING NO.

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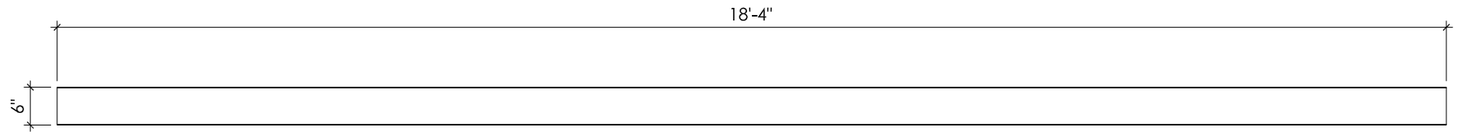
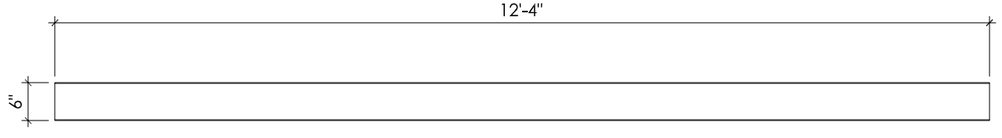


Use for Labeled Supporting I-Beam

D1 | Typical Beam SD22

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



Use for Labeled Supporting I-Beam

A1 | Typical Beam SD23

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

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DRAWING TITLE

DECK I CHANNEL ELEVATIONS

DRAWING NO.

S-705

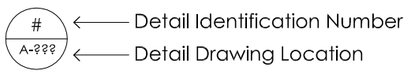
ISSUE FOR: FINAL DESIGN

Notes and Symbols

1. Section Symbol

2. Wall Section Symbol

3. R.D. = Roof Drain
4. O.F. = Over Flow
5. ←/\— = Roof Slope
6. (#) = Door Identification Number
7. [#] = Window Identification Number
8. [#] = Finishes Identification Number
9. = Photovoltaic Panels
10. = Evacuated Tubes
11. = Height Symbol
12. Wall Section Symbol



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DRAWING TITLE
SYMBOLS AND NOTES

DRAWING NO.
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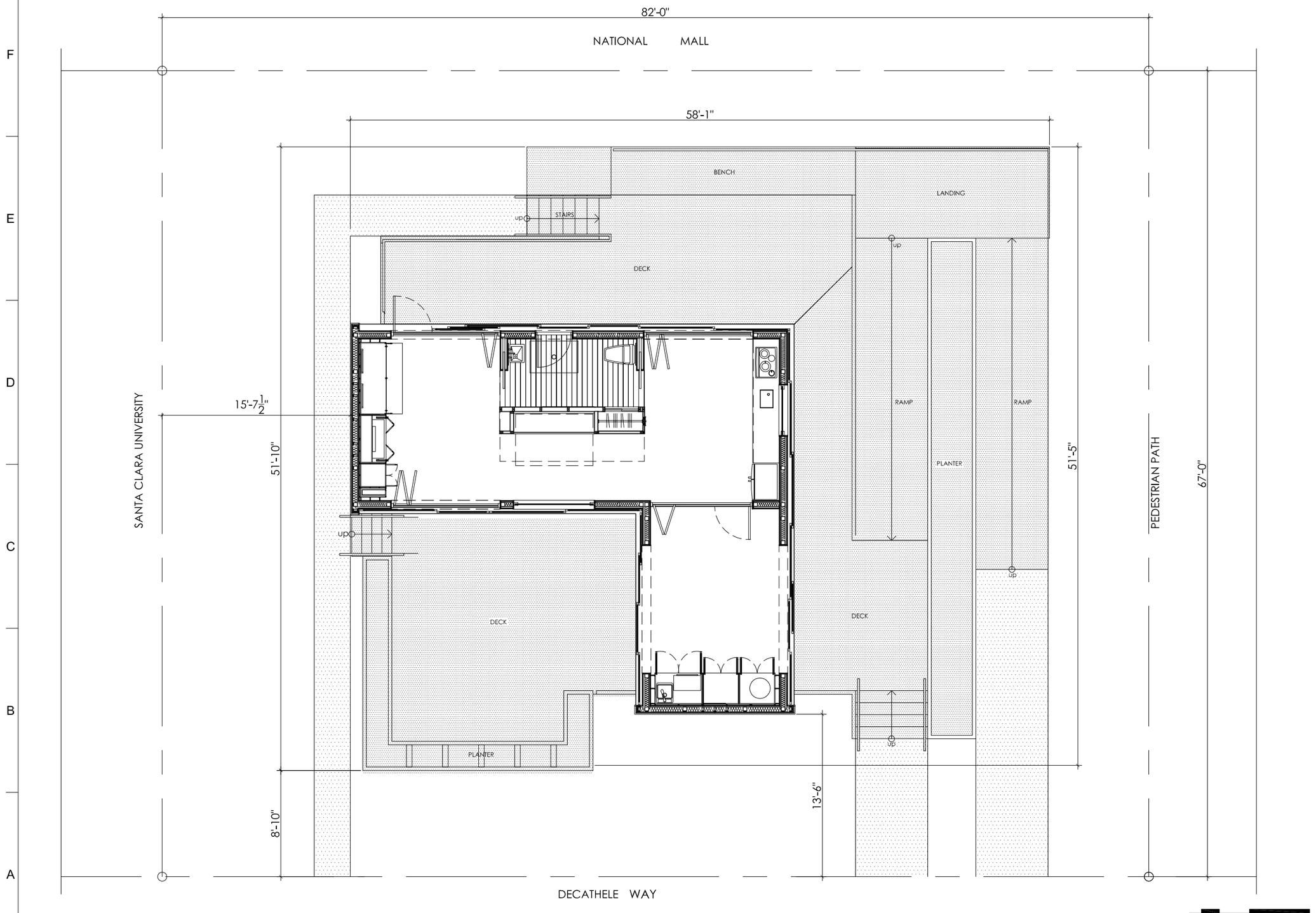

A1 Building Emplacement

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

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DRAWING TITLE

BUILDING EMPLACEMENT

DRAWING NO.

A-101

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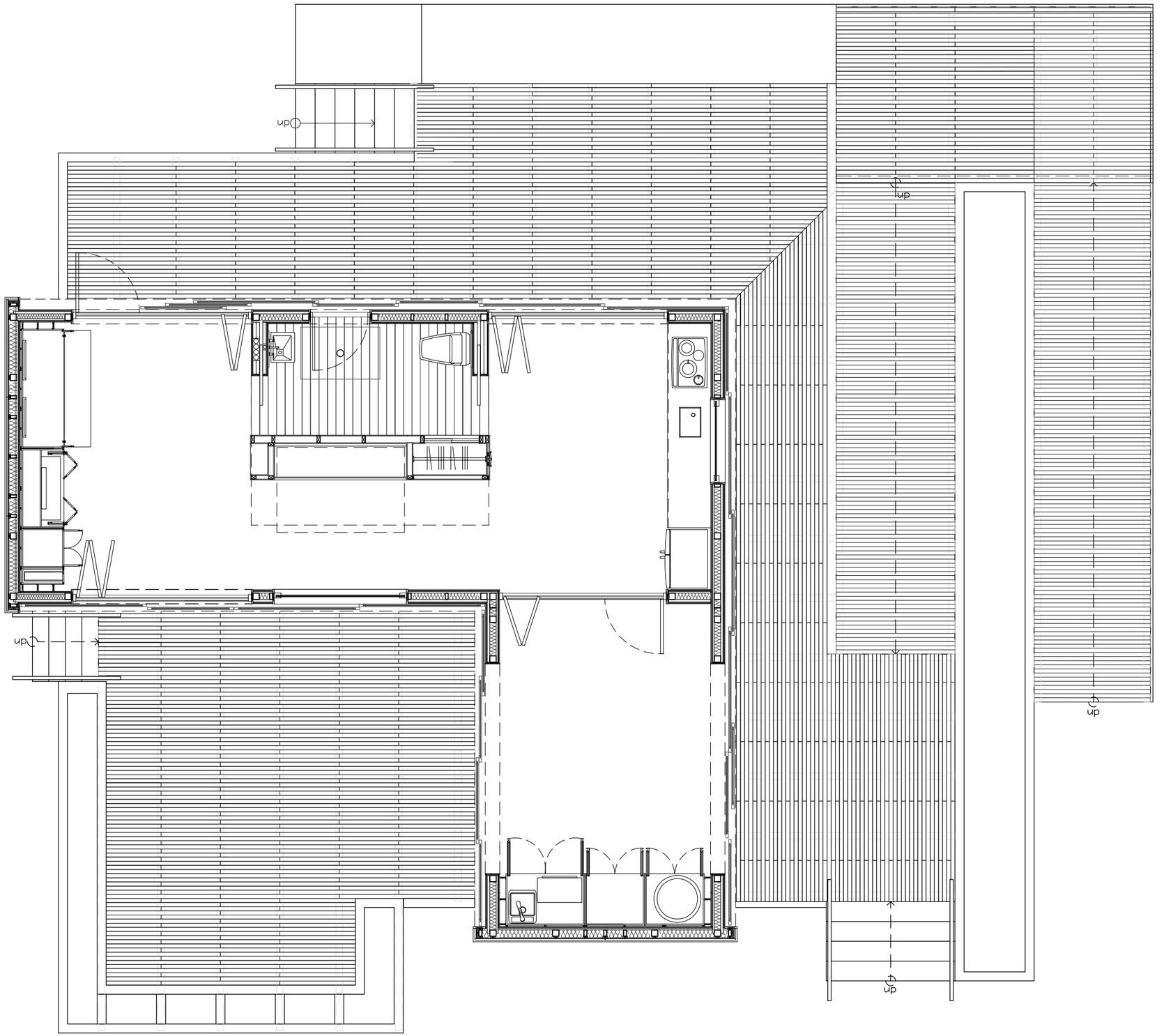

A1 Architectural Deck Plan

scale: 3/16" = 1'-0"

PROFESSIONAL SEAL:

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DRAWING TITLE

ARCHITECTURAL DECK PLAN

DRAWING NO.

A-102

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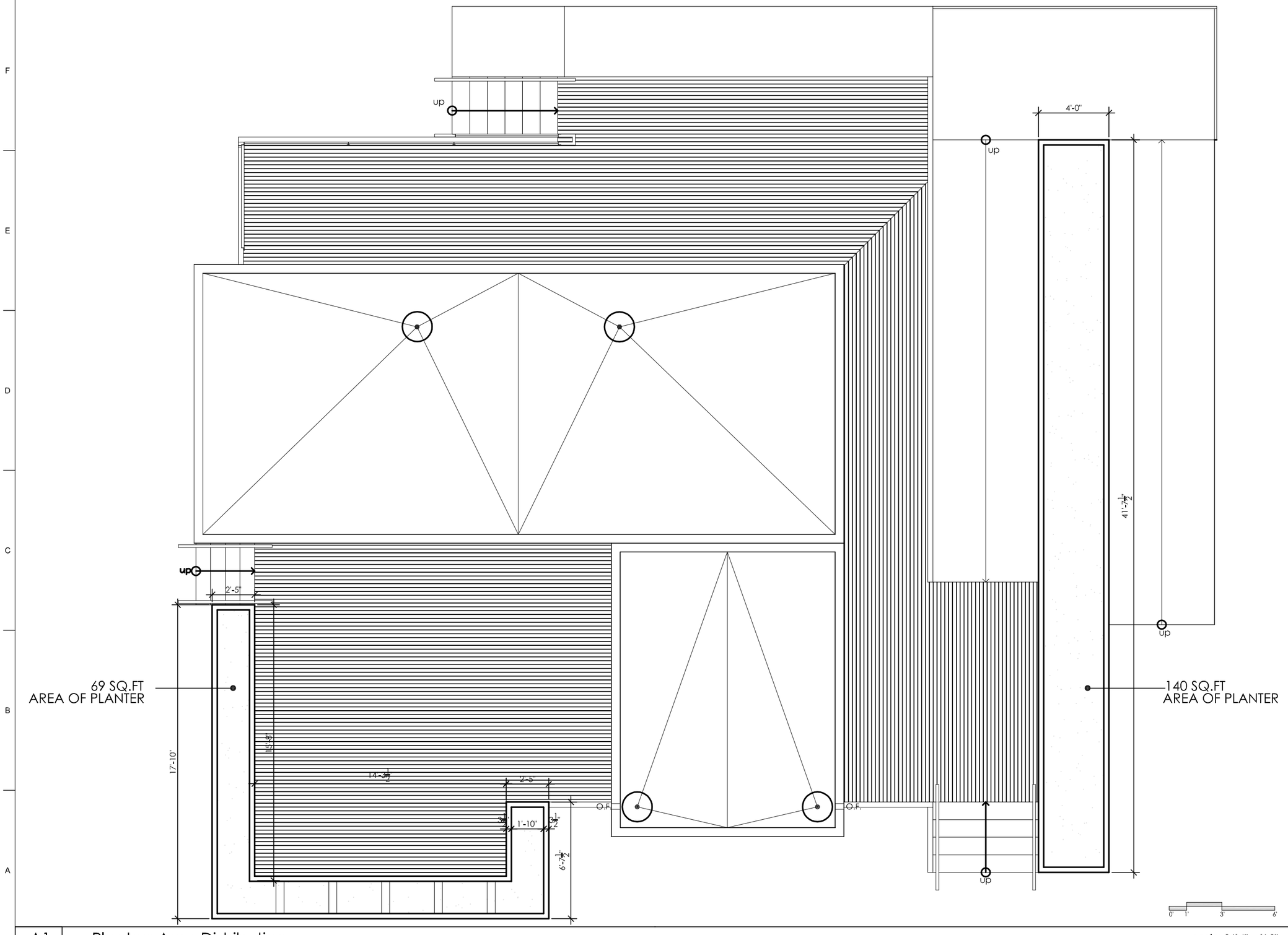

A1 Planters Area Distribution

scale: 3/16" = 1'-0"

PROFESSIONAL SEAL:

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DRAWING TITLE

PLANTERS AREA DISTRIBUTION

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A-103

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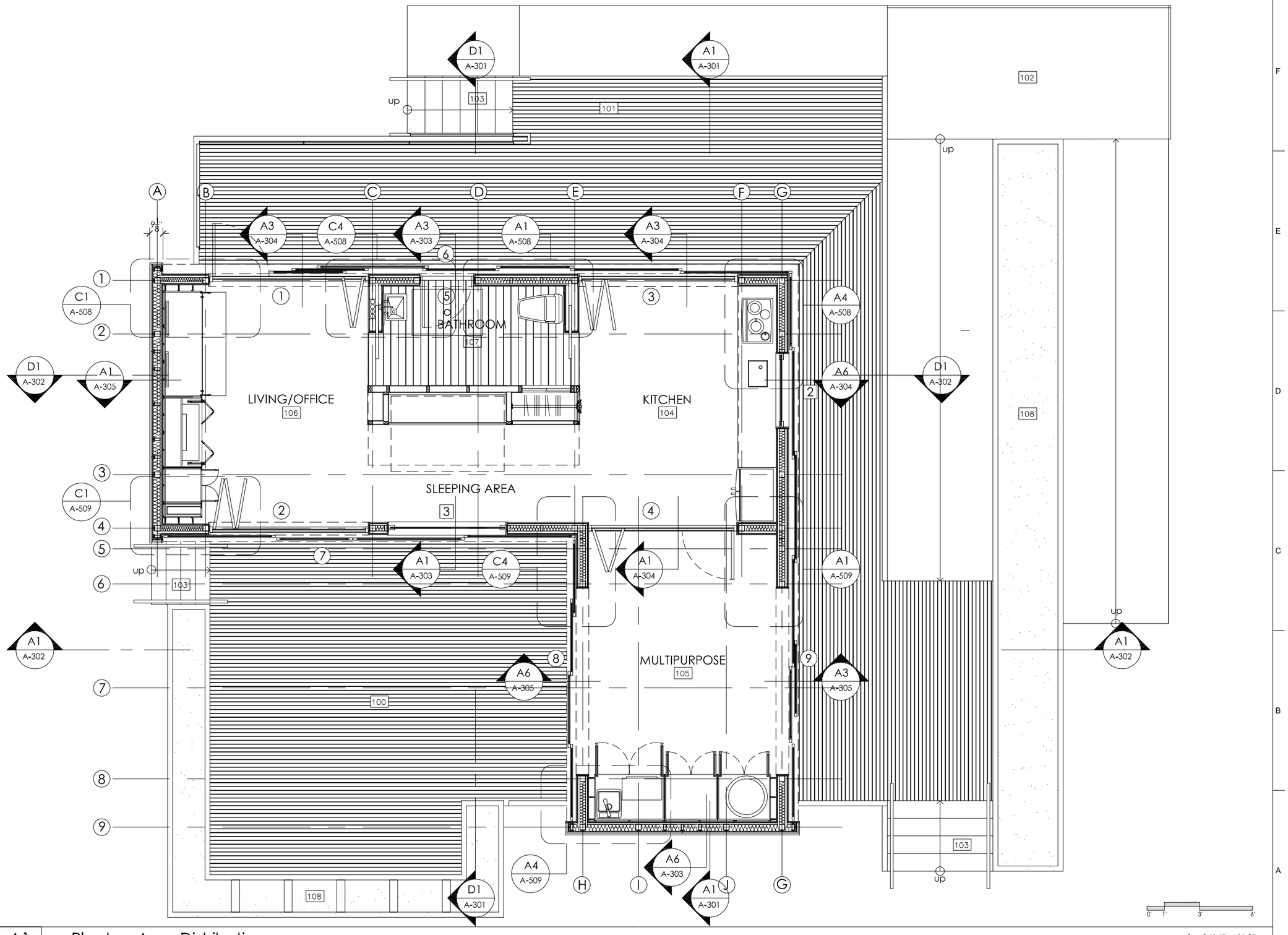

A1 Planters Area Distribution

scale: 3/16" = 1'-0"

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DRAWING TITLE

ARCHITECTURAL FLOOR PLAN

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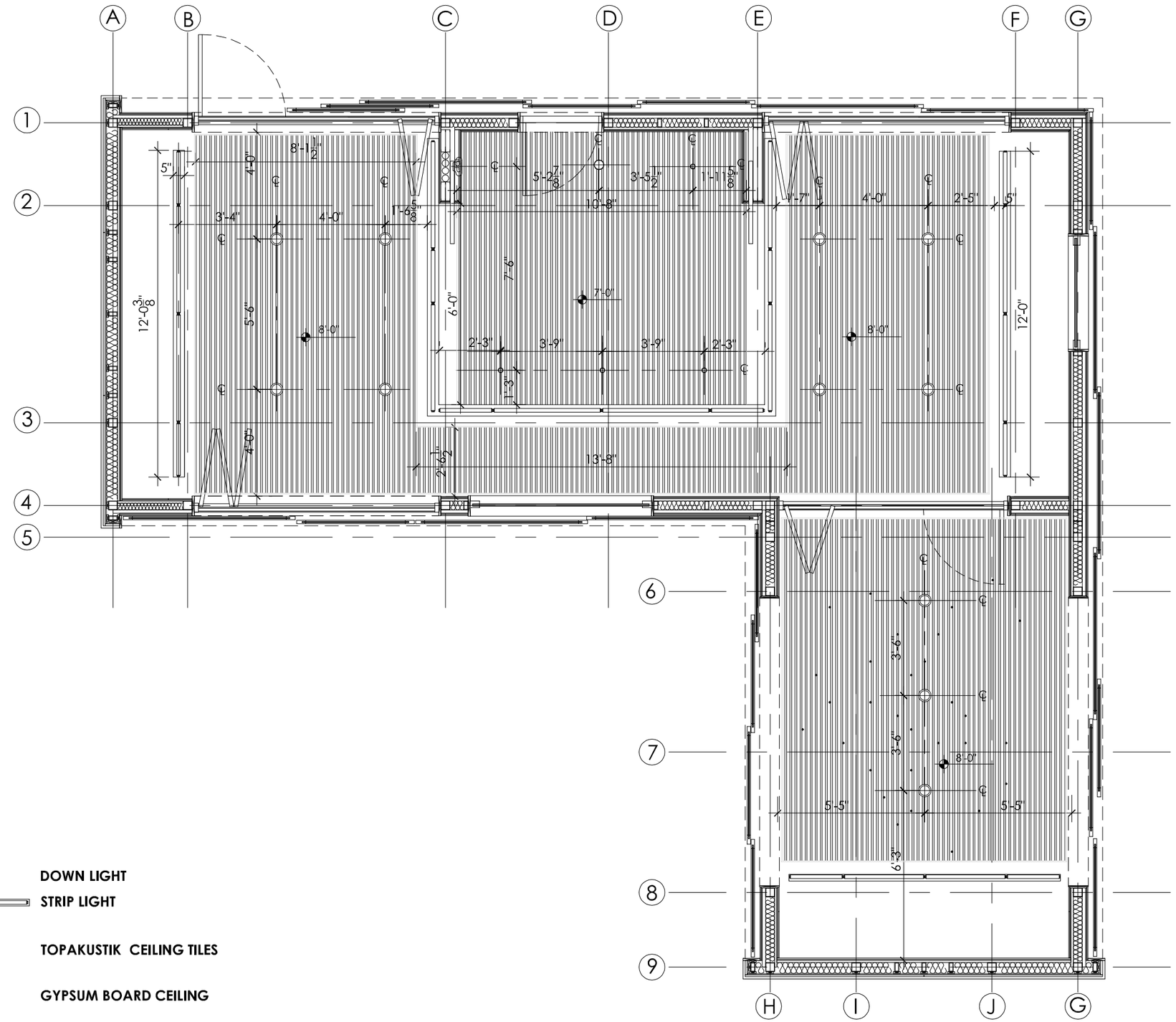

LEGEND

- DOWN LIGHT
- STRIP LIGHT
- TOPAKUSTIK CEILING TILES
- GYPSUM BOARD CEILING

0' 1' 2.5' 5'

A1 Architectural Reflected Ceiling Plan

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

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DRAWING TITLE

ARCHITECTURAL REFLECTED CEILING PLAN

DRAWING NO.

A-105

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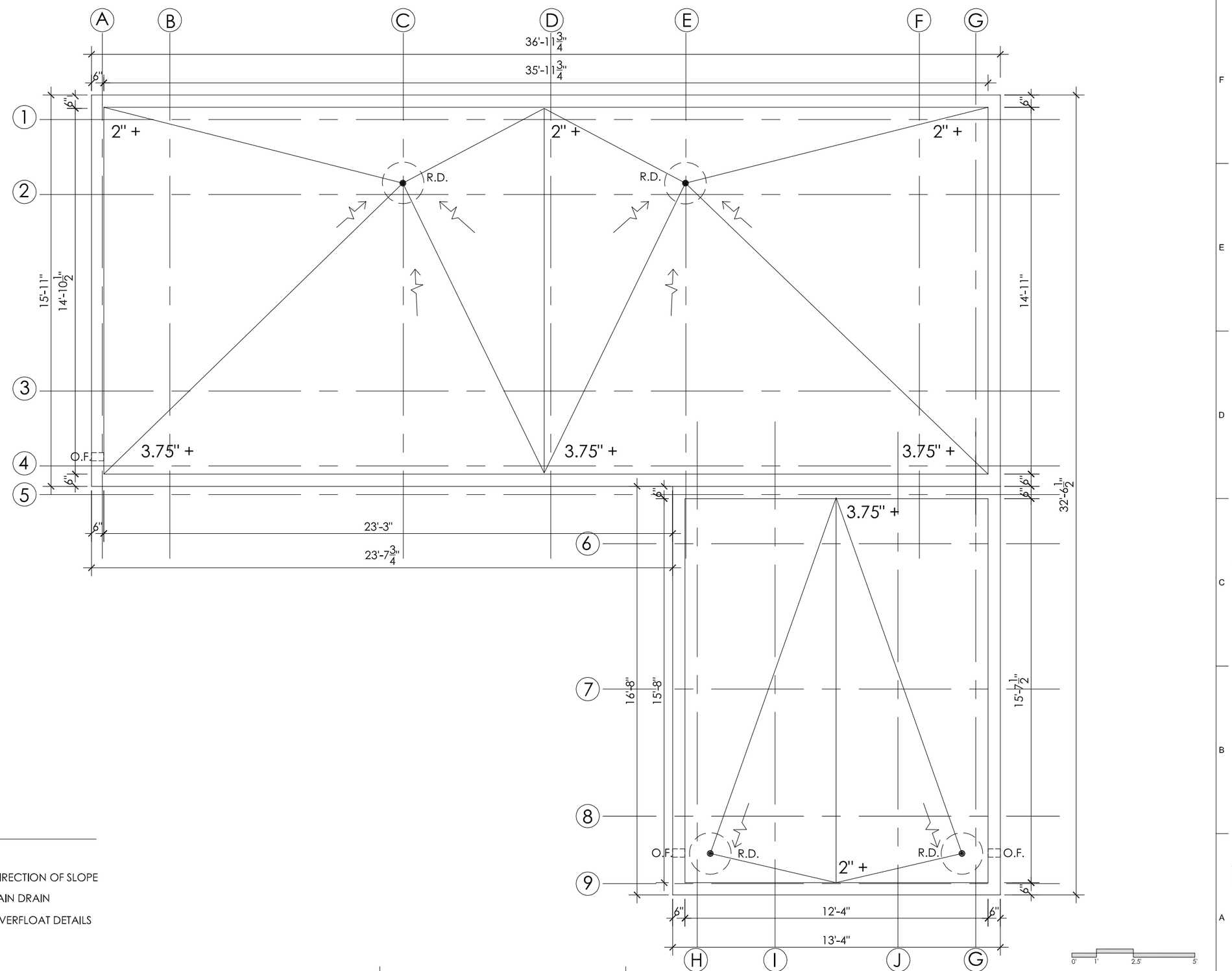

LEGEND

- DIRECTION OF SLOPE
- RAIN DRAIN
- OVERFLOAT DETAILS

A1 Architectural Roof Plan

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

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DRAWING TITLE

ARCHITECTURAL ROOF PLAN

DRAWING NO.

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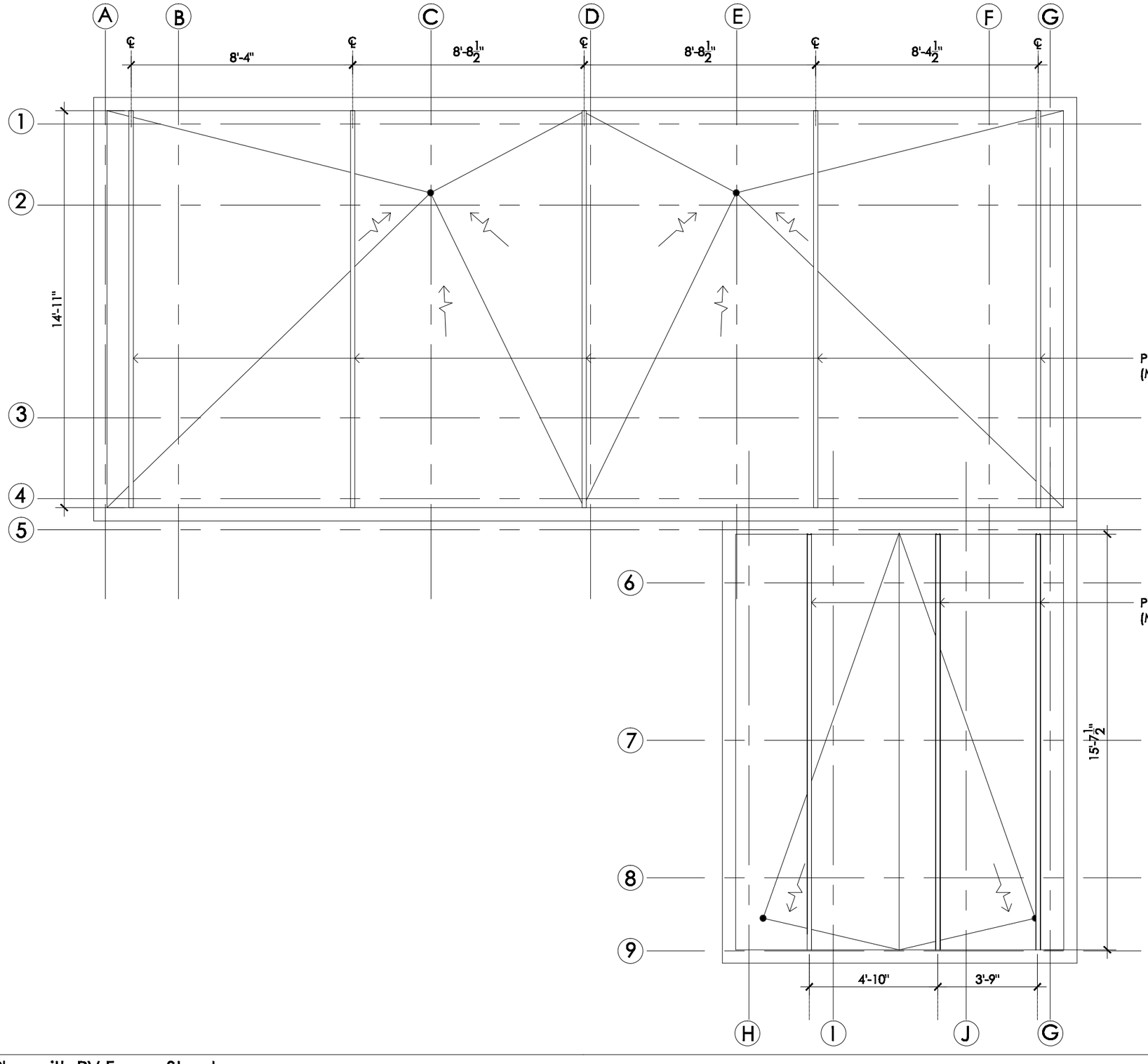

A1 Roof Plan with PV Frame Structure

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

PROFESSIONAL SEAL:

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DRAWING TITLE

ROOF PLAN WITH PV STRUCTURAL FRAME

DRAWING NO.

A-107

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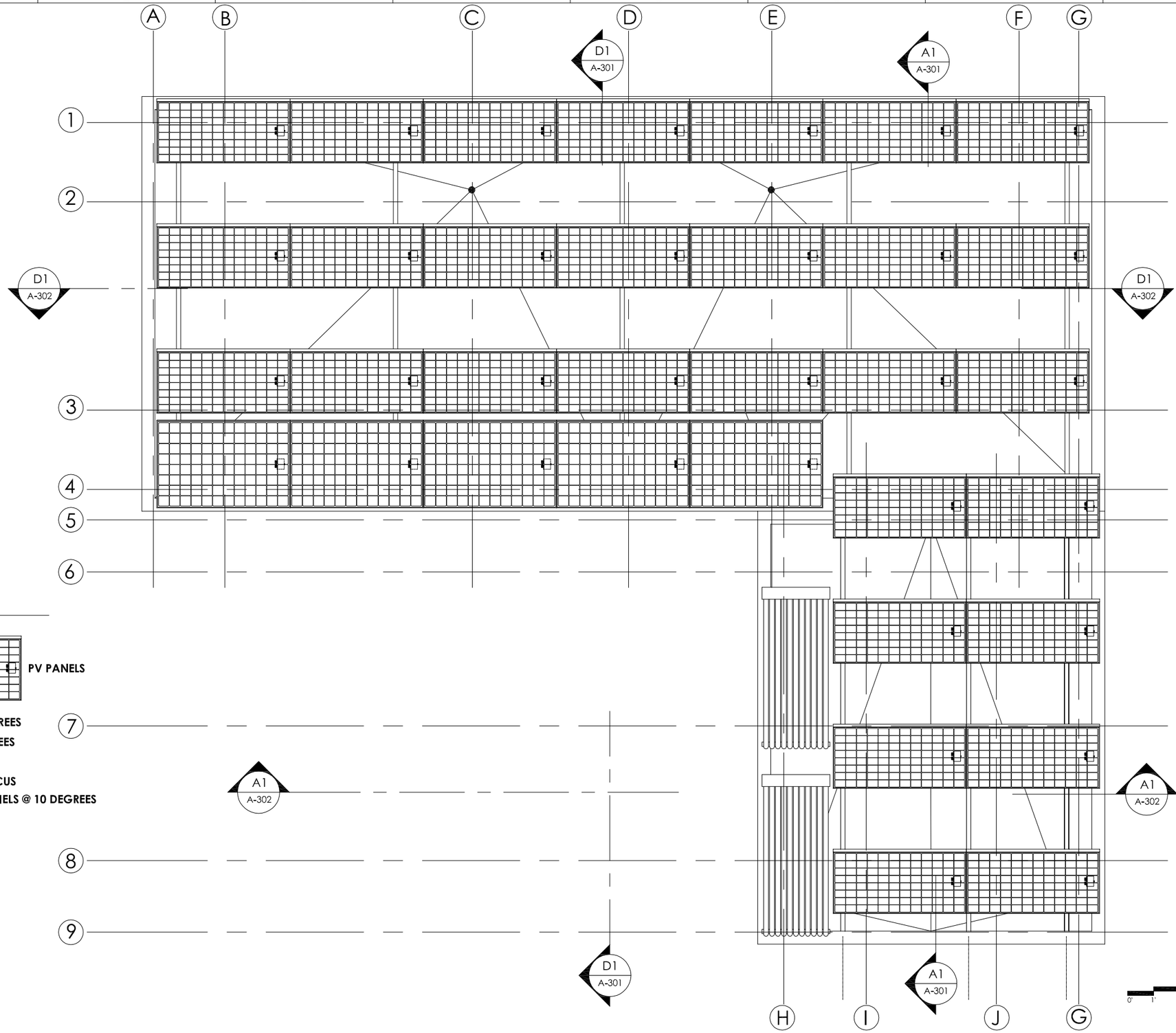

LEGEND

PV PANELS

29 PANELS @ 46 DEGREES
5 PANELS @ 10 DEGREES

APRICUS
2 PANELS @ 10 DEGREES

0' 1' 2.5' 5'

A8 | Roof Plan with PV Distribution

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

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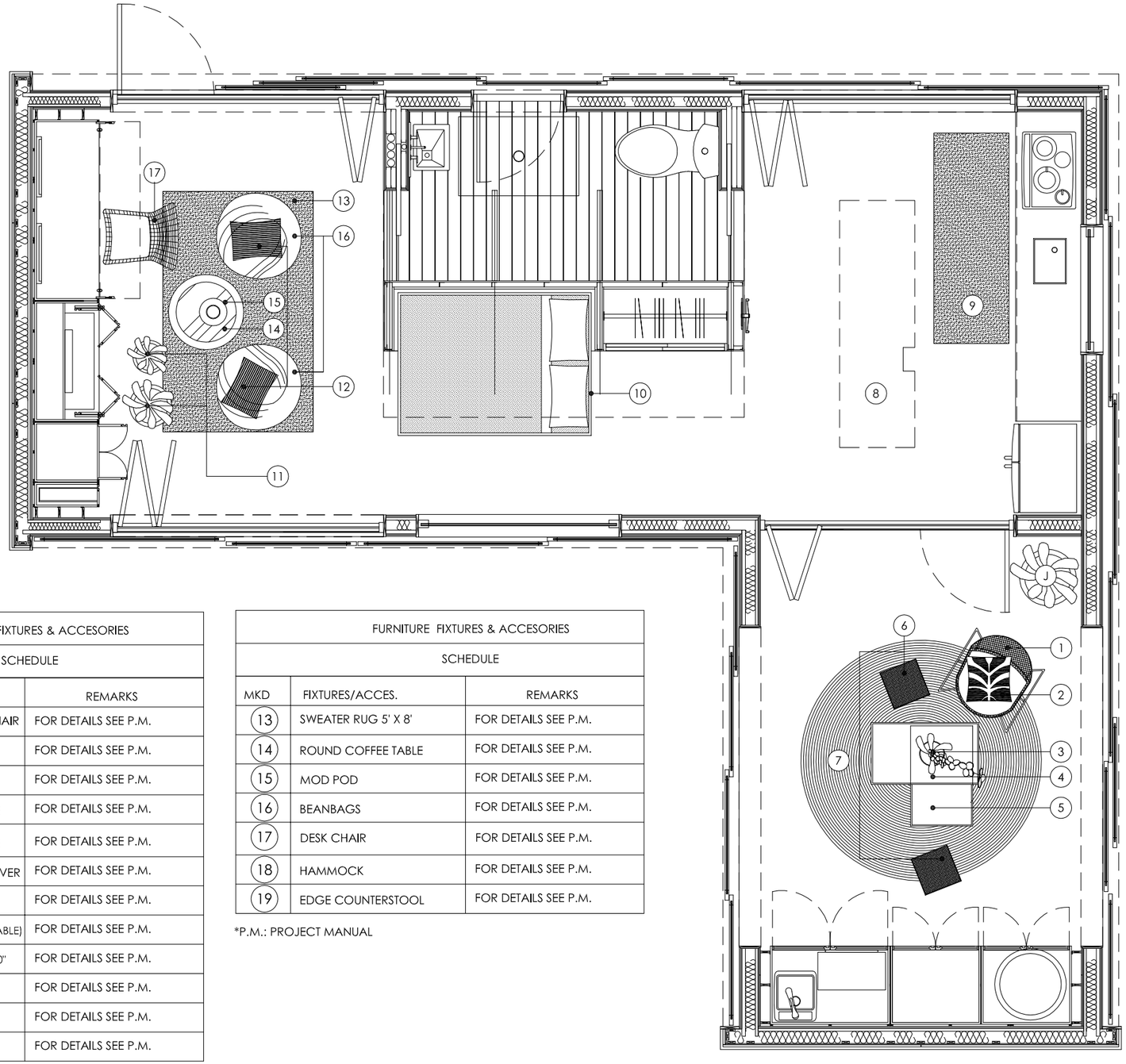
DRAWING TITLE

ROOF PLAN WITH PV DISTRIBUTION

DRAWING NO.

A-108

ISSUE FOR: FINAL DESIGN



LEGEND

FURNITURE FIXTURES & ACCESORIES SCHEDULE		
MKD	FIXTURES/ACCES.	REMARKS
1	METAL MESH LOUNGE CHAIR	FOR DETAILS SEE P.M.
2	PALM PILLOW	FOR DETAILS SEE P.M.
3	MILO PLANTER	FOR DETAILS SEE P.M.
4	MODULAR COFFEE TABLE	FOR DETAILS SEE P.M.
5	MODULAR COFFEE TABLE	FOR DETAILS SEE P.M.
6	PLAINWEAVE PILLOW COVER	FOR DETAILS SEE P.M.
7	ROUND BRAIDED RUG	FOR DETAILS SEE P.M.
8	DINNING TABLE (COUNTERTABLE)	FOR DETAILS SEE P.M.
9	JUTE BOUCLE RUG 2'-6" X 7'-0"	FOR DETAILS SEE P.M.
10	BIG PLANTER	FOR DETAILS SEE P.M.
11	PLANTERS	FOR DETAILS SEE P.M.
12	MULTISTRIPE CUSHIONS	FOR DETAILS SEE P.M.

FURNITURE FIXTURES & ACCESORIES SCHEDULE		
MKD	FIXTURES/ACCES.	REMARKS
13	SWEATER RUG 5' X 8'	FOR DETAILS SEE P.M.
14	ROUND COFFEE TABLE	FOR DETAILS SEE P.M.
15	MOD POD	FOR DETAILS SEE P.M.
16	BEANBAGS	FOR DETAILS SEE P.M.
17	DESK CHAIR	FOR DETAILS SEE P.M.
18	HAMMOCK	FOR DETAILS SEE P.M.
19	EDGE COUNTERSTOOL	FOR DETAILS SEE P.M.

*P.M.: PROJECT MANUAL

0' 1' 2.5' 5'

A1 Furniture Distribution Plan (Arrangement 1)

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

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DRAWING TITLE
FURNITURE DISTRIBUTION PLAN (ARRANGEMENT 1)

DRAWING NO.
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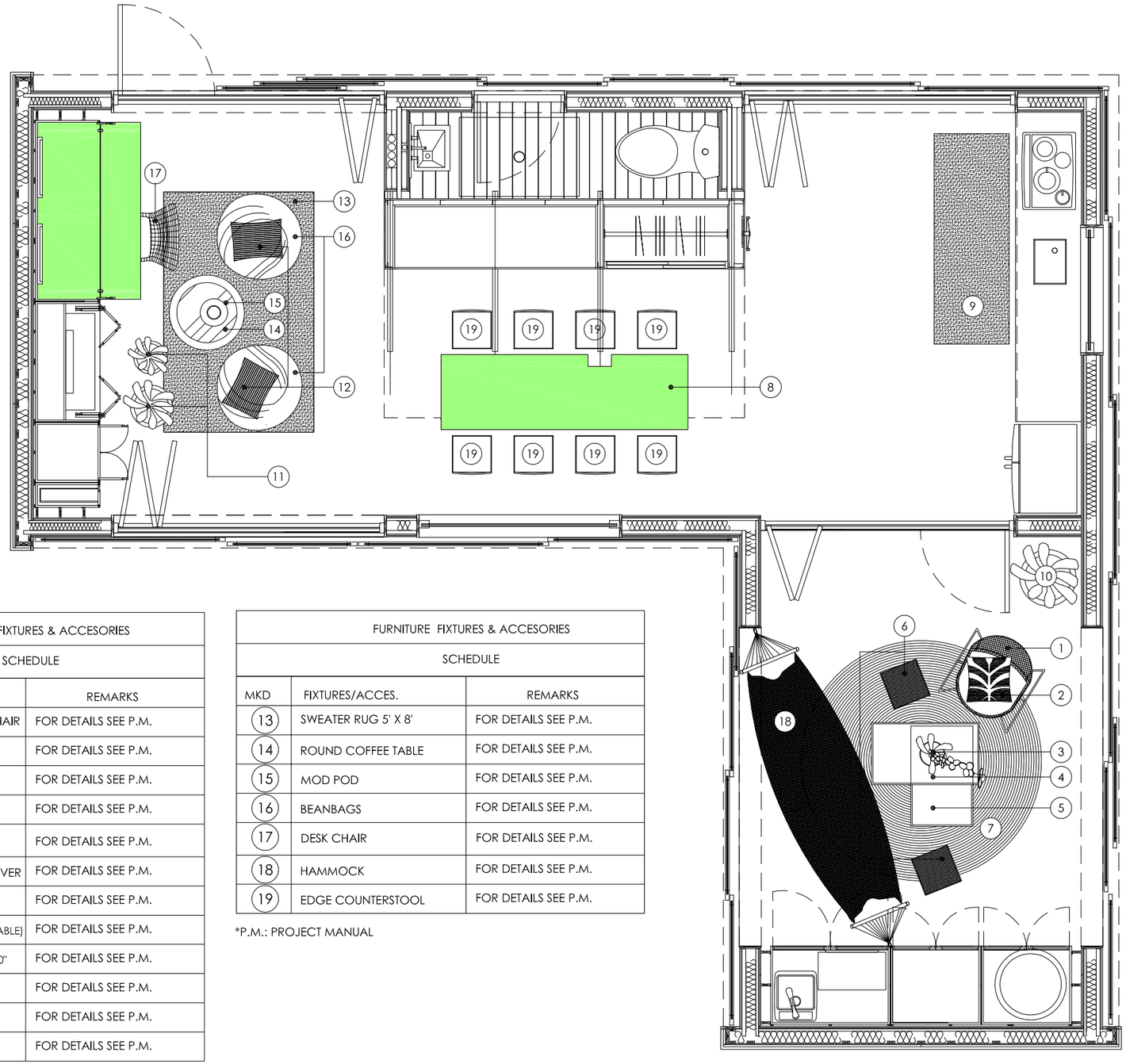

LEGEND

FURNITURE FIXTURES & ACCESORIES SCHEDULE		
MKD	FIXTURES/ACCES.	REMARKS
1	METAL MESH LOUNGE CHAIR	FOR DETAILS SEE P.M.
2	PALM PILLOW	FOR DETAILS SEE P.M.
3	MILO PLANTER	FOR DETAILS SEE P.M.
4	MODULAR COFFEE TABLE	FOR DETAILS SEE P.M.
5	MODULAR COFFEE TABLE	FOR DETAILS SEE P.M.
6	PLAINWEAVE PILLOW COVER	FOR DETAILS SEE P.M.
7	ROUND BRAIDED RUG	FOR DETAILS SEE P.M.
8	DINNING TABLE (COUNTERTABLE)	FOR DETAILS SEE P.M.
9	JUTE BOUCLE RUG 2'-6" X 7'-0"	FOR DETAILS SEE P.M.
10	BIG PLANTER	FOR DETAILS SEE P.M.
11	PLANTERS	FOR DETAILS SEE P.M.
12	MULTISTRIPE CUSHIONS	FOR DETAILS SEE P.M.

FURNITURE FIXTURES & ACCESORIES SCHEDULE		
MKD	FIXTURES/ACCES.	REMARKS
13	SWEATER RUG 5' X 8'	FOR DETAILS SEE P.M.
14	ROUND COFFEE TABLE	FOR DETAILS SEE P.M.
15	MOD POD	FOR DETAILS SEE P.M.
16	BEANBAGS	FOR DETAILS SEE P.M.
17	DESK CHAIR	FOR DETAILS SEE P.M.
18	HAMMOCK	FOR DETAILS SEE P.M.
19	EDGE COUNTERSTOOL	FOR DETAILS SEE P.M.

*P.M.: PROJECT MANUAL

0' 1' 2.5' 5'

A1 Furniture Distribution Plan (Arrangement 2) scale: 1/4" = 1'-0"

PROFESSIONAL SEAL:

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DRAWING TITLE
FURNITURE DISTRIBUTION PLAN (ARRANGEMENT 2)

DRAWING NO.
A-110

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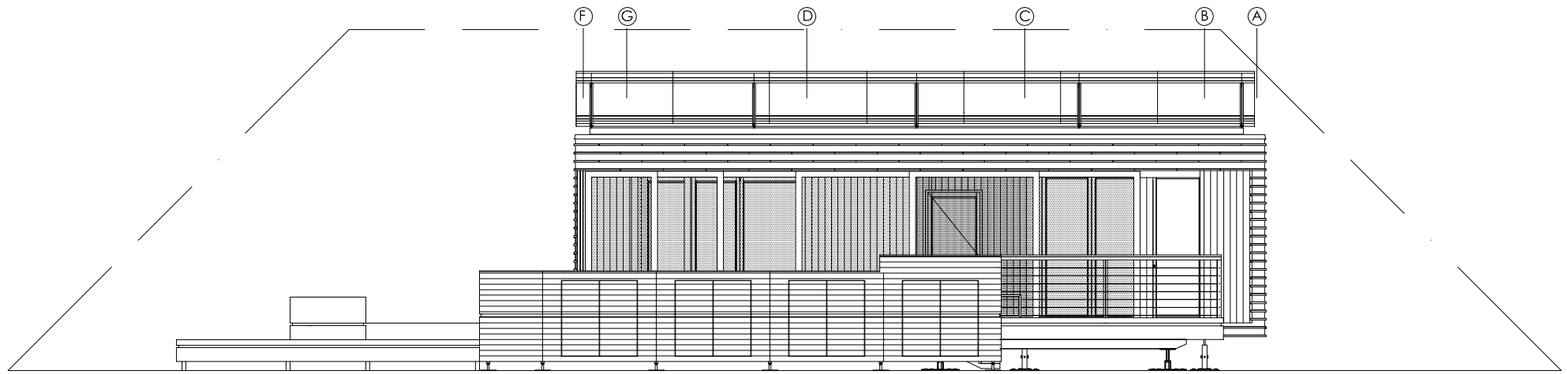
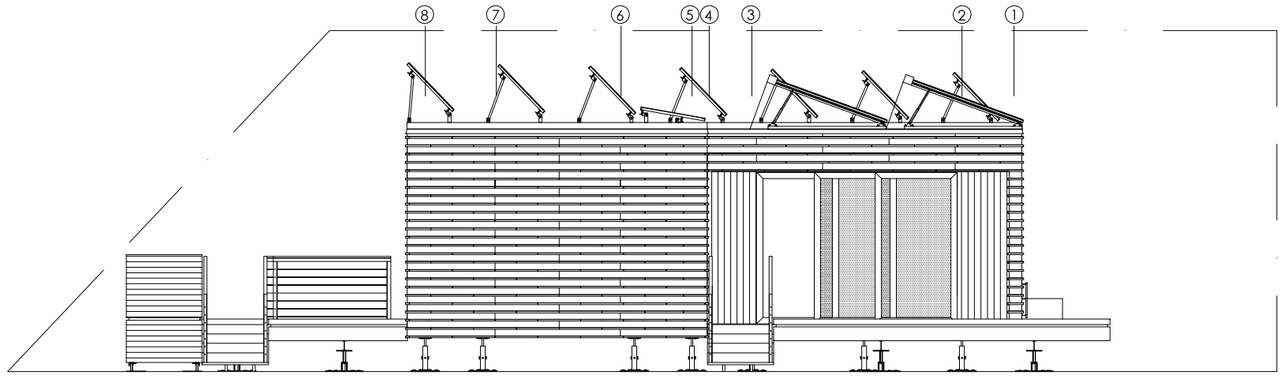


0' 1' 2.5' 5' 10'

D1 North Envelope Elevations

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



0' 1' 2.5' 5' 10'

A1 West Envelope Elevations

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

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DRAWING TITLE

SOLAR ENVELOPE ELEVATIONS

DRAWING NO.

A-201

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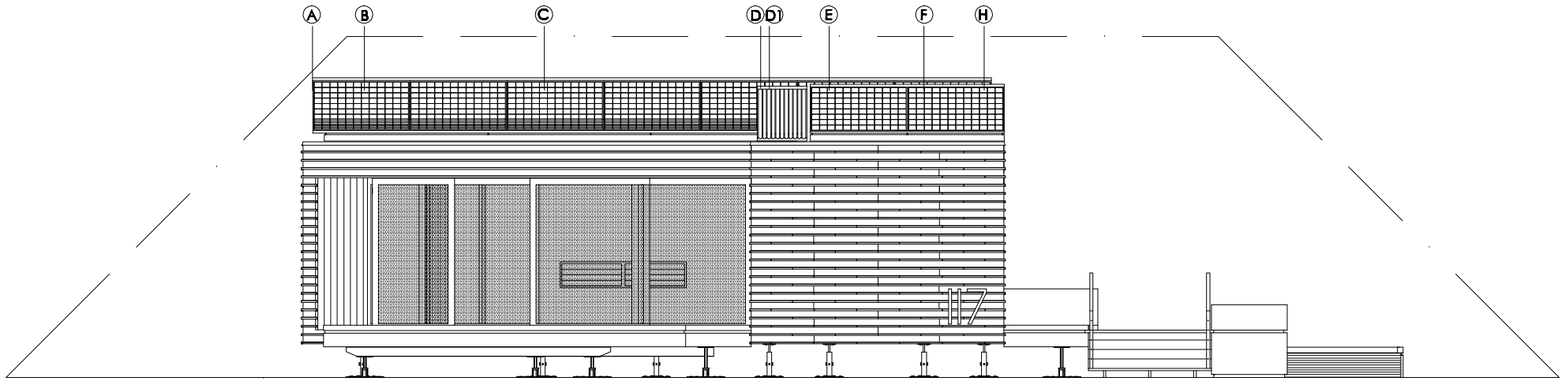
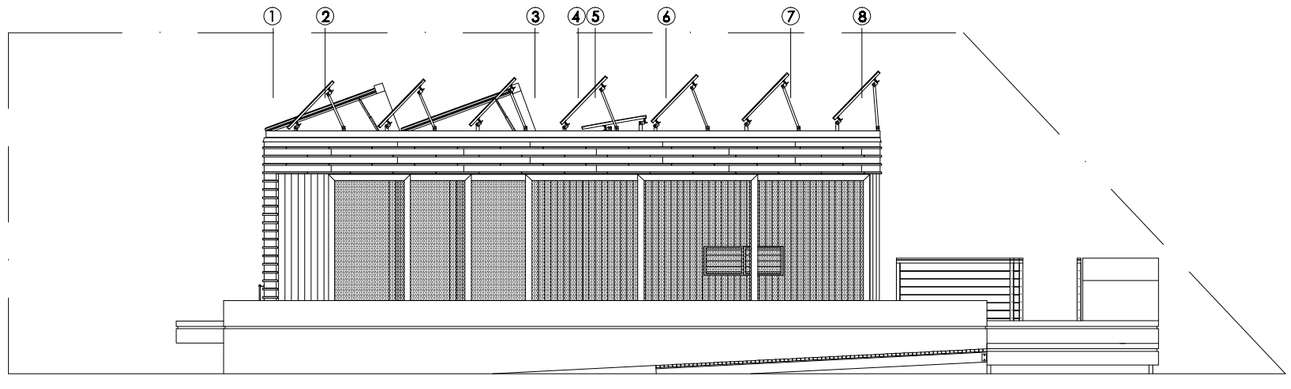


0' 1' 2.5' 5' 10'

D1 South Envelope Elevation

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



0' 1' 2.5' 5' 10'

A1 East Envelope Elevation

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

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File Name:

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DRAWING TITLE

SOLAR ENVELOPE ELEVATIONS

DRAWING NO.

A-202

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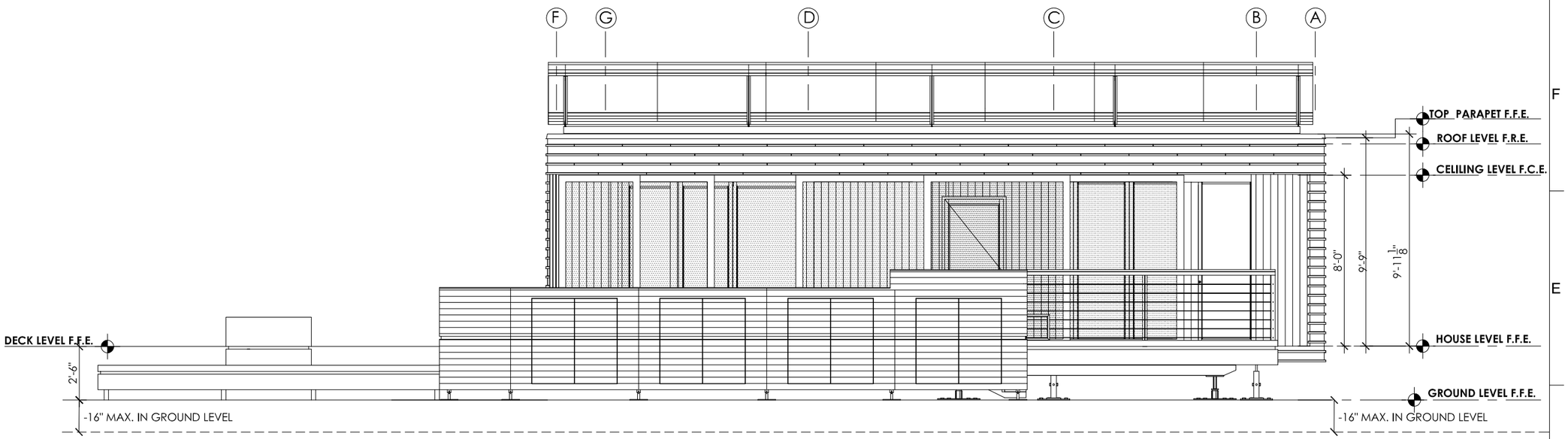
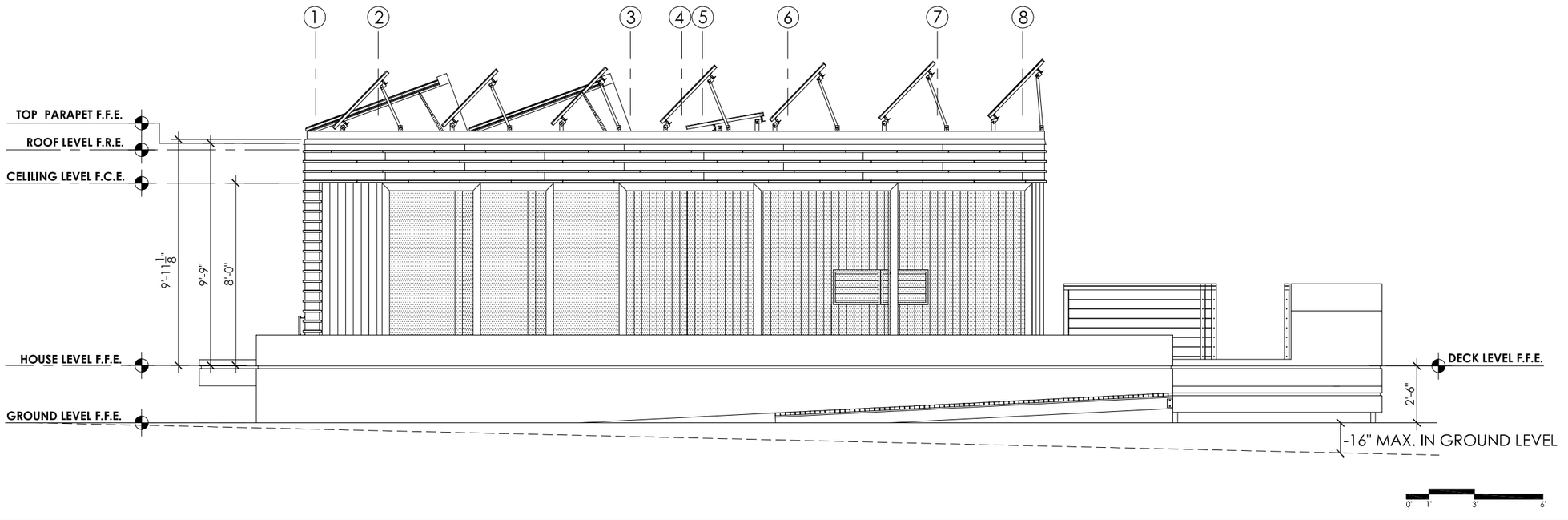


D1 North Elevation

scale: 3/16" = 1'-0"



A1 East Elevation

scale: 3/16" = 1'-0"

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DRAWING TITLE

ELEVATIONS

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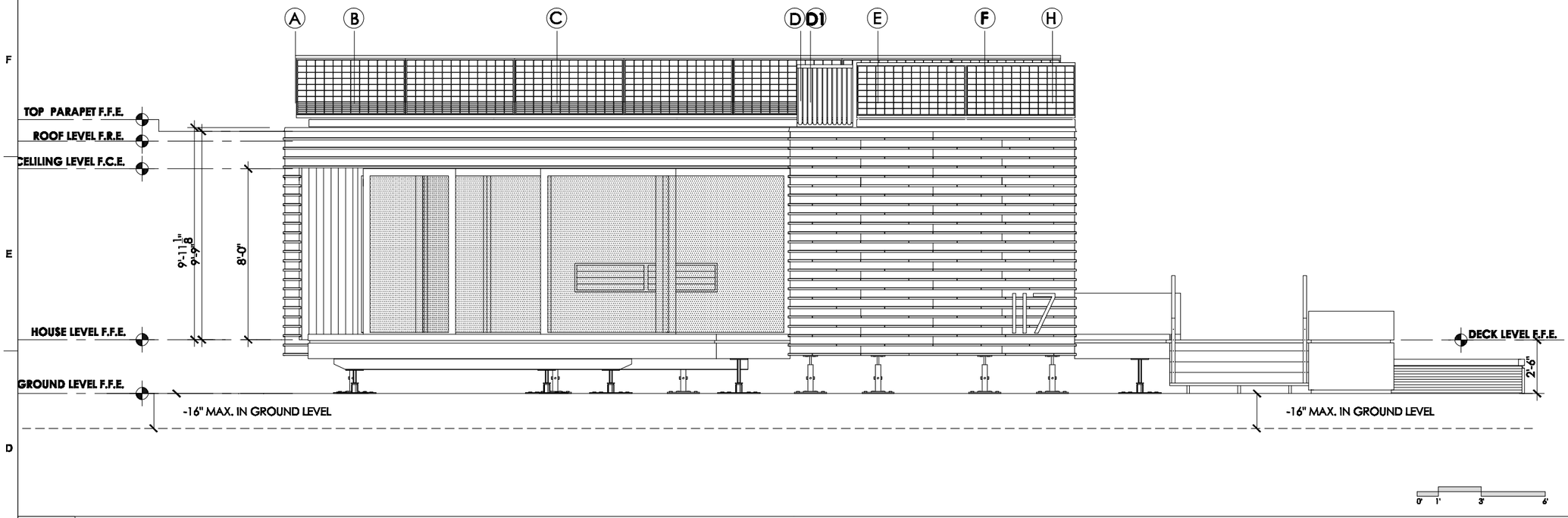
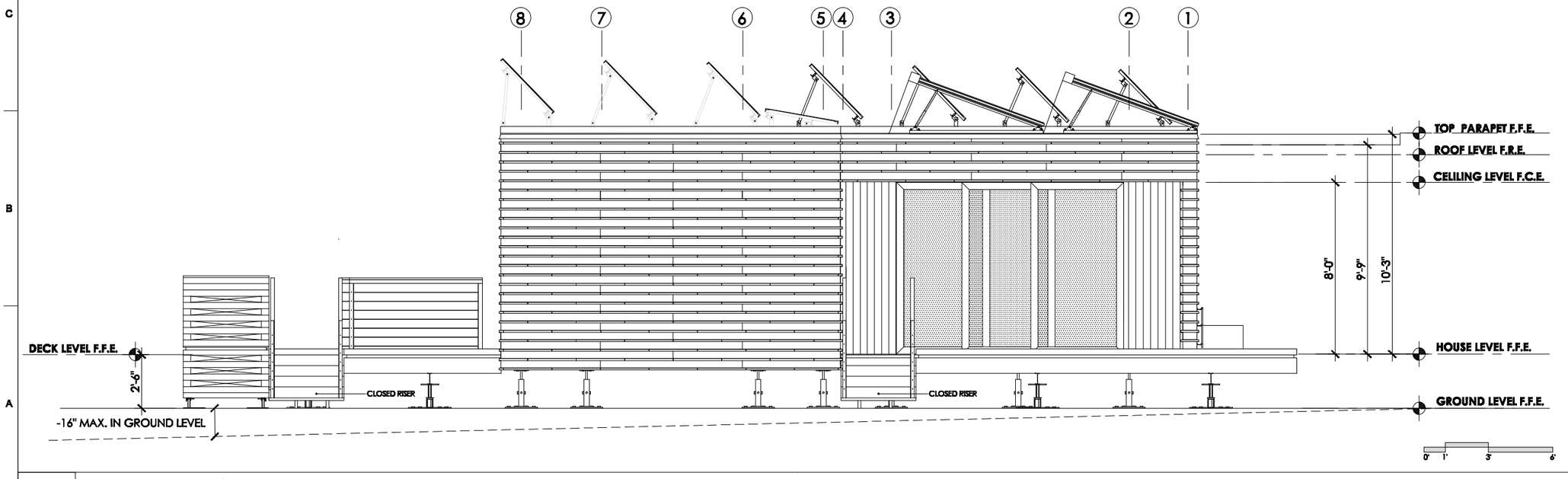


D1 South Elevation

scale: 3/16" = 1'-0"



A1 West Elevation

scale: 3/16" = 1'-0"

PROFESSIONAL SEAL:

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DRAWING TITLE

ELEVATIONS

DRAWING NO.

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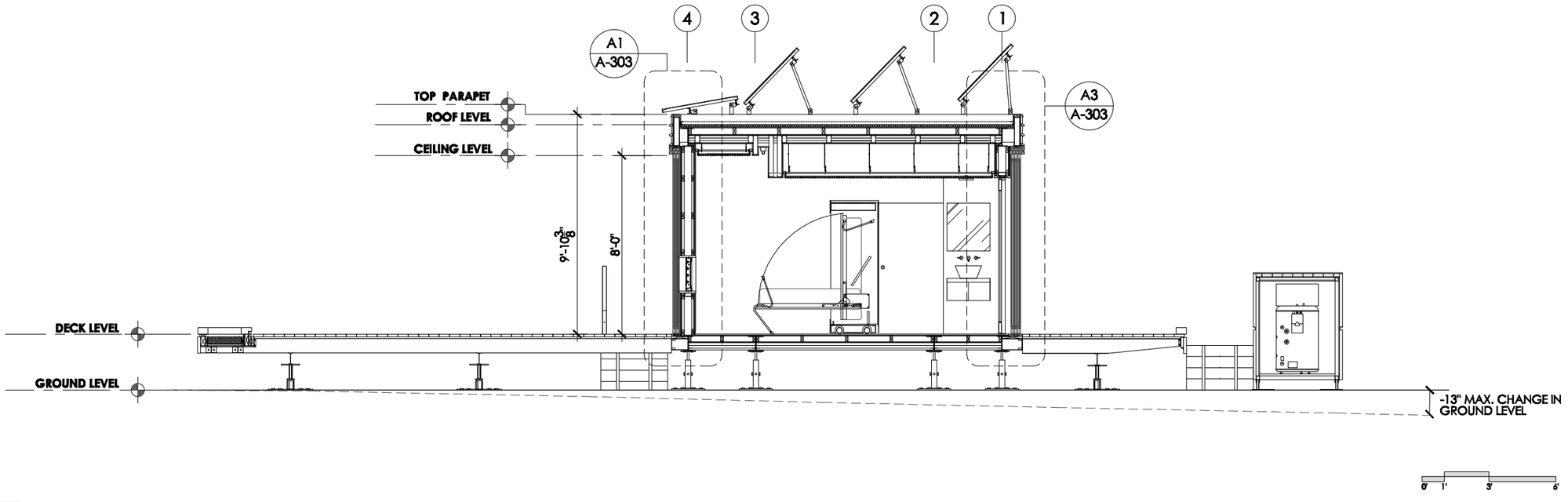
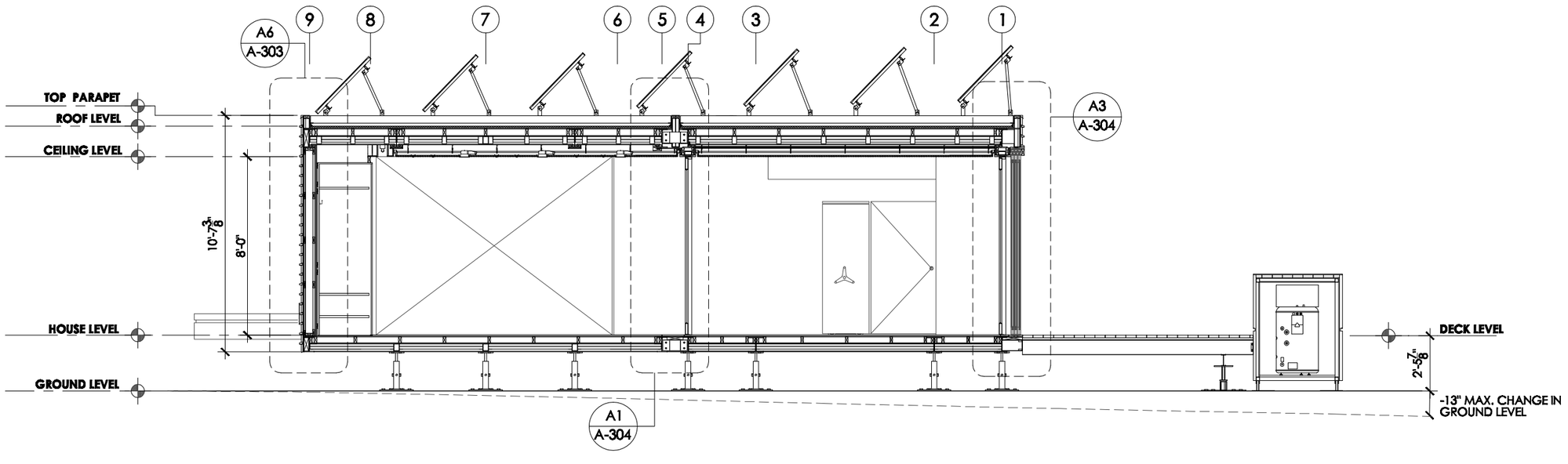


D1 Section AA

scale: 3/16" = 1'-0"



A1 Section BB

scale: 3/16" = 1'-0"

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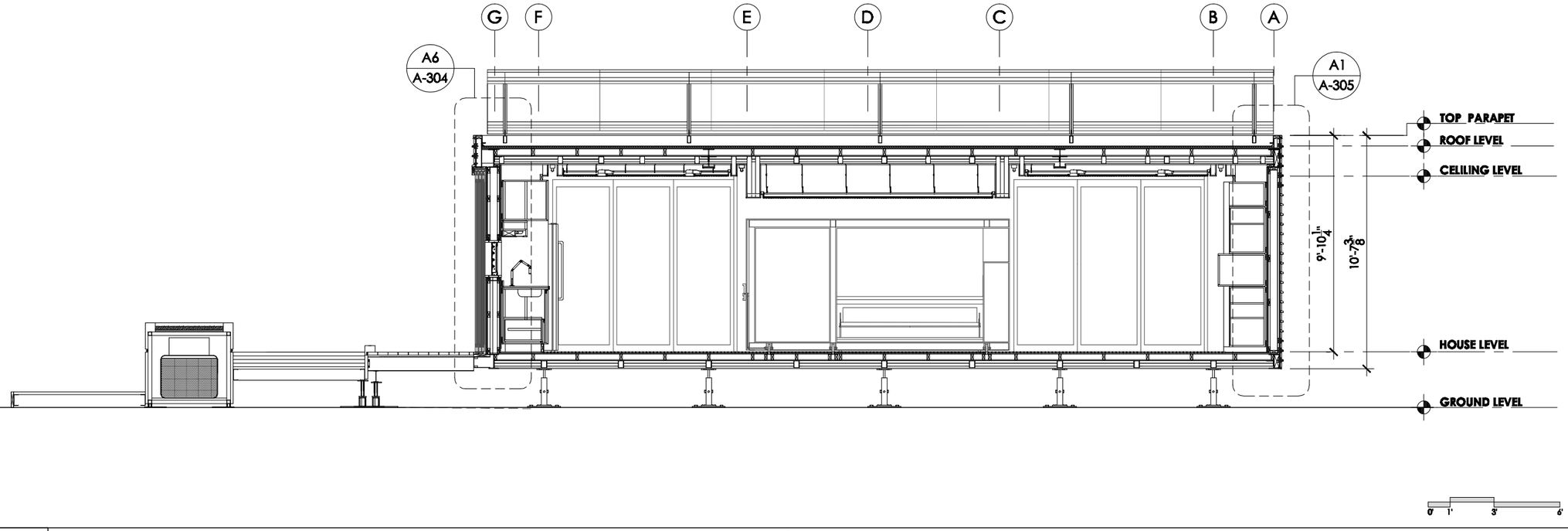
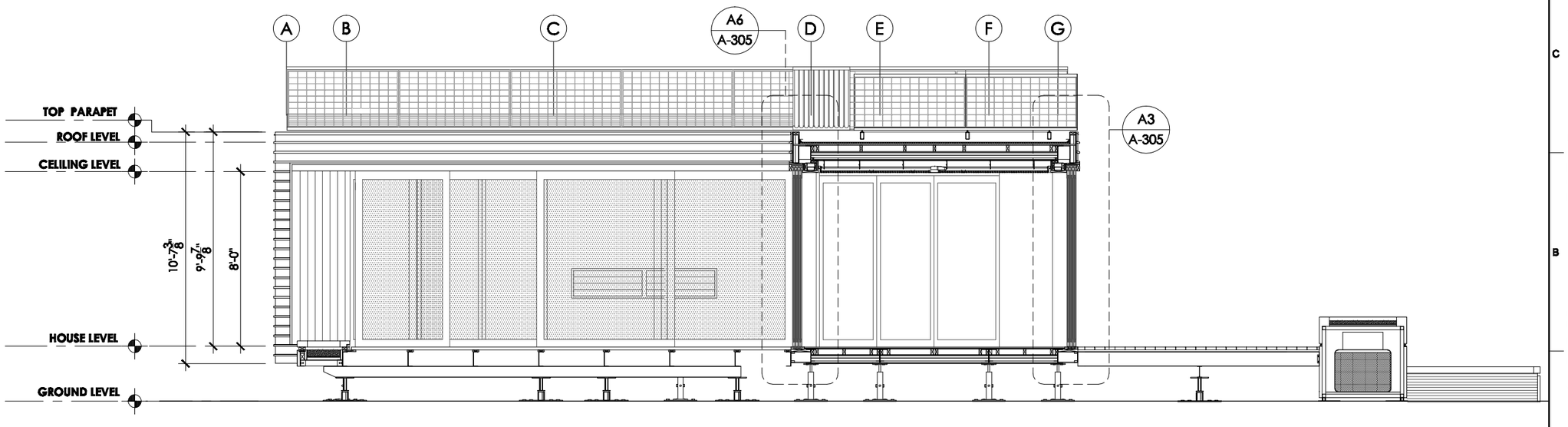


D1 | Section CC

scale: 3/16" = 1'-0"



A1 | Section DD

scale: 3/16" = 1'-0"

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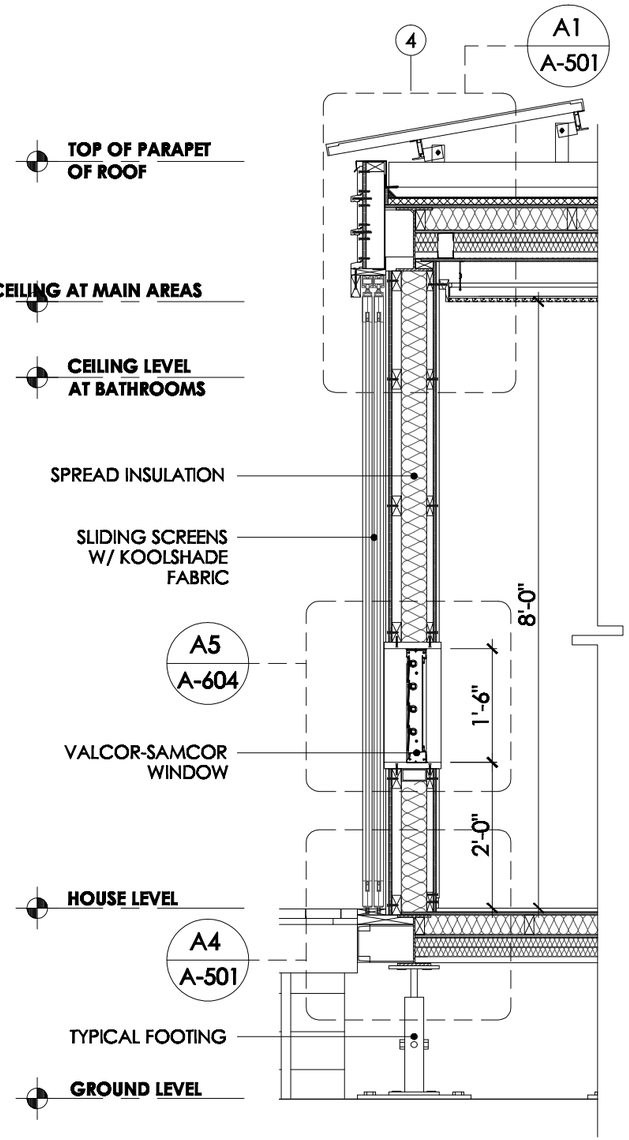

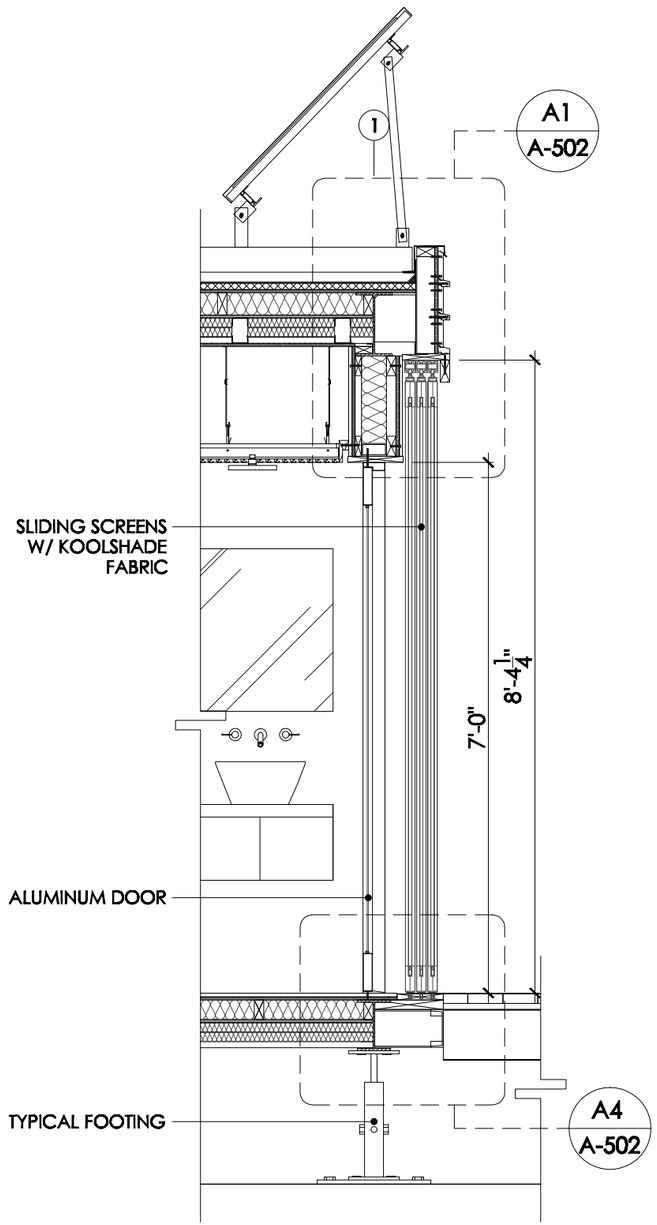

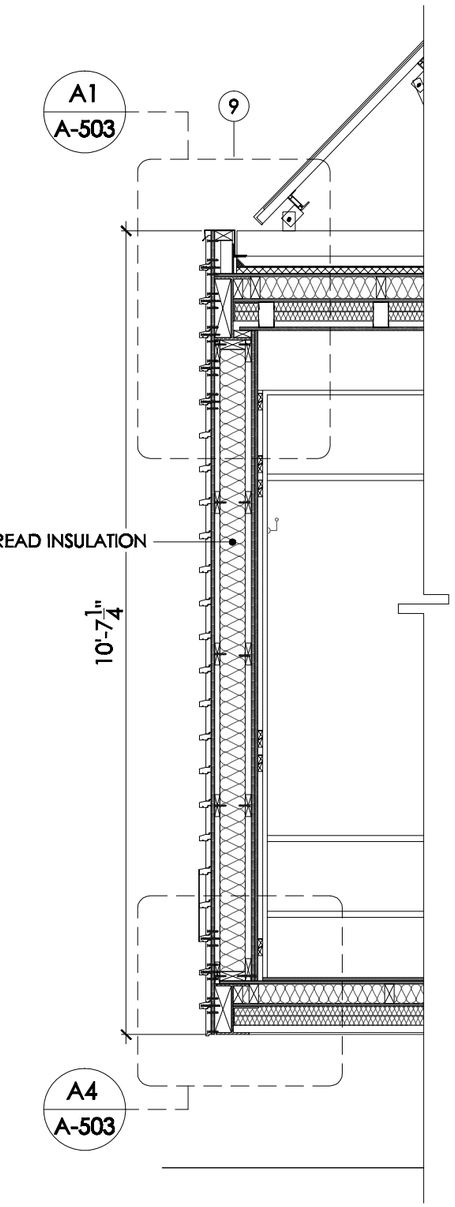

A1 Wall Section MK'D scale: 1/2" = 1'-0"

A3 Wall Section MK'D scale: 1/2" = 1'-0"

A6 Wall Section MK'D scale: 1/2" = 1'-0"

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WALL SECTIONS

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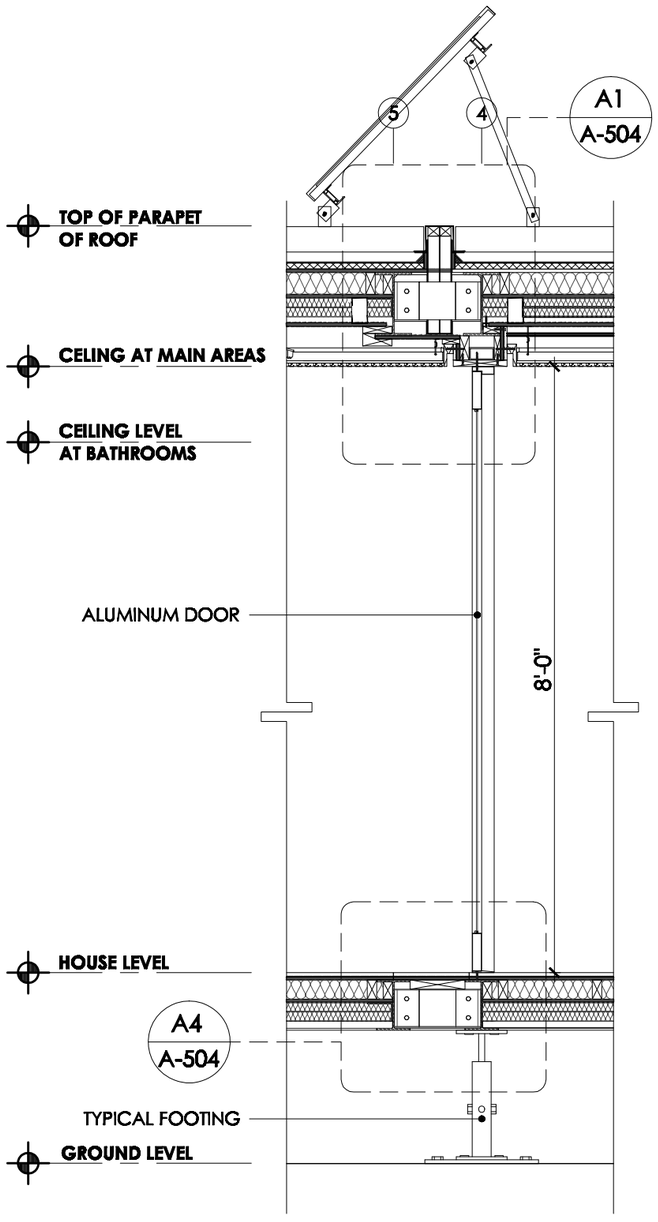
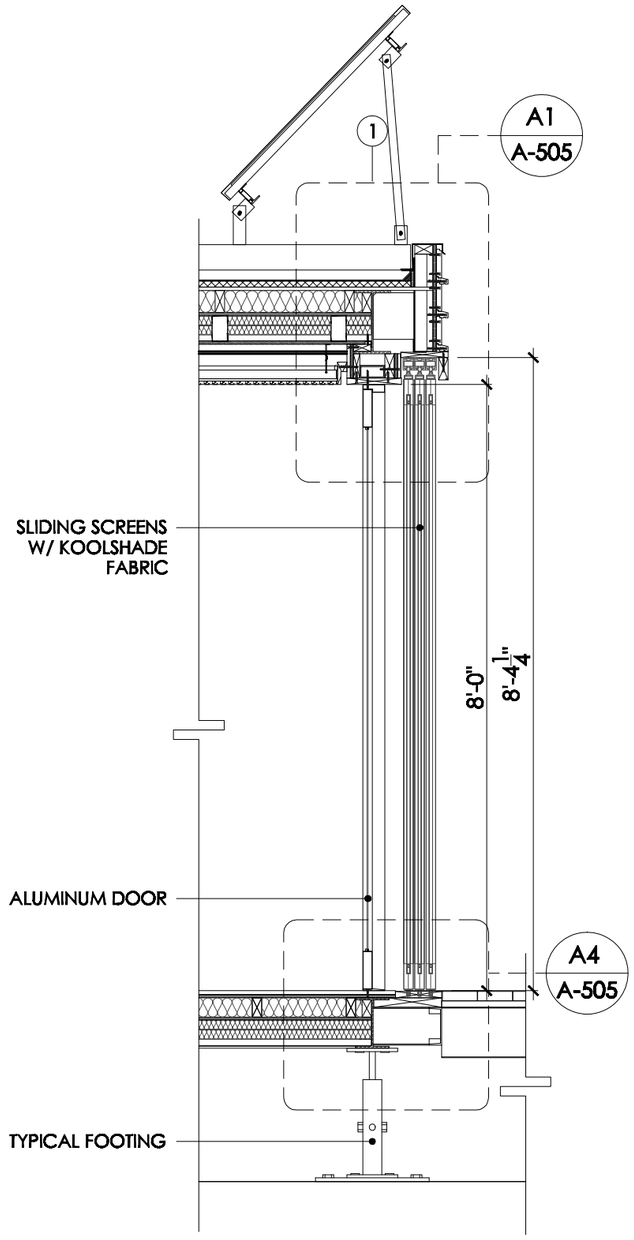
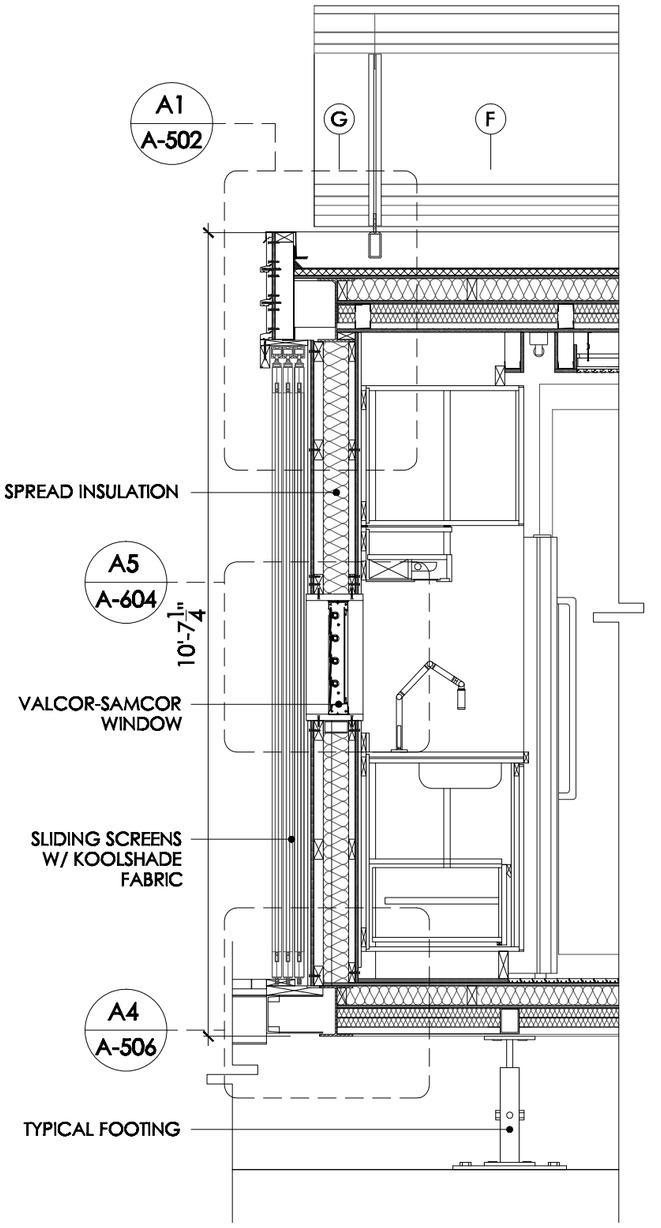


A1 Wall Section MK'D scale: 1/2" = 1'-0"



A3 Wall Section MK'D scale: 1/2" = 1'-0"



A6 Wall Section MK'D scale: 1/2" = 1'-0"

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DRAWING TITLE
WALL SECTIONS

DRAWING NO.
A-304

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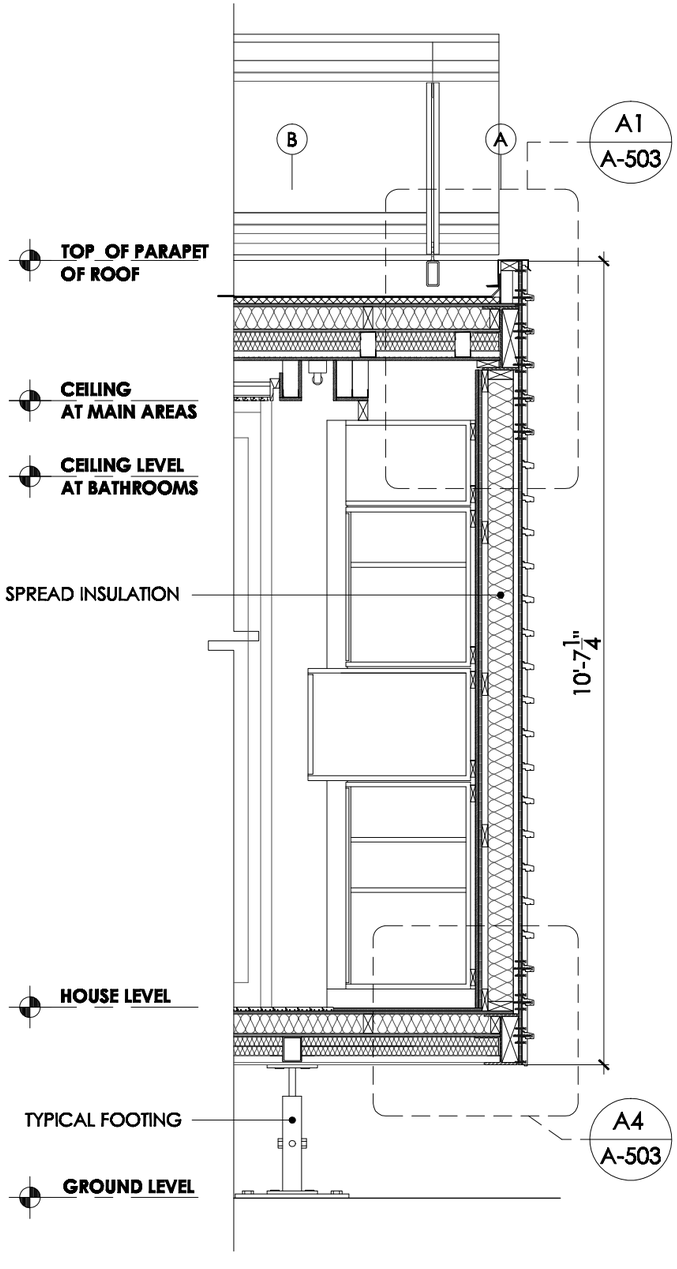
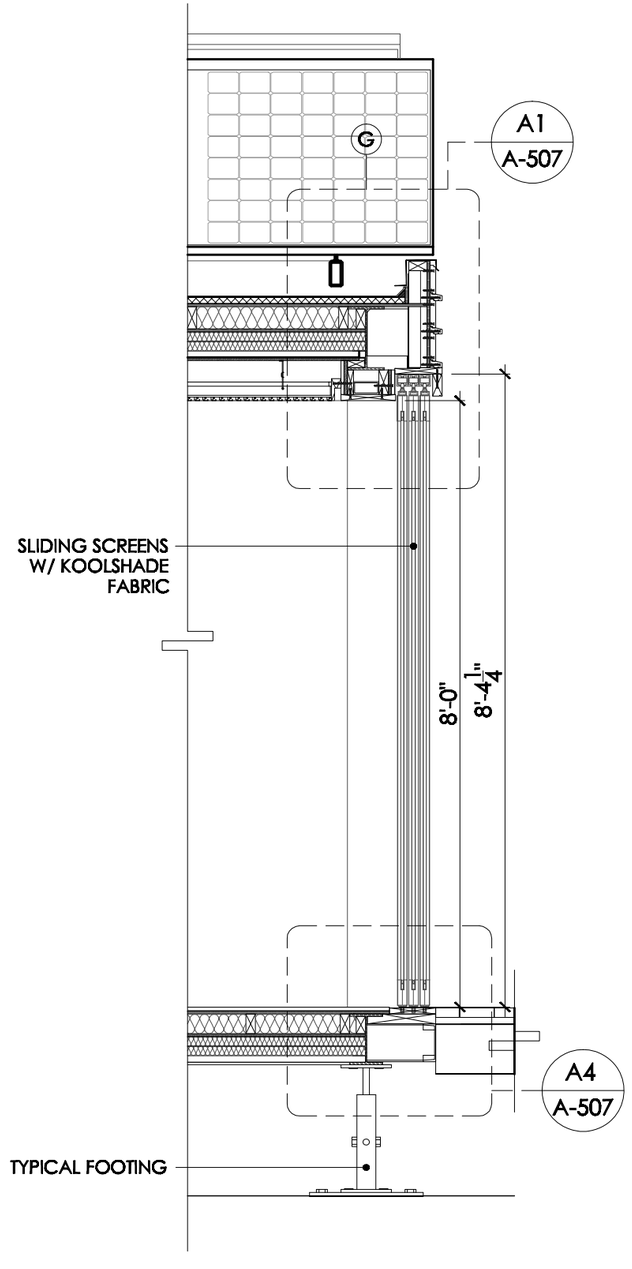
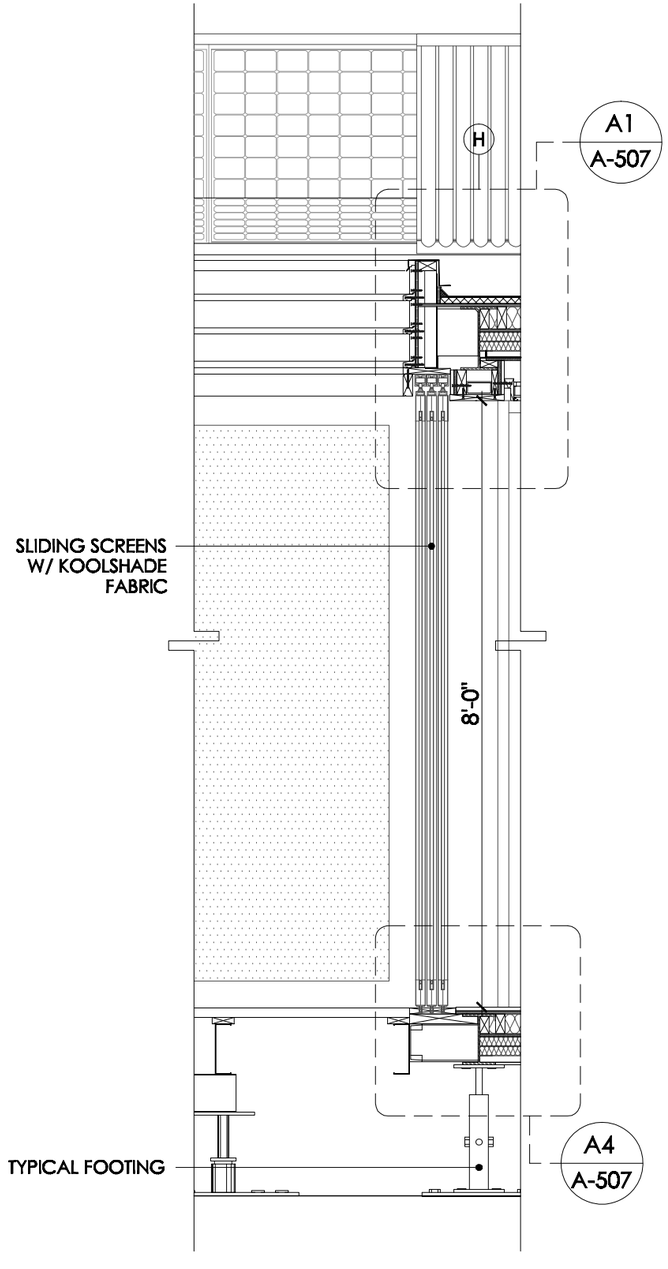


A1 Wall Section MK'D scale: 1/2" = 1'-0"



A3 Wall Section MK'D scale: 1/2" = 1'-0"



A6 Wall Section MK'D scale: 1/2" = 1'-0"

PROFESSIONAL SEAL:

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DRAWING TITLE

WALL SECTIONS

DRAWING NO.

A-305

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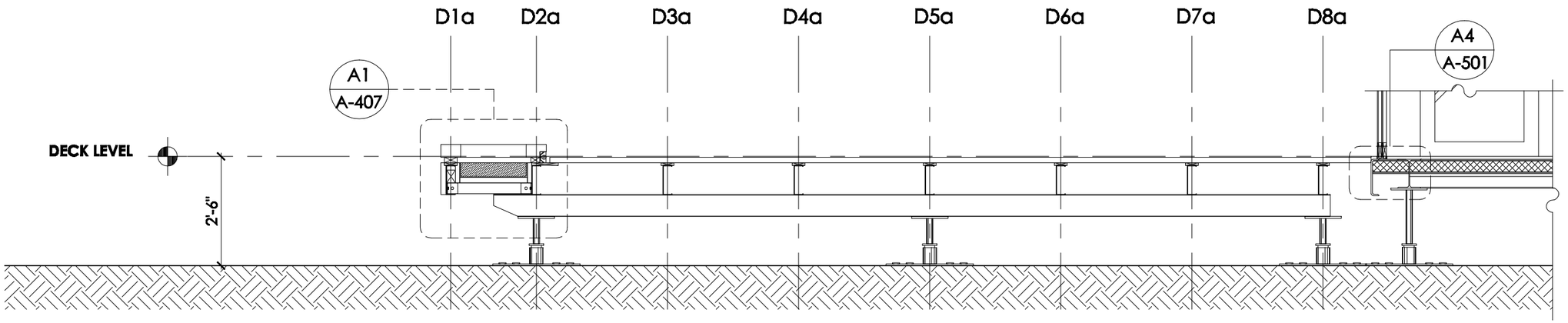
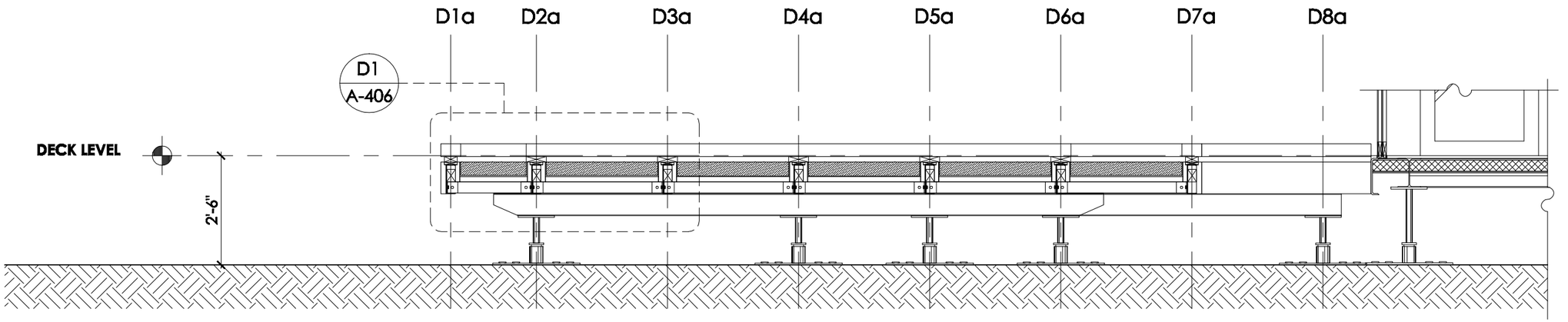


D1 Deck Section

scale: 3/8" = 1'-0"



A1 Deck Section

scale: 3/8" = 1'-0"

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DRAWING TITLE
DECK SECTION

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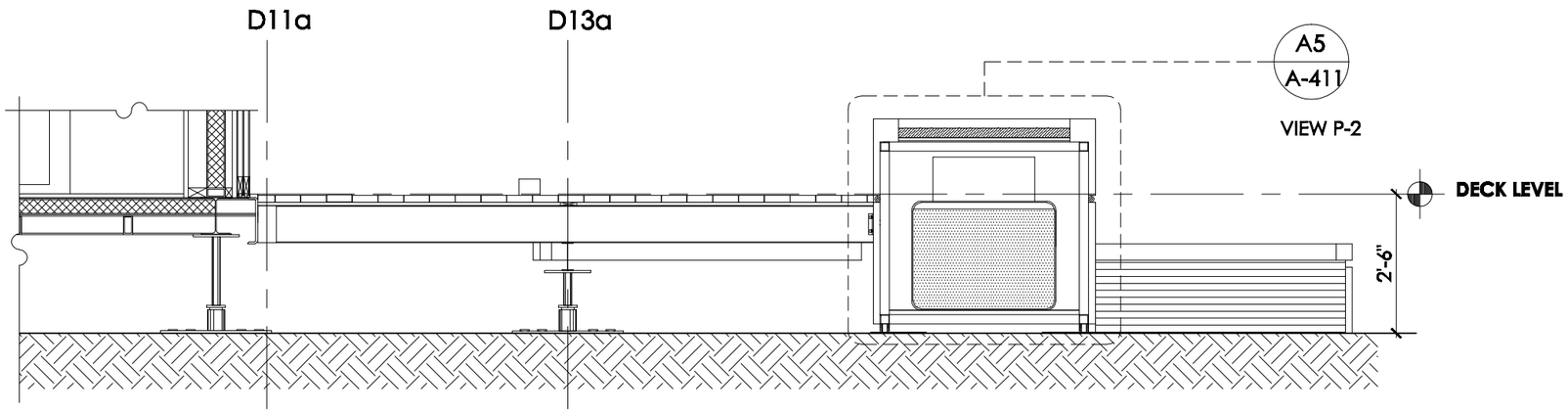
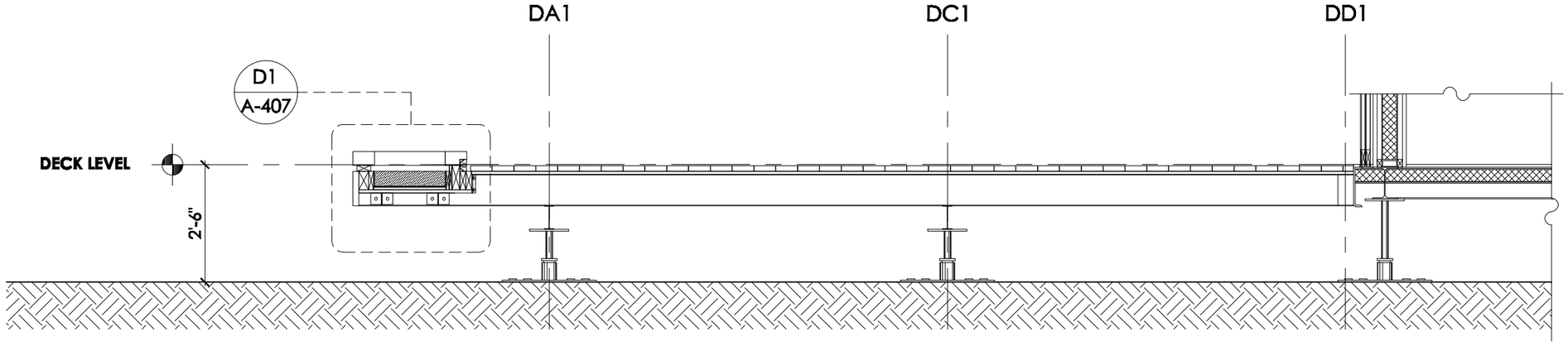


Note: For axis references see S-103.

D1 DECK SECTION

scale: 3/8" = 1'-0"



A1 DECK SECTION

scale: 3/8" = 1'-0"

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DRAWING TITLE
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A-402

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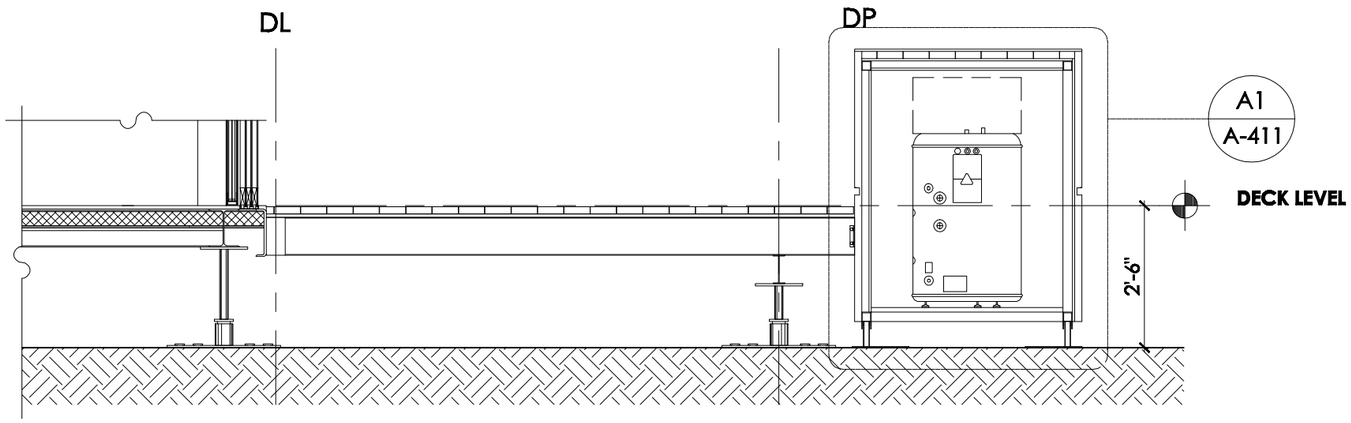
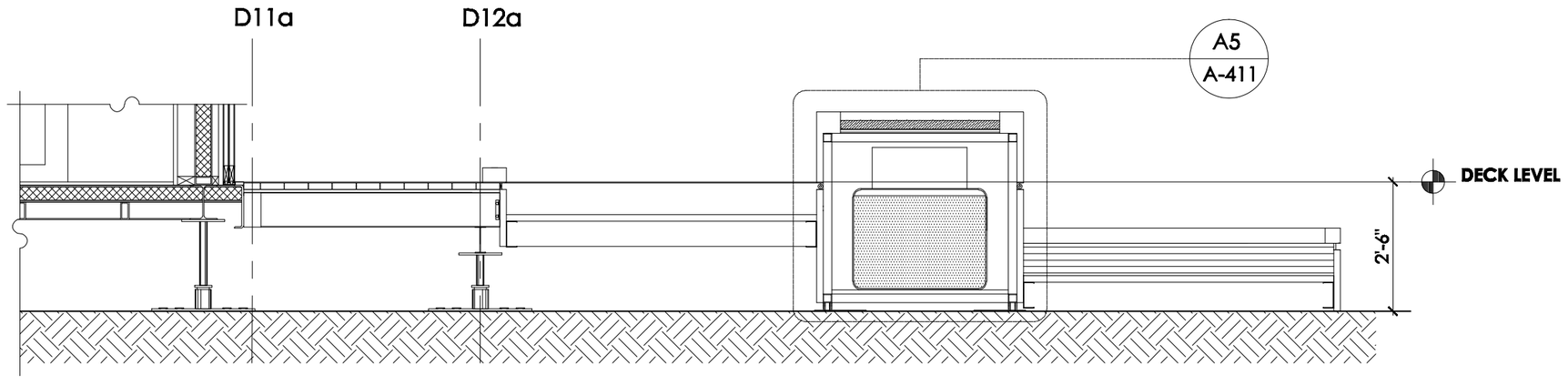


D1 Deck Section

scale: 3/8" = 1'-0"



A1 Deck Section

scale: 3/8" = 1'-0"

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DECK SECTIONS

DRAWING NO.
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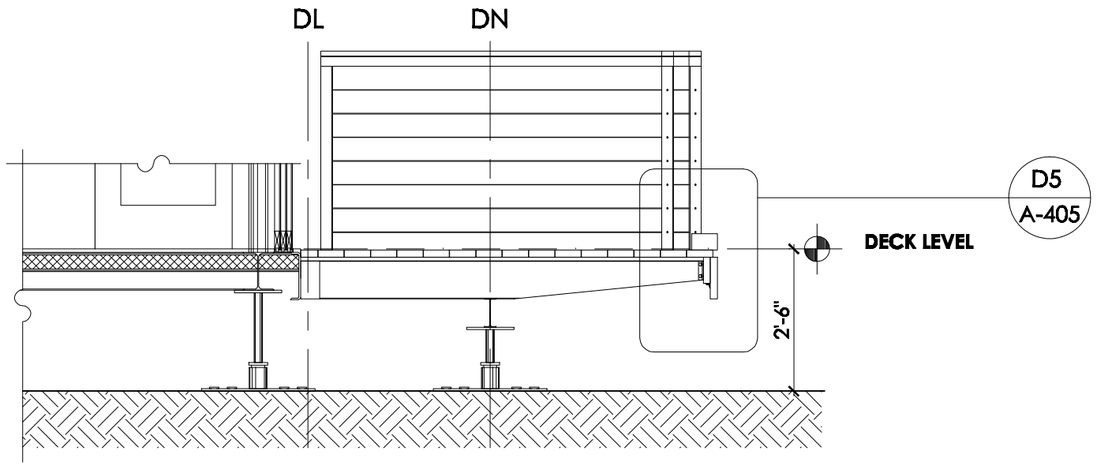
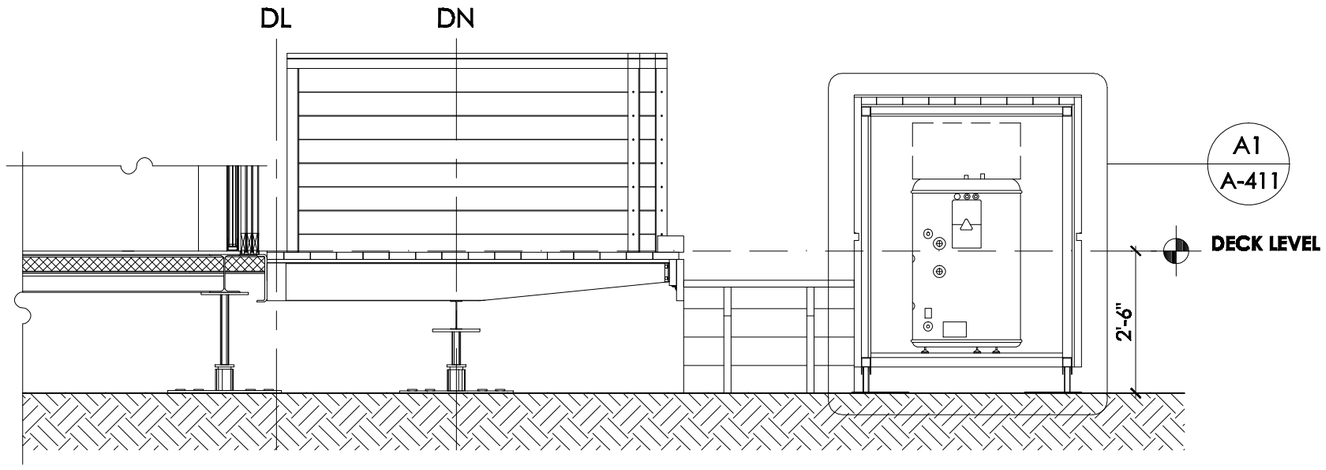


D1 DECK SECTION

scale: 3/8" = 1'-0"



A1 DECK SECTION

scale: 3/8" = 1'-0"

PROFESSIONAL SEAL:

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DRAWING TITLE

DECK SECTIONS

DRAWING NO.

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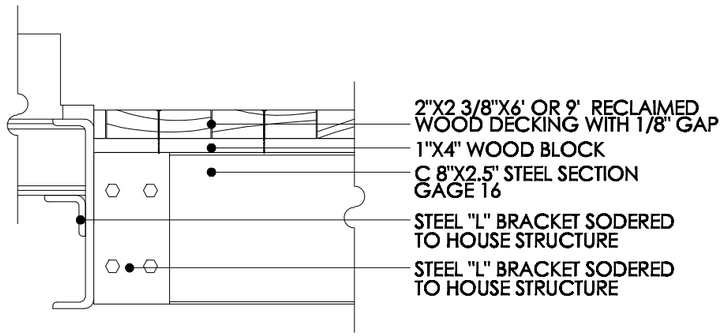
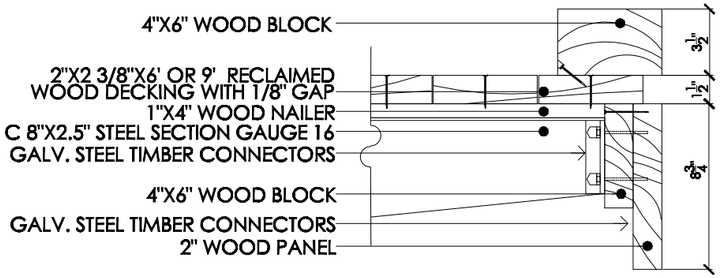


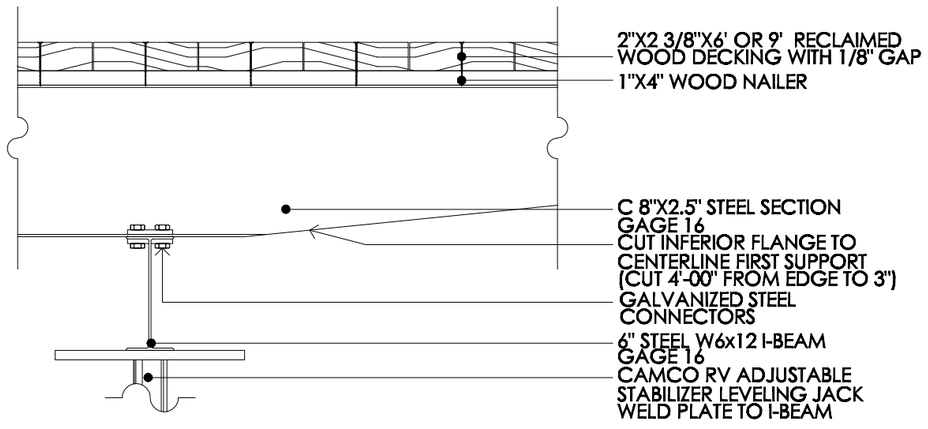
0' .25' .5' 1'

D1 Beam/House Joint Detail scale: 1-1/2" = 1'-0"



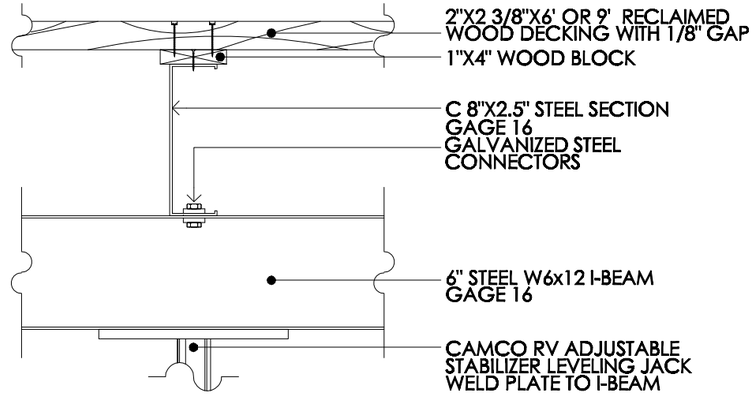
0' .25' .5' 1'

D5 Trim Detail scale: 1-1/2" = 1'-0"



0' .25' .5' 1'

A1 Beam Cut & Joist Detail scale: 1-1/2" = 1'-0"



0' .25' .5' 1'

A5 Bracing Detail scale: 1-1/2" = 1'-0"

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DRAWING TITLE
DECK DETAILS

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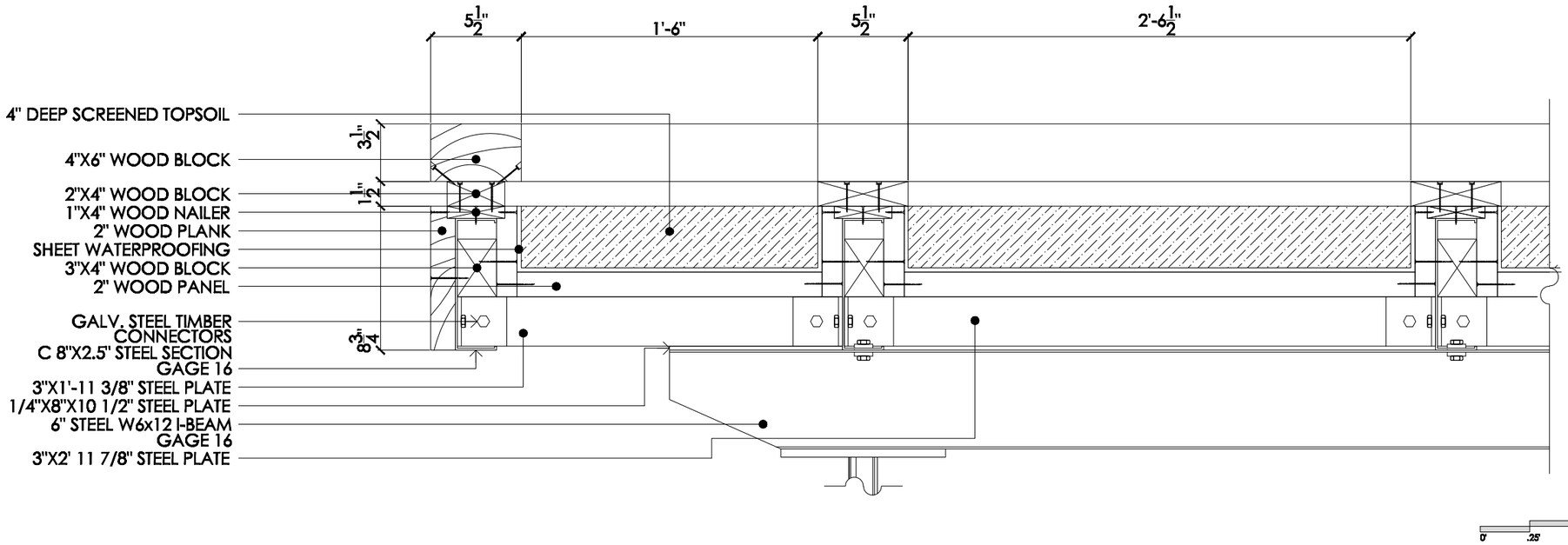
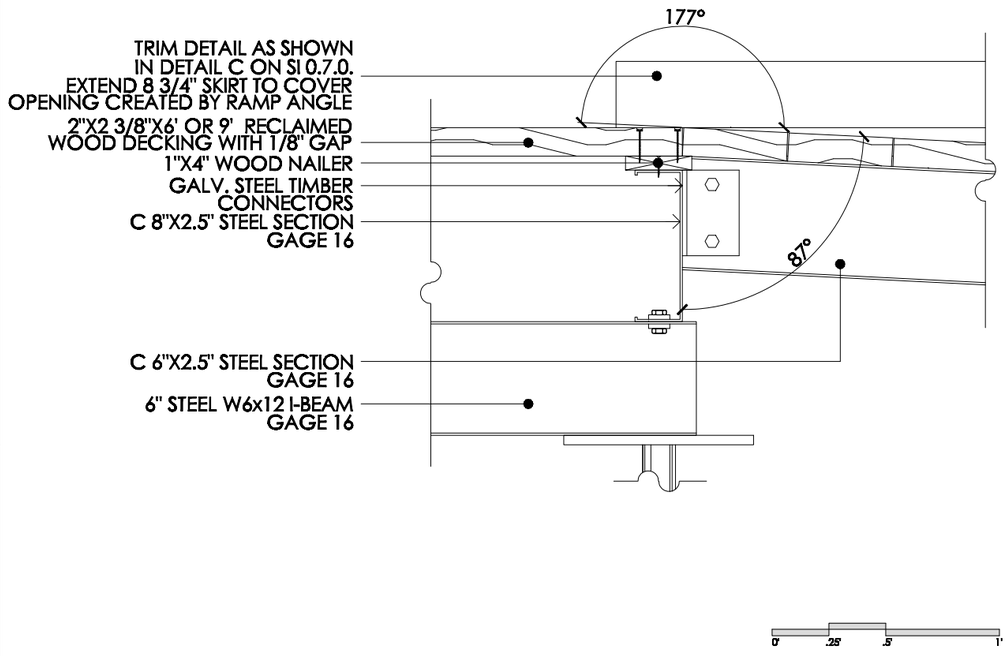
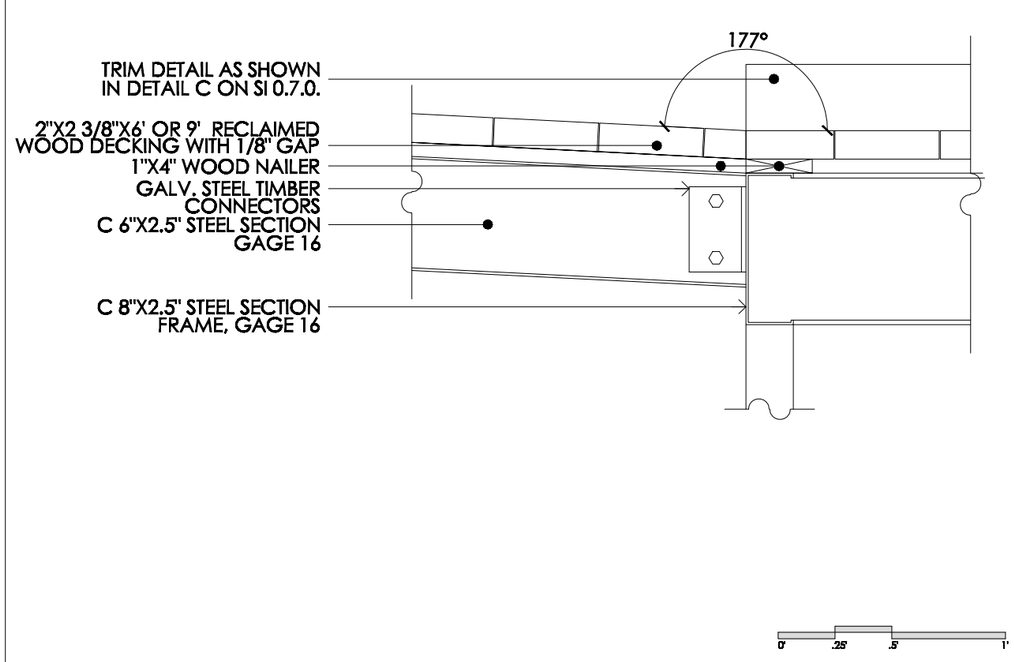


D1 South Planter Longitudinal Section Detail — scale: 1-1/2" = 1'-0"



A1 Ramp Connection Detail 1 — scale: 1-1/2" = 1'-0"



A5 Ramp Connection Detail 2 — scale: 1-1/2" = 1'-0"

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DRAWING TITLE
DECK DETAILS

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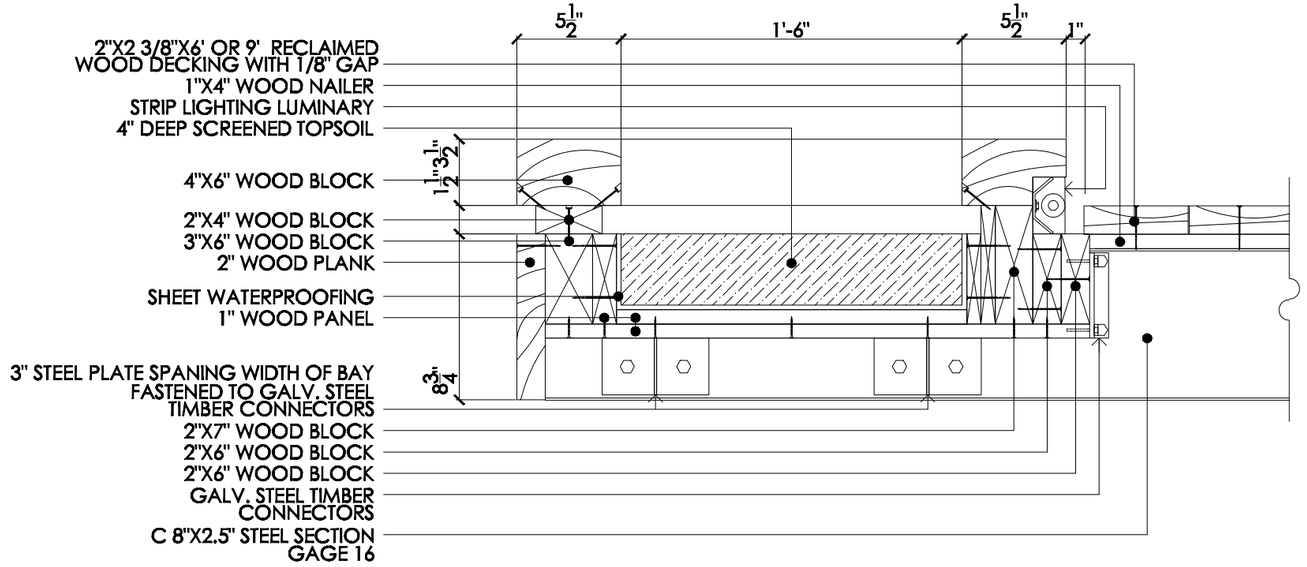
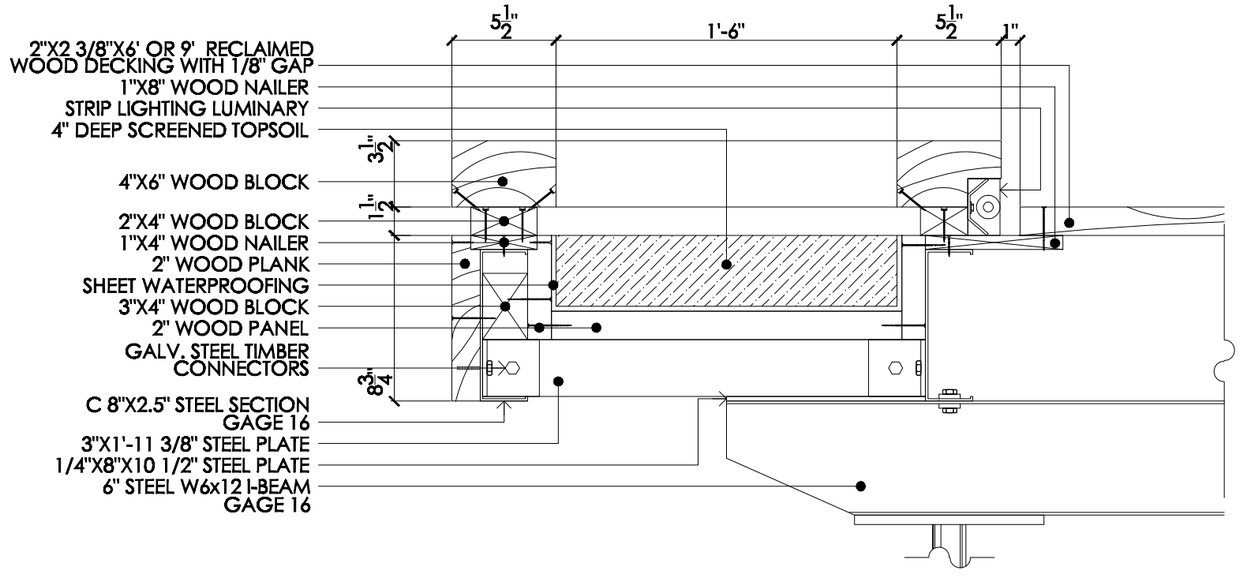


D1 South Planter Cross Section Detail

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



A1 West Planter Cross Section Detail

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

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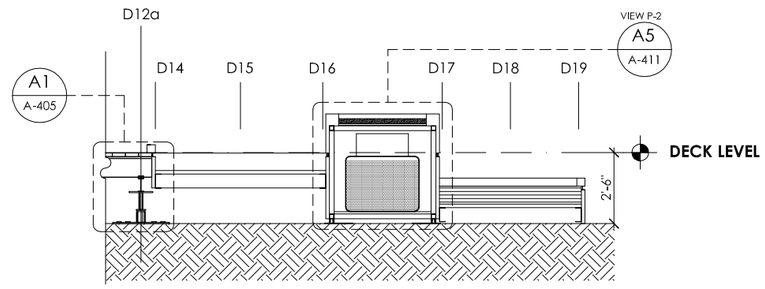
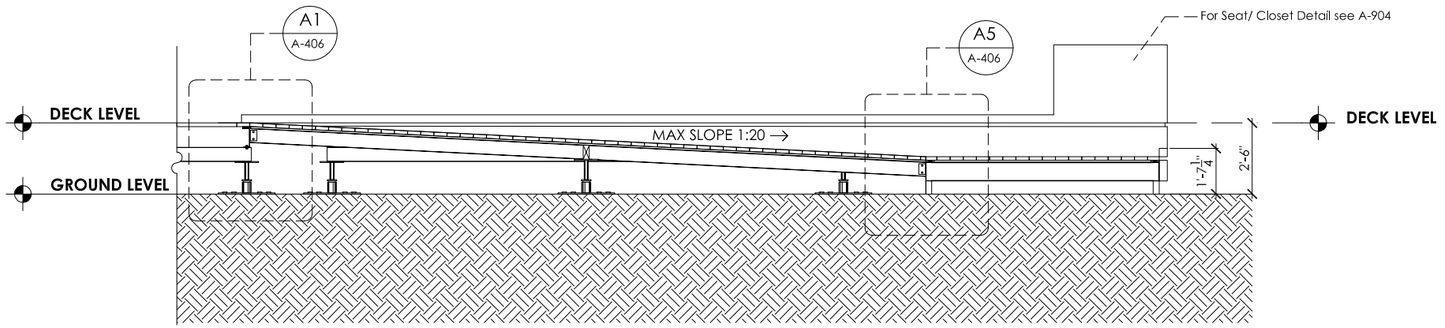


0' 1' 3' 6'

E1 Ramp Section

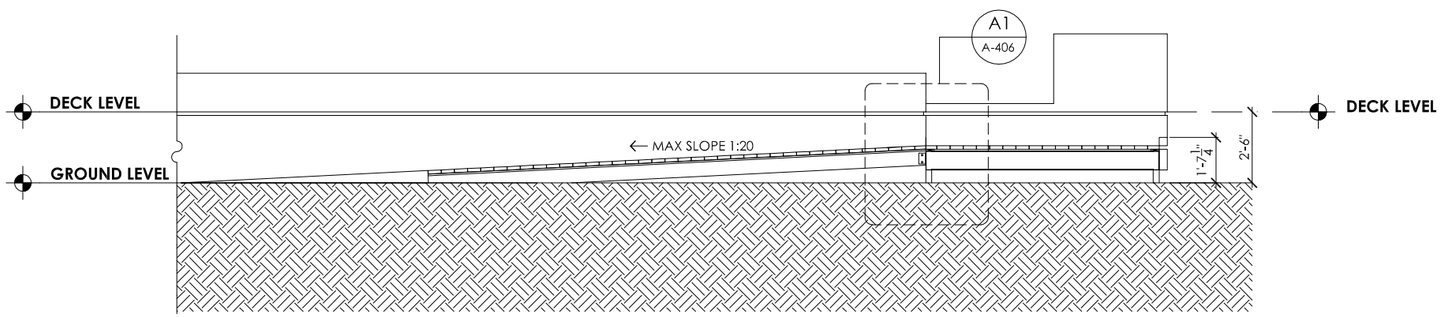
scale: 3/16" = 1'-0"



0' 1' 3' 6'

C1 Ramp Section

scale: 3/16" = 1'-0"



0' 1' 3' 6'

A1 Ramp Section

scale: 3/16" = 1'-0"

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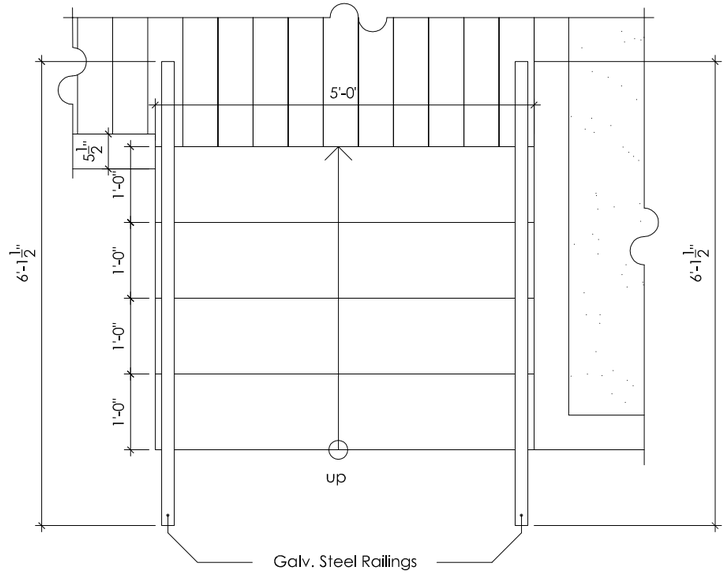
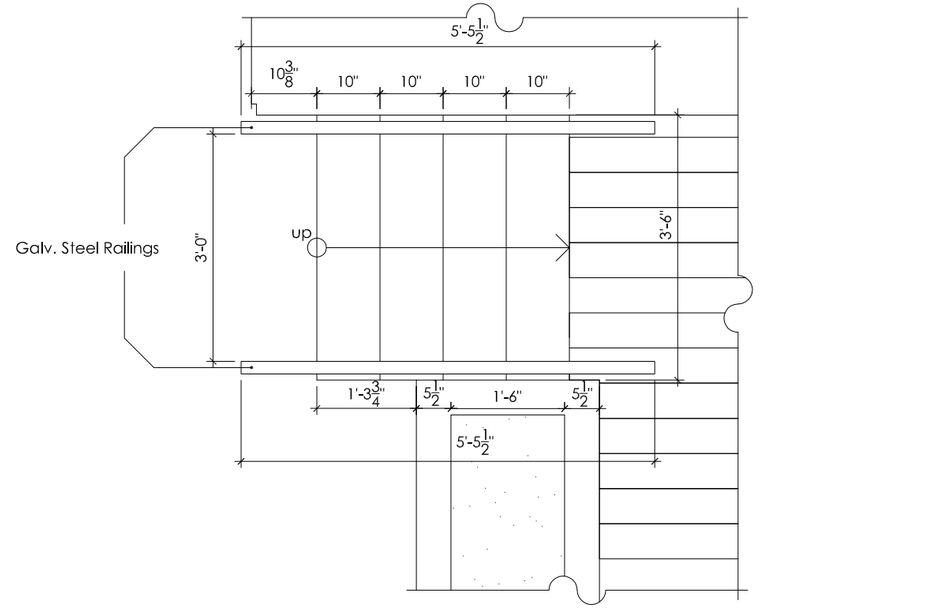
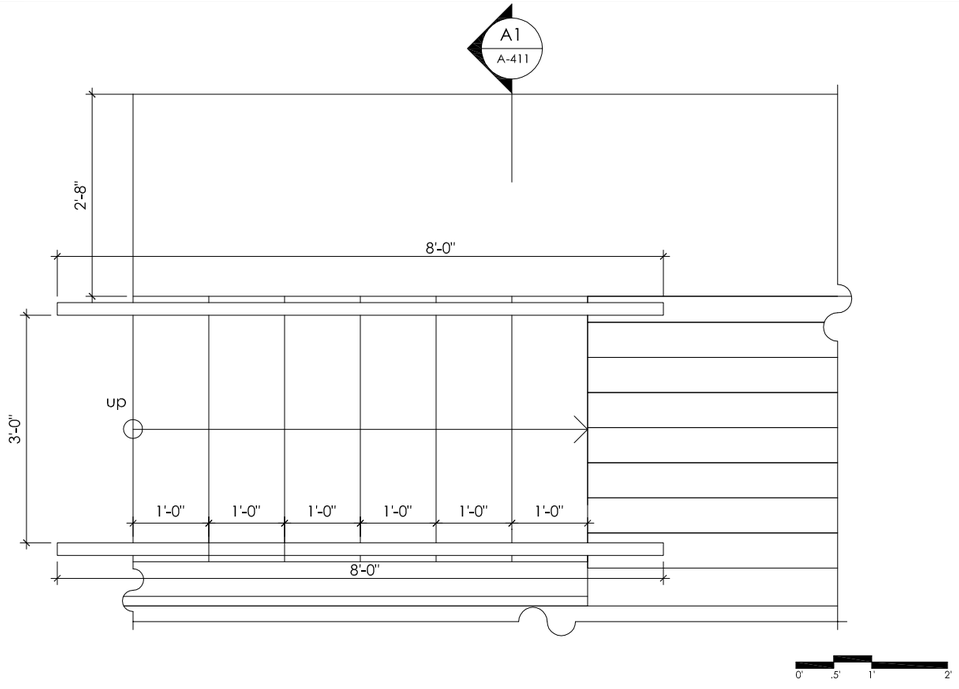


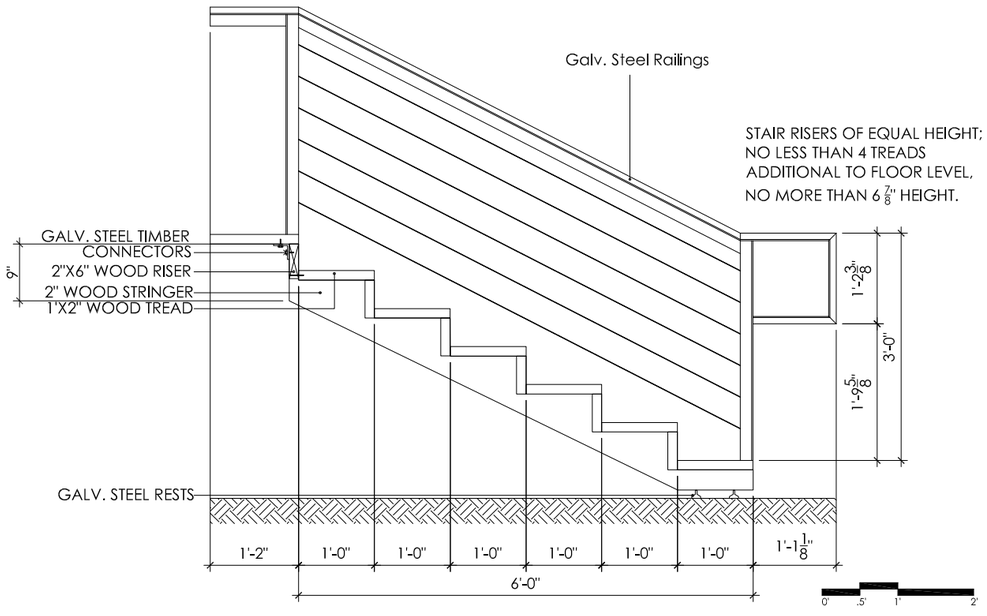
D1 Step 1 Detail — scale: 1/2" = 1'-0"



D5 Step 2 Detail — scale: 1/2" = 1'-0"



A1 Step 3 Detail — scale: 1/2" = 1'-0"



A5 Stair Section Detail — scale: 1/2" = 1'-0"

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DRAWING TITLE
MEANS OF EGRESS
STAIRS DETAILS

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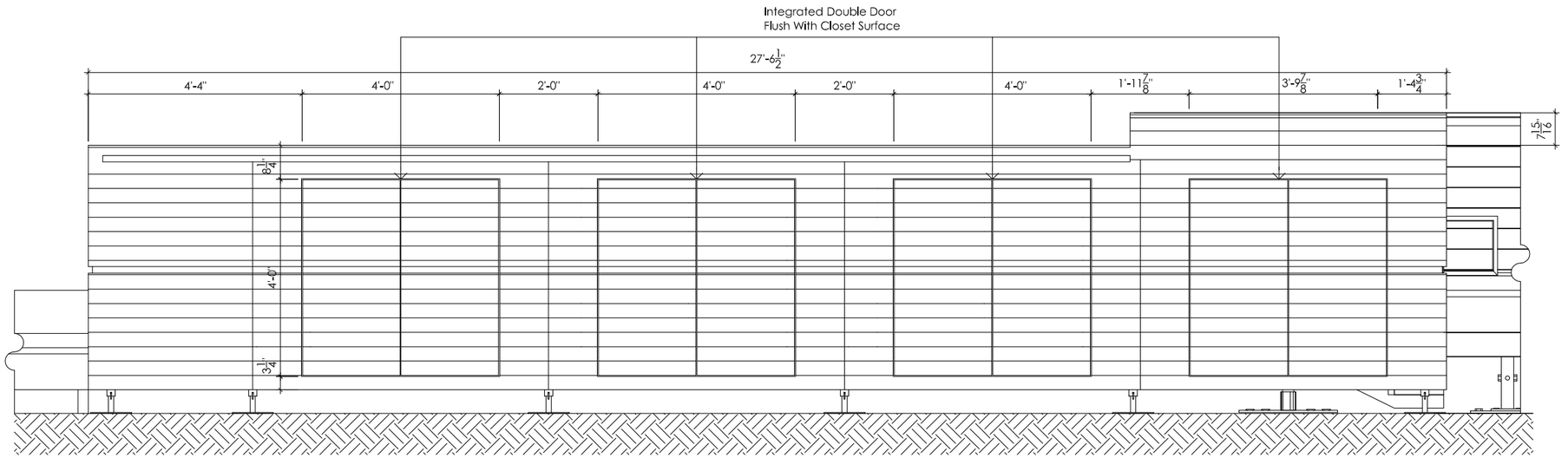
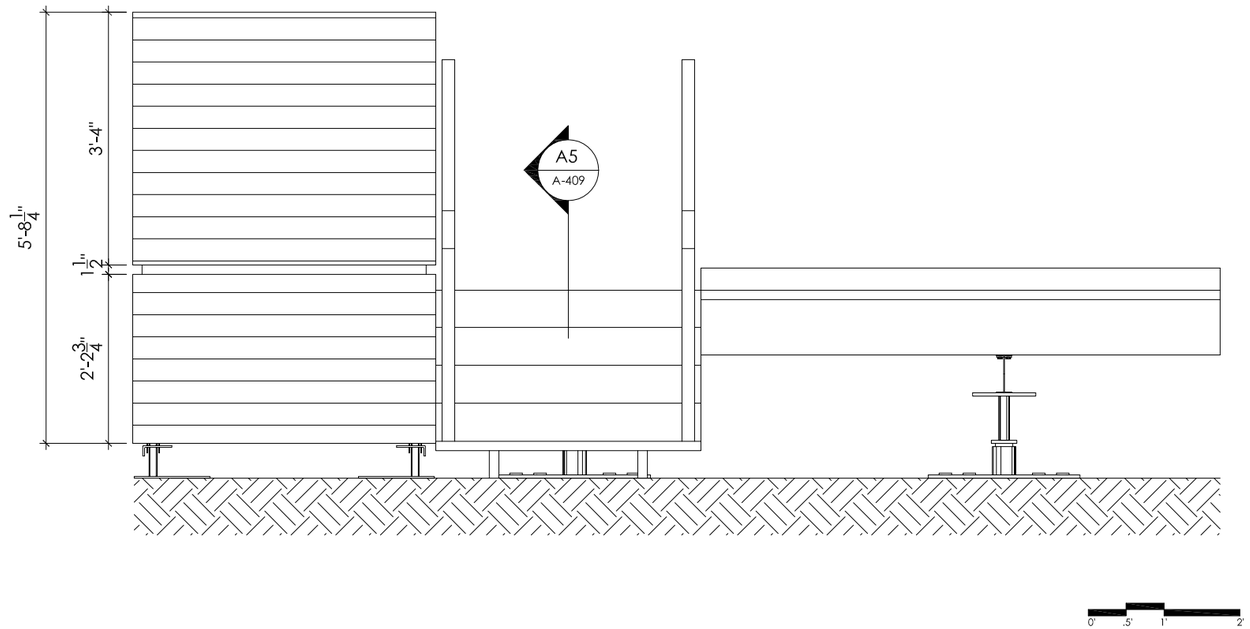
D1 Mechanical Closet Elevation Detail

scale: 3/8" = 1'-0"



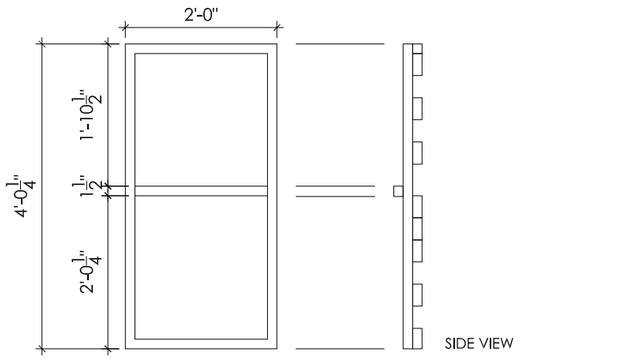
A1 Deck 1 West Elevation Detail

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



A6 Closet Door Frame Detail Elevation

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



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DRAWING TITLE

EXTERIOR BENCH AND CLOSET DETAILS

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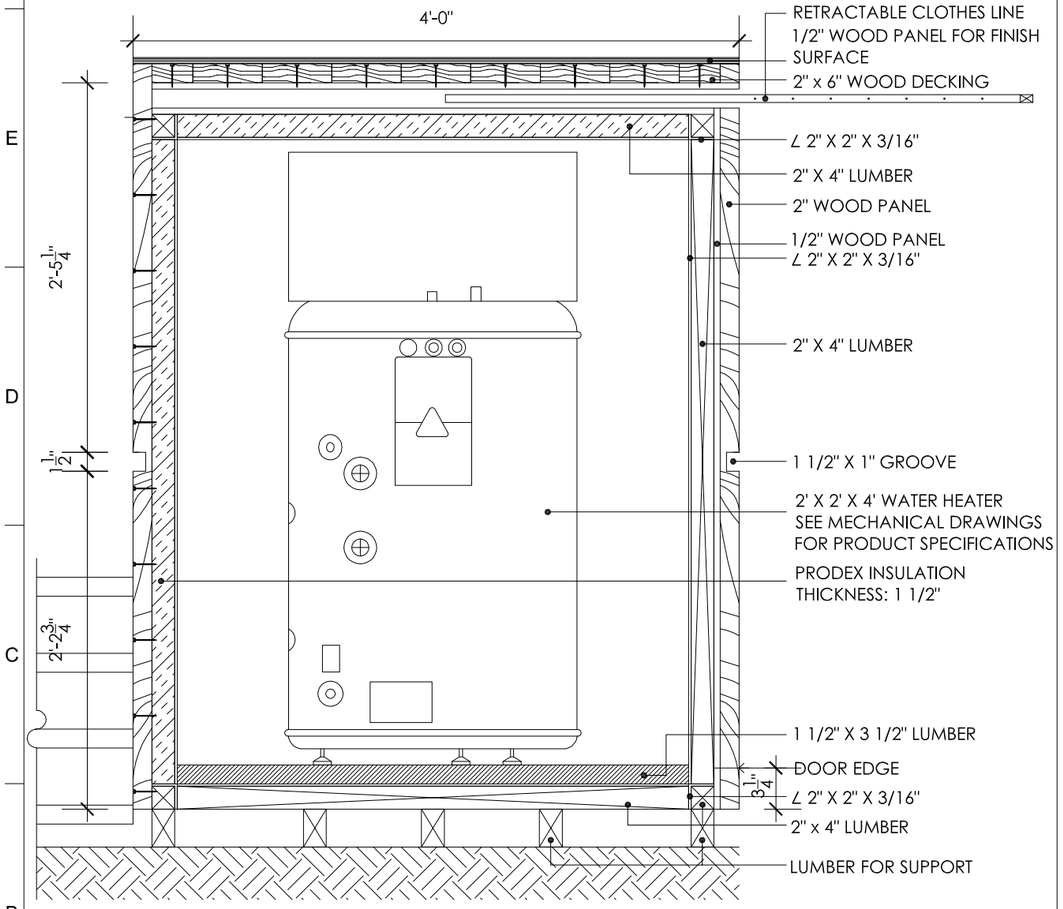
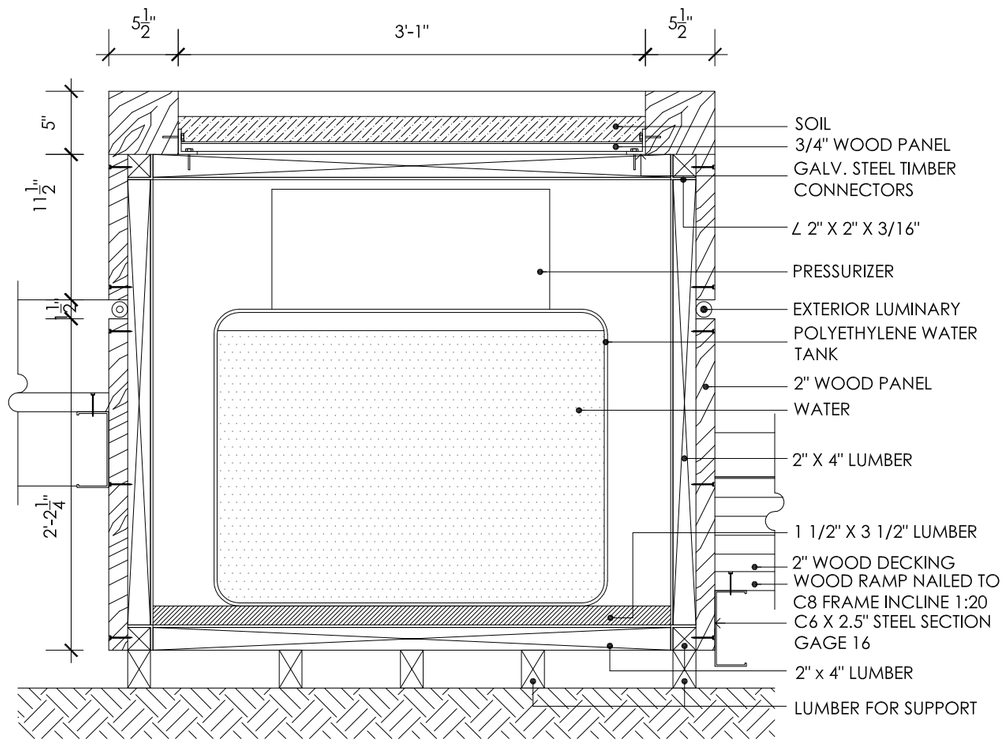


A1 Seat/Closet Detail 1 scale: 1 1/2" = 1'-0"



A5 Planter Between Ramp Detail scale: 1 1/2" = 1'-0"

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DRAWING TITLE

EXTERIOR BENCH AND CLOSET DETAILS

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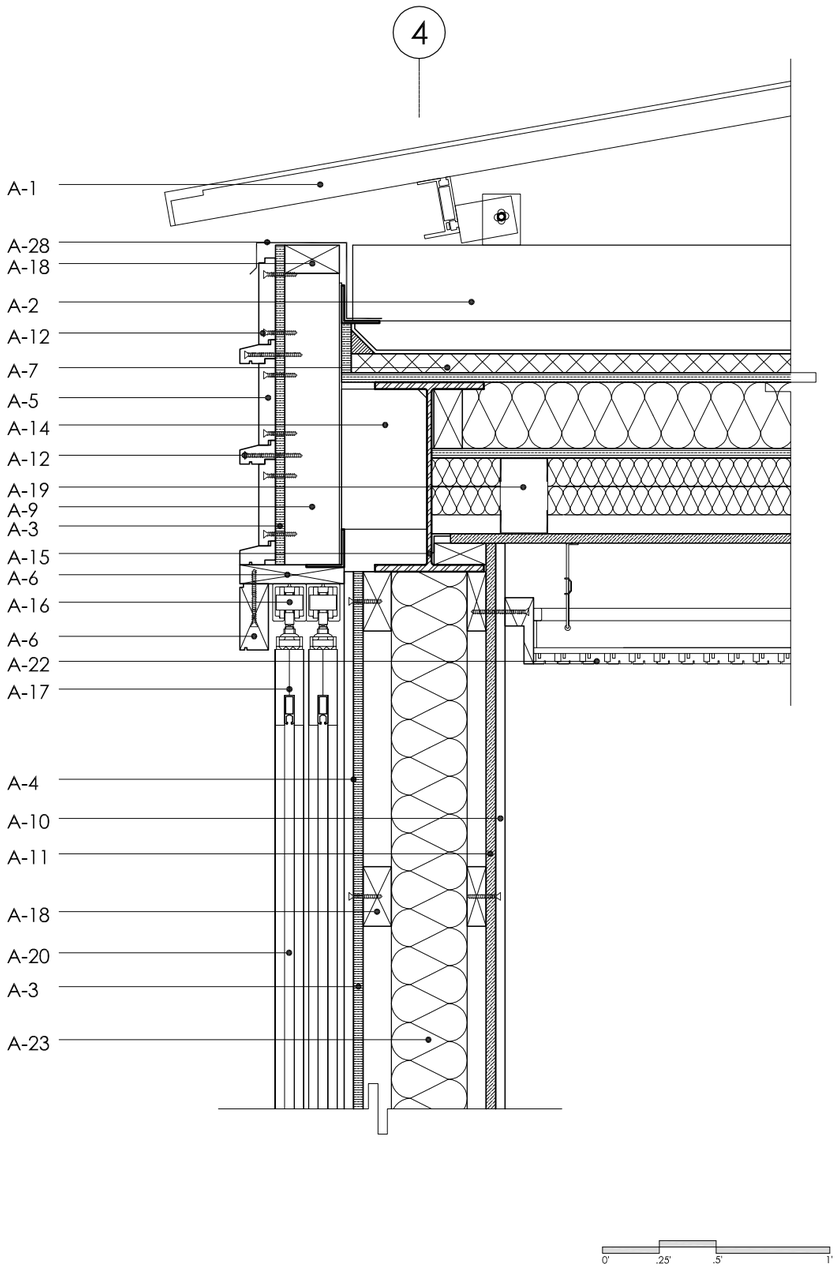
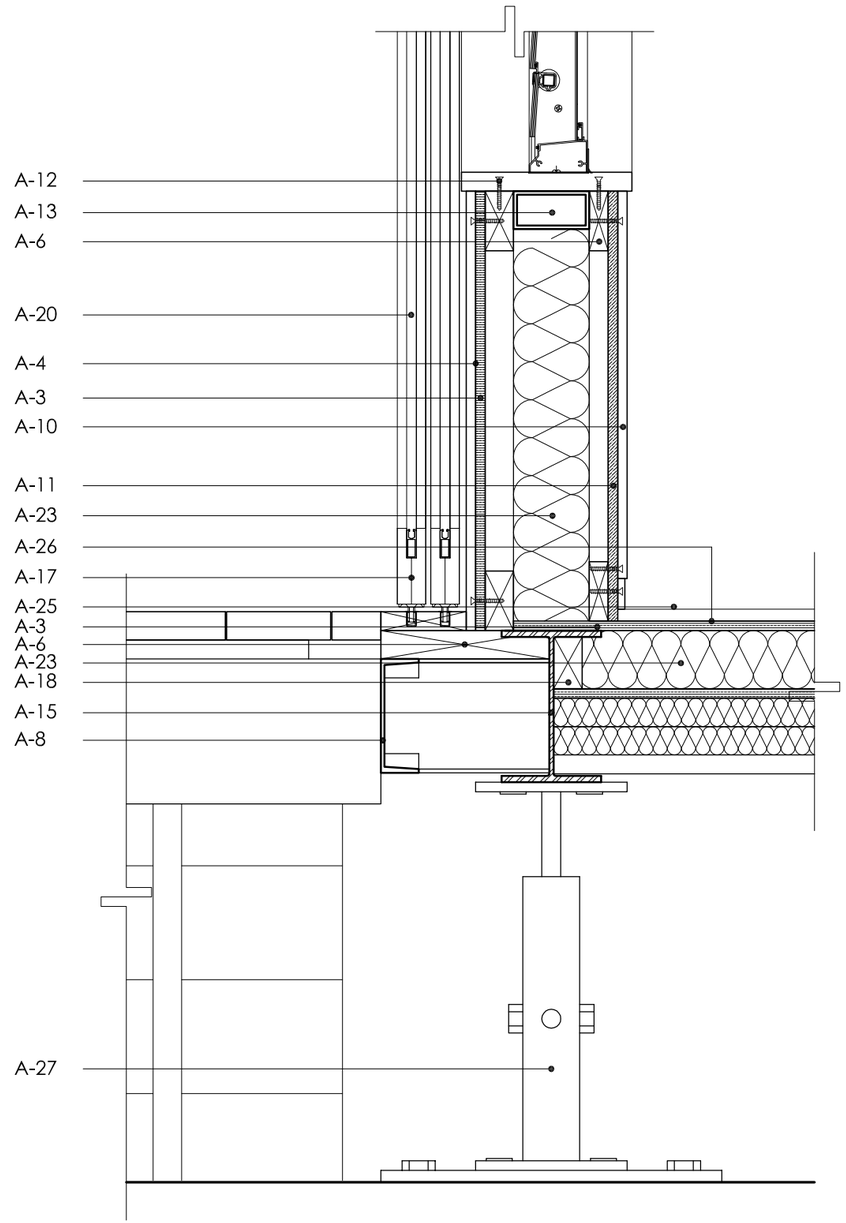


A1 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"



A4 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"

LEGEND

- A-1 PV PANELS
- A-2 PV STRUCTURAL FRAME
- A-3 1/2 PLYWOOD PANEL
- A-4 TAR PAPER
- A-5 RECLAIMED REDWOOD SIDING
- A-6 WOOD BLOCK
- A-7 ISOBOARD MEMBRANE
- A-8 STEEL CHANNEL
- A-9 STEEL ANGULAR
- A-10 INTERIOR FINISH
- A-11 1/2" GYPSUM BOARD
- A-12 #10 ROBERTSON SCREW
- A-13 STEEL TUBULAR SECTION
- A-14 STEEL PLATE
- A-15 STEEL I BEAM
- A-16 SLIDING SCREEN DOOR FITTING JUNIOR 120/A-HAWA
- A-17 WOOD FRAME
- A-18 2"X4" WOOD BLOCK
- A-19 ALUMINUM CHANNEL
- A-20 SLIDING SCREENS WITH KOOLSHADE FABRIC
- A-22 TOPAKUSTIC TILE (14/2 M)
- A-23 CLOSED CELL FOAM INSULATION BY HONEYWELL
- A-24 MOISTURE RESISTANT GYPSUM BOARD
- A-25 FLOOR FINISH
- A-26 FIRE RETARDANT TREATMENT
- A-27 LEVELING JACKS
- A-28 FLASHING

A8 Notes

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WALL SECTIONS DETAILS

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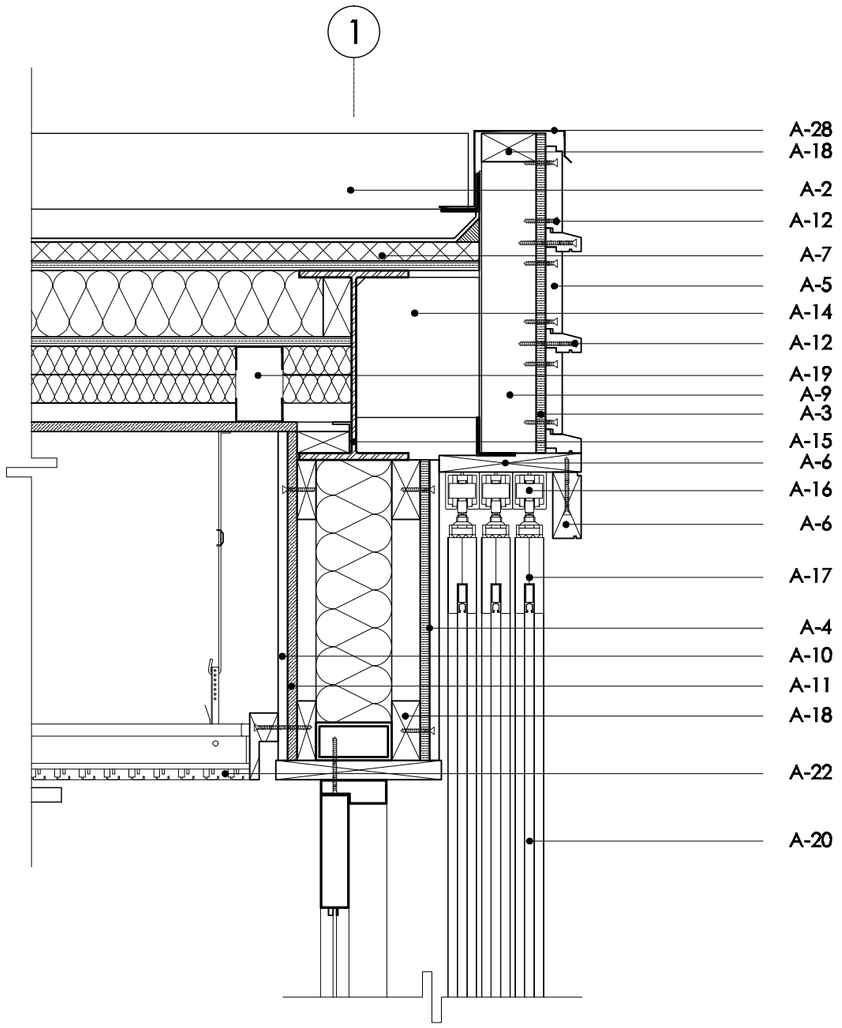
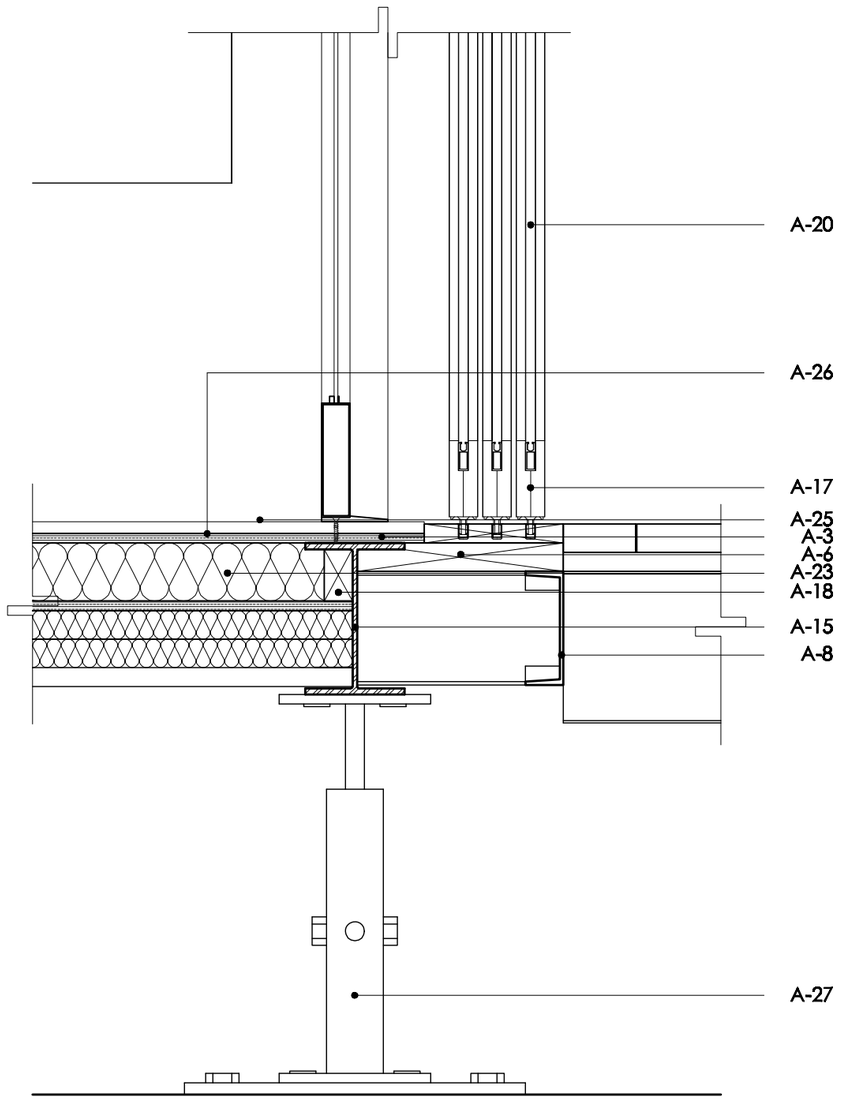


A1 **Wall Section Detail MK'D** scale: 1-1/2" = 1'-0"



A4 **Wall Section Detail MK'D** scale: 1-1/2" = 1'-0"

LEGEND

A-1 PV PANELS
A-2 PV STRUCTURAL
FRAME
A-3 1/2 PLYWOOD
PANEL
A-4 TAR PAPER
A-5 RECLAIMED
REDWOOD SIDING
A-6 WOOD BLOCK
A-7 ISOBOARD
MEMBRANE
A-8 STEEL CHANNEL
A-9 STEEL ANGULAR
A-10 INTERIOR FINISH
A-11 1/2" GYPSUM
BOARD
A-12 #10 ROBERTSON
SCREW
A-13 STEEL TUBULAR
SECTION
A-14 STEEL PLATE
A-15 STEEL I BEAM
A-16 SLIDING SCREEN
DOOR FITTING
JUNIOR
120/A-HAWA
A-17 WOOD FRAME
A-18 2"X4" WOOD
BLOCK
A-19 ALUMINUM
CHANNEL
A-20 SLIDING SCREENS
WITH KOOLSHADE
FABRIC
A-22 TOPAKUSTIC
TILE (14/2 M)
A-23 CLOSED CELL
FOAM INSULATION
BY HONEYWELL
A-24 MOISTURE
RESISTANT GYPSUM
BOARD
A-25 FLOOR FINISH
A-26 FIRE RETARDANT
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A-27 LEVELING JACKS
A-28 FLASHING

A8 **Notes**

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WALL SECTIONS DETAILS

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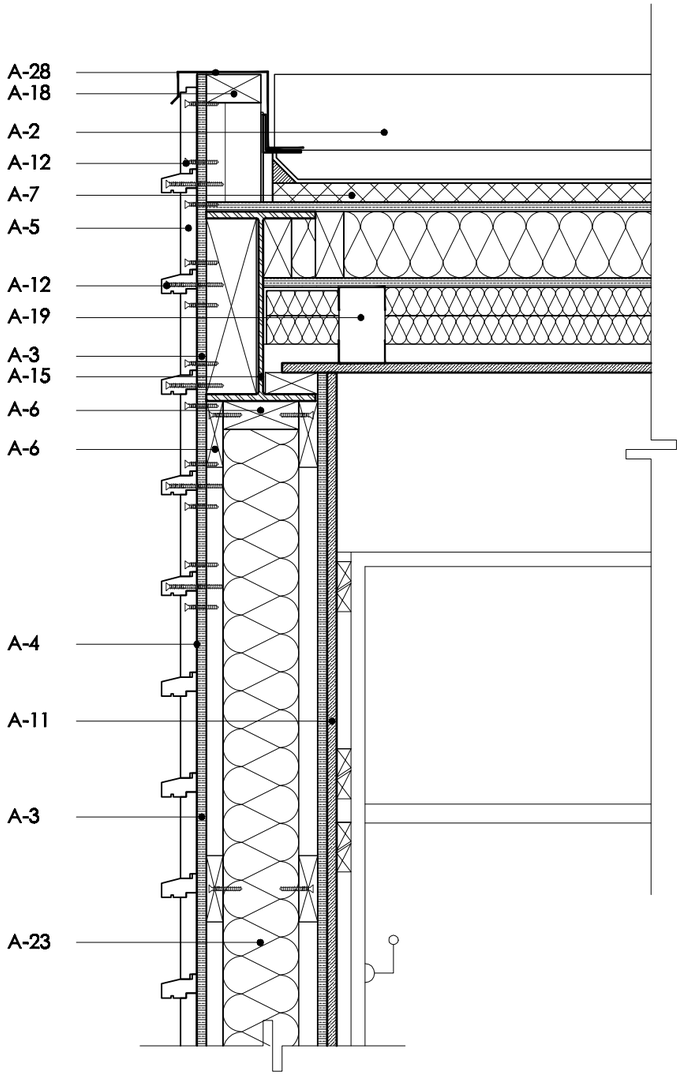

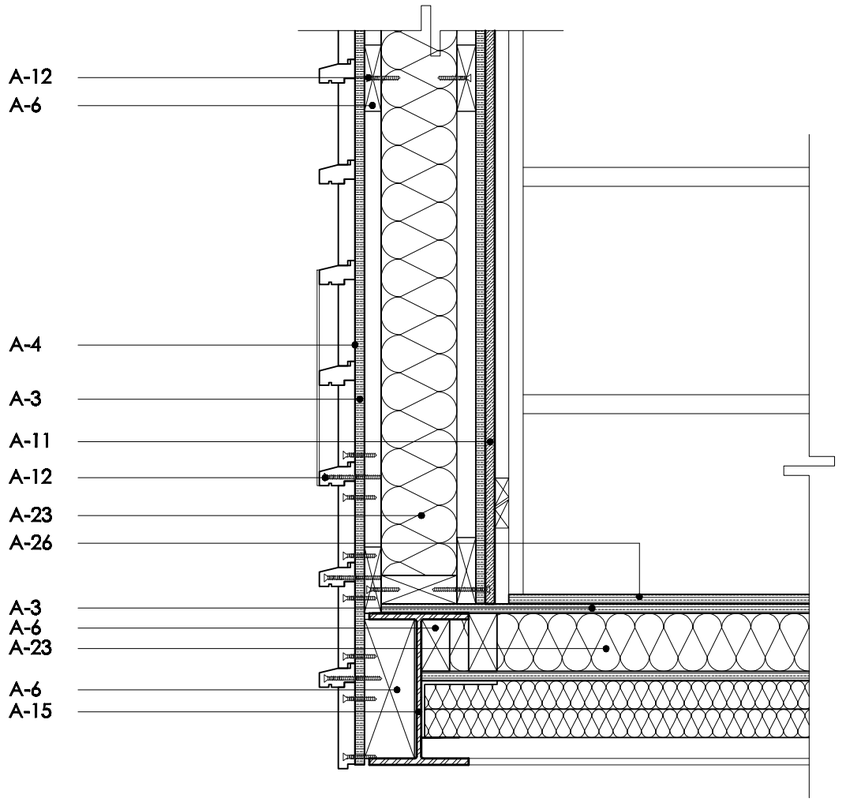

LEGEND

A-1 PV PANELS
A-2 PV STRUCTURAL **FRAME**
A-3 1/2 PLYWOOD **PANEL**
A-4 TAR PAPER
A-5 RECLAIMED **REDWOOD SIDING**
A-6 WOOD BLOCK
A-7 ISOBOARD **MEMBRANE**
A-8 STEEL CHANNEL
A-9 STEEL ANGULAR
A-10 INTERIOR FINISH
A-11 1/2" GYPSUM **BOARD**
A-12 #10 ROBERTSON SCREW
A-13 STEEL TUBULAR **SECTION**
A-14 STEEL PLATE
A-15 STEEL I BEAM
A-16 SLIDING SCREEN DOOR FITTING **JUNIOR 120/A-HAWA**
A-17 WOOD FRAME
A-18 2"X4" WOOD **BLOCK**
A-19 ALUMINUM **CHANNEL**
A-20 SLIDING SCREENS WITH KOOLSHADE **FABRIC**
A-22 TOPAKUSTIC **TILE (14/2 M)**
A-23 CLOSED CELL **FOAM INSULATION BY HONEYWELL**
A-24 MOISTURE **RESISTANT GYPSUM** BOARD
A-25 FLOOR FINISH
A-26 FIRE RETARDANT **TREATMENT**
A-27 LEVELING JACKS
A-28 FLASHING

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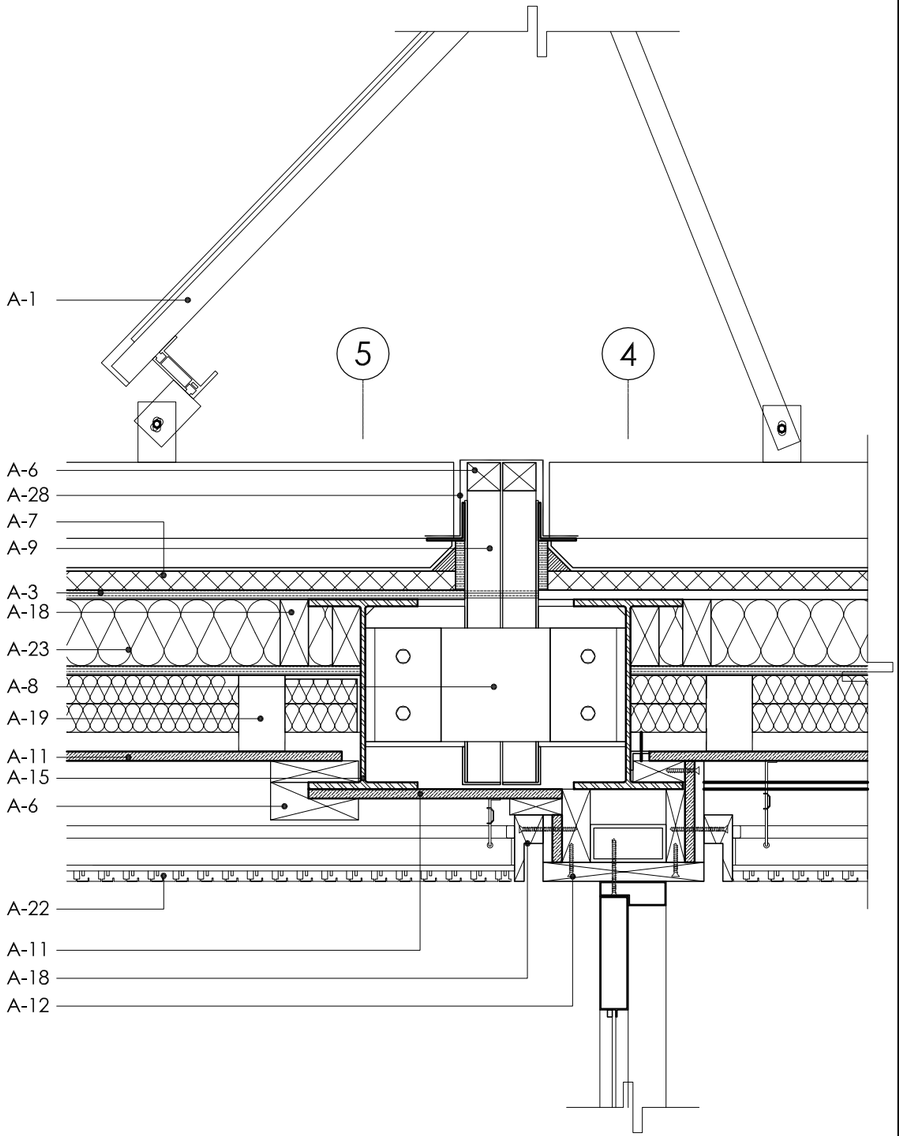
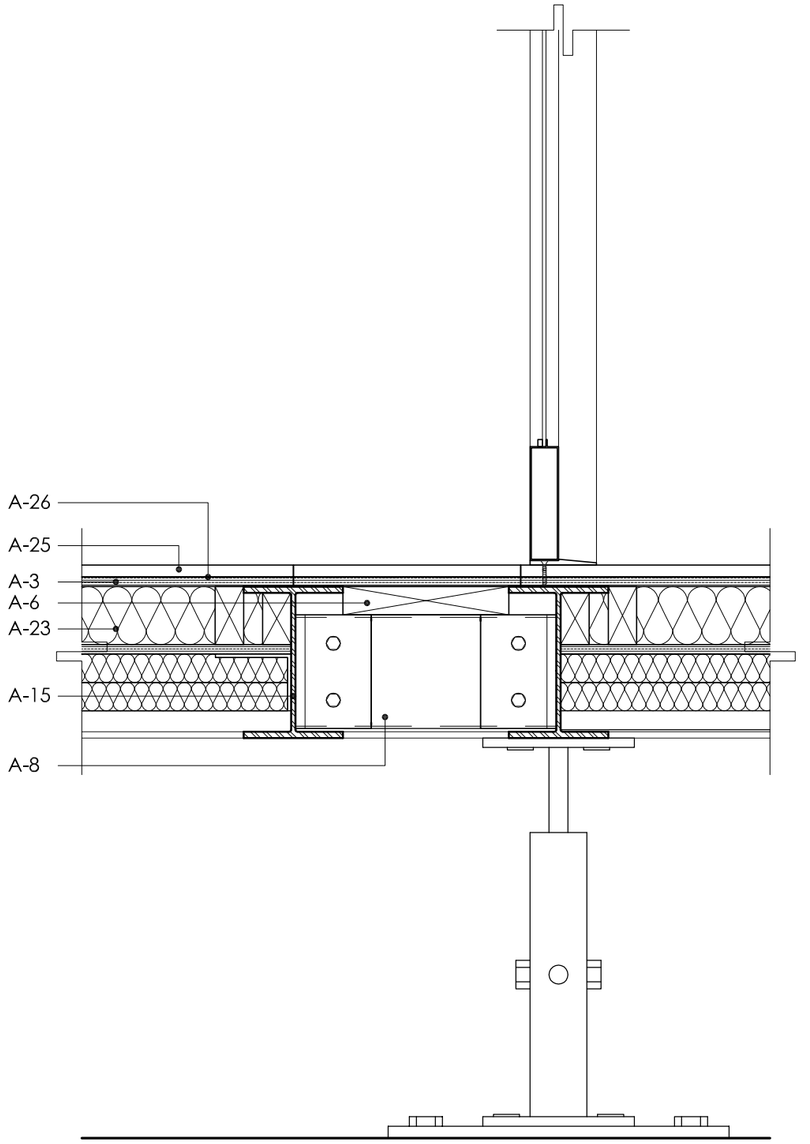
A1 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"

A4 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"

A8 Notes



A1 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"



A4 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"

LEGEND

- A-1 PV PANELS
- A-2 PV STRUCTURAL FRAME
- A-3 1/2 PLYWOOD PANEL
- A-4 TAR PAPER
- A-5 RECLAIMED REDWOOD SIDING
- A-6 WOOD BLOCK
- A-7 ISOBOARD MEMBRANE
- A-8 STEEL CHANNEL
- A-9 STEEL ANGULAR
- A-10 INTERIOR FINISH
- A-11 1/2" GYPSUM BOARD
- A-12 #10 ROBERTSON SCREW
- A-13 STEEL TUBULAR SECTION
- A-14 STEEL PLATE
- A-15 STEEL I BEAM
- A-16 SLIDING SCREEN DOOR FITTING JUNIOR 120/A-HAWA
- A-17 WOOD FRAME
- A-18 2"X4" WOOD BLOCK
- A-19 ALUMINUM CHANNEL
- A-20 SLIDING SCREENS WITH KOOLSHADE FABRIC
- A-22 TOPAKUSTIC TILE (14/2 M)
- A-23 CLOSED CELL FOAM INSULATION BY HONEYWELL
- A-24 MOISTURE RESISTANT GYPSUM BOARD
- A-25 FLOOR FINISH
- A-26 FIRE RETARDANT TREATMENT
- A-27 LEVELING JACKS
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A8 Notes

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WALL SECTIONS DETAILS

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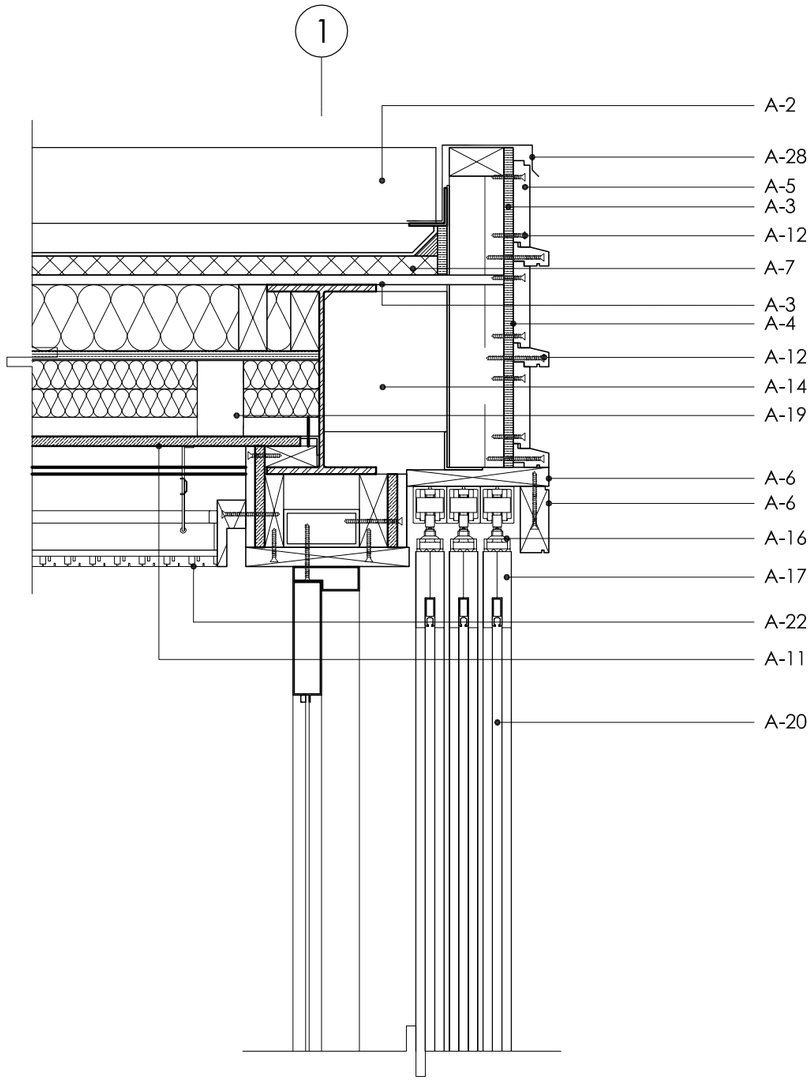

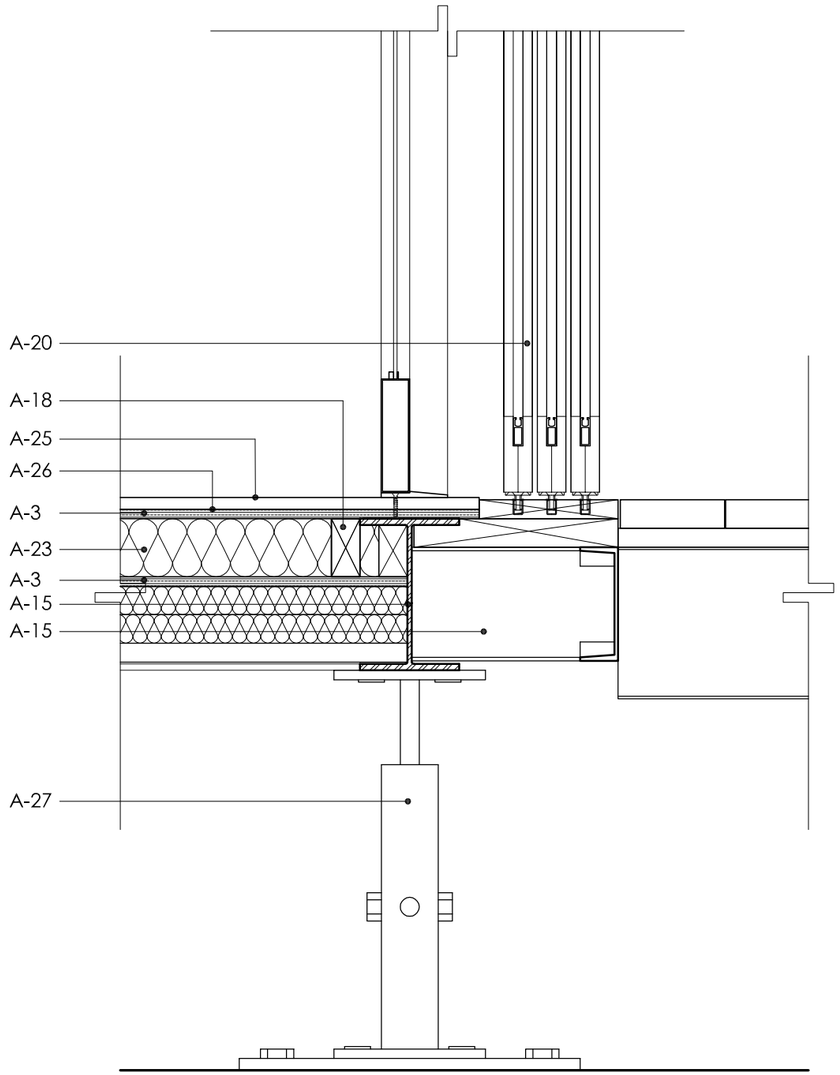

LEGEND

- A-1 PV PANELS
- A-2 PV STRUCTURAL FRAME
- A-3 1/2 PLYWOOD PANEL
- A-4 TAR PAPER
- A-5 RECLAIMED REDWOOD SIDING
- A-6 WOOD BLOCK
- A-7 ISOBOARD MEMBRANE
- A-8 STEEL CHANNEL
- A-9 STEEL ANGULAR
- A-10 INTERIOR FINISH
- A-11 1/2" GYPSUM BOARD
- A-12 #10 ROBERTSON SCREW
- A-13 STEEL TUBULAR SECTION
- A-14 STEEL PLATE
- A-15 STEEL I BEAM
- A-16 SLIDING SCREEN DOOR FITTING JUNIOR 120/A-HAWA
- A-17 WOOD FRAME
- A-18 2"X4" WOOD BLOCK
- A-19 ALUMINUM CHANNEL
- A-20 SLIDING SCREENS WITH KOOLSHADE FABRIC
- A-22 TOPAKUSTIC TILE (14/2 M)
- A-23 CLOSED CELL FOAM INSULATION BY HONEYWELL
- A-24 MOISTURE RESISTANT GYPSUM BOARD
- A-25 FLOOR FINISH
- A-26 FIRE RETARDANT TREATMENT
- A-27 LEVELING JACKS
- A-28 FLASHING

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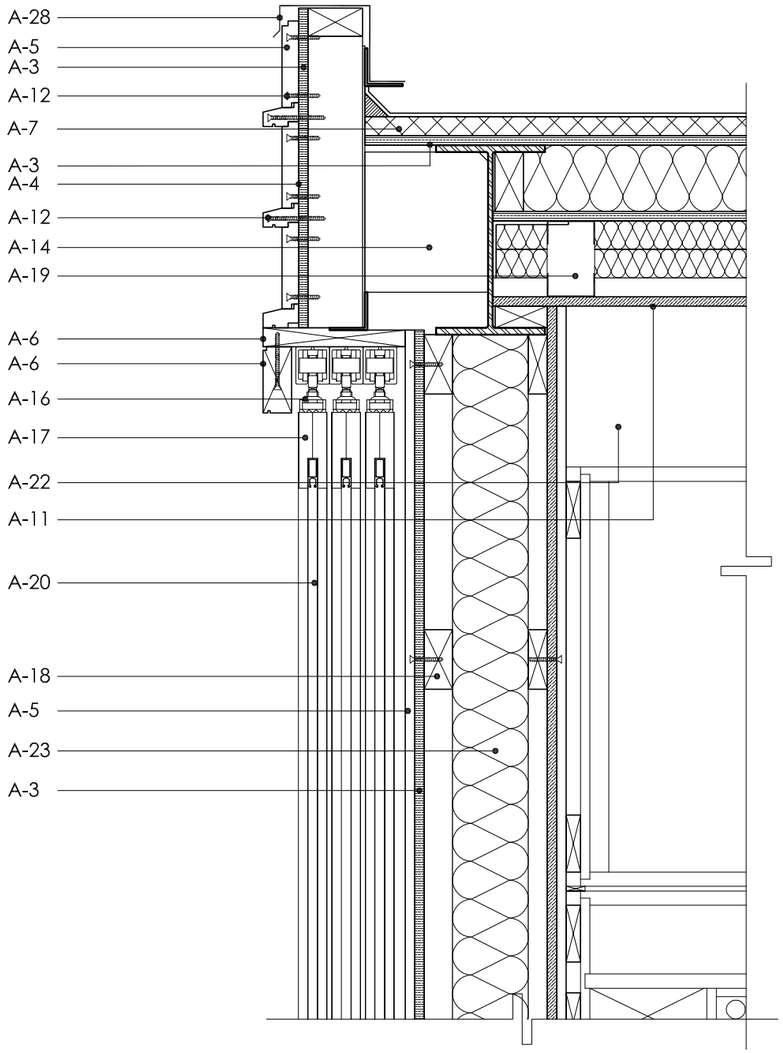
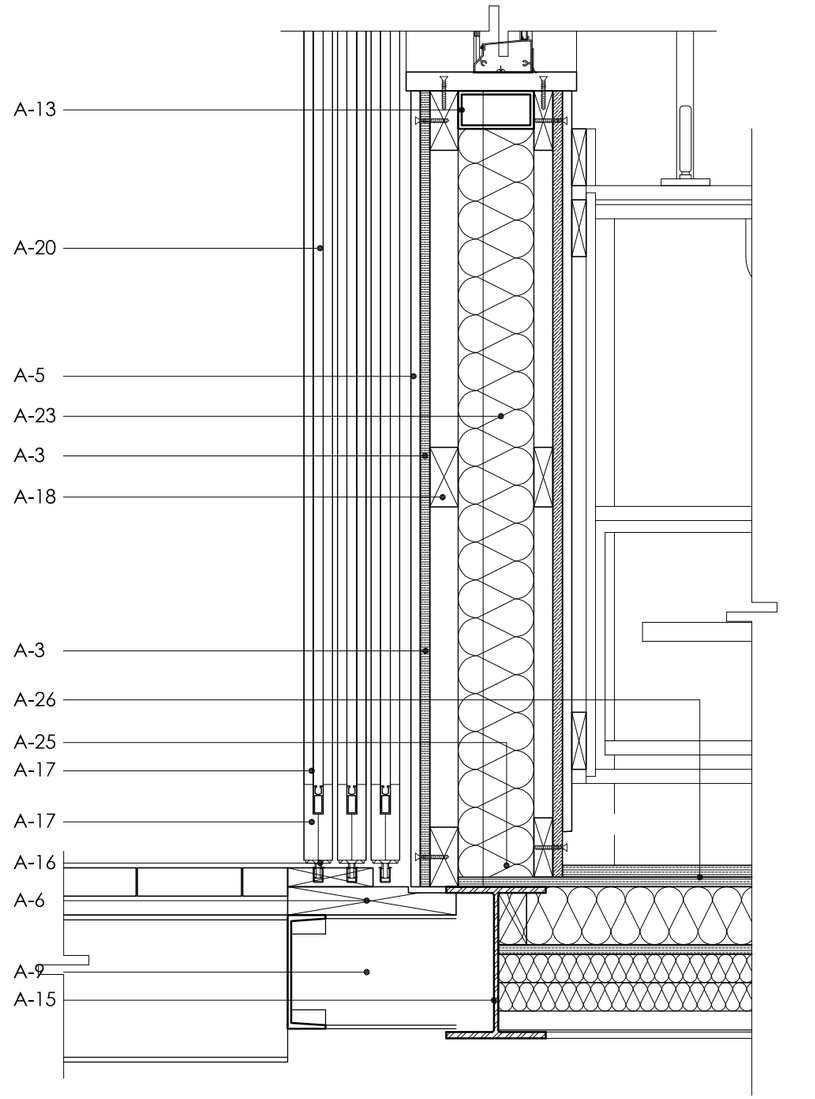
A1 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"

A4 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"

A8 Notes



A1 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"



A4 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"

LEGEND

A-1 PV PANELS
A-2 PV STRUCTURAL FRAME
A-3 1/2 PLYWOOD PANEL
A-4 TAR PAPER
A-5 RECLAIMED REDWOOD SIDING
A-6 WOOD BLOCK
A-7 ISOBOARD MEMBRANE
A-8 STEEL CHANNEL
A-9 STEEL ANGULAR
A-10 INTERIOR FINISH
A-11 1/2" GYPSUM BOARD
A-12 #10 ROBERTSON SCREW
A-13 STEEL TUBULAR SECTION
A-14 STEEL PLATE
A-15 STEEL I BEAM
A-16 SLIDING SCREEN DOOR FITTING JUNIOR 120/A-HAWA
A-17 WOOD FRAME
A-18 2"X4" WOOD BLOCK
A-19 ALUMINUM CHANNEL
A-20 SLIDING SCREENS WITH KOOLSHADE FABRIC
A-22 TOPAKUSTIC TILE (14/2 M)
A-23 CLOSED CELL FOAM INSULATION BY HONEYWELL
A-24 MOISTURE RESISTANT GYPSUM BOARD
A-25 FLOOR FINISH
A-26 FIRE RETARDANT TREATMENT
A-27 LEVELING JACKS
A-28 FLASHING

A8 Notes

PROFESSIONAL SEAL:

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2009 SOLAR DECATHLON

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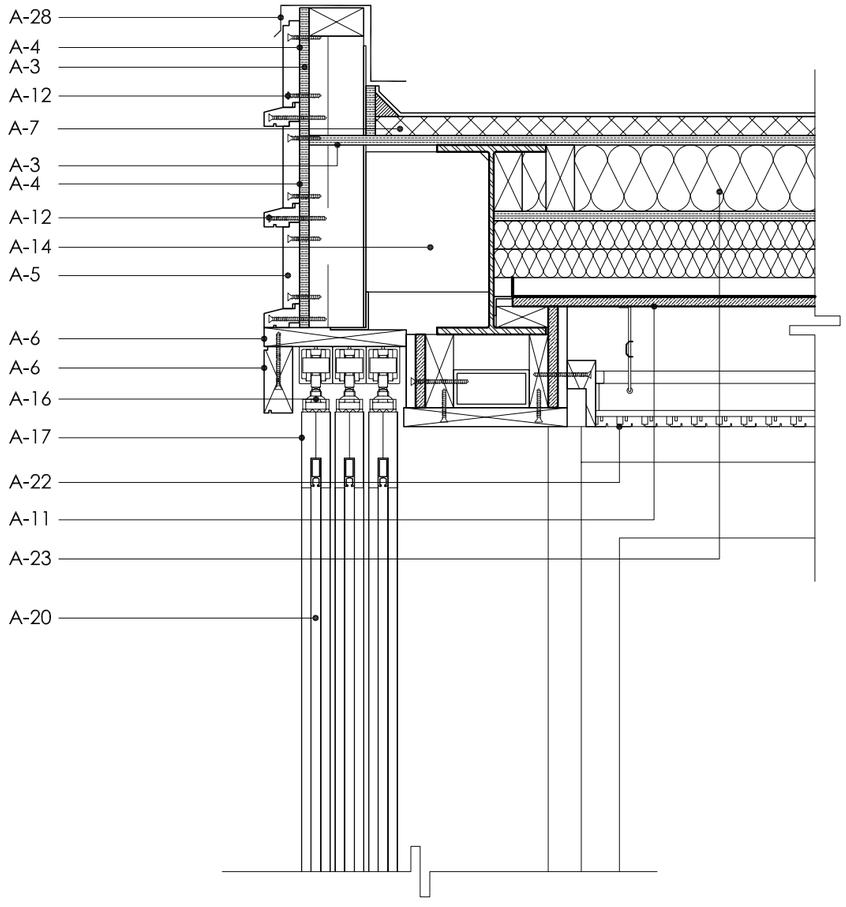
File Name:
Plot Scale: 1:1 Date: JUNE 2, 2009

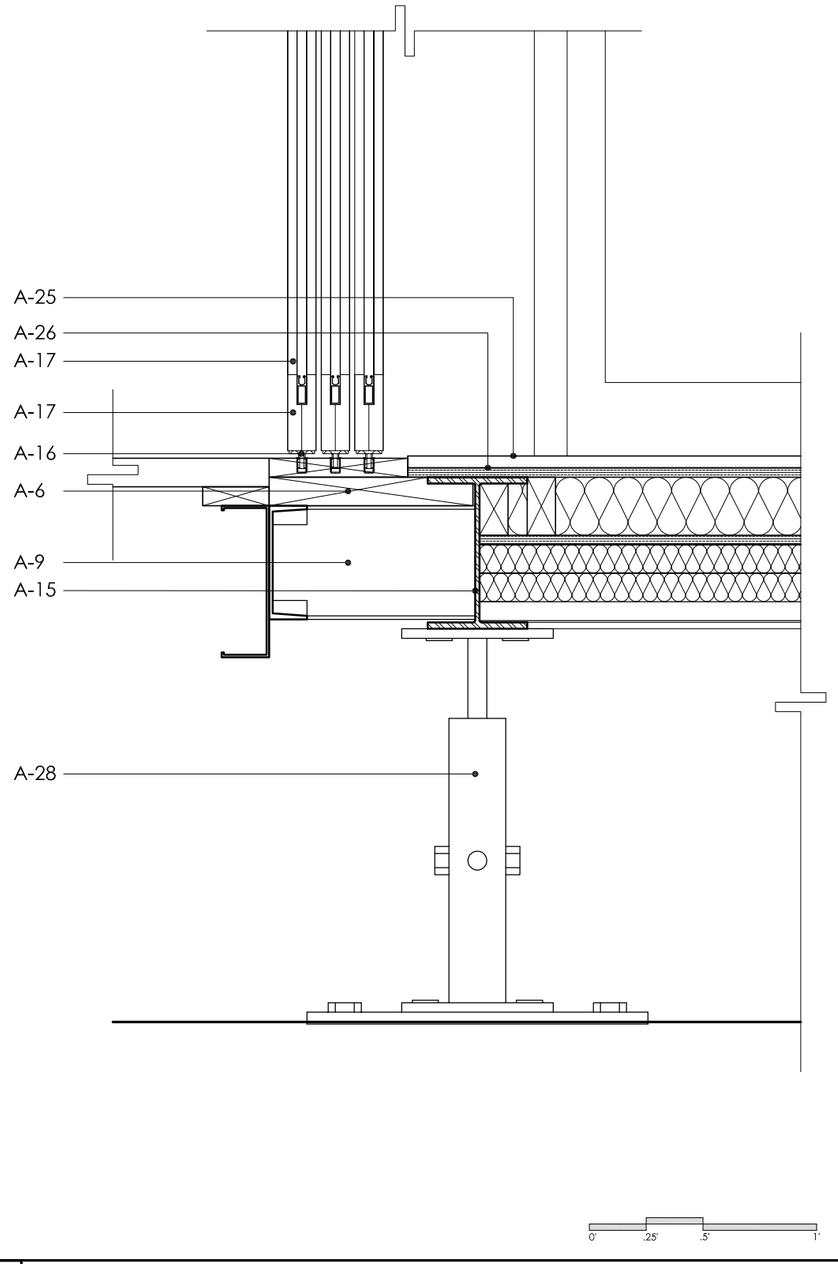
DRAWING TITLE
WALL SECTIONS DETAILS

DRAWING NO.
A-506

ISSUE FOR: FINAL DESIGN



A1 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"



A4 Wall Section Detail MK'D scale: 1-1/2" = 1'-0"

LEGEND

A-1 PV PANELS
A-2 PV STRUCTURAL FRAME
A-3 1/2 PLYWOOD PANEL
A-4 TAR PAPER
A-5 RECLAIMED REDWOOD SIDING
A-6 WOOD BLOCK
A-7 ISOBOARD MEMBRANE
A-8 STEEL CHANNEL
A-9 STEEL ANGULAR
A-10 INTERIOR FINISH
A-11 1/2" GYPSUM BOARD
A-12 #10 ROBERTSON SCREW
A-13 STEEL TUBULAR SECTION
A-14 STEEL PLATE
A-15 STEEL I BEAM
A-16 SLIDING SCREEN DOOR FITTING JUNIOR 120/A-HAWA
A-17 WOOD FRAME
A-18 2"X4" WOOD BLOCK
A-19 ALUMINUM CHANNEL
A-20 SLIDING SCREENS WITH KOOLSHADE FABRIC
A-22 TOPAKUSTIC TILE (14/2 M)
A-23 CLOSED CELL FOAM INSULATION BY HONEYWELL
A-24 MOISTURE RESISTANT GYPSUM BOARD
A-25 FLOOR FINISH
A-26 FIRE RETARDANT TREATMENT
A-27 LEVELING JACKS
A-28 FLASHING

A8 Notes

PROFESSIONAL SEAL:

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No.	Date	Description	By
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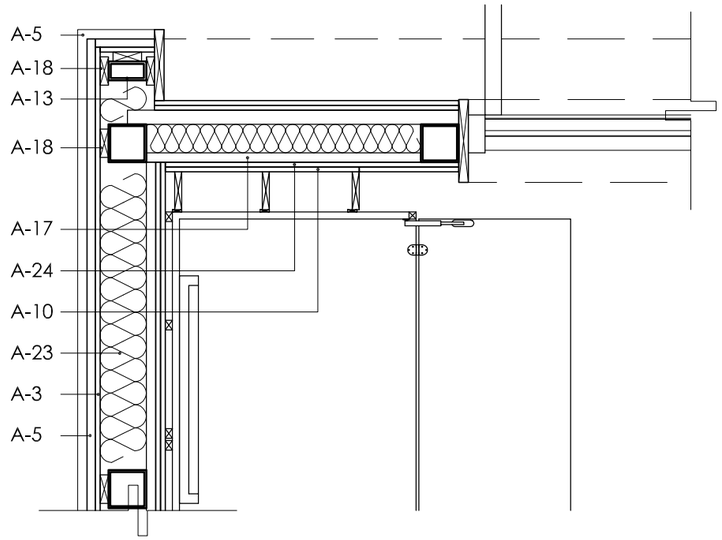
File Name:
Plot Scale: 1:1 Date: JUNE 2, 2009

DRAWING TITLE
WALL SECTIONS DETAILS

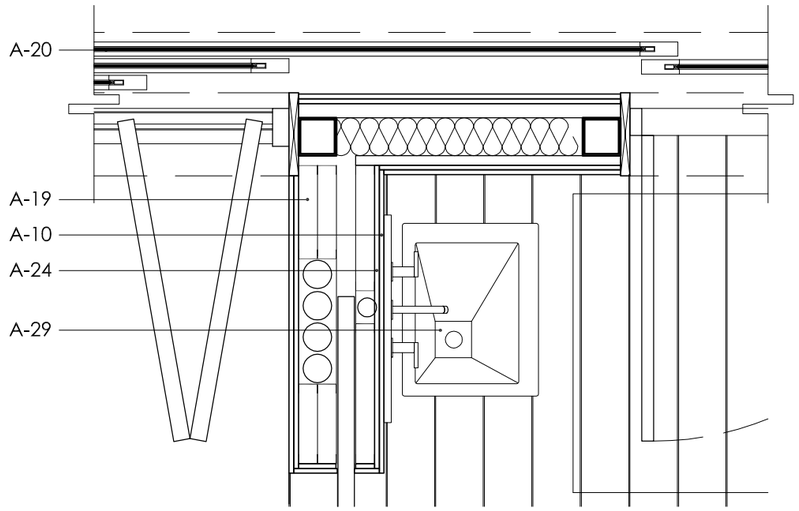
DRAWING NO.
A-507

ISSUE FOR: FINAL DESIGN



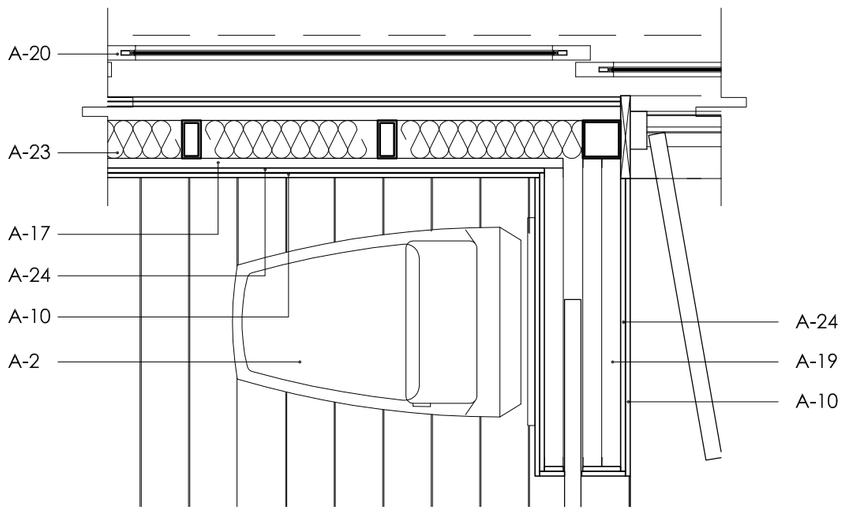
Plan View

C1 Wall Detail MK'D scale: 1-1/2" = 1'-0"



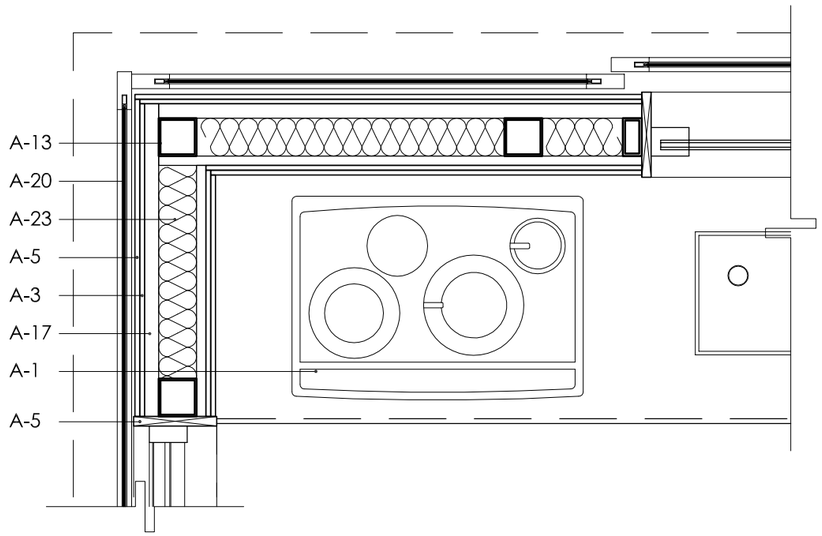
Plan View

C4 Wall Detail MK'D scale: 1-1/2" = 1'-0"



Plan View

A1 Wall Detail MK'D scale: 1-1/2" = 1'-0"



Plan View

A4 Wall Detail MK'D scale: 1-1/2" = 1'-0"

LEGEND

A-1 COOKTOP
A-2 TOILETE
A-3 1/2 PLYWOOD PANEL
A-4 TAR PAPER
A-5 RECLAIMED REDWOOD SIDING
A-6 WOOD BLOCK
A-7 ISOBOARD MEMBRANE
A-8 STEEL CHANNEL
A-9 STEEL ANGULAR
A-10 INTERIOR FINISH
A-11 1/2" GYPSUM BOARD
A-12 #10 ROBERTSON SCREW
A-13 STEEL TUBULAR SECTION
A-14 STEEL PLATE
A-15 STEEL I BEAM
A-16 SLIDING SCREEN DOOR FITTING JUNIOR 120/A-HAWA
A-17 WOOD FRAME
A-18 2"X4" WOOD BLOCK
A-19 ALUMINUM CHANNEL
A-20 SLIDING SCREENS WITH KOOLSHADE FABRIC
A-22 KITCHEN SINK
A-23 CLOSED CELL FOAM INSULATION BY HONEYWELL
A-24 MOISTURE RESISTANT GYPSUM BOARD
A-25 FLOOR FINISH
A-26 FIRE RETARDANT TREATMENT
A-27 SINK
A-28 FLASHING
A-29 BASIN

A8 Notes

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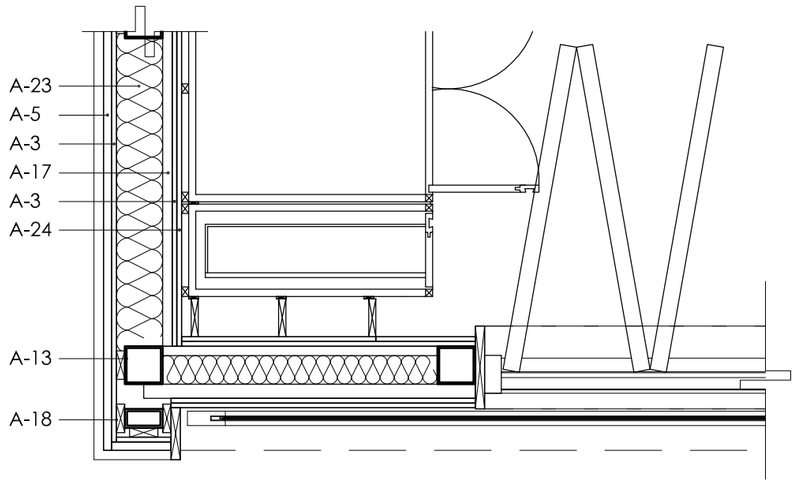
DRAWING TITLE
WALL PLAN DETAILS

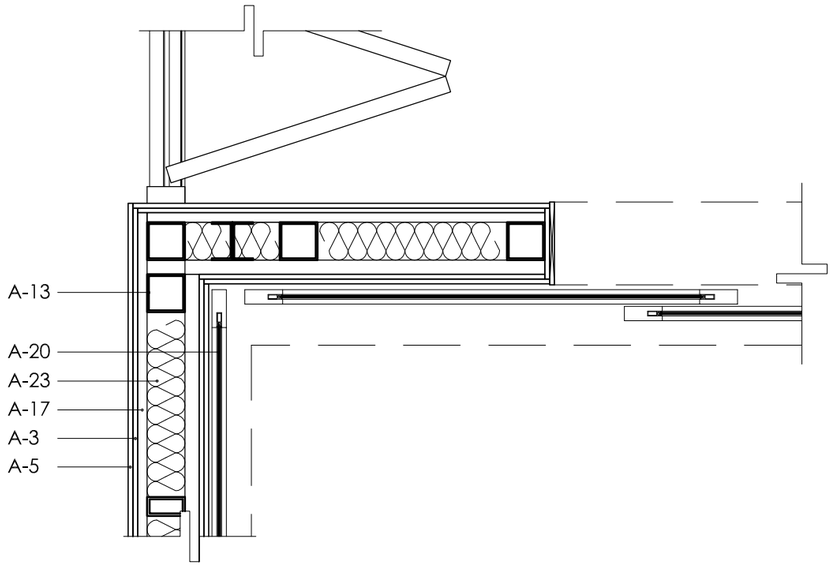
DRAWING NO.
A-508

ISSUE FOR: FINAL DESIGN



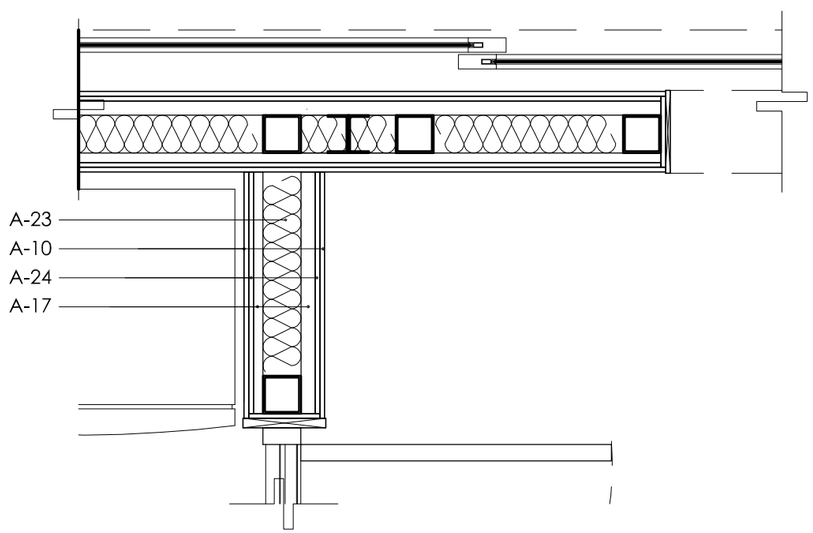
Plan View

C1 | Wall Detail MK'D | scale: 1-1/2" = 1'-0"



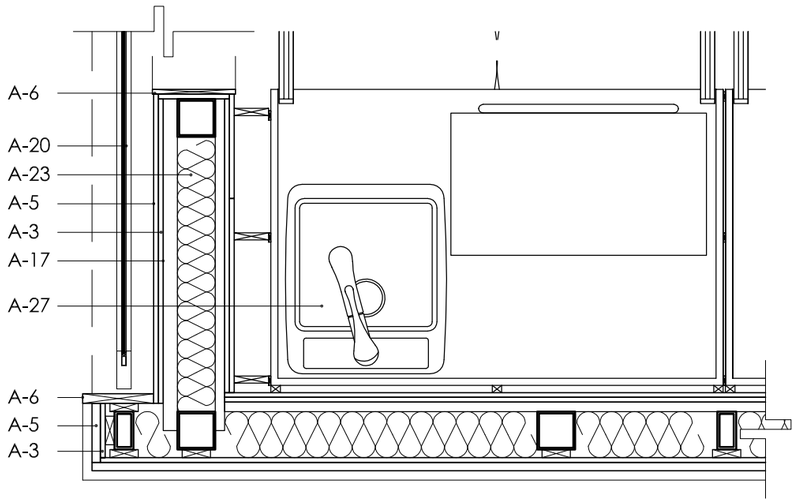
Plan View

C4 | Wall Detail MK'D | scale: 1-1/2" = 1'-0"



Plan View

A1 | Wall Detail MK'D | scale: 1-1/2" = 1'-0"



Plan View

A4 | Wall Detail MK'D | scale: 1-1/2" = 1'-0"

LEGEND

A-1 COOKTOP
A-2 TOILETE
A-3 1/2 PLYWOOD PANEL
A-4 TAR PAPER
A-5 RECLAIMED REDWOOD SIDING
A-6 WOOD BLOCK
A-7 ISOBOARD MEMBRANE
A-8 STEEL CHANNEL
A-9 STEEL ANGULAR
A-10 INTERIOR FINISH
A-11 1/2" GYPSUM BOARD
A-12 #10 ROBERTSON SCREW
A-13 STEEL TUBULAR SECTION
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A-16 SLIDING SCREEN DOOR FITTING JUNIOR 120/A-HAWA
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A-20 SLIDING SCREENS WITH KOOLSHADE FABRIC
A-22 KITCHEN SINK
A-23 CLOSED CELL FOAM INSULATION BY HONEYWELL
A-24 MOISTURE RESISTANT GYPSUM BOARD
A-25 FLOOR FINISH
A-26 FIRE RETARDANT TREATMENT
A-27 SINK
A-28 FLASHING

A8 | Notes

PROFESSIONAL SEAL:

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DRAWING TITLE
WALL PLAN DETAILS

DRAWING NO.
A-509

ISSUE FOR: FINAL DESIGN

FINISHES SCHEDULE

AREA	FLOOR	WALL	BASEBOARD	CEILING
100 DECK 1	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X 1 $\frac{1}{4}$" THICK, FINISHED WITH SIX COATS OF VALRESA #700217-103	REDWOOD BOARDS(SEE WALL SECTION FOR DIMENSIONS AND MILLWORK) FINISHIED WITH SIX COATS OF LANCO RAW LINSEED OIL #8001-26-1	REDWOOD BOARDS OF 2 $\frac{1}{2}$" THICK X 6" WIDE, FINISHIED WITH SIX COATS OF VALRESA #700217-103	
101 DECK 2	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X 1 $\frac{1}{4}$" THICK, FINISHED WITH SIX COATS OF VALRESA #700217-103	REDWOOD BOARDS(SEE WALL SECTION FOR DIMENSIONS AND MILLWORK) FINISHIED WITH SIX COATS OF LANCO RAW LINSEED OIL #8001-26-1	REDWOOD BOARDS OF 2 $\frac{1}{2}$" THICK X 6" WIDE, FINISHIED WITH SIX COATS OF VALRESA #700217-103	
102 RAMP	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X 1 $\frac{1}{4}$" THICK, FINISHED WITH SIX COATS OF VALRESA #700217-103		REDWOOD BOARDS OF 2 $\frac{1}{2}$" THICK X 6" WIDE, FINISHIED WITH SIX COATS OF VALRESA #700217-103	
103 STAIR	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X 1 $\frac{1}{4}$" THICK, FINISHED WITH SIX COATS OF VALRESA #700217-103			
104 KITCHEN	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	$\frac{1}{2}$" THICK GYPSUM BOARD PLASTERED WITH PROFORM ALL PURPOSE JOINT COMPOUND AND PAINTED WITH 2 COATS OF MOLD RESISTANT PAINT TOPAKUSTIK-ECO $\frac{14}{2}$ M WITH 7% PERFORATION BY PATT AND $\frac{1}{2}$" THICK (SEE REFLECTED CEILING FOR DETAILS)
105 MULTI-PURPOSE	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	$\frac{1}{2}$" THICK GYPSUM BOARD PLASTERED WITH PROFORM ALL PURPOSE JOINT COMPOUND AND PAINTED WITH 2 COATS OF MOLD RESISTANT PAINT
106 LIVING/ OFFICE	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	$\frac{1}{2}$" THICK GYPSUM BOARD PLASTERED WITH PROFORM ALL PURPOSE JOINT COMPOUND AND PAINTED WITH 2 COATS OF MOLD RESISTANT PAINT TOPAKUSTIK-ECO $\frac{14}{2}$ M WITH 7% PERFORATION BY PATT AND $\frac{1}{2}$" THICK (SEE REFLECTED CEILING FOR DETAILS)
107 BATH-ROOM	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE X $\frac{3}{4}$" THICK, FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE WITH VARIABLE THICKNESS (SEE A-? FOR DETAILS OF MILLWORK), FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	TEAK BOARDS OF 2 $\frac{1}{4}$" WIDE WITH VARIABLE THICKNESS (SEE A-? FOR DETAILS OF MILLWORK), FINISHED WITH SIX COATS OF 50% POUR AND WIPED BY MOHAWK #M 603-3017 AND 50% NAPATS BY MOHAWK #M 650-0047	$\frac{1}{2}$" THICK GYPSUM BOARD PLASTERED WITH PROFORM ALL PURPOSE JOINT COMPOUND AND PAINTED WITH 2 COATS OF MOLD RESISTANT PAINT TOPAKUSTIK-ECO $\frac{14}{2}$ M WITH 7% PERFORATION BY PATT AND $\frac{1}{2}$" THICK (SEE REFLECTED CEILING FOR DETAILS)
108 PLANTERS				

A1 Finishes Schedule

scale: not to scale

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File Name:

Plot Scale: 1:1 Date: JUNE 2, 2009

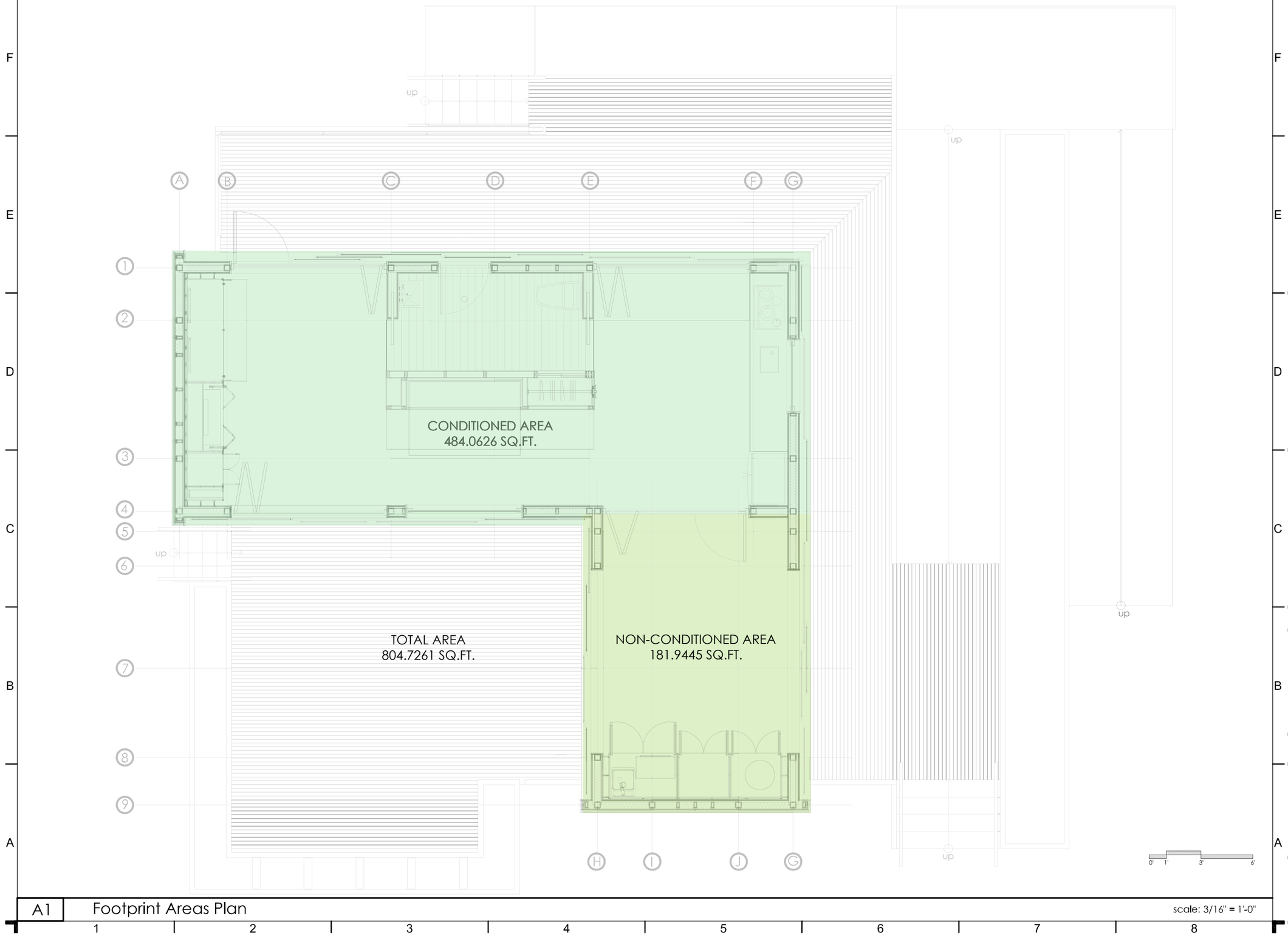
DRAWING TITLE

FINISHES SCHEDULE

DRAWING NO.

A-601

ISSUE FOR: FINAL DESIGN



A1 Footprint Areas Plan

scale: 3/16" = 1'-0"

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DRAWING TITLE

FOOTPRINT AREAS PLAN

DRAWING NO.

A-602

ISSUE FOR: FINAL DESIGN

A1 Living Spaces Distribution Plan

scale: 3/16" = 1'-0"

PROFESSIONAL SEAL:

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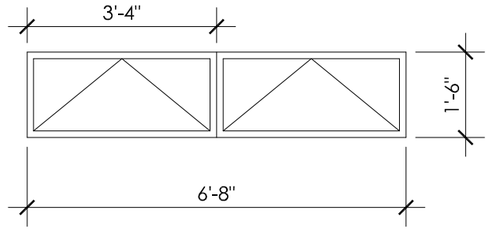
DRAWING TITLE

LIVING SPACES DISTRIBUTION PLAN

DRAWING NO.

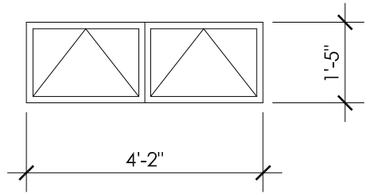
A-603

ISSUE FOR: FINAL DESIGN



Window No. 3

3/8 0" .5" 1.5" 3"

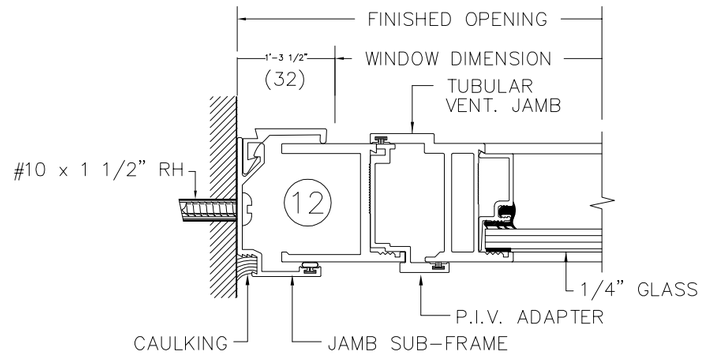


Window No. 2

3/8 0" .5" 1.5" 3"

E1 Window Type 1

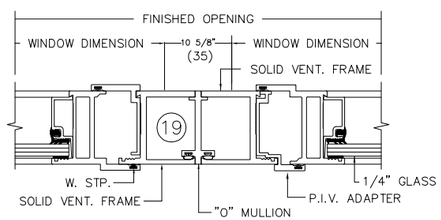
scale: 3/8" = 1'-0"



1/2 0" .5" 1" 2"

A1 Window Detail Plan

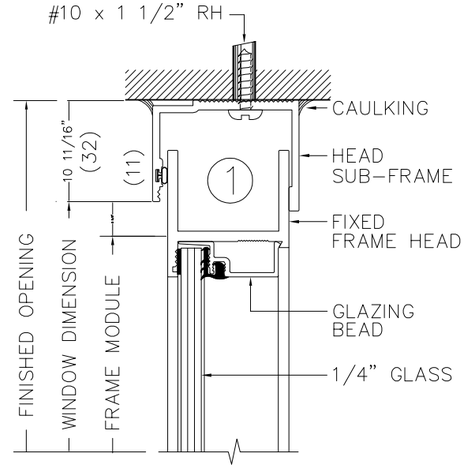
scale: 1/2" = 1'-0"



1/2 0" .5" 1" 2"

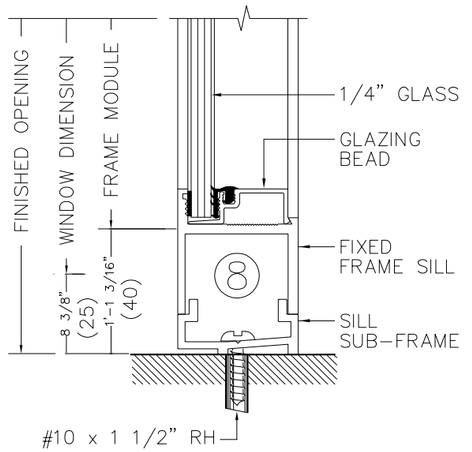
A1 Window Detail Plan

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



E5 Window Type 2

scale: 3/8" = 1'-0"



3/4 0" .5" 1" 1.5"

A5 Window Section

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

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DRAWING TITLE

WINDOW ELEVATIONS & DETAIL

DRAWING NO.

A-604

ISSUE FOR: FINAL DESIGN

WINDOW SCHEDULE

NO.	TYPE	OPENING		WINDOW SIZES		JAMB	SILL	HEAD	DESCRIPTION	FRAME
		HEIGHT	WIDTH	HEIGHT	WIDTH					
1	W1	1'-6"	6'-8"	8'-0"	3'- 31/2"	6"	4"	5"	PROJECTED WINDOW WITH DOUBLE GLASS PANEL	ALUMINUM
2	W2	1'-5"	4'-2"	1'-6"	7'- 0"	1/4"	1/4"	1/4"	PROJECTED WINDOW WITH DOUBLE GLASS PANEL	ALUMINUM

DOOR SCHEDULE

NO.	TYPE	OPENING		SHEETS	DOOR SIZES		THICKNESS	MATERIAL	FRAME	HARDWARE	FINISHES	TURN	DESCRIPTION
		HEIGHT	WIDTH		HEIGHT	WIDTH					NOTE: COMPLY WITH IRC 2006 SECTION R308.		
1	A	8'-0"	9'-0"	3	7'-101/4"	8'- 81/2"	4"	ALUMINUM / GLASS	F1	——	ALUMINUM SHALL BE CHEMICALLY DEGREASED,ETCHED AND PAINTED USING FIRST QUALITY THERMOSETTING TJIC POWDER PAINT, LIGHT GREY. 1/4" TEMP. INSULATED GLASS CLEAR.	FOLDING	FOLDING/PIVOT DOORS WITH SOLAR-E GLAZING & HÜPER OPTIK FILM
2	A	8'-0"	9'-0"	3	7'-101/4"	8'- 81/2"	4"	ALUMINUM / GLASS	F2	——	ALUMINUM SHALL BE CHEMICALLY DEGREASED,ETCHED AND PAINTED USING FIRST QUALITY THERMOSETTING TJIC POWDER PAINT, LIGHT GREY. 1/4" TEM. INSULATED GLASS CLEAR.	FOLDING	FOLDING/PIVOT DOORS WITH SOLAR-E GLAZING & HÜPER OPTIK FILM
3	A	8'-0"	9'-0"	3	7'-101/4"	8'- 81/2"	4"	ALUMINUM / GLASS	F2	——	ALUMINUM SHALL BE CHEMICALLY DEGREASED,ETCHED AND PAINTED USING FIRST QUALITY THERMOSETTING TJIC POWDER PAINT, LIGHT GREY. 1/4" TEMP. INSULATED GLASS CLEAR.	FOLDING	FOLDING/PIVOT DOORS WITH SOLAR-E GLAZING & HÜPER OPTIK FILM
4	A	8'-0"	9'-0"	3	7'-101/4"	8'- 81/2"	4"	ALUMINUM / GLASS	F2	——	ALUMINUM SHALL BE CHEMICALLY DEGREASED,ETCHED AND PAINTED USING FIRST QUALITY THERMOSETTING TJIC POWDER PAINT, LIGHT GREY. 1/4" TEMP. INSULATED GLASS CLEAR.	FOLDING	FOLDING/PIVOT DOORS WITH SOLAR-E GLAZING & HÜPER OPTIK FILM
5	B	7'-0"	3'-0"	1	6'-101/4"	2'- 81/2"	4"	ALUMINUM / GLASS	F2	——	ALUMINUM SHALL BE CHEMICALLY DEGREASED,ETCHED AND PAINTED USING FIRST QUALITY THERMOSETTING TJIC POWDER PAINT, LIGHT GREY. 1/4" TEMP. INSULATED GLASS CLEAR.	ONE SHEET	FULL GLASS DOOR WITH SOLAR-E GLAZING(FROSTED) & HÜPER OPTIK FILM

SCREEN DOOR SCHEDULE

NO.	TYPE	OPENING		SHEETS	DOOR SIZES		THICKNESS	MATERIAL	FRAME	HARDWARE	FINISHES	TURN	DESCRIPTION
		HEIGHT	WIDTH		HEIGHT	WIDTH							
1	C	8'-4 1/4"	29'-9 1/2"	7	8'-1/2"	4'- 4" 6'- 4"	1 1/2"	COPPER SCREEN /RED WOOD	F3	——	COPPER SCREEN IS LEFT UNFINISHED. WOOD FRAMES WILL BE FINISHED WITH SIX COATS OF VALRESA #700217-103	SLIDING	SCREENS, DOORS
2	D	8'-4 1/4"	23'- 1/2"	5	8'-1/2"	4'- 4" 6'- 4"	1 1/2"	COPPER SCREEN /RED WOOD	F3	——	COPPER SCREEN IS LEFT UNFINISHED. WOOD FRAMES WILL BE FINISHED WITH SIX COATS OF VALRESA #700217-103	SLIDING	SCREENS, DOORS
3	E	8'-4 1/4"	13'-4"	4	8'-1/2"	4'- 4" 6'- 4"	1 1/2"	COPPER SCREEN /RED WOOD	F3	——	COPPER SCREEN IS LEFT UNFINISHED. WOOD FRAMES WILL BE FINISHED WITH SIX COATS OF VALRESA #700217-103	SLIDING	SCREENS, DOORS
4	F	8'-4 1/4"	31'-3"	7	8'-1/2"	4'- 4" 6'- 4"	1 1/2"	COPPER SCREEN /RED WOOD	F3	——	COPPER SCREEN IS LEFT UNFINISHED. WOOD FRAMES WILL BE FINISHED WITH SIX COATS OF VALRESA #700217-103	SLIDING	SCREENS, DOORS

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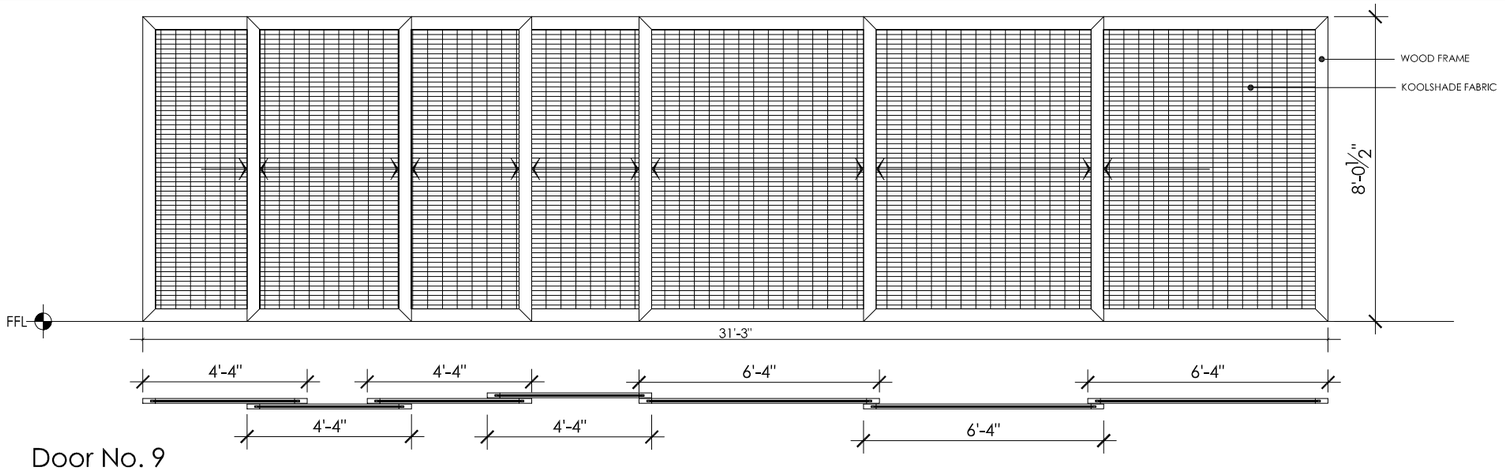
DRAWING TITLE
WINDOWS AND DOORS SCHEDULE

DRAWING NO.
A-605

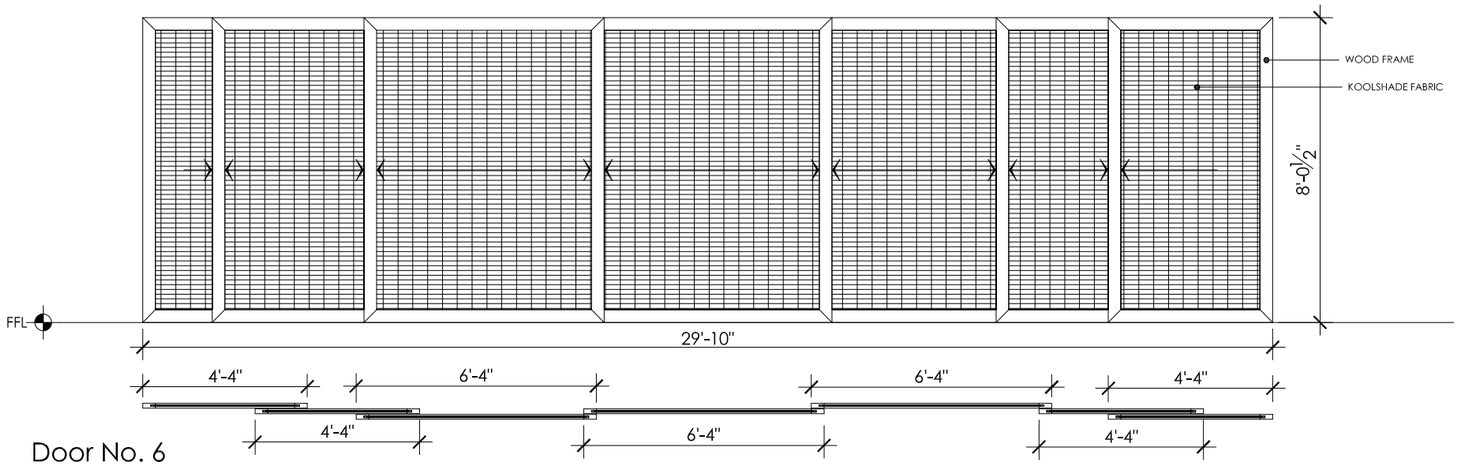
ISSUE FOR: FINAL DESIGN



Door No. 9

E1 Screen Door Type S1

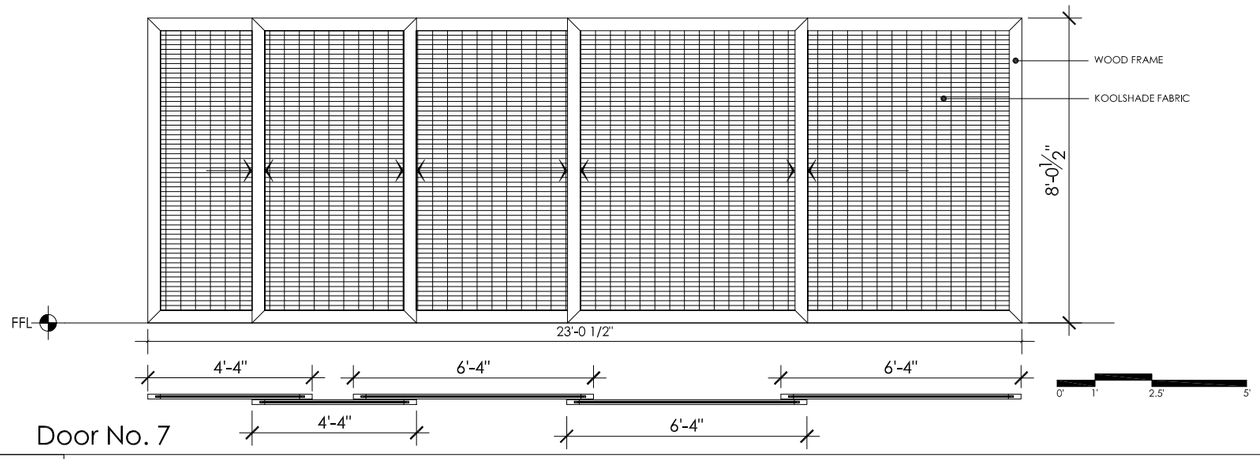
scale: 1/4" = 1'-0"



Door No. 6

C1 Screen Door Type S2

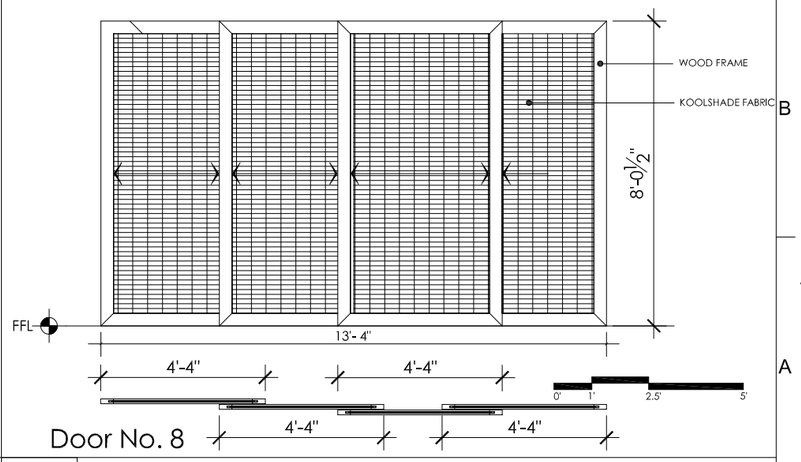
scale: 1/4" = 1'-0"



Door No. 7

A1 Screen Door Type S3

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



Door No. 8

A6 Screen Door Type S4

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

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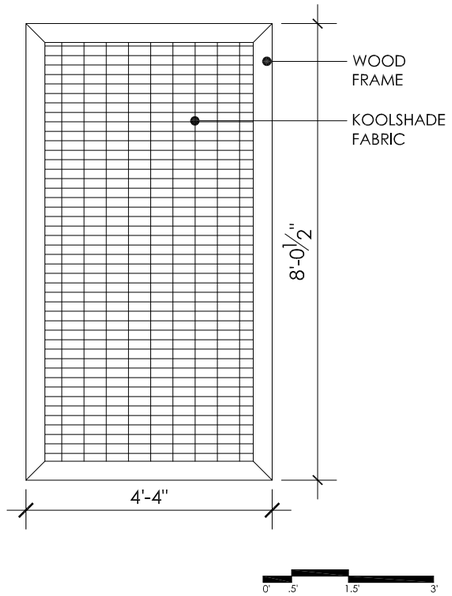
DRAWING TITLE

SCREEN DOORS ELEVATIONS

DRAWING NO.

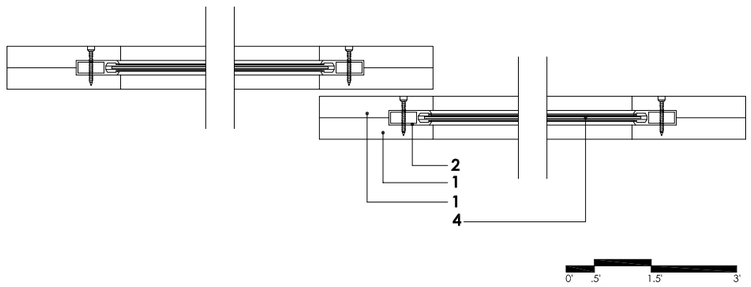
A-701

ISSUE FOR: FINAL DESIGN

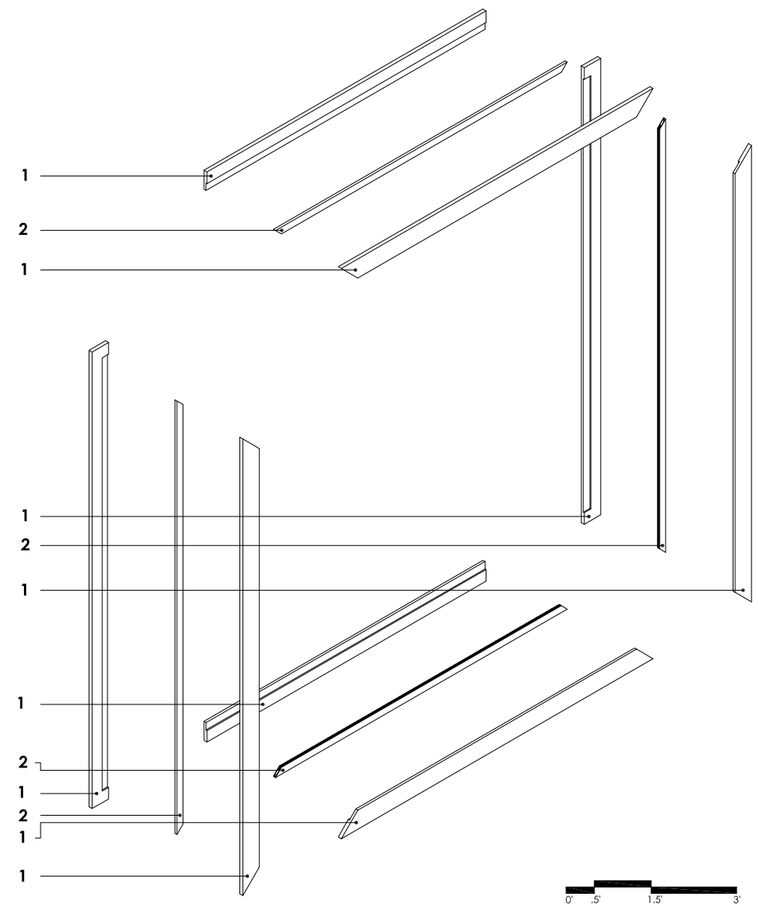


Screen Door

D1 | Type A | scale: 3/8" = 1'-0"

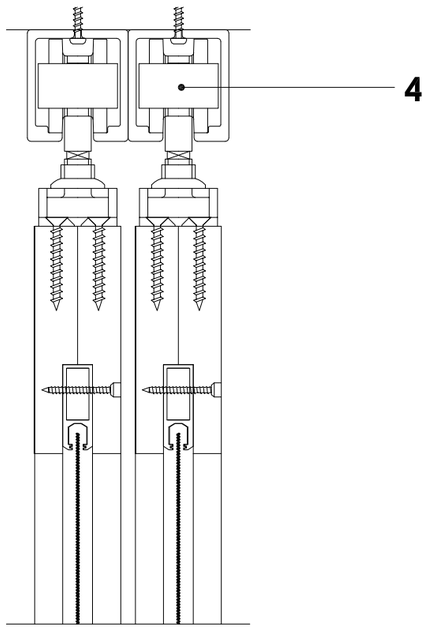


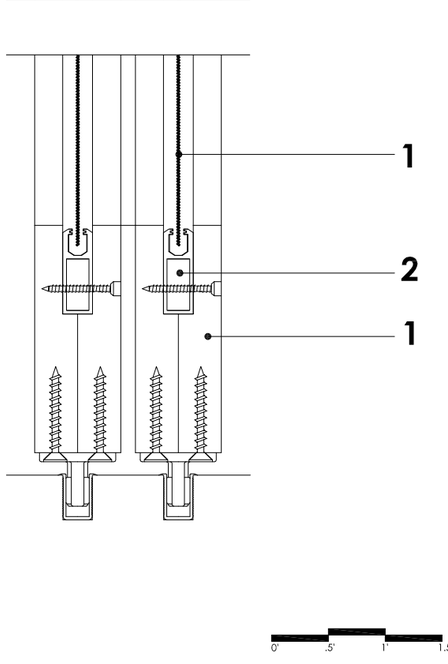
E3 | Screen Door Plan | scale: 3/8" = 1'-0"



Screen Door

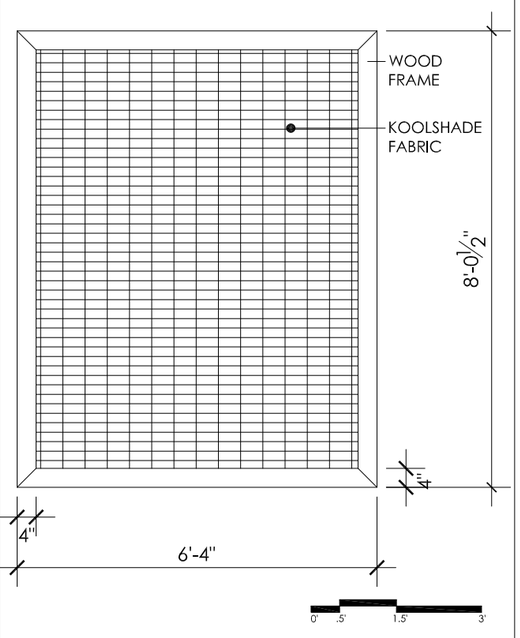
A3 | Screen Door Axonometric | scale: 3/8" = 1'-0"





Screen Door

A6 | Section | scale: 3/4" = 1'-0"



A1 | Type B | scale: 3/8" = 1'-0"

Legend:

1. RED FRAME
2. ALUMINUM EXTRUSION
3. KOOLSHADE FABRIC
4. HAFELE JUNIOR 120/A-HAWA

A8 | Legend

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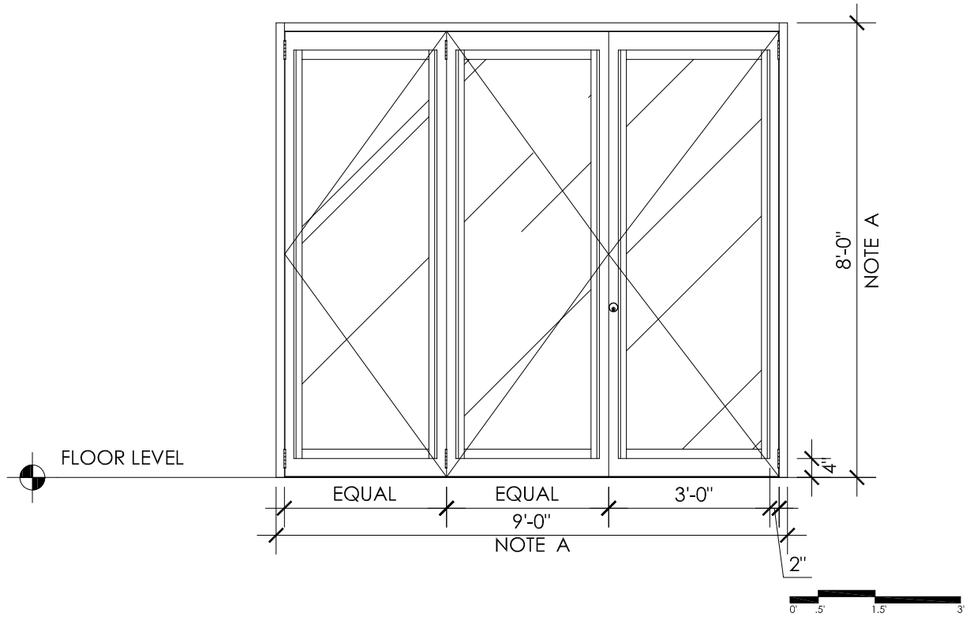
DRAWING TITLE

SCREEN DOORS DETAILS

DRAWING NO.

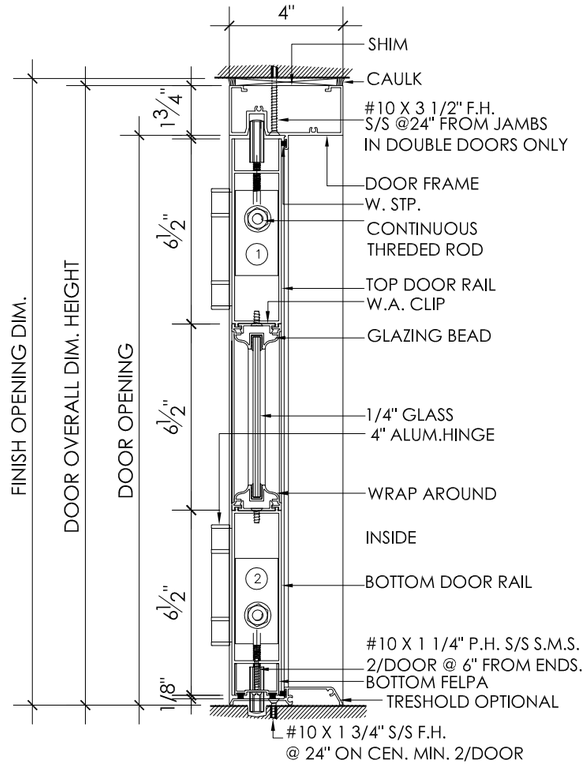
A-702

ISSUE FOR: FINAL DESIGN



Door No. 1,2,3,4; Folding Door; Aluminum & Glass

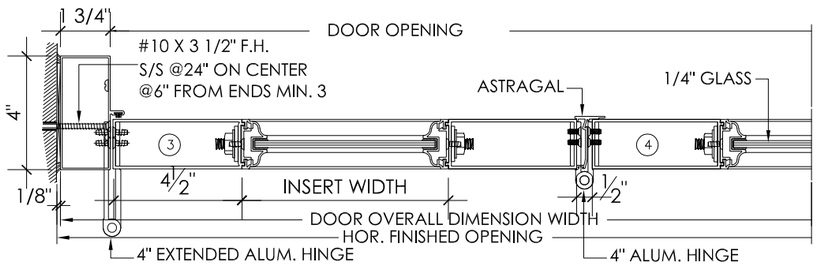
D1 Door Type A — scale: 3/8" = 1'-0"



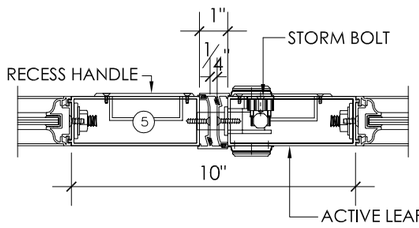
Notes:

A. THIS DRAWING INCLUDES THE FRAME: 1-3/4".

C5 Door Section — scale: 3/8" = 1'-0"



A1 Door Plan — scale: 3/8" = 1'-0"



A5 Door Detail — scale: 3/8" = 1'-0"

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DRAWING TITLE

DOORS ELEVATIONS

DRAWING NO.

A-703

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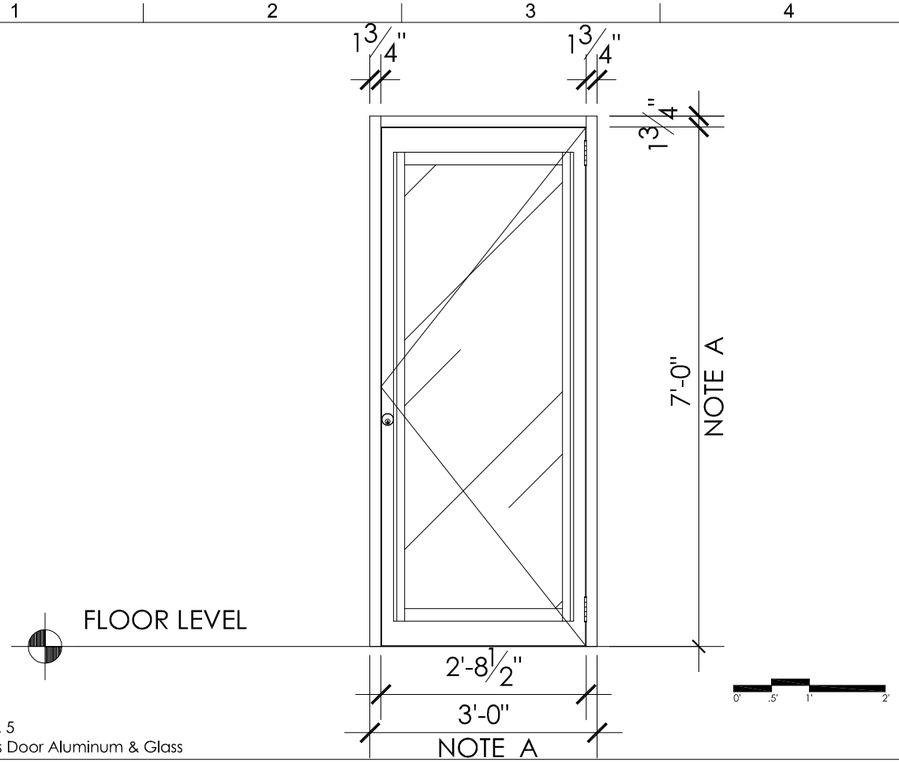
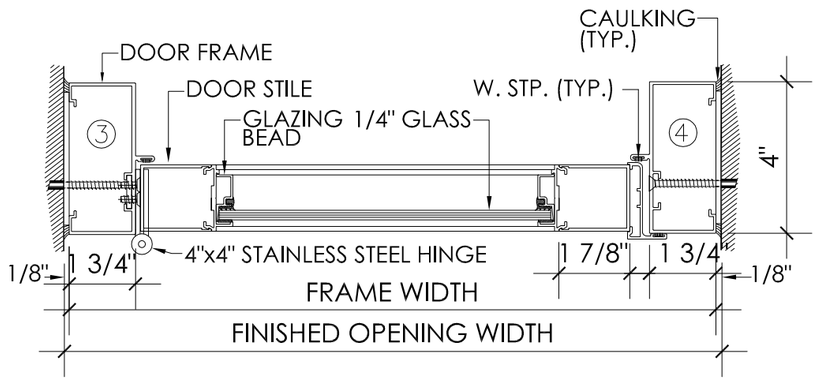
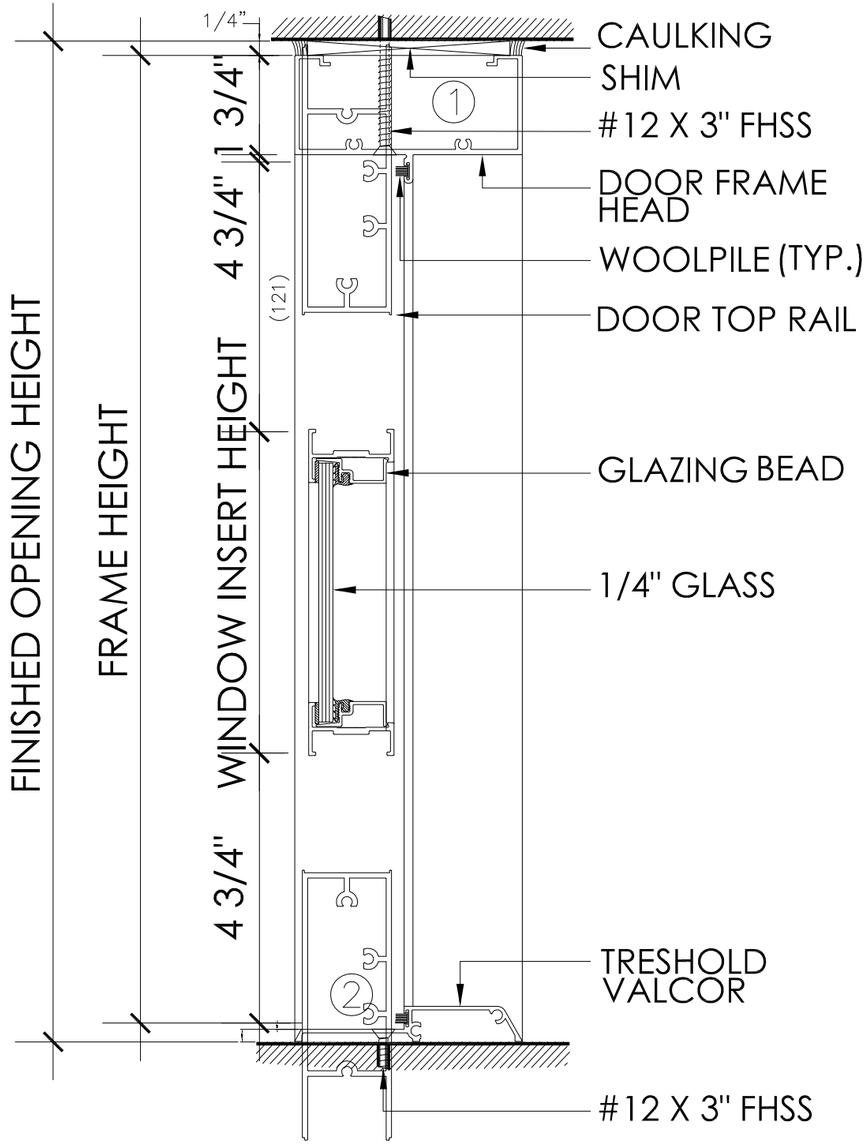


Door No. 5
Full Glass Door Aluminum & Glass

D1 Door Type B — scale: 1/2" = 1'-0"



A1 Door Plan — scale: not to scale



Notes:
A. THIS DRAWING INCLUDES THE FRAME: 1-3/4".

A5 Door Section — scale: not to scale

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DRAWING TITLE
DOORS
ELEVATIONS

DRAWING NO.
A-704

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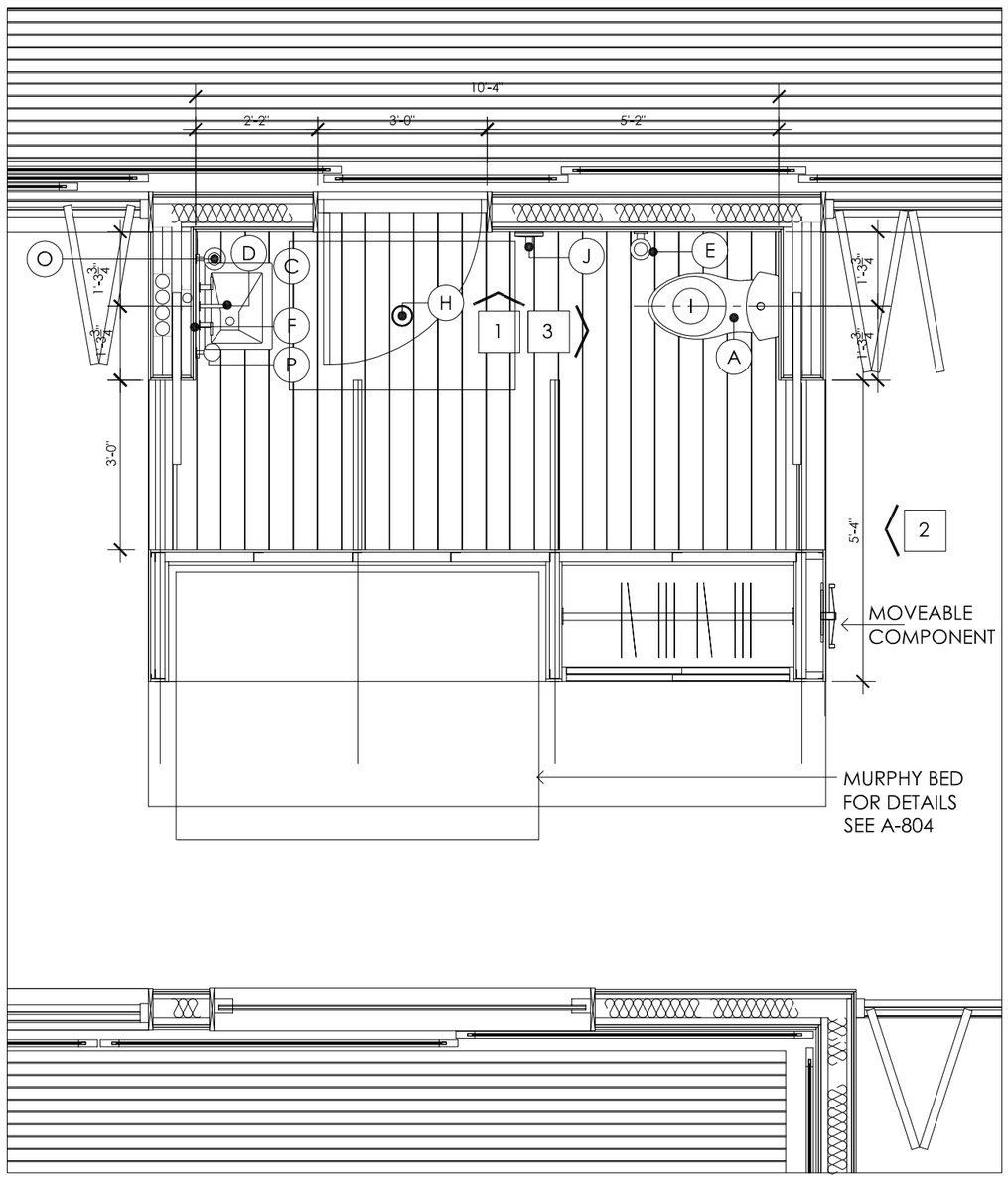
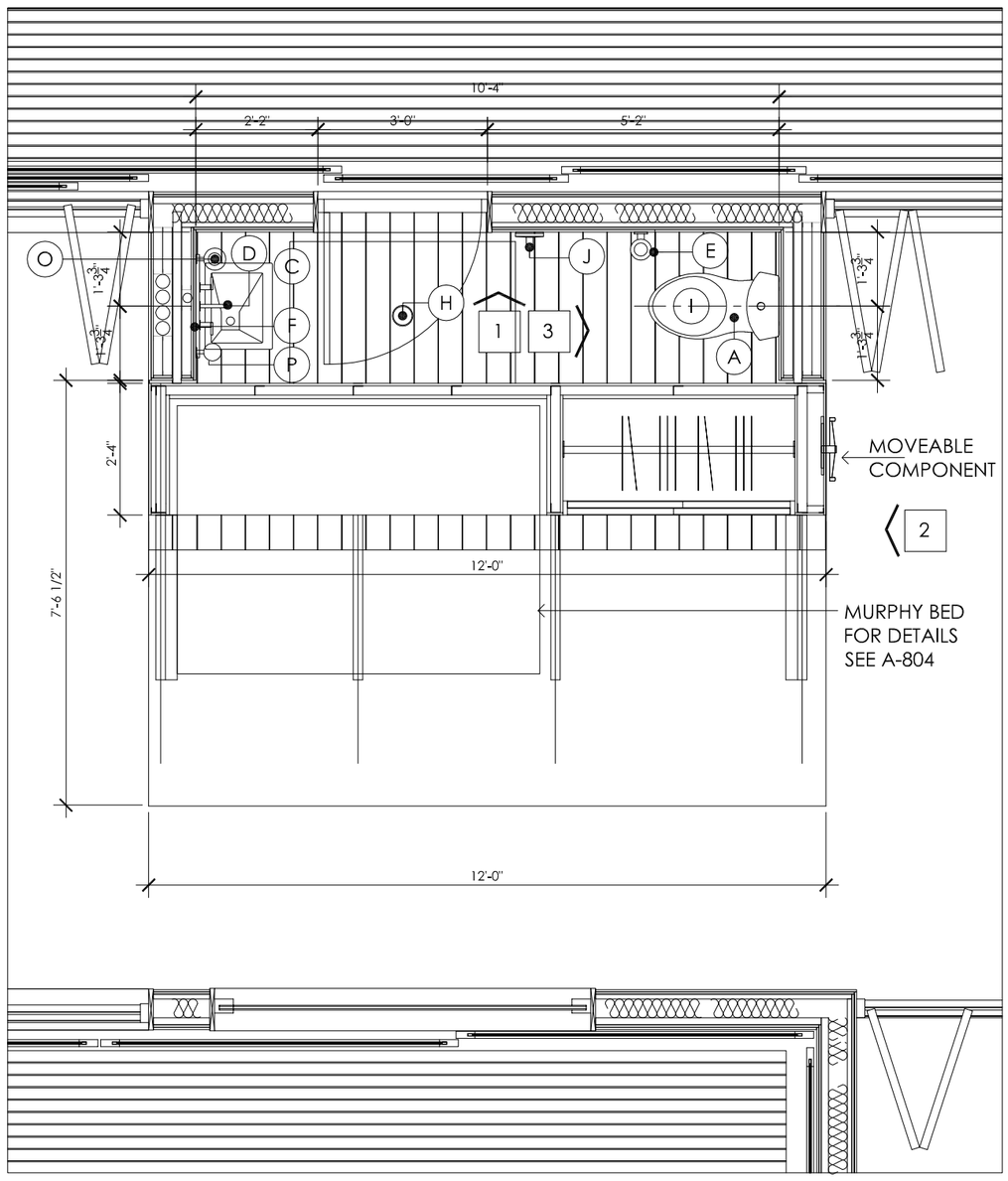


A1 Moveable Component /Bath Plan (Open) scale: 3/8" = 1'-0"



A5 Moveable Component/Bath Plan (Closed) scale: 3/8" = 1'-0"

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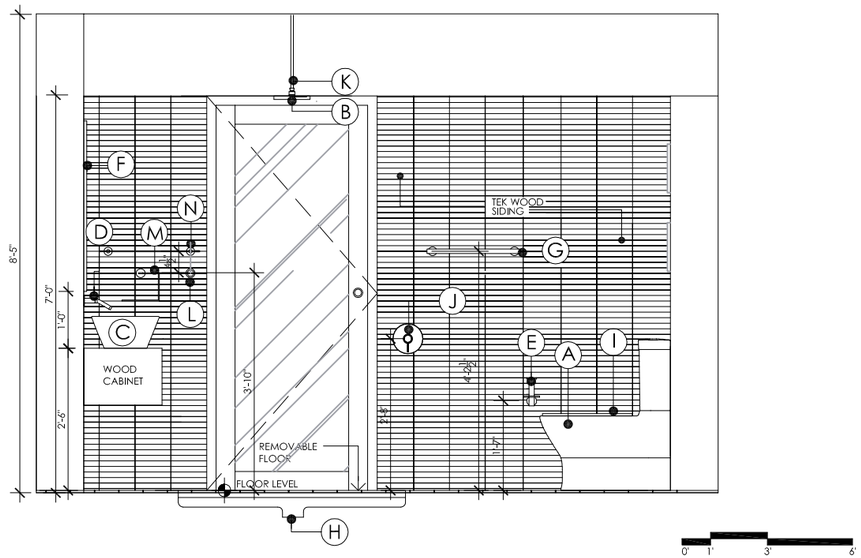
DRAWING TITLE

MOVEABLE COMPONENTS PLANS

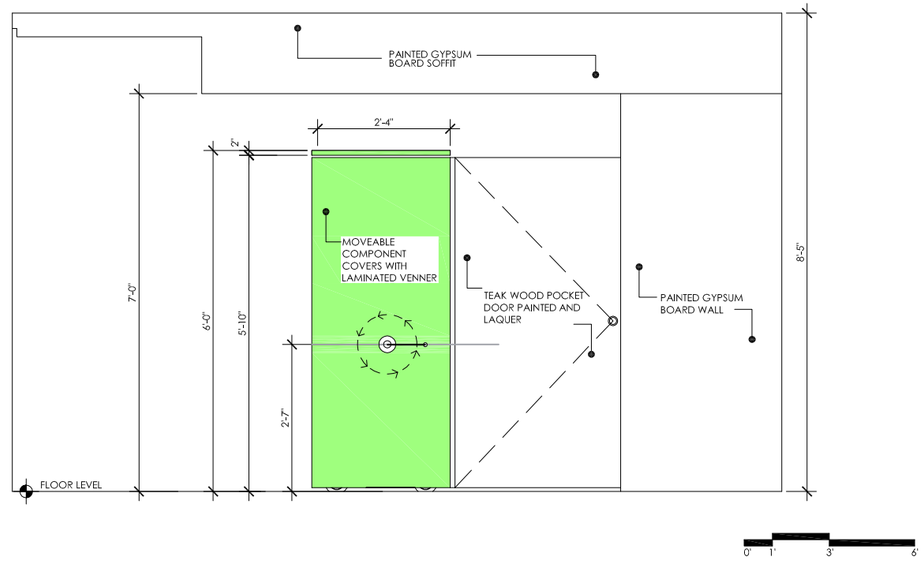
DRAWING NO.

A-801

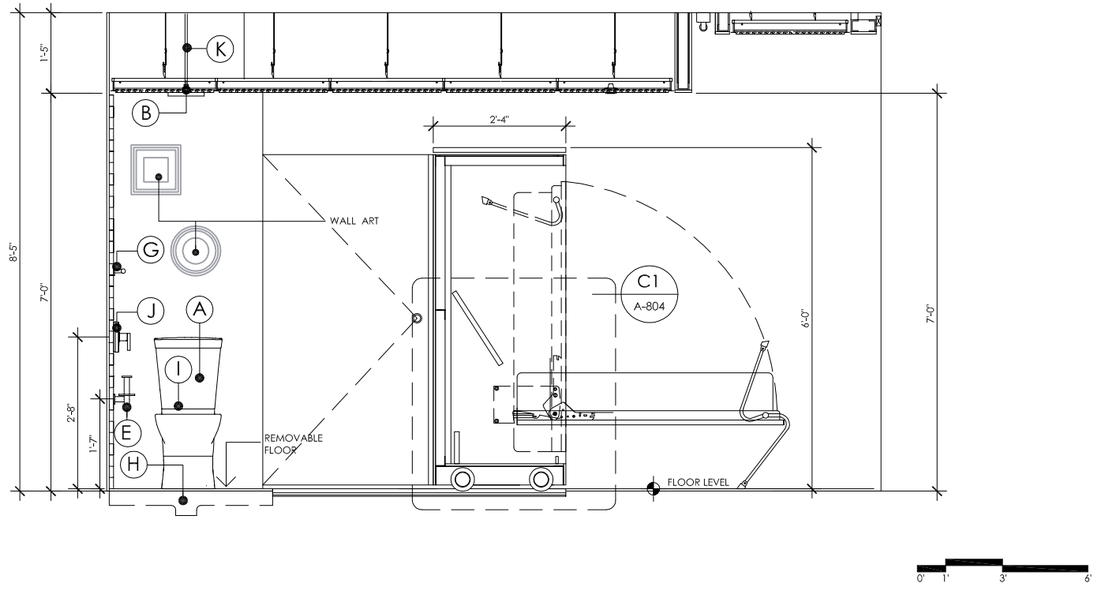
ISSUE FOR: FINAL DESIGN



D1 Bathroom Elevation — scale: 3/16" = 1'-0"



D5 Moveable Component Elevation — scale: 3/16" = 1'-0"



A1 Moveable Component/Bathroom Elevation — scale: 3/16" = 1'-0"

BATHROOM FIXTURES & ACCESORIES SCHEDULE TO BE SELECTED BY DESIGNER, PROVIDED BY OWNER & INSTALLED BY CONTRACTOR.		
MKD	FIXTURES	MODEL
A	WATERCLOSET	SEE PLUMBING DRAWINGS
B	SHOWER HEAD	SEE PLUMBING DRAWINGS
C	LAVATORY	SEE PLUMBING DRAWINGS
D	LAVATORY FAUCET	SEE PLUMBING DRAWINGS
E	SANITARY PAPER HOLDER	SEE SPECS.
F	HANGING MIRROR	24" X 36" SEE SPECS.
G	TOWEL HOLDER	SEE SPECS.
H	SHOWER BASE	SEE PLUMBING DRAWINGS
I	TOILET SEAT	SEE PLUMBING DRAWINGS
J	SHOWER TEMP VALVE	SEE PLUMBING DRAWINGS
K	SHOWER ARM	SEE PLUMBING DRAWINGS
L	ROBE HOOK	SEE SPECS.
M	TOWEL RING	SEE SPECS.
N	GLASS SHELF	SEE SPECS.
O	SOAP DISH	SEE SPECS.
P	TUMBLER HOLDER	SEE SPECS.

A6 Schedule — scale: not to scale

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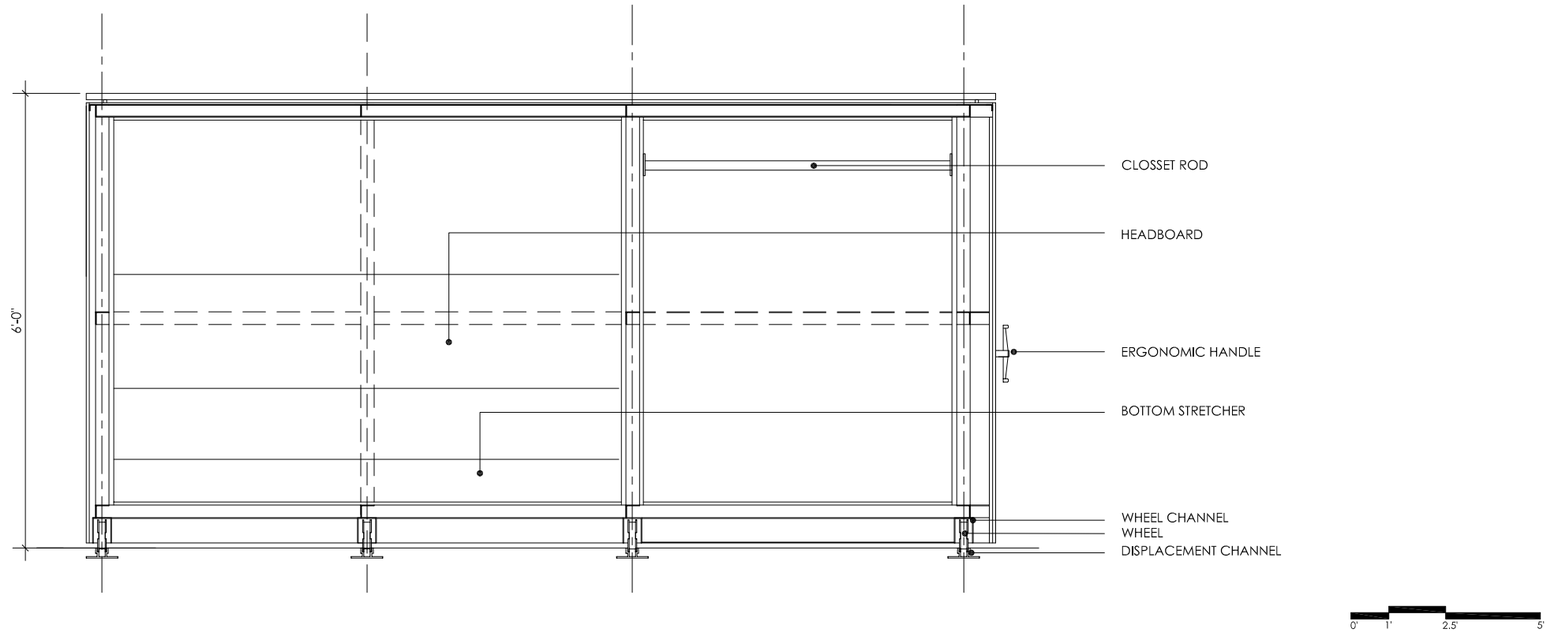
DRAWING TITLE

MOVEABLE COMPONENT DETAILS

DRAWING NO.

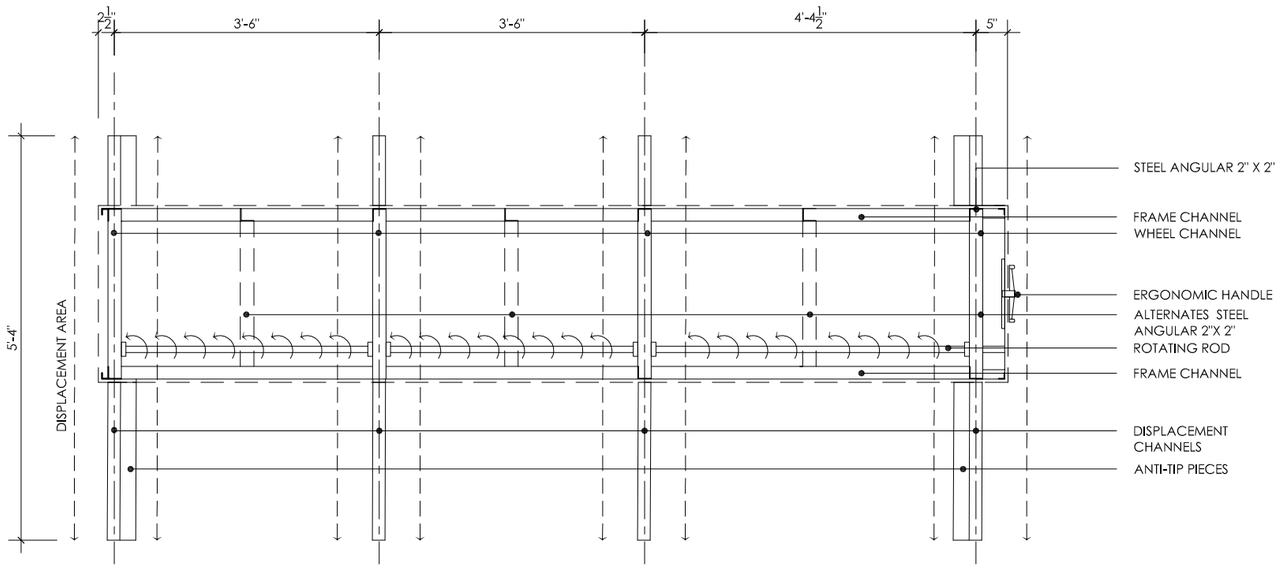
A-802

ISSUE FOR: FINAL DESIGN



D1 Moveable Component Section Detail

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



A1 Moveable Component Plan (Mechanism)

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

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DRAWING TITLE

MOVEABLE COMPONENT DETAILS

DRAWING NO.

A-803

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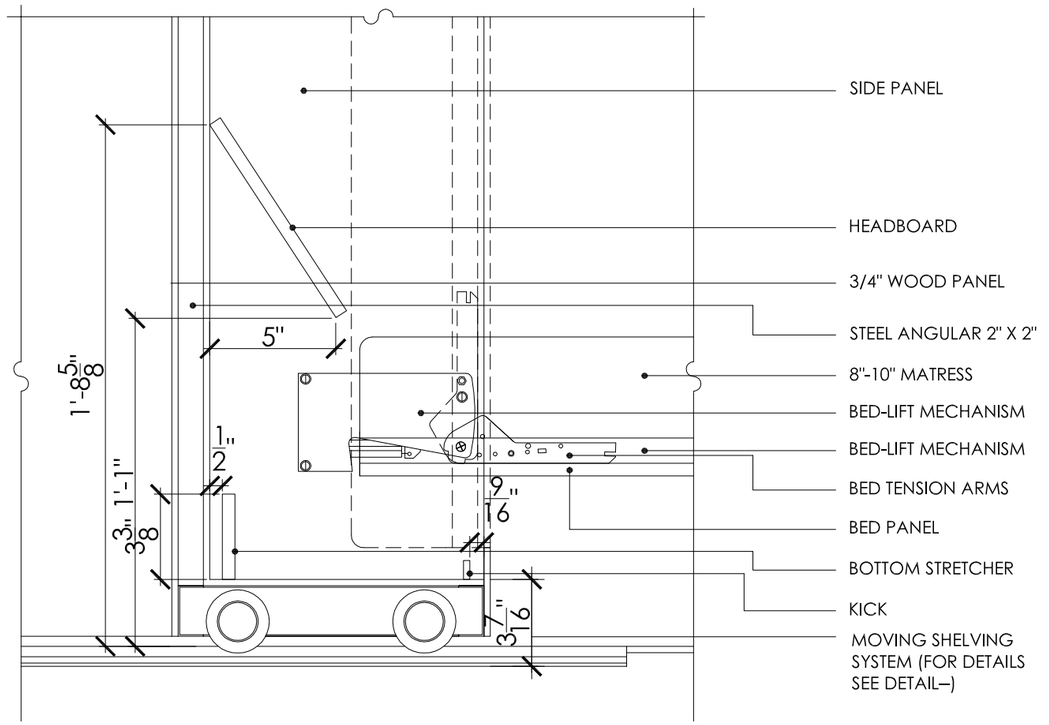
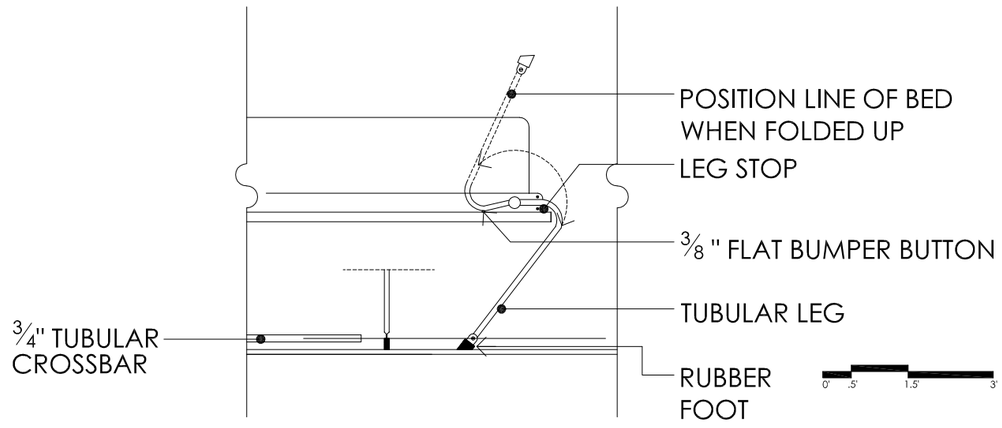
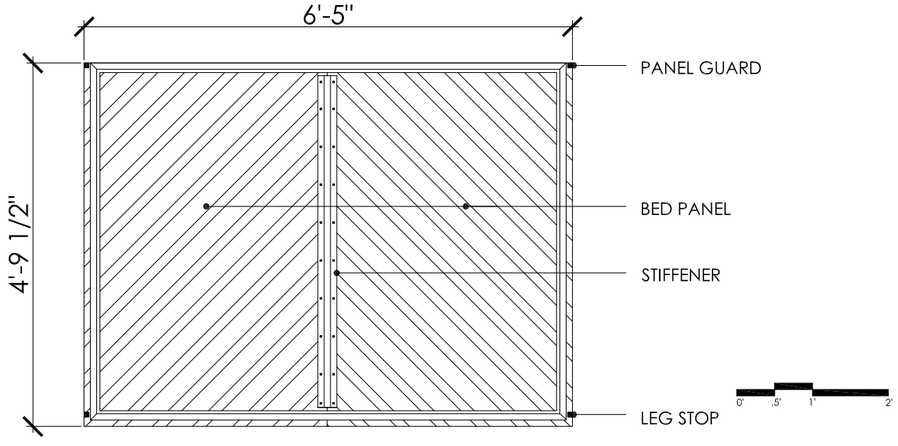


C1 Detail Moveable Component — scale: 1/2" = 1'-0"



A1 Legs and Crossbar Detail — scale: 3/8" = 1'-0"



C5 Detail Bed Panel Unit — scale: 1/2" = 1'-0"

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DRAWING TITLE
MOVEABLE COMPONENT DETAILS

DRAWING NO.
A-804

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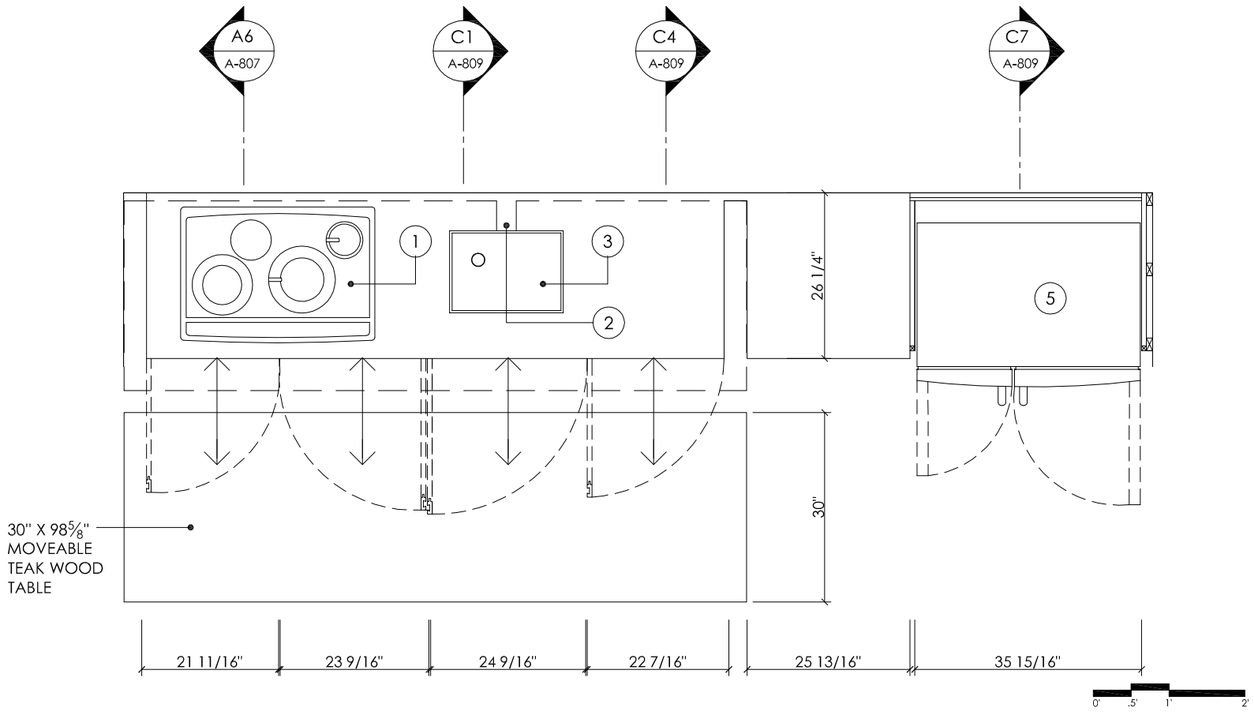
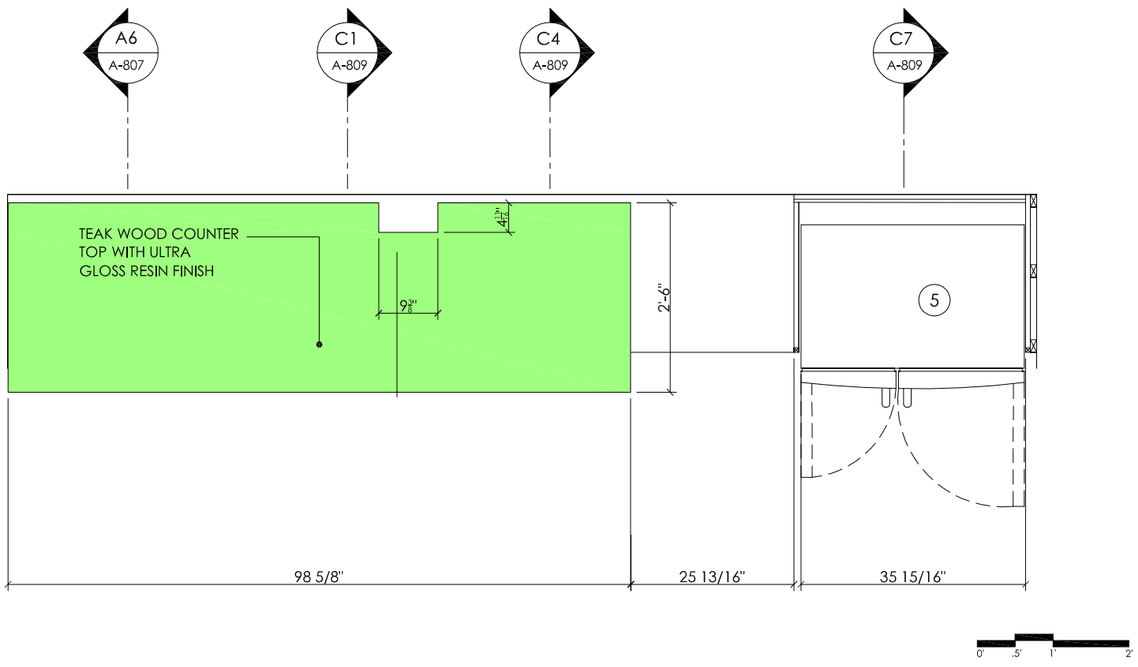
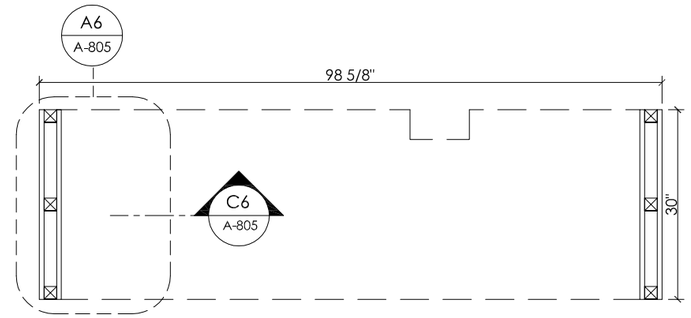


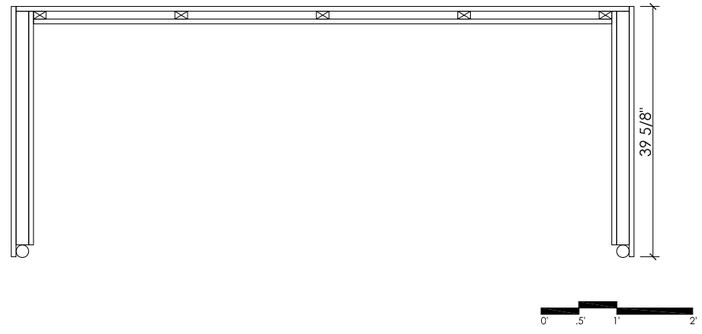
D1 Kitchen Blow-Up — scale: 1/2" = 1'-0"



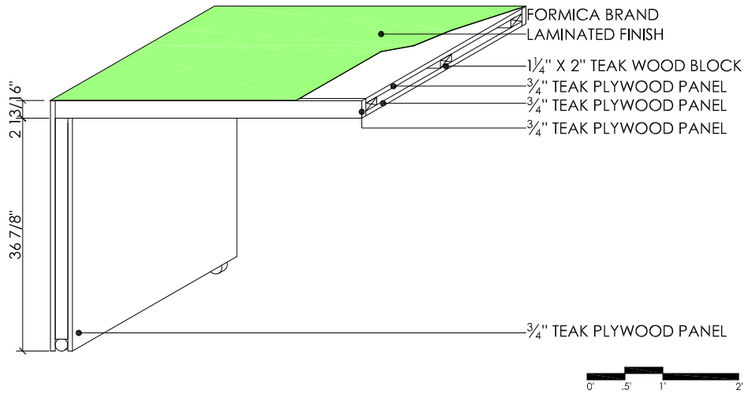
A1 Kitchen Lower Blow-Up with Moveable Table — scale: 1/2" = 1'-0"



E6 Moveable Table Plan — scale: not to scale



C6 Moveable Table Section — scale: 1/2" = 1'-0"



A6 Moveable Table Isometric Detail — scale: 1/2" = 1'-0"

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DRAWING TITLE

KITCHEN BLOW-UPS AND DETAILS

DRAWING NO.

A-805

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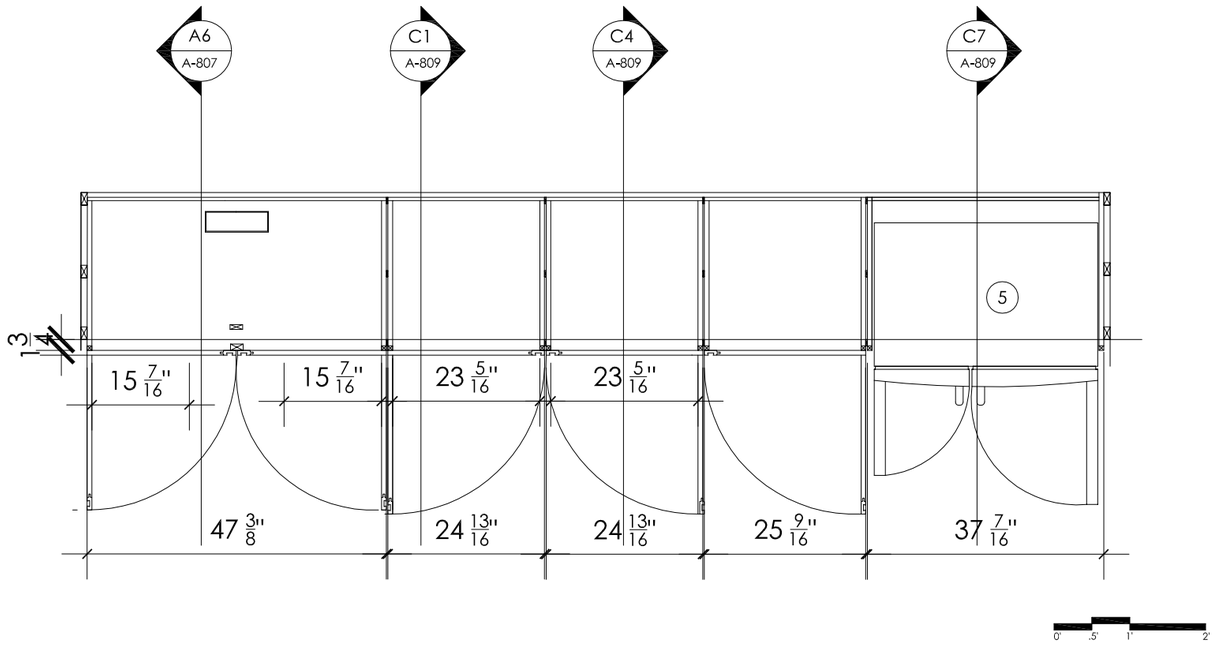
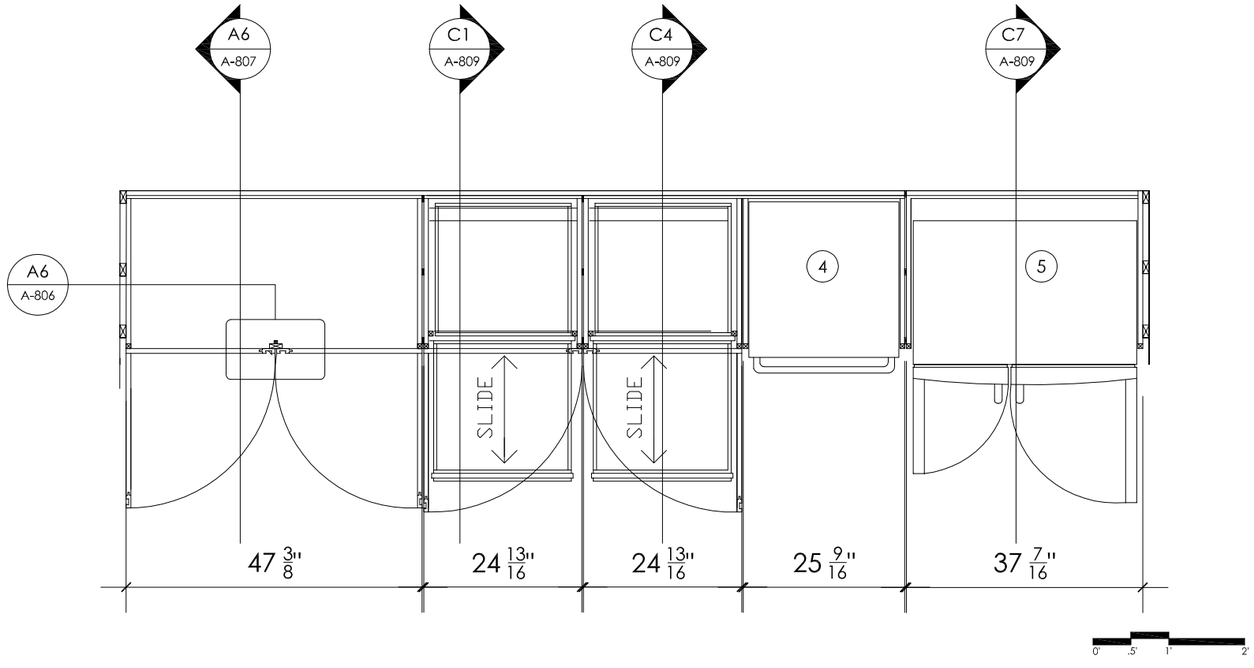


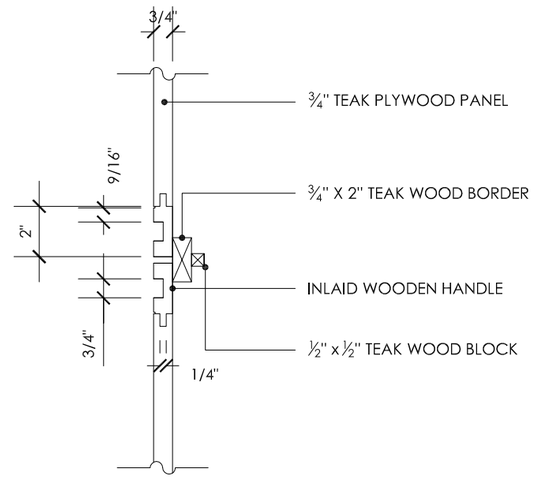
D1 Kitchen Upper Modules Blow-Up Plan scale: 1/2" = 1'-0"

KITCHEN FIXTURES & ACCESORIES SCHEDULE TO BE SELECTED BY DESIGNER, PROVIDED BY OWNER & INSTALLED BY CONTRACTOR.			
MKD	FIXTURES	MODEL	MANUFACTURE
1	COOKTOP	EW30CC55G S	ELECTROLUX
2	FAUCET	K-6227	KOHLER
3	SINK	EFRU191610	ELKAY
4	DISHWASHER	EWDW6505G S	ELECTROLUX
5	REFRIGERATOR	EW23CS65G S	ELECTROLUX
6	VENT HOOD	30" SLIDE-OUT VENT HOOD	DNERAL ELECTRIC

D6 Kitchen Fixtures & Accesories scale: not to scale



A1 Kitchen Lower Modules Blow-Up Plan scale: 1/2" = 1'-0"



A6 Cabinet Detail scale: not to scale

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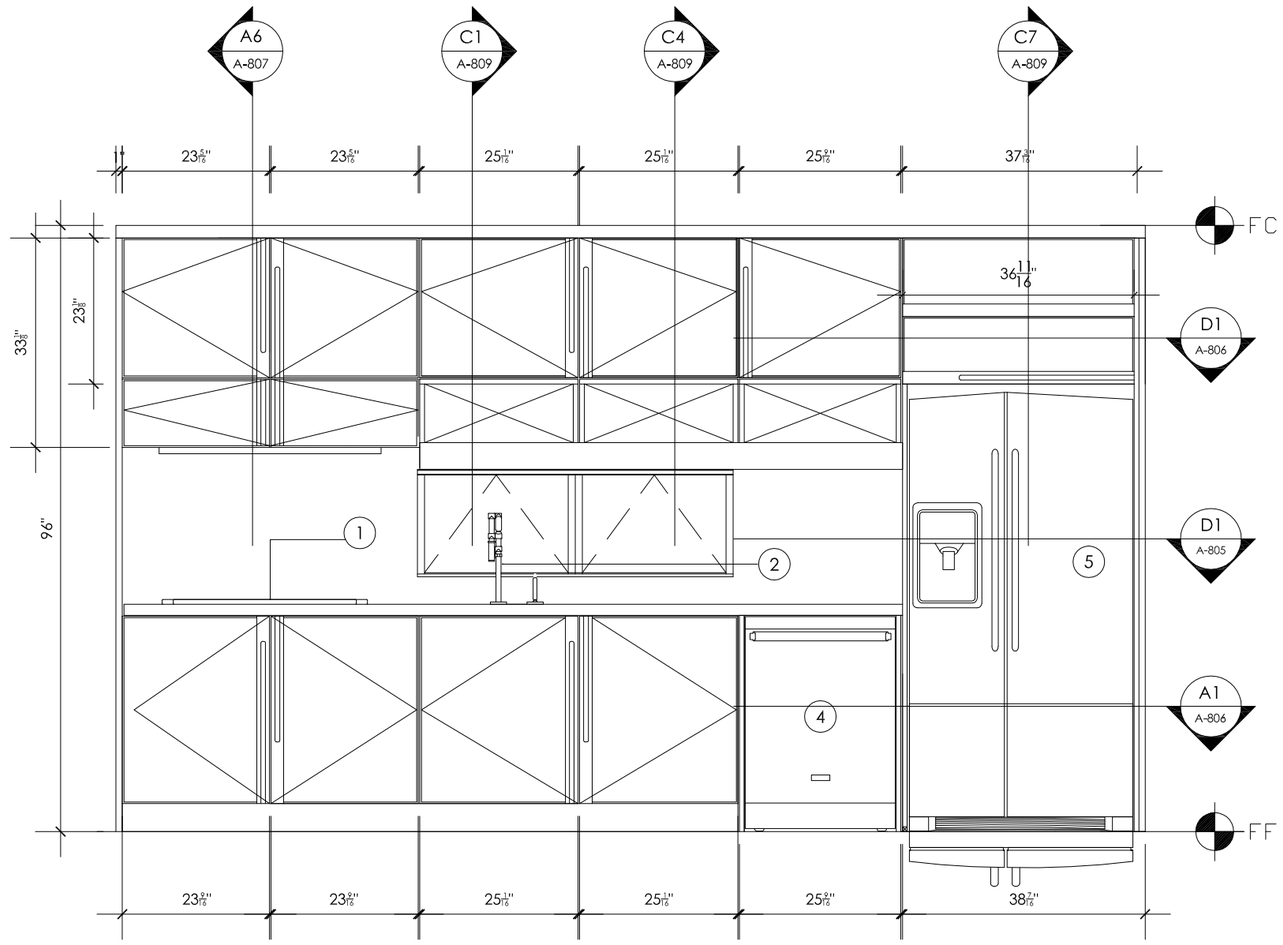
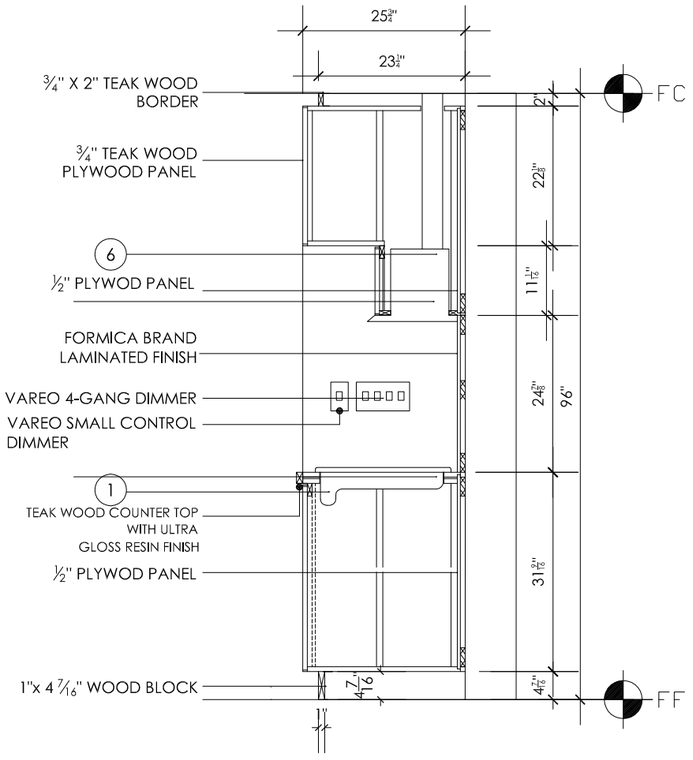
Plot Scale: 1:1 Date: JUNE 2, 2009

DRAWING TITLE
KITCHEN DETAILS

DRAWING NO.
A-806

ISSUE FOR: FINAL DESIGN





NOTES:
A.TO BE MONTED AS INDICATED THE INSTALATION INFORMATION

A1 Kitchen Elevation (Closed) scale: 1/2" = 1'-0"

A6 Kitchen Section scale: 1/2" = 1'-0"

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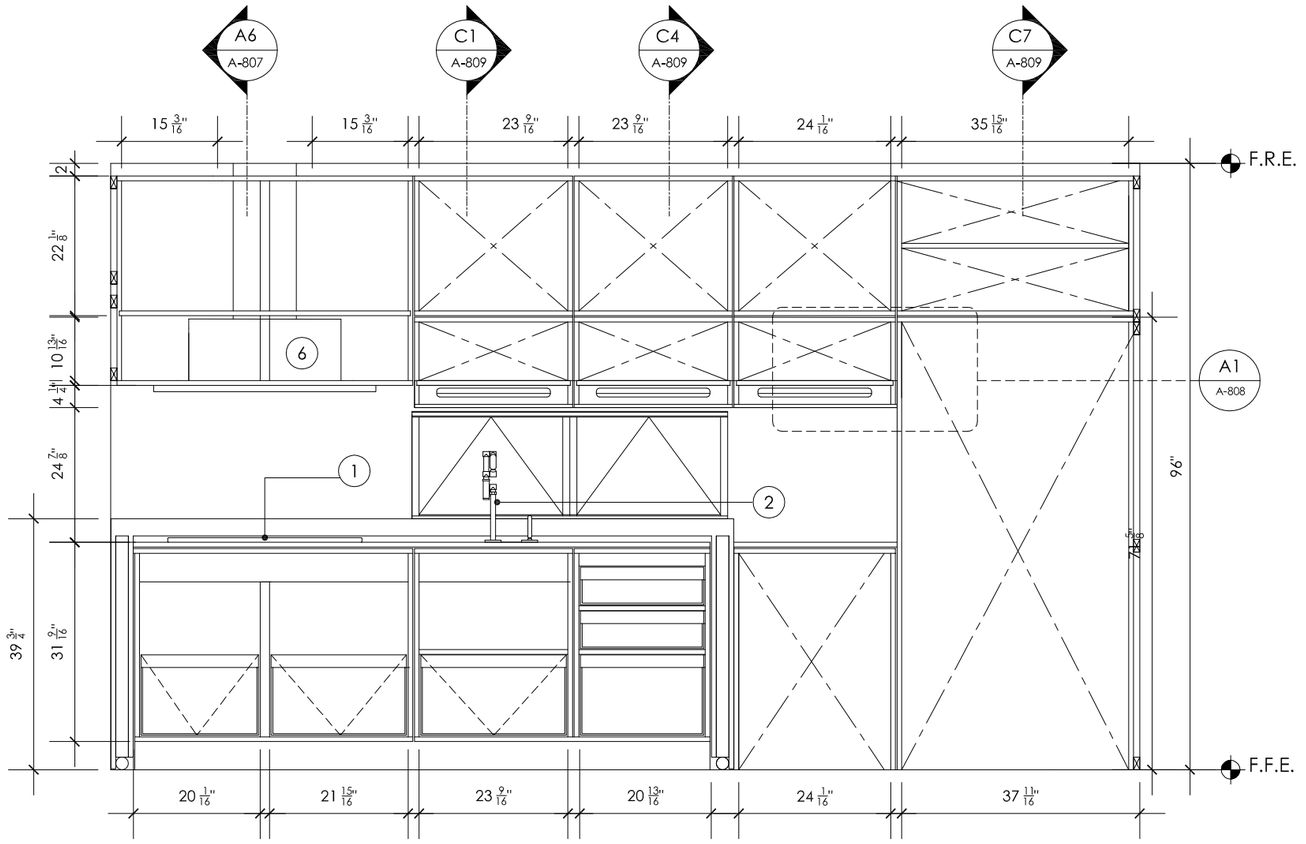
File Name:
Plot Scale: 1:1 Date: JUNE 2, 2009

DRAWING TITLE
KITCHEN DETAILS

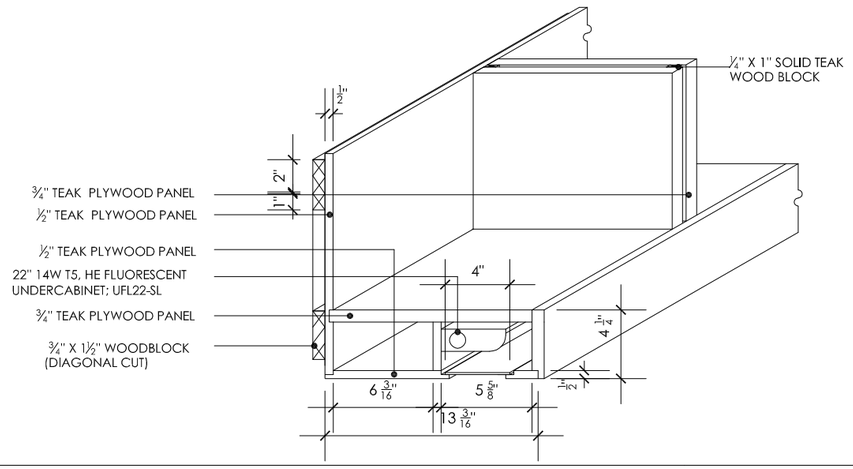
DRAWING NO.
A-807

ISSUE FOR: FINAL DESIGN



C1 Kitchen Elevation (Open)

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



A1 Cabinet Detail

scale: not to scale

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KITCHEN DETAILS

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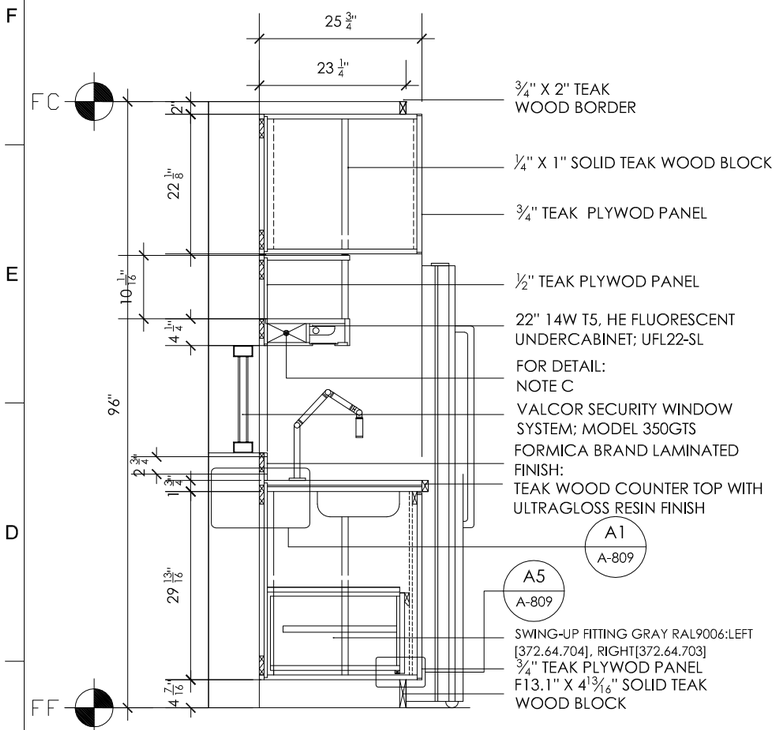
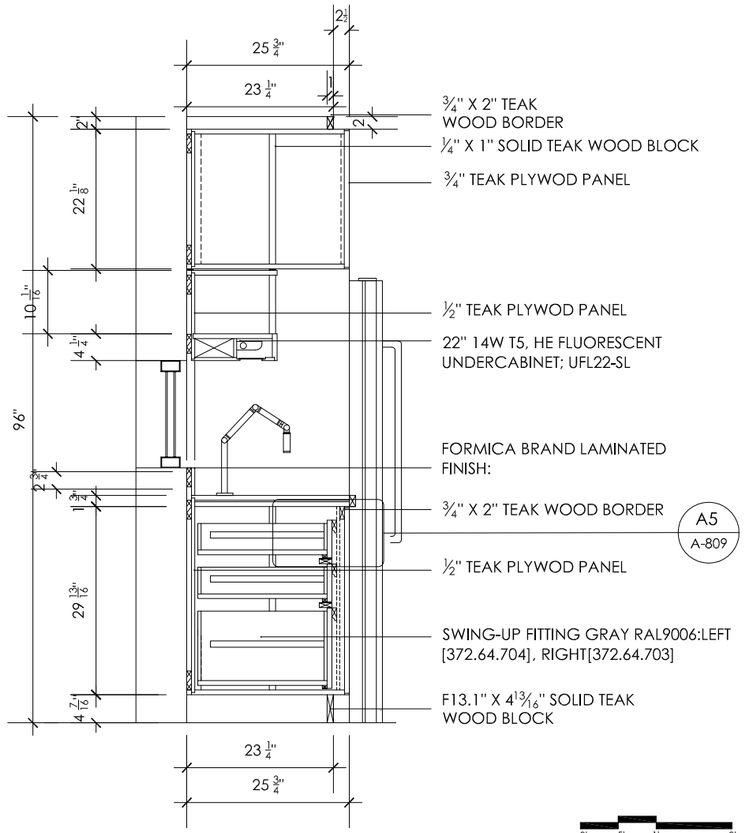
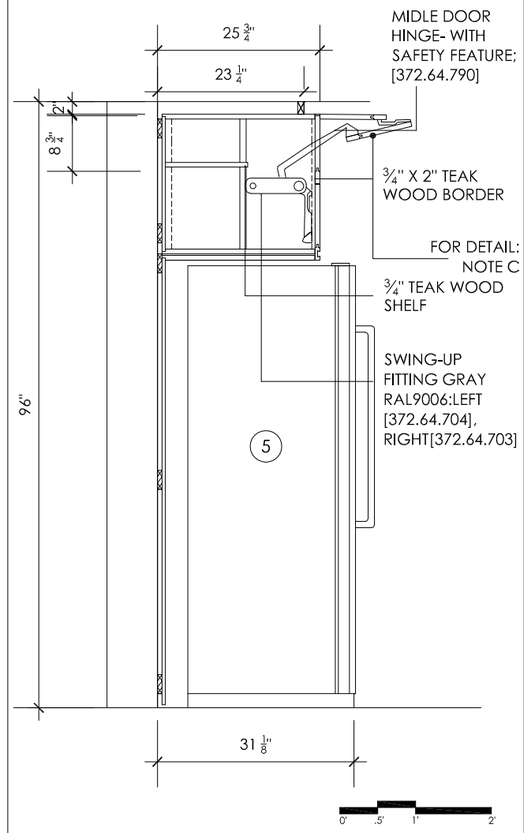


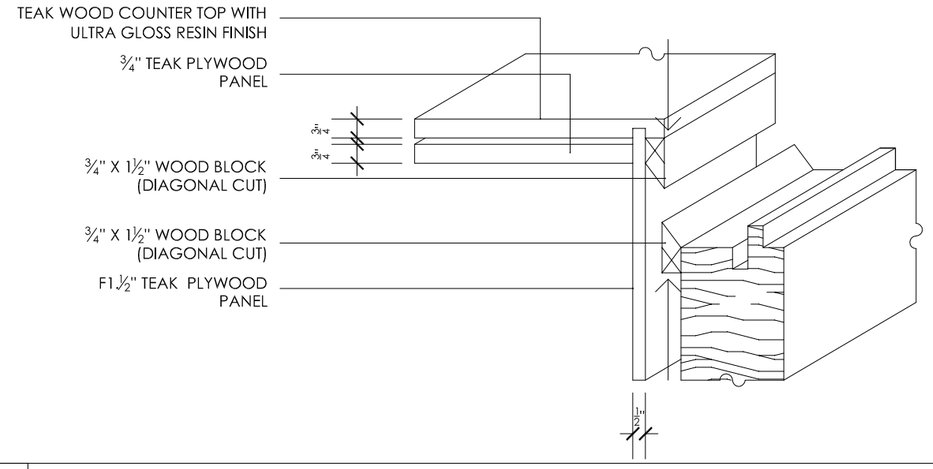
C1 Kitchen Section scale: 1/2" = 1'-0"



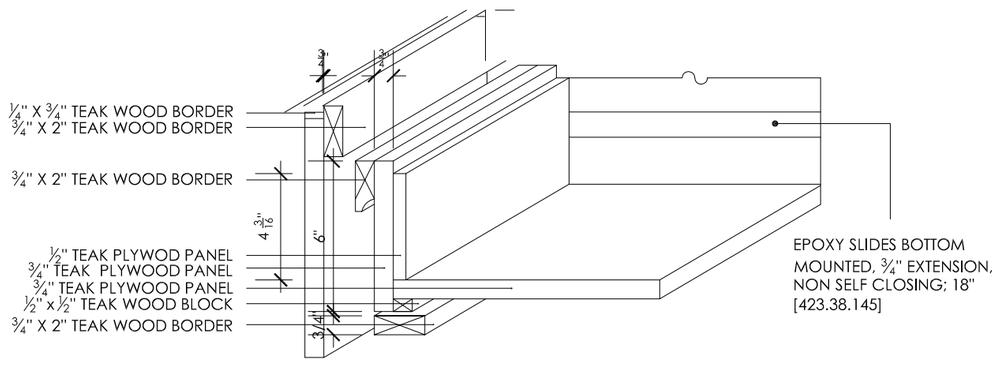
C4 Kitchen Section scale: 1/2" = 1'-0"



C7 Kitchen Section scale: 1/2" = 1'-0"



A1 Cabinet Detail scale: not to scale



A5 Cabinet Detail scale: not to scale

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KITCHEN DETAILS

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A-809

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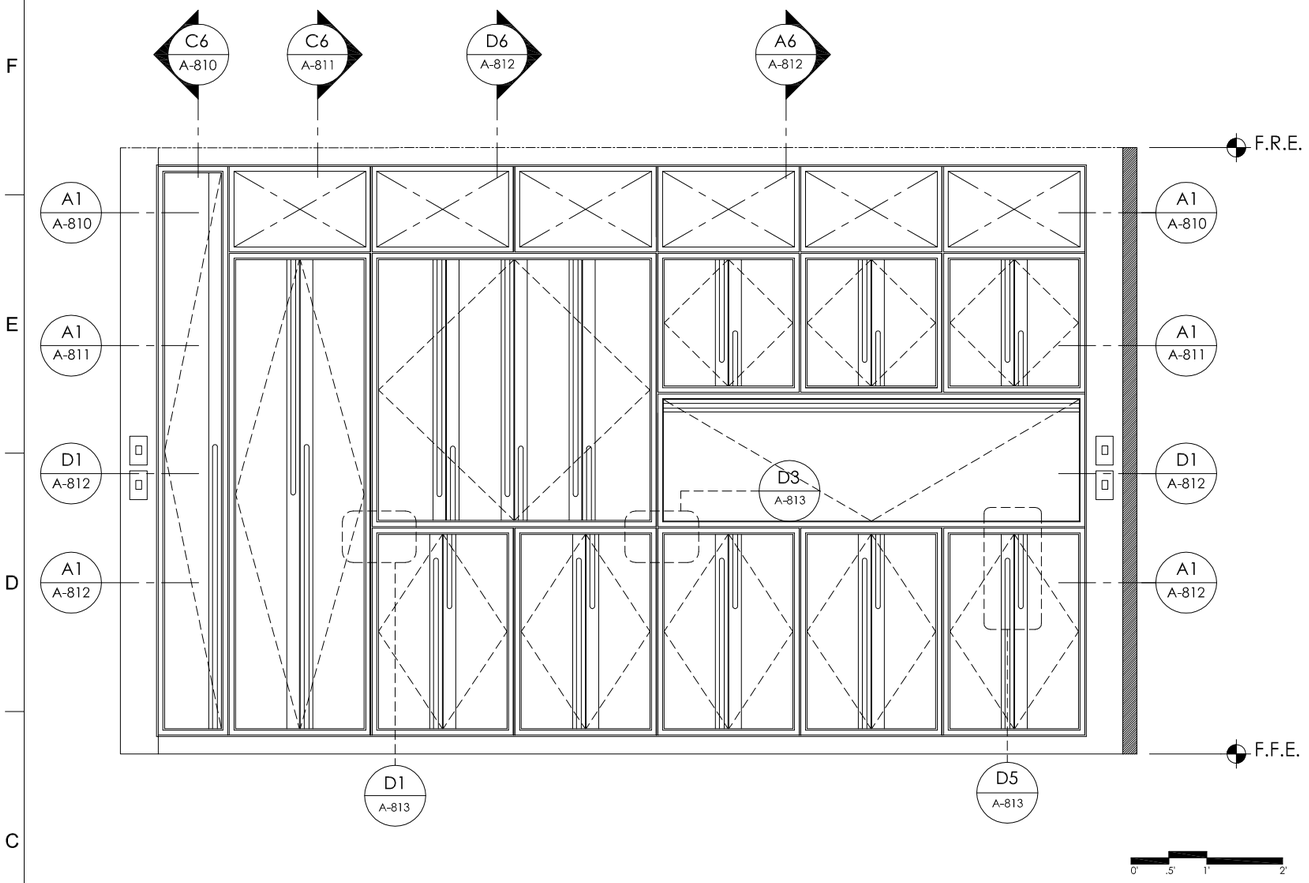
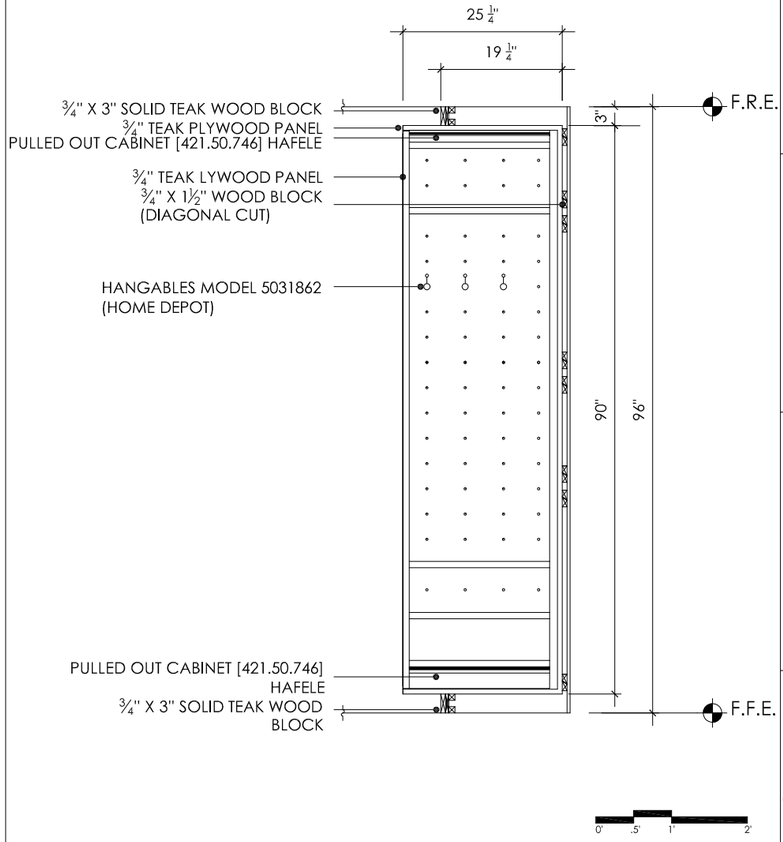
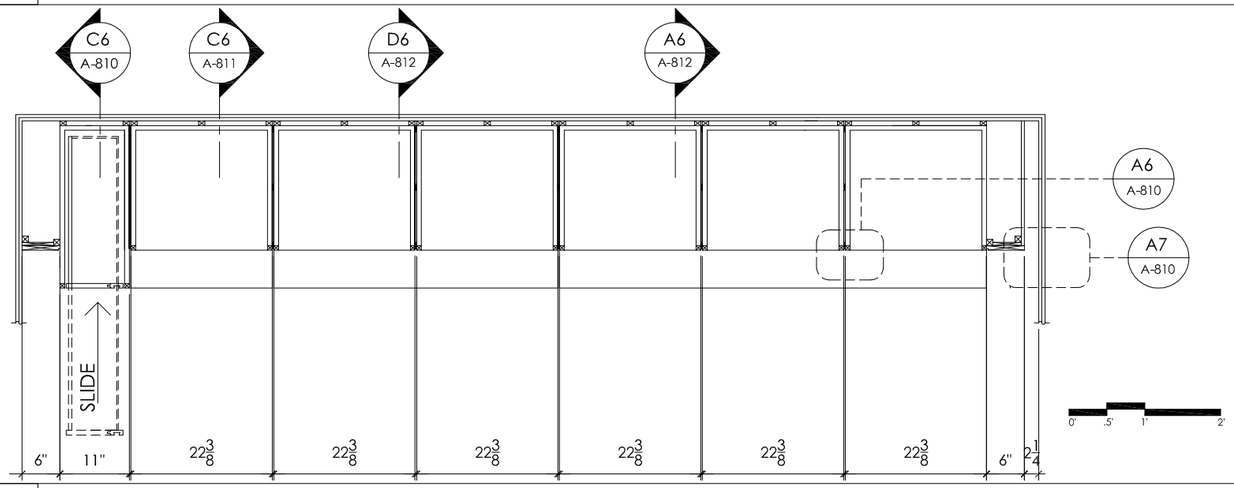


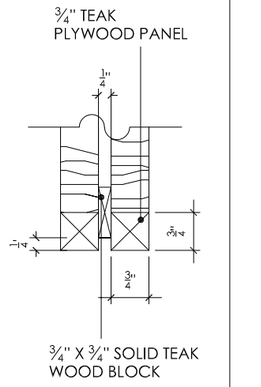
C1 Living/Office Space Elevation (Closed) scale: 1/2" = 1'-0"



C6 Living/Office Space Section scale: 1/2" = 1'-0"

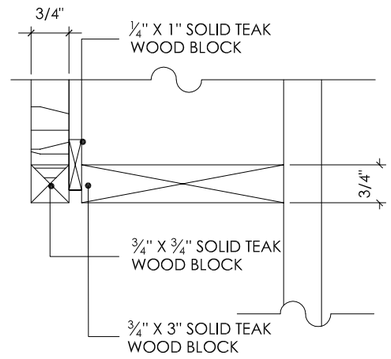


A1 Living/Office Space Upper Modules Blow-Up scale: 1/2" = 1'-0"



Cabinet Detail

A6 scale: not to scale



A7 Cabinet Detail scale: not to scale

1 2 3 4 5 6 7 8

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LIVING/OFFICE DETAILS

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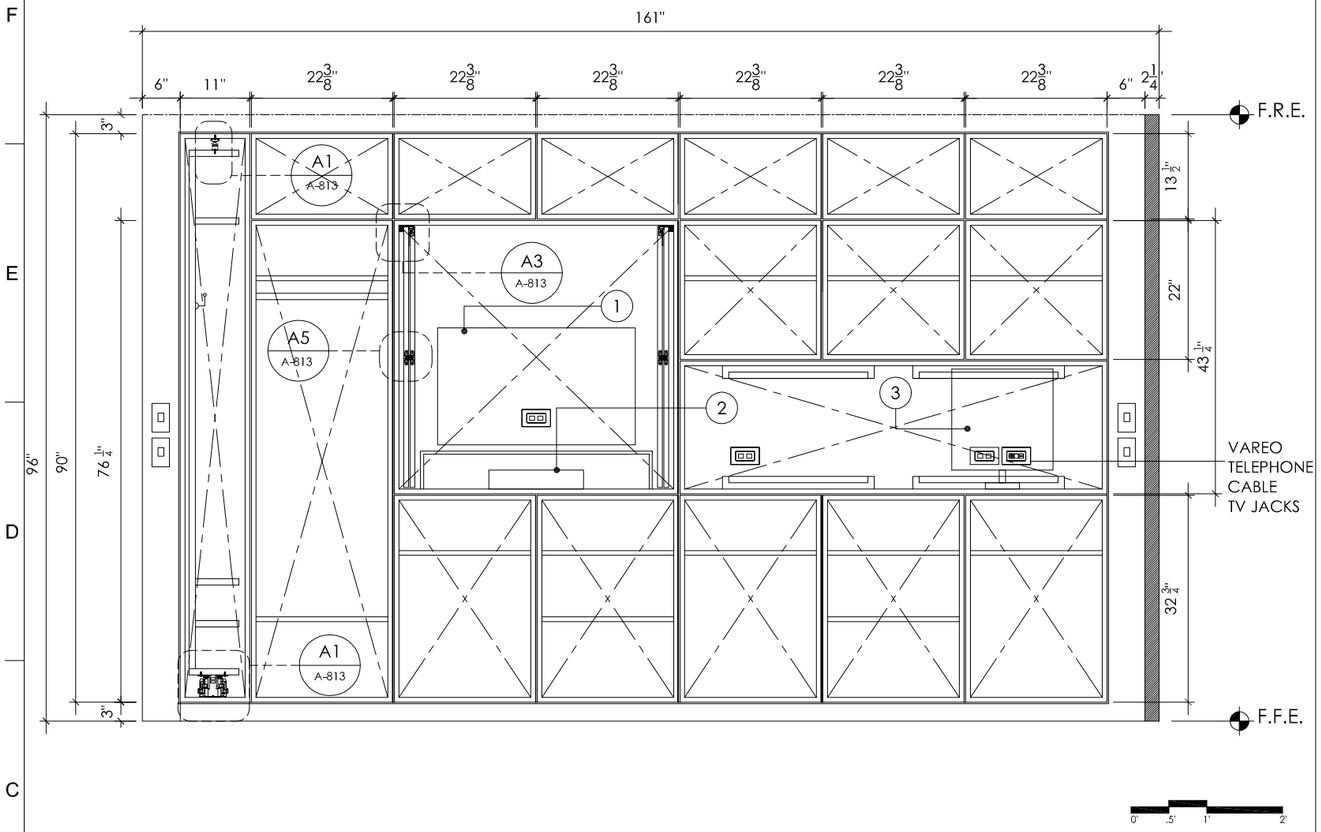
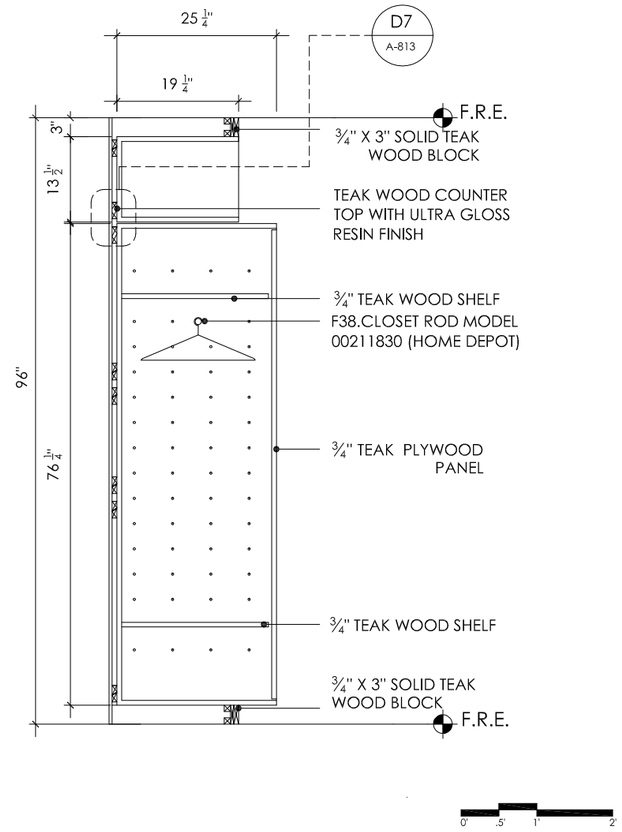
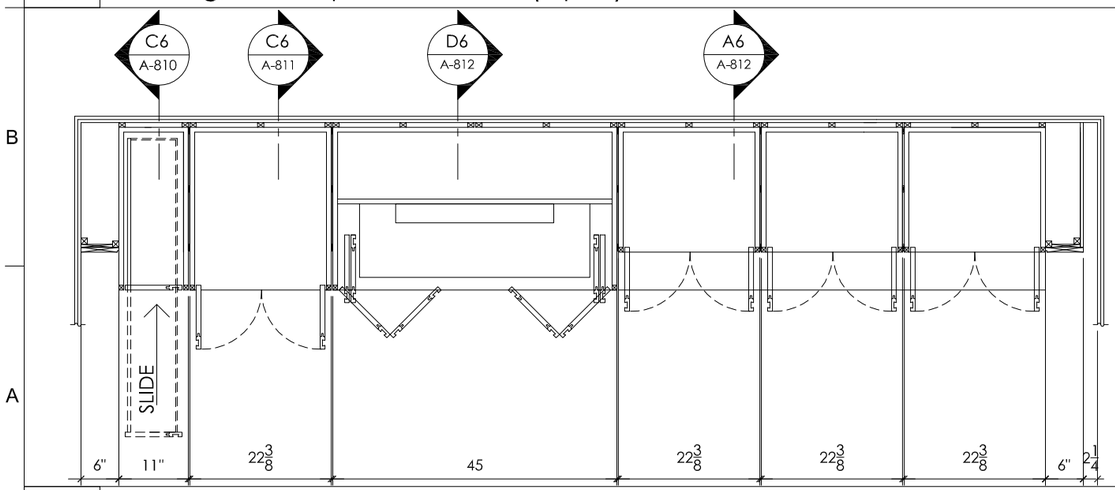


C1 Living/Office Space Elevation (Open) scale: 1/2" = 1'-0"



C6 Living/Office Space Section scale: 1/2" = 1'-0"



A1 Living/Office Space Lower Modules Blow-Up scale: 1/2" = 1'-0"

LIVING/OFFICE ACCESORIES SCHEDULE TO BE SELECTED BY DESIGNER, PROVIDED BY OWNER & INSTALLED BY CONTRACTOR.			
MKD	FIXTURES	MODEL	MANUFACTURE
(1)	Television	32" BRAVIA® LCD Flat Panel	Sony
(2)	DVD and Blu-ray Disc	BDP-S550	Sony
(3)	Computer	iMac	Apple

A6 Schedule scale: not to scale

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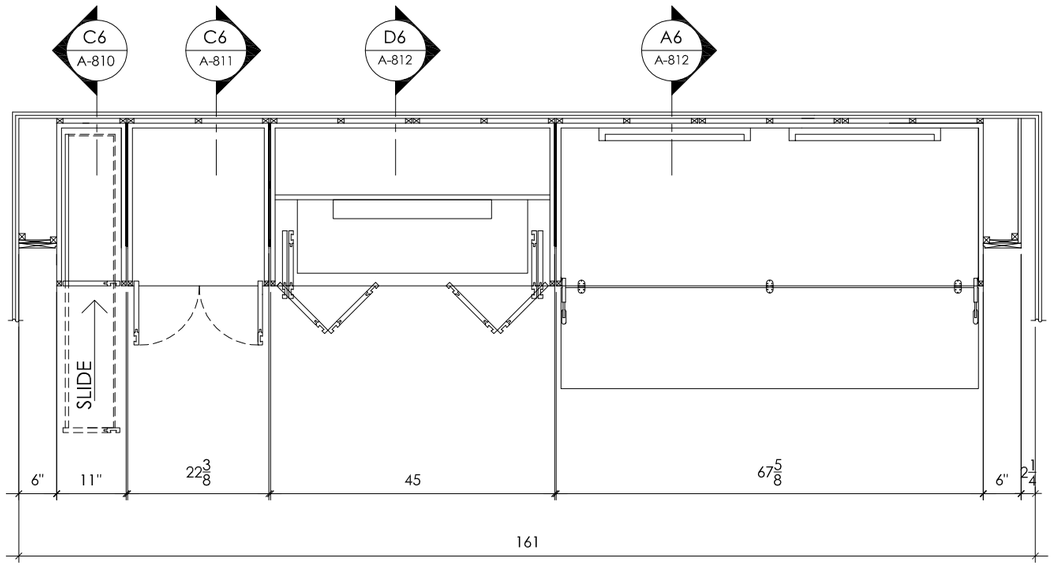
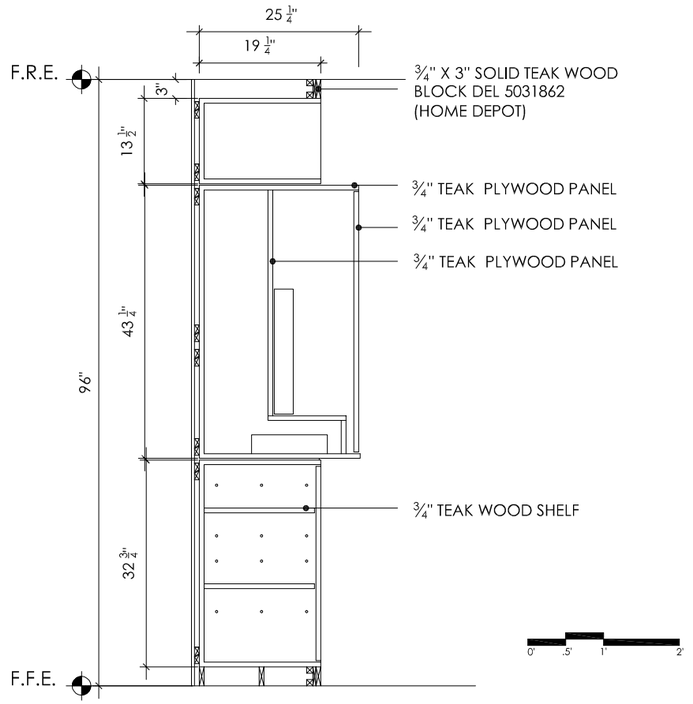
DRAWING TITLE
LIVING/OFFICE
DETAILS

DRAWING NO.
A-811

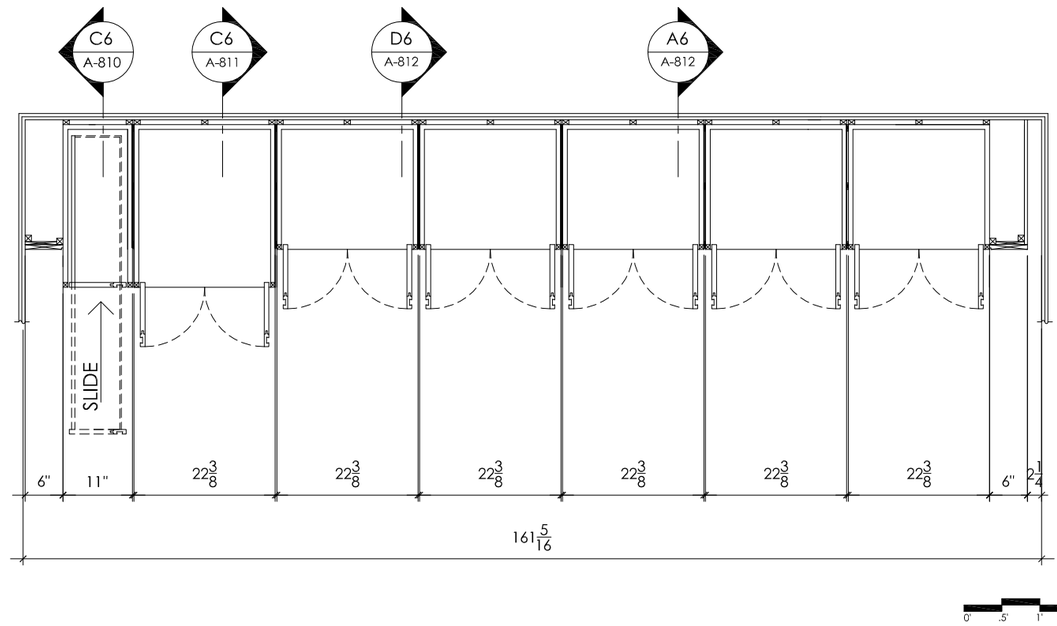
ISSUE FOR: FINAL DESIGN



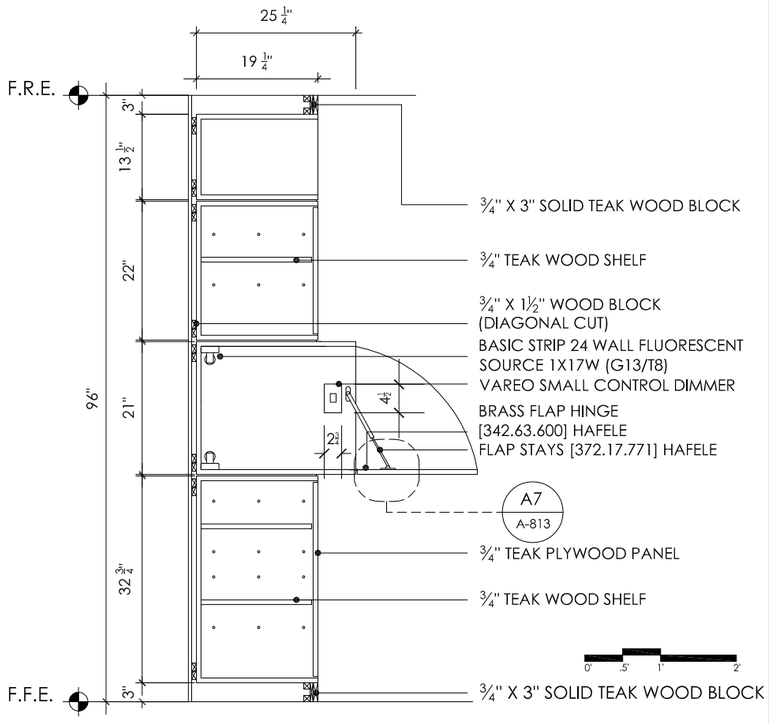
D1 | Living/Office Space Middle Lower Modules Blow-Up | scale: 1/2" = 1'-0"



D6 | Living/Office Section | scale: 1/2" = 1'-0"



A1 | Living/Office Space Lower Modules Blow-Up | scale: 1/2" = 1'-0"



A6 | Living/Office Section | scale: 1/2" = 1'-0"

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DRAWING TITLE

LIVING/OFFICE DETAILS

DRAWING NO.

A-812

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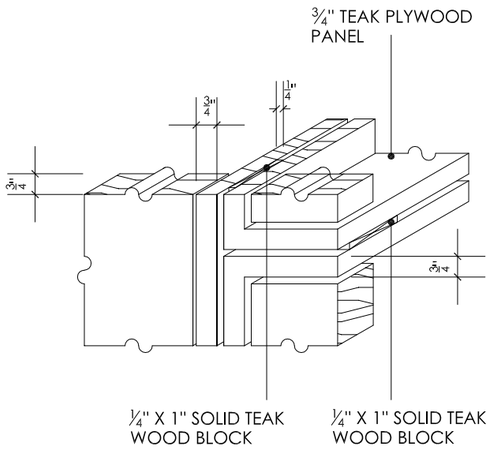
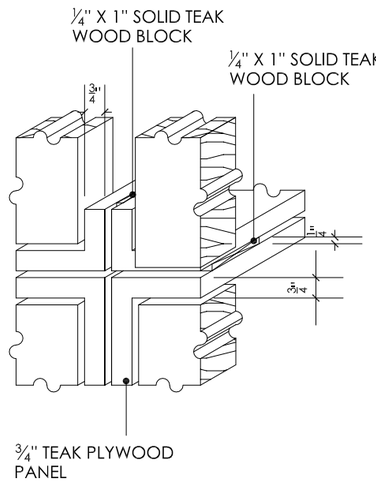
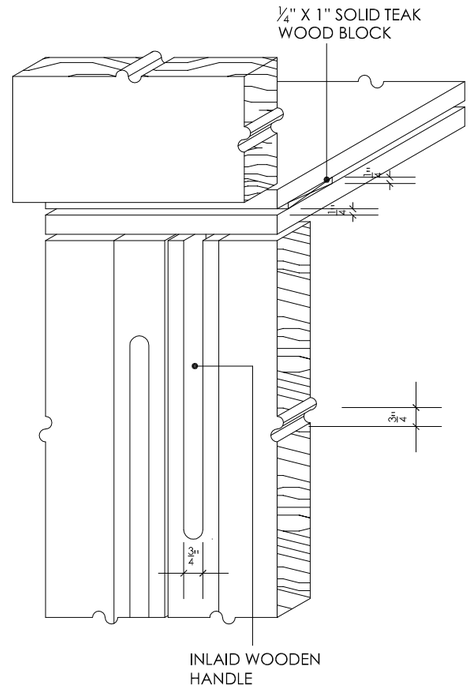


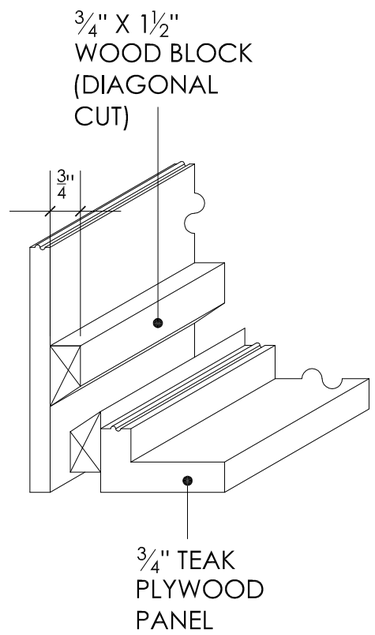
D1 Cabinet Detail scale: not to scale



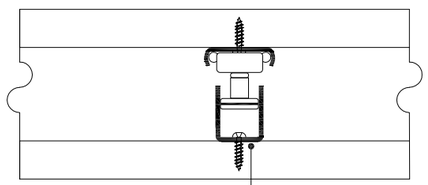
D3 Cabinet Detail scale: not to scale

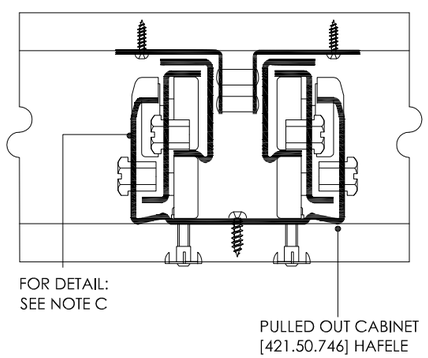


D5 Cabinet Detail scale: not to scale

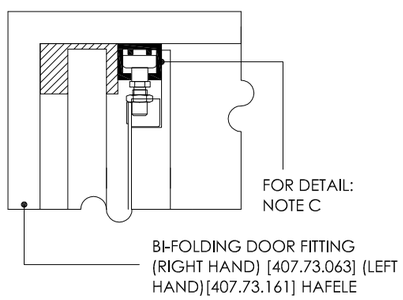


D7 Cabinet Detail scale: not to scale



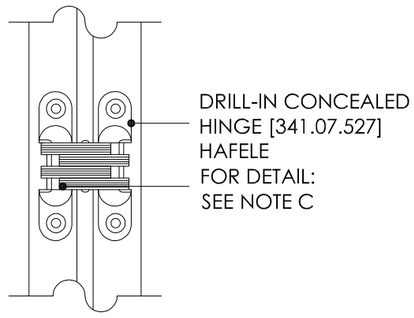


A1 Hinge Detail scale: not to scale

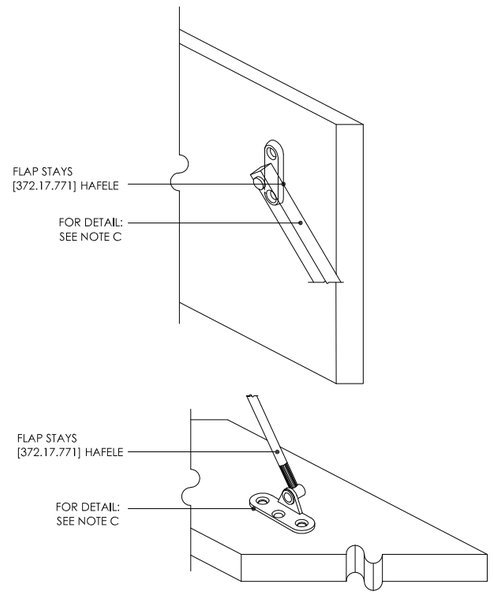


NOTES:
C.SEE SWING-UP FITTING SPECS. FOR MONTING INFORMATION

A3 Hinge Detail scale: not to scale



A5 Hinge Detail scale: not to scale



A7 Hinge Detail scale: not to scale

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DRAWING TITLE
LIVING/OFFICE DETAILS

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A-813

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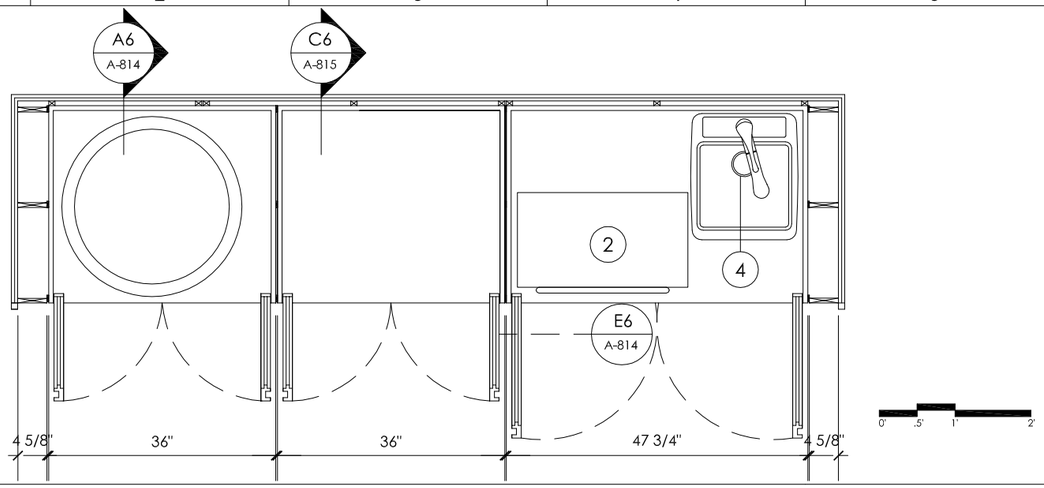
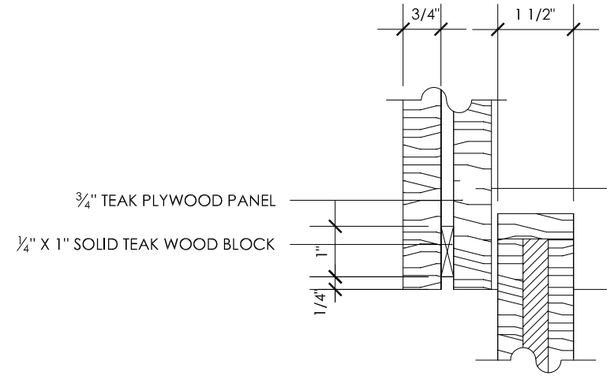
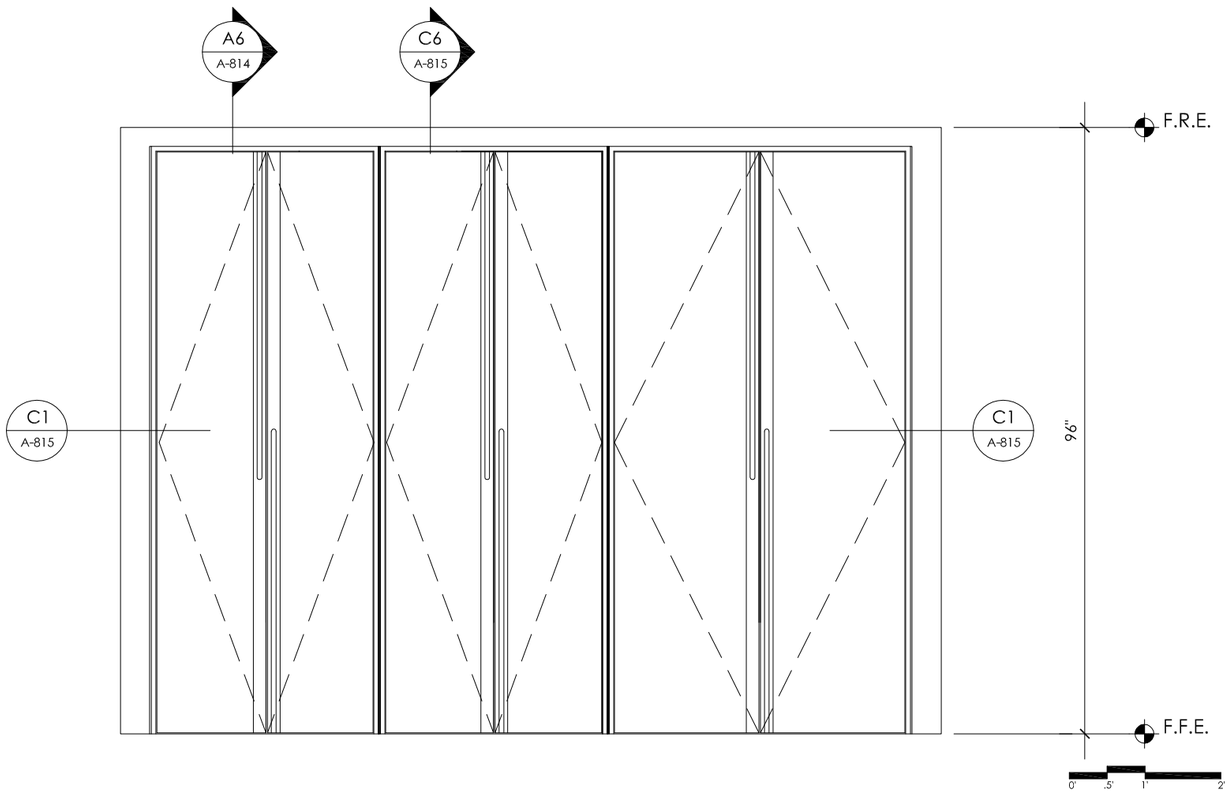


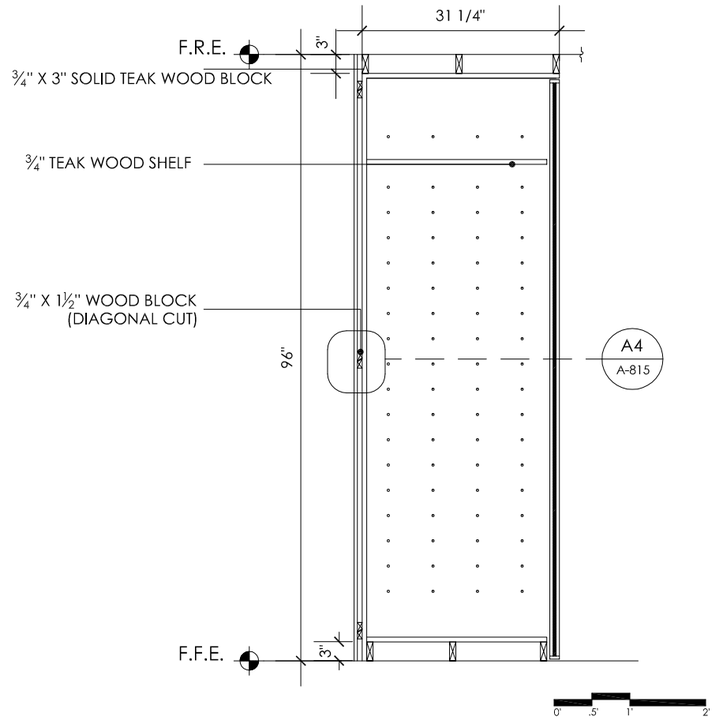
E1 Multipurpose Room Modules Blow-Up Plan scale: 1/2" = 1'-0"



E6 Cabinet Detail scale: not to scale



A1 Multipurpose Room Modules Elevation (Closed) scale: 1/2" = 1'-0"



A6 Cabinet Section scale: 1/2" = 1'-0"

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DRAWING TITLE

MULTIPURPOSE DETAILS

DRAWING NO.

A-814

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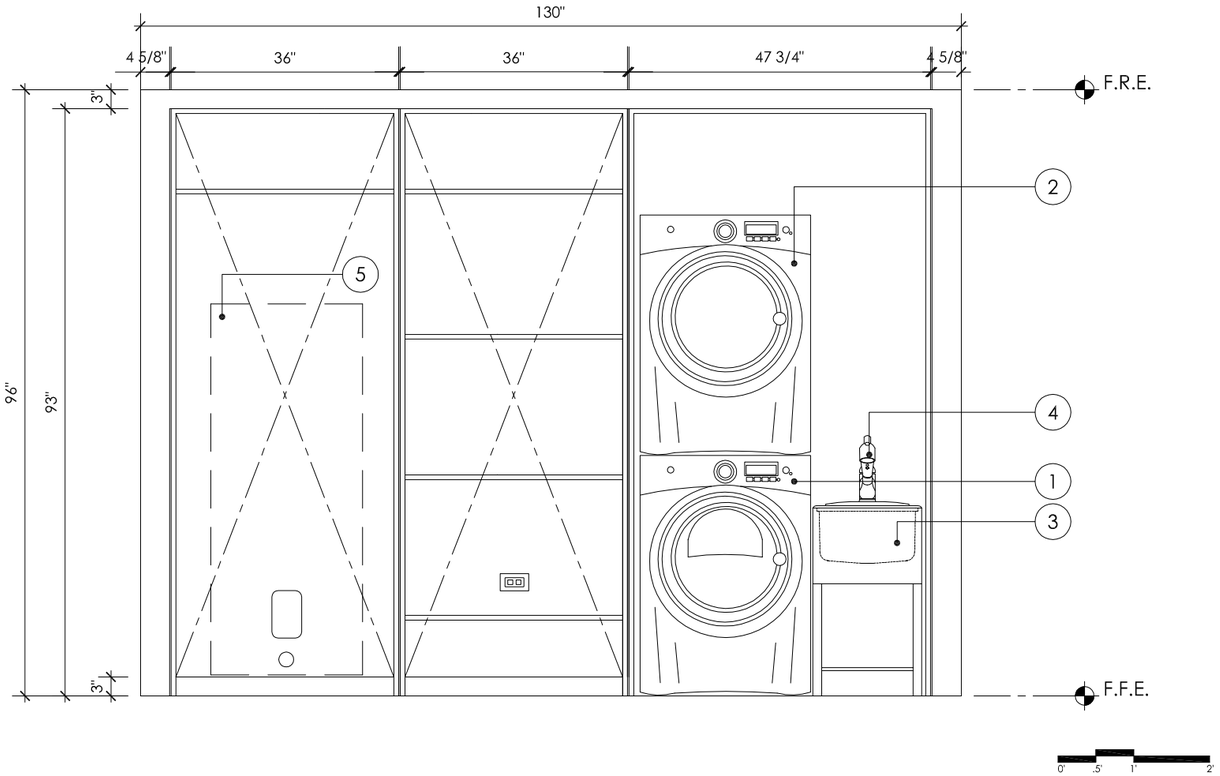
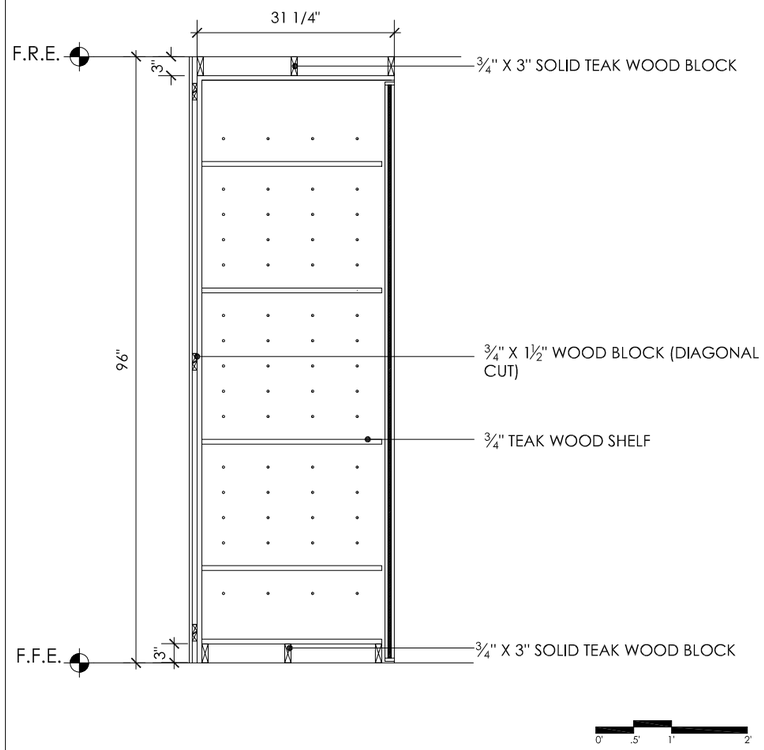
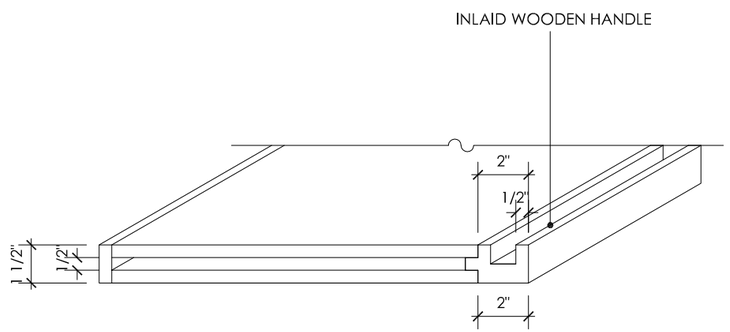


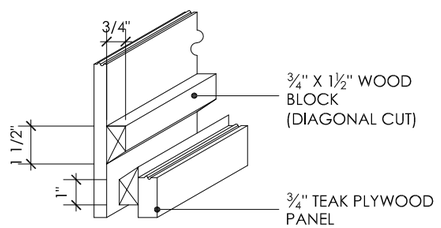
C1 Multipurpose Room Modules Elevation (Open) scale: 1/2" = 1'-0"



C6 Multipurpose Room Section scale: 1/2" = 1'-0"



A1 Door Detail scale: not to scale



A4 Cabinet Detail scale: not to scale

MULTIPURPOSE FIXTURES & ACCESORIES SCHEDULE

TO BE SELECTED BY DESIGNER, PROVIDED BY OWNER & INSTALLED BY CONTRACTOR.

MKD	FIXTURES	MODEL	MANUFACTURER
1	WASHING MACHINE	EWFLW65H SS	ELECTROLUX
2	DRYER	EWMED65H SS	ELECTROLUX
3	SINK	DIT-S	SWANSTONE
4	FAUCET	K-15160-CP	KOHLER
5	RESIDENTIAL SOLAR WATER HEATER	81VR80TC-1	RHEEM

A6 Schedule scale: not to scale

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DRAWING TITLE
MULTIPURPOSE DETAILS

DRAWING NO.
A-815

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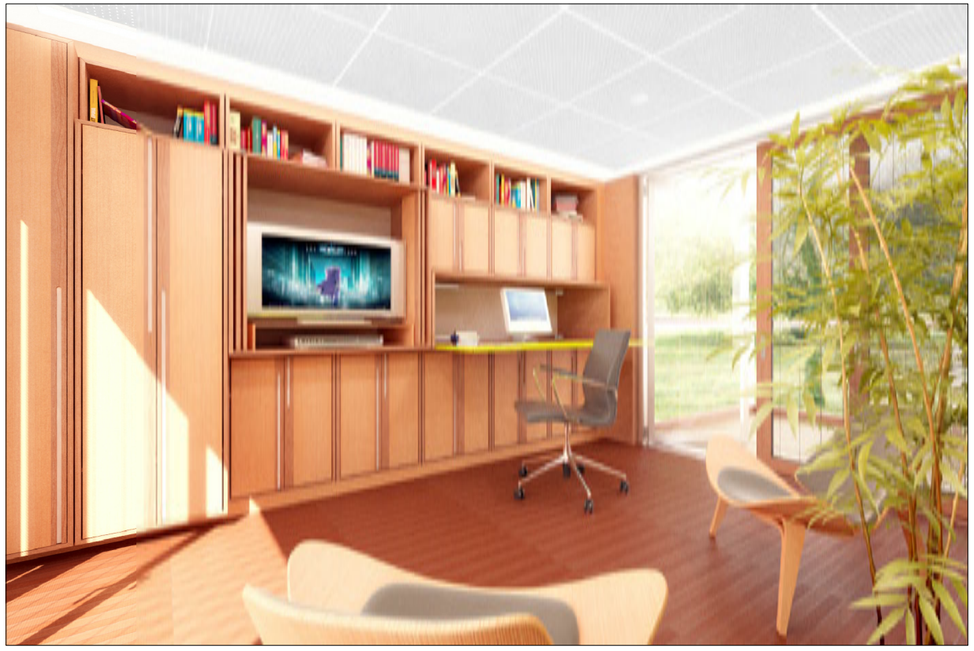
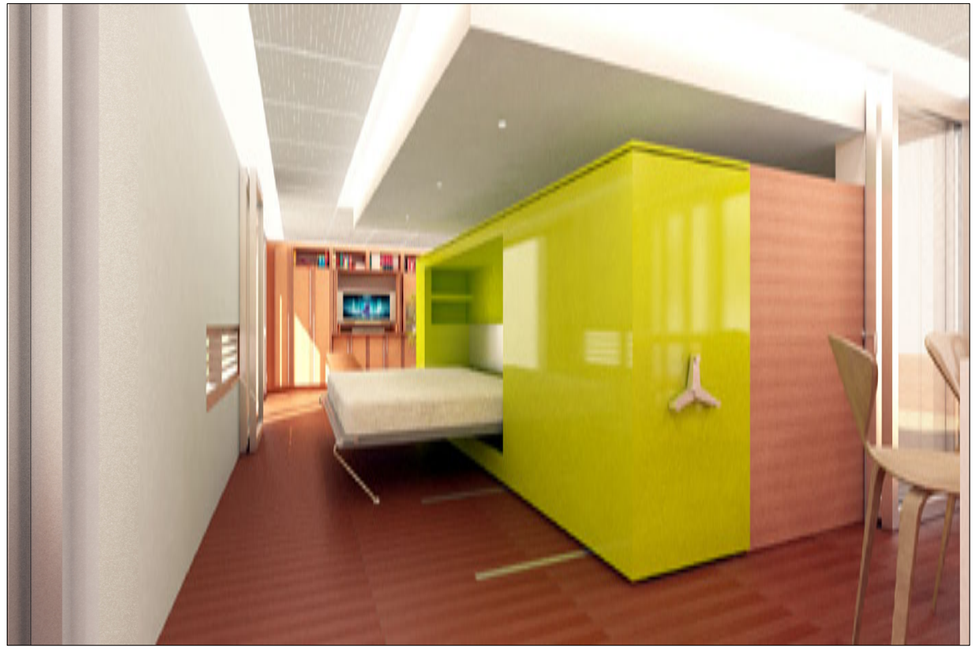
D1 Kitchen Render View

D5 Multipurpose Render View



A1 Living/Office Render View



A5 Moveable Component Render View

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DRAWING TITLE

INTERIORS RENDERINGS

DRAWING NO.

A-901

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GENERAL NOTES:

1.01 REFERENCES

A. ASTM F876/F2023 - SPECIFICATION FOR CROSS-LINKED POLYETHYLENE (PEX) TUBING
B. ASTM F877 - SPECIFICATION FOR CROSS-LINKED POLYETHYLENE (PEX) PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS
C. CSA CAN/CSA-B137.5 CROSS-LINKED POLYETHYLENE (PEX) TUBING SYSTEMS FOR PRESSURE APPLICATIONS
D. NSF 14 - PLASTIC PIPING COMPONENTS AND RELATED MATERIALS
E. NSF 61 - DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS
F. AWWA C651 STANDARD FOR DISINFECTING WATER MAINS
G. IAPMO UNIFORM PLUMBING CODE
H. ICC INTERNATIONAL PLUMBING CODE
I. NAPHCC NATIONAL STANDARD PLUMBING CODE

2. SYSTEM DESCRIPTION
A. CROSS-LINKED POLYETHYLENE PLASTIC TUBING AND FITTINGS SHALL BE ACCEPTABLE FOR USE IN HOT AND COLD WATER DISTRIBUTION SYSTEMS. THE SYSTEMS ARE FOR THE TRANSPORT OF POTABLE WATER AS PART OF THE BUILDING PLUMBING.

1.02 QUALITY ASSURANCE

A. PIPE STANDARDS: CROSS-LINKED POLYETHYLENE (PEX) PLASTIC TUBING SHALL CONFORM TO ASTM F876/ F2023, ASTM F877, OR CSA CAN/CSA-B137.5.
B. FITTING STANDARDS: CROSS-LINKED POLYETHYLENE (PEX) PRESS CONNECT FITTINGS SHALL CONFORM TO ASTM F877.
C. INSTALLER QUALIFICATIONS: THE INSTALLER SHALL BE A QUALIFIED PLUMBER, LICENSED WITHIN THE JURISDICTION, AND FAMILIAR WITH THE INSTALLATION OF VIEGA NA'S PUREFLOW WATER SYSTEM.

1.03 REGULATORY REQUIREMENTS

A. THE INSTALLATION OF CROSS-LINKED POLYETHYLENE (PEX) PLASTIC TUBING FOR HOT AND COLD WATER DISTRIBUTION SYSTEMS SHALL CONFORM TO THE REQUIREMENTS OF THE IAPMO UNIFORM PLUMBING CODE, ICC INTERNATIONAL PLUMBING CODE, OR PHCC-NA NATIONAL STANDARD PLUMBING CODE AND/ OR APPLICABLE LOCAL CODES.

1.04 DELIVERY, STORAGE AND HANDLING

A. THE CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE SHIPPED TO THE JOB SITE ON TRUCK OR IN SUCH A MANNER TO PROTECT THE TUBING. THE CROSS-LINKED POLYETHYLENE FITTINGS AND MANIFOLDS SHALL NOT BE ROUGH HANDLED DURING SHIPMENT. THE TUBING AND FITTINGS SHALL BE UNLOADED WITH REASONABLE CARE.
B. CROSS-LINKED POLYETHYLENE PLASTIC TUBING AND FITTINGS SHALL BE STORED IN A FLAT, DRY, WELL VENTILATED LOCATION, NOT EXPOSED TO DIRECT SUNLIGHT. NORMAL CARE IN HANDLING SHALL BE EXERCISED TO AVOID ABUSE OF THE TUBING. THE TUBING AND FITTINGS SHALL NOT BE THROWN OR DROPPED ON THE GROUND, WALKED ON, OR DRAGGED.

1.05 PROJECT CONDITIONS

A. THE LOCATION OF THE MANIFOLD SHALL BE ACCESSIBLE IN AN AREA NOT SUBJECT TO FREEZING. PROPER SUPPORT OF THE MANIFOLD SHALL BE PROVIDED.

1.06 WARRANTY

A. THE TUBING AND FITTINGS MANUFACTURER SHALL WARRANT THAT THE TUBING AND FITTINGS ARE FREE FROM DEFECTS AND CONFORM TO THE DESIGNATED STANDARD. THE WARRANTY SHALL ONLY BE APPLICABLE TO TUBING AND FITTINGS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
B. THE MANUFACTURER OF THE TUBING AND FITTINGS SHALL NOT BE RESPONSIBLE FOR THE IMPROPER USE, HANDLING, OR INSTALLATION OF THE PRODUCT.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. PUREFLOW WATER SYSTEM: PEXCEL, FOSTAPEX, AND PEXTRON, SYSTEM MANUFACTURED BY STADLER / VIEGA, 3 ALFRED CIRCLE, BEDFORD, MA 01730, 800-370-3122

2.02 MATERIALS

A. PEXCEL TUBING: HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED FROM POLYETHYLENE COMPOUNDS THAT ARE ELECTRONICALLY CROSSLINKED. THE DEGREE OF CROSSLINKING SHALL BE AT A MINIMUM OF 65 PERCENT. CROSS-LINKED POLYETHYLENE PLASTIC TUBING (PEXC) SHALL BE RATED FOR A MAXIMUM PRESSURE OF 100 PSI AT 180°F OR 80
PSI AT 200°F. CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE CARBON BLACK IN COLOR TO REDUCE TRANSMISSION OF VISIBLE LIGHT.
B. FOSTAPEX TUBING: HIGH-DENSITY CROSS-LINKED POLYETHYLENE TUBING SHALL BE MANUFACTURED FROM POLYETHYLENE COMPOUNDS THAT ARE ELECTRONICALLY CROSSLINKED. THE DEGREE OF CROSSLINKING SHALL BE AT A MINIMUM OF 65 PERCENT. CROSS-LINKED POLYETHYLENE PLASTIC TUBING (PEXC) SHALL BE RATED FOR MAXIMUM PRESSURE OF 100 PSI AT 180°F OR 80
PSI AT 200°F. CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE OPAQUE IN COLOR TO REDUCE TRANSMISSION OF VISIBLE LIGHT. INNER LAYER SHALL BE FULLY DIMENSIONED PEXCEL TUBING CONFORMING TO ASTM F876 STANDARDS. OUTER LAYER SHALL BE MADE OF ALUMINUM AND POLYETHYLENE.
C. PRESS FITTINGS: CROSS-LINKED POLYETHYLENE FITTINGS SHALL BE MANUFACTURED FROM BRONZE. THE PRESS SLEEVE SHALL BE
STAINLESS STEEL. THE PRESS SLEEVE SHALL HAVE A SIGHT HOLE TO ENSURE PROPER INSERTION.
D. MANIFOLDS: ACCEPTABLE MANIFOLDS SHALL INCLUDE:
1. BRONZE MANIFOLDS: SHALL BE BRONZE MATERIAL HAVING 1 INCH NPT THREADED ENDS. MANIFOLDS SHALL BE NONDIRECTIONAL. ALL OUTLETS SHALL BE EITHER BE PRESS FITTINGS. SHALL BE PROVIDED BY THE CROSS-LINKED POLYETHYLENE MANUFACTURER.
2. COPPER MANIFOLDS: SHALL BE COPPER MATERIAL HAVING A FEMALE SOLDER OR PROPRESS INLET. ALL OUTLETS SHALL BE PRESS OR PROPRESS FITTINGS. SHALL BE PROVIDED BY THE CROSS-LINKED POLYETHYLENE SYSTEM MANUFACTURER.
E. ADAPTER FITTINGS: CROSS-LINKED POLYETHYLENE ADAPTER FITTINGS SHALL CONFORM TO ASTM F877 OR CSA CAN3-B137.5. THE ADAPTER FITTINGS SHALL MATE TO NPT THREADS, COPPER TUBING, COPPER FITTING OR PROPRESS
FITTINGS.

2.03 ACCESSORIES

A. HANGERS AND SUPPORT SYSTEMS: HANGERS AND SUPPORTS SHALL BE DESIGNED FOR CROSS-LINKED POLYETHYLENE PLASTIC TUBING. THE HANGERS AND SUPPORTS SHALL NOT HAVE SHARP EDGES OR SURFACES THAT CAN CUT THE TUBING. ACCEPTABLE HANGERS INCLUDE PLASTIC U-CLIP TUBING FASTENERS, SUSPENSION CLIP TUBING FASTENERS, NYLON CLIPS, U-CHANNEL FASTENERS AND OTHER HANGERS SPECIFICALLY DESIGNED FOR CROSS-LINKED POLYETHYLENE PLASTIC TUBING. ACCEPTABLE SUPPORTS INCLUDE DROP EAR BEND SUPPORTS, SNAP-IN BEND

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DRAWING TITLE
PLUMBING NOTES

DRAWING NO.
P-001

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A1 Plumbing Notes scale: not to scale

SUPPORTS, PLASTIC BEND SUPPORTS, PLASTIC BEND SUPPORTS FOR SLAB AND OTHER SUPPORTS SPECIFICALLY DESIGNED FOR CROSS-LINKED POLYETHYLENE PLASTIC TUBING.
B. PENETRATION PROTECTION: PENETRATIONS OF FIRE RESISTANCE RATED WALLS, FLOORS, OR CEILINGS BY CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE.

2.04 SOURCE QUALITY CONTROL

A. THE CROSS-LINKED POLYETHYLENE PLASTIC TUBING AND FITTING MANUFACTURER SHALL MAINTAIN A THIRD PARTY LISTING OF THE TUBING AND FITTINGS. THE TUBING AND FITTINGS SHALL BE CERTIFIED IN ACCORDANCE WITH NSF 61 TO VERIFY SUITABILITY TO TRANSPORT POTABLE WATER. THE TUBING AND FITTINGS SHALL HAVE THE MARK "NSF-PW" OR "NSF 61" PERMANENTLY MARKED ON THE PRODUCT TO VERIFY THE MATERIAL LISTING.
B. THE MANUFACTURER OF THE CROSS-LINKED POLYETHYLENE TUBING AND FITTINGS SHALL MAINTAIN A QUALITY CONTROL PROGRAM IN ACCORDANCE WITH ISO 9001 IN THE MANUFACTURING PLANT TO ASSURE THAT THE TUBING AND FITTINGS ARE CONTINUALLY BEING PRODUCED TO THE REQUIRED STANDARD. THE TUBING AND FITTINGS SHALL BE CERTIFIED AS COMPLYING WITH NSF 14.
PART 3 EXECUTION

3.01 EXAMINATION

A. THE INSTALLING CONTRACTOR SHALL CAREFULLY EXAMINE THE CROSS-LINKED POLYETHYLENE PLASTIC TUBING FOR DEFECTS, CUTS, ABRASIONS, CRACKS, FADING COLOR, OR BLEMISHES. THERE SHALL BE NO CRACKS OR HEAVY DEFORMATIONS OF THE TUBING. FITTINGS AND MANIFOLDS SHALL BE CHECKED FOR ANY SIGNS OF ABUSE. ANY DAMAGED TUBING OR FITTINGS SHALL BE REJECTED.
3.02 PREPARATION
A. PEXCEL TUBING: CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE CUT WITH A CROSS-LINKED POLYETHYLENE TUBING CUTTER. THE TUBING SHALL BE CUT SQUARE TO PERMIT PROPER JOINING WITH THE TUBING FITTING.
B. FOSTAPEX TUBING: CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE CUT WITH A CROSS-LINKED POLYETHYLENE TUBING CUTTER. THE TUBING SHALL BE CUT SQUARE TO PERMIT PROPER JOINING WITH THE TUBING FITTING. OUTER LAYERS SHALL BE REMOVED VIA PREP TOOL LEAVING INNER CROSS-LINKED POLYETHYLENE PLASTIC TUBING TO ACCEPT STAINLESS SLEEVE. PREP TOOL SHALL HAVE AN INTERNAL STOP TO ENSURE PROPER LENGTH OF EXPOSED INNER CROSS-LINKED POLYETHYLENE PLASTIC TUBING.

3.03 INSTALLATION

A. PRESS TUBING CONNECTION: PEXCEL PRESS CONNECTIONS SHALL BE JOINED IN ACCORDANCE WITH THE FOLLOWING
REQUIREMENTS:
1. SLIDE THE PRESS SLEEVE FULLY OVER END OF TUBING.
2. INSERT PRESS FITTING INTO TUBING AND ENGAGE FULLY.
3. CHECK FULL TUBING INSERTION AT VIEW HOLE OF SLEEVE.
4. ENGAGE PRESS TOOL PERPENDICULAR OVER PRESS SLEEVE AND CLOSE TOOL JAWS.
5. START TOOL RATCHET UNTIL AUTOMATIC TOOL RELEASE OCCURS AT PROPER COMPRESSION FORCE.
B. FOSTAPEX TUBING CONNECTIONS: FOSTAPEX PRESS CONNECTIONS SHALL BE JOINED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.
1. INSERT FOSTAPEX TUBING INTO PREP TOOL. PUSH AND TURN TOOL UNTIL NO MORE RESISTANCE IS FELT AND THE TOOL SPINS FREELY.
2. SLIDE THE PRESS SLEEVE FULLY OVER END OF TUBING
3. INSERT PRESS FITTING INTO TUBING AND ENGAGE FULLY.
4. CHECK FULL TUBING INSERTION AT VIEW HOLE OF SLEEVE.
5. ENGAGE PRESS TOOL PERPENDICULAR OVER PRESS SLEEVE AND CLOSE TOOL JAWS.
6. START TOOL RATCHET UNTIL AUTOMATIC TOOL RELEASE OCCURS AT PROPER COMPRESSION FORCE.
C. CONNECTION TO OTHER MATERIALS: CONNECTIONS BETWEEN CROSS-LINKED POLYETHYLENE PLASTIC TUBING AND OTHER PIPING MATERIALS SHALL BE BY USE OF APPROVED ADAPTER FITTINGS. ADAPTER FITTINGS SHALL BE CONNECTED BY NPT THREADS, COPPER TUBING, COPPER FITTING OR PROPRESS FITTINGS. THE ADAPTER FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
D. EXPANSION AND CONTRACTION: PROVISION SHALL BE TAKEN FOR THE EXPANSION AND CONTRACTION OF THE CROSS-LINKED POLYETHYLENE PLASTIC TUBING INSTALLATION. THE TUBING SHALL NOT BE INSTALLED IN TIGHT STRAIGHT RUNS. FLEXIBILITY IN THE INSTALLATION SHALL BE PROVIDED TO PERMIT EXPANSION AND CONTRACTION.
E. HANGERS AND SUPPORTS: CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE HORIZONTALLY SUPPORTED AT 32 INCH INTERVALS. THE TUBING SHALL BE VERTICALLY SUPPORTED AT 4 FOOT INTERVALS.
F. SEISMIC RESTRAINT: IN SEISMIC AREAS, CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE INSTALLED TO WITHSTAND ALL SEISMIC FORCES.
G. WATER HEATER CONNECTION: CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL NOT CONNECT DIRECTLY TO A WATER HEATER OR INSTANTANEOUS WATER HEATER. AN 18 INCH METAL TUBING NIPPLE SHALL BE USED TO MAKE THE PIPING CONNECTION TO ANY WATER HEATER. CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE INSTALLED A MINIMUM OF 6 INCHES FROM A WATER HEATER METAL VENT CONNECTOR.
H. PIPE PROTECTION: CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE INSTALLED IN A WORKMANLIKE MANNER TO AVOID DAMAGE TO THE TUBING AND SURROUNDING BUILDING SYSTEMS.
CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE PROTECTED TO AVOID ABRASION AND CONTACT WITH THE SURROUNDING BUILDING MATERIAL.
I. PENETRATION PROTECTION: EVERY PENETRATION OF FLOORS, CEILINGS, AND WALLS WITH CROSS-LINKED POLYETHYLENE PLASTIC TUBING MUST BE PROTECTED AGAINST FLAME AND FIRE PENETRATION IN ACCORDANCE WITH THE BUILDING AND FIRE CODE.
J. CONNECTION TO FIXTURES: PLUMBING FIXTURES SHALL CONNECT TO THE CROSS-LINKED POLYETHYLENE PLASTIC TUBING EITHER DIRECTLY WITH AN ADAPTER FITTING OR WITH FLEXIBLE TUBING CONNECTORS. WHERE REQUIRED BY CODE, EACH FIXTURE WATER SUPPLY SHALL HAVE A SUPPLY STOP TO ISOLATE THE CONNECTION TO THE FIXTURE. THE FIXTURE SHUT OFF SHALL BE PERMITTED TO BE A STOP AT THE MANIFOLD.
K. PIPING IDENTIFICATION: CROSS-LINKED POLYETHYLENE PLASTIC PIPING SYSTEMS FOR HOT AND COLD WATER DISTRIBUTION SHALL HAVE THE MARKINGS THAT CONFORM TO THE ASTM F876 MARKING REQUIREMENTS AND ALSO INCLUDE: NSF-PW, ES ER 5944 ES ER 5945 ES ER 5421.
L. INSTALLATION UNDER A CONCRETE SLAB:
CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE PERMITTED TO BE INSTALLED UNDER A CONCRETE SLAB WITHOUT FITTINGS. THE TUBING SHALL BE TESTED BEFORE BACKFILLING. SHARP OBJECTS AND LARGE ROCKS SHALL NOT COME IN CONTACT WITH THE TUBING DURING BACKFILL.
M. THREADED CONNECTIONS: WHEN THREADED ADAPTER FITTINGS ARE INSTALLED, THE THREADS SHALL HAVE JOINT TAPE/ THREAD SEALANT PASTE APPLIED TO THE MALE THREADS.
N. ROUTING OF PIPE: CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE KEPT A MINIMUM OF 6 INCHES HORIZONTALLY AND 12 INCHES VERTICALLY FROM ANY SOURCES OF HEAT SUCH AS RECESSED LIGHTS AND APPLIANCE OR HEATER VENTS.

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DRAWING TITLE
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DRAWING NO.
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A1 Plumbing Notes scale: not to scale

O. VALVE INSTALLATION: VALVES ON CROSS-LINKED POLYETHYLENE PLASTIC TUBING SYSTEMS SHALL BE ACCESSIBLE.
P. MANIFOLD INSTALLATION: INSTALL MANIFOLDS IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
1. BRONZE MANIFOLDS: INSTALL THE MANIFOLD IN AN ACCESSIBLE LOCATION. ADEQUATE ROOM SHALL
BE PROVIDED AROUND THE MANIFOLD TO PERMIT INSTALLATION OF THE CROSS-LINKED POLYETHYLENE TUBING. USE MANIFOLD BRACKETS PROVIDED WITH THE MANIFOLD FROM THE MANIFOLD MANUFACTURER.
2. COPPER MANIFOLDS: SHALL BE USED WHERE PERMANENT CONNECTIONS MUST BE USED. COPPER MANIFOLD SHALL BE USED IN CONCEALED LOCATIONS. MAY BE FASTENED USING ANY STANDARD FASTENERS FOR 1" COPPER.

3.04 FIELD QUALITY CONTROL

UPON COMPLETION OF A SECTION OR OF THE ENTIRE HOT AND COLD WATER SUPPLY SYSTEM, IT SHALL BE TESTED AND PROVED TIGHT UNDER A WATER PRESSURE NOT LESS THAN THE WORKING PRESSURE UNDER WHICH IT IS TO BE USED. THE WATER USED FOR TESTS SHALL BE OBTAINED FROM A POTABLE SOURCE OF SUPPLY. IF THE PRESSURE TEST IS PERFORMED WITH WATER AND THE BUILDING IS UNHEATED, THE SYSTEM SHOULD BE DRAINED AFTER TEST TO PREVENT FREEZING. A 50 PSI AIR PRESSURE MAY BE SUBSTITUTED FOR
THE WATER TEST. IN EITHER METHOD OF TEST THE PIPING SHALL WITHSTAND THE TEST WITHOUT LEAKING FOR A PERIOD OF NOT LESS THAN 15 MINUTES.

3.05 CLEANING

A. DISINFECTION: THE CROSS-LINKED POLYETHYLENE PLASTIC PIPING HOT AND COLD WATER DISTRIBUTION
SYSTEM SHALL BE DISINFECTED PRIOR TO BEING PLACED IN SERVICE. THE SYSTEM SHALL BE DISINFECTED IN
ACCORDANCE WITH AWWA C651.
B. PENETRATION PROTECTION: PENETRATIONS OF FIRE RESISTANCE RATED WALLS, FLOORS, OR CEILINGS BY
CROSS-LINKED POLYETHYLENE PLASTIC TUBING SHALL BE PROTECTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE.

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DRAWING TITLE
PLUMBING NOTES

DRAWING NO.
P-003

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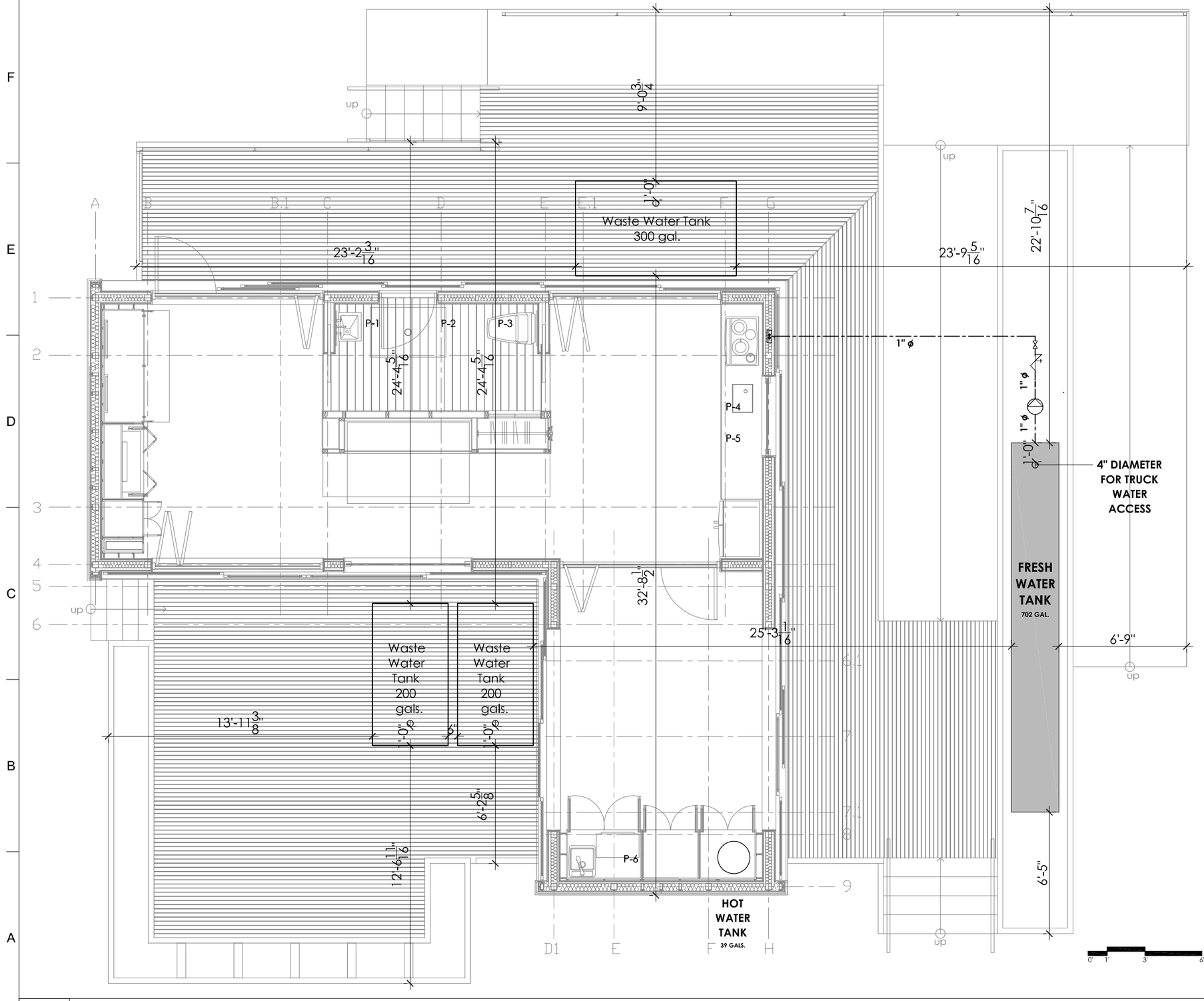

LEGEND:

- ANGLE VALVE
- HOSEBIBB
- GATE VALVE
- PRESSURE RELIEF VALVE
- PUMP
- MANIFOLD
- COLD WATER LINE
- HOT WATER LINE

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DRAWING TITLE

SUPPLY AND REMOVAL PLAN

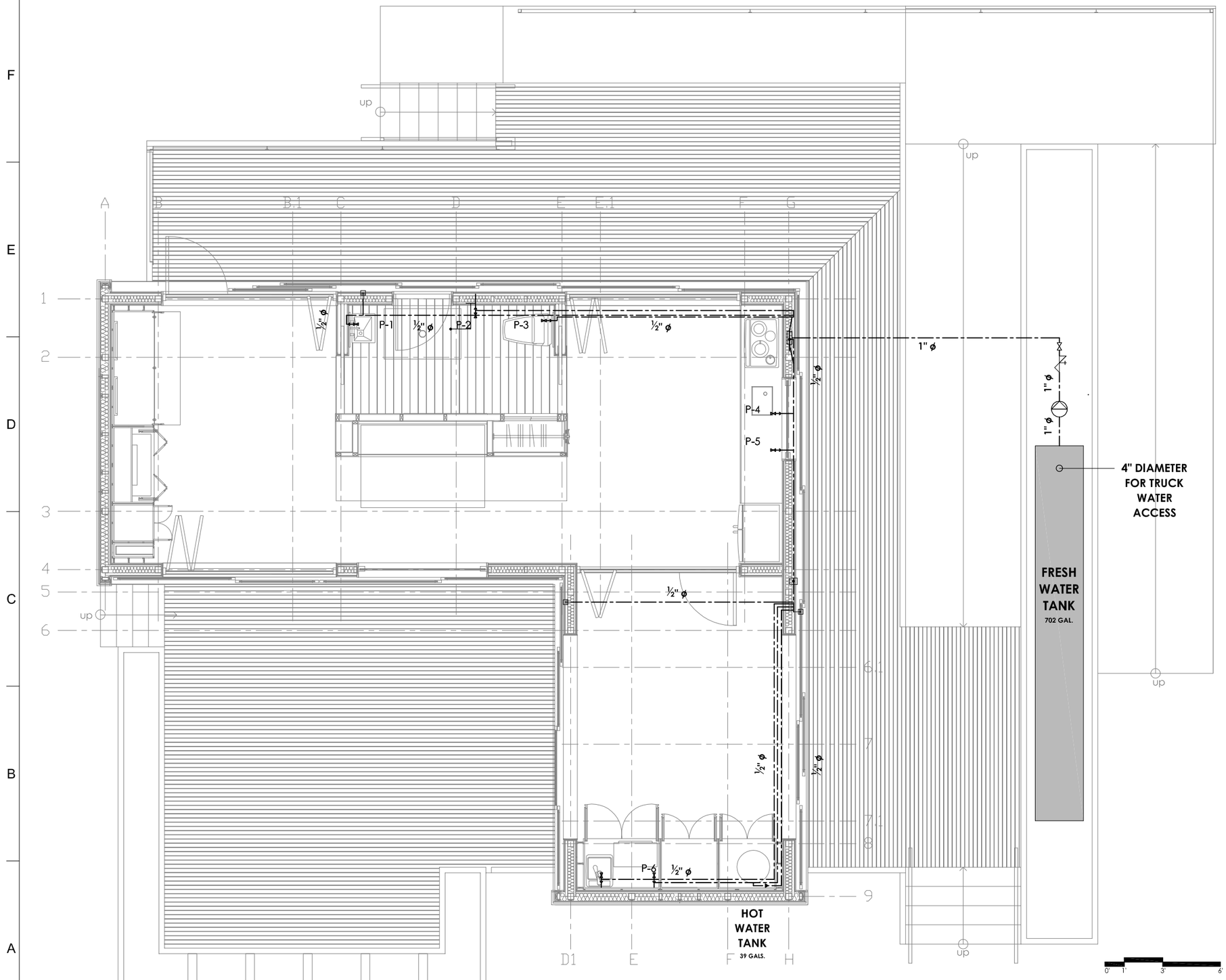
DRAWING NO.

P-101

ISSUE FOR: FINAL DESIGN

A1 Supply and Removal Plan — scale: 3/16" = 1'-0"

A8 Legend



LEGEND:

- ANGLE VALVE
- HOSEBIBB
- GATE VALVE
- PRESSURE RELIEF VALVE
- PUMP
- MANIFOLD
- COLD WATER LINE
- HOT WATER LINE

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DRAWING TITLE

COLD WATER
SUPPLY PLAN

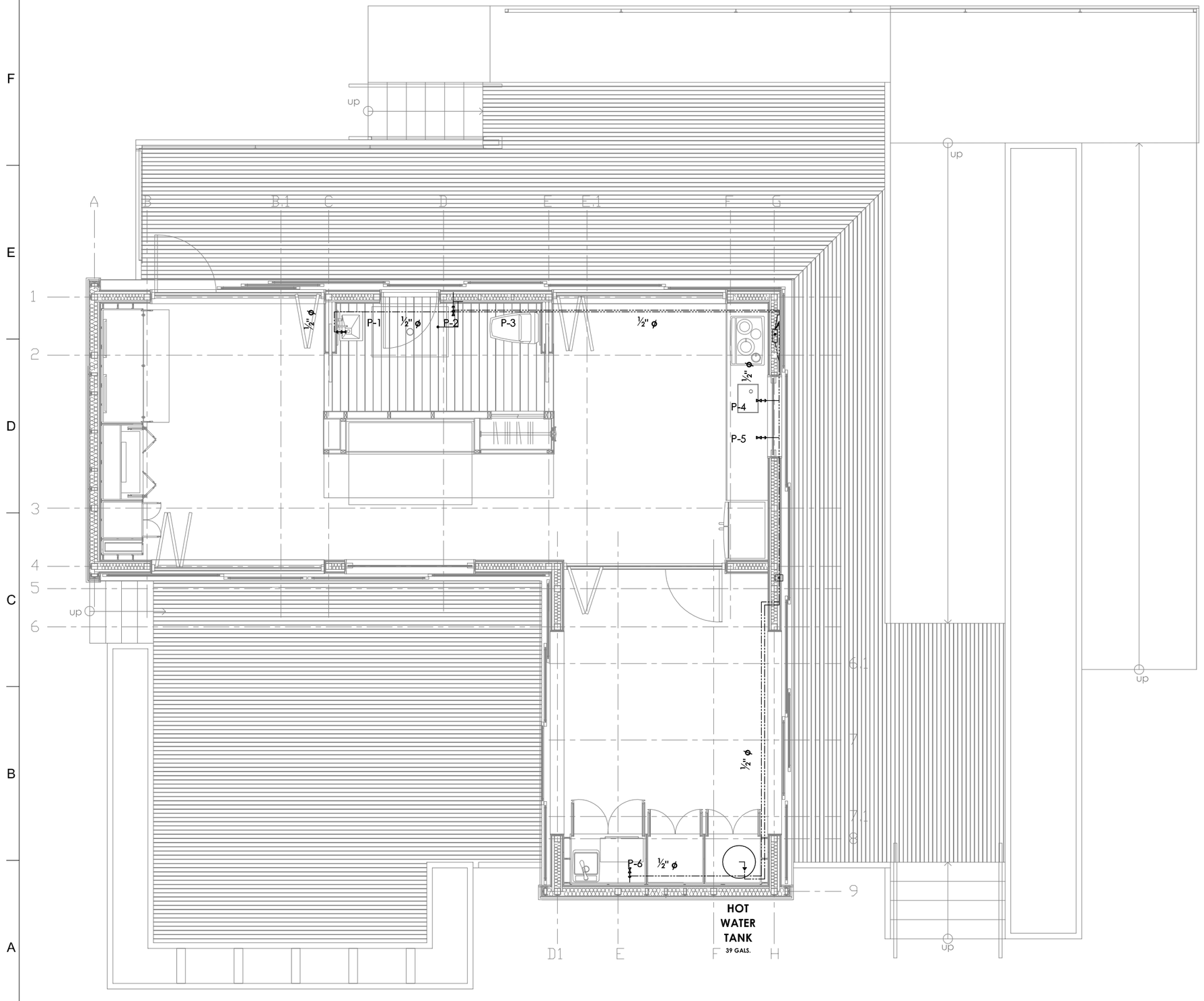
DRAWING NO.

P-102

ISSUE FOR: FINAL DESIGN

A1 Cold Water Supply Plan scale: 3/16" = 1'-0"

A8 Legend



LEGEND:

- ANGLE VALVE
- HOSEBIBB
- GATE VALVE
- PRESSURE RELIEF VALVE
- PUMP
- MANIFOLD
- COLD WATER LINE
- HOT WATER LINE

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DRAWING TITLE

HOT WATER SUPPLY PLAN

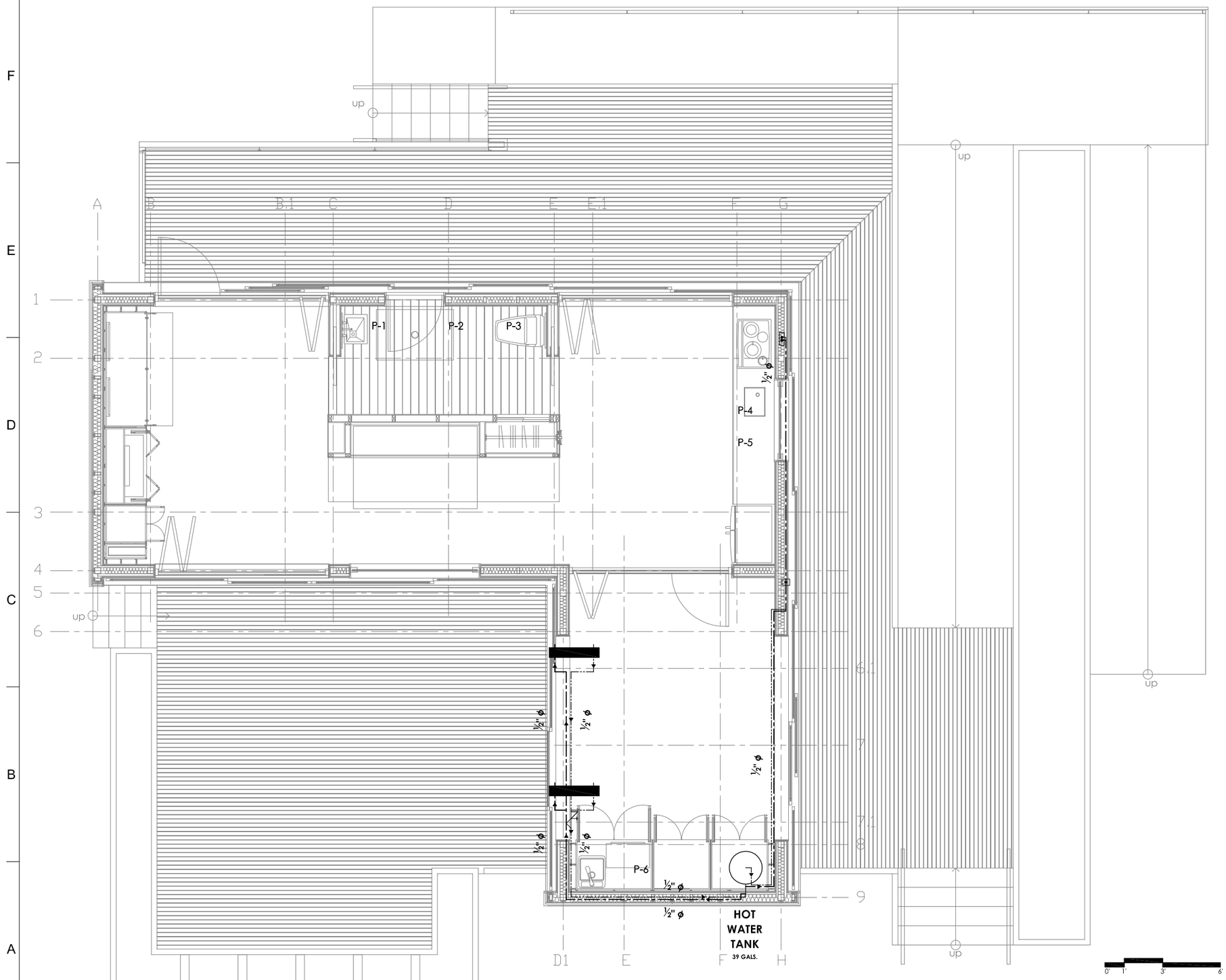
DRAWING NO.

P-103

ISSUE FOR: FINAL DESIGN

A1 Hot Water Supply Plan — scale: 3/16" = 1'-0"

A8 Legend



LEGEND:

- ANGLE VALVE
- HOSEBIBB
- GATE VALVE
- PRESSURE RELIEF VALVE
- PUMP
- MANIFOLD
- COLD WATER LINE
- HOT WATER LINE

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DRAWING TITLE

SOLAR WATER HEATING PLAN

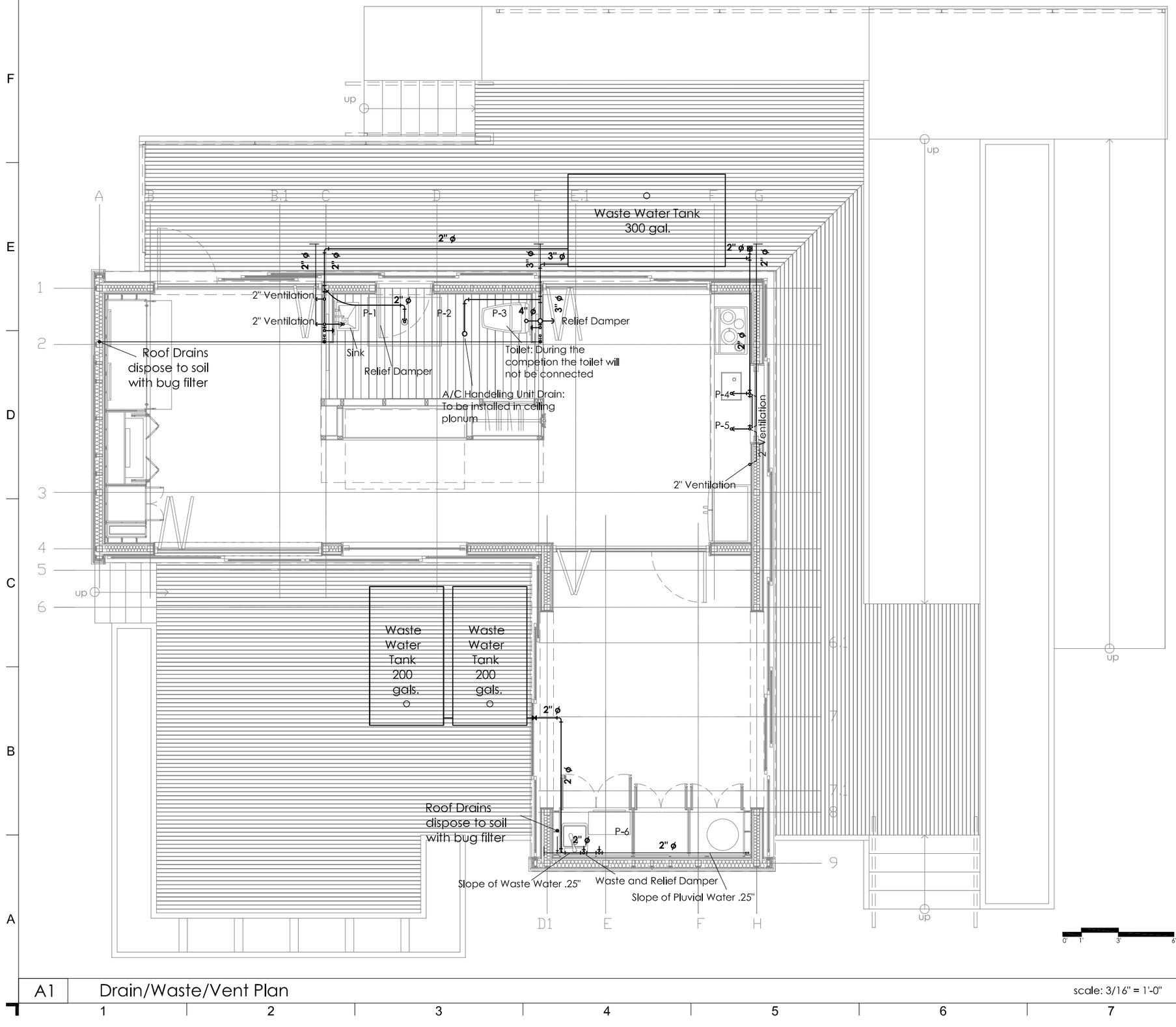
DRAWING NO.

P-104

ISSUE FOR: FINAL DESIGN

A1 Solar Water Heating Plan scale: 3/16" = 1'-0"

A8 Legend



LEGEND:

- CLEANOUT-PLUG
- BUG FILTER
- VENTILATION
- CLEANOUT-WALL
- TRAP
- PLUVIAL WATER
- WASTE WATER

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DRAWING TITLE

DRAIN/ WASTE/ VENT PLAN

DRAWING NO.

P-105

ISSUE FOR: FINAL DESIGN

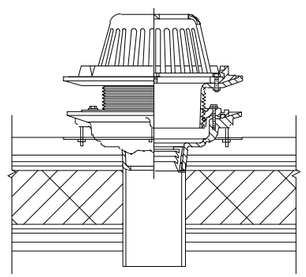
A1 Drain/Waste/Vent Plan scale: 3/16" = 1'-0"

A8 Legend

Plumbing Fixtures Schedule

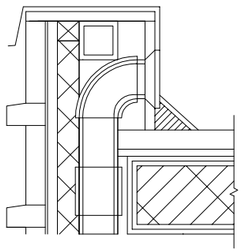
Designation	Description	Brand	Catalog #	Color	Trap	Drain	Water Supply		Fixture		Remarks
							Cold	Hot	Cold	Hot	
P-1	Sink	Kohler	K-2200	CP	2"	2"	½"	-	½"	-	See ARCH. Drawings and Specs.
P-2	Shower	Toto	TS100BC	CP	2"	2"	½"	-	½"	-	See ARCH. Drawings and Specs.
P-3	Water Closet	Toto	CST794EF	Cotton	2"	2"	½"	-	½"	-	See ARCH. Drawings and Specs.
P-4	Kitchen Sink	Kohler	K-2330-N	S/S	2"	2"	½"	-	½"	-	See ARCH. Drawings and Specs.
P-5	Dishwasher	Electrolux	EWDW6505G S	S/S	2"	2"	½"	-	½"	-	See ARCH. Drawings and Specs.
P-6	Washer	Electrolux	EWFLW65H SS	S/S	2"	2"	½"	-	½"	-	See ARCH. Drawings and Specs.
COW	Cleanout-Wall	J.R. Smith	Mod. 4422	Cast Bronze	-	-	-	-	-	-	For Size See Plumbing Drawings.
COP	Cleanout-Plug	J.R. Smith	Mod. 4020	Nickel Bronze Top	-	-	-	-	-	-	For Size See Plumbing Drawings.
RD	Roof Drains	J.R. Smith	Mod. 1015	Polyethylene Dome	2"	-	-	-	-	-	For Size See Plumbing Drawings.
WV	Wall Vent	-	-	-	-	-	-	-	-	-	For Size See Plumbing Drawings.

C1 Plumbing Fixtures Schedule — scale: not to scale



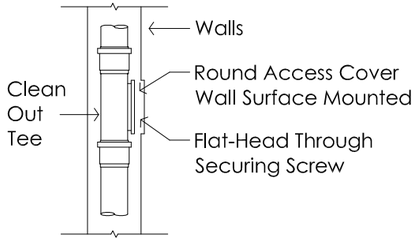
Roof Drain

A1 Typical Detail MK'D — scale: not to scale



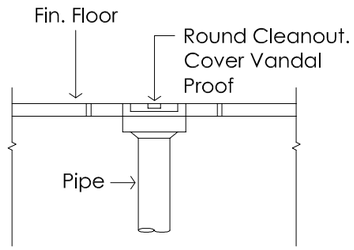
Wall Vent

A3 Typical Detail MK'D — scale: not to scale



Cleanout-Wall Installation

A5 Typical Detail MK'D — scale: not to scale



Cleanout Installation

A7 Typical Detail MK'D — scale: not to scale

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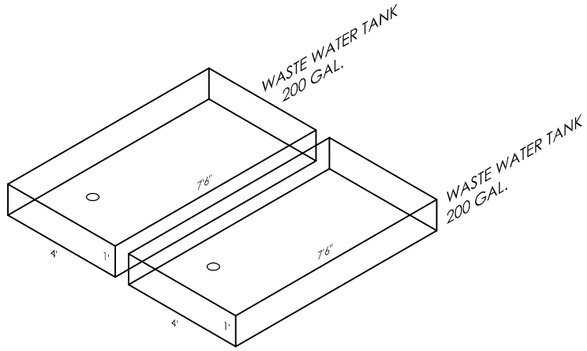
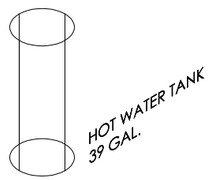
Plot Scale: 1:1 Date: JUNE 2, 2009

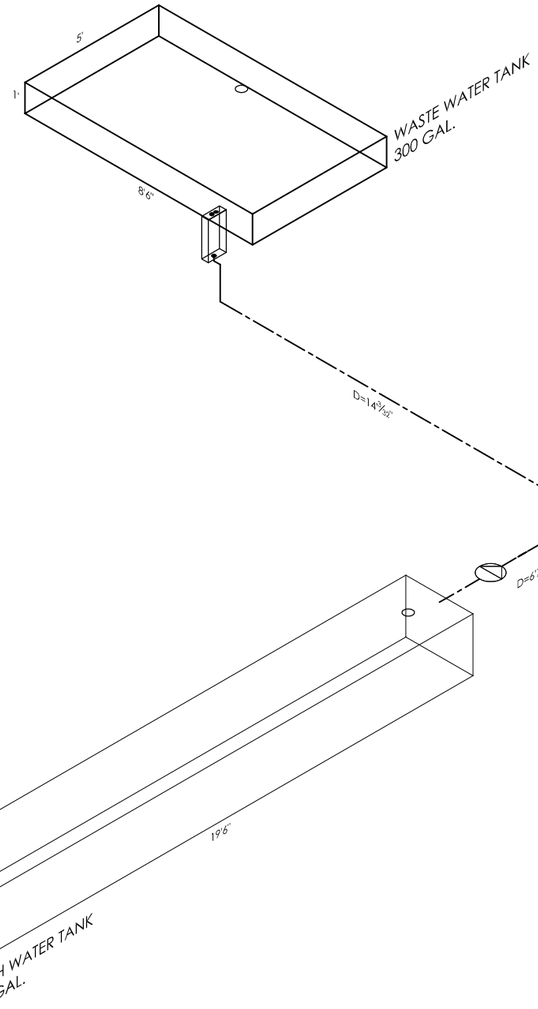
DRAWING TITLE
SCHEDULES

DRAWING NO.
P-601

ISSUE FOR: FINAL DESIGN







LEGEND:

- ANGLE VALVE
- HOSEBIBB
- GATE VALVE
- PRESSURIZED TANK
- PUMP
- MANIFOLD
- COLD WATER LINE
- HOT WATER LINE

PROFESSIONAL SEAL:

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Plot Scale: 1:1 Date: JUNE 2, 2009

DRAWING TITLE

SUPPLY AND
REMOVAL ISOMETRIC

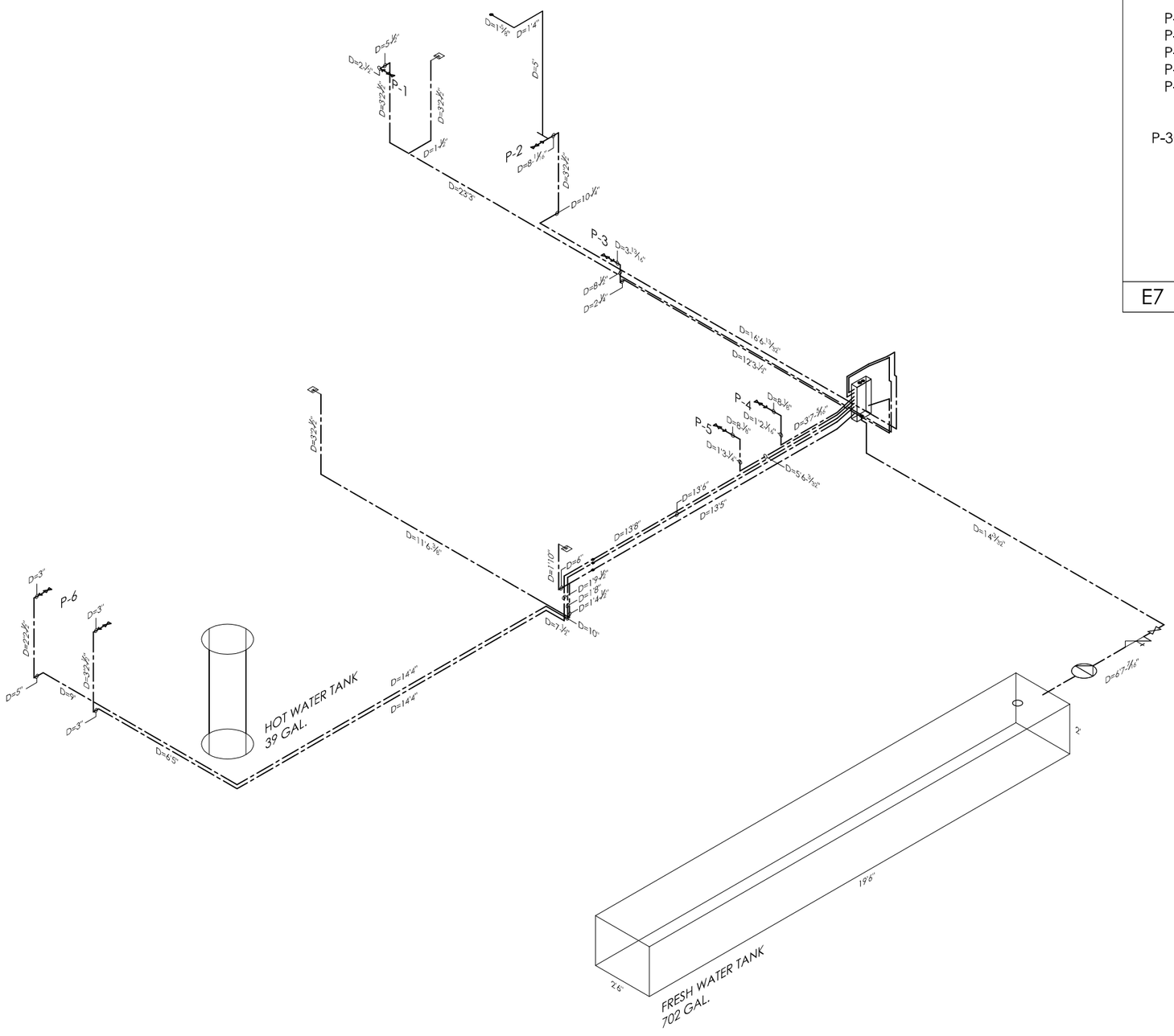
DRAWING NO.

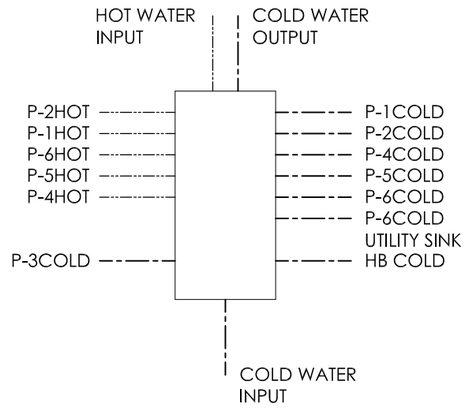
P-901

ISSUE FOR: FINAL DESIGN

A1 Supply and Removal Isometric Diagram scale: 1/4" = 1'-0"

A1 Legend





E7 Manabloc Diagram scale: not to scale

LEGEND:

- ANGLE VALVE
- HOSEBIBB
- GATE VALVE
- PRESSURIZED TANK
- PUMP
- MANIFOLD
- COLD WATER LINE
- HOT WATER LINE

PROFESSIONAL SEAL:

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File Name:
Plot Scale: 1:1 Date: JUNE 2, 2009

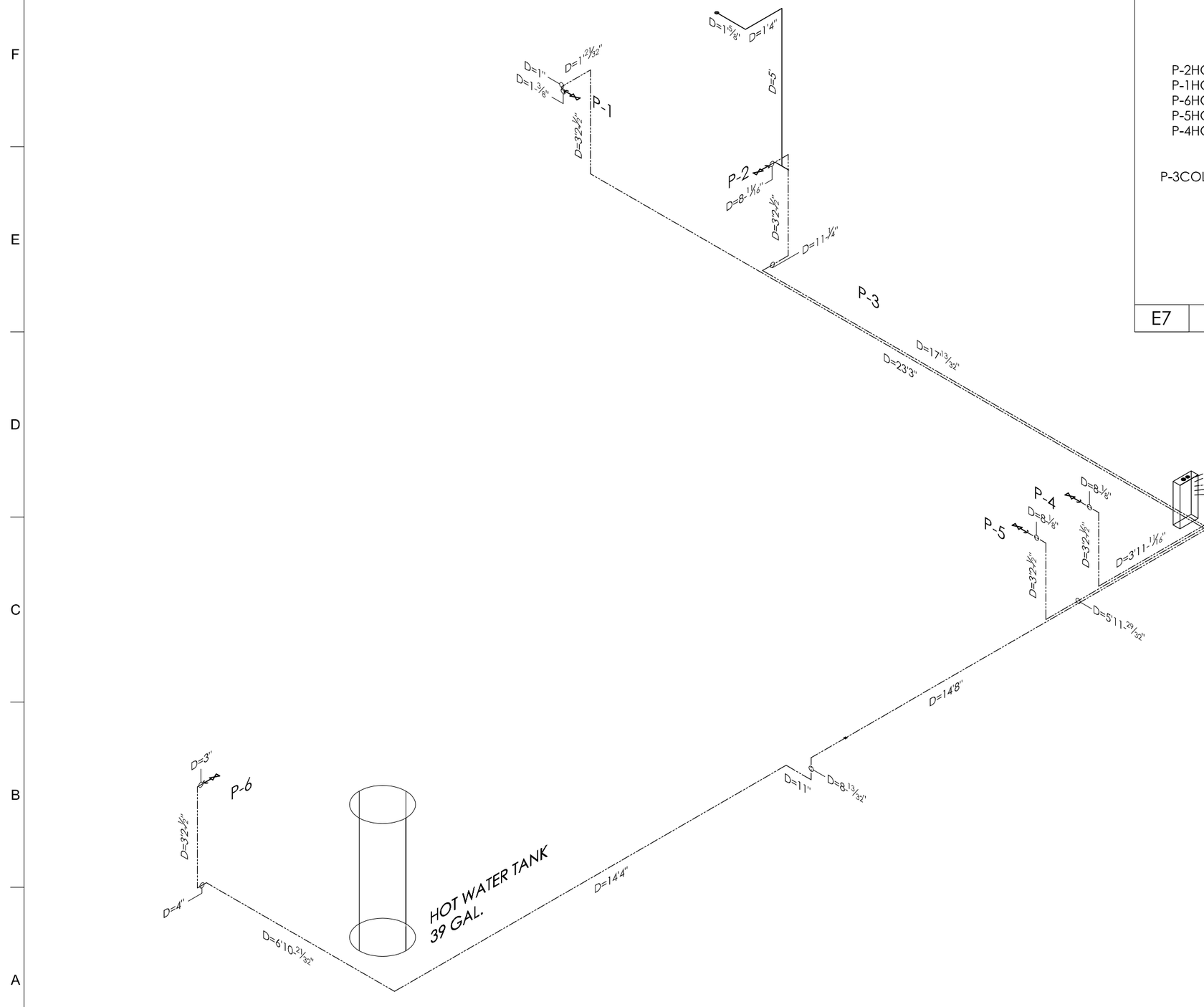
DRAWING TITLE
COLD WATER SUPPLY ISOMETRIC

DRAWING NO.
P-902

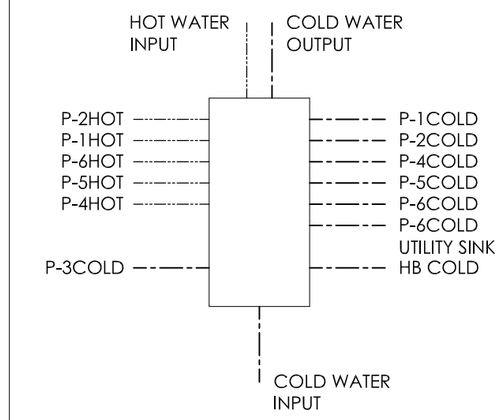
ISSUE FOR: FINAL DESIGN

A1 Cold Water Supply Isometric Diagram scale: 1/4" = 1'-0"

A8 Legend



A1 Hot Water Supply Isometric Diagram scale: 1/4" = 1'-0"



E7 Manabloc Diagram scale: n.t.s.

LEGEND:

- ANGLE VALVE
- HOSEBIBB
- GATE VALVE
- PRESSURE RELIEF VALVE
- PUMP
- MANIFOLD
- COLD WATER LINE
- HOT WATER LINE

A8 Legend

PROFESSIONAL SEAL:

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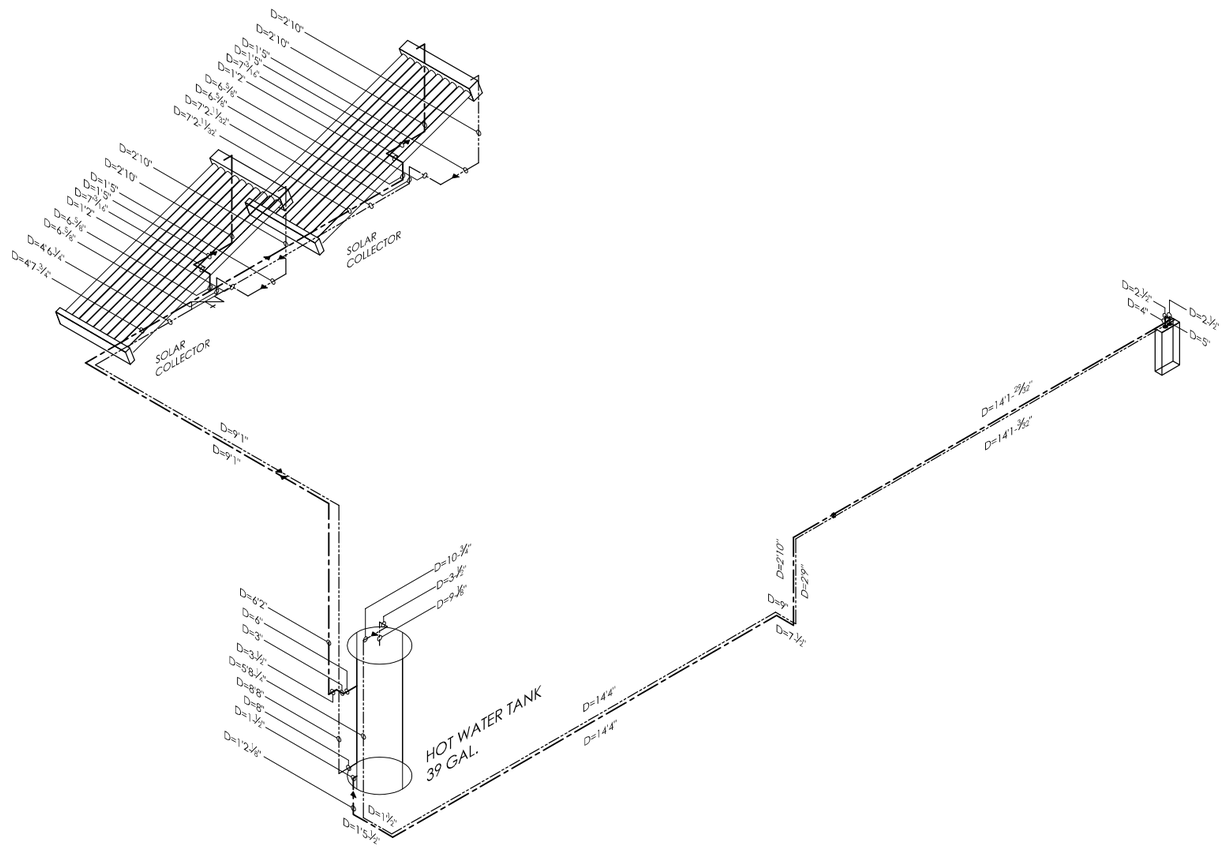
File Name:
Plot Scale: 1:1 Date: JUNE 2, 2009

DRAWING TITLE
HOT WATER SUPPLY ISOMETRIC

DRAWING NO.
P-903

ISSUE FOR: FINAL DESIGN



LEGEND:

- ANGLE VALVE
- HOSEBIBB
- GATE VALVE
- PRESSURIZED TANK
- PUMP
- MANIFOLD
- COLD WATER LINE
- HOT WATER LINE

PROFESSIONAL SEAL:

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Plot Scale: 1:1 Date: JUNE 2, 2009

DRAWING TITLE

SOLAR WATER HEATING ISOMETRIC

DRAWING NO.

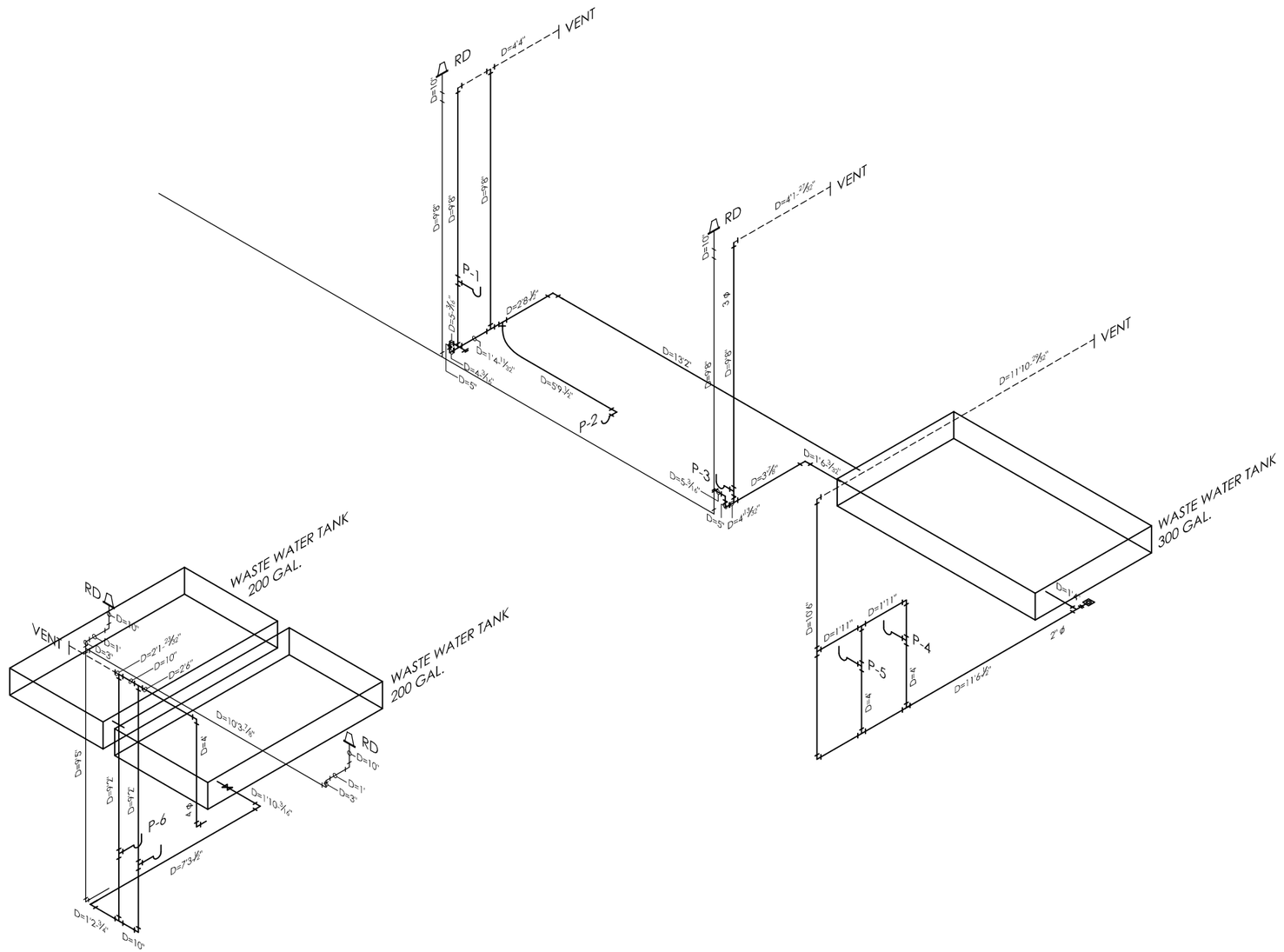
P-904

ISSUE FOR: FINAL DESIGN

A1 Solar Water Heating Isometric Diagram

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

A8 Legend



LEGEND:

- CLEANOUT-PLUG
- BUG FILTER
- VENTILATION
- CLEANOUT-WALL
- TRAP
- PLUVIAL WATER
- WASTE WATER

PROFESSIONAL SEAL:

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DRAWING TITLE

DRAIN/ WASTE VENT ISOMETRIC

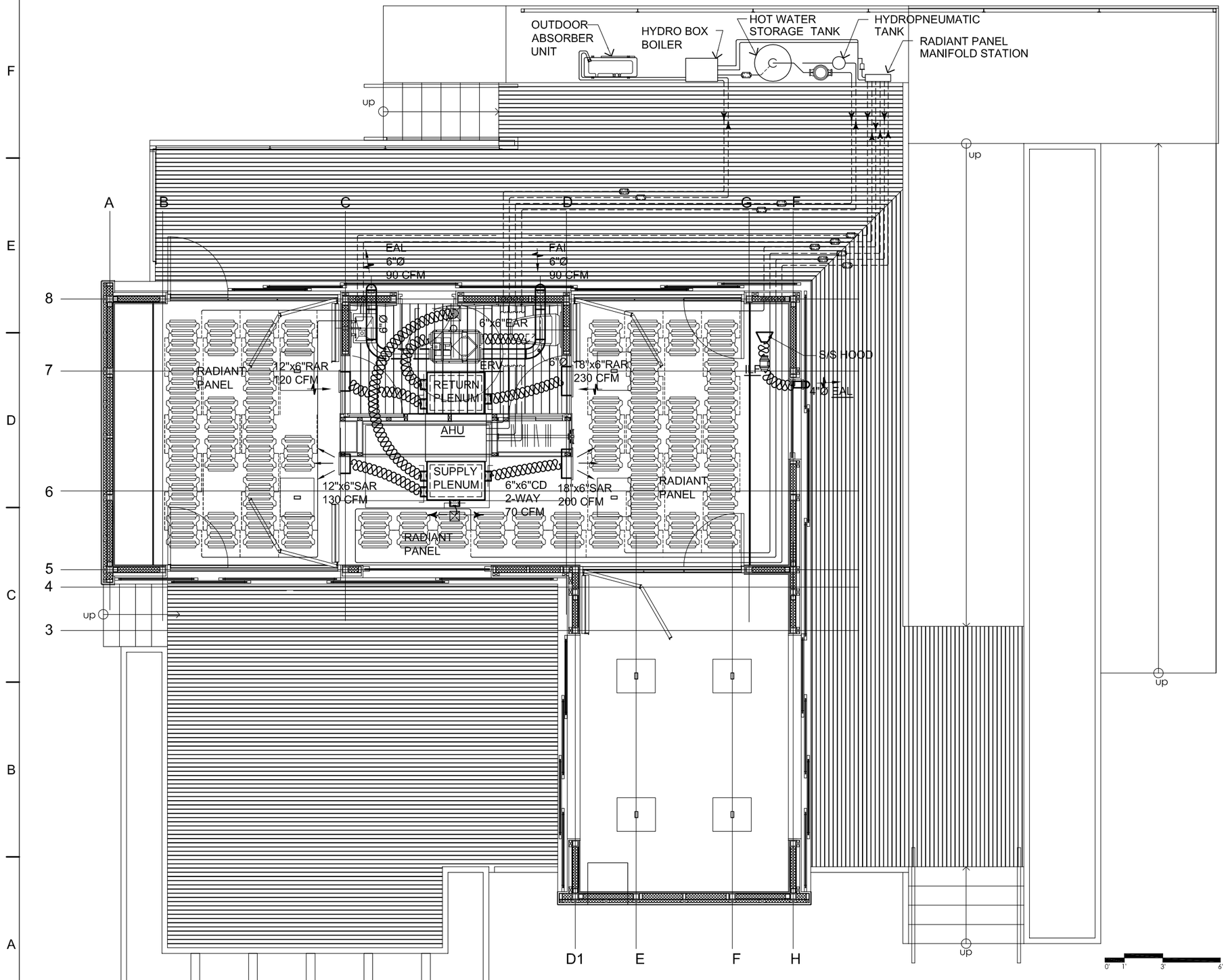
DRAWING NO.

P-905

ISSUE FOR: FINAL DESIGN

A1 Drain/Waste/Vent Isometric Diagram scale: 1/4" = 1'-0"

A8 Legend



OAU (OUTDOOR ABSORBER UNIT)
EQUAL TO DAIKIN MODEL # ERHQ006D NOMINAL HEATING CAPACITY OF 5,75KW AND A NOMINAL COOLING CAPACITY OF 24,500 BTU/HR, WITH A COP OF 3,18 AND A MAX NOMINAL INPUT OF 2,27 KW. ELECTRICAL CHARACTERISTIC OF: 230/1PH/50HZ AND 20 AMPS RECOMMENDED BREAKER SIZE. REFRIGERANT TYPE 410A, 1.7KG.

HBB (HYDRO-BOX BOILER)
EQUAK TO DAIKIN MODEL EKHBX008AA, REVERSIBLE (HEATING/COOLING) TYPE.

HWT (HOT WATER TANK)
EQUAL TO DAIKIN MODEL EKHWS200A3V3, 200 LITERS CAPACITY SIZE: 23"Ø x 46" H., STAINLESS STEEL INSIDE TANK AND EPOXY COATED MILD STEEL OUTSIDE CASING.

ERV (ENERGY RECOVERY VENTILATOR)
EQUAL TO RENEWAIRE MODEL EV130, 120V/1PH/60HZ, 124 WATTS AND 1.1 FLA.

AHU (AIR HANDLING UNIT)
CUSTOM MADE UNIT CAPABLE OF HANDLE 500 CFM, DOUBLE WALL CONSTRUCTION WITH COOLING COIL, HEATING COIL, FILTER, AND FAN SECTION. COOLING CAPACITY 15,000 BTU/HR., HEATING CAPACITY 9,000 BTU/HR. FAN EQUAL TO ZIEHL-ABEGG MODEL GR2BC-41K,4C,1R CAPABLE TO HANDLE 500CFM @ 2.0 INCH-WG TSP, 270 WATTS.

SAR
SUPPLY AIR REGISTER EQUAL TO METALAIRE SERIES V-4000

RAR
RETURN AIR REGISTER EQUAL TO METALAIRE MODEL RH-1

CD
CEILING DIFFUSER EQUAL TO METALAIRE SERIES 5000-1

EAL & FAI
EQUAL TO SEIHO MODEL SPX

ILF
INLINE FAN EQUAL TO SOLER & PALAU MODEL TD-160/100 N 115V/1PH/60 HZ, 20 WATTS, 0.16 AMPS CAPABLE TO HANDLE 50 CFM @ 0.25 TSP.

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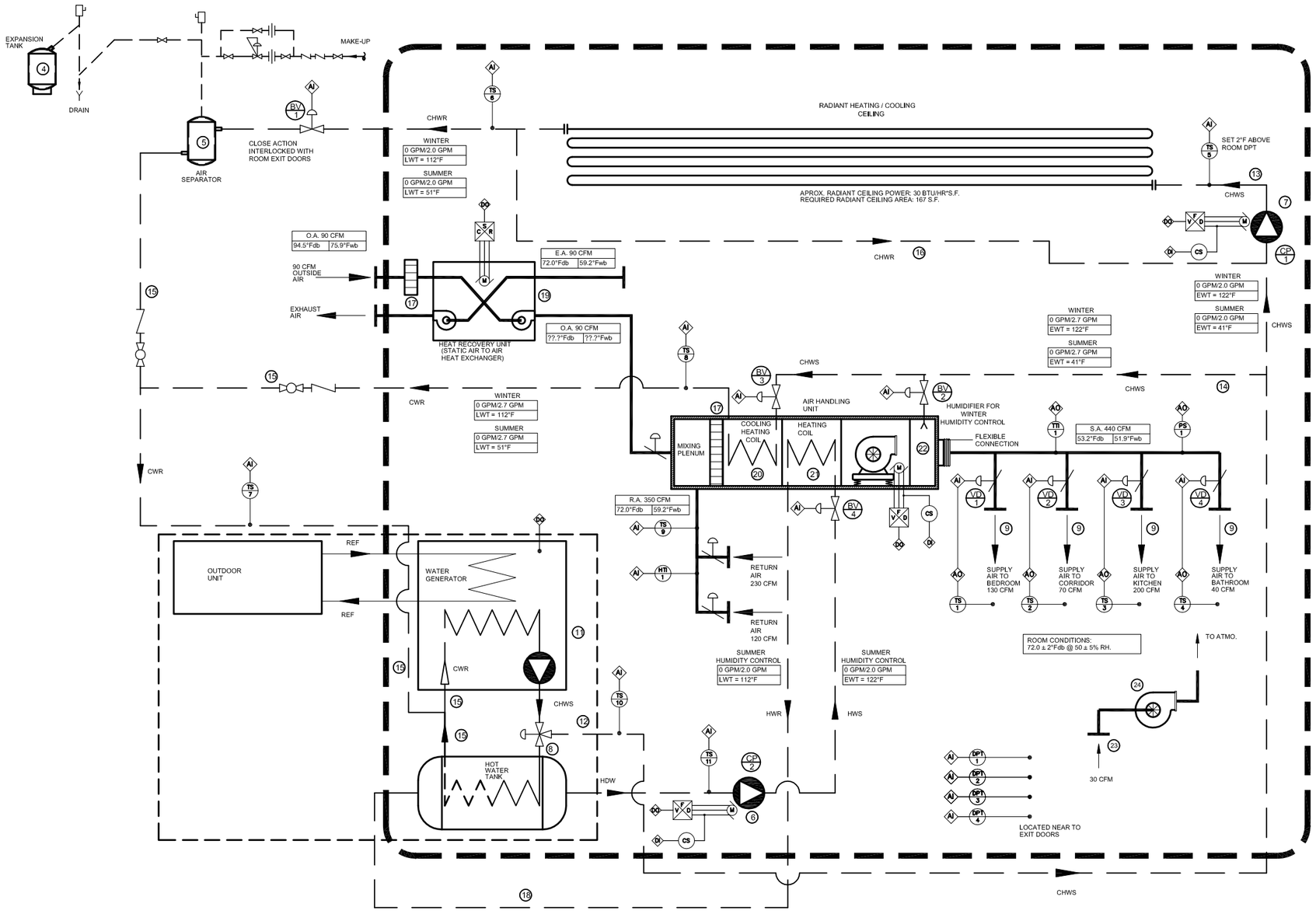
DRAWING TITLE
ACV DISTRIBUTION

DRAWING NO.
M-101

ISSUE FOR: FINAL DESIGN

A1 ACV Distribution — Scale: 3/16" = 1'-0" — A8 Notes



SEQUENCE OF OPERATION

1. AIR HANDLING UNIT EQUIPMENT STATUS SHALL BE INDICATED BY A CS
2. AIR TO AIR HEAT EXCHANGER EQUIPMENT STATUS SHALL BE INDICATED BY A CS
3. AIR CONDITIONER SYSTEM EQUIPMENT STATUS SHALL BE INDICATED BY A CS
4. WATER EXPANSION TANK
5. WATER LOOP AIR SEPARATOR
6. HOT WATER CIRCULATION PUMP EQUIPMENT STATUS SHALL BE INDICATED BY A CS CP # 2 SHALL BE MODULATED BY MEANS OF A VFD
7. RADIANT PANEL'S WATER CIRCULATION PUMP EQUIPMENT STATUS SHALL BE INDICATED BY A CS CP #1 SHALL BE MODULATED BY MEANS OF A VFD
8. COLD DOMESTIC WATER IS HEATED AND STORE IN AN A/C HOT WATER GENERATOR. THIS WILL ONLY WORK IN A/C HEATING MODE. HEAT PUMP WILL BE SCHEDULE TO GENERATE HOT WATER WHEN A/C UNIT IS NOT REQUIRED ELSEWHERE.
9. SUPPLY AIR ENTER THE ROOMS. VD #1,2,3 & 4 SHALL MODULATE TO ATTAIN SET ROOMS SET POINTS. TS #1,2,3 & 4 SHALL SENSE ROOM'S DRY-BULB TEMPERATURES. PS #1 SHALL MODULATE AHU'S PROCESS FAN VFD. BV #3 SHALL BE MODULATED IN RESPONSE TO TTI #1 SET POINT. BV #2 & 4 SHALL MODULATE IN RESPONSE TO HTI #1 SET POINT. CHILLED/HOT WATER RETURN TEMPERATURE SHALL BE INDICATED BY TS #8. ROOM'S RETURN AIR TEMPERATURE SHALL BE INDICATED BY TS #9.
10. RADIANT PANELS
11. A/C UNIT GENERATES CHILLED OR HOT WATER.
12. CHILLED WATER IS DISTRIBUTED FOR CHILLED WATER SUPPLY TEMPERATURE SHALL BE INDICATED BY TS #10.
13. CHILLED/HOT WATER IS DISTRIBUTED TO TS #5 SHALL BE SET TO 2°F ABOVE ROOM'S DEW POINT. ROOM'S DEW POINT SHALL BE MONITORED BY DPT #1, 2,3 & 4. BV #1 SHALL MODULATE IN RESPONSE TO TS #5. BV #1 SHALL BE INTERLOCKED WITH DOORS. RADIANT PANEL'S RETURN WATER TEMPERATURE SHALL BE INDICATED BY TS #6.
14. CHILLED/HOT WATER IS DISTRIBUTED TO AIR COOLING/HEATING COIL FOR DEHUMIDIFICATION AND COOLING. IT ALSO SERVES THE AIR HUMIDIFIER.
15. CHILLED/HOT WATER RETURNS TO WATER GENERATOR. EQUIPMENT'S CHILLED/HOT WATER RETURN TEMPERATURE SHALL BE INDICATED BY TS #7.
16. WATER RETURNS TO RADIANT CEILING WATER SUPPLY IN ORDER TO ATTAIN DESIRED SUPPLY WATER TEMPERATURE. CEILING TEMPERATURE MUST BE AT LEAST 2°F ABOVE SPACE DEW POINT.
17. AIR FILTER
18. HOT WATER RETURNS TO HEAT EXCHANGER FOR RE-HEATING.
19. HEAT IS EXTRACTED TO HOT AND HUMID OUTSIDE AIR AND TRANSFERRED TO EXHAUST AIR FROM BATHROOM.
20. PRETREATED AIR IS COOLED OR HEATED IN THE COIL SECTION.
21. COOL AIR IS PREHEATED AS A MEANS OF CONTROLLING ROOM RELATIVE HUMIDITY. RE-HEAT IS PERFORM ONLY IN COOLING MODE. HOT WATER IS DISTRIBUTED TO HEATING COIL FOR DEHUMIDIFICATION PURPOSES. HOT WATER SUPPLY WATER SHALL BE INDICATED BY TS #11.
22. WATER IS SPRAY ON THE DEHUMIDIFIER FOR HUMIDITY CONTROL. HUMIDIFICATION IS PERFORM ONLY IN HEATING MODE.
23. KITCHEN RETRACTABLE CANOPY HOOD
24. EXHAUST FAN

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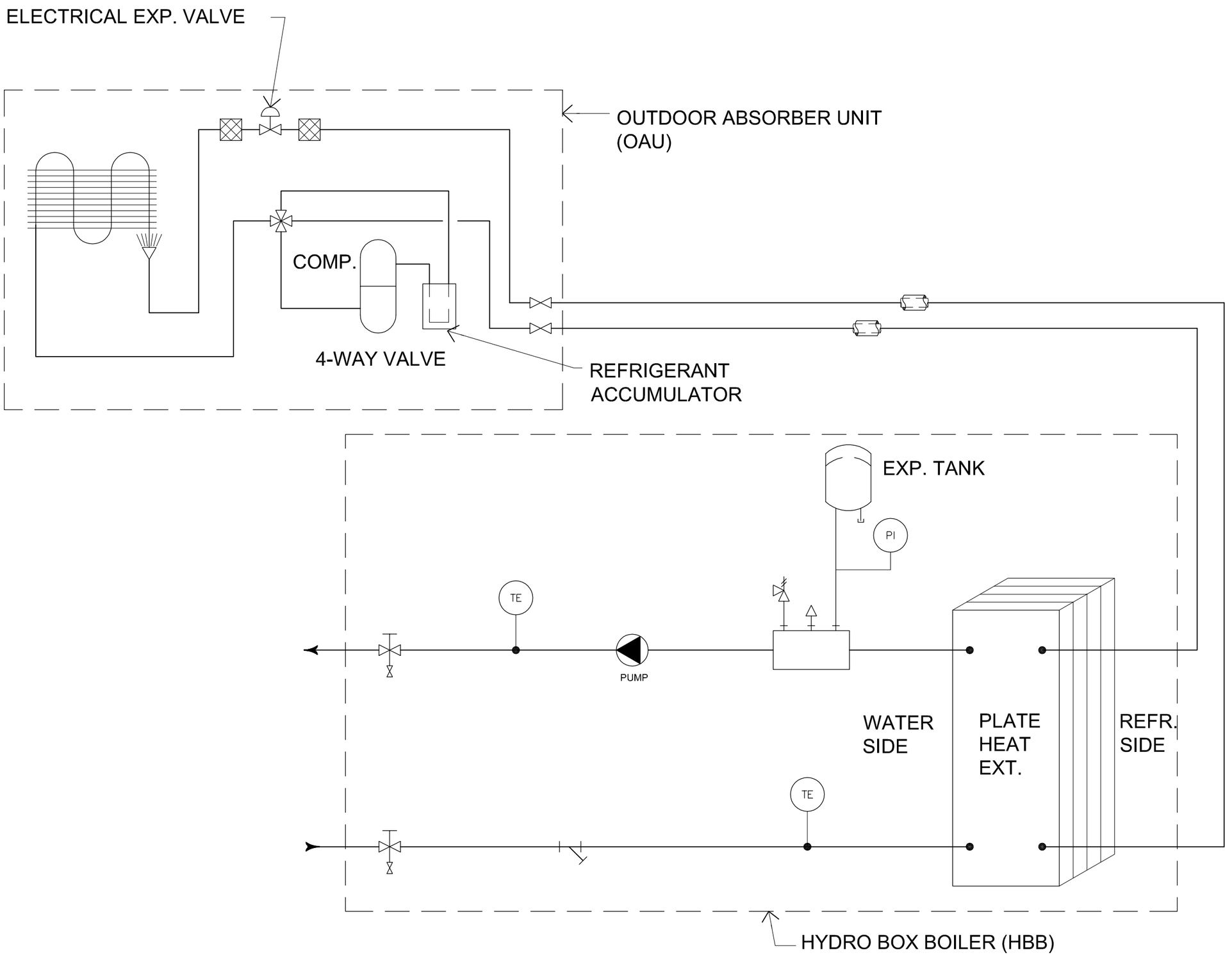
DRAWING TITLE
HVAC CONTROL DIAGRAM

DRAWING NO.
M-601

ISSUE FOR: FINAL DESIGN

A1 ACV Distribution — Scale: not to scale — A8 Notes



A1 | Refrigerant Side A/C System Flow Diagram | Scale: not to scale

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DRAWING TITLE

REFRIGERANT SIDE A/C SYSTEM FLOW DIAGRAM

DRAWING NO.

M-602

ISSUE FOR: FINAL DESIGN

GENERAL NOTES

1. ENTIRE INSTALLATION SHALL CONFORM TO N.E.C., N.F.C. AND ALL LOCAL ORDINANCES HAVING JURISDICTION.
2. MINIMUN SIZE FOR ALL PULL BOXES SHALL BE 4" TRADE.
3. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
4. PROVIDE IDENTIFICATION OF ALL BRANCH CIRCUITS ON A TYPEWRITTEN DIRECTORY CARD IN THE PANEL DOOR.
5. ELECTRICAL CONTRACTOR SHALL VERIFY EXACT ELECTRICAL REQUIREMENTS AND EXTENT OF WORK WITH P.R. COMMUNICATIONS AUTHORITY TELEPHONE SYSTEM INSTALLATION.
6. EXCEPT WHERE NOTED OTHERWISE ALL FIXTURES & LAMPS SHALL BE FURNISHED & INSTALLED BY ELECTRICAL CONTRACTOR.
7. FLUORESCENT FIXTURES SHALL HAVE HIGH POWER FACTOR BALLASTS.
8. ALL MATERIALS SHALL BE NEW EXCEPT WHERE OTHERWISE NOTED & SHALL BEAR UNDERWRITER & UNION LABELS, WHERE SUCH LABELING APPLIES.
9. ALL MATERIALS & INSTALLATION SHALL CONFORM TO LANDLORD'S GENERAL DESIGN SPECIFICATIONS & BUILDING STANDARDS.
10. CONDUIT SHALL BE GALVANIZED STEEL, RIGID HEAVY WALL, ELECTRIC–METALLIC TUBING (E.M.T.) WITH WATERTIGHT FITTINGS OR PVC.
11. EXCEPT WHERE OTHERWISE INDICATED, WIRE SHALL BE COPPER WITH 600 VOLT INSULATION TYPE THHN FOR BRANCH CONDUIT WORK, TYPE THW FOR SIZES LARGER THAN #4. ALUM. WIRE NOT PERMITTED.
12. OUTLET BOXES SHALL BE PRESSED STEEL.
13. ELECTRICAL CONTRACTOR SHALL VERIFY ALL EQUIPMENT REQUIREMENTS WITH EQUIPMENT SUPPLIER.
14. TW COPPER PULL WIRES SHALL BE INSTALLED IN EMPTY CONDUITS (WHERE REQUIRED).
15. WIRING DEVICES SHALL BE AS FOLLOW: LIGHT SWITCHES – 20 AMP HUBBELL 1221, DUPLEX RECEPTACLES – 15 AMP HUBBELL 5252, DEVICE PLATE – STAINLESS STEEL UNILINE DESIGN.
16. MATERIALS AND EQUIPMENTS SHALL BE GUARANTEED FREE FROM DEFECTS FOR ONE YEAR FROM DATE OF OWNER ACCEPTANCE & REPLACED AT NO EXTRA COST.
17. ENTIRE INSTALLATION SHALL BE PERFOMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST–CLASS WORMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE.
18. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECT FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE.
19. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
20. ALL REQUIRED INSURANCES SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY & PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
21. ALL CIRCUIT BREAKERS USED TO SWITCH FLUORESCENT LIGHT FIXTURES SHALL BE APPROVED FOR THE PURPOSE AND MARKED "SWD".
22. CONDUIT SHALL CONFORM TO THE FOLLOWING:
    A. CONCEALED IN CEILING & PARTITIONS, EMT.
    B. CONCEALED IN CONCRETE SLAB, PVC.
    C. UNDERGROUND OR BELOW SLABS – PVC
23. MAXIMUM LOAD FOR ALL BRANCH CIRCUITS IS 80%.
24. ELECTRICAL CONTRACTOR SHALL VISIT THE PROJECT SITE, AND HE SHALL REVIEW STRUCTURAL , PLUMBING & H.V.A.C. PLANS AND HE SHALL ADJUST HIS WORK TO CONFORM TO ALL CONDITIONS FOUND AND/OR SHOWN ON PLANS AND AS MAY BE DIRECTED IN THE FIELD BY OWNER'S REPRESENTATIVE.
25. ALL WORK TO BE IN STRICT ACCORDANCE WITH OWNER'S REQUIREMENTS AND RECOMMENDATIONS. NO WORK IS TO BE STARTED WITHOUT WRITTEN APPROVAL FROM THE OWNERS.
26. COORDINATE WITH EQUIPMENT SUPPLIER MECHANICAL SUBCONTRACTOR AND GENERAL CONTRACTOR FOR ALL FINAL CONNECTION REQUIREMENTS BEFORE INSTALLATION OF CONDUIT WIRE AND STUB–UP LOCATION.
27. ELECTRICAL SUB–CONTRACTOR SHALL BE RESPONSIBLE FOR BALANCING THE LOADS ON ALL PANELS.
28. ALL LIGHTING FIXTURE SHALL BE WIRED AS PER ARTICLE 410 OF N.E.C..
29. BOND WIRE SHALL BE RUN IN ALL CONDUIT WHERE REQUIRED.
30. GROUND TYPE BUSHINGS SHALL BE USED AS REQUIRED.
31. TEMPERATURE CONTROL WIRING BY ELECTRICAL CONTRACTOR, H.V.A.C. CONTRACTOR WILL PROVIDE WIRING DIAGRAM. ALL DEVICES, CONTROL TRANSFORMERS ETC. FOR MOUNTING & WIRING BY ELECTRICAL CONTRACTOR.
32. FOR LOCATION OF H.V.A.C. EQUIPMENT REFER TO MECHANICAL DRAWINGS.
33. FUSES SHALL BE FUSETRON TYPE.
34. GENERAL CONDITIONS AND SPECIAL CONDITIONS SHALL APPLY TO THIS CONTRACT . DRAWINGS ARE SCHEMATIC. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL COST TO MAKE NECESSARY ADJUSTMENTS TO PROVIDE A COMPLETE INSTALLATION AS CONTEMPLATED BY THE DRAWINGS AND SPECIFICATIONS READY FOR USE, PRIOR TO SUBMITTING HIS BID. CONTRACTOR SHALL INSPECT THE SITE AND INCLUDE IN HIS BID ALL ADJUSTMENTS AND CHANGES REQUIRED DUE TO EXISTING CONDITIONS.
35. ALL PANELBOARDS SHALL BE PROVIDED WITH A FACTORY INSTALLED GROUND BUS FOR CONNECTING TO GROUND THE GREEN WIRE IN ALL P.V.C. CONDUITS.
36. EXPANSION AND DEFLECTION FITTINGS SHALL BE USED ON ALL CONDUITS CROSSING BUILDING EXPANSION JOINTS, SEE STRUCTURAL AND OTHER DRAWINGS.
37. AL CONDUITS IN CONTACT WITH GROUND SHALL BE ENCASED IN A 3" CONCRETE ENVELOPE.
38. NO "UF" TYPE CONDUCTOR ALLOWED. ALL DROPS TO FIXTURES AND EQUIPMENT SHALL BE DONE IN FLEXIBLE METALLIC CONDUIT EXCEPT AS NOTED. WORK INSIDE DRY WALL PARTITIONS AND HUNG CEILING IS TO BE "EMT".
39. RUN ONE GREEN GROUND WIRE TO ALL MOTORS, AND RELATED EQUIPMENT, SIZE AS INDICATED ON DRAWINGS OR IN ACCORDANCE WITH N.E.C. TABLE 250–122.
40. INSTALL HANGERS AND UNISTRUT CHANNELS TO PROVIDE MECHANICAL SUPPORT TO ALL CONDUIT EXPOSED AT CEILING LEVEL.
41. CIRCUIT BREAKERS SHALL BE BOLT–ON TYPE, NO PLUG–IN CIRCUIT BREAKERS ALLOWED.

IMPORTANT NOTES:
1. ALL EXTERIOR OUTLETS MUST BE TYPE GROUND FAULT OR SUPPLIED BY A GROUND FAULT BREAKER.
2. ALL EXTERIOR OUTLETS MUST HAVE WATERPROOF COVERS AS SPECIFIED IN THE 2008 NEC.

PANELBOARD SCHEDULE

DESIGNATION	PB				
TYPE	MB	MOUNTING	FLUSH	MAIN	70 A,
LOCATION	MULTIUSE AREA	VOLTAGE	120/240V-1PH	TYPE	120/240V-1PH
MFG.	SQUARE "D" NQOD SERIES OR SIMILAR	SPACES	12 1" SPACES	RATING	MAIN CIRCUIT BRK
		LUGS	100A-LUGS	ENCLOSURE	NEMA 1

NOTES: SOLID NEUTRAL, GROUNDING BAR

LOAD DESCRIPTION	BREAKERS			CONDUCTORS		CONDUITS		GRD.
	CIRCUIT	POLES	TRIP	SIZE	TYPE	SIZE	TYPE	
INVERTER A	1	2	35A	3#8	THHN	3/4"	EMT	1#6
INVERTER B	2	2	35A	3#8	THHN	3/4"	EMT	1#6

PANELBOARD SCHEDULE

DESIGNATION	PA				
TYPE	MB	MOUNTING	FLUSH	MAIN	100 A,
LOCATION	KITCHEN	VOLTAGE	120/240V-1PH	TYPE	120/240V-1PH
MFG.	SQUARE "D" NQOD SERIES OR SIMILAR	SPACES	24 1" SPACES	RATING	MAIN CIRCUIT BRK
		LUGS	100A-LUGS	ENCLOSURE	NEMA 1

NOTES: SOLID NEUTRAL, GROUNDING BAR

LOAD DESCRIPTION	BREAKERS			CONDUCTORS		CONDUITS		GRD.
	CIRCUIT	POLES	TRIP	SIZE	TYPE	SIZE	TYPE	
LIGHTS: INDOORS	1	1	20A	2#12	THHN	1/2"	PVC	1#12
LIGHTS: OUTDOORS	2	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: KITCHEN (GFI)	3	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: BATH (GFI)	4	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: OFFICE/LIVING (ARC FAULT)	5	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: OFFICE/LIVING COMPUTER/TV (ARC FAULT)	6	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: HALL/KITCHEN (ARC FAULT)	7	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: PORCH (GFI)	8	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: REFRIGIRATOR	9	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: WASHER	10	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: DRYER	11	2	30A	3#10	THHN	3/4"	PVC	1#10
OUTLETS: WATER HEATER	12	2	30A	2#10	THHN	3/4"	PVC	1#10
OUTLETS: WASTE DISPOSAL	13	1	20A	2#12	THHN	1/2"	PVC	1#12
OUTLETS: RANGE	14	2	40A	3#8	THHN	1"	PVC	1#10
OUTLETS: RANGE HOOD	15	1	20A	2#12	THHN	1/2"	PVC	1#12
SMOKE DETECTOR (ARC FAULT)	16	1	20A	2#12	THHN	1/2"	PVC	1#12
A/C UNIT	17	2	20A	2#12	THHN	3/4"	PVC	1#12
ERV	18	1	20A	2#12	THHN	1/2"	PVC	1#12
SEWER PUMP	19	1	15A	2#12	THHN	1/2"	PVC	1#12
CISTERN PUMP	20	1	15A	2#12	THHN	1/2"	PVC	1#12
SPARE	21							

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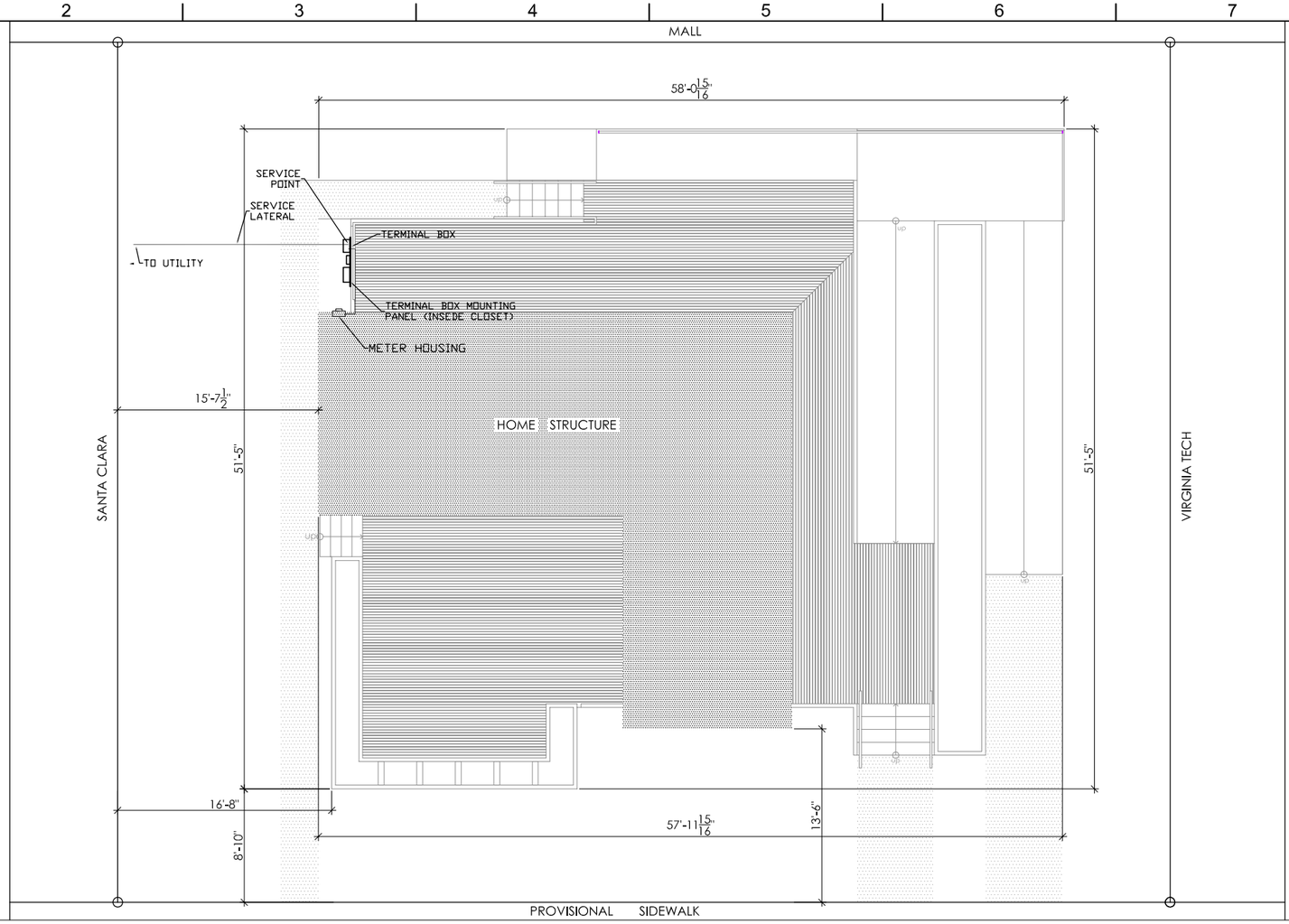
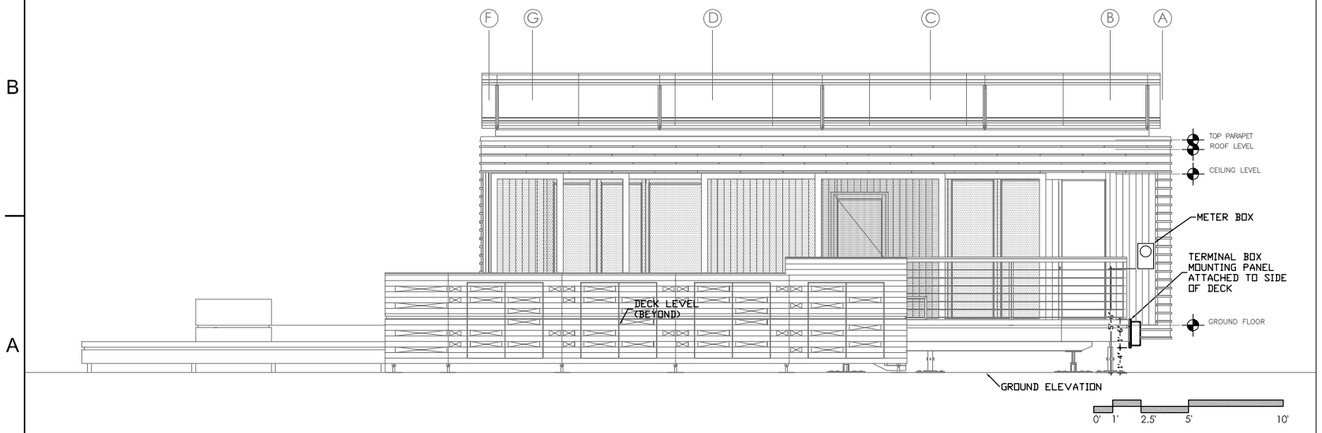
DRAWING TITLE
ELECTRICAL NOTES & PANEL SCHEDULE

DRAWING NO.
E-001

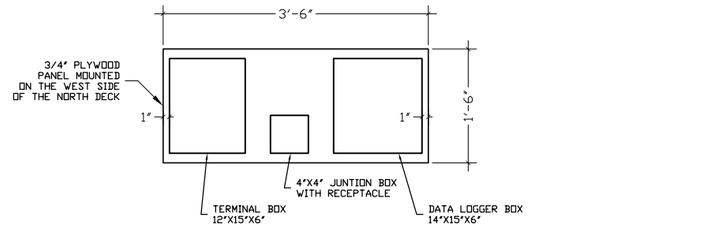
ISSUE FOR: FINAL DESIGN



C1 Electrical Site Plan — scale: 3/32" = 1' - 0"



A1 North Elevation — scale: 1/8" = 1' - 0"



A6 Mounting Panel Detail — scale: 1/2" = 1' - 0"

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DRAWING TITLE
ELECTRICAL SITE PLAN, ELEVATION & MOUNTING PANEL DETAIL

DRAWING NO.
E-101

ISSUE FOR: FINAL DESIGN

ELECTRICAL LEYEND

	METER BASE & MAIN BREAKER COMBINATION, 2 POLE, 125A, 1Ø, 3W, 120/240V.
PA	NEW DISTRIBUTION PANELBOARD TO BE INSTALLED AS PER ELECTRICAL RISER DIAGRAM AND PANELBOARD SCHEDULE, INSTALLED @ 5'-0" A.F.F. FLUSH MOUNTED.
Inv.	POWER INVERTER LOCATED IN PLENUM.
S a 3w	NEW HEAVY DUTY LIGHTING SWITCH - 15 A - 125/277 VAC - SINGLE POLE OR GANGED TOGETHER TO BE INSTALLED FLUSH WITH WALL IN 4" x 4" x 2-1/8" GALVANIZED BOX AT 54" A.F.F. WITH 2" X 4" RAISER COVER OR AS REQUIRED. SMALL LETTER INDICATES SWITCHING, "3W" MEANS THREE WAY, "4W" MEANS FOUR WAY, "WP" MEANS WEATHER PROOF PLATE.
	NEW DUPLEX CONVENIENCE RECEPTACLE - GROUND TYPE - 20 A - 125V TO BE INSTALLED FLUSH WITH WALL IN 4" X 4" X 2-1/8" GALVANIZED BOX AT 1'-6" A.F.F. WITH 2" X 4" RAISER COVER UNLESS OTHERWISE INDICATED. "WP" MEANS WEATHER PROOF WHILE IN USE (AS PER NEC 2008), "GF" MEANS GROUND FAULT CIRCUIT INTERRUPTER, "IG" MEANS ISOLATED GROUND, "M" MEANS MEDICAL GRADE AND "ST" MEANS SAFETY TYPE.
	NEW QUADRUPLEX CONVENIENCE RECEPTACLE - GROUND TYPE -20 A-125V TO BE INSTALLED FLUSH WITH WALL IN 4" X 4" X 2-1/8" GALVANIZED BOX AT 1'-6" A.F.F. "GF" MEANS GROUND FAULT CIRCUIT INTERRUPTER AND "IG" MEANS ISOLATED GROUND.
	SINGLE POWER OUTLET @ 18" A.F.R., 50 A, 4 W, 250 V., NEMA 14-50 R. FOR LARGE RANGE
	SINGLE POWER OUTLET @ 18" A.F.F., 30 A, 3 W, 250 V. FOR WATER HEATER, SMALL RANGE, AND/OR DRYER PROVIDE W.P. COVER
24v T1 100w	LOW VOLTAGE TRANSFORMER, VOLTAGE AND CAPACITY AS INDICATED.
J wp	NEW GALVANIZED JUNCTION BOX 4" X 4" X 2-1/8" WITH COVER, "WP" MEANS WEATHER PROOF - CAST ALUMINUM.
a A	NEW OCTAGONAL GALVANIZED BOX 4" X 4" X 2-1/8" TO BE INSTALLED FLUSH WITH CEILING SLAB. CAPITAL LETTER INDICATES FIXTURE TYPE AS PER LIGHTING FIXTURE SCHEDULE, SMALL LETTER INDICATES SWITCHING, COORDINATE EXACT LOCATION WITH ARCHITECT.
a A	SAME AS ABOVE BUT TO BE INSTALLED FLUSH WITH WALL, COORDINATE EXACT LOCATION WITH ARCHITECT. "ph" INDICATES CONTROLLED BY PHOTOCELL.
a A	NEW WET LOCATION LIGHTING FIXTURE LOCATED IN DECK. FIXTURE AS INDICATED IN LIGHTING FIXTURE SCHEDURE.
a B	FLOURECENT FIXTURE LOCATED FLUSH WITH CEILING, CONNECTED THRU A 4"X4" JUNTION BOX. COORDINATE EXACT LOCATION WITH ARCHITECT.
a C	ARCHITECTURAL LIGHTS, EMBEDDED IN WALL. COORDINATE EXACT LOCATION WITH ARCHITECT.
	NEW SIGNAL CONDUIT RUN (2-1/2" PVC, 1 FOR POWER, 1 FOR DATA) FOR INTERCONECTION OF FIRE ALARM AND/OR SMOKE DETECTORS.
	NEW COMMUNICATION CONDUIT RUN (3/4" PVC) FOR INTERCONECTION OF TELEPHONE AND/OR CABLE TV. LEAVE FISH WIRE.
	NEW ELECTRICAL BRANCH FEEDER TO BE INSTALLED IN CEILING SLAB OR WALLS AS PER PANELBOARD SCHEDULE UNLESS OTHERWISE INDICATED. NUMBER OF DASHES INDICATES NUMBER OF CONDUCTORS INSIDE CONDUIT. IF NO DASHERS ARE PRESENT THE FEEDER CONTAINS THREE CONDUCTORS.
	NEW ELECTRICAL BRANCH FEEDER TO BE INSTALLED IN FLOOR SLAB OR WALLS AS PER PANELBOARD SCHEDULE UNLESS OTHERWISE INDICATED. NUMBER OF DASHES INDICATES NUMBER OF CONDUCTORS INSIDE CONDUIT. IF NO DASHERS ARE PRESENT THE FEEDER CONTAINS THREE CONDUCTORS.
PA–1	NEW HOMERUN TO PANELBOARD OF ELECTRICAL BRANCH FEEDER TO BE INSTALLED AS PER PANELBOARD SCHEDULE UNLESS OTHERWISE INDICATED. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS INSIDE.
x	EXHAUST FAN, 120V ACTIVATED BY ROOM'S LIGHT SWITCH.
X	SAFETY SWITCH AS PER SAFETY SWITCH SCHEDULE. NEMA 3R ENCLOSURE.
A/C	NEW AIR CONDITIONING UNIT TO BE INSTALLED AT ROOF CHECK WITH OWNER FOR SPECIFICATIONS
ENCL.	NEW ENCLOSURE, WP INDICATES WEATHERPROOF, SIZE AS INDICATED IN DRAWINGS
SD	SMOKE DETECTOR TO BE INSTALLED 7' A.F.F., 120 VAC EQUAL OR SIMILAR TO APPROVED FIREX CAT. NO. 4105. NOTE: ALL SMOKE DETECTORS MUST BE INTERCONECTAD AND OPERATE IN SUCH A WAY THAT IN THE EVENT THAT ONE SMOKE DETECTOR IS ACTIVATED, ALL ARE ACTIVATED. ALL SMOKE DETECTOS MUST HAVE A BATTERY BACKUP.
ø	DENOTES DIAMETER PIPE
A.F.F.	DENOTES ABOVE FINISH FLOOR LEVEL
2W(X)	DENOTES TWO WAY: FOR LIGTHING OUTLET "X"
3W(X)	DENOTES THREE WAY: FOR LIGTHING OUTLET "X"
W.P.	DENOTES WEATHERPROOF COVER OR PROTECTION
W	DENOTES CLOTHERS WASHER
D	DENOTES CLOTHES DRYER
WH	DENOTES WATER HEATER

LIGHTING FIXTURE SCHEDULE

ID	DESCRIPTION			LAMPS OR TUBES			REMARKS
	TYPE	MFR.	CAT. NO.	NUMBER	WATTS	TYPE	
A	FLUOR/CEILING	-	-	1	14W	FLUORESCENT	CEILING MOUNTED
B	FLUOR/CEILING	-	-	1	14W	FLUORESCENT	CEILING MOUNTED
C	FLUOR/CEILING	-	-	1	14W	FLUORESCENT	CEILING MOUNTED
D	FLUOR/RECESSED	LUCERI	LUCERI 15 RECESSED CEILING	1	13W	FLUORESCENT	LAMP: G24q-1/T4 RECESSED
E	LED/RECESSED	DELTALIGHT	SWING S1 WW 203 23 02	1	1W/3300K	LED	REQ. 305mA POWER SUPPLY CURRENT CONTROLLED
F	FLUOR/WALL	TALO	TALO 21 MINI WALL FLU	1	18W	FLUORECENT	LAMP: G24q-2/T4 WALL
G	LED/CEILING	SIRIUS	SIRIUS POLYCARBONATE LED 350mA	1	1W/3300K	LED	REQ. 350mA POWER SUPPLY
H	STRIP	STUDIO ASIA	STRIP LED IP67	-	3.6W/m	LED	-
J	HALON/FLOOR	DELTALIGHT	GENIE 90 ROP 213 15 21	1	20W	HALON	LAMP: QR-CBC51 WET LOCATION FIXTURE
L	LED/WALL	DELTALIGHT	RELAXATION 334 X 339 12 134	1	3.5W	LED	REQ. 24V POWER SUPPLY

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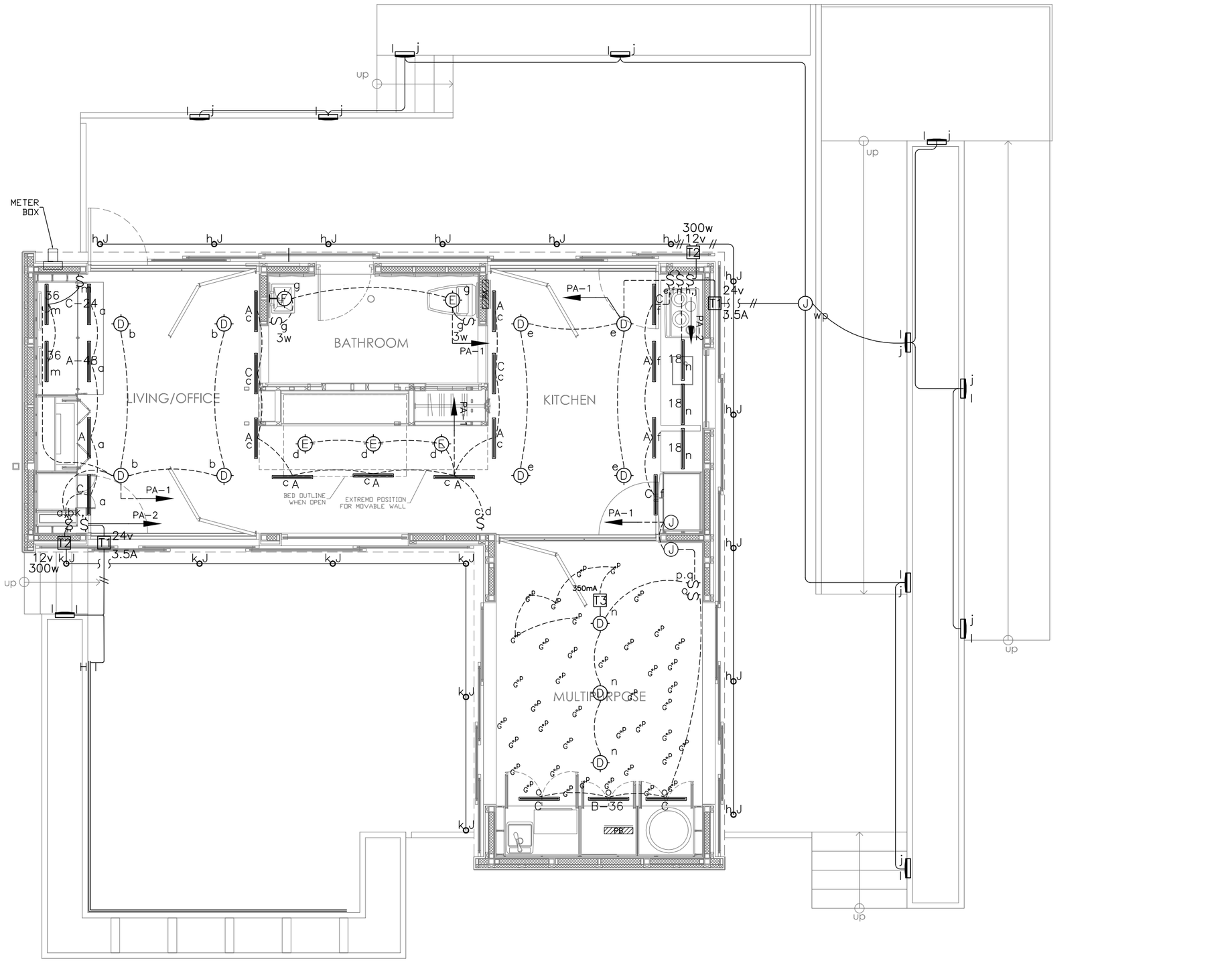
DRAWING TITLE
ELECTRICAL LEGEND & LIGHTING FIXTURE

DRAWING NO.
E-102

ISSUE FOR: FINAL DESIGN

A1 | Electrical Leyend & Lighting Fixture Schedule | Scale: not to scale



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A1 Electrical Lighting Plan

Scale: 3/16" = 1'-0"

0' 1' 3' 6'

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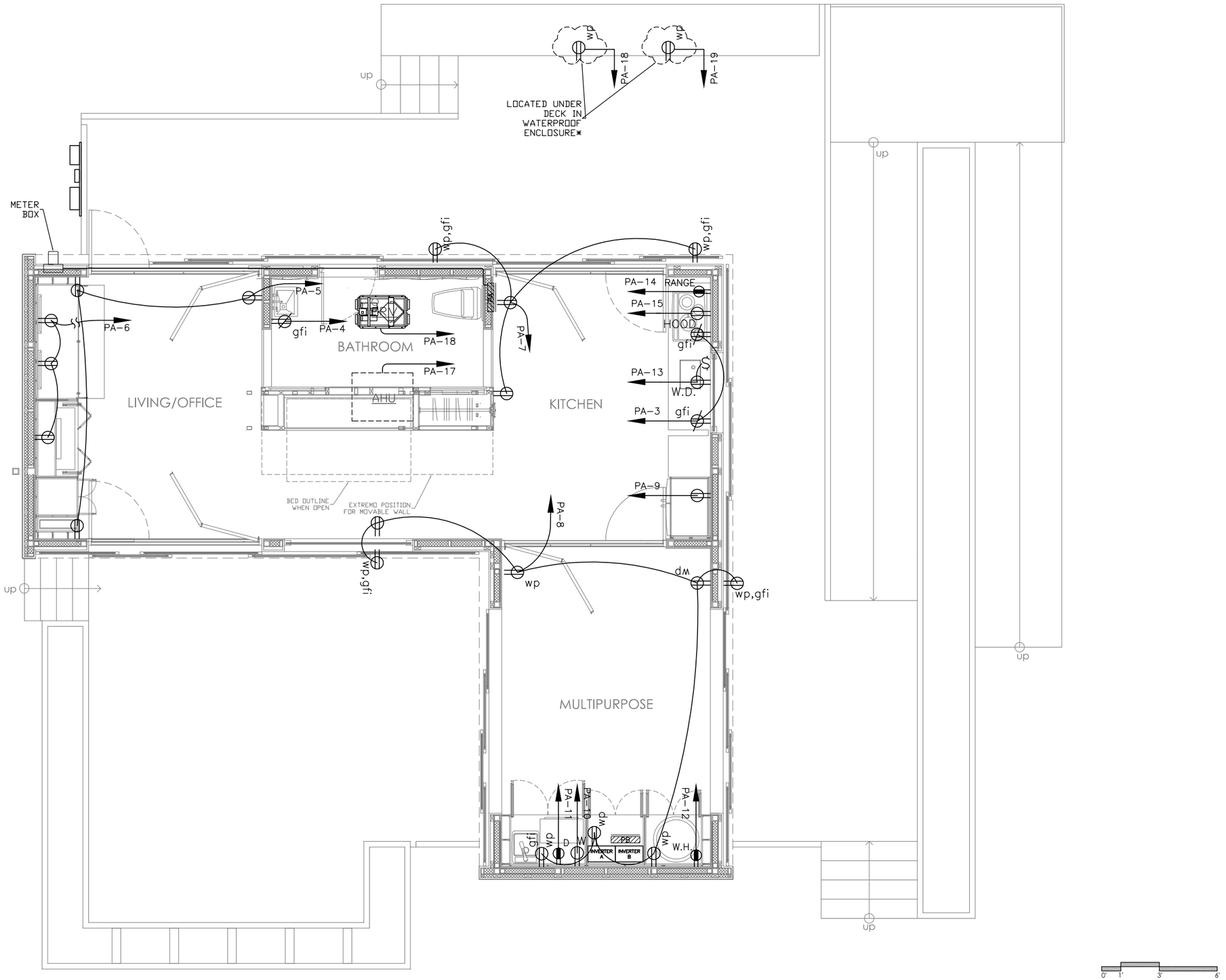
DRAWING TITLE

ELECTRICAL LIGHTING PLAN

DRAWING NO.

E-103

ISSUE FOR: FINAL DESIGN



A1 | Electrical Distribution Plan

Scale: 3/16" = 1'-0"

0' 1' 3' 6'

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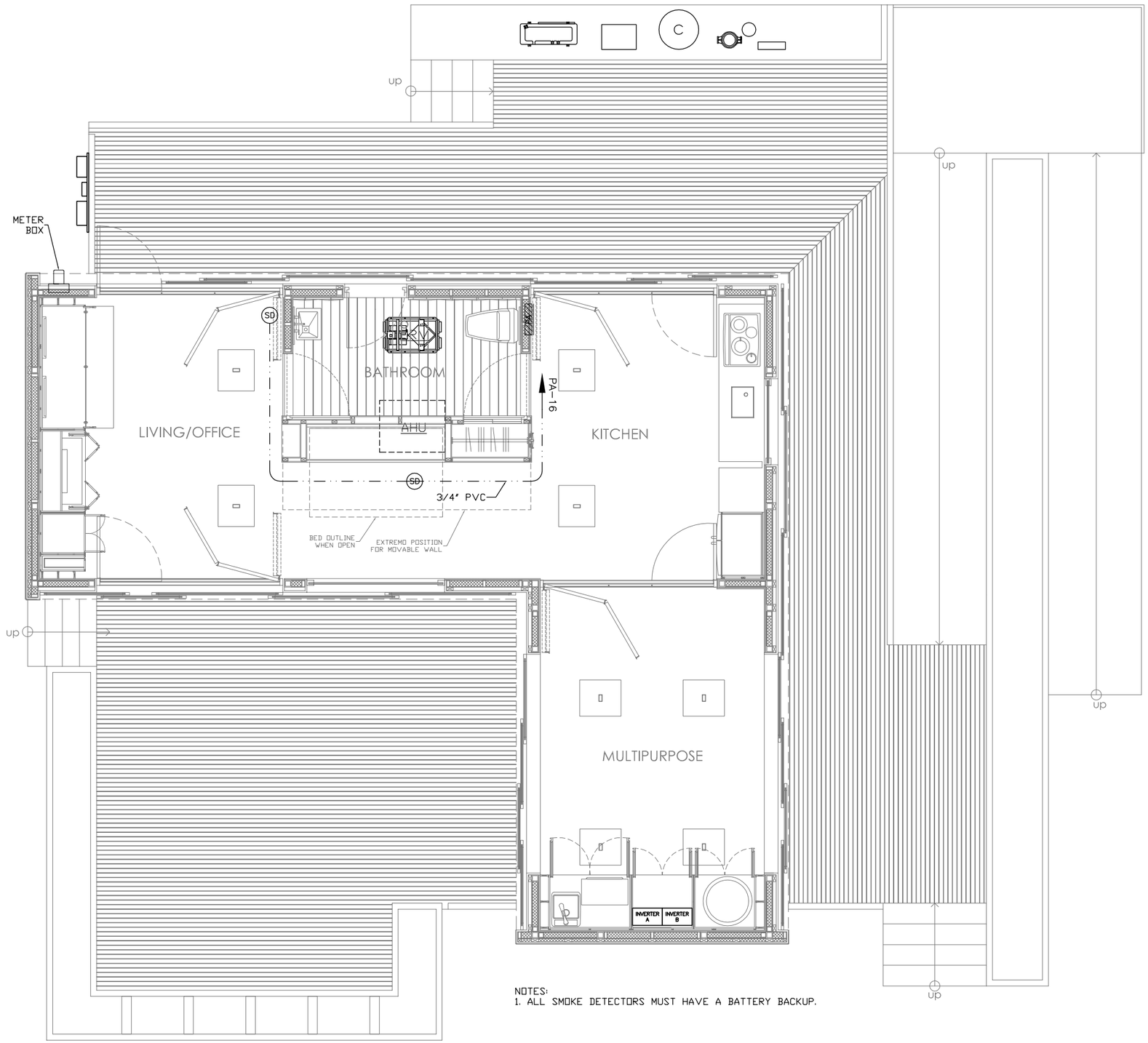
DRAWING TITLE

ELECTRICAL DISTRIBUTION PLAN

DRAWING NO.

E-104

ISSUE FOR: FINAL DESIGN



NOTES:
1. ALL SMOKE DETECTORS MUST HAVE A BATTERY BACKUP.

0' 1' 3' 6'

A1 Fire Alarm Distribution Plan

Scale: 3/16" = 1'-0"

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DRAWING TITLE
FIRE ALARM
DISTRIBUTION PLAN

DRAWING NO.
E-105

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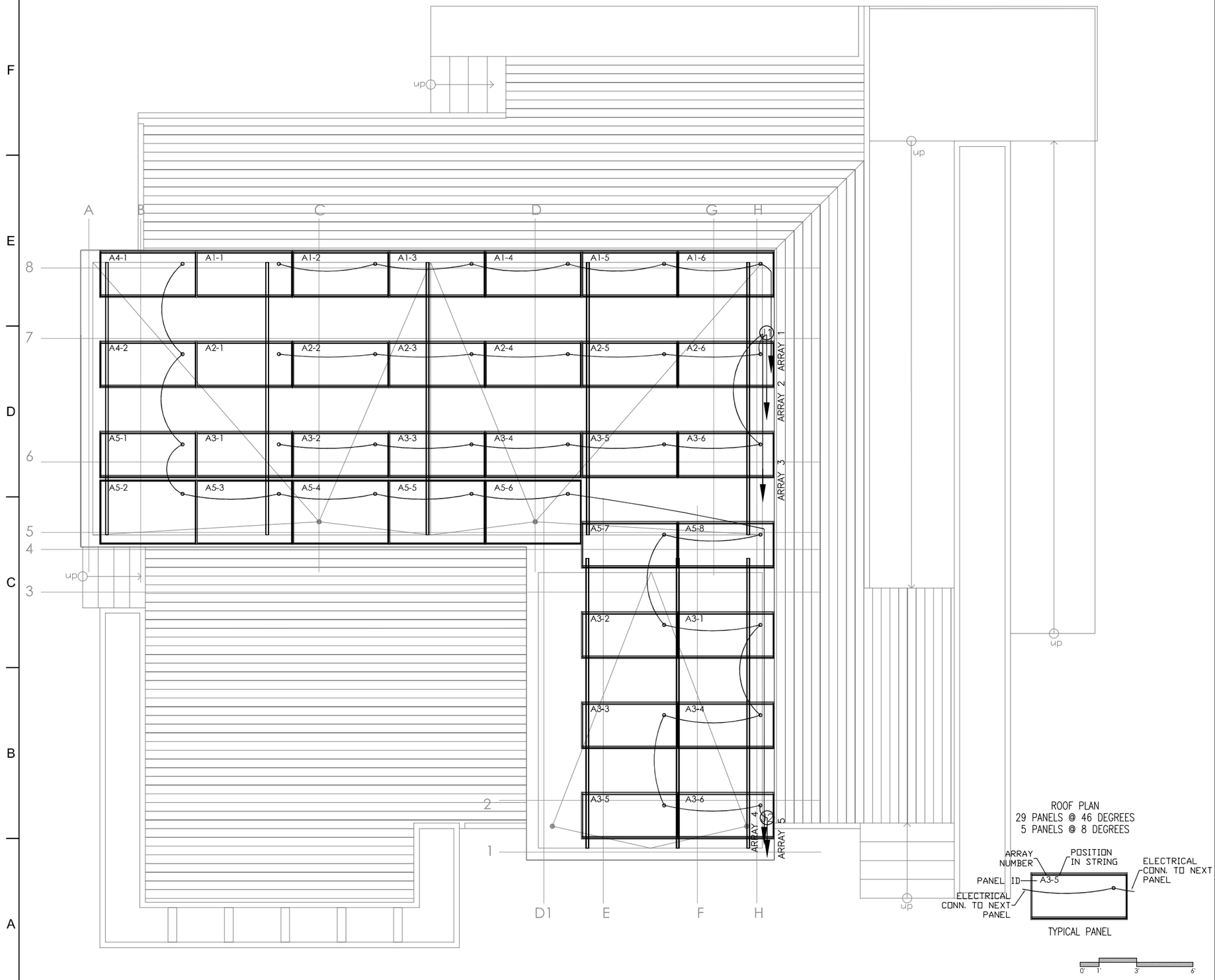

LEGEND:

- DIRECTION OF SLOPE
- DRAIN
- SOLAR PANEL

ROOF PLAN
29 PANELS @ 46 DEGREES
5 PANELS @ 8 DEGREES

TYPICAL PANEL

0' 1' 3' 6'

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DRAWING TITLE

ROOF POWER DISTRIBUTION PLAN

DRAWING NO.

E-106

ISSUE FOR: FINAL DESIGN

A1 Roof Power Distribution Plan — Scale: 3/16" = 1'-0" — A8 Notes

SOLAR MODULE SPECS:
SUNPOWER SPR-305-WHT
P_M = 305W $_{STC}$
V_{OC} = 64.2V $_{DC}$
V_{PM} = 54.7V $_{DC}$
I_{SC} = 5.96A $_{AC}$
I_{PM} = 5.58A
SERIES FUSE = 15A

INVERTER SPECS:

MAKE = SMA
MODEL= SB 6000 US (240V)

OUTPUT POTENTIAL = 264V
OUTPUT FREQUENCY= 60Hz
PEAK EFFICIENCY = 97.0%

Solar Panel Short Circuit Calc
Isc = 5.96x 1.25x 1.25= 9.31A
Use 15 Amp Fuse

Voltage Drop = I x R x 2L
VD = 5.58A x 1.240Ohm/kft x 2 x 0.080kft = 1.11V

Voltage in String = Vpm x No Panels
Vstr = 54.70V x 6= 328.20V

Percentage oltage Drop
%VD = 1.11V / 328.20V = 0.34%
(WORST CASE SCENARIO - ARRAY 1)

Derating of Conductor
IDR = 40.00A x 0.76x 0.80= 24.32A >9.31A OK

SOLAR PANEL ARRAY 1
(6) SUNPOWER SPR-305-WHT, 305W MODULES
WIRED IN SINGLE SERIES STRING
A1-1 A1-2 A1-3 A1-4 A1-5 A1-6

SOLAR PANEL ARRAY 2
(6) SUNPOWER SPR-305-WHT, 305W MODULES. WIRED IN SINGLE SERIES STRING. SAME AS ABOVE.

SOLAR PANEL ARRAY 3
(6) SUNPOWER SPR-305-WHT, 305W MODULES. WIRED IN SINGLE SERIES STRING. SAME AS ABOVE.

SOLAR PANEL ARRAY 4
(8) SUNPOWER SPR-305-WHT, 305W MODULES. WIRED IN SINGLE SERIES STRING. SAME AS ABOVE.

SOLAR PANEL ARRAY 5
(8) SUNPOWER SPR-305-WHT, 305W MODULES. WIRED IN SINGLE SERIES STRING. SAME AS ABOVE.

WIRE TYPE: USE-2 IN FREE AIR, 10AWG Cu WIRE, POSITIVE, NEGATIVE & GROUND

JB1 — WATERTHIGHT ENCLOSURE UL APROVED TERMINAL BLOCK

JB2 — WATERTHIGHT ENCLOSURE UL APROVED TERMINAL BLOCK

WIRE TYPE: THWN-2 IN 1" EMT CONDUIT. 10AWG Cu WIRE, POSITIVE, NEGATIVE & GROUND

WIRE TYPE: THWN-2 IN 1" EMT CONDUIT. 10AWG Cu WIRE, POSITIVE, NEGATIVE & GROUND

INVERTER A
SUNNY BOY SB 6000 US

INVERTER B
SUNNY BOY SB 6000 US

3-#8 THHW

GROUND #6

3-#2 AWG THWN-2 Cu WIRE, L1, L2 & NEUTRAL IN PVC SCH 40, #6 GROUND

FUSED AC DISCONNECT LOCKABLE, VISIBLE 2-POLE 240V, 100A$_{AC}$ SQUARE D D324NRB (USE 70A TR FUSES) (SUPPLY SIDE CONNEECTION)

UTILITY GRID 120/240V$_{AC}$ SINGLE-PHASE

3-#2 AWG THWN-2 Cu WIRE, L1, L2 & NEUTRAL IN PVC SCH 40

GROUND #6

100A AC LOAD CENTER WITH 70 A MAIN BREAKER

(2) 35A BREAKERS, 2-POLE, BACKFEED FOR SB6000

MAIN AC SERVICE PANEL (100A., 120/240V SINGLE-PHASE, WITH 100 A MAIN BREAKER FOR SERVICE DISCONNECT)

#6 DC SYSTEM GROUNDING CONDUCTORS WITH CRIMPED CONNECTIONS RUN TO AC SYSTEM GROUNDING ELECTRODE OR CRIMPED TO AC SYSTEM GROUNDING CONDUCTOR IF NOT POSSIBLE

PHOTOVOLTAIC INSTALLATION ELECTRICAL DIAGRAM
RATED 10,370 WATTS UNDER STANDARD TEST CONDITIONS (STC)

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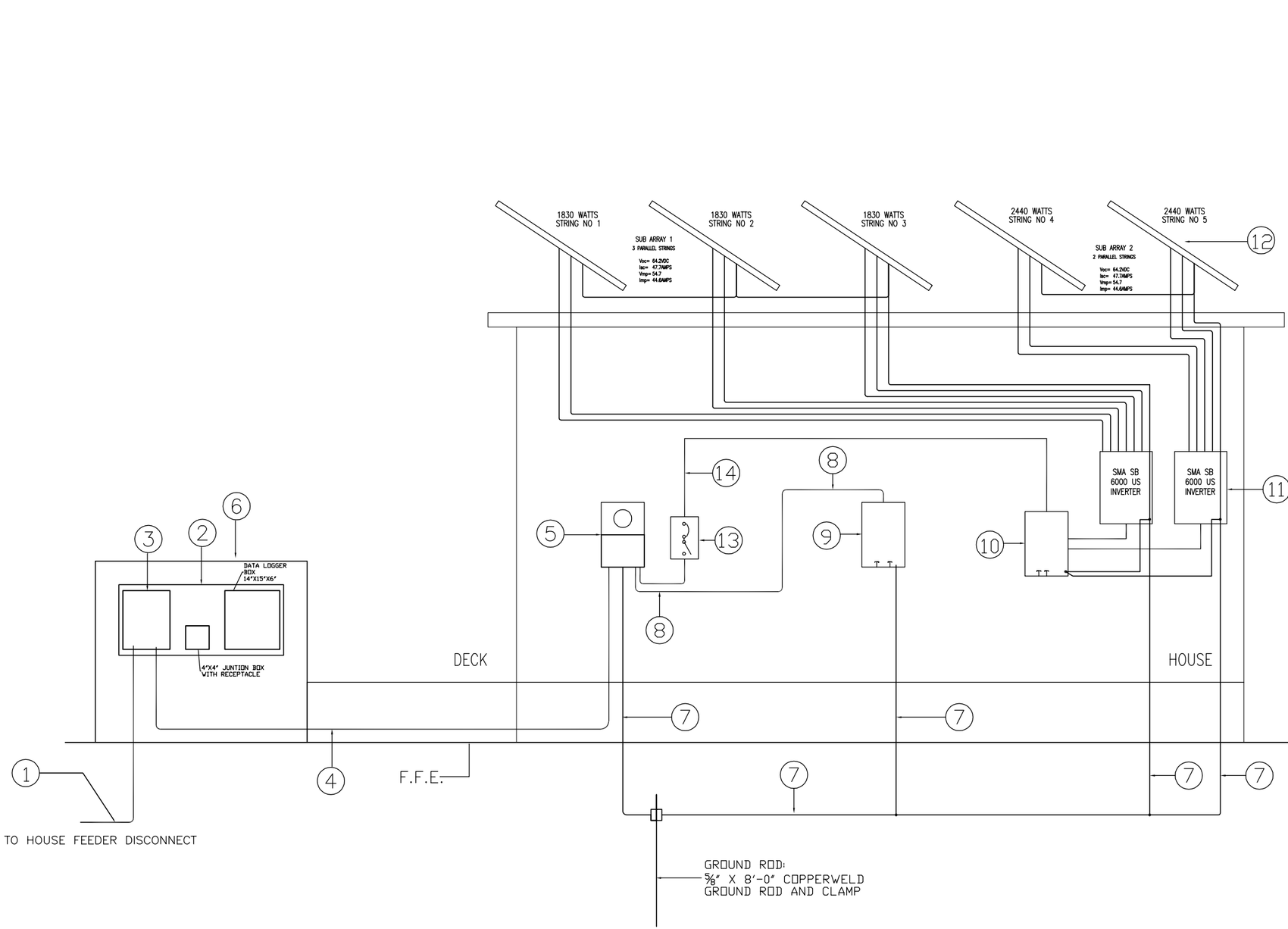
DRAWING TITLE
ELECTRICAL THREE-LINE DIAGRAM

DRAWING NO.
E-601

ISSUE FOR: FINAL DESIGN

A1 Electrical Three-Line Diagram Scale: not to scale



PHOTOVOLTAIC INSTALLATION ELECTRICAL DIAGRAM
RATED 10,370 WATTS UNDER STANDARD TEST CONDITIONS (STC)

ELECTRICAL RISER LEGEND:

1. LATERAL SERVICE ENTRANCE FEEDER 3-#1/0 COPPER XLP 600 VOLTS IN 2" PVC SCH40 CONDUIT FROM HOUSE FEEDER DISCONNECT.
2. TERMINAL BOX MOUNTING PANEL: 42"X18"X3/4" PLYWOOD
3. TERMINAL BOX 12"X15"X6" ENCLOSURE (ORGANIZER SUPPLIED)
4. 3 WIRES #2 THWN-2, 1 WIRE #6 TW IN 2" PVC, SCD 40
5. NEW RAINTIGHT METER BASE 1PH-3W-120/240V-100 AMP. LOCATED AT 66" A.F.F. IN HOUSE WALL.
6. TERMINAL BOX MOUNTING PANEL.
7. 1 WIRE #6 TW IN ¾" RIGID COUNDUIT. CONDUITS FOR GROUNDING ELECTRODE CONDUCTORS SHALL BE ELECTRICALLY CONTINUOUS FROM THE POINT OF ATTACHMENT TO CABINETS OR EQUIPMENT TO THE GROUNDING ELECTRODE AND SHALL BE SECURELY FASTENED TO THE GROUND CLAMP.
8. 3 WIRES #2 THWN-2, 1 WIRE #6 TW IN 2" PVC, SCD 40
9. 100A 120/240 V LOAD CENTER (OPA) SINGLE PHASE. LOCATED IN KITCHEN AREA. PROVIDED WITH 100A, 2 POLE MAIN BREAKER FOR SERVICE DISCONNECT.
10. 125A 120/240 V LOAD CENTER (OPB) SINGLE PHASE. LOCATED IN CLOSET IN MULTIUSE AREA. PROVIDED WITH 70A., 2 POLE MAIN BREAKER.
11. POWER INVERTERS LOCATED IN CLOSET IN MULTIUSE AREA
12. SOLAR PANELS ON ROOF
13. FUSED DISCONNECT AS INDICATED IN PV SYSTEM DIAGRAM.
14. 3 WIRES #1 THWN-2, 1 WIRE #6 TW IN 2" PVC, SCD 40

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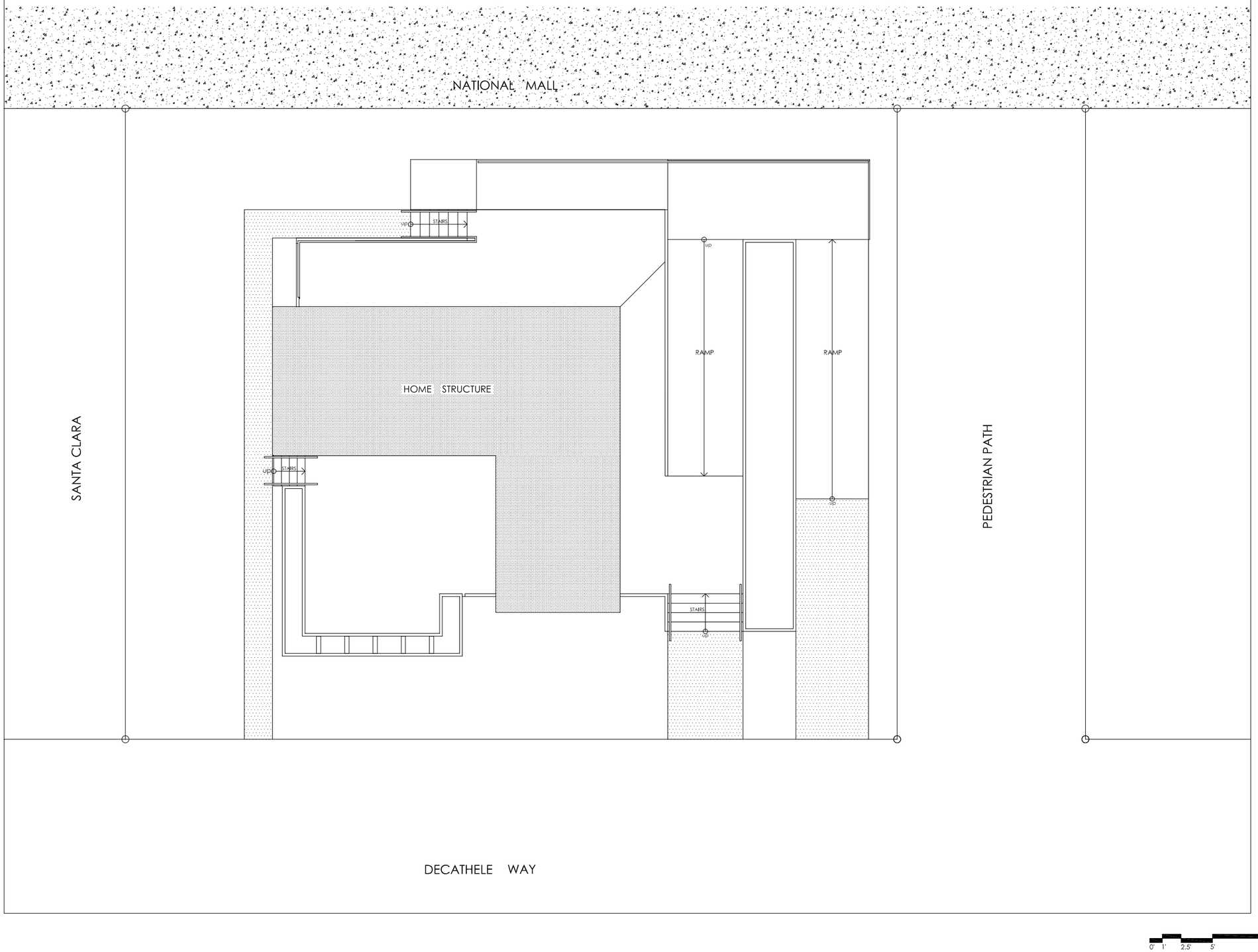
DRAWING TITLE
ELECTRICAL
ONE-LINE DIAGRAM

DRAWING NO.
E-602

ISSUE FOR: FINAL DESIGN

A1 Electrical Three-Line Diagram — Scale: not to scale

A1 Legend



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DRAWING TITLE

SITE ACCESSIBILITY

DRAWING NO.

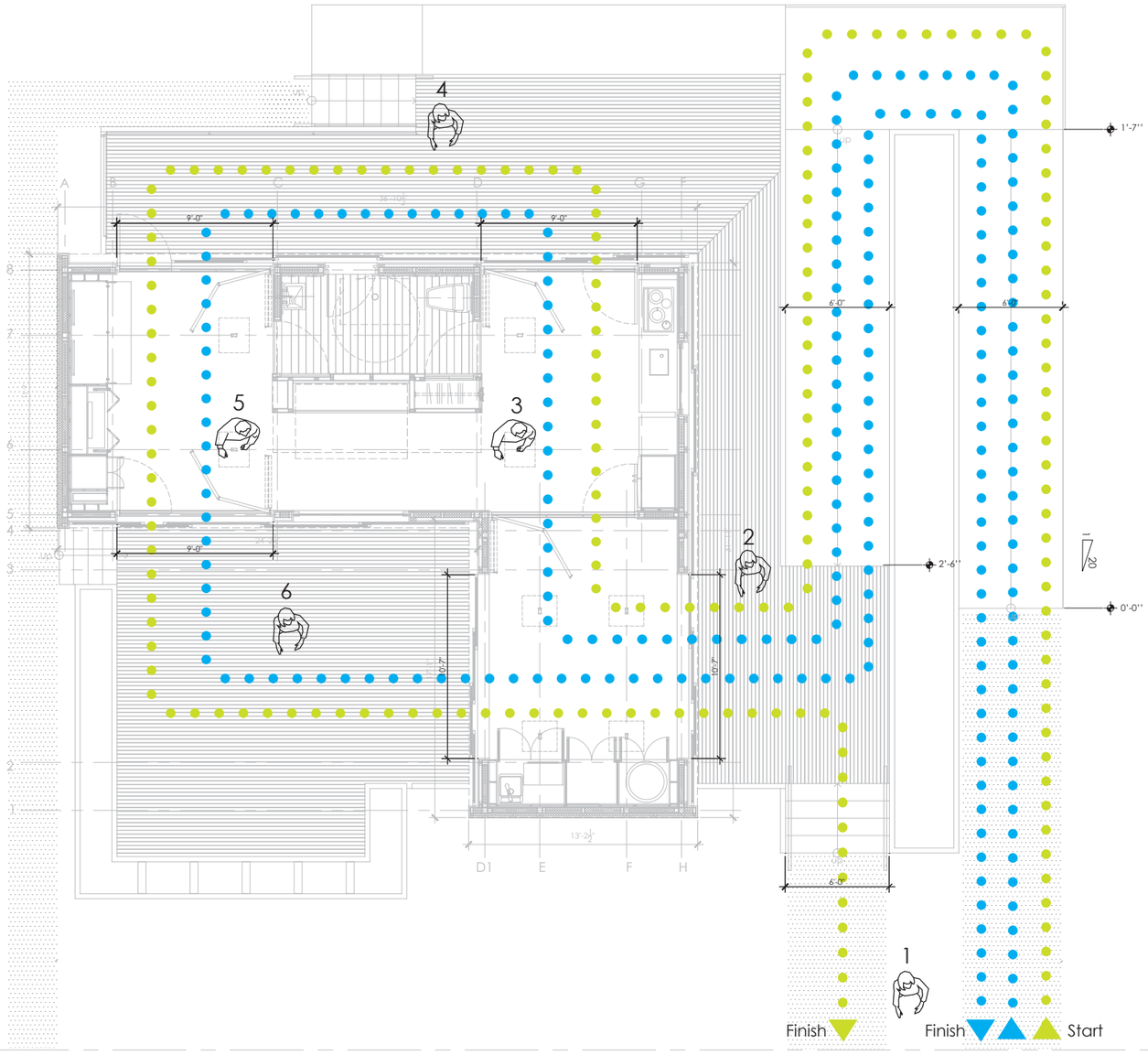
X-101

ISSUE FOR: FINAL DESIGN

A1 Plumbing Notes

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

National Mall



SCU

Pedestrian Walk

Tour Guides

1 Entrance Control and Direction
2 House Entrance Control and Direction
3 Kitchen/Bathroom Tour
4 Outside Tour
5 Living/Office and Bedroom Tour
6 Deck/Multipurpose Tour

Tour Route
Accesible Route

Decathlete Way

A1 Public Exhibit Route Diagram

scale: not to scale

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DRAWING TITLE
PUBLIC EXHIBIT
ROUTE DIAGRAM

DRAWING NO.
X-601

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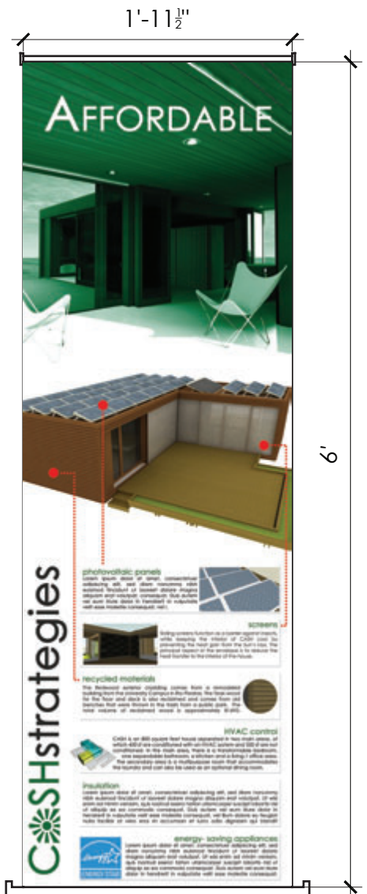

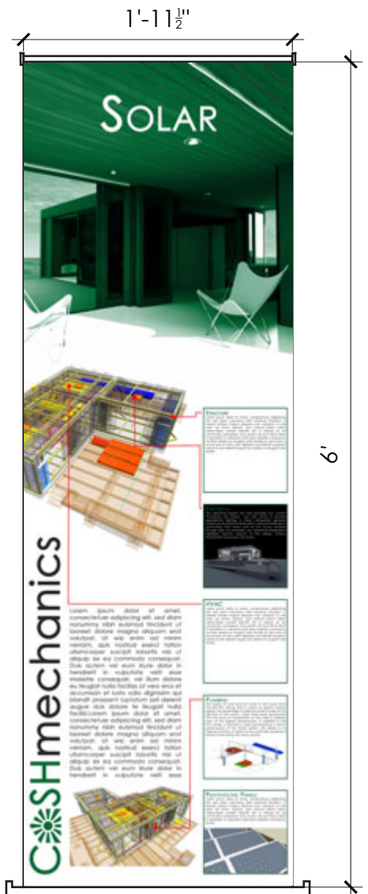

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DRAWING TITLE
PUBLIC EXHIBIT ELEVATIONS

DRAWING NO.
X-602

ISSUE FOR: FINAL DESIGN

A1 Public Exhibit Elevations

scale: not to scale

A1 | Public Exhibit Elevations

scale: not to scale

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File Name:

Plot Scale: 1:1 Date: JUNE 2, 2009

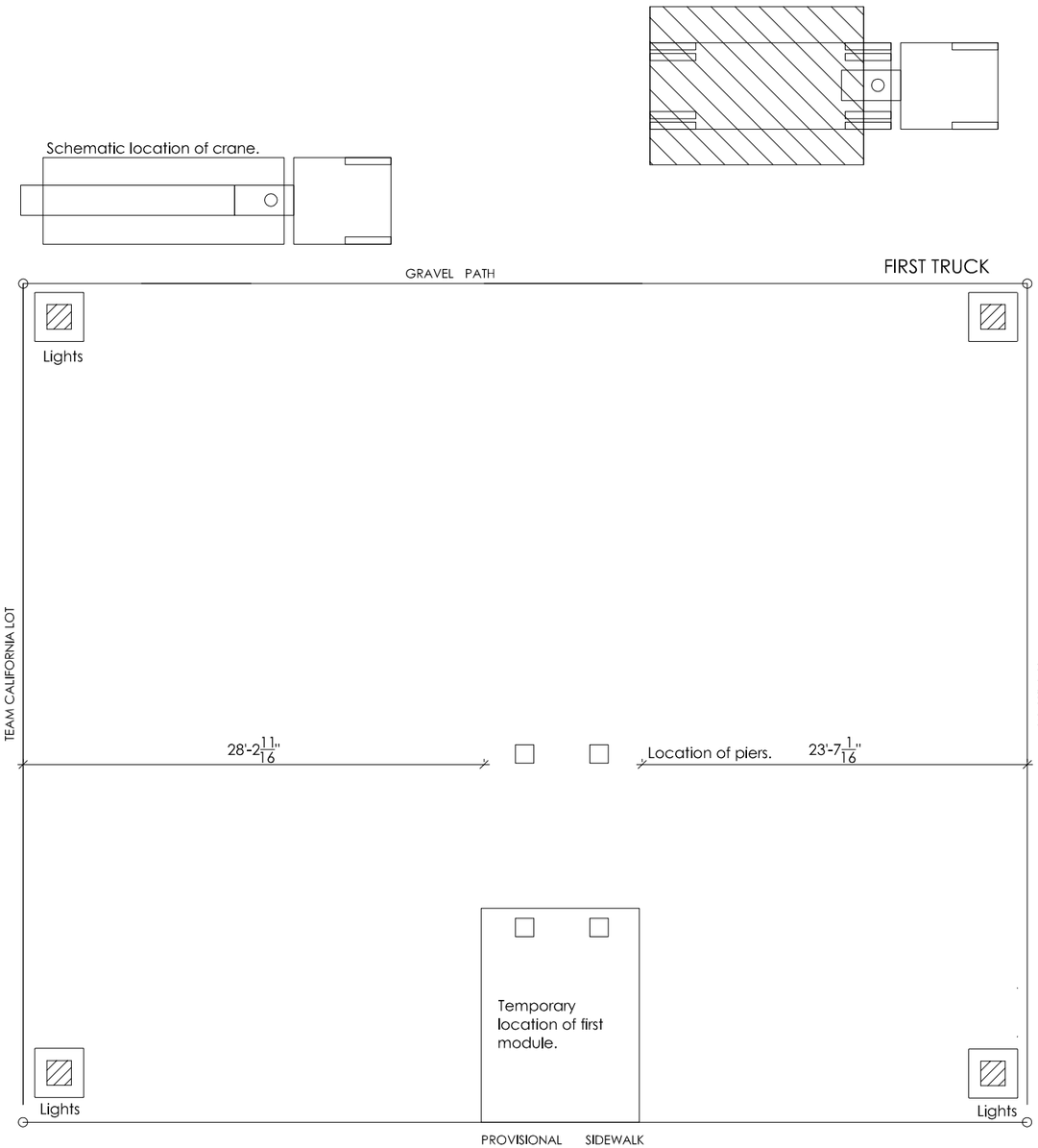
DRAWING TITLE

PUBLIC EXHIBIT ELEVATIONS

DRAWING NO.

X-603

ISSUE FOR: FINAL DESIGN



1. Stage One

1. Set up lights on site.
2. Place generator on site.
3. Mark the leveling piers locations for the house modules.
4. Prepare crane for first module set up.
5. The first module arrives.
6. Place required leveling piers for first module.
7. Hook module to crane for mobilization.
8. Displace first module 10'-0" south of marked location, at site's border line.
9. Support first module on temporary location with hydraulic jacks.
10. Prepare first module for coupling with the second module.
11. Truck leaves site.

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File Name:
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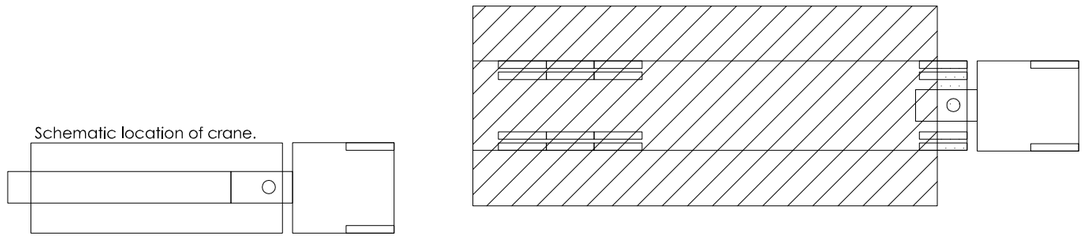
DRAWING TITLE
SITE OPERATION PLAN - STAGE ONE

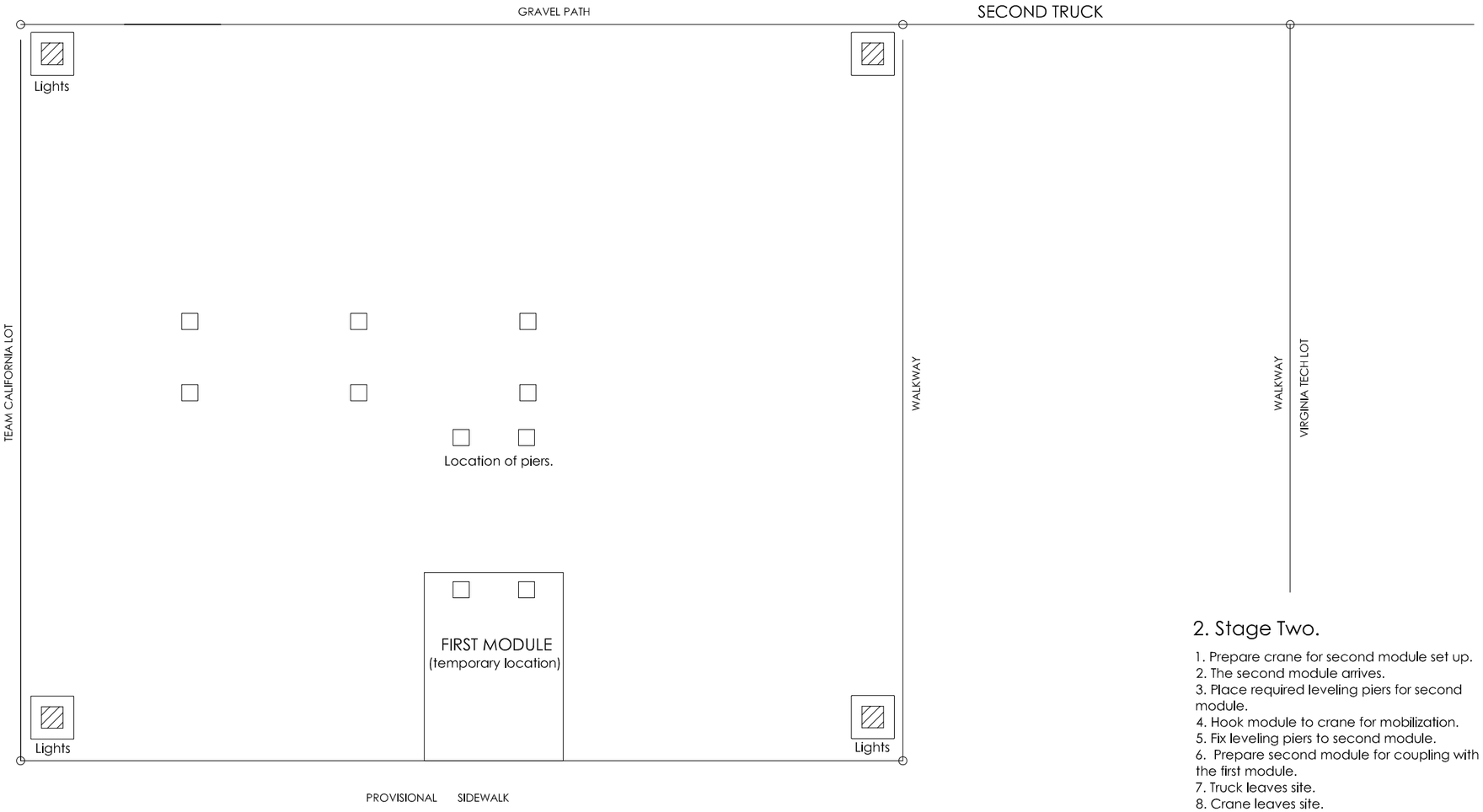
DRAWING NO.
O-101

ISSUE FOR: FINAL DESIGN

A1 Site Operation Plan - Stage One

scale: not to scale





2. Stage Two.

1. Prepare crane for second module set up.
2. The second module arrives.
3. Place required leveling piers for second module.
4. Hook module to crane for mobilization.
5. Fix leveling piers to second module.
6. Prepare second module for coupling with the first module.
7. Truck leaves site.
8. Crane leaves site.

Note: this drawing represent the walkway with a hypothetical measurement (27'-0").

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DRAWING TITLE

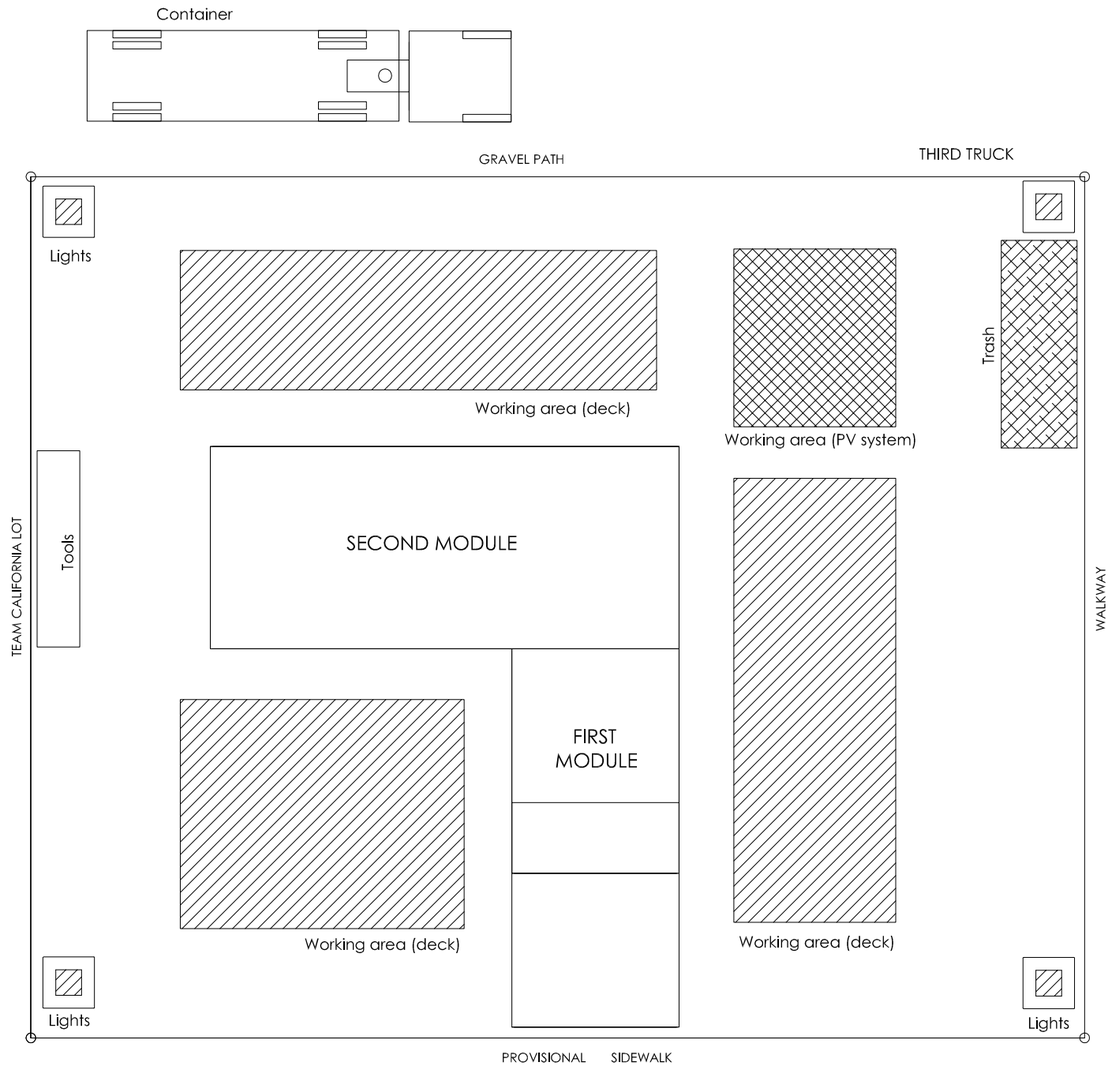
SITE OPERATION PLAN - STAGE TWO

DRAWING NO.

O-102

ISSUE FOR: FINAL DESIGN

A1 Site Operation Plan - Stage Two scale: not to scale



3. Stage Three

1.Carefuly move the first module for coupling with the second module.
2. Fix leveling piers to first module.
3. The container arrives.
4. The container's content is emptied and organized on site's designated working areas.
5. Distribute materials from container as follows:
Onsite: deck components, planters and PV panels.
Inside Modules: appliances and furniture.
6. Containers leaves site.

A1 Site Operation Plan - Stage Three

scale: not to scale

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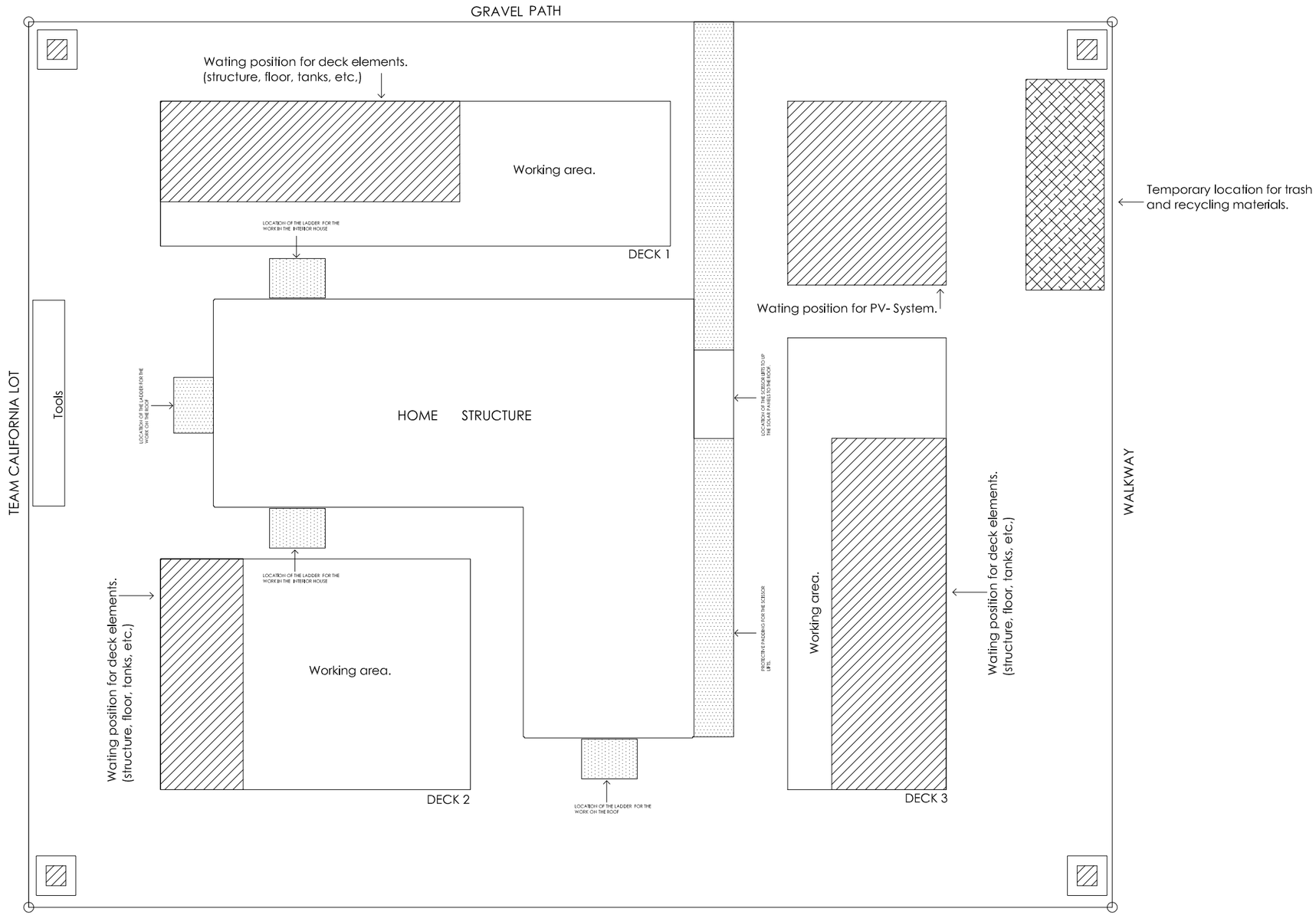
DRAWING TITLE

SITE OPERATION PLAN - STAGE THREE

DRAWING NO.

O-103

ISSUE FOR: FINAL DESIGN



Note: This drawing indicates the zones were the components of each deck will be assembled.
The ladders will be move around the house according to the order of the deck work.

4. Stage Four

1. The elements for the deck will be layout on the site ground.
2. Deck material will be placed on site according to designated areas.
2. Place the ladders to access the modules' interiors.
3. Place protective padding for scissor lift entrance to site and along its working area around the house.
4.Place scissor lift on west side to access the roof and lift PV panels to roof.
5. Remove the scissor lift after work is finished.

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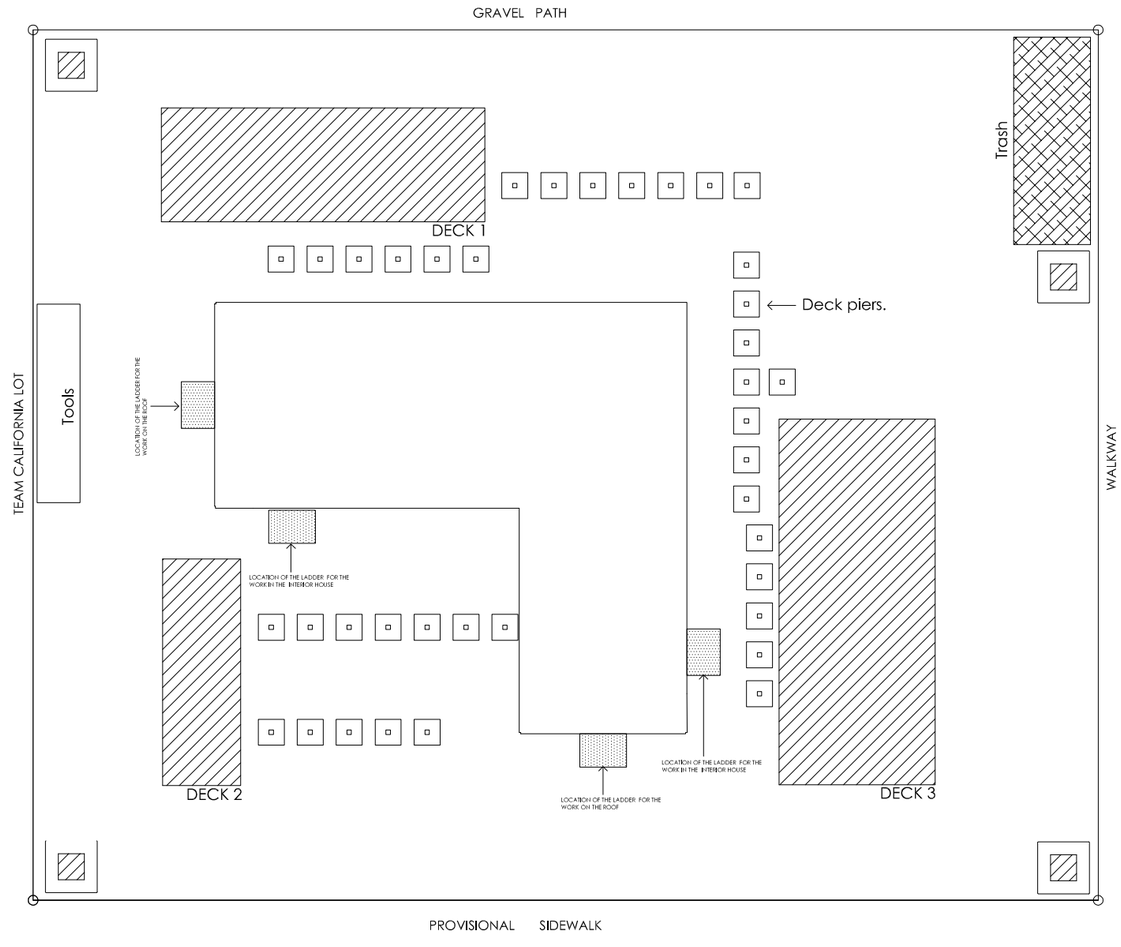
DRAWING TITLE
SITE OPERATION
PLAN - STAGE FOUR

DRAWING NO.
O-104

ISSUE FOR: FINAL DESIGN

A1 Site Operation Plan - Stage Four scale: not to scale



5. Stage Five

1. Locate the leveling piers for the deck.
2. Level the piers.
3 Assemble the decks in the order indicated by their names.

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DRAWING TITLE

SITE OPERATION PLAN - STAGE FIVE

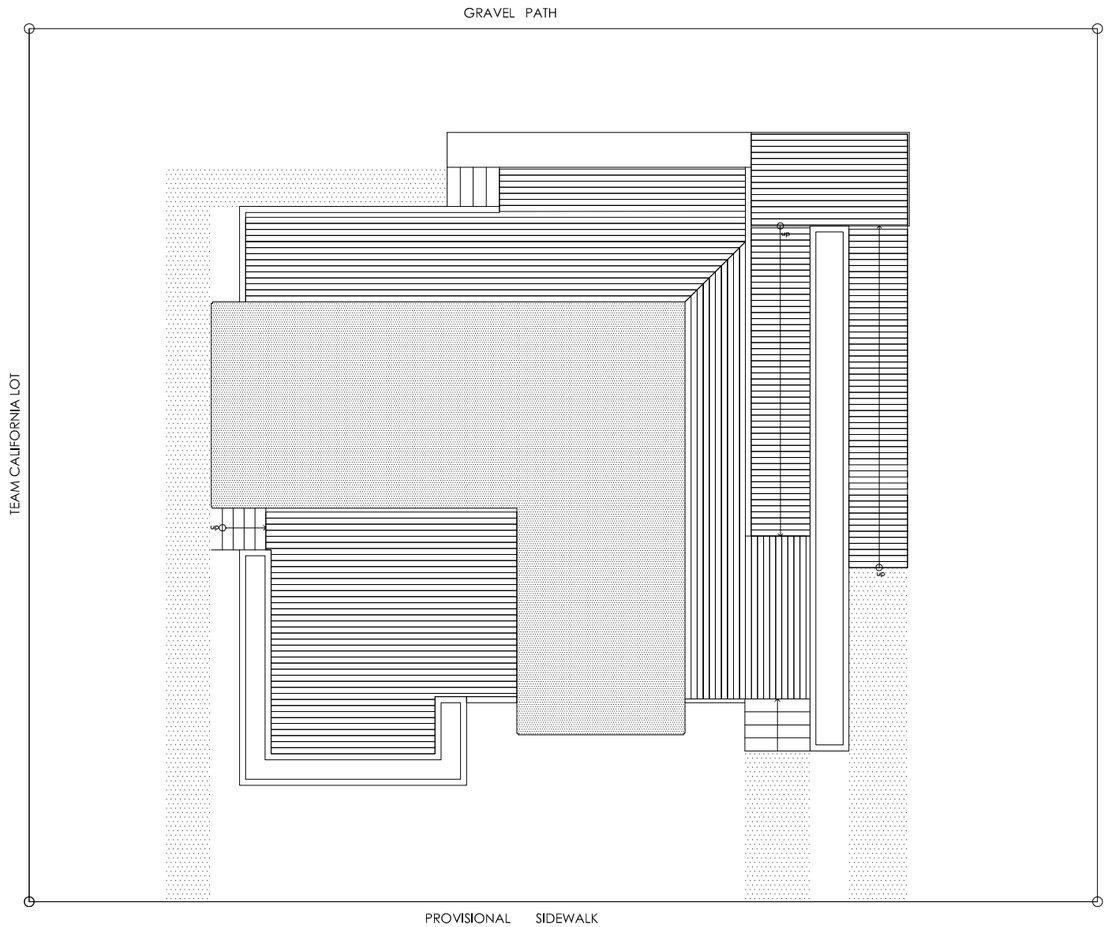
DRAWING NO.

O-105

ISSUE FOR: FINAL DESIGN

A1 Site Operation Plan - Stage Five

scale: not to scale



6. Stage Six

1. Prepare planters for landscaping.
2. Clear the deck.
3. Prepare exhibition materials and install.
4. Remove the trash from the site.
5. Store away tools and equipments.
6. Disconnect and store away power generator.
7. Perform general inspections.
8. Clean up the house and site.
9. Place pads on walkways to house access.
10. Return unused protective pads.

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DRAWING TITLE

SITE OPERATION PLAN - STAGE SIX

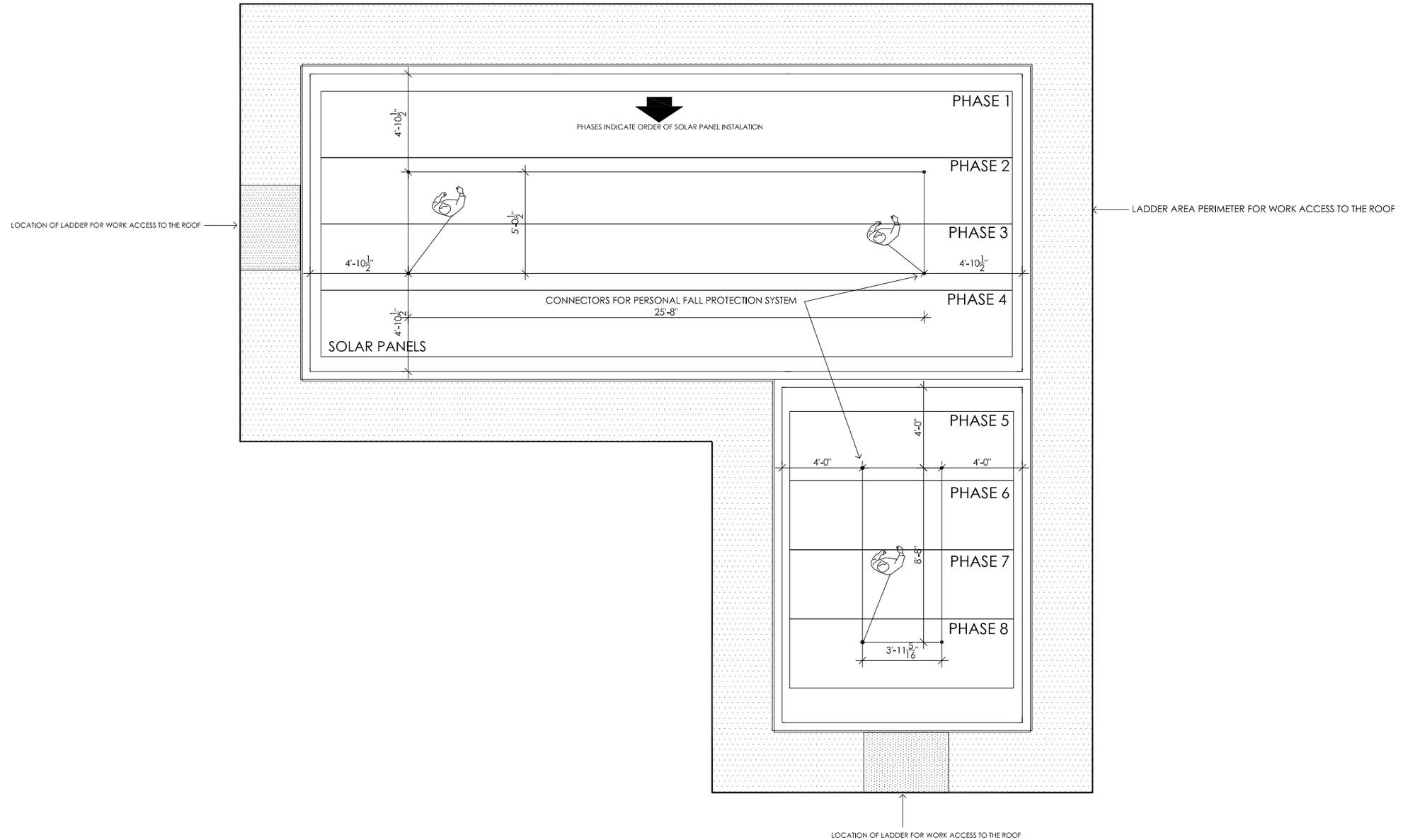
DRAWING NO.

O-106

ISSUE FOR: FINAL DESIGN

A1 Site Operation Plan - Stage Six

scale: not to scale



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DRAWING TITLE

OSHA Plan

DRAWING NO.

O-107

ISSUE FOR: FINAL DESIGN

A1 OSHA Plan

scale: not to scale

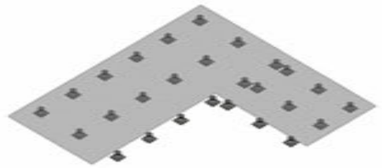
The assembly process is divide in 4 stages:

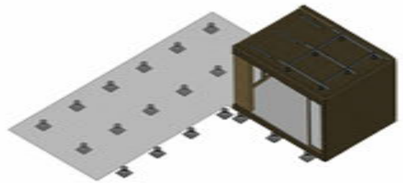
Stage One: House Modules
Stage Two: Roof and Interiors
Stage Three: Deck
Stage Four: Walkthrough

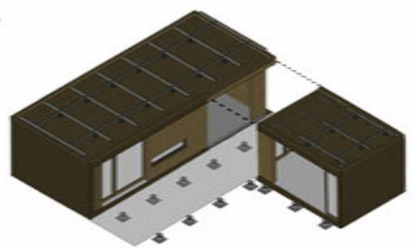
STAGE ONE: House Modules

Actitivies:

- Organize groups.
- Survey site for obstructions.
- Remove shipping protection and set up lights and generator on site.
- Inspect house modules for damage due to travel.
- Mark the leveling piers location for the house modules.
- Prepare crane for the first module.
- The first module arrives.
- Place required leveling piers for first module.
- Hook module to crane for mobilization.
- Displace first module 10'-0" south.
- Support first module on temporary location with hydraulic jacks.
- Prepare first module for coupling with second module.
- Truck leaves the site.
- Prepare the crane for second module set up.
- The second module arrives.
- Place required leveling piers for second module.
- Hook module to crane for mobilization
- Fix leveling piers to second module.
- Prepare second module for coupling with first module.
- Truck leaves the site.
- Crane leaves the site.
- Move the first module for coupling with second module.
- Fix leveling piers to first module.



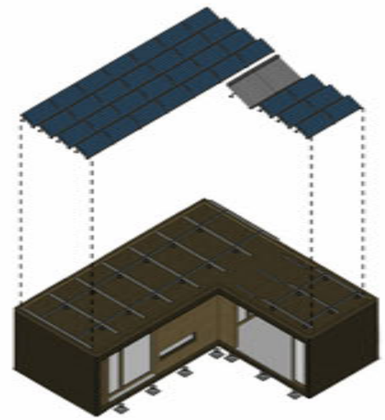


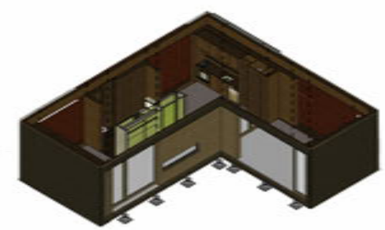


STAGE TWO: Roof and Interior

Actitivies:

- The container arrives.
- The container's content is emptied and organized on site's designated working are`as
- Distribute materials from container as follow:
  Onsite: deck components, planters and PV panels.
  Insite modules: appliances and furniture.
- Containers leaves site.
- Inspect roof membrane for damage due to travel.
- Remove the protections of the materials (third truck) after install.
- Place ladders to access the interior.
- Performing any repair in the interior finishes and roof.
- Place protective padding for scissor lift.
- Inspect structure PV panels.
- Place metal flashing on the roof.
- Repair any damage of the structure PV panels.
- Install PV panels on roof structure.
- Placement of minor mechanical system.
- Appliance installation and furniture.
- Connect PV panels to the electrical system.
- Connection between modules of mechanical. and electrical systems.
- Install evacuated tube.
- Inspect doors and windows for damage during travel.
- Performance any repair to the doors and windows.





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Plot Scale: 1:1 Date: JUNE 2, 2009

DRAWING TITLE
HOUSE ASSEMBLY PROCESS

DRAWING NO.
O-601

ISSUE FOR: FINAL DESIGN

A1 House Assembly Process scale: not to scale

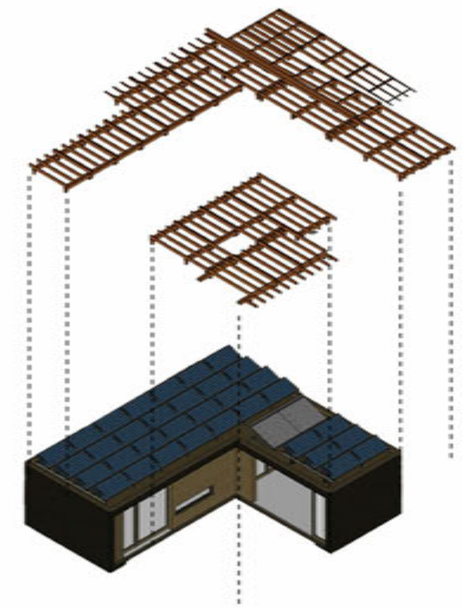
The assembly process is divide in 4 stage:

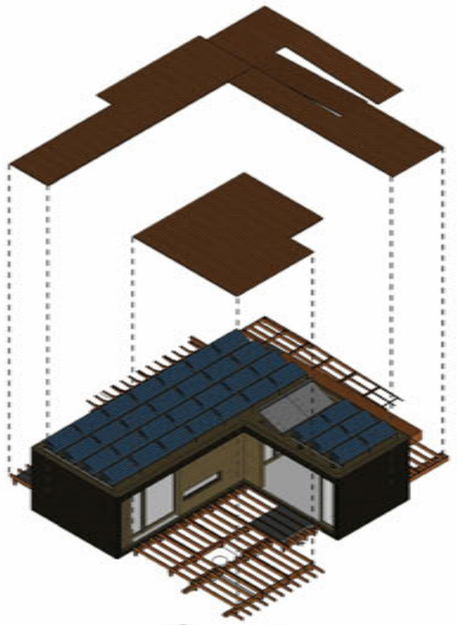
Stage One: Modules
Stage Two: Roof and Interiors
Stage Three: Deck
Stage Four: Walkthrough

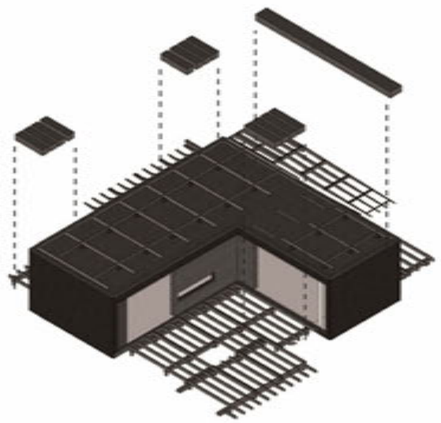
STAGE THREE: Deck

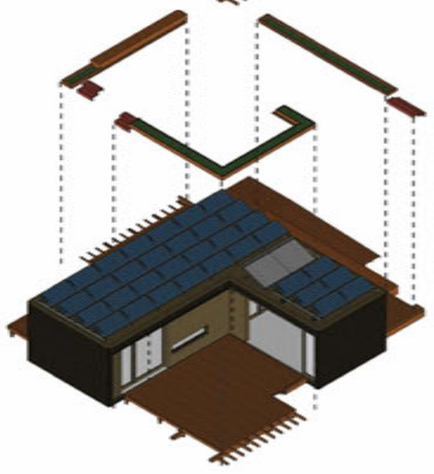
Actitivies:

- Measure and locate leveling piers (deck 1).
- Measure and locate leveling piers (deck 2).
- Measure and locate leveling piers (deck 3).
- Install deck 1 structure.
- Install plumbing and tanks.
- Connect deck 1 structure with the house.
- Install deck 2 structure.
- Install plumbing and tanks.
- Connect deck 2 structure with the house.
- Install deck 3 structure.
- Install plumbing and tanks.
- Connect deck 3 structure with the house.
- Install deck 1 floor (east).
- Install ramps, stairs and handrails.
- Test systems and mitigate damage.
- Install deck lamps.
- Install deck 2 floor (south).
- Install stairs and planters.
- Install deck lamps.
- Install deck 3 floor (north).
- Install stairs and planters.
- Test systems
- Install screens.
- Plant vegetation.
- Clean deck.





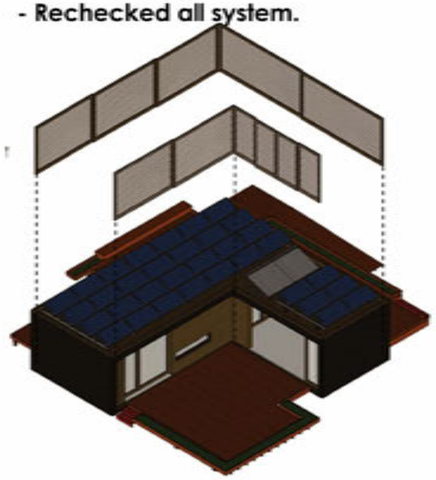


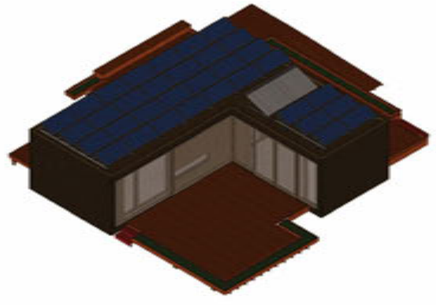


STAGE FOUR: Walkthrough

Actitivies:

- Storage of tools.
- Site cleaning.
- Rechecked all system.





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DRAWING TITLE
HOUSE ASSEMBLY PROCESS

DRAWING NO.
O-602

ISSUE FOR: FINAL DESIGN

A1 House Assembly Process

scale: not to scale

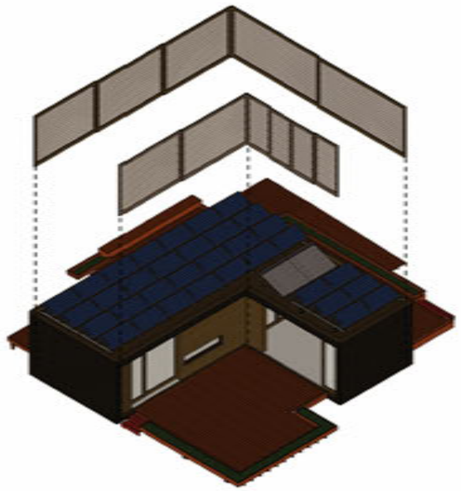
The disassembly process is divide in 4 stage:

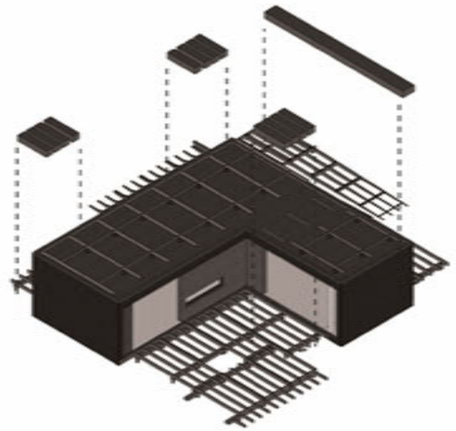
Stage One: Deck
Stage Two: Roof and Interiors
Stage Three: Modules
Stage Four: Walkthrough

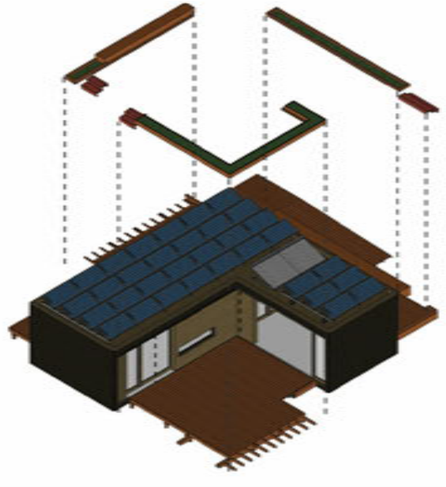
STAGE ONE: Deck

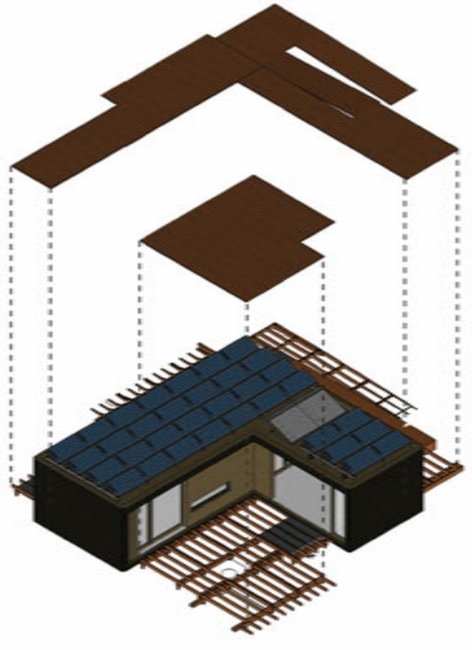
Actitivies:

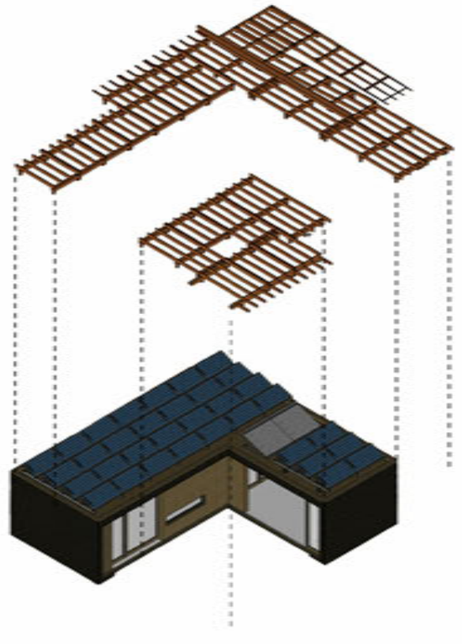
- Arrival of truck with storage container and tools.
- Organize tools.
- Remove: Vegetation, planters, deck benches, finishes, stairs, ramp and handrails.
- Uninstall screens.
- Disconnect mechanical and electrical systems.
- Uninstall tubes.
- Uninstall deck lamps.
- Remove decks floors and take down deck structure.
- Uninstall tanks and plumbing.











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DRAWING TITLE
HOUSE
DISASSEMBLY
PROCESS

DRAWING NO.
O 603

ISSUE FOR: FINAL DESIGN

A1 House Dis-assembly Process scale: not to scale

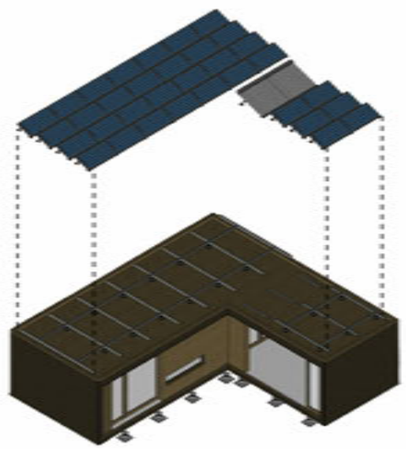
The disassembly process is divide in 4 stage:

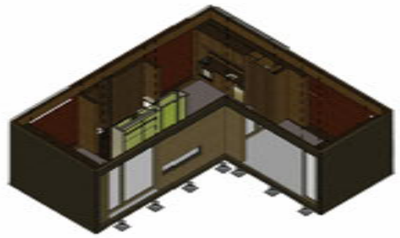
Stage One: Deck
Stage Two: Roof and Interiors
Stage Three: Modules
Stage Four: Walkthrough

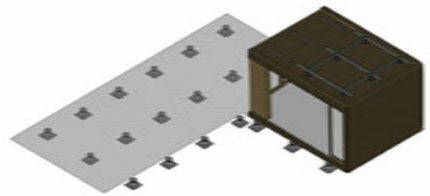
STAGE TWO: Roof and Interiors

Actitivies:

- Arrival of truck with scissor lift.
- Take down PV panels.
- Protect PV panels for shipping.
- Arrival of storage truck.
- Remove furniture and appliances
- Protect furniture and appliances for shipping.
- Removal of minor mechanical systems.
- Store deck.



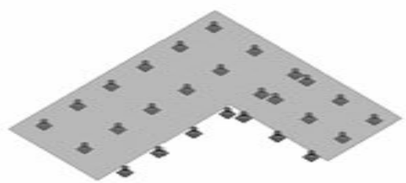


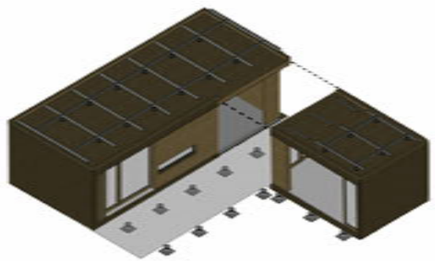


STAGE THREE: Modules

Actitivies:

- Disconnect house modules.
- Protect modules for shipping.
- Place protective padding along truck route.
- Install wheels and hauling pieces.
- Remove foundation piers.
- Remove modules from site.
- Install shipping protection on house modules.





STAGE FOUR: Walkthrough

Actitivies:

- Pick up and store tools.
- Site Cleaning.

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DRAWING TITLE
HOUSE DISASSEMBLY PROCESS

DRAWING NO.
O-604

ISSUE FOR: FINAL DESIGN

A1 House Dis-assembly Process scale: not to scale