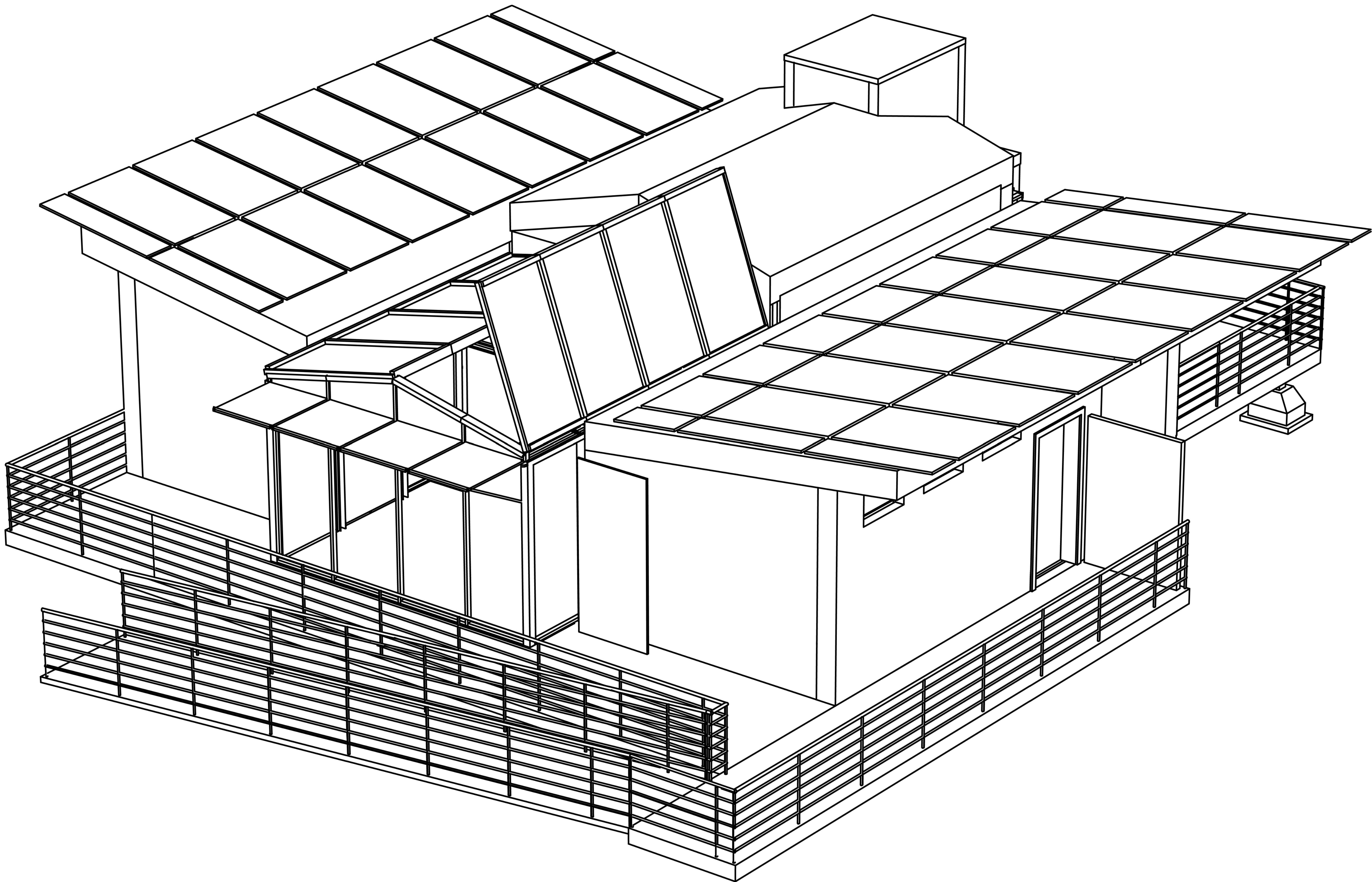


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U.S. Department of Energy Solar Decathlon 2017 Submission



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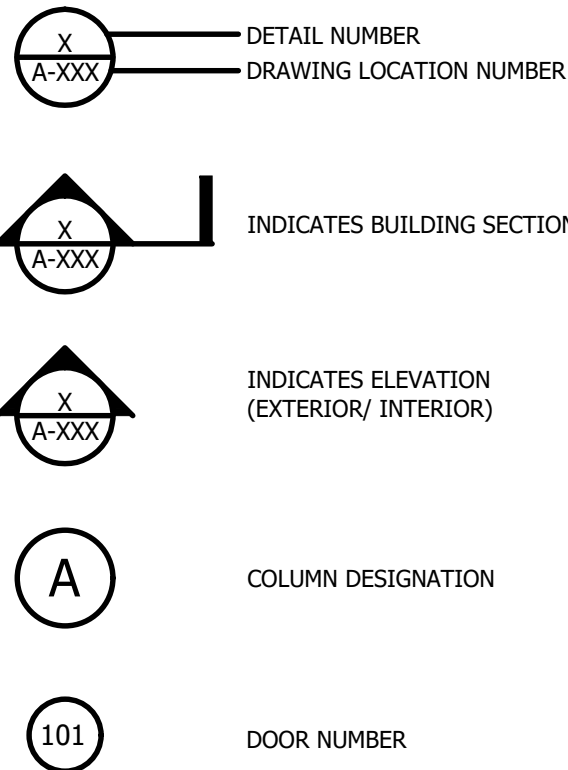
COVERSHEET

CS-001

GENERAL NOTES

1. ALL PARTITIONS ARE DIMENSIONED TO FACE OF WALL FINISH, UNLESS NOTED OTHERWISE.
2. ALL FLOORS SHALL BE LEVELED AND FREE FROM IRREGULARITIES TO ASSURE A CONSTANT FLOOR HEIGHT.
3. ALL CONTRACTORS ARE RESPONSIBLE FOR LAYING OUT EQUIPMENT RUNS TO AVOID INTERFERENCE.
4. IF CEILING DIFFUSERS, LIGHT FIXTURES OR OTHER ELEMENTS ON OR ABOVE THE CEILING CANNOT BE LOCATED AS SHOWN ON PLAN DUE TO OBSTRUCTIONS, GENERAL CONTRACTOR SHALL NOTIFY ARCHITECT PRIOR TO COMMENCING WORK.
5. ALL WORK SHALL CONFORM TO TO ALL APPLICABLE CODES: FEDERAL, STATE AND LOCAL BUILDING CODES.
6. AFTER THE JOB IS IN PROGRESS, "CHANGE ORDERS" MUST BE APPROVED BY THE ARCHITECT IN WRITING PRIOR TO COMMENCING WORK.
7. INTERIOR ROOMS SHALL BE MECHANICALLY VENTILATED IN ACCORDANCE WITH STATE AND LOCAL BUILDING CODES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR BRACING PARTITION WALLS AS REQUIRED AND AT ALL DOOR OPENINGS.
9. ALL MISCELLANEOUS WOOD BLOCKING, SILLS, PLYWOOD, ETC. TO BE FIRE RETARDANT TREATED.
10. ALL MATERIALS ARE TO BE STORED PROPERLY. GENERAL CONTRACTOR IS RESPONSIBLE FOR THE SAFEKEEPING OF MATERIALS.
11. GENERAL CONTRACTOR RESPONSIBLE FOR COORDINATION OF SPECIAL SHIPPING ITEMS. CONTRACTOR SHALL PROVIDE ARCHITECT WITH REASONABLE CONSTRUCTION SCHEDULE TO ARRANGE SHIPPING.
12. THE GENERAL CONTRACTOR SHALL SUBSTITUTE MATERIALS, FINISHES, AND OR EQUIPMENT UPON WRITTEN SUBMITTAL AND APPROVAL TO THE PROJECT MANUAL.
13. NO SUBSTITUTIONS SHALL BE ALLOWED DURING THE CONSTRUCTION PROCESS UNLESS APPROVED BY THE ARCHITECT.
14. DIMENSIONS NOTED 'CLEAR' SHALL NOT BE ADJUSTED WITHOUT PRIOR APPROVAL BY THE ARCHITECT.
15. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL FIRE DAMPERS, SMOKE DETECTORS, AND SPRINKLER HEADS AS REQUIRED BY FIRE MARSHALL AND LOCAL CODES.
16. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL CONSTRUCTION DEBRIS AND REFUSE.
17. UPON SUBSTANTIAL COMPLETION OF WORK, CONTRACTOR SHALL PREPARE A PUNCH LIST AND NOTIFY ARCHITECT TO REVIEW AND VERIFY PUNCH-LIST FOR CORRECTIONS.
18. ALL DOOR JAMBS SHALL BE INSTALLED PLUMB AND SQUARE.

LEGEND



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		11/17/2016		
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ARCHITECTURAL				
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A-106	FINISH FLOOR PLAN	•		
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PROJECT
INFORMATION
CS-002

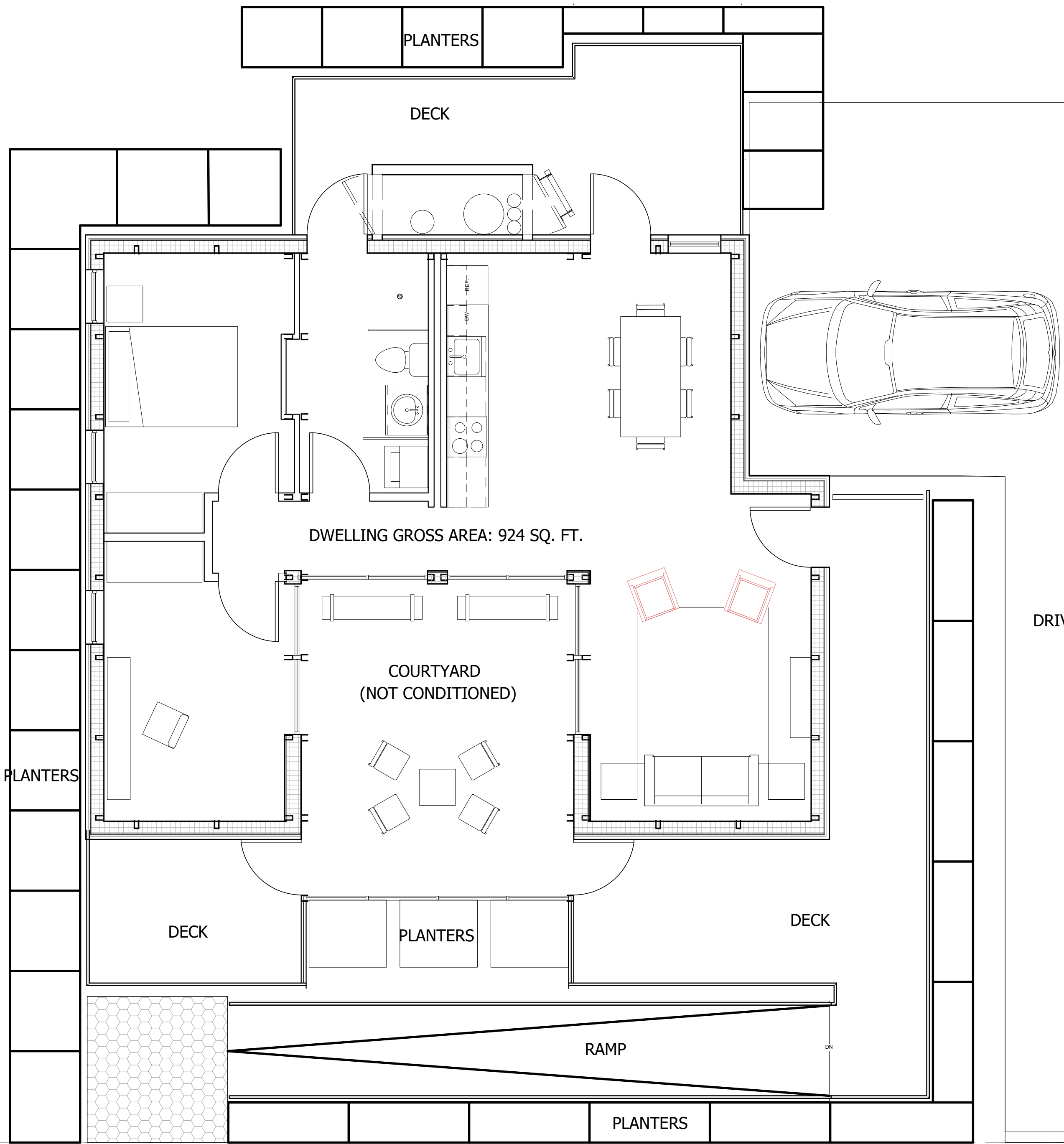
SITE PLAN NOTES

- 1. MARYLAND CONTEST SPACE 108'X95'
- 2. SOLAR ENVELOPE 78'X60'

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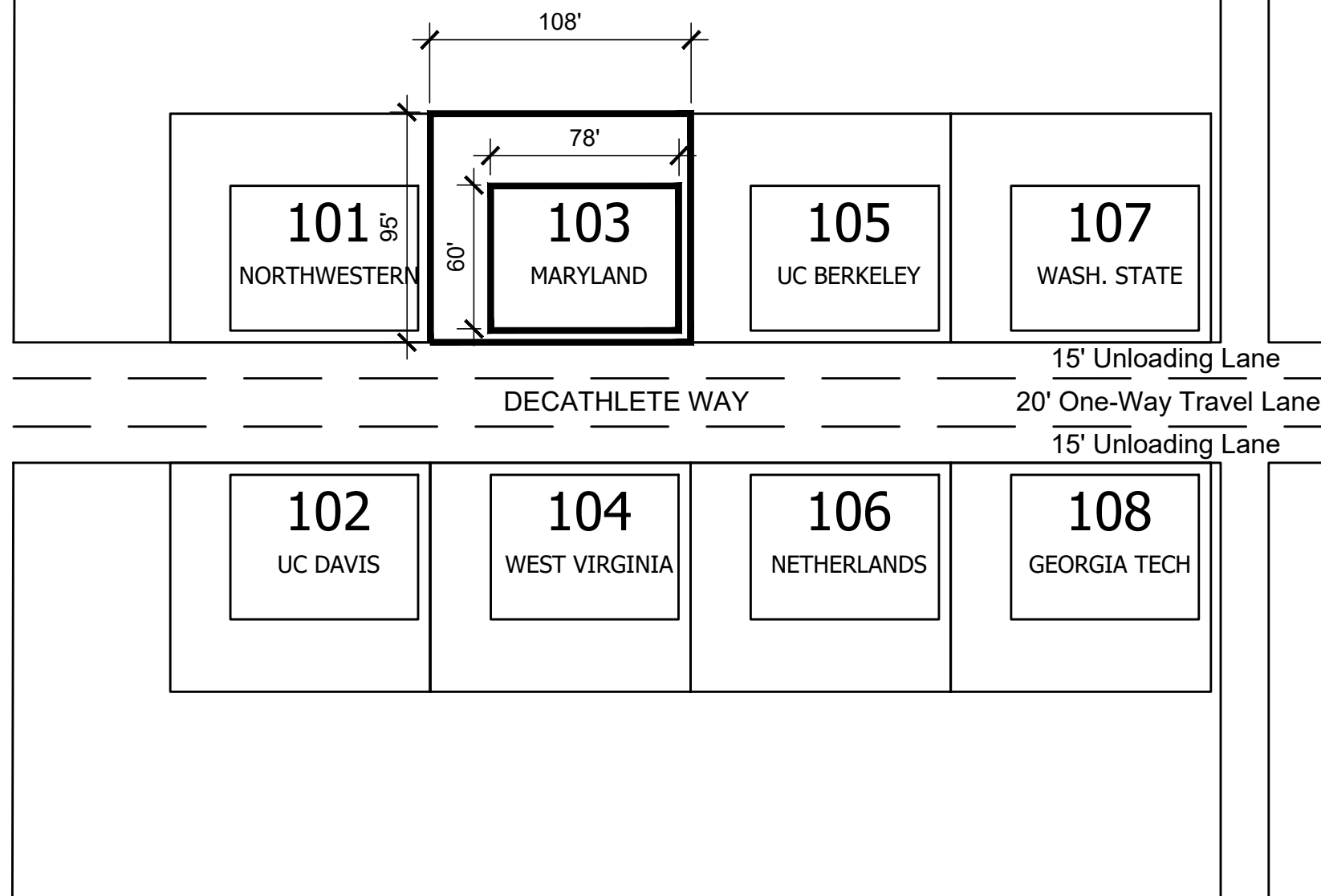


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2 SITE PLAN

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



1 VICINITY PLAN

Scale: 1/64"=1'-0"

HOUSE GROSS CONDITIONED AREA: 924 SQ. FT.
DEVELOPED (BUILT) AREA OF SITE: 2396 SQ. FT.



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SITE PLAN &
VICINITY PLAN

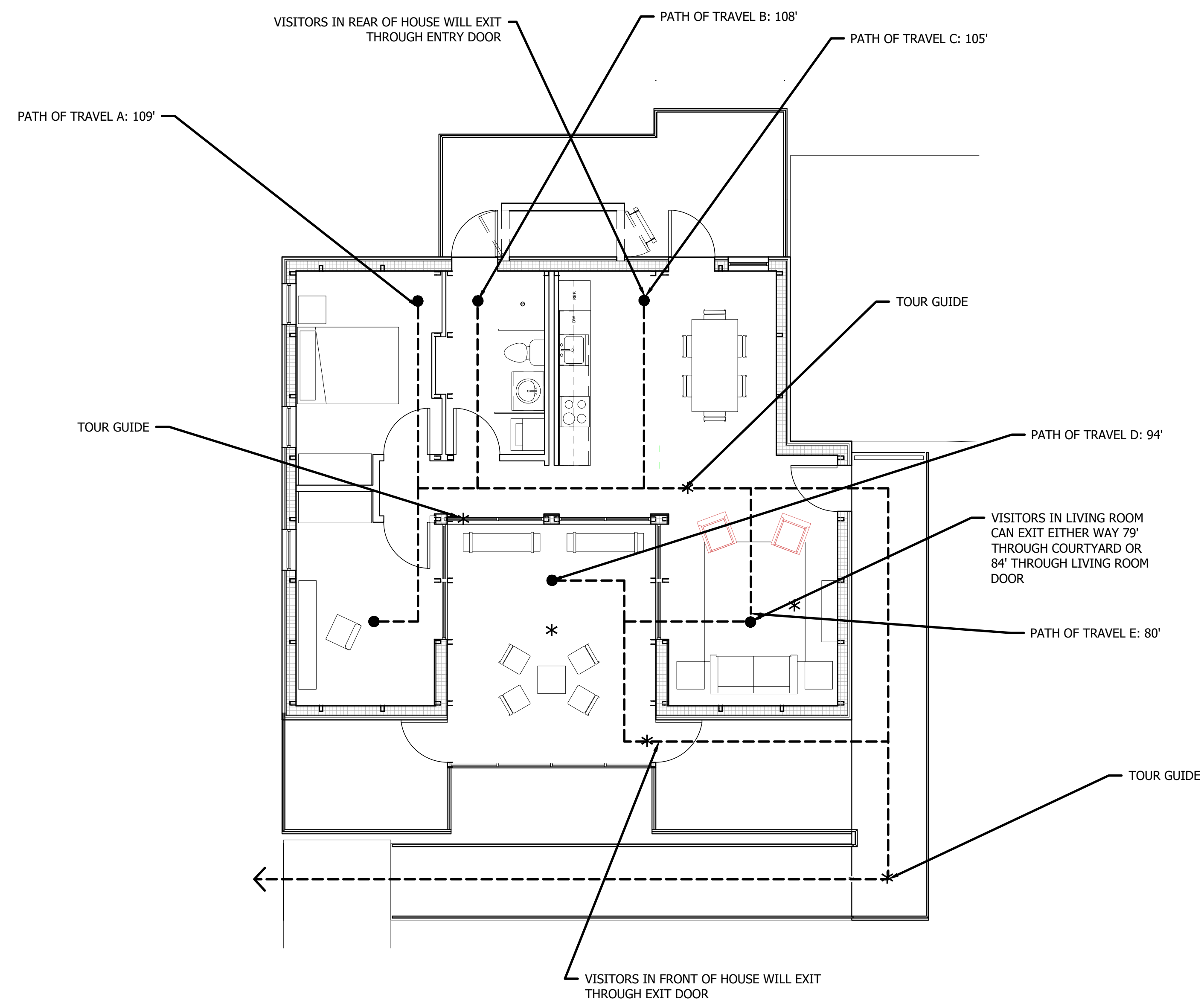
G-001



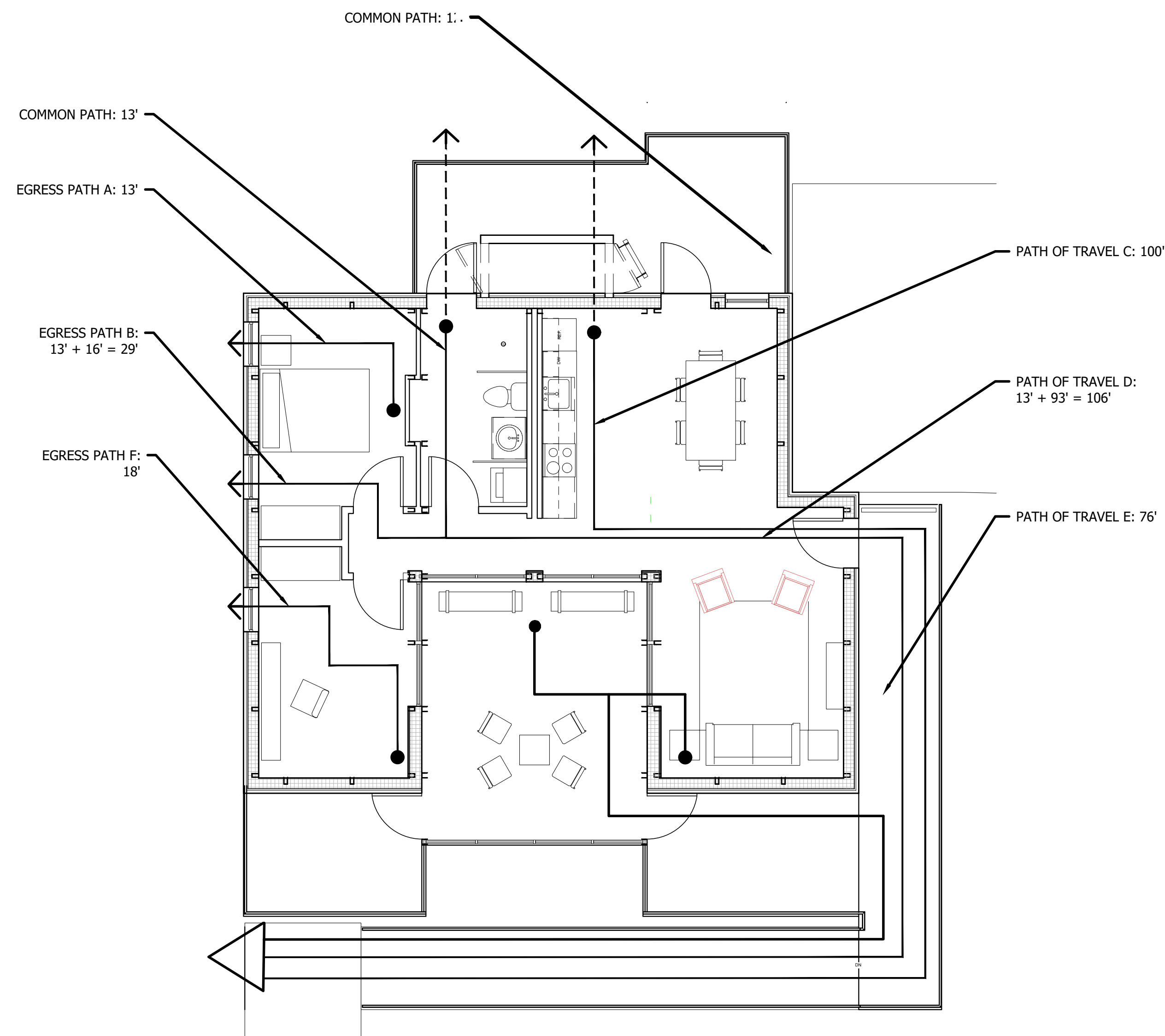
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EGRESS &
EVACUATION
PLAN
G-002

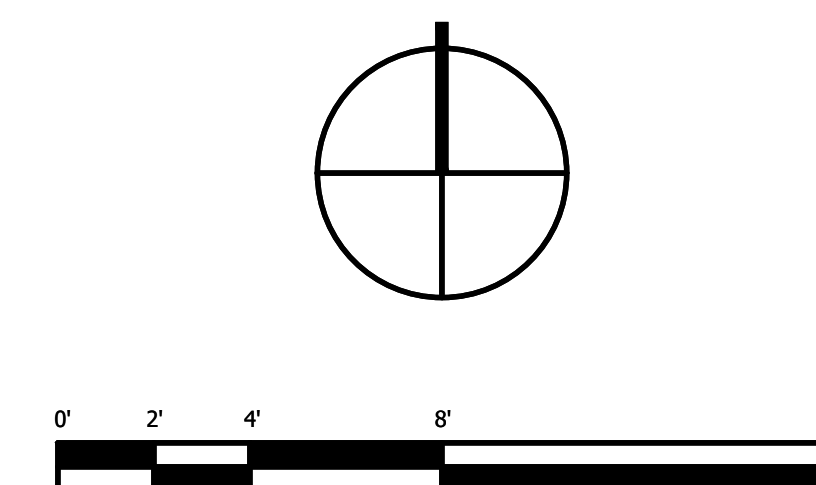


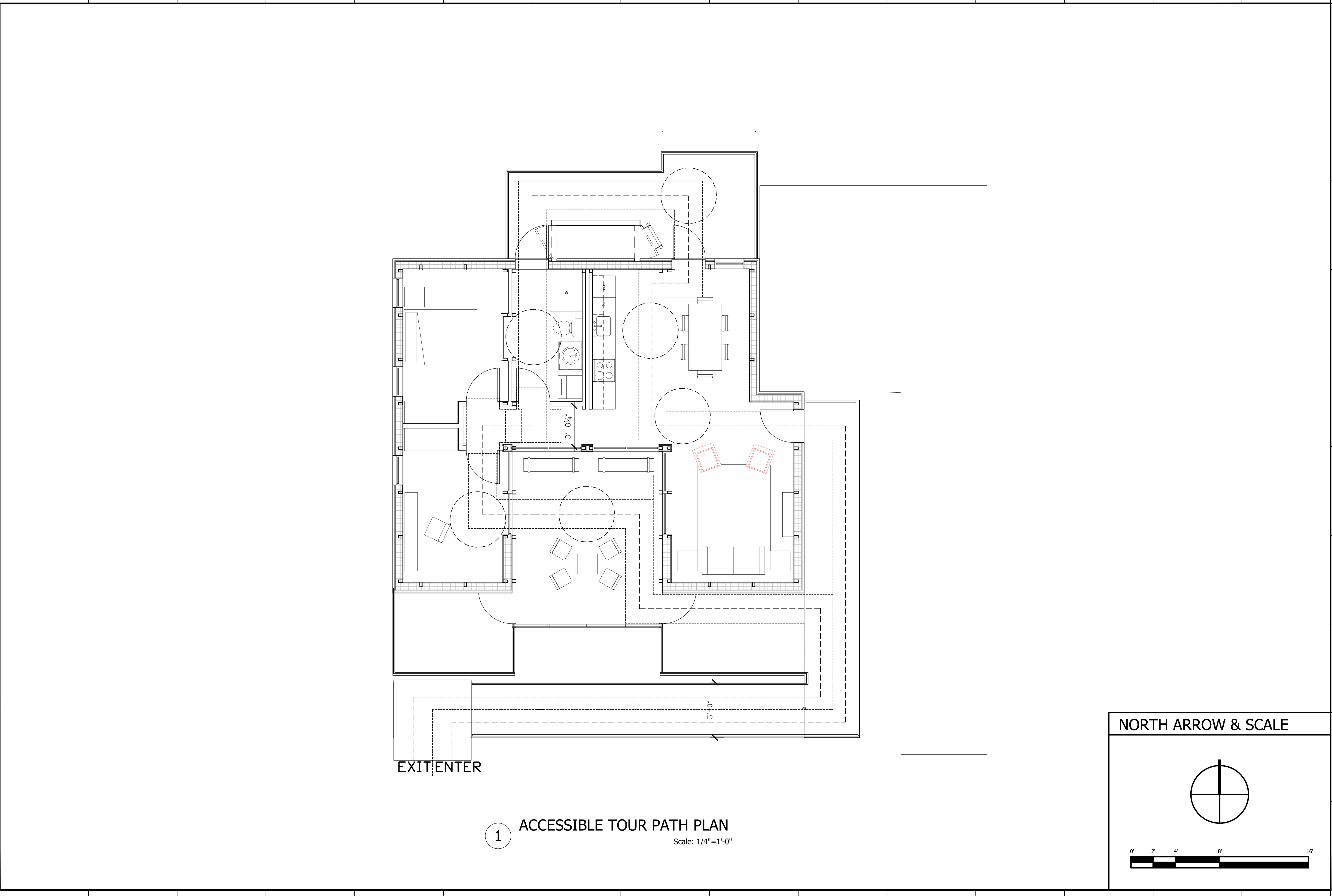
2 EVACUATION PLAN
Scale: 1/4"=1'-0"



1 EGRESS PLAN
Scale: 1/4"=1'-0"

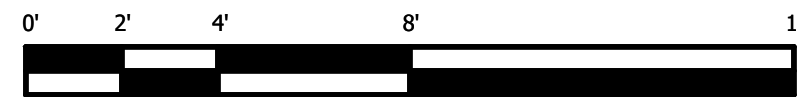
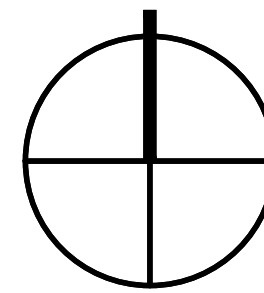
NORTH ARROW & SCALE





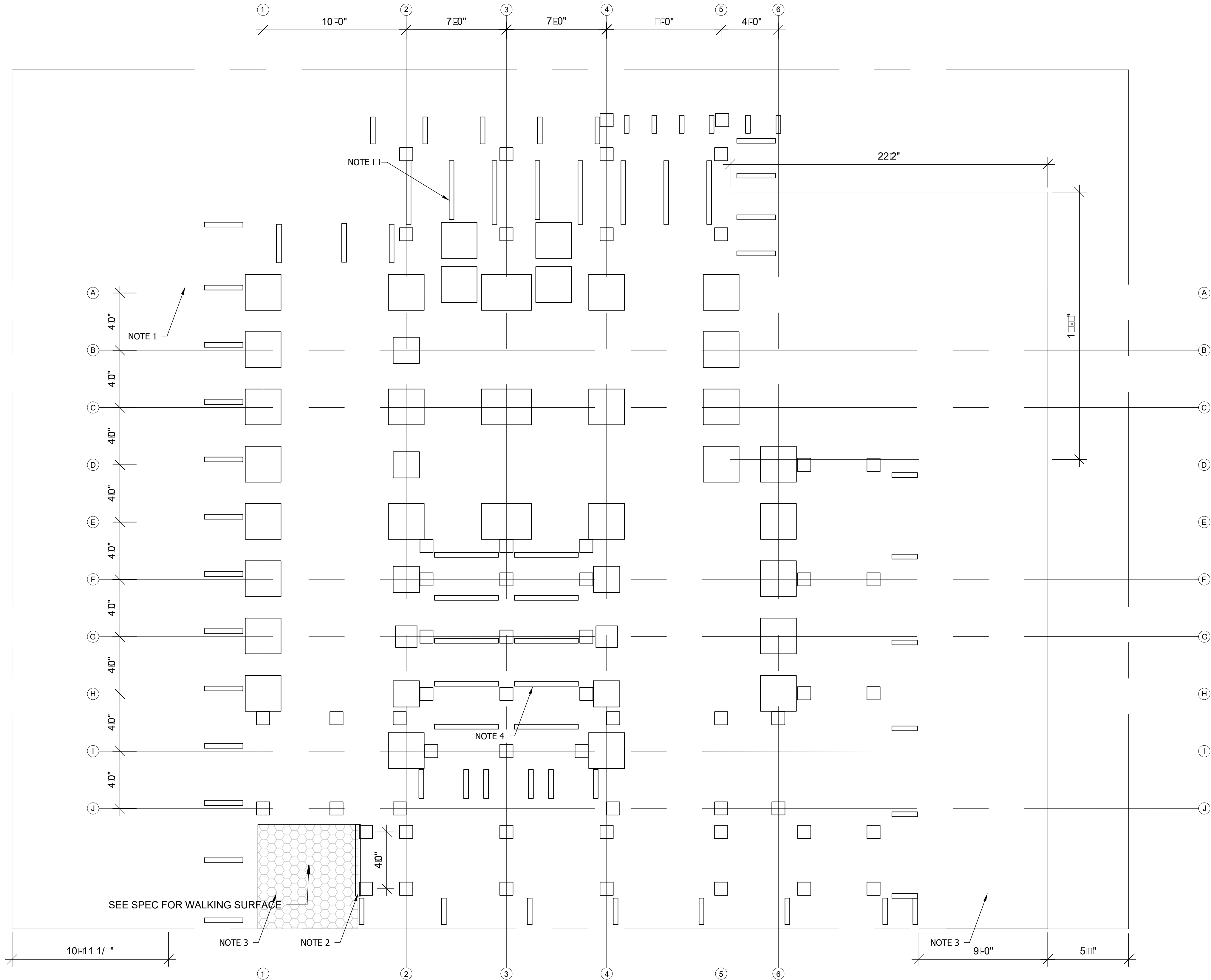
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NORTH ARROW & SCALE



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DRAWN	###
DESIGNED	###
CHECKED	###

ACCESSIBLE
TOUR PATH
PLAN
G-003



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

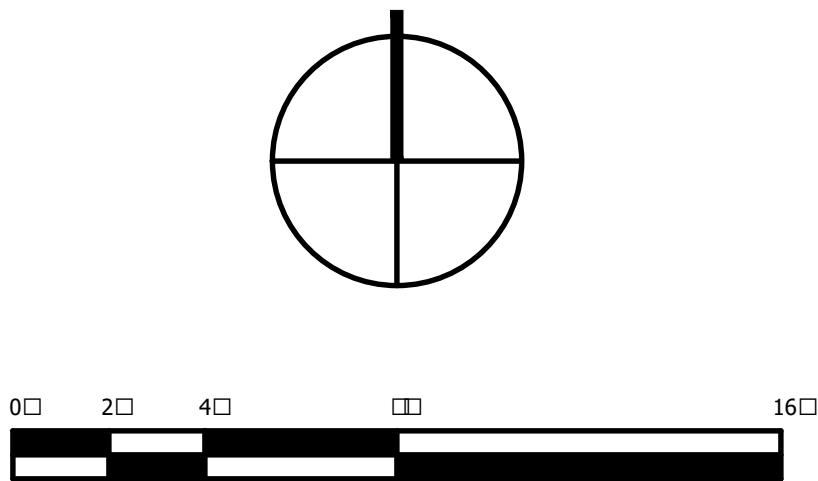
GENERAL SHEET NOTES

1. SLEEPERS FOR PLANTERS, TYPICAL.
2. THRESHOLD PLATE
3. SEE SPEC NO.093040 FOR WALKING & DRIVING SURFACE PERMEABLE PAVERS
4. SLEEPERS FOR FILTERED WASTE TANK, TYPICAL.
5. SLEEPERS FOR GREYWATER TANK, TYPICAL.
6. ALL FOUNDATION AND AUXILIARY ELEMENTS RESIDING ON GRADE SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SOIL LOAD OF 2,000 PSF AND SHALL COMPLY WITH RULE 100 FOUNDATION
7. FOR FOOTING DETAIL REFER TO S-400
8. FOR ADJUSTABLE JACK REFER TO SPEC NO.109000

LEGEND

- 2'-6" x 2'-6" FOUNDATION PAD
- 1'-10" x 1'-10" FOUNDATION PAD
- 1'-6" x 1'-6" FOUNDATION PAD
- 11" x 11" PRECAST CONCRETE DECK FOOTING
- 2 x 4 WOOD RISERS

NORTH ARROW & SCALE



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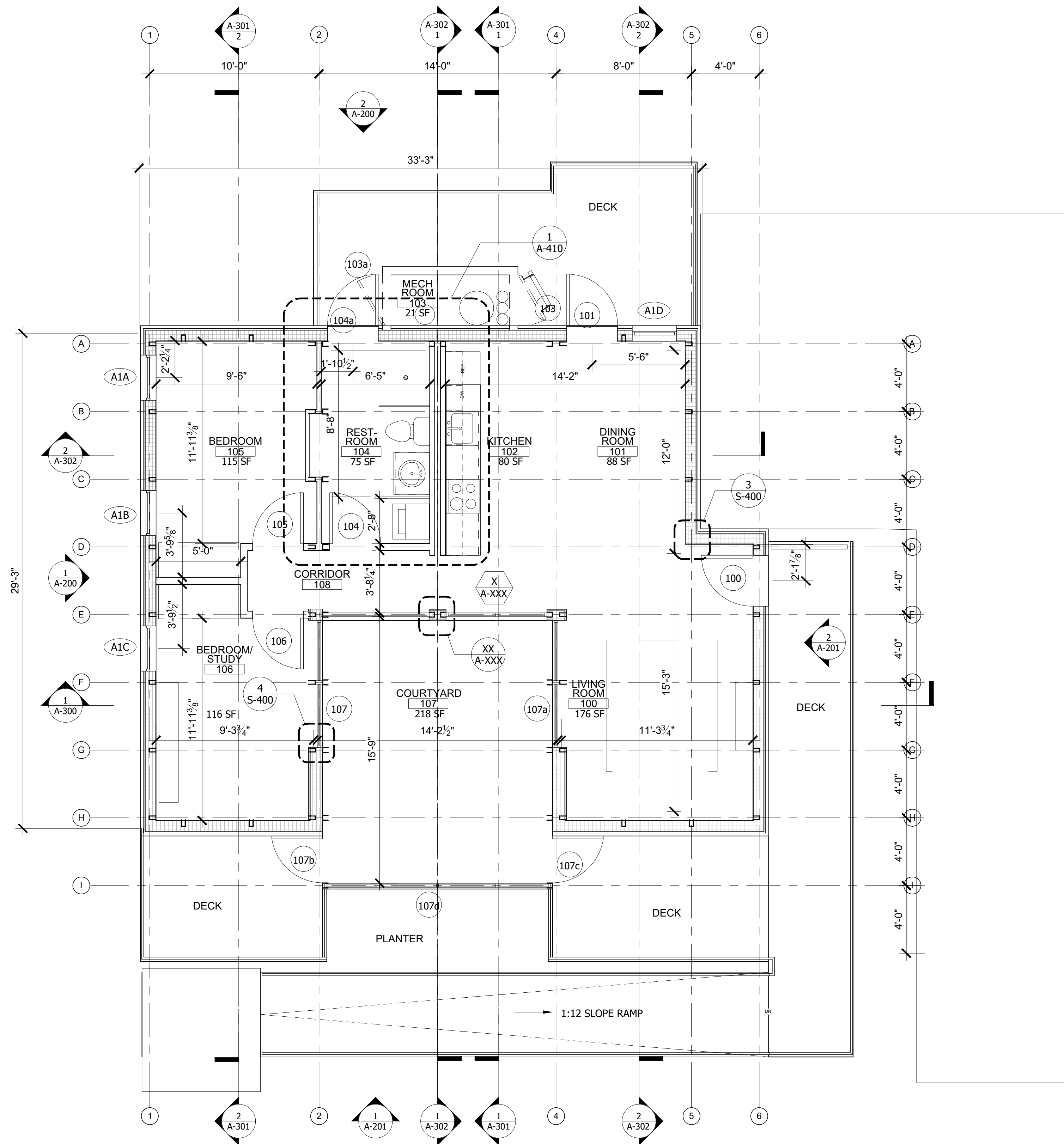


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CHECKED	###

GROUND
CONTACT PLAN
A-101



1 FLOOR PLAN
Scale: 1/4"=1'-0"

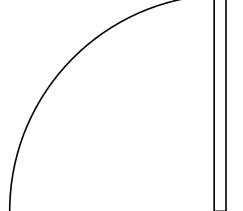
GENERAL NOTES

* ALL WALLS DIMENSIONED TO INSIDE WALL U.N.O.

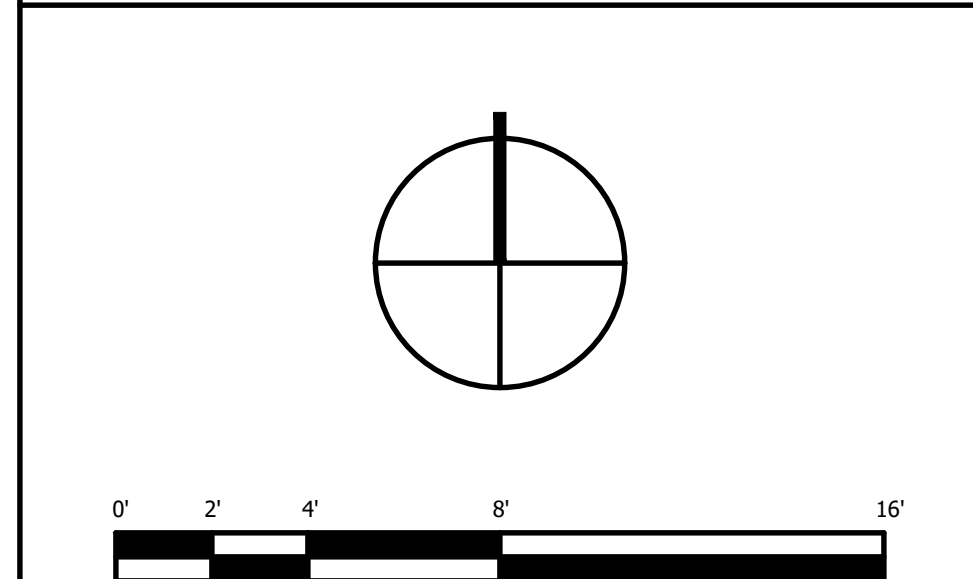
FLOOR PLAN NOTES

1.

FLOOR PLAN LEGEND

	SIP PANEL
	DOOR
	NANA WALL DOOR
	HANGER DOOR
	GLAZING

NORTH ARROW & SCALE



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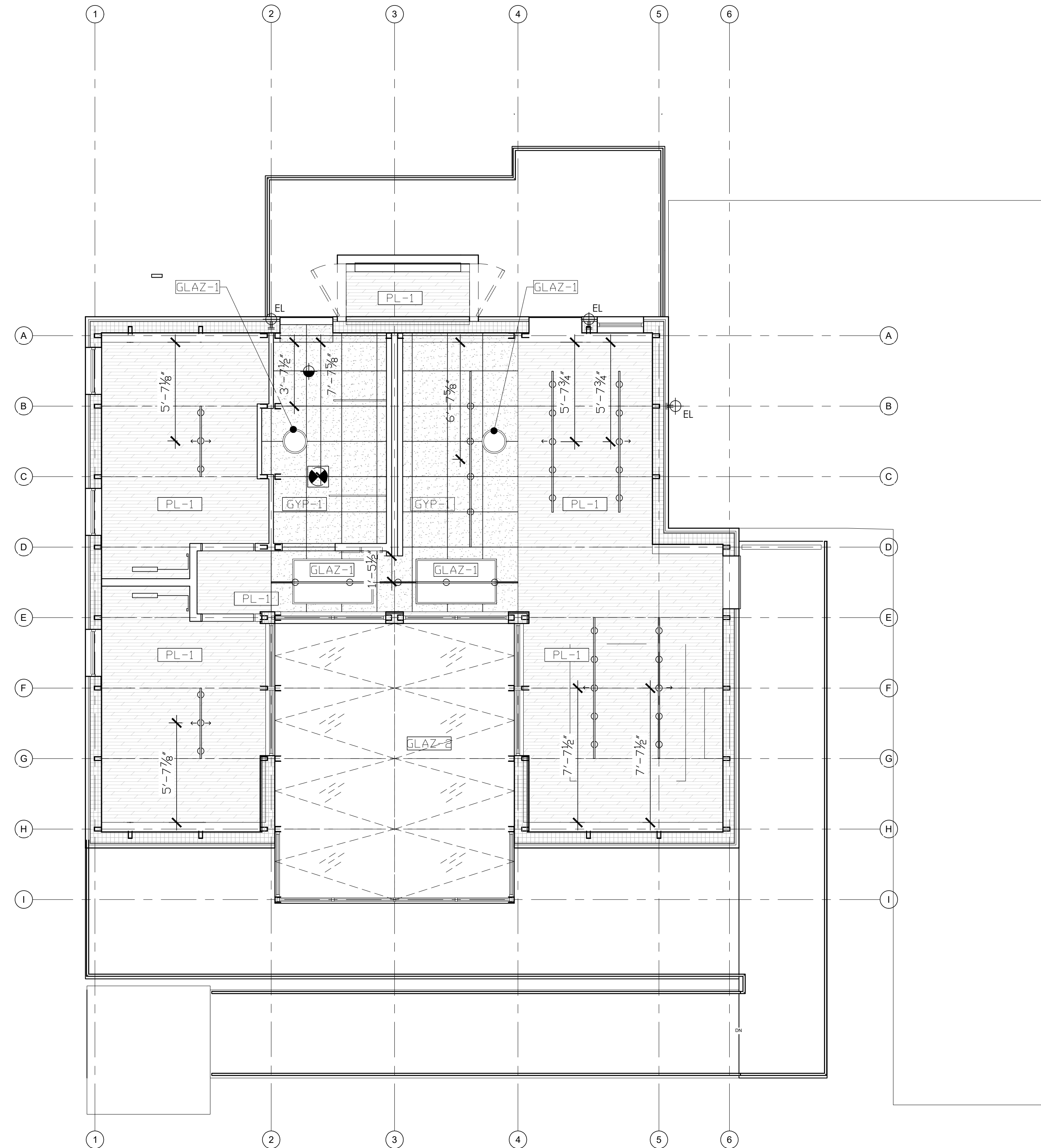
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CHECKED	###

FLOOR PLAN

A-102



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

GENERAL NOTES

1.

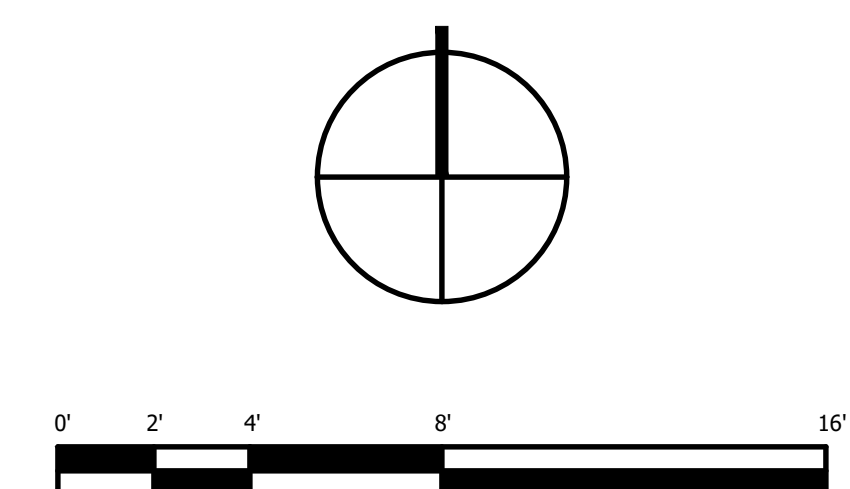
RCP LEGEND

	PL-1: EXPOSED PLYWOOD FROM SIP PANEL
	GLAZ-1: LOW E SMART SUN GLASS
	GLAZ-2:
	GYP-1: GYPSUM BOARD

RCP NOTES

1.

NORTH ARROW & SCALE



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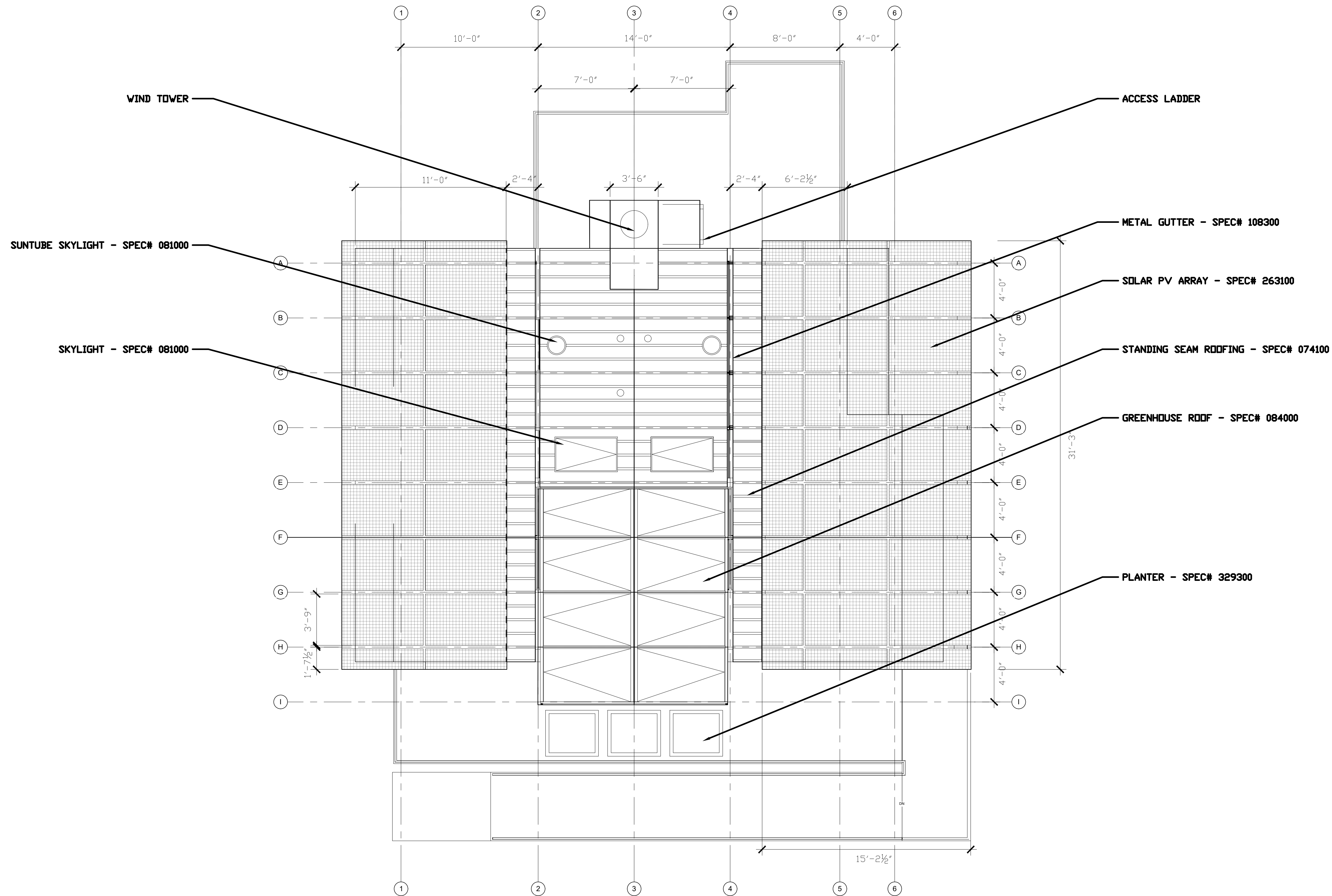
PROJECT NO	###
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DESIGNED	###
CHECKED	###

REFLECTED
CEILING PLAN

A-103

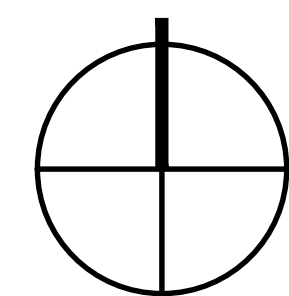
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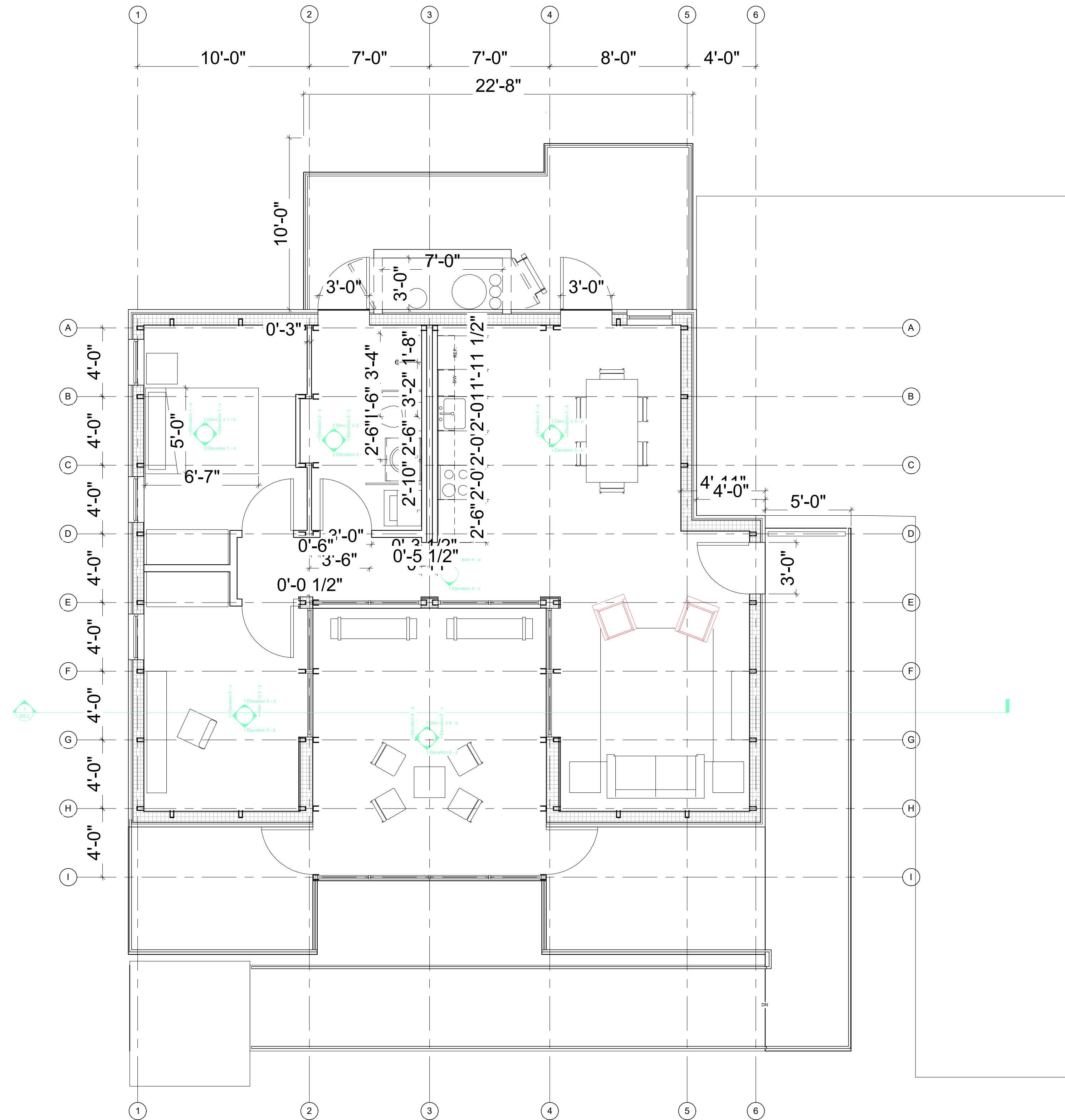
PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####



1 ROOF PLAN

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





1 FLOOR PLAN
Scale: 1/4"=1'-0"

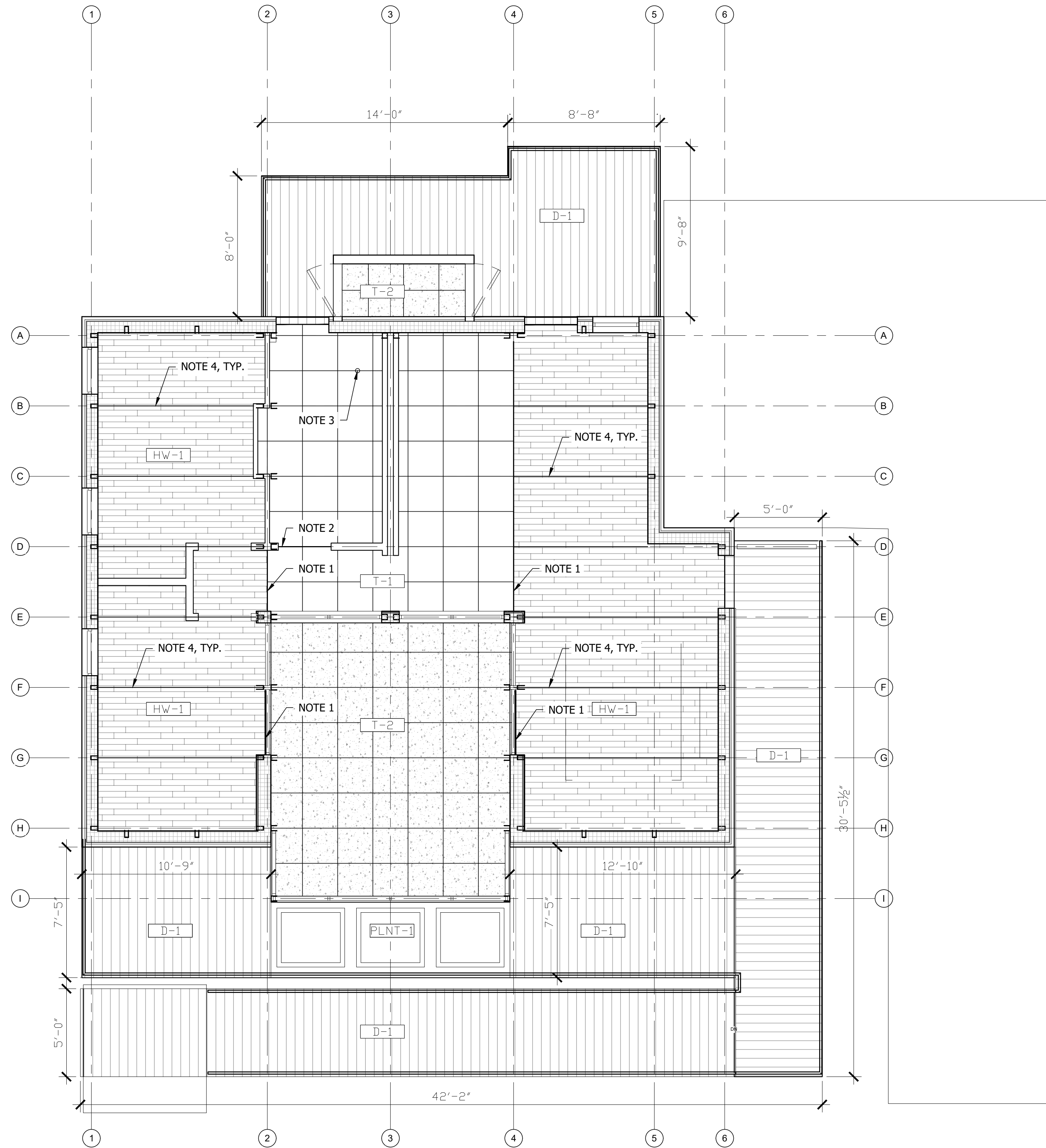
NORTH ARROW & SCALE

0' 2' 4' 8' 16'



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1 FINISH FLOOR PLAN
Scale: 1/4"=1'-0"

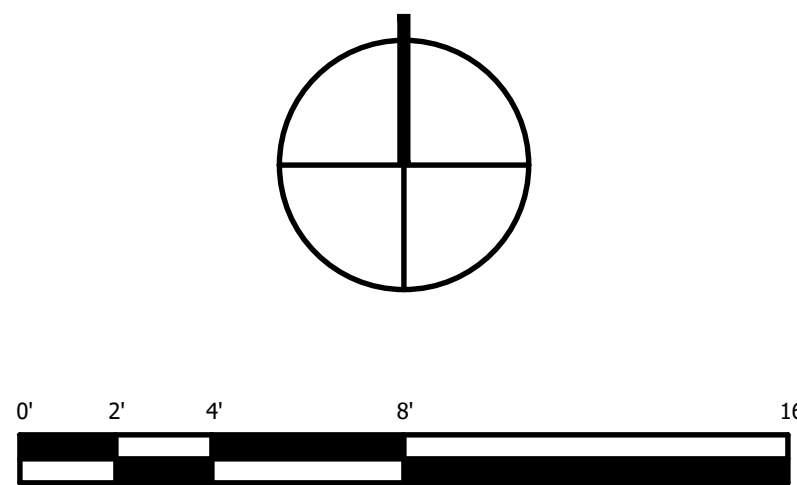
FINISH NOTES

1. TILE TO WOOD TRANSITION STRIP.
2. MARBLE THRESHOLD.
3. FLOOR DRAIN TO BE CENTERED IN SHOWER.
4. LINE OF FLOOR PANEL CONTROL JOINT, TYP.

FINISH LEGEND

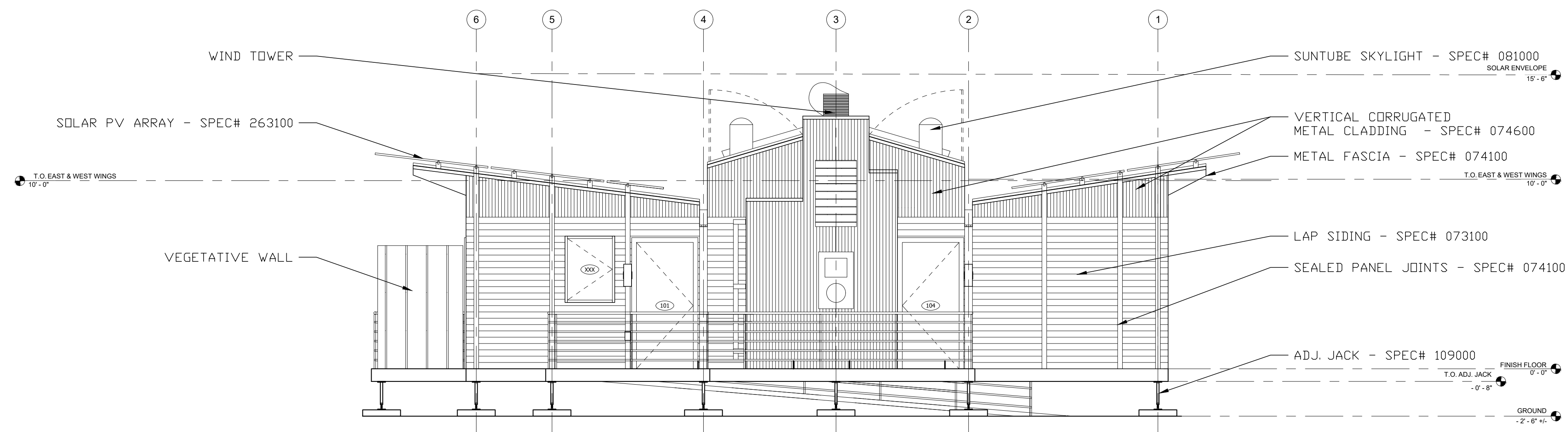
	T-1: TILE SPEC # 043010
	T-2: CONCRETE PAVERS SPEC # 093040
	HW-1: HARDWOOD FLOOR SPEC # 096400
	D-1: WOOD DECK SPEC # 061500
	PLNT-1: PLANTING BED

NORTH ARROW & SCALE

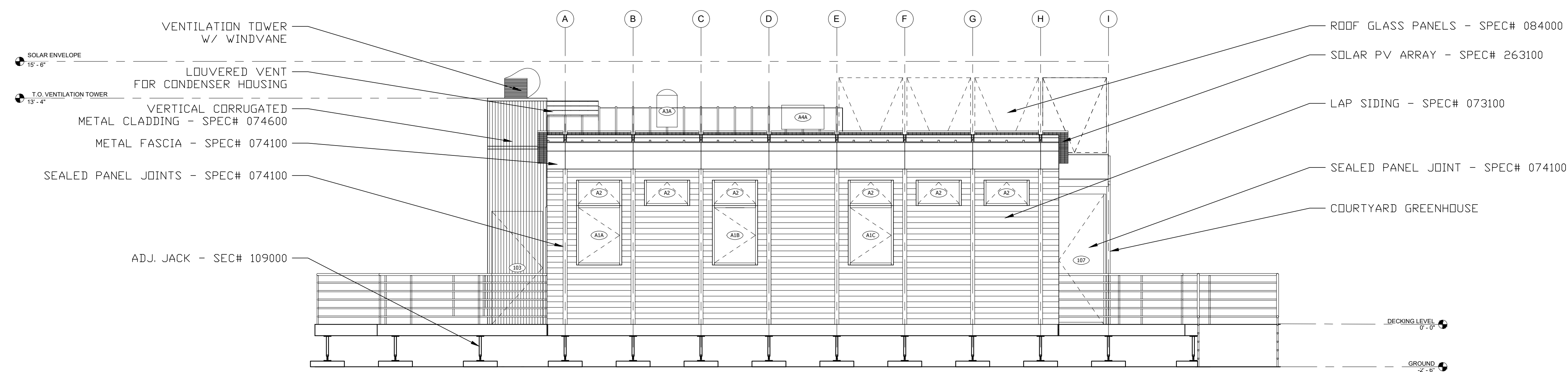


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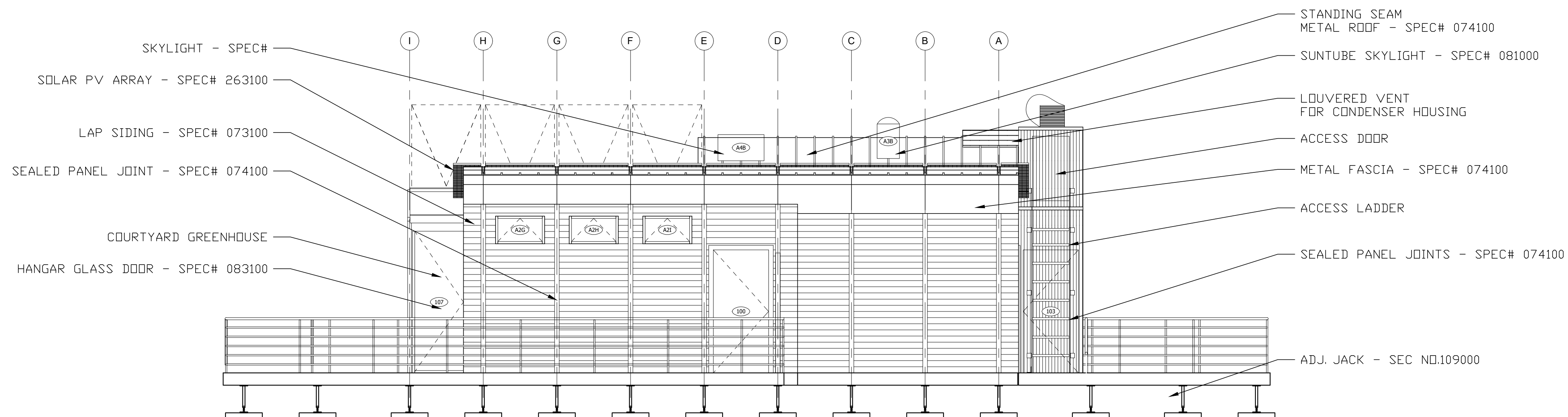
2 NORTH ELEVATION
Scale: 1/4"=1'-0"



1 WEST ELEVATION
Scale: 1/4"=1'-0"

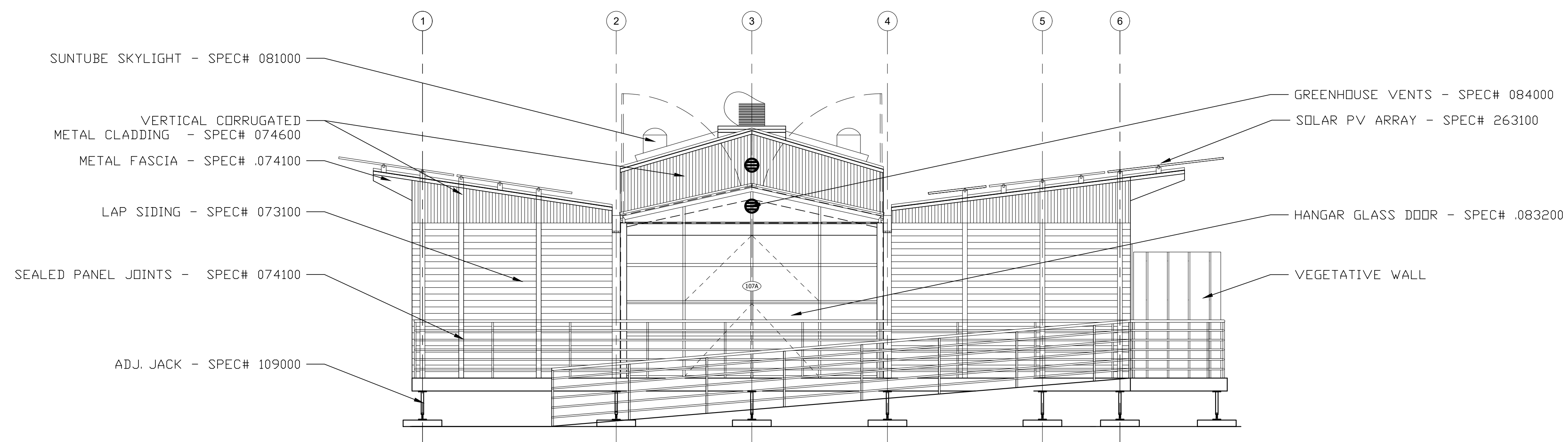
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2 EAST ELEVATION

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

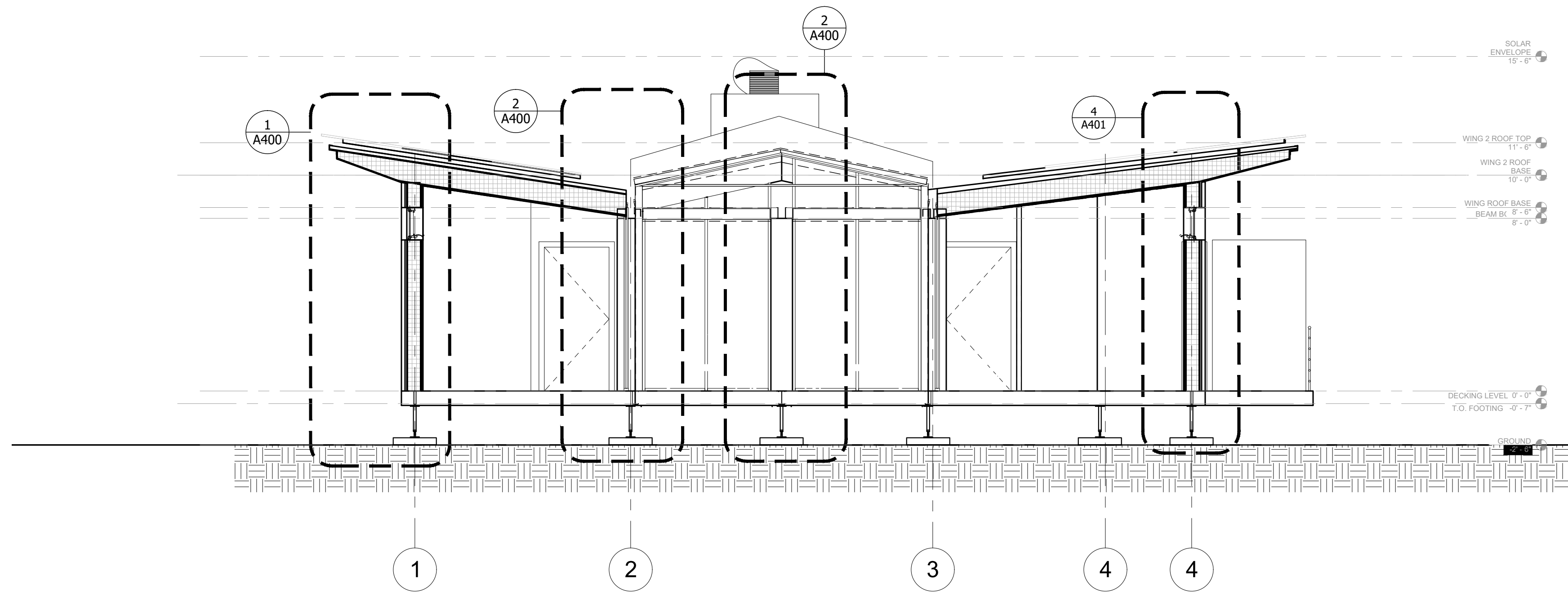


1 SOUTH ELEVATION

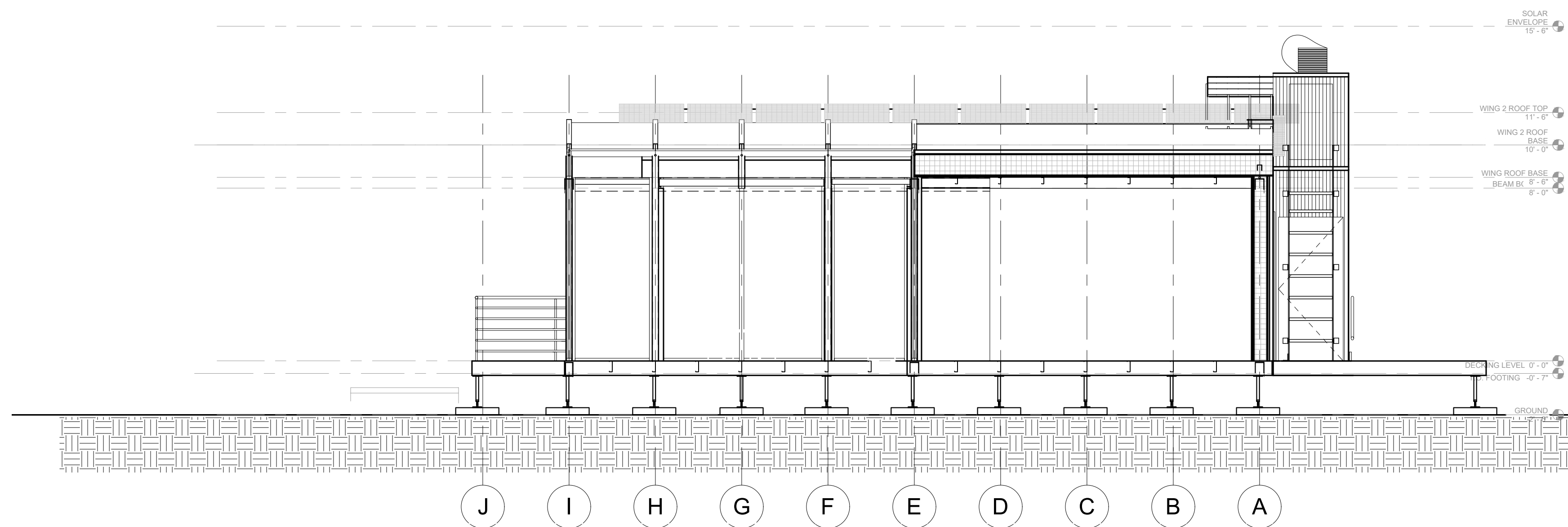
Scale: 1/4"=1'-0"

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DESIGNED	###
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1 EAST-WEST SECTION NORTH FACING
Scale: 1/4"=1'-0"



2 NORTH-SOUTH SECTION WEST FACING
Scale: 1/4"=1'-0"

GENERAL NOTES

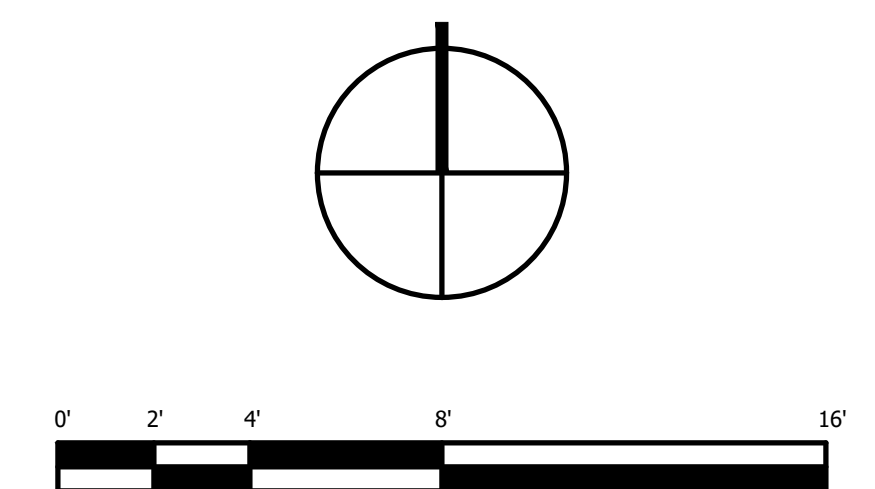
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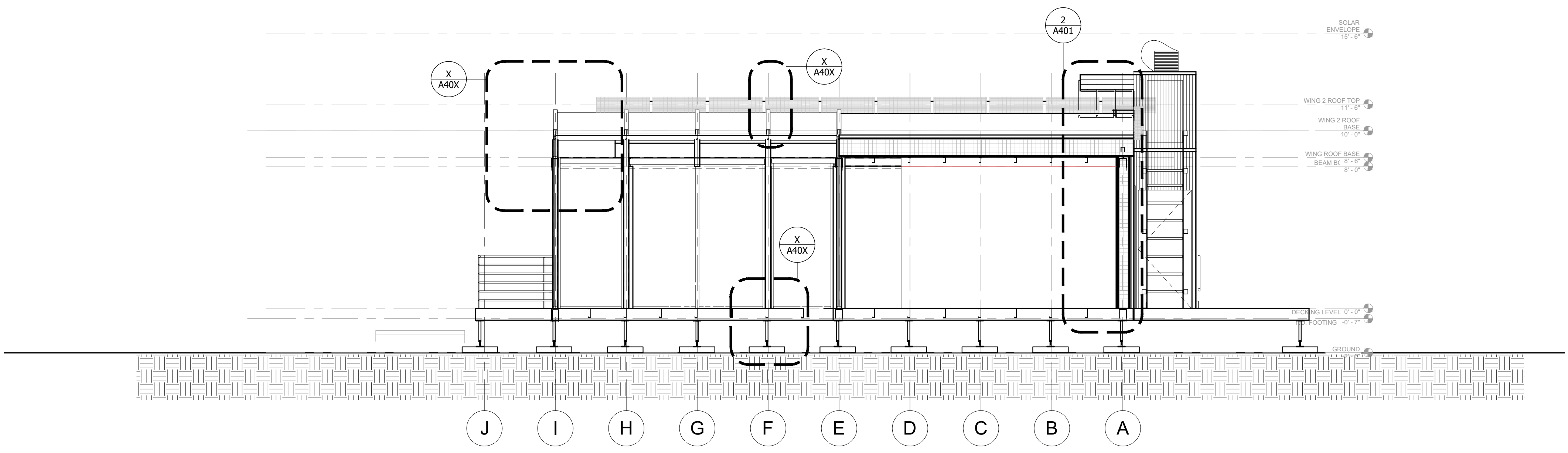
NORTH ARROW & SCALE



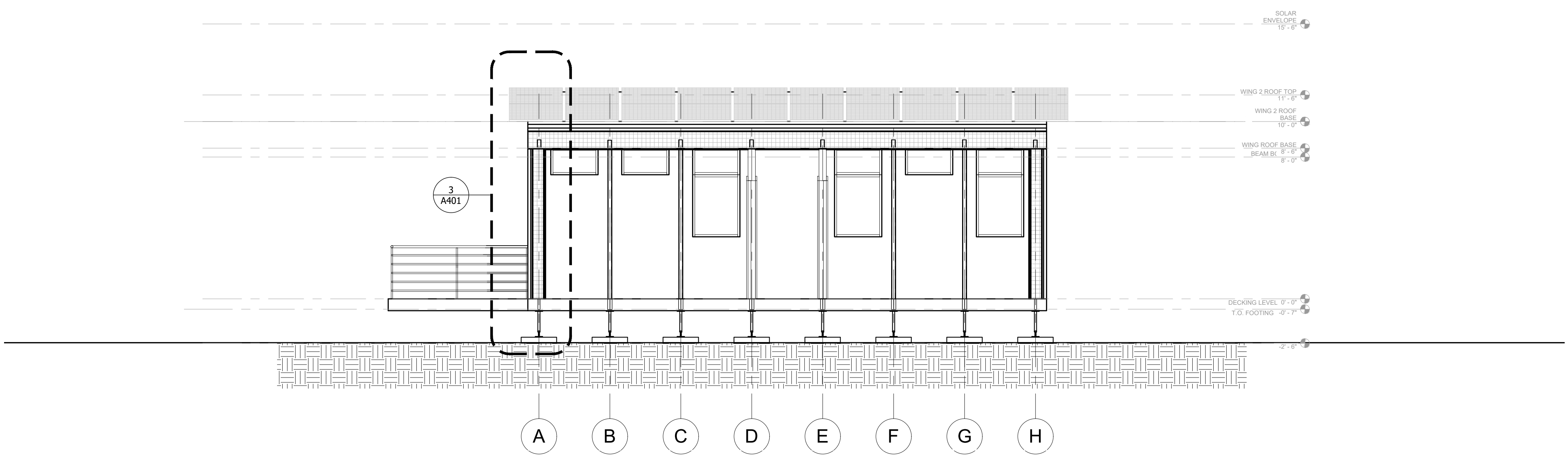
PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

BUILDING
SECTIONS

A-300



1 NORTH-SOUTH SECTION WEST FACING
Scale: 1/4"=1'-0"



2 NORTH-SOUTH SECTION
LOOKING WEST - BEDROOM & OFFICE
Scale: 1/4"=1'-0"

GENERAL NOTES

1. MOVEABLE COUNTER

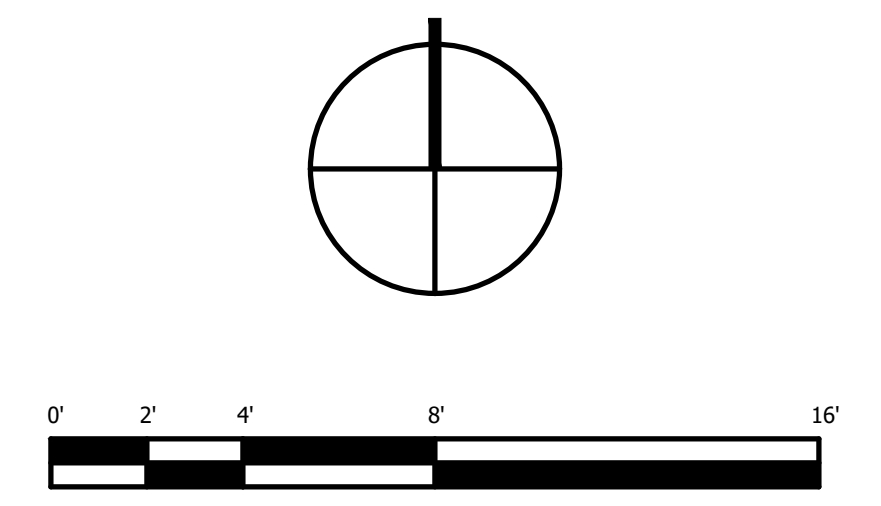
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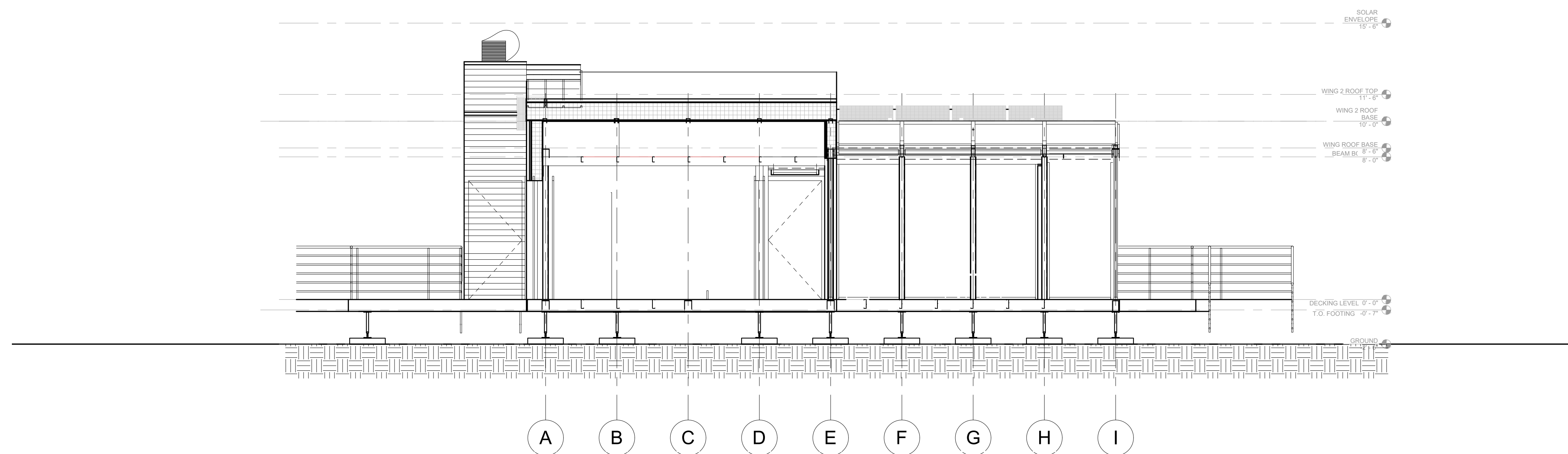
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NORTH ARROW & SCALE



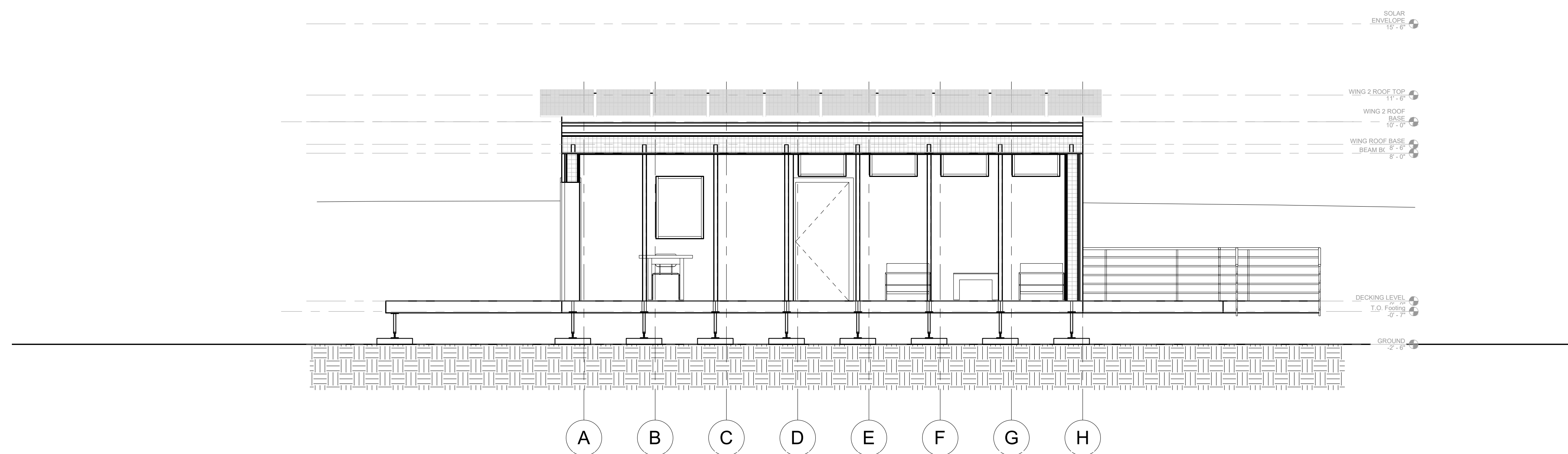
PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

BUILDING SECTIONS
A-301



NORTH-SOUTH SECTION THROUGH
COURTYARD LOOKING EAST

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

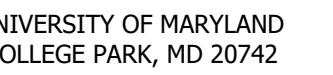


NORTH-SOUTH SECTION LOOKING EAST

Scale: $1/4"=1'-0"$

GENERAL NOTES

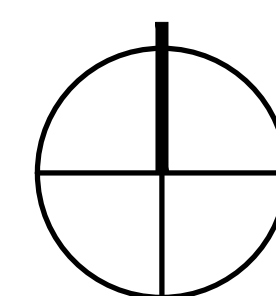
- ## 1. MOVEABLE COUNTER



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[illegible]

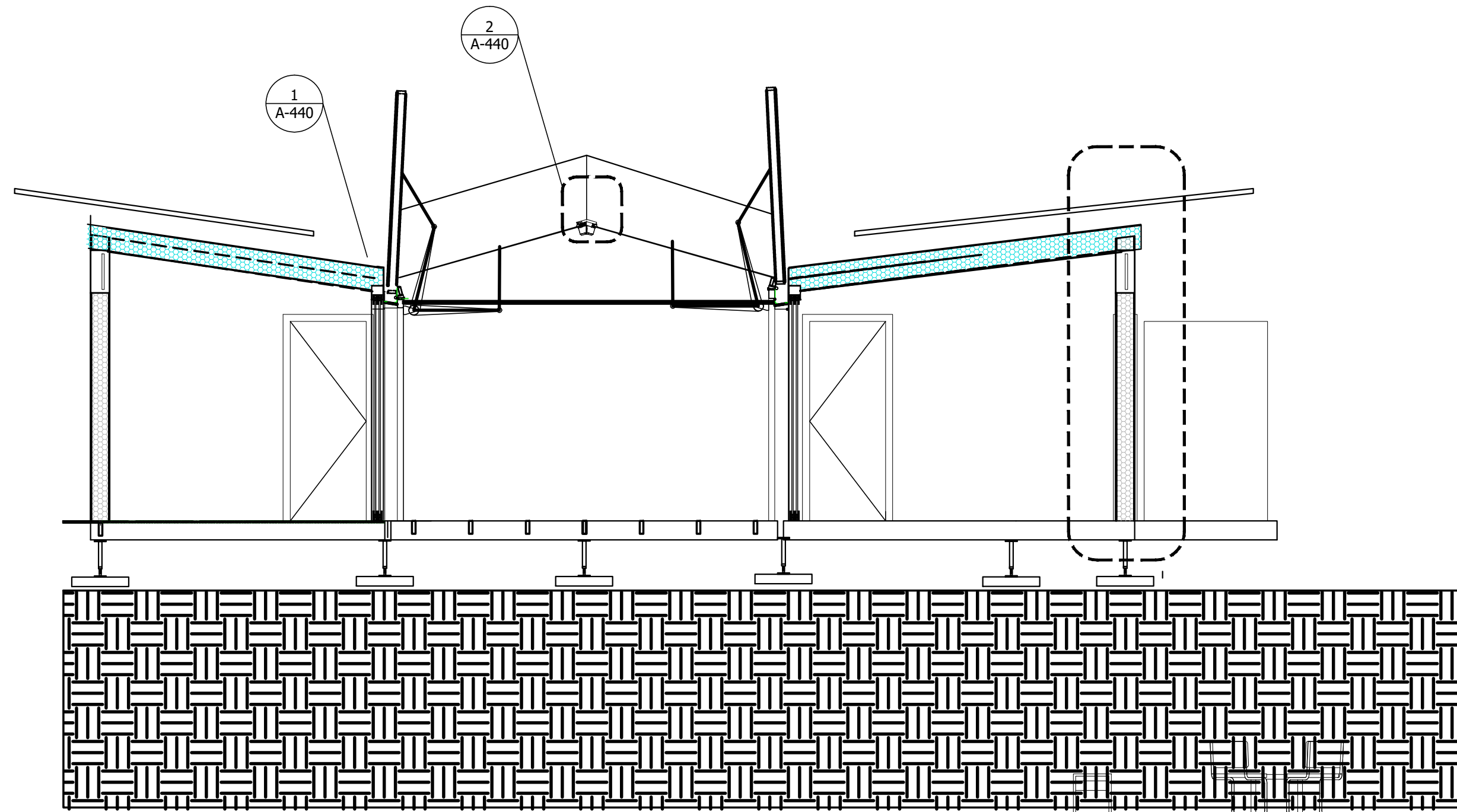
NORTH ARROW & SCALE



PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####

BUILDING SECTIONS

A-302

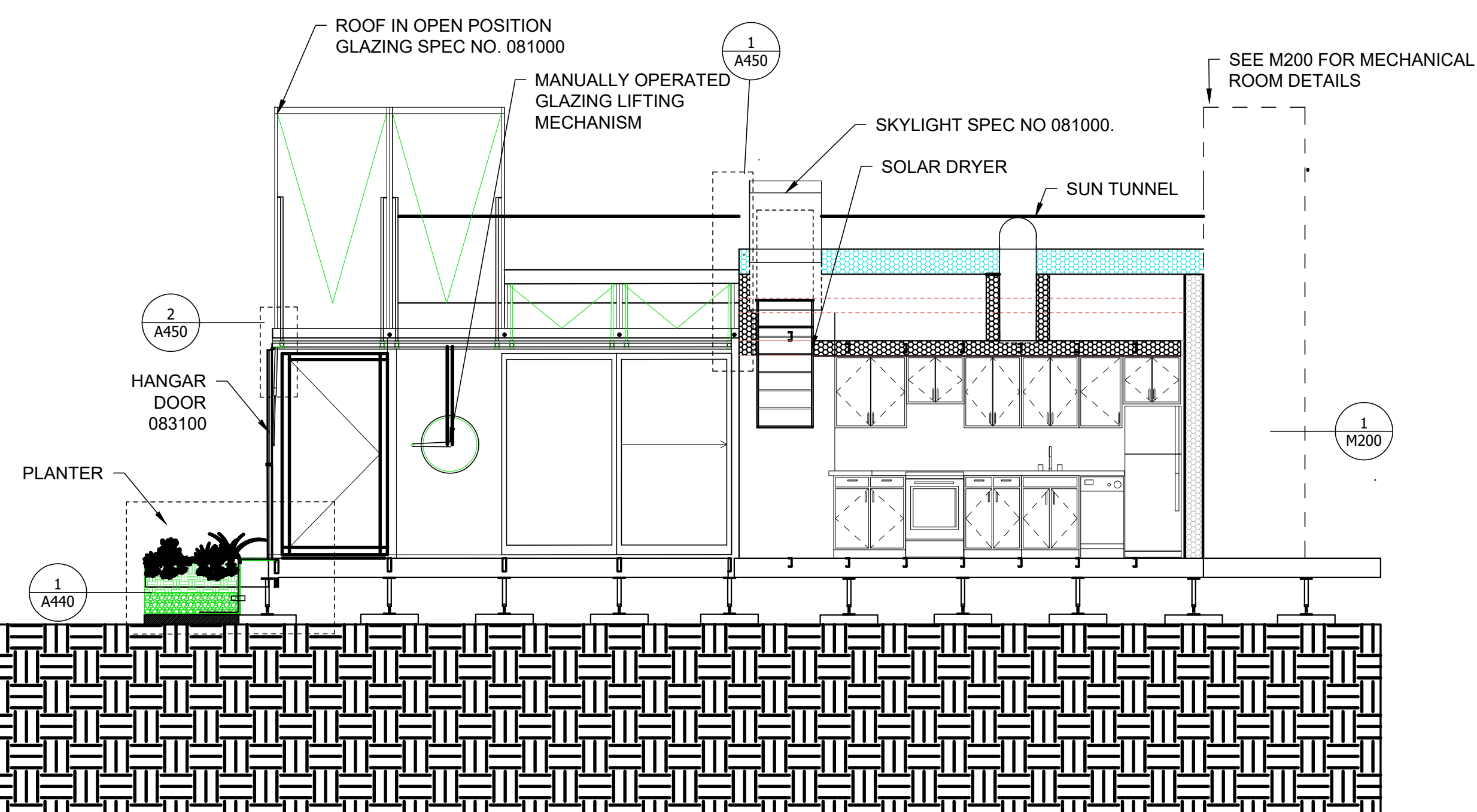
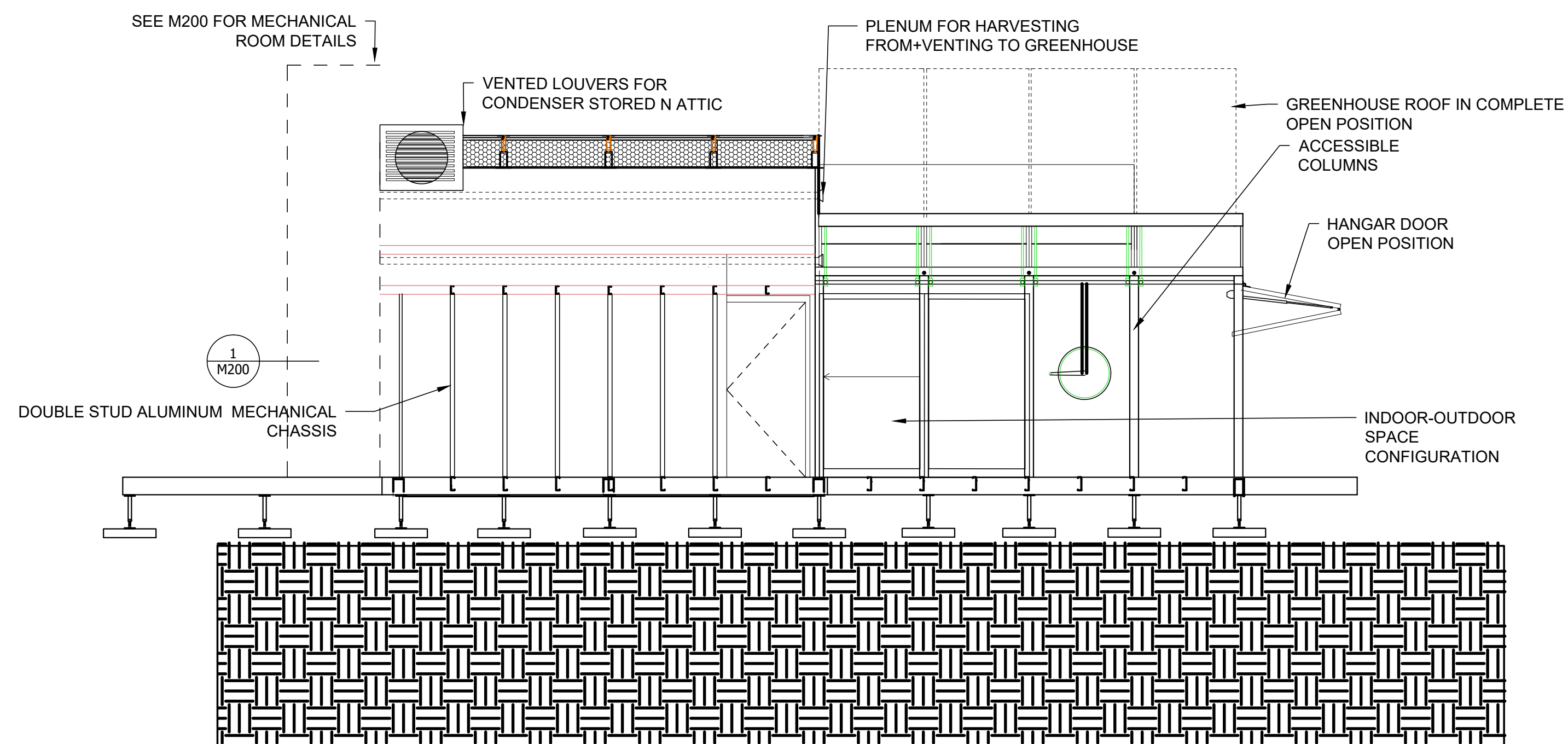


2 NORTH-SOUTH SECTION WEST FACING
Scale: 1/4"=1'-0"

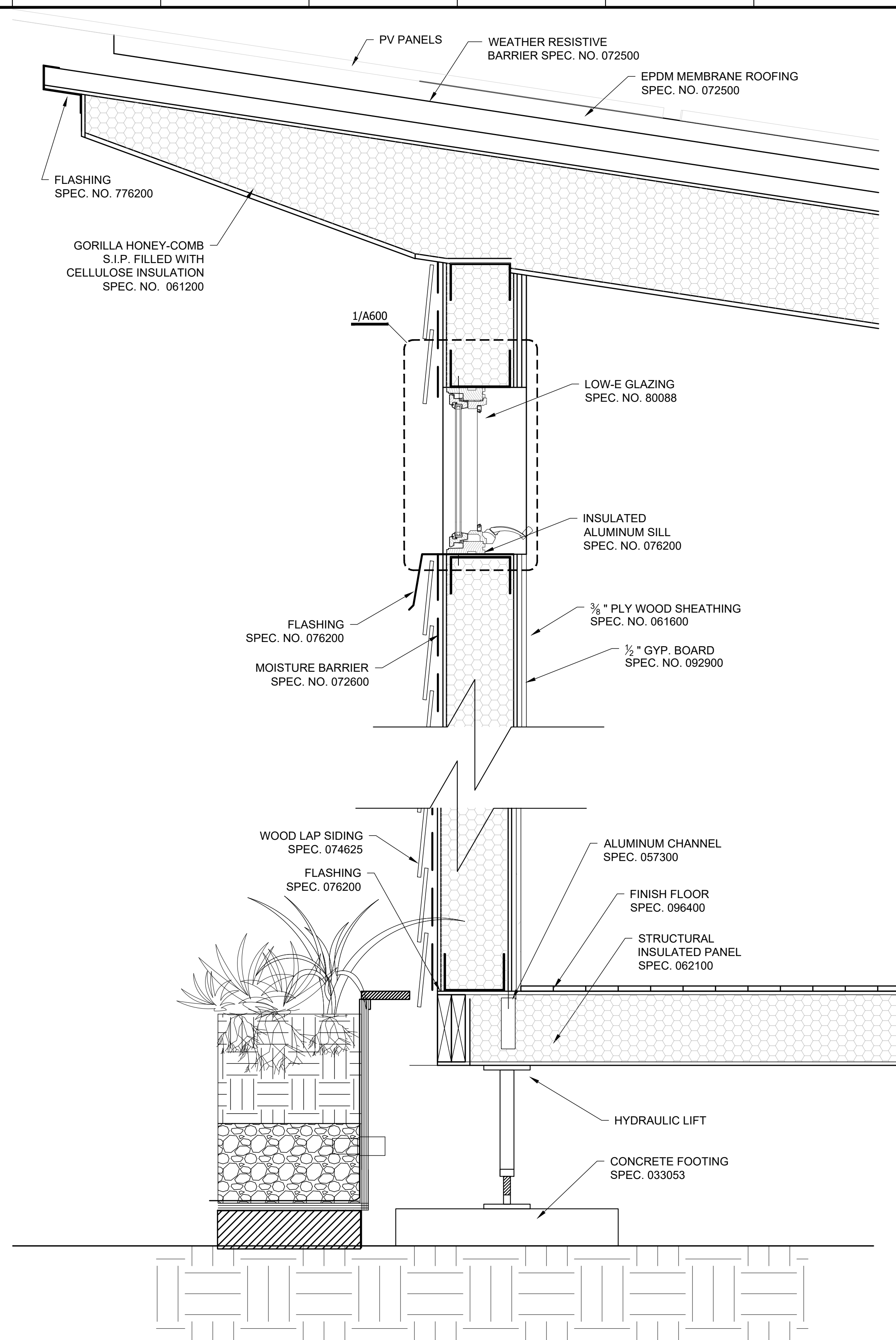
11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

**BUILDING
SECTIONS**
A-300

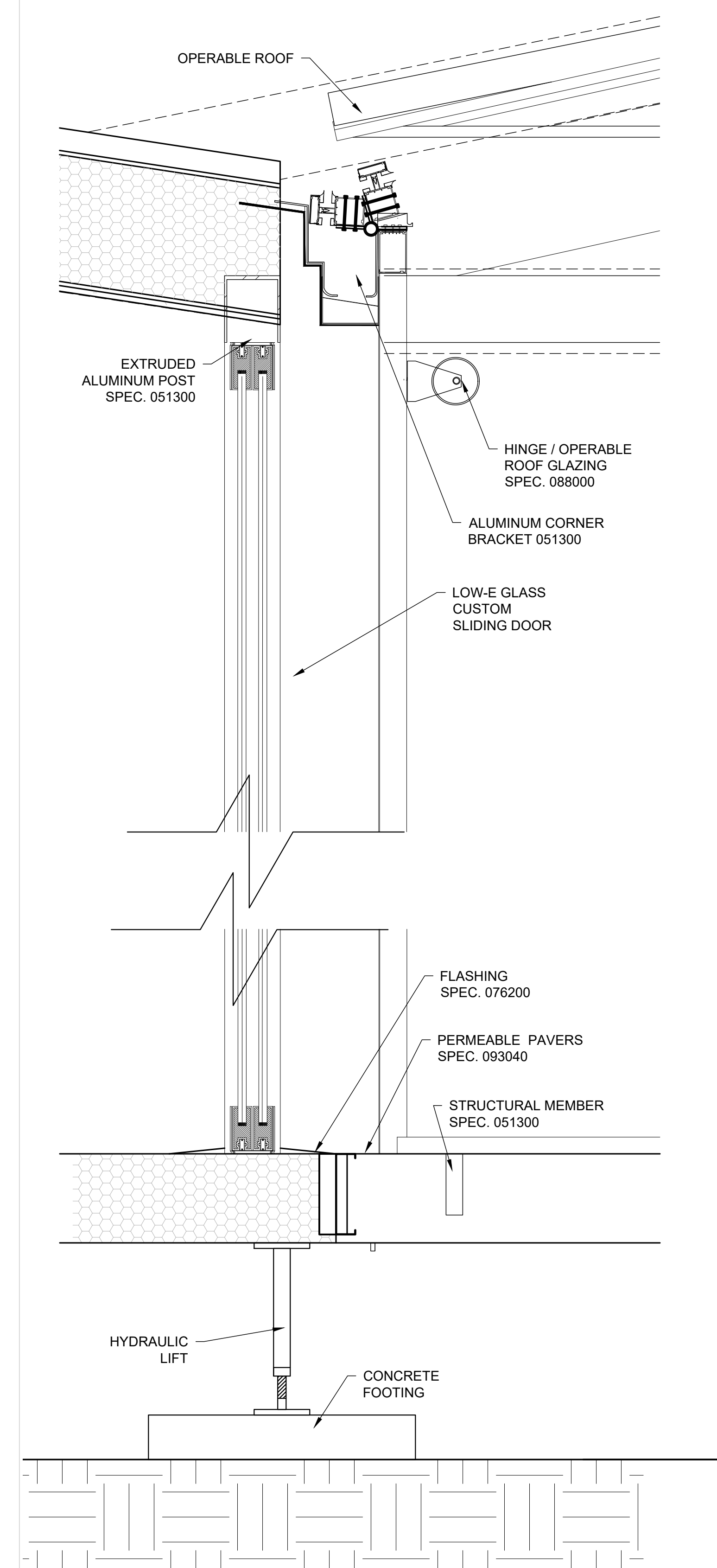


A-303



1 TYPICAL EXTERIOR WEST WALL SECTION

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



2 WEST WALL SECTION AT GREENHOUSE

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

GENERAL NOTES

1. REFER TO SPECIFICATION FOR DETAILS.
2. SEE DETAIL SHEET AND SPECIFICATION FOR MATERIAL DIMENSIONS.
3. SEE BUILDING SECTIONS FOR OVERALL HEIGHT DIMENSIONS.

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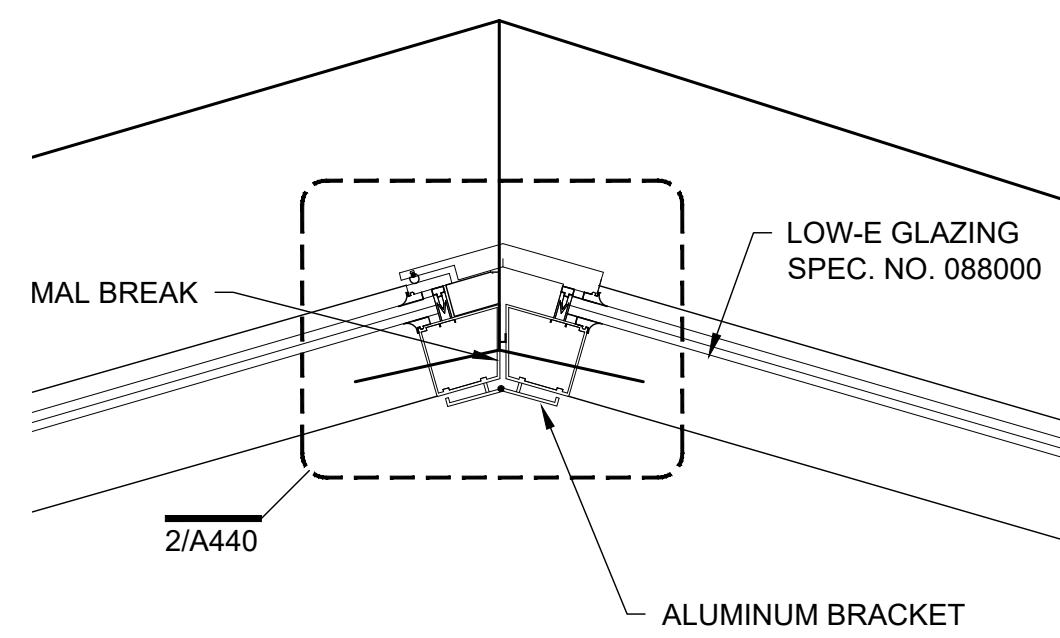
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Solar Decathlon 2017 Submission

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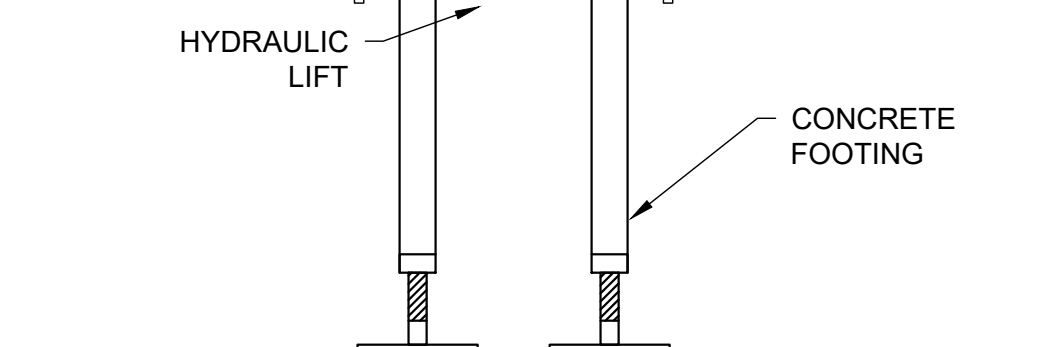
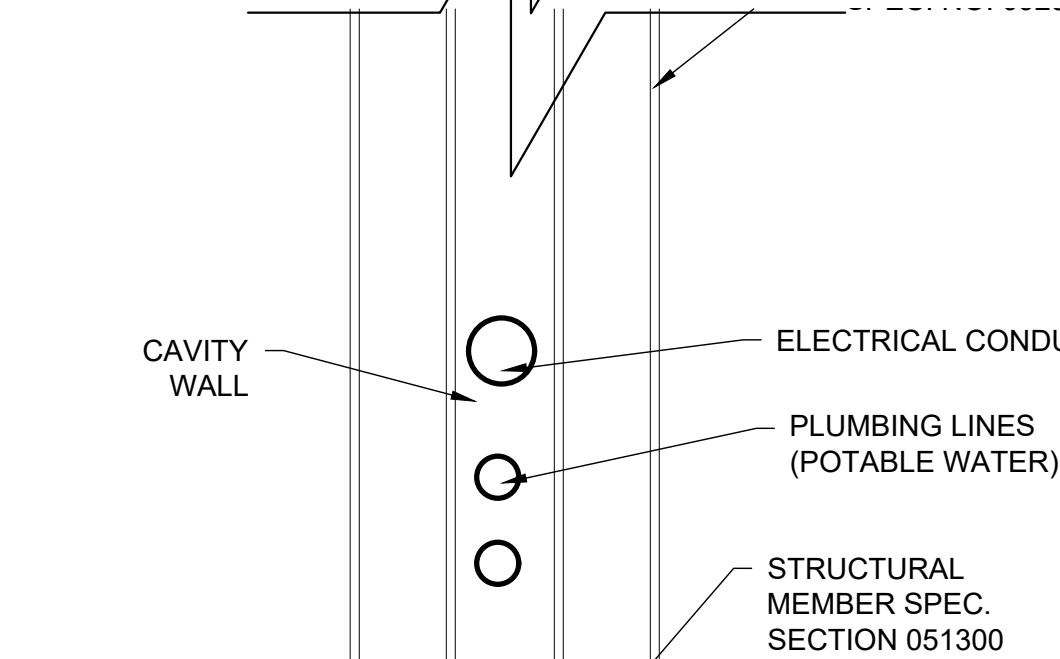
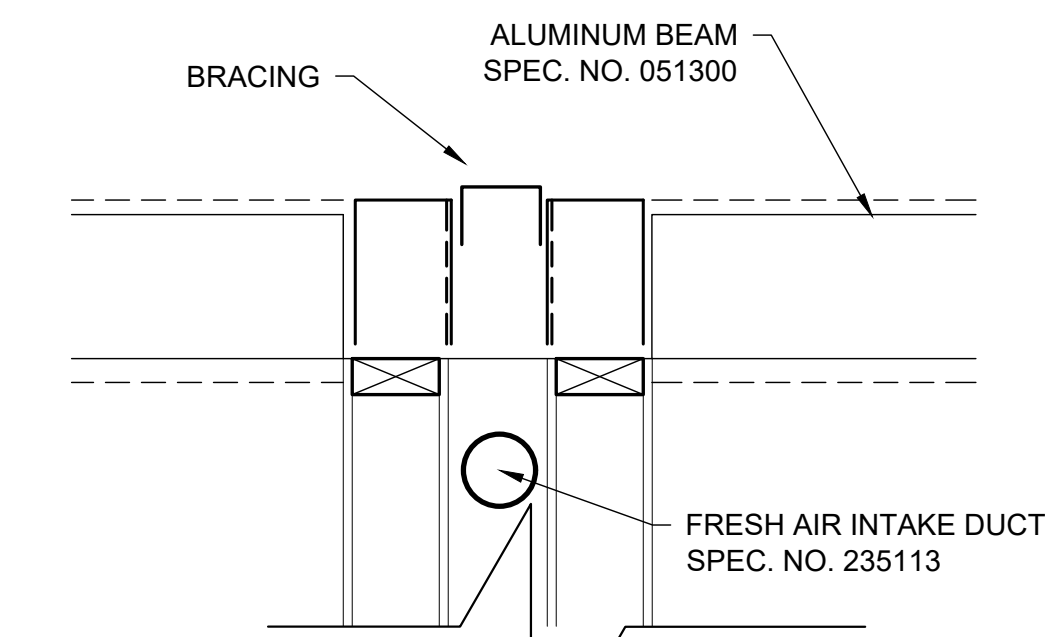
PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

WALL SECTIONS

A-400

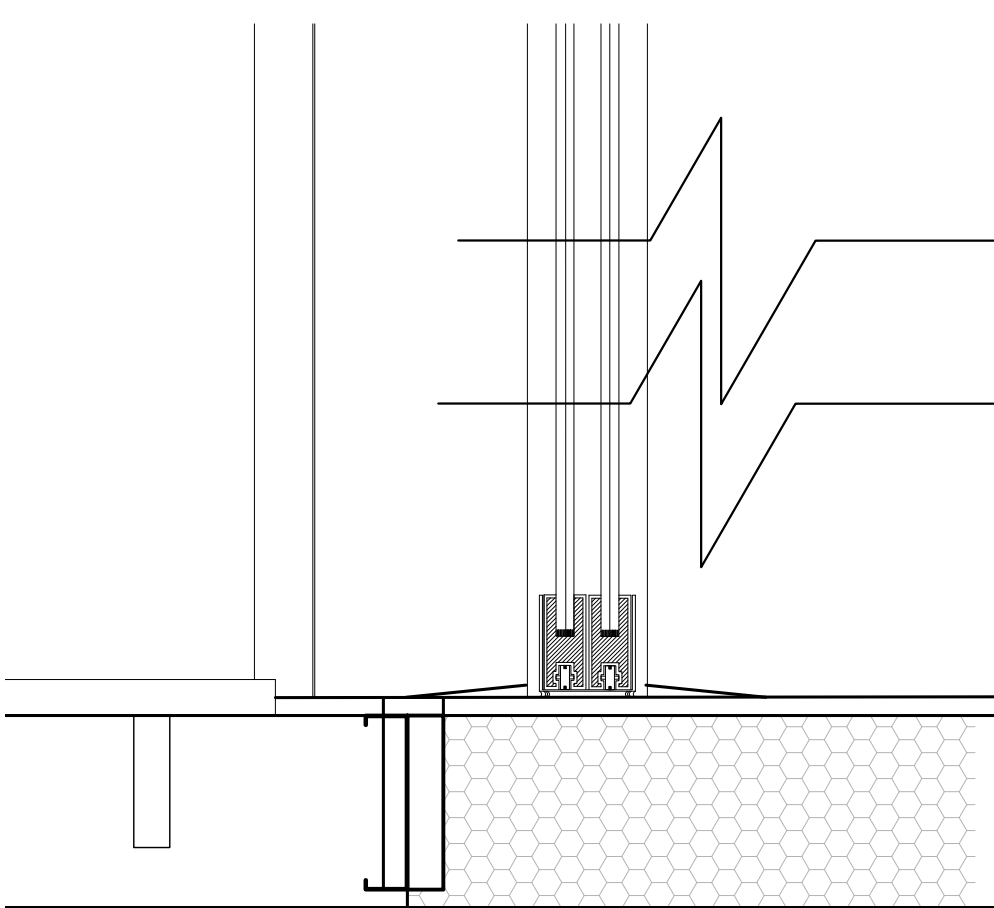
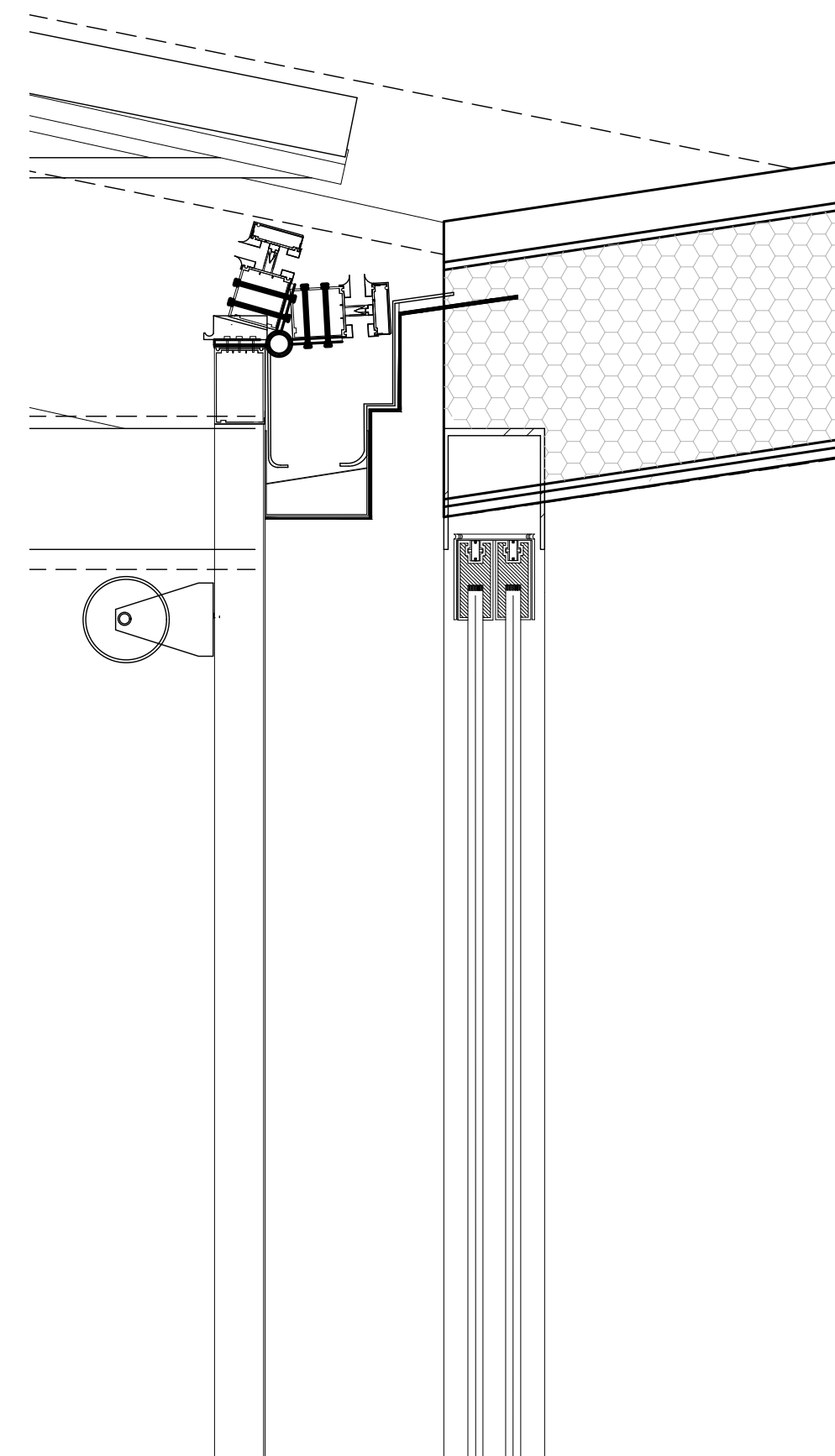


THERMAL ATTIC SPACE



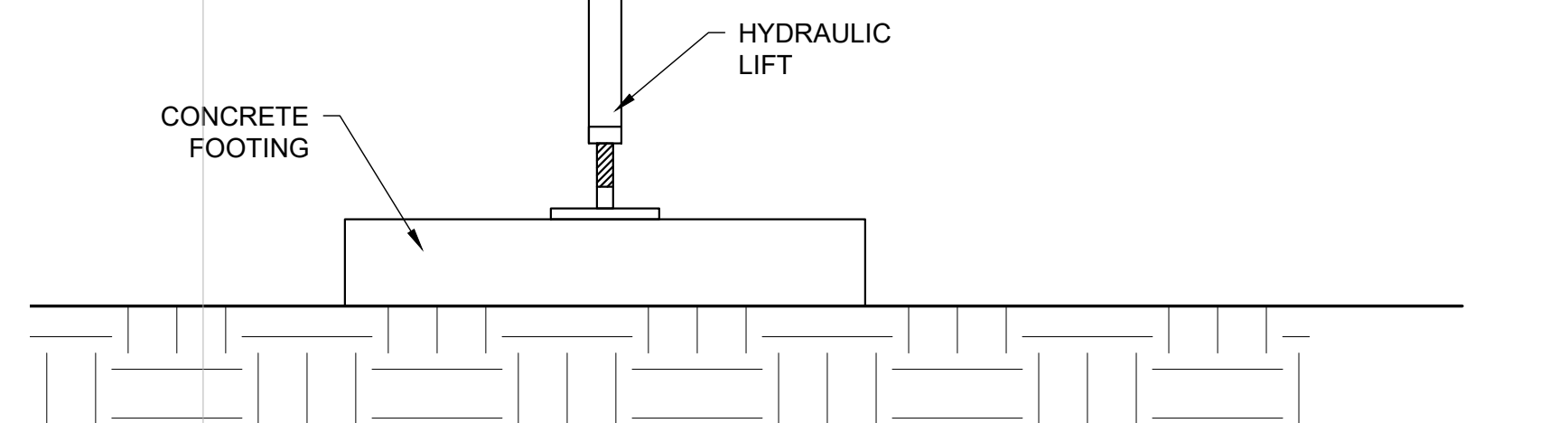
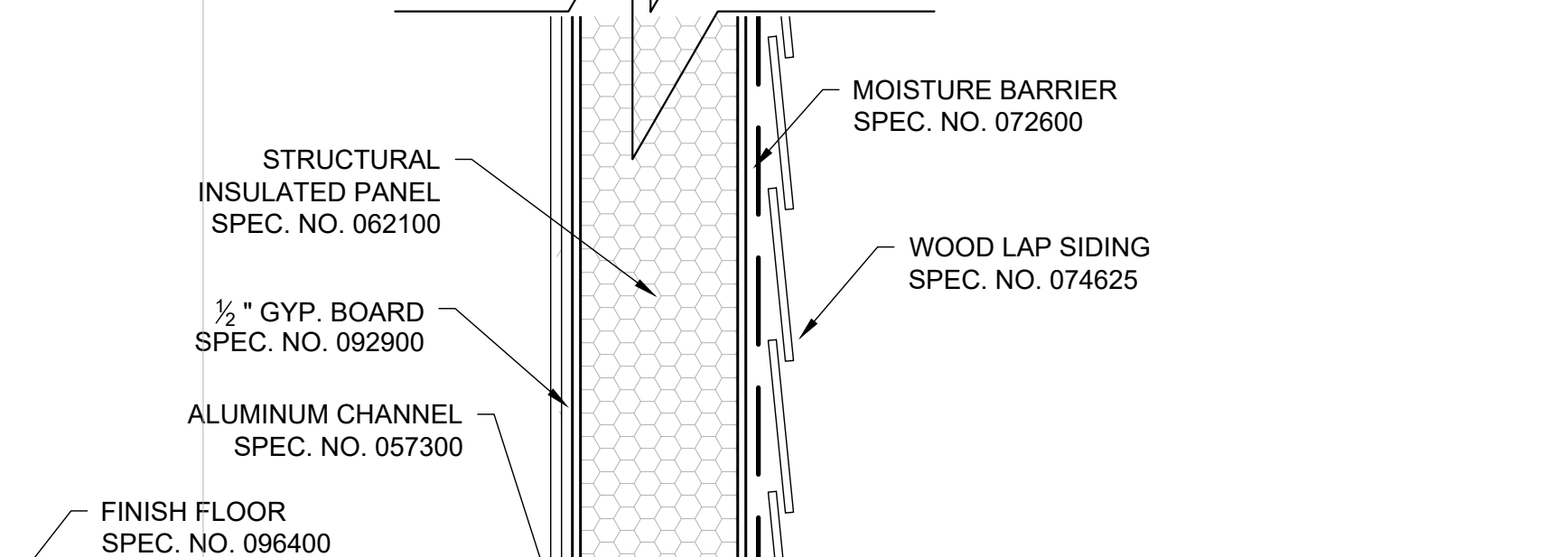
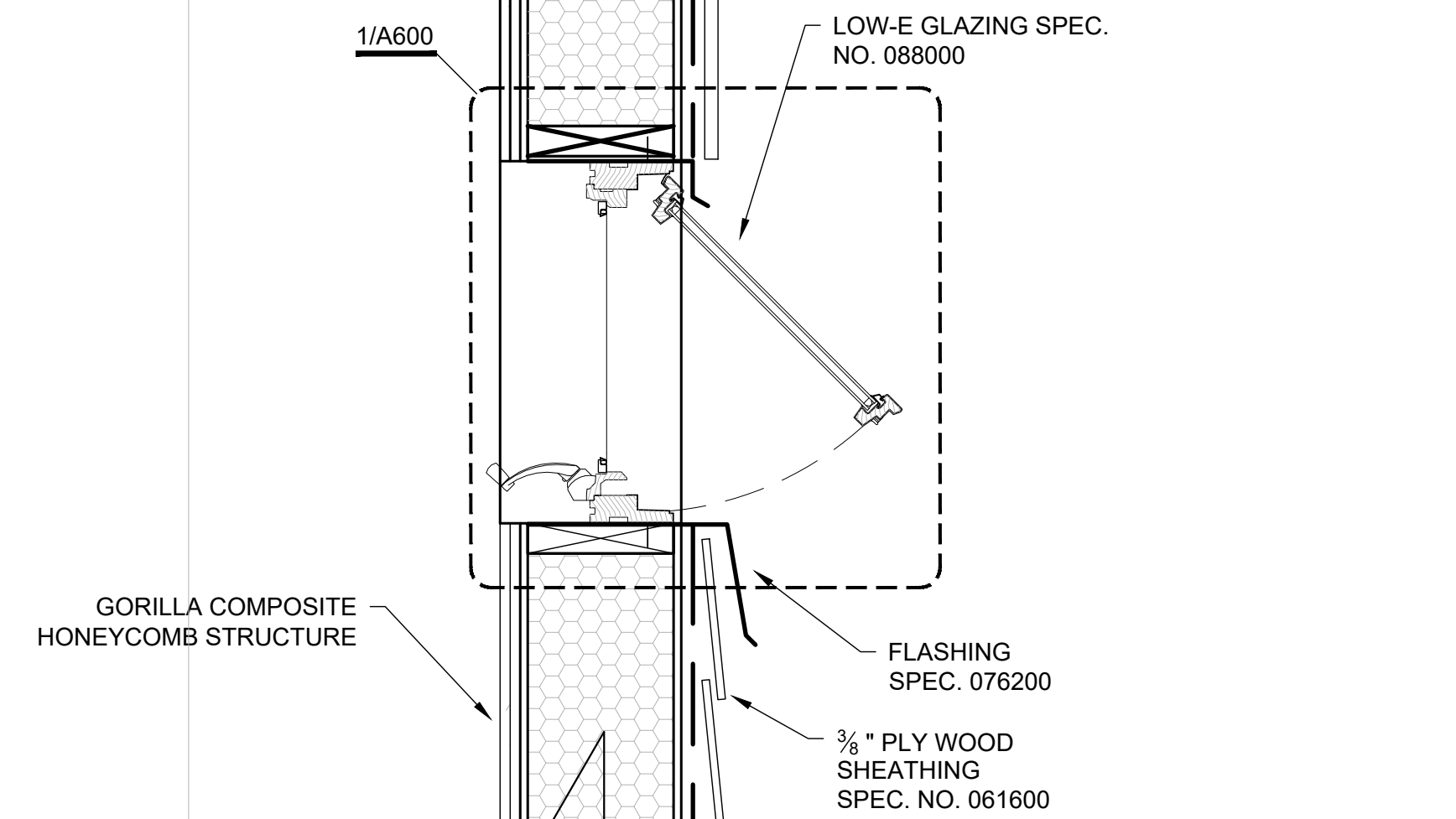
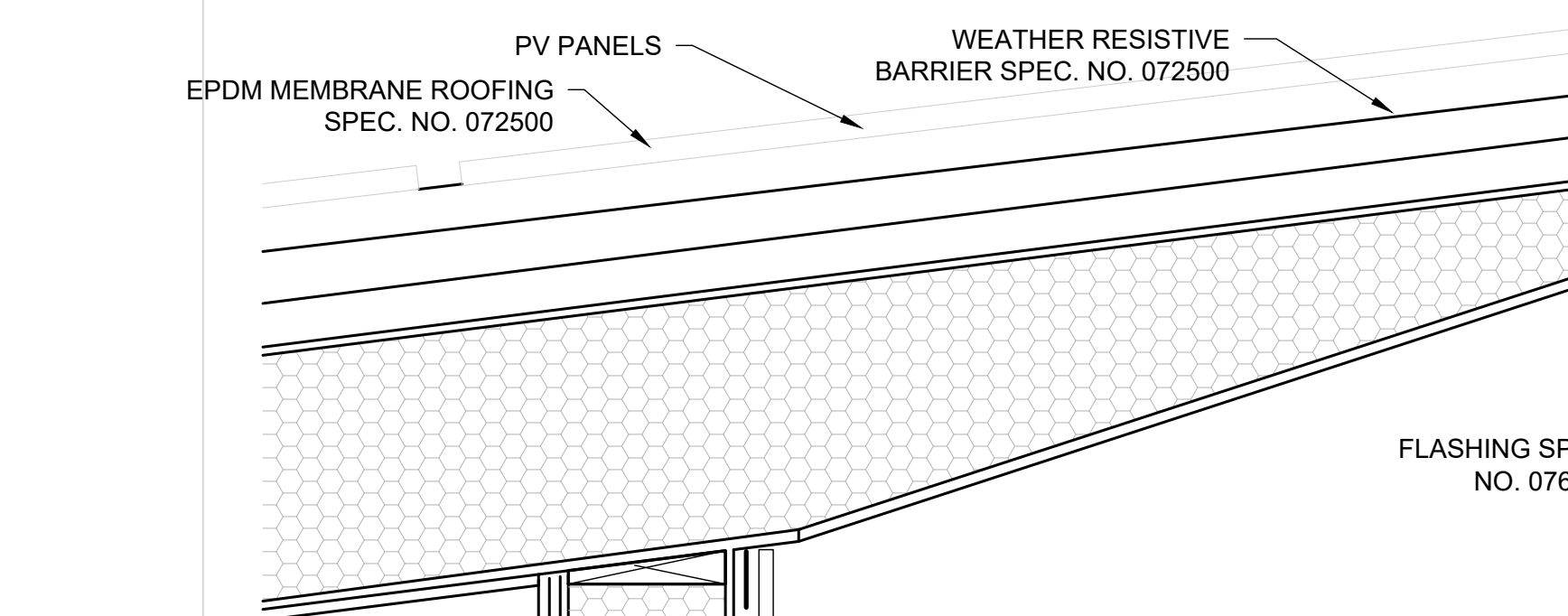
1 TYPICAL SECTION AT ATTIC THROUGH CORRIDOR

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



2 TYPICAL COURTYARD WALL SECTION

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



3 TYPICAL EXTERIOR WALL SECTION AT GREENHOUSE

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

GENERAL NOTES

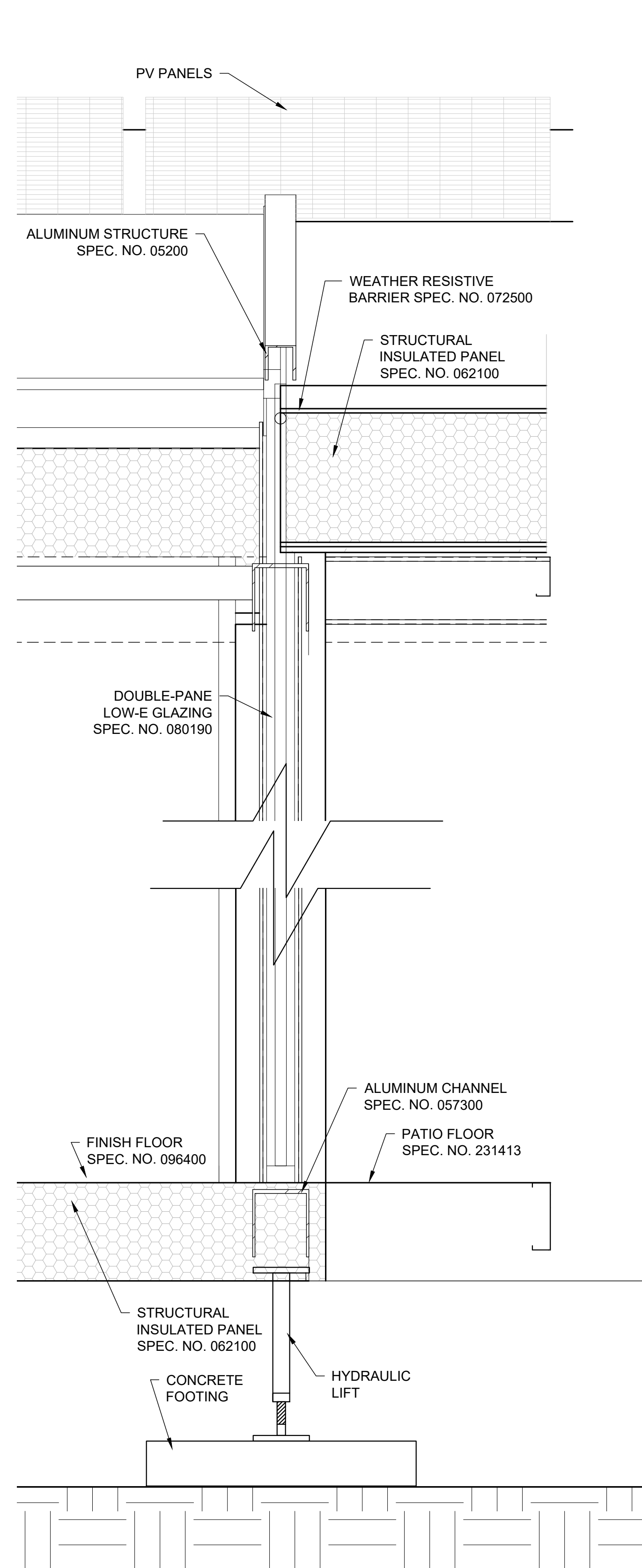
1. REFER TO SPECIFICATION FOR DETAILS.
2. SEE DETAIL SHEET AND SPECIFICATION FOR MATERIAL DIMENSIONS.
3. SEE BUILDING SECTIONS FOR OVERALL HEIGHT DIMENSIONS.

11/17/2016	90% CD SET

PROJECT NO	###
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WALL SECTIONS

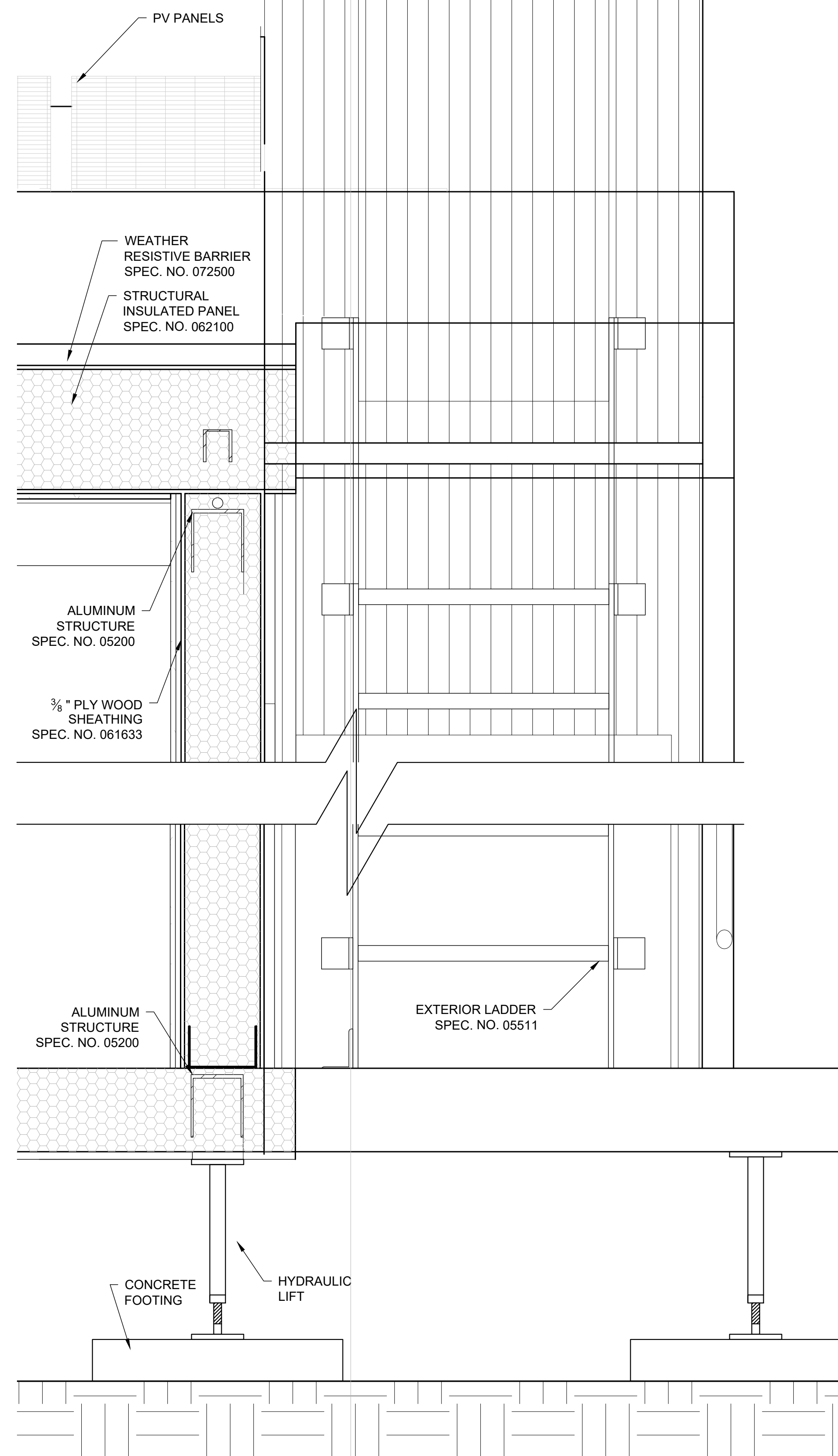
A-401



TYPICAL SECTION AT GREENHOUSE PEAK

1

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



TYPICAL NORTH-SOUTH EXTERIOR WALL SECTION

2

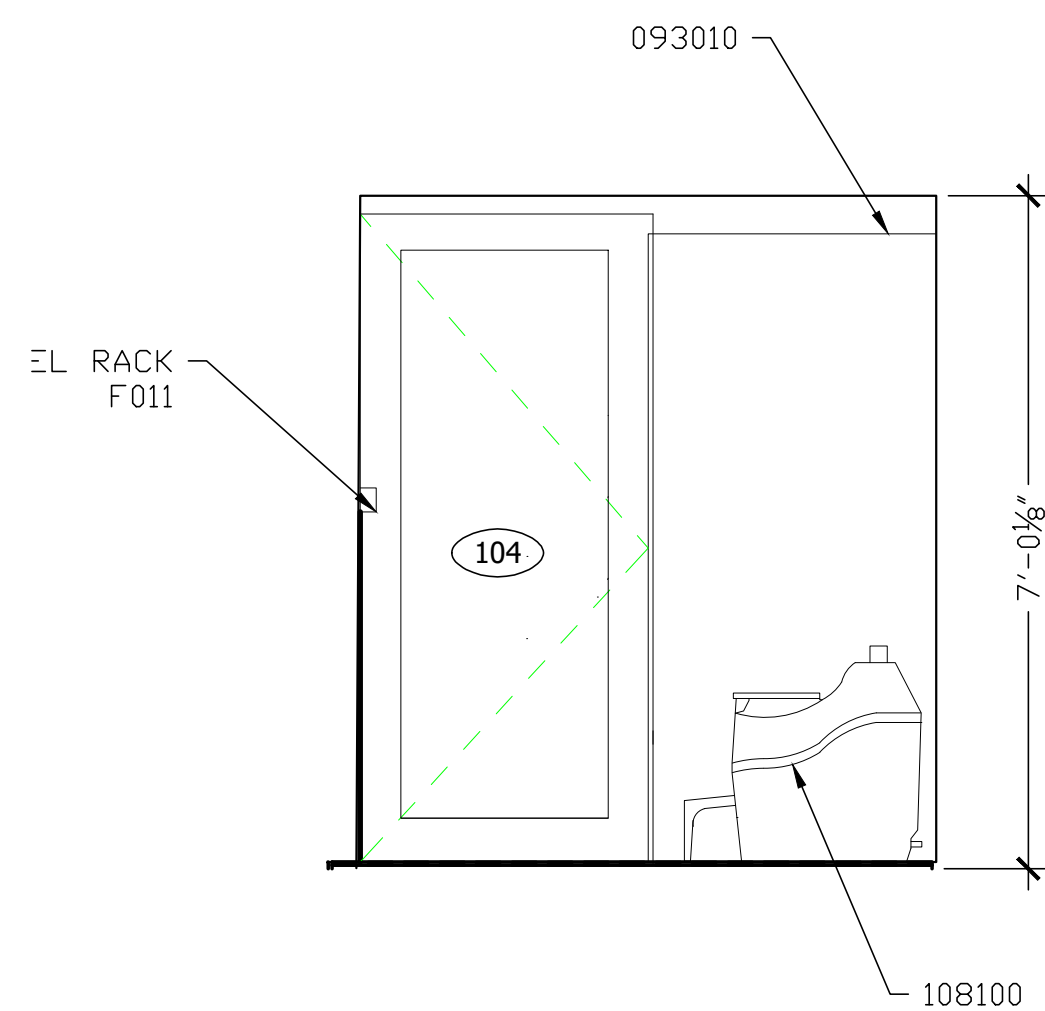
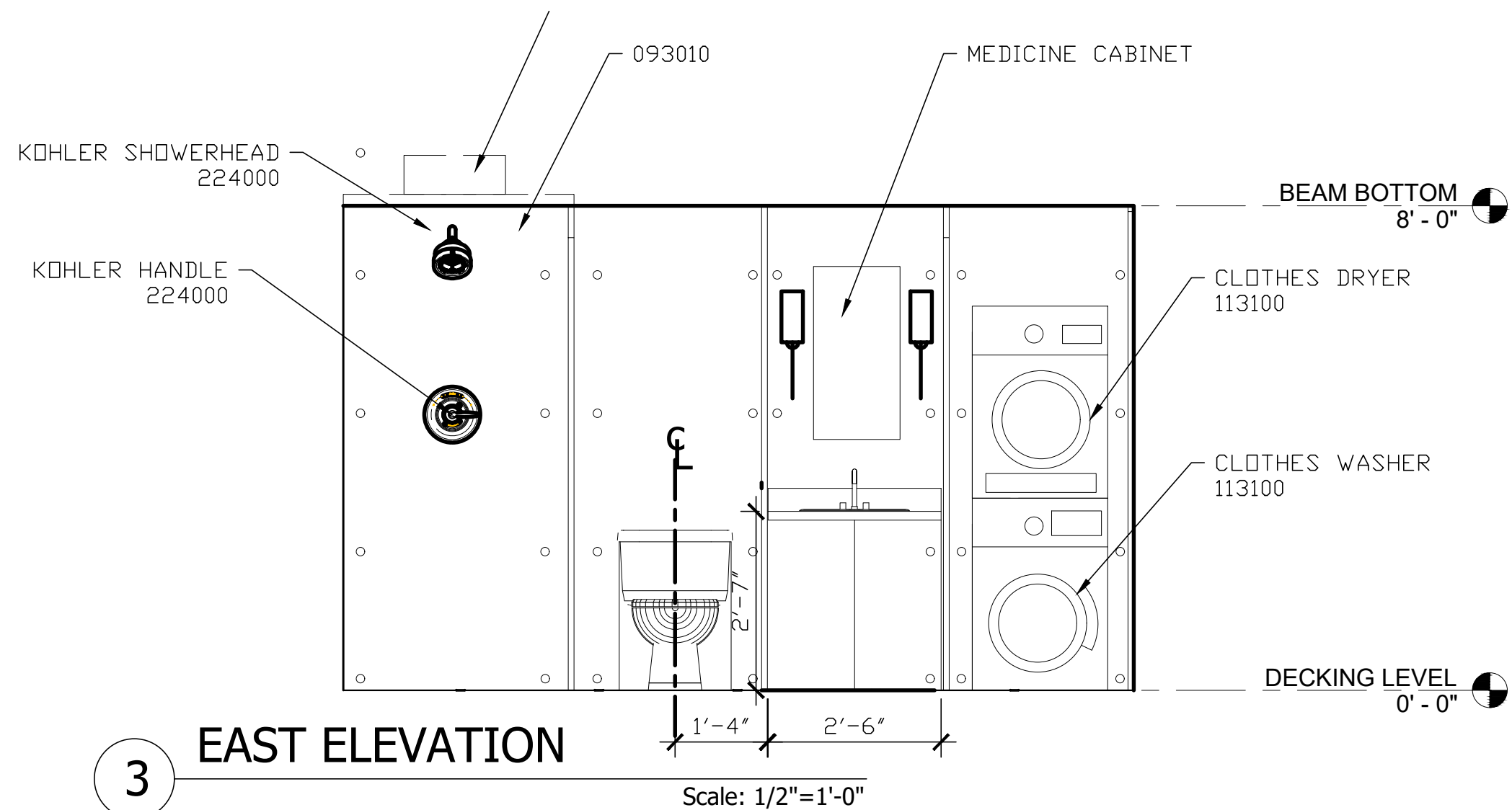
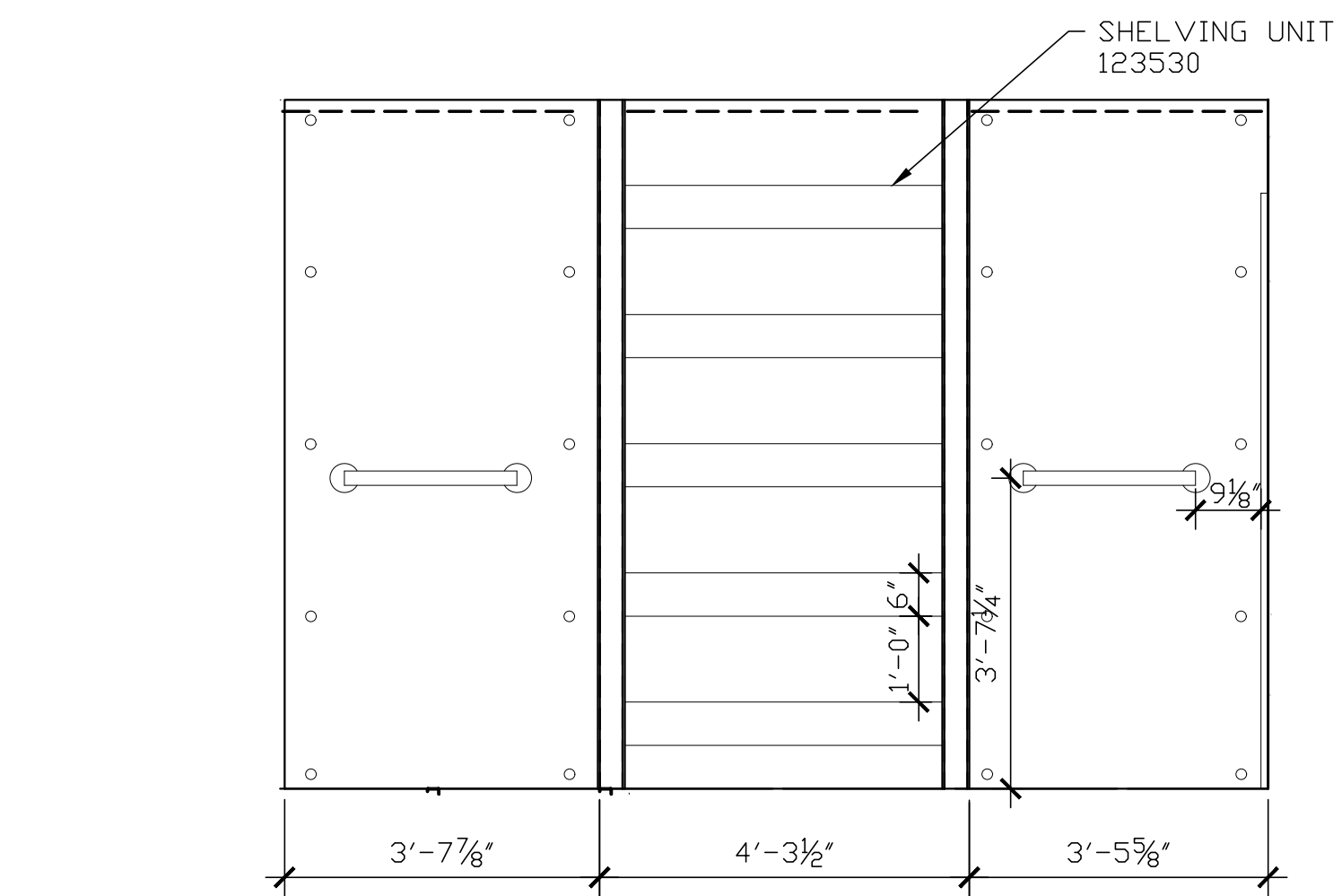
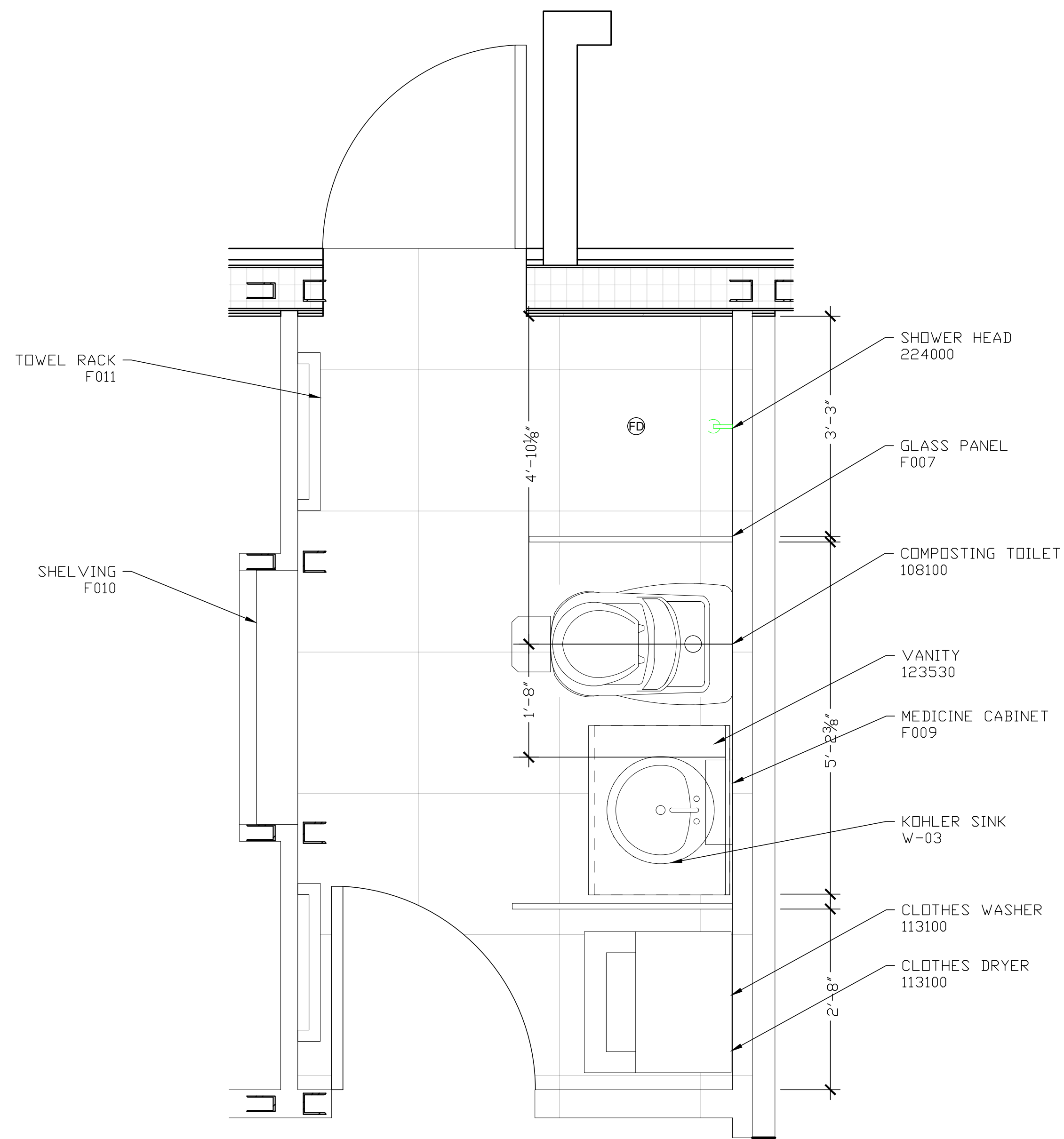
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GENERAL NOTES

1. REFER TO SPECIFICATION FOR DETAILS.
2. SEE DETAIL SHEET AND SPECIFICATION FOR MATERIAL DIMENSIONS.
3. SEE BUILDING SECTIONS FOR OVERALL HEIGHT DIMENSIONS.

[illegible]

PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####



GENERAL NOTES

1. MOVEABLE COUNTER

UNIVERSITY OF MARYLAND
COLLEGE PARK, MD 20742



reACT
University of Maryland, College Park
Solar Decathlon 2017 Submission

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PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

RESTROOM
DETAILS

A-410



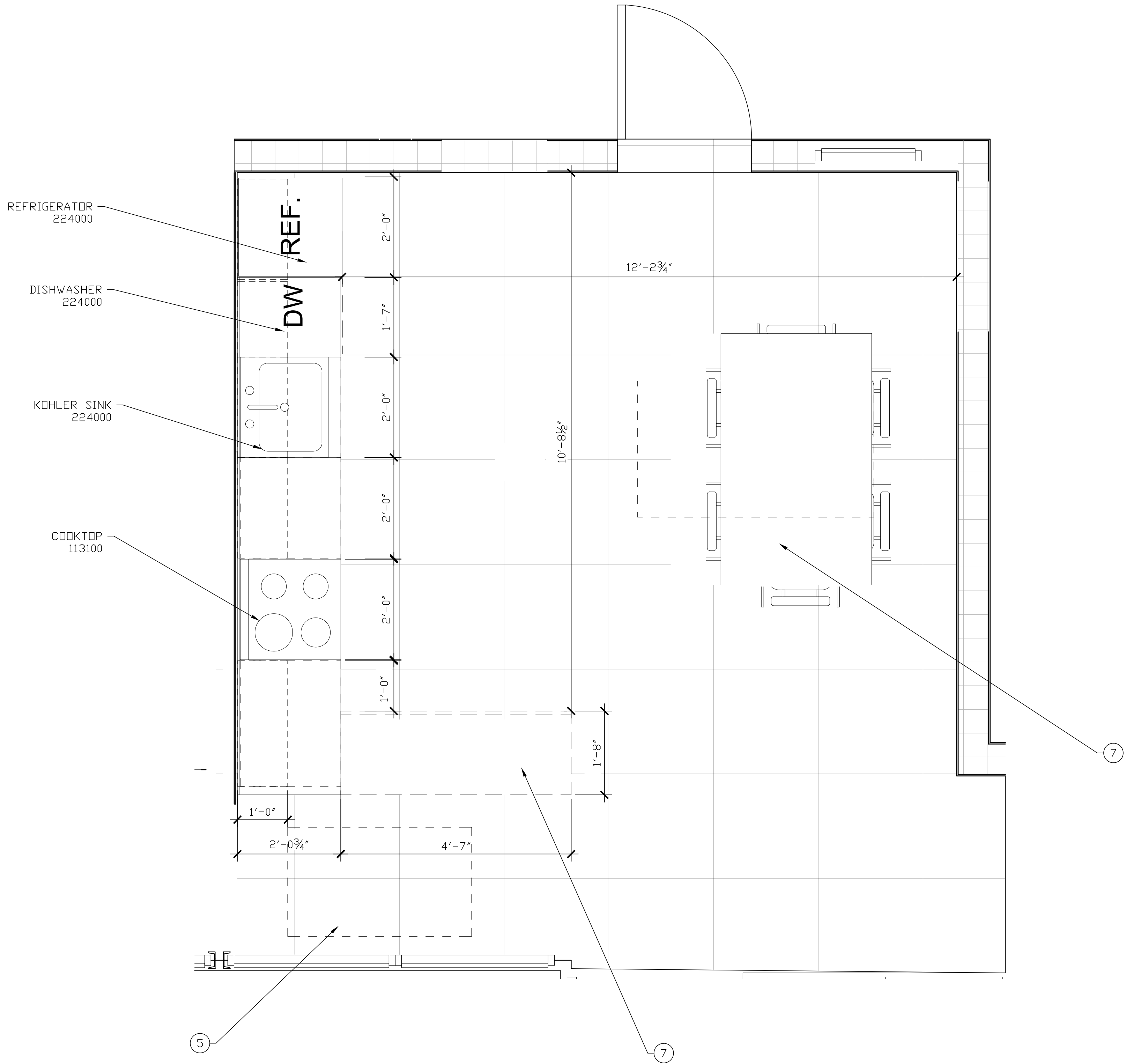
GENERAL NOTES

5. SOLAR OVEN ABOVE
7. ADJUSTABLE FURNITURE

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PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

ENLARGED
KITCHEN PLAN
A-420



1 ENLARGED KITCHEN PLAN
Scale: 3/4"=1'-0"



1/17/2016	90% CD SET
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PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####



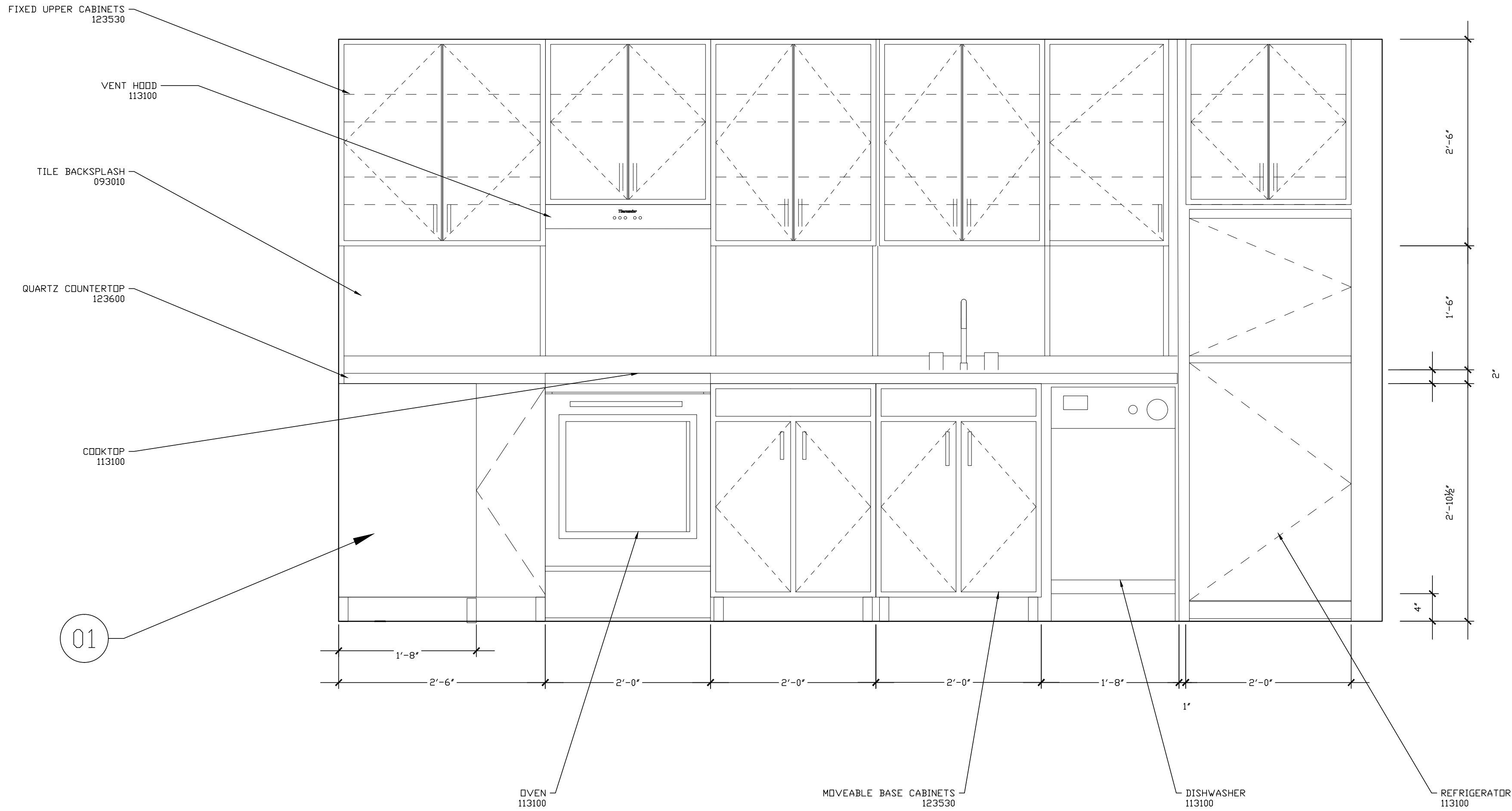
GENERAL NOTES

1. MOVEABLE COUNTER

11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

DETAILED
KITCHEN
ELEVATION
A-421



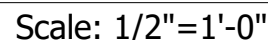
D3

WEST ELEVATION

Scale: 1"=1'-0"



1



3



2

1/17/2016	90% CD SET
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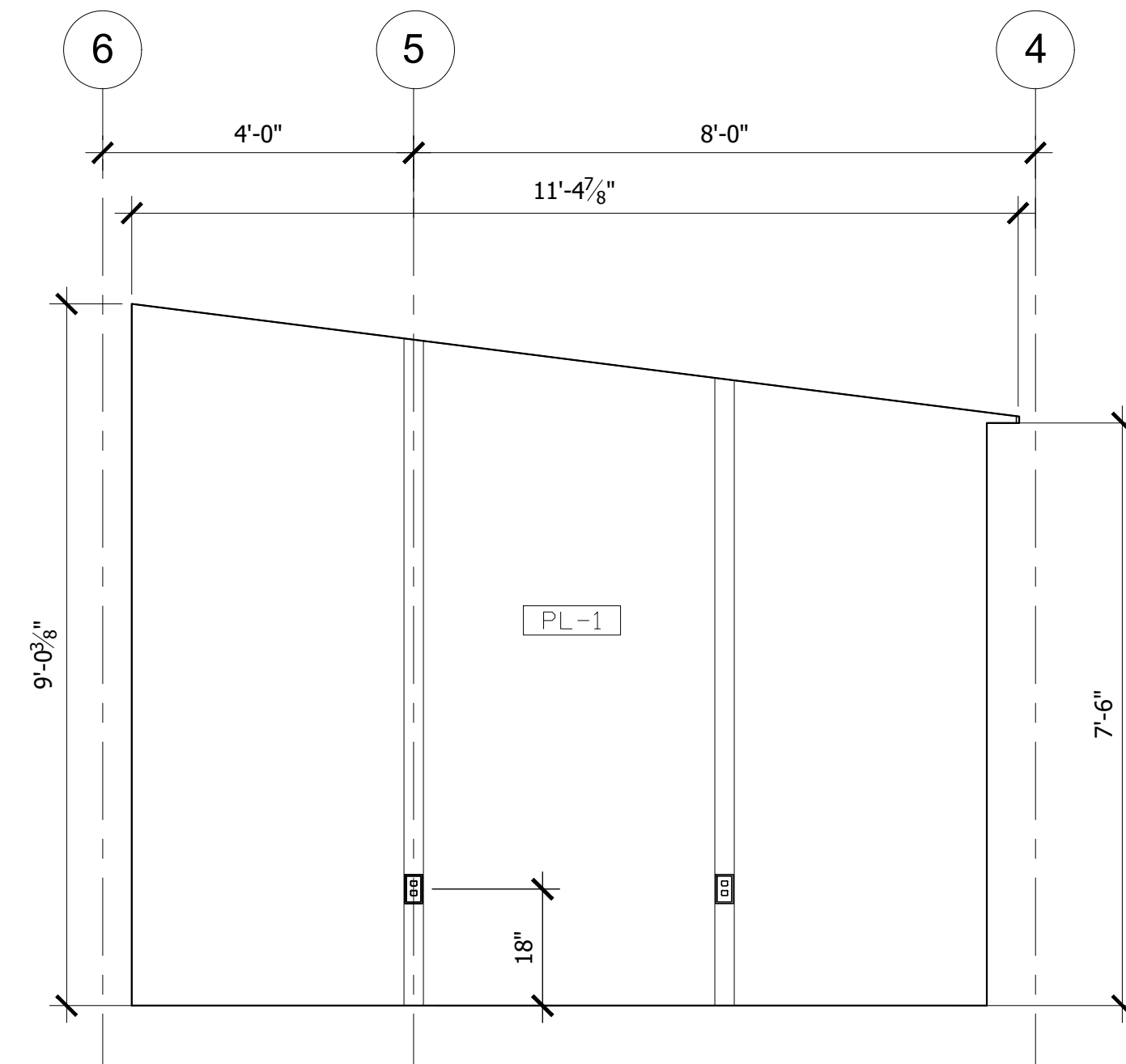
PROJECT NO. ###

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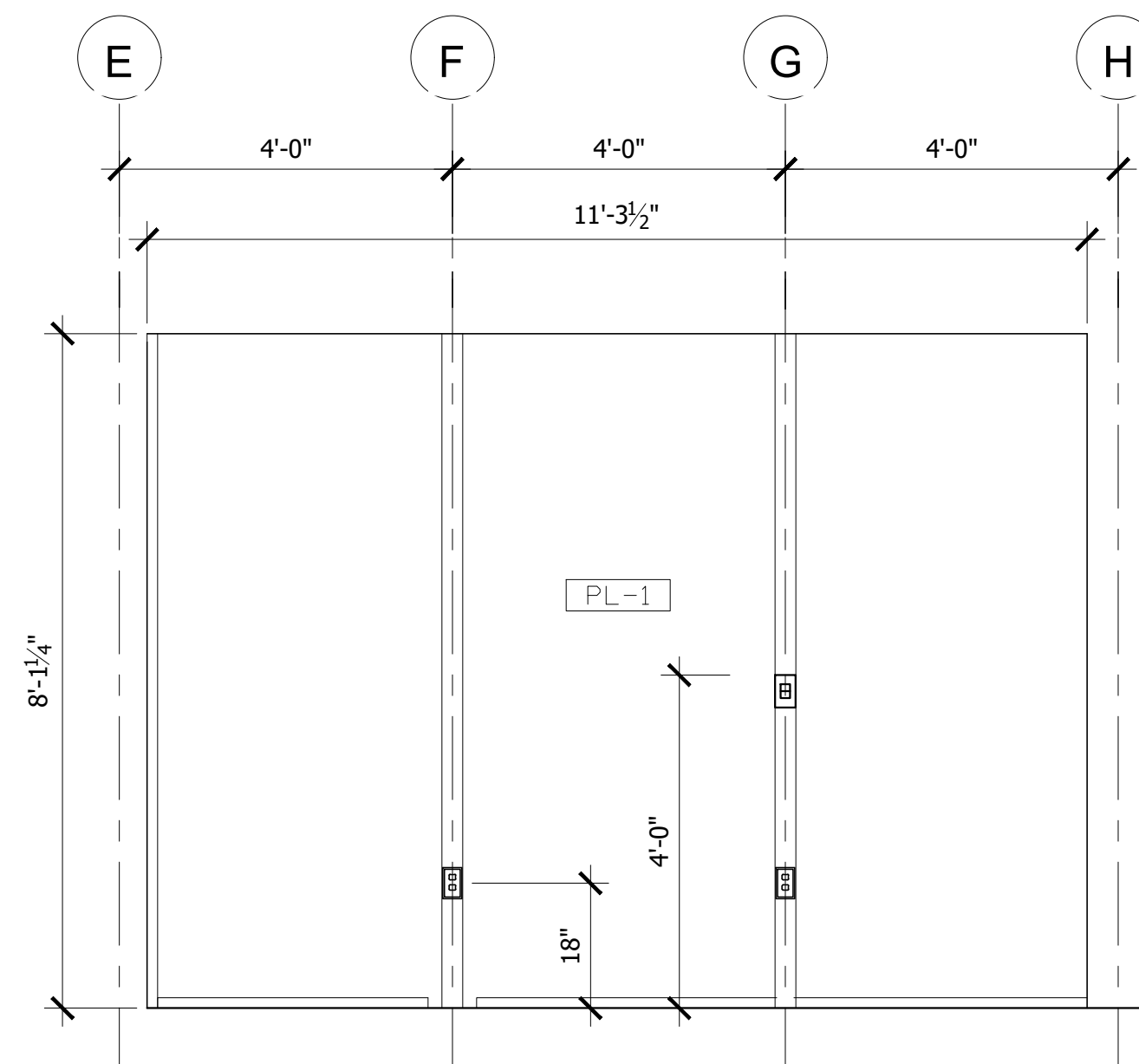
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DRAWN	
DESIGNED	####
CHECKED	####

[illegible]

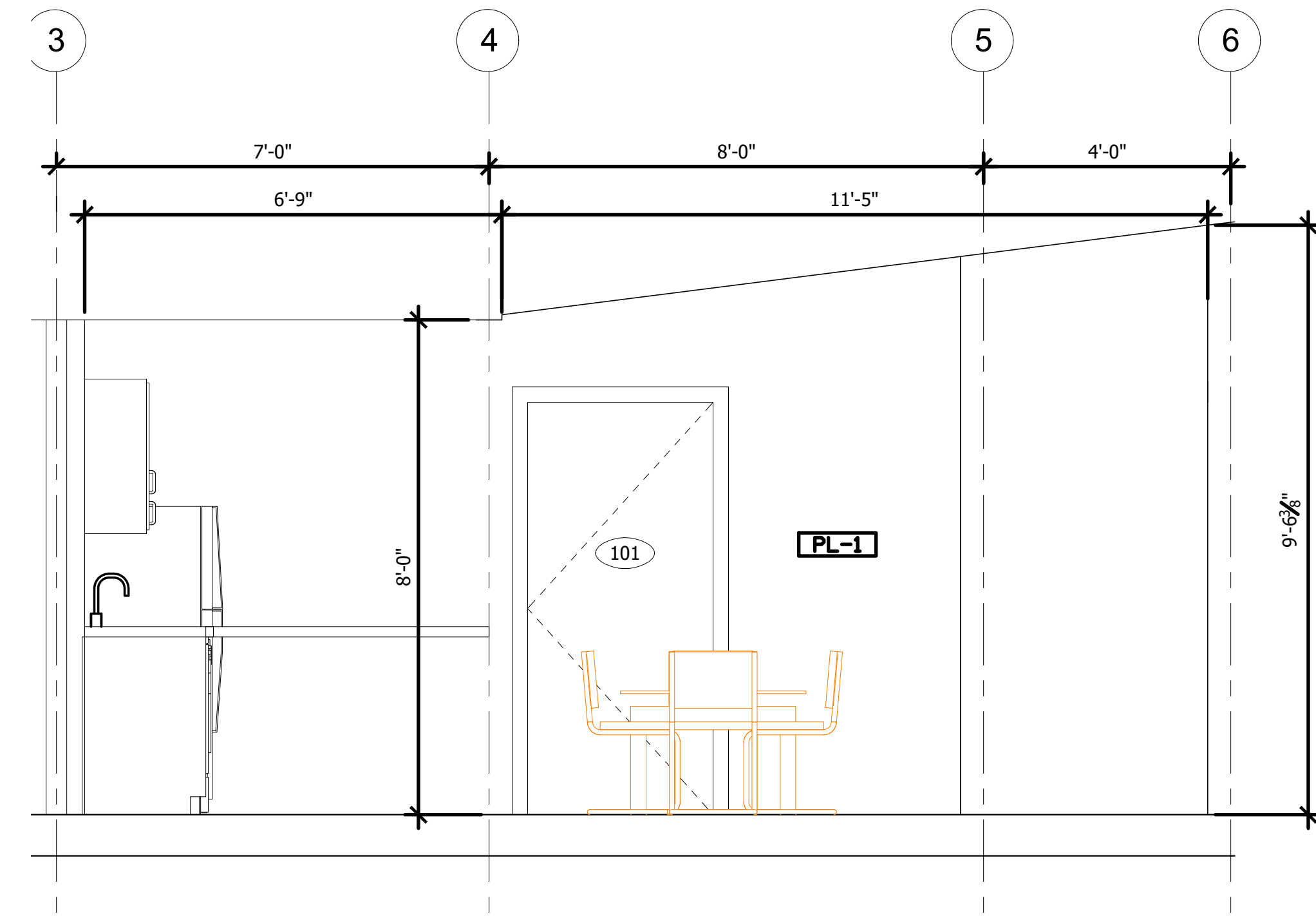
PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####



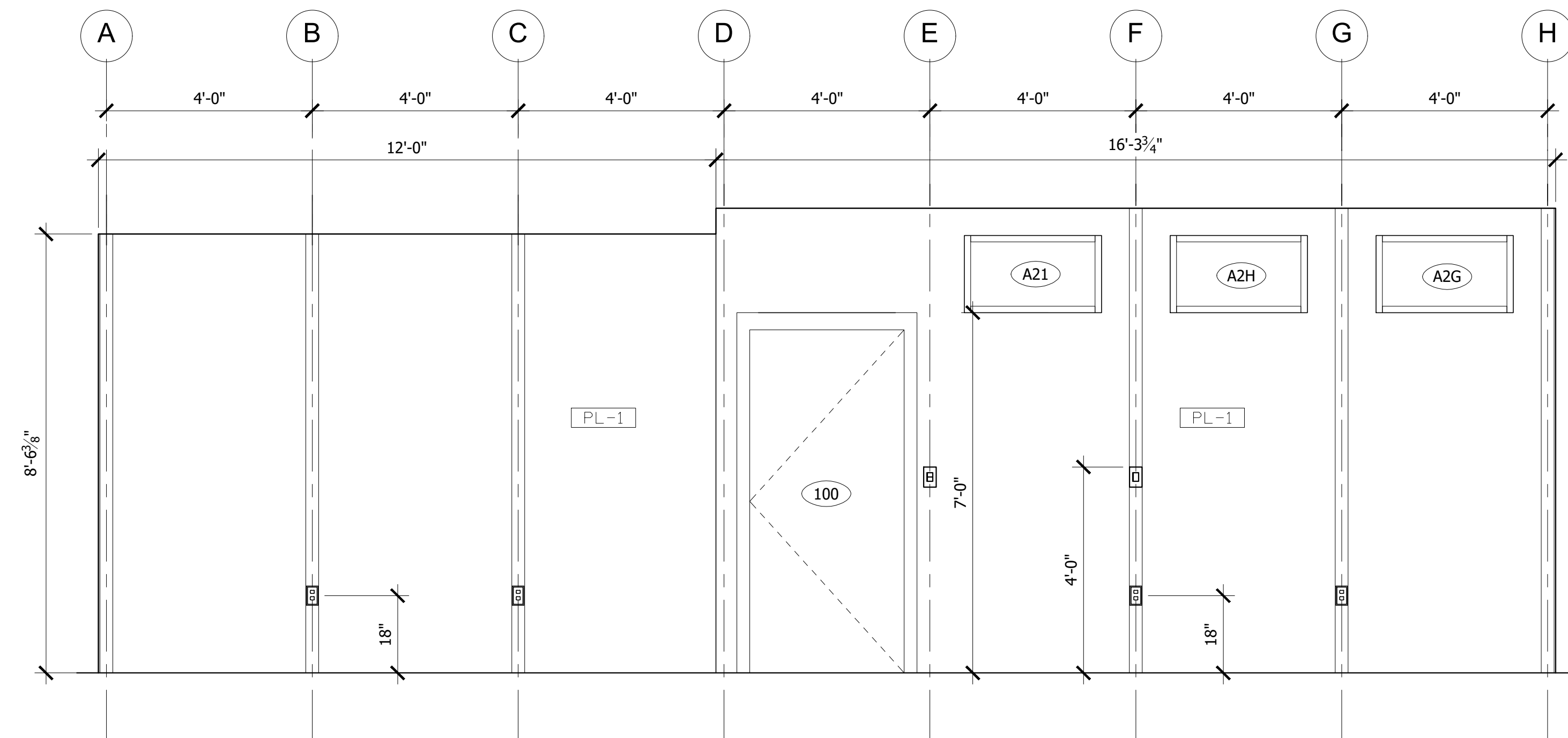
5 LIVING ROOM ELEVATION
Scale: 1/2"=1'-0"



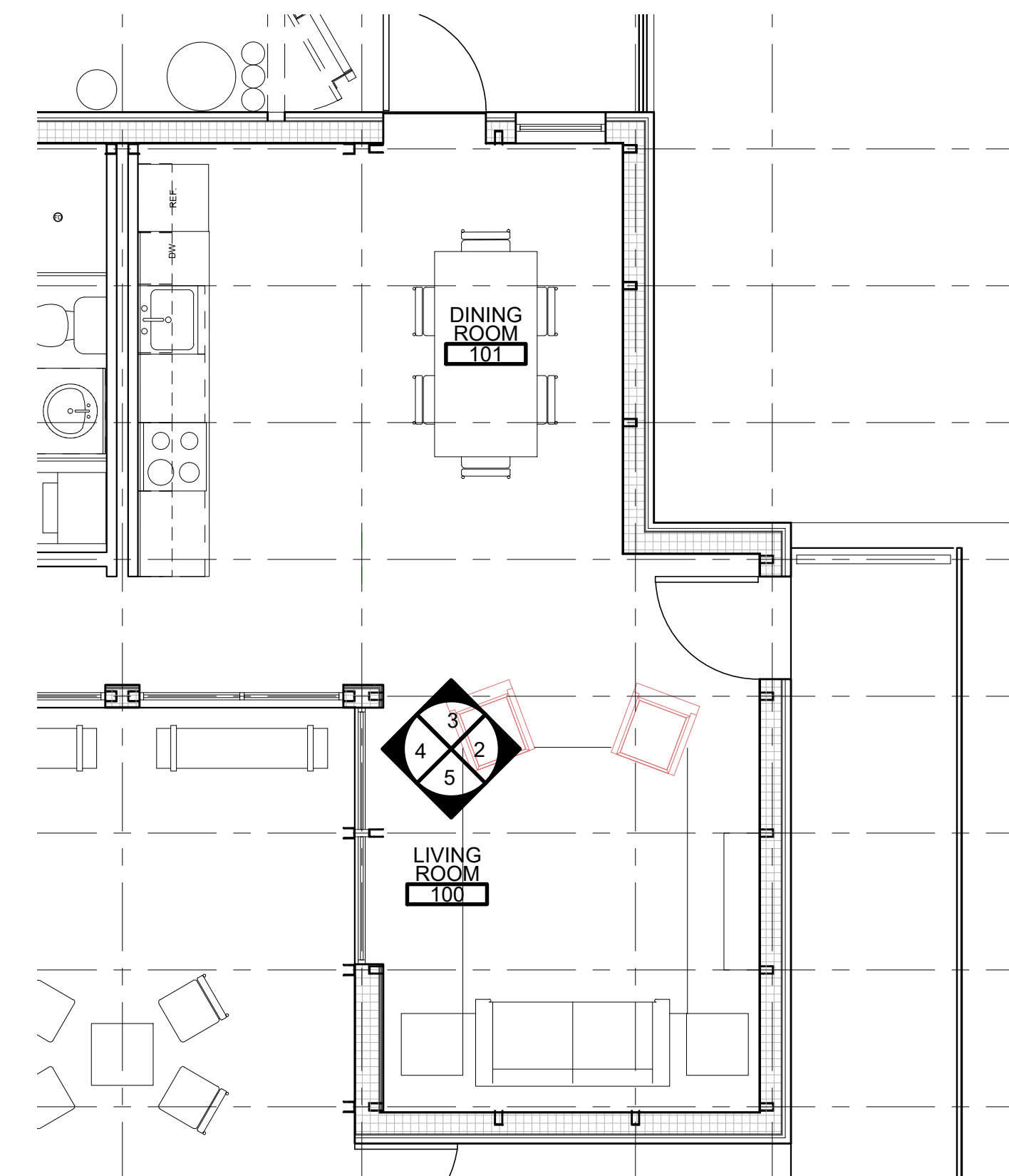
4 DINING ROOM ELEVATION
Scale: 1/2"=1'-0"



3 KITCHEN/ DINING ROOM ELEVATION
Scale: 1/2"=1'-0"



2 DINING/ LIVING ROOM
Scale: 1/2"=1'-0"



1 BEDROOM PLAN
Scale: 1/4"=1'-0"

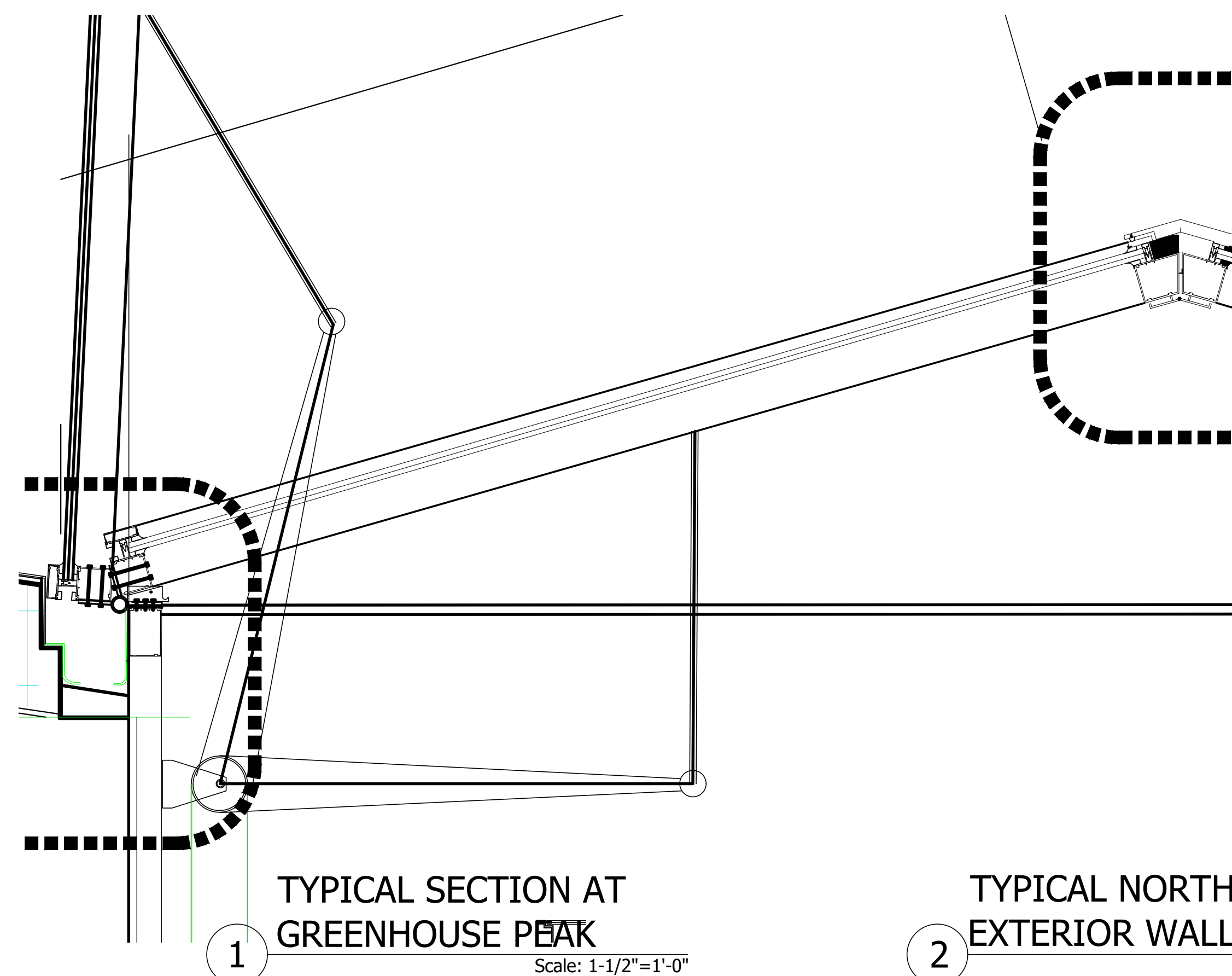
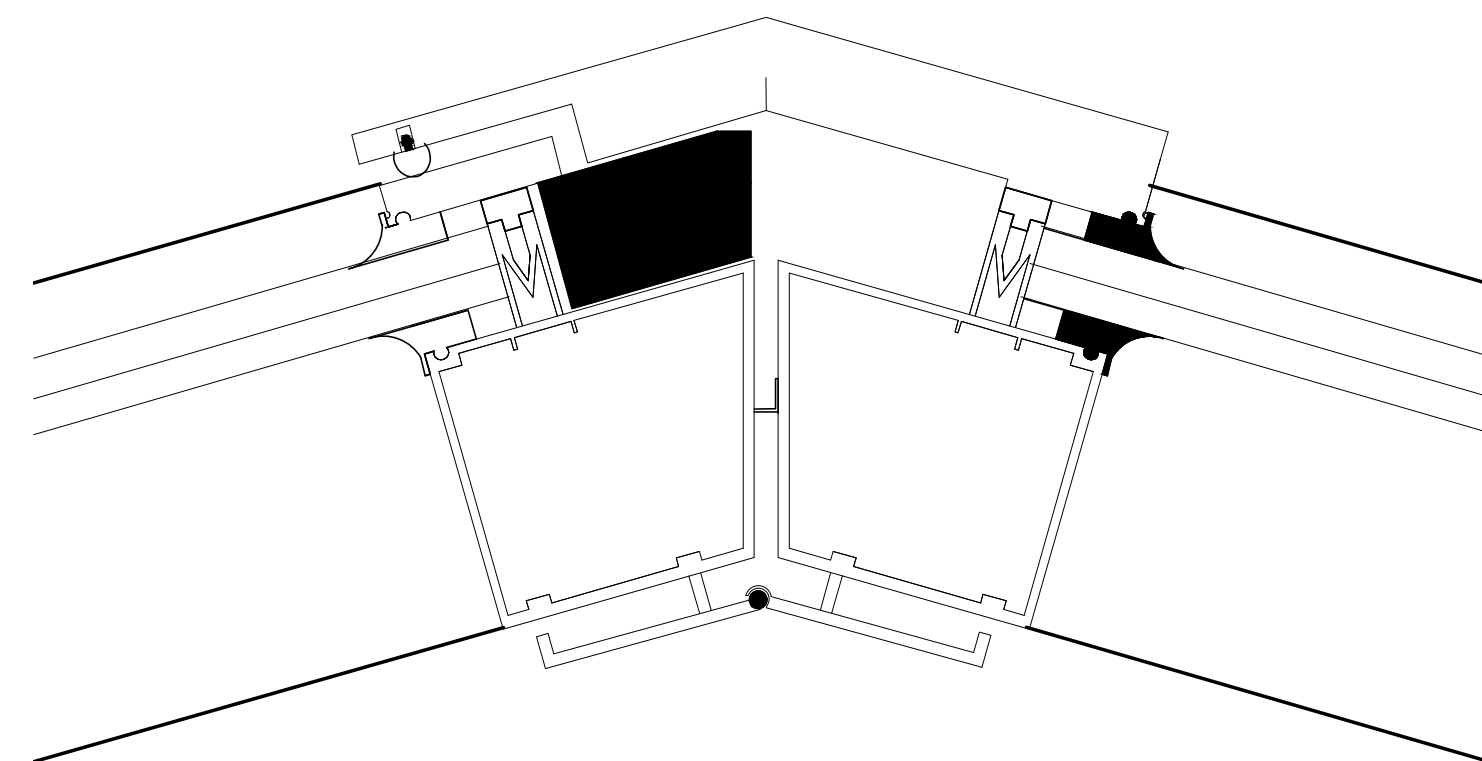


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PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

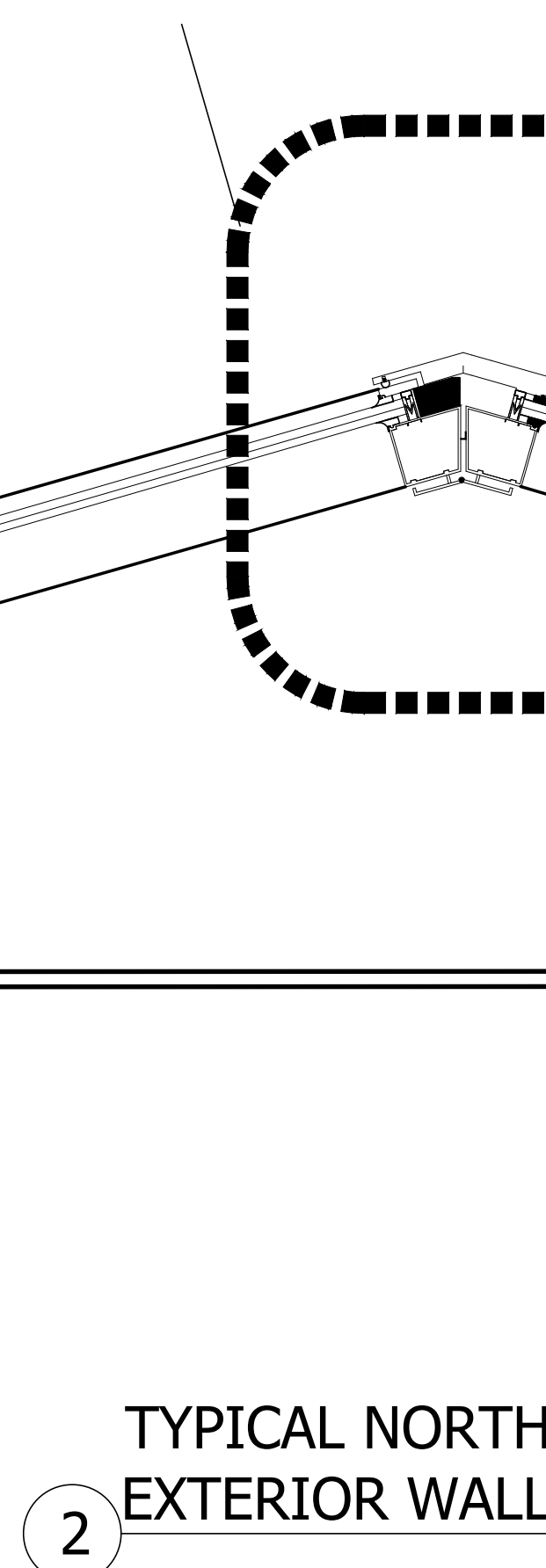
WALL SECTIONS

A-402



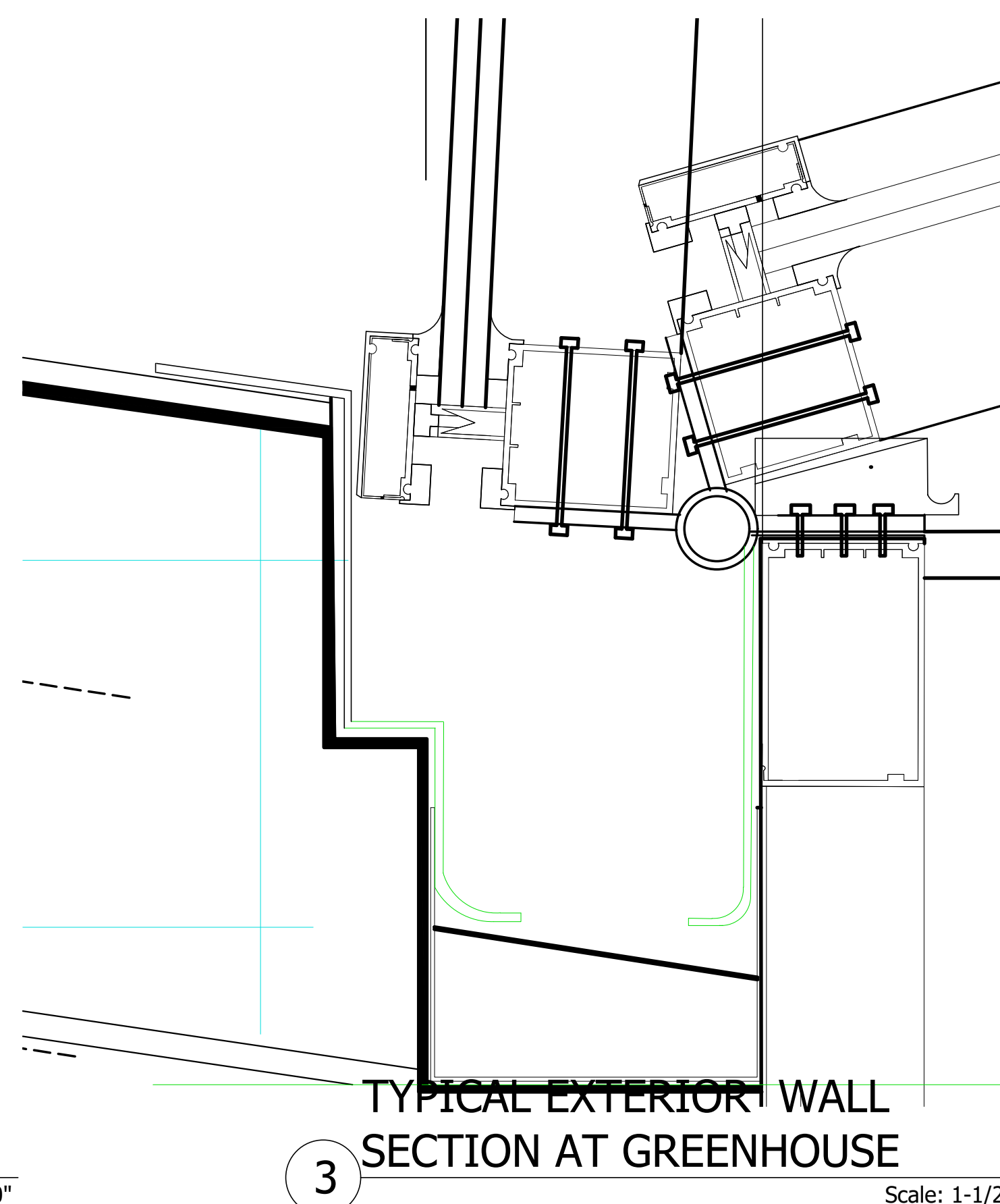
TYPICAL SECTION AT
GREENHOUSE PEAK

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



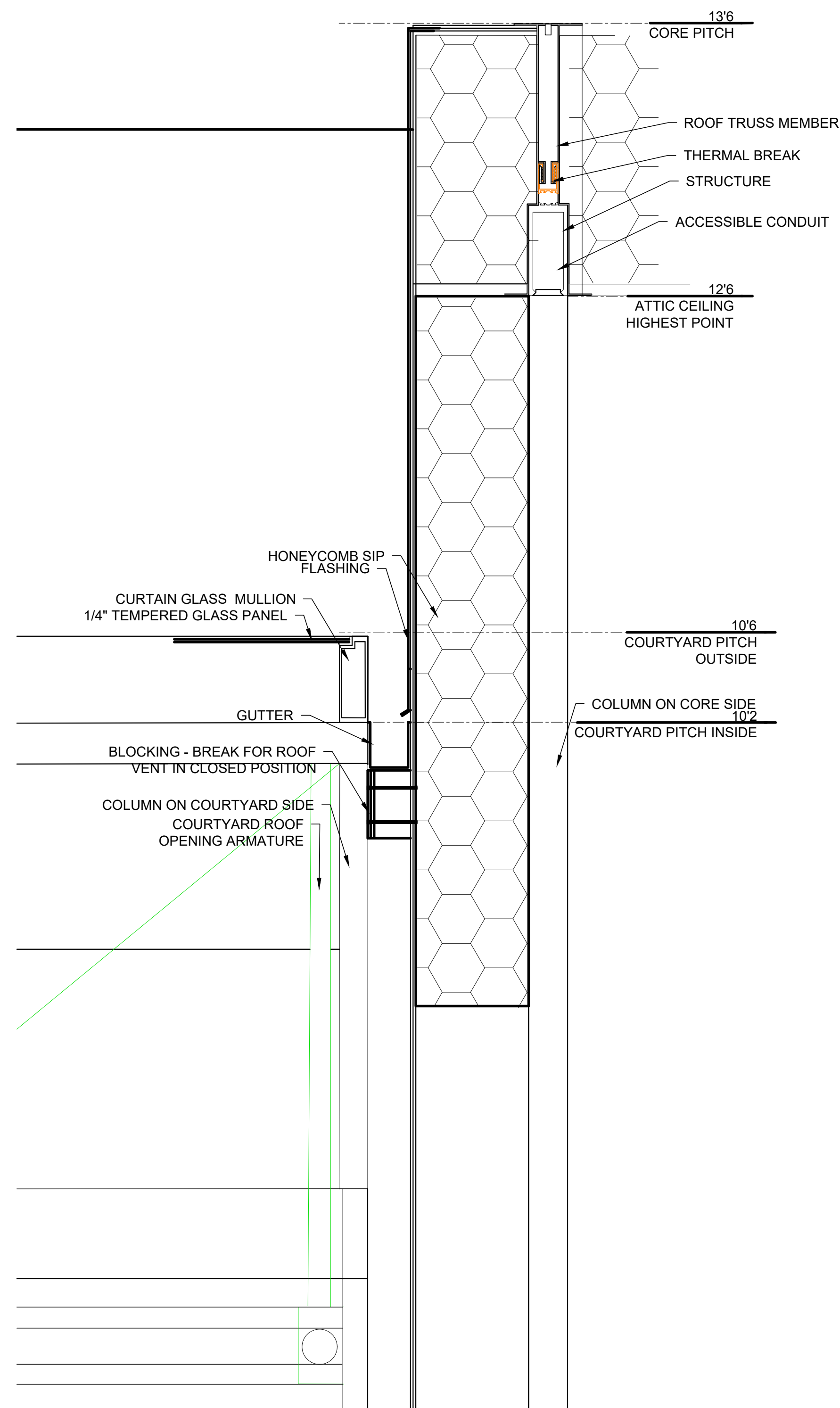
TYPICAL NORTH-SOUTH
EXTERIOR WALL SECTION

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



TYPICAL EXTERIOR WALL
SECTION AT GREENHOUSE

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



COURTYARD-CORE
INTERFACE

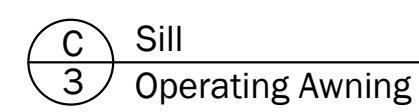
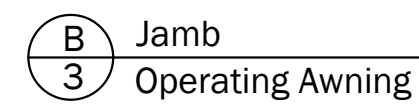
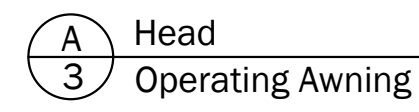
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Scale: 1-1/2"=1'-0"

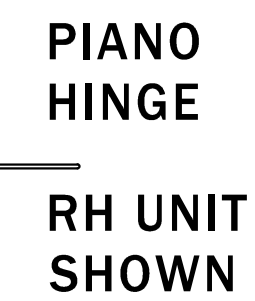


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PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###



1



(2)

Andersen Windows
Ref Drawing A-600
Ref Drawing A-400

[illegible]

PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####

WINDOW DETAILS

A-500



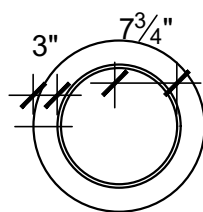
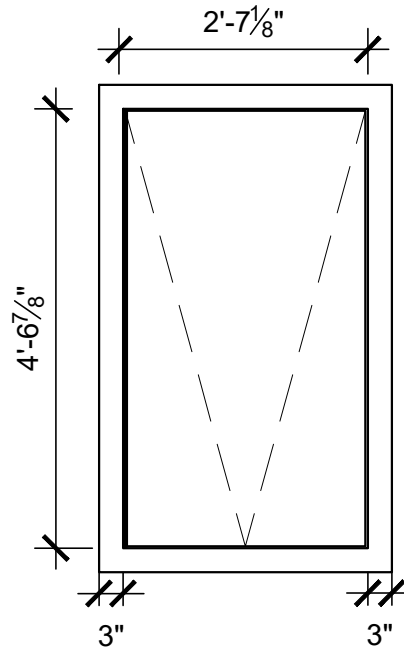
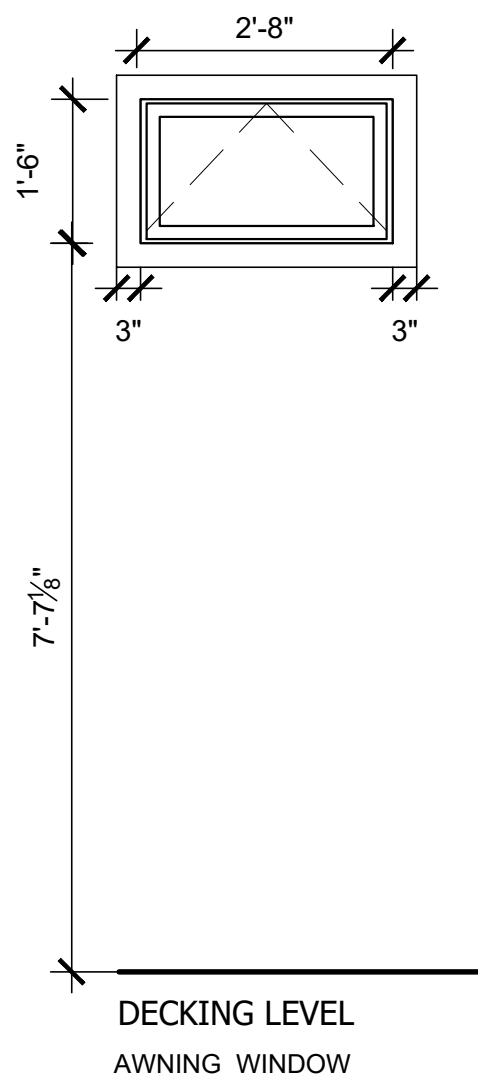
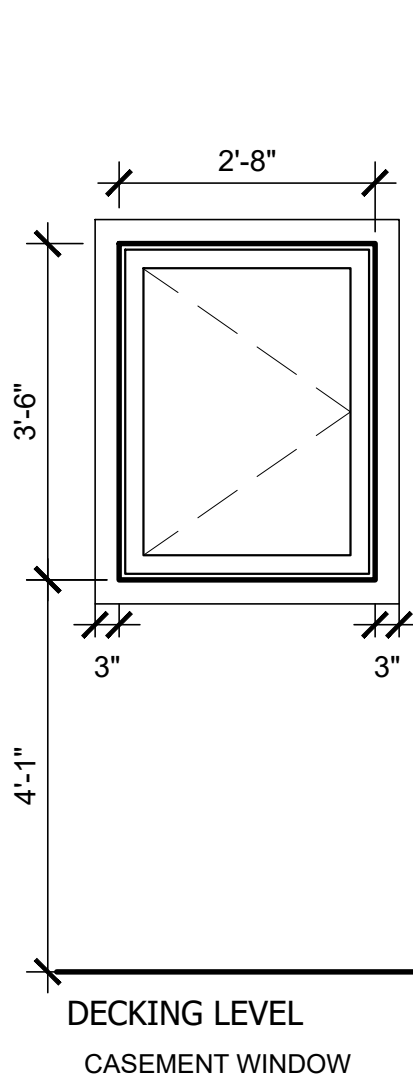
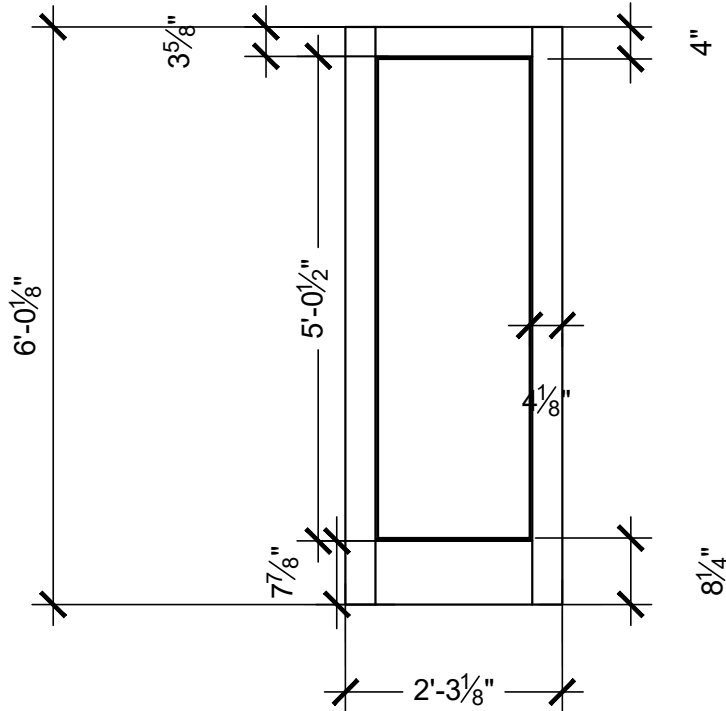
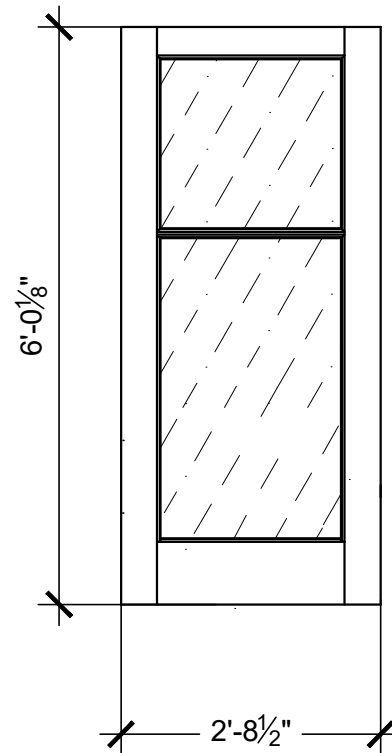
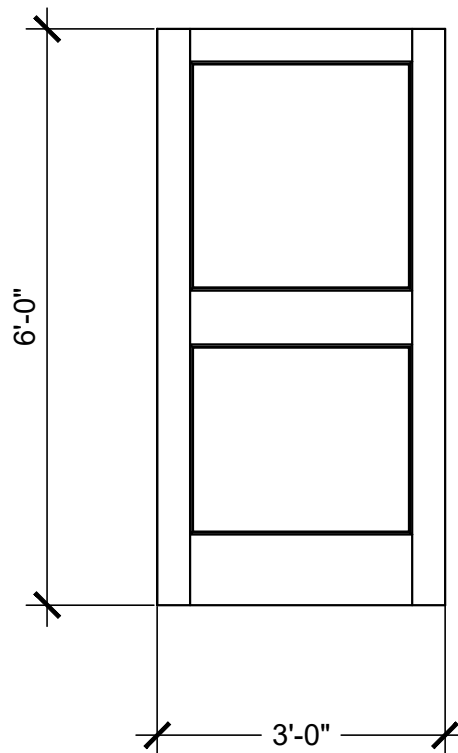
11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

DOOR &
WINDOW
SCHEDULE
A-600

DOOR SCHEDULE												
DOOR								FRAME				HARDWARE
NUMBER	LOCATION	TYPE	WIDTH	HEIGHT	THICK- NESS	MATERIAL	DOOR FINISH	TYPE	MATERIAL	FINISH	DETAIL	HW SET
100	LIVING ENTRY	N	3'-0"	6'-8"	1.43"	WOOD	STAIN	1	WD	STAIN	-	1
101	DINING ENTRY	N	3'-0"	6'-8"	1.43"	WOOD	STAIN	1	WD	STAIN	-	1
103	MECH	N	PA3'-0"	6'-8"	1.43"	?					-	1
104	RESTROOM ENTRY	N	3'-0"	6'-8"	1.43"	WOOD	STAIN	1	WD	STAIN		
104A	RESTROOM	N	3'-0"	6'-8"	1.43"	WOOD	STAIN	1	WD	STAIN		
105	BEDROOM	N	3'-0"	6'-8"	1.43"	WOOD	STAIN	1	WD	STAIN		
106	STUDY	N	3'-0"	6'-8"	1.43"	WOOD	STAIN	1	WD	STAIN		
107	COURT	N				ALUMINUM		1	ALUMINUM			
107A	COURT	N				ALUMINUM		1	ALUMINUM			

WINDOW SCHEDULE												
	ROUGH OPENING							DETAIL		GLAZING		
MARK	WIDTH	HEIGHT	TYPE	MANUFACTURE	MODEL	MATERIAL	HEAD	JAMB	SILL	THICKNESS	TYPE	HEAD HEIGHT
A1A	2'-8"	3'-6"	CASEMENT	ANDERSEN	E-SERIES	WOOD INTERIOR ALUMINIUM EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	77"
A1B	2'-8"	3'-6"	CASEMENT	ANDERSEN	E-SERIES	WOOD INTERIOR ALUMINIUM EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	77"
A1C	2'-8"	3'-6"	CASEMENT	ANDERSEN	E-SERIES	WOOD INTERIOR ALUMINIUM EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	77"
A1D	2'-8"	3'-6"	CASEMENT	ANDERSEN	E-SERIES	WOOD INTERIOR ALUMINIUM EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	77"
A2A	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A2B	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A2C	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A2D	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A2E	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A2F	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A2G	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A2H	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A2I	2'-8"	1'-6"	PUSH OUT AWNING	ANDERSEN	400 SERIES	WOOD INTERIOR VINYL CLAD EXTERIOR	A-500	A-500	A-500	0.12"	LOW-E4 SMARTSUN™ GLASS	9'-6"
A3A	14 1/2"	48"	SOLAR TUNNEL	VELUX	TLR	GLASS					LOW-E4 SMARTSUN™ GLASS	
A3B	14 1/2"	48"	SOLAR TUNNEL	VELUX	TLR	GLASS					LOW-E4 SMARTSUN™ GLASS	
A4A	30 3/8"	54 1/8"	DECK MOUNTED	VELUX	VSE	CLADDING: ALUMINIUM FRAME: WOOD					LOW-E4 SMARTSUN™ GLASS	
A4B	30 3/8"	54 1/8"	DECK MOUNTED	VELUX	VSE	CLADDING: ALUMINIUM FRAME: WOOD					LOW-E4 SMARTSUN™ GLASS	



2 DOOR ELEVATIONS
Scale: 1/2"=1'-0"

1 WINDOW ELEVATIONS
Scale: 1/2"=1'-0"



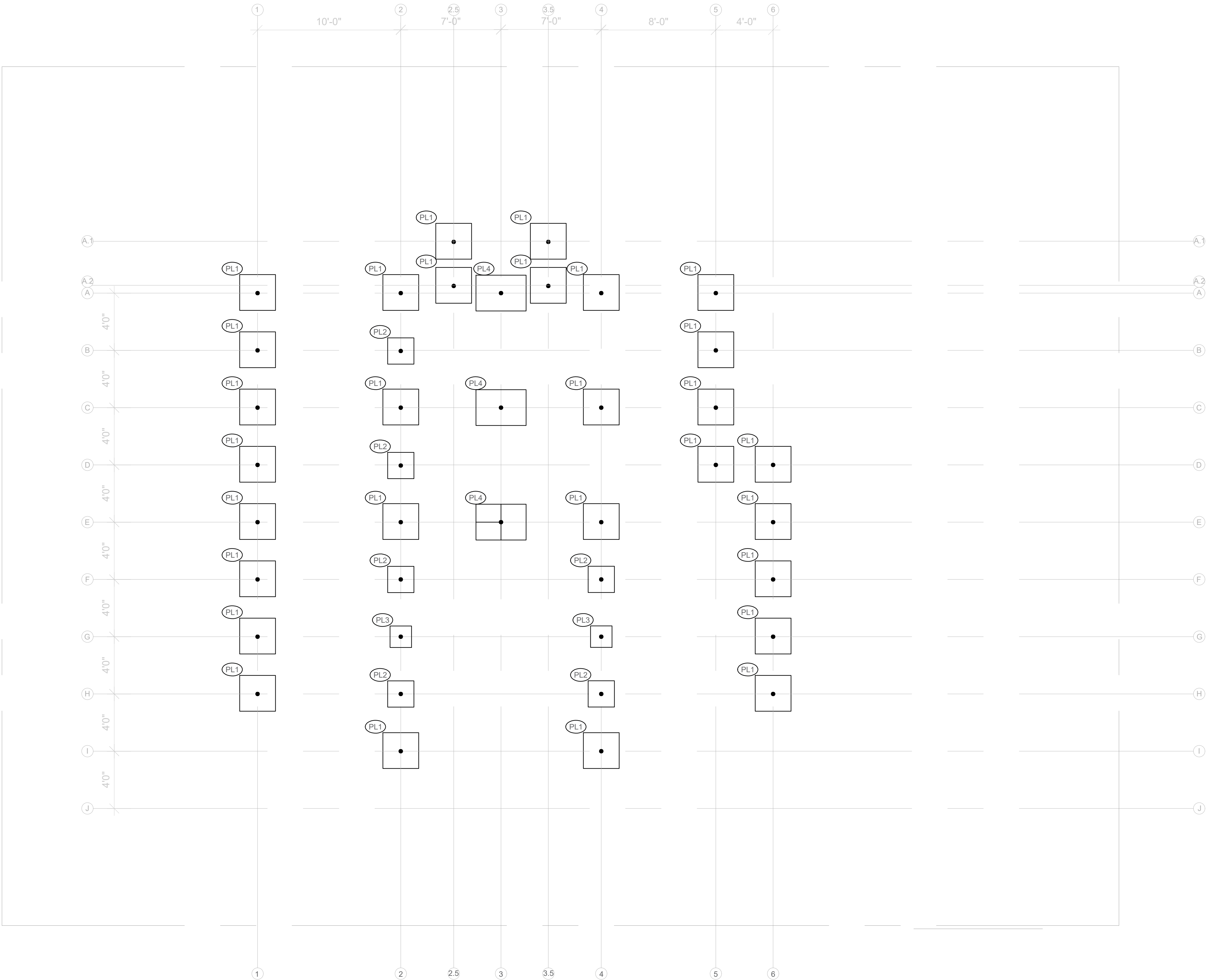
INTERIOR SCHEDULE								
ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS				CEILING
				NORTH	EAST	SOUTH	WEST	
100	LIVING ROOM	HW-1	HW-1	PL-1	PL-1	PL-1	PL-1	PL-1
101	DINING ROOM	WD-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-1
102	KITCHEN	WD-1	WB-1	PT-1	PT-1	PT-1	PT-1	PT-1
103	MECH ROOM	CP-1	CP-1	GYP-1	GYP-1	GYP-1	GYP-1	GYP-1
104	RESTROOM	T-1	P-1	GYP-1 & T-2	GYP-1 & T-2	GYP-1	GYP-1	GP-1
105	BEDROOM	HW-1	HW-1	PL-1	PL-1	PL-1	PL-1	PL-1
106	BEDROOM/STUDY	HW-1	HW-1	PL-1	PL-1	PL-1	PL-1	PL-1
107	COURTYARD	T-2	-	GLZ-1	GLZ-1	GLZ-1	GLZ-1	GLZ-1
108	CORRIDOR	T-1	T-1	GYP-1	GPY-1	GYP-1	GYP-1	GYP-1

MATERIALS SCHEDULE						
SYMBOL	ITEM	MANUFACTURER	NAME	COLOR/FINISH	SIZE	COMMENTS
INTERIOR MATERIALS						
FLOORING						
HW-1	HARD WOOD	STONE & SOURCE	RECLAIMED BARN SIDING	NATURALLY WEATHERED	-	MATERIAL IS PRODUCED TO ORDER. TYPICALLY SOLD AS A RANDOM GREY-BROWN MIXTURE OF SPECIES, BUT CAN ALSO COME AS AN ALL OAK MIXTURE UPON REQUEST
T-1	LIMESTONE	STONE & SOURCE	COURTAUD	BEIGE-TAUPE/Honed	2' x 2'	ABILITY OF MATERIAL TO RESIST SURFACE WEAR
T-2	CONCRETE PAVERS	STONE & SOURCE	BAYCLIFF CAULFEILD	BEIGE-TAUPE	1' X 2'	ITEMS AVAILABLE FOR SHIPPING WITHIN 7 DAYS OR LESS. AVAILABLE IN SMALLER QUANTITIES
BASE						
B-1	HARD WOOD	STONE & SOURCE	RECLAIMED BARN SIDING	NATURALLY WEATHERED	-	MATERIAL IS PRODUCED TO ORDER. TYPICALLY SOLD AS A RANDOM GREY-BROWN MIXTURE OF SPECIES, BUT CAN ALSO COME AS AN ALL OAK MIXTURE UPON REQUEST
TRANSITIONS						
FT-1	FLOORING TRANSITION	STONE & SOURCE	RECLAIMED BARN SIDING	NATURALLY WEATHERED	-	MATERIAL IS PRODUCED TO ORDER. TYPICALLY SOLD AS A RANDOM GREY-BROWN MIXTURE OF SPECIES, BUT CAN ALSO COME AS AN ALL OAK MIXTURE UPON REQUEST
WALLS						
GYP-1	GYPSUM BOARD	AMERICAN GYPSUM	FIREBLOC TYPE X	-	$\frac{1}{2}$ " THICK	1-HOUR FIRE RATING
PL-1	PLYWOOD	GCI - GORILLA COMPOSITE, INC.	COMPOSITE PANEL	STAINED	$\frac{3}{8}$ " THICK	INCLUDED IN THE STRUCTURAL INSULATED PANELS
T-2	CERAMIC TILE	FIRE CLAY TILE	WHITE GLOSS	WHITE GLOSS	3" x 6"	KITCHEN BACKSLASH & BATHROOM
-	PAINT - EGG SHELL	BENJAMIN MOORE	NATURA	WHITE/EGG SHELL - ACRYLIC LATEX	-	ZERO VOC (VOLATILE ORGANIC COMPOUNDS) ACCORDING TO EPA METHOD 24 & CERTIFIED ASTHMA & ALLERGY FRIENDLY
CEILINGS						
GYP-1	GYPSUM BOARD	AMERICAN GYPSUM	FIREBLOC TYPE X	WHITE	$\frac{1}{2}$ " THICK	1-HOUR FIRE RATED
PL-1	PLYWOOD	GCI - GORILLA COMPOSITE, INC.	COMPOSITE PANEL	STAINED	$\frac{3}{8}$ " THICK	INCLUDED IN THE STRUCTURAL INSULATED PANELS
-	PAINT - EGG SHELL	BENJAMIN MOORE	NATURA	WHITE/EGG SHELL - ACRYLIC LATEX	-	ZERO VOC (VOLATILE ORGANIC COMPOUNDS) ACCORDING TO EPA METHOD 24 & CERTIFIED ASTHMA & ALLERGY FRIENDLY
CASEWORK						
C-1	COUNTERTOP	LG	HAUSYS HI-MACS EDEN PLUS	-	$\frac{1}{2}$ " THICK	12% RECYCLED CONTENT
EXTERIOR MATERIALS						
ROOF						
SS-1	STANDING SEAM	PAC-CLAD	SNAP CLAD PANELS	CITYSCAPE, ANODIC CLEAR, SILVERSMITH	-	
WALLS						
CS-1	CORRUGATED STEEL	PAC-CLAD	$\frac{1}{2}$ " CORRUGATED METAL PANELS	-		
WC-1	WOOD CLADDING	KEBONY	SCOTS PINE CLADDING	STAIN COATING WITH SEALANT	1"	FSC CERTIFIED & ILF1 REDLIST COMPLIANT
DECK						
D-1	WOOD DECKING					

EXTERIOR MATERIALS SCHEDULE			
ELEVATION	WALL	DECK	COMMENTS
SOUTH	CS-1, WC-1	WD-1	
NORTH	CS-1, WC-1	WD-1	
EAST	WC-1	WD-1	
WEST	WC-1	WD-1	

11/17/2016	90% CD SET

PROJECT NO		###
DRAWN		
DESIGNED		###
CHECKED		###



1 FOUNDATION PLAN
Scale: 1/4"=1'-0"

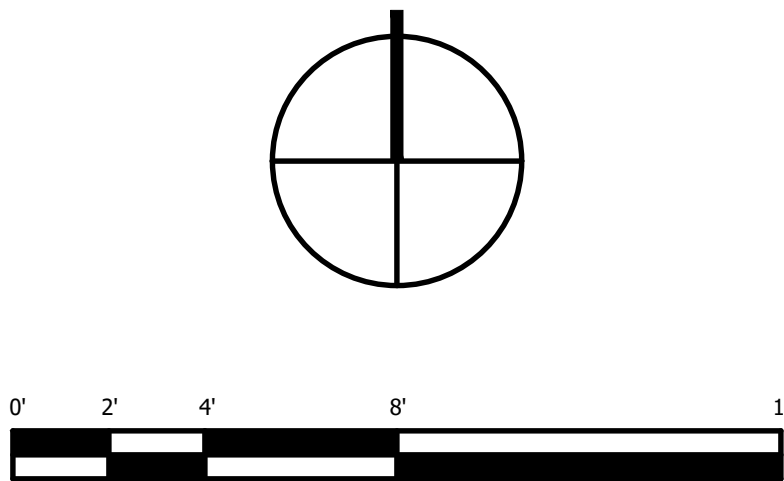
GENERAL SHEET NOTES

1. ALL FOUNDATION AND AUXILIARY ELEMENTS RESIDING ON GRADE SHALL NOT EXCEED THE MAXIMUM ALLOWABLE SOIL LOAD OF 2500 PSF AND SHALL COMPLY WITH RULE 5-5 FOUNDATION
2. FOR FOOTING DETAIL REFER TO S-400
3. FOR ADJUSTABLE JACK REFER TO SPEC NO.109000

LEGEND

- 3'-6" x 2'-6" FOUNDATION PAD
- 2'-6" x 2'-6" FOUNDATION PAD
- 1'-10" x 1'-10" FOUNDATION PAD
- 1'-6" x 1'-6" FOUNDATION PAD
- PL# DENOTES CONCRETE BEARING SLAB SIZING

NORTH ARROW & SCALE



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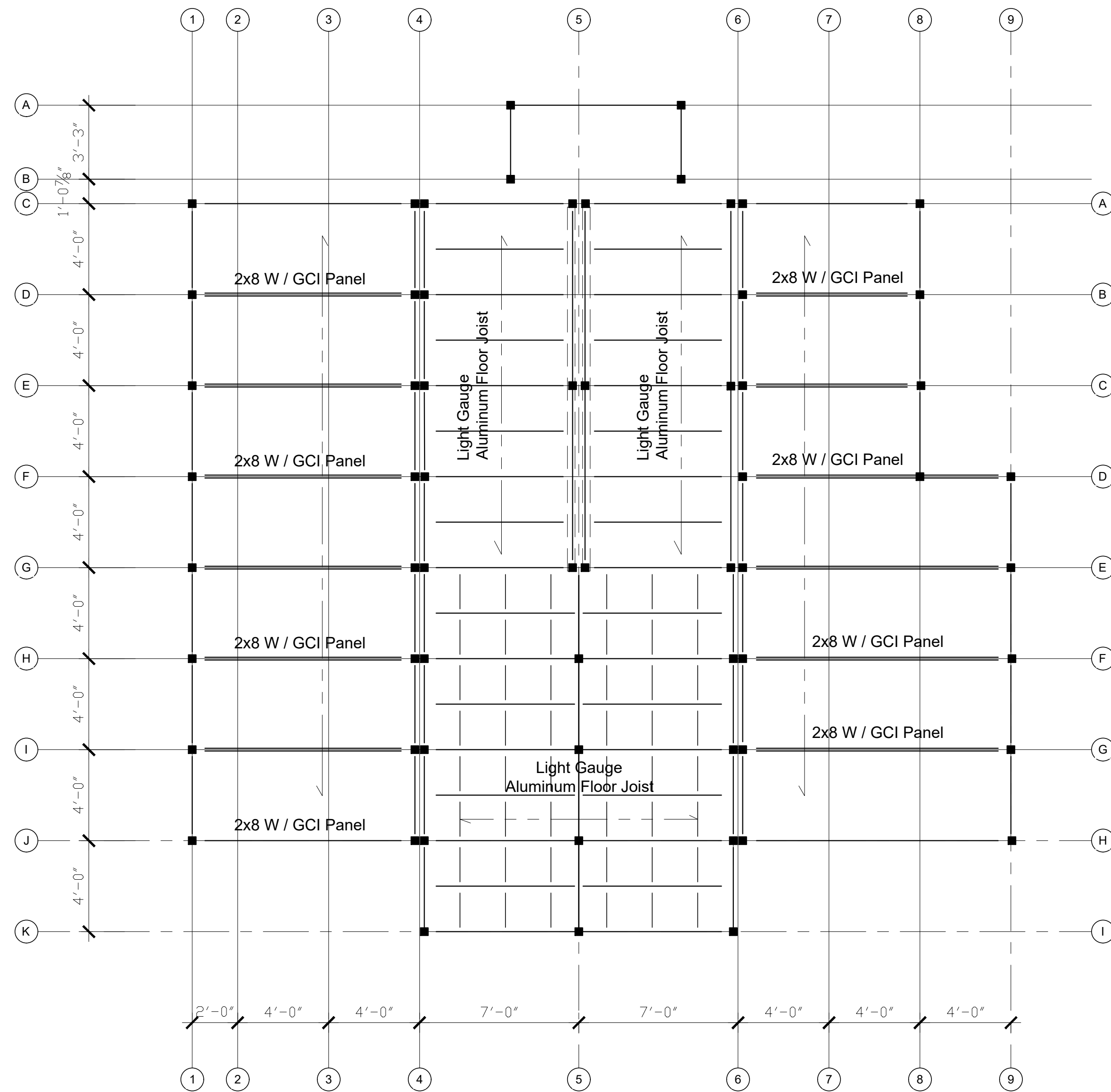
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Solar Decathlon 2017 Submission

11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

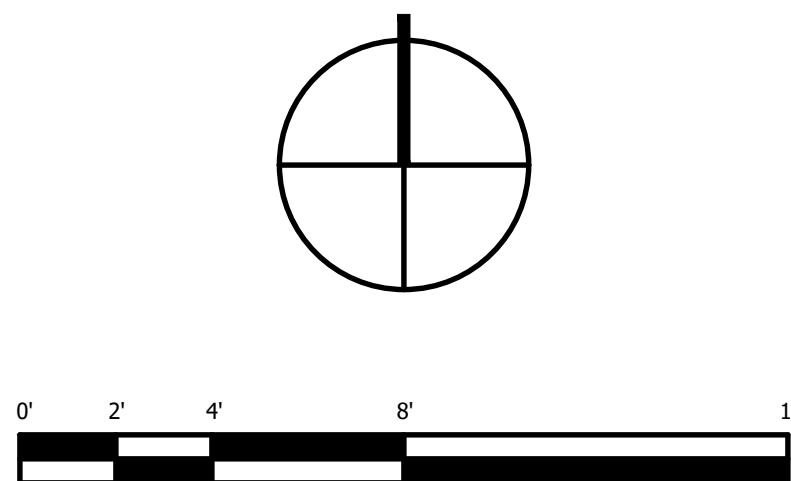
FOUNDATION
PLAN

S-100



1 FLOOR FRAMING PLAN
Scale: 1/4"=1'-0"

NORTH ARROW & SCALE

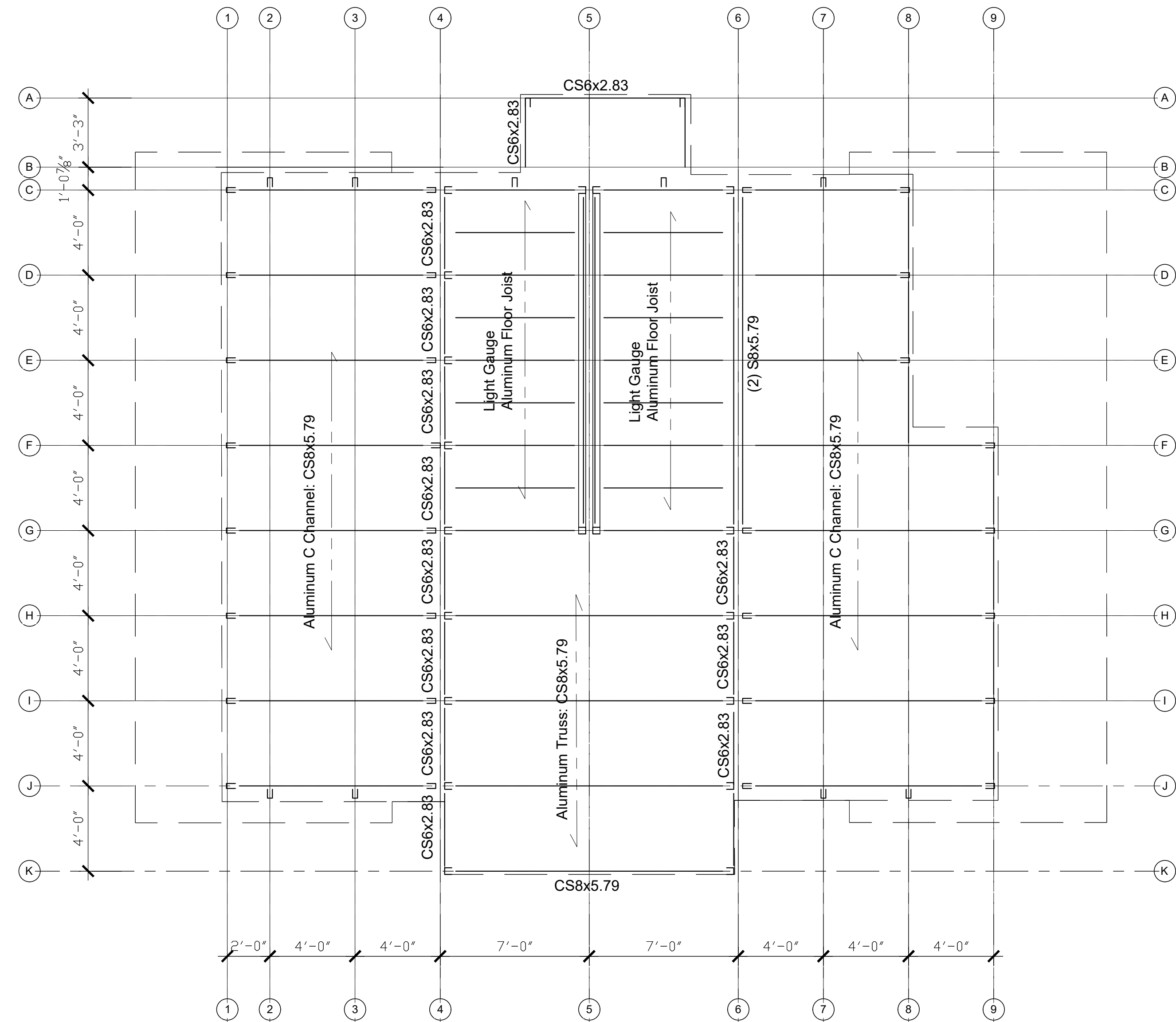


11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

FLOOR FRAMING
PLAN

S-200



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

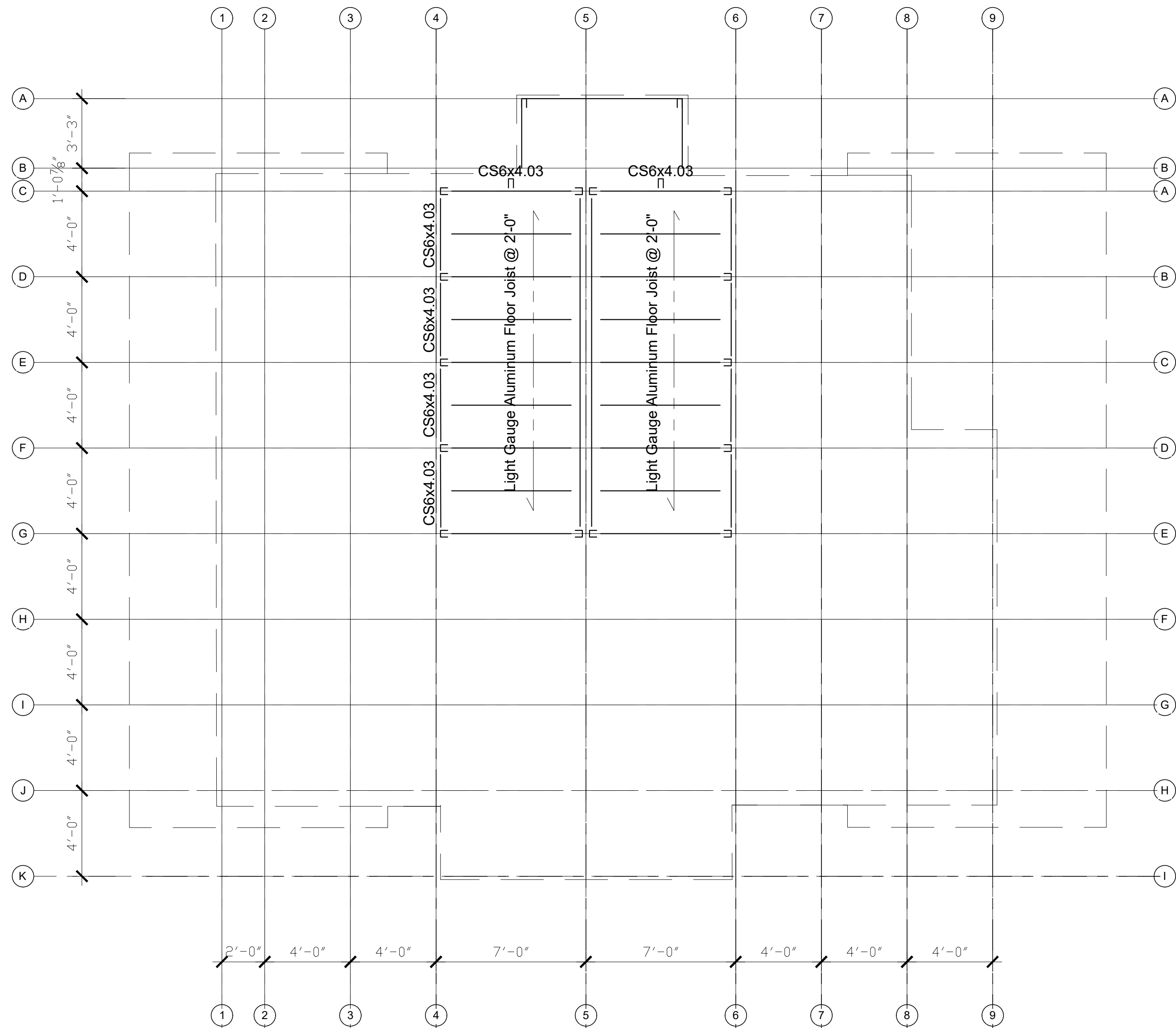
LEGEND	
	C Shaped Aluminum Column
	BEARING WALL ABOVE
	BEARING WALL
	INDICATES STEEL SUPPORT BASE
	SPAN DIRECTION

NORTH ARROW & SCALE



11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###



1 HIGH ROOF FRAMING PLAN
Scale: 1/4"=1'-0"

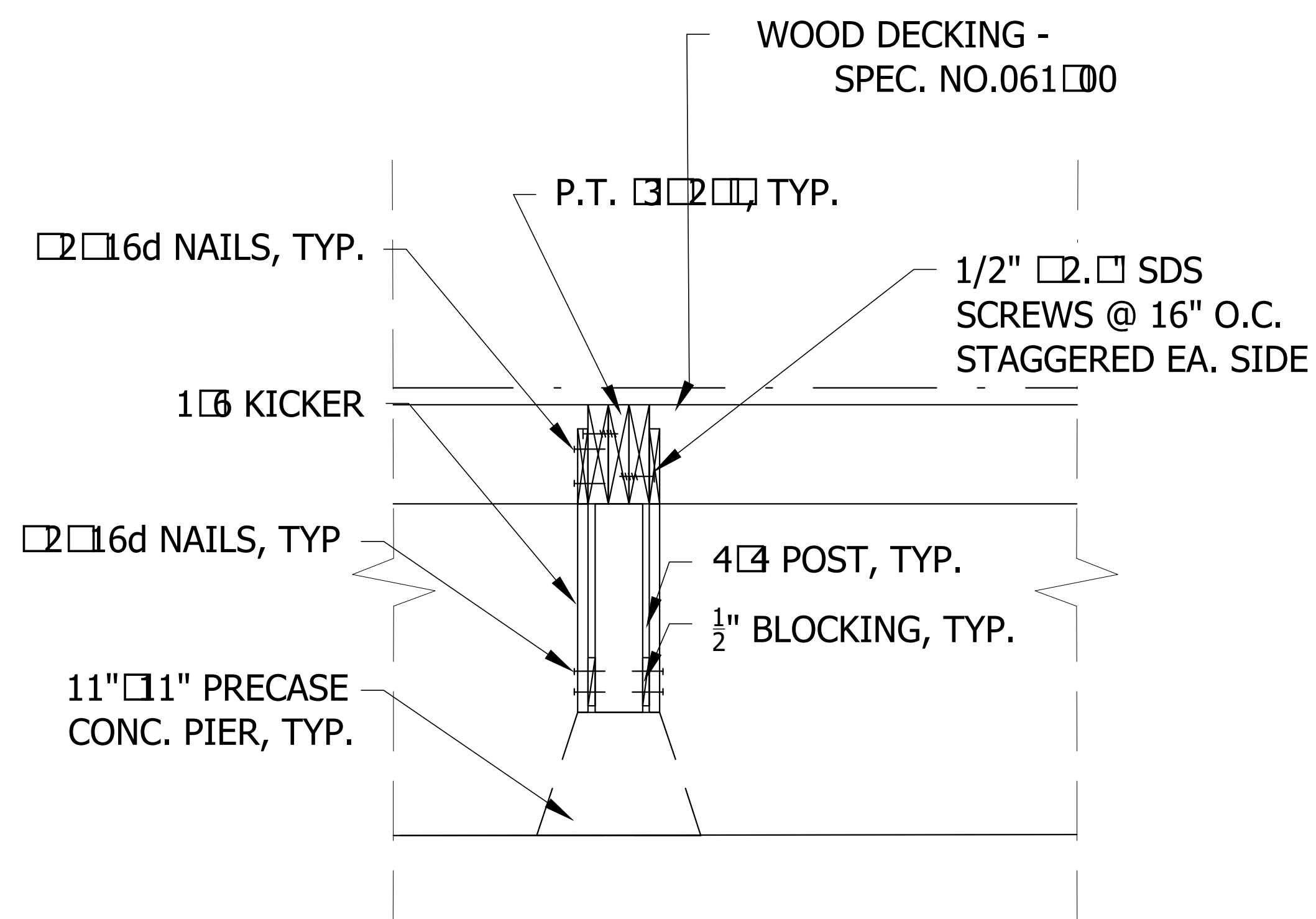
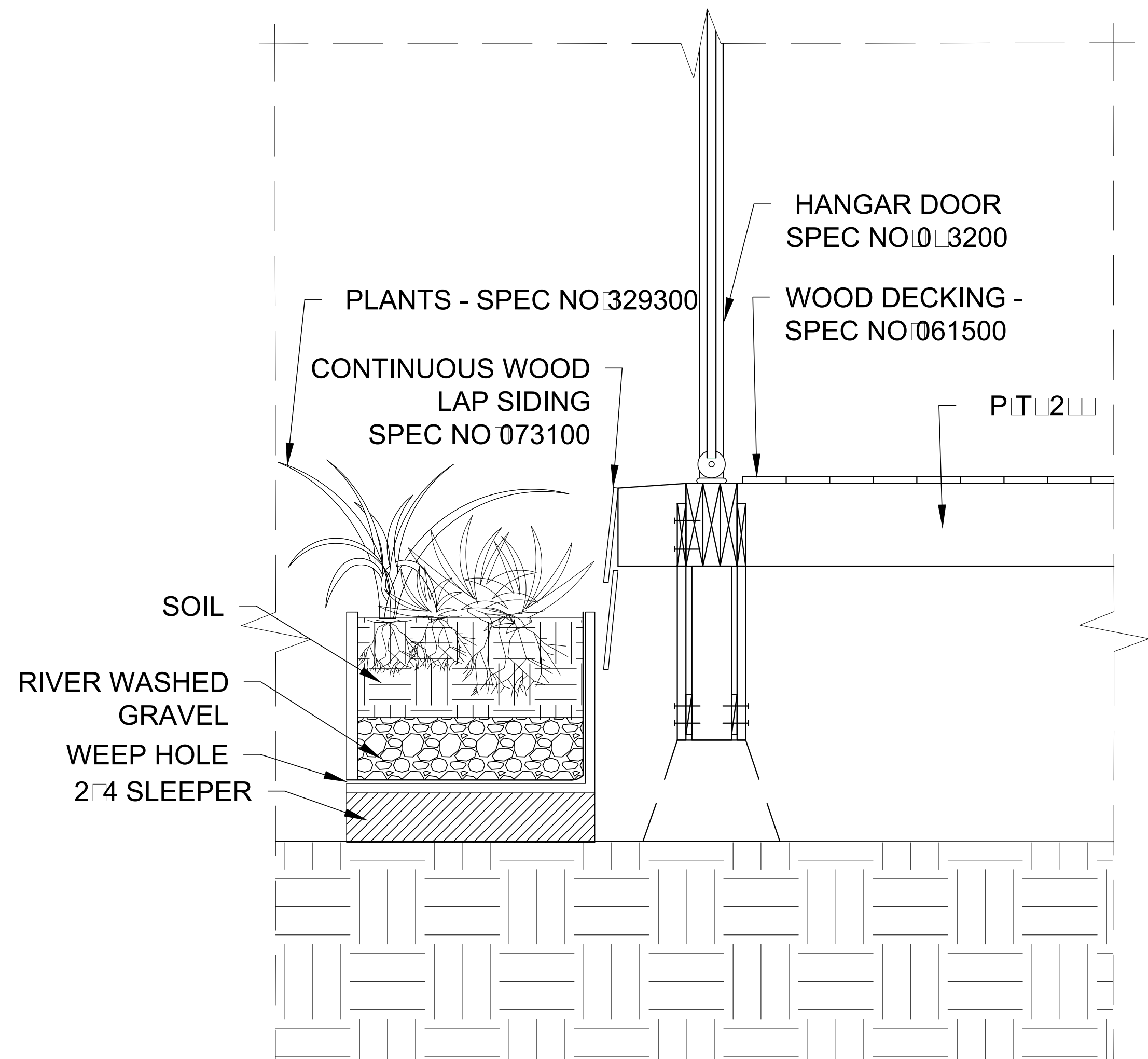
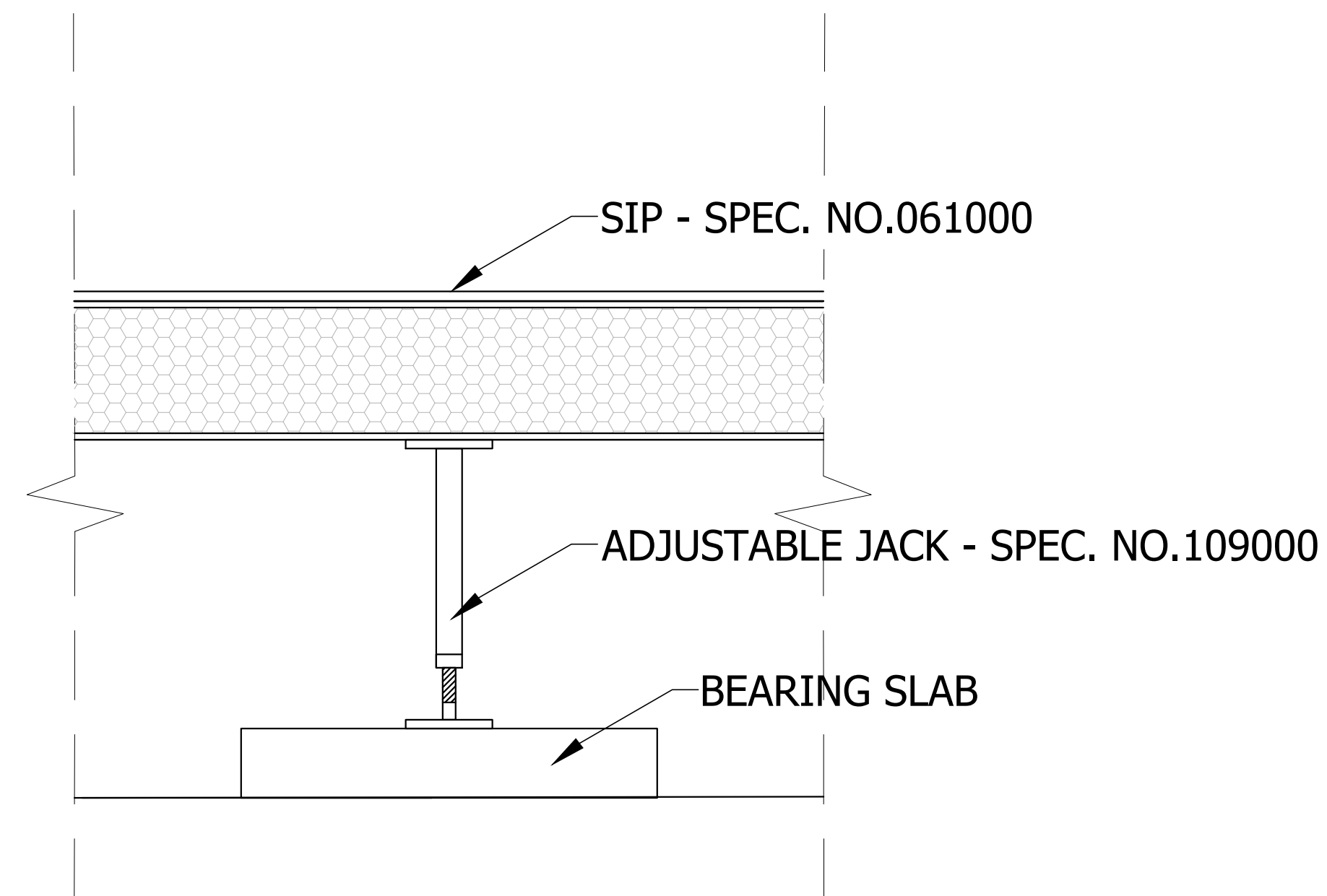
LEGEND	
	C Shaped Aluminum Column
	BEARING WALL ABOVE
	BEARING WALL
	INDICATES STEEL SUPPORT BASE
	SPAN DIRECTION

NORTH ARROW & SCALE

0' 2' 4' 8' 16'

11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###



S-400



SHEET NOTES

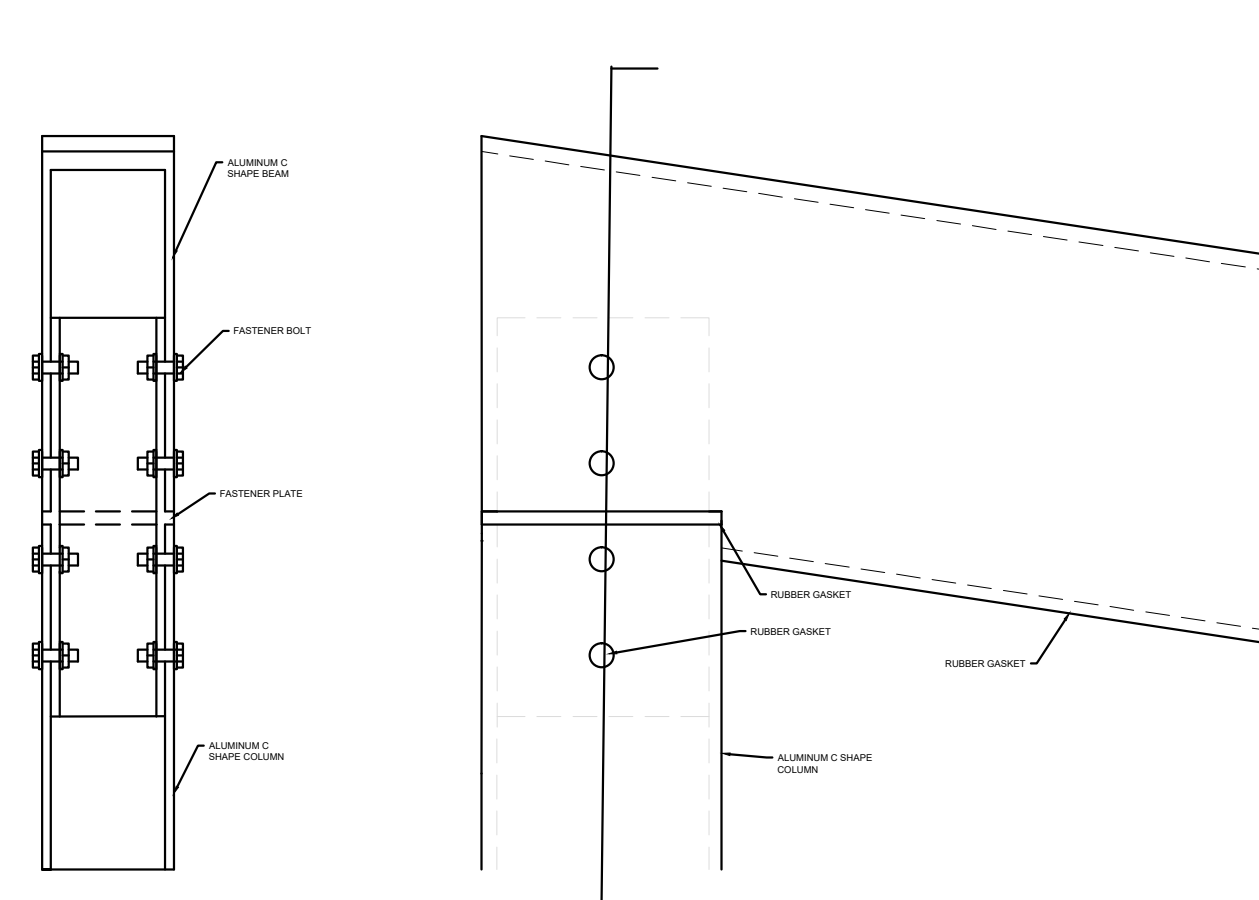
1. FOR STRUCTURAL ALUMINUM FRAMING SEE
SPEC NO.051300

11/17/2016	90% CD SET

PROJECT NO. ###
DRAWN ###
DESIGNED ###
CHECKED ###

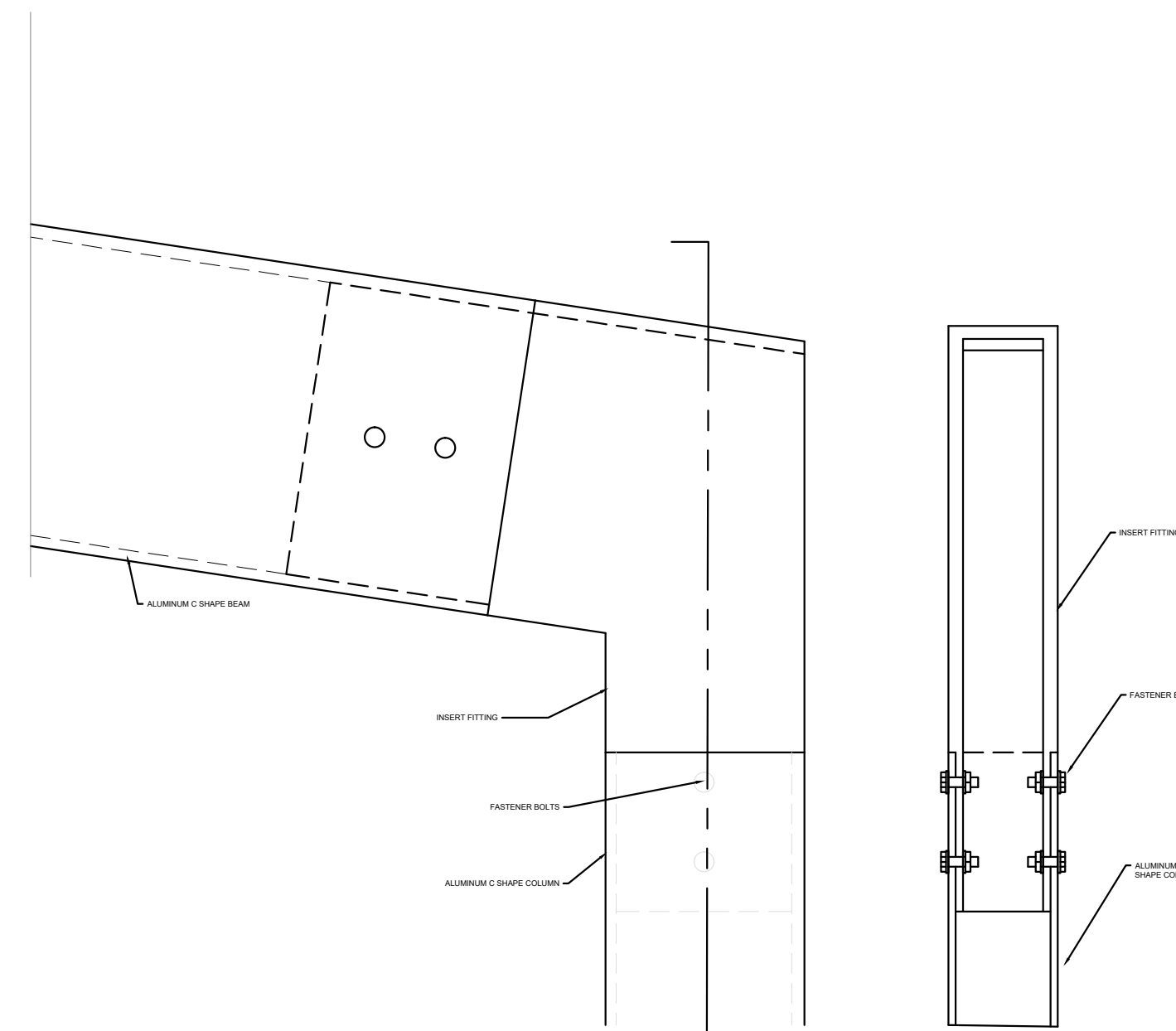
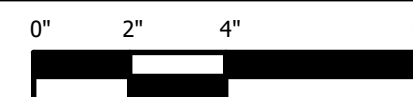
DECK DETAILS

S-401



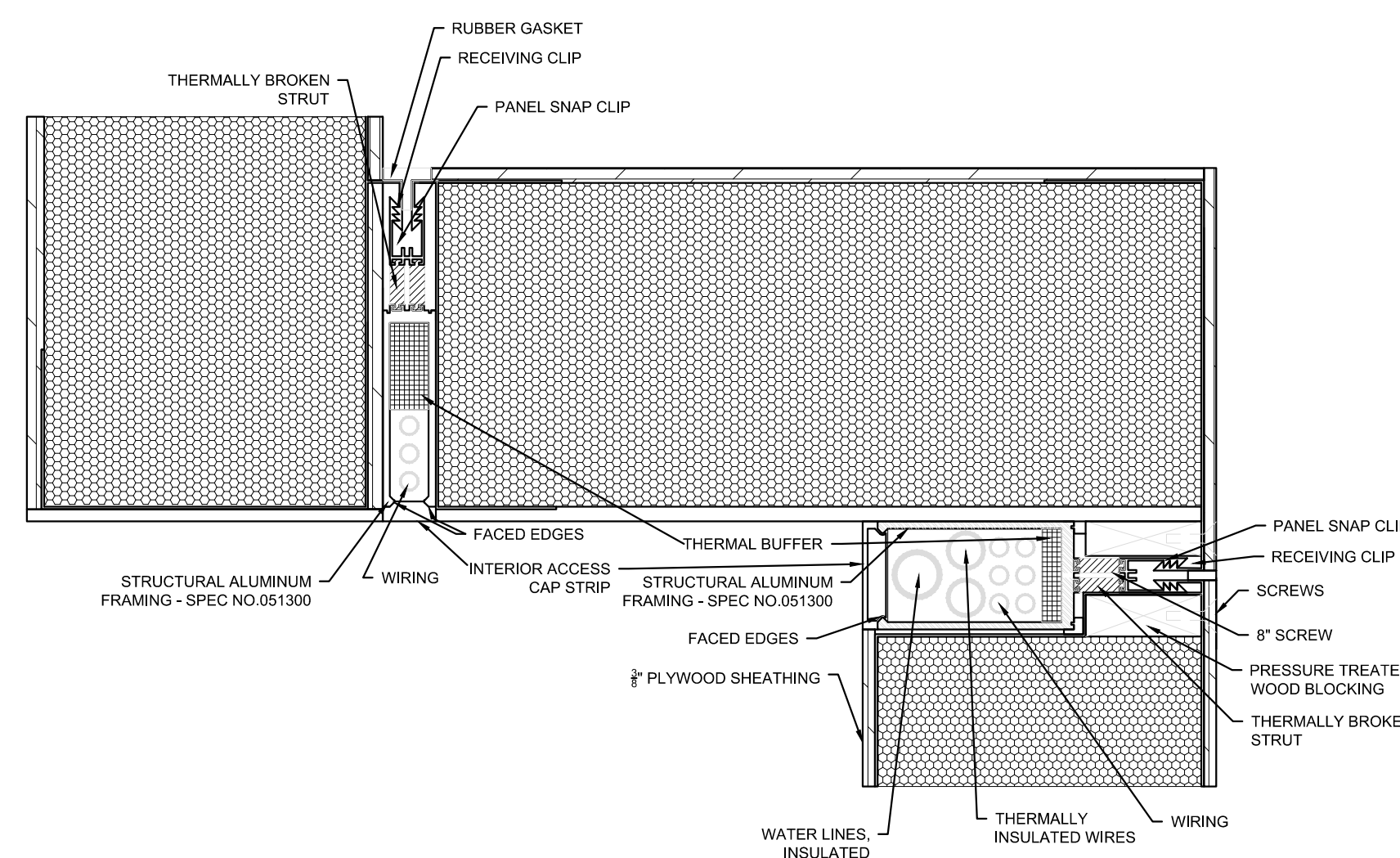
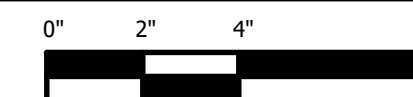
1 COLUMN TO BEAM CONNECTION A

Scale 3/8" = 1'-0"



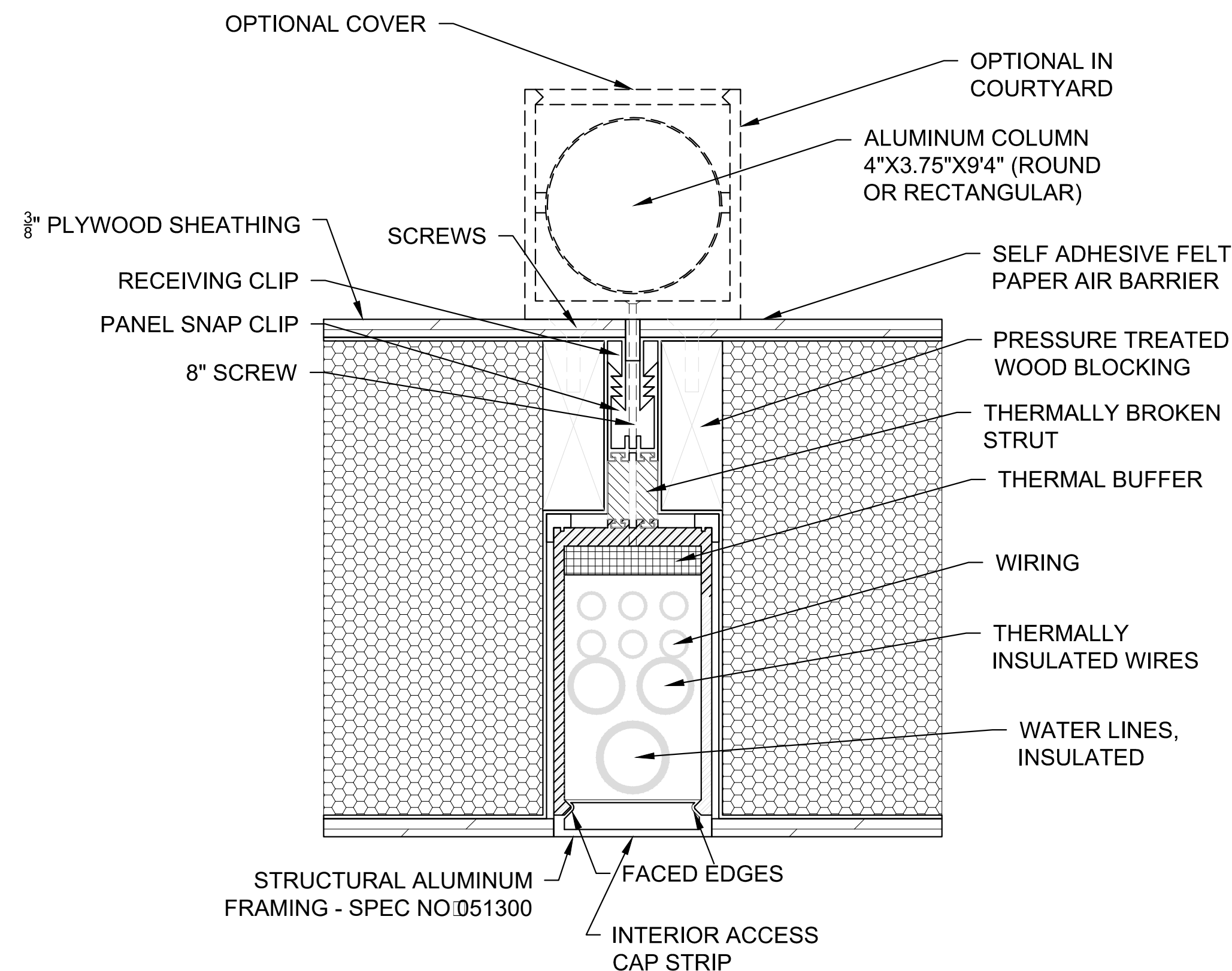
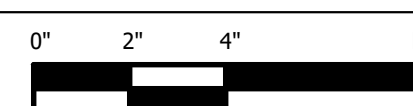
2 COLUMN TO BEAM CONNECTION B

Scale 3/8" = 1'-0"



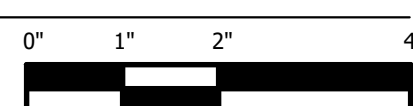
3 TYPICAL STRUCTURE CORNER CONDITION

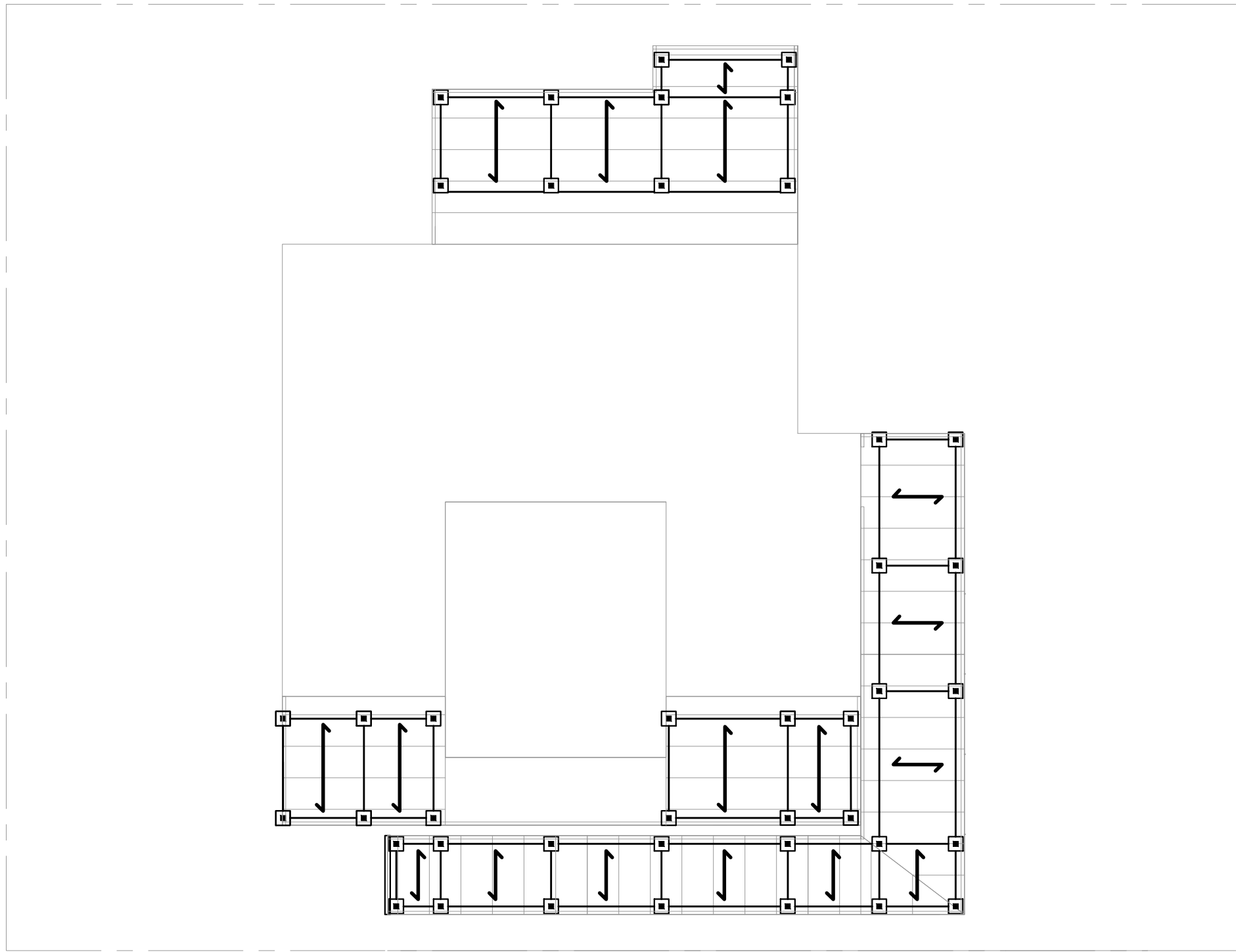
Scale 3/8" = 1'-0"



4 TYP. "BUSWAY" FOR INFRASTRUCTURE

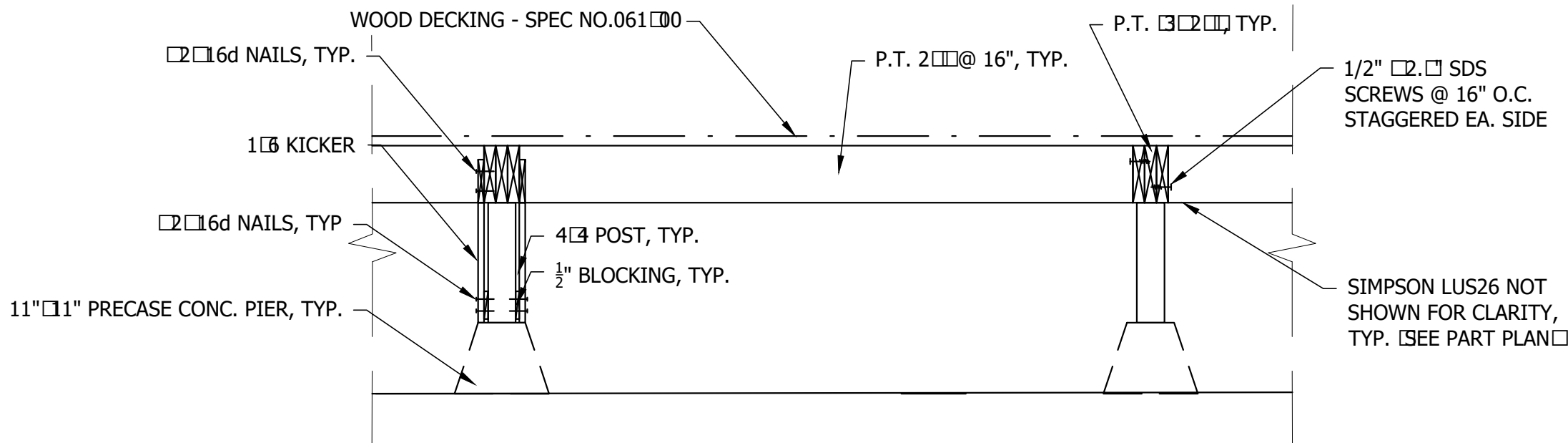
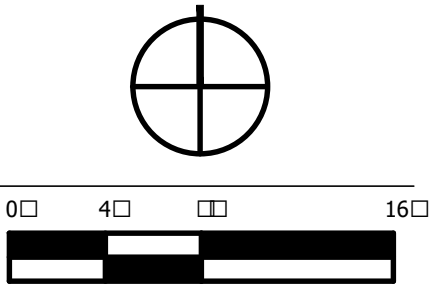
Scale 3/8" = 1'-0"



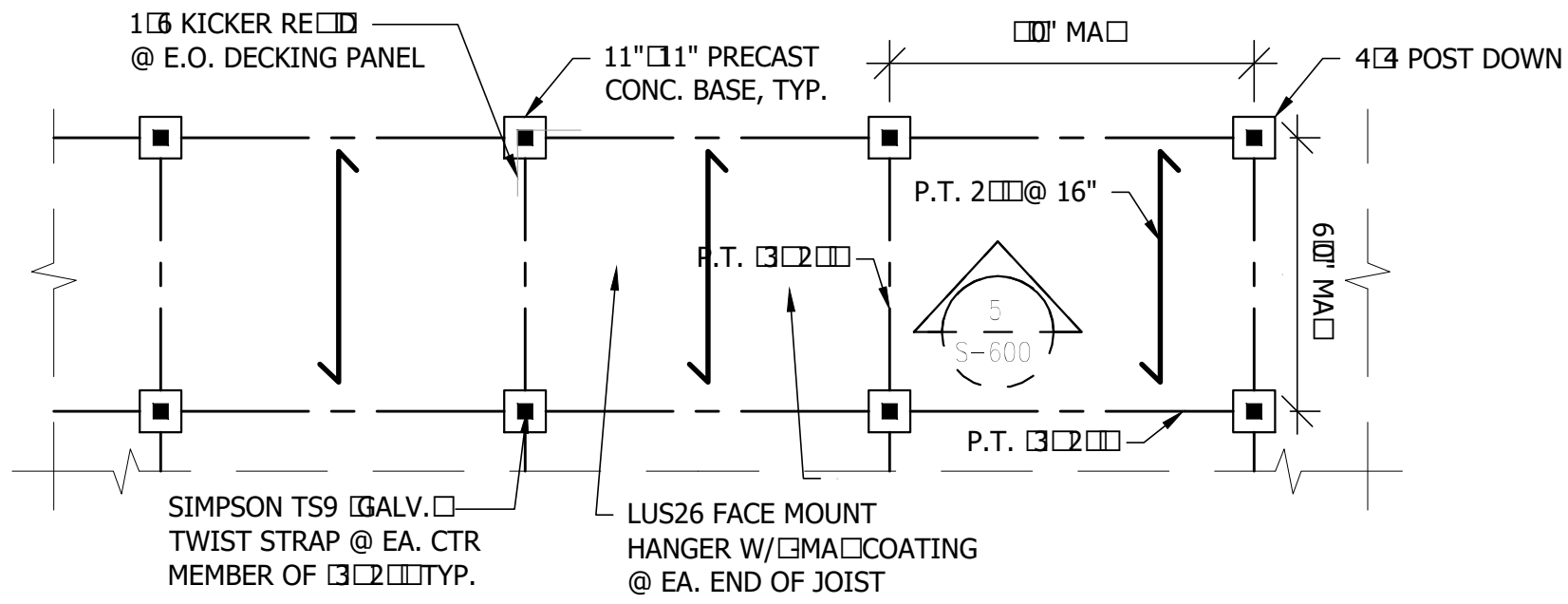
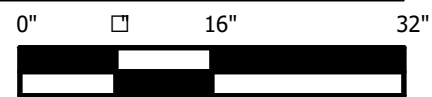


DECATHLETE WAY

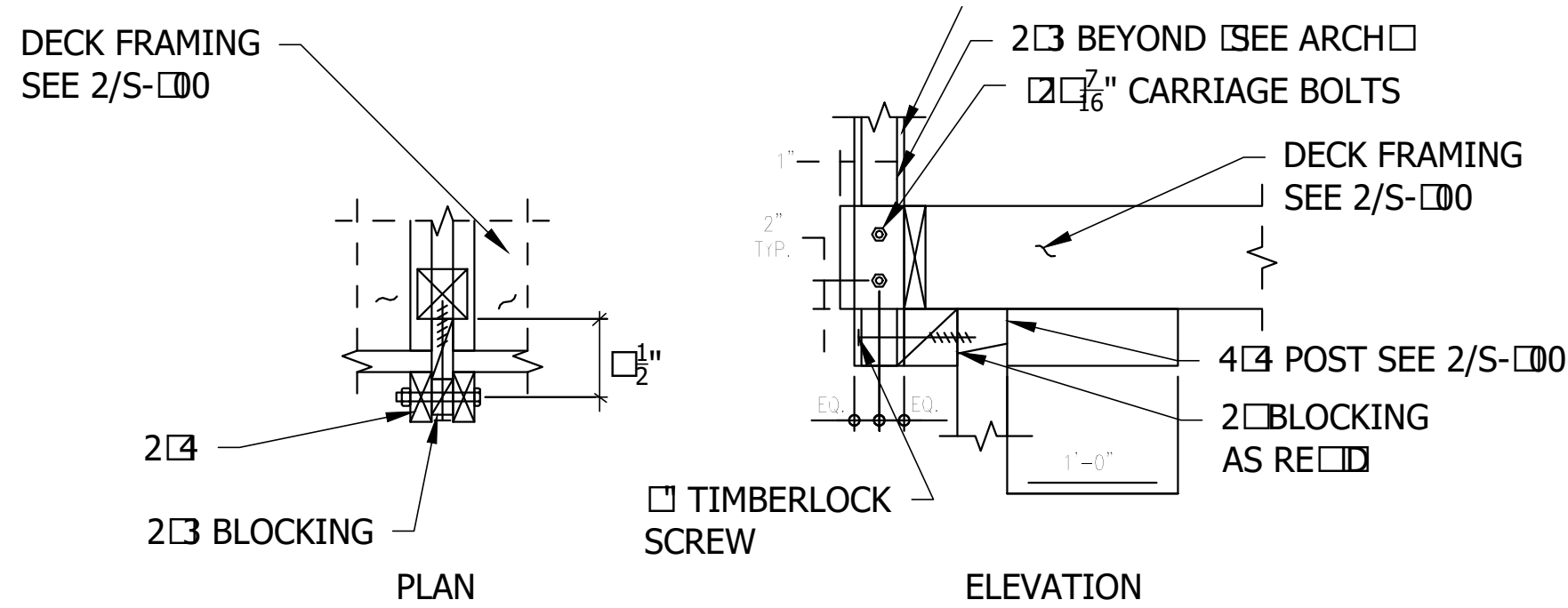
1 DECK FRAMING/FOUNDATION PLAN
Scale 1/4" = 1'-0"



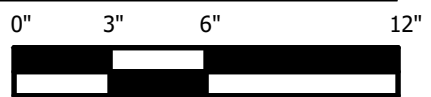
3 TYP. DECK MODULE
Scale 3/4" = 1'-0"



2 TYP. DECK MODULE
Scale 1/4" = 1'-0"



4 TYP. DECK RAIL POST
Scale 1" = 1'-0"



SHEET NOTES

- ALL EXTERIOR WOOD JOISTS AND BEAMS TO BE P.T. SOFT-PINE #2
- ALL EXTERIOR WOOD RAILS AND FINISHES TO BE THERMO-TREATED ASH

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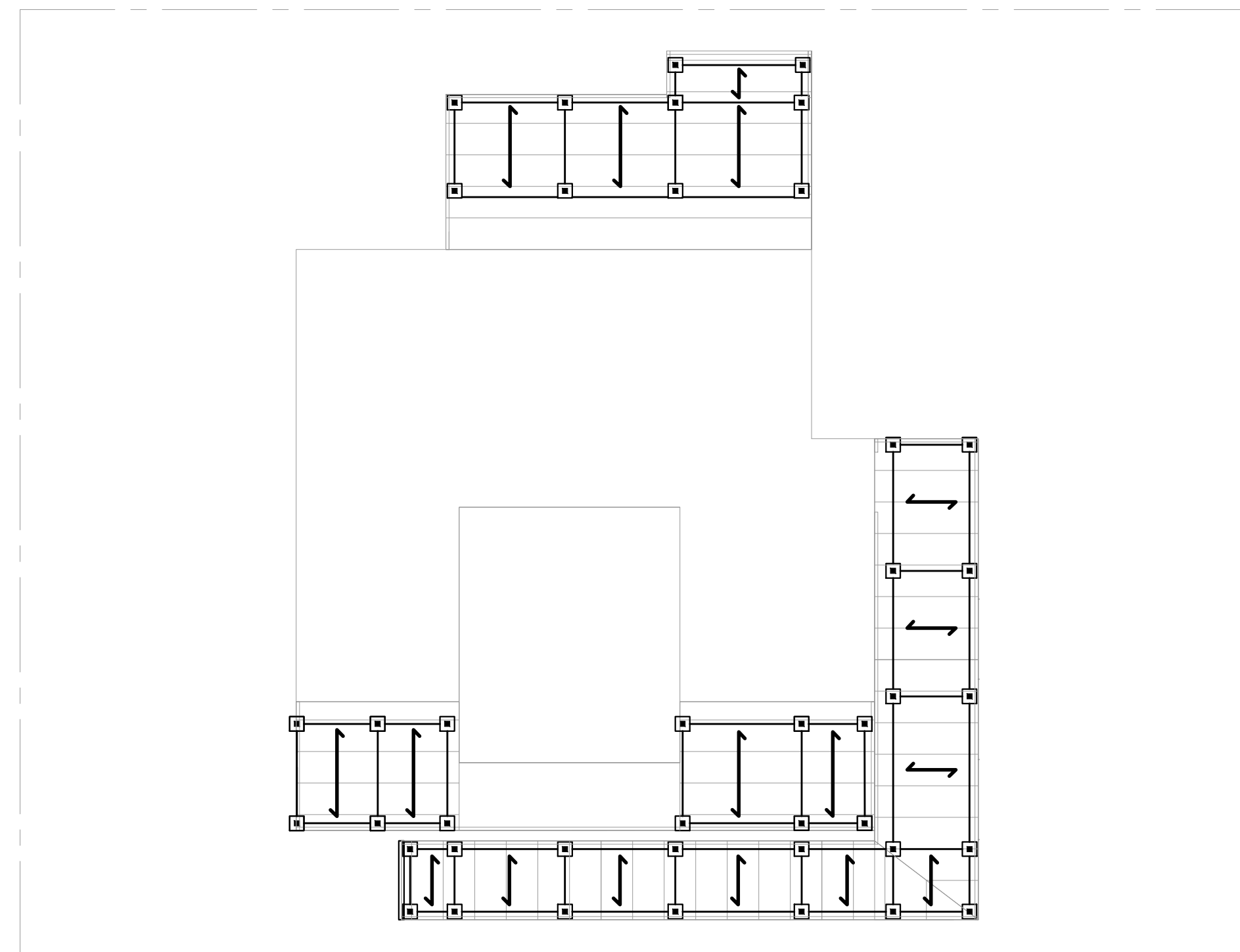
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Solar Decathlon 2017 Submission

11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

DECK DETAILS

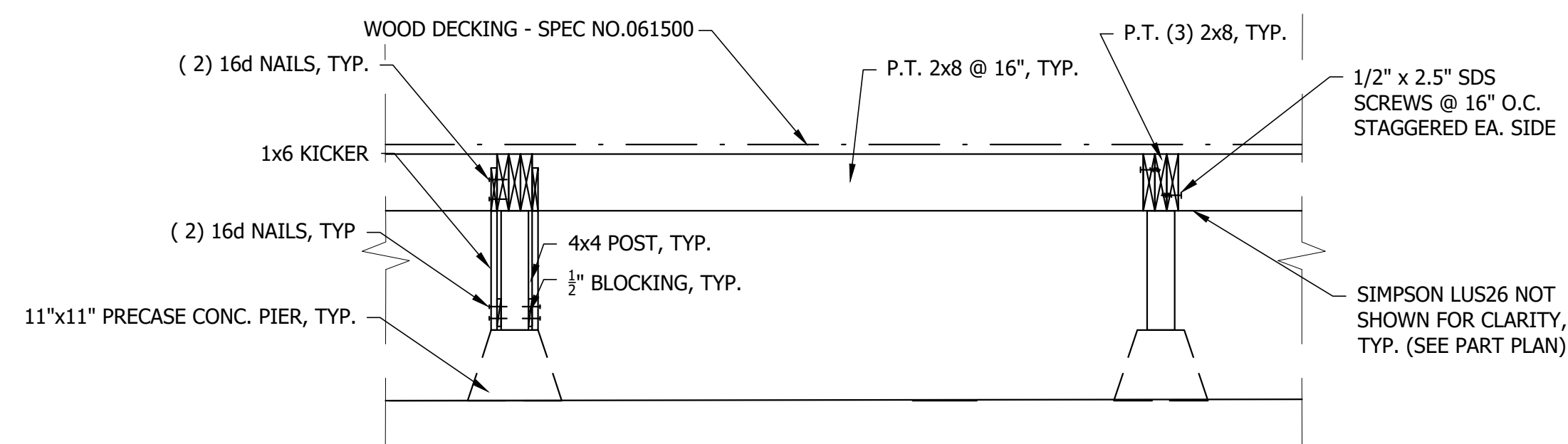
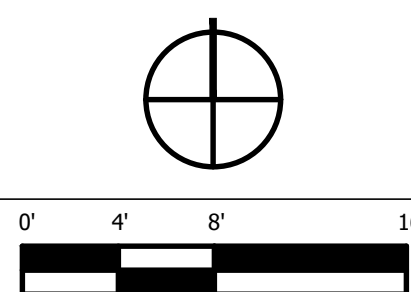
S-00



DECATHLETE WAY

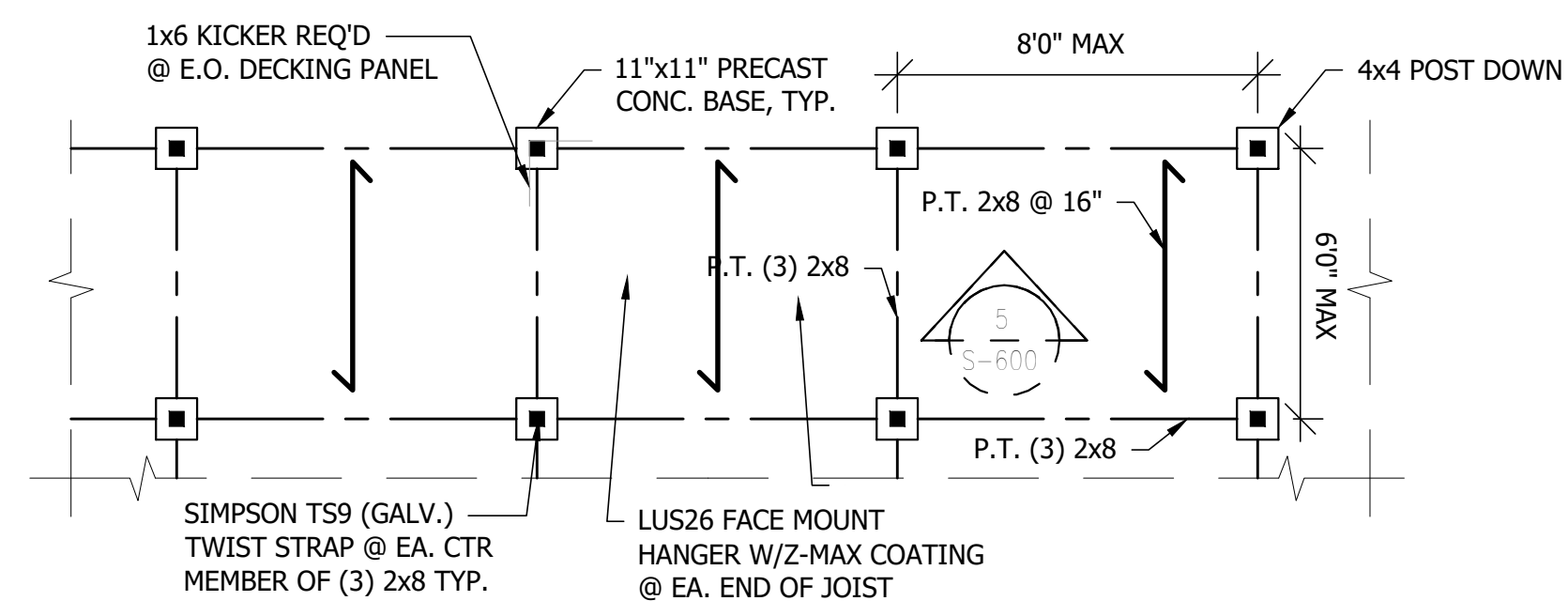
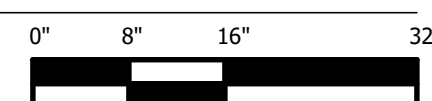
DECK FRAMING/FOUNDATION PLAN

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



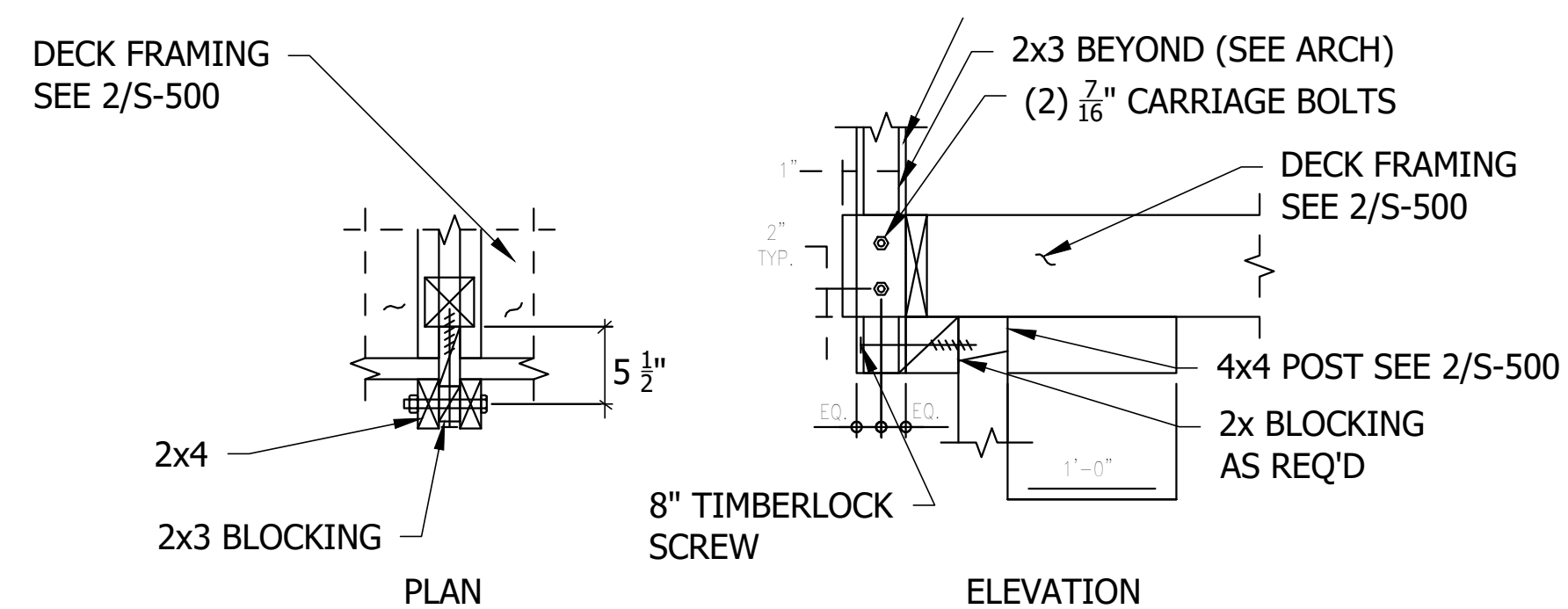
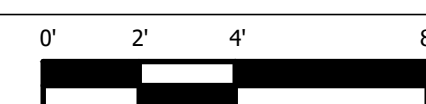
② TYP. DECK MODULE

Scale: $3/4"=1'-0"$



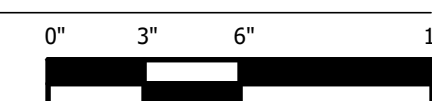
② TYP. DECK MODULE

Scale: $1/4"=1'-0"$



4 TYP. DECK RAIL POST

Scale: 1"=1'



GENERAL NOTES

- ## 1. MOVEABLE COUNTER

SHEET NOTES

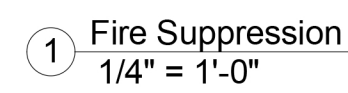
1. ALL EXTERIOR WOOD JOISTS AND BEAMS TO BE P.T. SO. PINE #2
2. ALL EXTERIOR WOOD RAILS AND FINISHES TO BE THERMO-TREATED ASH

[illegible]

PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####

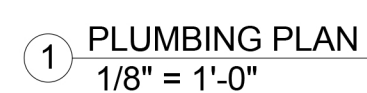
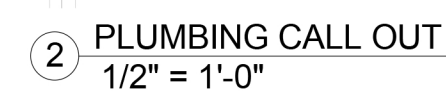
DECK DETAILS

S-500

[illegible]

PROJECT NO	----
DRAWN	
DESIGNED	----
CHECKED	----

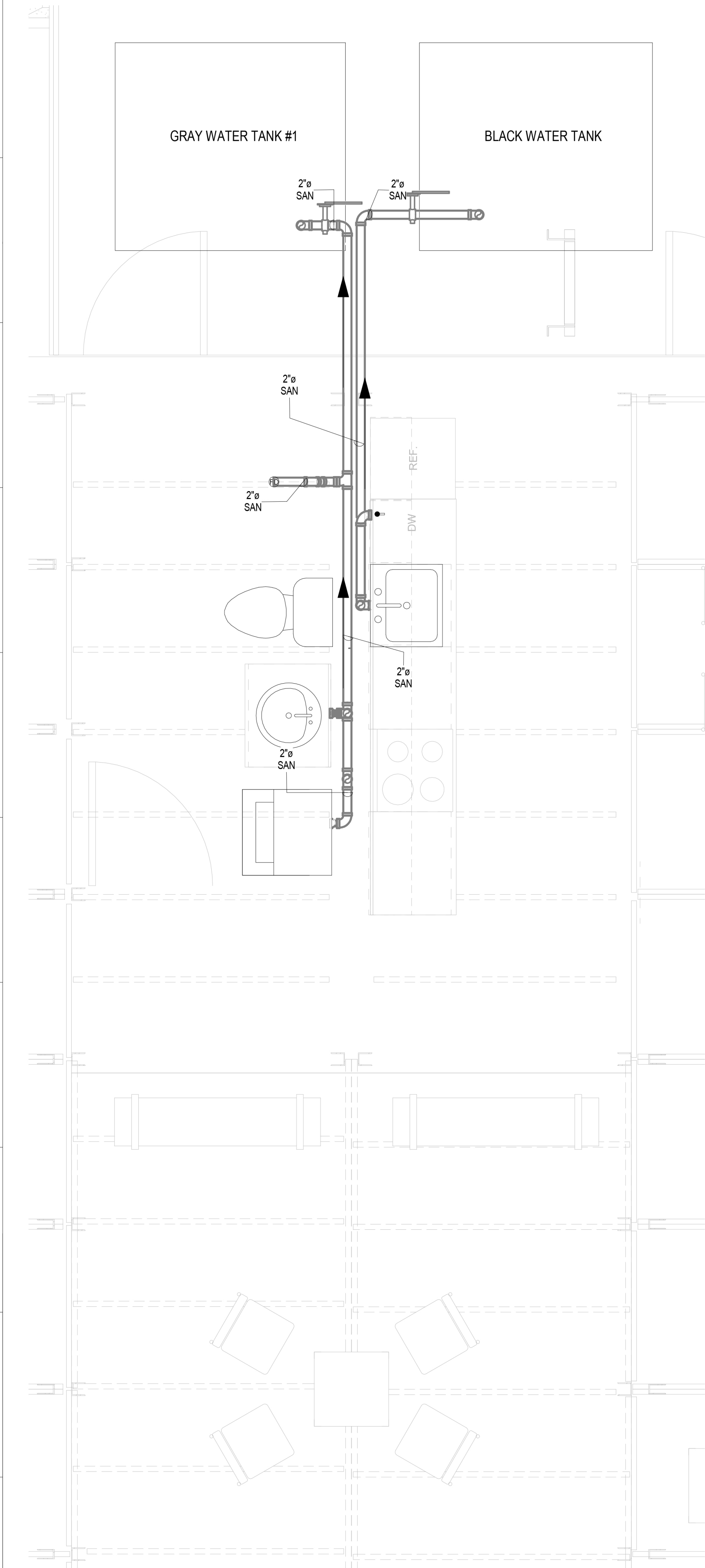
FIRE
PROTECTION
PLAN
F-100



NOTE: ALL PLUMBING PUMP
SPEC. NO. 221000
(PIPE SIZE NOTED ON SHEET P-600 & P-602)

11/17/2016 SET	90% CF

PROJECT NO	---
DRAWN	
DESIGNED	---
CHECKED	---



① PLUMBING SANITARY
1/2" = 1'-0"

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BUILDING 145
3835 CAMPUS DRIVE
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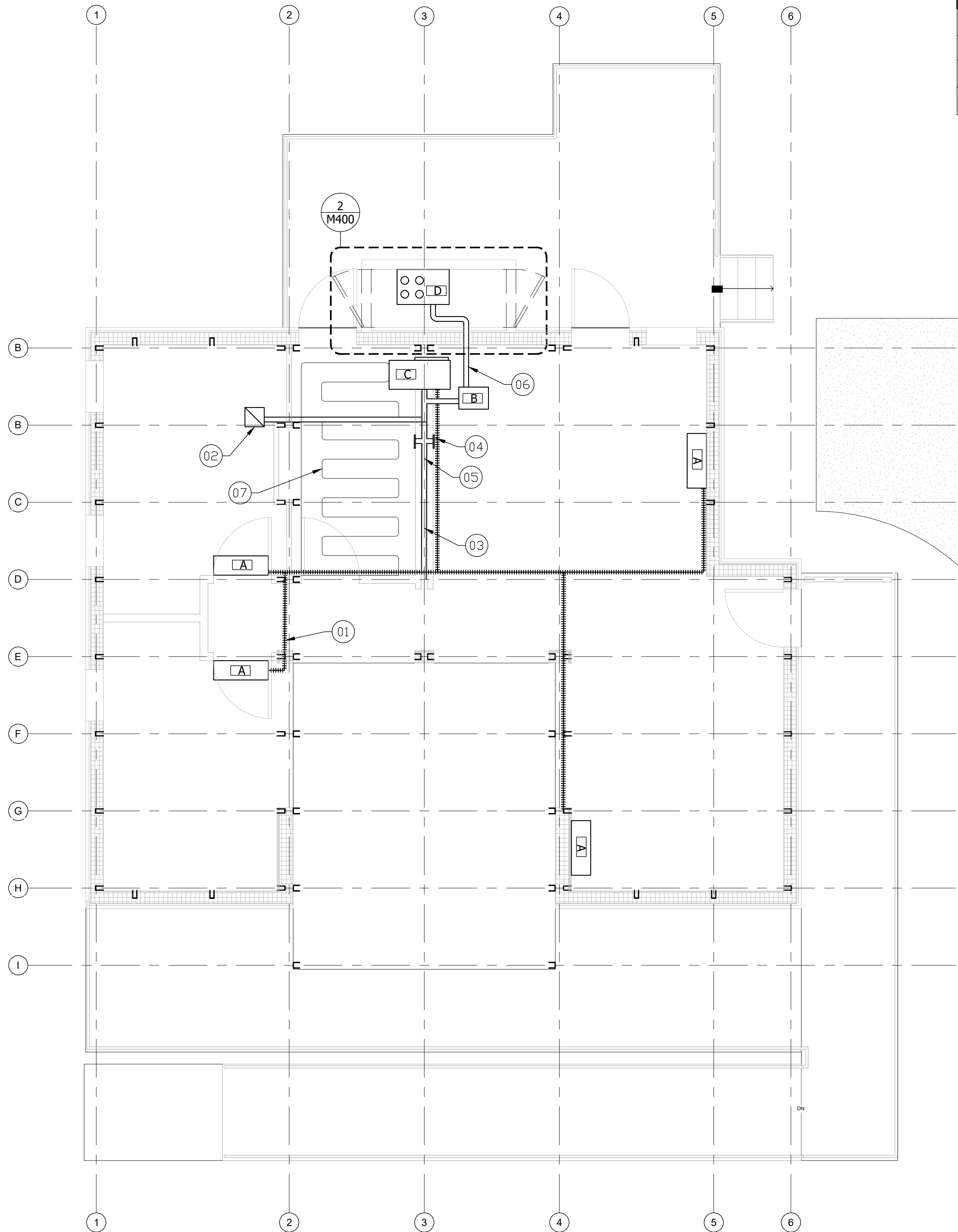
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Solar Decathlon 2017 Submission

11/17/2016 SET	90% CD

PROJECT NO	----
DRAWN	----
DESIGNED	----
CHECKED	----

PLUMBING
DIAGRAM

P-601



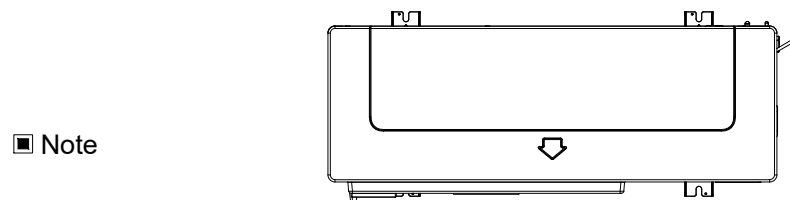
1 HVAC PLAN
Scale: 1/4"=1'-0"

HVAC EQUIPMENT SCHEDULE			
TAG #	ITEM	MANUFACTURER	REMARKS
A	INDOOR MINI SPLIT VRF	LG	MODEL FF99DOW
B	DRUM HUMIDIFIER	SEIMENS	MODEL IQ500
C	CONDENSING UNIT	LG	GC13061X
D	ENERGY RECOVERY VENTILATOR	MIELE	Model H 6560 B AM

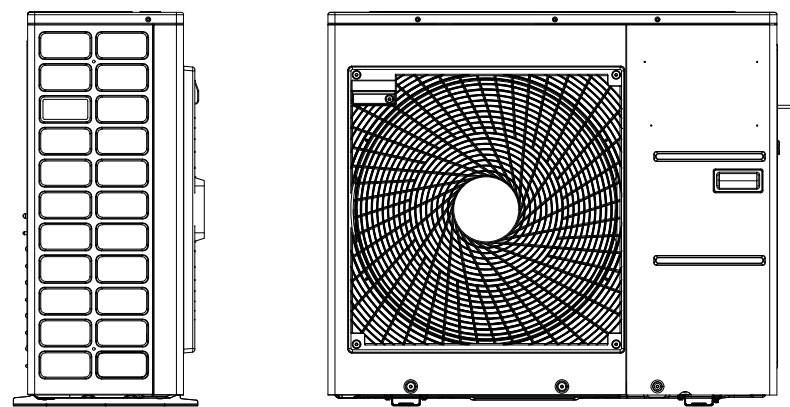
GENERAL NOTES

1. MOVEABLE COUNTER

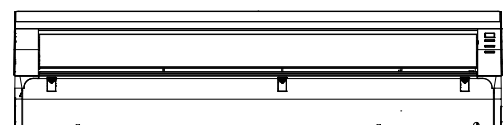
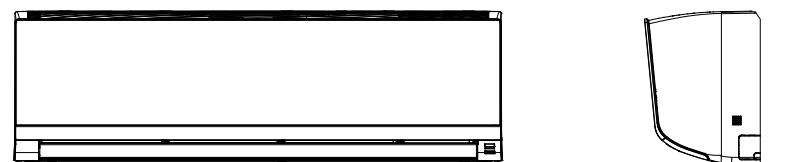
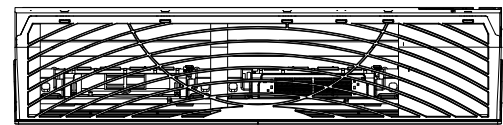
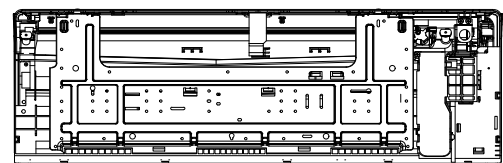
HVAC EQUIPMENT DETAILS



- Note
1. For more information, Refer to product Data Book. (PDB)
2. This drawing is made for CAD working of spec - in. For Product Specification, Installation, Service, Refer to the related manuals.



DIMENSIONS		
Dimensions (W x H x D)	mm	950 x 834 x 330
	inch	37-13/32 x 32-27/32 x 13



DIMENSIONS		
Dimensions (W x H x D)	mm	1030 x 325 x 245
	inch	40-9/16 x 12-13/16 x 9-11/16

SHEET NOTES

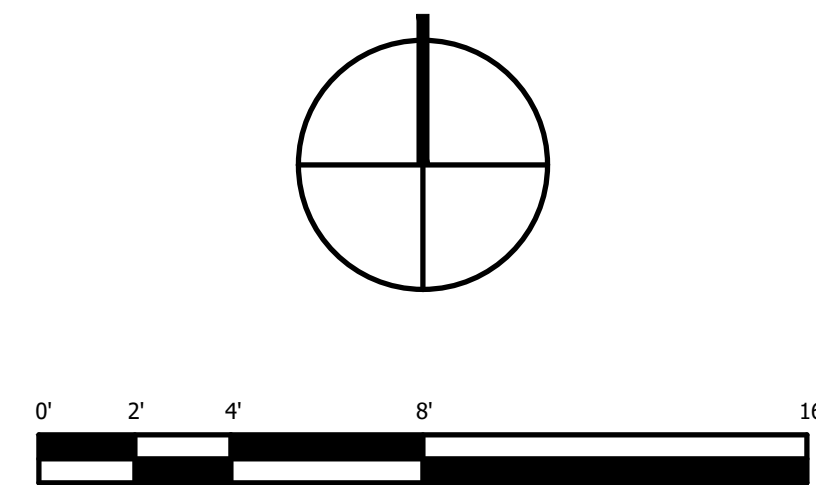
1. REFRIGERANT LINES FROM MINI-SPLIT VARIABLE REFRIGERANT FLOW SYSTEM.
2. FRESH AIR SUPPLY.
3. 3" DUCT FROM FRESH AIR INTAKE TO ERV.
4. EXHAUST FAN.
5. CONDENSING UNIT TO BE PLACED IN ATTIC AREA; NOTE THAT NO OTHER EQUIPMENT SHOULD BE PLACED WITHIN 3' IN FRONT OF THE FAN.
6. CONNECT ERV TO DIRECTLY DRUM HUMIDIFIER.
7. ELECTRICAL RADIANT HEATING PAD.

LEGEND

NOTE: SEE HVAC SECTIONS NO. 23 00 00

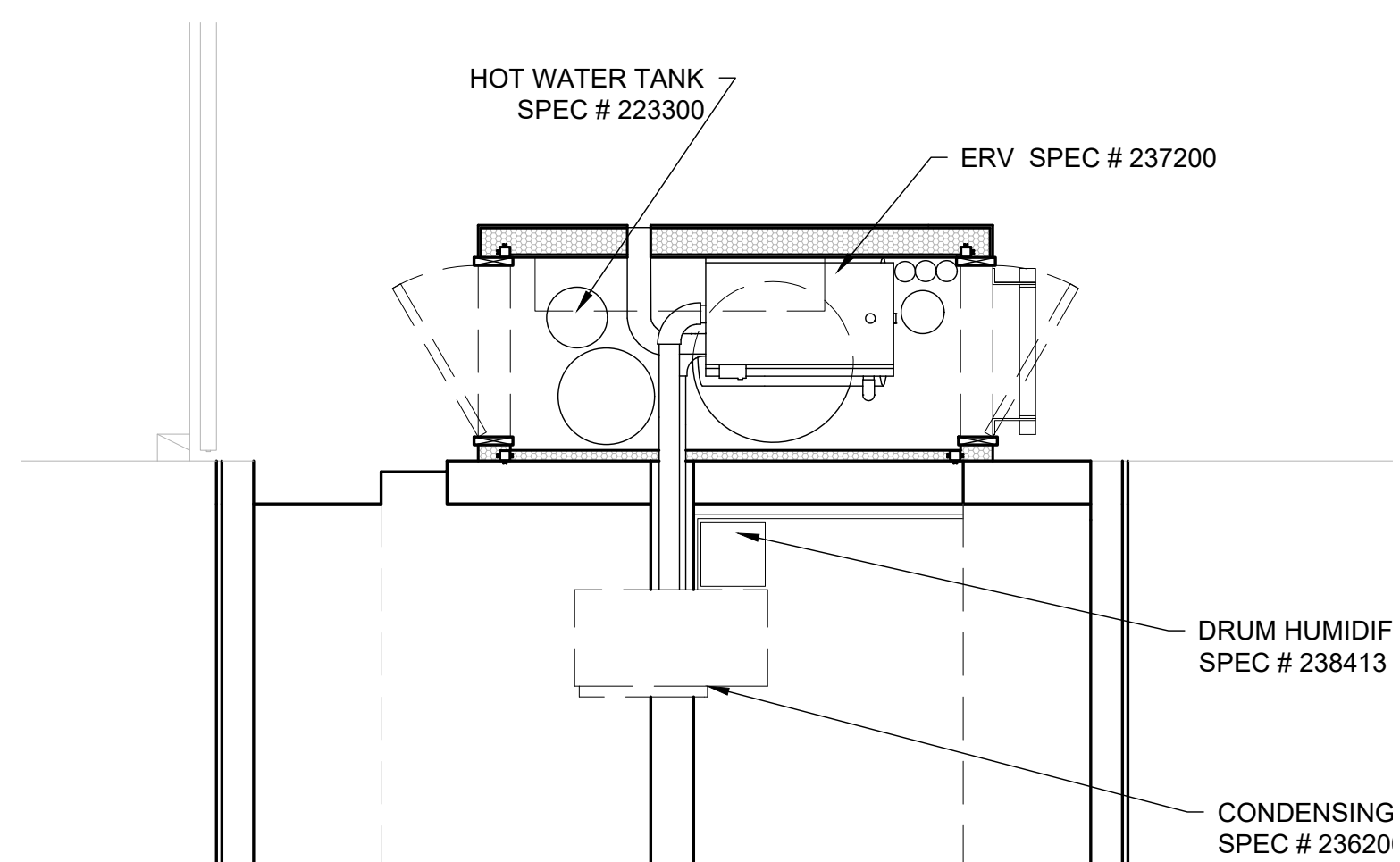
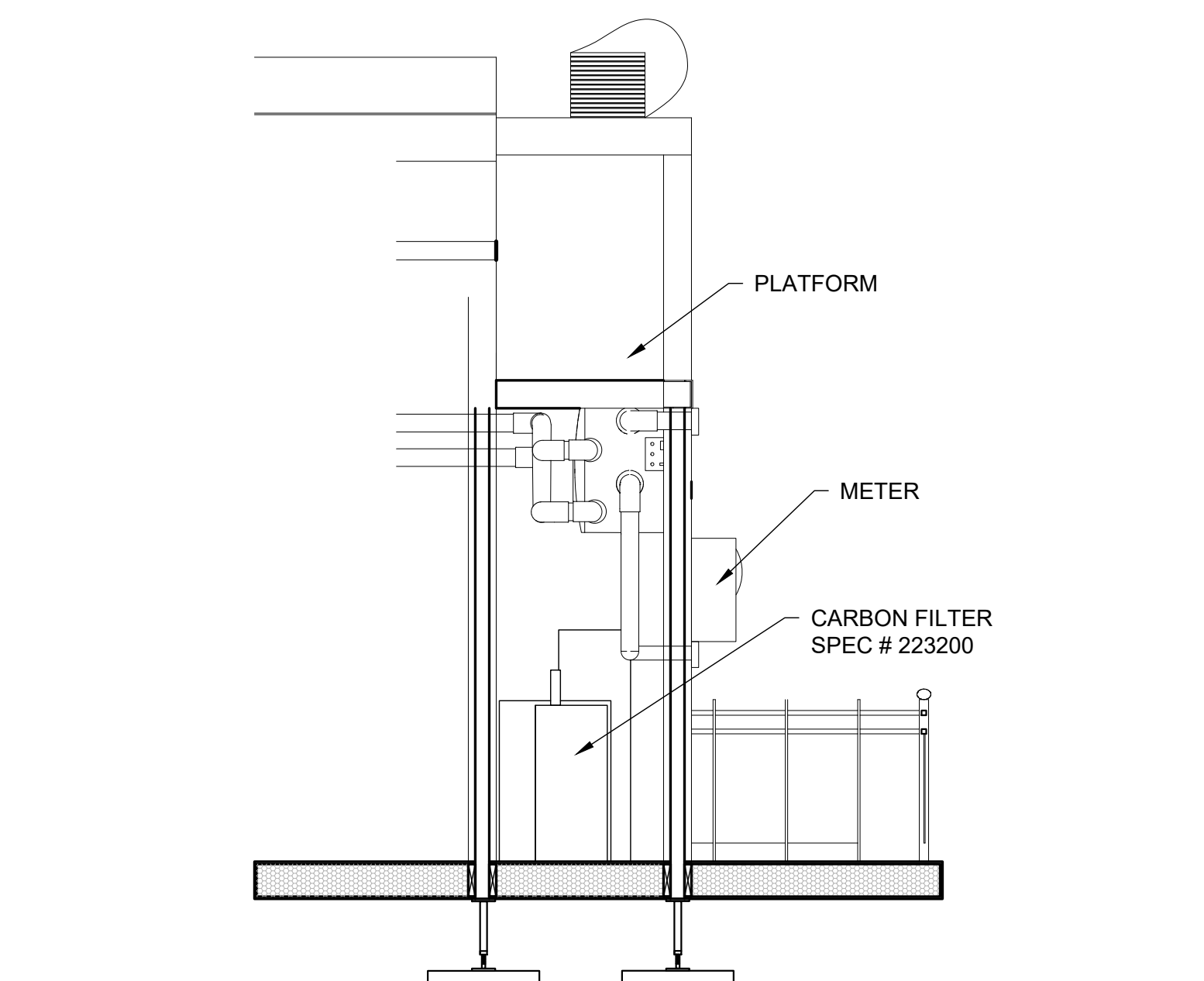
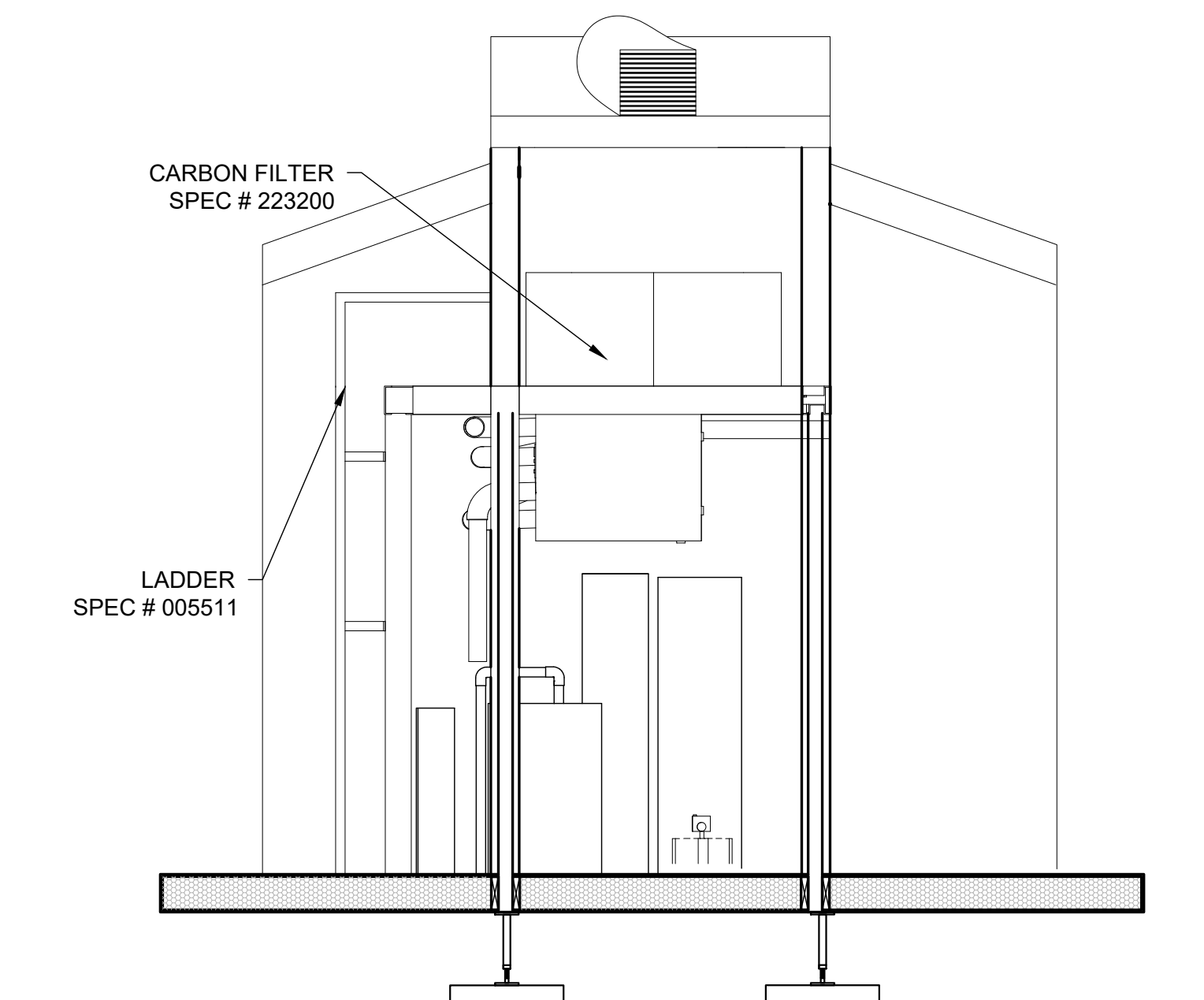
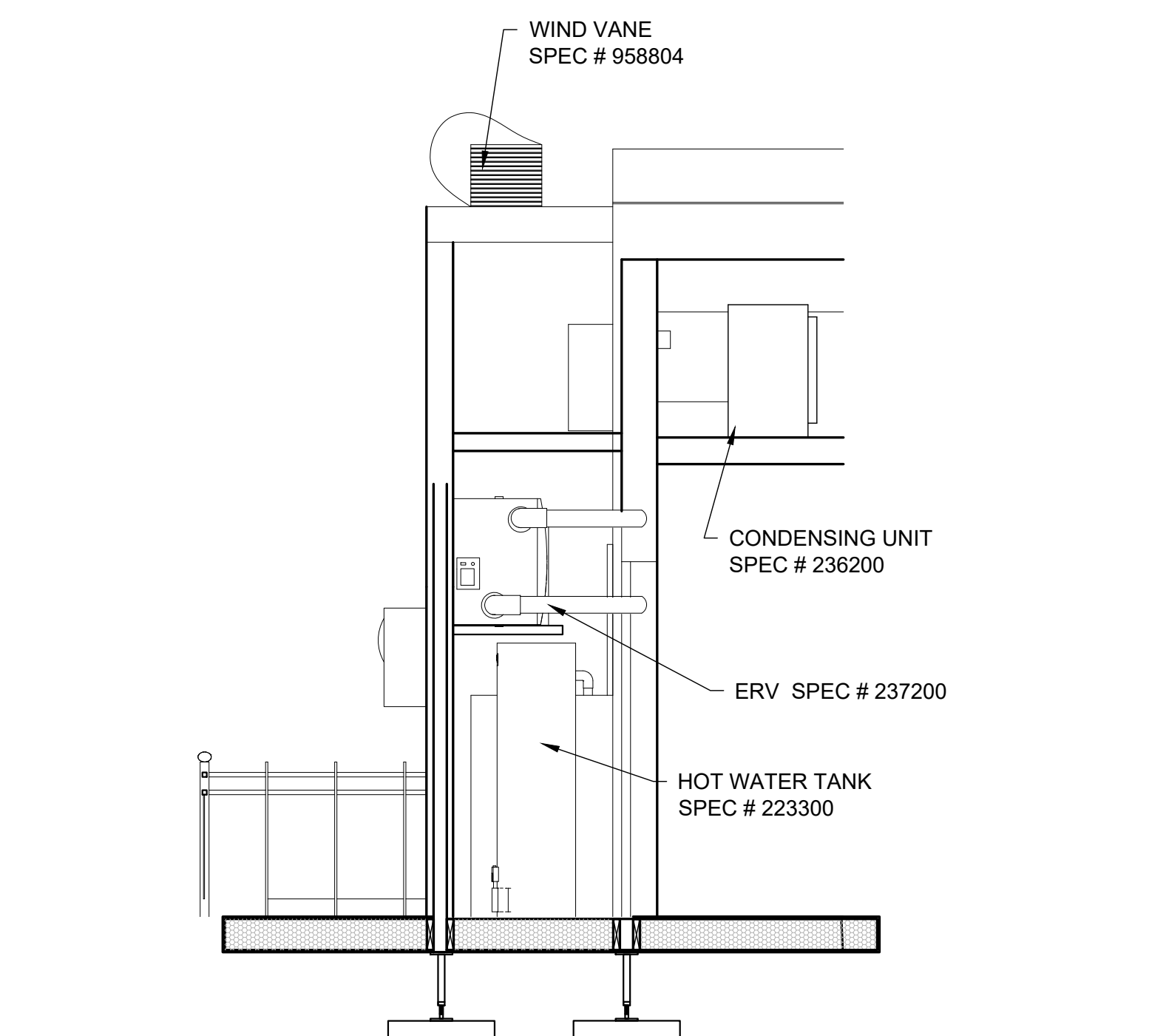
- ○ ○ ○ ERV
- HUMIDIFIER
- CONDENSER
- EXHAUST FAN
- ▧ FRESH AIR SUPPLY
- INDOOR UNIT
- ===== REFRIGERANT LINE

NORTH ARROW & SCALE



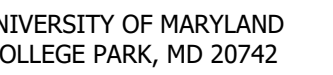
11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###



GENERAL NOTES

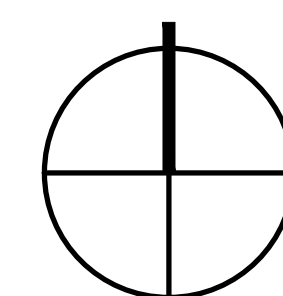
- ## 1. MOVEABLE COUNTER



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[illegible]

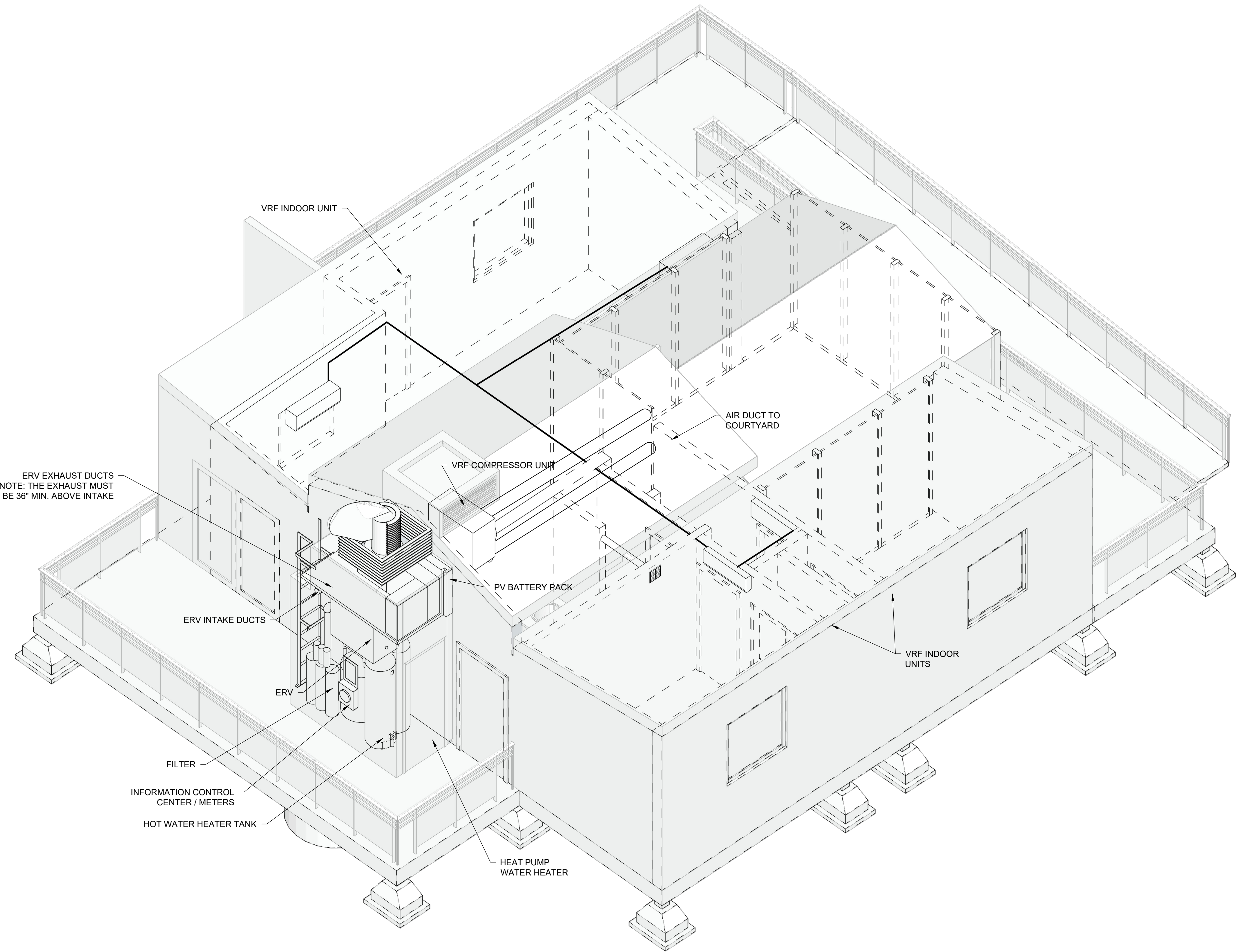
NORTH ARROW & SCALE



PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####

MECHANICAL
ELEVATION

M-200



1 HVAC ISOMETRIC
Scale: 3/8"=1'-0"

GENERAL NOTES

- 1. SEE M200 MECHANICAL CLOSET ELEVATIONS FOR CLARIFICATION OF SYSTEMS.
- 2. LADDER ATTACHED IN TWO PIECES; DOOR PORTION SWINGS FREE AND WALL PORTION IS FIXED.

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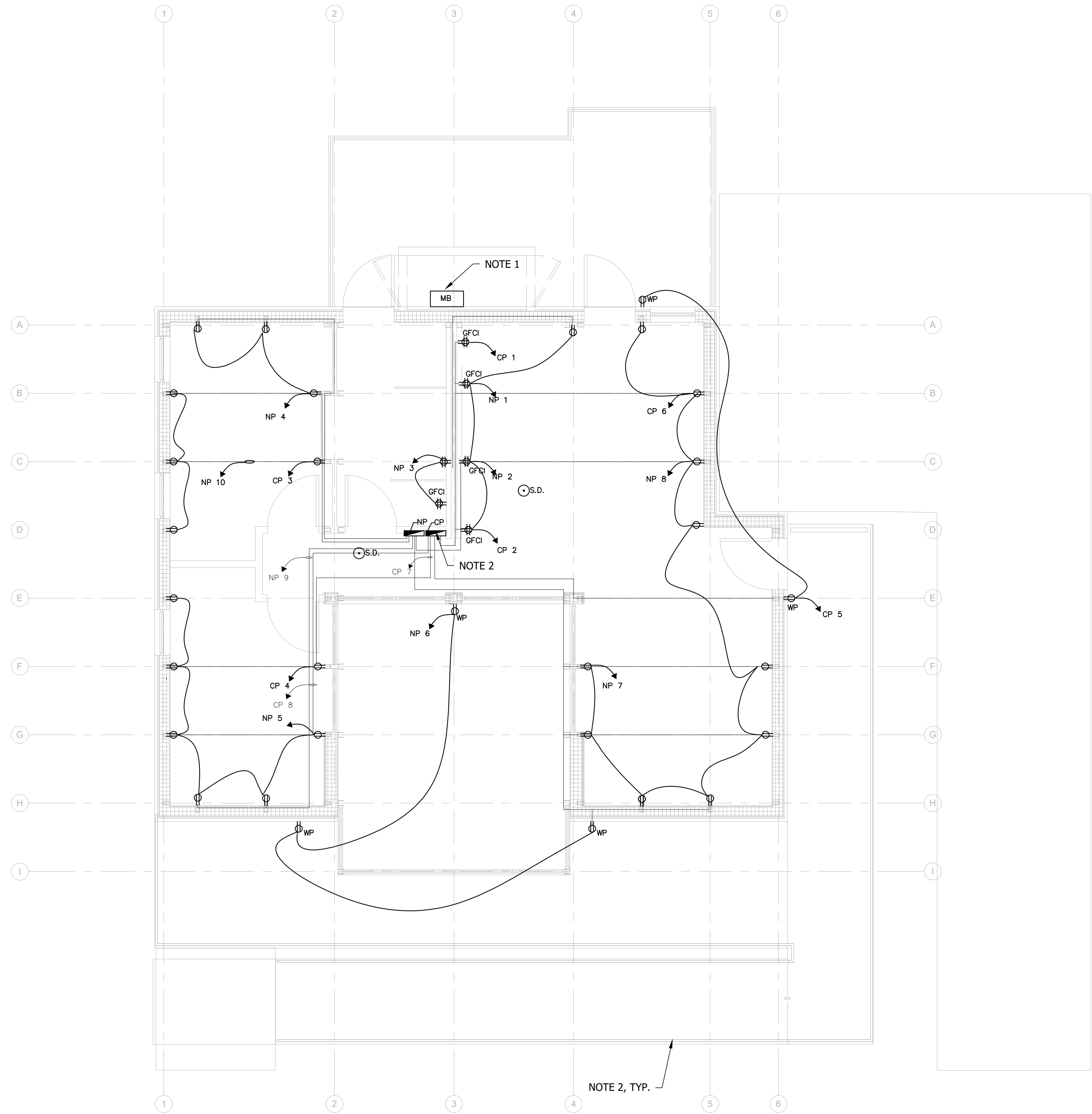
11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	
DESIGNED	###
CHECKED	###

MECHANICAL
SYSTEMS AXON

M-500

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



1 ELECTRICAL DISTRIBUTION PLAN
Scale: 1/4"=1'-0"

GENERAL NOTES

1. REFER TO PANEL SCHEDULES ON E-600 FOR MORE INFORMATION

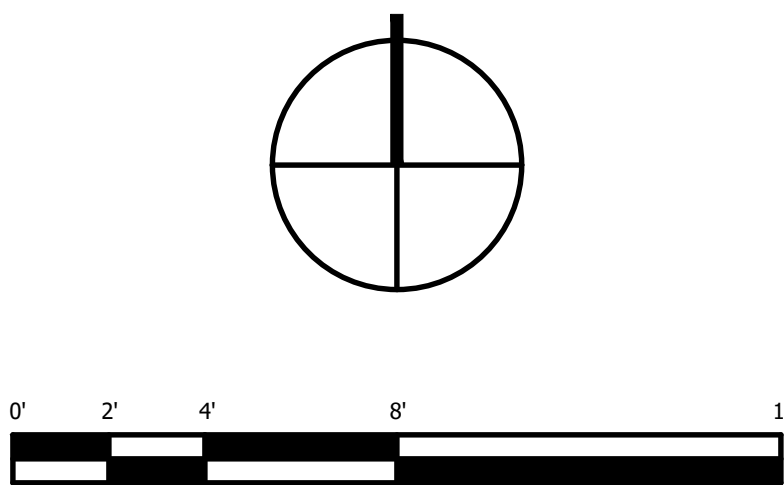
ELEC. DISTRIBUTION NOTES

1. GFCI GROUND FAULT CIRCUIT INTERRUPTER
2. NP NON-CRITICAL PANEL
3. CP CRITICAL PANEL
4. MP MAIN BREAKER

SHEET KEYNOTES

1. PANEL BOARDS, SPEC # 262416
2. ENCLOSED SWITCHES AND CIRCUIT BREAKER, SPEC # 262816

NORTH ARROW & SCALE



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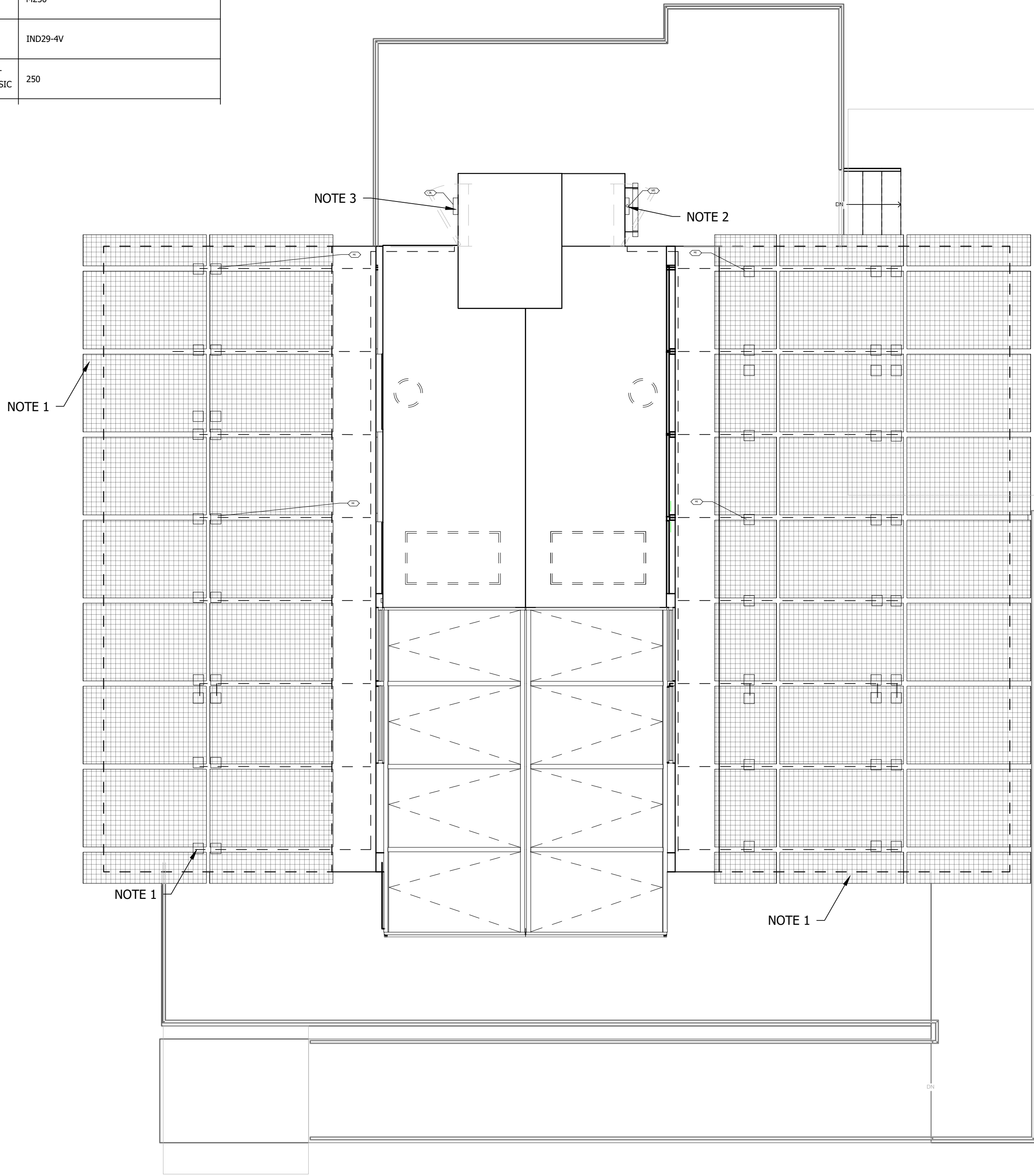
11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

**ELECTRICAL
DISTRIBUTION
PLAN
E-101**



PHOTOVOLTAIC SCHEDULE				
REFERENCE NO.	SYSTEM NAME	COUNT	MANUFACTURER	MODEL
NUMBER	PHOTOVOLATIC MODULE	36	SUN POWER	SPR-X21-335-BLK
	MICROINVERTER	36	ENPHASE	M250
	BATTERY	3	TOJAN	IND29-4V
	MPPT CHARGE CONTROLLER	1	MIDNIGHT SOLAR CLASSIC	250



1 PHOTOVOLTAIC ARRAY ROOF PLAN
Scale: 1/4"=1'-0"

GENERAL NOTES

1. REFER TO E-601 AND E-602 FOR LINE DIAGRAMS

ELECTRICAL NOTES

1. JB JUNCTION BOX
2. WH WEATHERHEAD
3. UM UTILITY METER
4. CS CHARGING STATION
5. MI MICROINVERTER

SHEET KEYNOTES

1. PHOTOVOLTAIC COLLECTORS, SPEC # 263100
2. WEATHER STATION, SPEC # 230923-43
3. PANEL BOARDS, SPEC # 262416

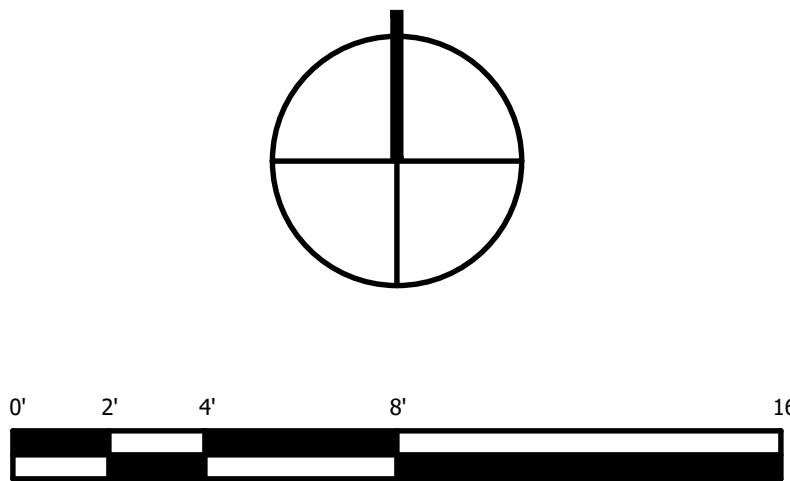
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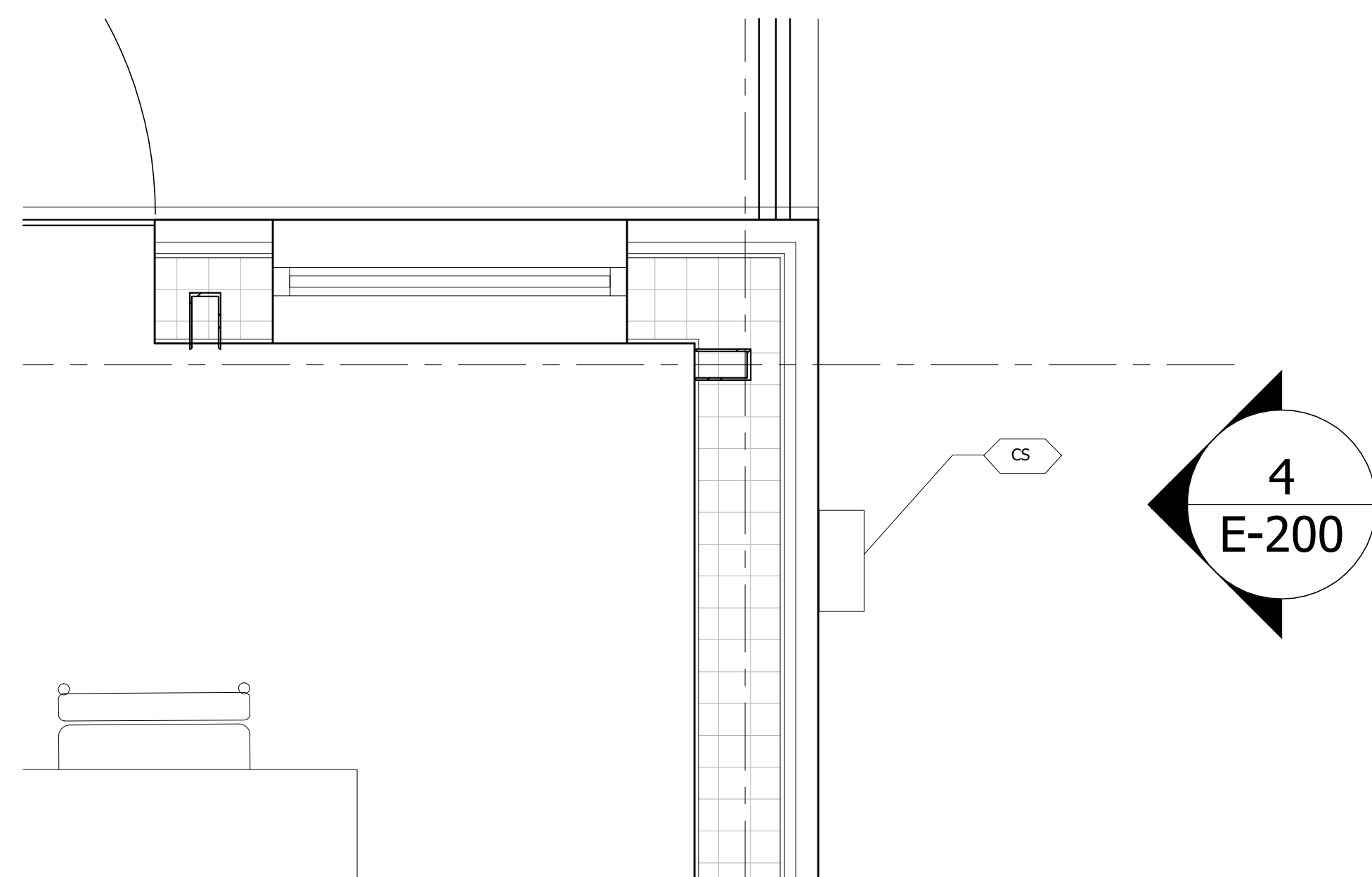
11/17/2016	90% CD SET

NORTH ARROW & SCALE

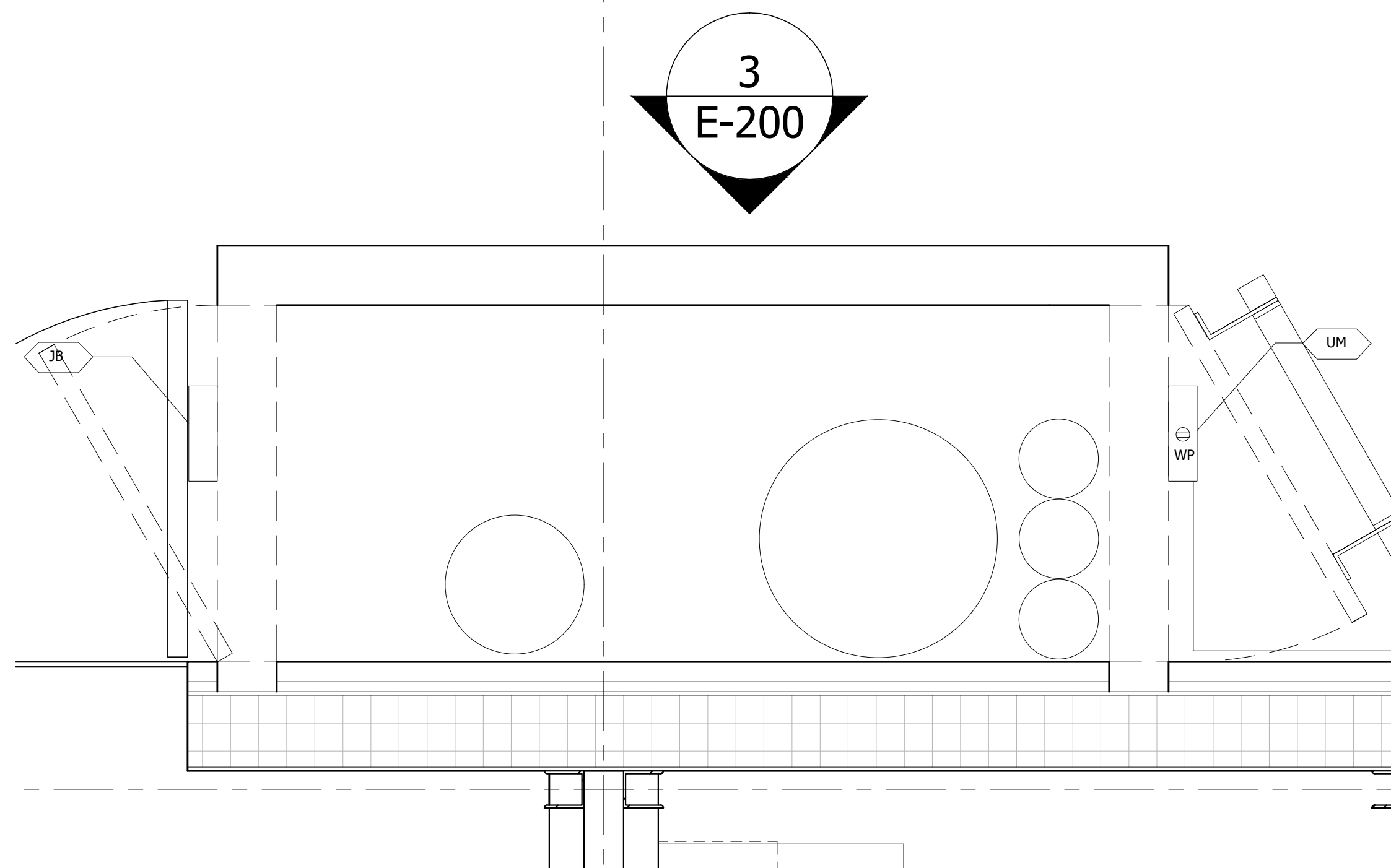


PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

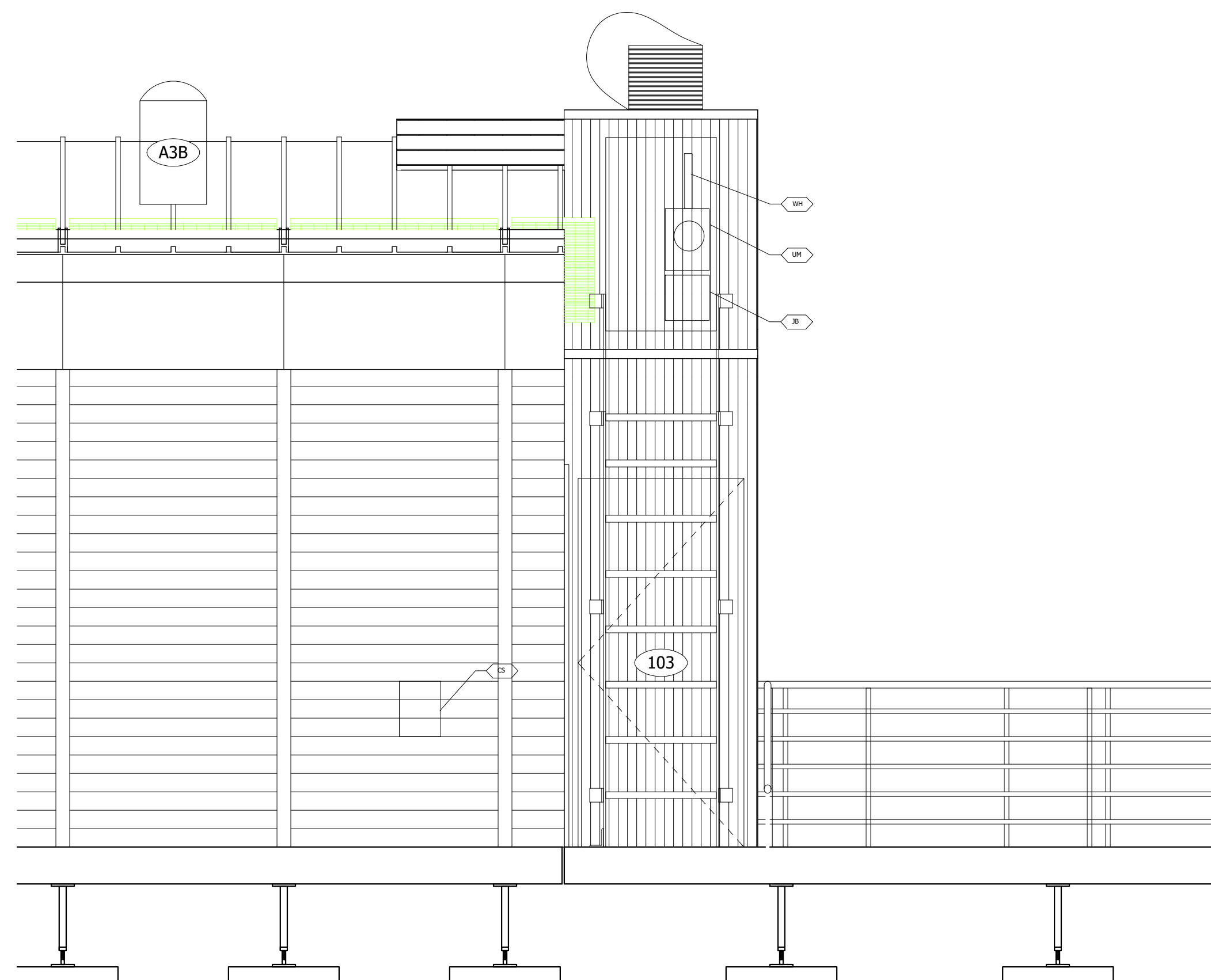
PHOTOVOLTAIC
ARRAY ROOF
PLAN
E-103



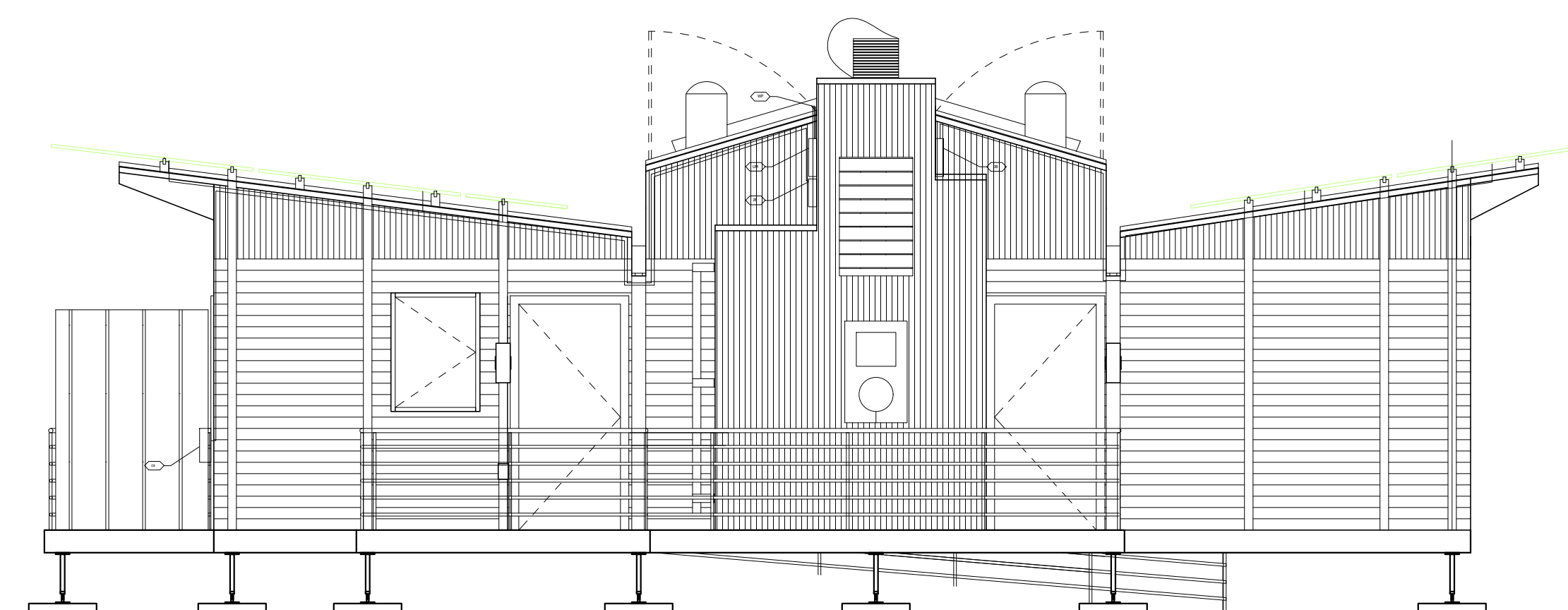
4 CHARGING STATION PLAN



3 POWER EQUIPMENT PLAN



2 PV EQUIPMENT ELEVATION



1 PV CONNECTION ELEVATION
Scale: 1/4" = 1'-0"

GENERAL NOTES

- | | | |
|----|----|------------------|
| 1. | JB | JUNCTION BOX |
| 2. | WH | WEATHER HEAD |
| 3. | UM | UTILITY METER |
| 4. | CS | CHARGING STATION |

KEY NOTES

- | | |
|----|---|
| CS | EVR-GREEN 400 40-AMP 240-VOLT 9.6-KW
SURFACE MOUNT ELECTRIC VEHICLE CHARGING
STATION OR SIMILAR |
|----|---|

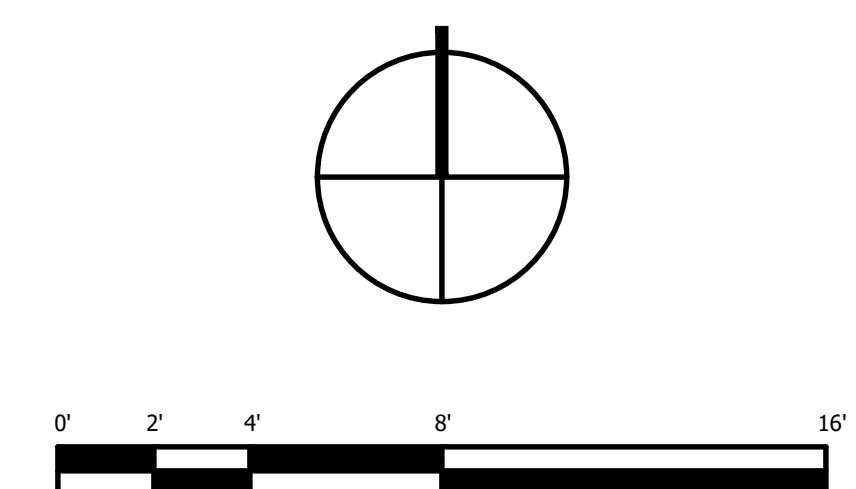
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NORTH ARROW & SCALE



PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####

ELEVATIONS

E-200

CRITICAL LOAD PANEL

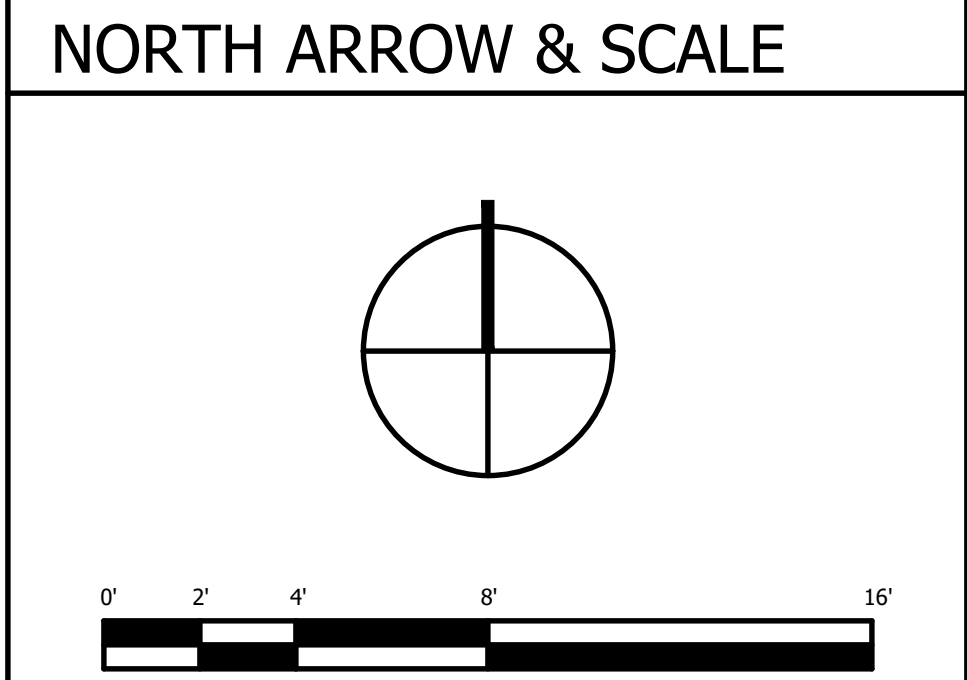
RATED AT 100 AMP									
KW	SERVING	CKT BKR AMP	# OF PLS	CKT NO.	CKT NO.	# OF PLS	CKT BKR AMP	SERVING	KW (AWG)
12	REFRIDGERATOR	20	1	1	2	1	20	HVAC CKT	-
6	DOUBLE OVEN	20	1	3	4	1	20	VENTILATION CKT.	-
12	BEDROOM LIGHTING CKT.	20	1	5	6	1	20	EXHAUST CKT	-
12	LIVING ROOM LIGHTING CKT	20	1	7	8	1	20	FIRE SUPPRESSION	-
12	STUDY LIGHTING CKT.	20	1	9	10	1	20	FRONT DOOR LIGHTING CKT.	15
12	BATHROOM LIGHTING CKT.	20	1	11	12	1	20	MECH ROOM LIGHTING	12
12	KITCHEN LIGHTING CKT.	20	1	13	14	1	20		
-	LIVING SYSTEMS PUMP	20	1	15	16	1	20		
-	LIVING SYSTEMS PUMP	20	1	17	18	1	20		
-	LIVING SYSTEMS PUMP	20	1	19	20	1	20		
-	LIVING SYSTEMS PUMP	20	1	21	22	1	20		
15	EXTERIOR OUTLET	20	1	23	24	1	20		
12	SPRINKLER SYSTEM PUMP	20	1	25	26	1	20		
		20	1	27	28	1	20		
		20	1	29	30	1	20		
		20	1	31	32	1	20		
		20	1	33	34	1	20		
		20	1	35	36	1	20		
		20	1	37	38	1	20		
		20	1	39	40	1	20		
		20		41	42	1	20		

NON-CRITICAL LOAD PANEL

RATED AT 100 AMP									
KW	SERVING	CKT BKR AMP	# OF PLS	CKT NO.	CKT NO.	# OF PLS	CKT BKR AMP	SERVING	KW (AWG)
20	COOKTOP	20	1	1	2	1	20	EXTERIOR OUTLET	15
20	DISHWASHER	20	1	3	4	1	20	RANGE HOOD	20
15	GARBAGE DISPOSAL	20	1	5	6	1	20	MEDIA	15
15	WASHER/DRYER UNIT	20	1	7	8	1	20		
15	BATHROOM RECEP.	20	1	9	10	1	20		
15	BEDROOM RECEP.	20	1	11	12	1	20		
15	STUDY RECEP.	20	1	13	14	1	20		
15	LIVING ROOM RECEP.	20	1	15	16	1	20		
15	DINING ROOM RECEP.	20	1	17	18	1	20		
15	KITCHEN RECEP	20	1	19	20	1	20		
		20	1	21	22	1	20		
		20	1	23	24	1	20		
		20	1	25	26	1	20		
		20	1	27	28	1	20		
		20	1	29	30	1	20		
		20	1	31	32	1	20		
		20	1	33	34	1	20		
		20	1	35	36	1	20		
		20	1	37	38	1	20		
		20	1	39	40	1	20		
		20		41	42	1	20		

MAIN BREAKER PANEL

RATED AT 100 AMP									
KW	SERVING	CKT BKR AMP	# OF PLS	CKT NO.	CKT NO.	# OF PLS	CKT BKR AMP	SERVING	KW (AWG)
20	CRITICAL PNL	100	1	1	2	1	20	-	-
20	NON-CRITICAL PNL	100	1	3	4	1	20	-	-
15	PV ARRAY	20	1	5	6	1	20	-	-
15	-	20	1	7	8	1	20	-	-
15	-	20	1	9	10	1	20	-	-
15	-	20	1	11	12	1	20	-	-
15	-	20	1	13	14	1	20	-	-
15	-	20	1	15	16	1	20	-	-
15	-	20	1	17	18	1	20	-	-
15	-	20	1	19	20	1	20	-	-
		20	1	21	22	1	20	-	-
		20	1	23	24	1	20	-	-
		20	1	25	26	1	20	-	-
		20	1	27	28	1	20	-	-
		20	1	29	30	1	20	-	-
		20	1	31	32	1	20	-	-
		20	1	33	34	1	20	-	-
		20	1	35	36	1	20	-	-
		20	1	37	38	1	20	-	-
		20	1	39	40	1	20	-	-
		20		41	42	1	20	-	-



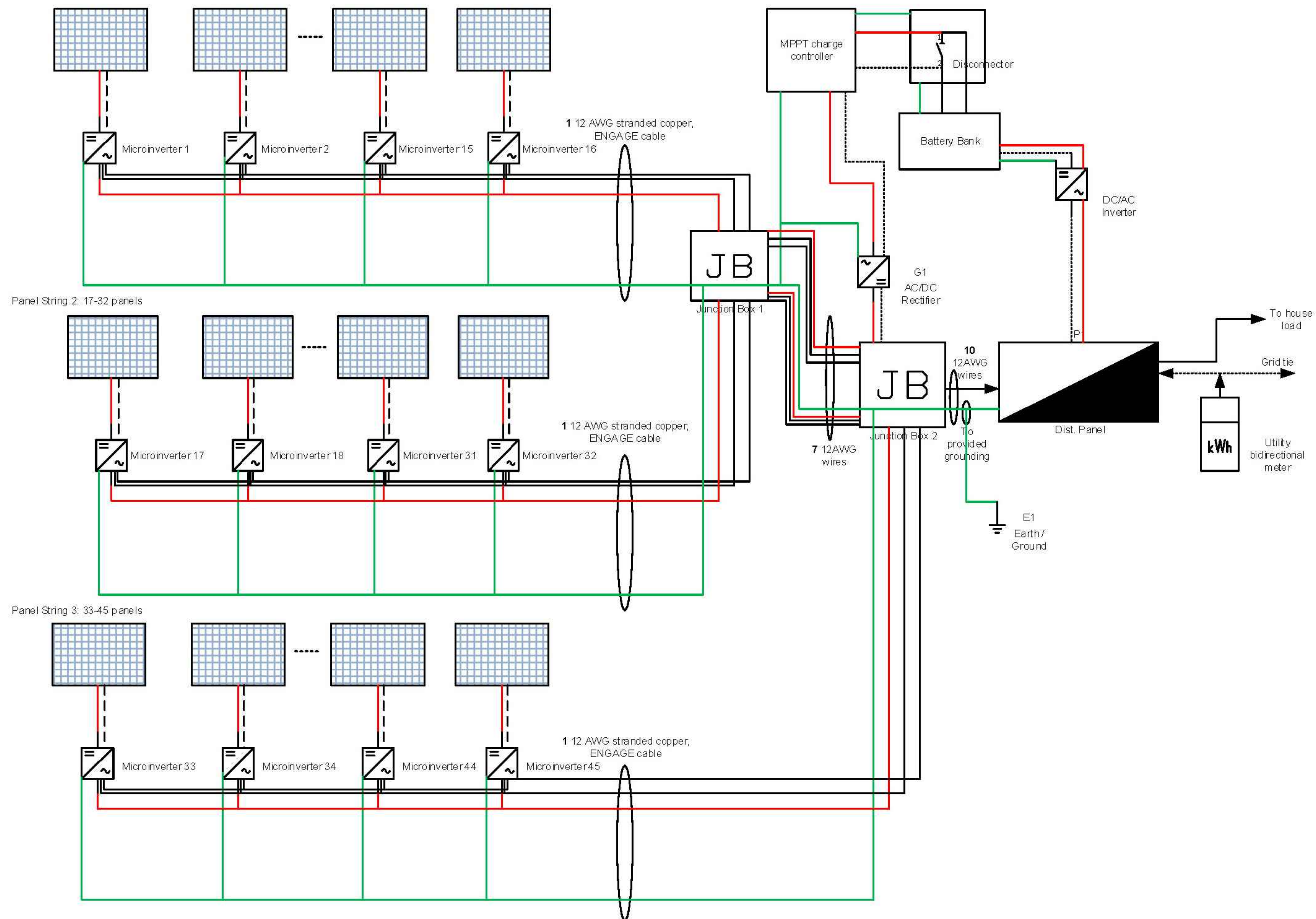
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PROJECT NO	###
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DESIGNED	###
CHECKED	###

PV ONE LINE WIRE DIAGRAMS E-601

3 Wire Diagram

Panel String 1: 1-16 panels (Each panel has a maximum capacity of 335W)



GENERAL NOTES

MICROINVERTERS ARE DESIGNED TO SHUTDOWN THE ARRAY WHEN THEY DETECT FAILURE OF THE GRID.

PANEL:MAX 335W
MICRO-INVERTER:
AMBHENOL H4 CONNECTOR
250 BREAK O/P
171 X 173 X 30MM (WITHOUT BACKER)

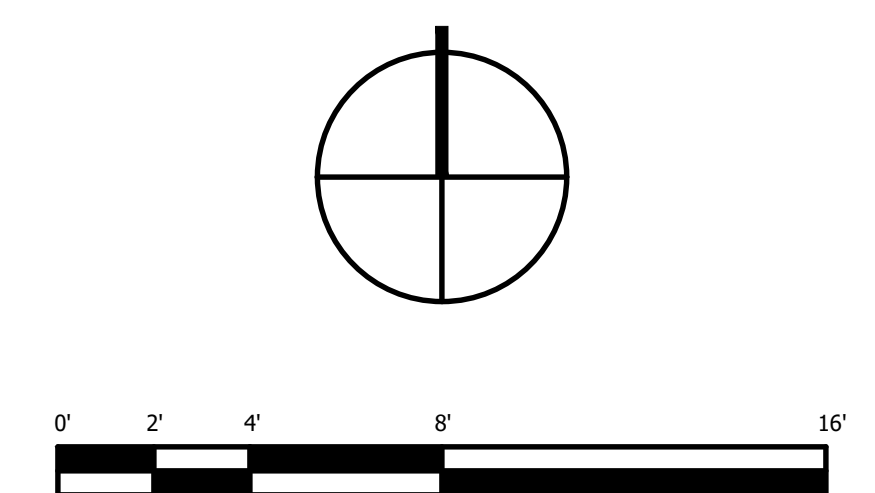
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NORTH ARROW & SCALE



PHOTOVOLTAIC THREE LINE DIAGRAM

NO SCALE

PROJECT NO	####
DRAWN	
DESIGNED	####
CHECKED	####

PV THREE LINE WIRE DIAGRAMS E-602

TRANSPORTATION ANALYSIS						
TYPE	SMALL TRUCK	MEDIUM TRUCK	LARGE TRUCK	SELECTED TRUCK	RAILCAR	AIR
LOAD DIMENSIONS LENGTHxWIDTHxHEIGHT	16'x8'6"x9'2"	26'x8'6"x9'2"	53'x8'6"x9'2"	48'x8'6"x12'	44'4"x8'6"x8'10"	65,000 ft³
MAXIMUM LOAD CAPACITY (LB.)	7,000	15,000	80,000	80,000	200,000	250,000
FUEL PER DISTANCE TRAVELED	7.9 mpg	6.5 mpg	5.8 mpg	5.8 mpg	476 ton-mpg	1.6 mpg
ESTIMATED CO ₂ PRODUCED FROM COLLEGE PARK TO DENVER (TONS)	2.097	2.549	2.857	2.857	0.313	10.356

TRUCK WEIGHT AND SIZE LIMITS					
	WIDTH	HEIGHT	SEMI-TRAILER	FULL TRAILER (EACH)	GVW (LB.)
INTERSTATES / US NUMBERED ROUTES	8'6"	13'6"	***48'	***28'	80,000
MARYLAND	*8'	13'-6"	48'	28'	80000
COLORADO	8'	**13'	57'4"	28'6"	85,000

*8'6" ON ALL INTERSTATE AND CERTAIN DESIGNATED STATE HIGHWAYS
**14'6" ON STATE DESIGNATED HIGHWAYS ONLY
*** THE FEDERAL LENGTH LIMITS ARE PRINCIPALLY MINIMUMS THAT STATES MUST ALLOW FOR ON INTERSTATES/US NUMBERED ROUTES

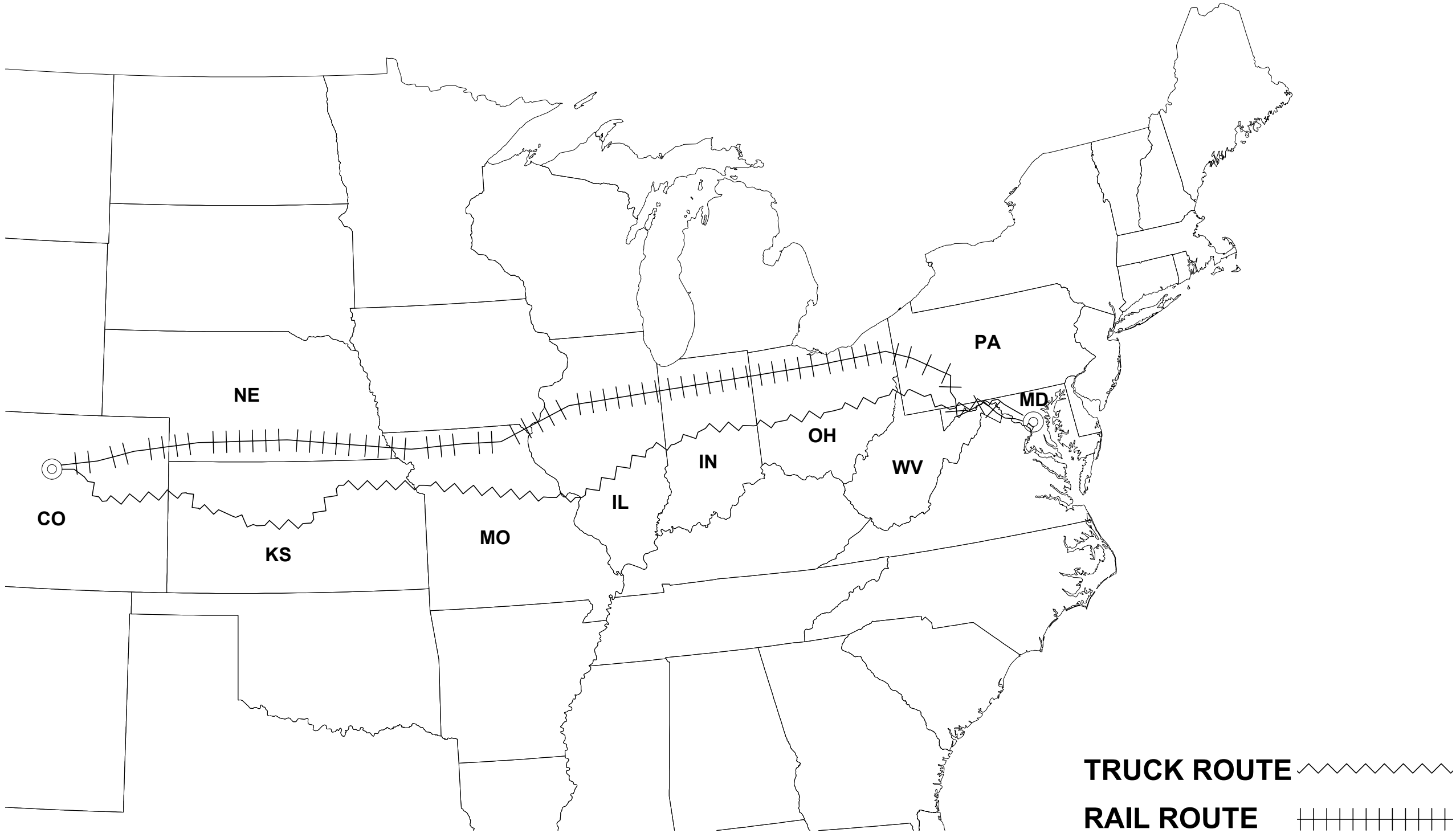
OPTIMAL ROUTE OPTIONS		
FACTORS	TRUCK ROUTE	RAIL ROUTE
MILES	1,657	1,667
HOURS	25	13.5
ESTIMATED CO ₂ PRODUCED (TONS)	2.857	0.317

*BOTH OPTIONS ARE STILL BEING CONSIDERED

AMOUNT OF VEHICLE TYPE REQUIRED FOR HOUSE						
	SMALL TRUCK	MEDIUM TRUCK	LARGE TRUCK	SELECTED TRUCK	RAILCAR	AIR
TOTAL NUMBER OF VEHICLE TYPES REQUIRED	6	4	2	1	2	1
ESTIMATED CO ₂ PRODUCED FROM COLLEGE PARK TO DENVER (TONS)	12.582	10.196	5.714	2.857	0.313	10.356

DIMENSIONS PER RAILCAR/TRUCK TRAILER				
	LENGTH	WIDTH	HEIGHT	AMOUNT NEEDED
*TRUCK	48'	8'6"	12'	2
RAIL	44'4"	8'6"	8'10"	2

*CUSTOM TRUCK OUTFITTED AS TANDEM LOWBOY WITH 40' OF THE TRAILER ALLOWING CARGO HEIGHT UP TO 12' WITH 4' IN FRONT AND BACK ONLY ALLOWING 10'4" WITH BUILT-IN CRANE AND ONE ADDITIONAL LOWBOY TRAILER, IN TOTAL NOT EXCEEDING 95' IN LENGTH



TRANSPORT ANALYSIS NOTES

1. TRUCK DIMENSIONS BASED ON AVERAGE ESTIMATES
2. CO₂ TRUCK ESTIMATES BASED ON ESTIMATE OF 20LBS OF CO₂ PRODUCED PER GALLON OF GASOLINE AND ROUTE OF 1657 MILES
3. RAILCAR DIMENSIONS BASED 45' HIGH INTERMODAL SHIPPING CONTAINER INTERIOR DIMENSIONS
4. RAILCAR FUEL PER DISTANCE TRAVELED TAKEN FROM ASSOCIATION OF AMERICAN RAILROADS AVERAGE
5. CO₂ RAIL ESTIMATE BASED ON OF AN ESTIMATED HOUSE WEIGHT OF 9 TONS HAULED BY ONE TRAIN
6. AIR DIMENSIONS BASED ON BOEING 747 DREAMLIFTER
7. CO₂ AIR ESTIMATE BASED ON ONE PLANE CARRYING 11 HOMES AT 9 TONS PER HOME
8. CUSTOM TRUCK CAN OUTFITTED AS A TANDEM (TWO TRAILERS), LOWBOY (TRAILER ABLE TO CARRY ITEMS 12' TALL), AND WITH A BUILT-IN CRANE WITH A BOOM LENGTH BETWEEN 60-160' AND BOOM CAPACITY BETWEEN 15-40 TONS
9. OVERSIZED LOADS CAN BE ACCOMMODATED FOR TRUCKS CARRYING LOADS WITH WIDTHS GREATER THAN 8'6". SPECIAL PERMITS ARE REQUIRED. TYPICALLY A PILOT CAR WOULD NEED TO ACCOMPANY THE TRUCK.

OPTIMAL ROUTE DETAILS

1. TRUCK ROUTE: BALTIMORE AVE > I-495 > I-70 > I-68 > US-40 > I-70 > US-287 > US-40 > EXIT INTO DENVER
2. RAIL ROUTE: BALTIMORE AVE > I-495 > US-50 > NEW CARROLTON TRAIN STATION > DENVER INTERMODAL FACILITY > COMPETITION SITE

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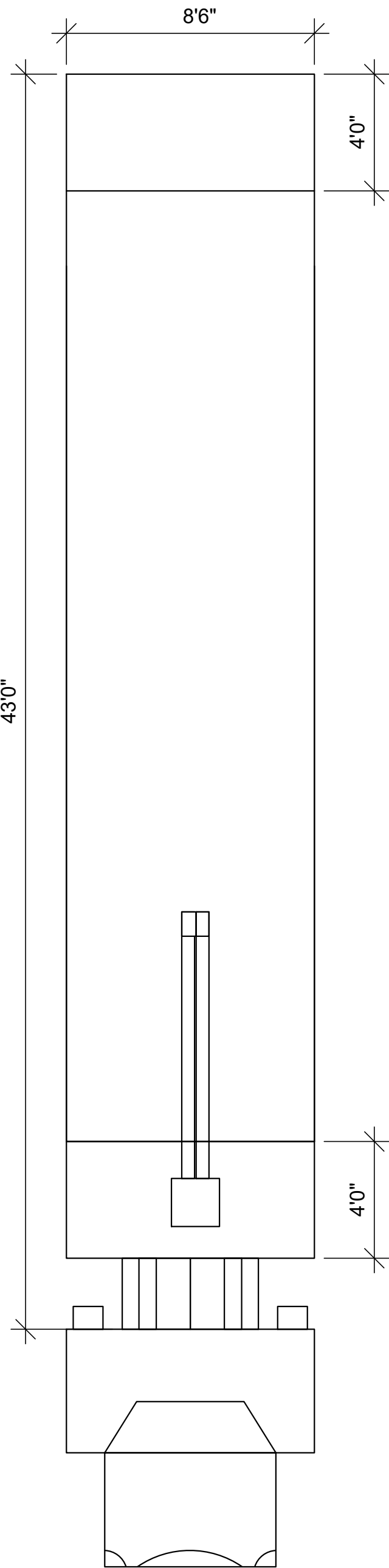
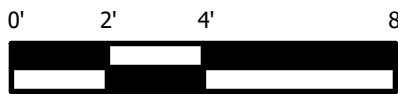
TRANSPORT
PLAN

O-100

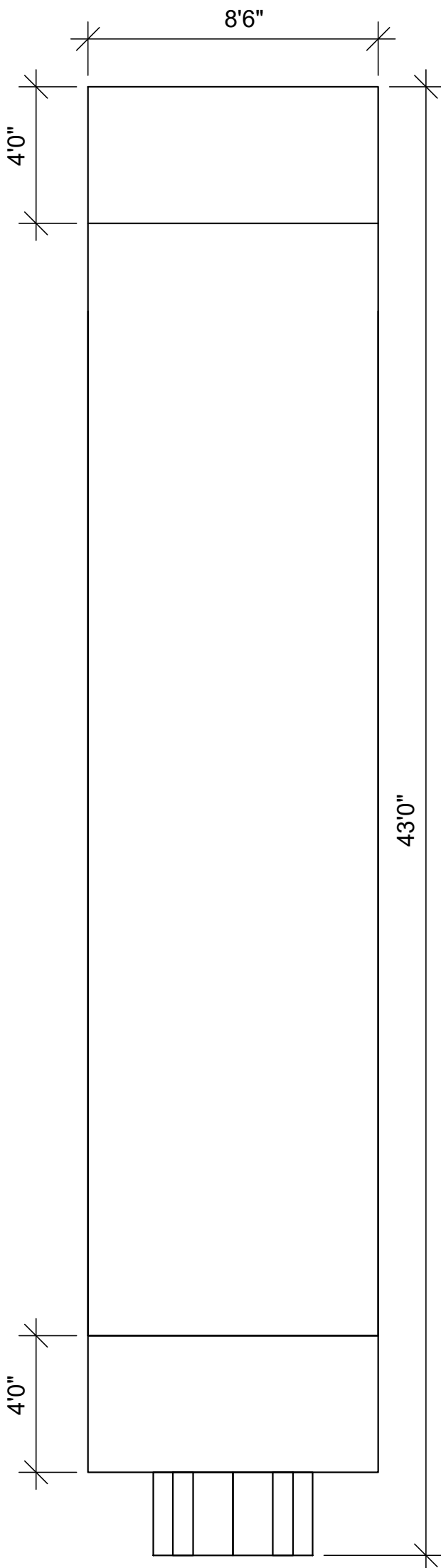
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TRUCK PLAN DETAIL

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



TRAILER TWO



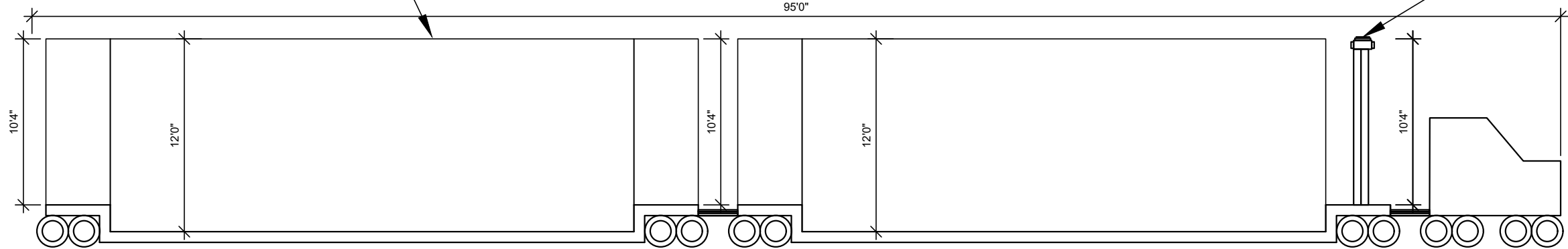
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TANDEM TRUCK CONFIGURATION

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

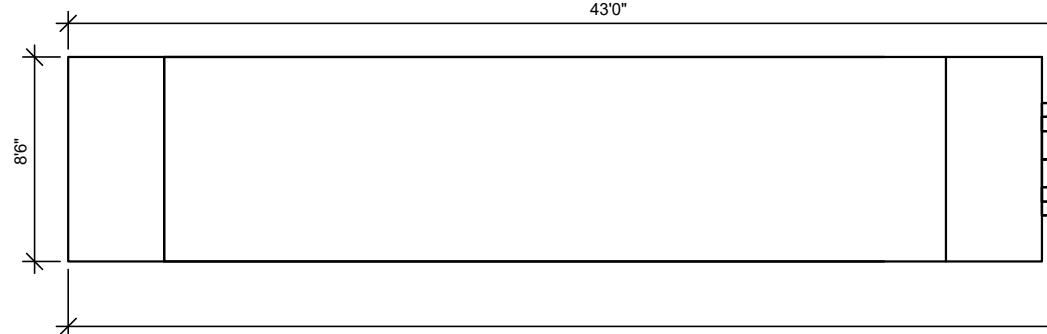


CARGO WEATHERPROOFED
AND SECURED TO FLATBED
TRAILER

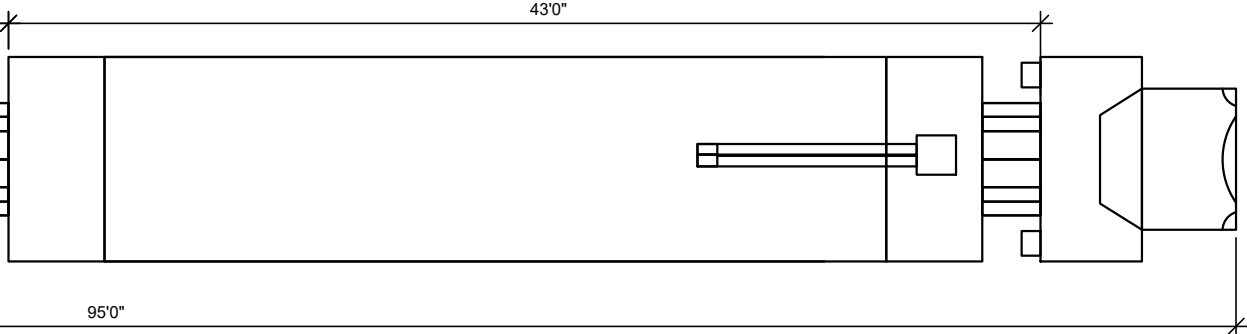


CRANE

TRAILER TWO



TRAILER ONE



2

TANDEM TRUCK CONFIGURATION

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



TRUCK DETAILS

1. TRAILER ONE CONTENTS: FOUNDATIONS, CORE MODULES, FLOOR PANELS, DECKING, RAILINGS, SIPS, ROOF PANELS
2. TRAILER TWO CONTENTS: STRUCTURAL FRAME, PV PANELS, COURTYARD WALLS, COURTYARD ROOF, TRUSS', ADDITIONAL ROOF PANELS, TOOLS, FURNITURE, MECHANICAL EQUIPMENT, VEGETATION
3. CUSTOM TRUCK OUTFITTED AS TANDEM LOWBOY WITH 40' OF THE TRAILER ALLOWING CARGO HEIGHT UP TO 12' WITH 4' IN FRONT AND BACK ONLY ALLOWING 10'4" WITH BUILT-IN CRANE AND ONE ADDITIONAL LOWBOY TRAILER, IN TOTAL NOT EXCEEDING 95' IN LENGTH
4. TRAILERS TO BE FLATBEDS TO MAXIMIZE DIMENSIONS FOR HOUSE COMPONENTS
5. CRANE EQUIPPED WITH 80' BOOM WITH BOOM CAPACITY OF 15 TONS. EXTENSION LENGTH 70' FROM EDGE OF EITHER SIDE OF EXTENDED OUTRIGGERS. CRANE'S WEIGHT AND WEIGHT OF THE OBJECTS PICKED UP ARE DISTRIBUTED TO THE OUTRIGGERS RESTING ON 6'-0" X 6'-0" REINFORCED CRIBBING.

PHASING

1. PHASE ONE: DISASSEMBLE CONSTRUCTED HOUSE IN COLLEGE PARK
2. PHASE TWO: WEATHERPROOF AND PROTECT COMPONENTS FOR TRANSPORT
3. PHASE THREE: PACK COMPONENTS ONTO THEIR DESIGNATED TRAILER
4. PHASE FOUR: SECURE ITEMS FOR TRANSPORT
5. PHASE FIVE: ATTACH TRAILERS AND DEPART

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CARRIER
LOADING
SEQUENCE
O-101

1. SEQUENCING IS BASED ON MOST RECENT SITE INFORMATION PROVIDED BY COMPETITION ORGANIZERS. ALL SEQUENCING IS SUBJECT TO CHANGE PENDING FURTHER REGULATION ADJUSTMENTS AND SITE CONDITIONS
2. TRAILER ONE CONTENTS: FOUNDATIONS, CORE MODULES, FLOOR PANELS, DECKING, RAILINGS, SIPs, ROOF PANELS
3. TRAILER TWO CONTENTS: STRUCTURAL FRAME, PV PANELS, COURTYARD WALLS, COURTYARD ROOF, TRUSS', ADDITIONAL ROOF PANELS, TOOLS, FURNITURE, MECHANICAL EQUIPMENT, VEGETATION



REACT

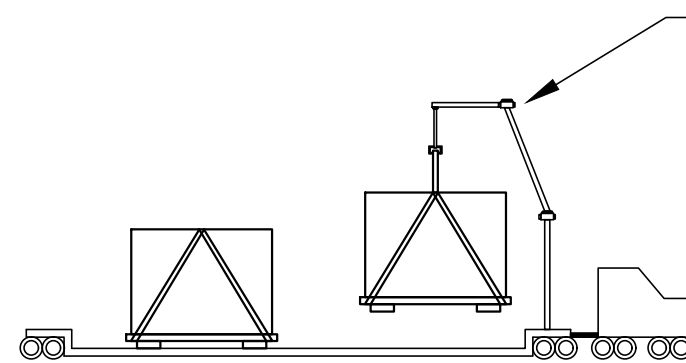
ARRIVAL/ DEPARTURE EQUIPMENT	COMPETITION SITE	CAMPUS SITE
CUSTOM TRUCK W/CRANE	X	X
SKID STEER LOADER	X	X
HYDRAULIC JACK STANDS	X	X
GENERAL CONSTRUCTION EQUIPMENT		
(2) GAS GENERATOR	X	X
LULL (BOOM-ARM ARTICULATED FORKLIFT)	X	X
PORTABLE TOILET		X
(2) SHIPPING CONTAINER 40'X8'X8'		X
20 YARD DUMPSTER		X
20 YARD RECYCLING CONTAINER		X
SITE LIGHTING	X	X
(3-4) 12' MOUNTED SPOT LIGHTS	X	X
TASK LIGHT	X	X
GENERAL HAND & POWER TOOLS	X	X
STAGING/SCAFFOLDING		X
GRAVEL PAD		X
SITE FENCING		X
OFFICE TRAILER		X
24" MATERIAL TRANSPORTATION VEHICLE	X	X
SOLAR GENERATOR	X	X

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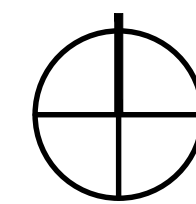
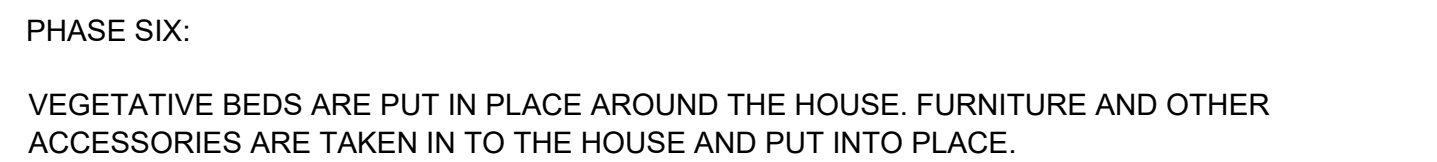
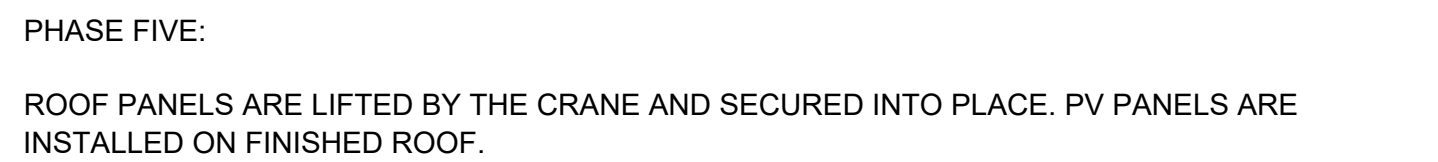
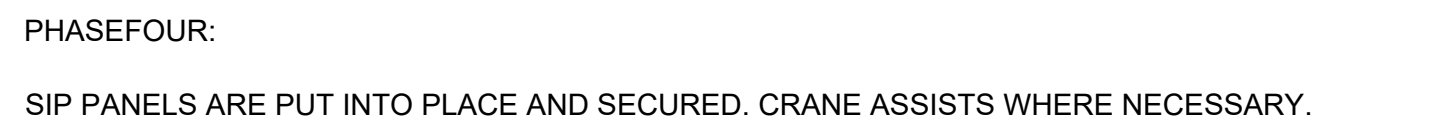
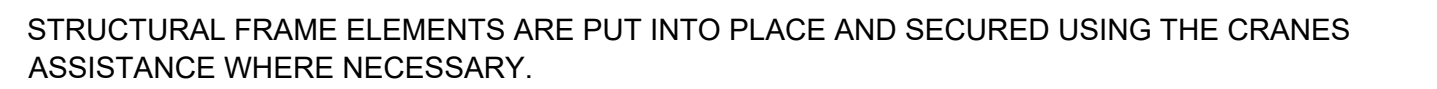
1. CRANE EQUIPPED WITH 80' BOOM WITH BOOM CAPACITY OF 15 TONS. EXTENSION LENGTH 70' FROM EDGE OF EITHER SIDE OF EXTENDED OUTRIGGERS. CRANE'S WEIGHT AND WEIGHT OF THE OBJECTS PICKED ARE DISTRIBUTED TO THE OUTRIGGERS.
2. RUBBER TRACK LOADER GROUND CLEARANCE-12", 6.4" IN HEIGHT, 10.7" IN LENGTH X 5' IN WIDTH, WEIGHING 6200 POUNDS DISPERSING WEIGHT VIA WIDE 15" RUBBER TRACKS RESULTING IN GROUND PRESSURE OF 3.5 PSI.
3. ACTUAL SITE CONDITIONS WILL DICTATE THE FINAL ELEVATIONS OF THE SUPPORT BEAMS AS SPACE FOR THE TANKS UNDER THE MODULES AND ADEQUATE FLOW INTO THESE TANKS ARE IMPERATIVE. THUS, REMOVAL OF THE CARRIERS WHEELS MAY NOT BE NECESSARY AND CLEARANCE TO REMOVE THE CARRIERS MAY SIMPLY BE ACHIEVED BY DEFLATING THE TIRES SOMEWHAT. IN EITHER CASE, THE PROFESSIONAL TEAM CREW WILL BE ON-HAND TO DETERMINE, COORDINATE AND PERFORM THESE TASKS.

ARRIVAL SEQUENCE

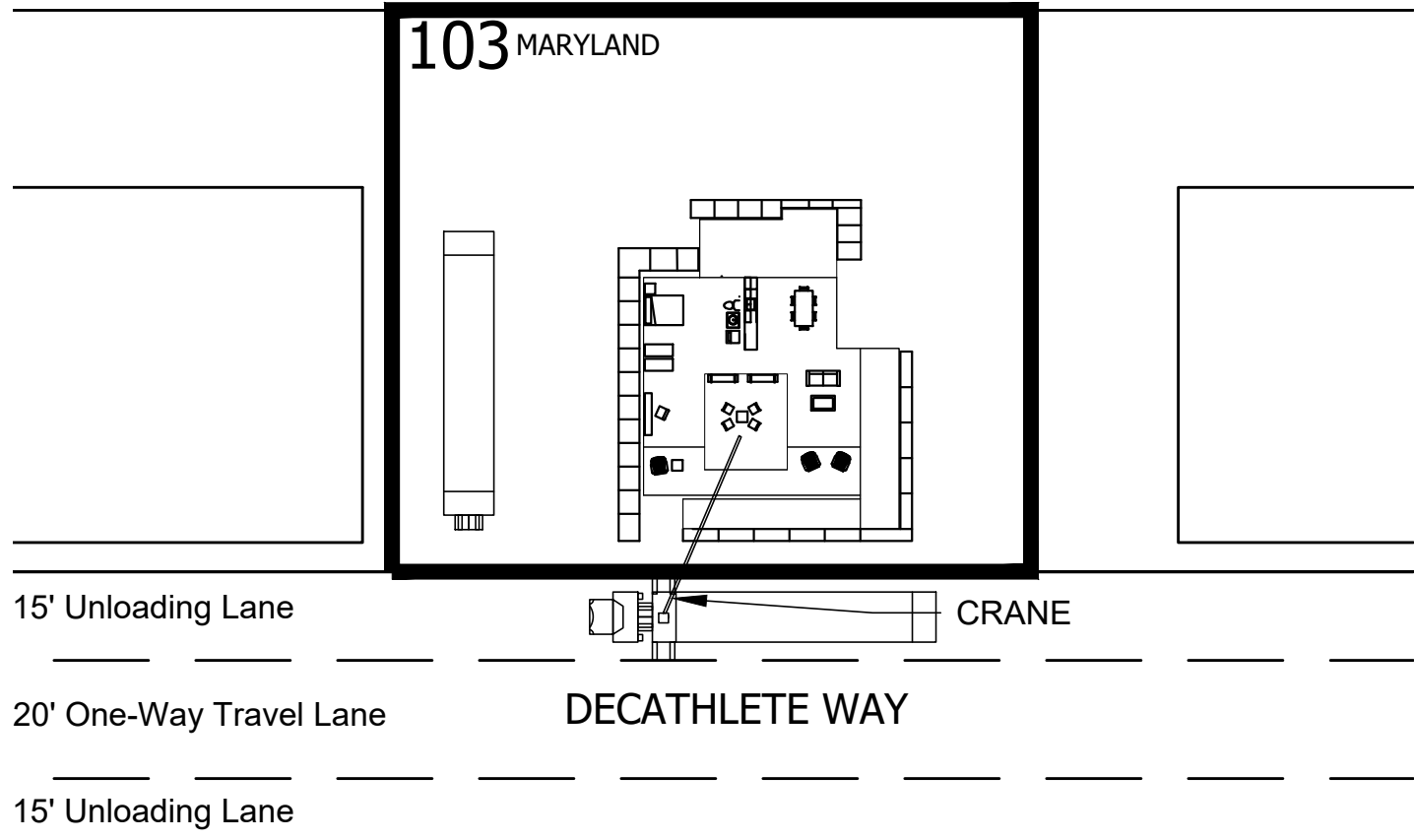
D-102



CRANE'S CABLES ARE ATTACHED TO THE CARRIERS OF THE CHASSIS MODULES, LIFTS EACH AND PLACES THE CARRIER CRADLE MODULE INTO POSITION AND IT IS LOWERED, THE MODULE RESTS UPON THE PREPLACED, LEVELLED FOUNDATIONS AND THE CARRIERS DROP BELOW THE MODULE WITH MINIMAL CLEARANCE SO AS TO BE PULLED WITH A RUBBER TRACK OR RUBBER TIRE LOADER. CRIBBING SHALL BE USED IF NEEDED IN ORDER TO SLIDE THE CARRIERS WITHOUT DISTURBING THE EARTH. THE CARRIER MAY BE PULLED TOWARDS THE CRANE AS GRADE ALLOWS. THE CRANE'S OUTRIGGERS WOULD BE TEMPORARILY RETRACTED GIVING CLEARANCE FOR THE CARRIER TO EXIT FROM BELOW THE MODULE. ESTIMATED TIME TO REMOVE OBSTRUCTION FROM GHENT IS APPROXIMATELY 20 TO 30 MINUTES. THE EMPTY CARRIER IS TEMPORARILY PLACED OUT OF THE WAY NEXT TO THE CRANE IN THE UNLOADING LANE.

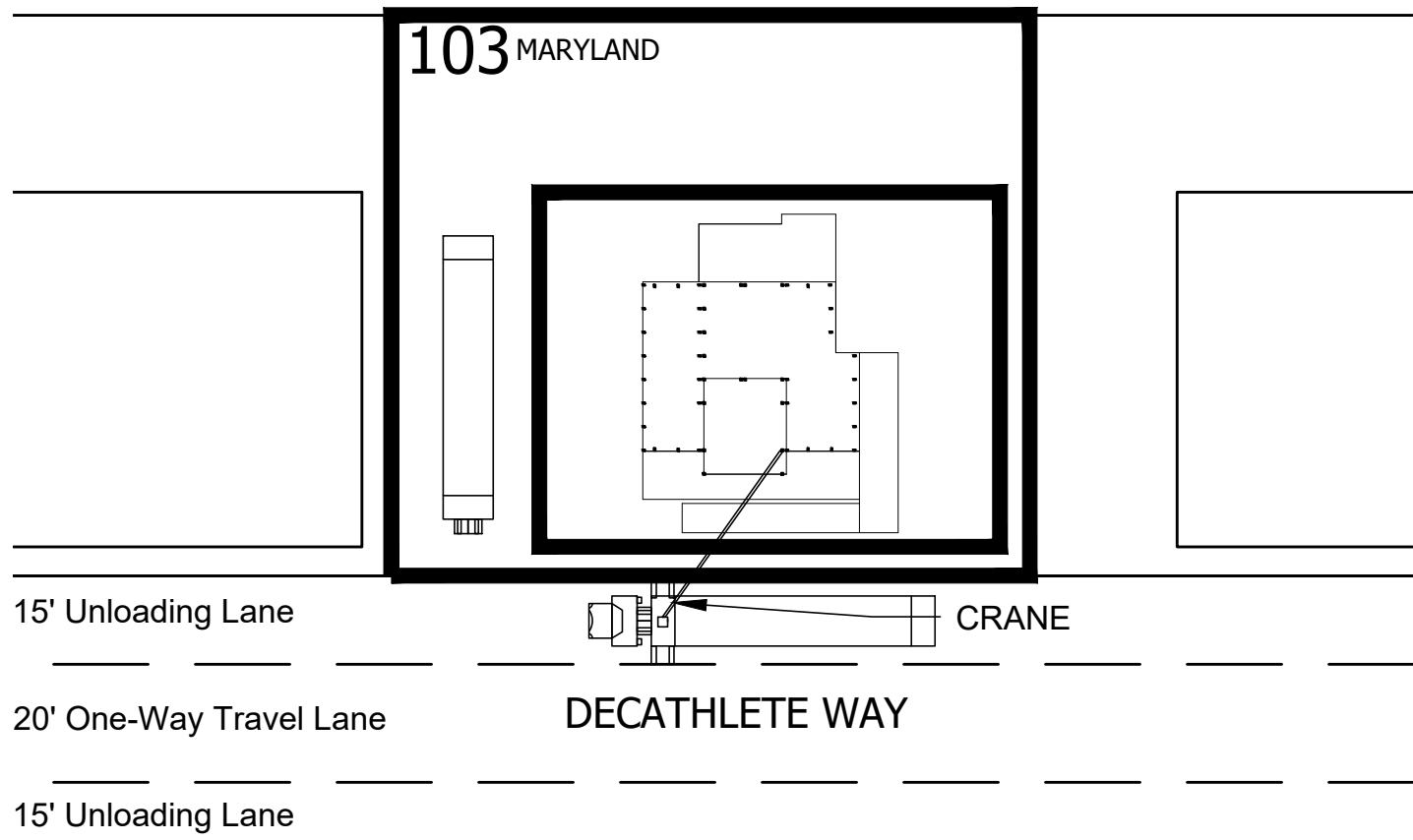


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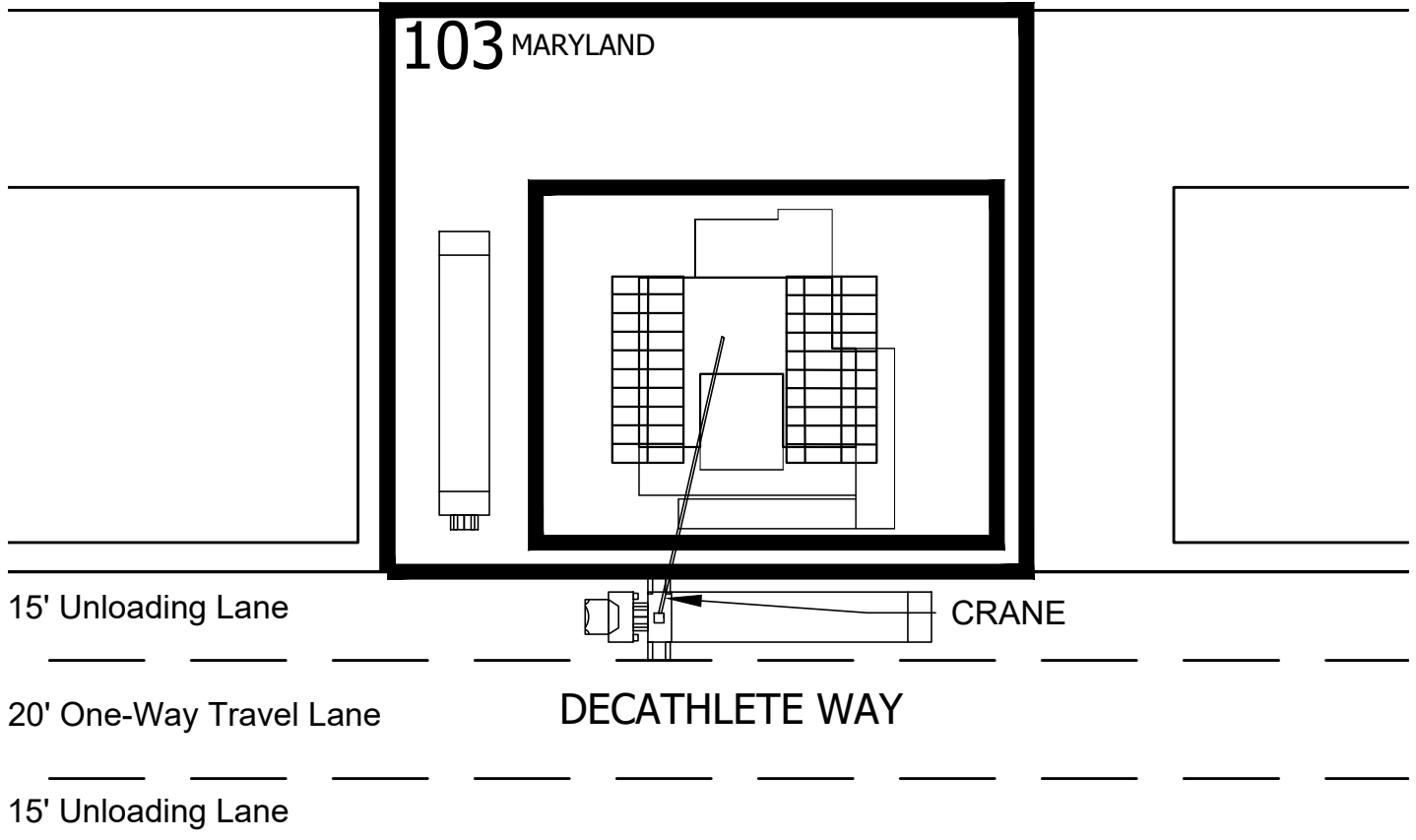
PHASE ONE:

VEGETATIVE BEDS AND FURNITURE ARE PACKED UP AND LOADED INTO TRAILER 2.



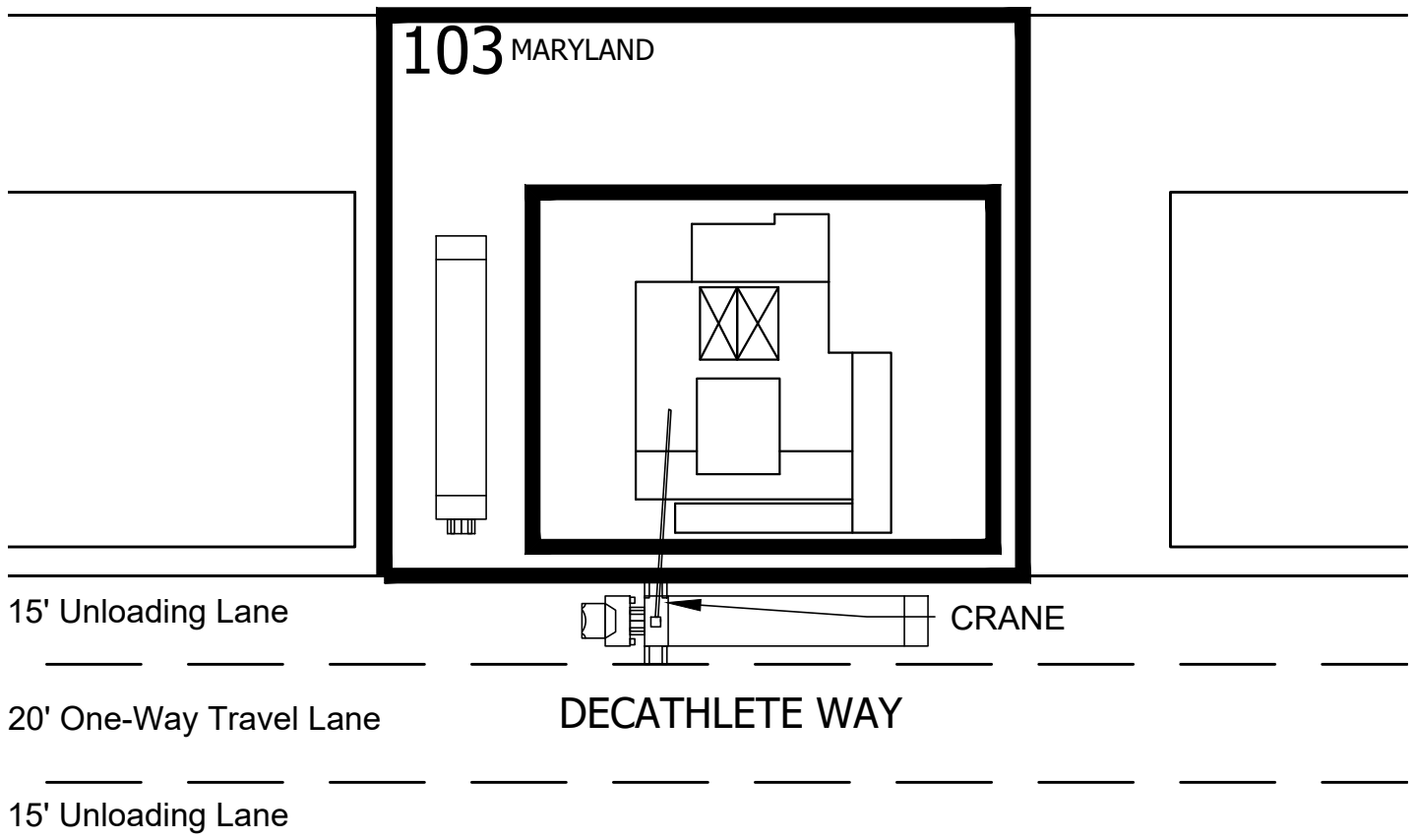
PHASE FOUR:

STRUCTURAL FRAME ELEMENTS ARE DETACHED AND LOADED INTO TRUCK.



PHASE TWO:

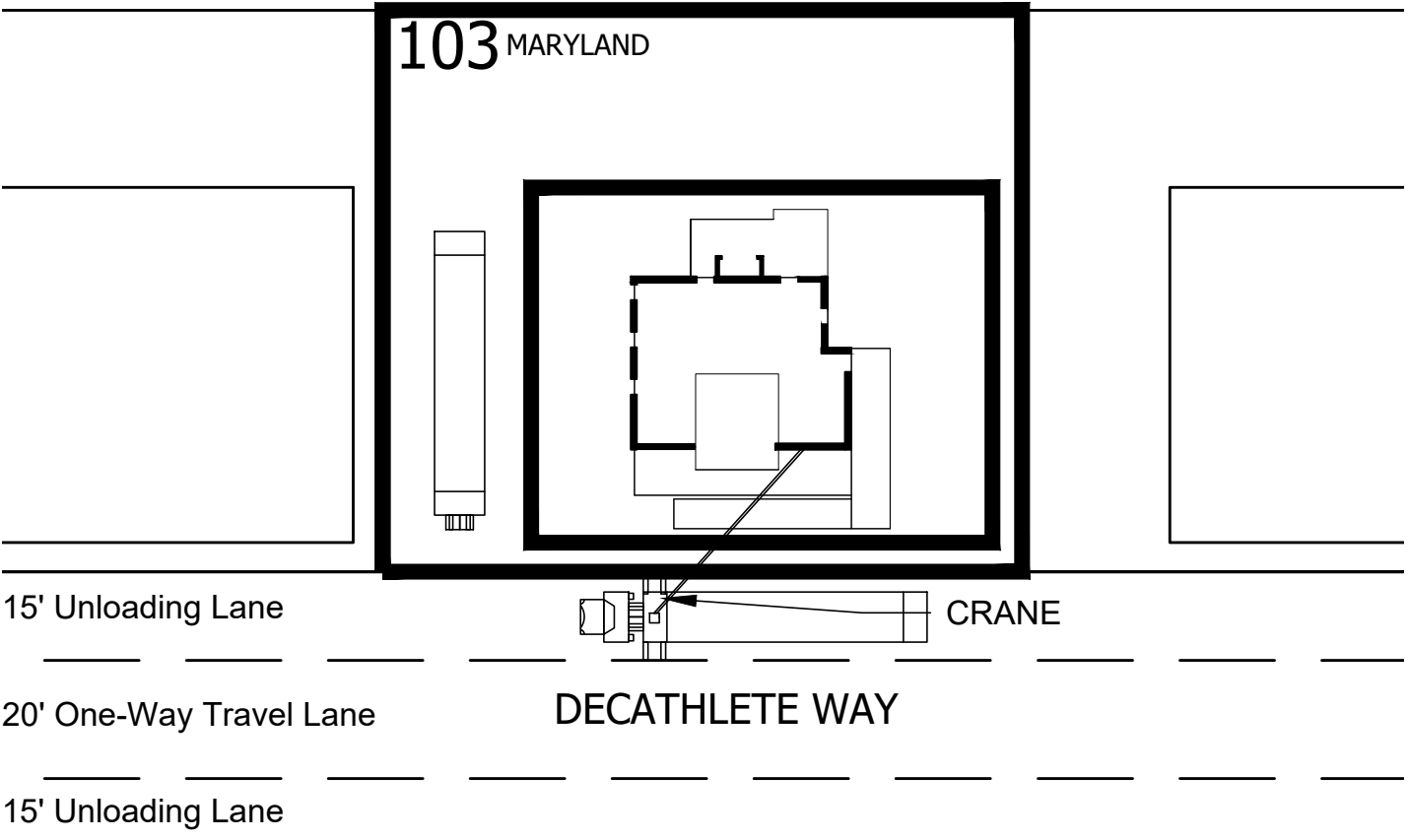
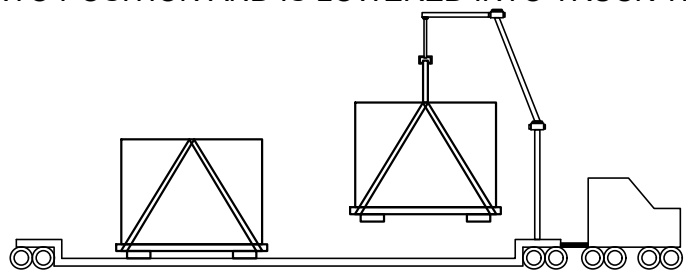
ROOF PANELS AND PV PANELS ARE DETACHED AND LIFTED BY CRANE INTO THE TRAILER 2 BED.



PHASE FIVE:

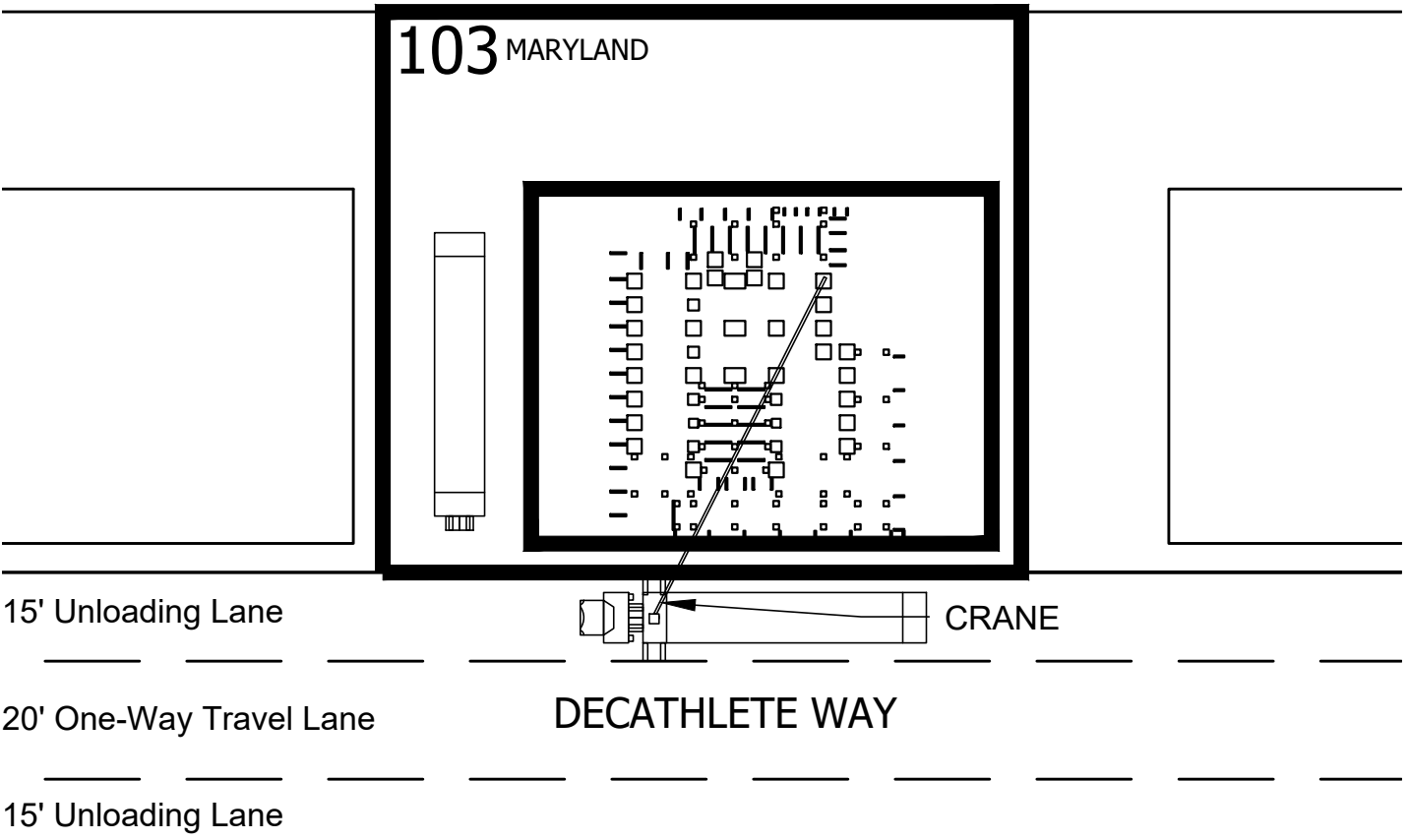
FLOOR, DECK, AND RAILING COMPONENTS ARE DISASSEMBLED AND LOADED ONTO THE TRAILER BED USING CRANE ASSISTANCE WHERE NECESSARY.

ONCE FLOOR AROUND CHASSIS MODULES HAVE BEEN REMOVED, THE CARRIERS OF THE MODULES ARE PLACED UNDER THEM. CRANE'S CABLES ARE ATTACHED TO THE CARRIERS OF THE CHASSIS MODULES, LIFTS EACH AND PLACES THE CARRIER CRADLE MODULE INTO POSITION AND IS LOWERED INTO TRUCK TRAILER 1.



PHASE THREE:

SIP PANELS ARE DETACHED AND REMOVED FROM STRUCTURAL FRAME USING THE CRANES ASSISTANCE WHERE NECESSARY.



PHASE SIX:

FOUNDATIONS ARE REMOVED AND LOADED INTO TRAILER BED.

DEPARTURE NOTES

- SEQUENCING IS BASED ON MOST RECENT SITE INFORMATION PROVIDED BY COMPETITION ORGANIZERS. ALL SEQUENCING IS SUBJECT TO CHANGE PENDING FURTHER REGULATION ADJUSTMENTS AND SITE CONDITIONS
- TRAILER ONE CONTENTS: FOUNDATIONS, CORE MODULES, FLOOR PANELS, DECKING, RAILINGS, SIPs, ROOF PANELS
- TRAILER TWO CONTENTS: STRUCTURAL FRAME, PV PANELS, COURTYARD WALLS, COURTYARD ROOF, TRUSS', ADDITIONAL ROOF PANELS, TOOLS, FURNITURE, MECHANICAL EQUIPMENT, VEGETATION

CONSTRUCTION EQUIPMENT SCHEDULE

ARRIVAL/ DEPARTURE EQUIPMENT	COMPETITIO N SITE	CAMPUS SITE
CUSTOM TRUCK W/CRANE	X	X
SKID STEER LOADER	X	X
HYDRAULIC JACK STANDS	X	X
GENERAL CONSTRUCTION EQUIPMENT		
(2) GAS GENERATOR	X	X
LULL (BOOM-ARM ARTICULATED FORKLIFT)	X	X
PORTABLE TOILET		X
(2) SHIPPING CONTAINER 40'X8'X8'		X
20 YARD DUMPSTER		X
20 YARD RECYCLING CONTAINER		X
SITE LIGHTING	X	X
(3-4) 12' MOUNTED SPOT LIGHTS	X	X
TASK LIGHINT	X	X
GENERAL HAND & POWER TOOLS	X	X
STAGING/SCAFFOLDING		X
GRAVEL PAD		X
SITE FENCING		X
OFFICE TRAILER		X
24" MATERIAL TRANSPORTATION VEHICLE	X	X
SOLAR GENERATOR	X	X

NOTES & SPECS

- CRANE EQUIPPED WITH 80' BOOM WITH BOOM CAPACITY OF 15 TONS. EXTENSION LENGTH 70' FROM EDGE OF EITHER SIDE OF EXTENDED OUTRIGGERS. CRANE'S WEIGHT AND WEIGHT OF THE OBJECTS PICKED ARE DISTRIBUTED TO THE OUTRIGGERS. RUBBER TRACK LOADER GROUND CLEARANCE-12", 6.4" IN HEIGHT, 10.7' IN LENGTH X 5' IN WIDTH, WEIGHING 6200 POUNDS DISPERSING WEIGHT VIA WIDE 15" RUBBER TRACKS RESULTING IN GROUND PRESSURE OF 3.5 PSF.
- ACTUAL SITE CONDITIONS WILL DICTATE THE FINAL ELEVATIONS OF THE SUPPORT BEAMS AS SPACE FOR THE TANKS UNDER THE MODULES AND ADEQUATE FLOW INTO THESE TANKS ARE IMPERATIVE. THUS, REMOVAL OF THE CARRIERS WHEELS MAY NOT BE NECESSARY AND CLEARANCE TO REMOVE THE CARRIERS MAY SIMPLY BE ACHIEVED BY DEFLATING THE TIRES SOMEWHAT. IN EITHER CASE, THE PROFESSIONAL TEAM CREW WILL BE ON-HAND TO DETERMINE, COORDINATE AND PERFORM THESE TASKS.

UNIVERSITY OF MARYLAND
COLLEGE PARK, MD 20742



reACT
University of Maryland, College Park
Solar Decathlon 2017 Submission

11/17/2016	90% CD SET

PROJECT NO	###
DRAWN	###
DESIGNED	###
CHECKED	###

DEPARTURE
SEQUENCE

O-103

1

ARRIVAL SEQUENCE PLANS

Scale: 1/32"=1'-0"

