

# Team Alberta

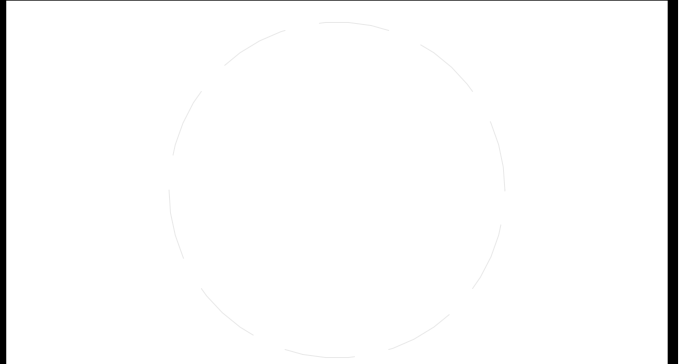
AS-BUILT DRAWINGS

U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2013



TEAM NAME: TEAM ALBERTA  
 ADDRESS: EVDS - PF-2182  
 2500 University Drive NW  
 Calgary, AB, Canada T2N 1N4  
 CONTACT: info@solardecathlon.ca  
 www.solardecathlon.ca

CONSULTANTS



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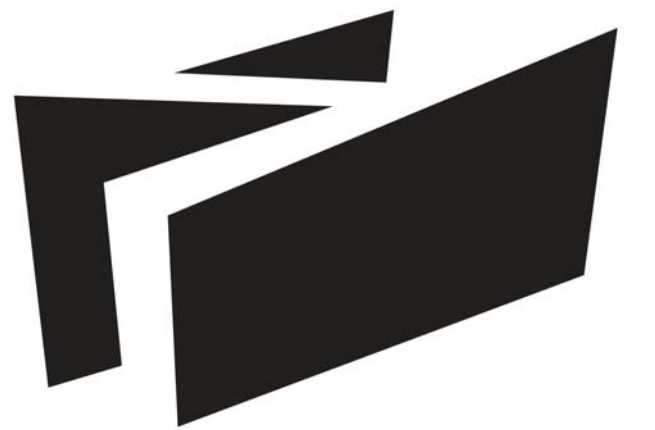
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3	05/14/2013	ISSUED FOR STRUCTURAL REVIEW
2	05/03/2013	ISSUED FOR CLADDING
1	04/29/2013	ISSUED FOR ELECMECH

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SHEET TITLE  
 COVER

G-001



**BOREALIS**

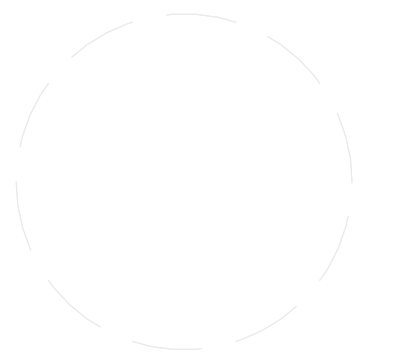
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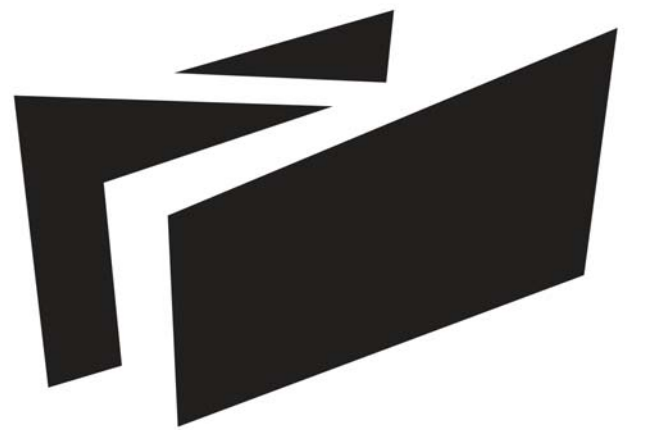
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SHEET TITLE

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**BOREALIS**

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4825 MT ROYAL GATE SW  
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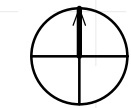

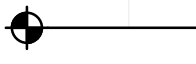
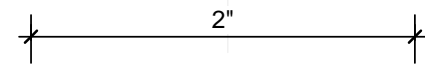

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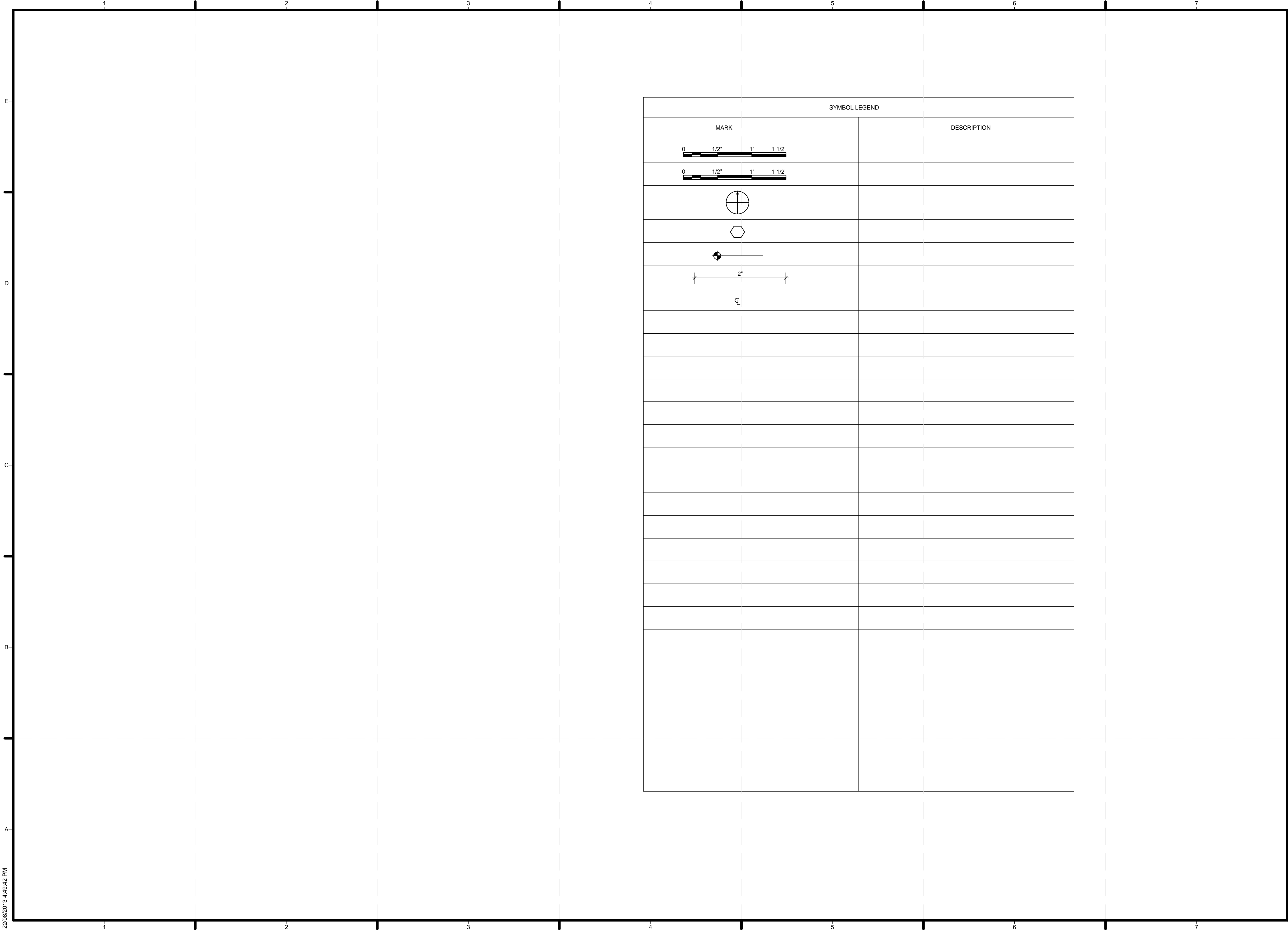
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**GENERAL NOTES,  
SYMBOLS, AND  
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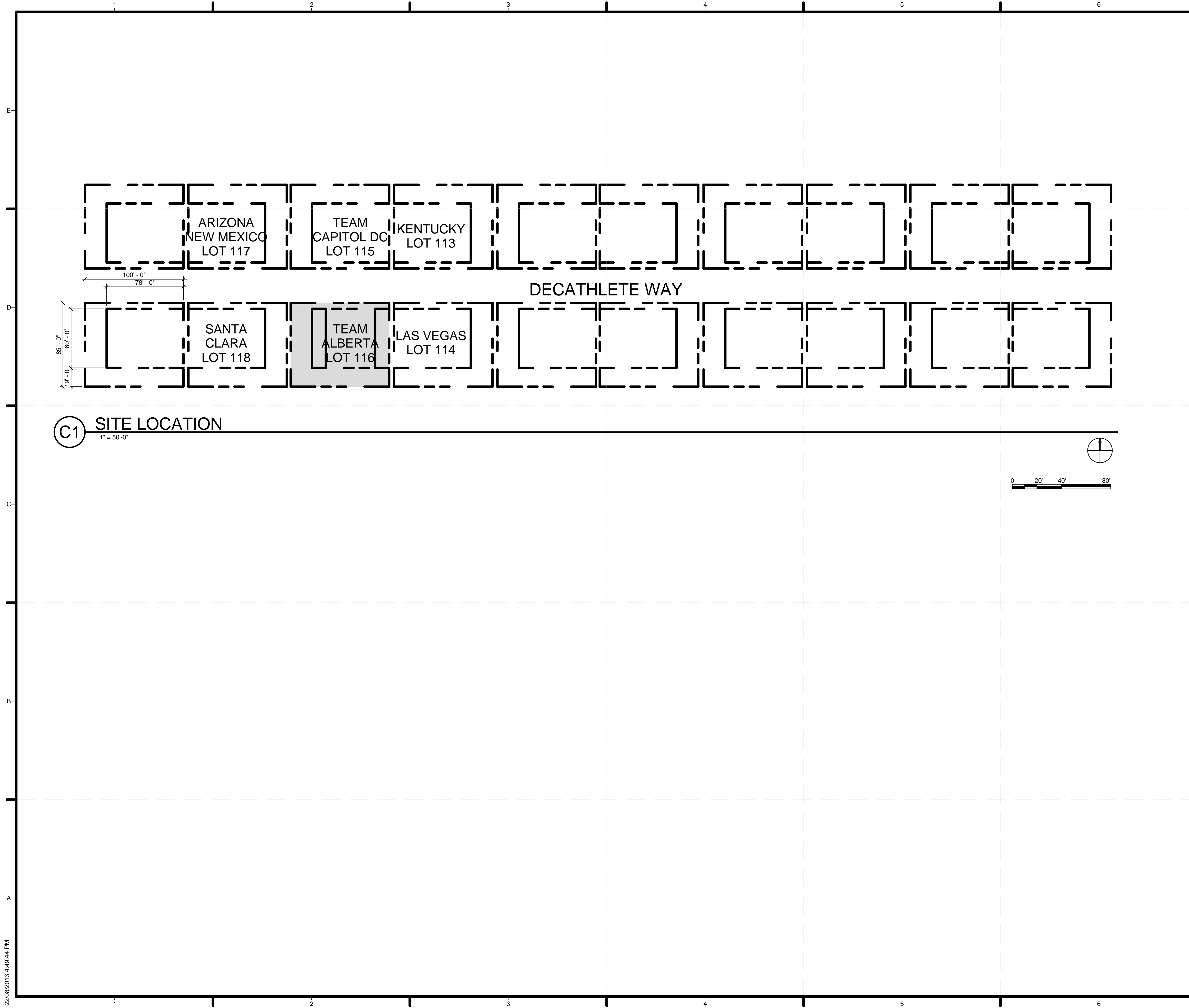
**G-003**

**SYMBOL LEGEND**

MARK	DESCRIPTION
	
	
	
	
	
	
	



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**C1 SITE LOCATION**  
1" = 50'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

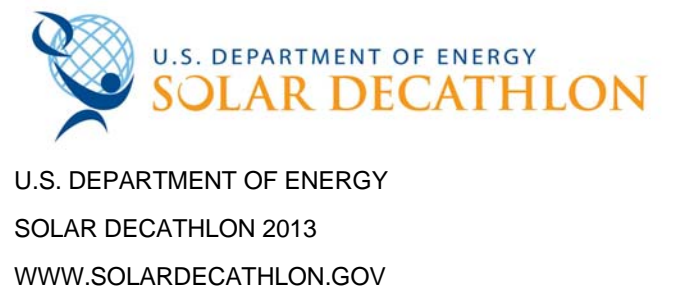


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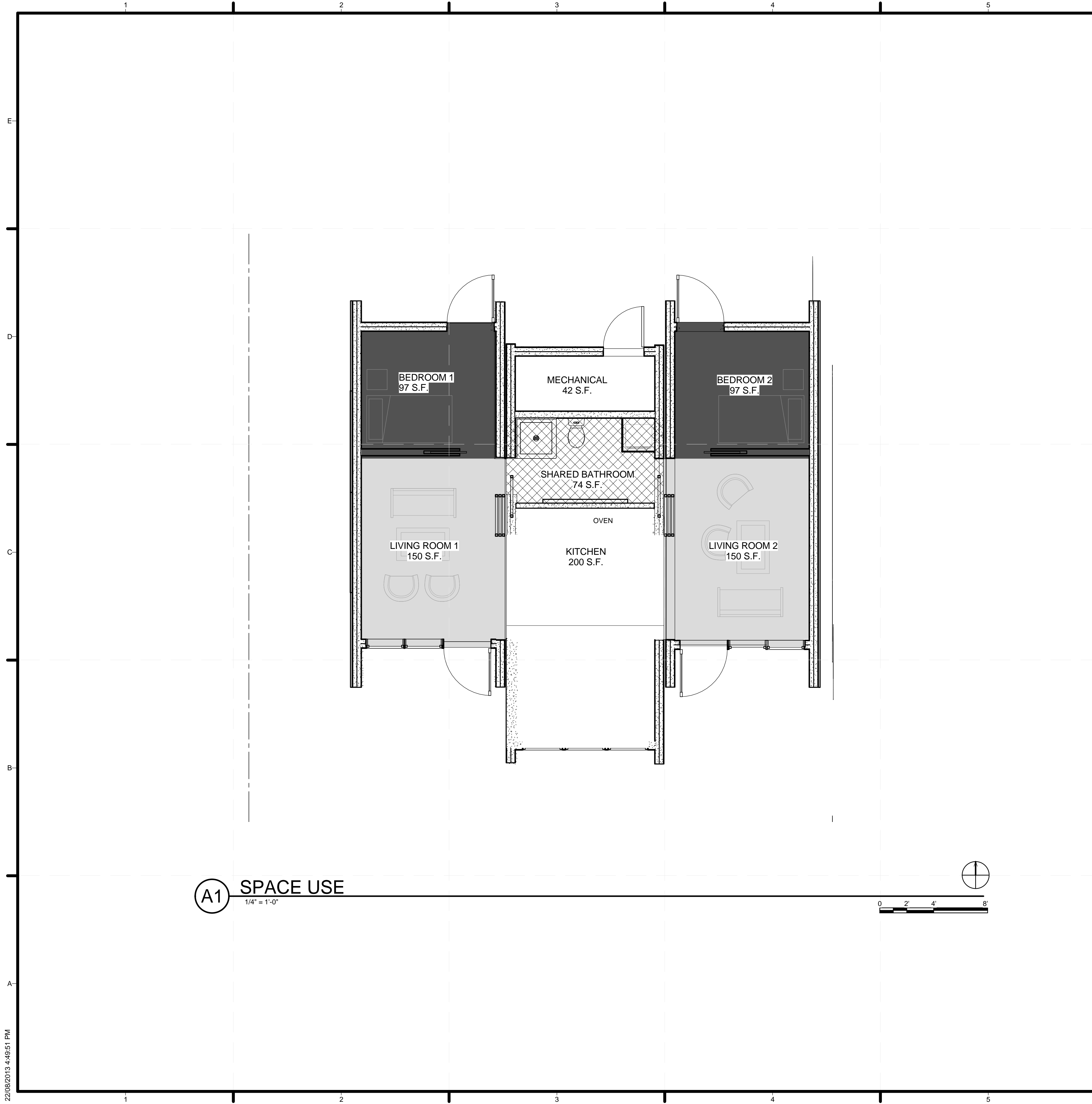


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SHEET TITLE  
**SITE LOCATION PLAN**

**G-004**



**A1 SPACE USE**  
1/4" = 1'-0"



**GENERAL SHEET NOTES**

BOREALIS is designed to provide modular, prefabricated housing for professionals in remote areas in Northern Alberta's boreal forests, and beyond, in other remote Canadian locations. BOREALIS is comprised of three architecturally expressed modules, each designed to be easily transported and connected. The centre module provides the necessities for living, – food preparation, dining, bathing, building systems – two identical, mirrored modules provide flexible rest and work space for professional or managerial workers who often work in the field on a rotational schedule. The design intention that underlies BOREALIS is to provide temporary residents in harsh environments with a comfortable and highly livable, sustainable housing model that easily and effectively combines remote geography with a high quality of living and working.

As described, the center module provides the necessities for living in the form of all services, channeling the energy gathered through photovoltaic arrays and solar thermal tubes into usable electricity, heating and air conditioning. The centre module also includes an efficient food preparation space, large dining/work surface, and bathroom area. A key feature in the bathroom are sun tunnels which bring in natural light and sustaining a green wall in the center module. This green wall provides the residents with plant-life throughout the year, especially in the long and dark winter months. The green wall also helps detoxify the air.

In many cases, residents may be strangers to each other. BOREALIS has a flexible floor plan and accommodates this scenario through a series of sliding partitions that separate the rest and relaxation modules from the centre module. By closing or opening the sliding partitions, residents of BOREALIS have the ability to adjust their environment depending on their needs for public and private space. Within each of the rest and relaxation modules, residents of BOREALIS can further modify their space through reconfigurable furniture and millwork that adapts to the need of the resident, whether it be relaxation, working, or entertaining.

Finally, the exterior spaces have been designed so as to allow each resident a separate deck space, separated on the south side by a constructed pond that gathers rainwater from the down slope of the side modules.



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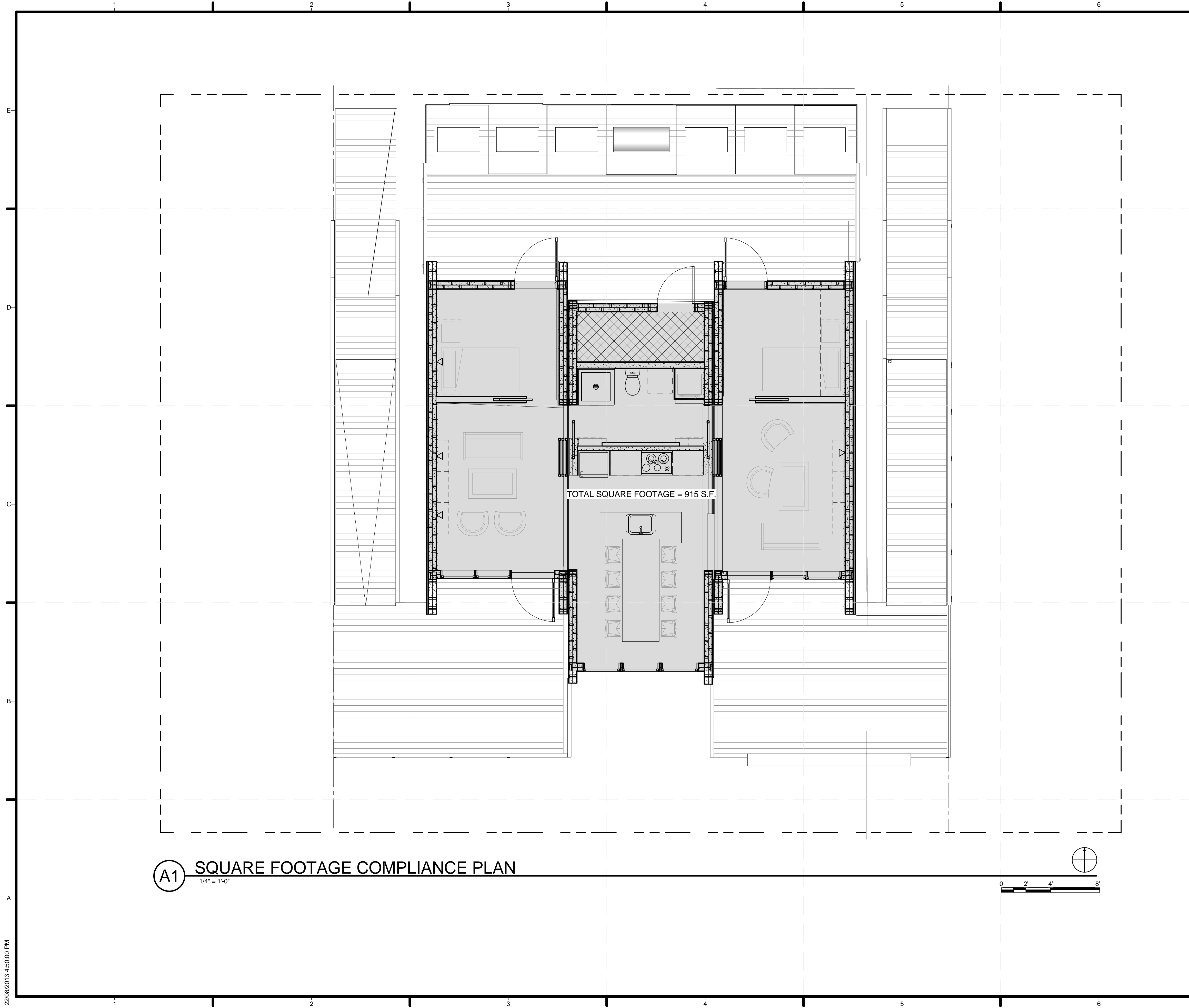
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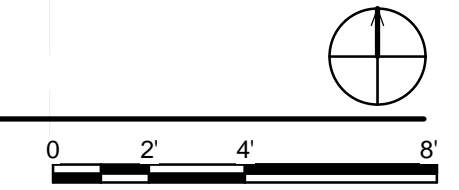
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SHEET TITLE  
**DESIGN INTENT AND  
TARGET MARKET  
DESCRIPTION**

**G-101**



**(A1) SQUARE FOOTAGE COMPLIANCE PLAN**  
 1/4" = 1'-0"



**GENERAL SHEET NOTES**

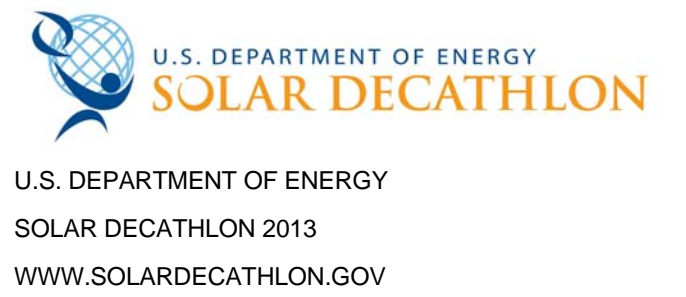
1. THE FINISHED AREA OF THE HOUSE HAS BEEN CALCULATED IN ACCORDANCE WITH THE AMERICAN NATIONAL STANDARD FOR SINGLE FAMILY RESIDENTIAL BUILDINGS Z765-2003. FINISHED SQUARE FOOTAGE CALCULATIONS FOR THIS HOUSE WERE MADE BASED ON PLAN DIMENSIONS ONLY AND MAY VARY FROM THE FINISHED SQUARE FOOTAGE OF THE HOUSE AS BUILT.
2. ALL MEASUREMENTS ARE ROUNDED TO THE NEAREST WHOLE SQUARE FOOT IN ACCORDANCE WITH ANSI Z765-2003.
3. TOTAL AREA OF HOME CALCULATED ACCORDING TO ANSI Z765-2003 IS 900 SQUARE FEET WHICH IS COMPLIANT WITH RULE 6-2 FINISHED SQUARE FOOTAGE. THE AREA IS BETWEEN 600 SQUARE FEET AND 1000 SQUARE FEET.
4. THE MECHANICAL AREA IN THE HOUSE IS CONSIDERED A FINISHED SPACE AND IS THEREFORE INCLUDED IN THE TOTAL FINISHED AREA.



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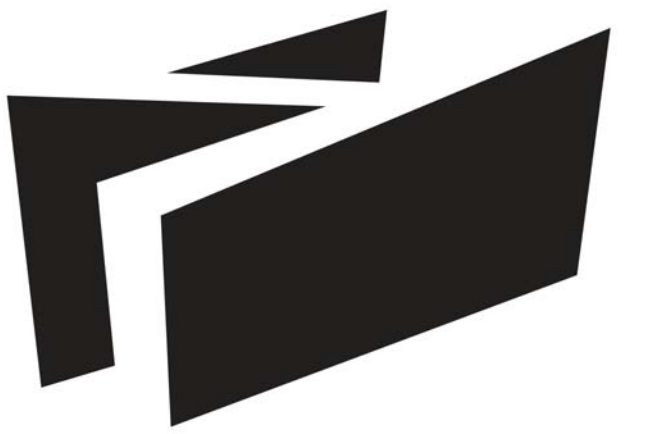
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SHEET TITLE  
**FINISHED SQUARE  
 FOOTAGE  
 COMPLIANCE PLAN**

**G-102**

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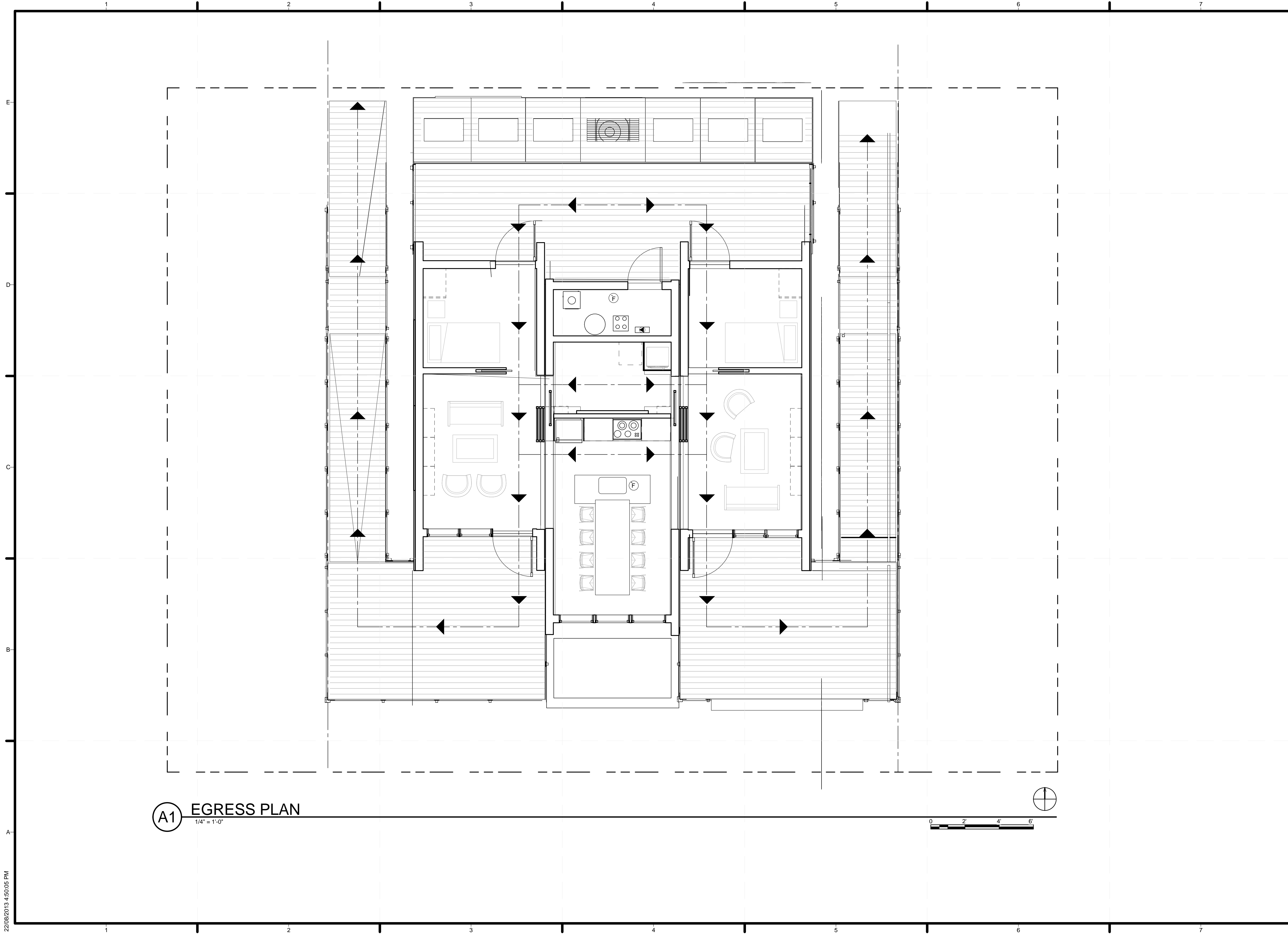
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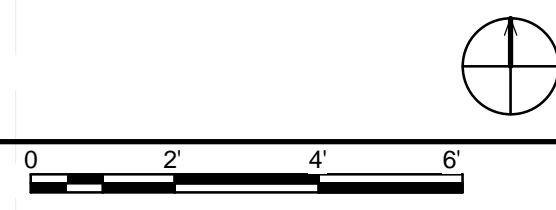
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EGRESS PLAN

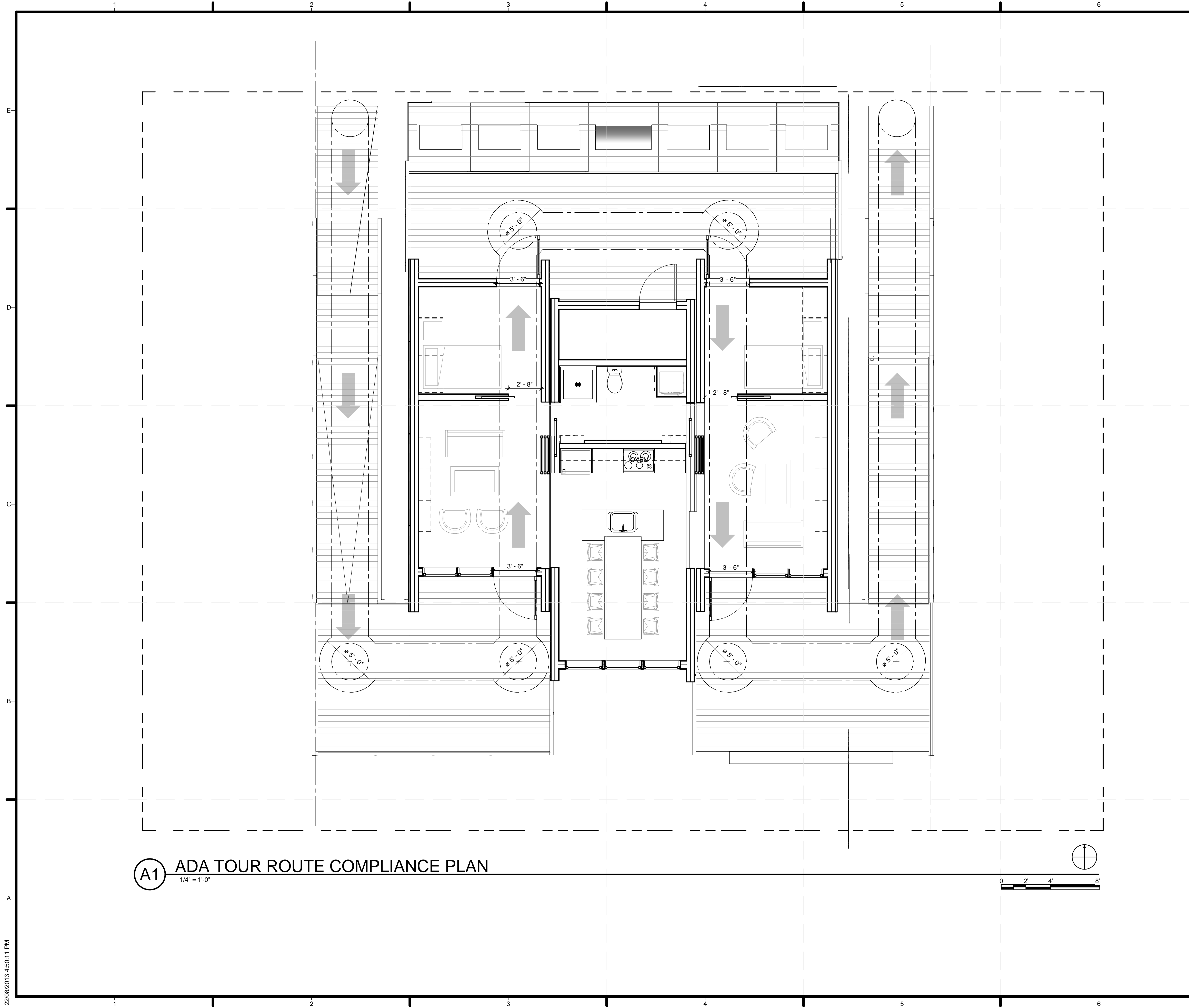
**G-103**



**A1** EGRESS PLAN  
1/4" = 1'-0"



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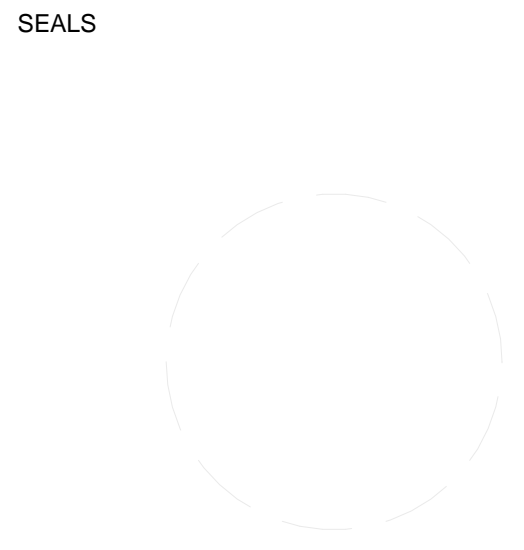



**GENERAL SHEET NOTES**

1. THE MAXIMUM SLOPE OF ALL RAMPS ON THE SITE SHALL BE 1:12. SLOPE MAY BE LESS DEPENDING ON SITE CONDITIONS
2. HOUSE TOUR PLANS PROVIDED FOR COMPETITON PURPOSES ONLY AND HAS NO IMPACT ON CONSTRUCTION REQUIREMENTS OR SEQUENCING.



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ADA TOUR ROUTE COMPLIANCE PLAN

**G-104**

**(A1) ADA TOUR ROUTE COMPLIANCE PLAN**  
 1/4" = 1'-0"



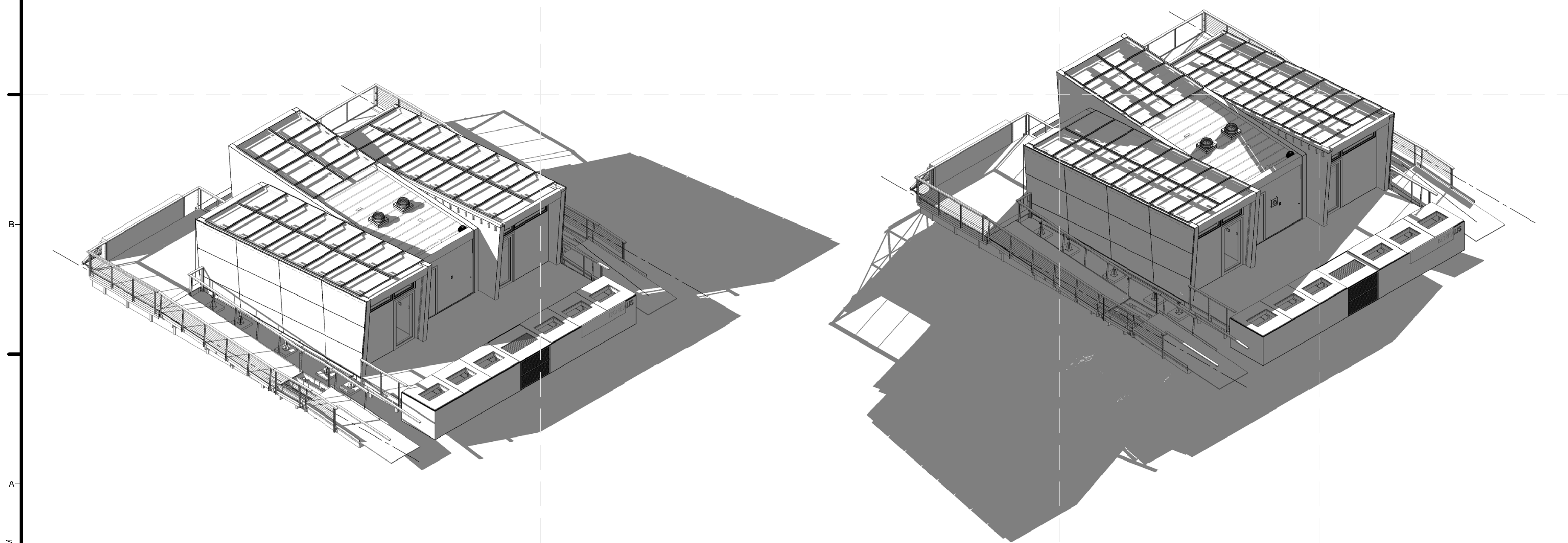
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C1 8AM SHADING - PLAN

C4 4PM SHADING - PLAN



A1 8AM SHADING - NE PERSPECTIVE

A4 4PM SHADING - NE PERSPECTIVE

GENERAL SHEET NOTES

1. DRAWINGS SHOW SHADING AS OF OCTOBER 1, 2013 IN IRVINE, CA AT SOLAR TIMES AS INDICATED
2. DRAWINGS DEMONSTRATE COMPLIANCE WITH RULE 9-1. WATER TANKS ARE FULLY SHADED FROM DIRECT SOLAR RADIATION BETWEEN 8AM AND 4 PM (SOLAR TIME) ON OCTOBER 1.

SHEET KEYNOTES



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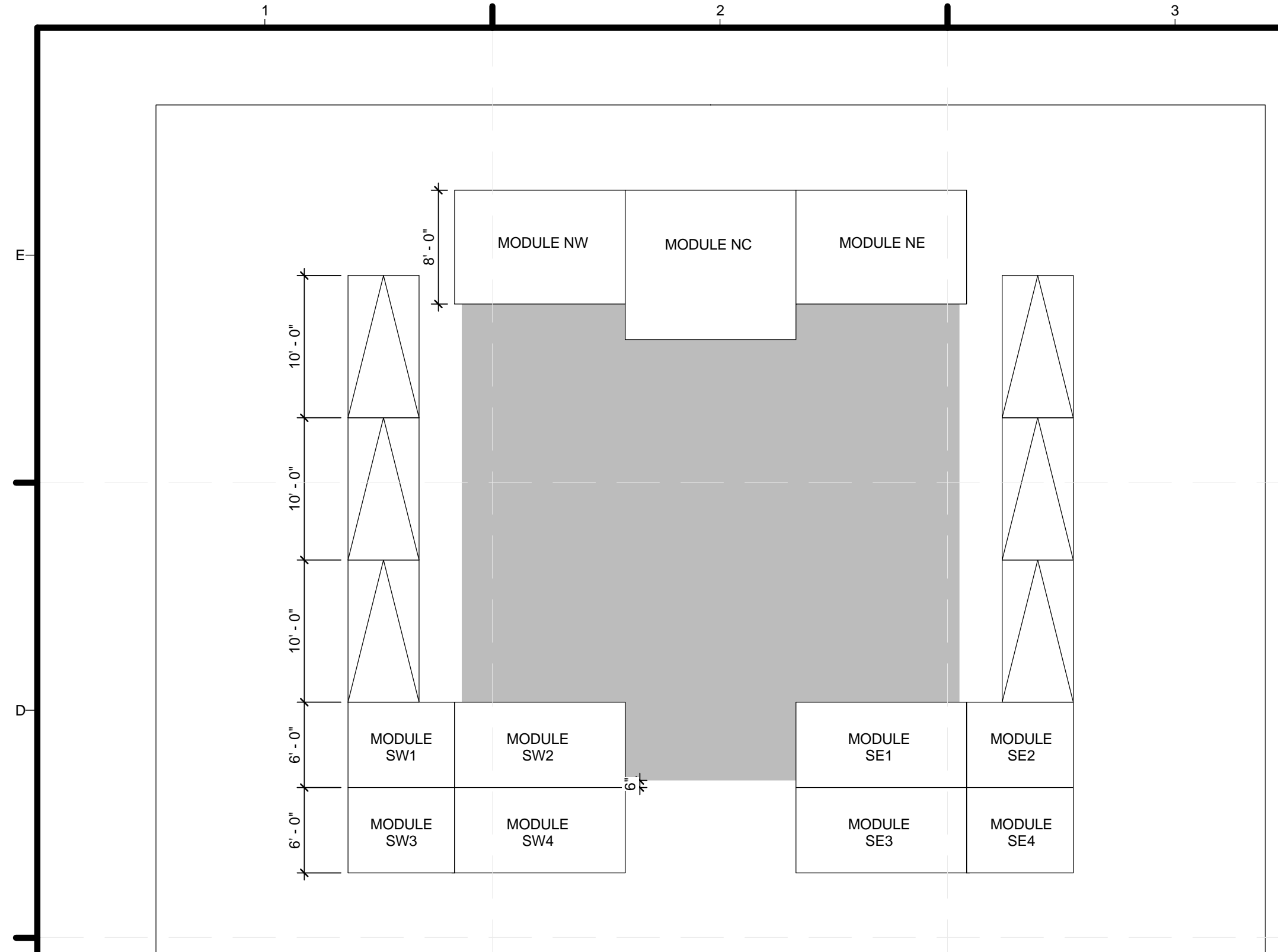
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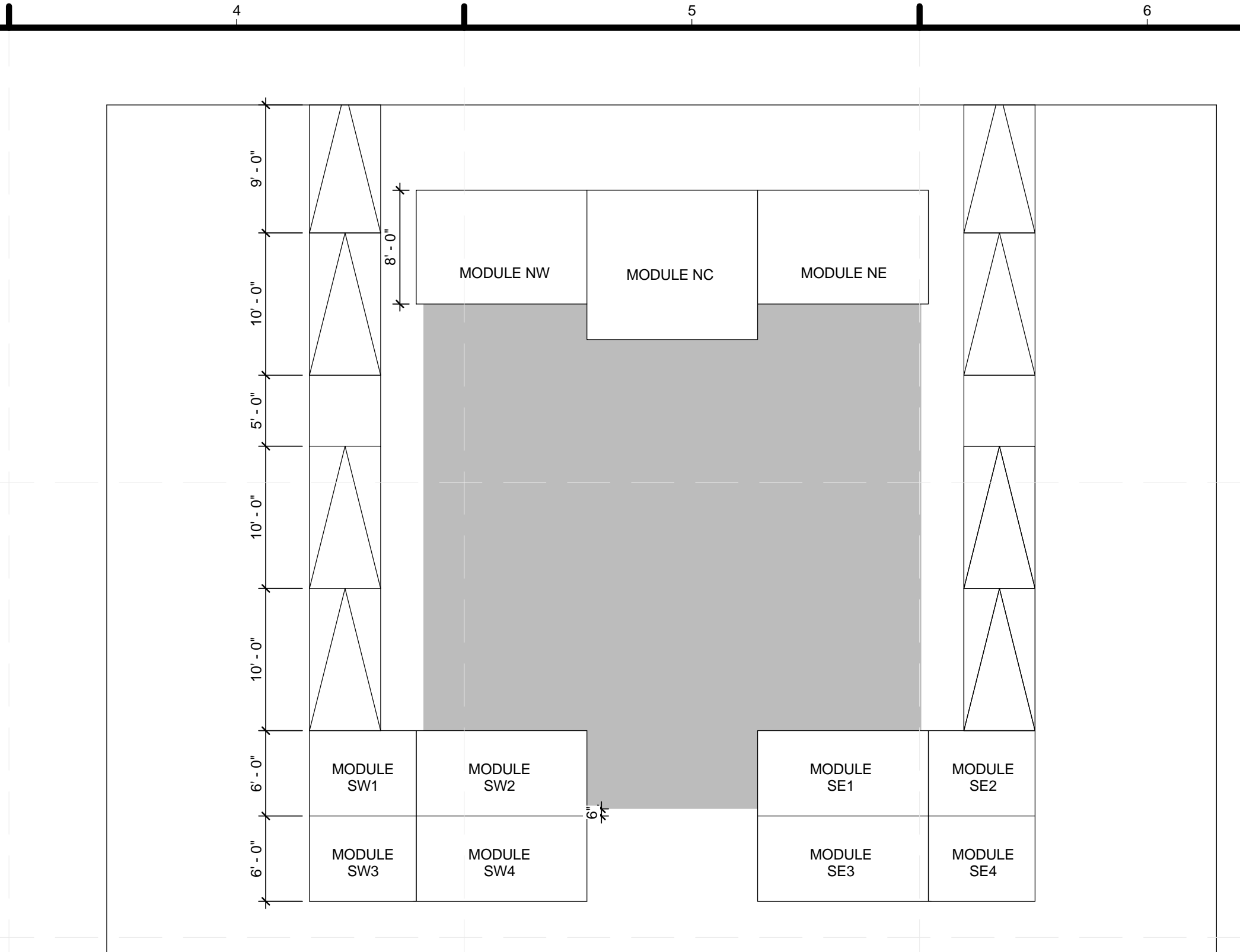
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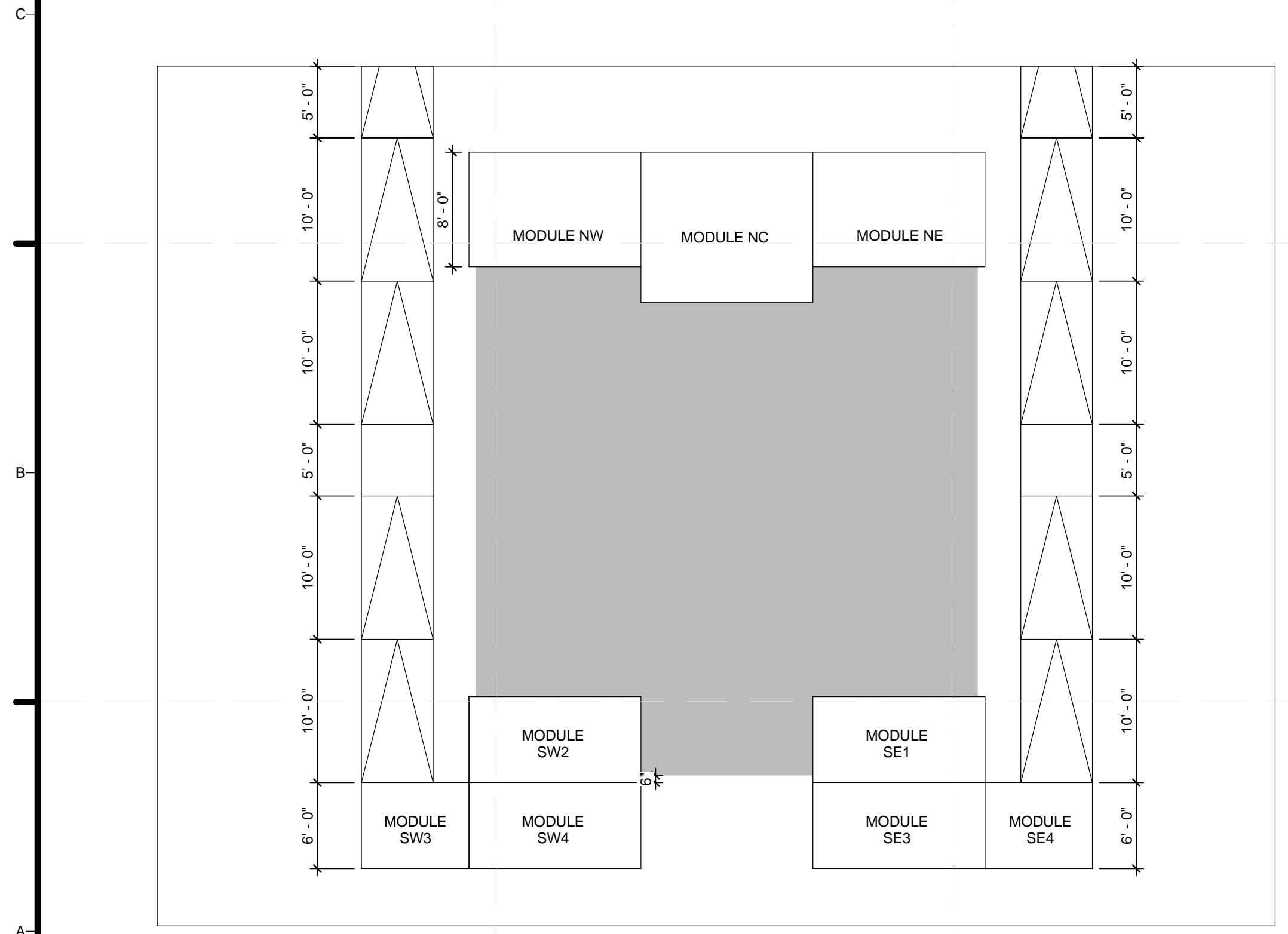
C-103



**C1** DECK PLAN 1 - 30" OR LESS ELEVATION  
1/8" = 1'-0"



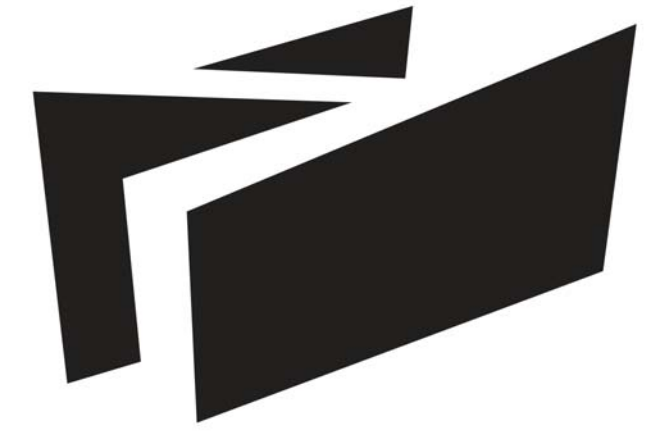
**C4** DECK PLAN 2 - 30" TO 39" ELEVATION  
1/8" = 1'-0"



**A1** DECK PLAN 3 - 39" TO 45" ELEVATION  
1/8" = 1'-0"

**GENERAL SHEET NOTES**

1. SHEET DEPICTS DECK AND RAMP LAYOUTS AT VARIOUS RELATIVE ELEVATIONS
2. STRUCTURAL REQUIREMENTS PER S-001
3. LIVE LOAD 4.8 KPA (100 PSF)
4. ALL EXTERIOR LUMBER TO BE ACQ PRESSURE TREATED SPF NO.2 GRADE OR BETTER
5. EXPOSED FINISH MATERIALS TO BE WESTERN RED CEDAR
6. ALL RAMPS TO MEET 1:12 SLOPE REQUIREMENT



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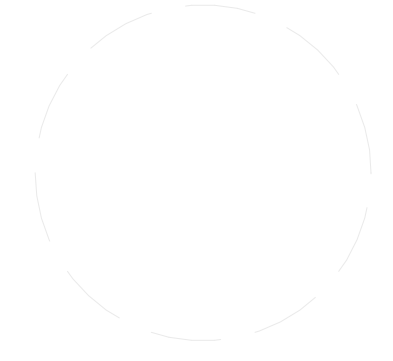
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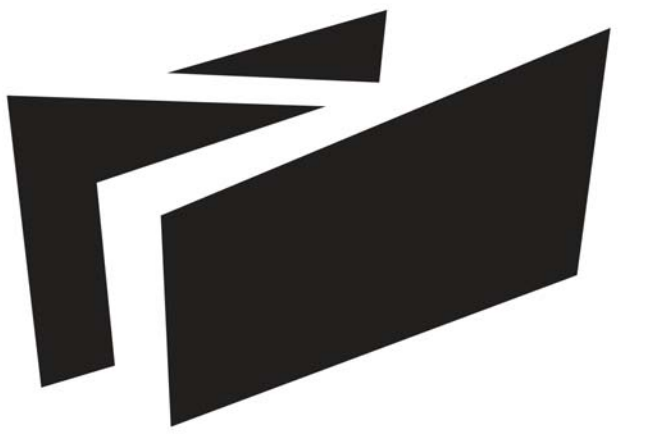
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LOT NUMBER: 116  
DRAWN BY:  
CHECKED BY:  
STATUS:

SHEET TITLE  
**DECK MODULE PLAN**

**L-101**



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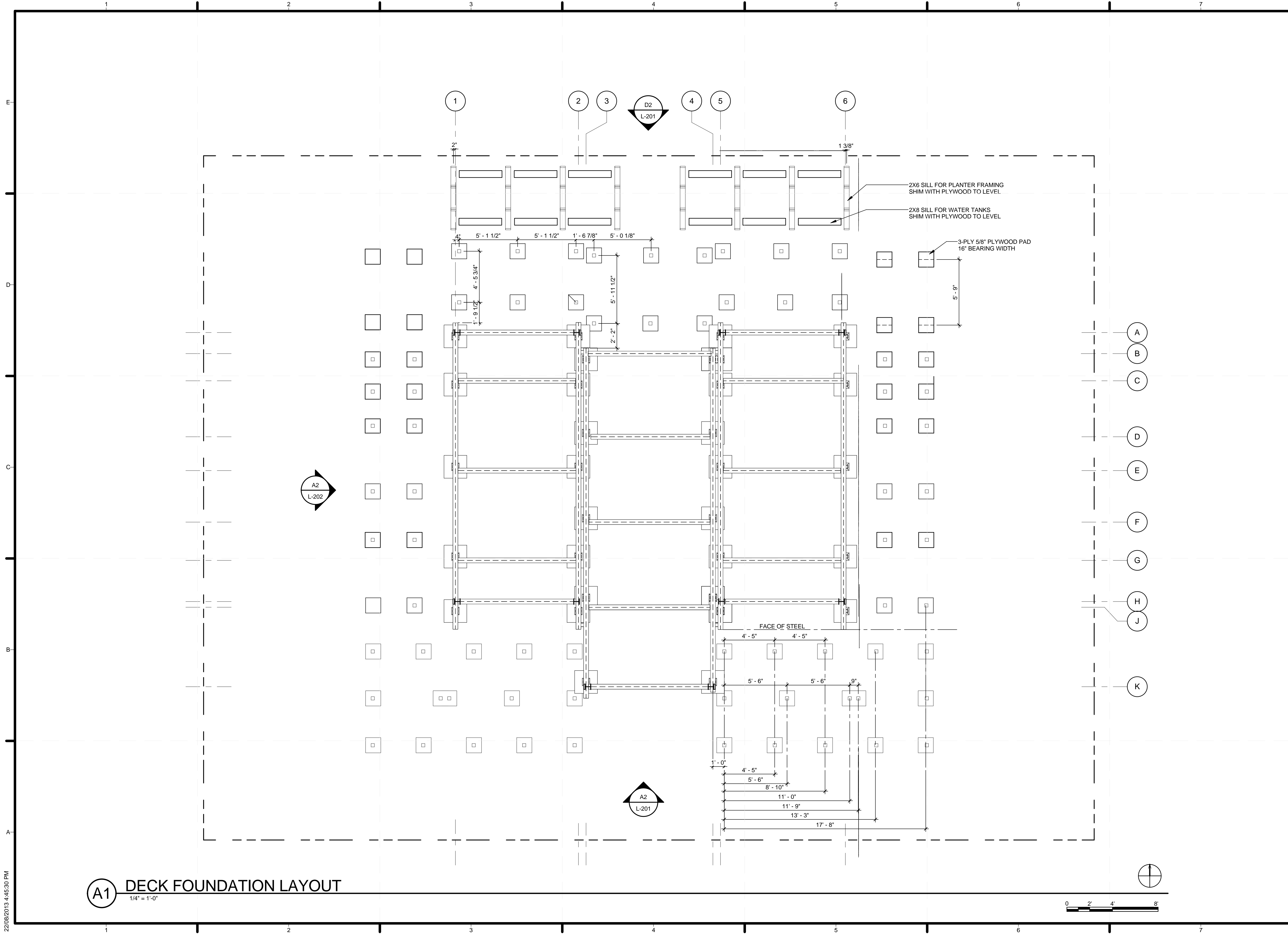
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2	05/03/2013	ISSUED FOR CLADDING
3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

LOT NUMBER: 116  
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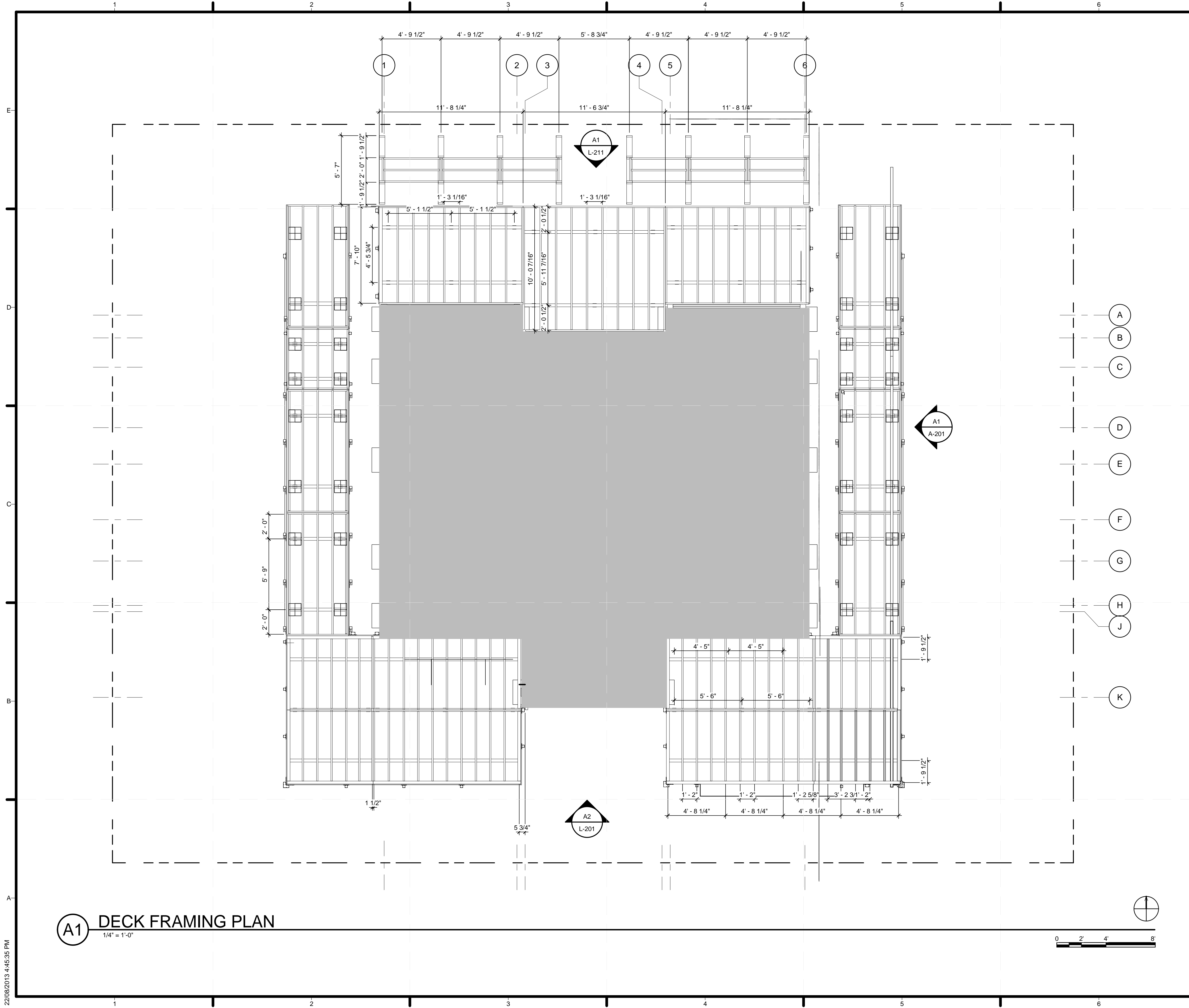
**DECK FOUNDATION  
PLAN**

**L-102**



**A1 DECK FOUNDATION LAYOUT**  
1/4" = 1'-0"

22/08/2013 4:45:30 PM



**GENERAL SHEET NOTES**

1. SEE GENERAL REQUIREMENTS ON DRAWING S-001
2. LIVE LOAD 4.8 KPA (100 PSF)
3. ALL EXTERIOR LUMBER TO BE ACQ PRESSURE TREATED SPF NO.2 GRADE OR BETTER
4. EXPOSED FINISH MATERIALS TO BE WESTERN RED CEDAR
5. ALL RAMP TO MEET 1:12 SLOPE REQUIREMENT
6. BEARING PRESSURE TO BE LESS THAN 3000 PSF
7. ALL JOISTS 2X8 UNO
8. ALL POSTS 4X4 UNO



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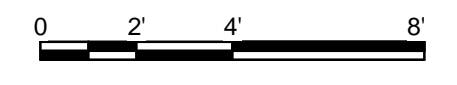
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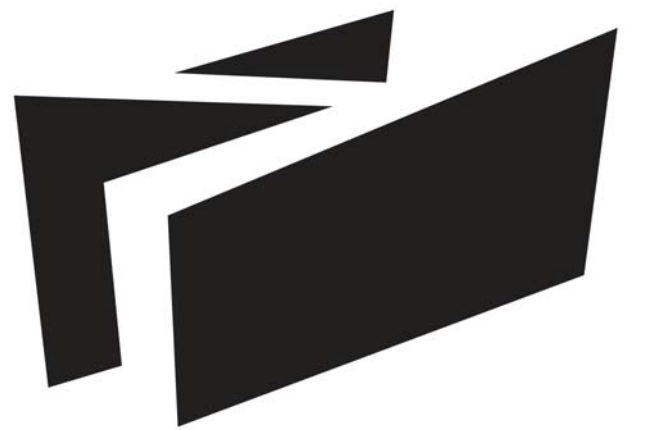
**DECK SUBSTRUCTURE PLAN**

**L-103**

**A1 DECK FRAMING PLAN**  
 1/4" = 1'-0"



22/08/2013 4:45:35 PM



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**SHEET KEYNOTES**

- 11 RAILING POST - INTERMEDIATE
- 12 RAILING POST - END, LEFT TERMINAL
- 13 RAILING POST - END, RIGHT TERMINAL
- 14 RAILING POST - END, LEFT QUICK-CONNECT
- 15 RAILING POST - END, RIGHT QUICK-CONNECT
- 16 RAILING POST - CORNER, TERMINAL
- 17 RAILING POST - CORNER, QUICK-CONNECT

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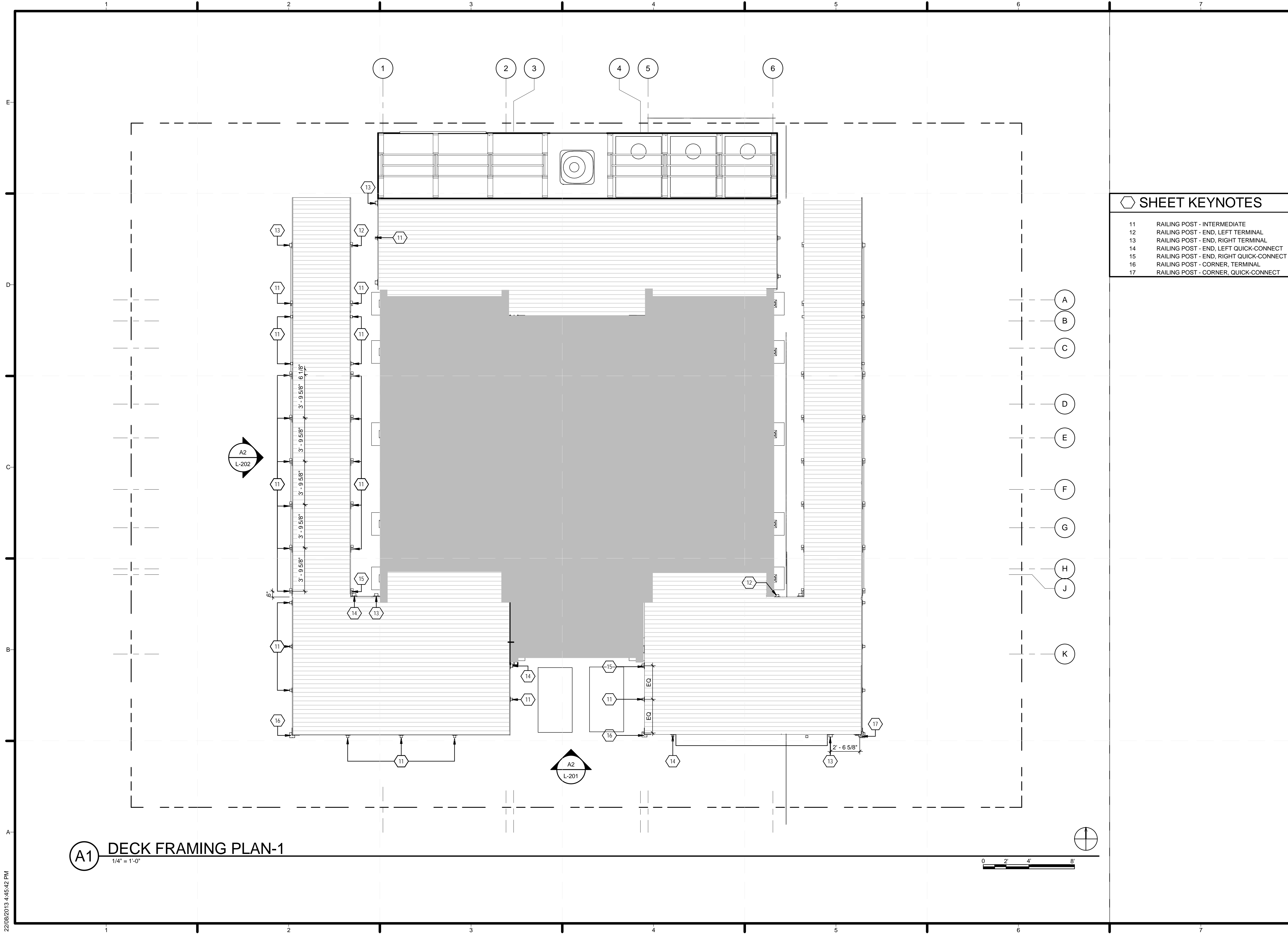
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4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

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STATUS:

**SHEET TITLE**

**HANDRAIL AND GUARD  
PLAN**

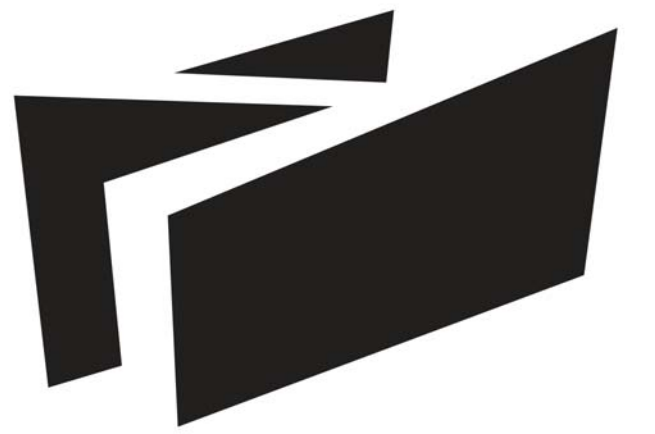
**L-104**



**A1 DECK FRAMING PLAN-1**

1/4" = 1'-0"

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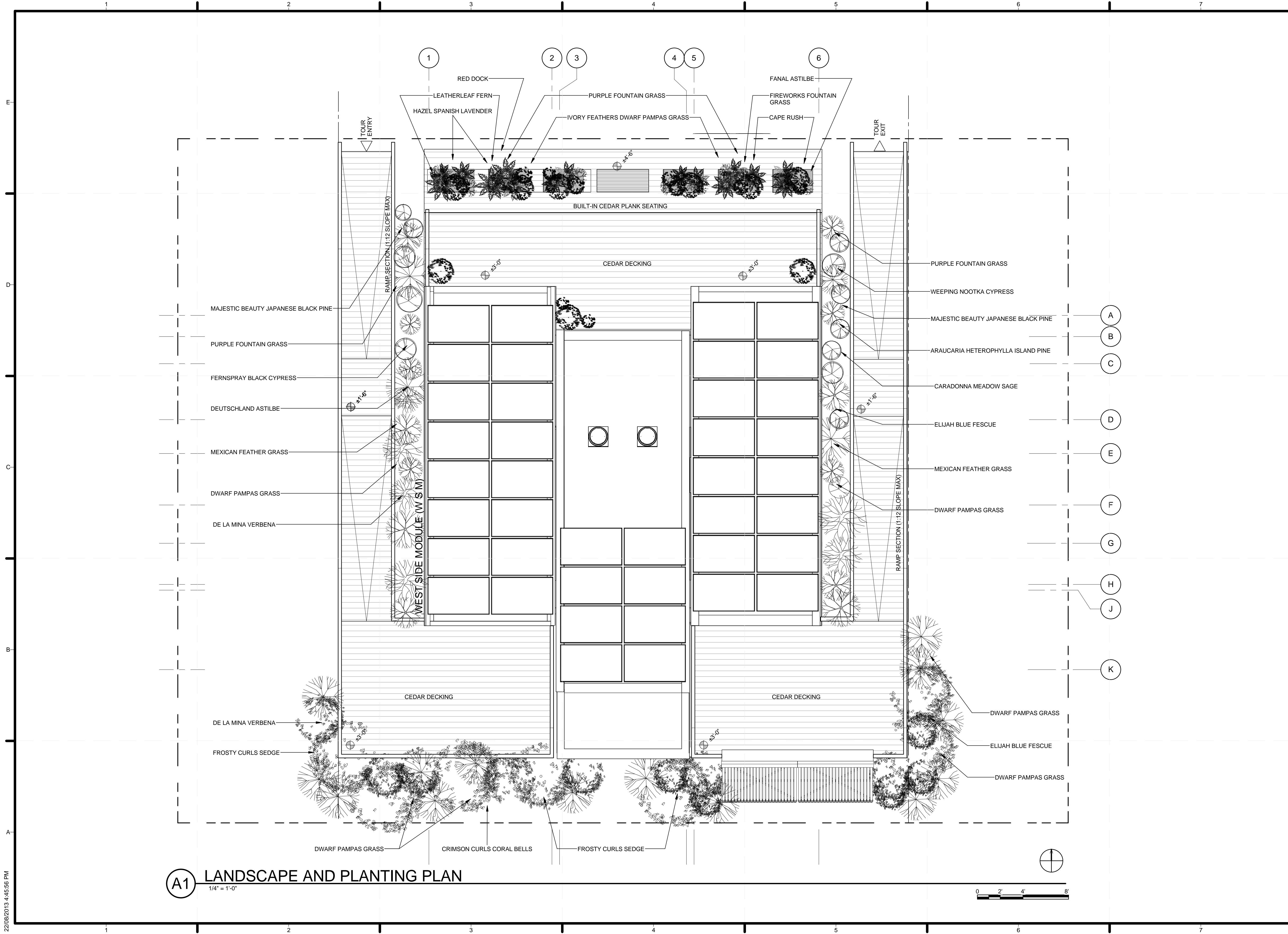
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5	08/22/2013	AS BUILT SET

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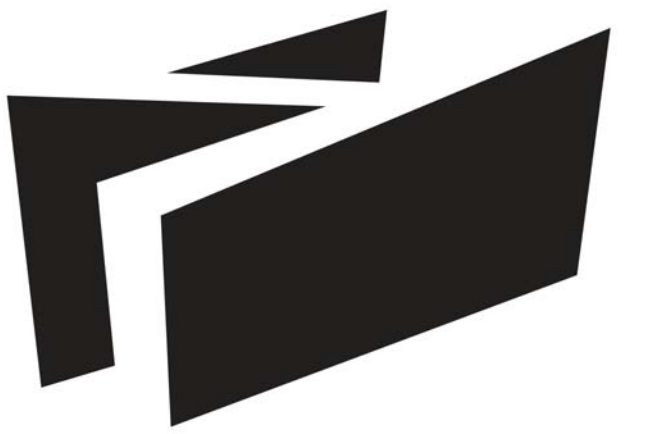
**LANDSCAPE AND PLANTING PLAN**

**L-111**



**A1 LANDSCAPE AND PLANTING PLAN**  
1/4" = 1'-0"

22/08/2013 4:45:56 PM



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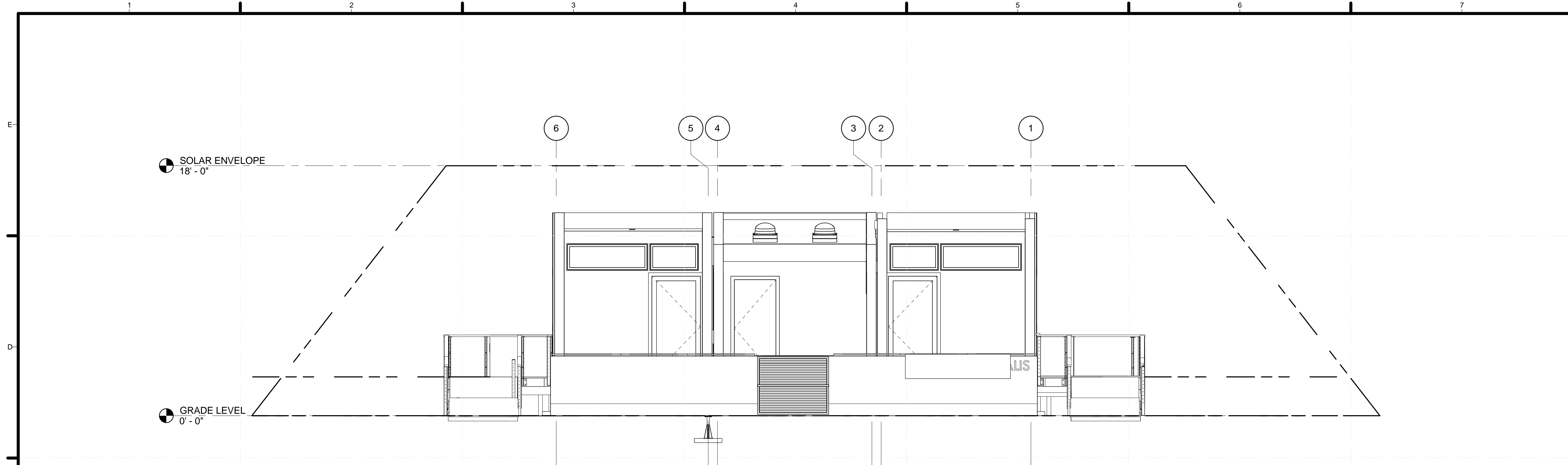
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
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LOT NUMBER: 116  
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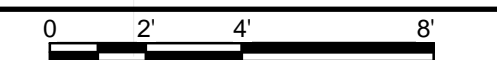
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LANDSCAPING SITE  
ELEVATIONS

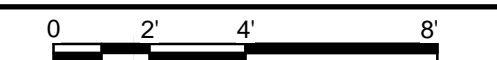
**L-201**

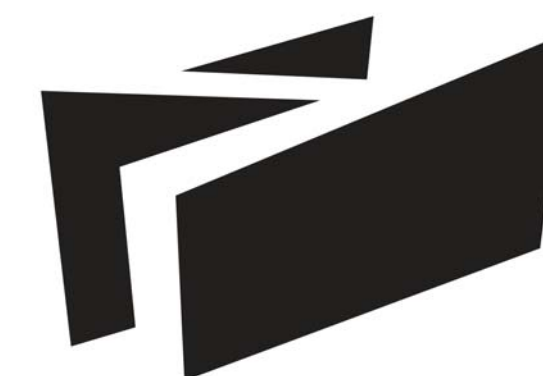


**(D2) NORTH DECKING ELEVATION**  
1/4" = 1'-0"



**(A2) SOUTH DECKING ELEVATION**  
1/4" = 1'-0"





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TEAM NAME: TEAM ALBERTA  
 ADDRESS: EVDS - PF-2182  
 2500 University Drive NW  
 Calgary, AB, Canada T2N 1N4  
 CONTACT: info@solardecathlon.ca  
 www.solardecathlon.ca

CONSULTANTS

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MARK	DATE	DESCRIPTION
5	08/22/2013	AS BUILT DRAWINGS
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
3	05/14/2013	ISSUED FOR STRUCTURAL REVIEW
2	05/03/2013	ISSUED FOR CLADDING
1	04/29/2013	ISSUED FOR ELECMECH

LOT NUMBER: 116  
 DRAWN BY:  
 CHECKED BY:  
 COPYRIGHT: NONE; PROJECT IS PUBLIC DOMAIN

SHEET TITLE

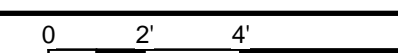
LANDSCAPING SITE ELEVATIONS

L-202

SOLAR ENVELOPE  
18' - 0"

GRADE LEVEL  
0' - 0"

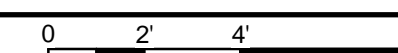
C2 EAST DECKING ELEVATION  
1/4" = 1'-0"



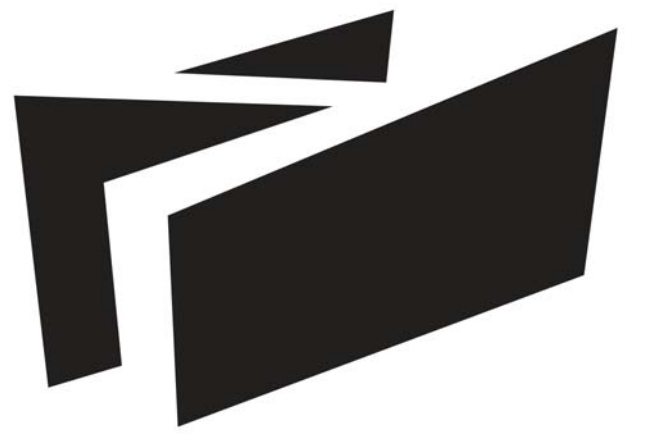
SOLAR ENVELOPE  
18' - 0"

GRADE LEVEL  
0' - 0"

A2 WEST DECKING ELEVATION  
1/4" = 1'-0"







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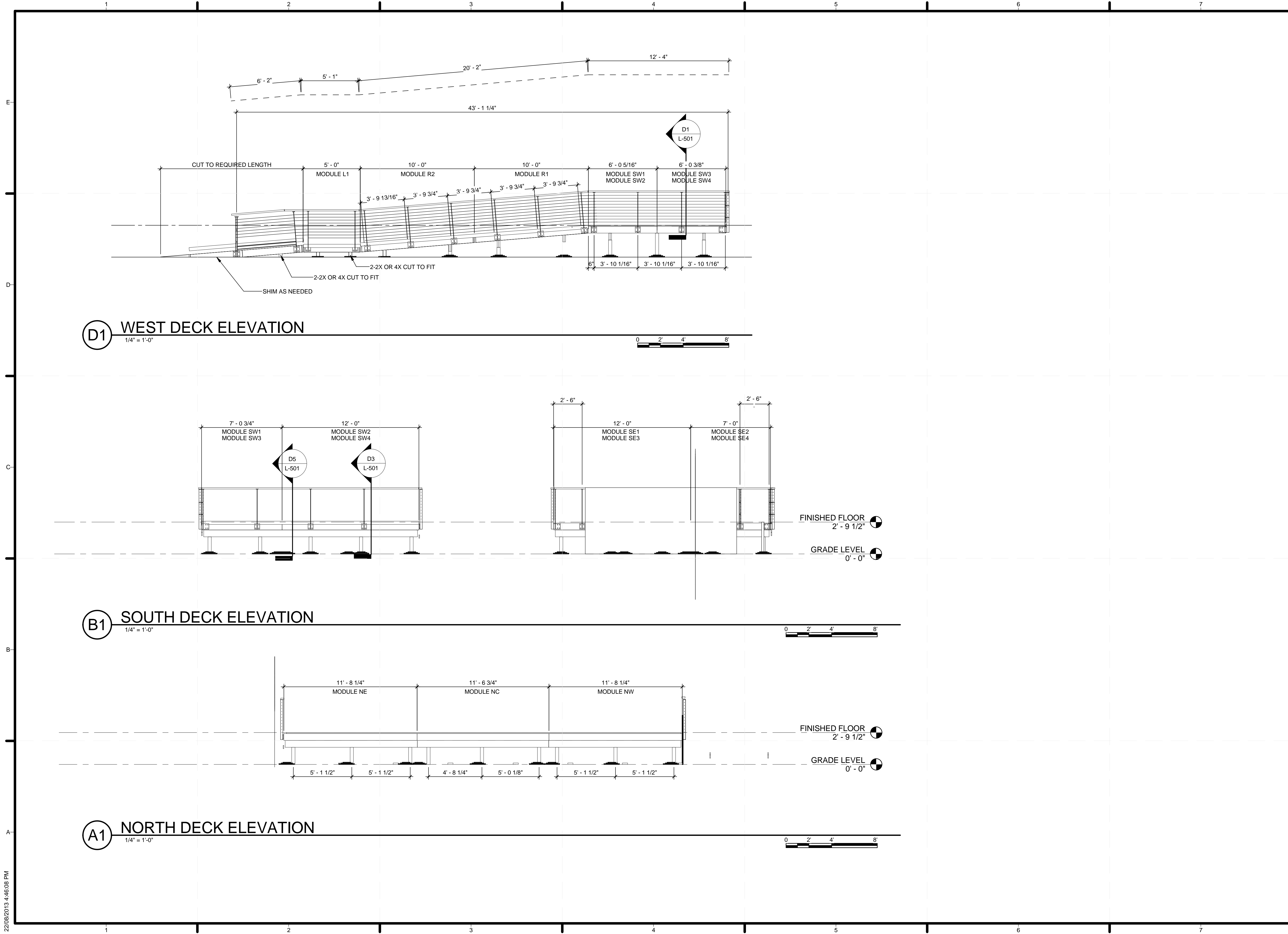
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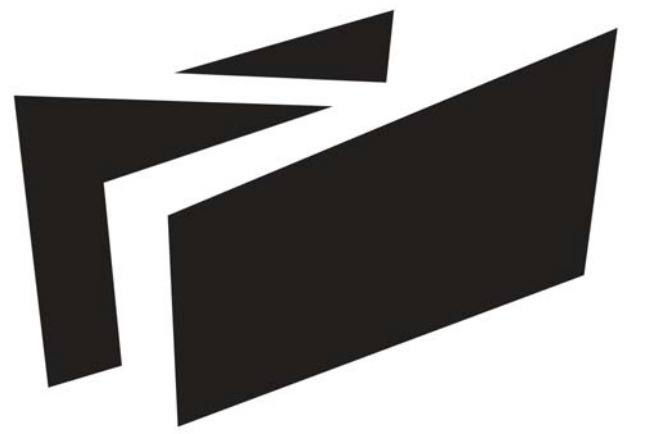
SHEET TITLE

DECK ELEVATIONS

**L-211**



22/08/2013 4:46:08 PM



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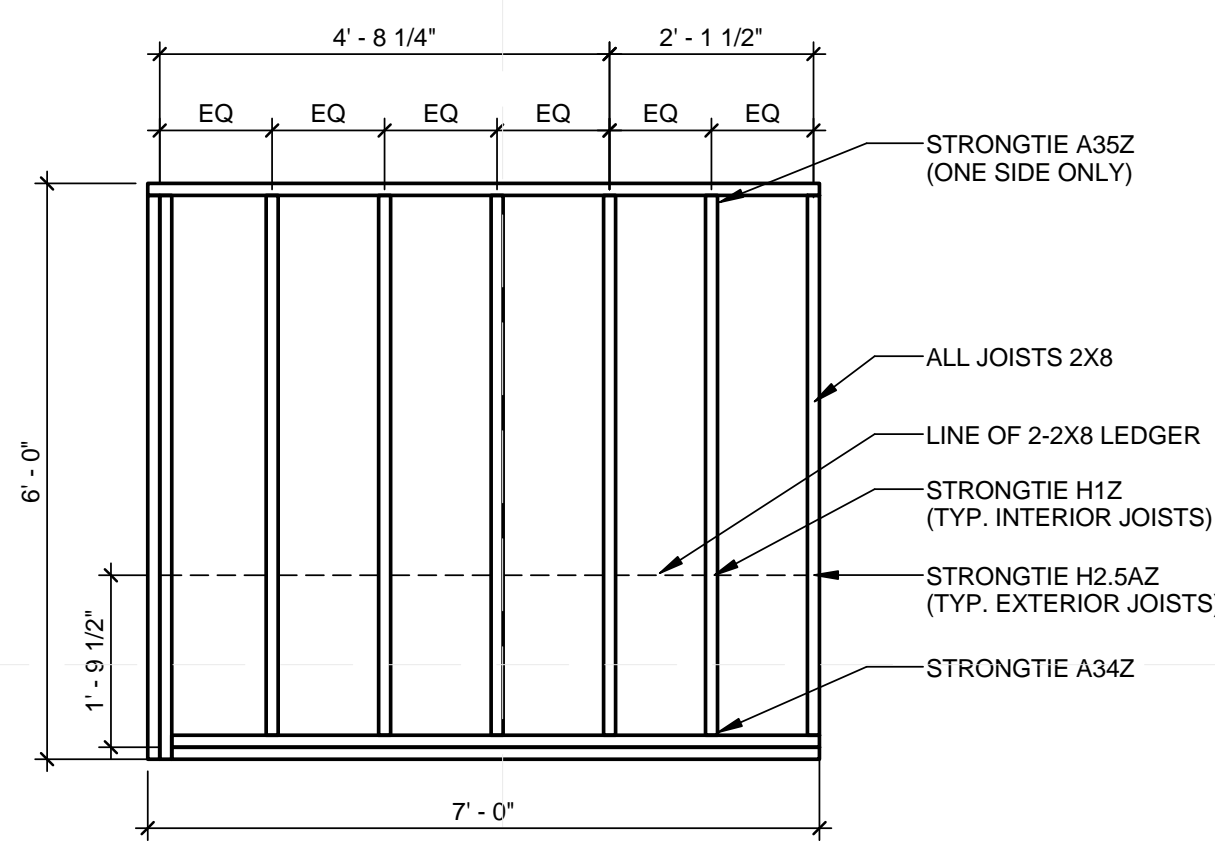
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
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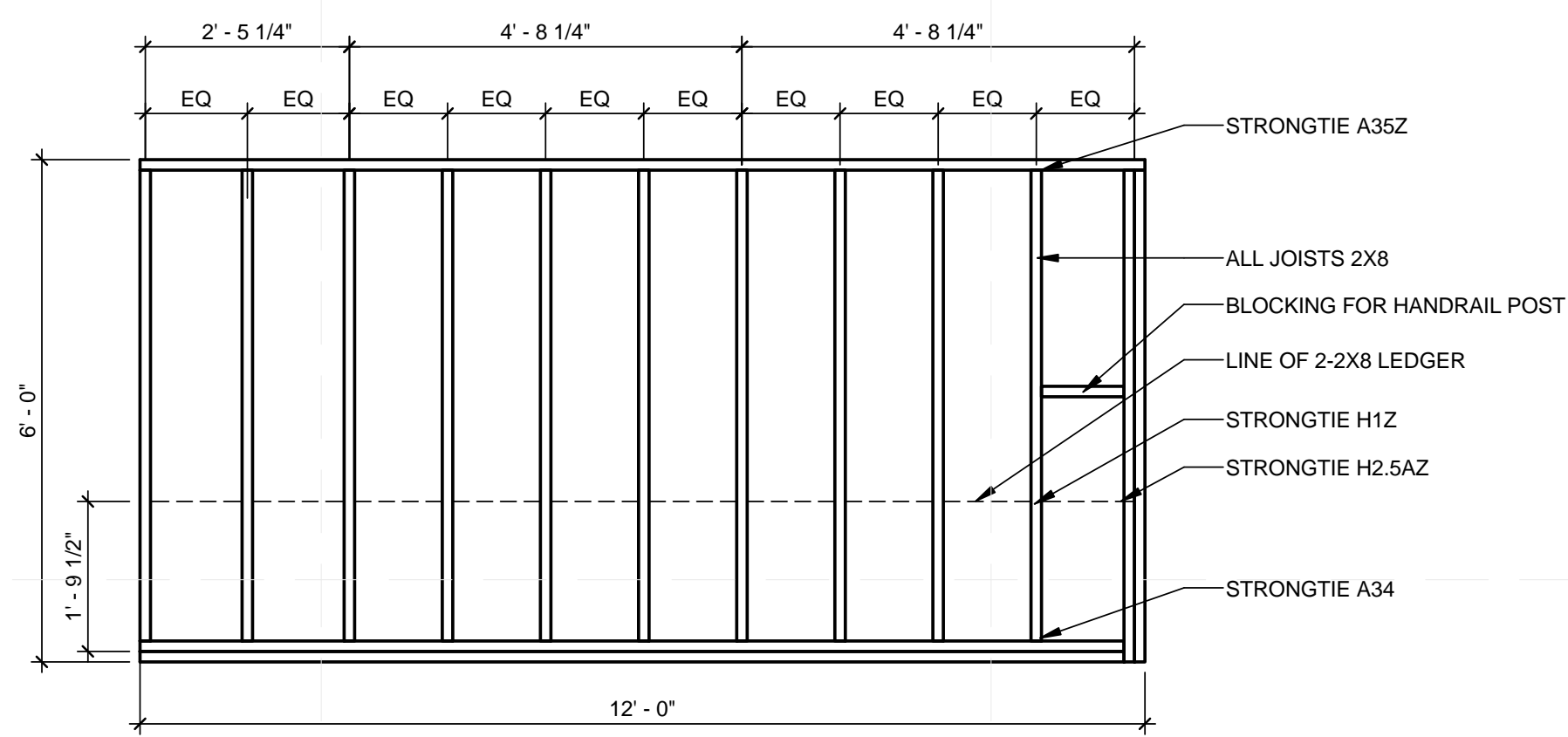
SHEET TITLE

DECK MODULE LARGE  
 SCALE PLANS

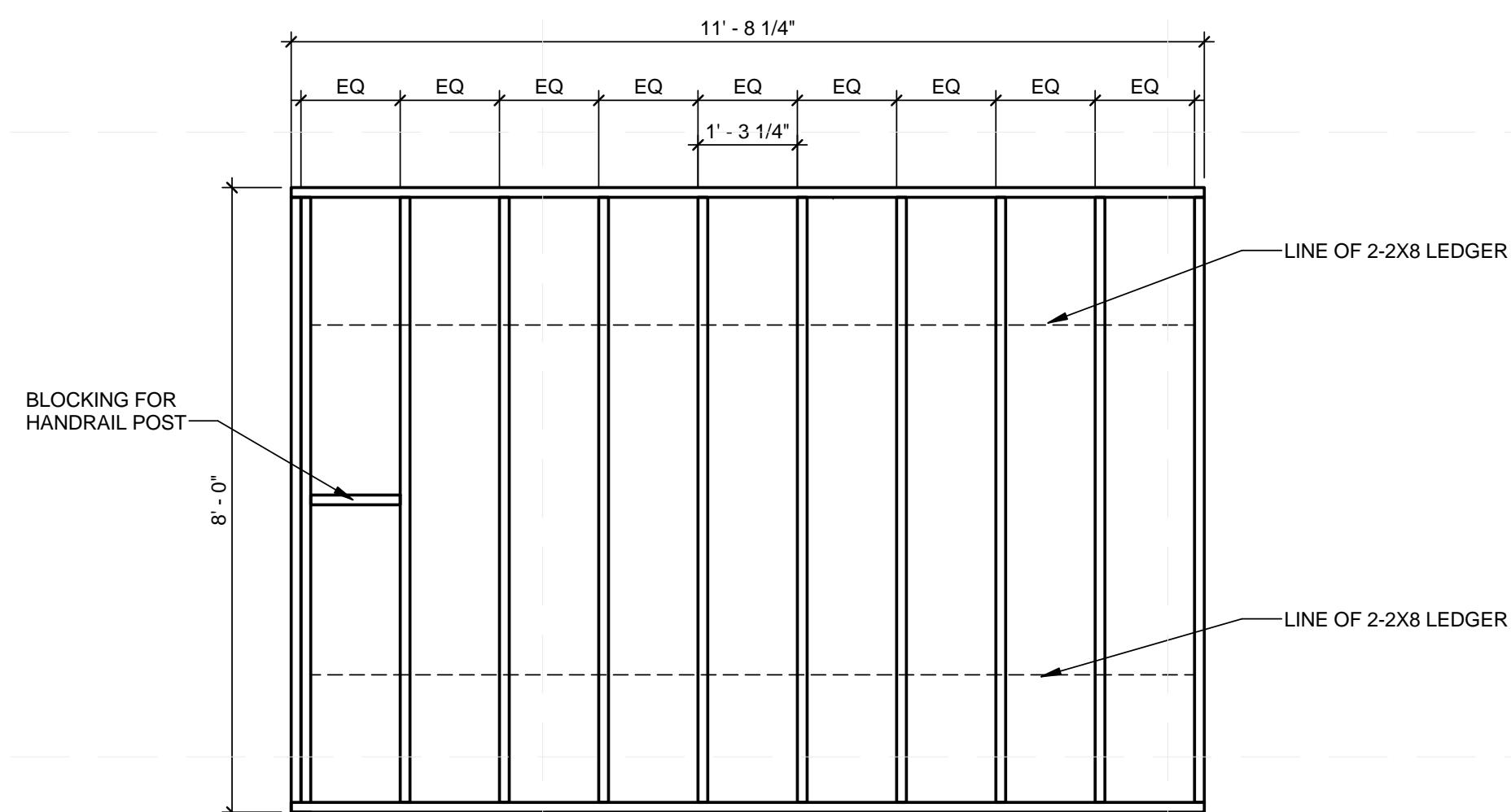
**L-401**



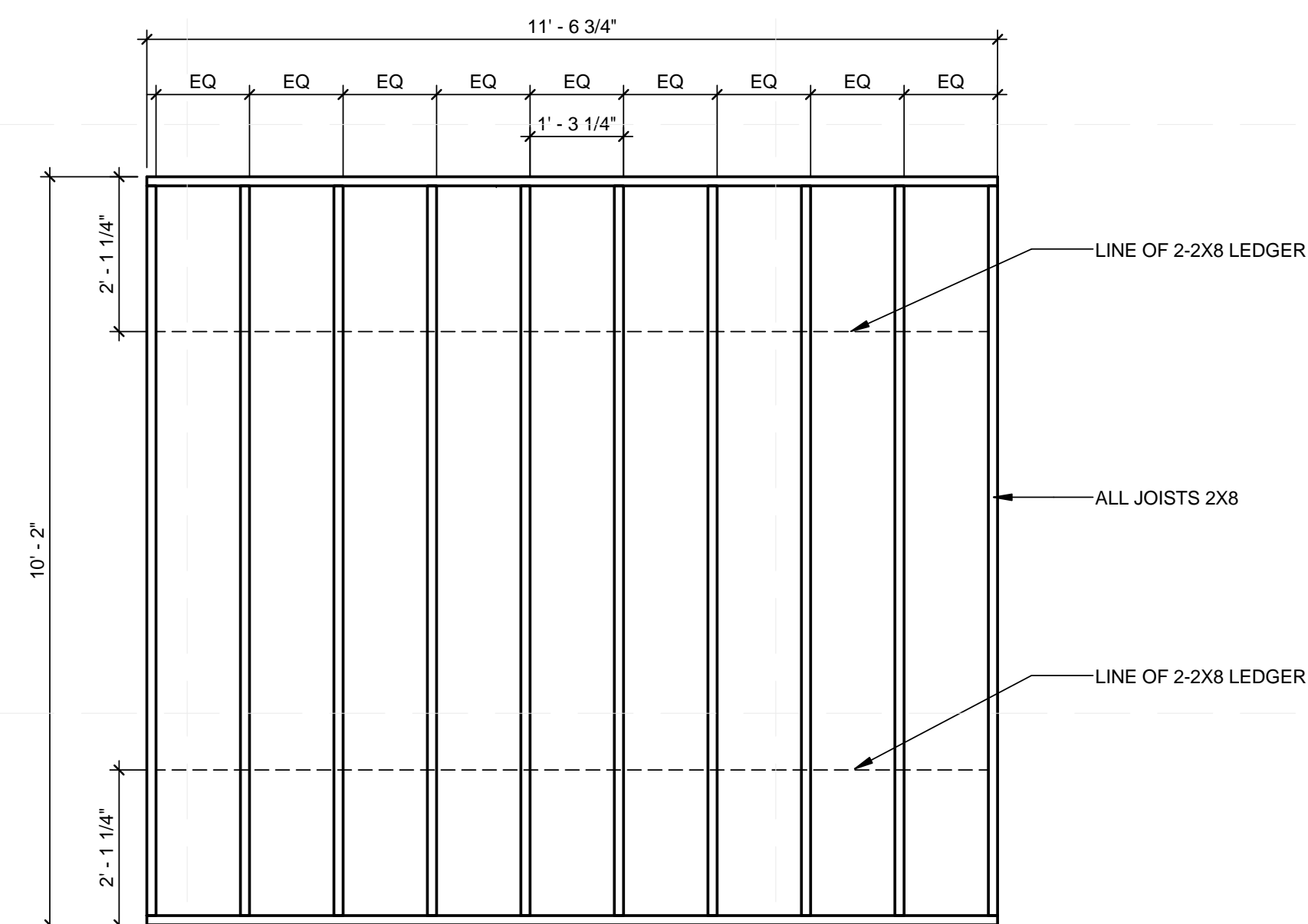
**D1** MODULE SW1/SW3/SE2/SE4  
 1/2" = 1'-0"



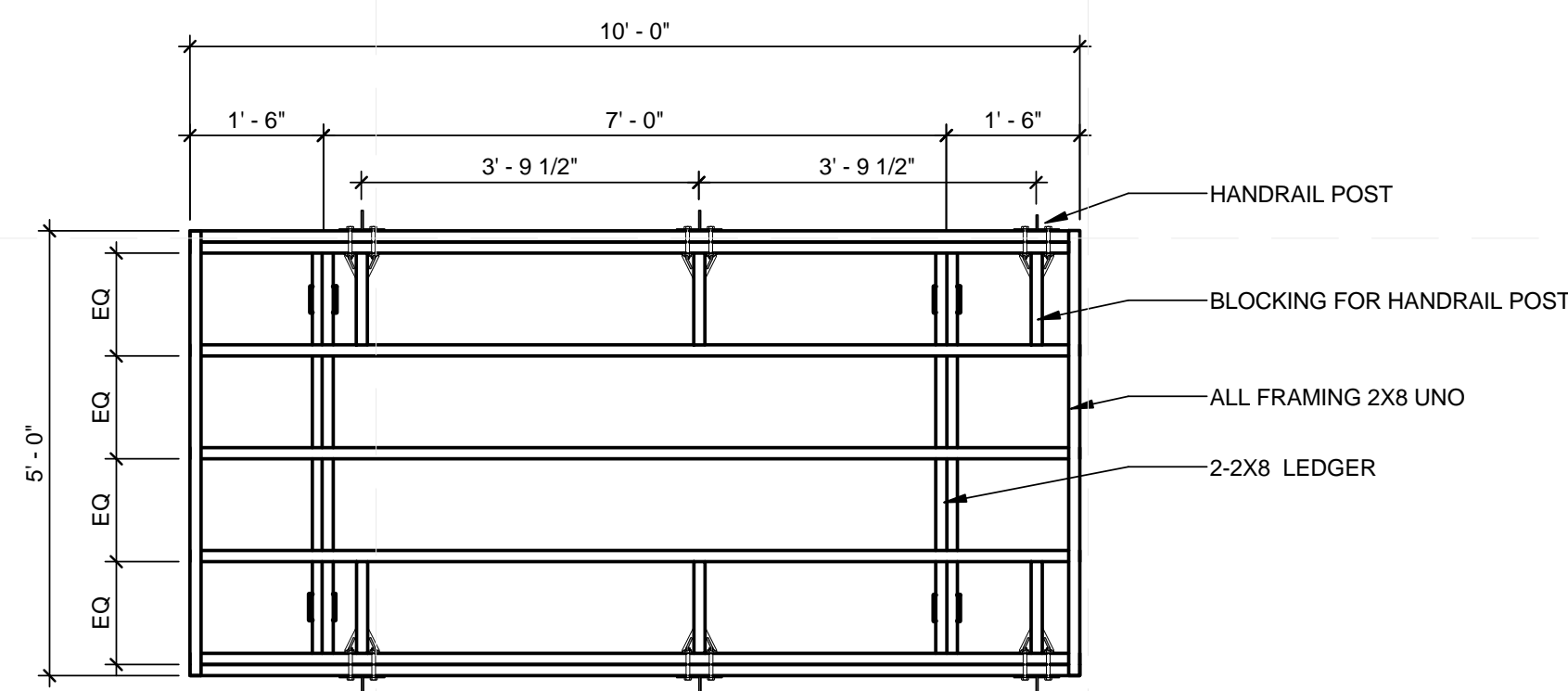
**D3** MODULE SW2/SW4/SE1/SE3  
 1/2" = 1'-0"



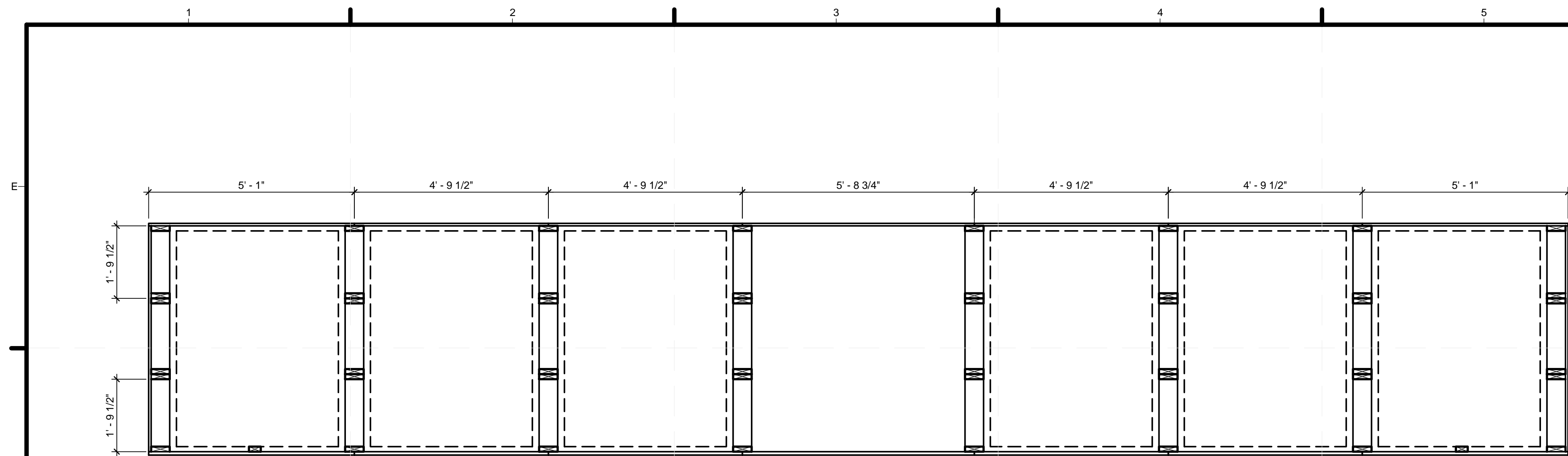
**B1** MODULE NW/NE  
 1/2" = 1'-0"



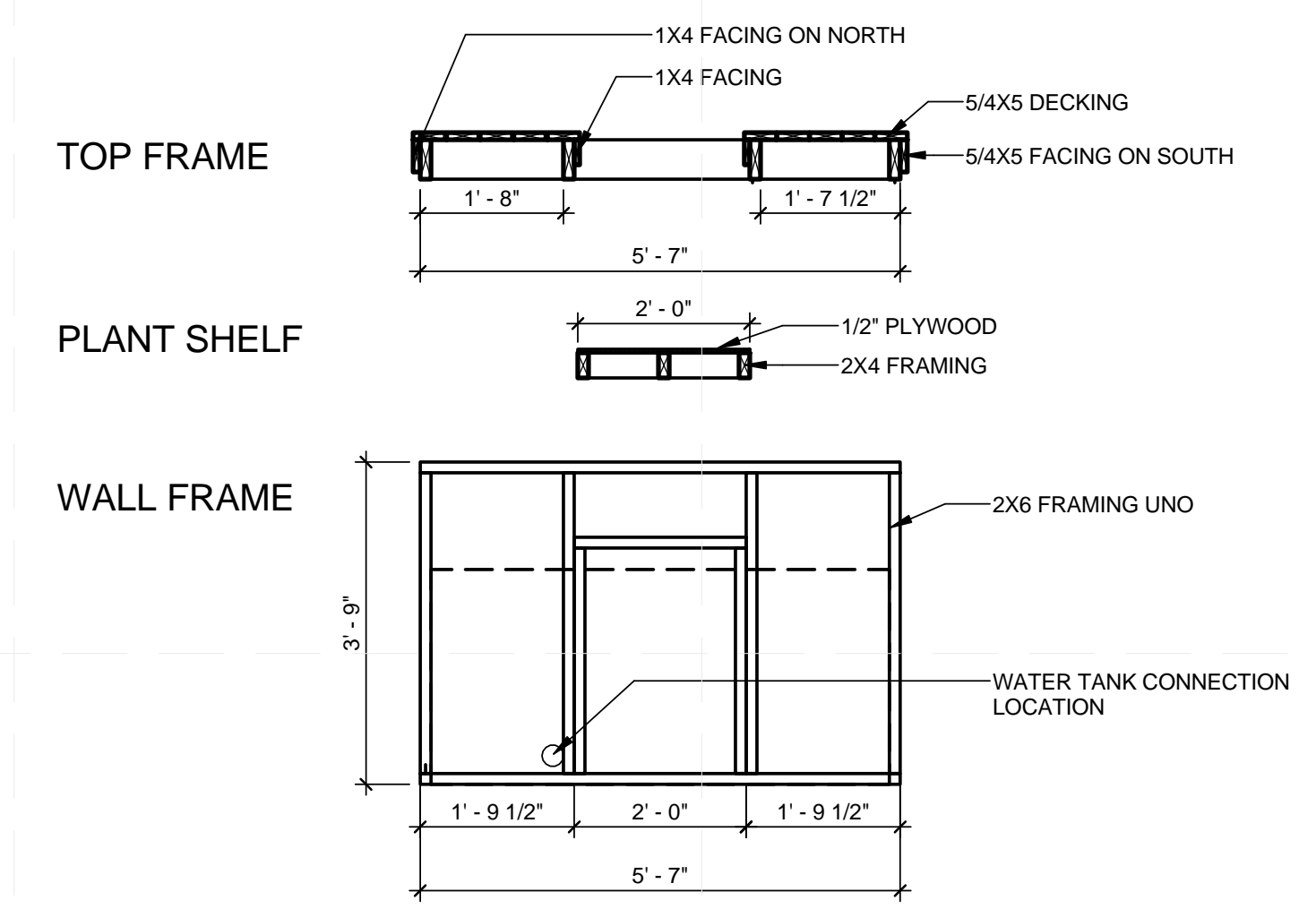
**B3** MODULE NC  
 1/2" = 1'-0"



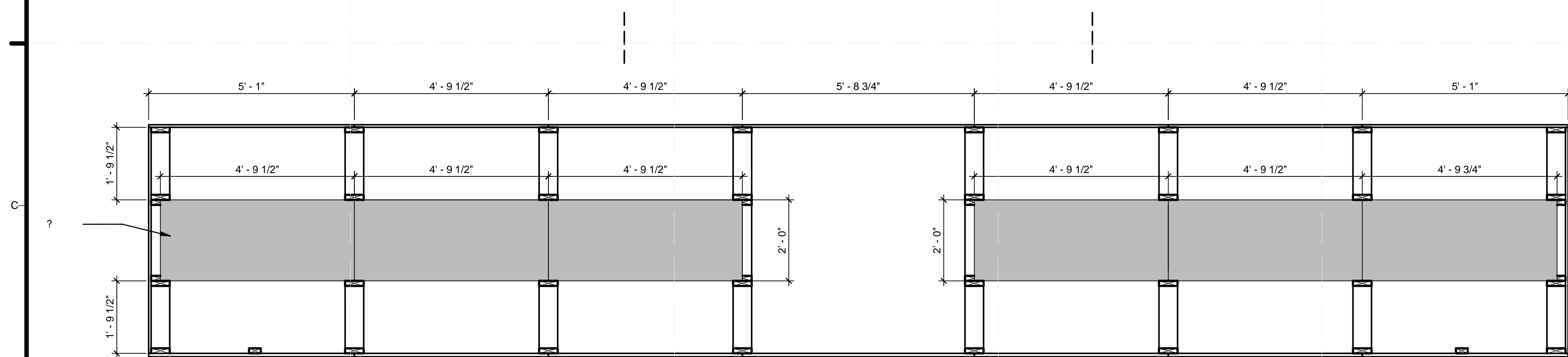
**A1** RAMP MODULE  
 1/2" = 1'-0"



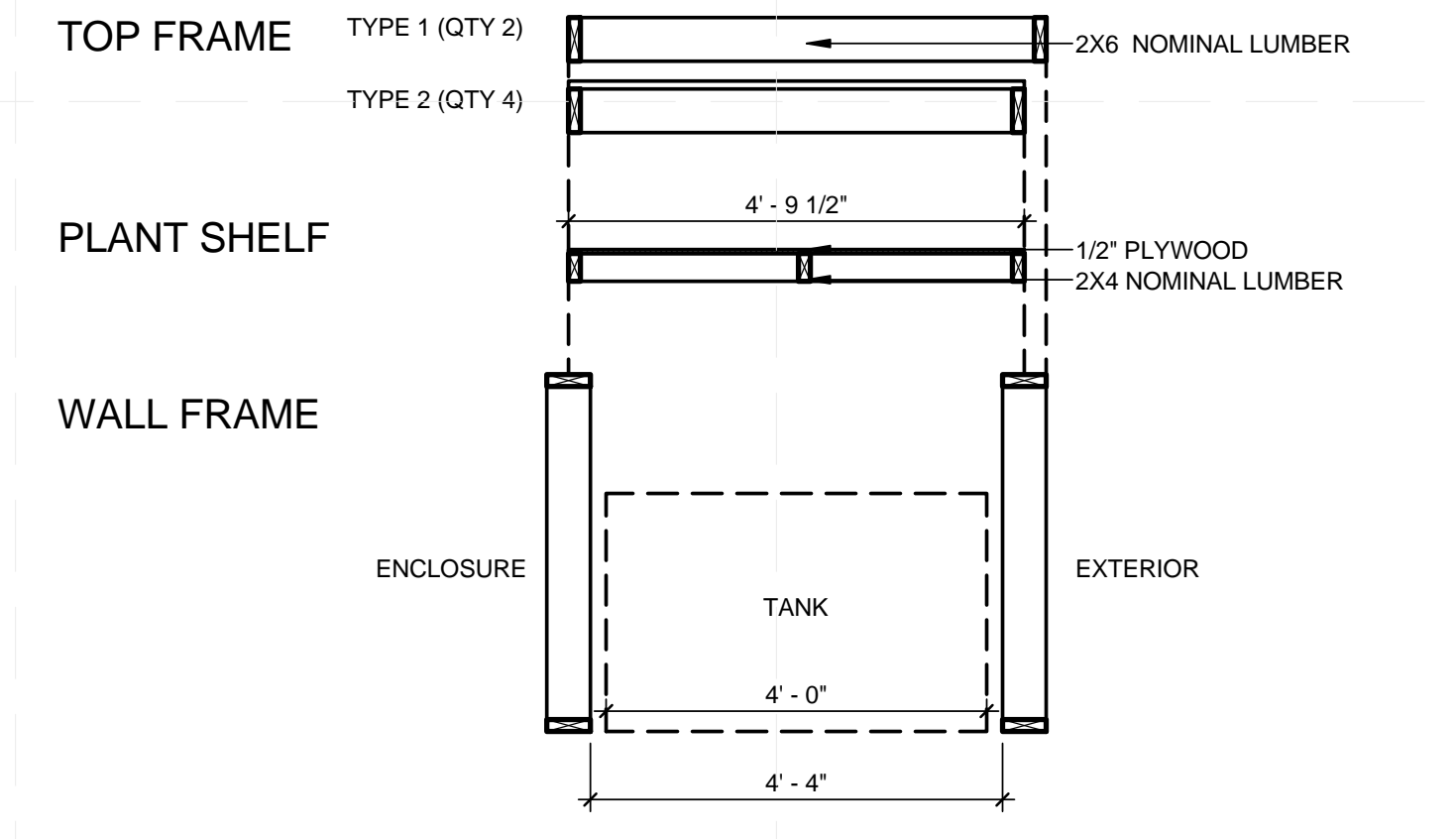
**(D1) NORTH PLANTER FRAMING PLAN**  
1/2" = 1'-0"



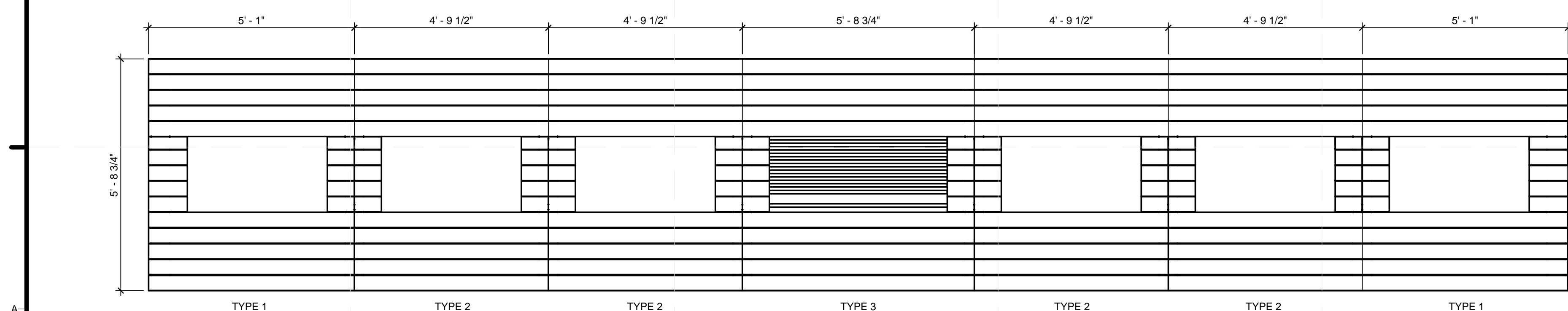
**(D6) WEST ELEVATION - NORTH PLANTER**  
1/2" = 1'-0"



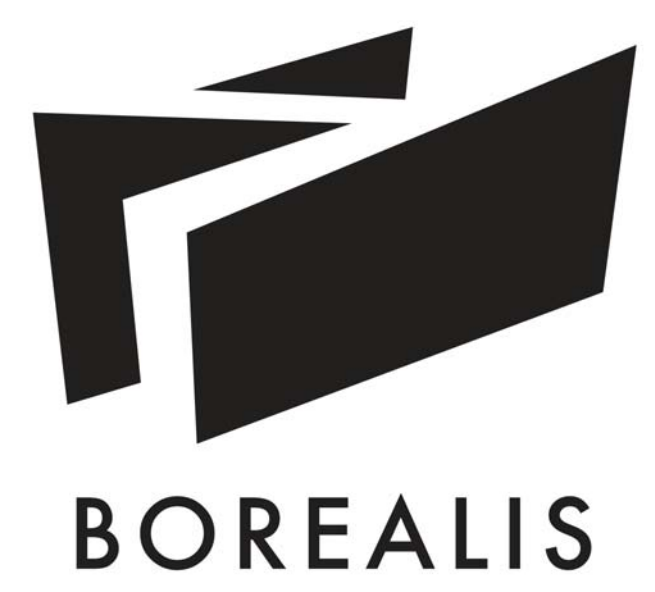
**(B1) PLANT SHELF PLAN**  
1/2" = 1'-0"



**(B6) NORTH ELEVATION - NORTH PLANTER**  
1/2" = 1'-0"



**(A1) DECKING LAYOUT PLAN**  
1/2" = 1'-0"



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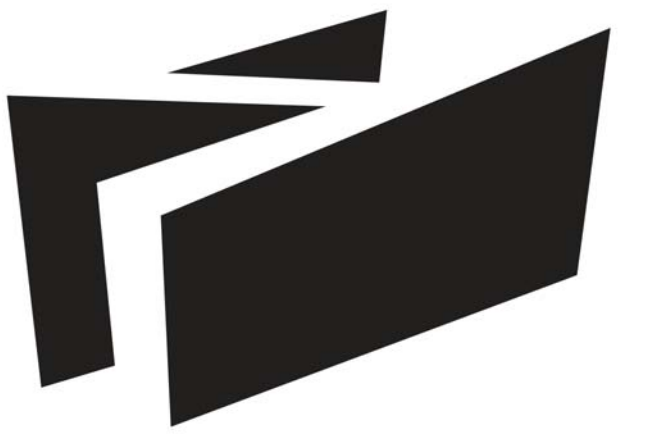
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SHEET TITLE  
**NORTH PLANTER DRAWINGS**

**L-402**

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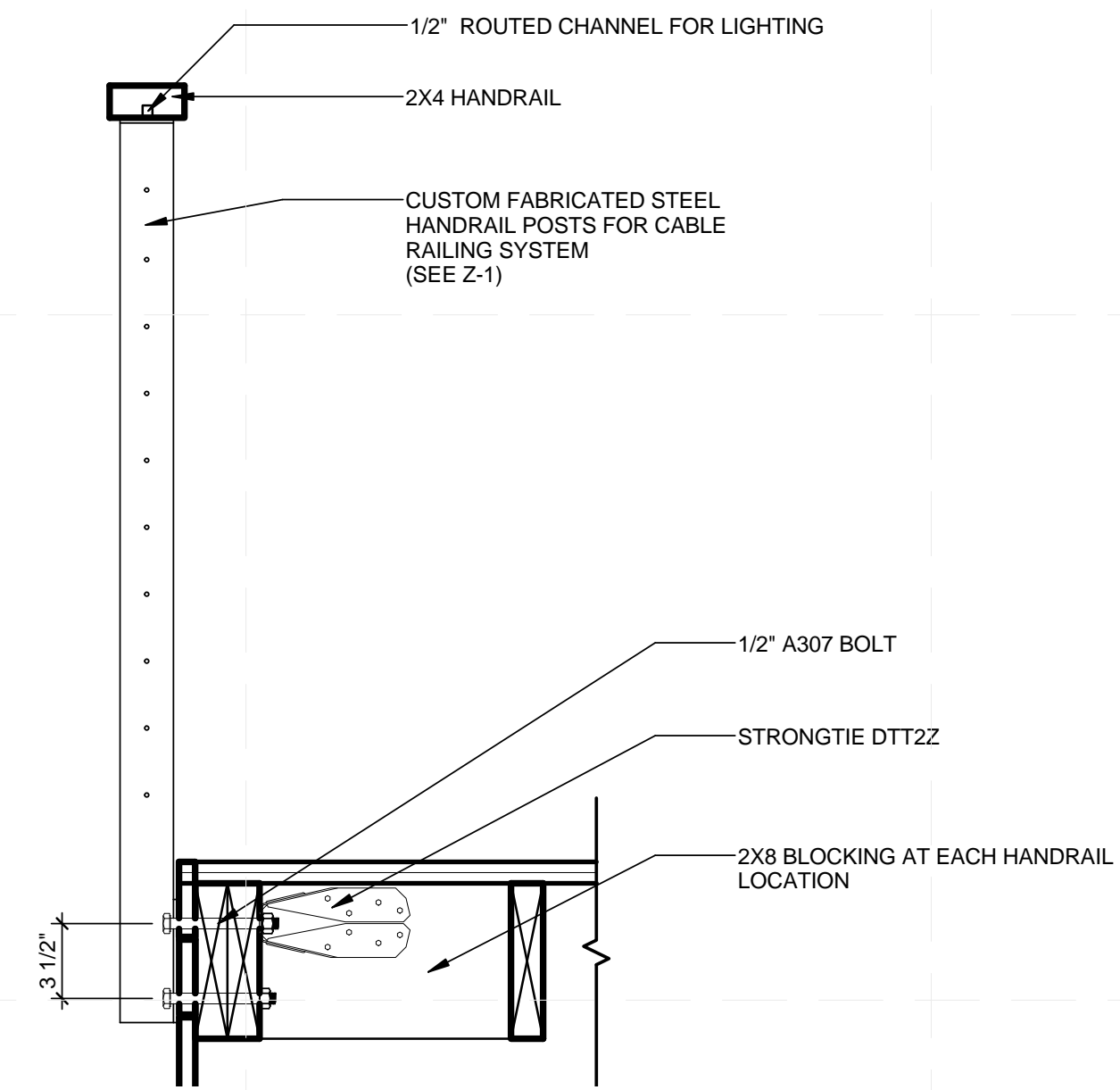
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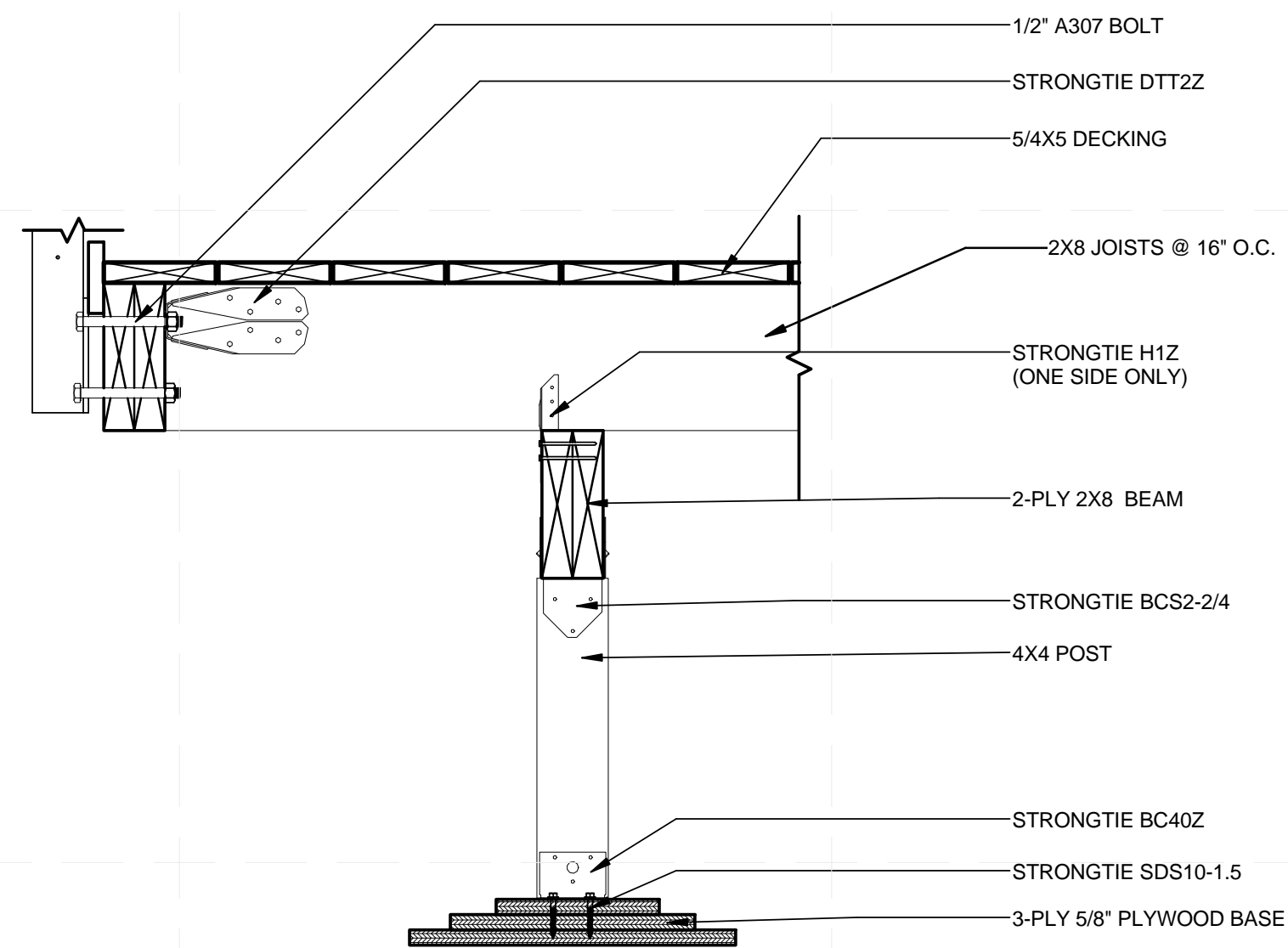
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 STATUS:  
 SHEET TITLE

DECK DETAILS

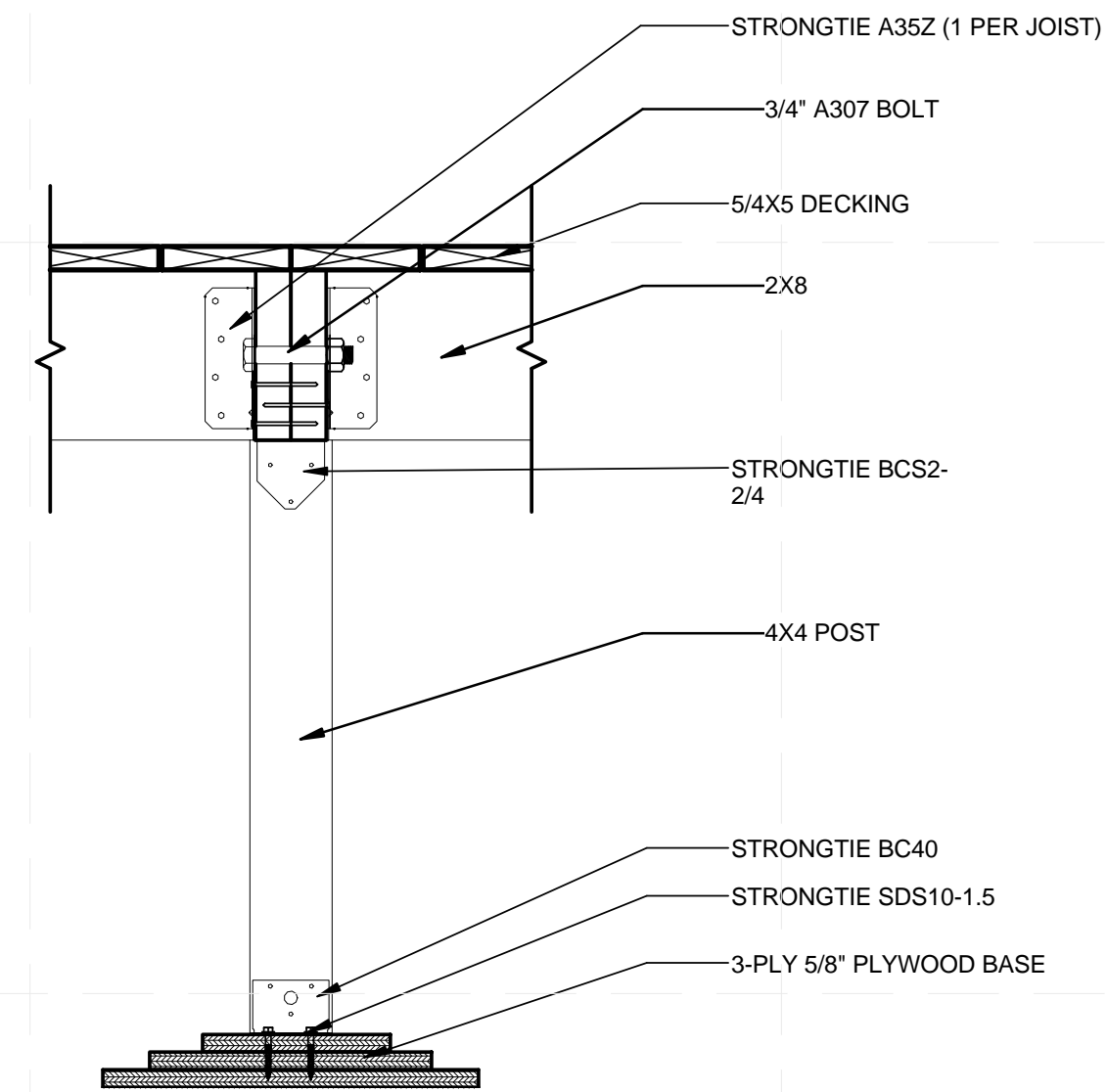
**L-501**



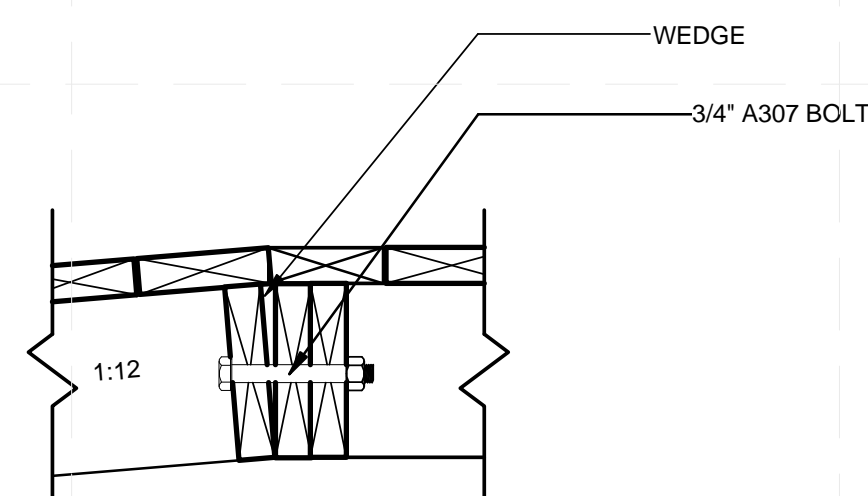
**D1 HANDRAIL CONNECTION SECTION**  
 1 1/2" = 1'-0"



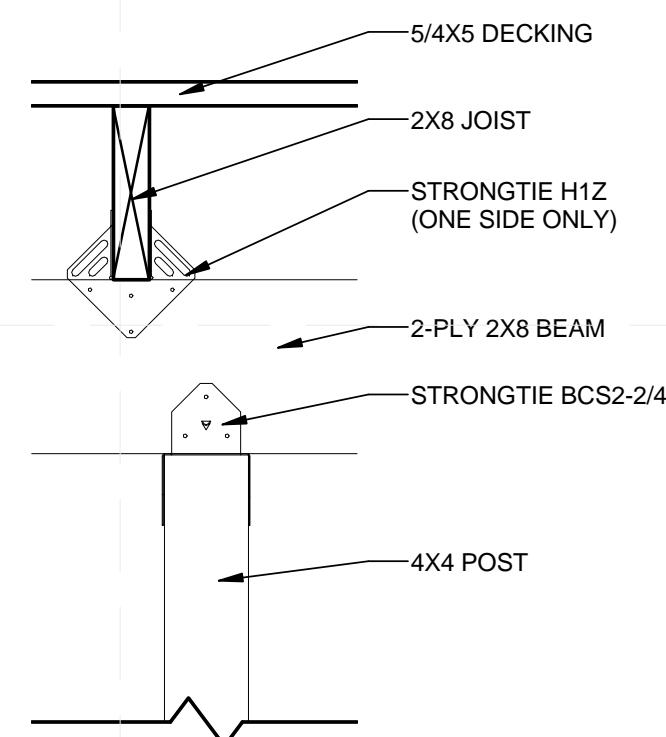
**D3 DECK JOIST, BEAM AND POST CONNECTION**  
 1 1/2" = 1'-0"



**D5 DECK JOIST TO POST CONNECTION**  
 1 1/2" = 1'-0"



**C1 RAMP TO PLATFORM CONNECTION**  
 1 1/2" = 1'-0"



**C3 DECK CONNECTION SECTION**  
 1 1/2" = 1'-0"

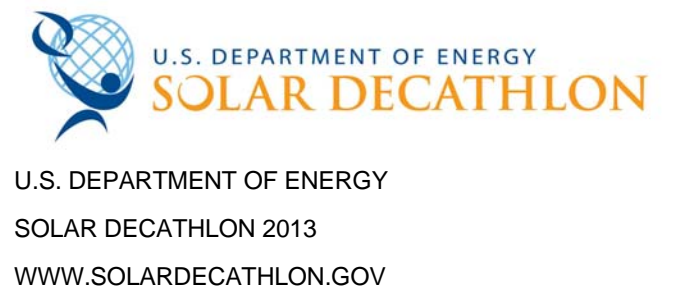


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LOT NUMBER: 116  
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 SHEET TITLE

STRUCTURAL NOTES  
 AND SYMBOLS

S-001

GENERAL NOTES  
 1. CHECK ALL DIMENSIONS ON STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS. REPORT ANY INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE THESE DRAWINGS. ALL DIMENSIONS ARE IN INCHES.  
 2. STRUCTURAL DESIGN IS IN ACCORDANCE WITH SOLAR DECATHLON BUILDING CODE 2013 (SDBC 2013), INTERNATIONAL RESIDENTIAL CODE 2012 (IRC 2012), AND NATIONAL BUILDING CODE OF CANADA 2010 (NBC 2010).

SHOP DRAWING REVIEW  
 1. REVIEW OF SHOP DRAWINGS IS ONLY FOR GENERAL CONFORMANCE WITH STRUCTURAL CONTRACT DOCUMENTS AND SPECIFICATIONS. COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE STRUCTURAL CONTRACT DOCUMENTS AND SPECIFICATIONS. NOR DO THEY AUTHORIZE ANY CHANGES TO THE CONTRACT. REVIEW OF A SPECIFIC ITEM SHALL NOT INCLUDE REVIEW OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. THE CONTRACTOR'S RESPONSIBILITIES INCLUDE ALL QUANTITIES, DETAIL DIMENSIONS, FIELD MEASUREMENTS, FABRICATION PROCESS, MEANS, METHODS, SEQUENCES AND PROCEDURES OF CONSTRUCTION. COORDINATION OF WORK WITH ALL TRADES AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER. THE REVIEW OF SHOP DRAWINGS DOES NOT IMPLY ANY CHANGE IN ANY OTHER CONSULTANTS' OR PROFESSIONALS' RESPONSIBILITIES RELATED TO DESIGN OF SPECIFIC ITEMS AS OUTLINED BY THE SPECIFICATIONS (SUCH AS STRUCTURAL STEEL CONNECTIONS, STEEL JOISTS, ETC.).  
 2. AFTER REVIEW, THE DRAWINGS WILL BE STAMPED AND RETURNED TO SHOW ONE OF THE FOLLOWING:  
 NOT REVIEWED - SHOWS WORK WHICH IS NOT WITHIN THE SCOPE OF STRUCTURAL CONSULTING SERVICES.  
 REVIEWED - RELEASED FOR FABRICATION.  
 NOTED - RELEASED FOR FABRICATION AFTER REVISIONS NOTED ARE MADE.  
 SUBMIT  
 RESUBMIT - CORRECT AND RESUBMIT FOR REVIEW PRIOR TO FABRICATION

**MATERIALS & DESIGN DATA**  
 1. FOOTING BEARING RESISTANCE: MAXIMUM 3000 PSF AT SLS (SERVICEABILITY LIMIT STATES DESIGN) SEE COMPETITION SITE SOIL INFORMATION LISTED IN SOLAR DECATHLON BUILDING CODE 2013  
 2. STRUCTURAL STEEL: CAN/CSA G40.21MM  
 - WIDE FLANGES: 350 W  
 - ANCHOR BOLTS: 300 W  
 - ALL OTHER STEEL: 300 W  
 3. STRUCTURAL LUMBER:  
 - ALL LUMBER TO BE KILN DRIED.  
 - ALL LUMBER TO BE GRADE MARKED TO CONFORM TO CSA O141.  
 - ALL LUMBER TO BE SPF NO. 2 OR BETTER UNLESS OTHERWISE STATED  
 4. SHEARWALLS:  
 - ALL PANELS CSA O151 PLYWOOD  
 - USE 3.25MM 2-1/2" NAILS (COATING PER SPECIFICATIONS)  
 - USE BLOCKING AT PANEL JOINTS  
 - FASTENER SPACING AS FOLLOWS  
 EXTERIOR SHEATHING (1/2" PLYWOOD)  
 PANEL EDGES: 6" O.C.  
 INTERMEDIATE SUPPORTS: 12" O.C.  
 INTERIOR SHEATHING (3/8" PLYWOOD)  
 PANEL EDGES: 8" O.C.  
 INTERMEDIATE SUPPORTS: 12" O.C.  
 5. ROOF SHEATHING  
 - 1/2" CSA O151 PLYWOOD  
 - USE 3.25MM 2-1/2" NAILS (COATING PER SPECIFICATIONS)  
 - FASTENER SPACING AS FOLLOWS  
 ROOF EDGES: 2.5" O.C.  
 INTERMEDIATE SUPPORTS: 4" O.C.  
 6. FLOOR SHEATHING  
 - 3/4" T&G CSA O151 PLYWOOD  
 - USE 3.25MM 2-1/2" NAILS (COATING PER SPECIFICATIONS)  
 - FASTENER SPACING AS FOLLOWS  
 PANEL EDGES: 6" O.C.  
 INTERMEDIATE SUPPORTS: 12" O.C.

**MATERIALS & DESIGN DATA (CONT.)**  
 7. DESIGN LOADS FOR BUILDING STRUCTURE:  
 DESIGN LOADS PRESENTED BELOW HAVE BEEN DEVELOPED FOR THIS BUILDING TO BE LOCATED IN THE FOLLOWING MUNICIPALITIES:  
 - CALGARY, ALBERTA, CANADA  
 - IRVINE, CALIFORNIA, UNITED STATES OF AMERICA  
 THE VALUES FOR CLIMATIC DATA USED IN THE DETERMINATION OF DESIGN LOADS HAVE BEEN OBTAINED:  
 - EXPLICITLY FROM THE IBC 2012  
 - EXPLICITLY FROM ASCE STANDARD AND THE ABC 2006 DIVISION B TABLE C-2 FOR ALBERTA.  
 DESIGN LOADS FOR ALBERTA HAVE BEEN SELECTED TO MEET OR EXCEED THE CLIMATIC VALUES FOR ALBERTA, TO FACILITATE POSSIBLE RELOCATION OF THE STRUCTURE WITHIN THE PROVINCE. WHERE DESIGN LOADS EXCEED THE CLIMATIC VALUES FOR CALGARY, BOTH THE DESIGN LOAD AND THE REFERENCE LOAD FOR CALGARY ARE INDICATED, WITH THE DESIGN LOAD BOLDDED.

7.1 GRAVITY LOADS  
 FLOOR GRAVITY LOADS INCREASED PER SDBC 2013 TO ACCOUNT FOR PUBLIC ASSEMBLY.  
 ROOF LOADS  
 DEAD = 1.15 KPA  
 LIVE = 1.00 KPA (20 PSF)  
 FLOOR LOADS  
 DEAD, MECHANICAL = 1.56 KPA  
 DEAD, OTHER = 1.31 KPA  
 LIVE = 2.40 KPA (50 PSF)  
 EXTERIOR RAMPS AND PLATFORMS  
 LIVE = 4.80 KPA (100 PSF)  
 7.2 GROUND SNOW LOAD AND ASSOCIATED RAIN LOAD:  
 IRVINE, CA  
 RAIN LOAD  
 R = 0.24  
 Pg = 1.0 kPa (ORANGE COUNTY, CAL)  
 Ps = 0.7 x Ce x Ct x Is x Pg + R = (0.7)(1.0)(1.0)(1.0)(1.0) + (0.24) = 0.94 kPa  
 MINIMAL SNOW LOAD REQUIRED (ASCE 7.3.4) = 1.0 kPa  
 CALGARY, AB  
 Ss = 1.1 kPa Sr = 0.1 kPa (CALGARY, AB)  
 S = Is [Ss x Cb x Cw x Cs x Ca + Sr] = (1.0) x [(1.4)(0.8)(1.0)(1.0)(1.0)+(0.1)] = 1.22 kPa  
 ULS: SLS:  
 Is = 1.0 Is = 0.9  
 S = 1.22 kPa S = 1.098 kPa

7.3 24 HOUR RAINFALL: 103 mm (CALGARY - AB)  
 7.4 WIND LOADS:  
 TERRAIN TYPE: OPEN  
 H = MAX HEIGHT ABOVE GRADE = 4.0 m  
 Ds = SMALLER PLAN DIMENSION = 3.65 m  
 H/Ds = 4.0 / 3.65 = 1.1 m  
 CONCLUSION: BUILDING IS LOW RISE  
 Kz - ASCE TABLE 27.3 & TABLE 26.9-1  
 Kzt - ASCE 26.8.2  
 Kd - ASCE 26.6  
 G - ASCE 26.9.1  
 Cp - ASCE FIG. 27.4-1  
 V = 49 m/s (ORANGE COUNTY, CAL)  
 qz = 0.613 x Kz x Kzt x Kd x V^2 x Iw = (0.613)(1.1)(1.0)(0.85)(49)^2(1.0) = 1.376 kPa  
 qh = 0.613 x Kh x Kz x Kzt x Kd x V^2 x Iw = (0.613)(0.85)(1.1)(1.0)(0.85)(49)^2(1.0) = 1.170 kPa  
 p = qz x GCp = (1.376)(0.85)(0.8) = 0.94 kPa (WINDWARD, WALL)  
 p = qh x GCp = (1.170)(0.85)(-0.3) = -0.30 kPa (LEEWARD, WALL)  
 p = qh x GCp = (1.170)(0.85)(-0.7) = -0.70 kPa (LEEWARD, SIDEWALL)  
 q = 1.0 kPa (CALGARY, AB)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(1.15) = 1.15 kPa (WINDWARD, WALL)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(-0.8) = -0.80 kPa (LEEWARD, WALL)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(0.75) = 0.75 kPa (WINDWARD, END ZONE)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(-0.55) = -0.55 kPa (LEEWARD, END ZONE)

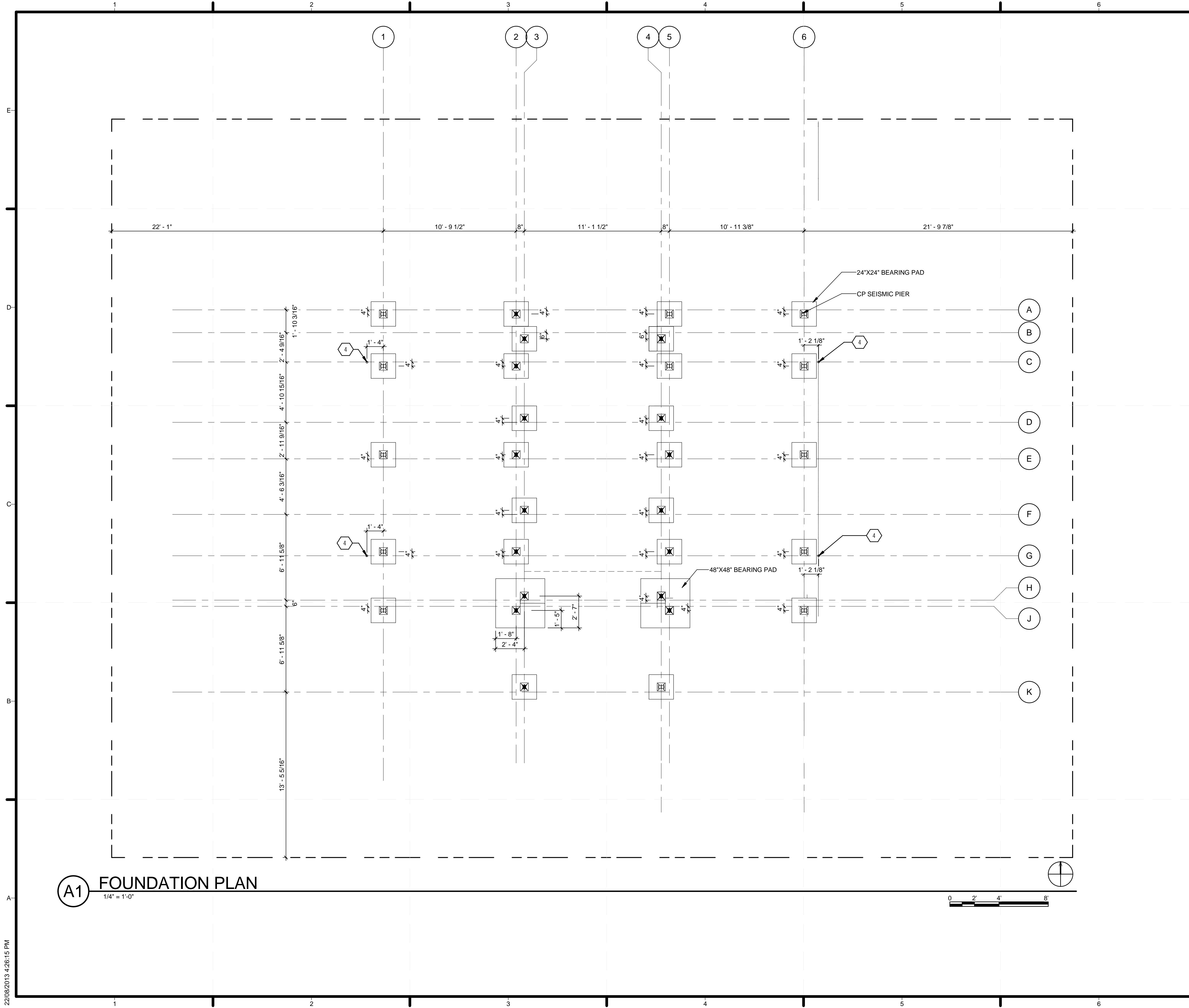
ULS: SLS:  
 lw = 1.0 lw = 0.75  
 p = 1.15 kPa p = 0.86 kPa (WINDWARD, WALL)  
 p = -0.80 kPa p = -0.60 kPa (LEEWARD, WALL)  
 p = 0.75 kPa p = 0.56 kPa (WINDWARD, END ZONE)  
 p = -0.55 kPa p = -0.41 kPa (LEEWARD, END ZONE)  
 WIND LOAD ROOF (NBCC FIG. I-13)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(-2.8) = -2.8 kPa (C, ROOF)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(-2.6) = -2.6 kPa (S, ROOF)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(-2.0) = -2.0 kPa (R, ROOF)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(-3.0) = -3.0 kPa (S', ROOF)  
 p = lw x q x Ce x CgCp = (1.0)(1.0)(1.0)(-3.0) = -3.0 kPa (C', ROOF)  
 ULS: SLS:  
 lw = 1.0 lw = 0.75  
 p = -2.8 kPa p = -2.1 kPa (C, ROOF)  
 p = -2.6 kPa p = -2.0 kPa (S, ROOF)  
 p = -2.0 kPa p = -1.5 kPa (R, ROOF)  
 p = -3.0 kPa p = -2.2 kPa (S', ROOF)  
 p = -3.0 kPa p = -2.2 kPa (C', ROOF)

FACTORED DESIGN LOADS (1.4W)  
 NS WIND  
 BASE SHEAR (ULS) = 90.2 kN  
 BASE OVERTURNING MOMENT (ULS) = 603 kN.m  
 EW WIND  
 BASE SHEAR (ULS) = 86 kN  
 BASE OVERTURNING MOMENT (ULS) = 575 kN.m

**MATERIALS & DESIGN DATA (CONT.)**  
 7.5 SEISMIC LOADS:  
 a) ORANGE COUNTY, CAL  
 Ss = 1.496; S1 = 0.555 (ORANGE COUNTY, CAL)  
 SITE CLASS D (REFER TO SOLAR DECATHLON BUILDING CODE 2013); Fa = 1.0; Fv = 1.5  
 Sms = Fa x Ss = (1.0)(1.6) = 1.496  
 Sm1 = Fv x S1 = (1.5)(0.6) = 0.833  
 Sds = 2/3 x Sms = 2/3 x (1.6) = 0.997 (ASCE EQUATION 11.4-1 & 11.4-3)  
 Sd1 = 2/3 x Sm1 = 2/3 x (0.9) = 0.555  
 Ta = 0.0488\*(4.572)^0.75 = 0.15 s  
 TL = 8 s  
 EAST-WEST: MOMENT FRAME: ORDINARY STEEL MOMENT FRAME (R = 3.5)  
 Cs = Sds / (R / Ie) = 0.997 / (3.5 / 1) = 0.285  
 V = 0.285W  
 NORTH-SOUTH: BEARING WALL SYSTEM: LIGHT WOOD FRAME WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE (R = 6.5)  
 Cs = Sds / (R / Ie) = 0.997 / (6.5 / 1) = 0.153  
 V = 0.153W  
 b) ALBERTA  
 Sa(0.2) = 0.15; Sa(0.5) = 0.08; Sa(1.0) = 0.04; Sa(2.0) = 0.02 (CALGARY, AB)  
 SITE CLASS D (REFER TO SOLAR DECATHLON BUILDING CODE 2011); Fa = 1.3; Fv = 1.4  
 Ie x Fa x Sa(0.2) = 1.0 x 1.3 x 0.15 = 0.195  
 STRUCTURAL ANALYSIS HAS BEEN CARRIED OUT IN ACCORDANCE WITH STATIC PROCEDURE  
 EAST-WEST: STEEL MOMENT FRAMES  
 SFRS C4: ORDINARY STEEL MOMENT FRAMES; Rd = 1.5; Ro = 1.3  
 Ta = 0.05(hn)^(3/4) = 0.05(4)^(3/4) = 0.14 SEC  
 S(Ta) = FaSa(0.2) = 0.195g  
 V = S(Ta) x Mv x Ie x W / (Rd x Ro) = (0.195)(1.0)(1.0)(W) / (1.5 x 1.3) = W x 0.1  
 NORTH-SOUTH: SHEAR WALLS  
 SFRS A15: BEARING WALL SYTEM: LIGHT WOOD FRAME WITH WOOD STRUCTURAL PANELS;  
 Rd = 2.0; Ro = 1.7  
 Ta = 0.05(hn)^(3/4) = 0.05(4)^(3/4) = 0.14 SEC  
 S(Ta) = FaSa(0.2) = 0.195g  
 V = S(Ta) x Mv x Ie x W / (Rd x Ro) = (0.195)(1.0)(1.0)(W) / (2.0 x 1.7) = W x 0.0574

DESIGN BASE SHEARS  
 EFFECTIVE SEISMIC WEIGHT, W = 355 kN  
 V (EW) = 0.285(355) = 101.2 kN  
 V (NS) = 0.153(355) = 54.3 kN

SHT NO	SHEET NAME
S-001	STRUCTURAL NOTES AND SYMBOLS
S-101	FOUNDATION PLAN
S-102	BASE FRAMING PLAN
S-103	FLOOR FRAMING PLAN
S-104	WALL FRAMING PLAN
S-105	ROOF FRAMING PLAN
S-301	STRUCTURAL FRAMING SECTIONS
S-302	STRUCTURAL FRAMING SECTIONS
S-501	STRUCTURAL DETAILS
S-502	STRUCTURAL DETAILS
S-901	FRAMING ISOMETRICS
S-902	FRAMING ISOMETRICS



**GENERAL SHEET NOTES**

1. MAXIMUM BEARING PRESSURE 3000 PSF PER SD BUILDING CODE
2. FOUNDATION JACKS ADJUST TO ACCEPT A 18" ELEVATION CHANGE OVER THE COMPETITION SITE

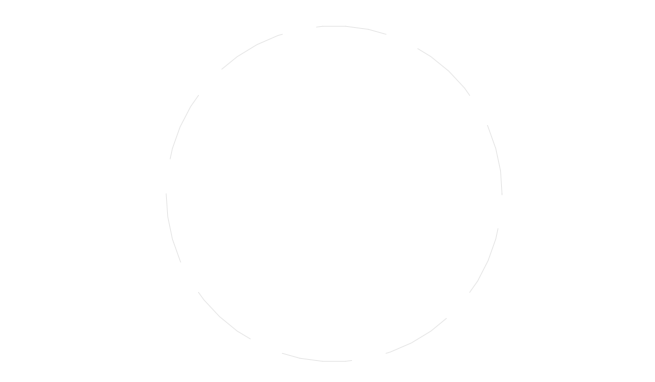


**SHEET KEYNOTES**

- 4 DRILLING LOCATION FOR 1" ANCHOR ROD

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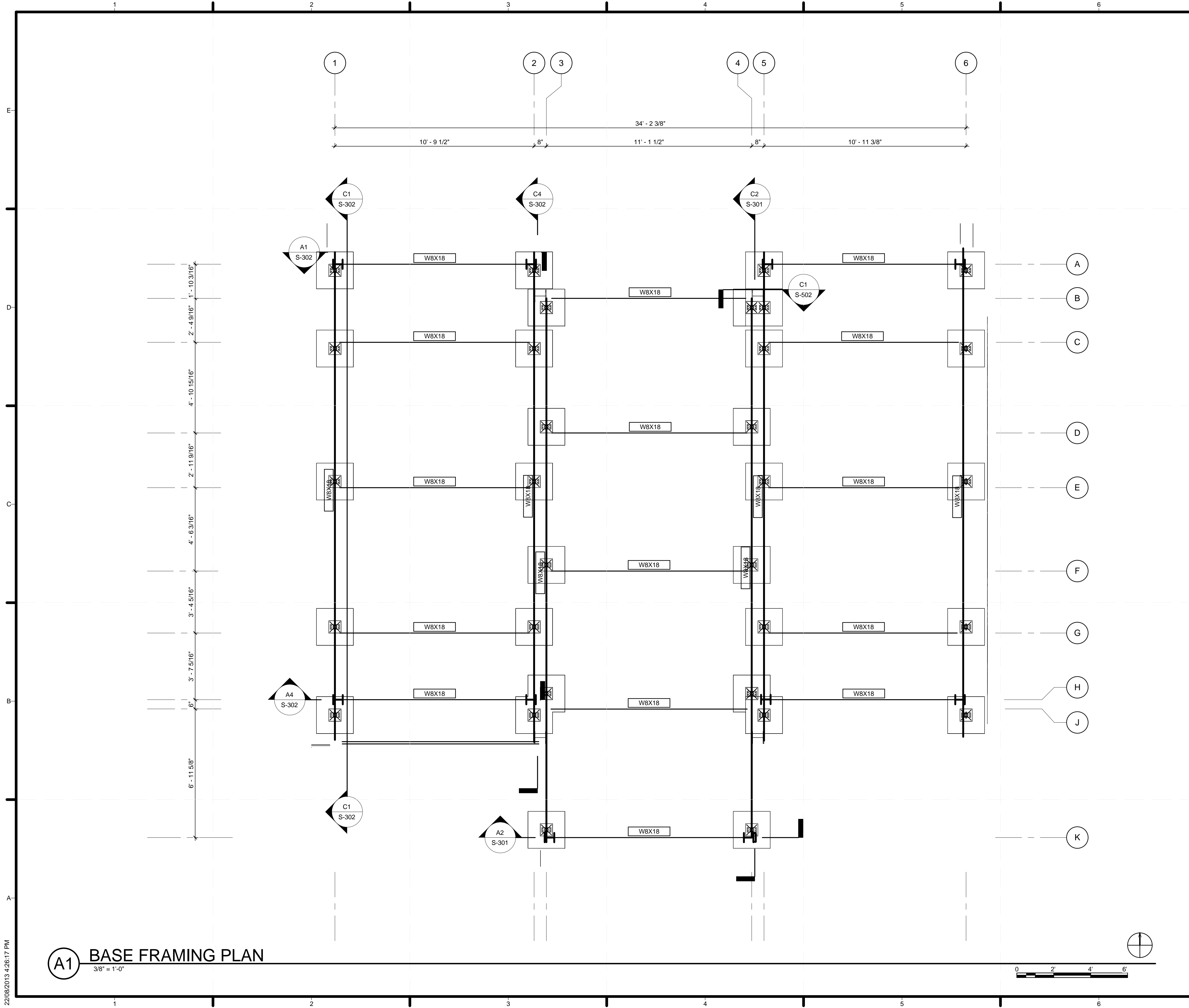
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2	05/03/2013	ISSUED FOR CLADDING
3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

LOT NUMBER: 116  
 DRAWN BY:  
 CHECKED BY:  
 STATUS:

SHEET TITLE  
**FOUNDATION PLAN**

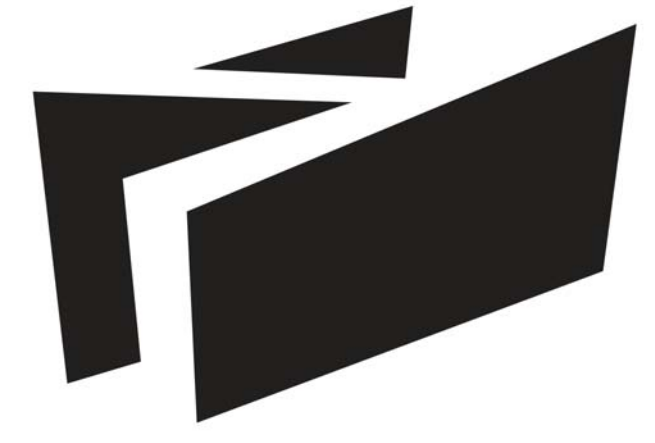
**A1 FOUNDATION PLAN**  
 1/4" = 1'-0"





**GENERAL SHEET NOTES**

1. SEE GENERAL REQUIREMENTS ON DRAWING S-001
2. ALL DIMENSIONAL LUMBER TO BE SPRUCE-PINE-FIR NO. 2 GRADE OR BETTER
3. DESIGN SHEAR FOR WELDED CONNECTION  $V = 20 \text{ KN (FACTORED)}$



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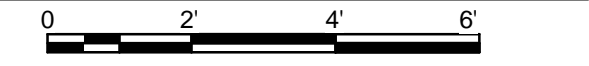
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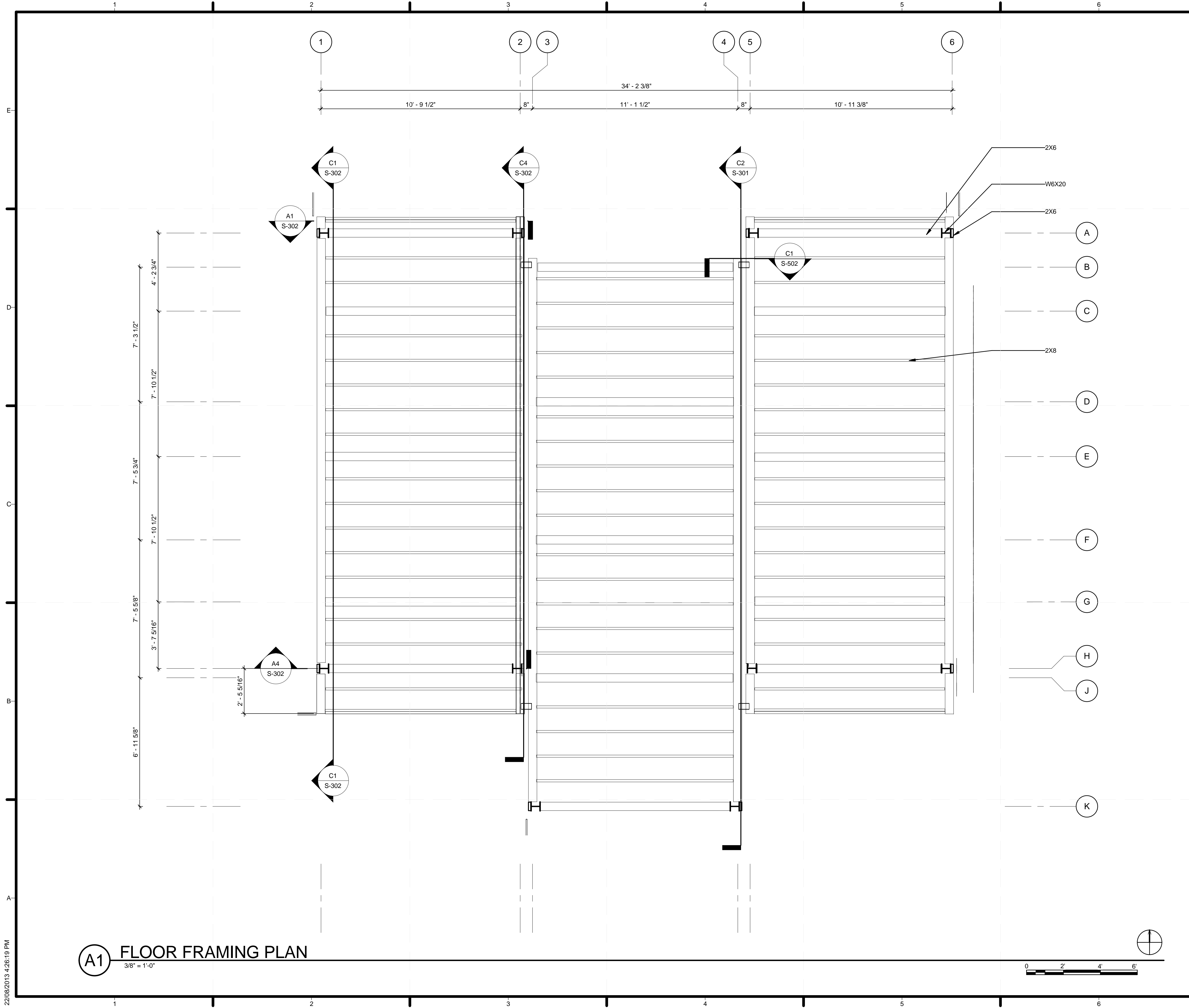
**BASE FRAMING PLAN**

**S-102**

**A1 BASE FRAMING PLAN**  
3/8" = 1'-0"

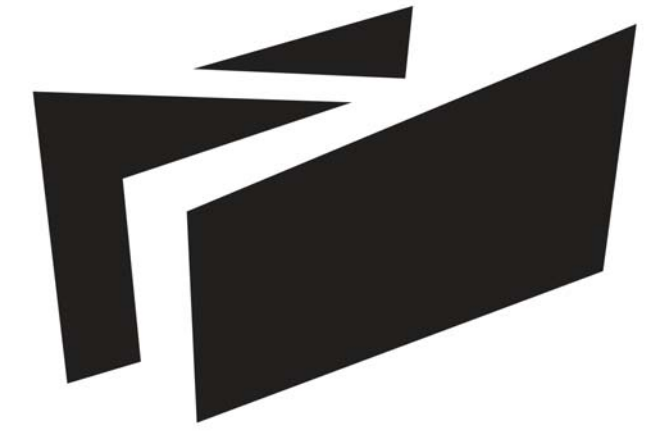


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**GENERAL SHEET NOTES**

1. SEE GENERAL REQUIREMENTS ON DRAWING S-001
2. ALL DIMENSIONAL LUMBER TO BE SPRUCE-PINE-FIR NO.2 GRADE OR BETTER
3. FLOOR LIVE LOAD = 50 PSF PER SDBC 2013
3. 2X6 BOLTED USING 3/8" GALV BOLTS @ 32" O.C.



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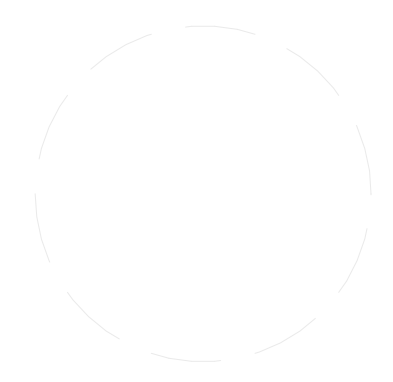
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STATUS:

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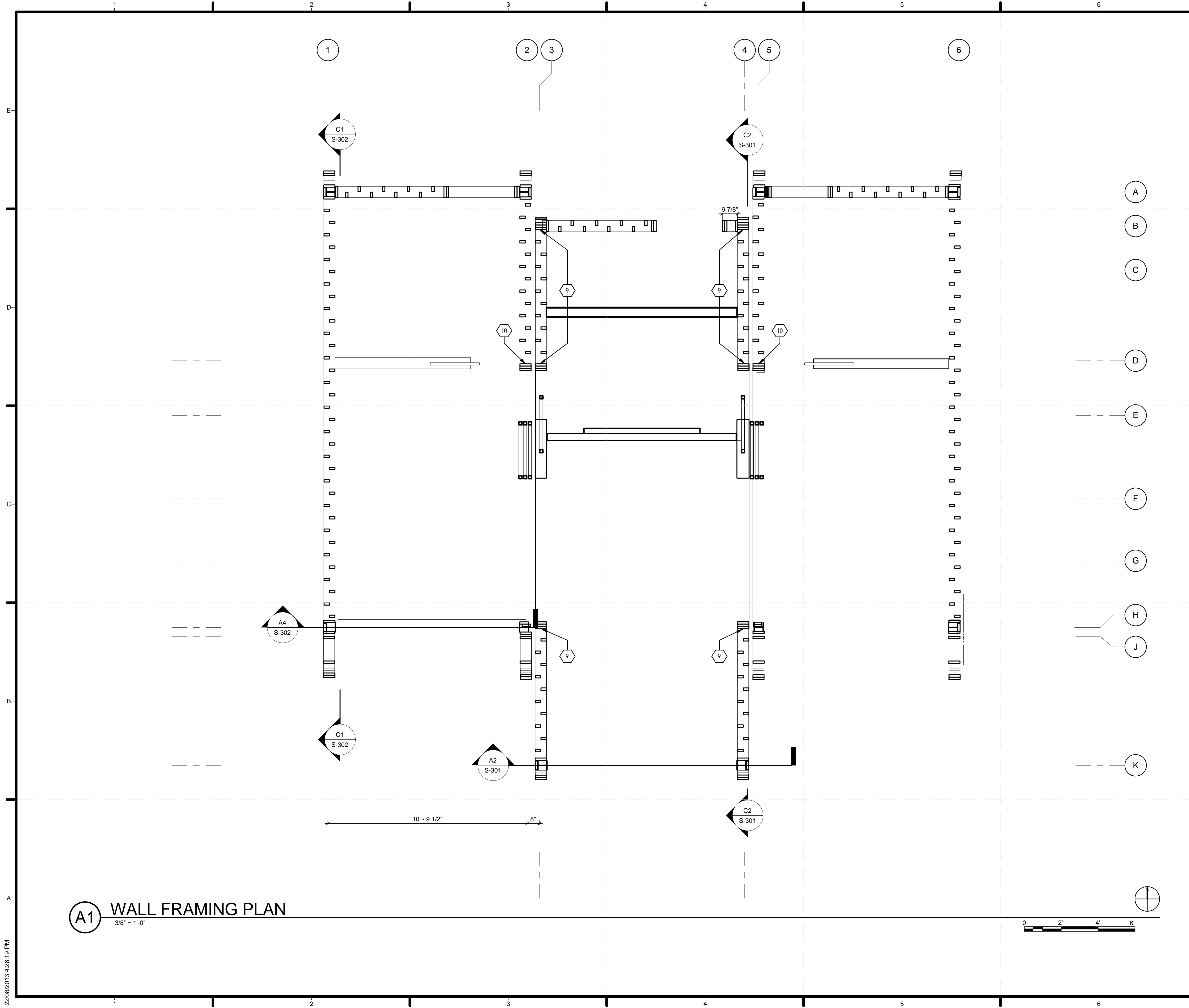
**FLOOR FRAMING PLAN**

**S-103**

**A1 FLOOR FRAMING PLAN**  
3/8" = 1'-0"

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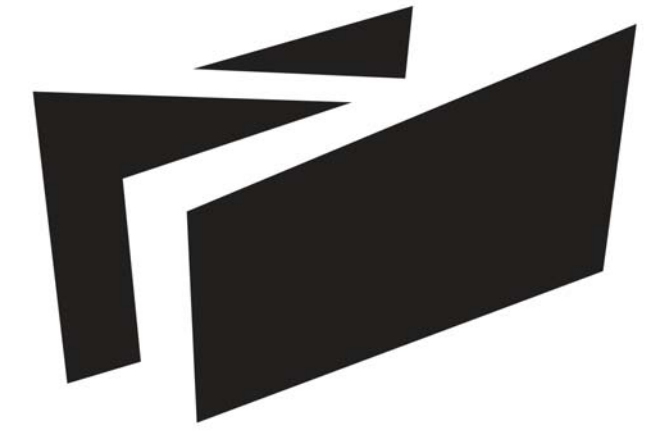


**GENERAL SHEET NOTES**

1. SEE GENERAL REQUIREMENTS ON DRAWING S-001
2. ALL DIMENSIONAL LUMBER TO BE SPRUCE-PINE-FIR NO.2 GRADE OR BETTER
3. SHEAR WALL HOLD-DOWNS PLACED AS SHOWN BY SHEET KEYNOTES

**SHEET KEYNOTES**

9. STRONGTIE HDU2-SDS2.5 HOLDDOWN
10. STRONGTIE HDU4-SDS2.5 HOLDDOWN



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**SHEET TITLE**

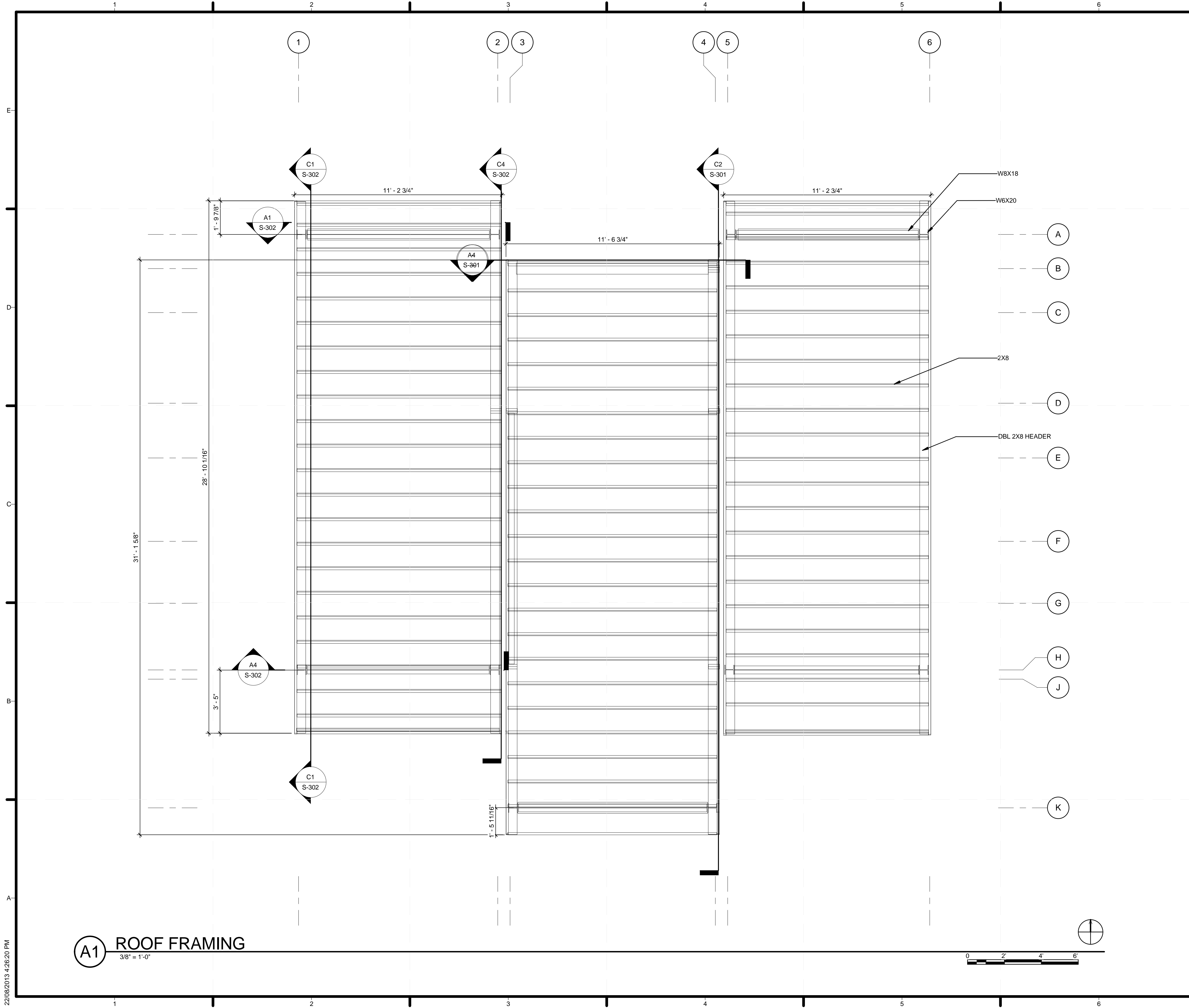
**WALL FRAMING PLAN**

**S-104**

**(A1) WALL FRAMING PLAN**  
3/8" = 1'-0"

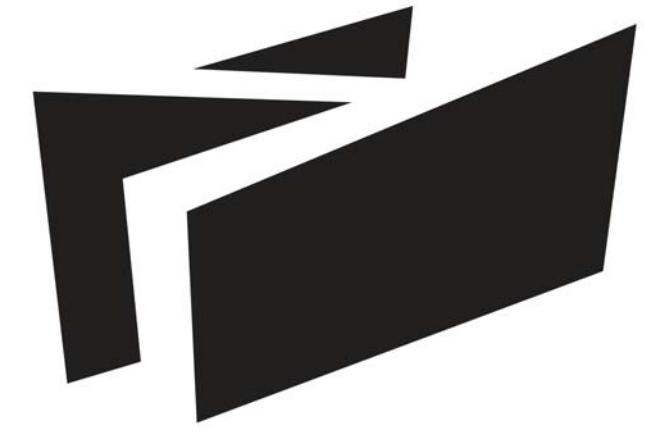


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**GENERAL SHEET NOTES**

1. SEE GENERAL REQUIREMENTS ON DRAWING S-001
2. ALL DIMENSIONAL LUMBER TO BE SPRUCE-PINE-FIR NO.2 GRADE OR BETTER



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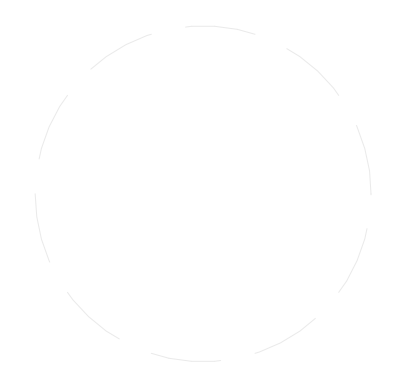
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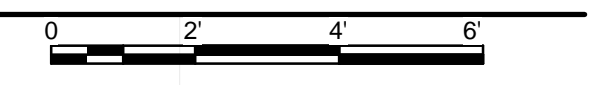
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STATUS:

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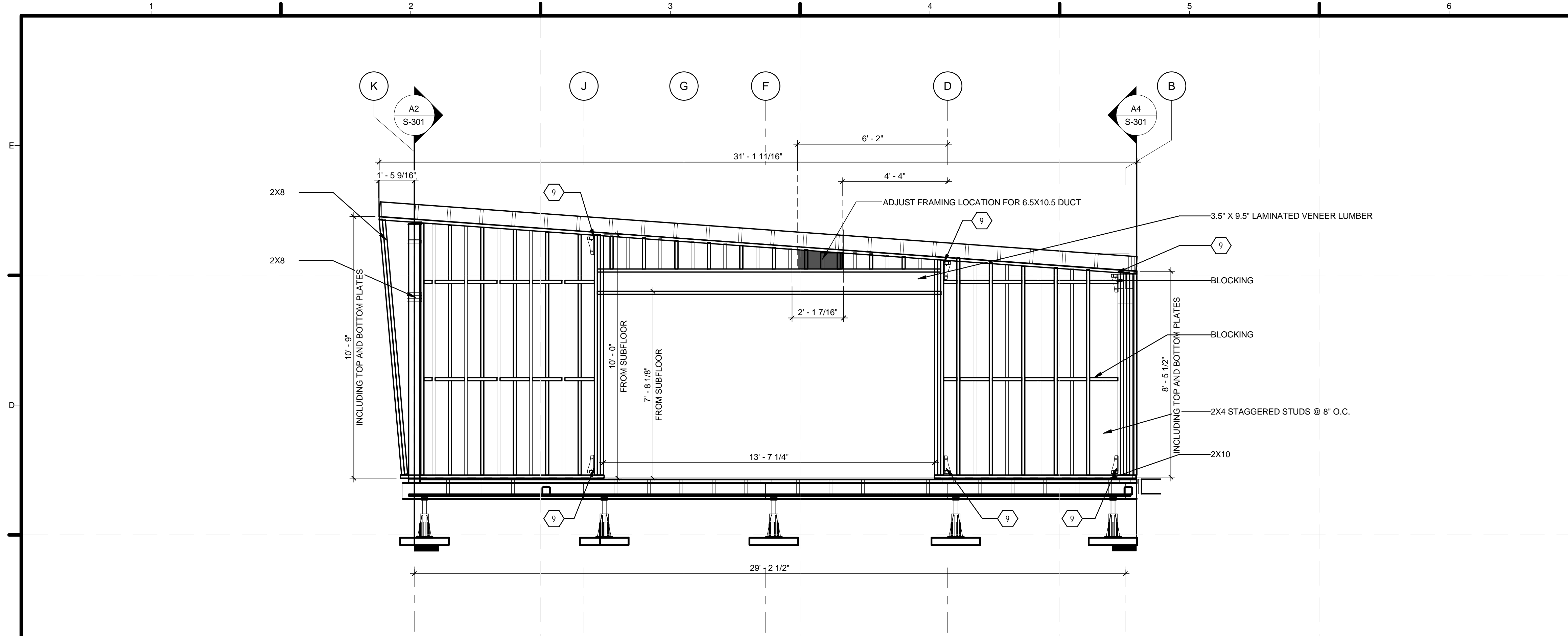
**ROOF FRAMING PLAN**

**S-105**

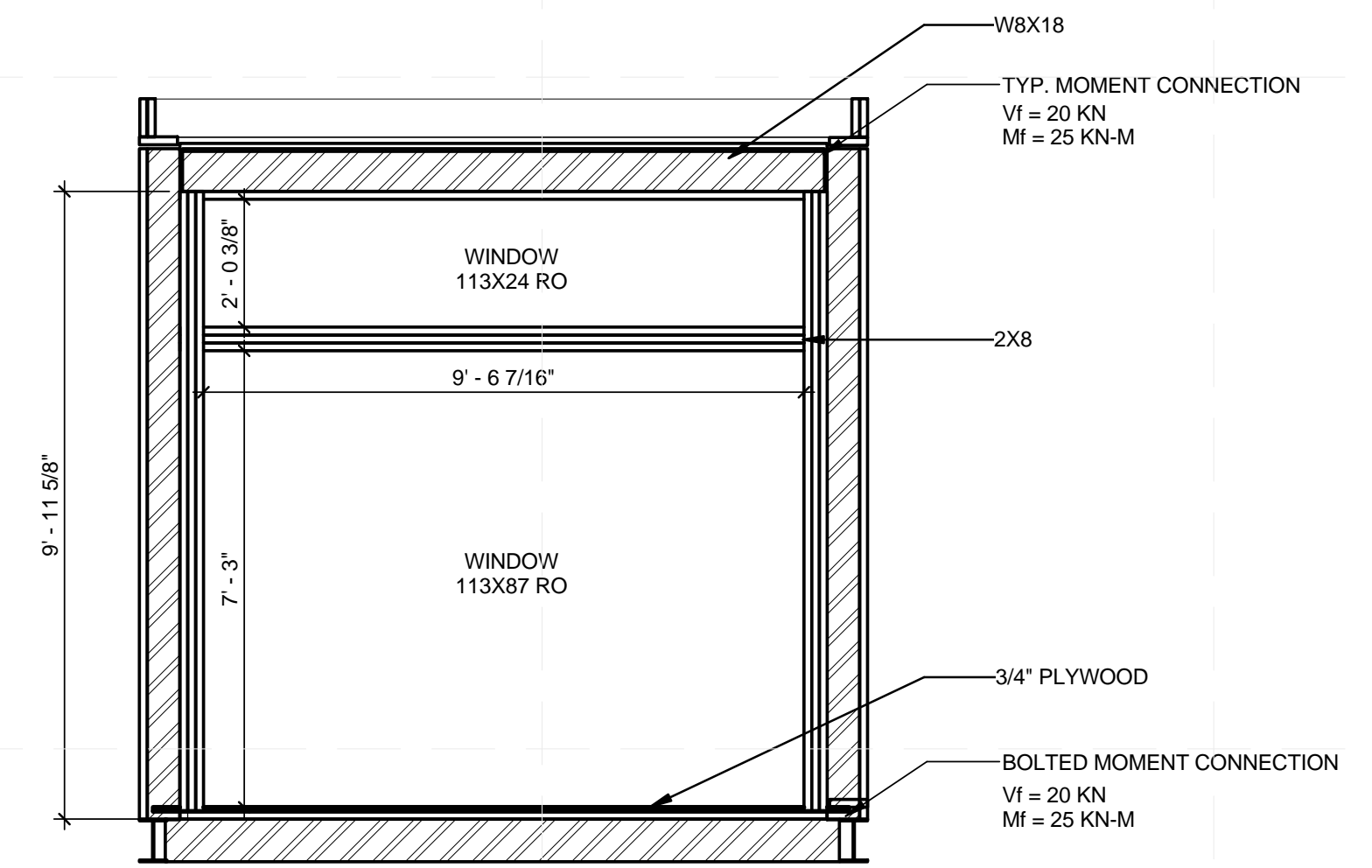
**A1 ROOF FRAMING**  
3/8" = 1'-0"



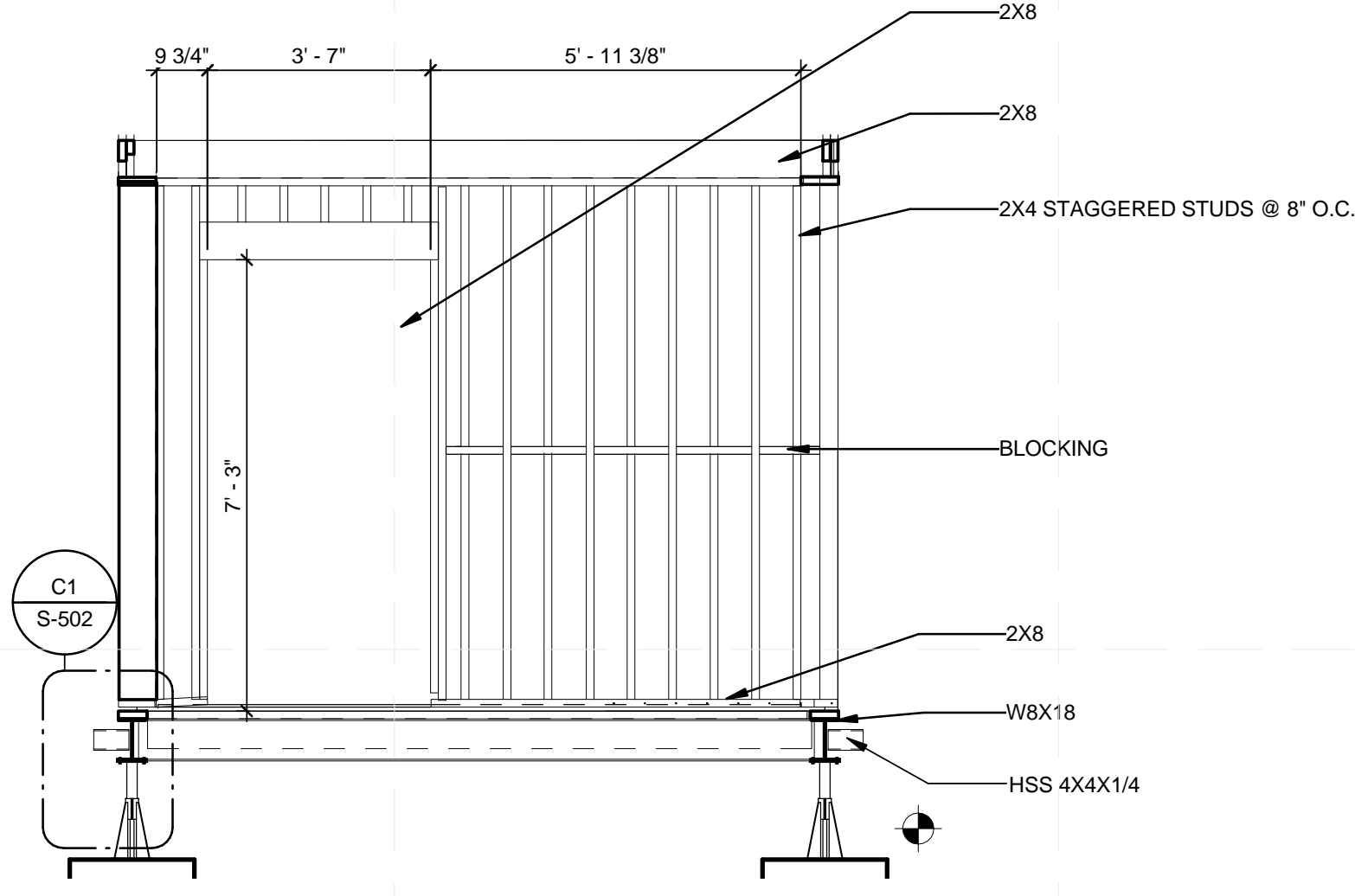
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**C2** CORE MODULE FRAMING SECTION  
3/8" = 1'-0"



**A2** CM SOUTH FRAMING  
3/8" = 1'-0"



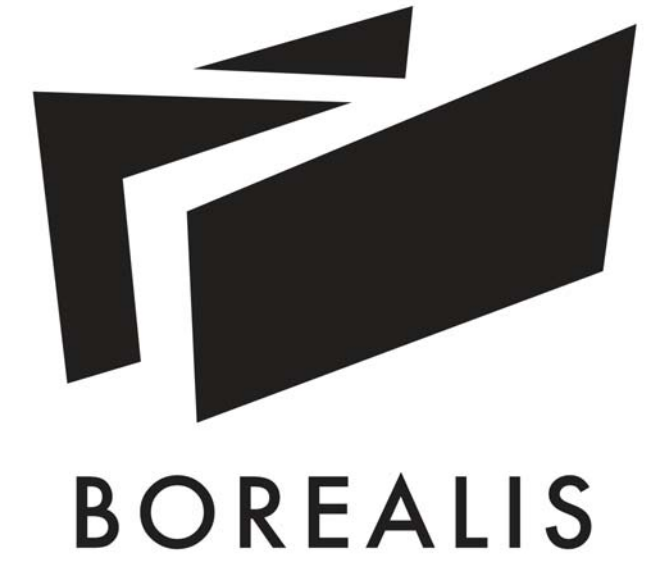
**A4** CM NORTH FRAMING  
3/8" = 1'-0"

**GENERAL SHEET NOTES**

- SEE GENERAL REQUIREMENTS ON DRAWING S-001
- ALL DIMENSIONAL LUMBER TO BE SPRUCE-PINE-FIR NO.2 GRADE OR BETTER

**SHEET KEYNOTES**

9 STRONGTIE HDU2-SDS2.5 HOLDDOWN



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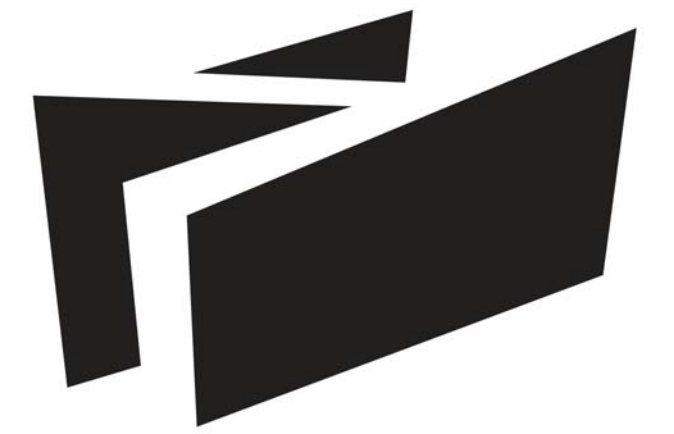
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CHECKED BY:  
STATUS:  
SHEET TITLE

**STRUCTURAL FRAMING SECTIONS**

**S-301**

GENERAL SHEET NOTES

1. SEE GENERAL REQUIREMENTS ON DRAWING S-001
2. ALL DIMENSIONAL LUMBER TO BE SPRUCE-PINE-FIR NO.2 GRADE OR BETTER



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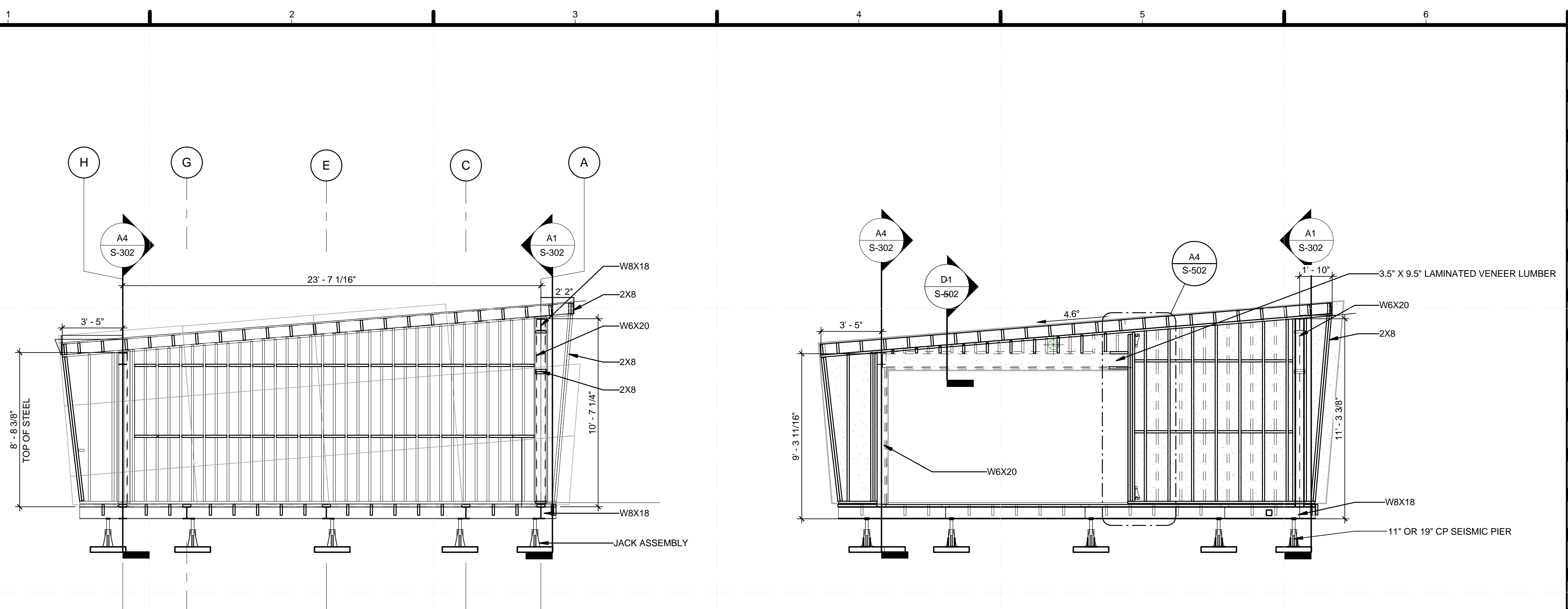
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1	04/29/2013	ISSUED FOR ELEC/MECH
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
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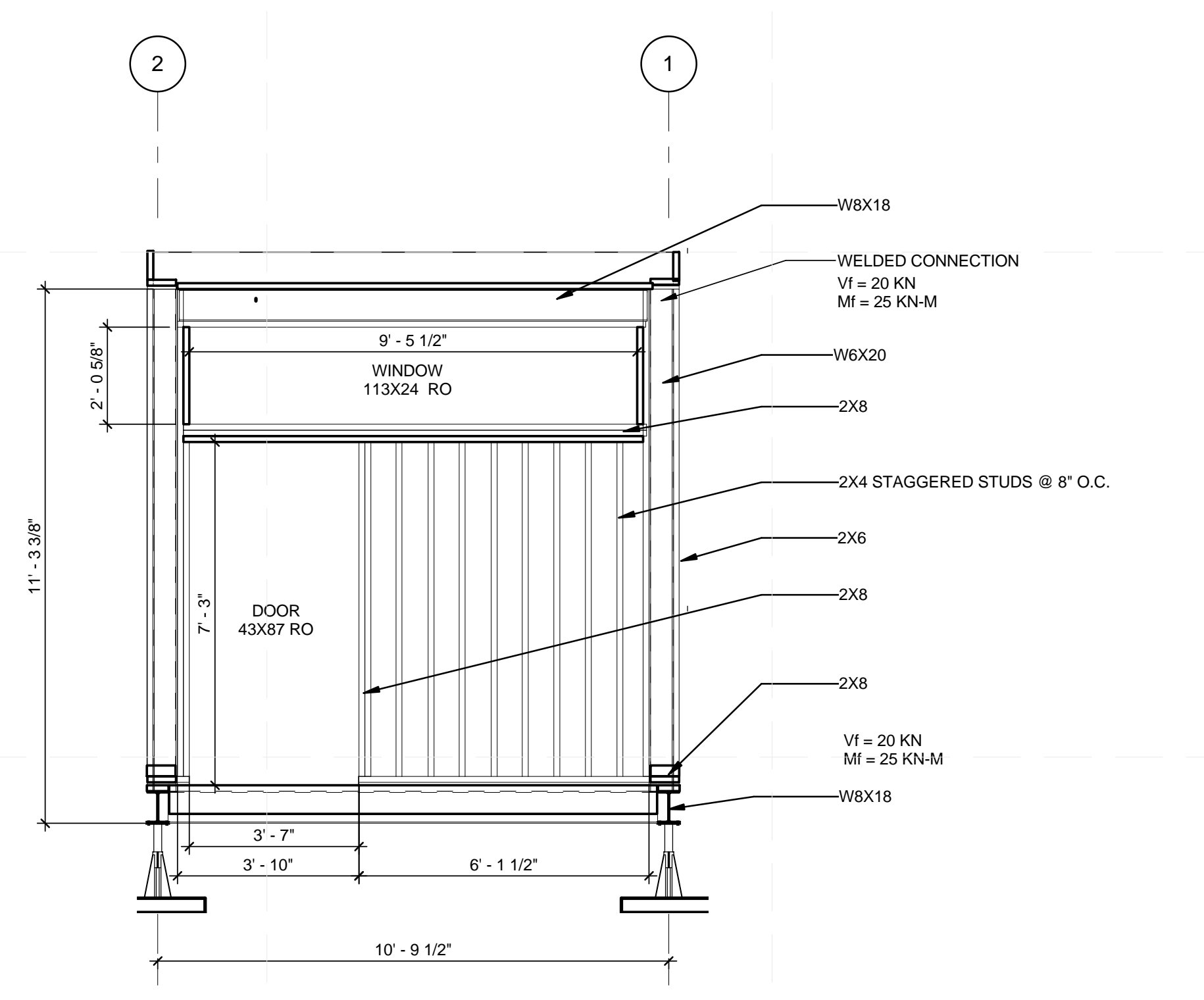
**STRUCTURAL FRAMING SECTIONS**

**S-302**

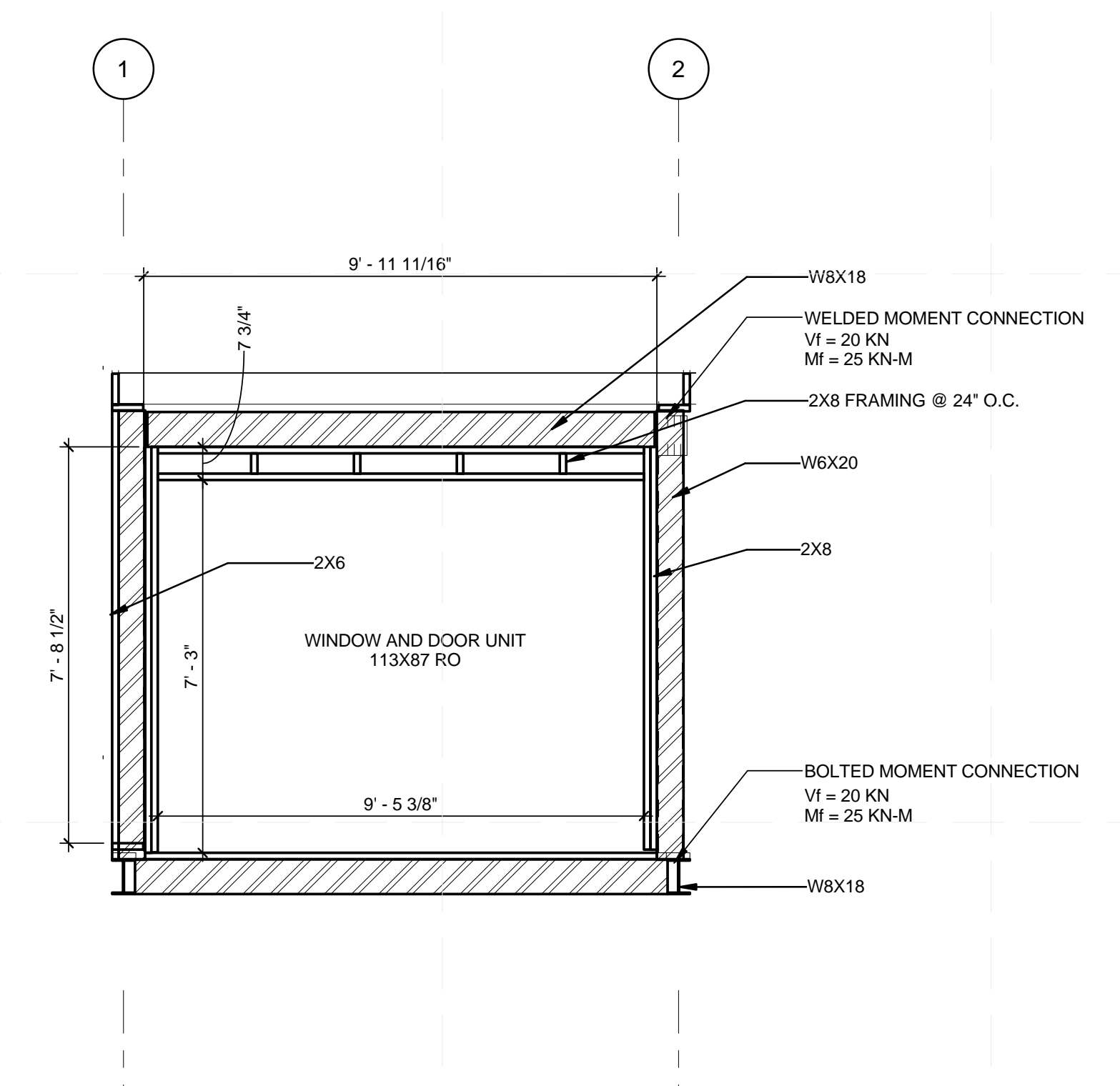


**C1** SIDE MODULE EXTERIOR FRAMING SECTION  
1/4" = 1'-0"

**C4** SIDE MODULE INTERIOR FRAMING SECTION  
1/4" = 1'-0"



**A1** SM NORTH FRAMING  
3/8" = 1'-0"

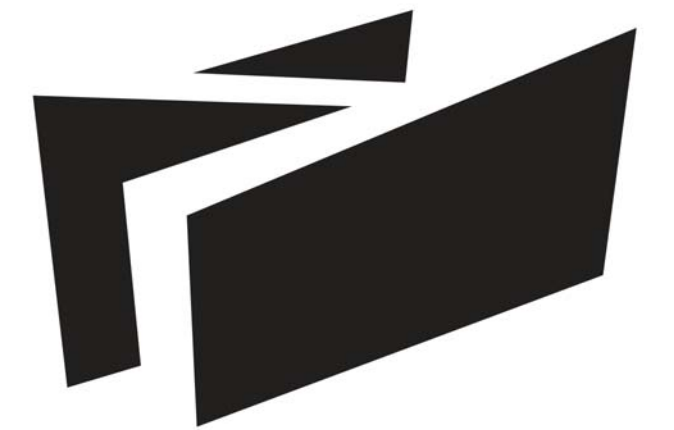


**A4** SM SOUTH FRAMING  
3/8" = 1'-0"

22/08/2013 4:28:21 PM

**GENERAL SHEET NOTES**

1. SEE GENERAL REQUIREMENTS ON DRAWING S-001
2. ALL DIMENSIONAL LUMBER TO BE SPRUCE-PINE-FIR NO.2 GRADE OR BETTER



**BOREALIS**

**SHEET KEYNOTES**

- |    |                                |
|----|--------------------------------|
| 9  | STRONGTIE HDU2-SDS2.5 HOLDDOWN |
| 10 | STRONGTIE HDU4-SDS2.5 HOLDDOWN |

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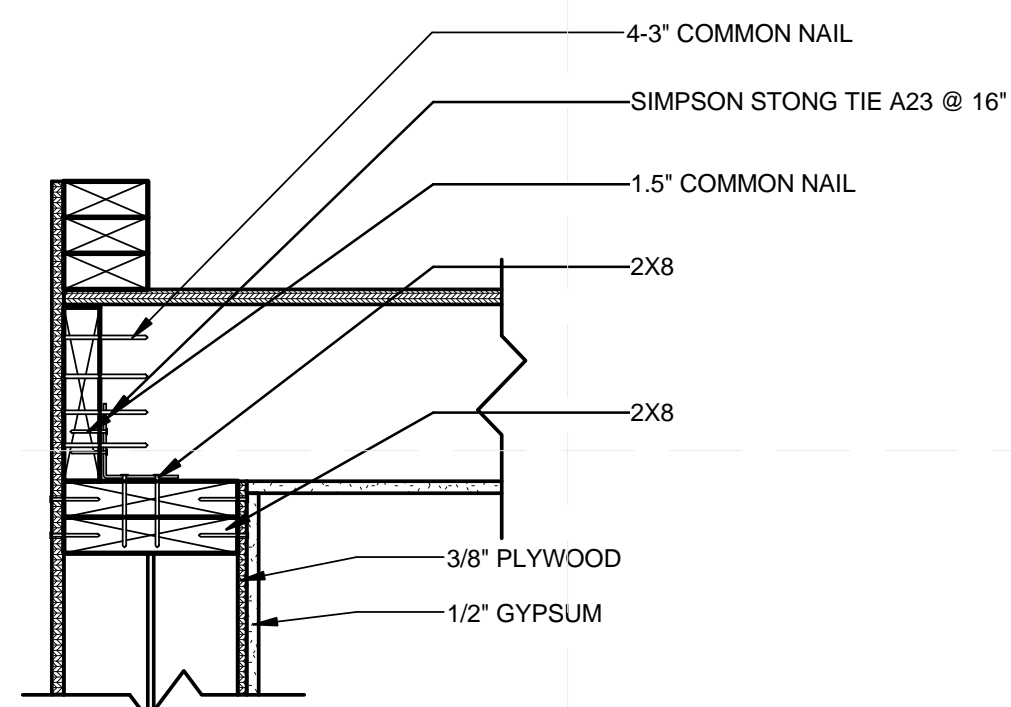
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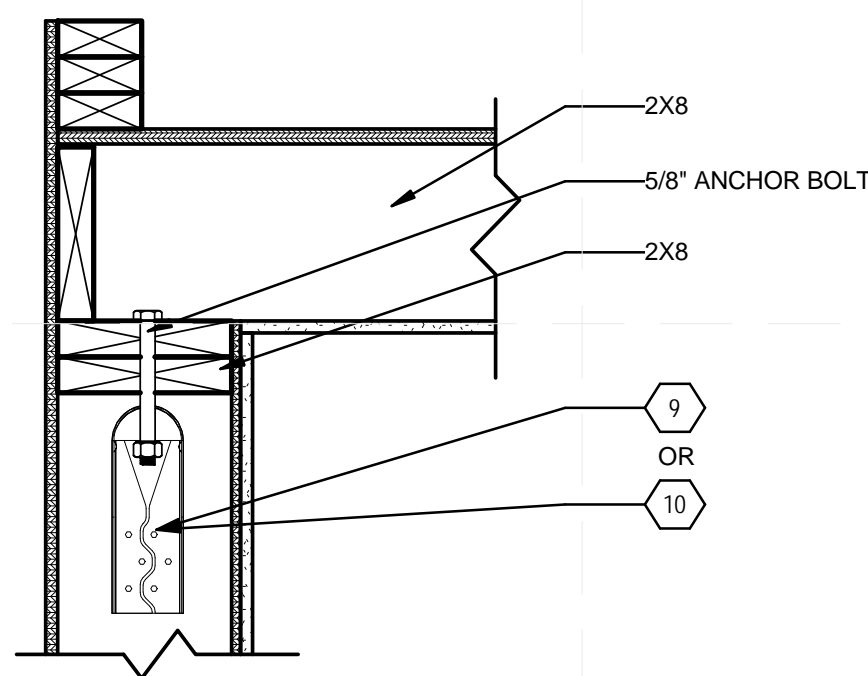
SHEET TITLE

**STRUCTURAL DETAILS**

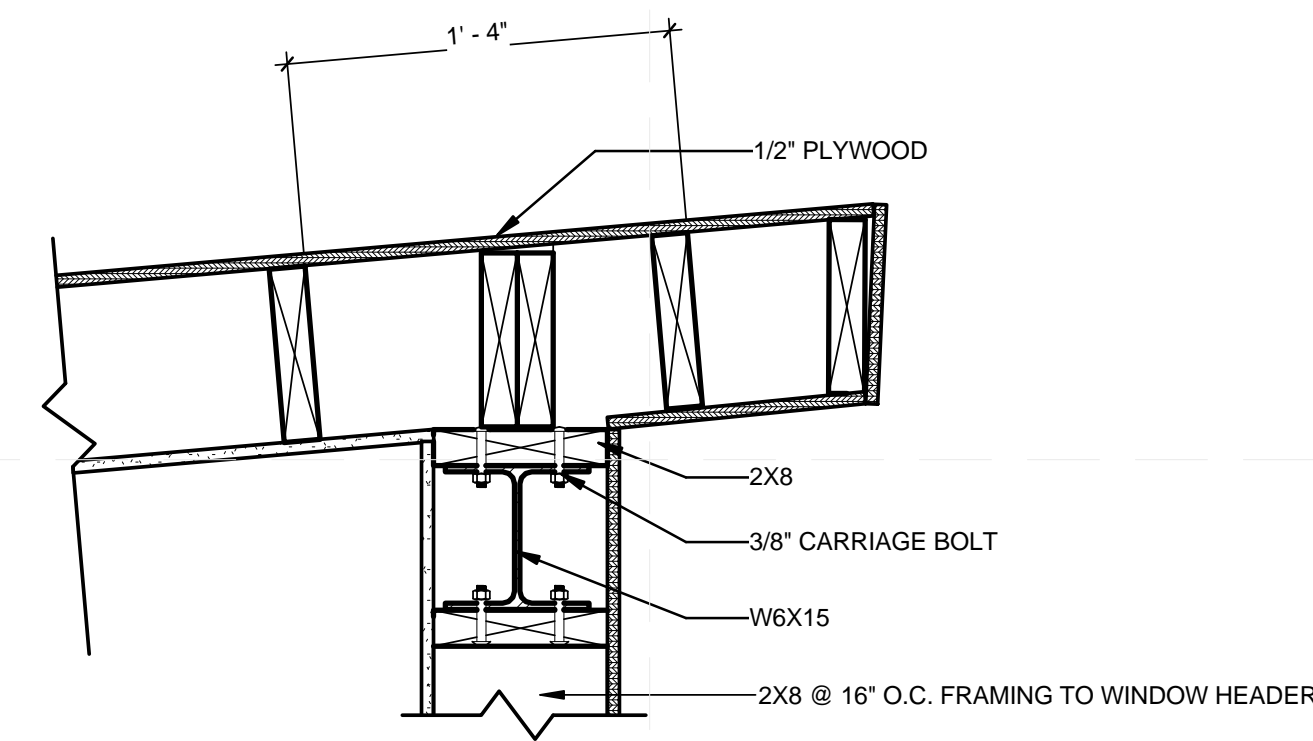
**S-501**



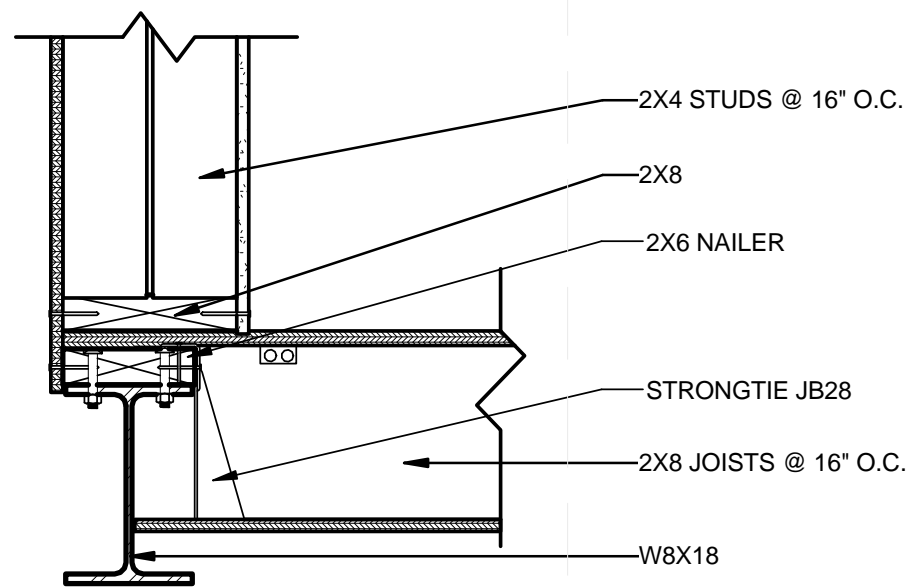
**D1 WALL-ROOF CONNECTION DETAIL**  
1 1/2" = 1'-0"



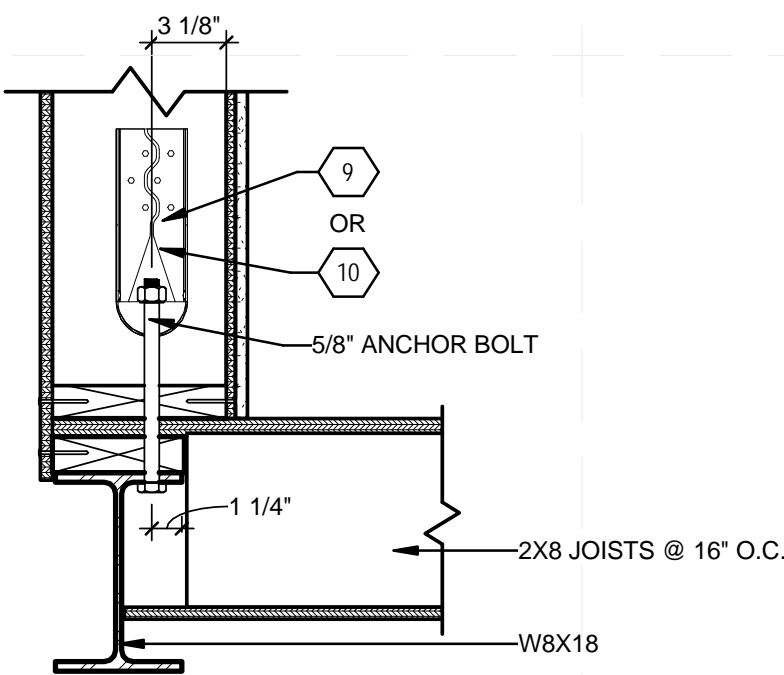
**D3 WALL-ROOF HOLD DOWN DETAIL**  
1 1/2" = 1'-0"



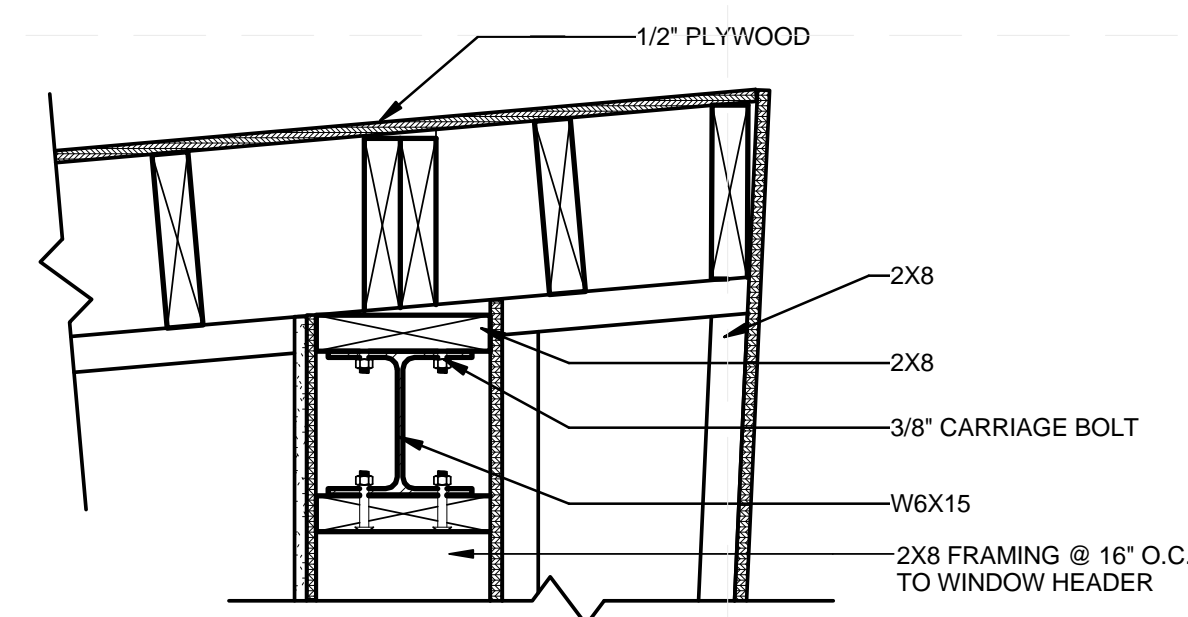
**D5 WINDOW HEADER DETAIL**  
1 1/2" = 1'-0"



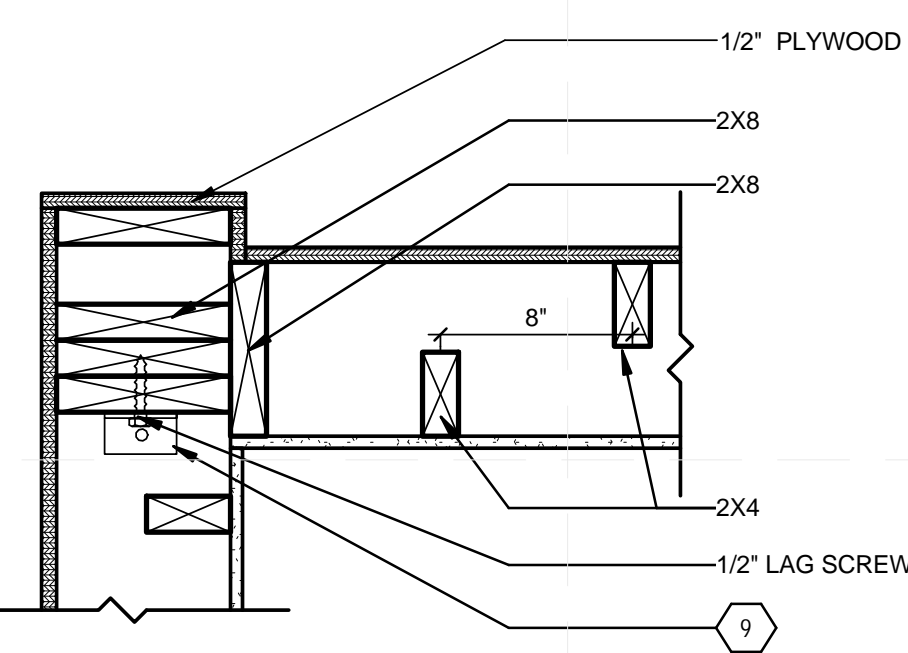
**B1 FLOOR CONNECTION DETAIL**  
1 1/2" = 1'-0"



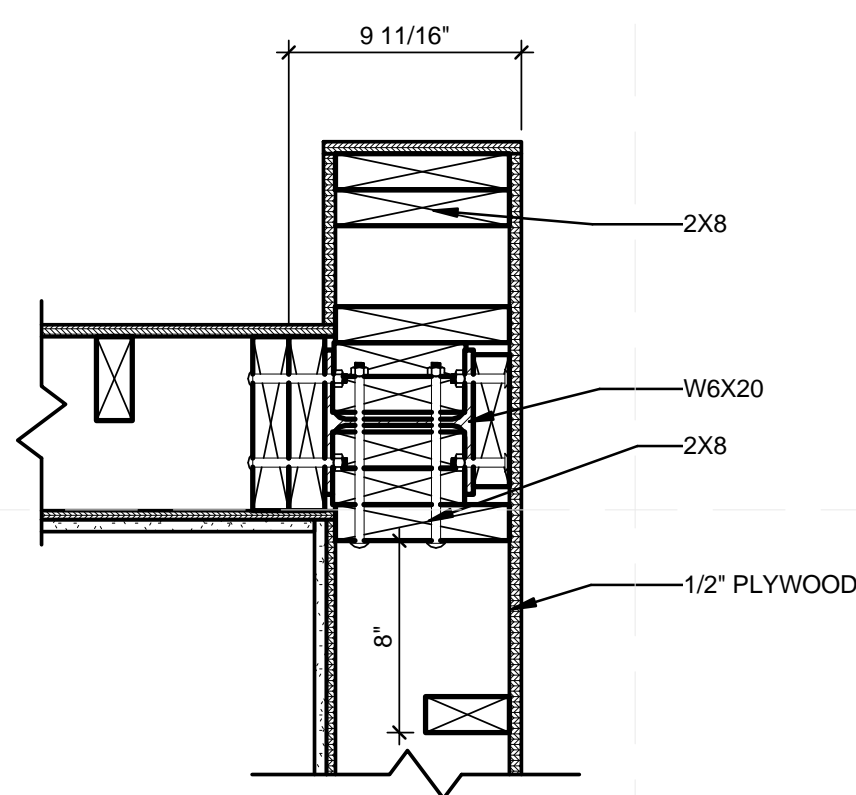
**B3 WALL-FLOOR HOLD DOWN DETAIL**  
1 1/2" = 1'-0"



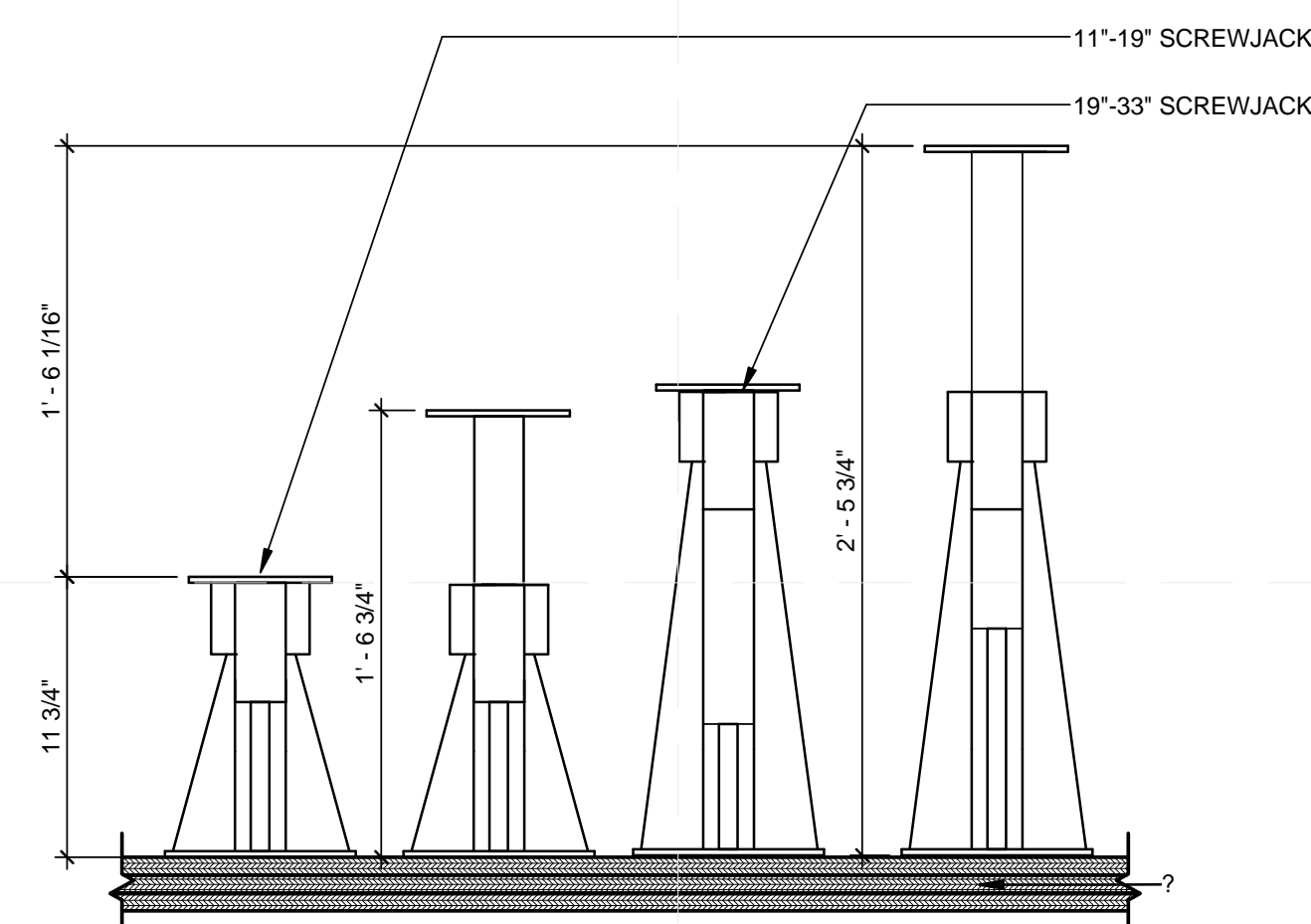
**B5 WINDOW HEADER TO WALL DETAIL**  
1 1/2" = 1'-0"



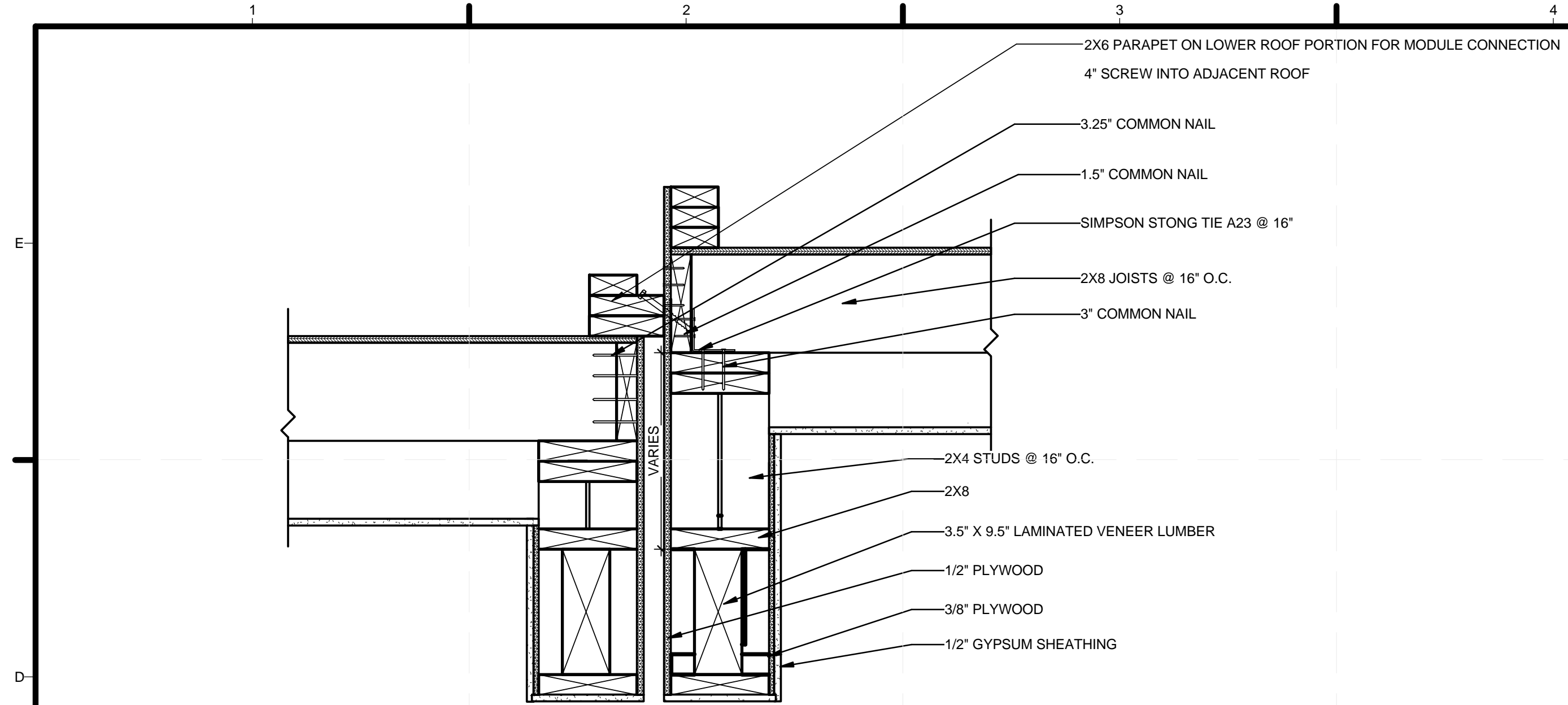
**A1 NORTH CORE MODULE FRAMING PLAN**  
1 1/2" = 1'-0"



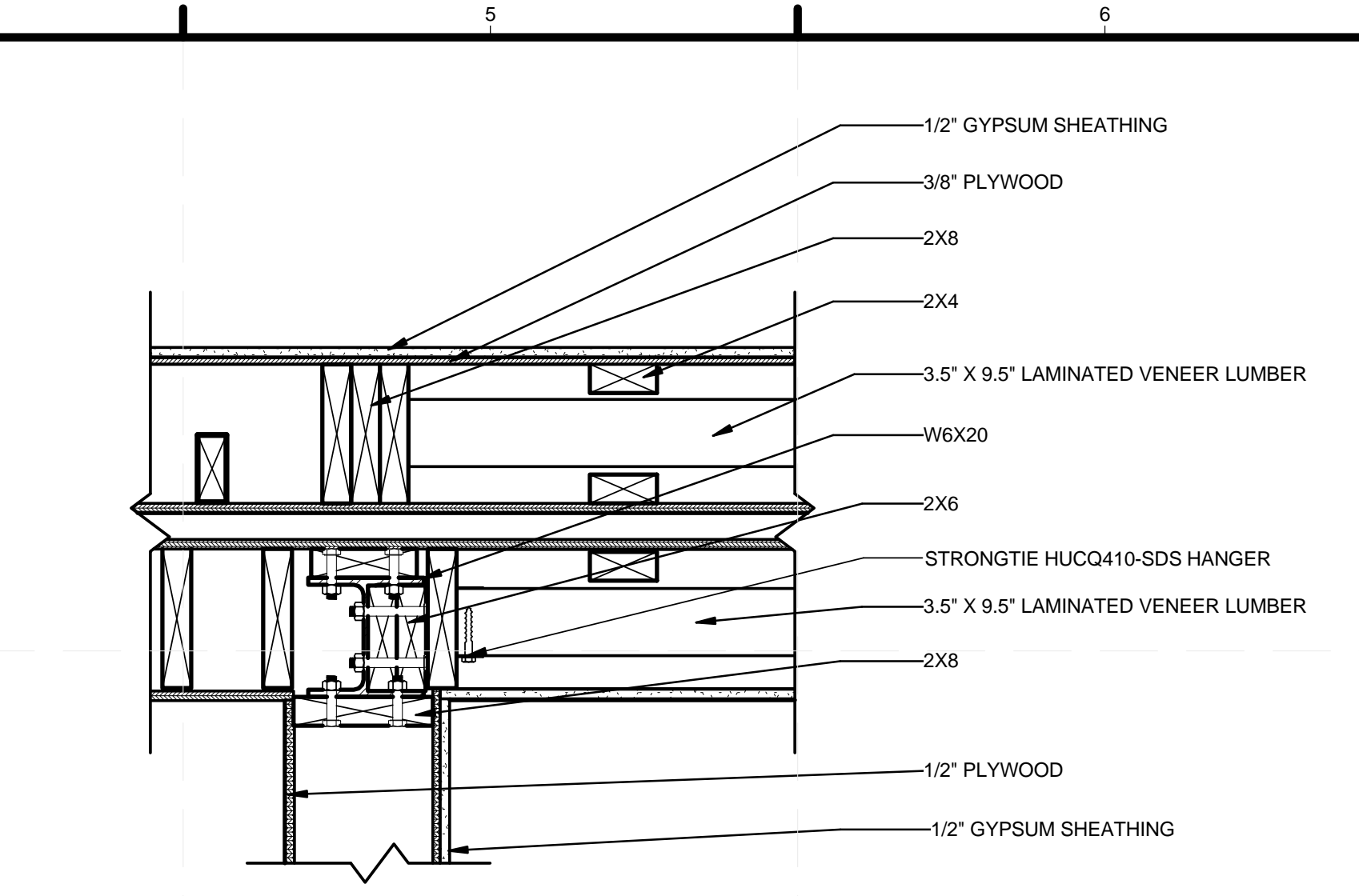
**A3 STEEL COLUMN CORNER FRAMING PLAN**  
1 1/2" = 1'-0"



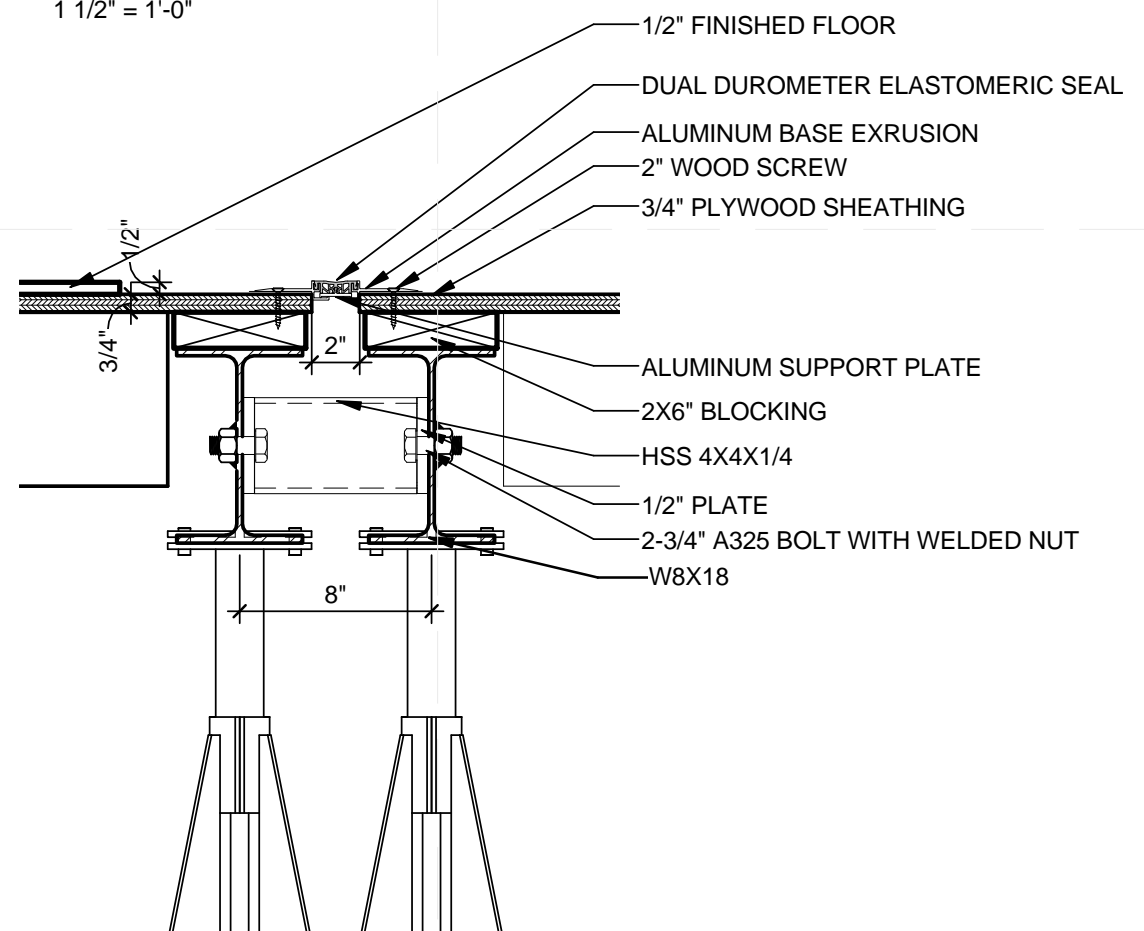
**A5 JACK ADJUSTABILITY**  
1 1/2" = 1'-0"



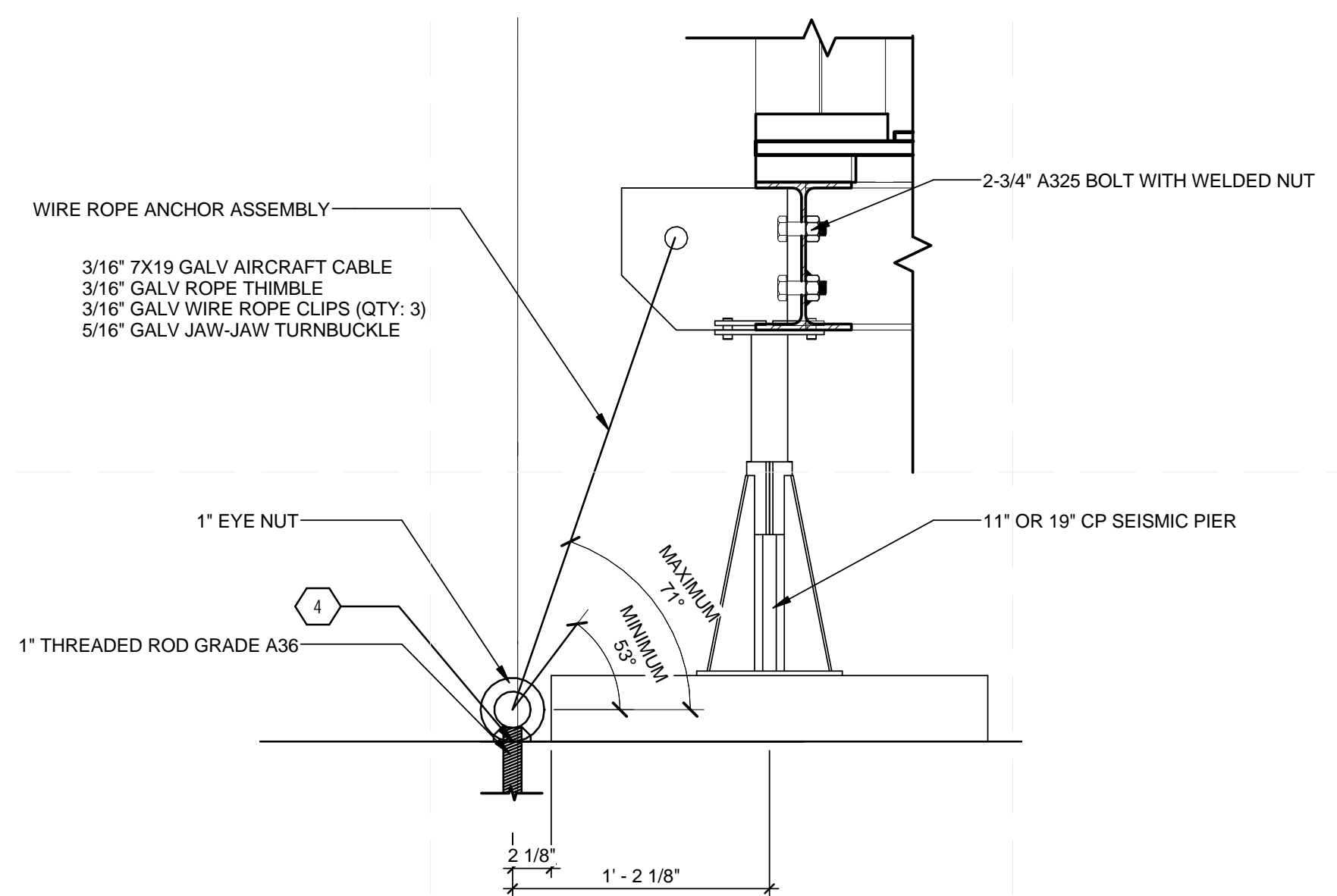
**D1 BEAM DETAIL**  
1 1/2" = 1'-0"



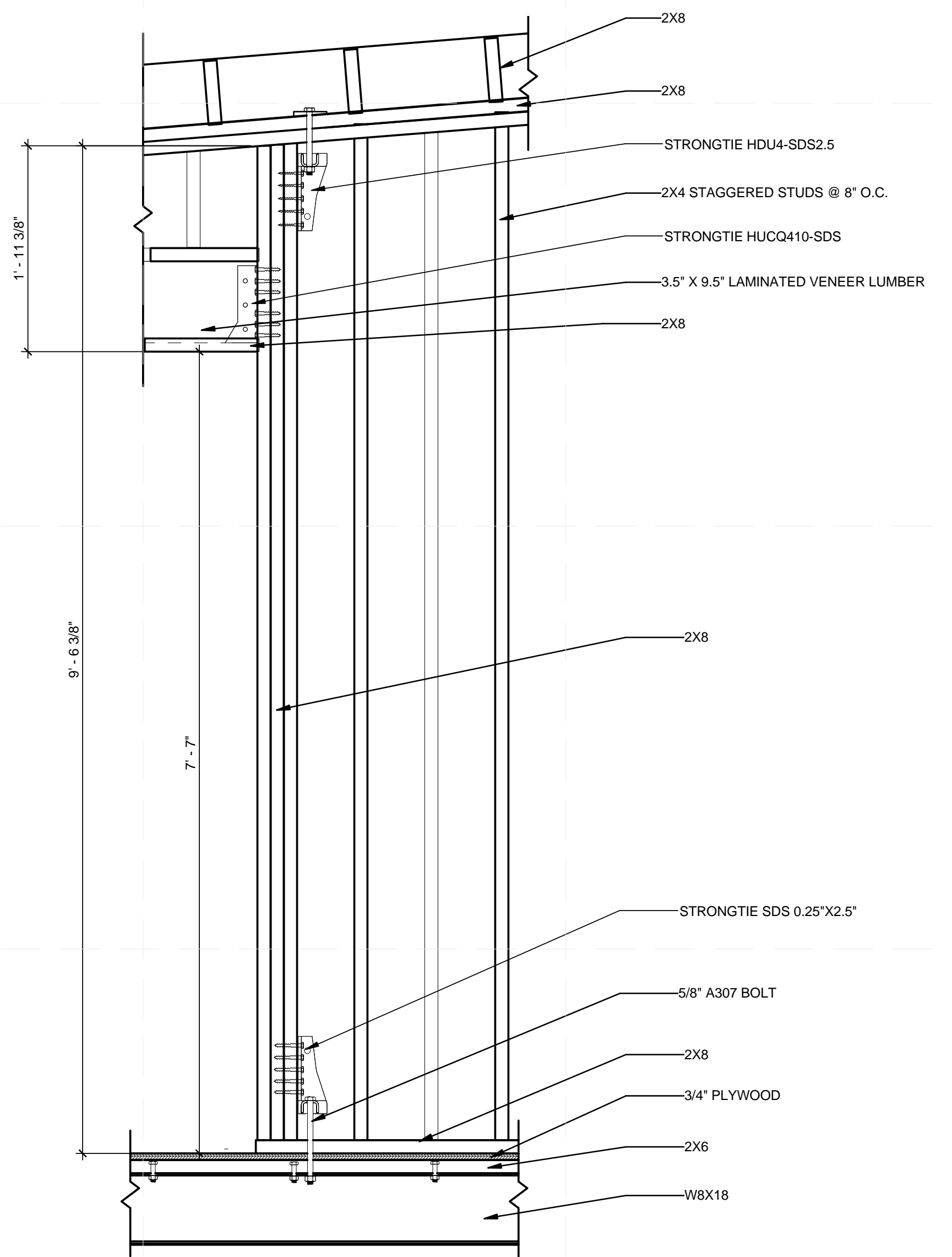
**D4 OVERHEAD BEAM SUPPORTS**  
1 1/2" = 1'-0"



**C1 STEEL MODULE CONNECTION**  
1 1/2" = 1'-0"



**A1 ANCHOR ASSEMBLY DETAIL**  
1 1/2" = 1'-0"



**A4 WALL TIE DOWN AT BEAM**  
1" = 1'-0"

**GENERAL SHEET NOTES**

- SEE GENERAL REQUIREMENTS ON DRAWING S-001
- ALL DIMENSIONAL LUMBER TO BE SPRUCE-PINE-FIR NO.2 GRADE OR BETTER

**SHEET KEYNOTES**

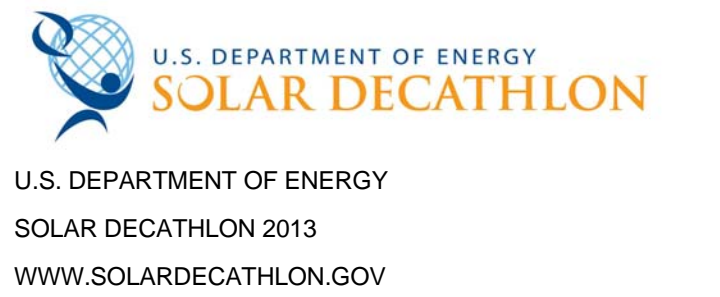
- DRILLING LOCATION FOR 1" ANCHOR ROD



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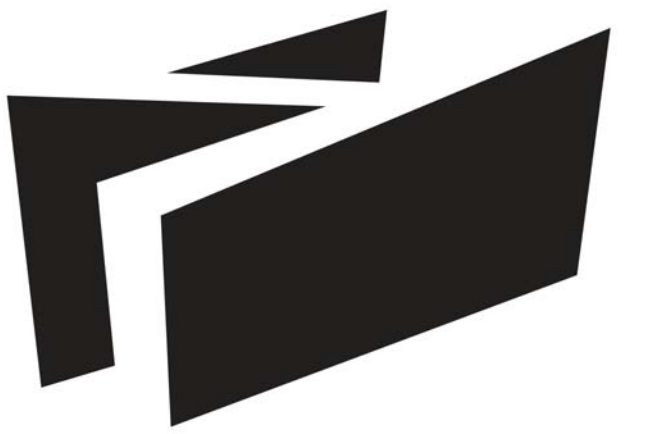


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**STRUCTURAL DETAILS**

**S-502**



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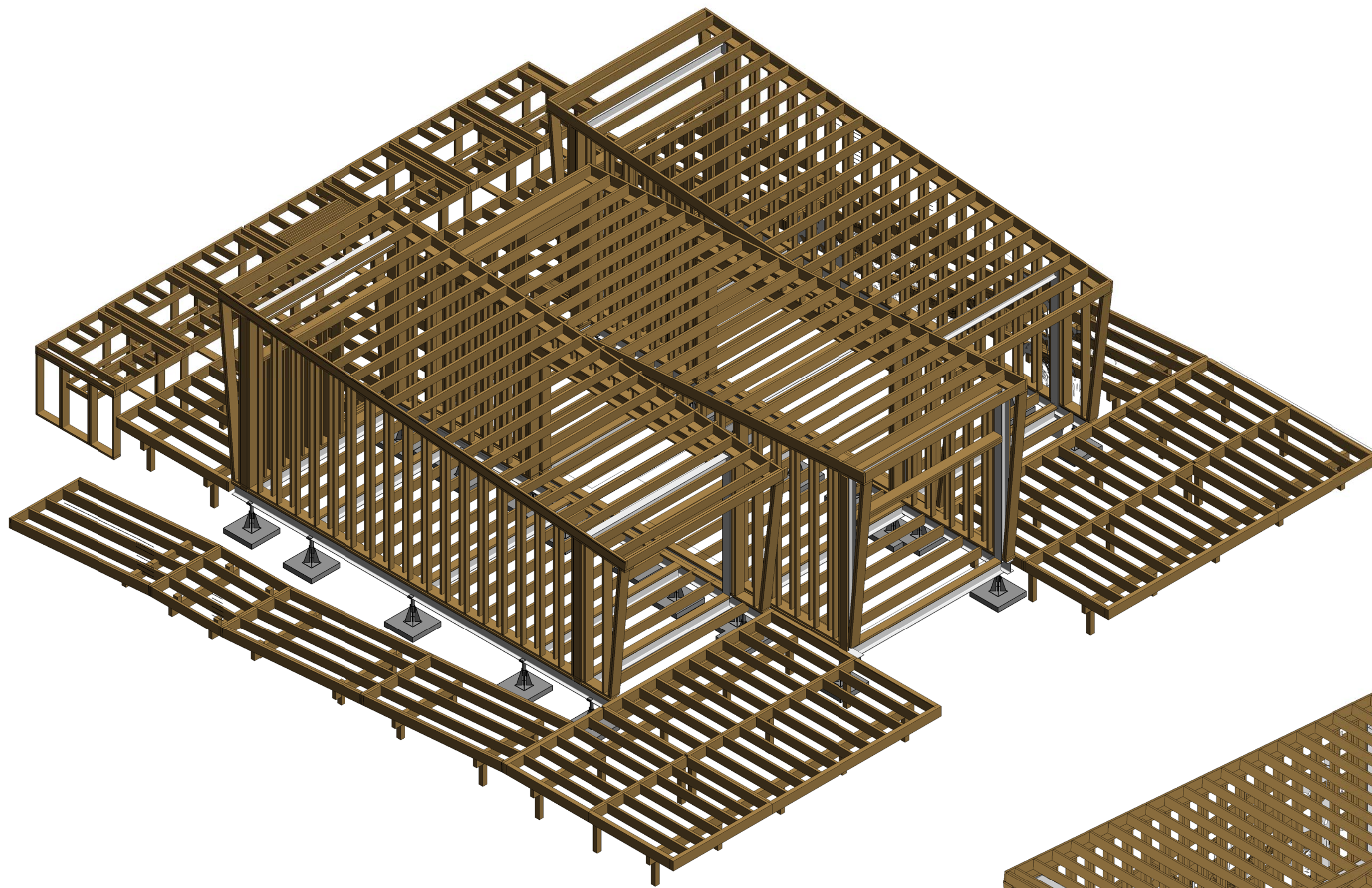
MARK DATE DESCRIPTION

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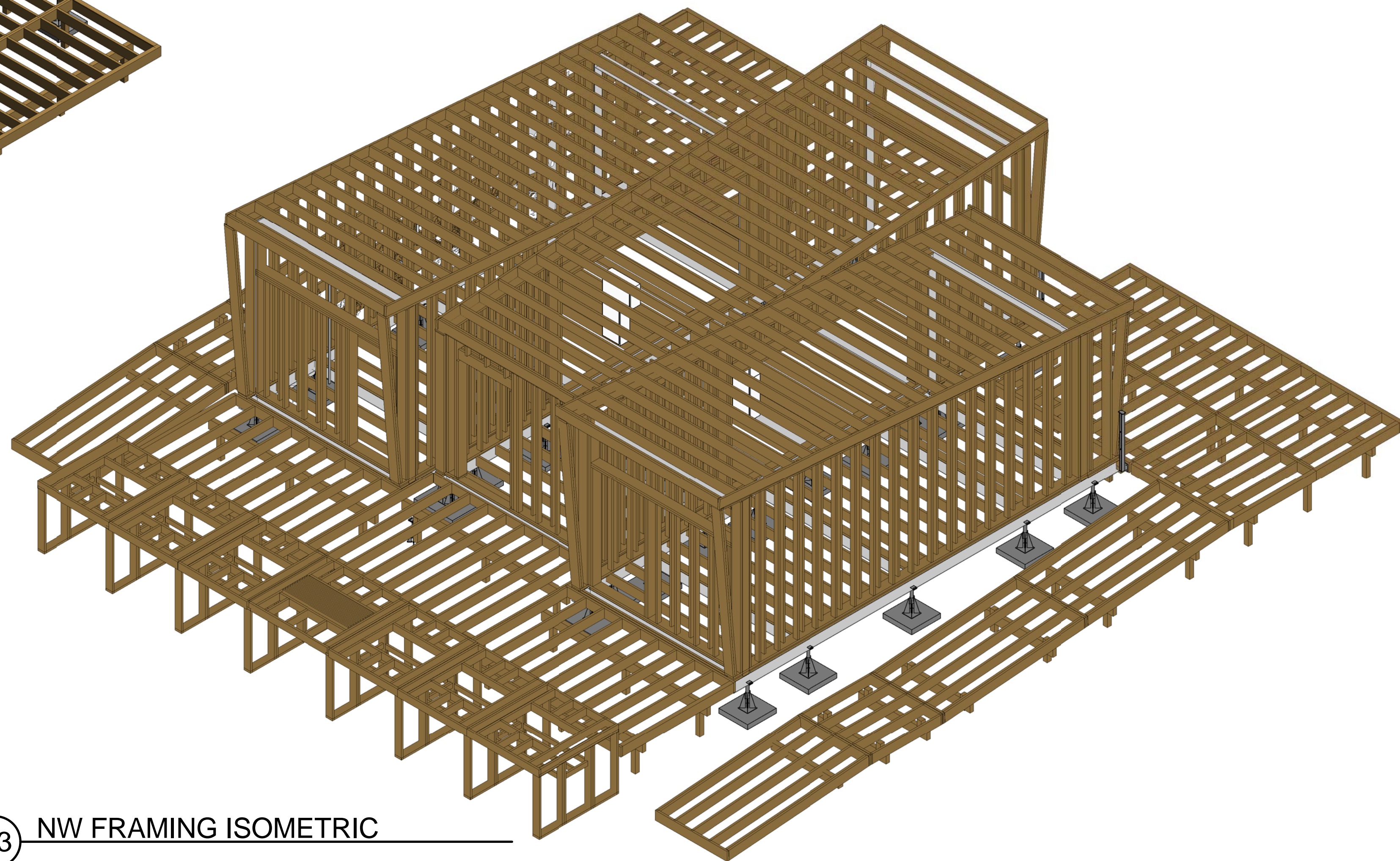
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FRAMING ISOMETRICS

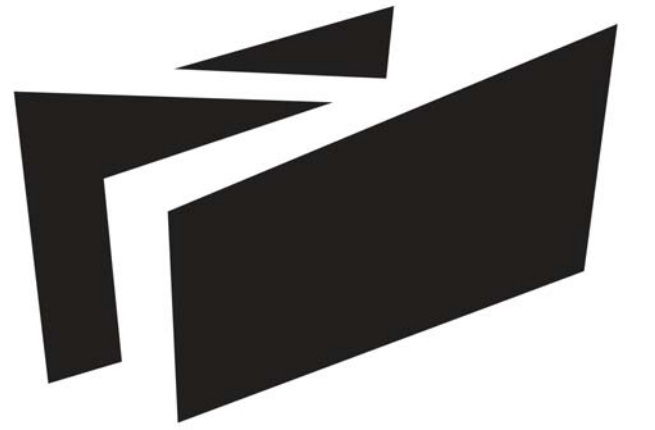
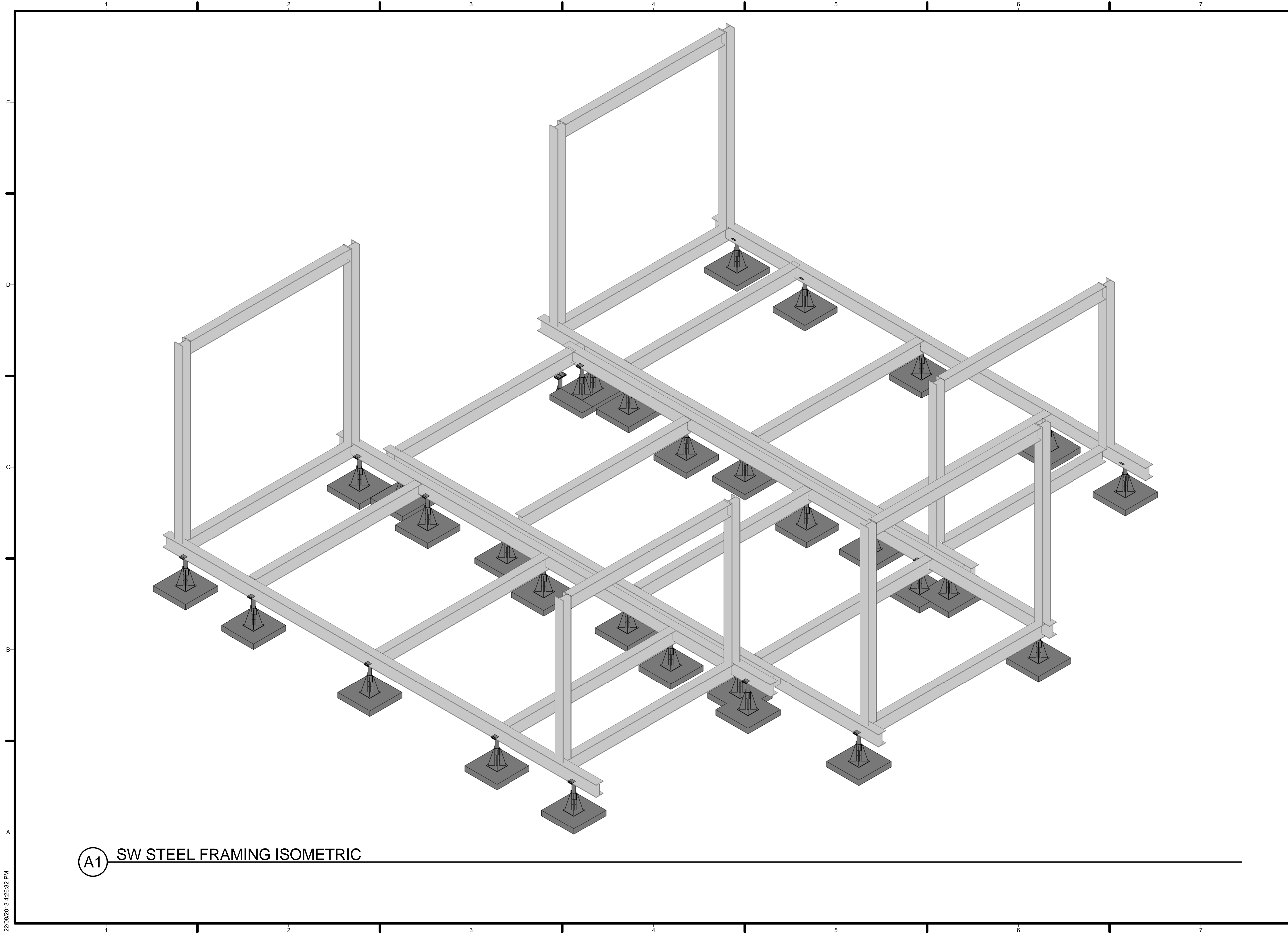
**S-901**



**B1** SW FRAMING ISOMETRIC



**A3** NW FRAMING ISOMETRIC



**BOREALIS**

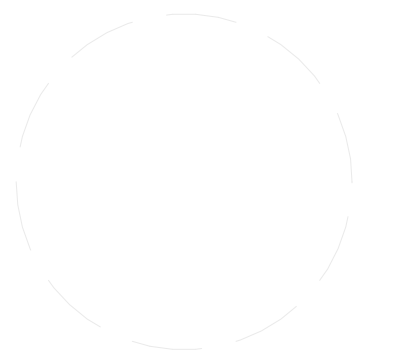
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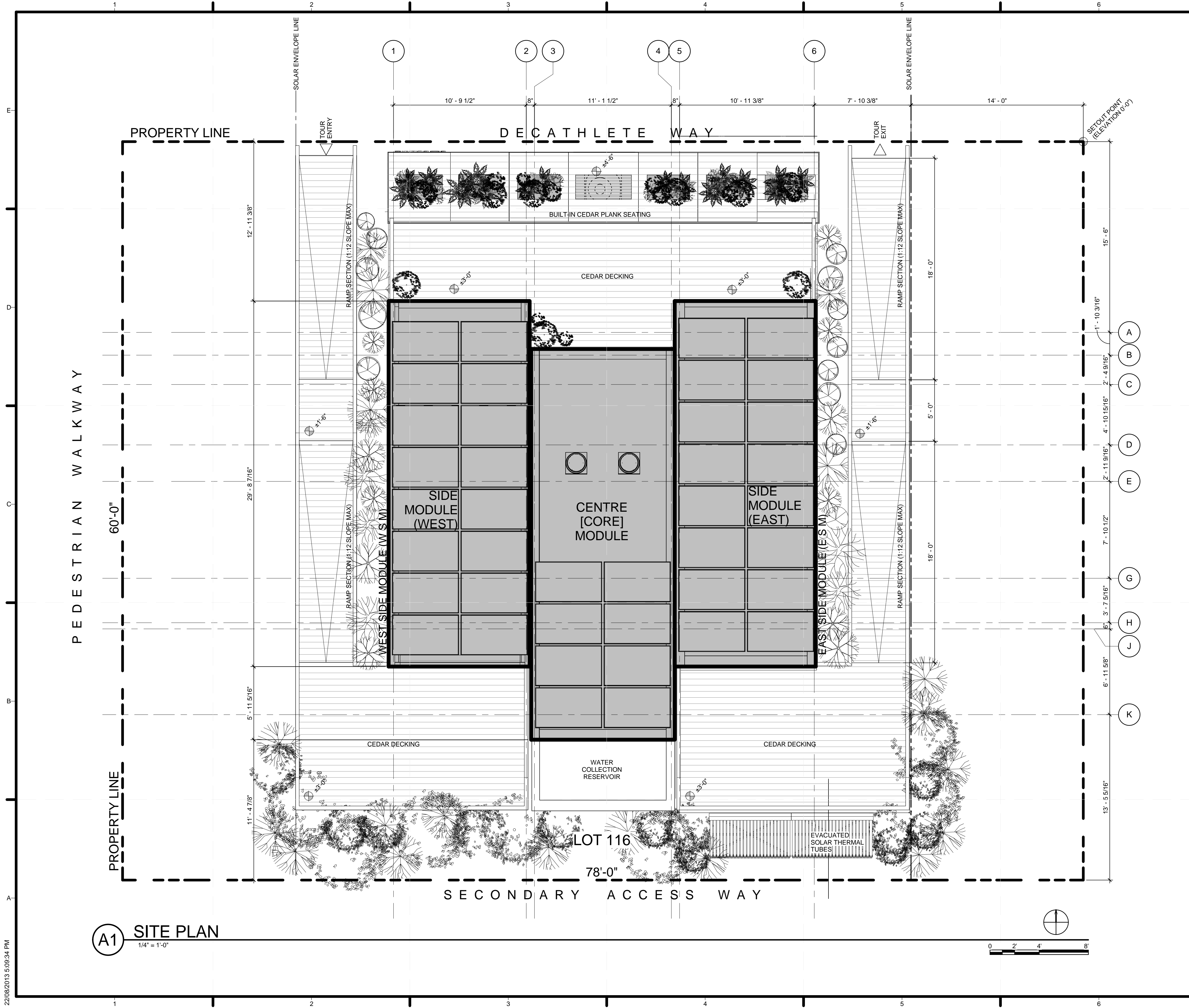
**FRAMING ISOMETRICS**

**S-902**

**(A1) SW STEEL FRAMING ISOMETRIC**

22/08/2013 4:28:32 PM



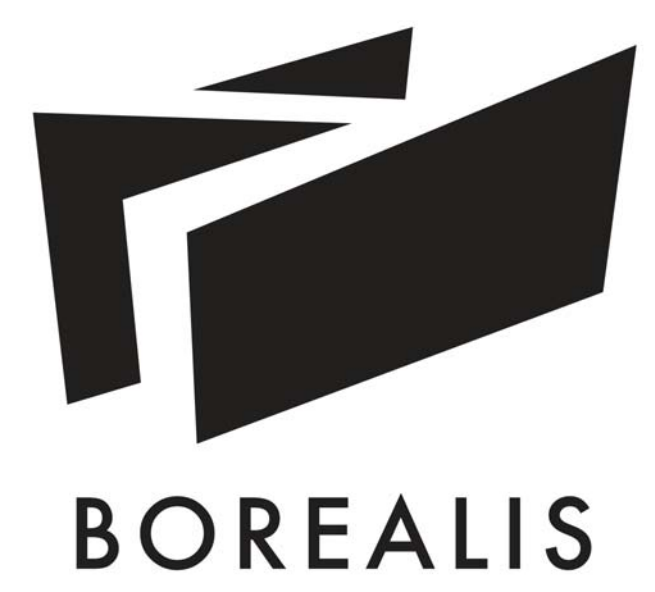


**GENERAL SHEET NOTES**

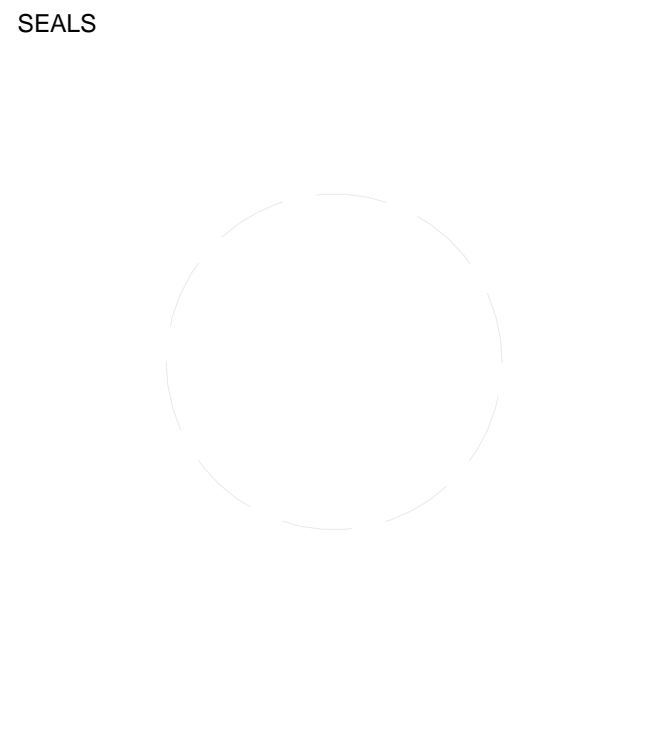
1. SEE G-004 FOR LOCATION ON GREATER SITE
2. PLANTS SUBJECT TO AVAILABILITY

**SHEET KEYNOTES**

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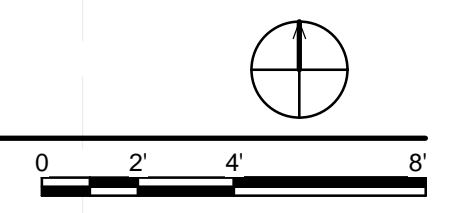
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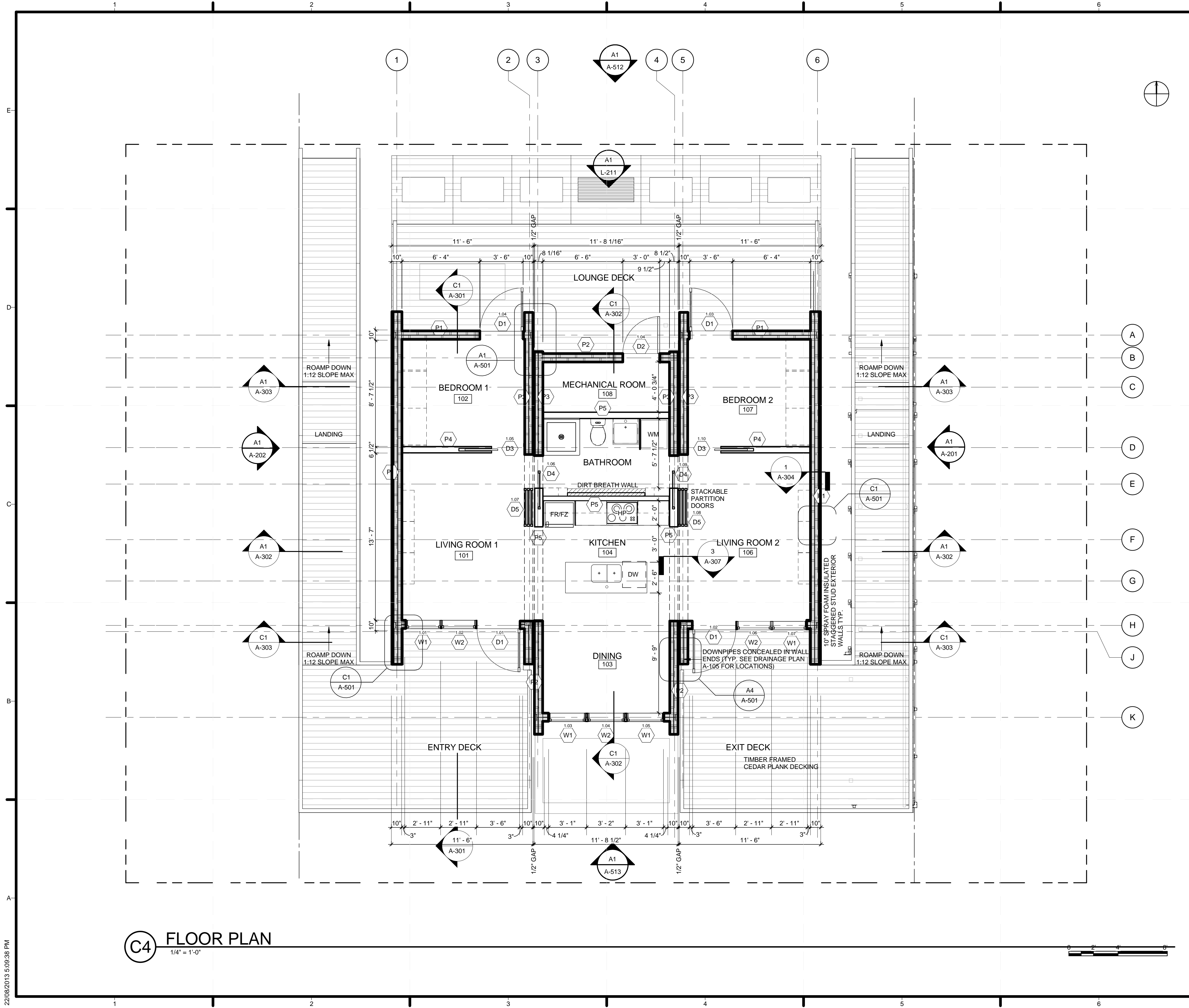
SITE PLAN

**A-101**

**A1 SITE PLAN**  
 1/4" = 1'-0"



22/08/2013 5:09:34 PM



GENERAL SHEET NOTES

SHEET KEYNOTES



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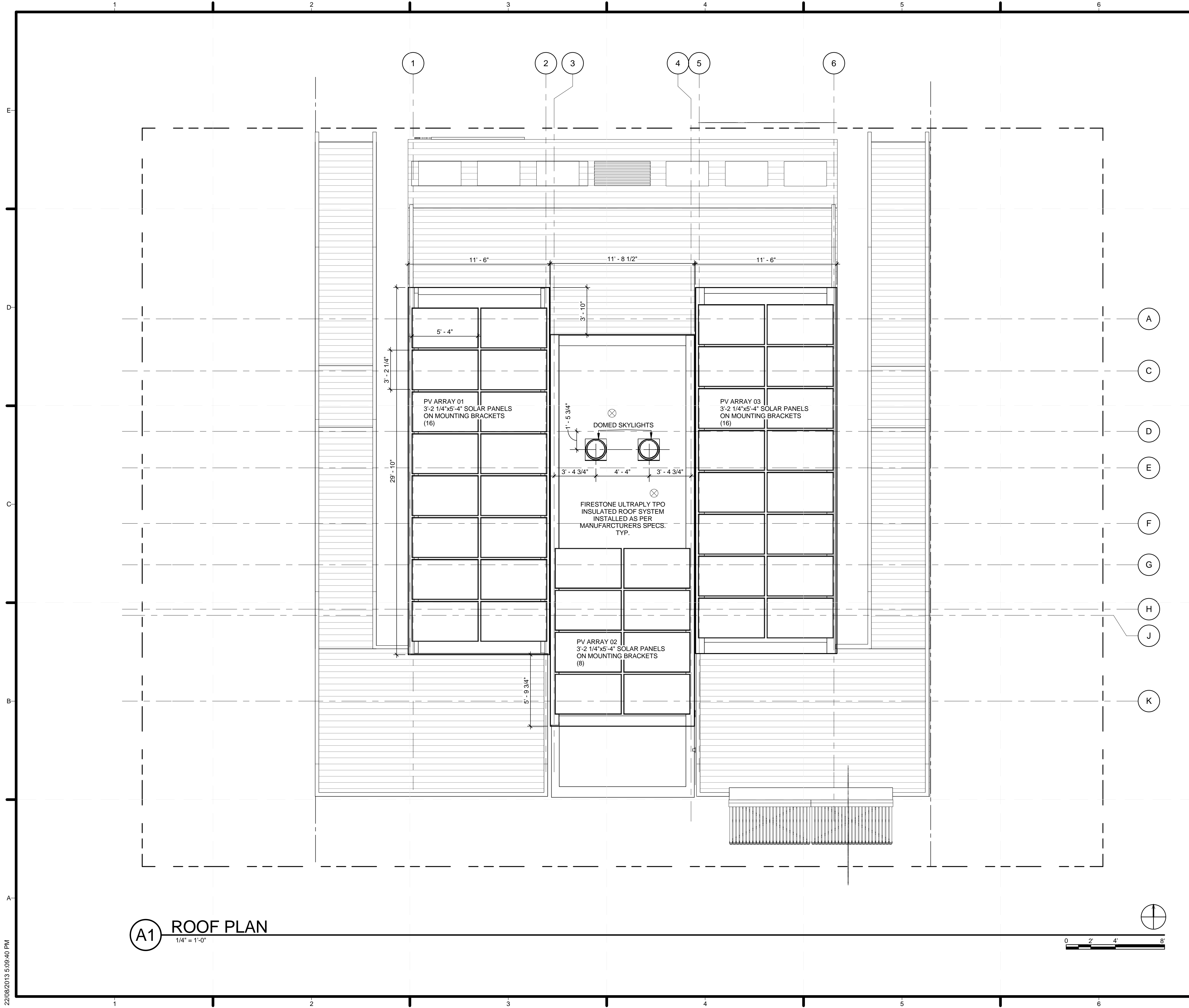
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 DRAWN BY:  
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 STATUS:  
 SHEET TITLE

FLOOR PLAN

A-102

C4 FLOOR PLAN  
 1/4" = 1'-0"

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**A1 ROOF PLAN**  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



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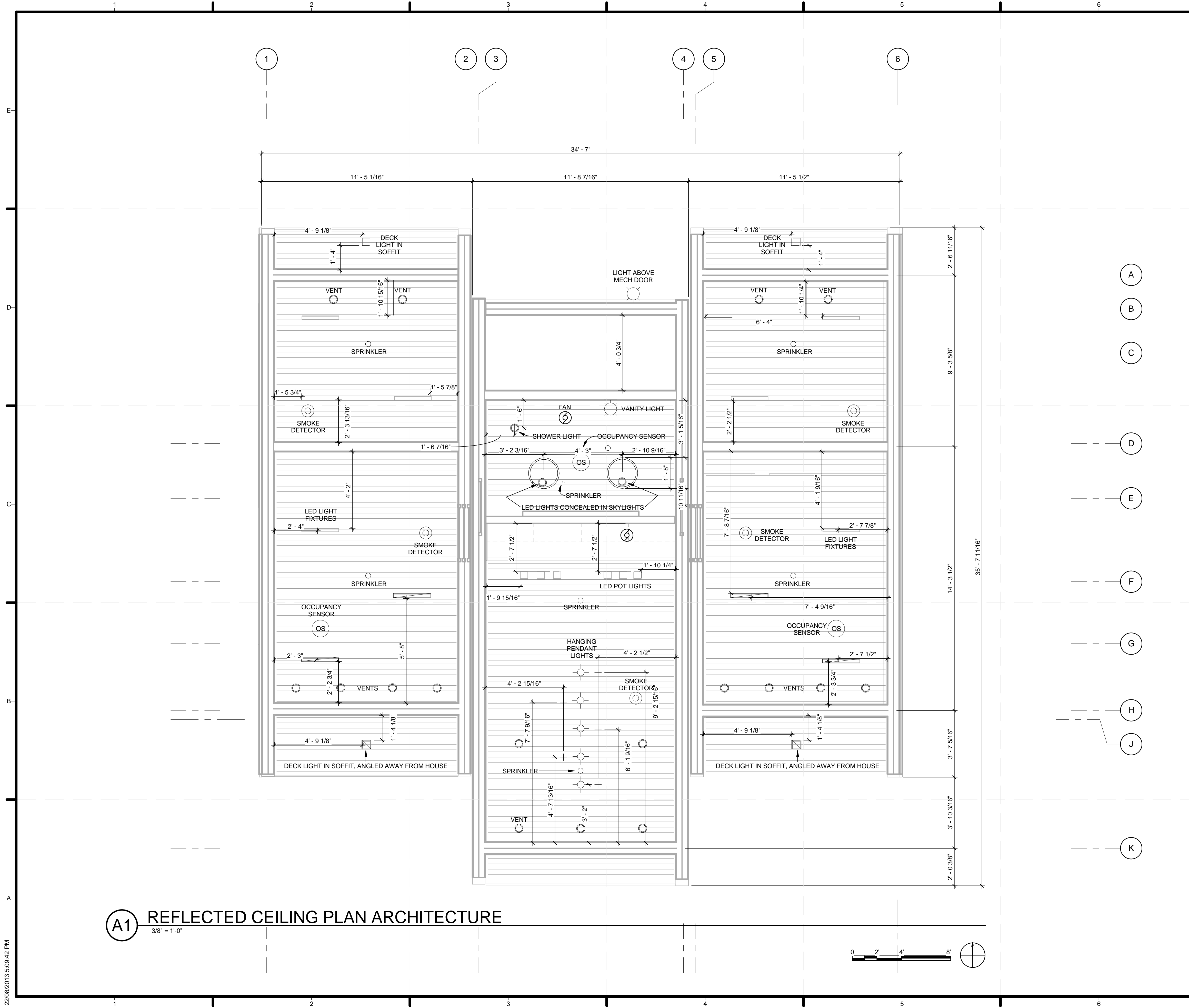
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STATUS:

SHEET TITLE

ROOF PLAN

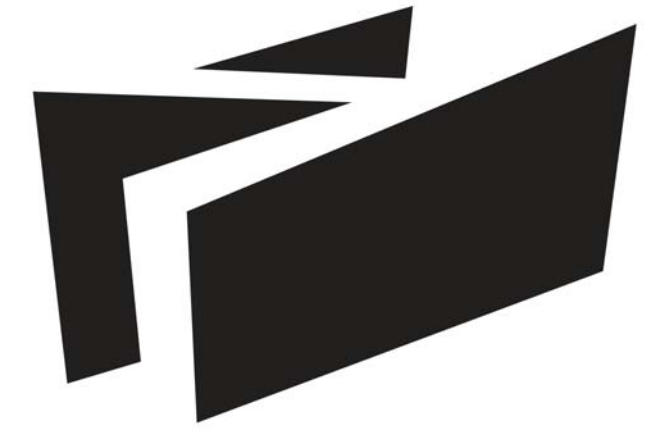
**A-103**

22/08/2013 5:09:40 PM



**GENERAL SHEET NOTES**

1. SEE E-102 FOR RELEVANT LIGHTING PLAN
2. SEE M-101 FOR RELEVANT DUCTWORK PLAN
3. ITEMS REST ON CEDAR SUSPENDED CEILING SUPPORTED BY CONCEALED WOOD BLOCKING AS NEEDED

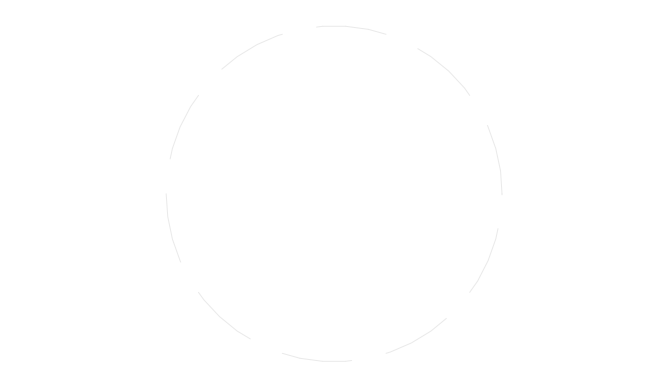


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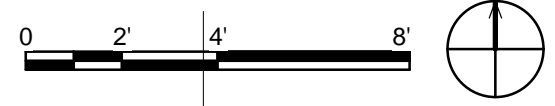
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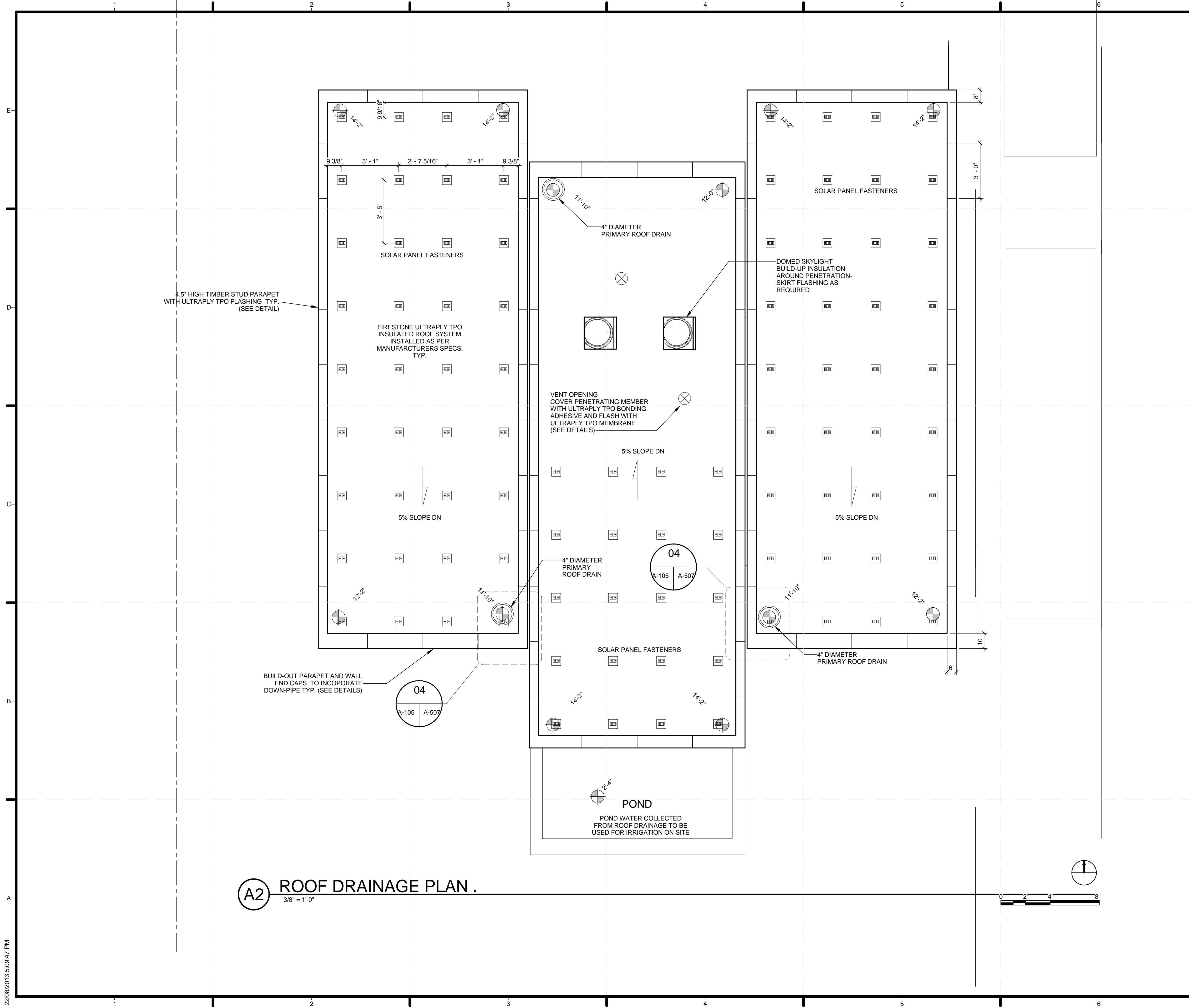
**REFLECTED CEILING PLAN**

**A-104**

**A1 REFLECTED CEILING PLAN ARCHITECTURE**  
 3/8" = 1'-0"



22/08/2013 5:09:42 PM



**GENERAL SHEET NOTES**

1. ELEVATIONS SUBJECT TO CHANGE DEPENDENT ON SITE CONDITIONS
2. ROOF SLOPE IS -5 DEG WITH ADDITIONAL DRAINAGE SLOPE CREATED BY PLANED 2\"/>

**SHEET KEYNOTES**



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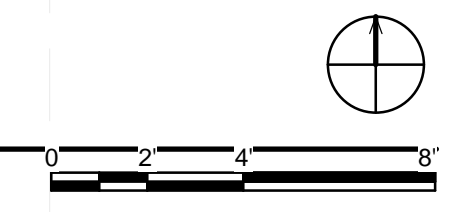
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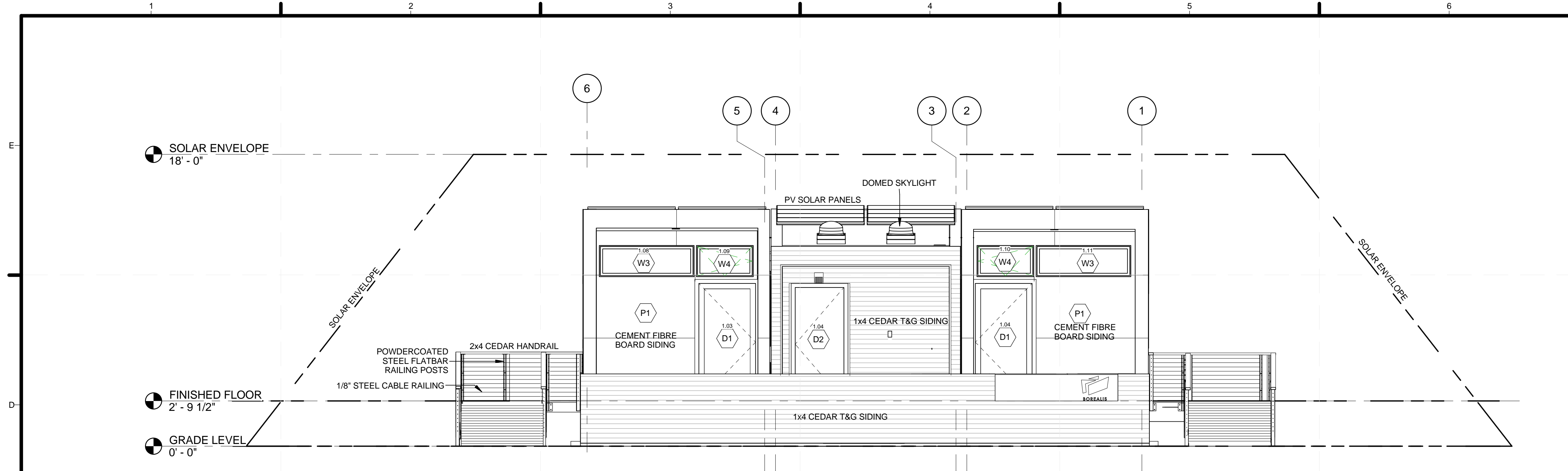
SHEET TITLE  
**ROOF DRAINAGE PLAN**

**A-105**

**(A2) ROOF DRAINAGE PLAN .**  
 3/8" = 1'-0"



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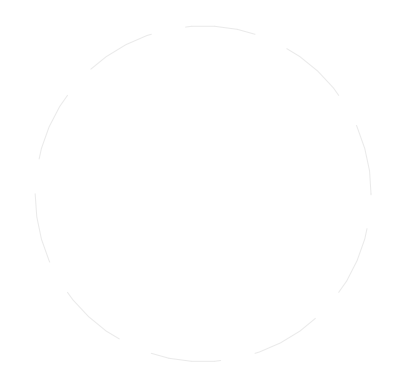
GENERAL SHEET NOTES

SHEET KEYNOTES

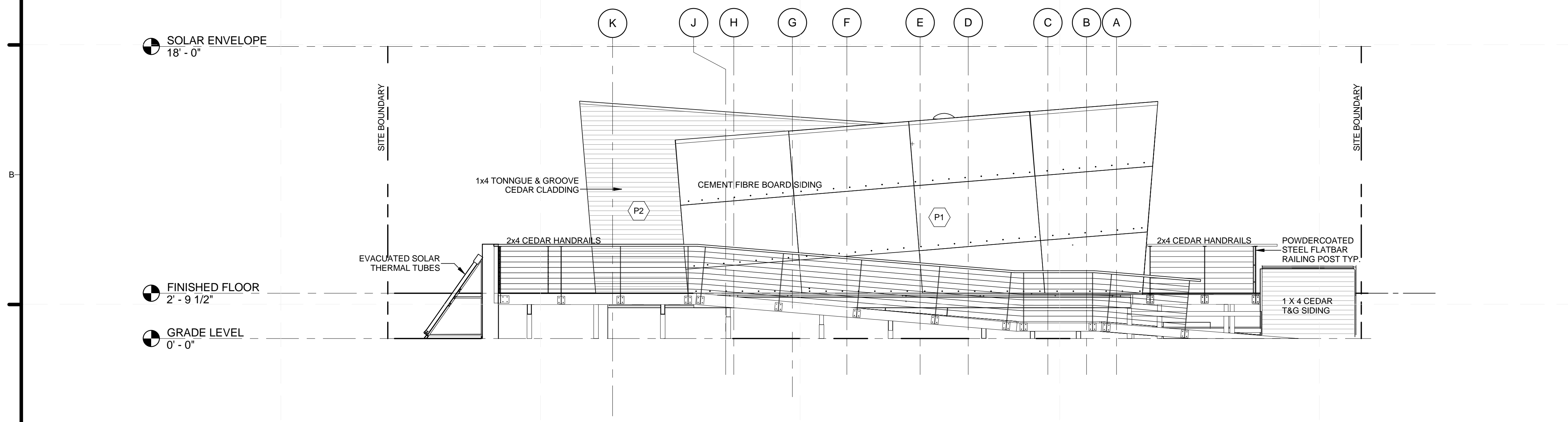
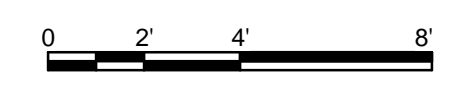


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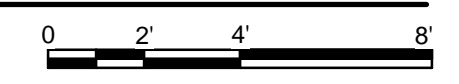
SEALS



**C1** NORTH ELEVATION  
 1/4" = 1'-0"



**A1** EAST ELEVATION  
 1/4" = 1'-0"



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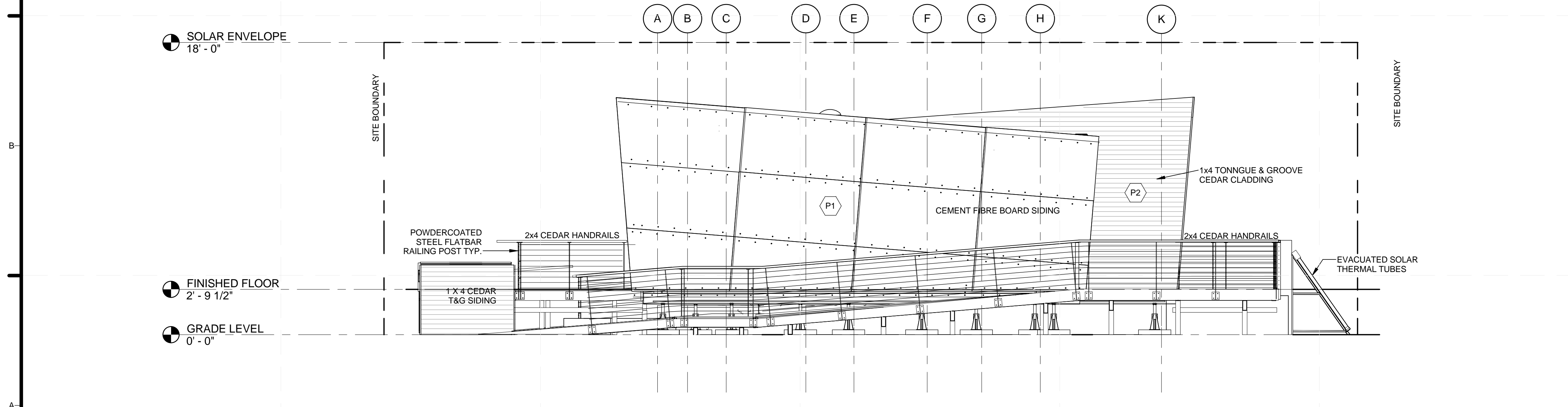
LOT NUMBER: 116  
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 STATUS:

SHEET TITLE  
**EXTERIOR ELEVATIONS**

**A-201**



**C1** SOUTH ELEVATION  
1/4" = 1'-0"



**A1** WEST ELEVATION  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

1. SEE A-511 FOR SPECIFIC HARDIE INSTALLATION
2. SPACING MAY BE LARGER BETWEEN SOLAR THERMAL TUBE ARRAYS. NECESSARY VALVES AND PIPING NOT SHOWN HERE
3. DOTTED LINES INDICATE DOOR SWING. LAYERED SWING LINES INDICATE BOTH TILT AND TURN OPERATION POSSIBLE.

**SHEET KEYNOTES**



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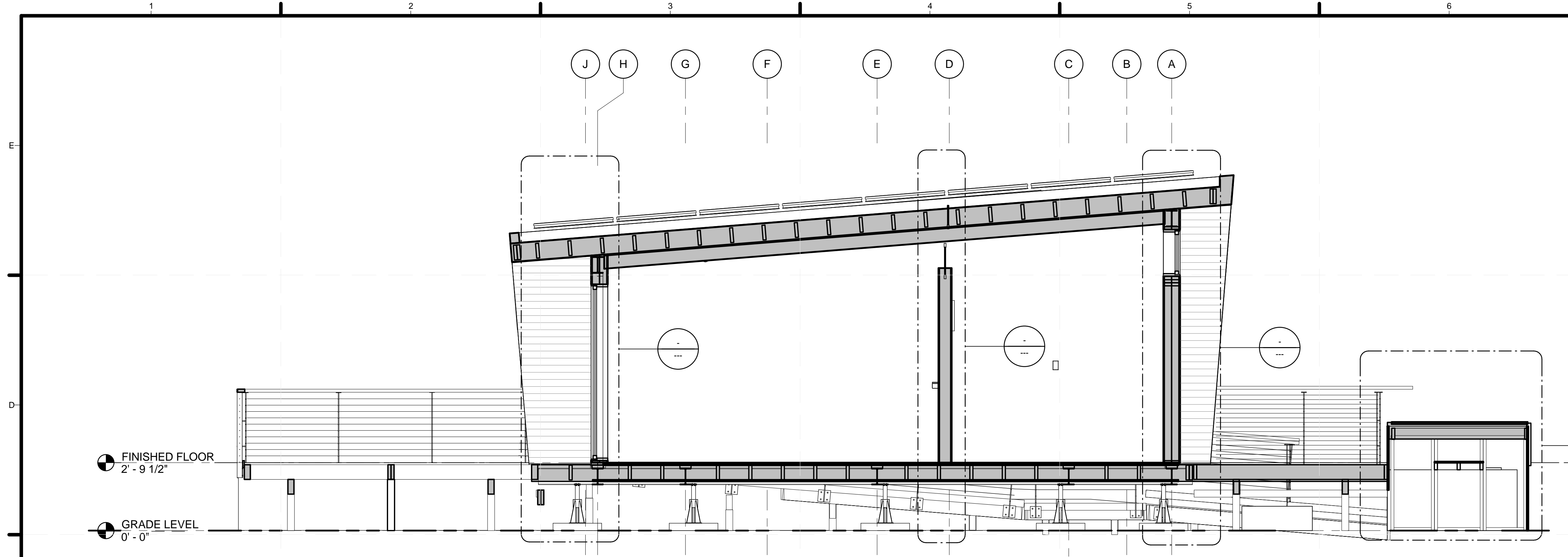
CLIENT  
  
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

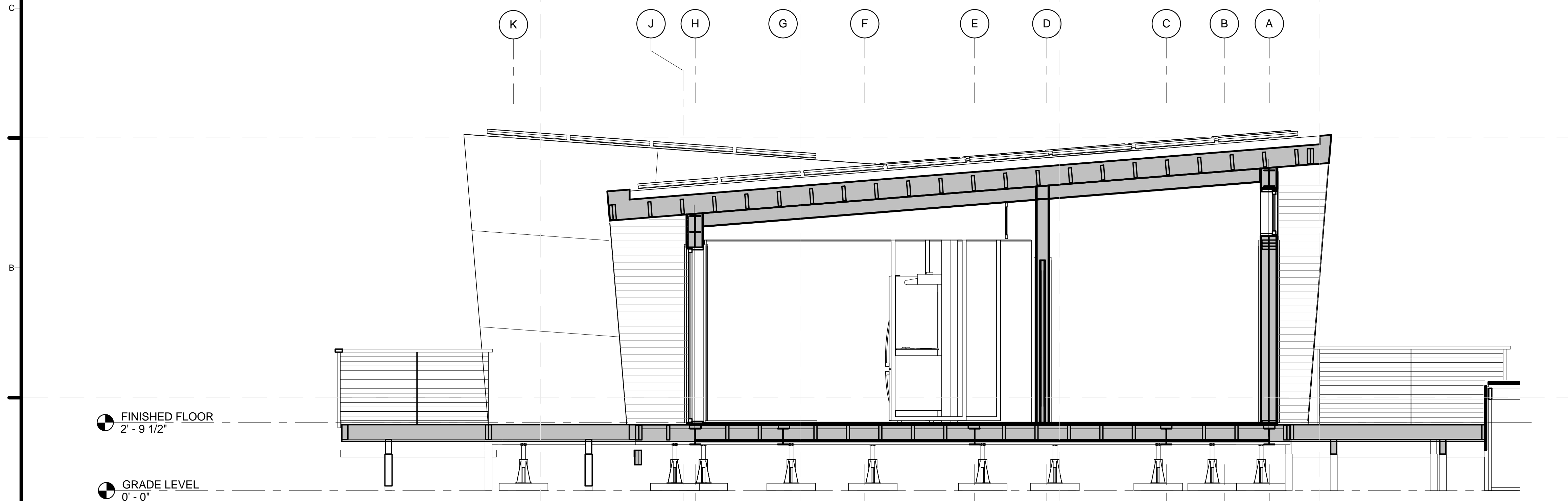
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DRAWN BY:  
CHECKED BY:  
STATUS:

SHEET TITLE  
**EXTERIOR ELEVATIONS**

**A-202**



**(C1) SECTION - WEST MODULE**  
3/8" = 1'-0"



**(A1) SECTION - EAST MODULE**  
3/8" = 1'-0"

**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



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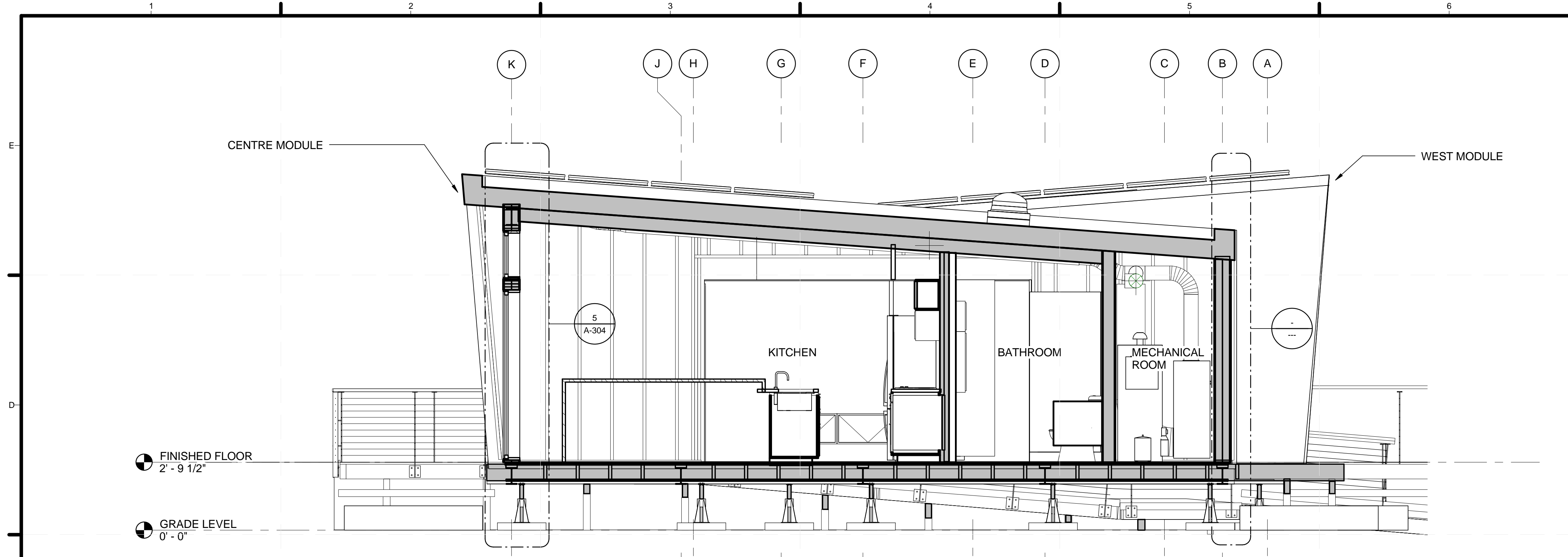
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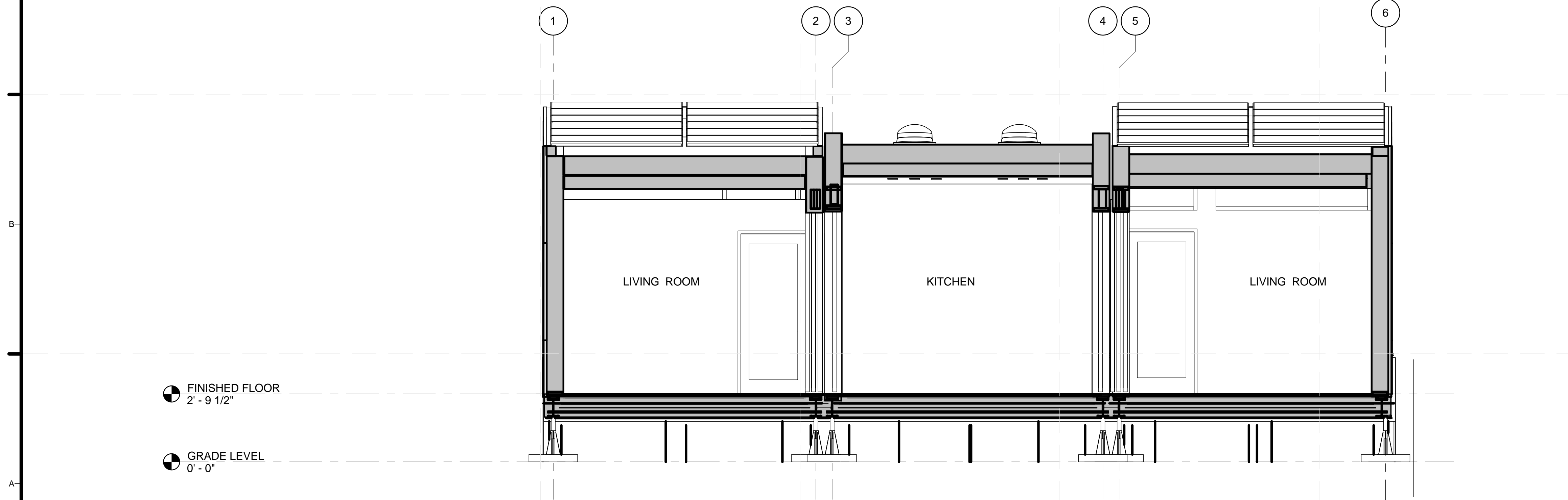
**BUILDING SECTIONS**

**A-301**





**C1 SECTION - CENTRE MODULE**  
3/8" = 1'-0"



**A1 LIVING ROOM SECTION**  
3/8" = 1'-0"



**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



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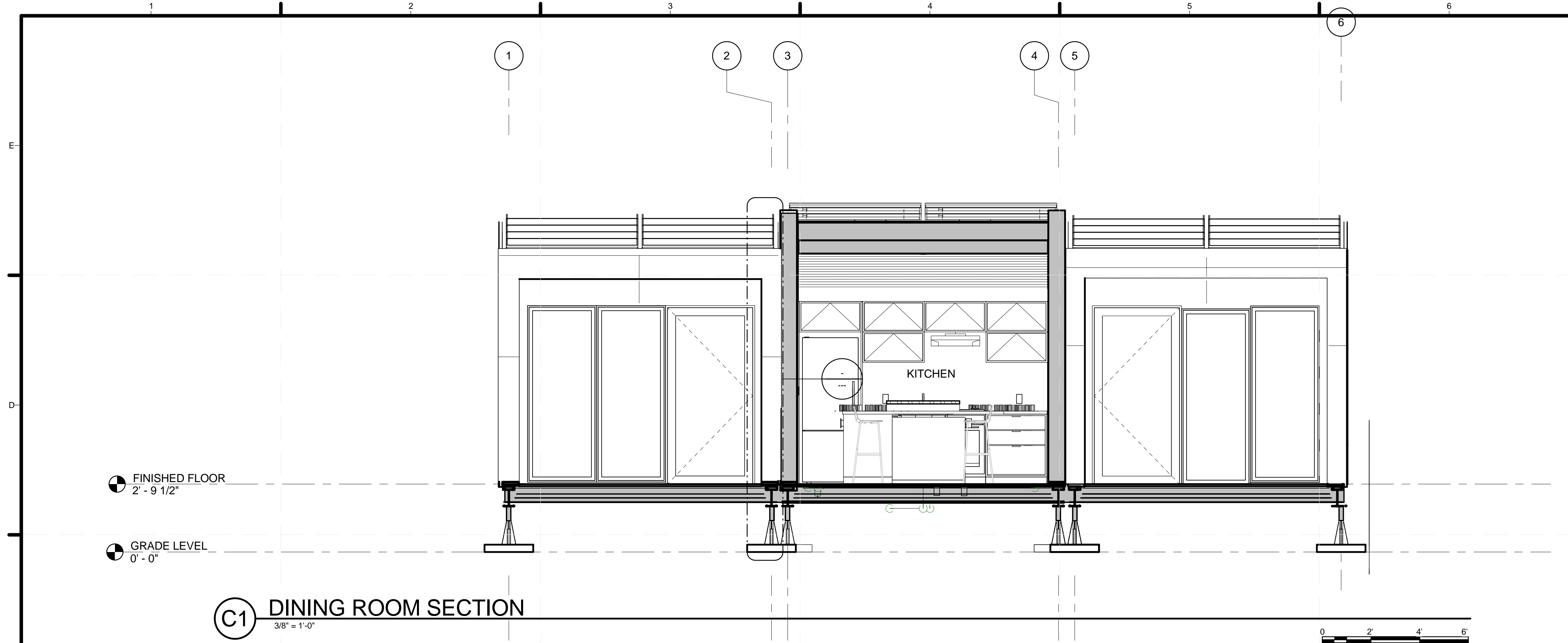
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

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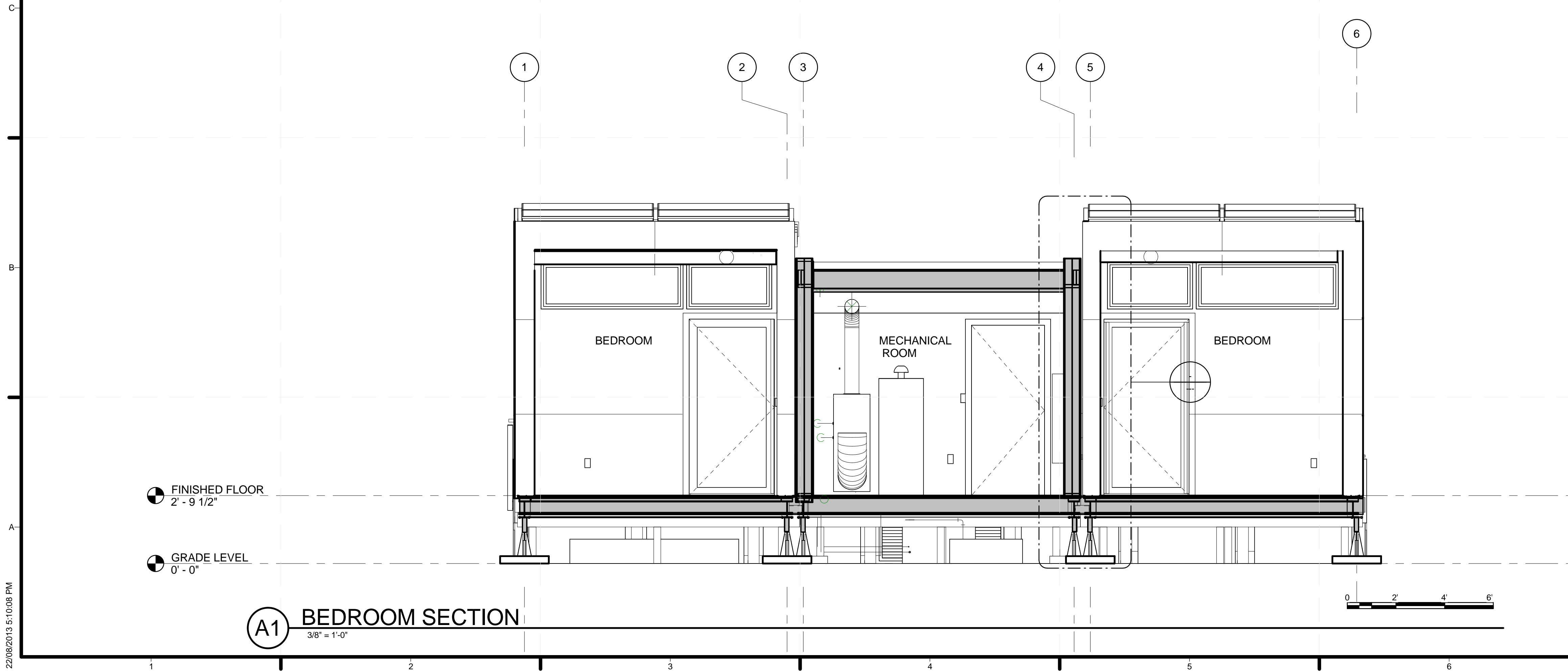
SHEET TITLE

**BUILDING SECTIONS**

**A-302**



**C1 DINING ROOM SECTION**  
3/8" = 1'-0"



**A1 BEDROOM SECTION**  
3/8" = 1'-0"

**GENERAL SHEET NOTES**

**SHEET KEYNOTES**



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4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

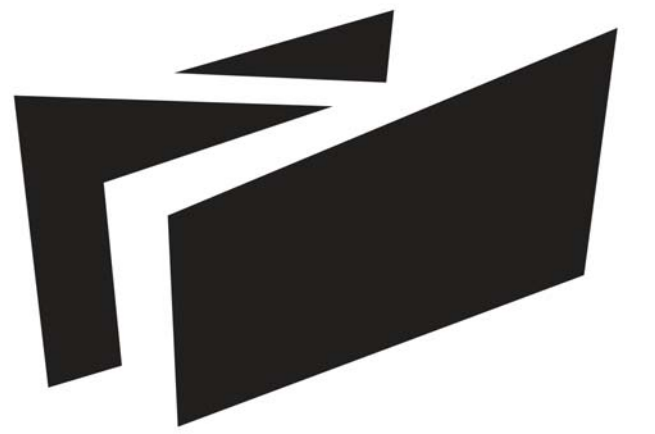
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STATUS:

SHEET TITLE

**BUILDING SECTIONS**

**A-303**

22/08/2013 5:10:08 PM



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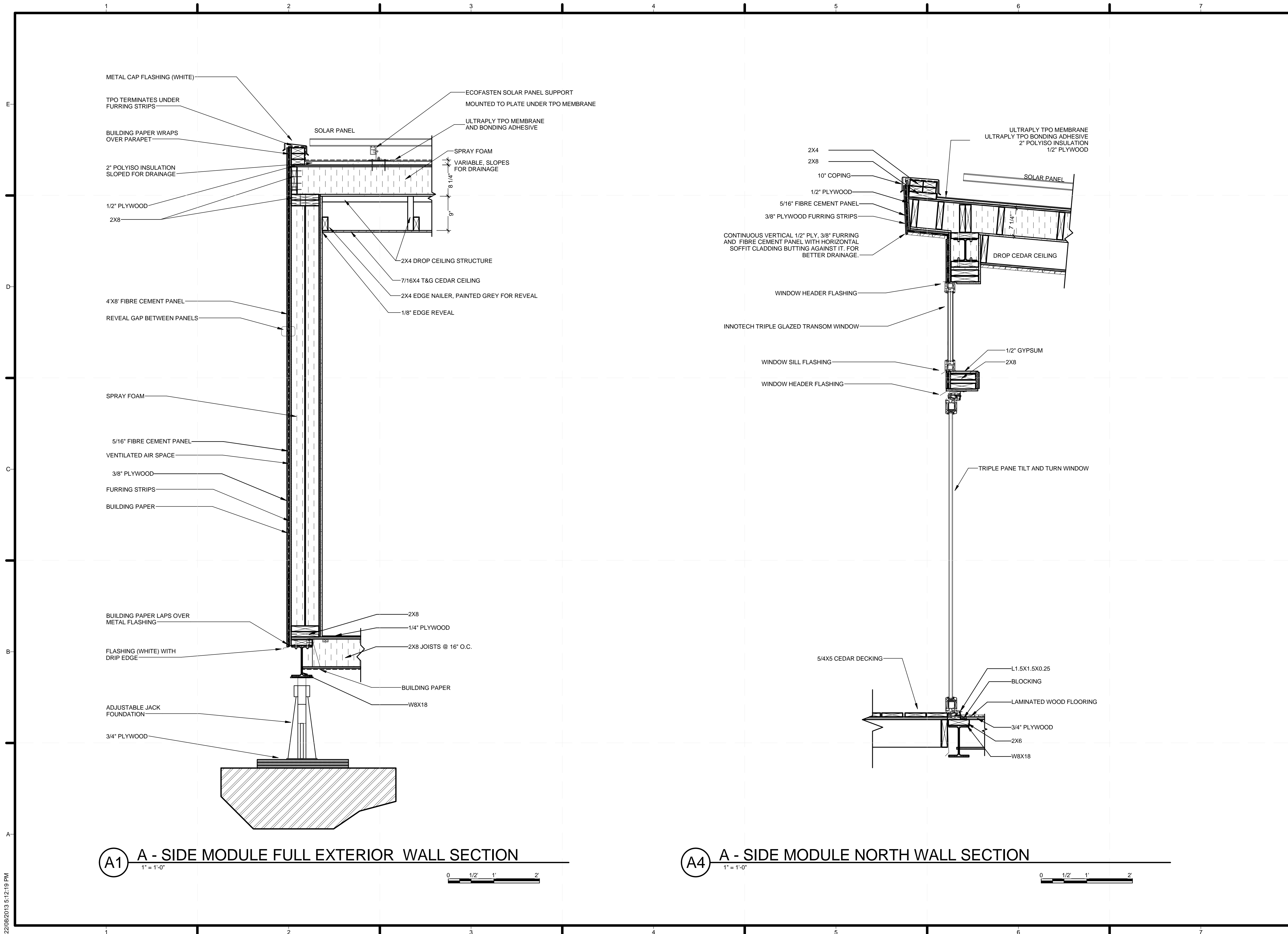
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

LOT NUMBER: 116  
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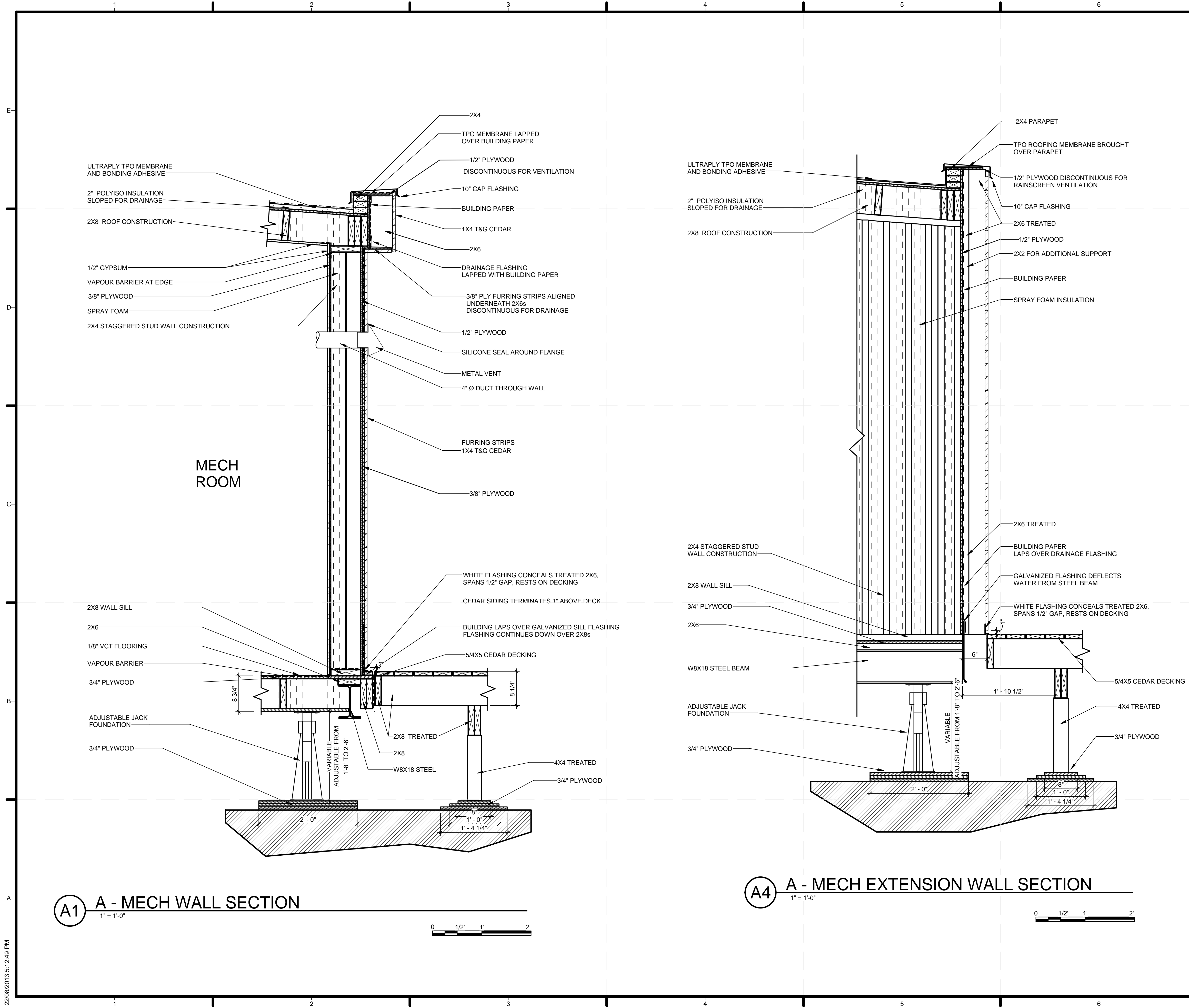
SHEET TITLE

WALL SECTION - 1 OF 3

**A-304**



22/08/2013 5:12:19 PM



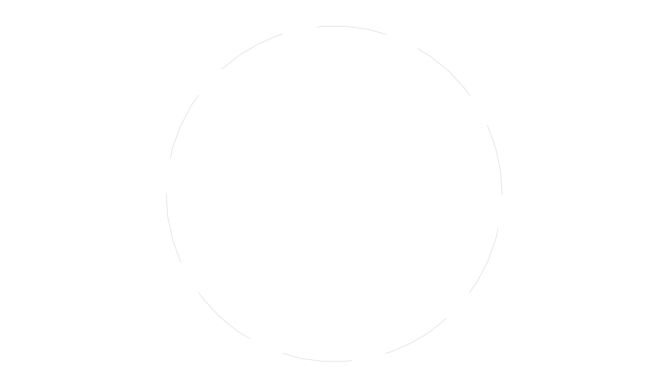
GENERAL SHEET NOTES

SHEET KEYNOTES



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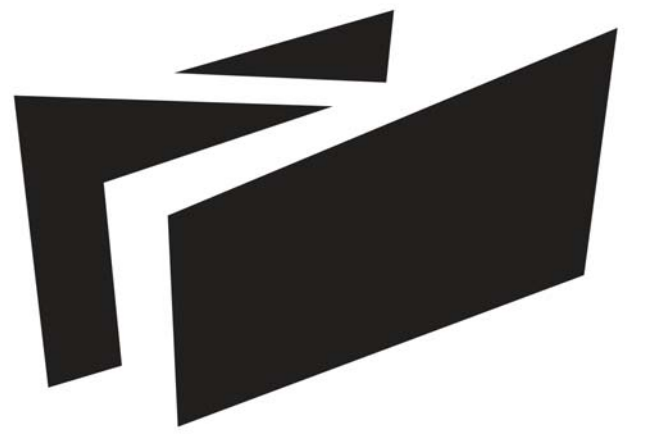
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

LOT NUMBER: 116  
 DRAWN BY:  
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 STATUS:  
 SHEET TITLE

WALL SECTIONS - 2 OF 3

A-306

22/08/2013 5:12:49 PM



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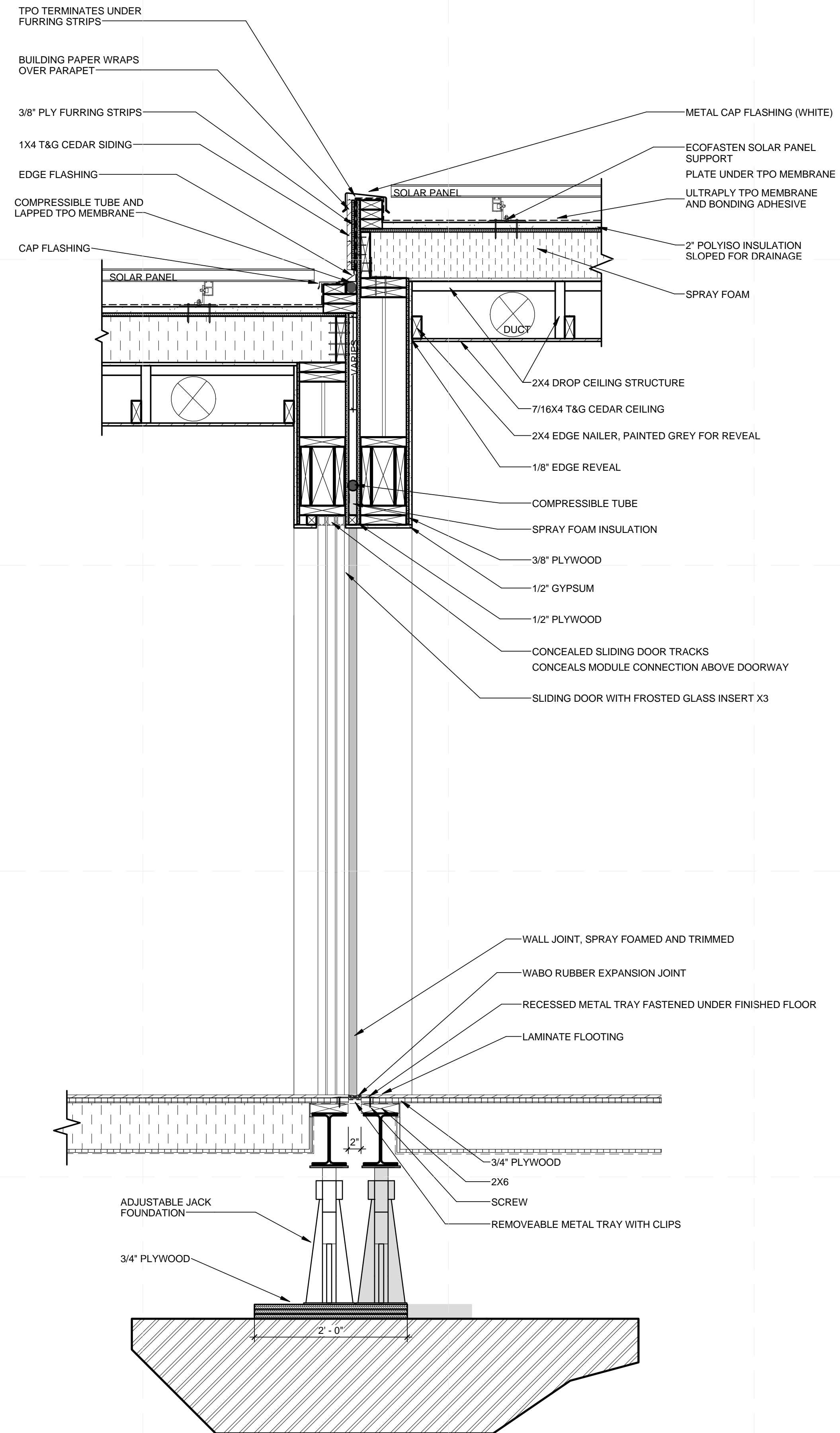
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5	08/22/2013	AS BUILT SET

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STATUS:

SHEET TITLE

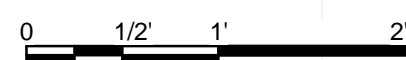
WALL SECTIONS - 3 OF 3  
3

**A-307**

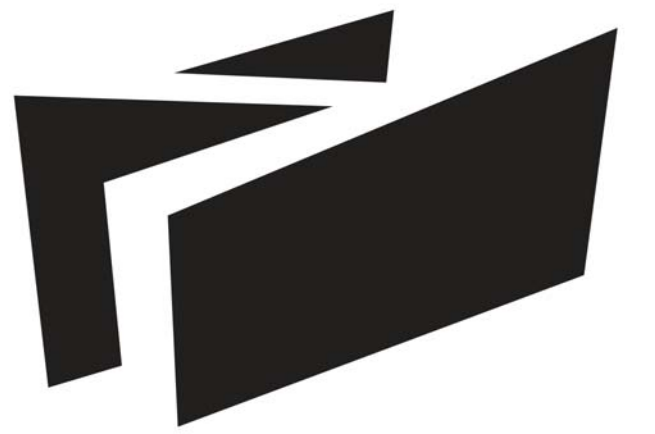


**A1 A - MODULES CONNECTION WALL SECTION**

1" = 1'-0"



22/08/2013 5:13:25 PM



**BOREALIS**

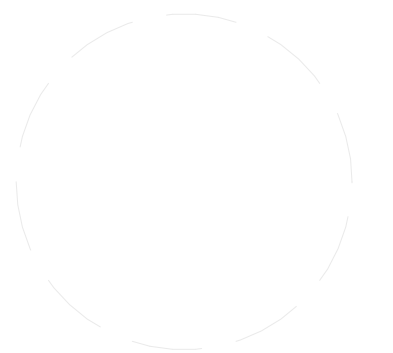
TEAM ALBERTA

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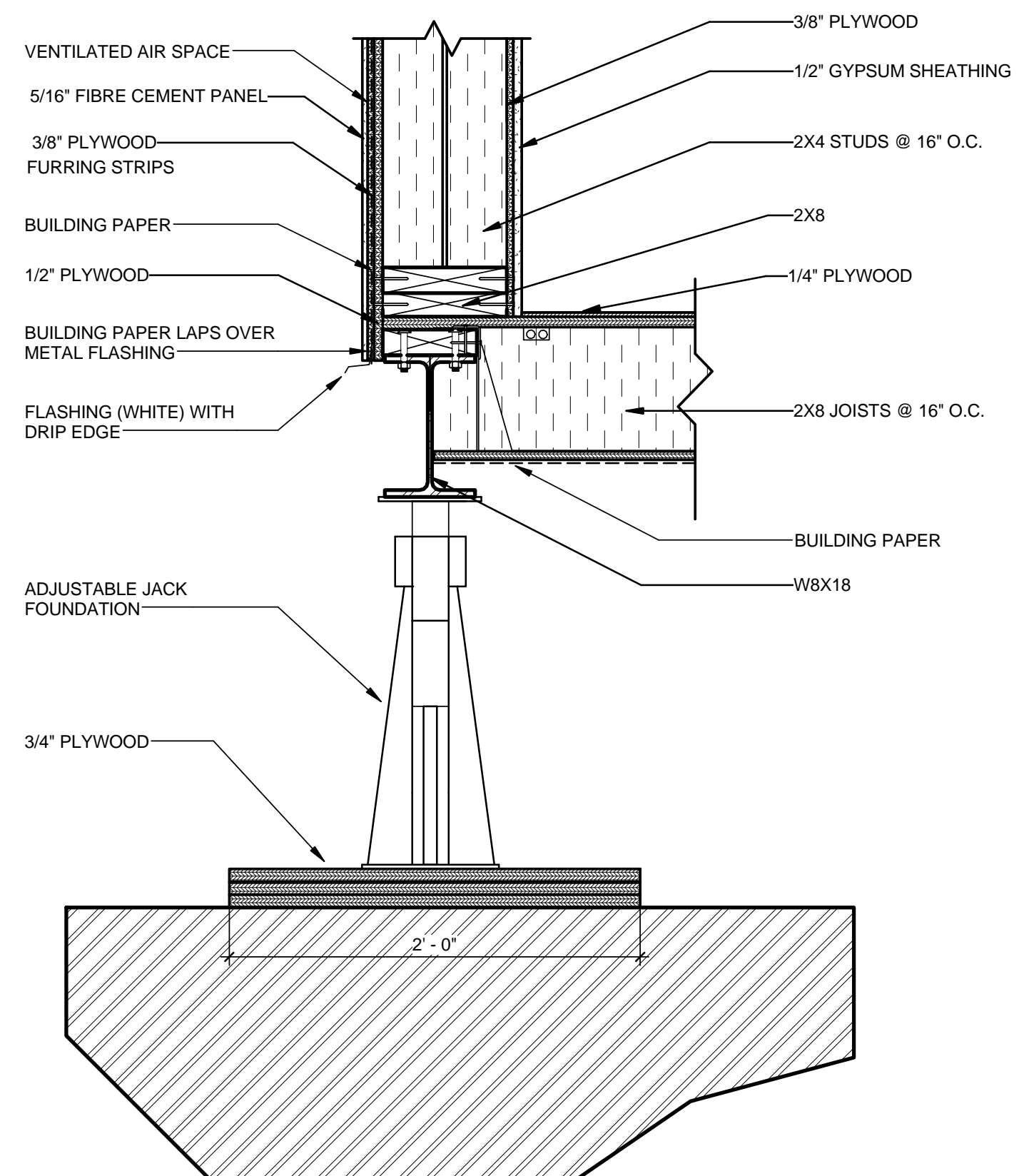
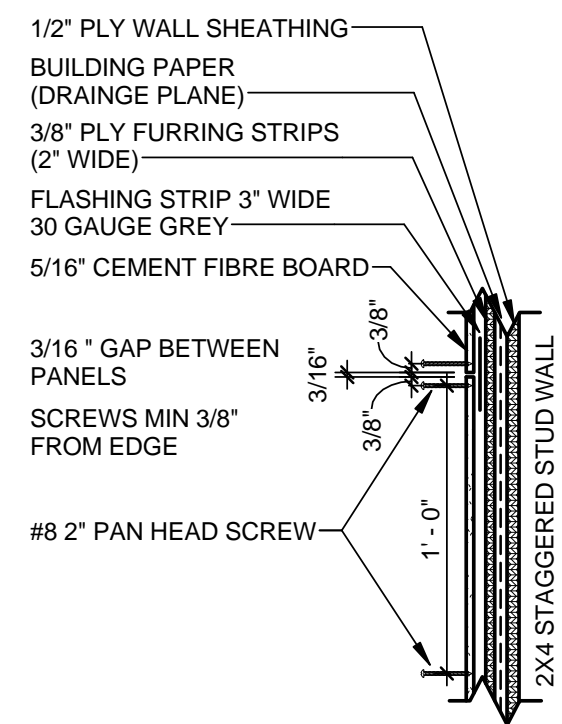
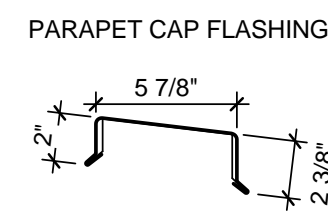
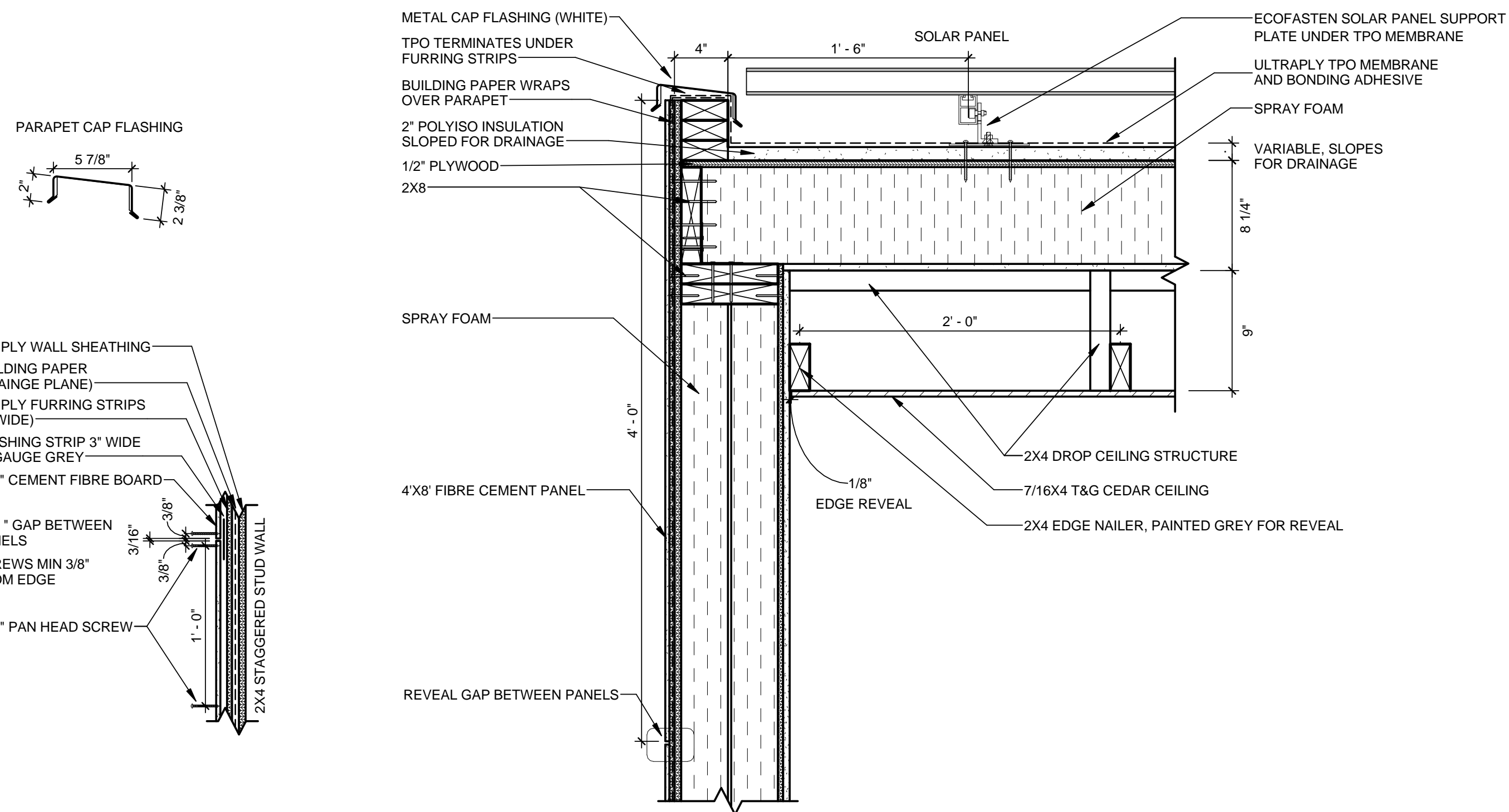
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LOT NUMBER:	116
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SHEET TITLE

ADDITIONAL WALL SECTION

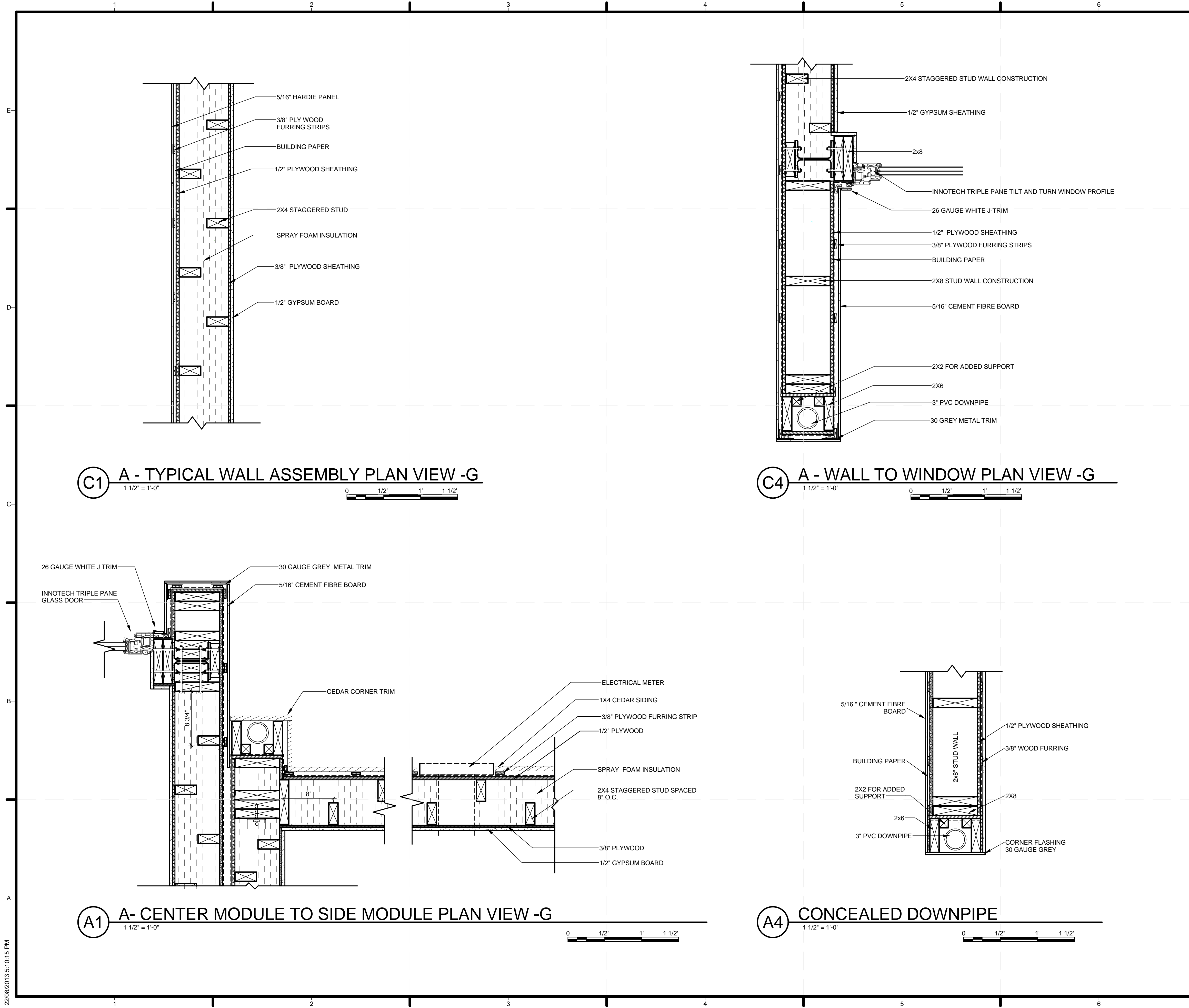
**A-308**



**A1** A - SIDE MODULE TYPICAL EXTERIOR WALL SECTION

1 1/2" = 1'-0"





**GENERAL SHEET NOTES**

NOTE: ALL VICWEST ARCHITECTURAL PANELS REVISED TO BE VICWEST AD-300 SERIES

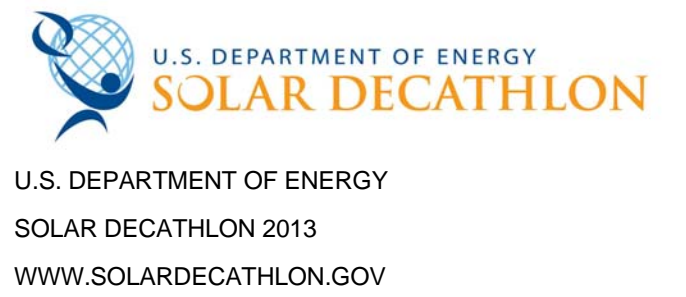
**SHEET KEYNOTES**



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4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

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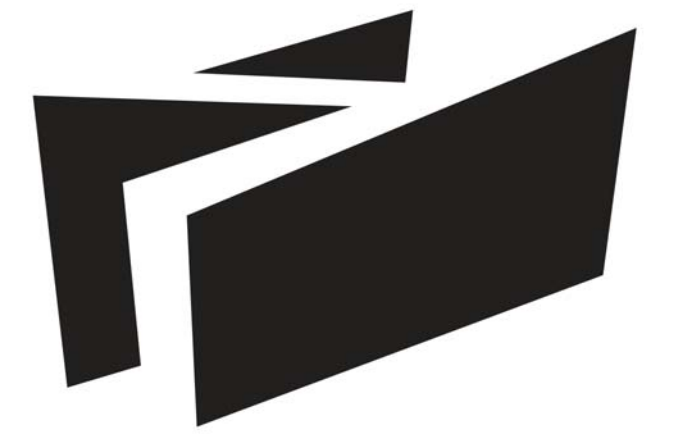
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**WALL PLAN VIEW DETAILS**

**A-501**

22/08/2013 5:10:15 PM

GENERAL SHEET NOTES

NOTE: ALL VICWEST ARCHITECTURAL PANELS REVISED TO BE VICWEST AD-300 SERIES



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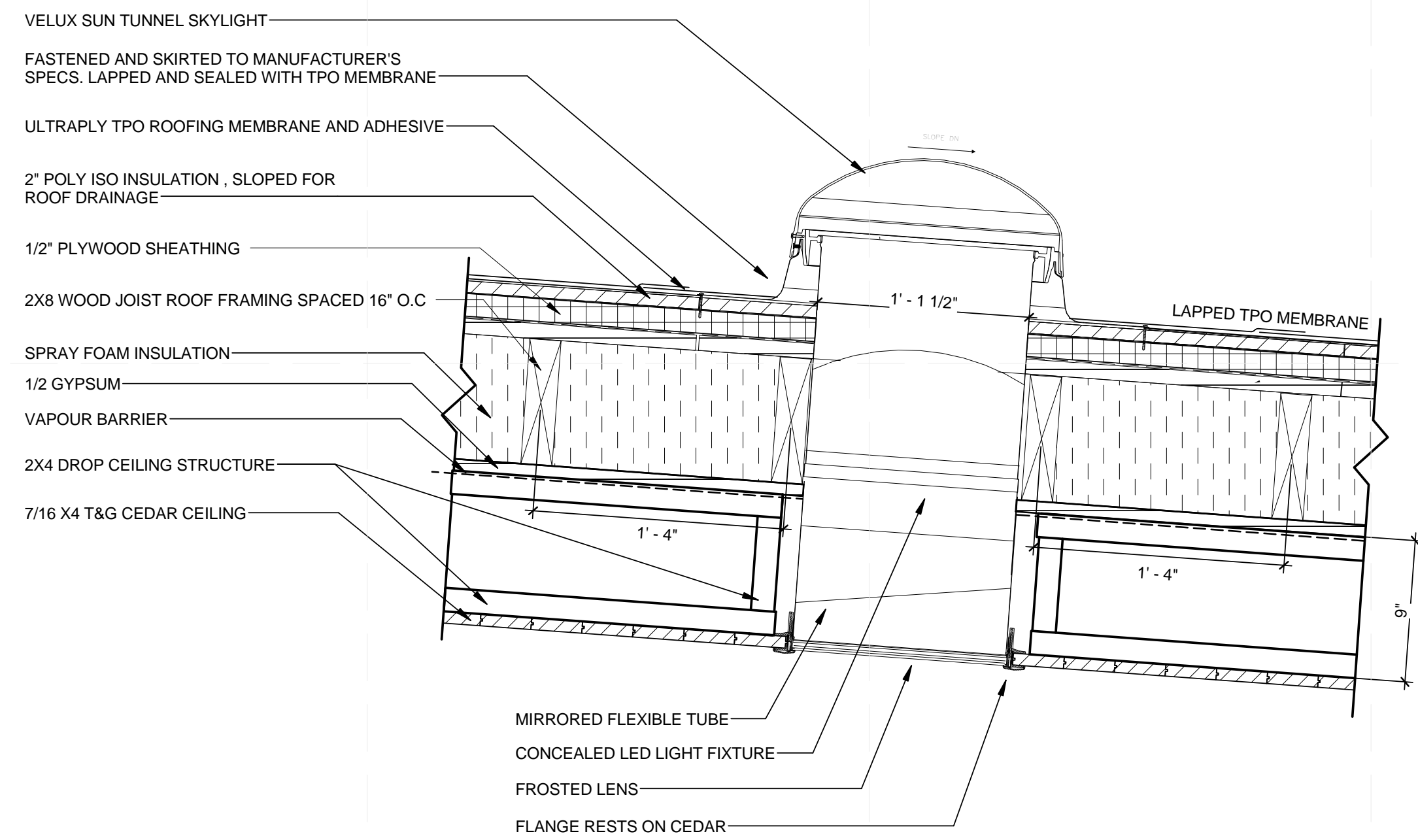
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4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
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LOT NUMBER: 116  
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SHEET TITLE

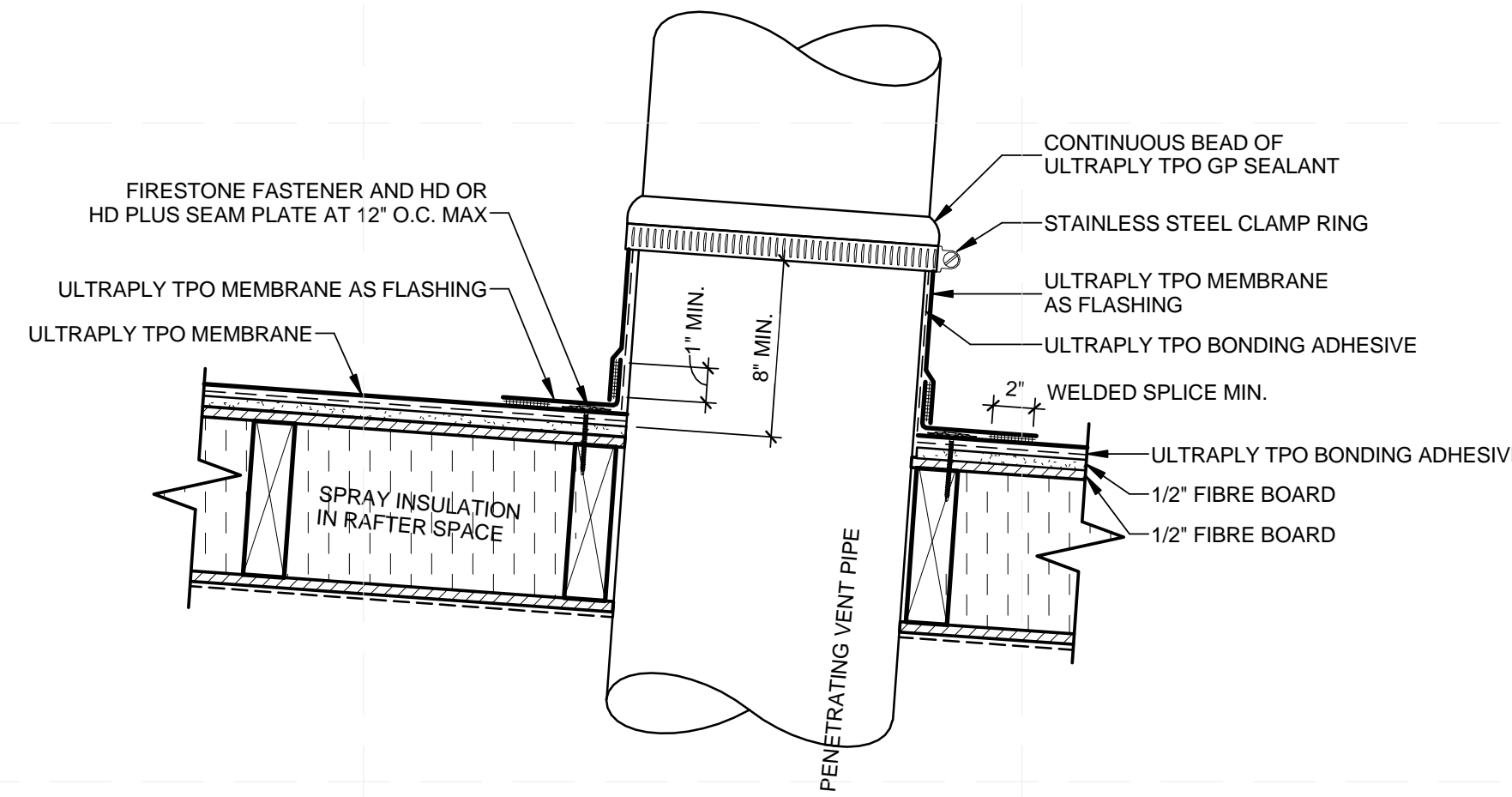
ROOF SECTION VIEW  
 DETAILS

**A-502**



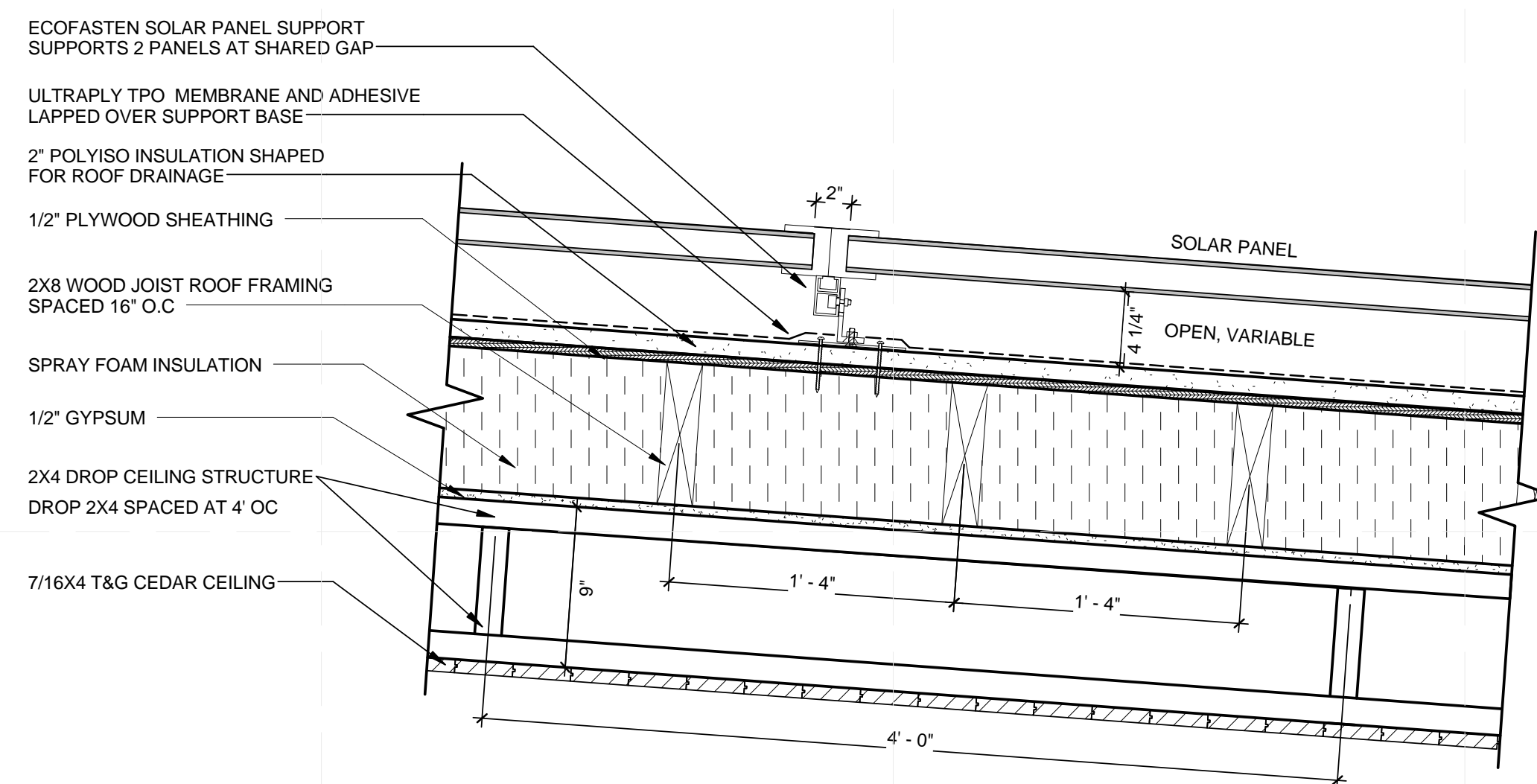
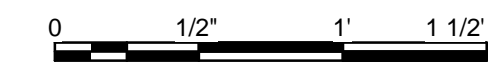
**C1 A - SOLAR TUNNEL DETAIL - G**

1 1/2" = 1'-0"



**B4 A - VENT PENETRATION DETAIL**

1 1/2" = 1'-0"



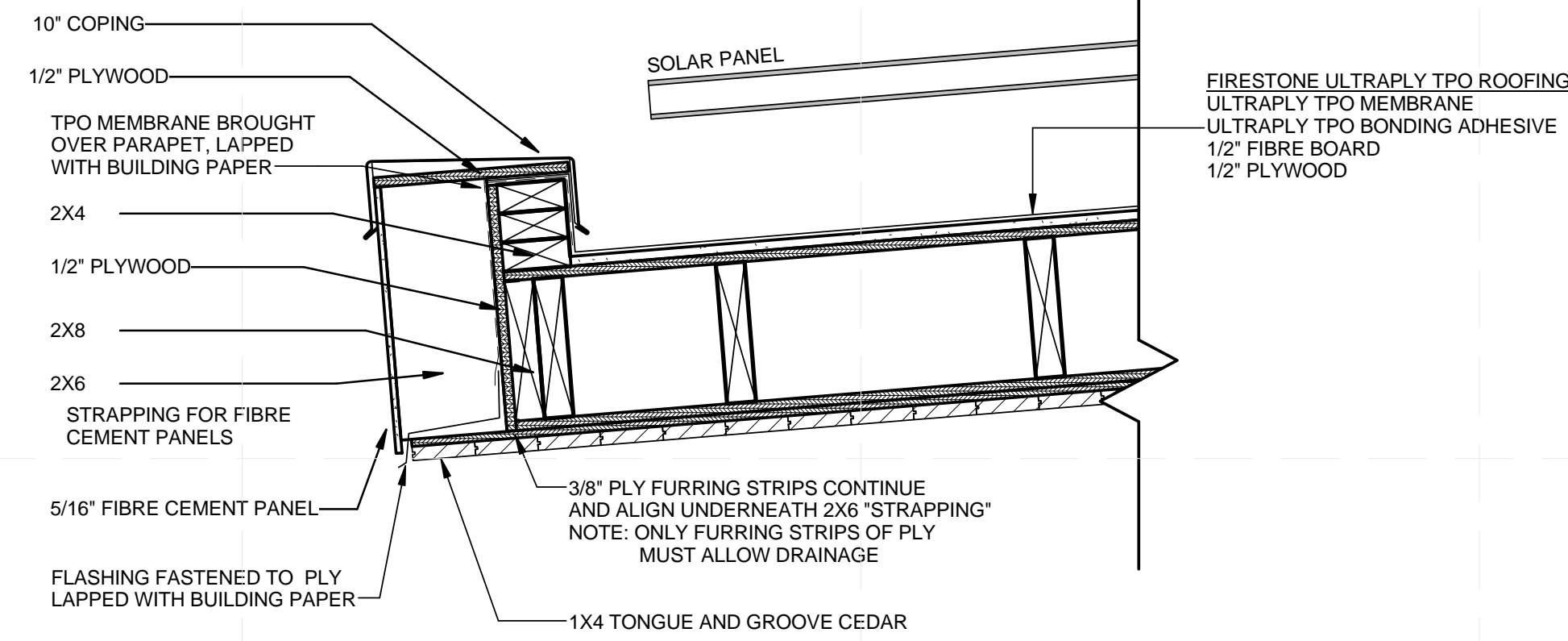
**A1 A - PV MOUNTING DETAIL - G**

1 1/2" = 1'-0"

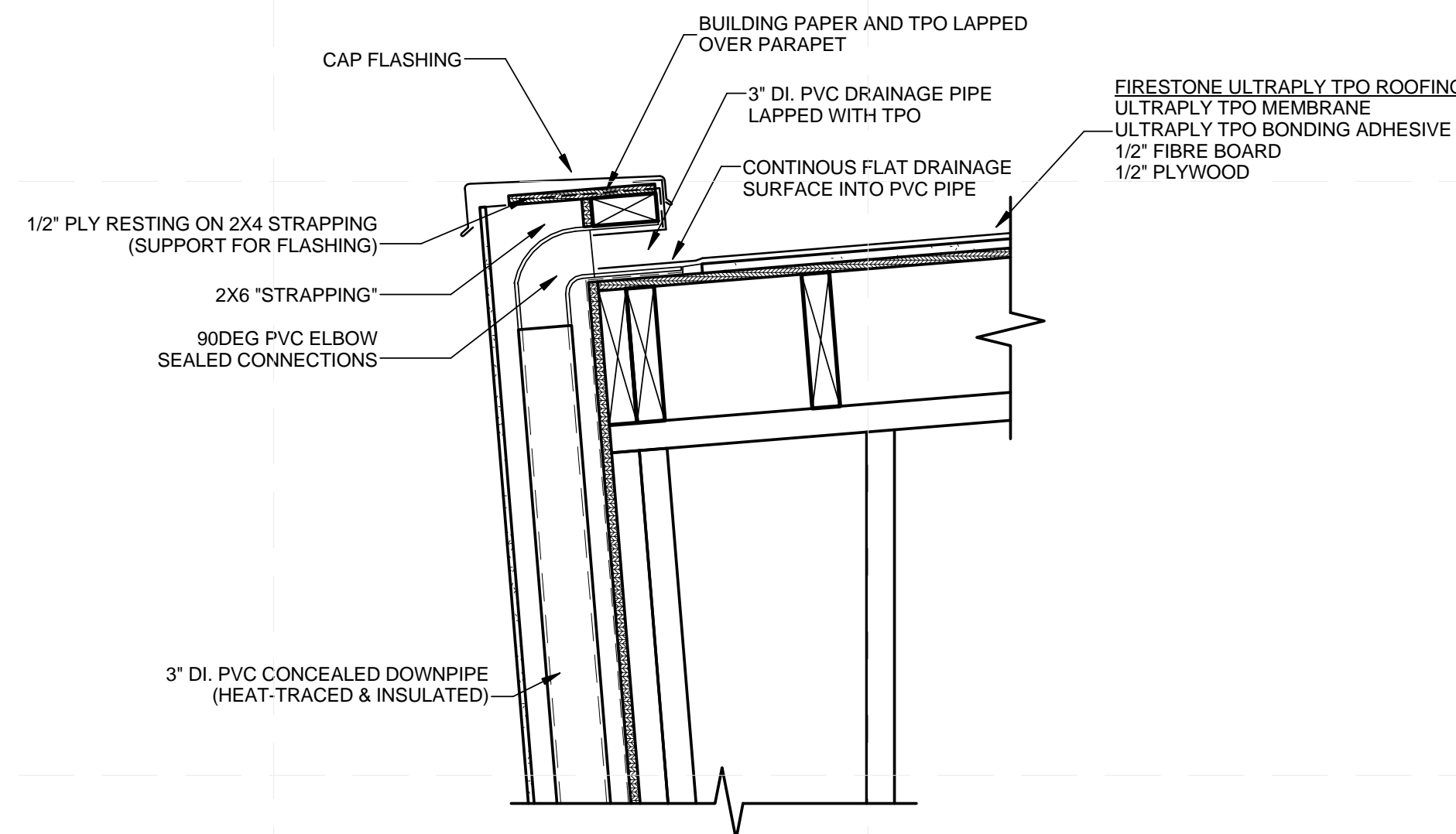




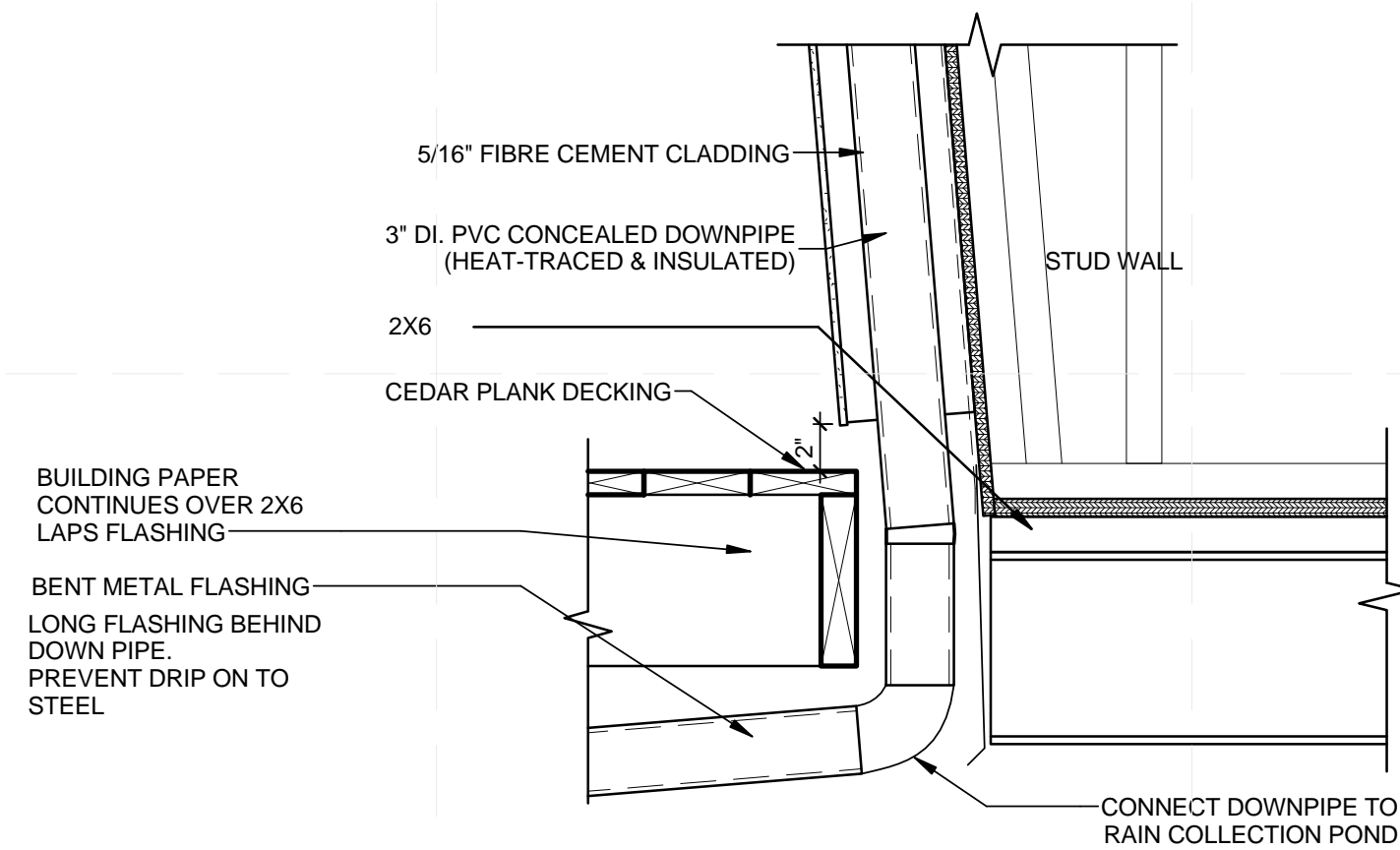
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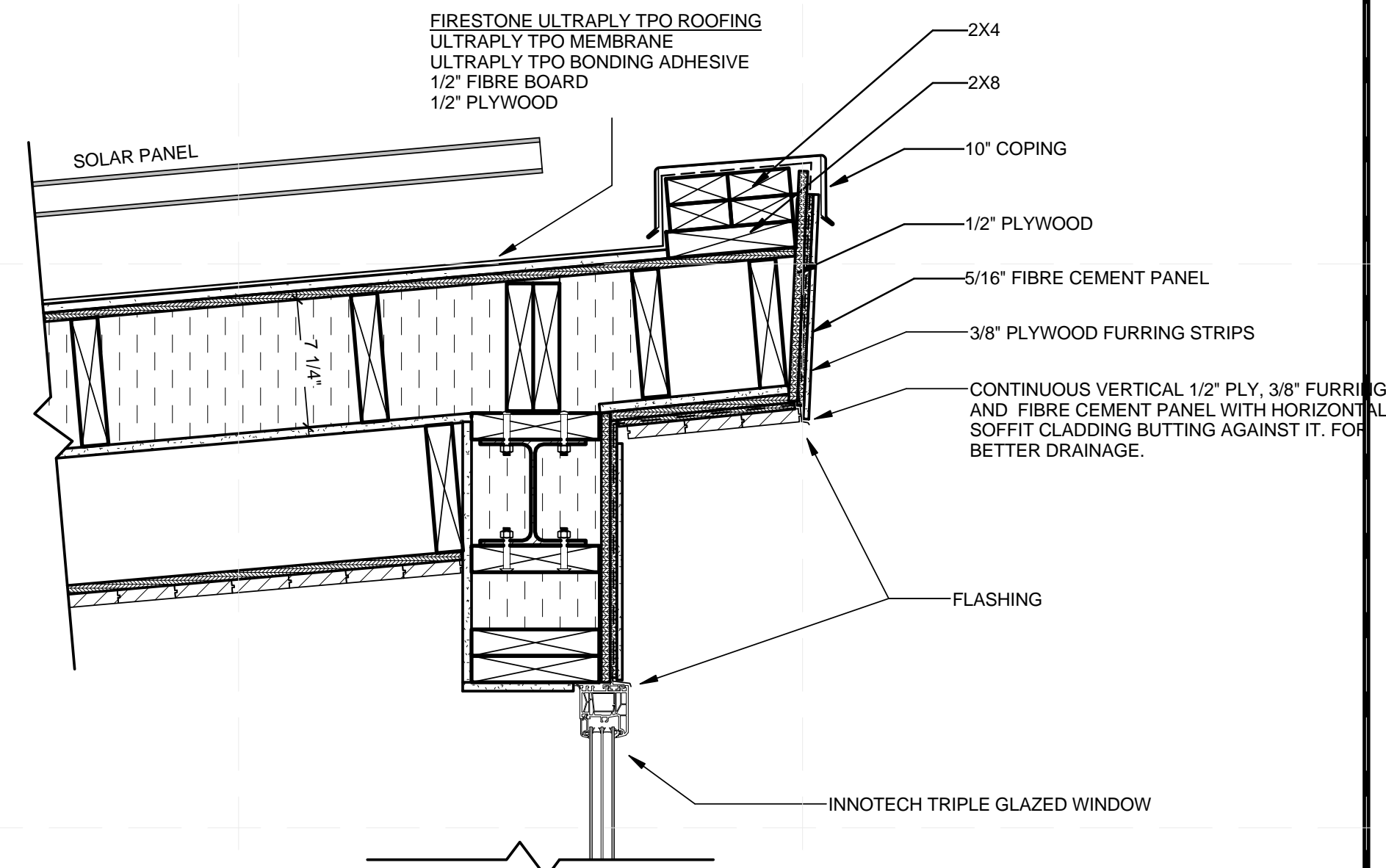
**D1 A- PARAPET SECTION SOUTH SIDE MODULE**  
1 1/2" = 1'-0"



**B1 DRAINAGE SECTION AT PARAPET**  
1 1/2" = 1'-0"



**A1 DRAINAGE SECTION AT DECK**  
1 1/2" = 1'-0"



**B4 A - WINDOW HEADER AND PARAPET DETAIL- G**  
1 1/2" = 1'-0"

**GENERAL SHEET NOTES**

1. fdsf

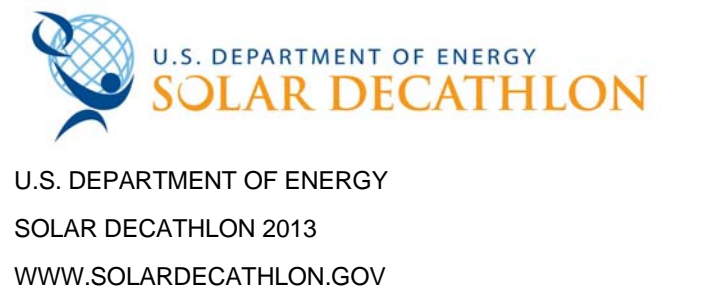
**SHEET KEYNOTES**



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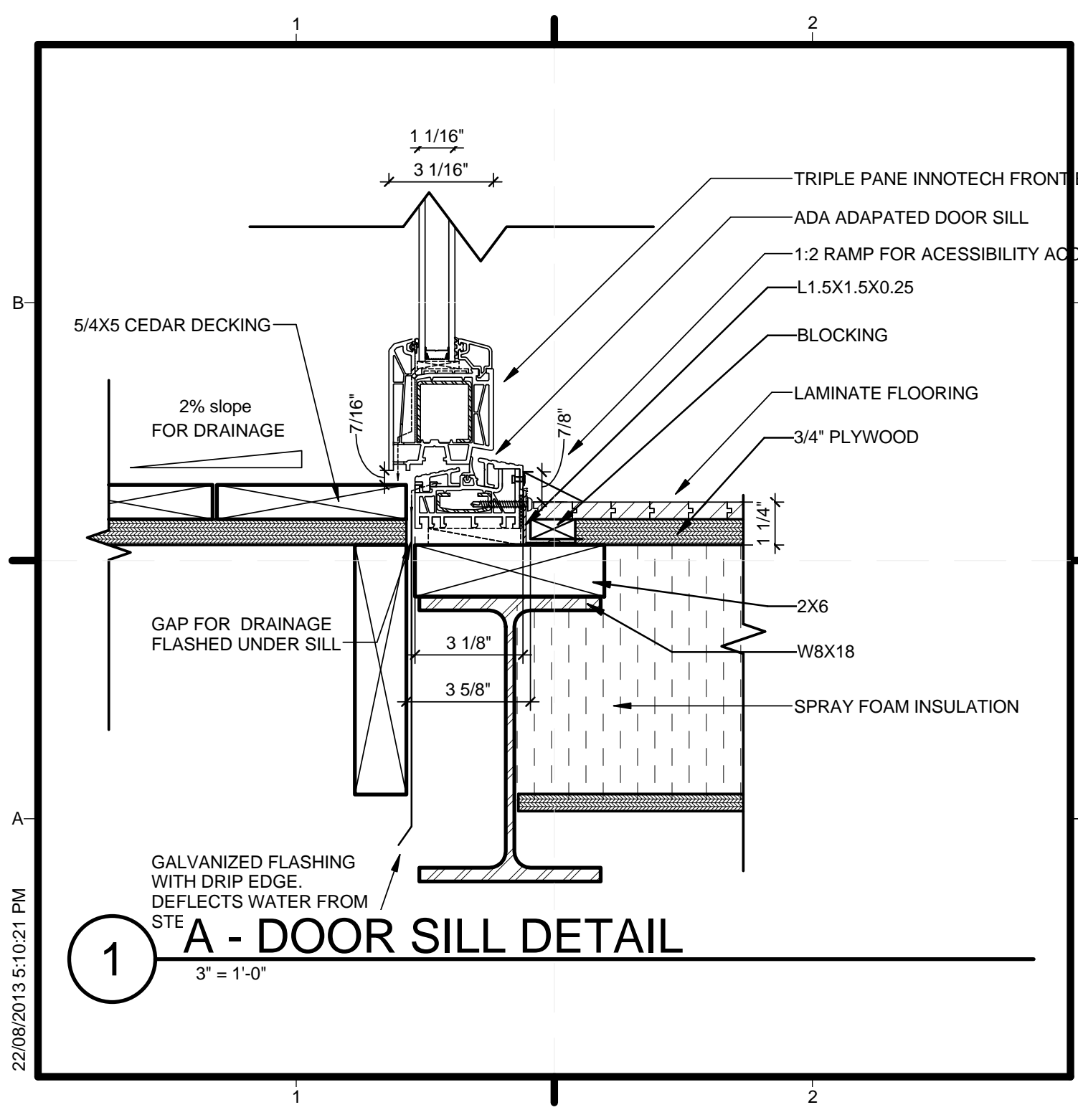


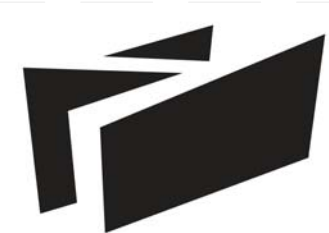
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
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**CONSTRUCTION  
DETAILS**

**A-503**





**BOREALIS**

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ADDRESS:	EVDS - PF-2182 2500 University Drive NW Calgary, AB, Canada T2N 1N4
CONTACT:	info@solardecathlon.ca www.solardecathlon.ca
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ADA DOOR SILL DETAIL	SI
<b>A-504</b>	

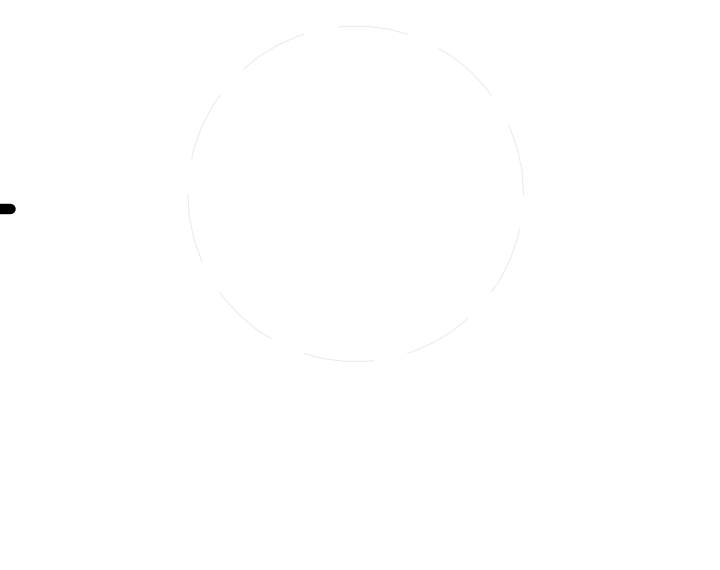
GENERAL SHEET NOTES



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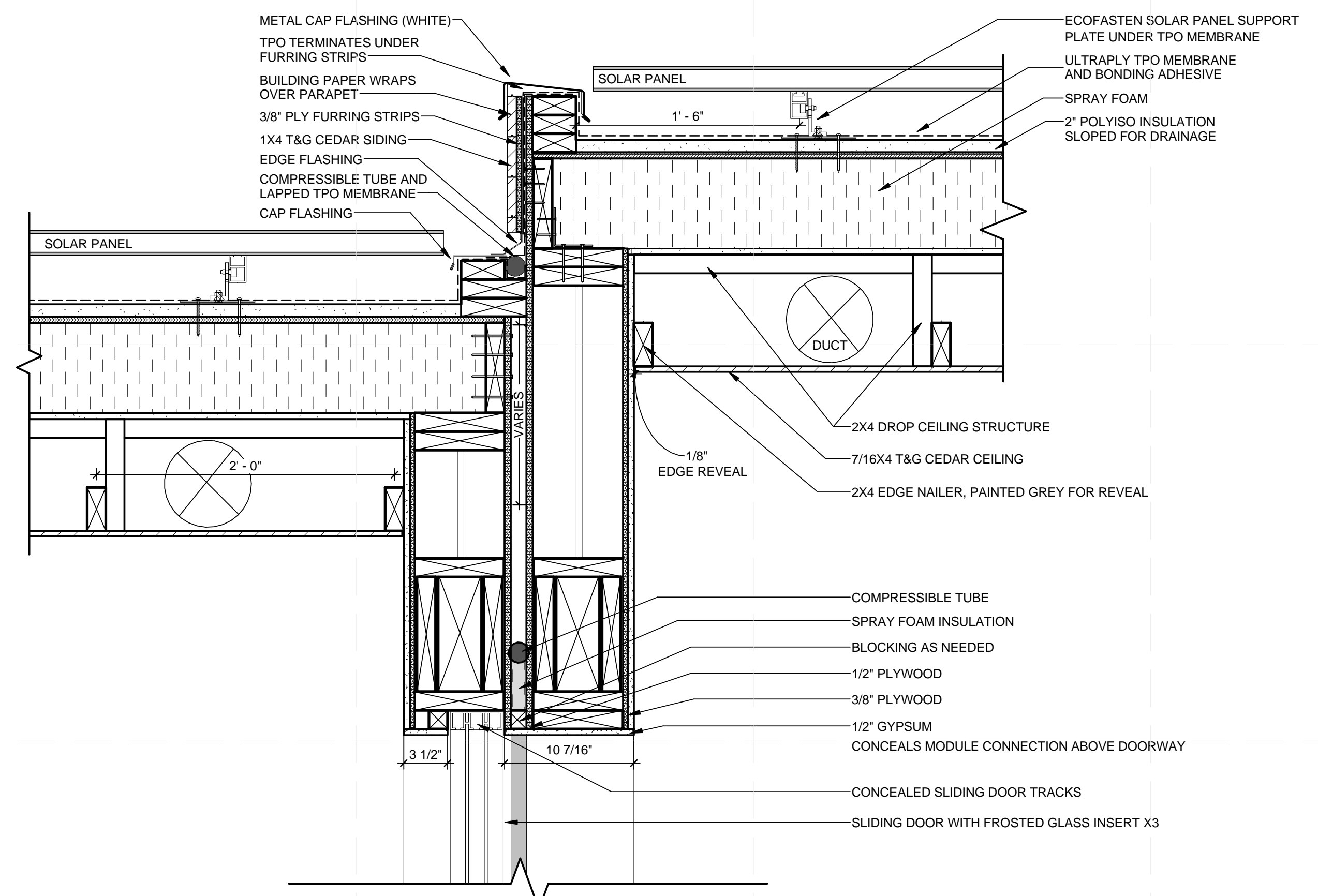
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	06/22/2013	AS BUILT SET

01 06-28-2013 SI FOR RFI WO7

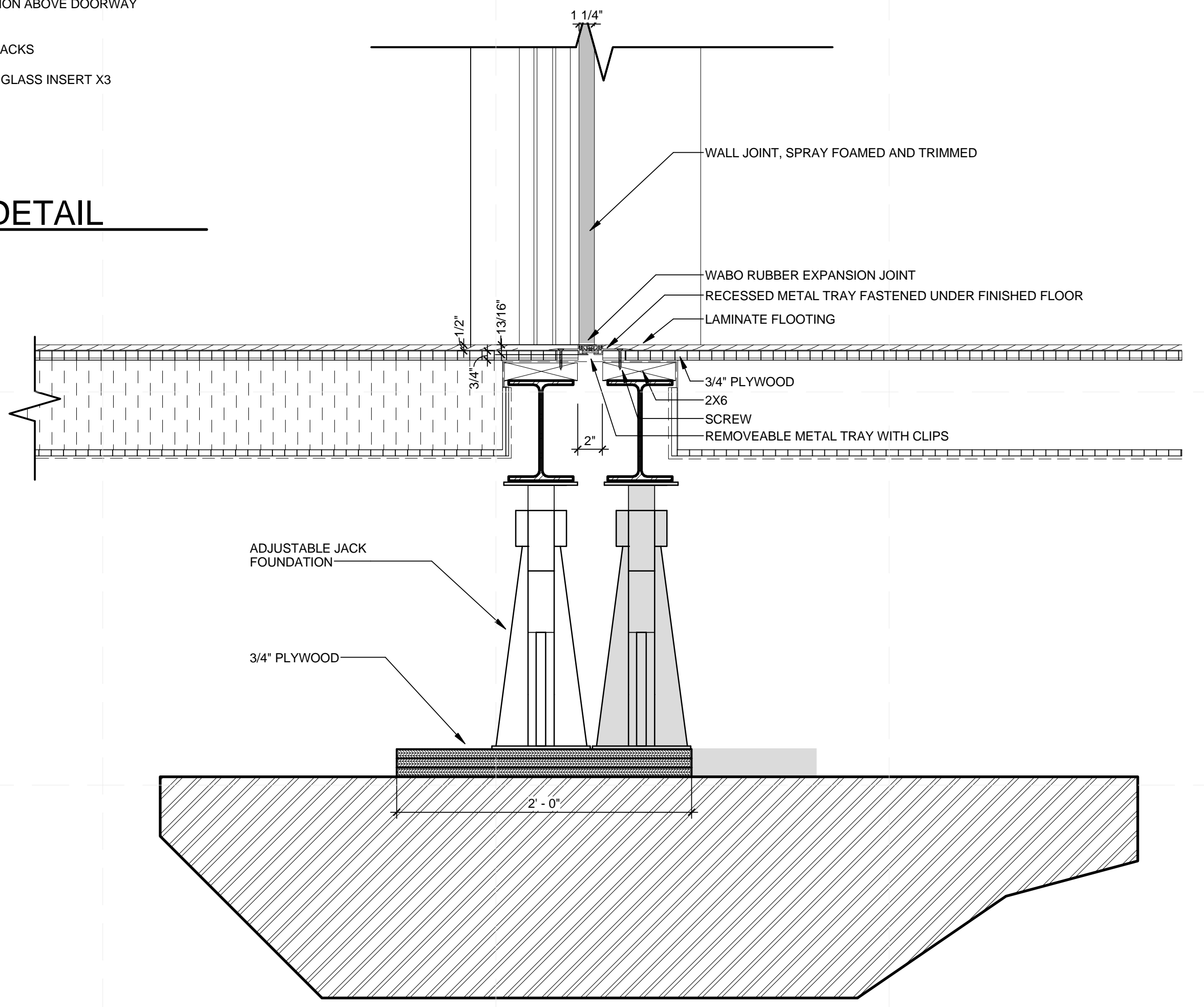
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 STATUS:  
 SHEET TITLE

EXPANSION JOINT AT  
 MODULE CONNECTION

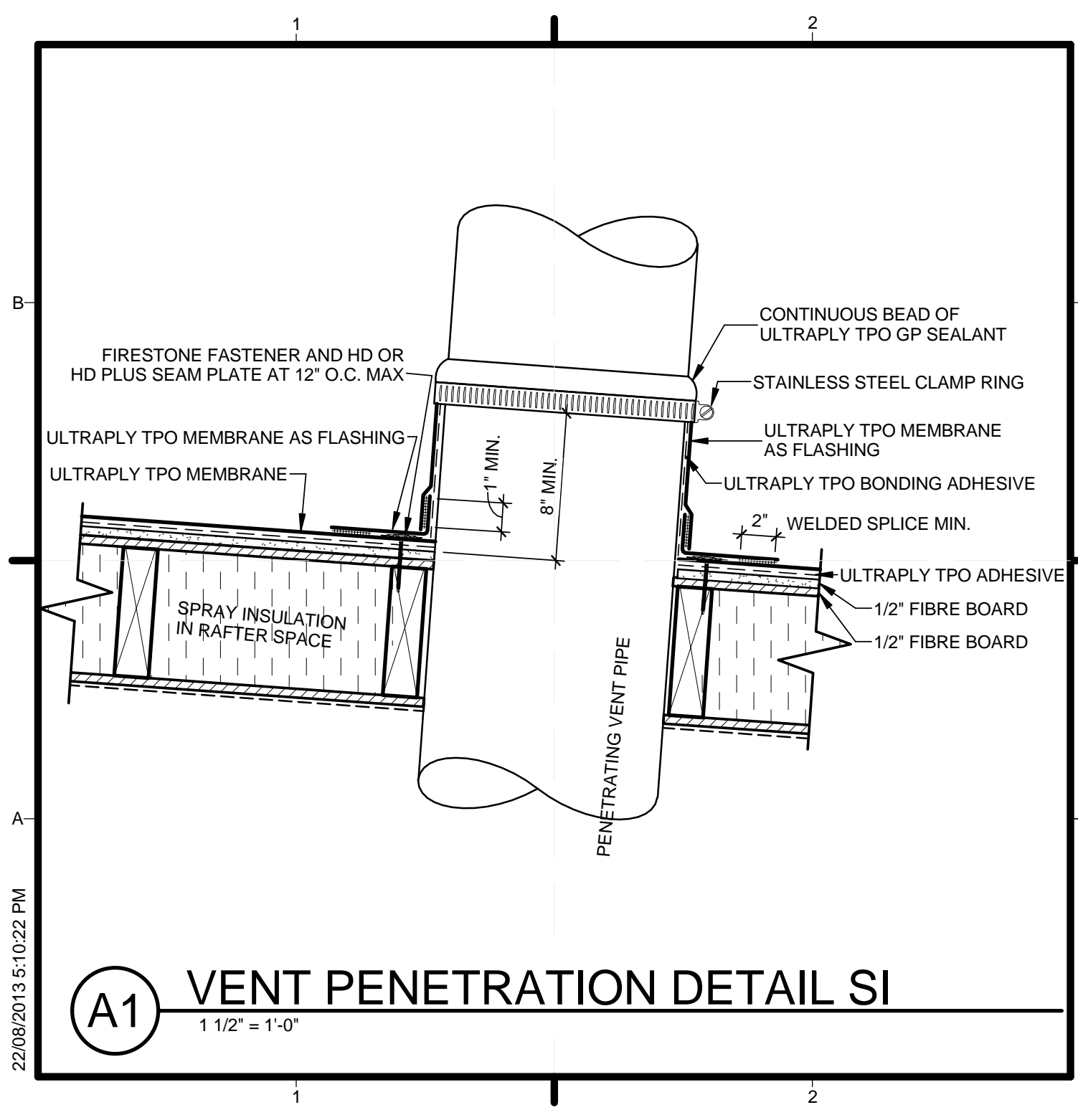
A-506



**C2** A - MODULES ROOF CONNECTION DETAIL  
 1 1/2" = 1'-0"

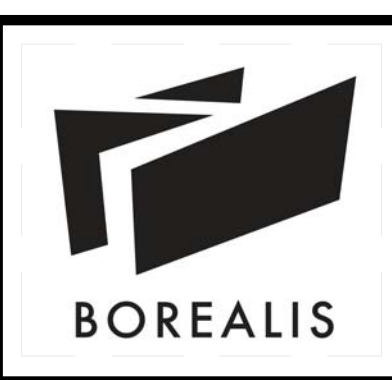


**A4** A - MODULES FLOOR CONNECTION DETAIL  
 1 1/2" = 1'-0"



22/08/2013 5:10:22 PM

**(A1) VENT PENETRATION DETAIL SI**  
 1 1/2" = 1'-0"



TEAM NAME:	TEAM ALBERTA
ADDRESS:	EVDS - PF-2182 2500 University Drive NW Calgary, AB, Canada T2N 1N4
CONTACT:	info@solardecathlon.ca www.solardecathlon.ca
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ROOF PENETRATION DETAIL	
A-508	



GENERAL SHEET NOTES

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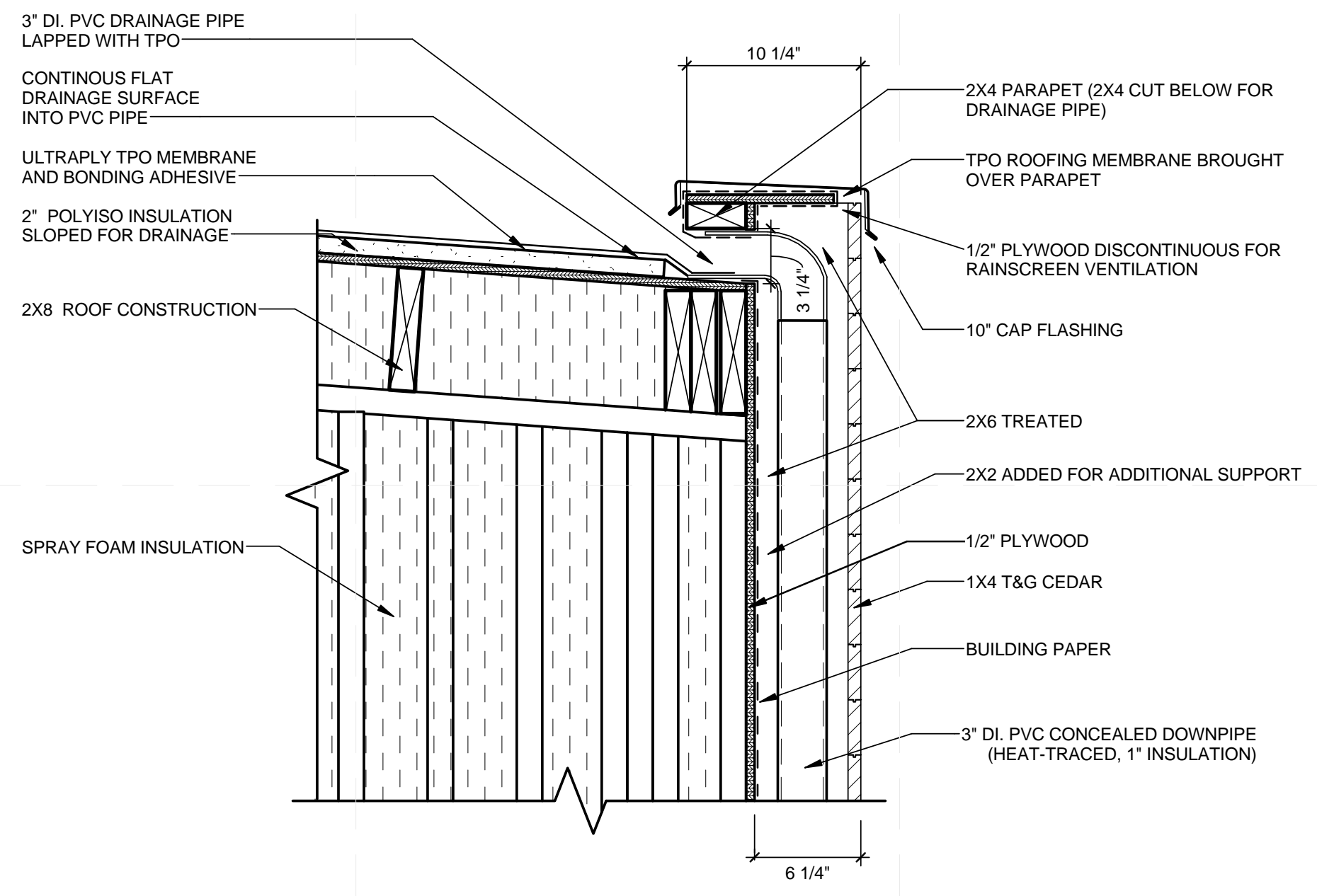
 U.S. DEPARTMENT OF ENERGY  
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MARK	DATE	DESCRIPTION
1	04/29/2013	ISSUED FOR ELEC/MECH
2	05/03/2013	ISSUED FOR CLADDING
3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

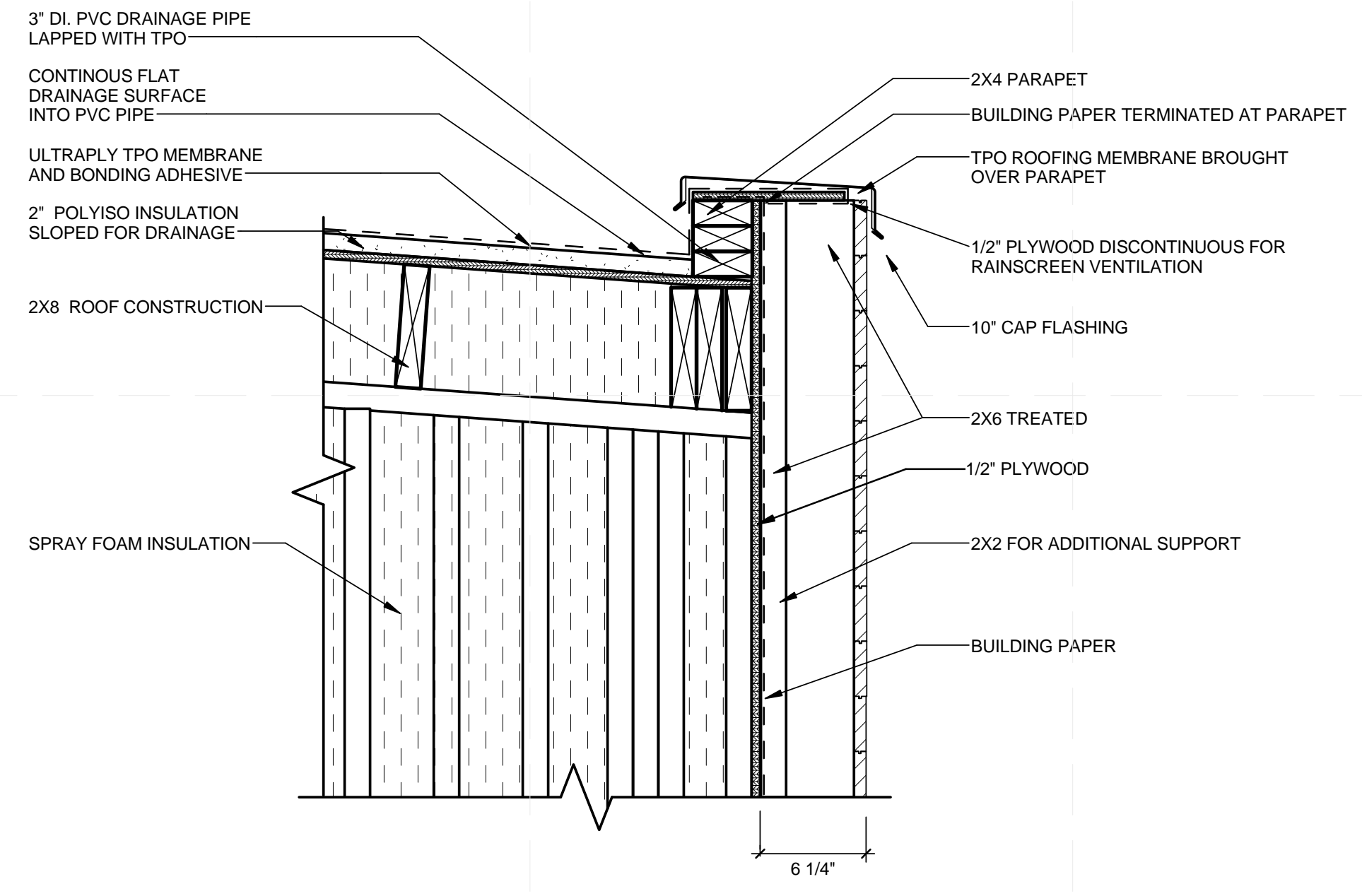
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 DRAWN BY:  
 CHECKED BY:  
 STATUS:  
 SHEET TITLE

CONSTRUCTION DETAILS

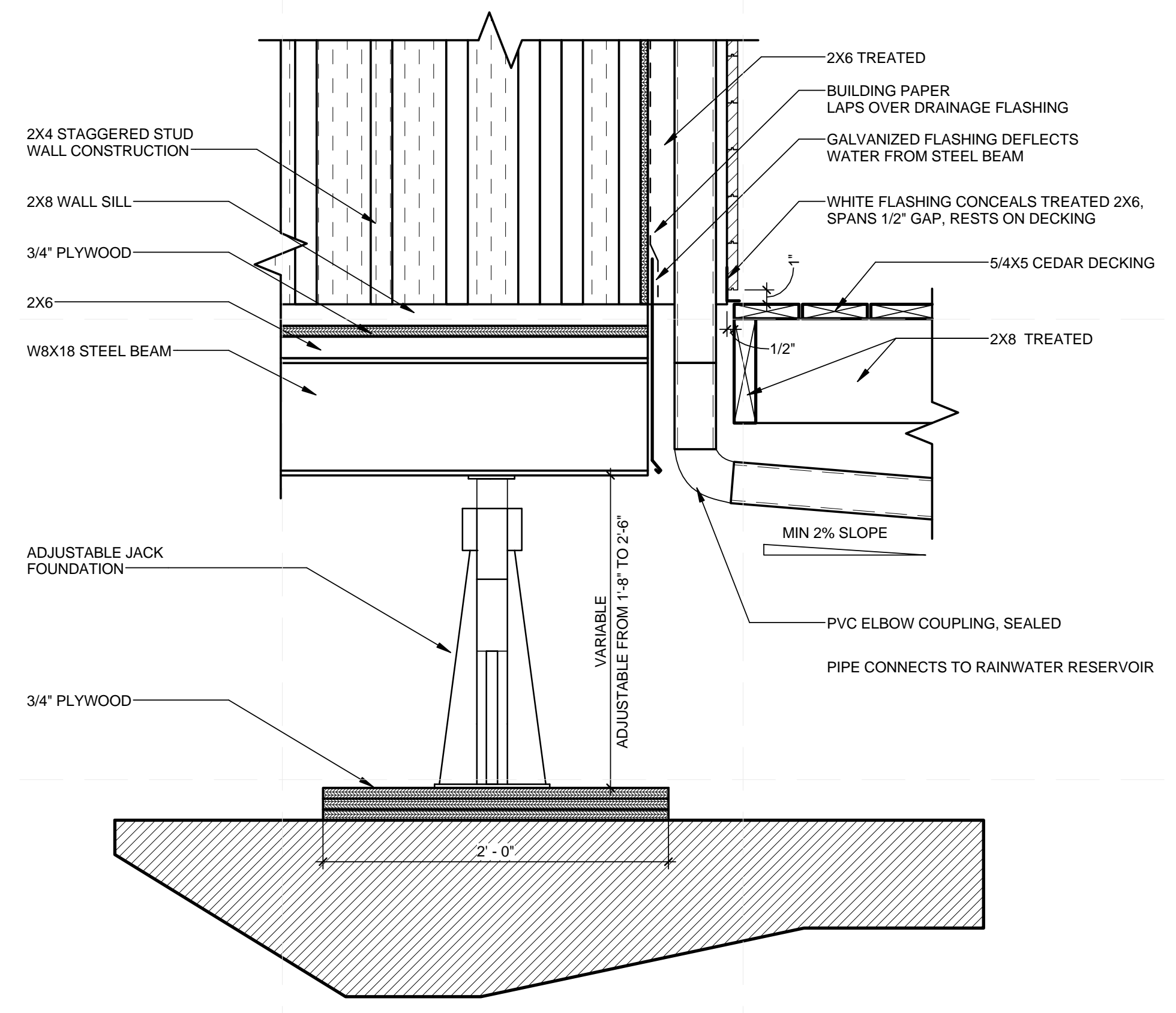
A-509



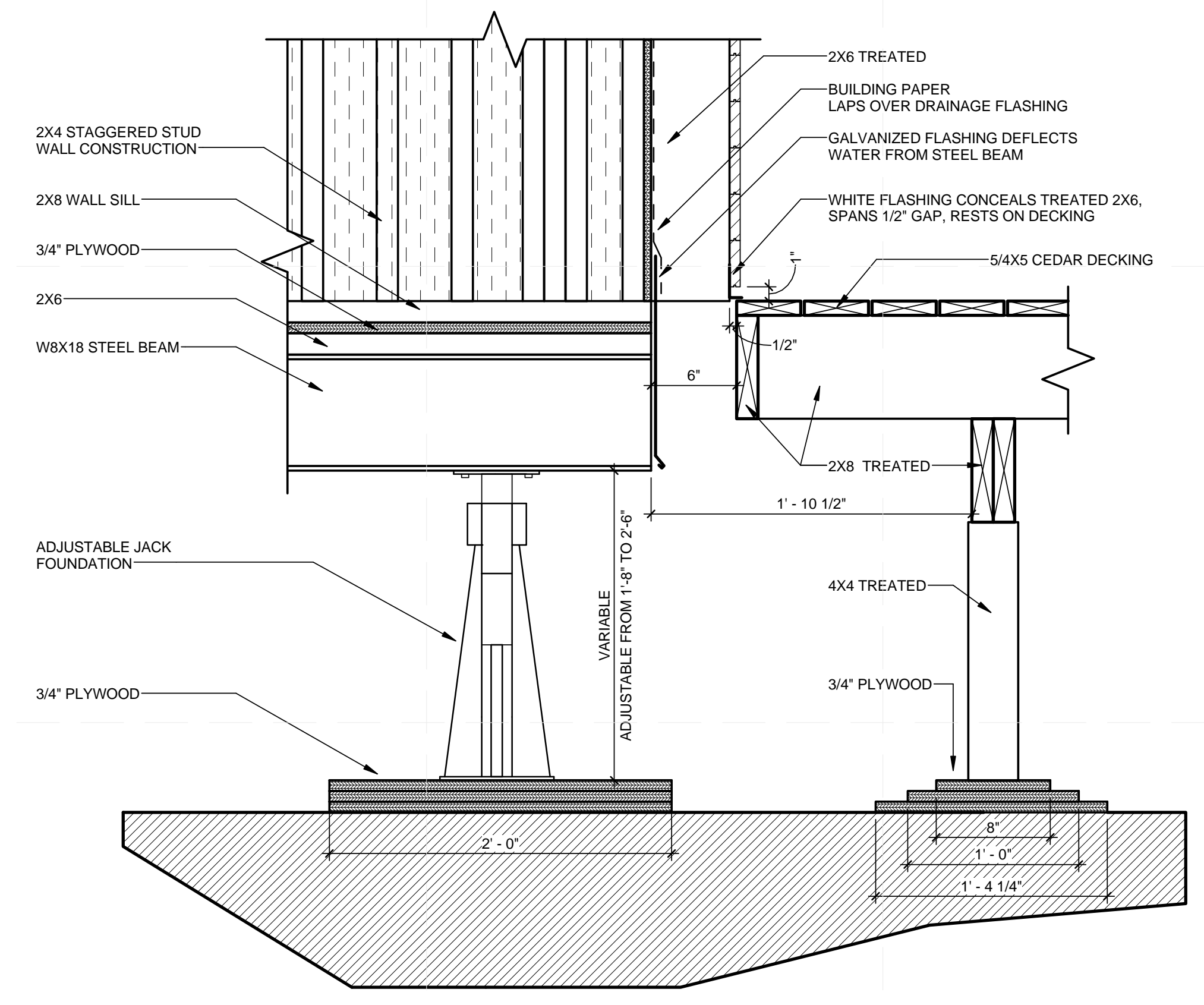
D1 A - MECH WALL - PARAPET DRAIN DETAIL  
 1 1/2" = 1'-0"



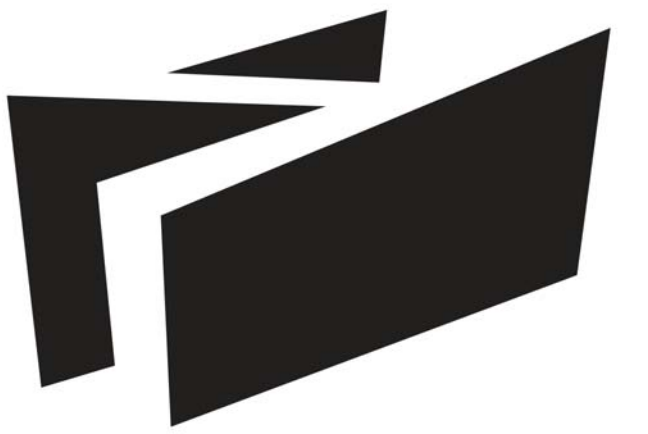
C4 A - MECH EXTENSION WALL - PARAPET DETAIL  
 1 1/2" = 1'-0"



A1.0 A - MECH WALL - FLOOR/WALL DRAIN DETAIL  
 1 1/2" = 1'-0"



A4 A - MECH EXTENSION WALL - FLOOR/WALL DETAIL  
 1 1/2" = 1'-0"



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UNIVERSITY OF CALGARY  
2500 UNIVERSITY DR NW  
CALGARY, AB T2N 1N4

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CALGARY, AB T3E 6K6

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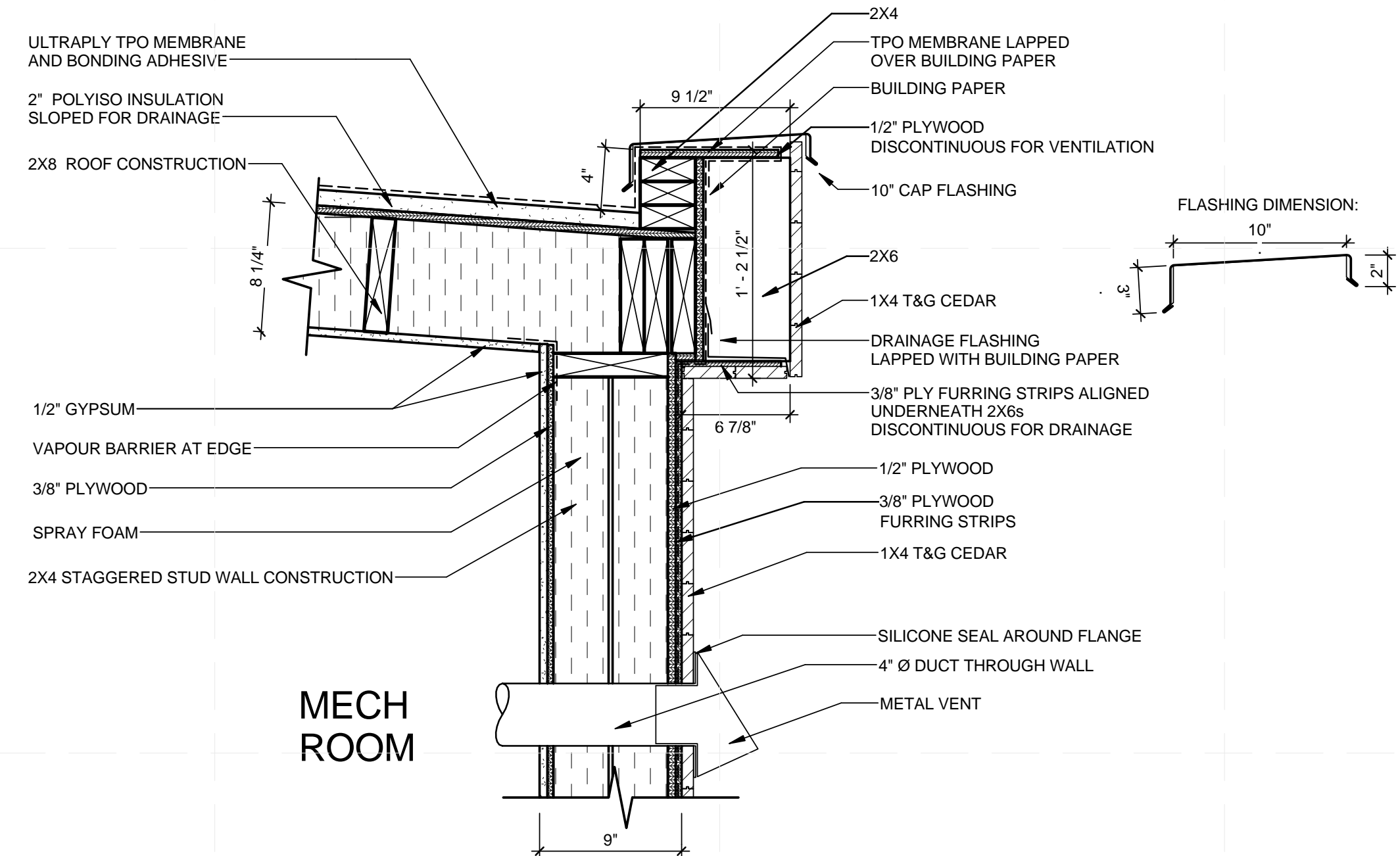
MARK	DATE	DESCRIPTION
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LOT NUMBER: 116  
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STATUS:

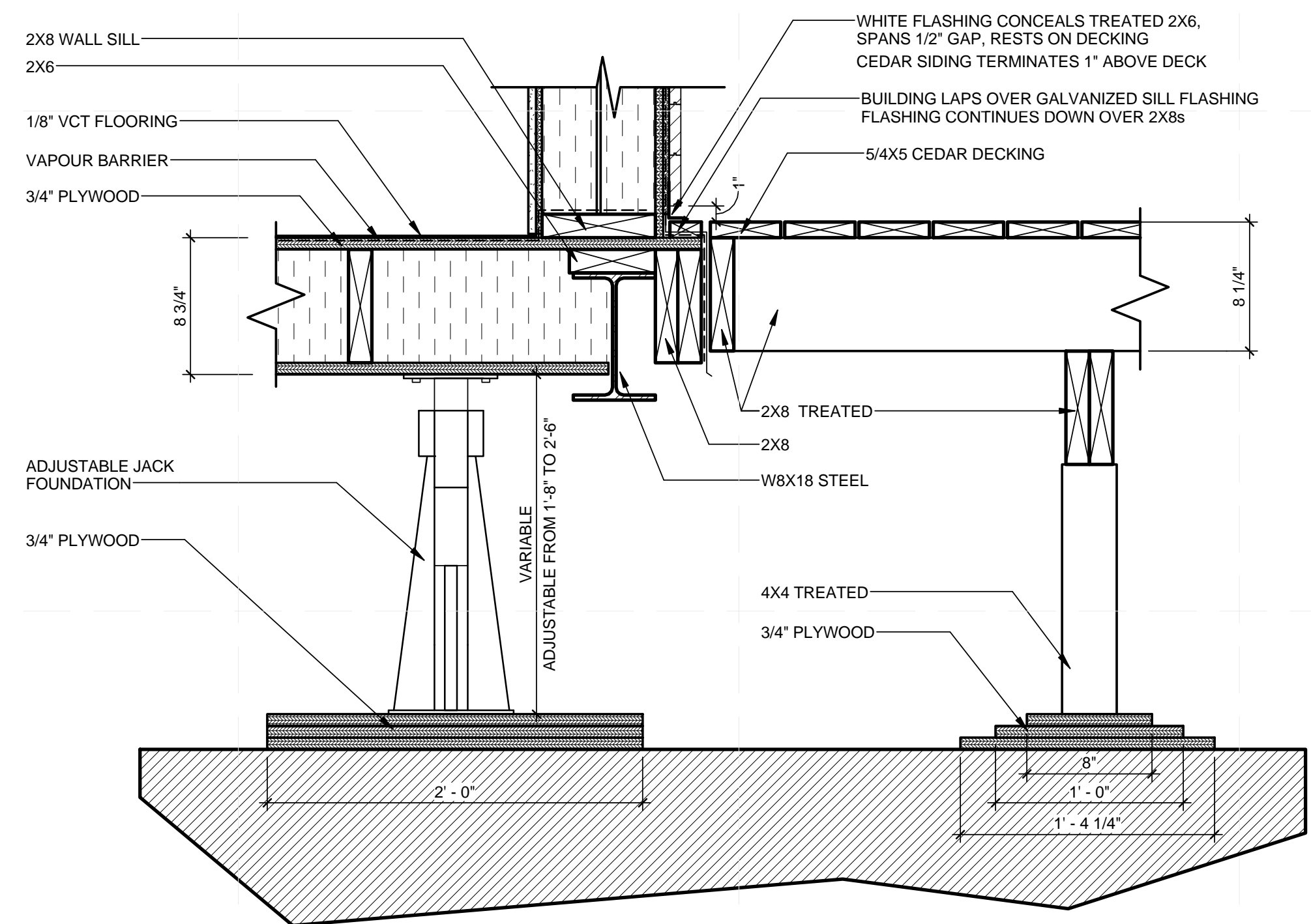
SHEET TITLE

**CONSTRUCTION  
DETAILS**

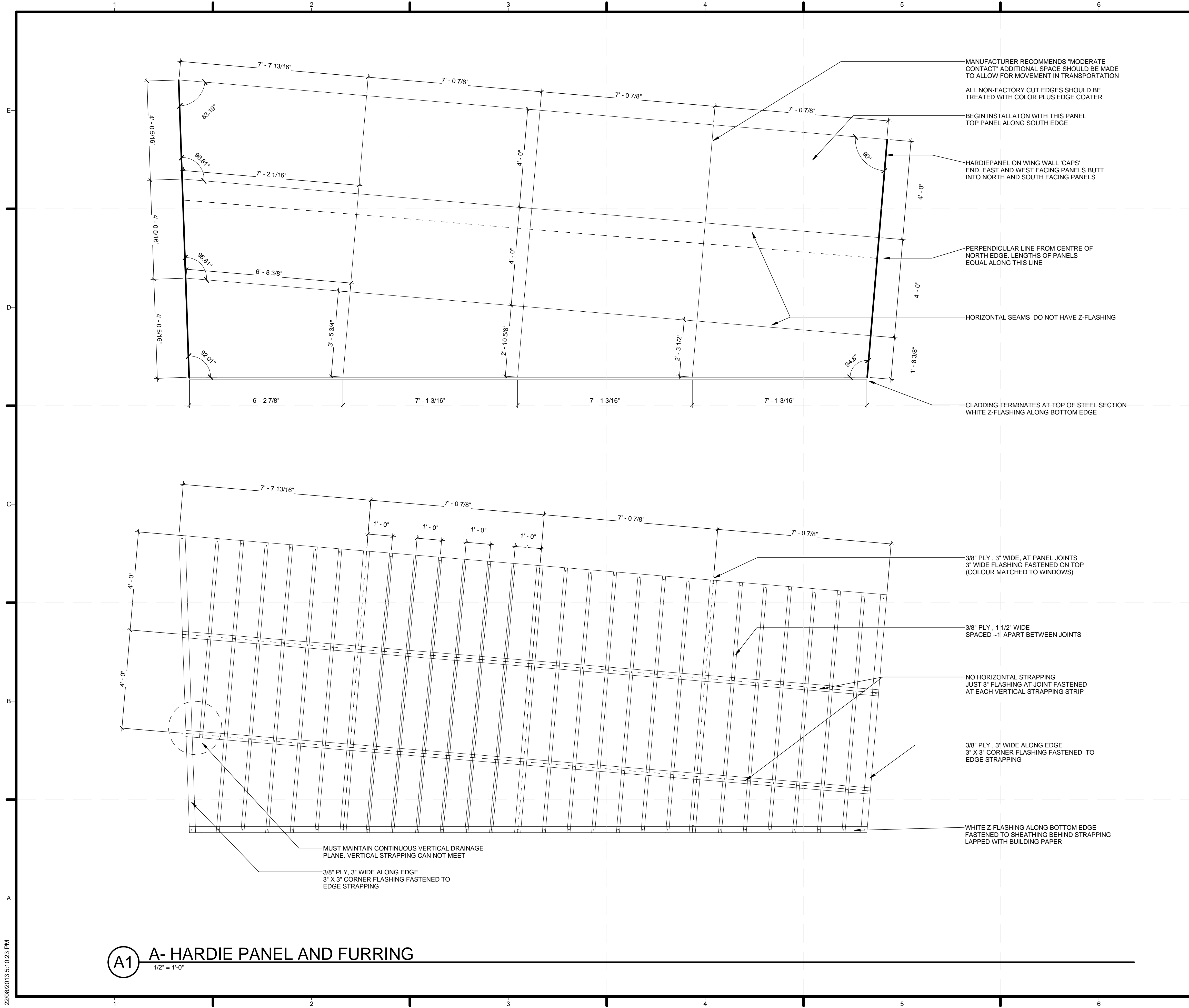
**A-510**



**C1 A - MECH WALL - PARAPET DETAIL**  
1 1/2" = 1'-0"



**A1 A - MECH WALL - FLOOR/WALL DETAIL**  
1 1/2" = 1'-0"



**GENERAL SHEET NOTES**

LENGTHS AND ANGLES MAY BE DIFFERENT ON SITE CONSTRUCTION. ADJUST TO SUIT

HARDIEPANEL FASTENED BY 2" NAILS SPACED 12" HORIZONTALLY, AND 5" VERTICALLY. KEPT MIN 3/8" FROM EDGES AND 2" FROM CORNERS

WEST ELEVATION IS SHOWN HERE. EAST ELEVATION IS MIRRORED.

**SHEET KEYNOTES**



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 UNIVERSITY OF CALGARY  
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LOT NUMBER: 116  
 DRAWN BY:  
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 SHEET TITLE

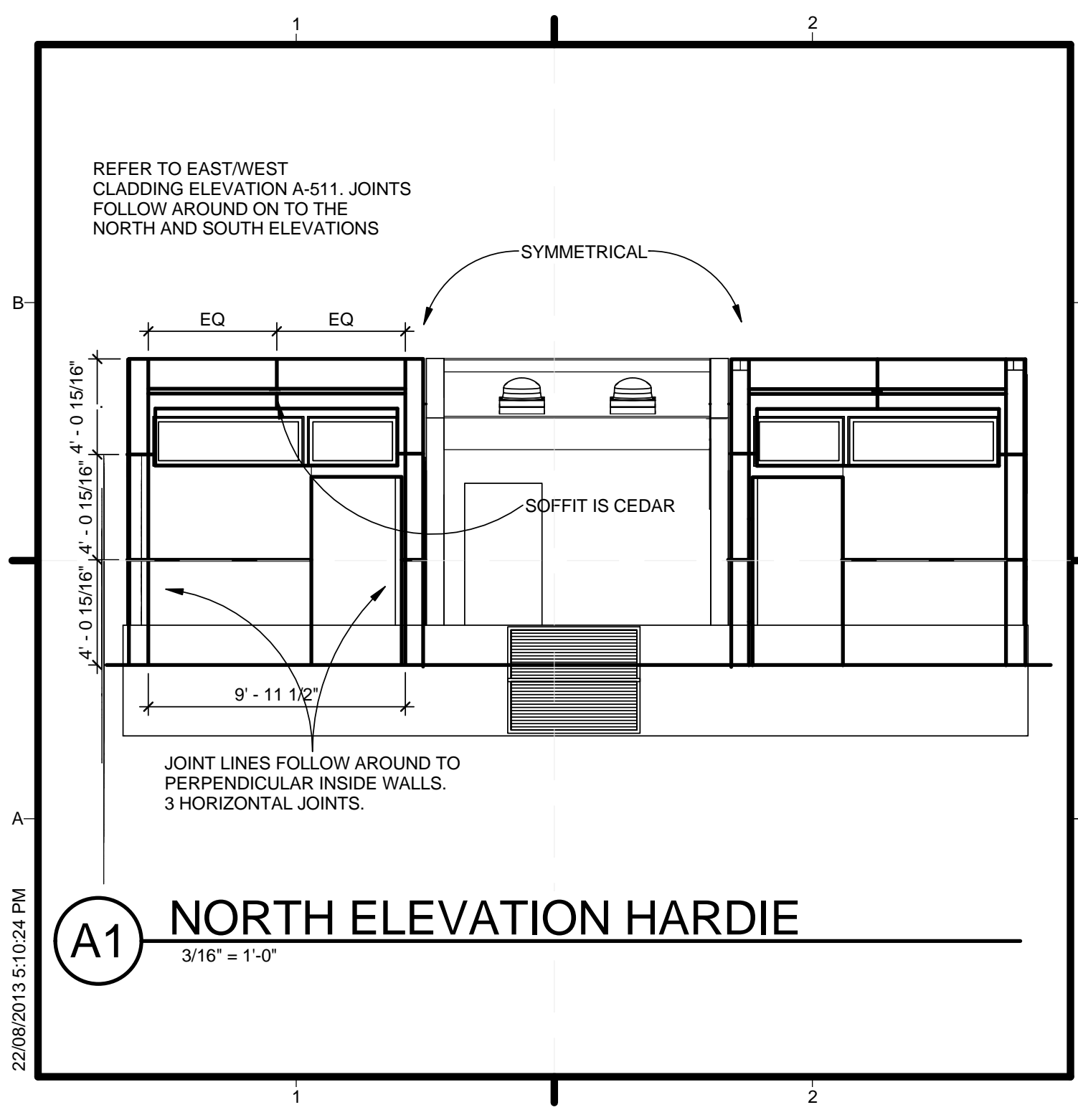
**CLADDING INSTALLATION**

**A-511**

**A1 A- HARDIE PANEL AND FURRING**


1/2" = 1'-0"

22/08/2013 5:10:23 PM



**A1** NORTH ELEVATION HARDIE  
3/16" = 1'-0"

22/08/2013 5:10:24 PM



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TEAM NAME: TEAM ALBERTA

ADDRESS: EVDS - PF-2182  
2500 University Drive NW  
Calgary, AB, Canada T2N 1N4

CONTACT: info@solardecathlon.ca  
www.solardecathlon.ca

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DRAWN BY: Author

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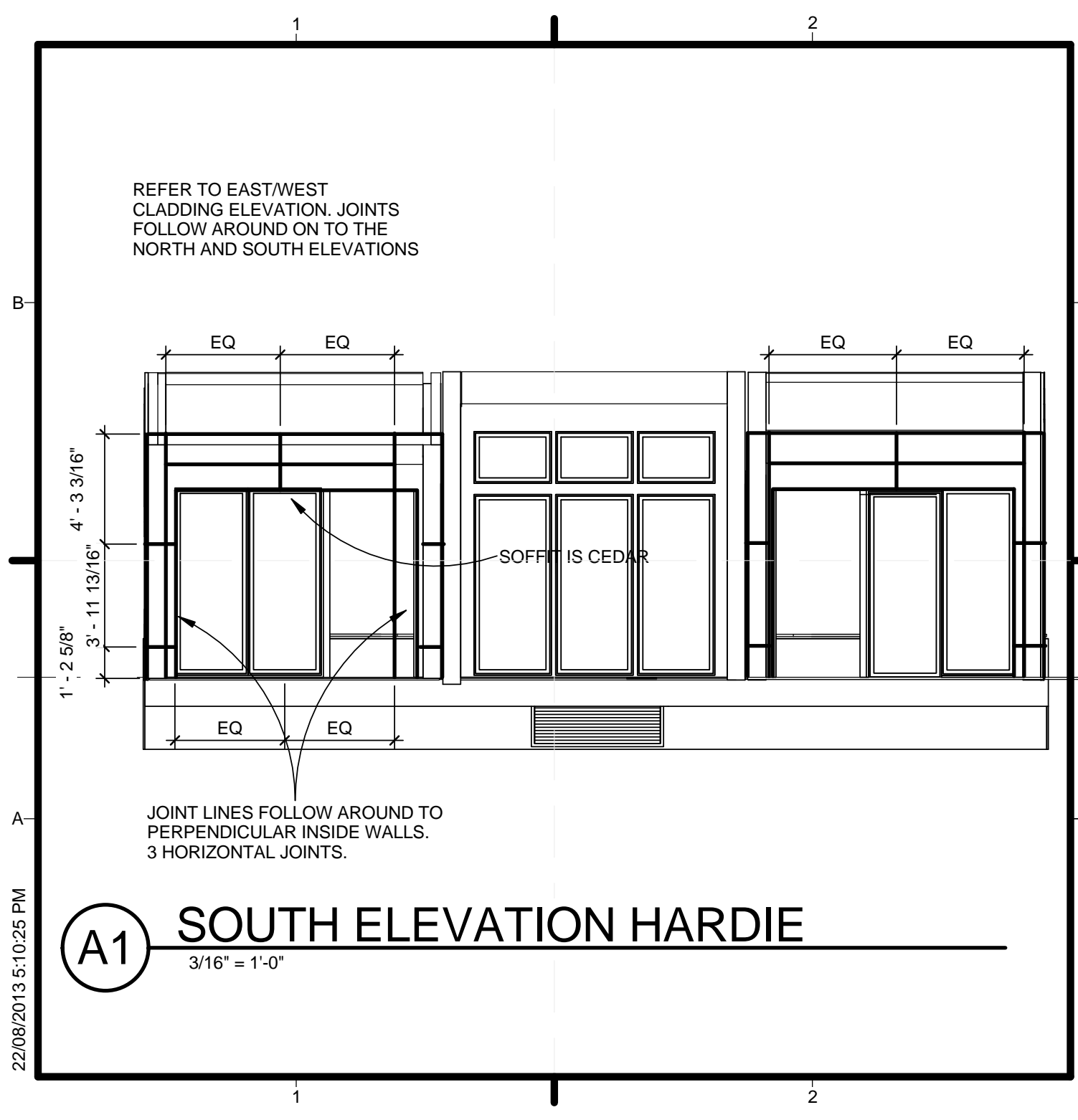
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SHEET TITLE

NORTH ELEVATION  
HARDIE SITE  
INSTRUCTION

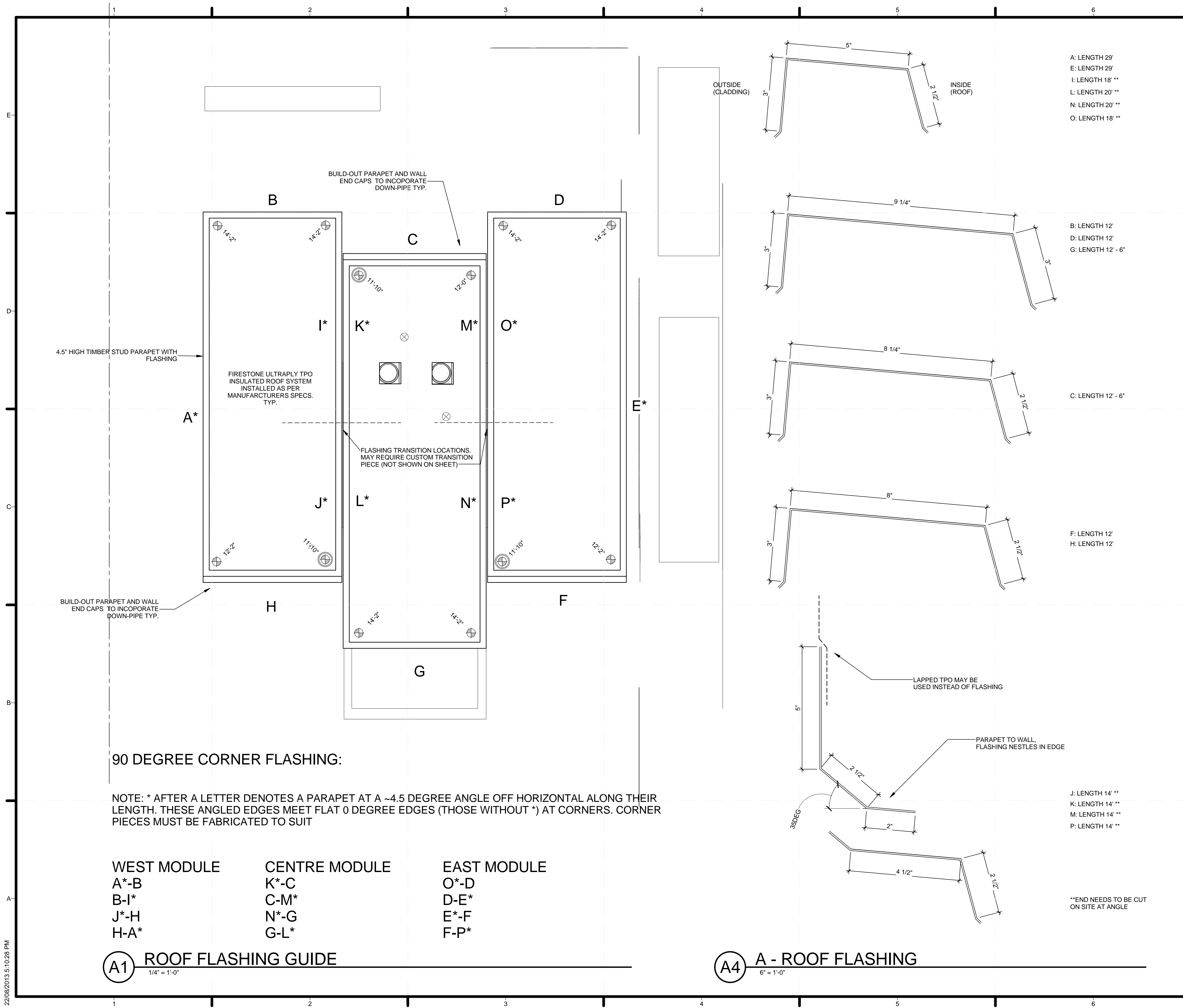
A-512





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ADDRESS:	EVDS - PF-2182 2500 University Drive NW Calgary, AB, Canada T2N 1N4
CONTACT:	info@solardecathlon.ca www.solardecathlon.ca
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SHEET TITLE	
SOUTH ELEVATION HARDIE	
A-513	

22/08/2013 5:10:25 PM



**GENERAL SHEET NOTES**

LETTERS REFER TO PLAN ON SHEET  
 ALL LENGTHS ARE +/- 6". MORE MAY BE NECESSARY TO ACCOUNT FOR TRIMMING AND ERROR  
 \* SINGLE STAR DENOTES EDGES OR PARAPET AT APPROX 4.5 DEGREE ANGLE OFF HORIZONTAL  
 \*\* DOUBLE STAR DENOTES AN END THAT WILL NEED TO BE CUT ON SITE AT AN ANGLE (OCCURS AT INTER-MODULE EDGES)

A: LENGTH 29'  
 E: LENGTH 29'  
 I: LENGTH 18' \*\*  
 L: LENGTH 20' \*\*  
 N: LENGTH 20' \*\*  
 O: LENGTH 18' \*\*

B: LENGTH 12'  
 D: LENGTH 12'  
 G: LENGTH 12' - 6"

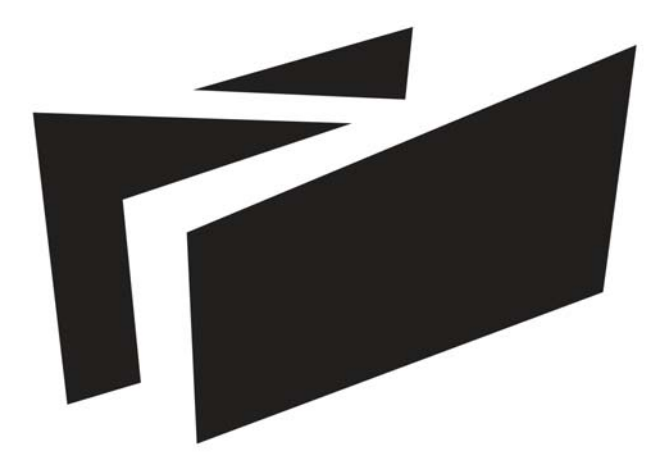
C: LENGTH 12' - 6"

F: LENGTH 12'  
 H: LENGTH 12'

J: LENGTH 14' \*\*  
 K: LENGTH 14' \*\*  
 M: LENGTH 14' \*\*  
 P: LENGTH 14' \*\*

\*\*END NEEDS TO BE CUT ON SITE AT ANGLE

**SHEET KEYNOTES**



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TEAM ALBERTA  
 UNIVERSITY OF CALGARY  
 2500 UNIVERSITY DR NW  
 CALGARY, AB T2N 1N4  
 MOUNT ROYAL UNIVERSITY  
 4825 MT ROYAL GATE SW  
 CALGARY, AB T3E 6K6  
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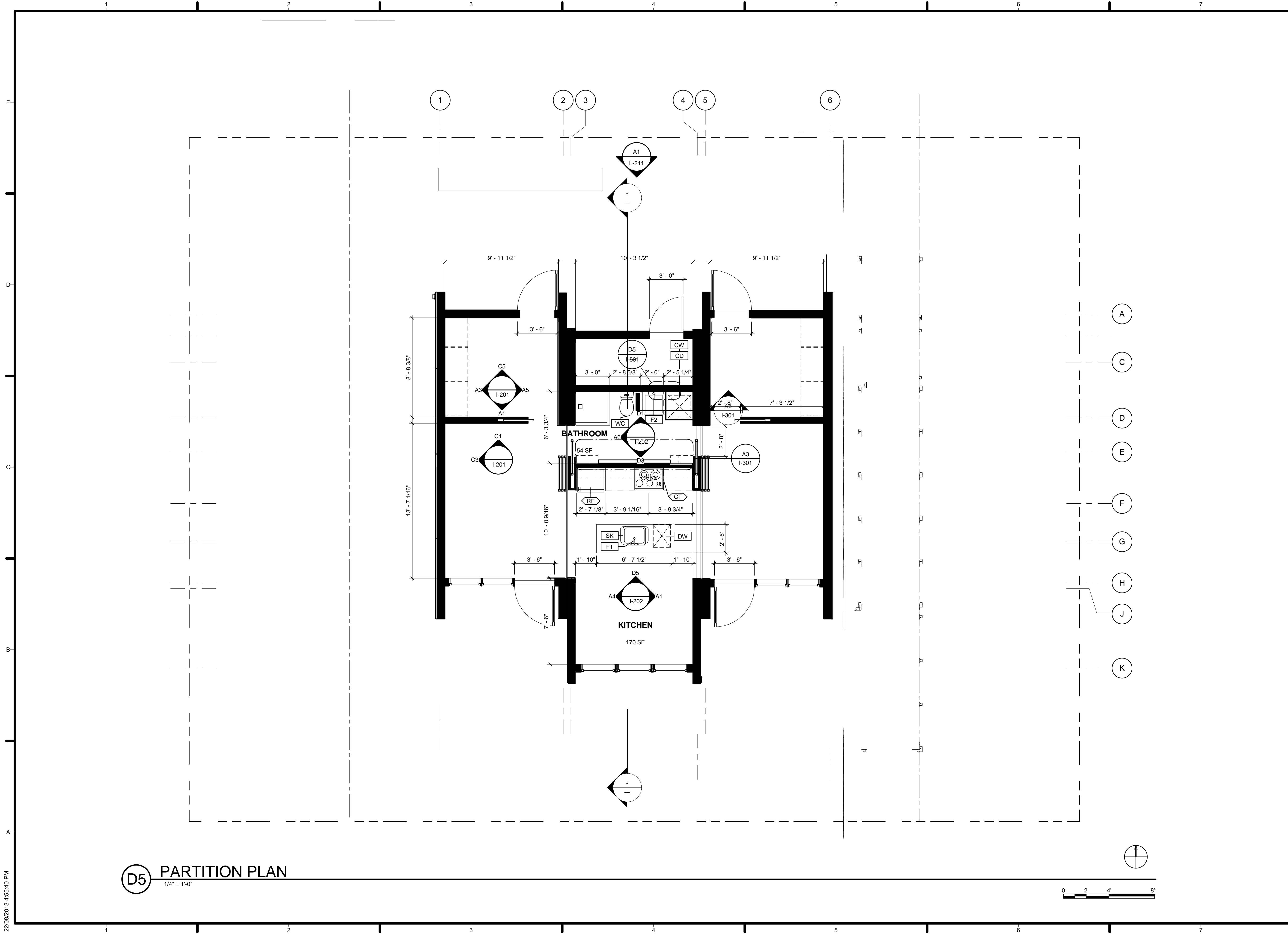
MARK	DATE	DESCRIPTION
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5	08/22/2013	AS BUILT SET

LOT NUMBER: 116  
 DRAWN BY:  
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 STATUS:  
 SHEET TITLE

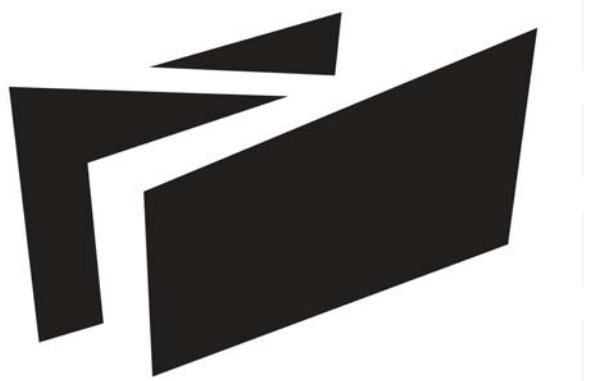
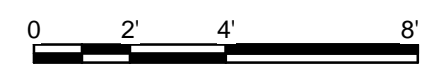
**ROOF FLASHING**

**A-514**

22/08/2013 5:10:28 PM



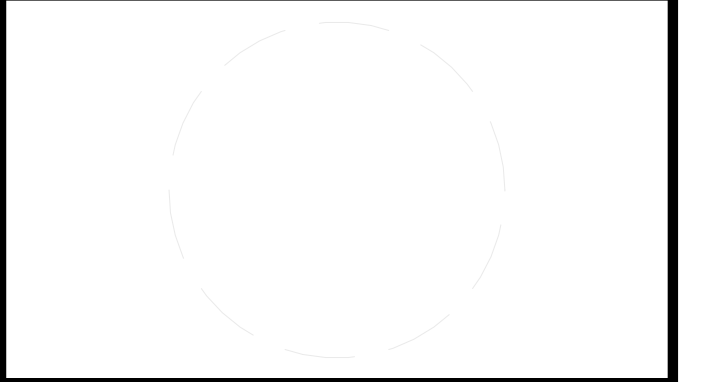
**D5 PARTITION PLAN**  
1/4" = 1'-0"



**BOREALIS**

TEAM NAME: TEAM ALBERTA  
 ADDRESS: EVDS - PF-2182  
 2500 University Drive NW  
 Calgary, AB, Canada T2N 1N4  
 CONTACT: info@solardecathlon.ca  
 www.solardecathlon.ca

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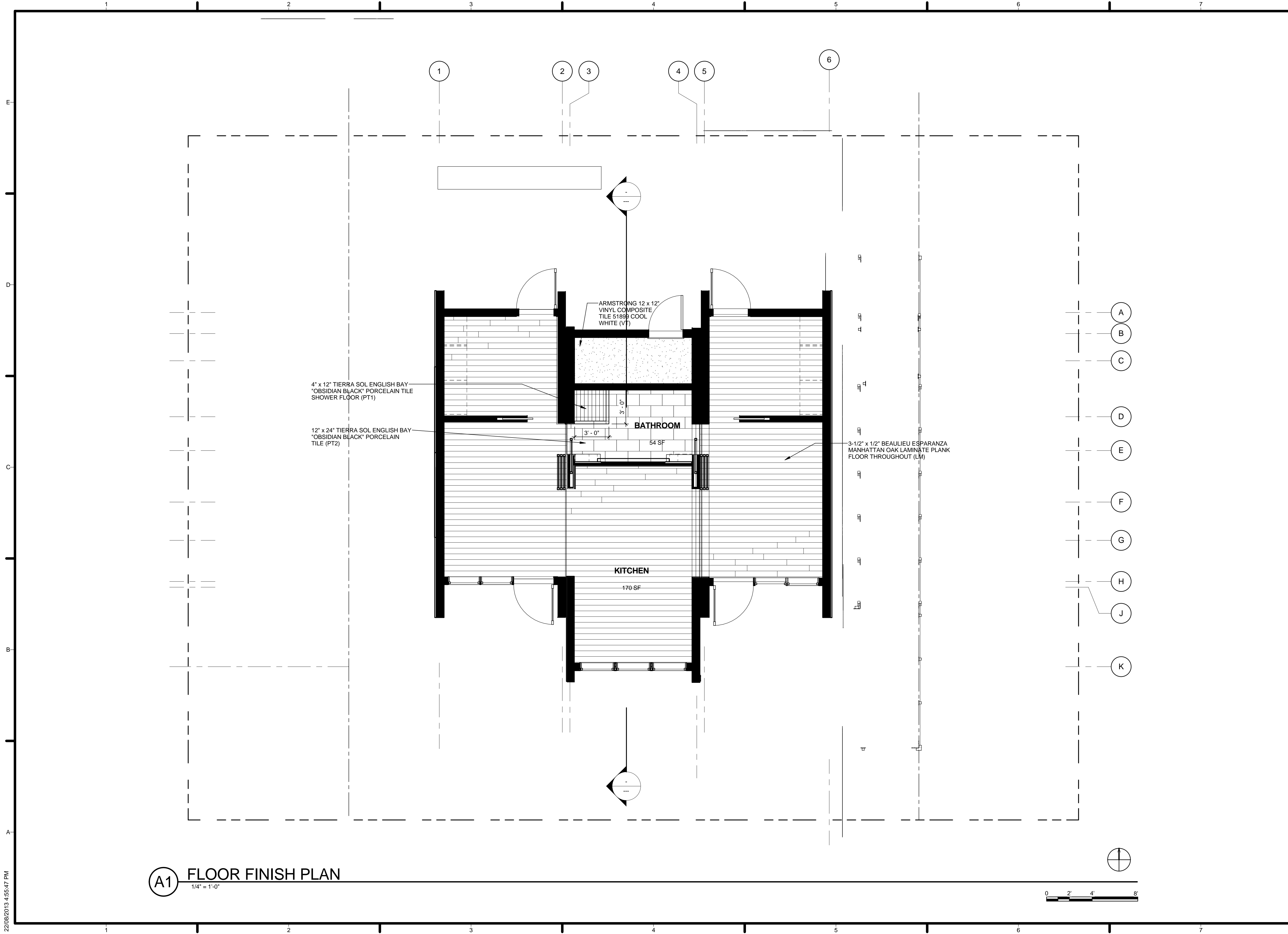


MARK	DATE	DESCRIPTION
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4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
3	05/14/2013	ISSUED FOR STRUCTURAL REVIEW
2	05/03/2013	ISSUED FOR CLADDING
1	04/29/2013	ISSUED FOR ELECMECH

LOT NUMBER: 116  
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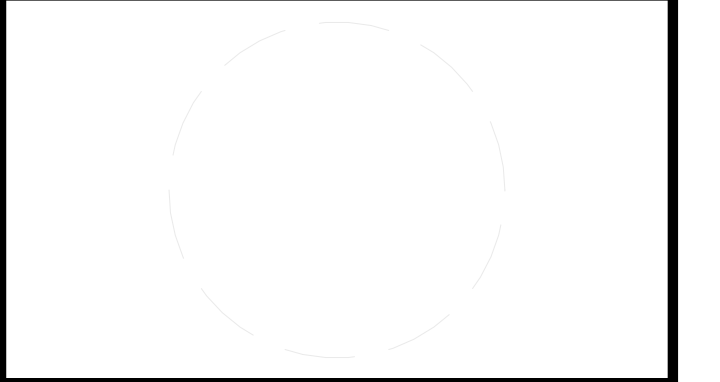
SHEET TITLE  
**PARTITION PLAN**

**I-101**



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 ADDRESS: EVDS - PF-2182  
 2500 University Drive NW  
 Calgary, AB, Canada T2N 1N4  
 CONTACT: info@solardecathlon.ca  
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2	05/03/2013	ISSUED FOR CLADDING
1	04/29/2013	ISSUED FOR ELECMECH

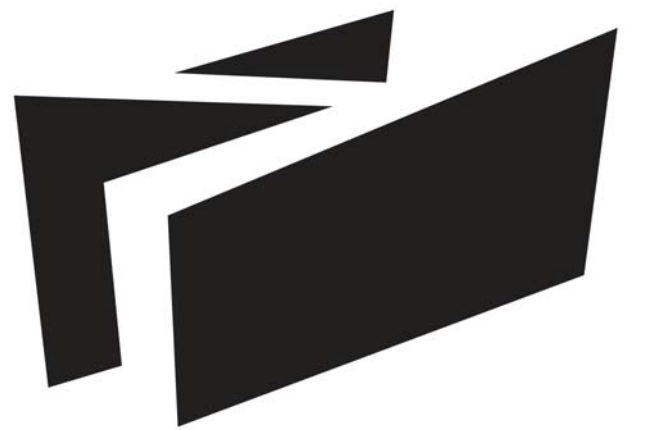
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4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
3	05/14/2013	ISSUED FOR STRUCTURAL REVIEW
2	05/03/2013	ISSUED FOR CLADDING
1	04/29/2013	ISSUED FOR ELECMECH

LOT NUMBER: 116  
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SHEET TITLE  
 FINISH PLAN

I-102

22/08/2013 4:55:47 PM



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2500 UNIVERSITY DR NW  
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MOUNT ROYAL UNIVERSITY  
4825 MT ROYAL GATE SW  
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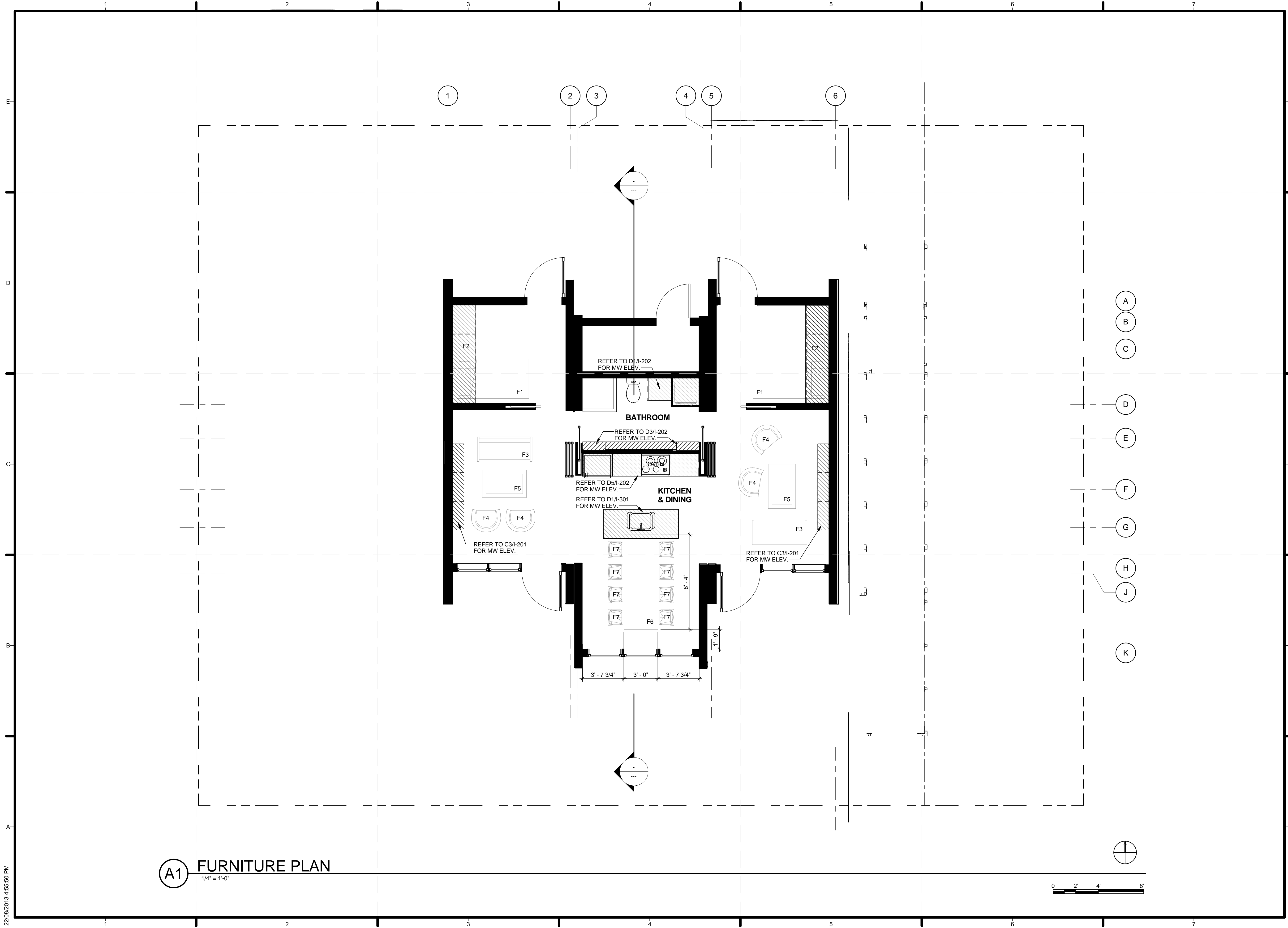
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4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

LOT NUMBER: 116  
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CHECKED BY:  
STATUS:

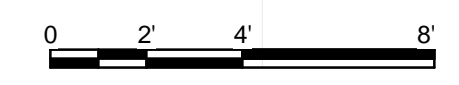
SHEET TITLE

**FURNITURE PLAN**

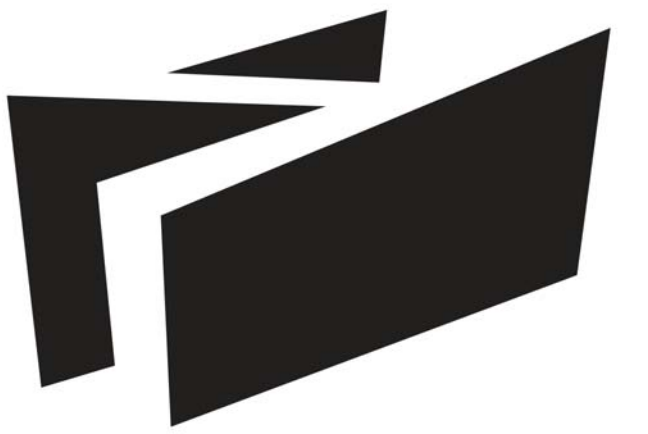
**I-103**



**A1** FURNITURE PLAN  
1/4" = 1'-0"



22/08/2013 4:55:50 PM



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 2500 UNIVERSITY DR NW  
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 4825 MT ROYAL GATE SW  
 CALGARY, AB T3E 6K6  
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

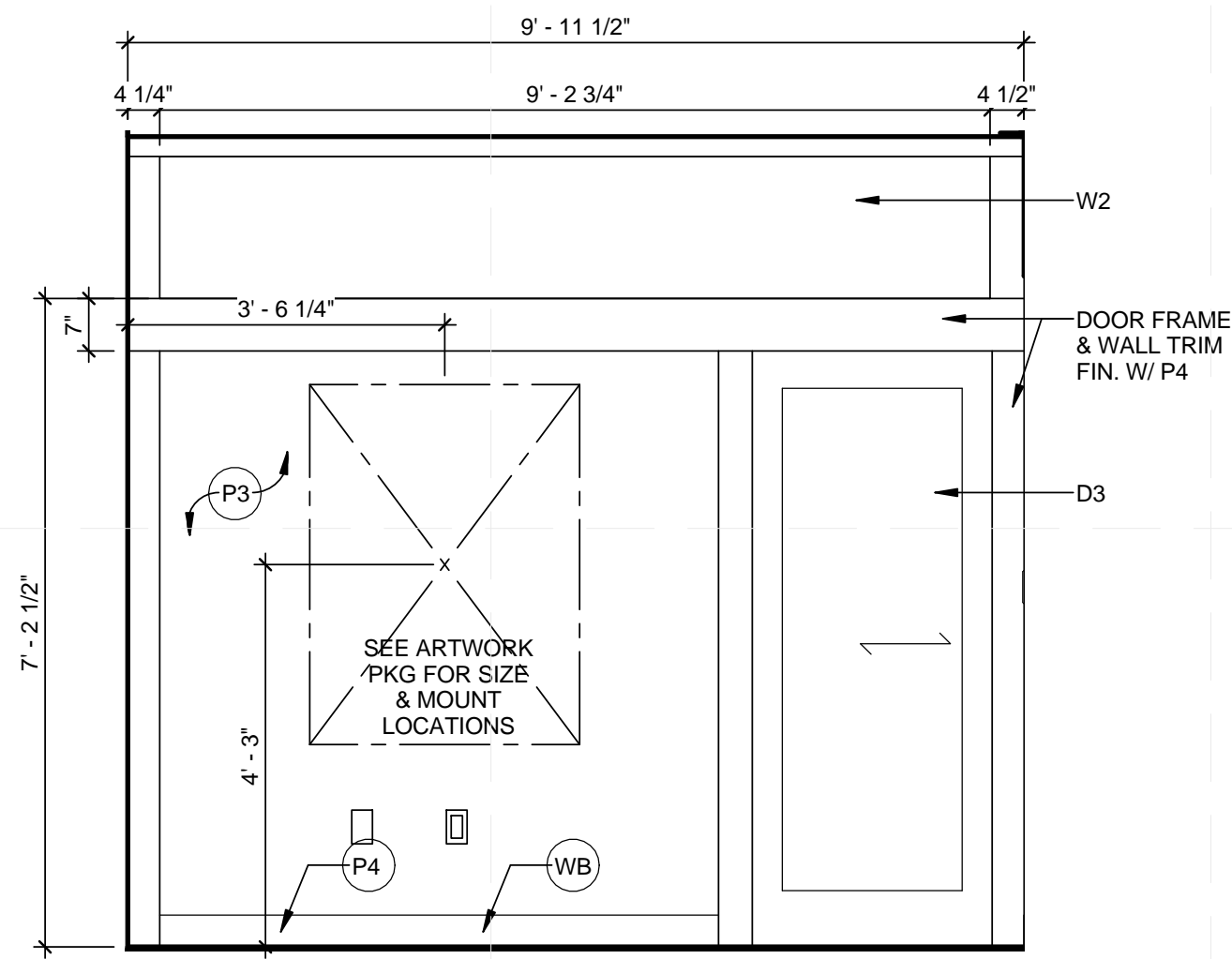
R1	06/06/2013	REVISION OF A1 AND C2 WINDOWS
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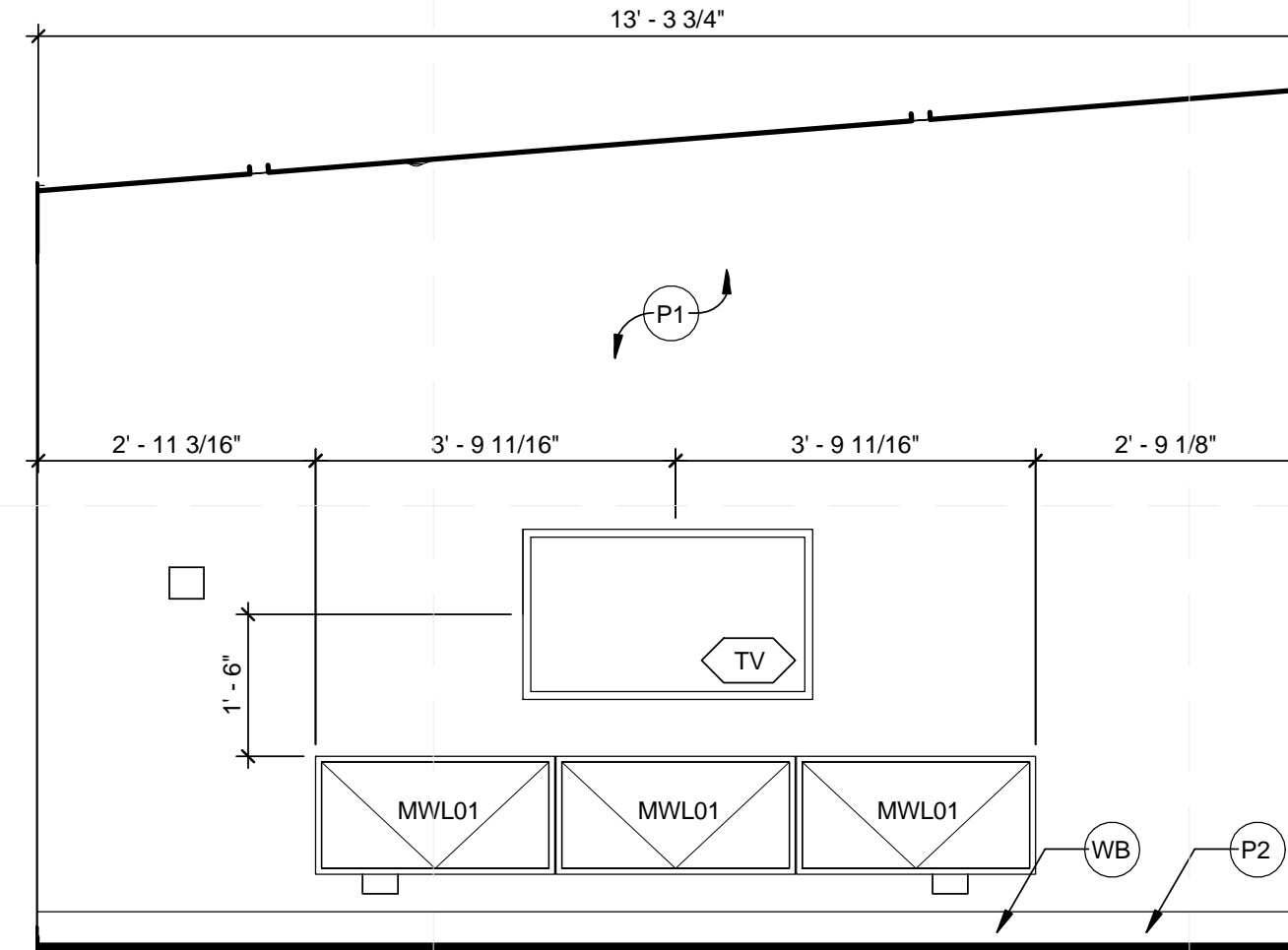
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**INTERIOR ELEVATIONS**

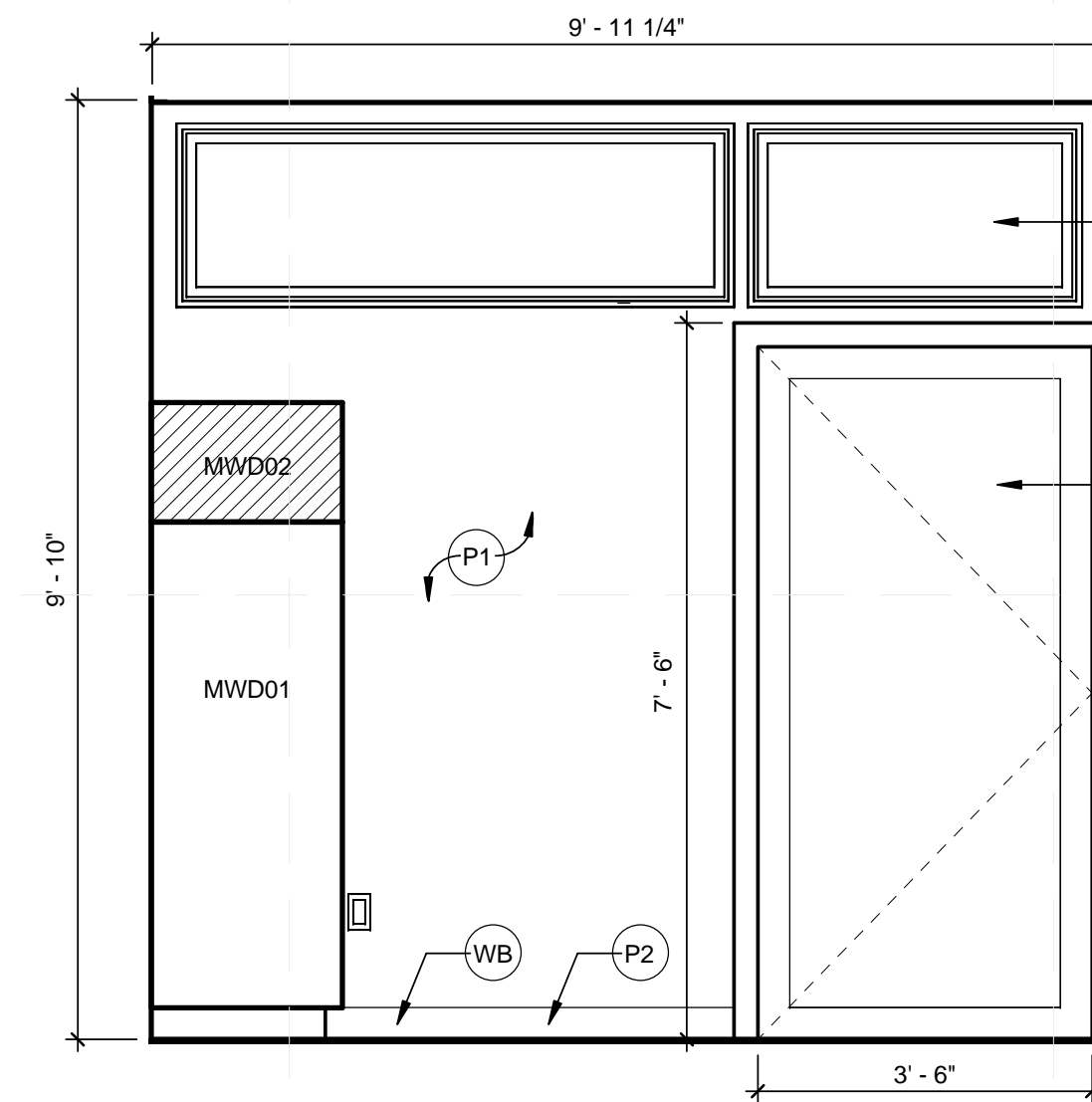
**I-201**



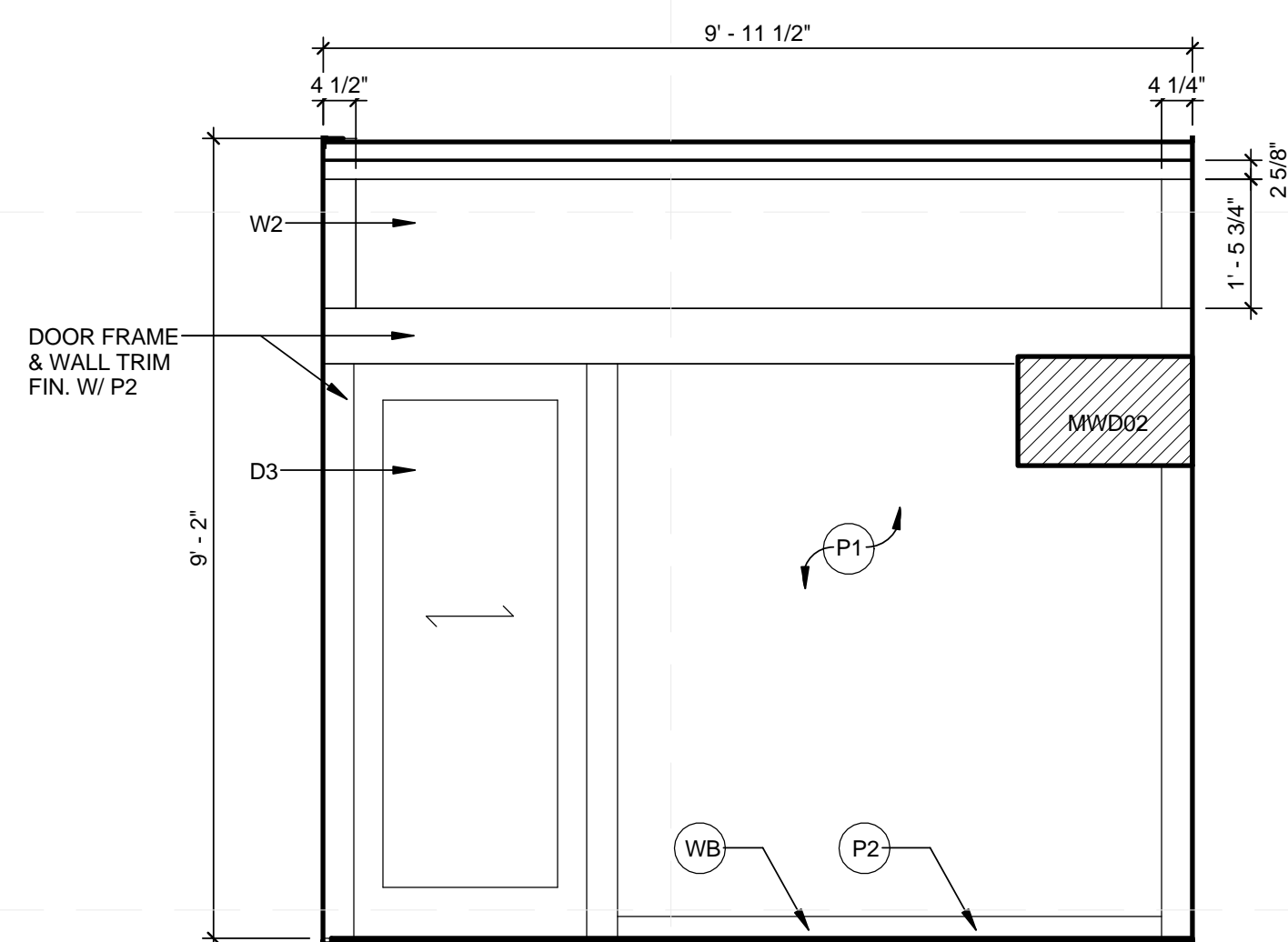
**C1 NORTH LIVING ELEVATION**  
 1/2" = 1'-0" 0 1' 2' 4'



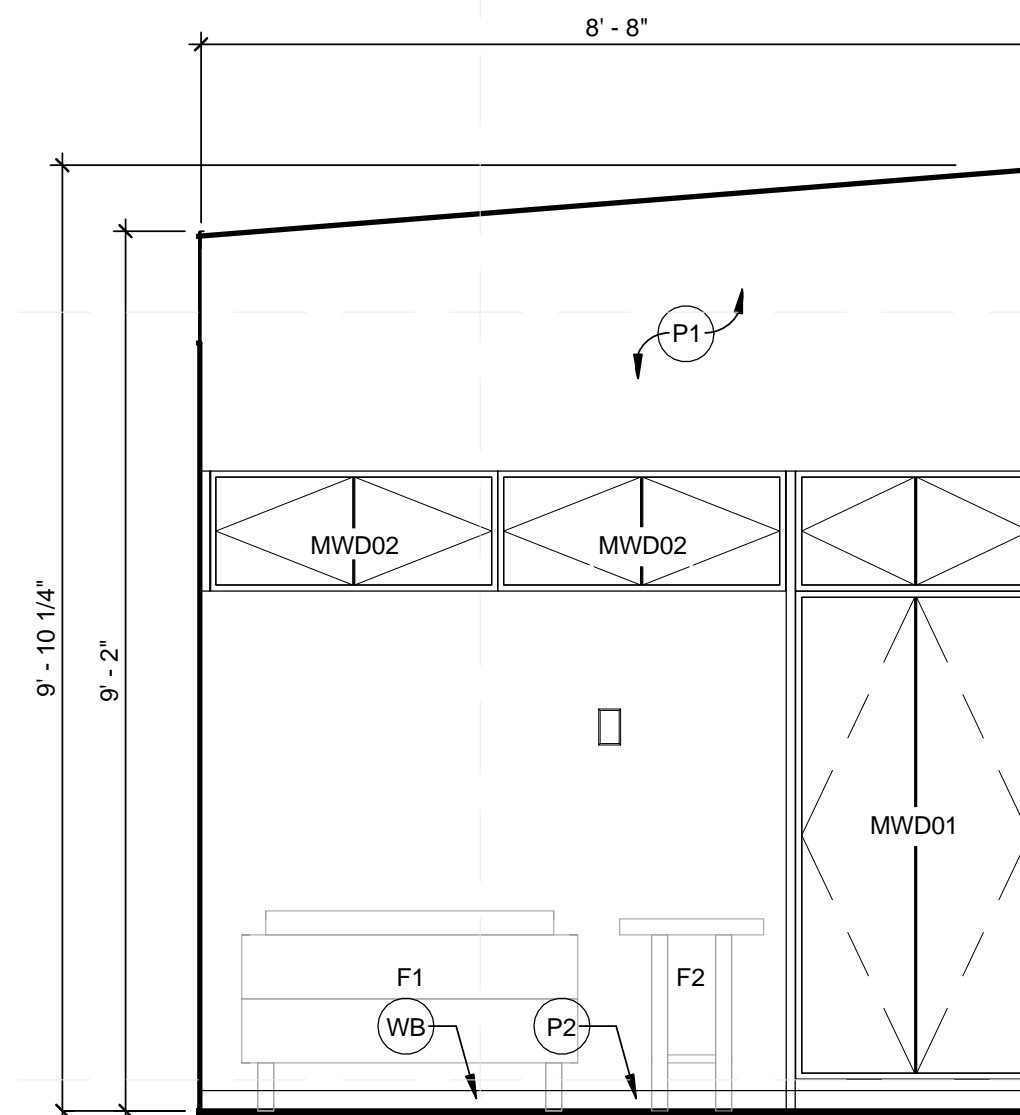
**C3 WEST LIVING ELEVATION**  
 1/2" = 1'-0" 0 1' 2' 4'



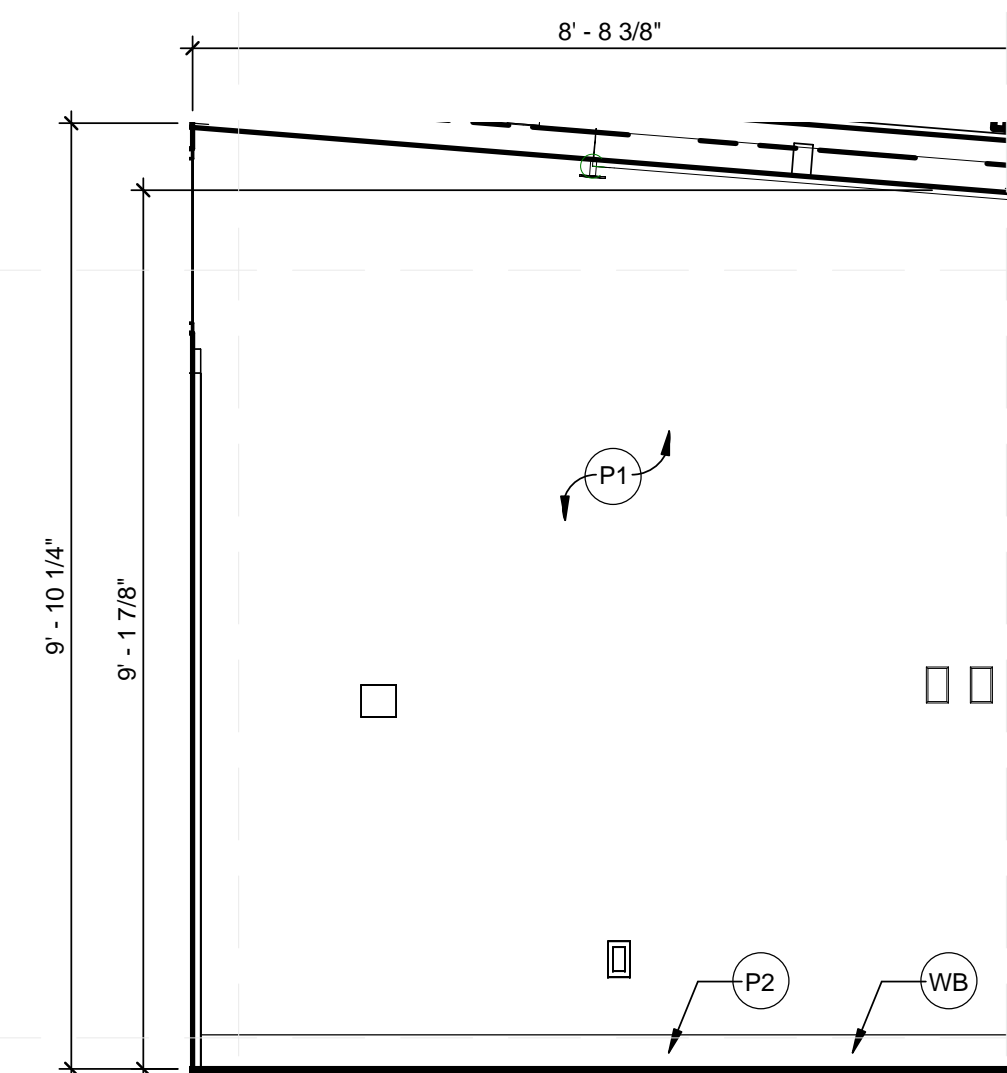
**C5 NORTH BEDROOM ELEVATION**  
 1/2" = 1'-0" 0 1' 2' 4'



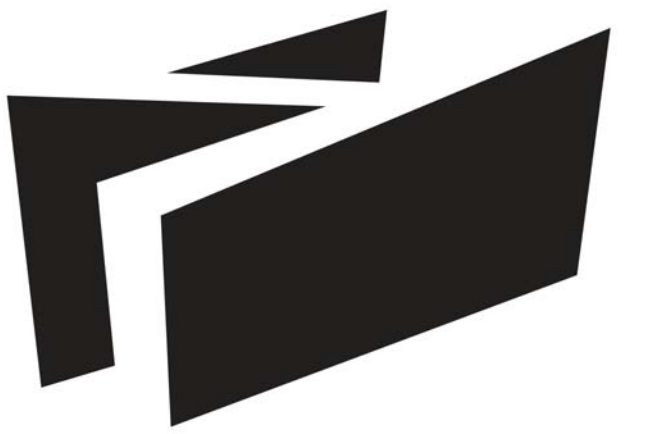
**A1 SOUTH BEDROOM ELEVATION**  
 1/2" = 1'-0" 0 1' 2' 4'



**A3 WEST BEDROOM ELEVATION**  
 1/2" = 1'-0" 0 1' 2' 4'



**A5 EAST BEDROOM ELEVATION**  
 1/2" = 1'-0" 0 1' 2' 4'



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TEAM ALBERTA

UNIVERSITY OF CALGARY  
2500 UNIVERSITY DR NW  
CALGARY, AB T2N 1N4

MOUNT ROYAL UNIVERSITY  
4825 MT ROYAL GATE SW  
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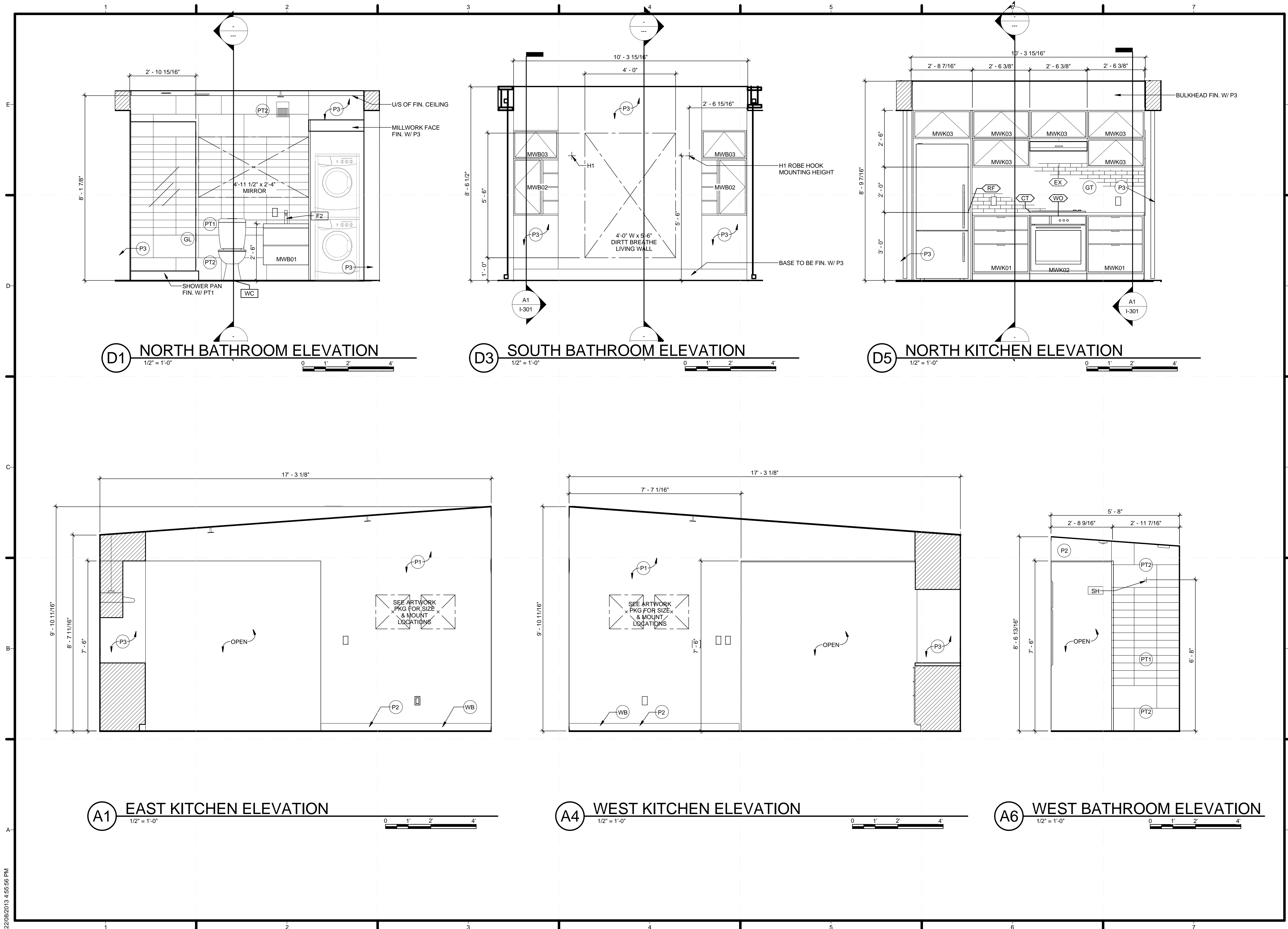
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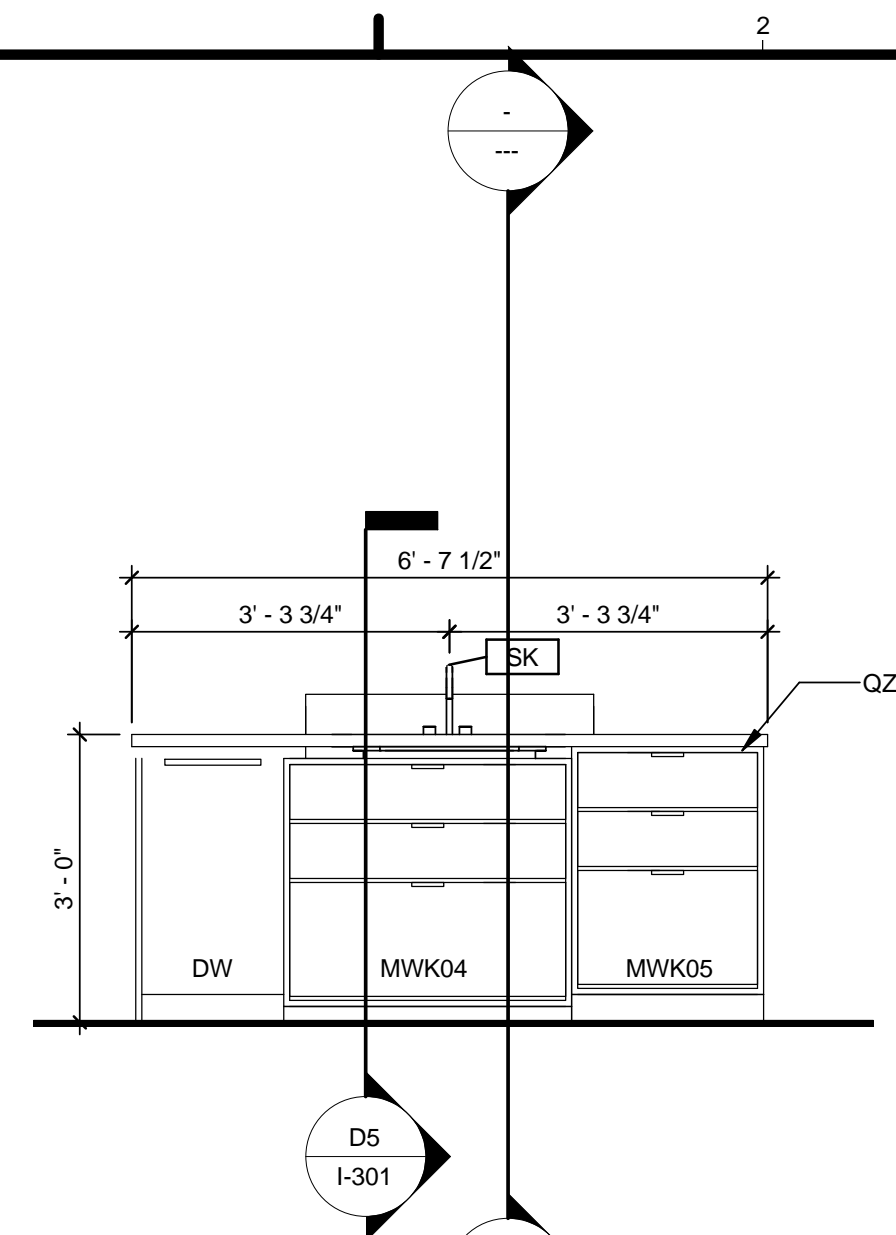
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DRAWN BY:  
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STATUS:

SHEET TITLE

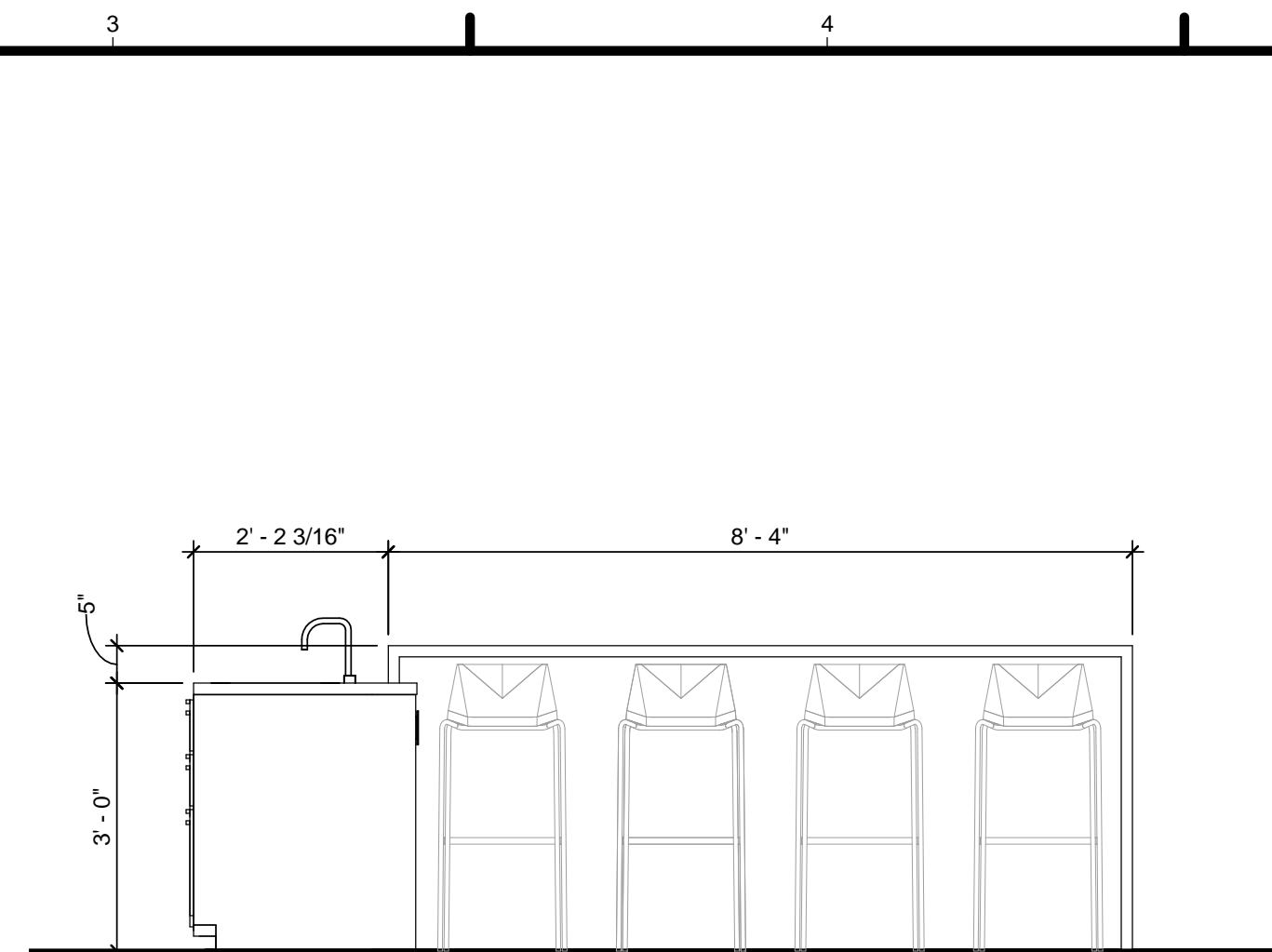
INTERIOR ELEVATIONS

I-202

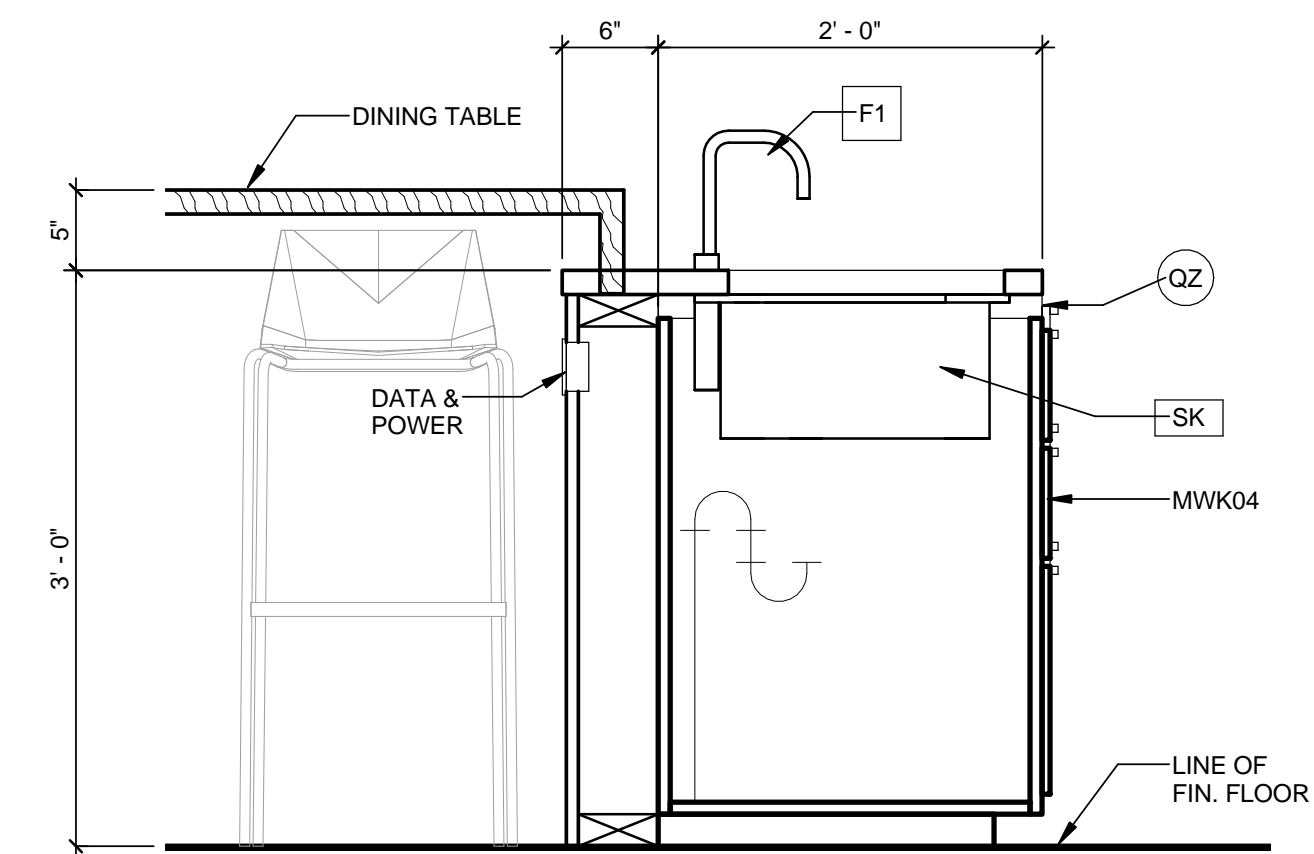




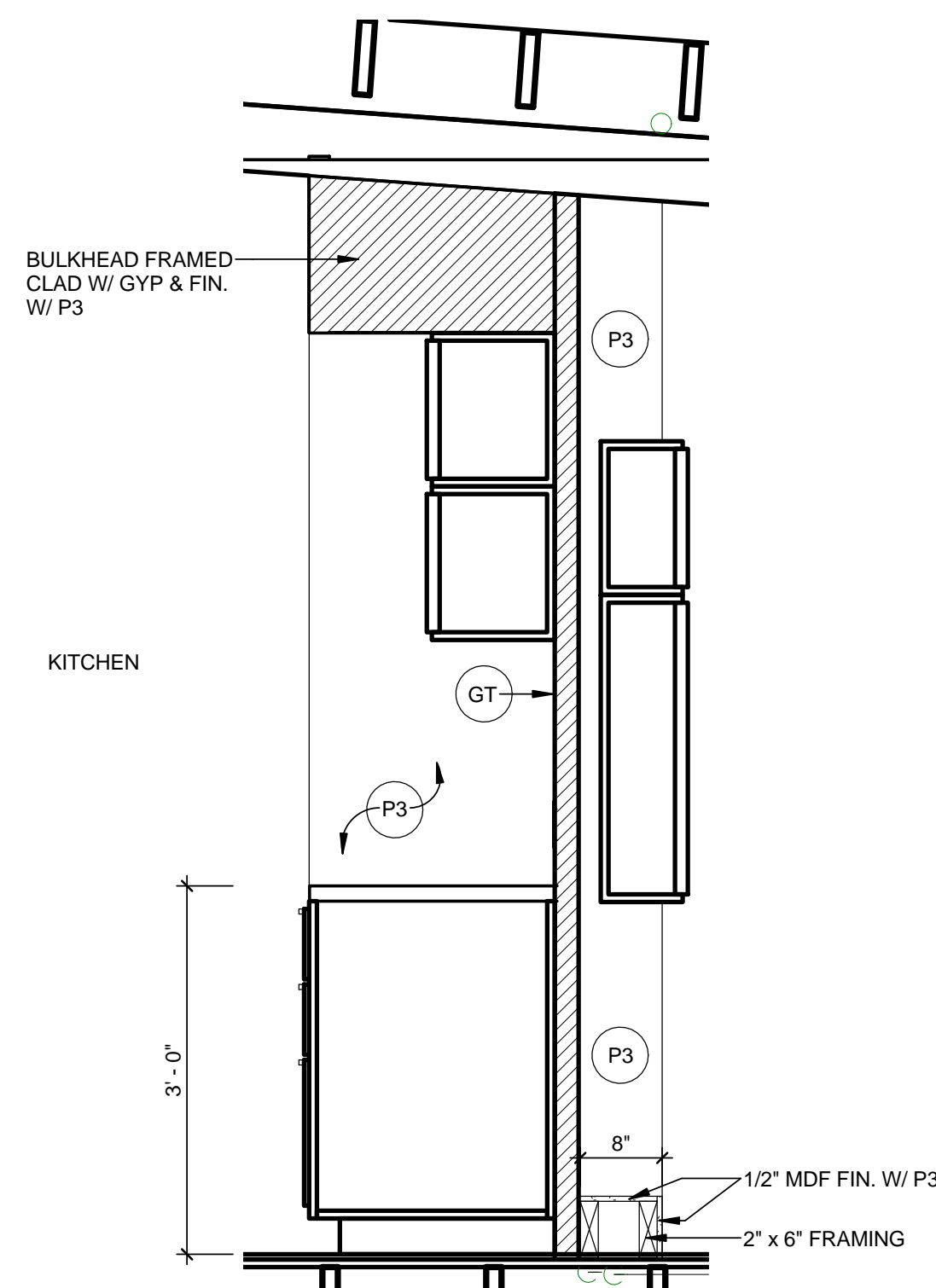
**D1 NORTH ISLAND ELEVATION**  
1/2" = 1'-0"



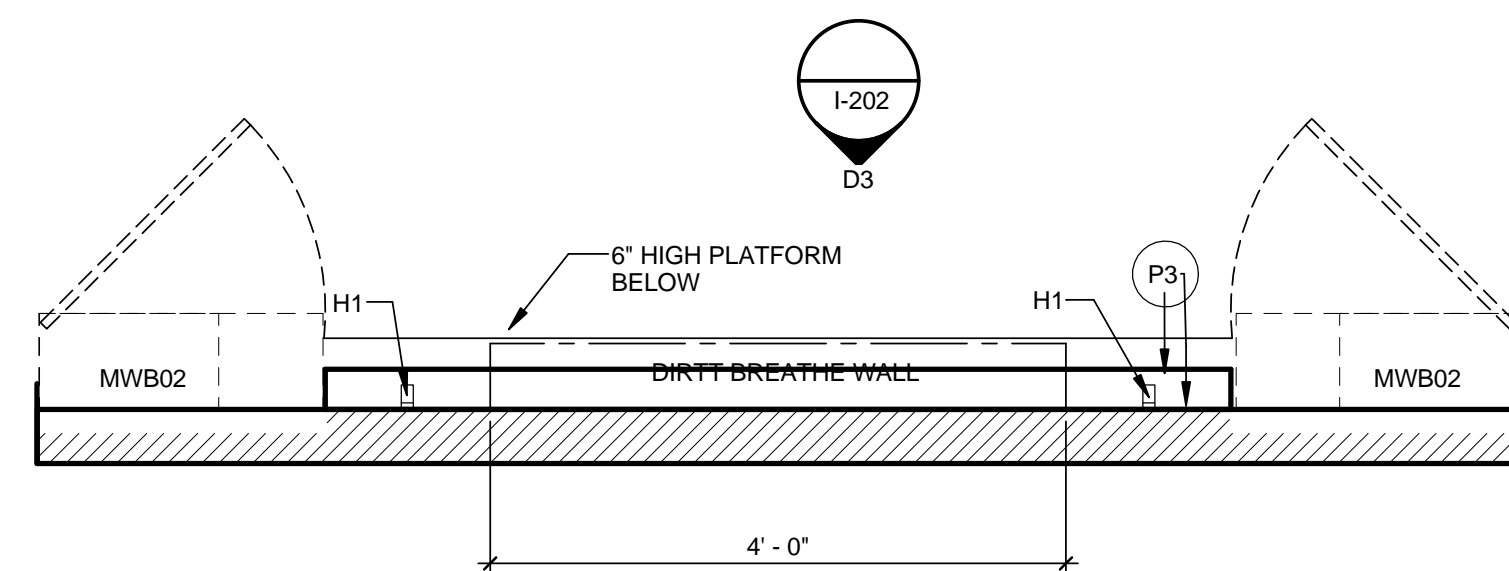
**D3 EAST ISLAND ELEVATION**  
1/2" = 1'-0"



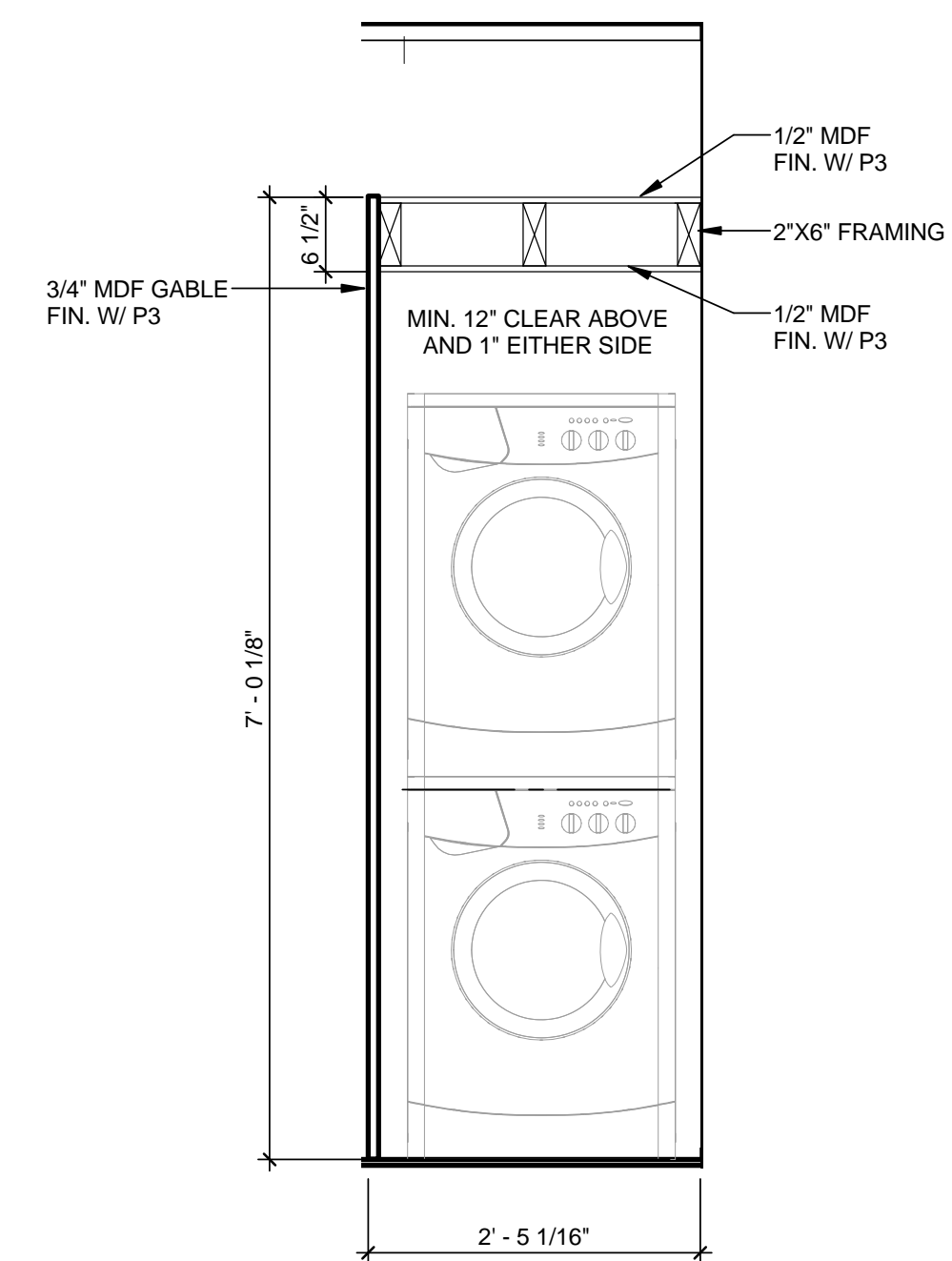
**D5 ISLAND SECTION THRU SINK**  
1" = 1'-0"



**A1 CENTER MODULE MILLWORK SECTION**  
3/4" = 1'-0"



**A3 CENTER MODULE MILLWORK SECTION**  
3/4" = 1'-0"



**A6 LAUNDRY MILLWORK SECTION**  
3/4" = 1'-0"



**BOREALIS**

TEAM NAME: TEAM ALBERTA  
ADDRESS: EVDS - PF-2182  
2500 University Drive NW  
Calgary, AB, Canada T2N 1N4  
CONTACT: info@solardecathlon.ca  
www.solardecathlon.ca

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MARK	DATE	DESCRIPTION
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3	05/14/2013	ISSUED FOR STRUCTURAL REVIEW
2	05/03/2013	ISSUED FOR CLADDING
1	04/29/2013	ISSUED FOR ELECMECH

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SHEET TITLE

MILLWORK  
ELEVATIONS &  
SECTIONS

**I-301**





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 ADDRESS: EVDS - PF-2182  
 2500 University Drive NW  
 Calgary, AB, Canada T2N 1N4  
 CONTACT: info@solardecathlon.ca  
 www.solardecathlon.ca

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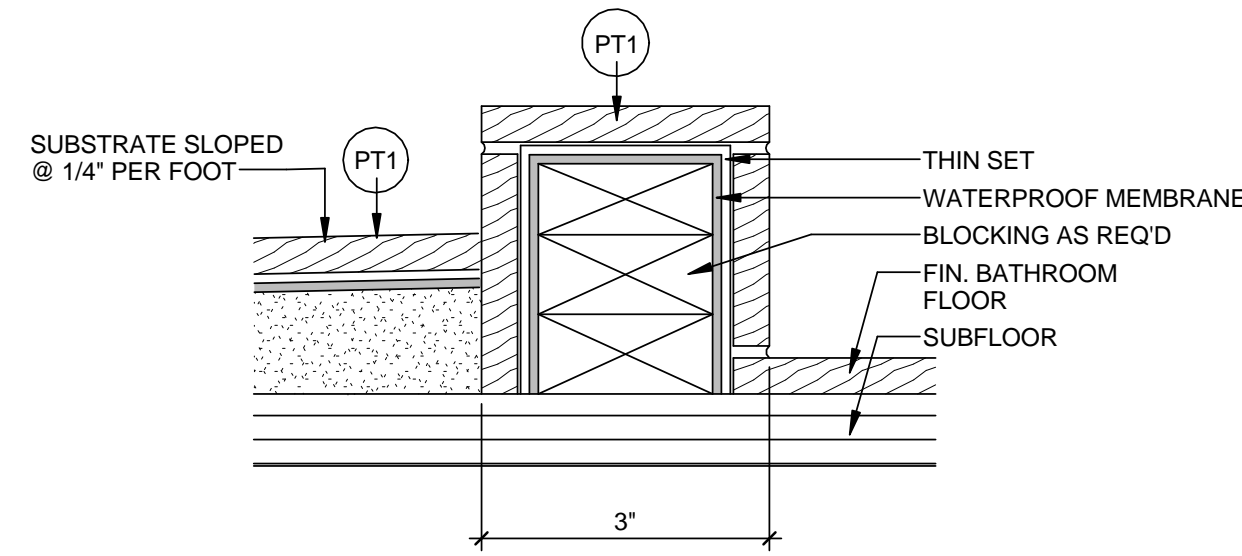


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3	05/14/2013	ISSUED FOR STRUCTURAL REVIEW
2	05/03/2013	ISSUED FOR CLADDING
1	04/29/2013	ISSUED FOR ELEC/MECH

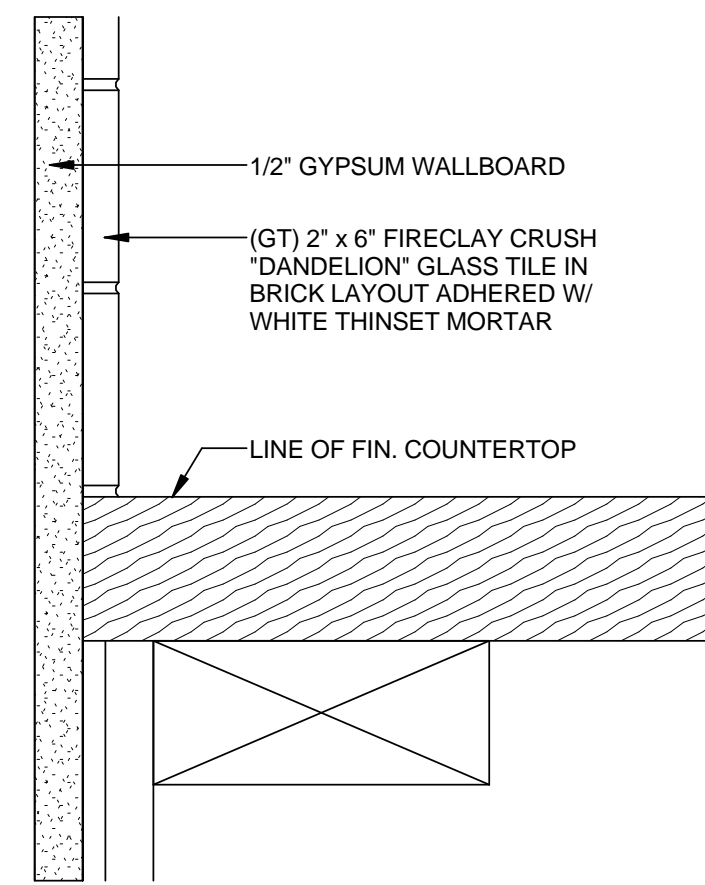
LOT NUMBER: 116  
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 CHECKED BY:  
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 DETAILS

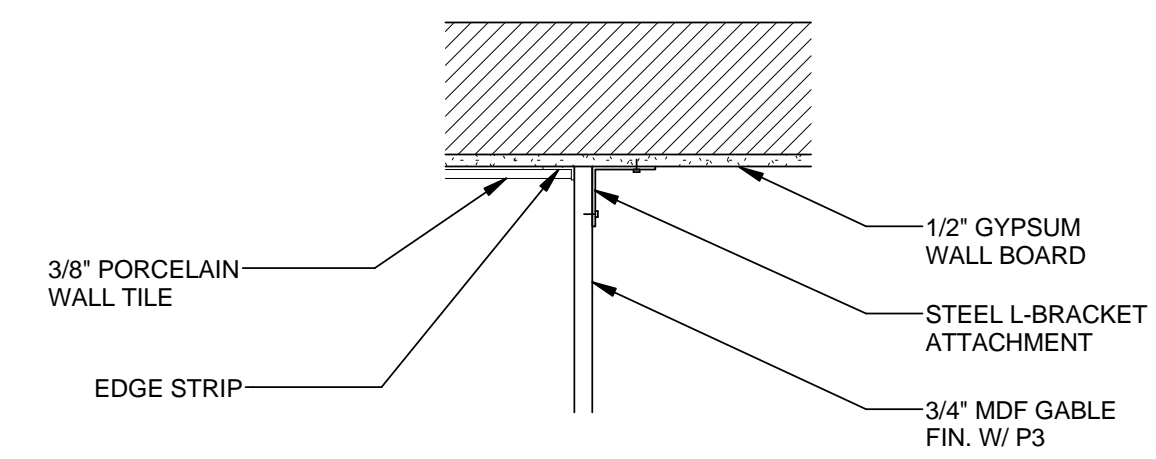
I-501



D1 SHOWER PAN DETAIL  
 6" = 1'-0"



D3 BACKSPLASH DETAIL  
 6" = 1'-0"



D5 LAUNDRY MILLWORK DETAIL  
 1 1/2" = 1'-0"

**EQUIPMENT SCHEDULE:**

<b>DW</b>	DESCRIPTION: DISHWASHER MANUFACTURER: BOSCH MODEL: SPX55S5UC LOCATION: KITCHEN
<b>RF</b>	DESCRIPTION: REFRIGERATOR MANUFACTURER: BLOMBERG MODEL: BRFB1450 LOCATION: KITCHEN
<b>CT</b>	DESCRIPTION: COOKTOP MANUFACTURER: WHIRLPOOL MODEL: GC13061X LOCATION: KITCHEN
<b>WO</b>	DESCRIPTION: WALL OVEN MANUFACTURER: WHIRLPOOL MODEL: WOS51EC0AS LOCATION: KITCHEN
<b>EX</b>	DESCRIPTION: HOOD FAN MANUFACTURER: WHIRLPOOL MODEL: UXT5230AYS LOCATION: KITCHEN
<b>CW</b>	DESCRIPTION: WASHING MACHINE MANUFACTURER: BLOMBERG MODEL: WM77110NBLO0 LOCATION: BATHROOM
<b>CD</b>	DESCRIPTION: DRYER MANUFACTURER: BLOMBERG MODEL: DV17540NBLO0 LOCATION: KITCHEN
<b>TV</b>	DESCRIPTION: TELEVISION MANUFACTURER: SAMSUNG MODEL: TBD SIZE: 40"

**PLUMBING SCHEDULE:**

<b>SK</b>	DESCRIPTION: SINK MANUFACTURER: FRANKE MODEL: KINQDLF203181 LOCATION: KITCHEN NOTES:
<b>F1</b>	DESCRIPTION: FAUCET MANUFACTURER: BRIZO MODEL: BSP-K-64020LF-PC LOCATION: KITCHEN NOTES:
<b>WC</b>	DESCRIPTION: WATERCLOSET MANUFACTURER: TOTO MODEL: C454CUG#01 LOCATION: BATHROOM NOTES:
<b>F2</b>	DESCRIPTION: FAUCET MANUFACTURER: BRIZO MODEL: BSP-L-65014LF-PC LOCATION: BATHROOM VANITY NOTES:
<b>SV</b>	DESCRIPTION: SHOWER VALVE MANUFACTURER: DELTA MODEL: T17059 LOCATION: BATHROOM SHOWER NOTES:
<b>SH</b>	DESCRIPTION: SHOWER HEAD MANUFACTURER: DELTA MODEL: 52655 LOCATION: BATHROOM SHOWER NOTES:

**FINISH SCHEDULE:**

<b>QZ</b>	DESCRIPTION: QUARTZ MANUFACTURER: CAESARSTONE STYLE NAME: PURE WHITE EDGE PROFILE: EASED THICKNESS: 1-3/16"
<b>P1</b>	DESCRIPTION: FIELD PAINT MANUFACTURER: PRATT & LAMBERT COLOUR NAME: DESIGNER WHITE COLOUR NUMBER: 33-1 FINISH: EGGSHELL LOCATION: THROUGHOUT UNO
<b>P2</b>	DESCRIPTION: FIELD TRIM PAINT MANUFACTURER: PRATT & LAMBERT COLOUR NAME: DESIGNER WHITE COLOUR NUMBER: 33-1 FINISH: SEMI-GLOSS LOCATION: WHERE NOTED ON ELEVATIONS
<b>P3</b>	DESCRIPTION: ACCENT PAINT MANUFACTURER: PRATT & LAMBERT COLOUR NAME: STEEL WOOL COLOUR NUMBER: 33-14 FINISH: EGGSHELL LOCATION: WHERE NOTED ON ELEVATIONS
<b>P3</b>	DESCRIPTION: ACCENT TRIM PAINT MANUFACTURER: PRATT & LAMBERT COLOUR NAME: STEEL WOOL COLOUR NUMBER: 33-14 FINISH: SEMI-GLOSS LOCATION: WHERE NOTED ON ELEVATIONS

**FLOOR FINISH SCHEDULE:**

<b>PT1</b>	DESCRIPTION: PORCELAIN GLAZED TILE MANUFACTURER: TIERRA SOL STYLE NAME: ENGLISH BAY STYLE NUMBER: FGEE0B412 COLOUR NAME: OBSIDIAN BLACK DIMENSIONS (WxL): 4' x 12"
<b>PT2</b>	DESCRIPTION: PORCELAIN GLAZED TILE MANUFACTURER: TIERRA SOL STYLE NAME: ENGLISH BAY STYLE NUMBER: FGEE0B1224 COLOUR NAME: OBSIDIAN BLACK DIMENSIONS (WxL): 12' x 24"
<b>GT</b>	DESCRIPTION: GLASS TILE MANUFACTURER: FIRECLAY TILE STYLE NAME: CRUSH DANDELION COLOUR NAME: 2' x 6"
<b>WB</b>	DESCRIPTION: WALL BASE PROFILE: 4" H x 1/2" THK MDF FINISH: AS NOTED ON ELEVATIONS LOCATION: THROUGHOUT UNO
<b>GL</b>	DESCRIPTION: GLASS TEMPERED TYPE: 1/2" LOCATION: SHOWER SURROUND

**FLOOR FINISH SCHEDULE:**

<b>LM</b>	DESCRIPTION: LAMINATE PLANK MANUFACTURER: BEAULIEU STYLE NAME: ESPERANZA MANHATTAN OAK STYLE NUMBER: 1401 DIMENSIONS: 3-1/2"W x 9/16" THK
<b>PT1</b>	DESCRIPTION: PORCELAIN GLAZED TILE MANUFACTURER: TIERRA SOL STYLE NAME: ENGLISH BAY STYLE NUMBER: FGEE0B412 COLOUR NAME: OBSIDIAN BLACK DIMENSIONS: 4"W x 12"L
<b>PT2</b>	DESCRIPTION: PORCELAIN GLAZED TILE MANUFACTURER: TIERRA SOL STYLE NAME: ENGLISH BAY STYLE NUMBER: FGEE0B1224 COLOUR NAME: OBSIDIAN BLACK DIMENSIONS: 12"W x 24"L
<b>VT</b>	DESCRIPTION: VINYL COMPOSITE TILE MANUFACTURER: ARMSTRONG STYLE NAME: STANDARD EXCELON IMPERIAL TEXTURE STYLE NUMBER: 51899 COLOUR NAME: COOL WHITE DIMENSIONS: 12"W x 12"L

**C1** EQUIPMENT SCHEDULE  
1:20

**C2** PLUMBING SCHEDULE  
1:20

**C4** FINISH SCHEDULE  
1:20

**C6** FLOOR FINISH LEGEND  
1:20

**FURNITURE SCHEDULE:**

TAG	DESCRIPTION	DIMENSIONS (WxDxH)	QUANTITY
F1	BED	3'-6" x 6'-4" x 3'-11"	2
F2	BEDSIDE TABLE	1'-0" x 1'-3 1/2" x 1'-6"	2
F3	SOFA	4'-10" x 2'-10" x 2'-8"	2
F4	ACCENT CHAIR	2'-7" x 2'-0"	4
F5	ADJUSTABLE-HEIGHT TABLE	2'-5 1/2" x 3'-11 1/2" x 10 1/2"/2'-6"	2
F6	DINING TABLE	3'-0" x 8'-4"	1
F7	BAR STOOL	1'-9" x 1'-7 1/2" x 3'-8"	8
F8	STOOL	1'-0" x 1'-3 1/2" x 1'-6"	4
F9	PATIO CHAIR	1'-10 1/2" x 1'-10 1/2" x 2'-11 1/2"	4
F10	PATIO SIDE TABLE (S/2)	1'-3 1/2" x 1'-3 1/2" x 1'-3 1/2" 1'-1 1/2" x 1'-1 1/2" x 1'-1 1/2"	2 2

**A1** FURNITURE SCHEDULE  
1:20

**MILLWORK SCHEDULE:**

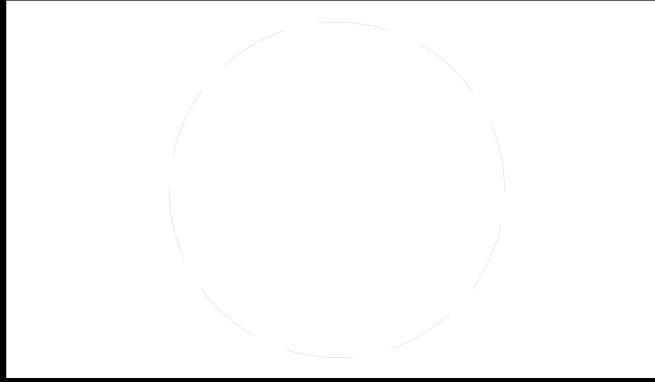
TAG	DESCRIPTION	DIMENSIONS (WxDxH)	QUANTITY
MWK01	BASE CABINET	2'-5 7/8" x 2'-0 7/8" x 2'-6 3/8"	2
MWK02	BASE CABINET (OVEN)	2'-5 7/8" x 2'-0 3/4" x 2'-6 3/8"	1
MWK03	HORIZONTAL CABINET	2'-6" x 2'-0 7/8" x 1'-0 7/8"	6
MWK04	BASE CABINET (SINK)	2'-11 7/8" x 2'-0 7/8" x 2'-6 3/8"	1
MWK05	BASE CABINET	1'-11 7/8" x 2'-0 7/8" x 2'-6 3/8"	1
MWB01	VANITY & SINK	2'-0 3/4" x 1'-7 1/4" x 2'-1 1/4"	1
MWB02	MIRROR CABINET W/ SHELF	1'-11 5/8" x 8 1/4" x 2'-1 1/4"	2
MWB03	HORIZONTAL CABINET	1'-11 5/8" x 8 1/4" x 1'-3 3/4"	2
MWL01	HORIZONTAL CABINET	2'-6" x 2'-0 7/8" x 1'-0 7/8"	6
MWD01	TALL CABINET	2'-6" x 2'-0 7/8" x 6'-8 7/8"	2
MWD02	WALL CABINET	3'-0" x 2'-0 7/8" x 1'-3 7/8"	4

**A3** MILLWORK SCHEDULE  
1:20



TEAM NAME: TEAM ALBERTA  
ADDRESS: EVDS - PF-2182  
2500 University Drive NW  
Calgary, AB, Canada T2N 1N4  
CONTACT: info@solardecathlon.ca  
www.solardecathlon.ca

CONSULTANTS



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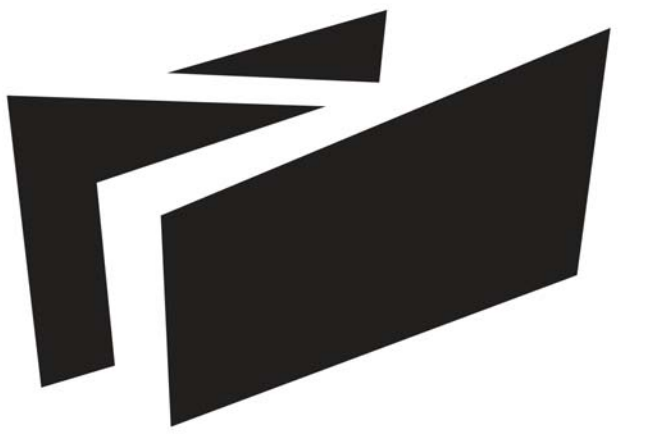


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4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
3	05/14/2013	ISSUED FOR STRUCTURAL REVIEW
2	05/03/2013	ISSUED FOR CLADDING
1	04/29/2013	ISSUED FOR ELECMECH

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SHEET TITLE  
**SCHEDULES**

**I-601**



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CALGARY, AB T2N 1N4

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4825 MT ROYAL GATE SW  
CALGARY, AB T3E 6K6

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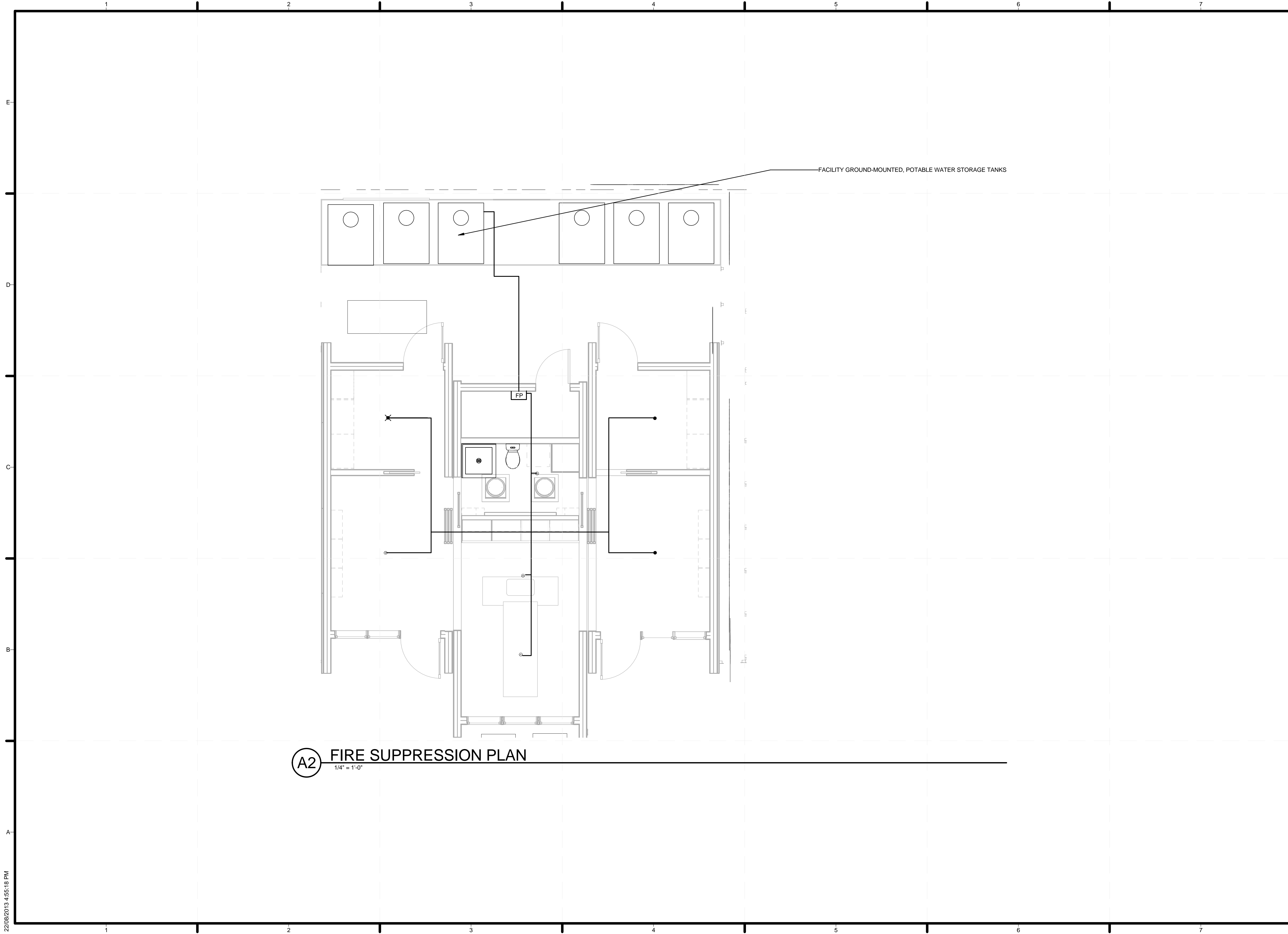
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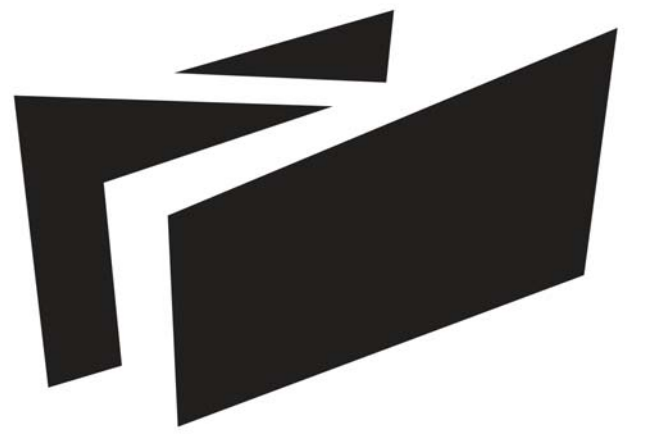
**FIRE SUPPRESSION  
PLAN**

**F-101**



**A2 FIRE SUPPRESSION PLAN**  
1/4" = 1'-0"

22/08/2013 4:55:18 PM



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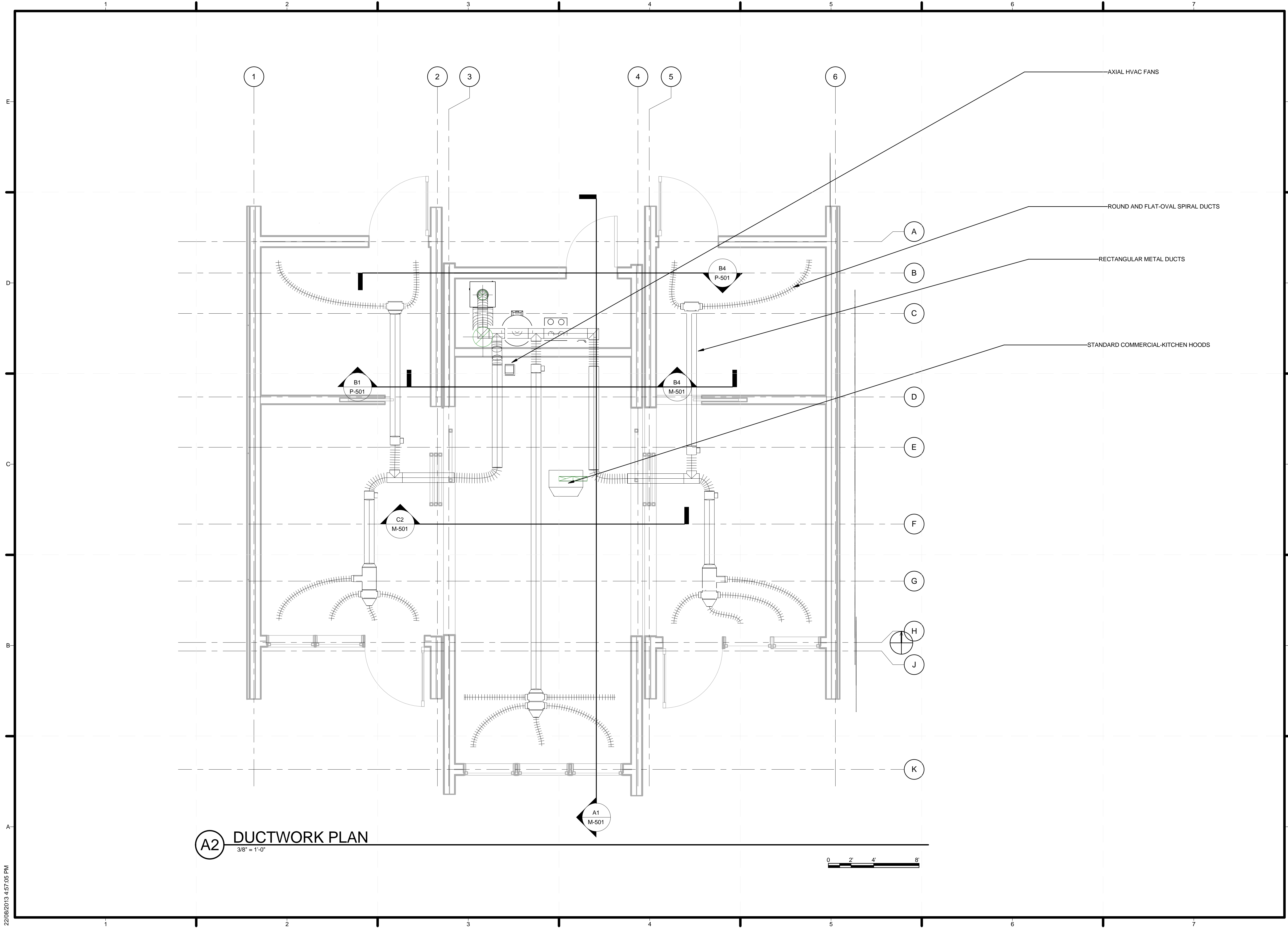
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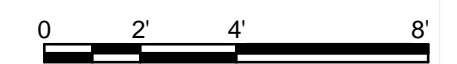
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**DUCTWORK PLAN**

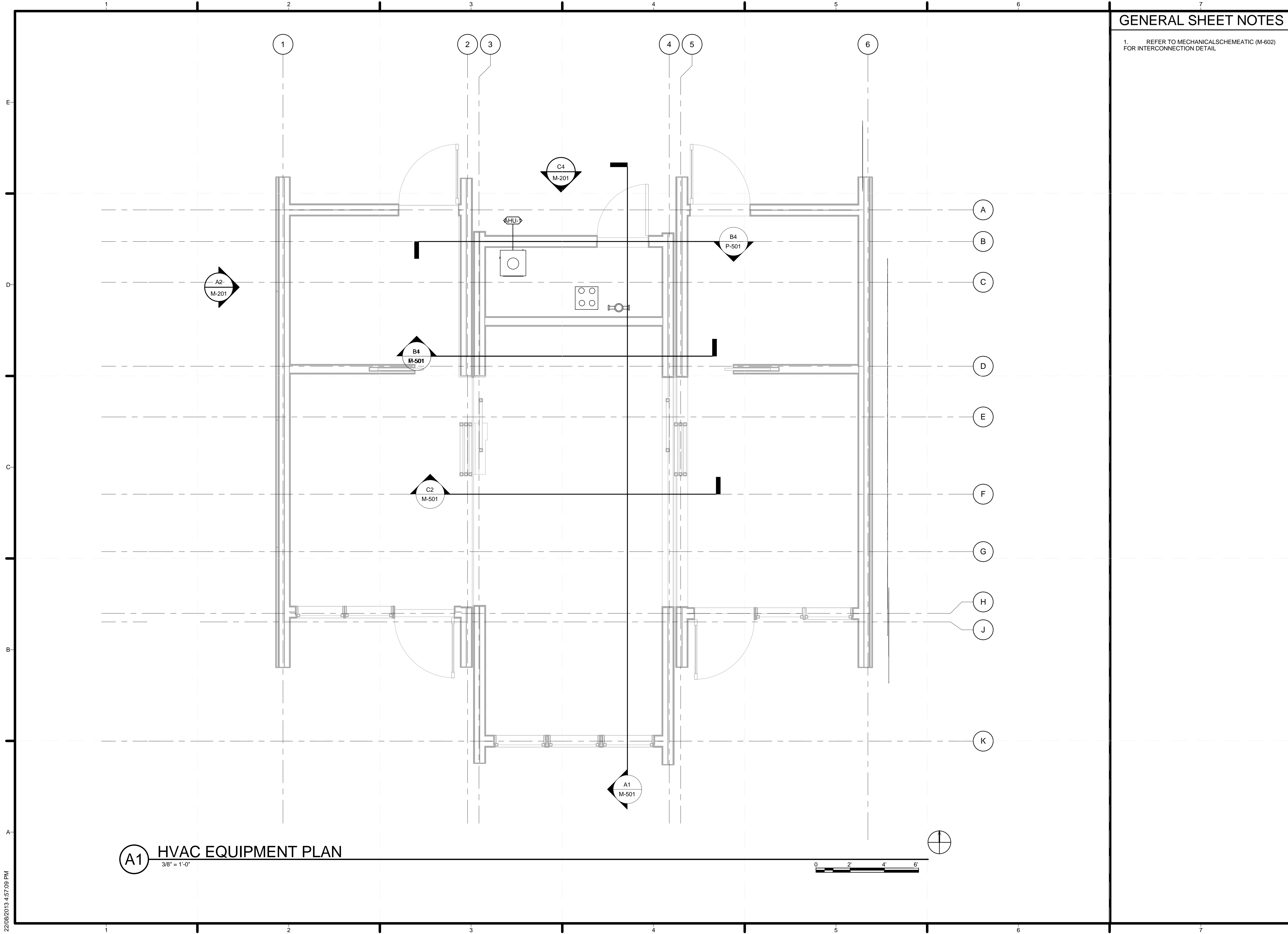
**M-101**



**A2 DUCTWORK PLAN**  
3/8" = 1'-0"



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**(A1) HVAC EQUIPMENT PLAN**  
3/8" = 1'-0"

**GENERAL SHEET NOTES**

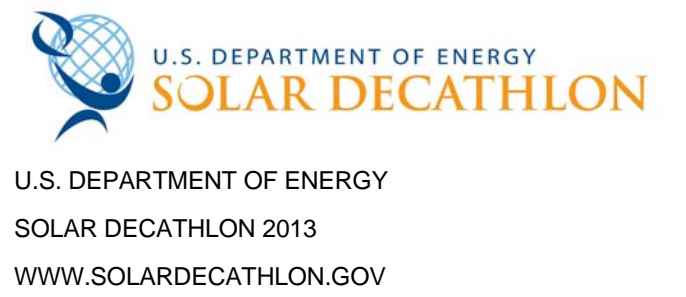
1. REFER TO MECHANICAL SCHEMATIC (M-602) FOR INTERCONNECTION DETAIL



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 2500 UNIVERSITY DR NW  
 CALGARY, AB T2N 1N4  
 MOUNT ROYAL UNIVERSITY  
 4825 MT ROYAL GATE SW  
 CALGARY, AB T3E 6K6  
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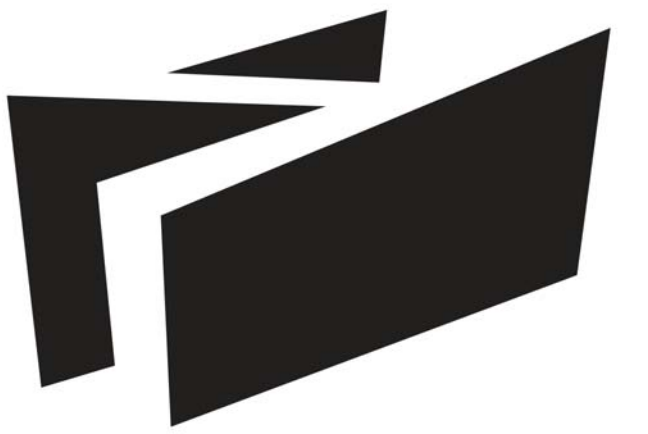
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**HVAC EQUIPMENT PLAN**

**M-102**

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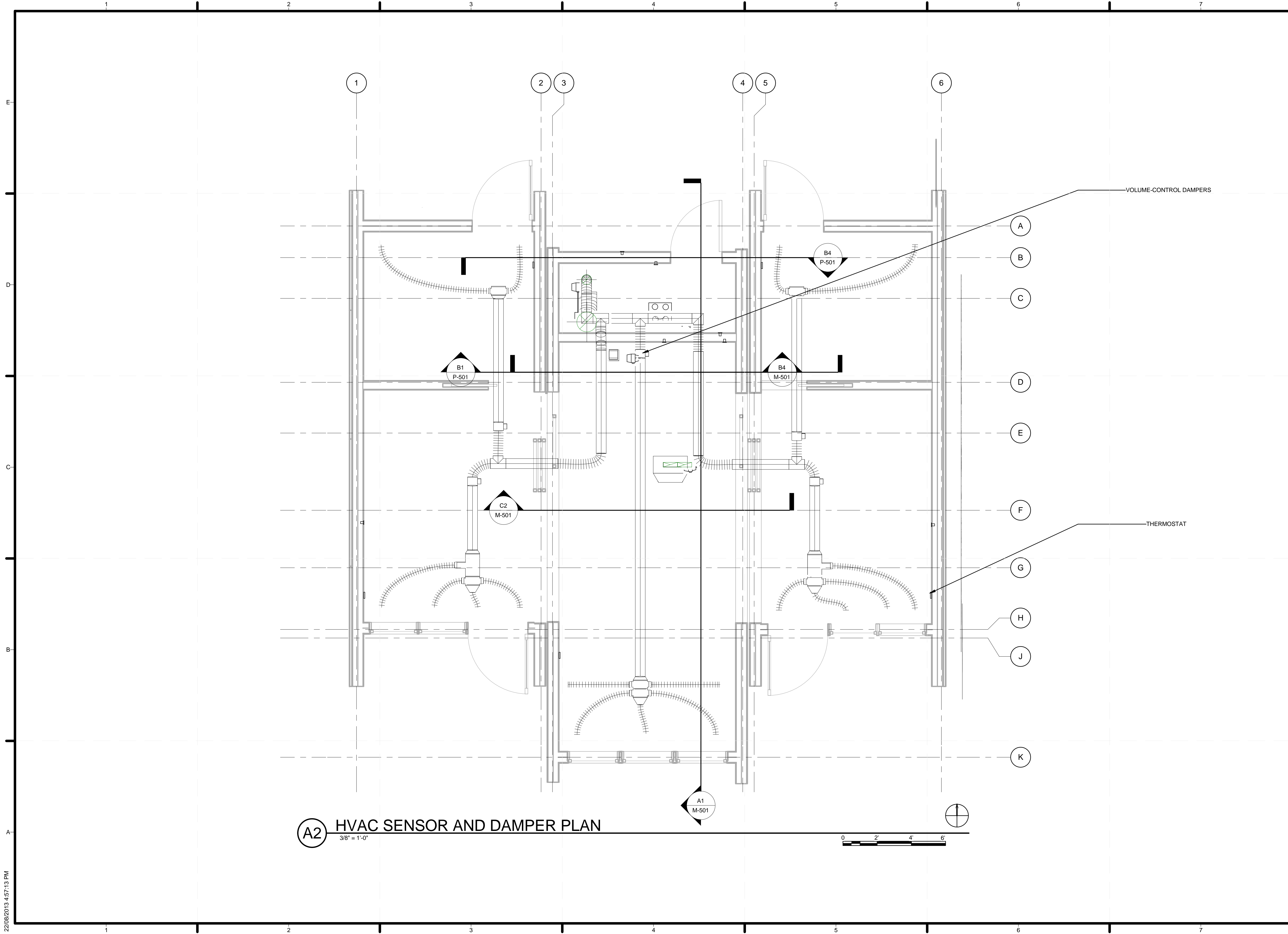
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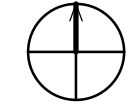
HVAC SENSOR AND  
DAMPER PLAN

**M-103**

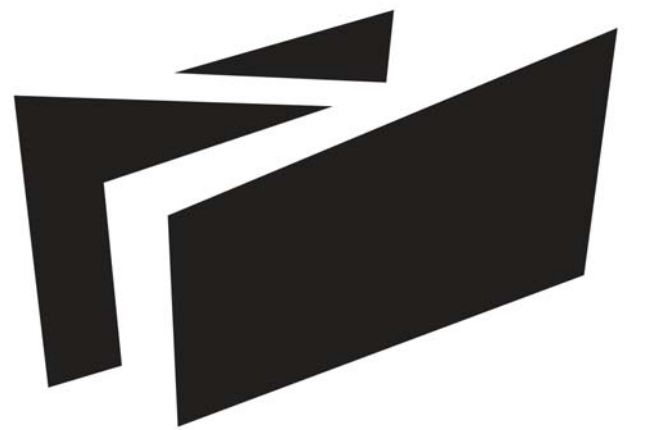


**A2** HVAC SENSOR AND DAMPER PLAN

3/8" = 1'-0"



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4825 MT ROYAL GATE SW  
CALGARY, AB T3E 6K6

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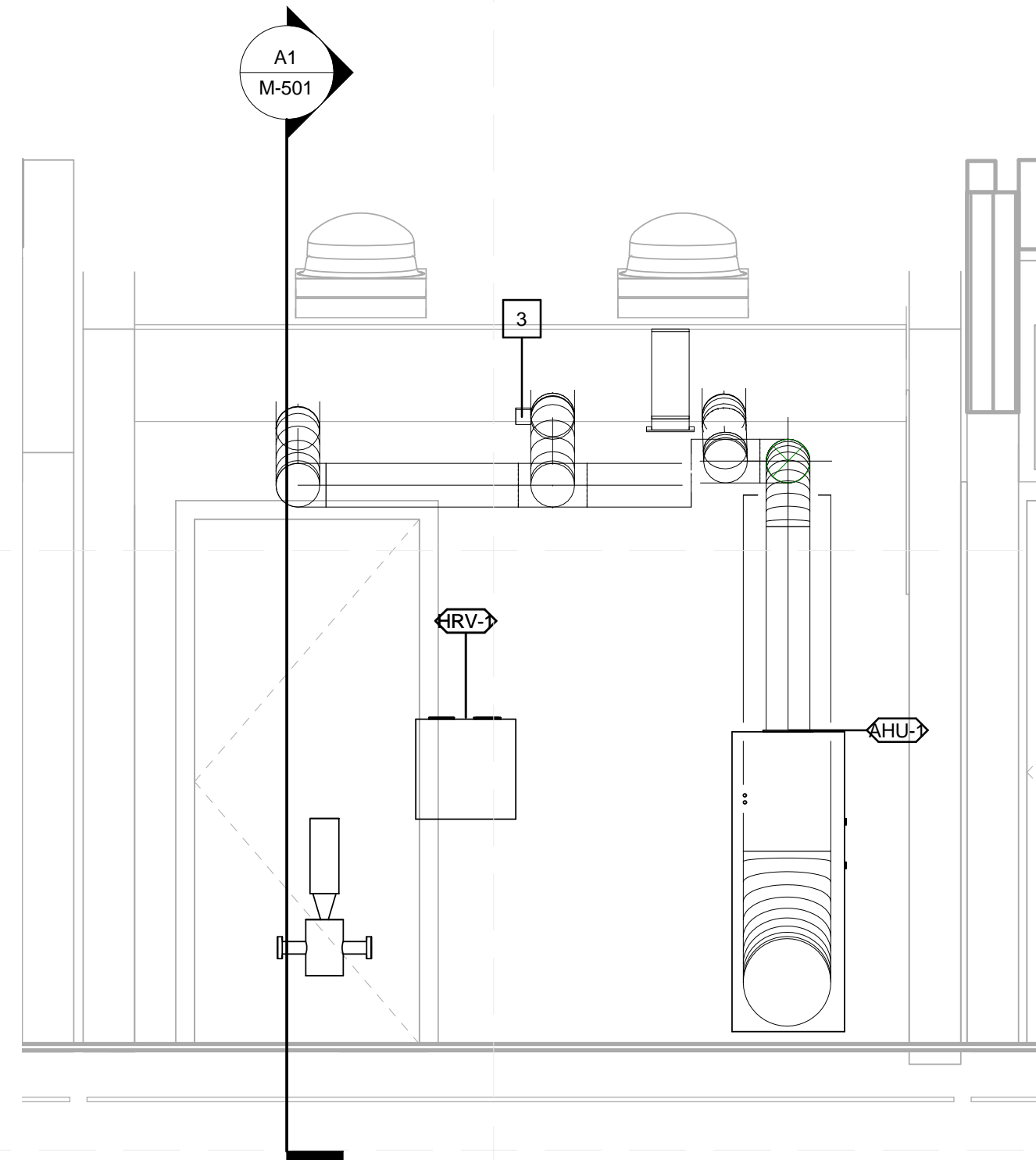
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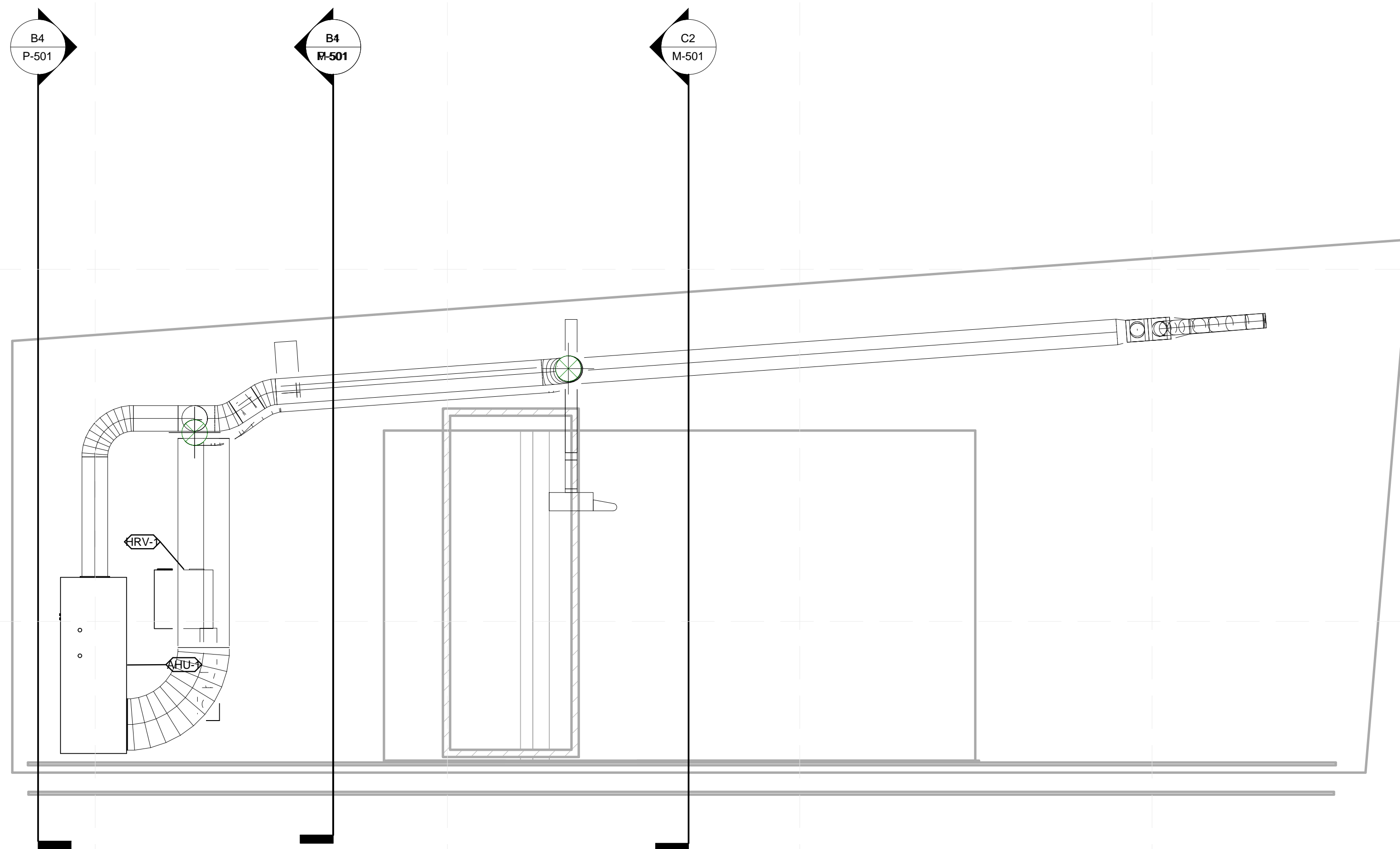
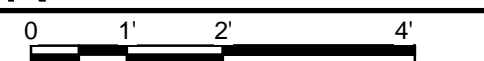
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**MECHANICAL  
ELEVATIONS**

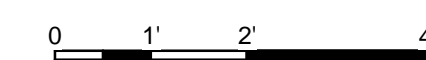
**M-201**



**C4 NORTH HVAC ELEVATION**  
1/2" = 1'-0"



**A2 WEST HVAC ELEVATION**  
1/2" = 1'-0"





TEAM NAME: TEAM ALBERTA  
 ADDRESS: EVDS - PF-2182  
 2500 University Drive NW  
 Calgary, AB, Canada T2N 1N4  
 CONTACT: info@solardecathlon.ca  
 www.solardecathlon.ca

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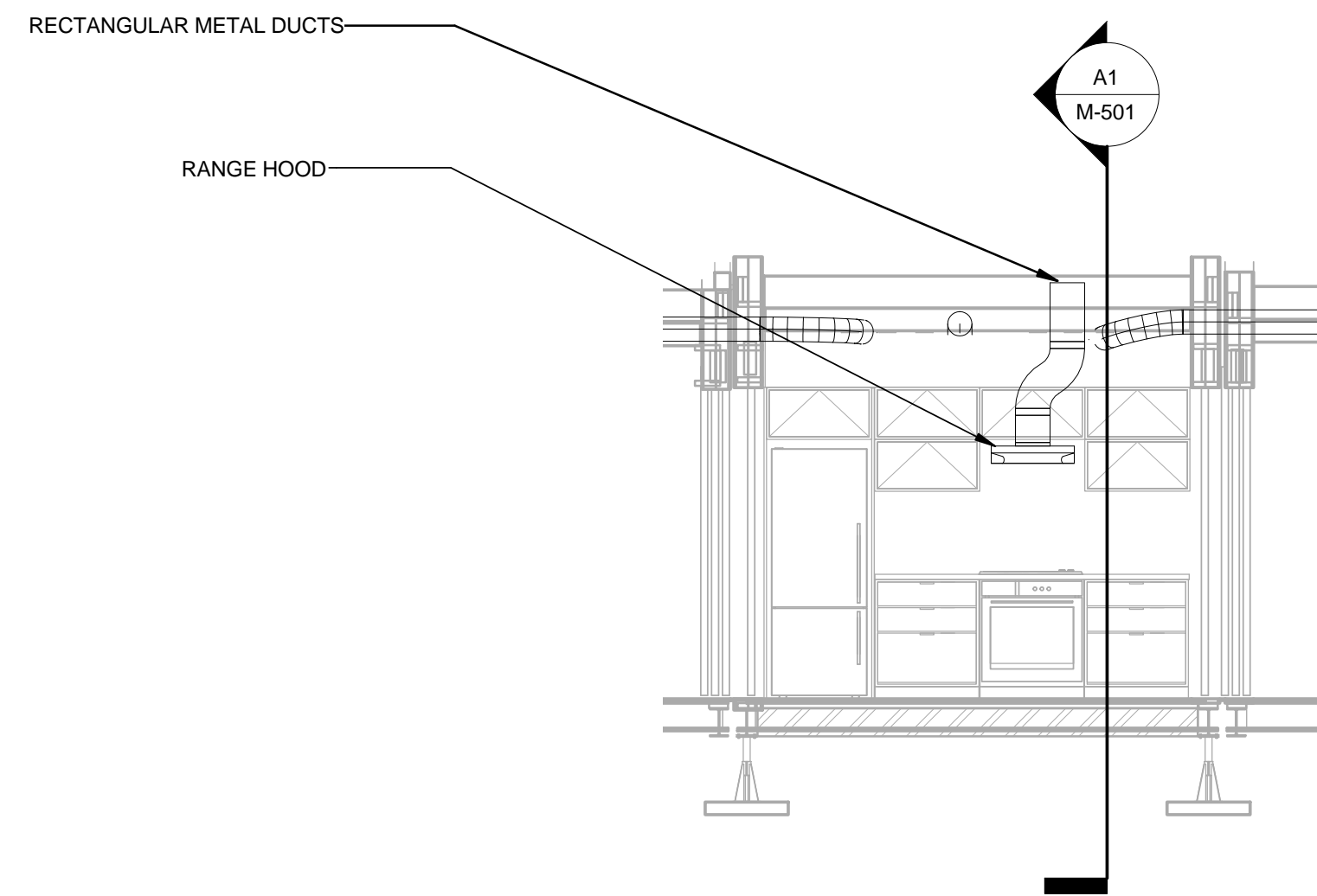


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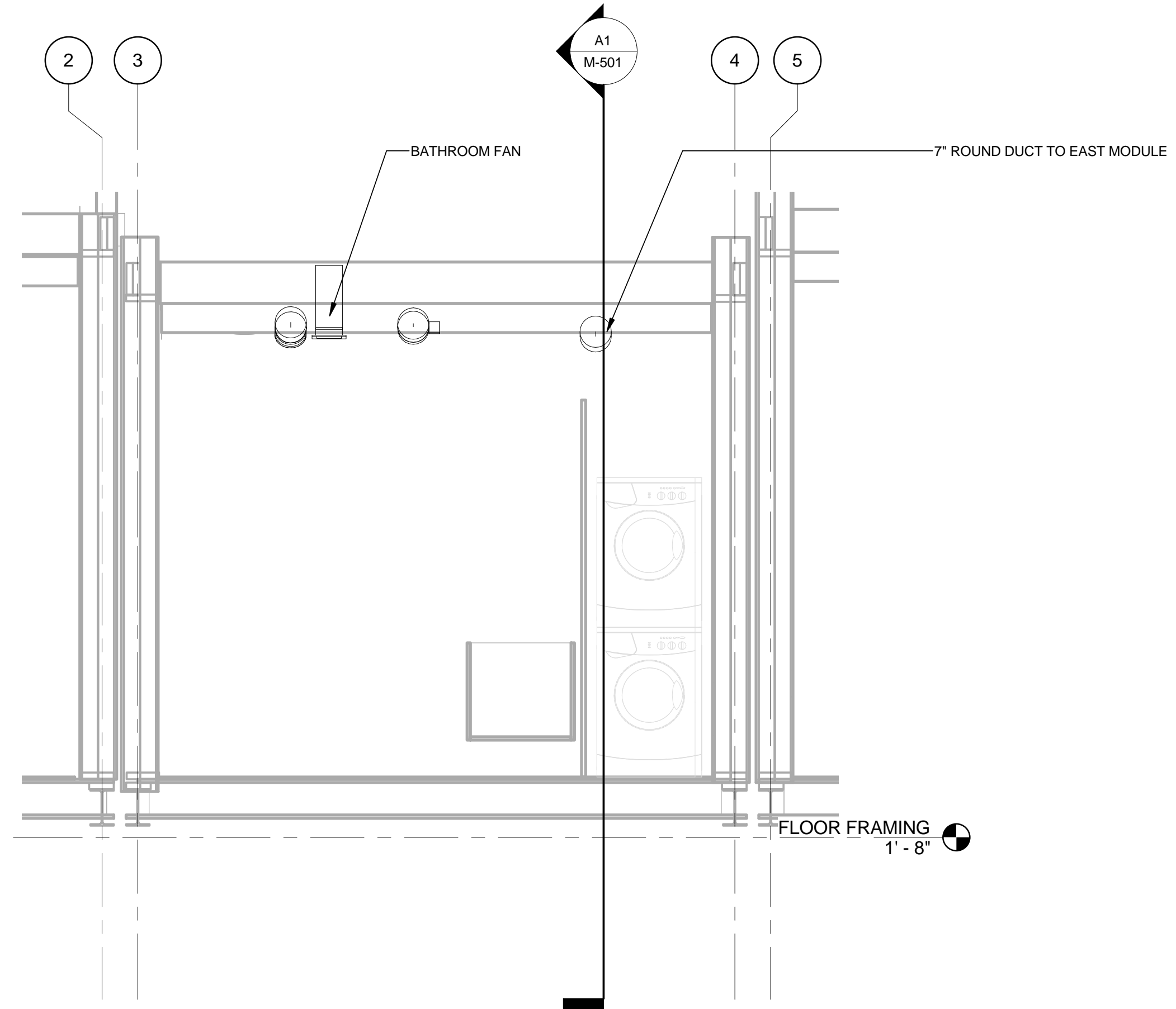
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 HVAC DETAIL

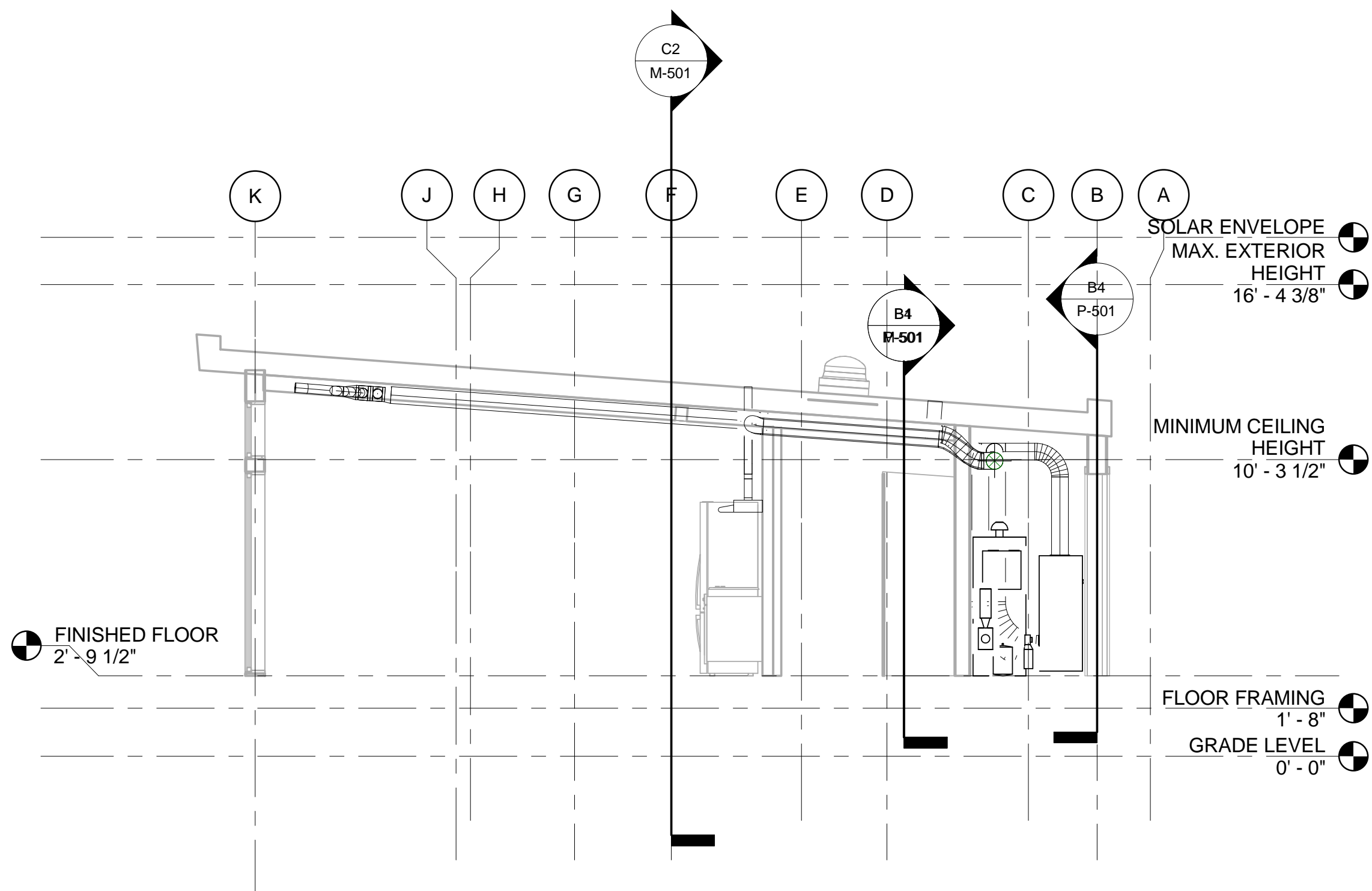
M-501



**C2** KITCHEN HVAC SECTION  
 1/4" = 1'-0"

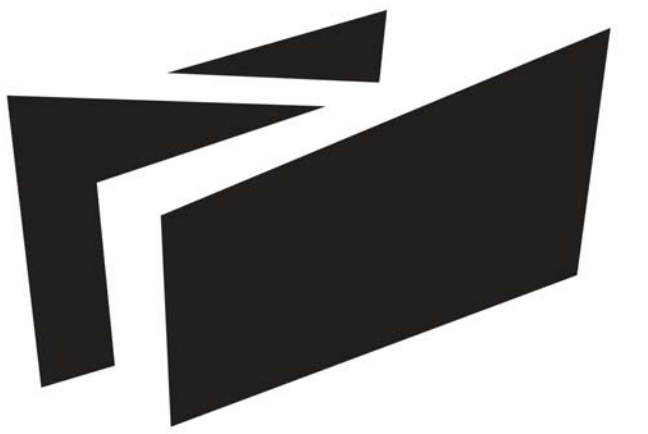


**B4** BATHROOM HVAC SECTION  
 1/2" = 1'-0"



**A1** CENTER MODULE HVAC SECTION  
 1/4" = 1'-0"





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UNIVERSITY OF CALGARY  
2500 UNIVERSITY DR NW  
CALGARY, AB T2N 1N4

MOUNT ROYAL UNIVERSITY  
4825 MT ROYAL GATE SW  
CALGARY, AB T3E 6K6

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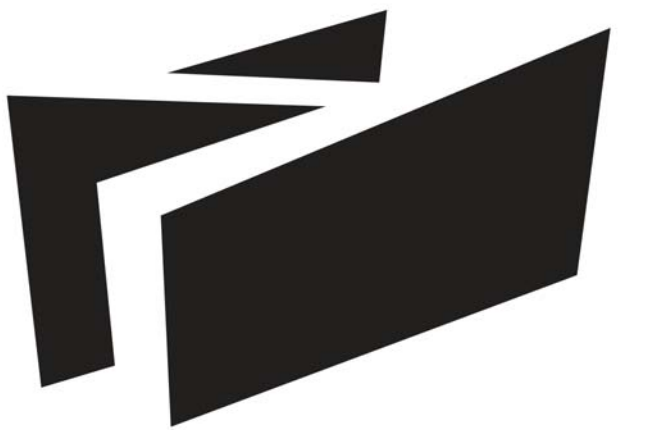
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**MECHANICAL  
EQUIPMENT SCHEDULE**

**M-601**

MECHANICAL EQUIPMENT							
TAG	DESCRIPTION	MANUFACTURER	MODEL	POWER	VOLTAGE	FLA	REMARKS
AHU-1	AIR HANDLER BLOWER MODULE	UNICO	MB2430-EC2	1344 VA	240 V	6 A	CONTROLLED BY HVAC CONTROLLER, INTERCONNECTED WITH HRV-1
DH-1	DEHUMIDIFIER	HONEYWELL	TRUEDRY DR65	624 VA	120 V	5 A	CONTROLLED BY HUMIDSTAT
DHW-1	SOLAR DOMESTIC HOT WATER TANK	VELUX	TFF 060 0205US	4500 VA	240 V	19 A	CONTROLLED BY PRESSURE SWITCH
EX-1	BATHROOM FAN	BROAN	XB110C	120 VA	120 V	1 A	CONTROLLED BY BATHROOM SWITCH, INTERCONNECTED WITH HRV-1
EX-2	KITCHEN HOOD FAN	WHIRLPOOL	UXT5230AYS	250 VA	120 V	2 A	INTERCONNECTED WITH HRV-1
HP-1	REVERSIBLE HEAT PUMP	LENNOX	XP21-024	3424 VA	230 V	15 A	CONTROLLED BY HVAC CONTROLLER
HRV-1	HEAT RECOVERY VENTILATOR	KUBIX	44102	120 VA	120 V	1 A	INTERCONNECTED WITH EX-1, EX-2, & AHU-1. RELAY BYPASS CONTROLLED BY HVAC CONTROLLER
PU-1	DOMESTIC WATER PUMP	GRUNDFOS	MQ-3-45	680 VA	120 V	13 A	
PU-2	FIRE SUPPRESSION PUMP	ECONO RFP	XPS15	2400 VA	240 V	10 A	CONTROLLED BY PRESSURE SWITCH
PU-3	SEWAGE PUMP	PRO SERIES	ST 1033	564 VA	120 V	4 A	CONNECT TO RECEPTACLE INSTALLED UNDER CENTRAL MODULE
PU-4	SOLAR THERMAL PUMP	VELUX	TFF 060 0205US	240 VA	120 V	2 A	VARIABLE SPEED DISCONNECT/CONTROL BY RESOL SOLAR CONTROLLER



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2500 UNIVERSITY DR NW  
CALGARY, AB T2N 1N4

MOUNT ROYAL UNIVERSITY  
4825 MT ROYAL GATE SW  
CALGARY, AB T3E 6K6

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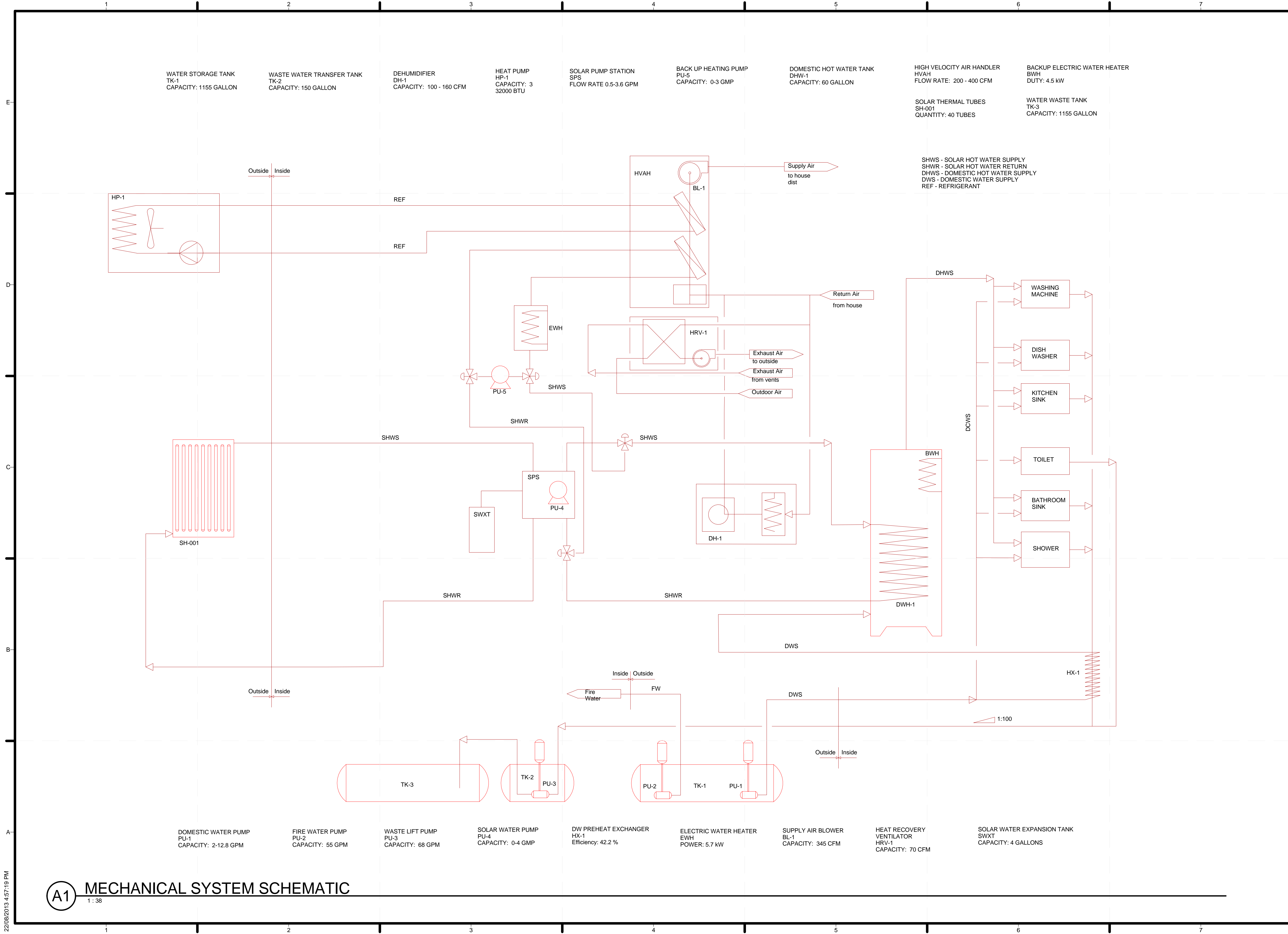
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MECHANICAL  
SCHEMATIC

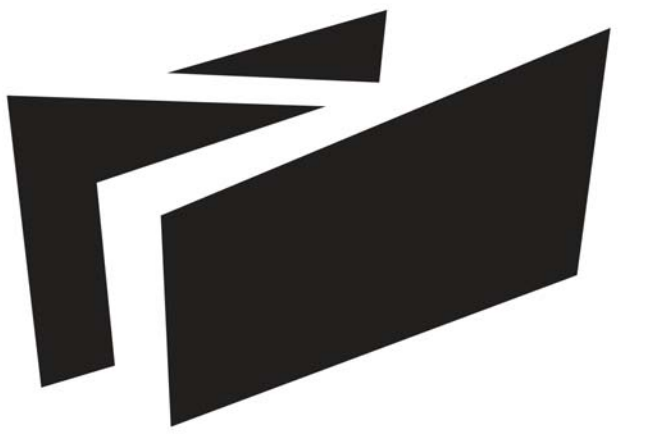
M-602



A1 MECHANICAL SYSTEM SCHEMATIC

1:38

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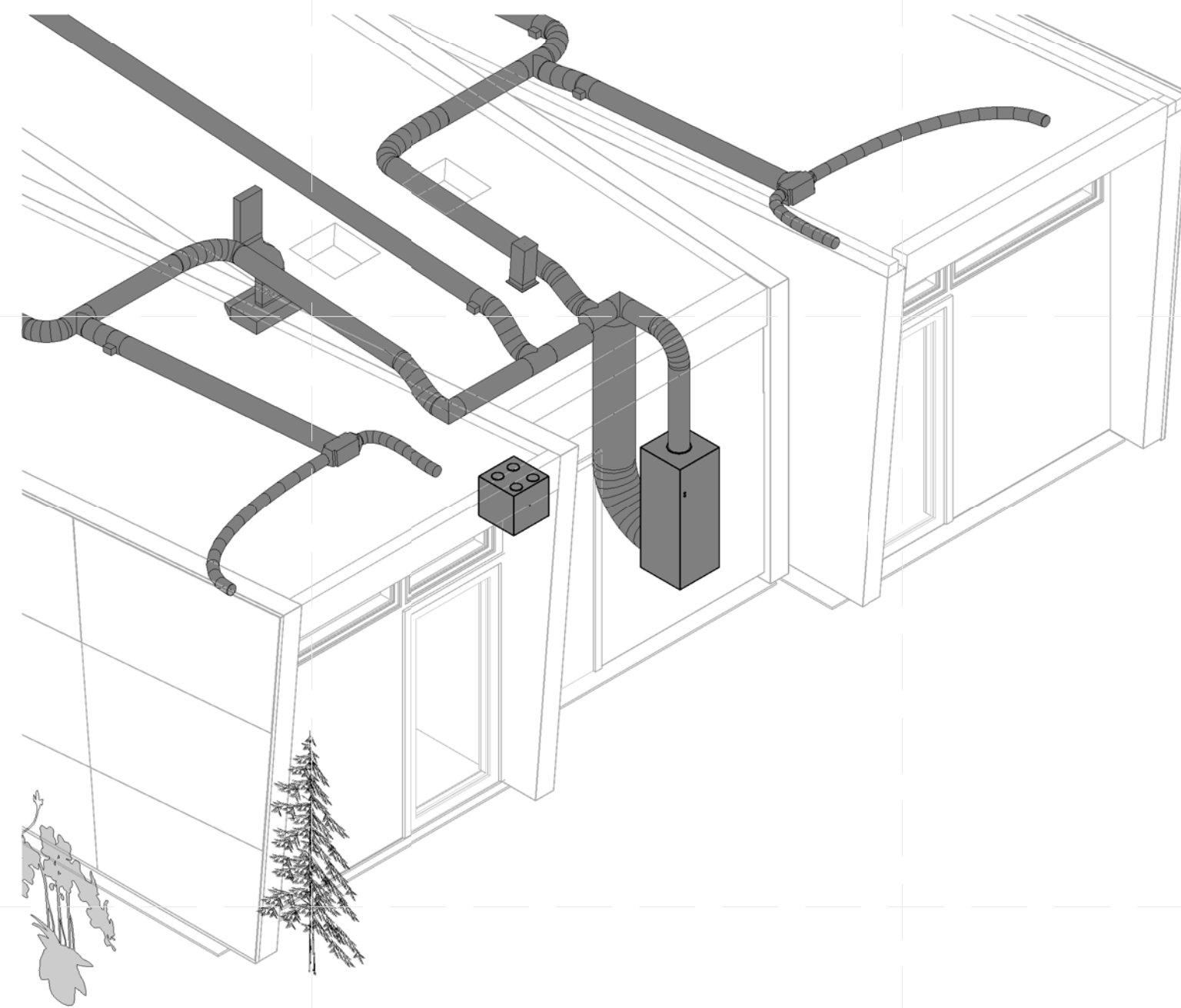
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3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

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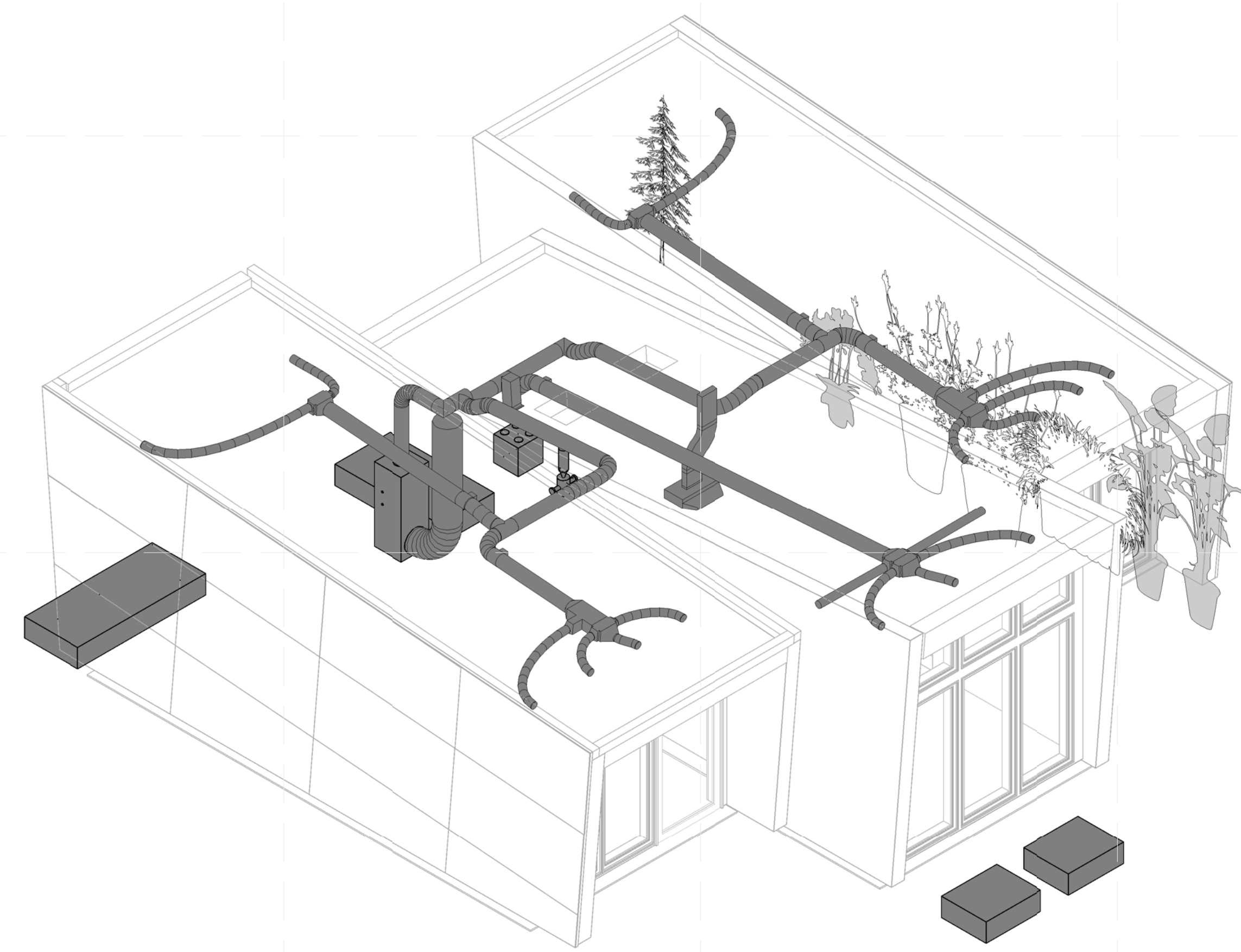
SHEET TITLE

MECHANICAL  
ISOMETRIC

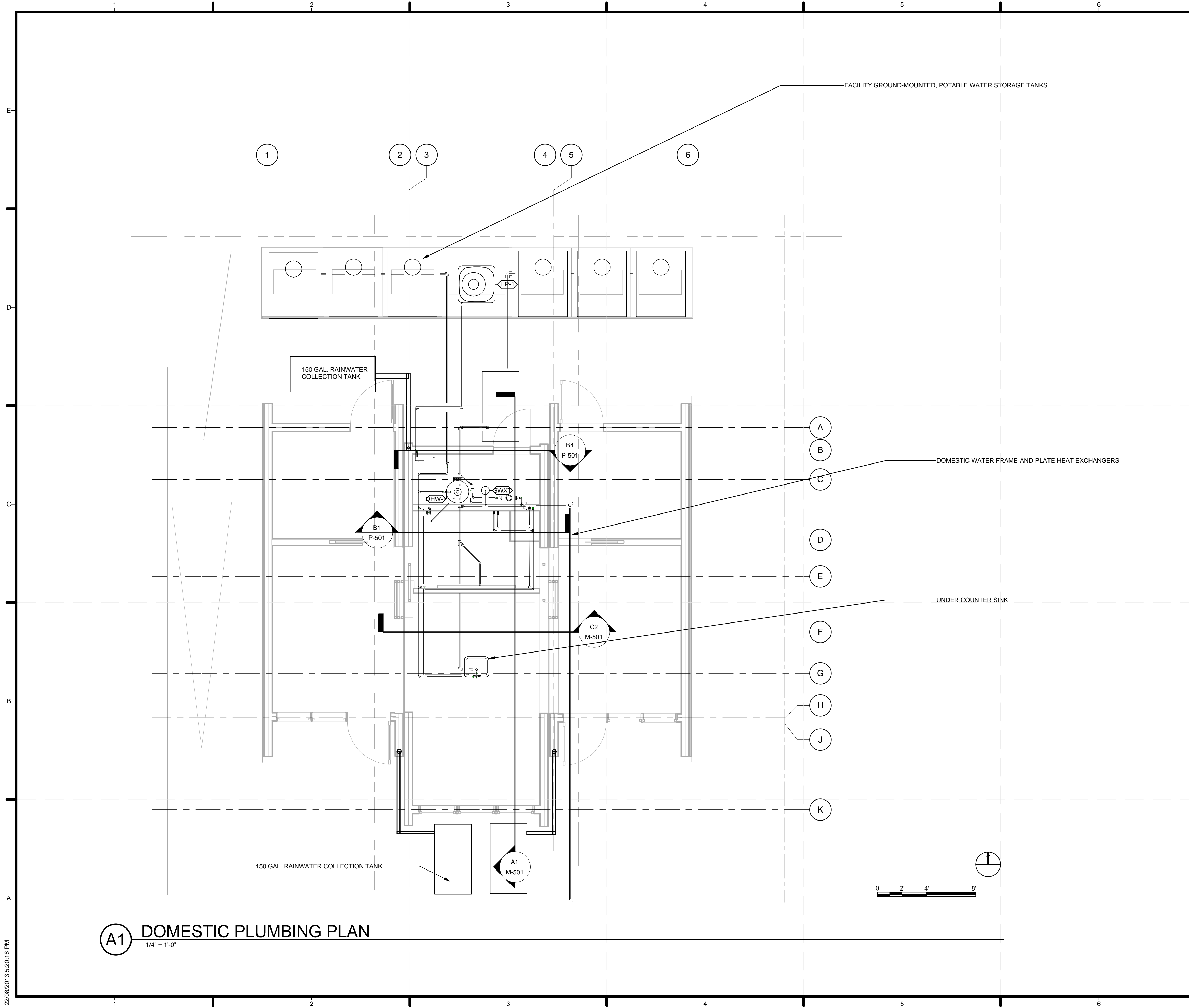
**M-901**



**C1** MECHANICAL ROOM ISOMETRIC



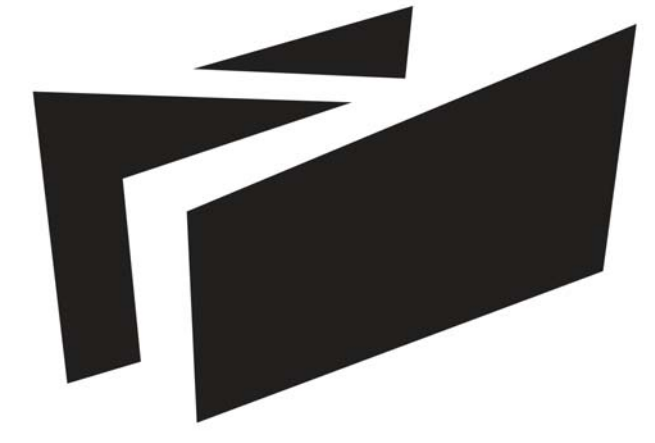
**A4** HVAC ISOMETRIC



**GENERAL SHEET NOTES**

1. WATER STORAGE CONSISTS OF (6) 385 GALLON WATER TANKS FOR A TOTAL CAPACITY OF 1155 STORAGE AND WASTE.
2. WATER TANKS HAVE AN OPENING DIAMETER OF 12".
3. WATER TANKS ARE FULLY SHADED IN ENCLOSED WOOD LANDSCAPING STRUCTURE.
4. LANDSCAPING STRUCTURE INCLUDES REMOVABLE TOP PANELS TO ACCESS FILLING LOCATIONS MEETING MINIMUM 12" CLEARANCE REQUIREMENT
5. SEE P-501 FOR SECTION DETAILS
6. SEE MECHANICAL SCHEMATIC (M-602) FOR DETAILS OF INTERCONNECTION

**SHEET KEYNOTES**



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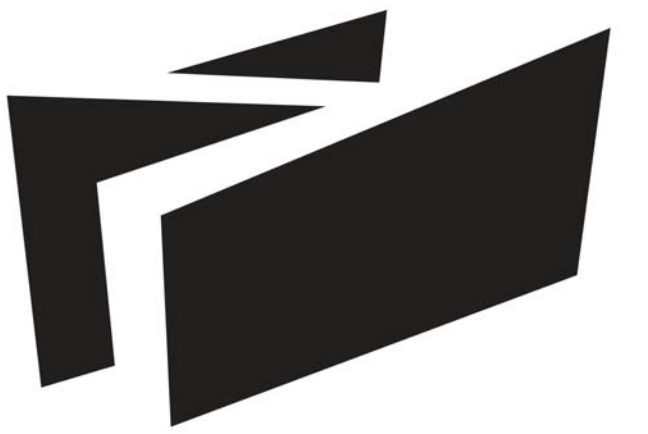
**SHEET TITLE**

**PLUMBING SITE PLAN**

**P-101**

**(A1) DOMESTIC PLUMBING PLAN**  
1/4" = 1'-0"

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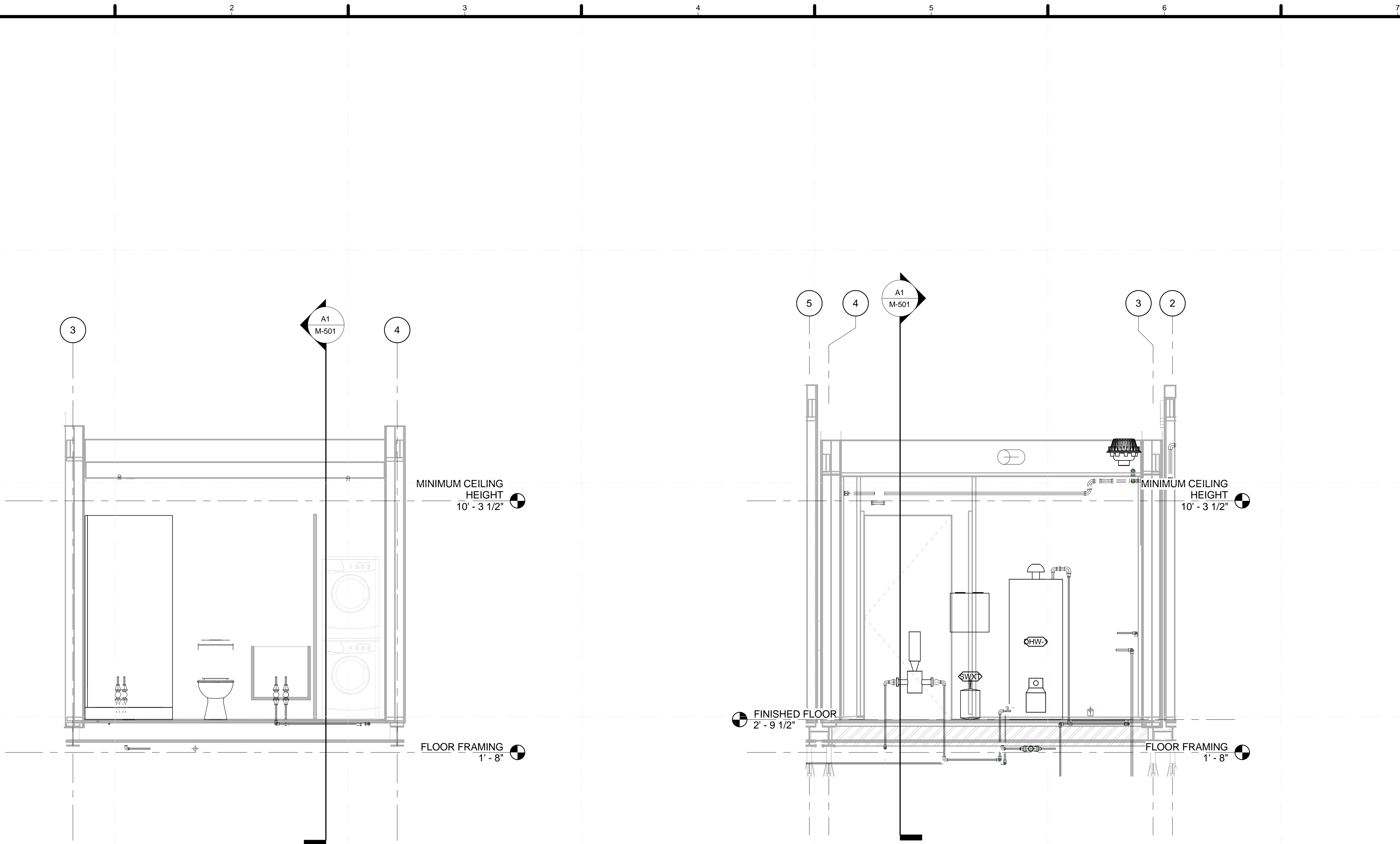
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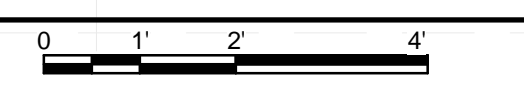
PLUMBING DETAIL

**P-501**



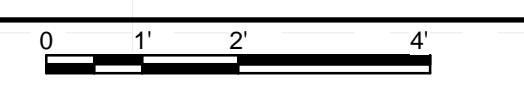
**B1** DOMESTIC PLUMBING DETAIL

1/2" = 1'-0"



**B4** MECHANICAL ROOM PLUMBING DETAIL

1/2" = 1'-0"



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DRAWN BY:  
CHECKED BY:  
STATUS:

SHEET TITLE

**PLUMBING SCHEDULES**

**P-601**

PIPE SCHEDULE

COUNT	KEYNOTE	LENGTH	DIAMETER
1	12	0' - 0 1/8"	1"
1	12	0' - 0 3/16"	1"
1	12	0' - 0 1/4"	1"
1	12	0' - 0 15/16"	1"
1	12	0' - 1 5/16"	1"
1	12	0' - 1 5/16"	1"
1	12	0' - 1 3/8"	1"
1	12	0' - 1 9/16"	1"
1	12	0' - 1 5/8"	1"
2	12	0' - 1 3/4"	1"
1	12	0' - 2 1/8"	1"
1	12	0' - 2 3/16"	1"
1	12	0' - 2 7/8"	1"
2	12	0' - 3 3/16"	1"
8	12	0' - 3 1/4"	1"
1	12	0' - 3 3/8"	1"
1	12	0' - 3 1/2"	1"
1	12	0' - 4 3/8"	1"
1	12	0' - 4 3/8"	1"
1	12	0' - 5"	1"
1	12	0' - 5 3/16"	1"
1	12	0' - 5 9/16"	1"
1	12	0' - 6 7/16"	1"
1	12	0' - 6 1/2"	1"
1	12	0' - 6 1/2"	1"
1	12	0' - 6 9/16"	1"
1	12	0' - 6 3/4"	1"
1	12	0' - 8 1/8"	1"
1	12	0' - 8 1/8"	1"
1	12	0' - 8 1/4"	1"
1	12	0' - 9 1/8"	1"
1	12	0' - 11 3/16"	1"
1	12	0' - 11 11/16"	1"
1	12	1' - 1 3/16"	1"
1	12	1' - 1 5/8"	1"
1	12	1' - 2 11/16"	1"
1	12	1' - 3 3/8"	1"
1	12	1' - 5"	1"
1	12	1' - 5 3/8"	1"
1	12	1' - 7 1/2"	1"
1	12	1' - 8"	1"
1	12	1' - 8 1/16"	1"
1	12	1' - 8 1/4"	1"
1	12	1' - 9 3/16"	1"
1	12	1' - 9 9/16"	1"
1	12	2' - 0 7/16"	1"
1	12	2' - 1 3/16"	1"
1	12	2' - 1 5/16"	1"
1	12	2' - 4 1/8"	1"
1	12	2' - 5 5/16"	1"
1	12	2' - 7 3/8"	1"
1	12	2' - 8 3/8"	1"

PIPE SCHEDULE

COUNT	KEYNOTE	LENGTH	DIAMETER
1	12	2' - 9 1/4"	1"
1	12	2' - 11 5/16"	1"
1	12	3' - 3 5/16"	1"
1	12	3' - 4 15/16"	1"
1	12	3' - 6 5/16"	1"
1	12	3' - 8 11/16"	1"
1	12	4' - 2 1/2"	1"
1	12	4' - 7 1/4"	1"
1	12	4' - 7 7/16"	1"
1	12	4' - 10 3/16"	1"
1	12	4' - 10 15/16"	1"
1	12	4' - 11"	1"
1	12	6' - 3 3/8"	1"
1	12	6' - 4"	1"
1	12	6' - 7 5/8"	1"
1	12	7' - 0 5/8"	1"
1	12	8' - 0 1/2"	1"
1	12	8' - 2 11/16"	1"
1	12	8' - 3 7/8"	1"
1	12	8' - 8"	1"
1	12	14' - 0 13/16"	1"
1	12	32' - 3 9/16"	1"
1	12	32' - 4 7/16"	1"
1	12	0' - 2 7/8"	1"
1	12	0' - 5 1/8"	1"
1	12	0' - 6 3/8"	1"
1	12	2' - 10 1/2"	1"
1	12	3' - 3 1/16"	1"
1	12	3' - 4 15/16"	1"
1	12	4' - 5 11/16"	1"
1	12	8' - 5 5/8"	1"
1	12	0' - 1 3/4"	1"
1	12	0' - 2 5/16"	1"
1	12	0' - 4 15/16"	1"
1	12	0' - 8"	1"
1	12	0' - 9 3/8"	1"
1	12	0' - 11 3/4"	1"
1	12	1' - 0 1/16"	1"
1	12	1' - 0 1/8"	1"
1	12	1' - 4 3/4"	1"
1	12	1' - 5"	1"
1	12	1' - 7 1/4"	1"
1	12	4' - 9"	1"
1	12	6' - 10 3/16"	1"
1	12	11' - 7 7/16"	1"
1	12	12' - 11 1/2"	1"
1	12	13' - 10 1/16"	1"
1	12	0' - 1 7/16"	1"
2	12	0' - 1"	2"
1	12	0' - 1 3/16"	2"
1	12	0' - 2"	2"
1	12	0' - 2 1/16"	2"
2	12	0' - 3 5/16"	2"
1	12	0' - 7 3/4"	2"
1	12	0' - 11 1/16"	2"
1	12	0' - 11 1/2"	2"

PIPE SCHEDULE

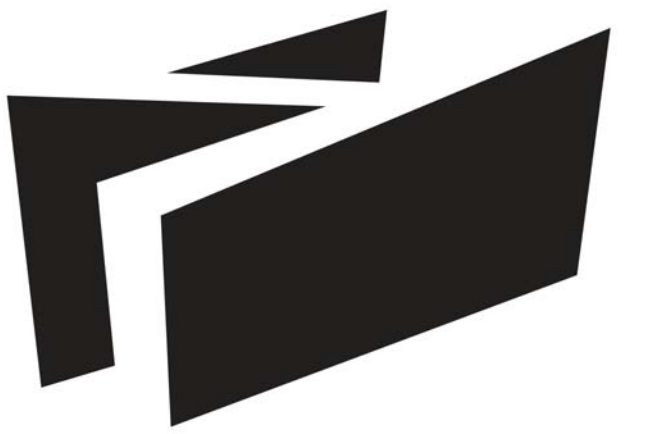
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1	12	1' - 11 7/16"	2"
1	12	2' - 5 1/4"	2"
1	12	2' - 6 15/16"	2"
1	12	3' - 6 1/8"	2"
1	12	9' - 10"	2"
1	12	10' - 1 1/2"	2"
1	12	10' - 5 9/16"	2"
1	12	15' - 1 1/2"	2"
1	12	10' - 6"	3"
1	12	11' - 3"	3"

PLUMBING FIXTURE SCHEDULE

MARK	COUNT	KEYNOTE	DESCRIPTION
SK-1	1	22 41 16.A5	
FWT-1	1	22 12 19	(3) 385 GAL. WASTE STORAGE TANKS
FWT-2	1	22 12 19	(3) 385 GAL. WASTE STORAGE TANKS
FWT-3	1	22 12 19	(3) 385 GAL. WASTE STORAGE TANKS
SWT-3	1	22 12 19	(3) 385 GAL. WASTE STORAGE TANKS
SWT-2	1	22 12 19	(3) 385 GAL. WASTE STORAGE TANKS
SWT-1	1	22 12 19	(3) 385 GAL. WASTE STORAGE TANKS

FLEX PIPE SCHEDULE

COUNT	KEYNOTE	LENGTH	DIAMETER
1		2' - 6 1/4"	1"
1		2' - 10 15/16"	1"
1		2' - 11 3/16"	1"
1		3' - 2 3/4"	1"
1		0' - 11 9/16"	6"



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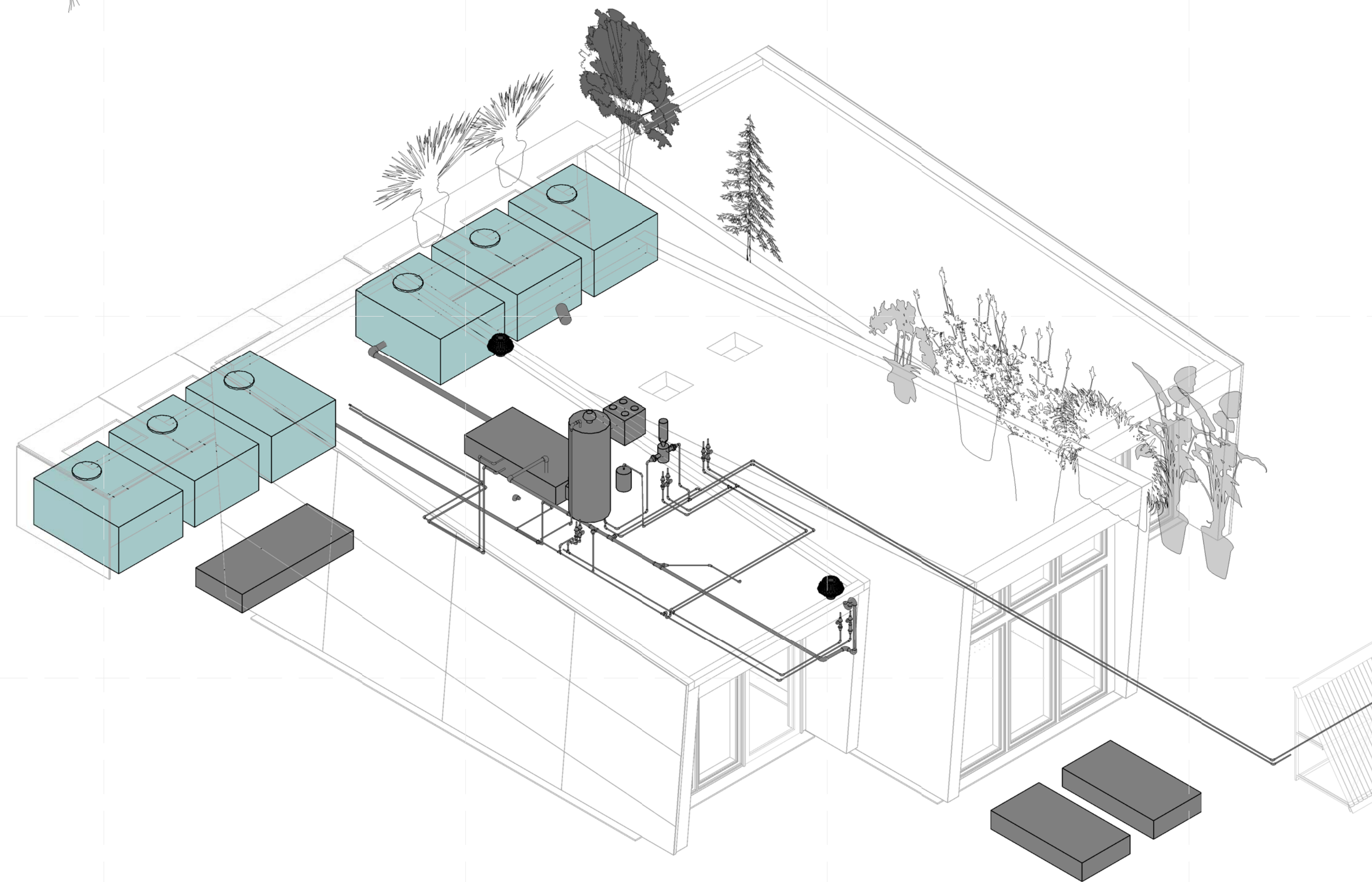
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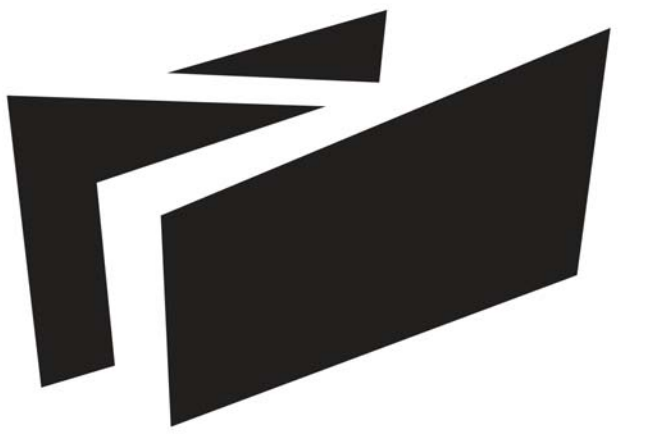
SHEET TITLE

**PLUMBING ISOMETRIC**

**P-901**



**B2 PLUMBING ISOMETRIC**



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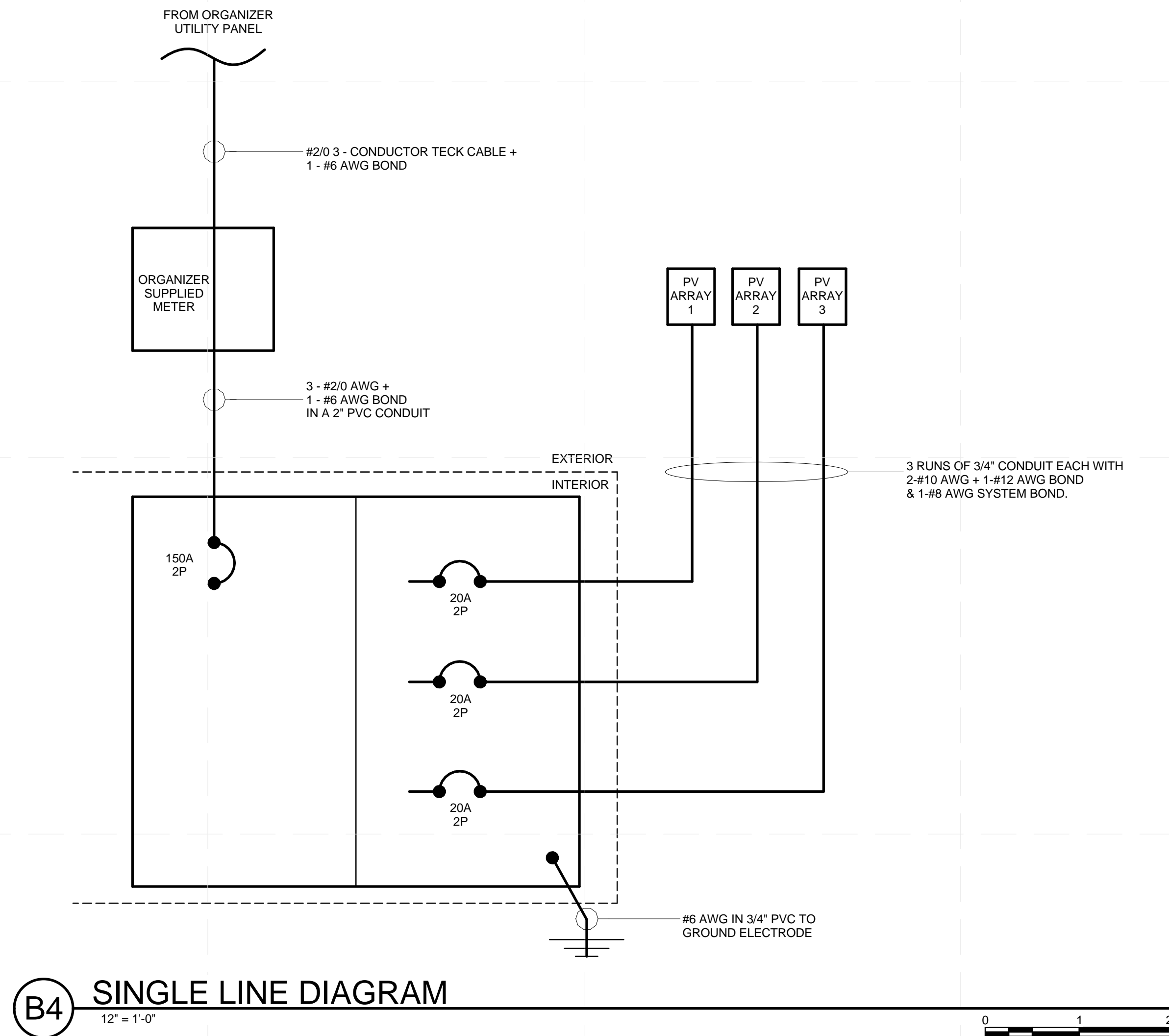
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**ELECTRICAL SYMBOLS  
AND NOTES**

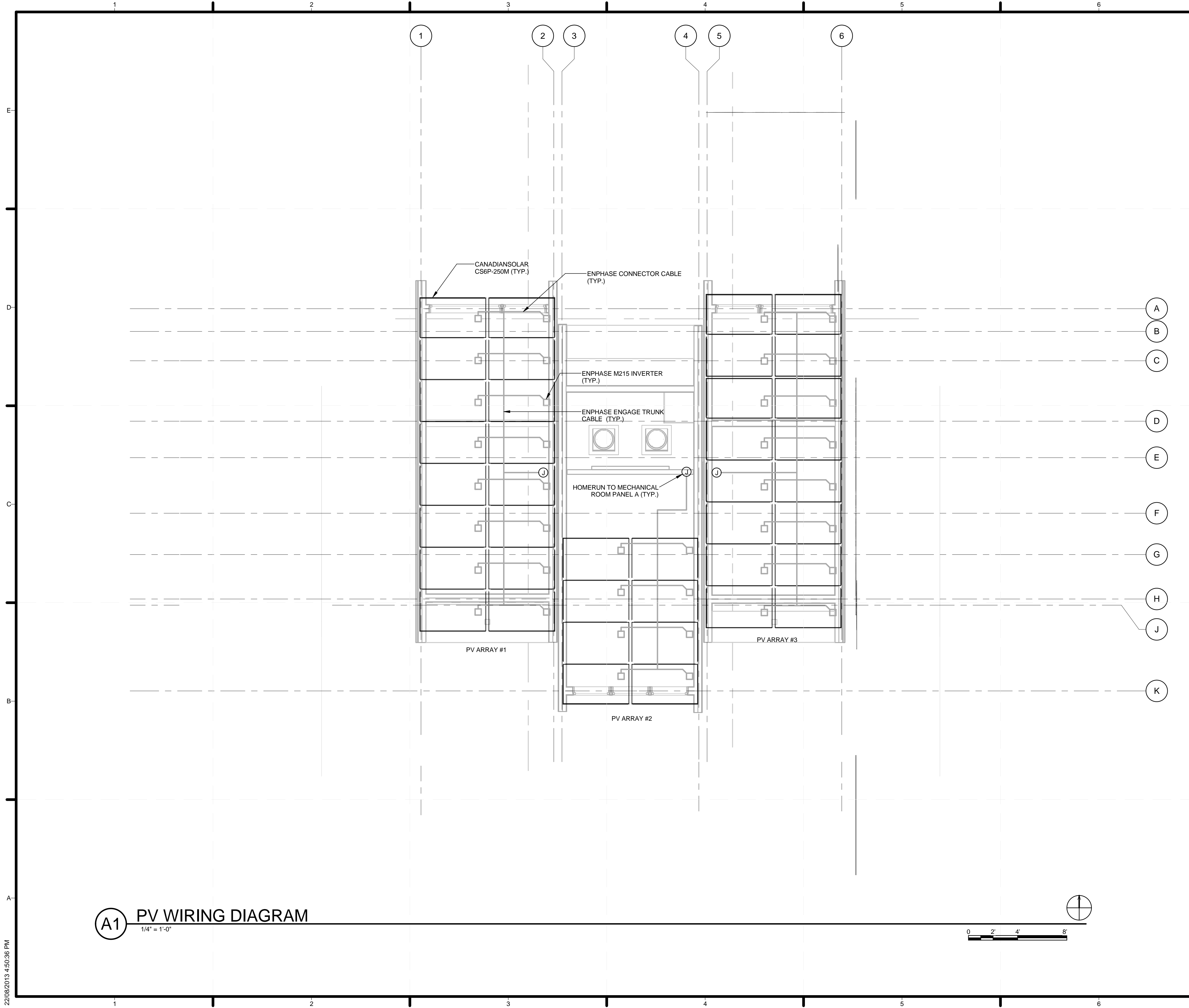
**E-001**

SYMBOL LEGEND	
	DUPLEX RECEPTACLE
	20A RECEPTACLE FOR THE WASHER
	14-30R RECEPTACLE FOR DRYER
	RECEPTACLE WITH GROUND FAULT INTERRUPTION
	20A RECEPTACLE WITH GROUND FAULT INTERRUPTION
	20A RECEPTACLE
	RECEPTACLE FOR THE FRIDGE
	SWITCHED HALF RECEPTACLE
	DIRECT CONNECT
	MOTOR WITH DISCONNECT
	MOTOR
	FAN MOTOR
	JUNCTION BOX
	UTILITY METER BOX
	POWER PANEL
	ORGANIZER ENCLOSURE
	DATA RACK
	SMOKE ALARM
	THERMOSTAT & HUMIDISTAT
	DATA/VOICE OUTLET
	LIGHT SWITCH
	FAN SWITCH
	LIGHTING SWITCH, THREE WAY
	PHOTO SENSOR
	OCCUPANCY SENSOR
	TRACK LIGHTING
	PENDANT LIGHT
	RECESSED LINEAR LED FIXTURE
	RECTANGULAR RECESSED POTLIGHT
	WATER TIGHT RECESSED LIGHT
	ADJUSTABLE RECTANGULAR RECESSED POTLIGHT
	UNDERCABINET LIGHTING
	SURFACE MOUNTED LIGHT
	EXTERIOR PLANE LIGHT
	WALL MOUNTED LIGHT
	ITEM TAG
MISCELLANEOUS ABBREVIATIONS	
GFI	GROUND FAULT INTERRUPTING
WP	WEATHER PROOF
WO	WALL OVEN
C	COOK TOP
DW	DISHWASHER
ACFI	ARC FAULT CIRCUIT INTERRUPTER
AWG	AMERICAN WIRE GUIDE
NEC	NATIONAL ELECTRIC CODE
AFF	ABOVE FINISHED FLOOR
TYP.	TYPICAL

**A1** SYMBOL LEGEND  
12" = 1'-0"







**GENERAL SHEET NOTES**

1. REFER TO THREE LINE DIAGRAM ON E-401 FOR MORE DETAIL

**SHEET KEYNOTES**



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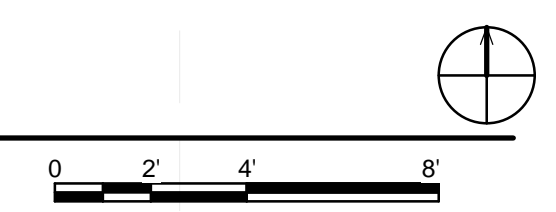
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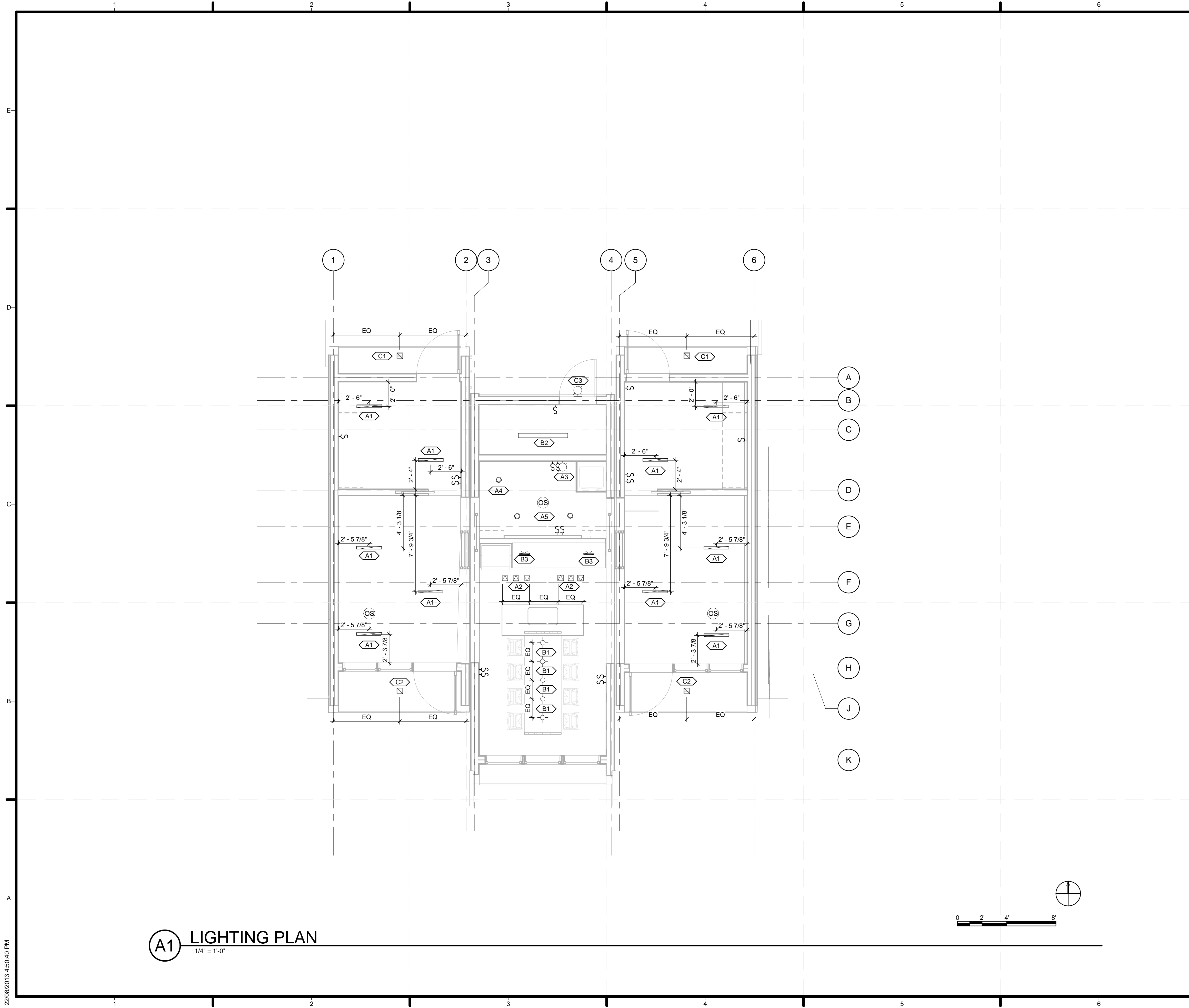
PV WIRING PLAN

**E-101**

**A1 PV WIRING DIAGRAM**  
 1/4" = 1'-0"



22/08/2013 4:50:36 PM



**A1 LIGHTING PLAN**  
1/4" = 1'-0"

**GENERAL SHEET NOTES**

1. REFER TO LUMINAIRE SCHEDULE ON E-001 FOR LUMINAIRE TYPE

**SHEET KEYNOTES**

1. SWITCH FOR THE SWITCHED HALF RECEPTACLES



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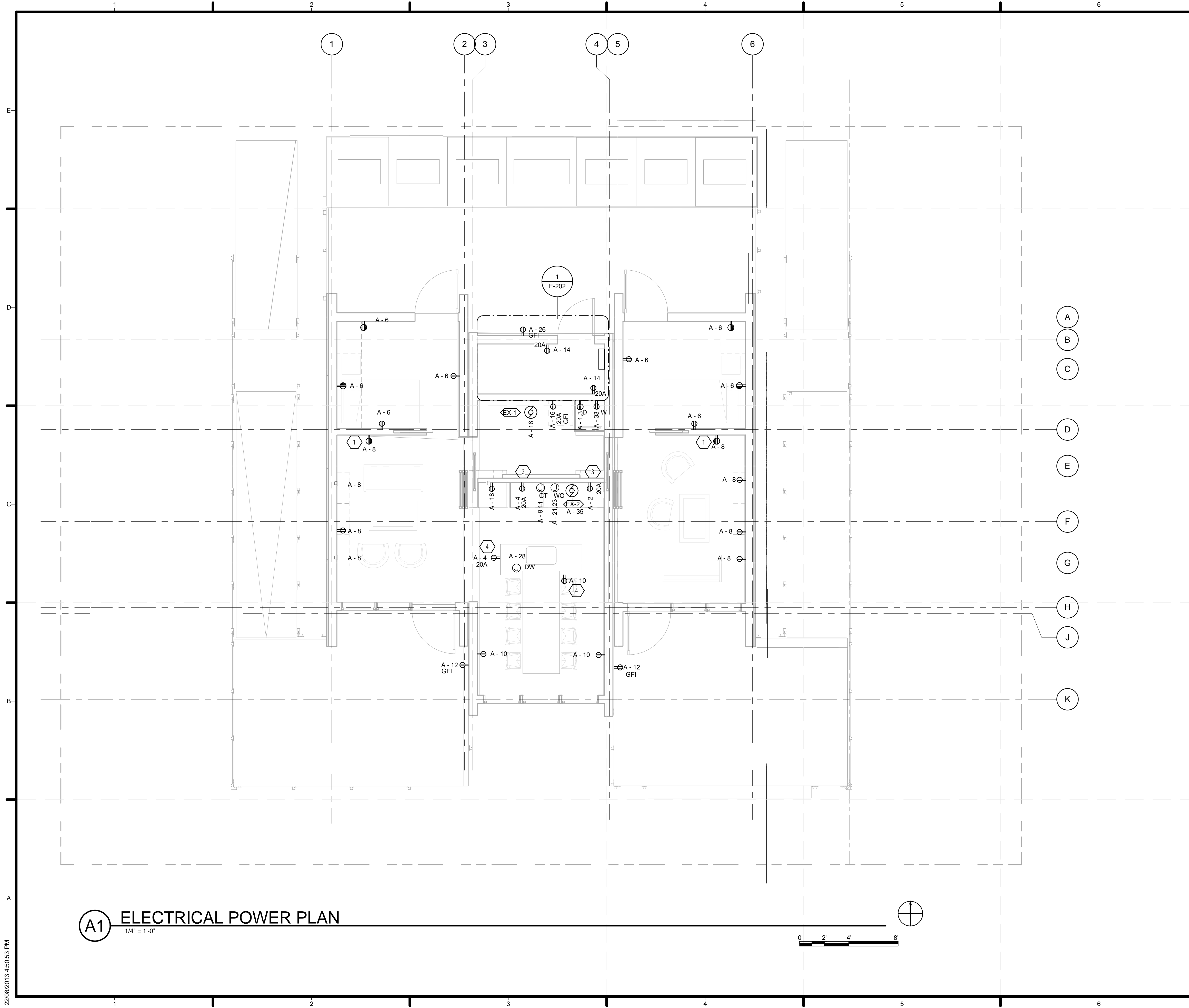
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CHECKED BY:  
STATUS:

**SHEET TITLE**

**LIGHTING PLAN**

**E-102**

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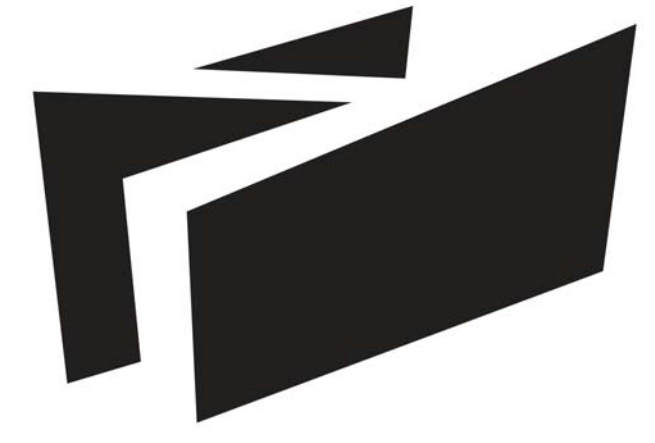


**GENERAL SHEET NOTES**

1. REFER TO MECHANICAL SCHEDULE ON E-501 FOR DESCRIPTION
2. REFER TO SMALL EQUIPMENT SCHEDULE ON E-501 FOR DETAILS

**SHEET KEYNOTES**

1. MOUNTED IN CABINETS AT 3' AFF
2. FAN DISCONNECT SWITCH TO BE COORDINATED WITH LIGHTING SWITCH
3. 20 A RECEPTACLES MOUNTED ABOVE COUNTER AT 3' 6" AFF
4. MOUNTED INTO ISLAND AT 2' 6" AFF



**BOREALIS**

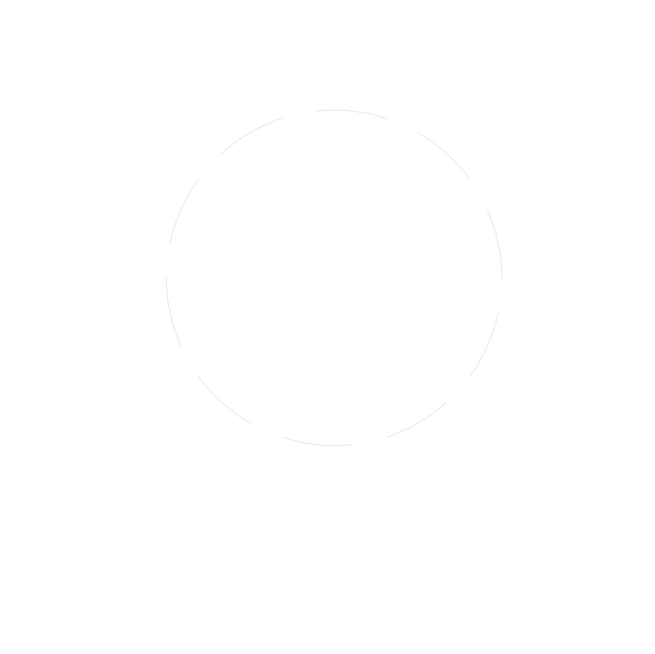
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DRAWN BY:  
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STATUS:

**SHEET TITLE**

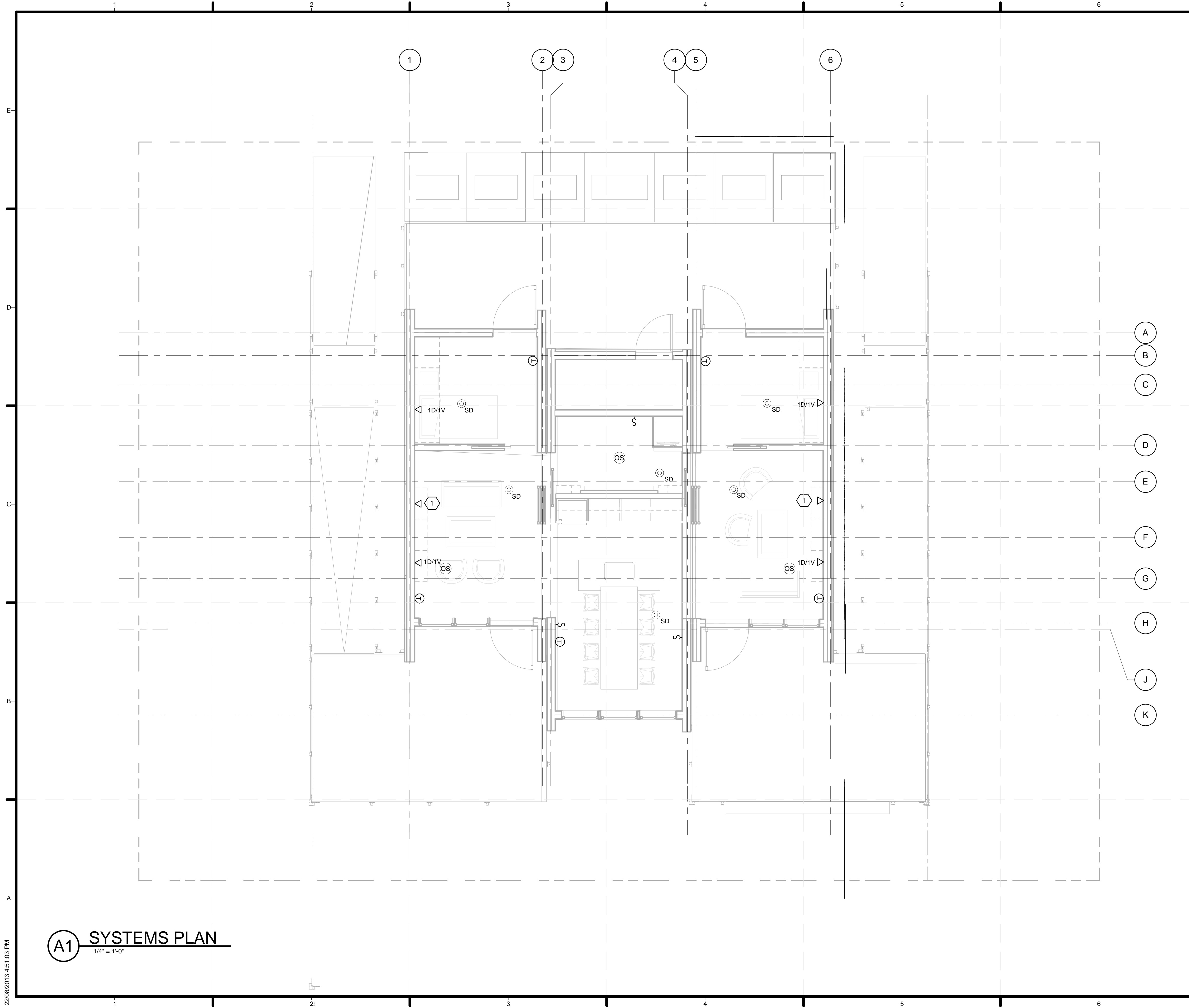
**POWER AND CONTROL PLAN**

**E-103**

**A1 ELECTRICAL POWER PLAN**  
1/4" = 1'-0"

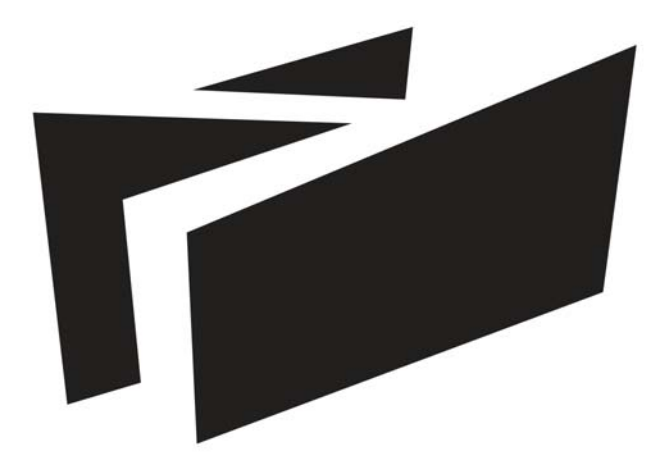


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**SHEET KEYNOTES**

1. FACEPLATE WITH HDMI USB AND DATA PORTS



**BOREALIS**

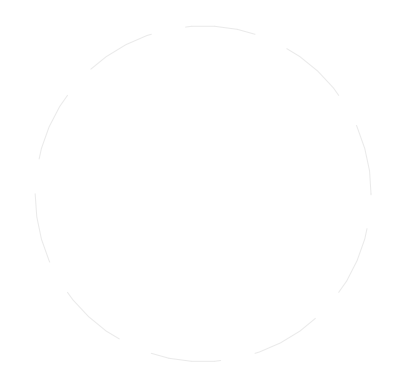
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1	04/29/2013	ISSUED FOR ELEC/MECH
2	05/03/2013	ISSUED FOR CLADDING
3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

LOT NUMBER: 116  
DRAWN BY:  
CHECKED BY:  
STATUS:

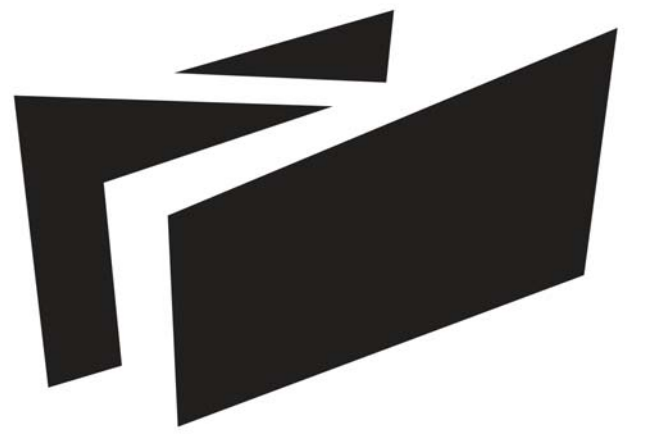
SHEET TITLE

**SYSTEMS PLAN**

**E-104**

**A1 SYSTEMS PLAN**  
1/4" = 1'-0"

22/08/2013 4:51:03 PM



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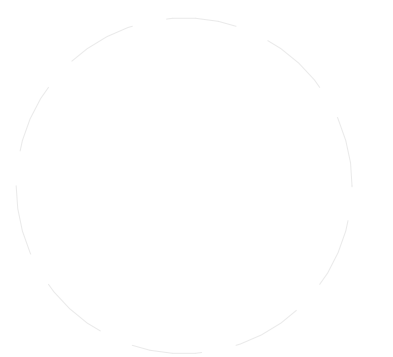
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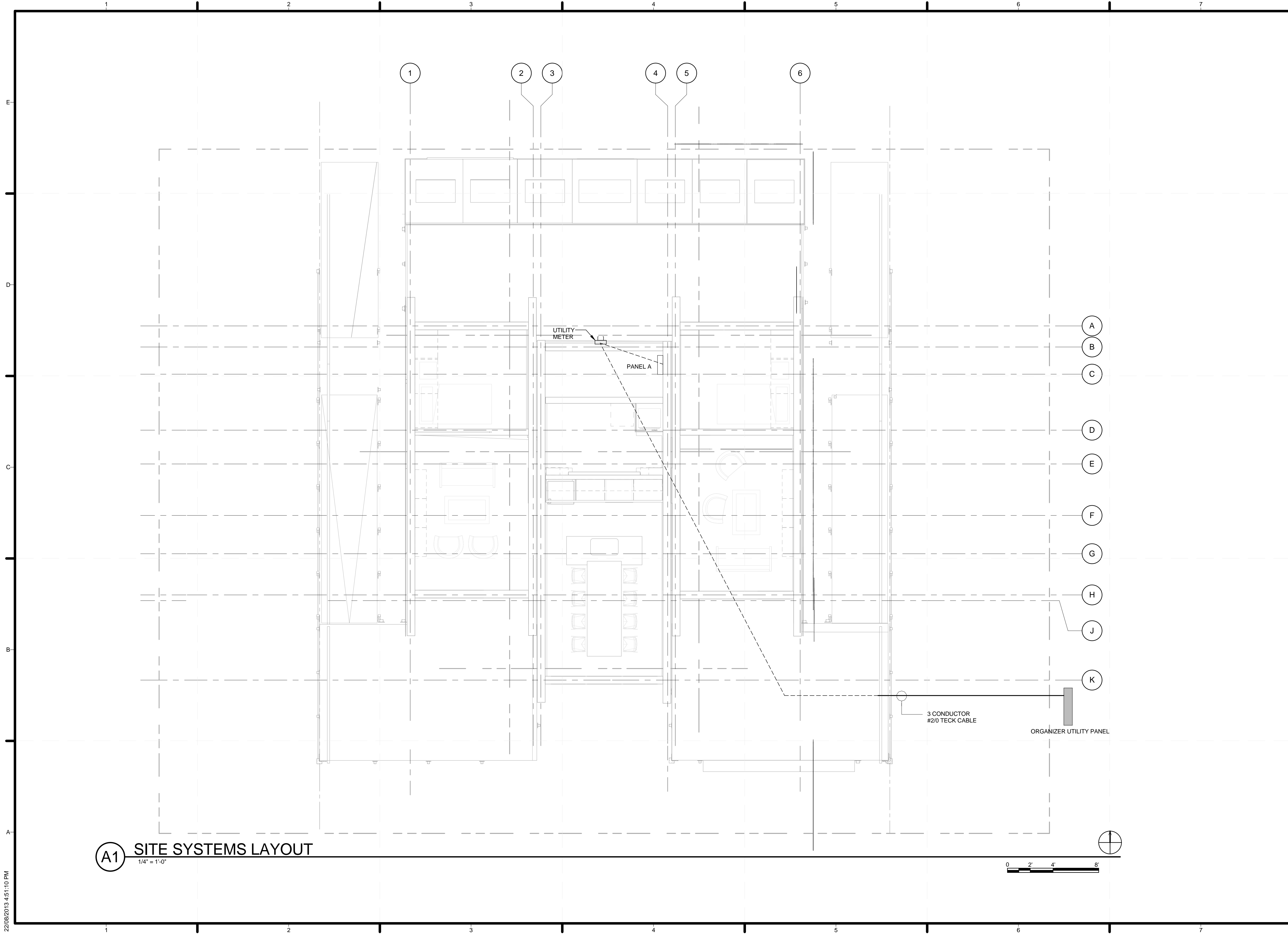
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LOT NUMBER: 116  
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STATUS:

SHEET TITLE

SITE PLAN

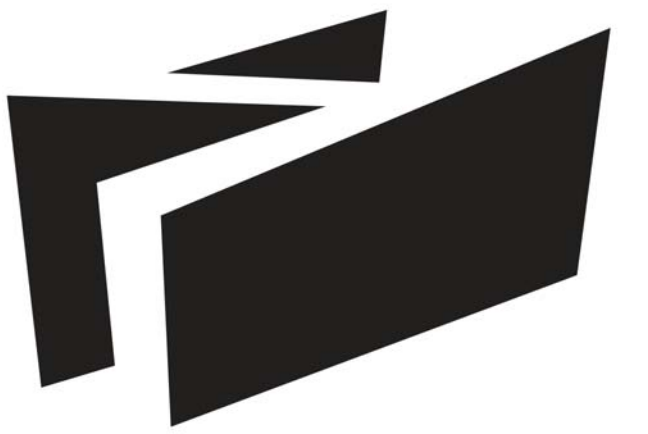
**E-105**



**A1** SITE SYSTEMS LAYOUT

1/4" = 1'-0"

22/08/2013 4:51:10 PM



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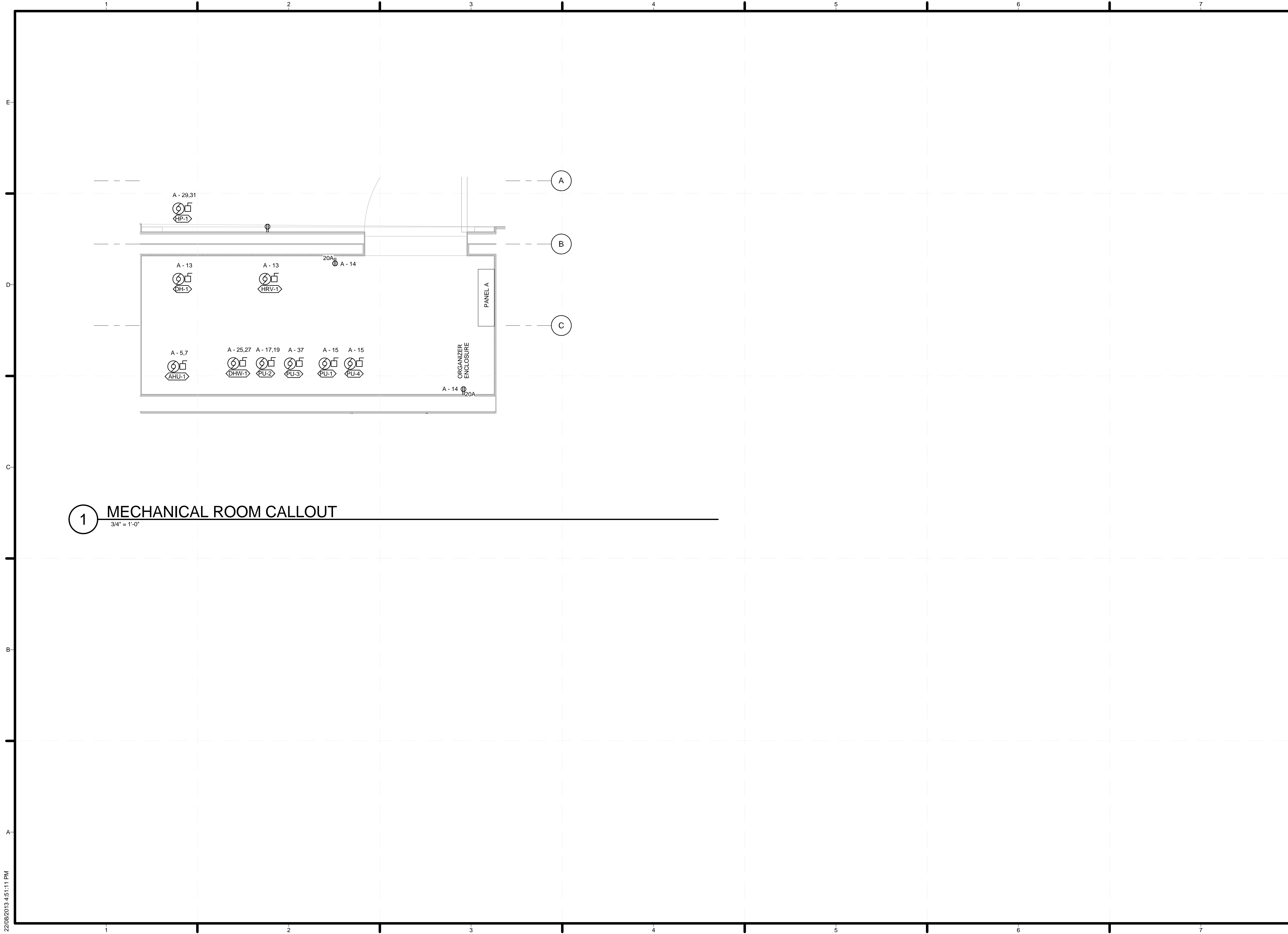
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LOT NUMBER: 116  
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SHEET TITLE

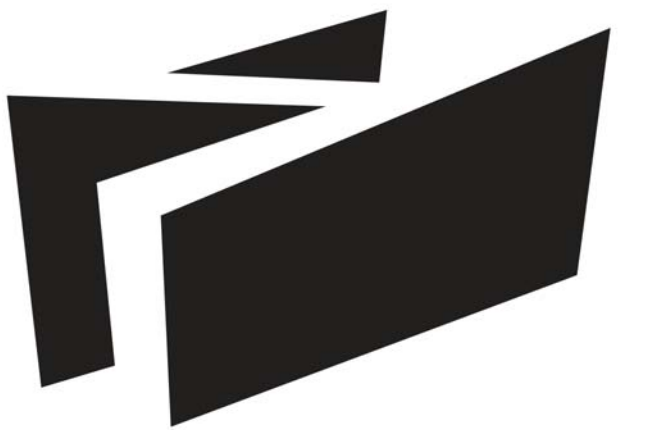
**CALLOUT OF MECH  
ROOM**

**E-202**



**1 MECHANICAL ROOM CALLOUT**  
3/4" = 1'-0"

22/08/2013 4:51:11 PM



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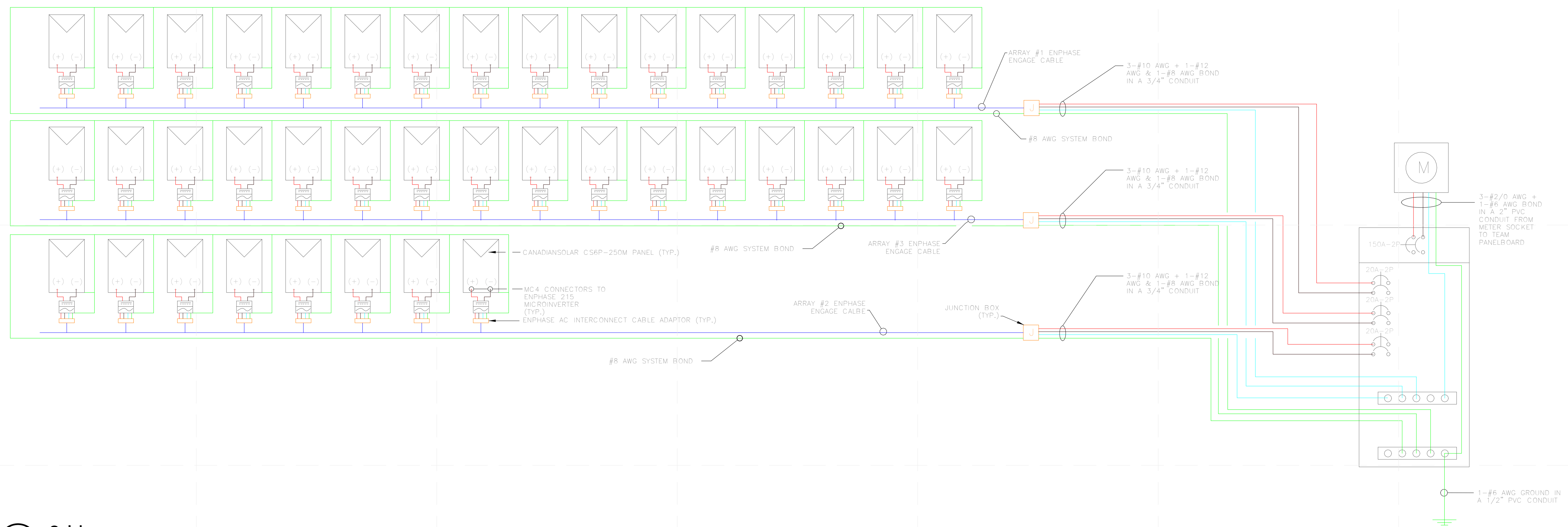
THREE LINE DIAGRAM

**E-401**

PV MODULE SPECIFICATIONS	
MANUFACTURER	CANADIAN SOLAR
APPLICATION CLASSIFICATION	CLASS A FIRE RATED
MODEL	CS6P-250M
JUNCTION BOX	IP65 RATED
CABLE	4mm2 (IEC) / 12 AWG(UL)
CONNECTOR	MC4
STANDARD TEST CONDITIONS	
NOMINAL MAXIMUM POWER (PMAX)	250W
OPTIMUM OPERATING VOLTAGE (VMP)	30.400000
OPTIMUM OPERATING CURRENT (IMP)	8.220000
OPEN CIRCUIT VOLTAGE (VOC)	37.500000
SHORT CIRCUIT CURRENT (ISC)	8.740000
OPERATING TEMPERATURE	-40oC ~+85oC
MAXIMUM SYSTEM VOLTAGE	600V
MAXIMUM SERIES FUSE RATING	15A
POWER TOLERANCE	±5%
NOMINAL OPERATING CELL TEMP	46 oC ± 2 oC
TEMPERATURE COEFFICIENT (PMAX)	-0.45%/ oC
TEMPERATURE COEFFICIENT (VOC)	-0.35%/ oC
TEMPERATURE COEFFICIENT (ISC)	-0.60%/ oC
COMPLIANCE	UL 1703, CEC Listed

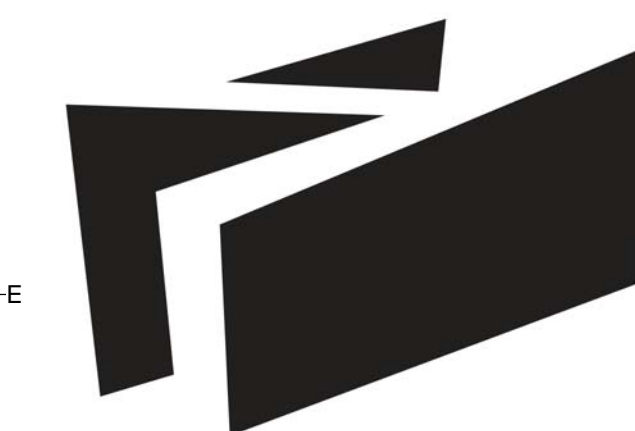
MICROINVERTER SPECIFICATIONS	
MANUFACTURER	ENPHASE
MODEL	M215
INPUT DATA (DC)	
RECOMMENDED INPUT POWER (STC)	190-260W
MAXIMUM INPUT DC VOLTAGE	45V
PPT VOLTAGE	22V-36V
OPERATING RANGE	16V-36V
MIN/MAX START VOLTAGE	22V/45V
MAX. DC ISC	15A
MAX. INPUT CURRENT	10.5A
OUTPUT DATA (AC)	
MAXIMUM OUTPUT POWER	215W
NOMINAL OUTPUT CURRENT	0.9A
NOMINAL VOLTAGE/RANGE	240V/211V-264V
EXTENDED VOLTAGE/RANGE	240V/206V-269V
NOMINAL FREQUENCY /RANGE	60.0/59.3-60.5 HZ
EXTENDED FREQUENCY/RANGE	60.0/59.2-60.6 HZ
POWER FACTOR	>0.95
MAXIMUM UNITS PER 20A BRANCH CIRCUIT	17(SINGLE PHASE)
MAXIMUM OUTPUT FAULT CURRENT	1.05A RMS, OVER 3 CYCLES, 25.2A PEAK, 1.74MS DURATION
MECHANICAL DATA	
AMBIENT TEMPERATURE RANGE	-40OC TO 60OC
OPERATING TEMPERATURE RANGE	-40OC TO 85OC
COOLING	NATURAL CONVECTION
ENCLOSURE RATING	OUTDOOR - NEMA-6
COMPLIANCE	UL1741/IEEE1547, FCC PART 15 CLASS B

ARRAY SPECIFICATIONS	
MAX VOC (@-40OC)	37.5V + 37.5V * ((-40OC) - 25OC) * (-0.35%/ OC) = 46V
MIN VOC (@85OC)	37.54V + 37.5V * ((85OC - 25OC) * (-0.35%/ OC)) = 23.5V
MAX ISC (-40OC)	8.22 - 8.22A * (25OC - (-40OC)) * (0.6%/ OC) = 11.42A
MIN ISC (85OC)	8.22A - 8.22A * (25OC - 85OC) * (0.6%/ OC) = 5.26A
ARRAY #1 & ARRAY #3	
MODULE COUNT	16
INVERTER COUNT	16
CURRENT PER INVERTER	0.9A
CURRENT PER STRING	14.4A
MINIMUM OVERCURRENT PROTECTION	14.4A * 1.25 = 18A
BREAKER SIZE	20A 2-POLE
MINIMUM WIRE SIZE	#12 AWG
RECOMMENDED WIRE SIZE	#10 AWG
WIRE TYPE	THHN/THWN
ARRAY #2	
MODULE COUNT	8
INVERTER COUNT	8
CURRENT PER INVERTER	0.9A
CURRENT PER STRING	7.2A
MINIMUM OVERCURRENT PROTECTION	7.2A * 1.25 = 9A
BREAKER SIZE	20A 2-POLE
MINIMUM WIRE SIZE	#14 AWG
RECOMMENDED WIRE SIZE	#10 AWG
WIRE TYPE	THHN/THWN



**A1 3-Line**  
6" = 1'-0"





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LOT NUMBER: 116  
DRAWN BY:  
CHECKED BY:  
STATUS:  
SHEET TITLE

ELECTRICAL  
SCHEDULES

E-601

Branch Panel: A

Location:  
Supply From:  
Mounting: Recessed  
Enclosure:

Volts: 120/240V  
Phases: 1  
Wires: 3

A.I.C. Rating:  
Mains Type: Copper  
Mains Rating: 150 A  
MCB Rating: 225 A

Notes:

CKT	Load Description	Trip	Poles	A	B	Poles	Trip	Load Description	CKT
1	Electric Dryer	30 A	2	1200 VA	180 VA		1	Kitchen Counter Receptacles	2
3	--	--	--		1200 VA	360 VA	1	Kitchen Counter Receptacles	4
5	Air Handling Unit	15 A	2	672 VA	880 VA		1	Bedroom Receptacles (AFCI)	6
7	--	--	--		672 VA	920 VA	1	Living Room Receptacle (AFCI)	8
9	Cook Top	40 A	2	3700 VA	540 VA		1	Dining Room Receptacles (AFCI)	10
11	--	--	--		3700 VA	360 VA	1	Outside Receptacles (GFCI)	12
13	Dehumidifier and Heat Recovery Ventilator	15 A	1	744 VA	360 VA		1	Mechanical Room Receptacles	14
15	Domestic Water and Solar Circulation Pumps	15 A	1		920 VA	300 VA	1	Exhaust Fan & Bathroom Receptacle	16
17	Fire Suppression Pump	20 A	2	1200 VA	1200 VA		1	Fridge Receptacle (AFCI)	18
19	--	--	--		1200 VA	171 VA	1	East Module Lights (AFCI)	20
21	Wall Oven	40 A	2	3600 VA	230 VA		1	Central Module Lights (AFCI)	22
23	--	--	--		3600 VA	171 VA	1	West Module Lights (AFCI)	24
25	Solar/Electric Domestic Water Heater	30 A	2	2250 VA	180 VA		1	Exterior Mechanical Room Receptacle	26
27	--	--	--		2250 VA	1400 VA	1	Dishwasher	28
29	Heat Pump	25 A	2	1712 VA					30
31	--	--	--			1712 VA			32
33	Washing Machine	20 A	1	2350 VA					34
35	Kitchen Hood Fan	15 A	1		250 VA				36
37	Sewage Pump	15 A	1	564 VA					38
39									40
41									42
<b>Total Load:</b>				21562 VA		19187 VA			
<b>Total Amps:</b>				180 A		160 A			

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Electric Clothes Dryer	2400 VA	100.00%	2400 VA	<b>Total Conn. Load:</b> 40899 VA
Electric Range and Cook Top	14600 VA	65.00%	9490 VA	
Lighting	356 VA	100.00%	356 VA	<b>Total Est. Demand:</b> 27334 VA
Lighting - Dwelling Unit	32 VA	100.00%	32 VA	<b>Total Conn.:</b> 170 A
Motor	15666 VA	70.00%	10966 VA	<b>Total Est. Demand:</b> 114 A
Other	335 VA	100.00%	335 VA	
Receptacle	7510 VA	50.00%	3755 VA	

Notes:

MECHANICAL EQUIPMENT SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	VOLTAGE	POWER	FLA	MOCP	WIRE SIZE	CCT #	DISCONNECT	REMARKS
AHU-1	AIR HANDLER BLOWER MODULE	UNICO	MB2430-EC2	240 V	1344 VA	6 A	15 A	3-#14 AWG + 1-#14 AWG BOND	5,7	REQUIRED	CONTROLLED BY HVAC CONTROLLER, INTERCONNECTED WITH HRV-1
DH-1	DEHUMIDIFIER	HONEYWELL	TRUEDRY DR6S	120 V	624 VA	5 A	15 A	3-#14 AWG + 1-#14 AWG BOND	13	REQUIRED	CONTROLLED BY HUMIDSTAT
DHW-1	SOLAR DOMESTIC HOT WATER TANK	VELUX	TFF 060 0205JUS	240 V	4500 VA	19 A	30 A	2-#10 AWG + 1-#12 AWG BOND	25,27	REQUIRED	CONTROLLED BY PRESSURE SWITCH
EX-1	BATHROOM FAN	BROAN	XB110C	120 V	120 VA	1 A	15 A	2-#14 AWG + 1-#14 AWG BOND	16	NOT REQUIRED	CONTROLLED BY BATHROOM SWITCH, INTERCONNECTED WITH HRV-1
EX-2	KITCHEN HOOD FAN	WHIRLPOOL	UXT5230AYS	120 V	250 VA	2 A	15 A	2-#14 AWG + 1-#14 AWG BOND	35	NOT REQUIRED	INTERCONNECTED WITH HRV-1
HP-1	REVERSIBLE HEAT PUMP	LENNOX	XP21-024	230 V	3424 VA	15 A	25 A	3-#10 AWG + 1-#12 AWG BOND	29,31	REQUIRED	CONTROLLED BY HVAC CONTROLLER
HRV-1	HEAT RECOVERY VENTILATOR	KUBIX	44102	120 V	120 VA	1 A	15 A	3-#14 AWG + 1-#14 AWG BOND	13	REQUIRED, WEATHER PROOF	INTERCONNECTED WITH EX-1, EX-2, & AHU-1. RELAY BYPASS CONTROLLED BY HVAC CONTROLLER
PU-1	DOMESTIC WATER PUMP	GRUNDFOS	MQ-3-45	120 V	680 VA	13 A	15 A	3-#14 AWG + 1-#14 AWG BOND	15	REQUIRED	
PU-2	FIRE SUPPRESSION PUMP	ECONO RFP	XPS15	240 V	2400 VA	10 A	20 A	2-#12 AWG + 1-#14 AWG BOND	17,19	REQUIRED	CONTROLLED BY PRESSURE SWITCH
PU-3	SEWAGE PUMP	PRO SERIES	ST 1033	120 V	564 VA	4 A	15 A	2-#14 AWG + 1-#14 AWG BOND	37	NOT REQUIRED	CONNECT TO RECEPTACLE INSTALLED UNDER CENTRAL MODULE
PU-4	SOLAR THERMAL PUMP	VELUX	TFF 060 0205JUS	120 V	240 VA	2 A	15 A	2-#14 AWG + 1-#14 AWG BOND	15	RESOL SOLAR CONTROLLER	VARIABLE SPEED DISCONNECT/CONTROL BY RESOL SOLAR CONTROLLER

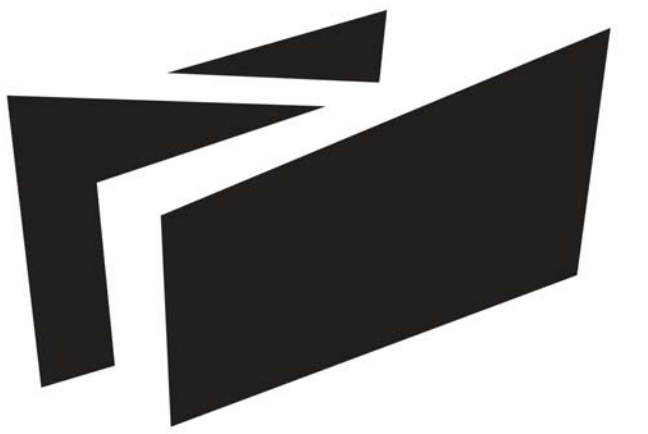
SMALL EQUIPMENT SCHEDULE

TAG	MANUFACTURER	MODEL	DISCRIPTION	POWER	VOLTAGE	FLA	BREAKER	CCT #	WIRE SIZE	CONNECTION
CT	WHIRLPOOL	GC13061XB	COOK TOP	7400 VA	240 V	31 A	40 A	9,11	3-#8 AWG + 1-#10 AWG BOND	DIRECT WIRED
D	BLOMBERG	DV17540NBL00	ELECTRIC DRYER	2400 VA	240 V	10 A	30 A	1,3	3-#10 AWG + 1-#12 AWG BOND	14-30R
DW	BOSCH	SPX6ES5UC	DISHWASHER	1400 VA	120 V	12 A	20 A	28	2-#12 AWG + 1-#14 AWG BOND	DIRECT WIRED
F	BLOMBERG	BRFB1040	FRIDGE PLUG	1200 VA	120 V	10 A	15 A	18	2-#14 AWG + 1-#14 AWG BOND	5-15R
W	BLOMBERG	WM7711ONBL00	WASHING MACHINE	2350 VA	120 V	10 A	20 A	33	2-#12 AWG + 1-#12 AWG BOND	5-20R
WO	WHIRLPOOL	WOS51ECOAS	WALL OVEN	7200 VA	240 V	30 A	40 A	21,23	3-#8 AWG + 1-#10 AWG BOND	DIRECT WIRED

NOTE: ALL FIXTURES ARE TO BE SUPPLIED BY OWNER, INSTALLED BY ELECTRICAL CONTRACTOR

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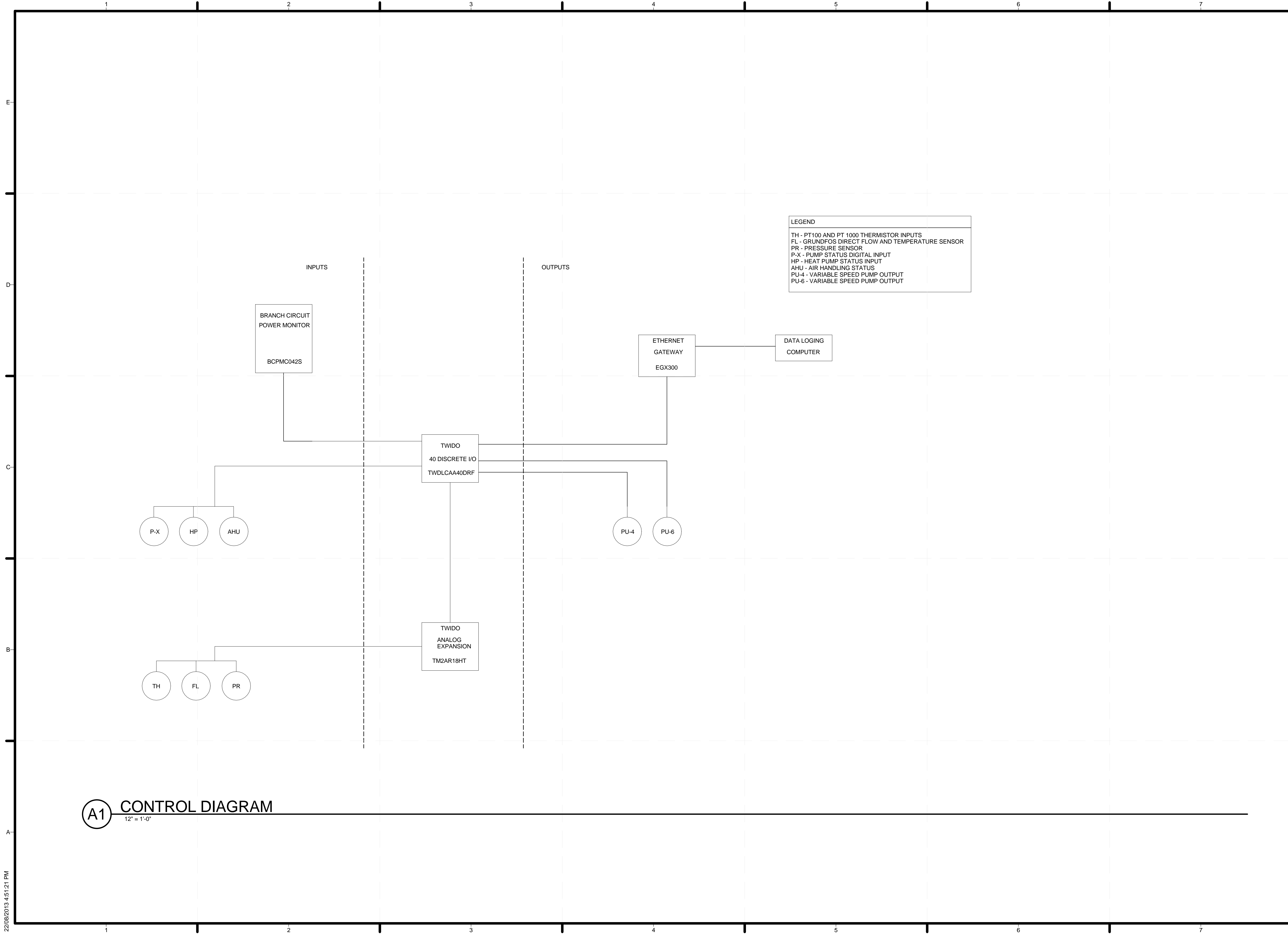
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SHEET TITLE

**CONTROL SCHEMATIC**

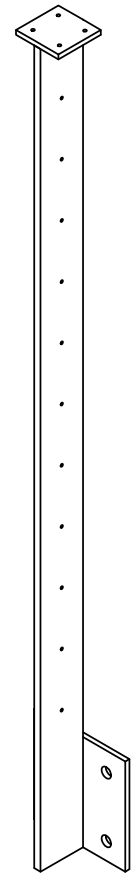
**E-602**



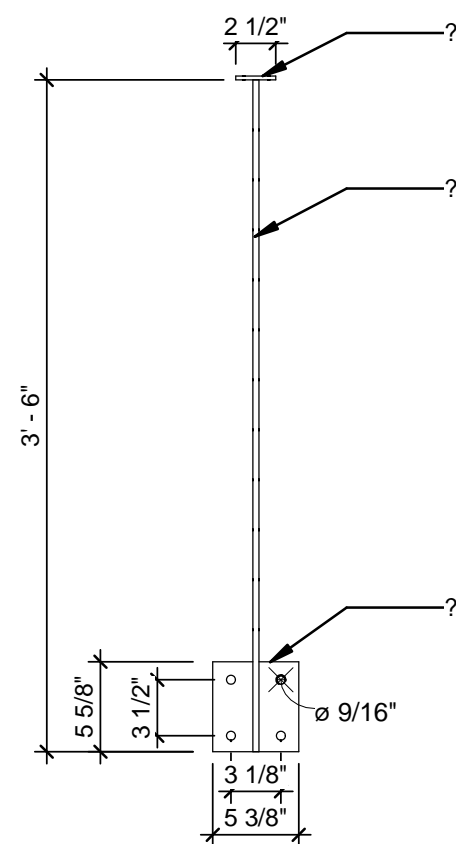
**A1** CONTROL DIAGRAM  
1/2" = 1'-0"

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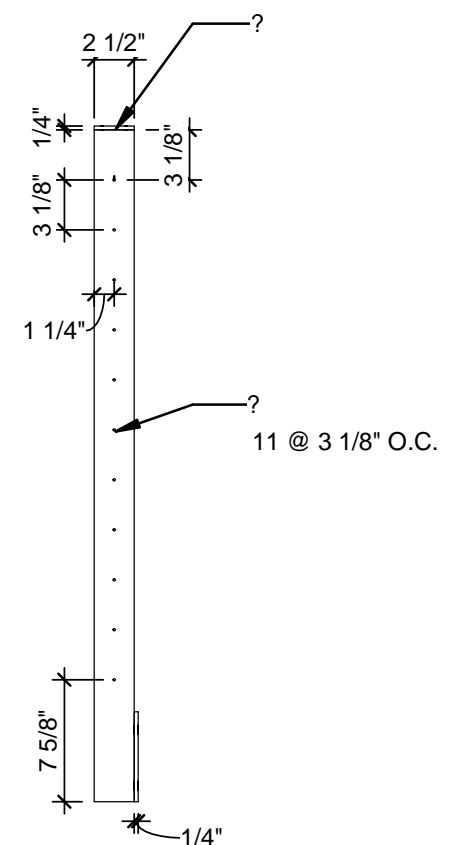
RAILING TYPE 1



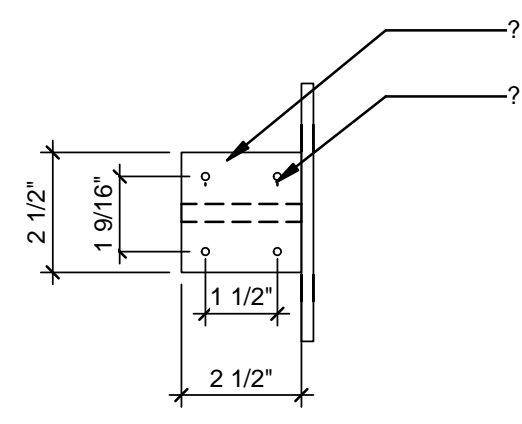
**D1** POST TYPE 1 - ISOMETRIC



**D3** POST TYPE 1 - FRONT  
1" = 1'-0"

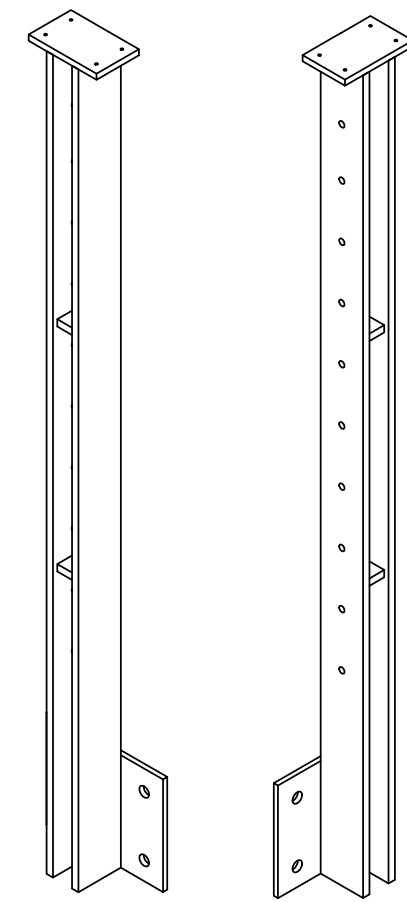


**D4** POST TYPE 1 - RIGHT  
1" = 1'-0"

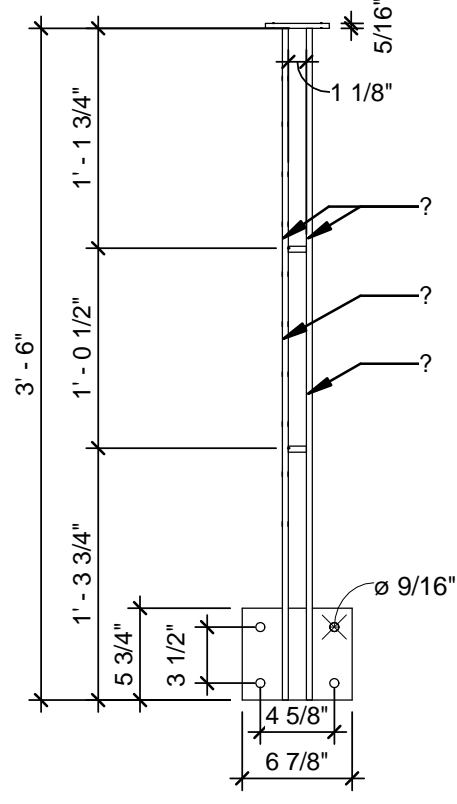


**D6** POST TYPE 1 - TOP  
3" = 1'-0"

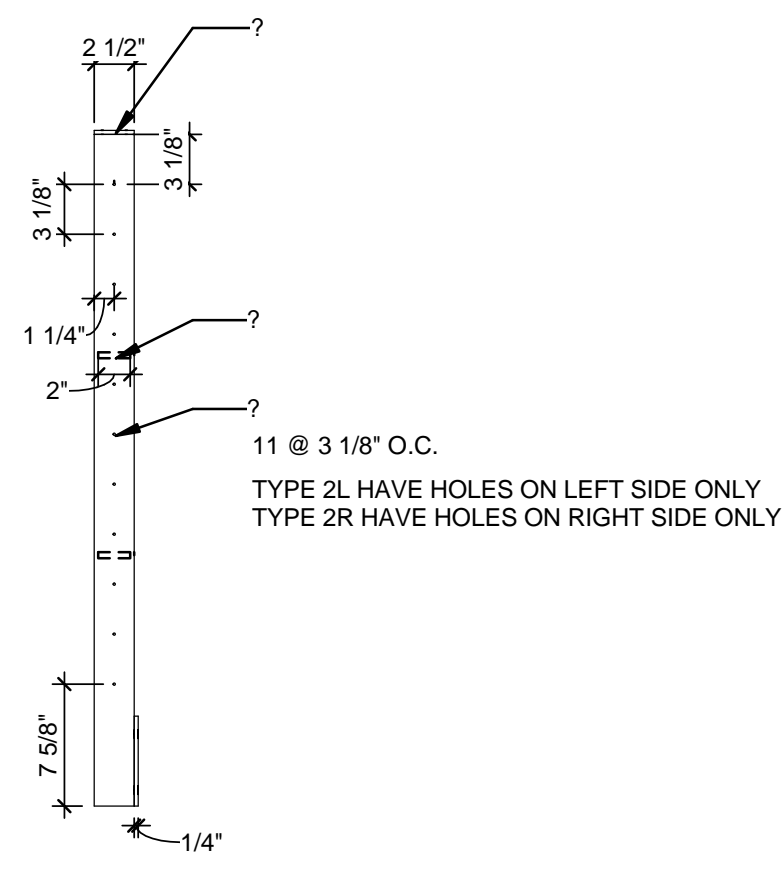
RAILING TYPE 2L SHOWN BELOW  
(TYPE 2R IS MIRRORED)



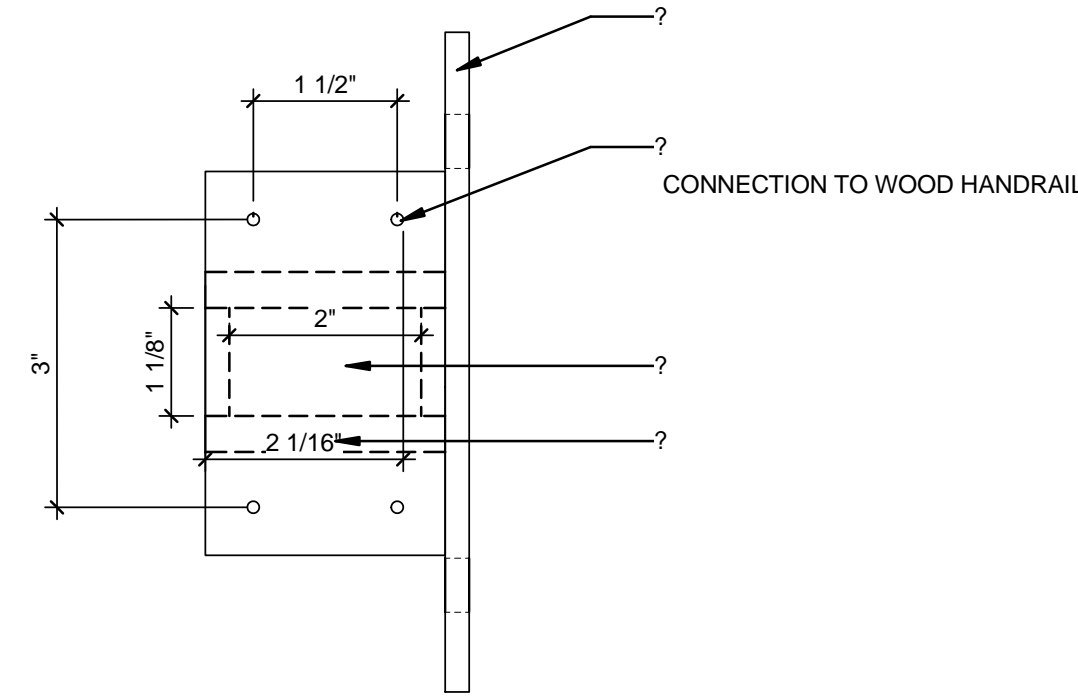
**B1** POST TYPE 2 - ISOMETRIC



**B3** POST TYPE 2 - FRONT  
1" = 1'-0"

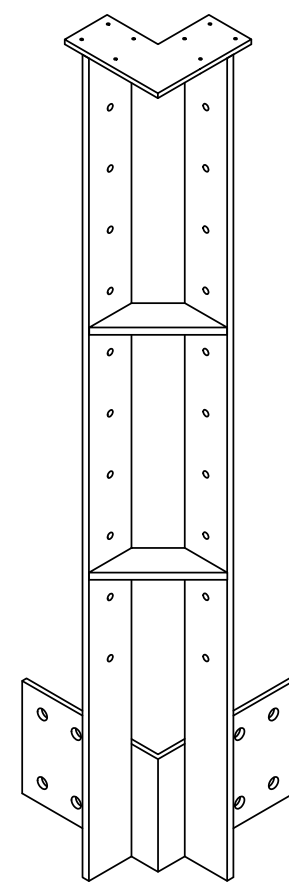


**B4** POST TYPE 2 - RIGHT  
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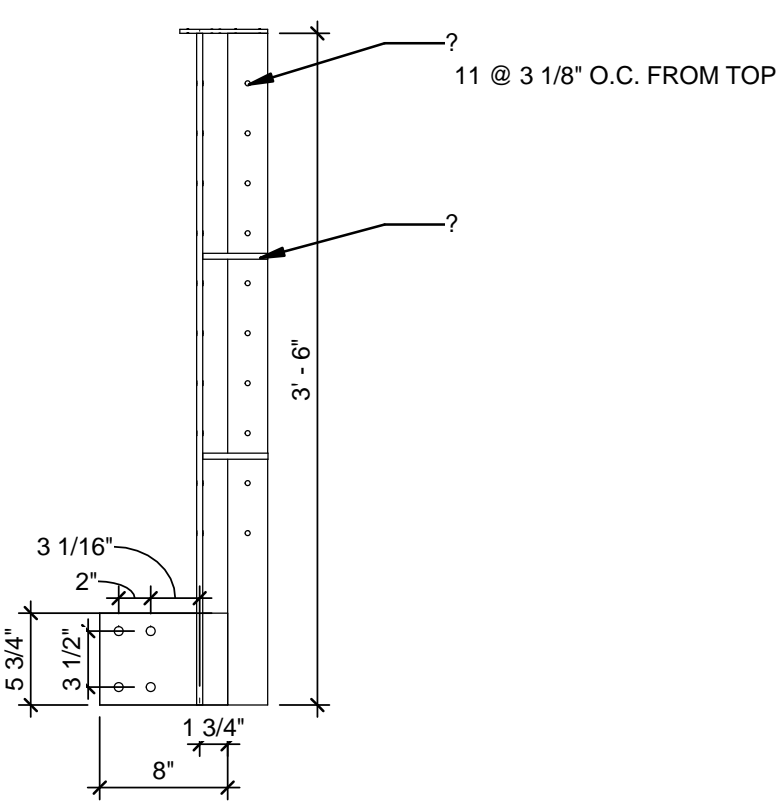


**B6** POST TYPE 2 - TOP  
6" = 1'-0"

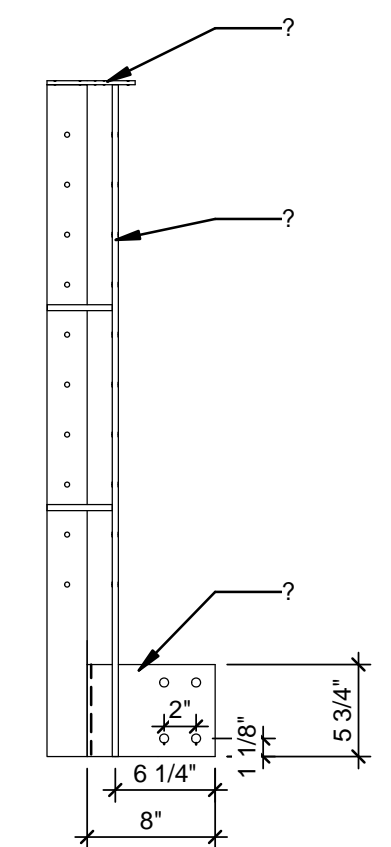
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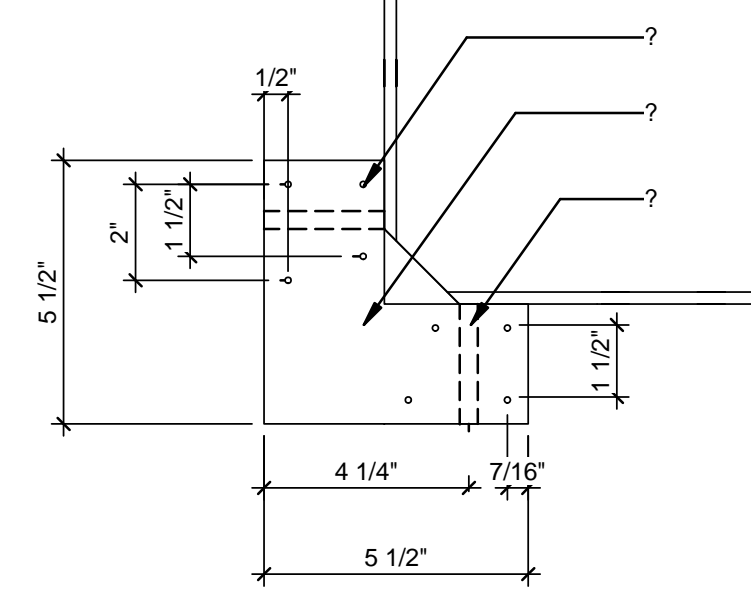
**A1** POST TYPE 3 - ISOMETRIC



**A3** POST TYPE 3 - FRONT  
1" = 1'-0"



**A4** POST TYPE 3 - RIGHT  
1" = 1'-0"



**A6** POST TYPE 3 - TOP  
3" = 1'-0"

SCHEDULE

TYPE	SHEAR	MOMENT	FINISH	QUANTITY
1	2 KN	2 KN-M	POWERCOATED	56
2L	7 KN	7 KN-M	POWERCOATED	4
2R	7 KN	7 KN-M	POWERCOATED	4
3	7 KN	7 KN-M	POWERCOATED	4



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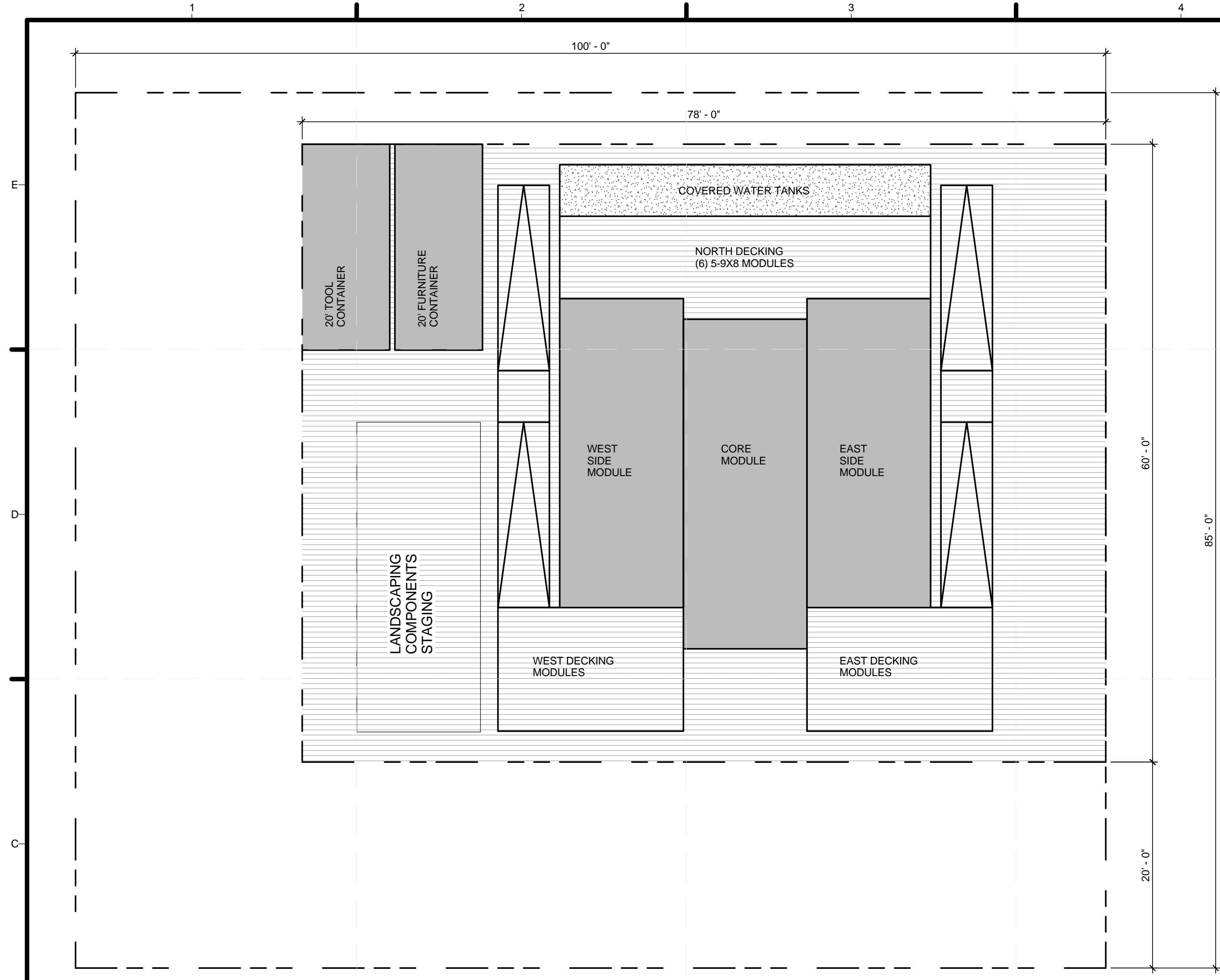
MARK DATE DESCRIPTION

LOT NUMBER: 116  
DRAWN BY:  
CHECKED BY:  
STATUS:  
SHEET TITLE

RAILING FABRICATION  
DRAWINGS

Z-1

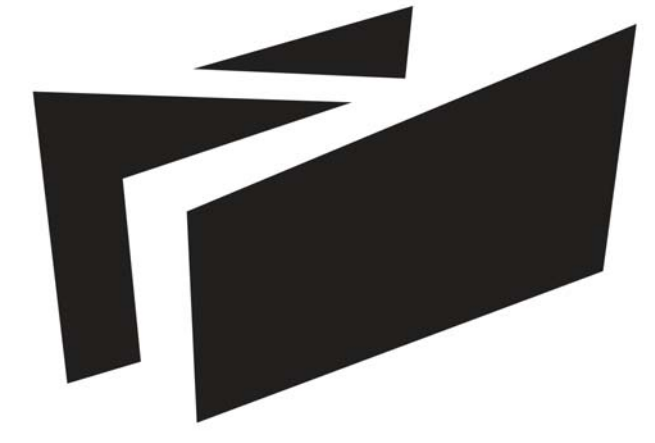
22/08/2013 5:05:32 PM



**GENERAL SHEET NOTES**

1. WATER STORAGE CONSISTS OF (6) 385 GALLON WATER TANKS FOR A TOTAL CAPACITY OF 1155 STORAGE AND WASTE.
2. WATER TANKS HAVE AN OPENING DIAMETER OF 12".
3. WATER TANKS ARE ENCLOSED IN WOOD-CLAD LANDSCAPING STRUCTURE. PANELS ON BOX SURFACE REMOVE FOR UNRESTRICTED FILLING SEE L-501 FOR SECTION DETAILS

**SHEET KEYNOTES**



**BOREALIS**

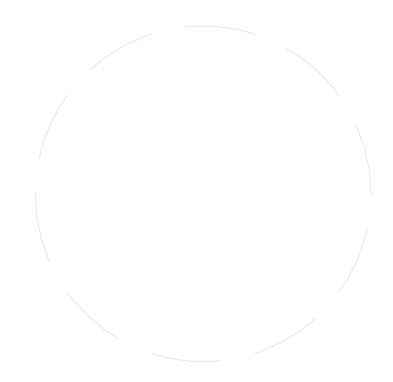
**TEAM ALBERTA**

UNIVERSITY OF CALGARY  
2500 UNIVERSITY DR NW  
CALGARY, AB T2N 1N4

MOUNT ROYAL UNIVERSITY  
4825 MT ROYAL GATE SW  
CALGARY, AB T3E 6K6

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**SEALS**



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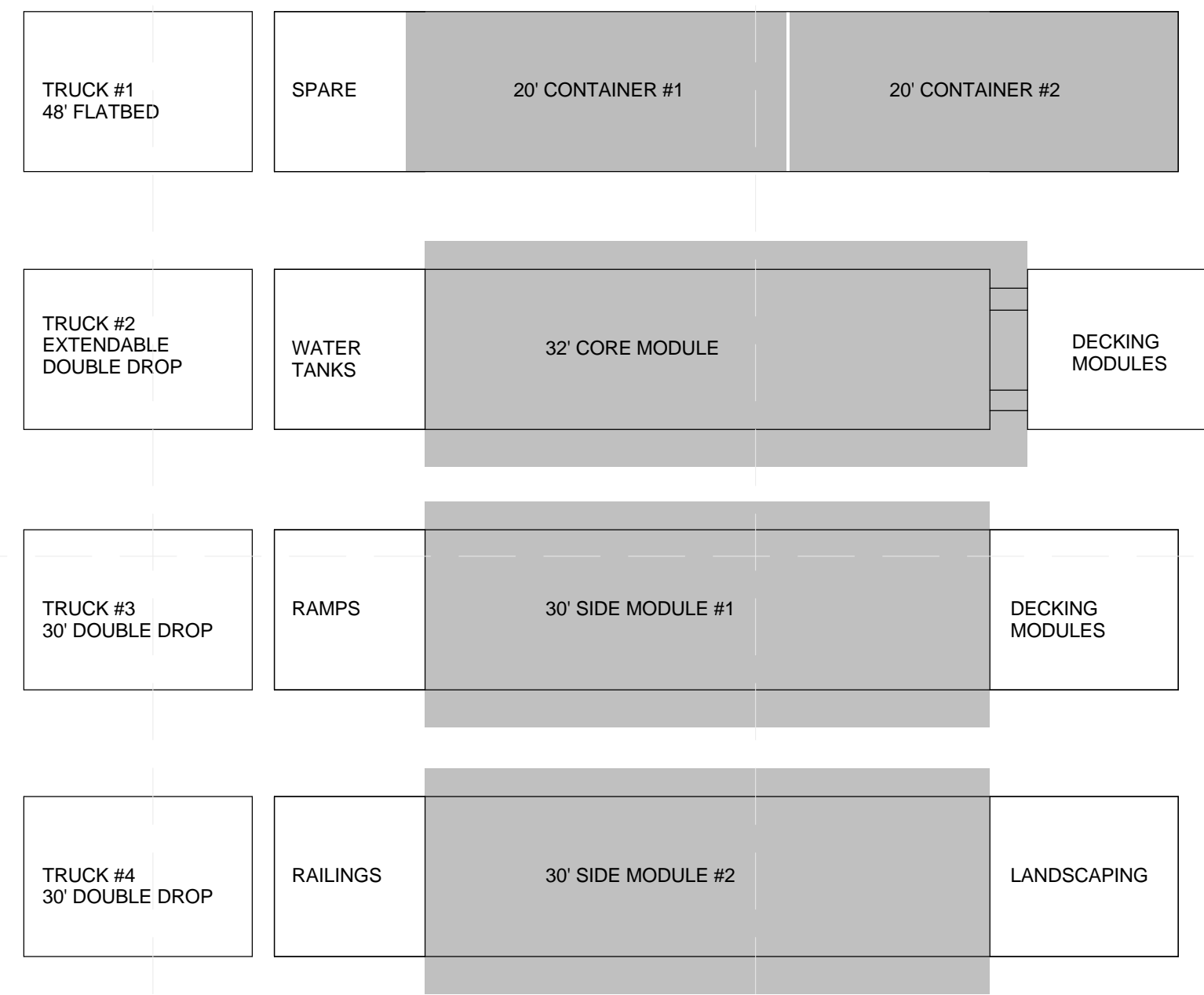
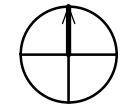
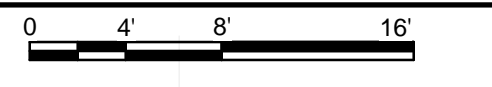
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MARK	DATE	DESCRIPTION
1	04/29/2013	ISSUED FOR ELEC/MECH
2	05/03/2013	ISSUED FOR CLADDING
3	05/13/2013	ISSUED FOR STRUCTURAL REVIEW
4	05/22/2013	ISSUED FOR CONSTRUCTION 95%
5	08/22/2013	AS BUILT SET

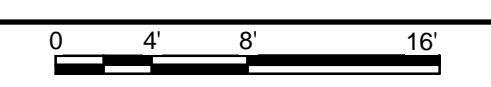
**(B1) SITE LAYOUT & MAJOR EQUIPMENT**

1/8" = 1'-0"



**(A4) TRUCK LOADING PLAN**

1/8" = 1'-0"

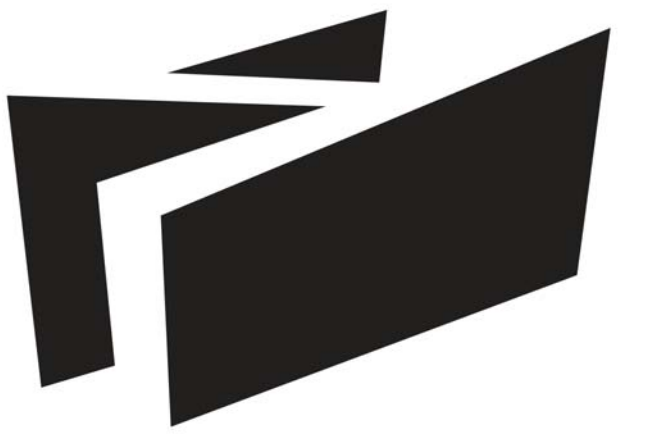


LOT NUMBER: 116  
DRAWN BY:  
CHECKED BY:  
STATUS:

**SHEET TITLE**

**SITE OPERATION PLAN**

**O-101**



**BOREALIS**

TEAM ALBERTA

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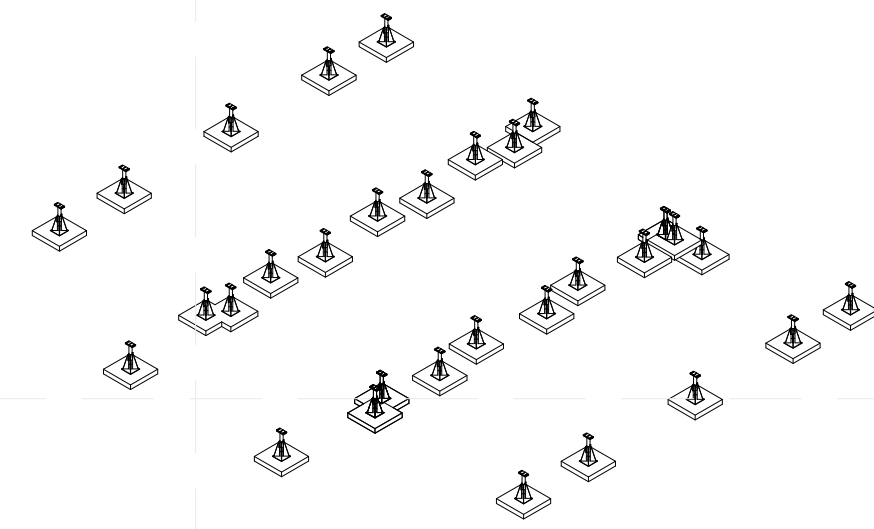
MARK	DATE	DESCRIPTION
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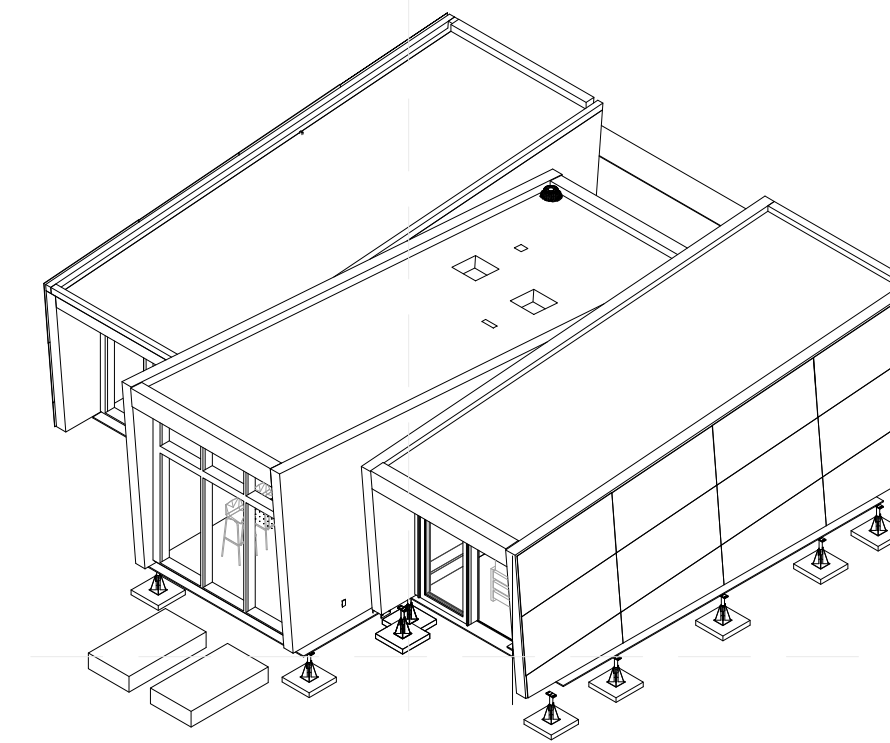
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ASSEMBLY SEQUENCE  
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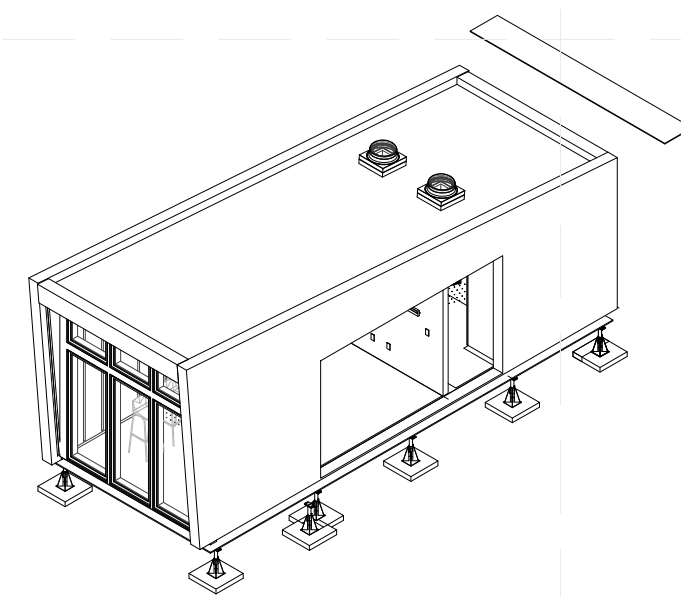
**O-901**



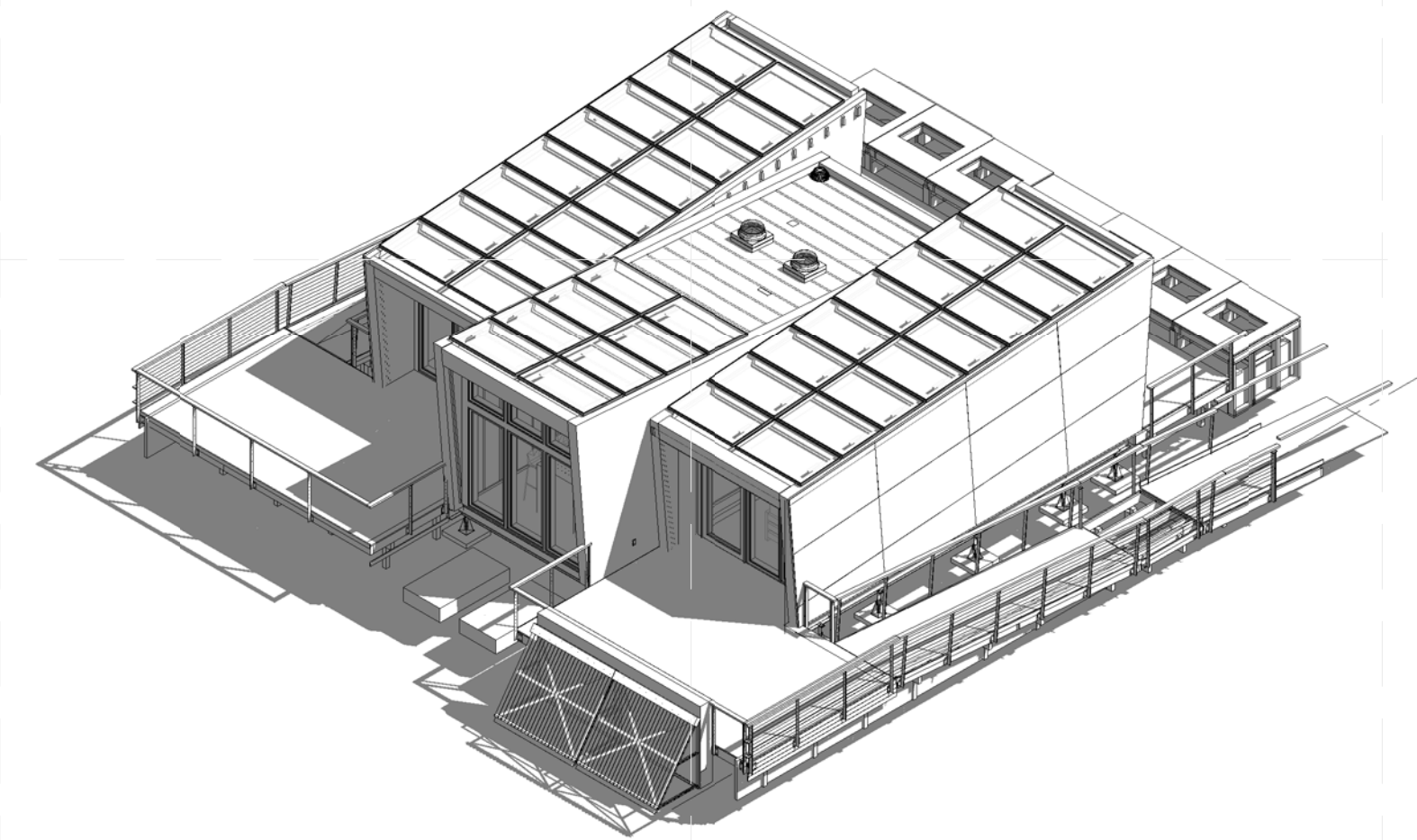
**D1 ASSEMBLY STEP 1 - FOUNDATION**



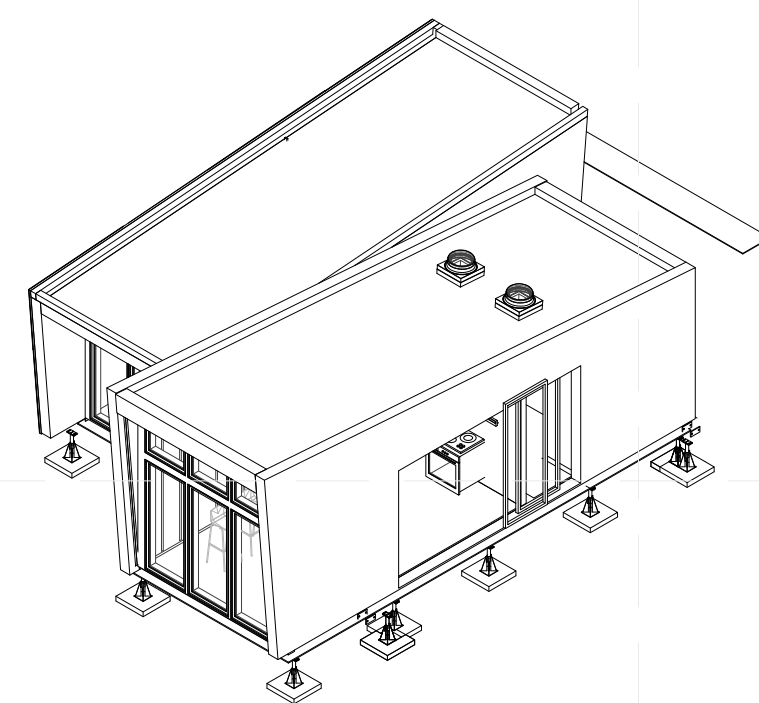
**D4 ASSEMBLY STEP 4 - EAST MODULE**



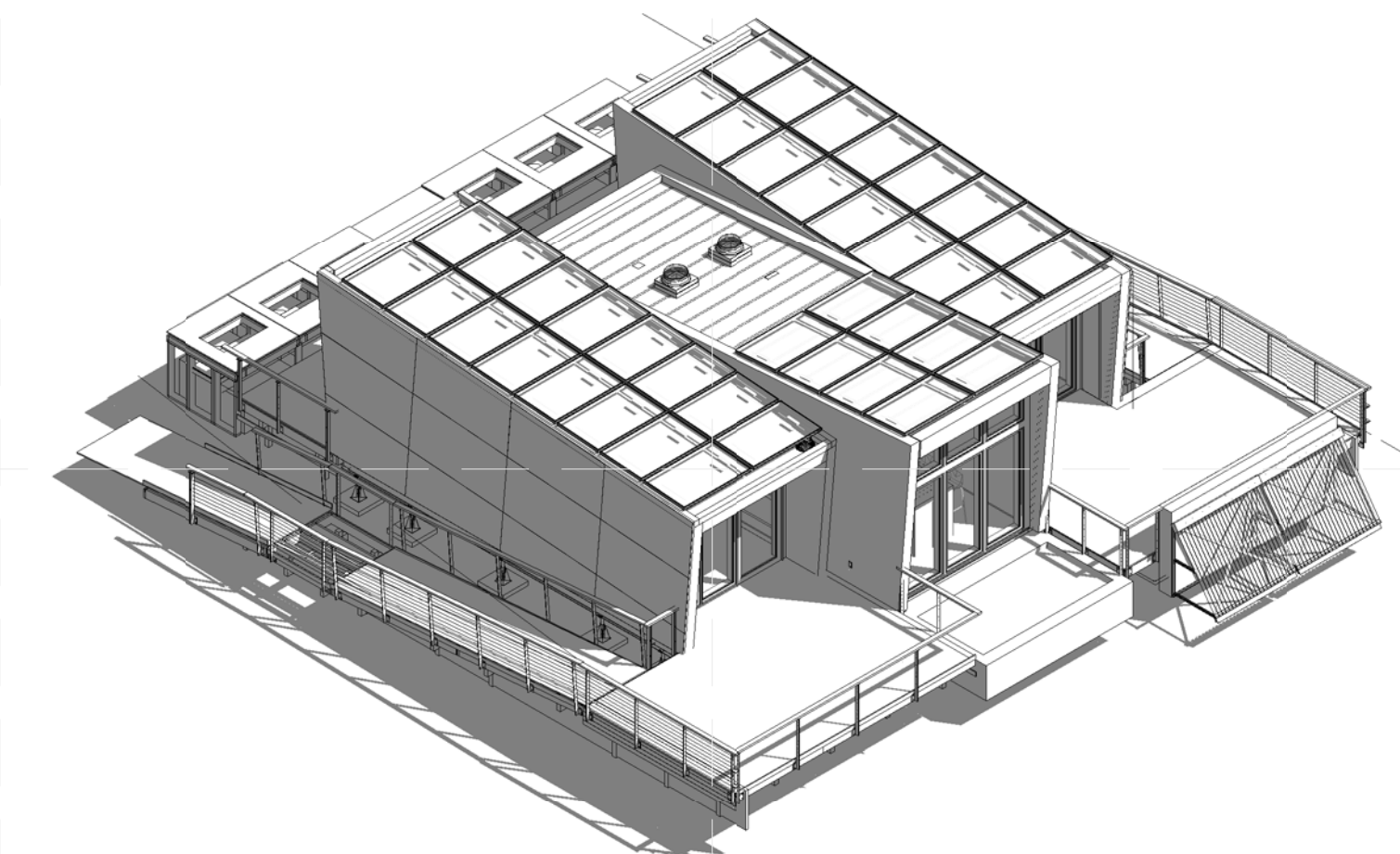
**B1 ASSEMBLY STEP 2 - CORE MODULE**



**B4 ASSEMBLY STEP 5 - SITE WORK**



**A1 ASSEMBLY STEP 3 - WEST MODULE**



**A4 ASSEMBLY STEP 6 - LANDSCAPING**