

01/28/2003, 5:30 PM	В	С	Đ	E
-				
1				
-				_
-				
-				
_				
2				2
_				
_				
-				
				3

SYMBOL LEGEND	
Room name 101 150 SF	AREA TAG
A-101 SIM	CALLOUT TAG
(101)	DOOR TAG
	ELEVATION MARKER
A-202 1	EXTERIOR ELEVATION TAG
0' 2' 4' 8'	GRAPHIC SCALE
1 A101	INTERIOR ELEVATION TAG
06 10 00	KEYNOTE TAG
	MODULE SEAM TAG
	NORTH ARROW
Room name	ROOM TAG
1 A101	SECTION TAG
1 View Name 1/8" = 1'-0"	VIEW TITLE
(1t)	WINDOW TAG

4

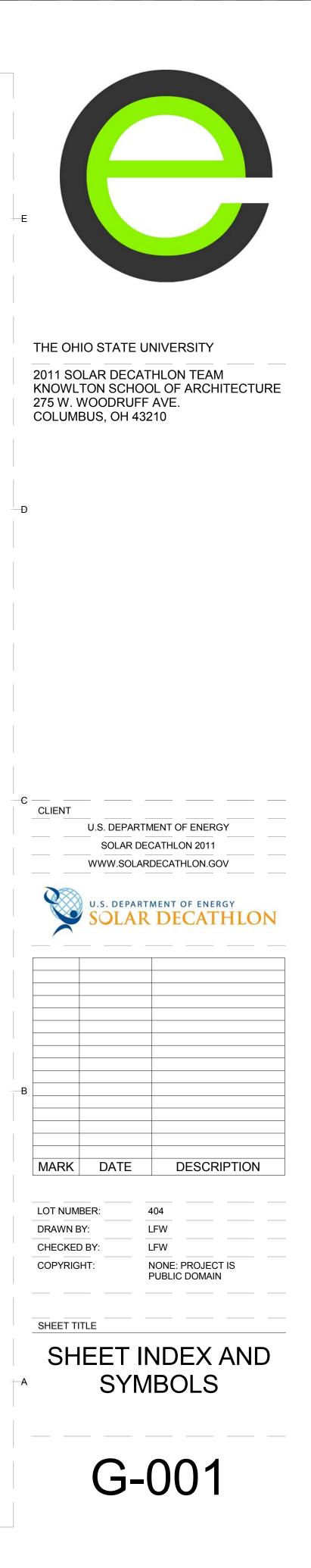
4

SHEET NUMBER G-001 G-002 L-101 L-102 L-501 S-001 S-101 S-102 S-103 S-501 S-502 A-101 A-102 A-112 A-113 A-121 A-201 A-202 A-211 A-212 A-215 A-216 A-217 A-301 A-302 A-311 A-312 A-313 A-314 A-401 A-402 A-501 A-502 A-503 A-504 A-581 A-601 A-602 A-901 A-902 P-101 P-102 P-103 P-201 P-601 P-602 P-901 P-902 M-101 M-201 M-601 M-602 M-901 E-101 E-102 E-103 E-201 E-601 E-611 E-612 T-101 O-101 O-102 O-103 X-101 X-102 X-103

6

6

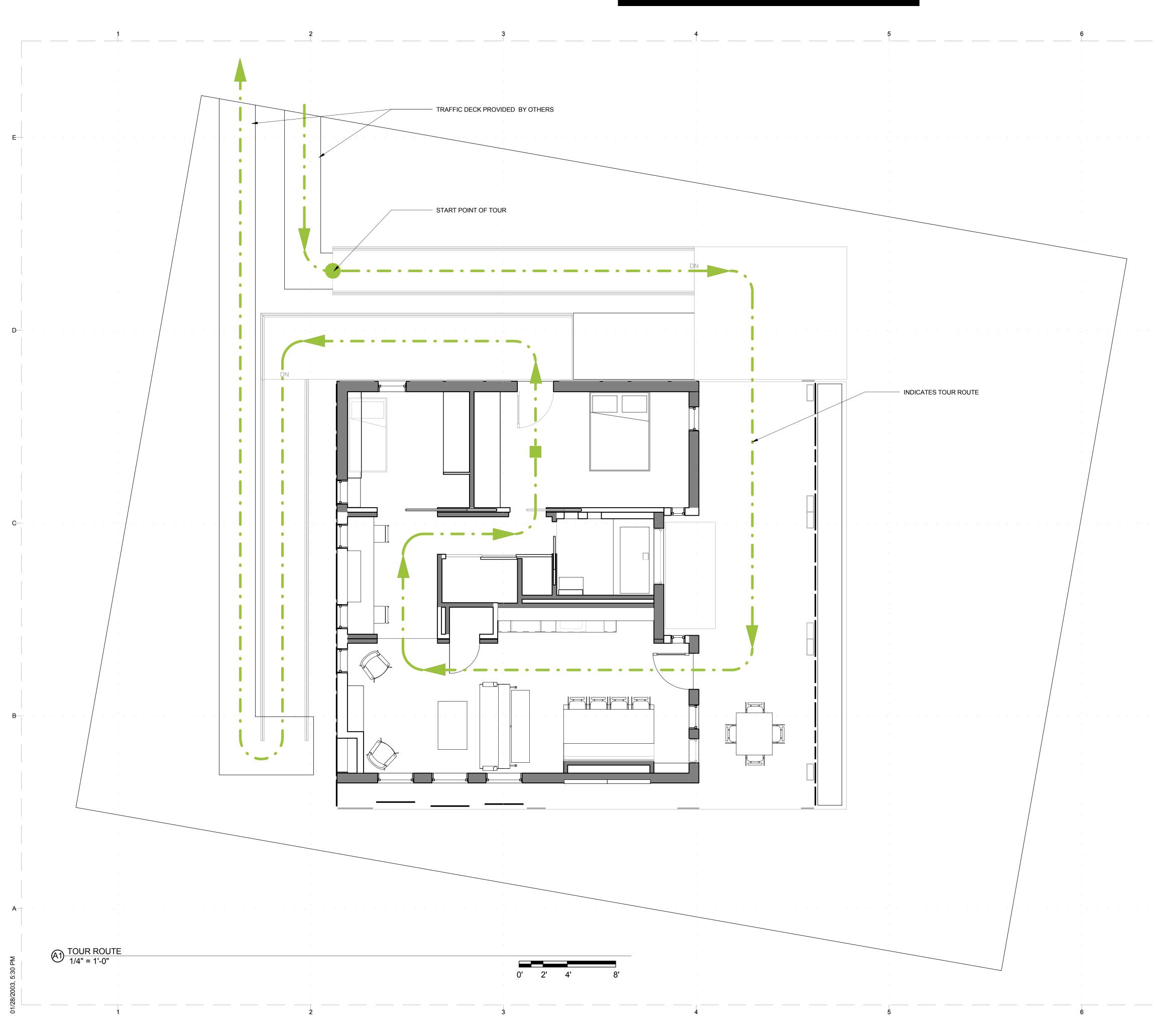
	SHEET NAME
	COVER SHEET
	SHEET INDEX AND SYMBOLS
	LANDSCAPE PLAN LANDSCAPE ELEVATION
	LANDSCAPE DETAILS
	STRUCTURAL NOTES
	FOUNDATION PLAN
	FLOOR FRAMING FLOOR FRAMING - CENTER
	FLOOR FRAMING - DETAIL
	FRAMING DETAIL
	SITE PLAN
	CALL OUTS AND DIMENSIONS
	ROOF PLAN ROOF PLAN W PV
	REFLECTED CEILING PLAN
	SITE ELEVATIONS
	SITE ELEVATIONS
	EXTERIOR ELEVATIONS NORTH AND SOUTH
	EXTERIOR ELEVATIONS EAST AND WEST
	INTERIOR ELEVATIONS
	BUILDING SECTIONS
	BUILDING SECTIONS
	WALL SECTIONS - EXTERIOR
	WALL SECTIONS - INTERIOR
	WALL SECTIONS - LOGGIA
	LARGE SCALE PLAN
-	LARGE SCALE PLAN
	EXTERIOR DETAILS
	EXTERIOR DETAILS
	INTERIOR DETAILS
	MILLWORK
	FINISH / ROOM SCHEDULE
	WINDOW / DOOR SCHEDULE
	3D VIEWS
	WATER SUPPLY AND REMOVAL PLAN
	DOMESTIC PIPING PLAN
	SPRINKLER PLAN
	BIOREMEDIATION ELEVATION
	PLUMBING SCHEMATICS PLUMBING SCHEDULES
	PLUMBING SUPPLY ISOMETRIC
-	PLUMBING WASTE ISOMETRIC
	HVAC PLAN
	MECHANICAL SCHEMATICS
	HVAC PERSPECTIVE
	LIGHTING PLAN
	POWER PLAN
	ELECTRICAL CLOSET ELEVATION PANEL SCHEDULE
	THREE LINE DIAGRAM
	ONE LINE DIAGRAM
	ENERGY MONITORING
_	ARRIVAL AND STAGING
-	ASSEMBLY AND DISASSEMBLY
	TRANSPORTATION PLAN PUBLIC EXHIBIT PLAN
	PUBLIC EXHIBIT ELEVATIONS
	PUBLIC EXHIBIT DETAILS



01/28/2003, 5:30 PM	В	С	Đ	E
-				
1				
-				_
-				
-				
_				
2				2
_				
_				
-				
				3



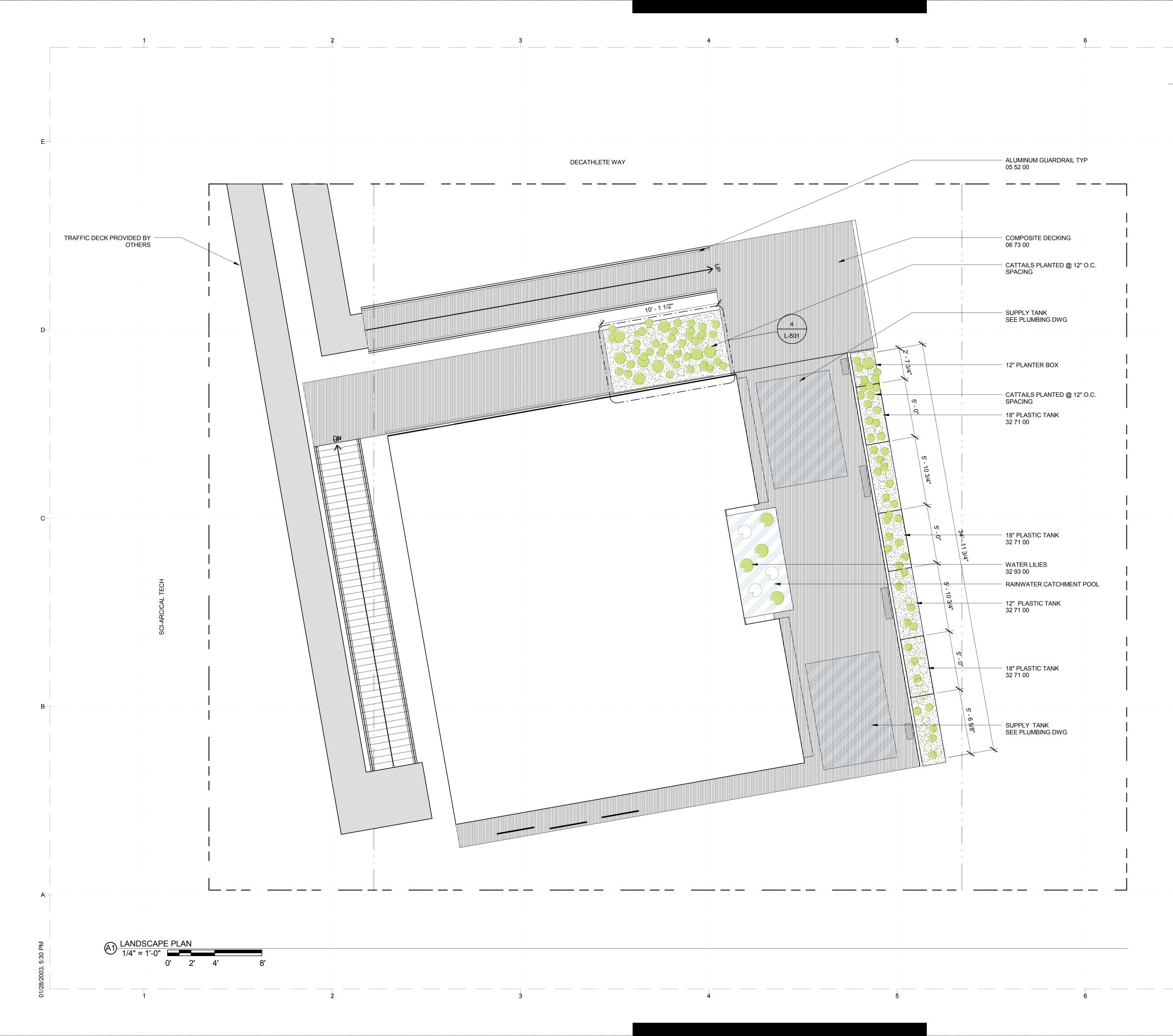




7 NOTES ÷Ε THE OHIO STATE UNIVERSITY 2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210 -£ CLIENT U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON MARK DATE DESCRIPTION LOT NUMBER: 404 /LFW DRAWN BY: LFW CHECKED BY: NONE: PROJECT IS PUBLIC DOMAIN COPYRIGHT: SHEET TITLE TOUR ROUTE G-103 7

01/28/2003, 5:30 PM	В	С	Đ	E
-				
1				
-				_
-				
-				
_				
2				2
_				
_				
-				
				3





NOTES

1. ALL PLANT MASSES TO BE CONTAINED WITHIN 3" DEEP TOPSOIL.

2. ALL PLANTS SHALL MEET OR EXCEED STANDARDS SET IN THE USA STANDARD FOR NURSERY STOCK. 3. ALL PLANTING OPERATIONS SHALL ADHERE TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS.



THE OHIO STATE UNIVERSITY

2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210

U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV







404

LANDSCAPE PLAN

L-101

Author

Checker

NONE: PROJECT IS PUBLIC DOMAIN



DESCRIPTION

MARK DATE

LOT NUMBER:

CHECKED BY:

COPYRIGHT:

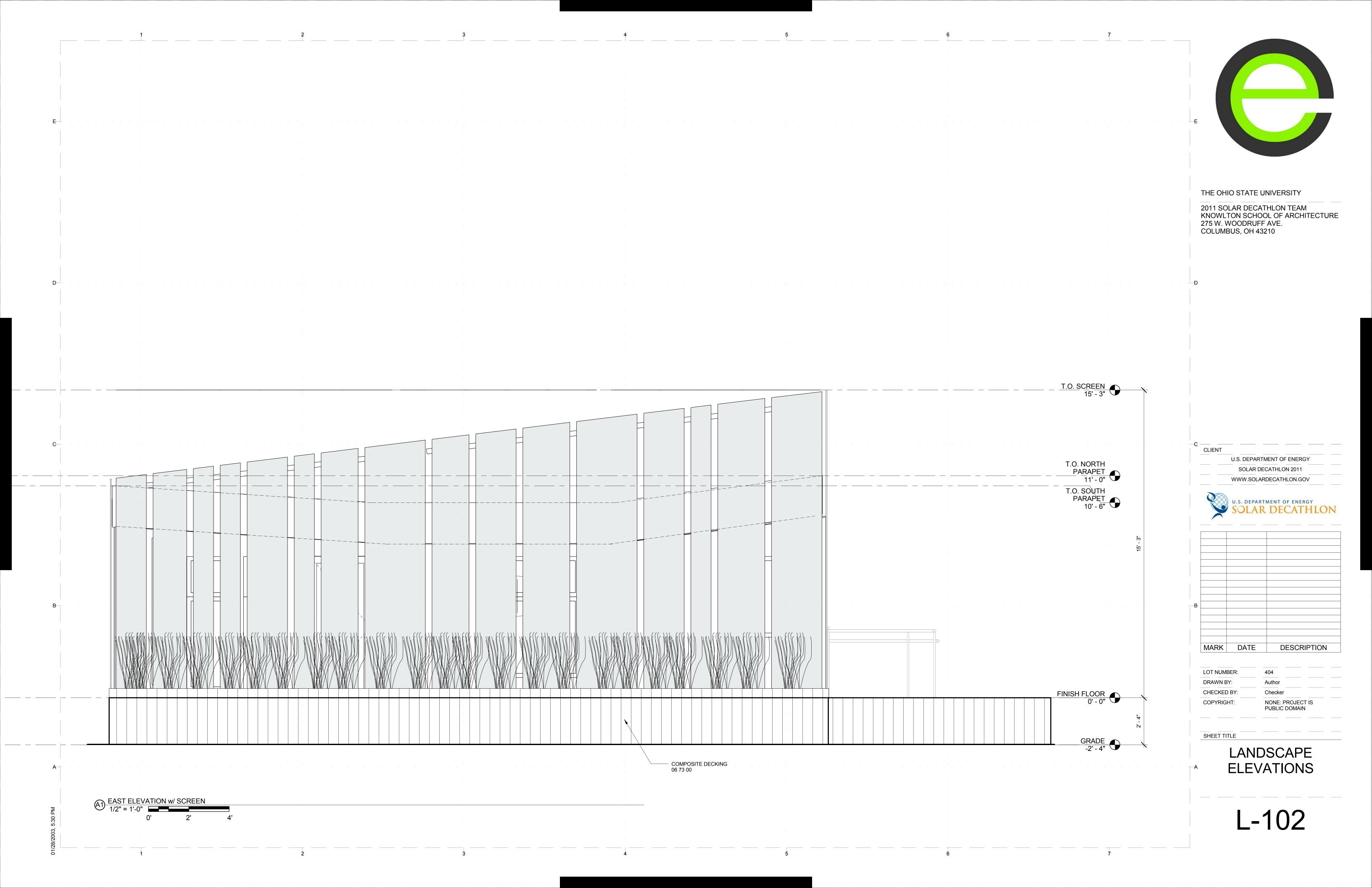
SHEET TITLE

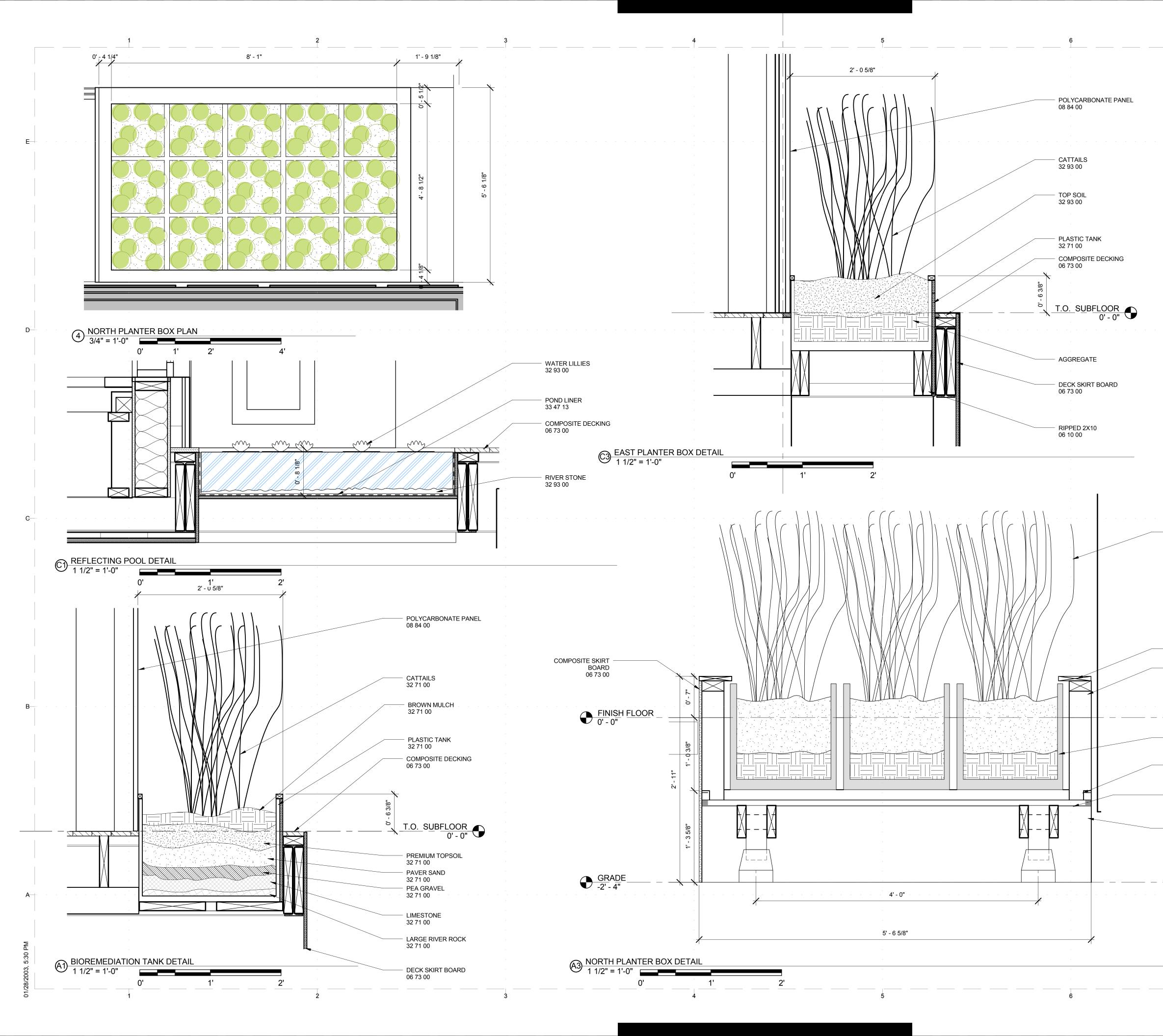
DRAWN BY:



CLIENT

7





	THE OHIO STATE UNIVERSITY
	2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210
	D
	с
SEE LANDSCAPE PLAN FOR PLANTING TYPES	CLIENT U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV
	U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON
COMPOSITE DECK BOARD 06 73 00	
2 X 4 TREATED WOOD 06 10 00	
18X18X18 PLASTIC PLANTER BOX 32 71 00 2X4 TREATED WOOD 06 10 00	MARK DATE DESCRIPTION
4 x 4 TREATED WOOD POST IN PRECAST CONCRETE FOOTER 06 10 00	LOT NUMBER:404DRAWN BY:AuthorCHECKED BY:Checker
2 x 6 WOOD JOIST SUPPORTS WITH CARRIAGE BOLT 06 10 00	COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN
	PLANTER BOX
	L-501
7	

WIND: 90 MPH; EXPOSURE C

FLOOR	LIVE LOAD = 50 PSF DEAD LOAD = 5 PSF
	TOTAL LOAD = 55 PSF
WALL:	TOTAL LOAD = 12 PSF
ROOF:	SNOW LOAD = 20 PSF PV LOAD = 10 PSF DEAD LOAD = 10 PSF
	TOTAL LOAD = 40 PSF
DECK:	TOTAL LOAD = 100 PSF
SOIL:	TOTAL LOAD = 1500 PSF

GENERAL NOTES

- 1. COMPETITION FOUNDATIONS CONSTRUCTED USING CMU FOUNDATION PIERS
- 2. CMU'S SET ON PREFABRICATED PLASTIC PIER PLATES SPECIFIED BY THE MANUFACTURER
- 3. PIERS INSTALLED TO MANUFACTURER'S RECOMMENDATIONS FOR ANCHORAGE. SEE PROJECT SPECIFICATIONS.
- 4. SPECIFICATIONS, CODES, AND STANDARDS NOTED IN THE CONTRACT DOCUMENTS SHALL BE OF THE LATEST EDITION UNLESS OTHERWISE NOTED.
- 5. CONTRACTOR SHALL FIELD VERIFY ALL JOB CONDITIONS AND DIMENSIONS. VARIATIONS THERE OF FROM THE DRAWINGS MUST BE REPORTED TO THE STRUCTURAL ENGINEER. DETAILS INDICATED ON THE DRAWINGS SHALL CONFORM TO BEST PRACTICE AND SHALL BE THE CONTRACTORS RESPONSIBLITY.
- 6. DIMENSIONS SHALL NOT BE SCALED.
- ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES: THE 2011 SOLAR DECATHLON BUILDING CODE, THE INTERNATIONAL RESIDENTIAL CODE (2009 EDITION), AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK.
- 8. MANUFACTURED MATERIALS APPROVED BY THE CONTRACTOR PRIOR TO THEIR USE. ALL REQUIREMENTS OF THOSE APPROVALS SHALL BE FOLLOWED.
- 9. NON-STRUCTURAL FEATURES NOT FULLY SHOWN OR NOTED ON THE STRUCTURAL DRAWINGS INCLUDE BUT ARE NOT LIMITED TO: A. ARCHITECTURAL FEATURES
 - I. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS. II. SIZE AND LOCATION OF ALL FLOOR DRAINS, SLOPES, DEPRESSED AREAS.
 - II. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS.
 - IV. DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
 - B. MECHANICAL, ELECTRICAL, AND PLUMBING FEATURES
 - I. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL, ROOF, AND FLOOR OPENINGS, ETC. II. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS
 - III. ANCHORAGE AND BRACING FOR ELECTRICAL, MECHANICAL, OR PLUMBING EQUIPMENT.
 - IV. SIZE AND LOCATION OF MACHINE AND EQUIPMENT BASES.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS AND HOLES AND OPENING REQUIRED IN STRUCTURAL MEMBERS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
- 11. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CON-TRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO BRACING AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT AND MATERIALS. OBSERVATIONS VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES RE-QUIRED TO PERFORM THE CONTRACTORS WORK. THE STRUCTURAL ENGINEER HAS NO SUPERVISORY AUTHORITY OR DIRECT RESPONSIBILITY FOR THE SPECIFI WORKING CONDITIONS AT THE SITE AND/OR FOR ANY HAZARDS RESULTING FROM THE ACTIONS OF ANY TRADE CONTRACTOR.
- 13. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING WHERE OVERLOAD IS ANTICIPATED.
- 14. THE LATERAL SYSTEM OF THE STRUCTURE IS DESIGNED WITH LATERAL RESTRAINT AT EACH LEVEL. STRUCTURAL WALLS OR FRAMES ARE NOT LATERALLY SELF SUPPORTING UNTIL THE ENTIRE DESIGN LATERAL RESTRAINT SYSTEM IS IN PLACE. THE CONTRACTOR SHALL PRO-VIDE TEMPARY BRACING FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.
- 15. UNLESS OTHERWISE NOTED, FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ALL STRUCTURAL PRODUCTS.
- 16. CONTRACTOR INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ON SHOP DRAWINGS ONLY WILL NOT SATISFY REQUIREMENT.
- 17. DRAWINGS INDICATED TO GENERAL AND TYPICAL DEATILS OF CONSTRUCTION. WHERE CONITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

FOUNDATIONS

3

3

- 1. COMPETITION FOUNDATIONS CONSTRUCTED USING CMU FOUNDATION PIERS.
- 2. CMU'S SET ON PREFABRICATED ABS PLASTIC PIER PADS DESIGNED FOR MANUFACTURED HOME FOUNDATIONS.
- 3. PIERS INSTALLED TO MANUFACTURER'S RECOMMENDATIONS FOR ANCHORAGE. SEE PROJECT SPECIFICATIONS.
- 4. CMU'S SHIMMED WITH 8"X16" HARDWOOD SHIMS TO ACCOMODATE A SLOPING SITE. SEE PROJECT SPECIFICATIONS.

WOOD FRAME

- 1. LIGHT WOOD FRAMING REQUIREMENTS CONFORM TO THE INTERNATIONAL RESIDENTIAL CODE (IRC).
- 2. ALL SOLID WOOD FLOOR JOINSTS AND WALL STUDS SHALL BE HEM-FIR #2.
- 3. FLOOR JOISTS: 2 X 10 @ 16" O.C. ATTACHED TO 2X12 ATTACHED TO BEAM WEB, TYPICAL UNLESS OTHERWISE NOTED.
- 4. ROOF JOISTS: 11 7/8" OPEN WEB JOISTS @ 24" O.C. CAPABLE OF SPANNING 14'-3" WITH A UNIFORM LIVE LOAD OF 40 PSF AND AN ALLOWABLE DEFLECTION OF L/360. ATTACHED WITH SIMPSON STRONG TIE HANGARS UNLESS OTHERWISE NOTED.
- 5. LVL RIM JOISTS: 14" ENGINEERED LVL RIM JOIST CAPABLE OF SPANNING 18'-0" WITH AN ALLOWABLE DEFLECTION OF L/360.
- 6. EXTERIOR BEARING WALLS: 2 X 6 WOOD STUDS AT 24" O.C. WITH 1/2" PLYWOOD SHEATHING. BEARING WALL SHEATHING NAILED 6" O.C. TO THE SILL PLATE DIRECTLY ATTACHED TO THE STEEL. STUDS CLIPPED AT TOP OF WALL TO THE ROOF JOIST USING MANUFACTURER RECOMMENED CLIP. SEE DETAILS FOR ADDITIONAL INFORMATION.
- 7. SHEAR WALL: SHEAR WALL SHALL CONFORM TO IRC SECTION R602.10.3
- 8. INTERIOR WALLS (NON-BEARING): 2 X 4 STUDS @ 16" O.C.
- SHEATHING: ALL SHEATHING INSTALLED USING CONSTRUCTION ADHESIVE AND A 12 & 6 (12" INSIDE; 6" OUTSIDE EDGES) PATTERN RECOMMENDED BY THE APA (AMERICAN PANEL ASSOCIATION) AND IRC TABLE R602.3(1) - FASTENER SCHEDULE FOR STRUCTURAL MEMEMBERS.
 ALL SHEATHING INSTALLED WITH FACE GRAIN RUNNING PERPENDICULAR TO THE STUDS/JOISTS IN A STAGGARD PATTERN. PANELS GAPPED PER
- APA RECOMMENDATIONS.
- 9.1 FLOOR SHEATHING: 3/4" T&G OSB INSTALLED IN ACCORDANCE WITH APA RECOMMENDATIONS.
- 9.2 WALL SHEATHING: 1/2" OSB INSTALLED WITH 8D RING SHANK NAILS AND STRUCTURAL ADHESIVE IN ACCORDANCE WITH APA RECOMMENDATIONS. BLOCKING TO BE PLACED IN EXTERIOR WALLS AT HORIZONTAL SEEMS TO CREATE A BLOCKED DIAPHRAGM.
- 9.3 ROOF SHEATHING: 3/4" OSB SHEATHING INSTALLED WITH 8D RING SHANK NAILS IN ACCORDNCE WITH APA RECOMMENDATIONS.
- 10. UNLESS OTHERWISE NOTED, USE SIMPSON STRONG-TIE CONNECTOR. USE EITHER STAINLESS STEEL OR HOT-DIPPED GALVANIZED FASTENERS FOR EXTERIOR APPLICATIONS. ALL CONNECTORS INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

STRUCTURAL STEEL / MISC. METALS

1. ALL STRUCTURAL STEEL CONFORMS TO IRC R301.1.3

4

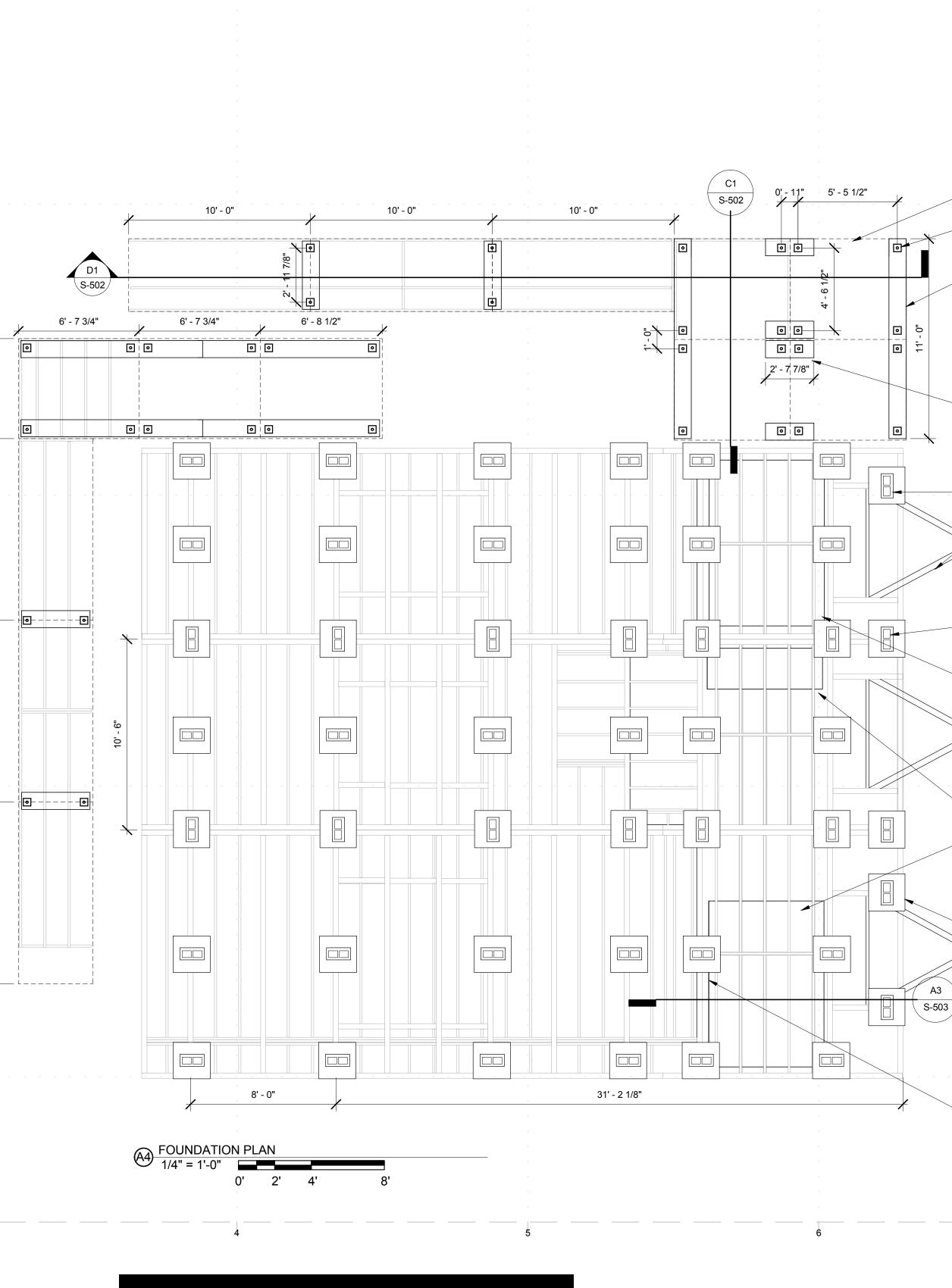
- 2. UNLESS OTHERWISE NOTED, APPLY ONE COAT SHOP PRIMER AND TWO COATS OF FINISH PAINT TO ALL STEEL SUB-STRUCTURE.
- 3. ALL STEEL CONNECTIONS FULLY WELDED ON BOTH SIDE OF FLANGE AND WEB UNLESS OTHERWISE NOTED.

METAL CONNECTORS (SIMPSON STRONG-TIE)

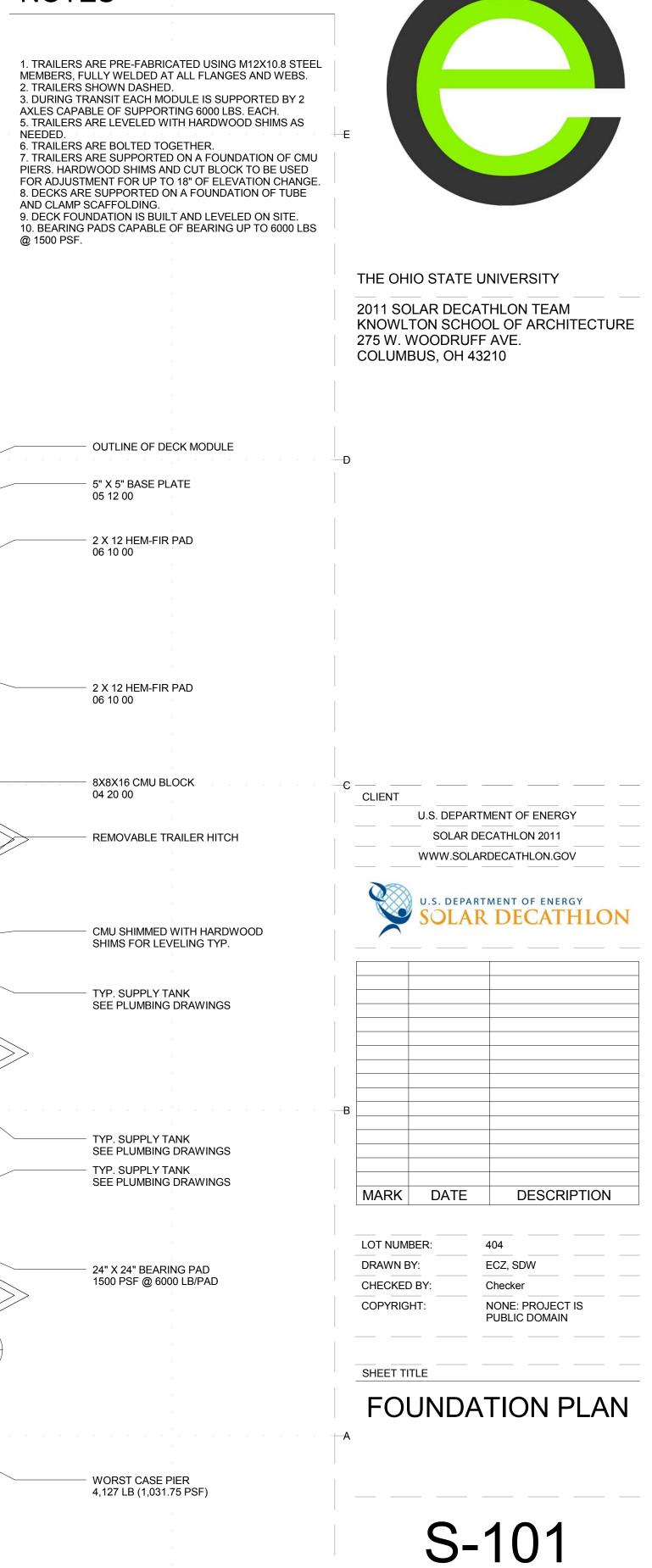
MODEL #	DESCRIPTION	LOCATION
TB1460S	SELF TAPPING SCREWS	ATTACHMENT OF SILL PLATE TO STEEL STRUCTURE
LUS210	JOIST HANGER	ATTACHMENT OF 2 X 10 JOIST TO 2 X 12
LSSUH310	SKEWED JOIST HANGER	ATTACHMENT OF SLOPED ROOF JOIST TO LVL
IUT 312	JOIST HANGER	ATTACHMENT OF ROOF JOIST TO LVL
TB36	BRIDGING	BRIDIGNG FOR FLOOR AND ROOF JOISTS

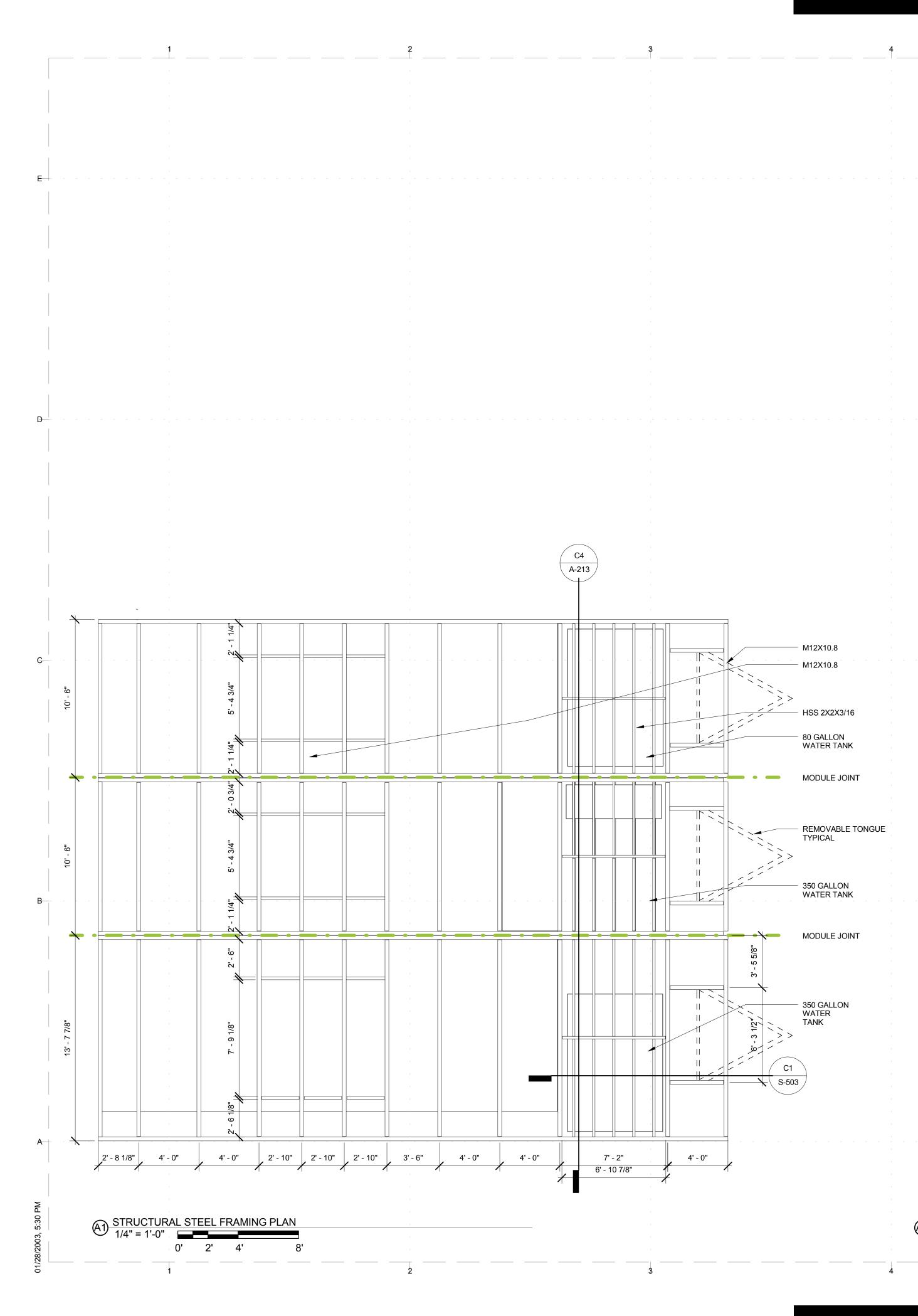
7	7	
		E
		THE OHIO STATE UNIVERSITY
		KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210
		Ð
		—C —
		U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV
		U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON
		B
		MARK DATE DESCRIPTION
		LOT NUMBER: 404 DRAWN BY: LFW
		CHECKED BY: LFW COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN
		SHEET TITLE STRUCTURAL
		A NOTES
		S-001
	7	

		23	
E			
Đ			
			ល
C–			
			-
			- 0
B			
			- 0
A			
01/28/2003, 5:30 PM			
01/28/20(2 3	3

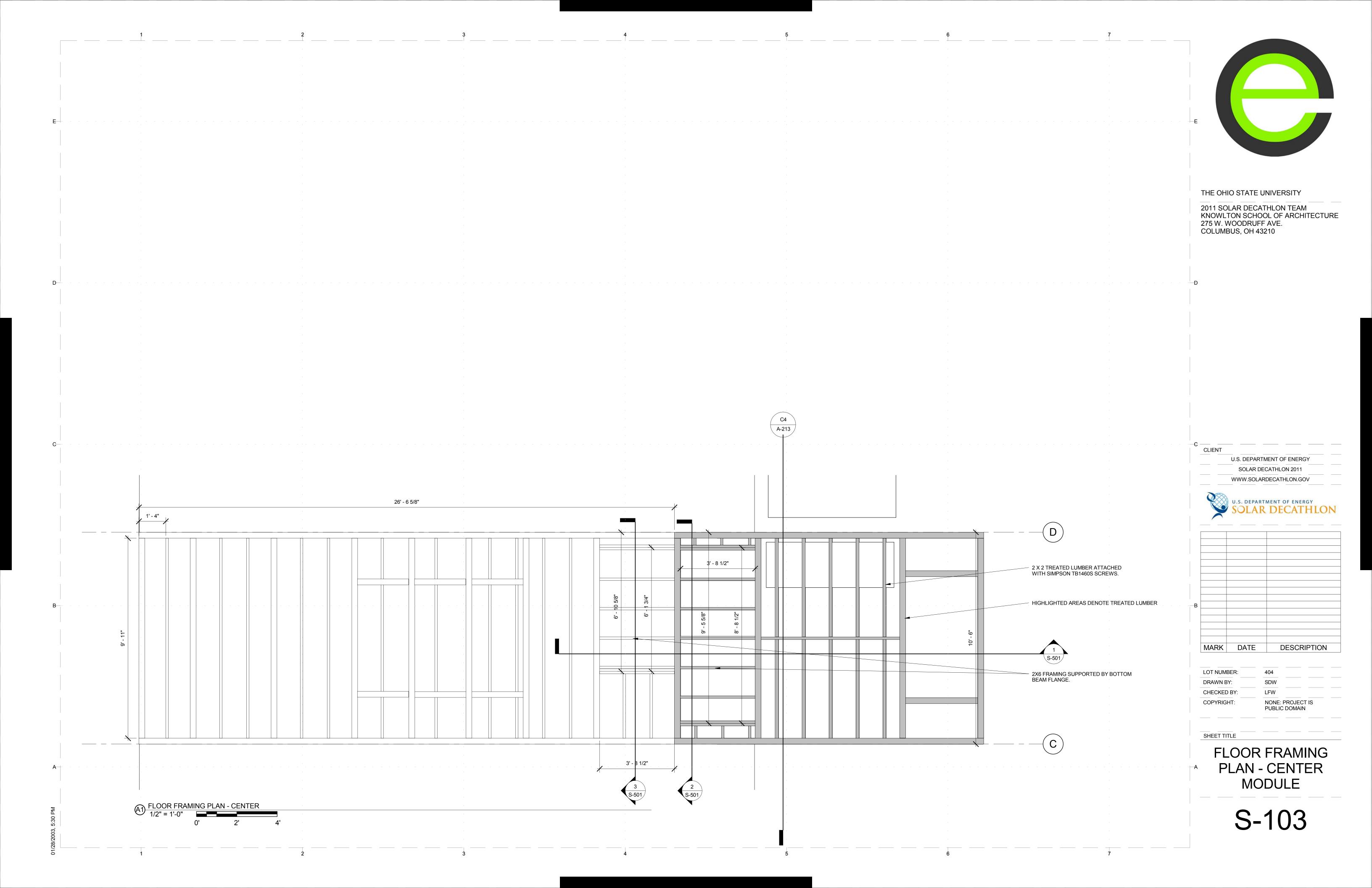


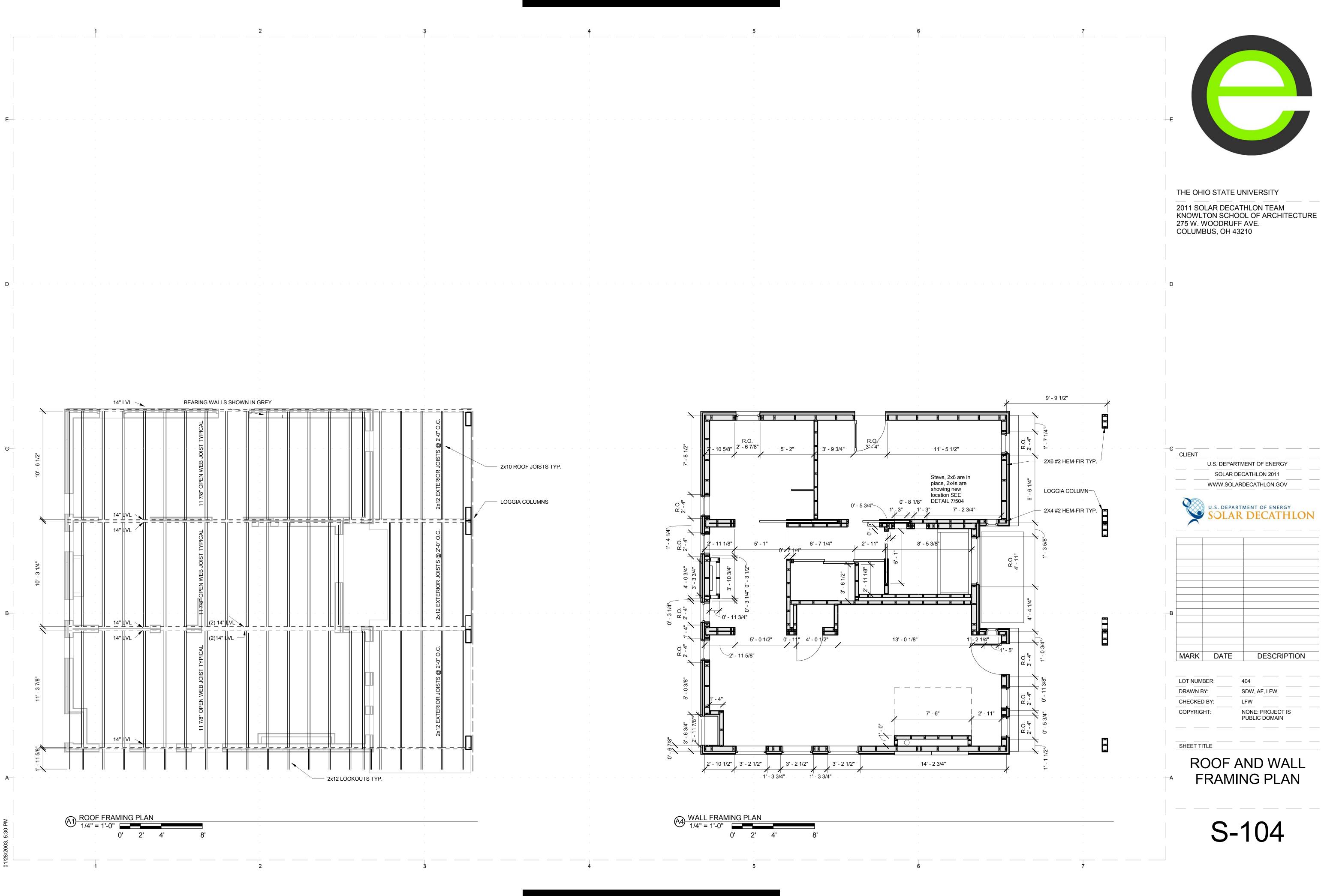
NOTES

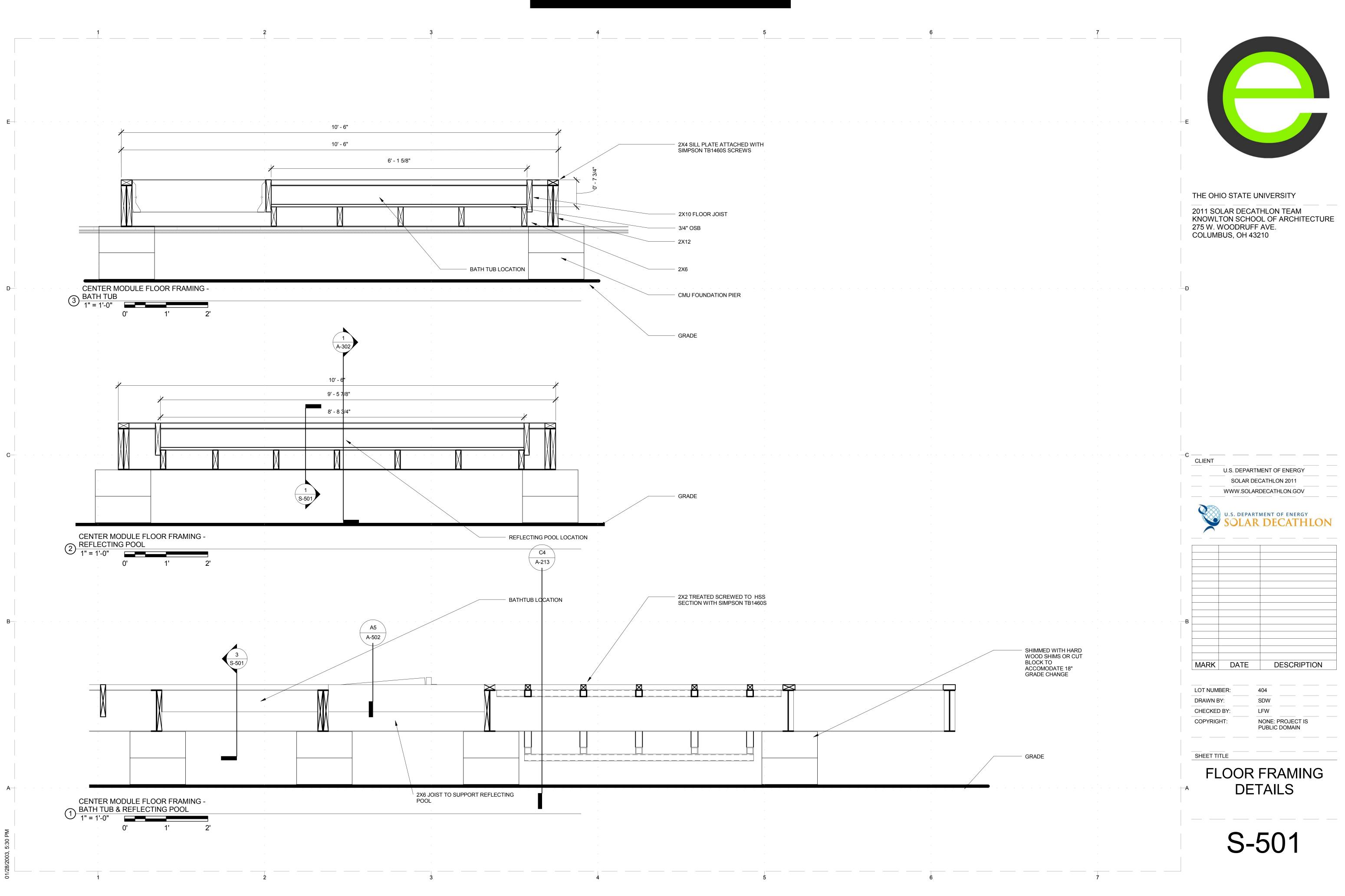


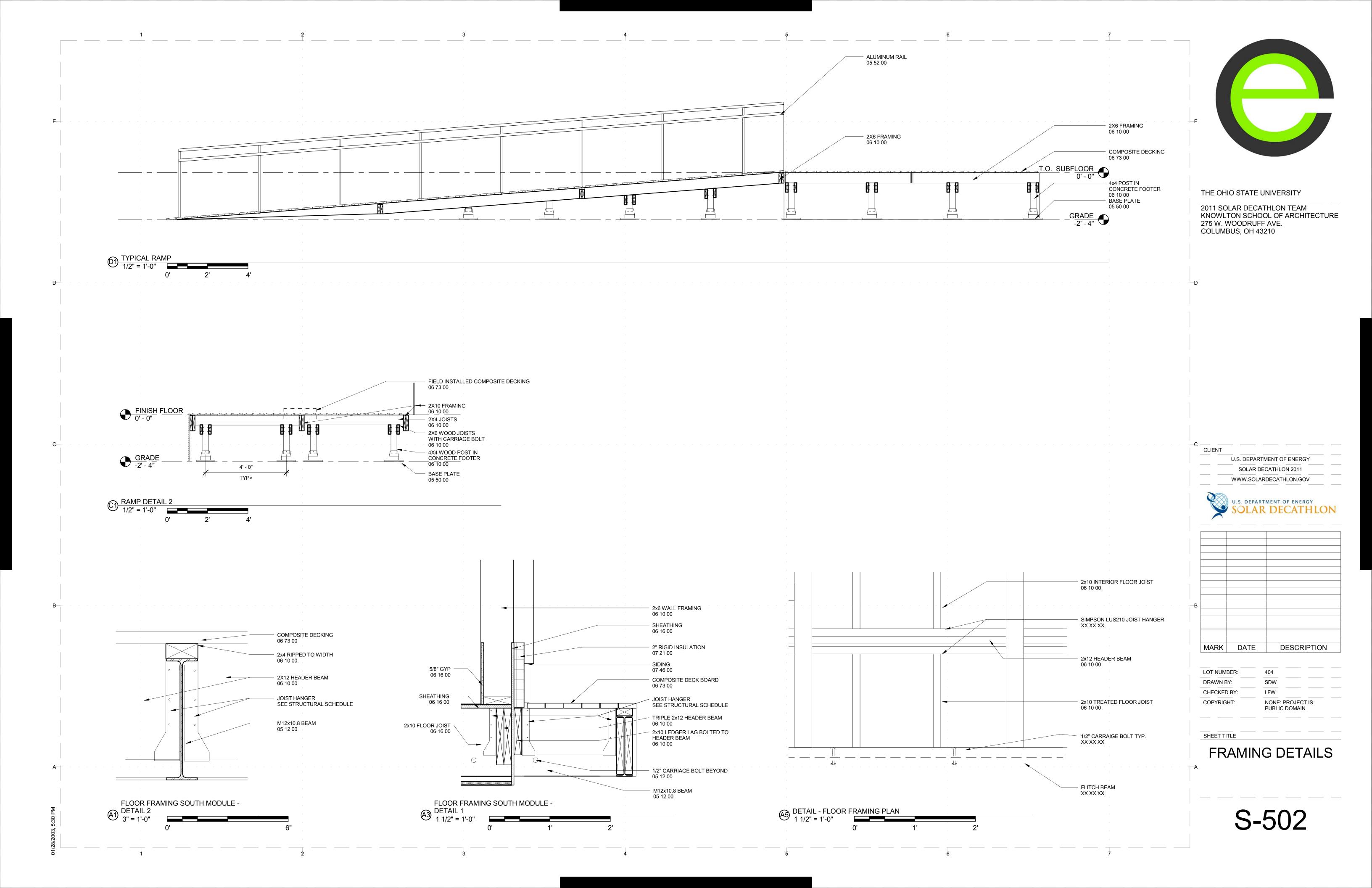


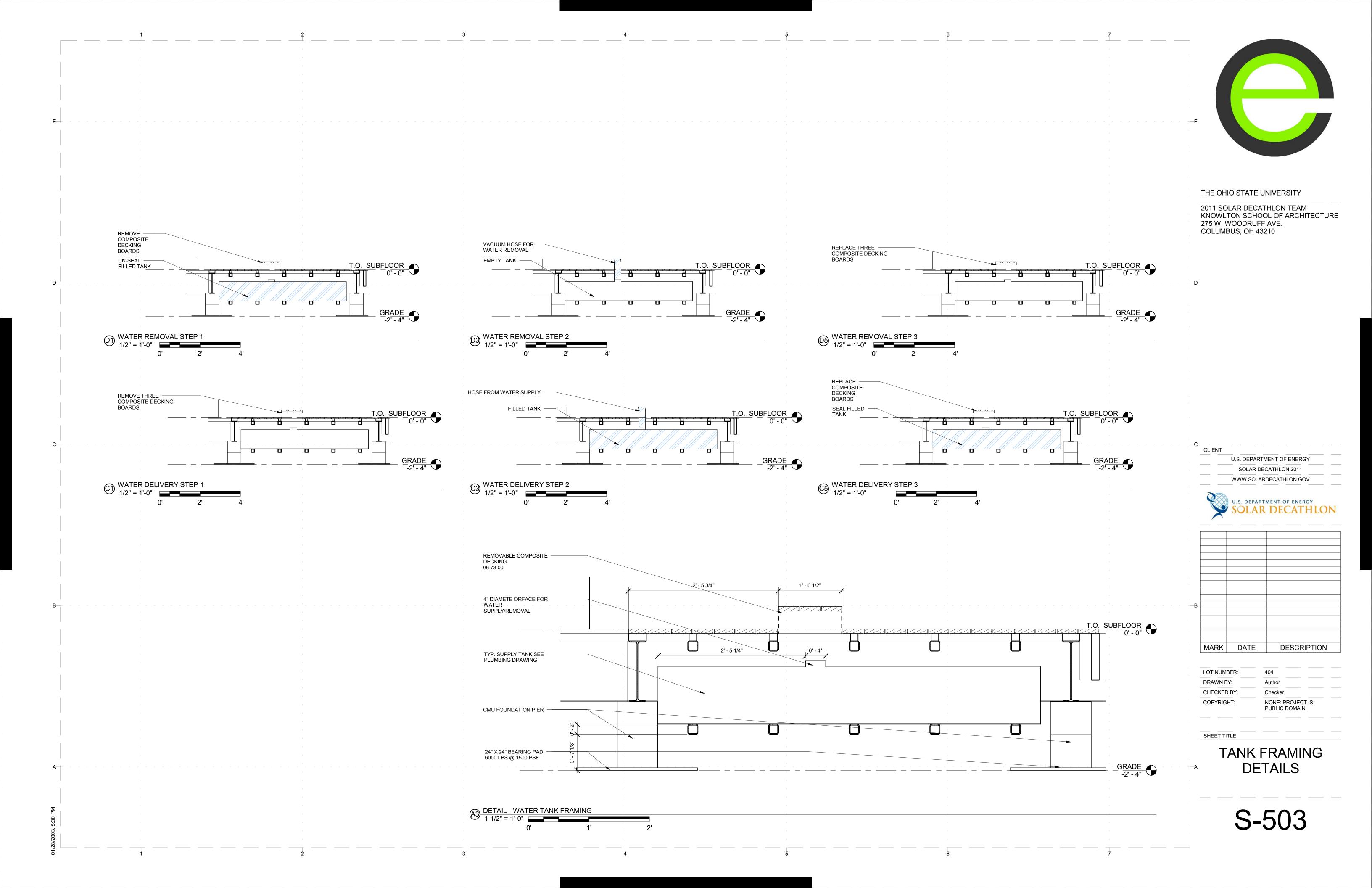
	THE OHIO STATE UNIVERSITY 2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210
	C
$\mathbb{P}_{1/4^{n}} = 1^{1/2^{n}} = 1^{1/2^{n}} = \frac{1}{5}$	AMARK DATE DESCRIPTION

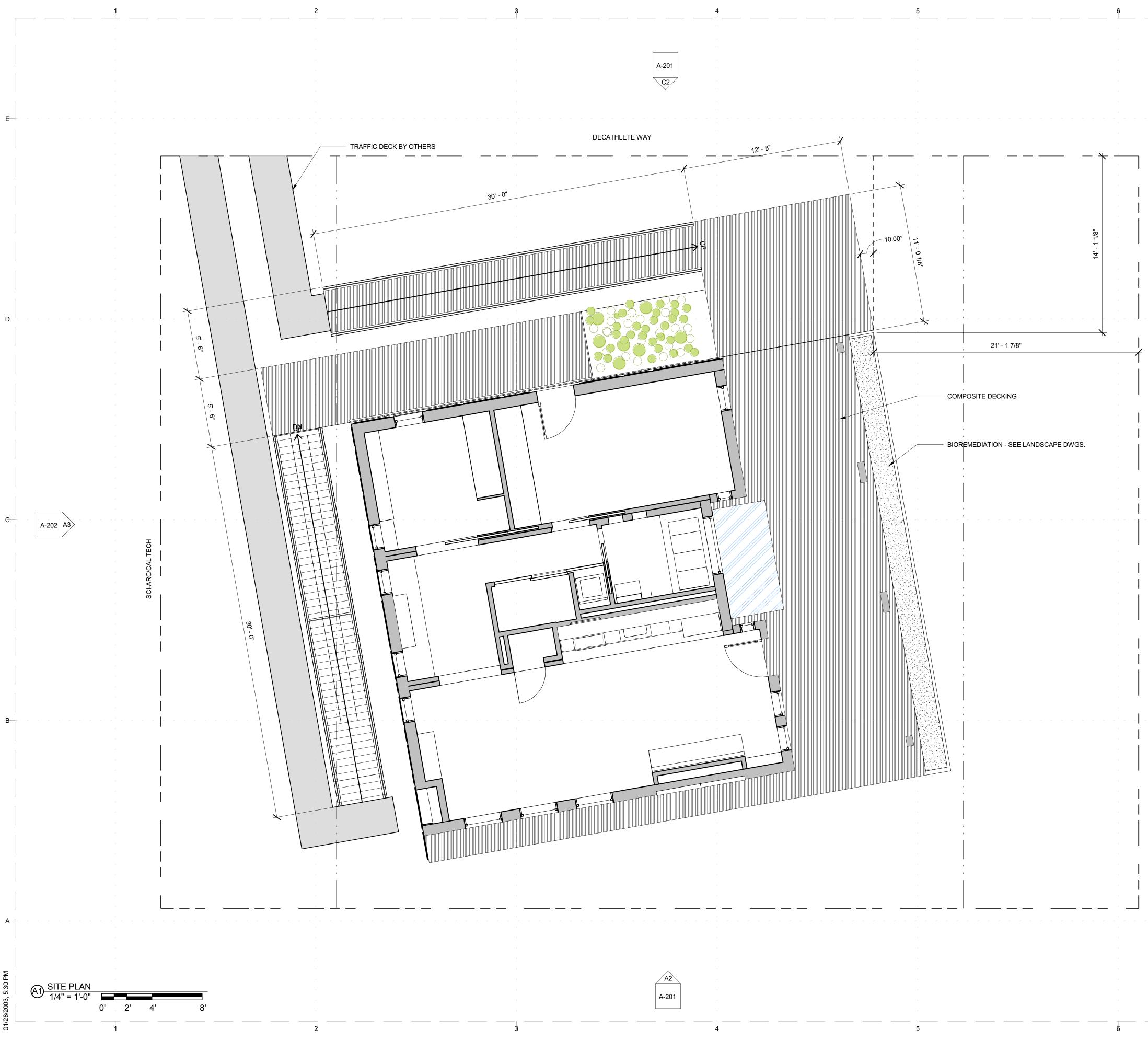


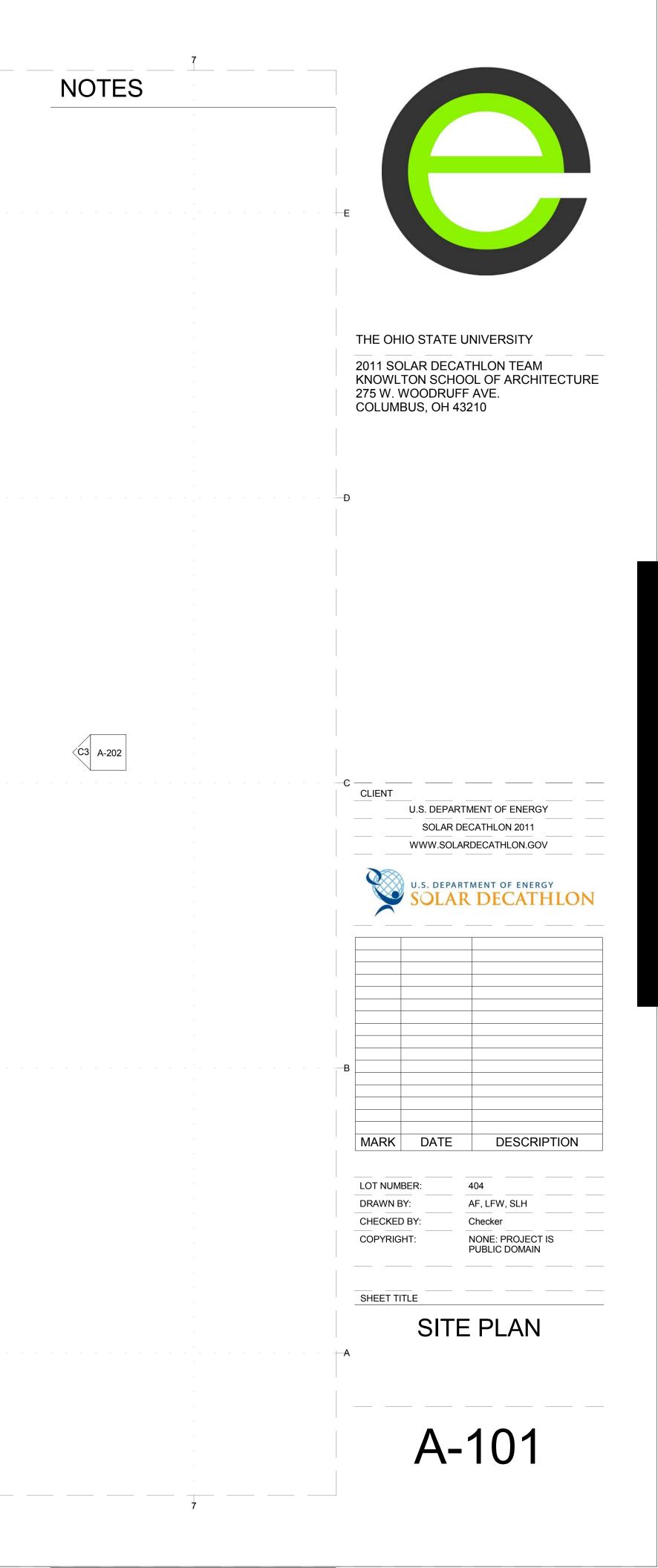


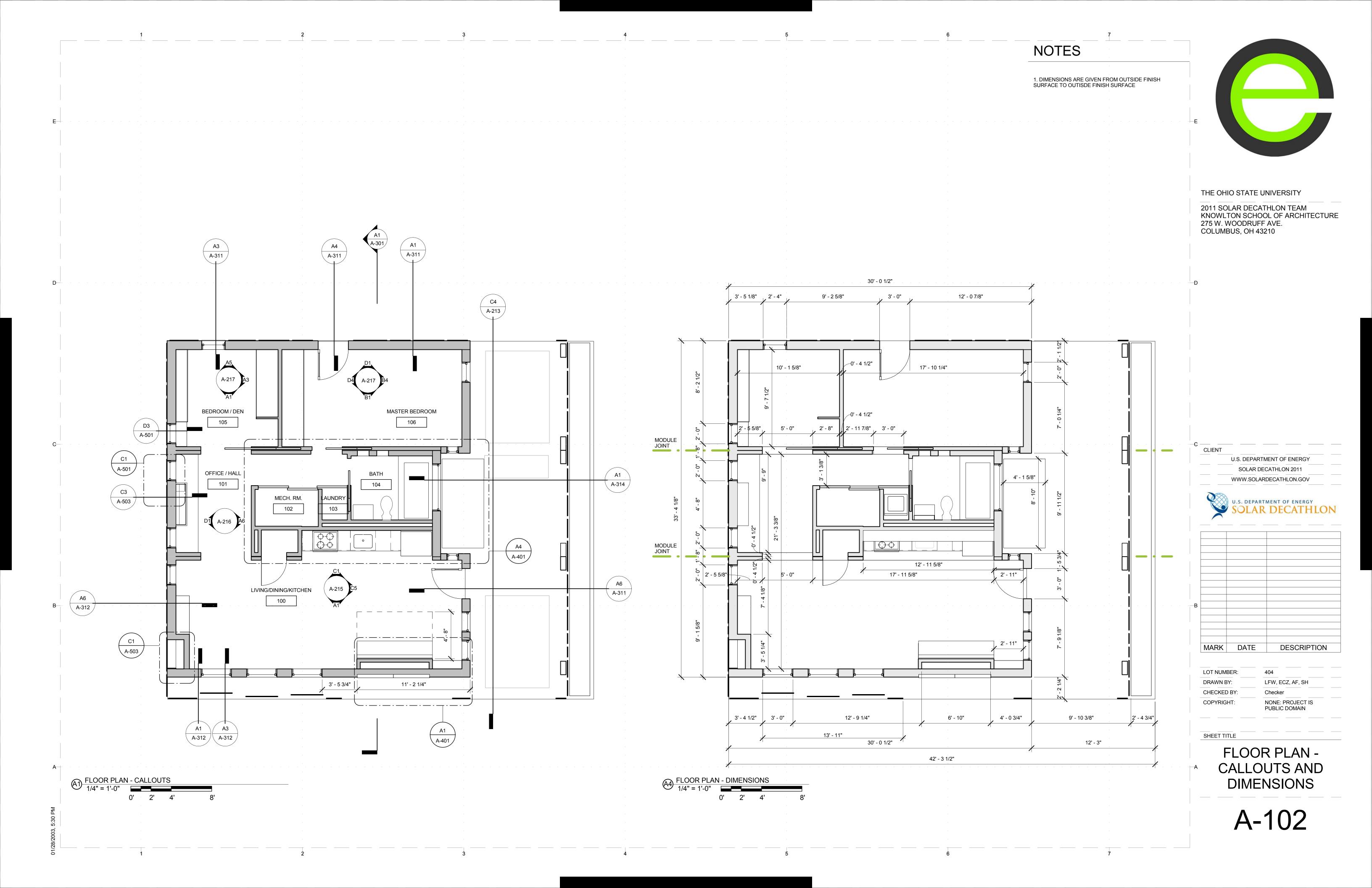




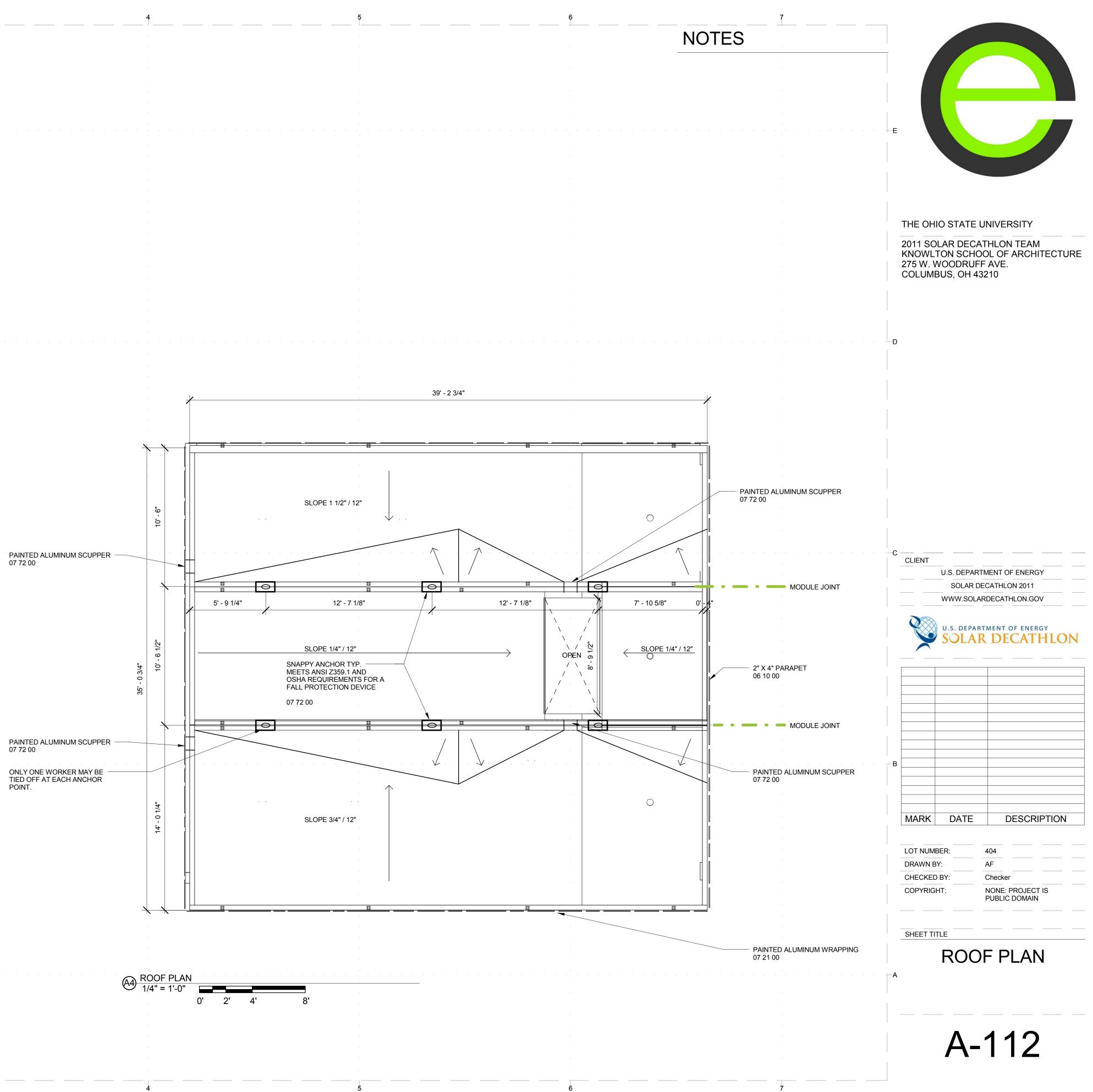


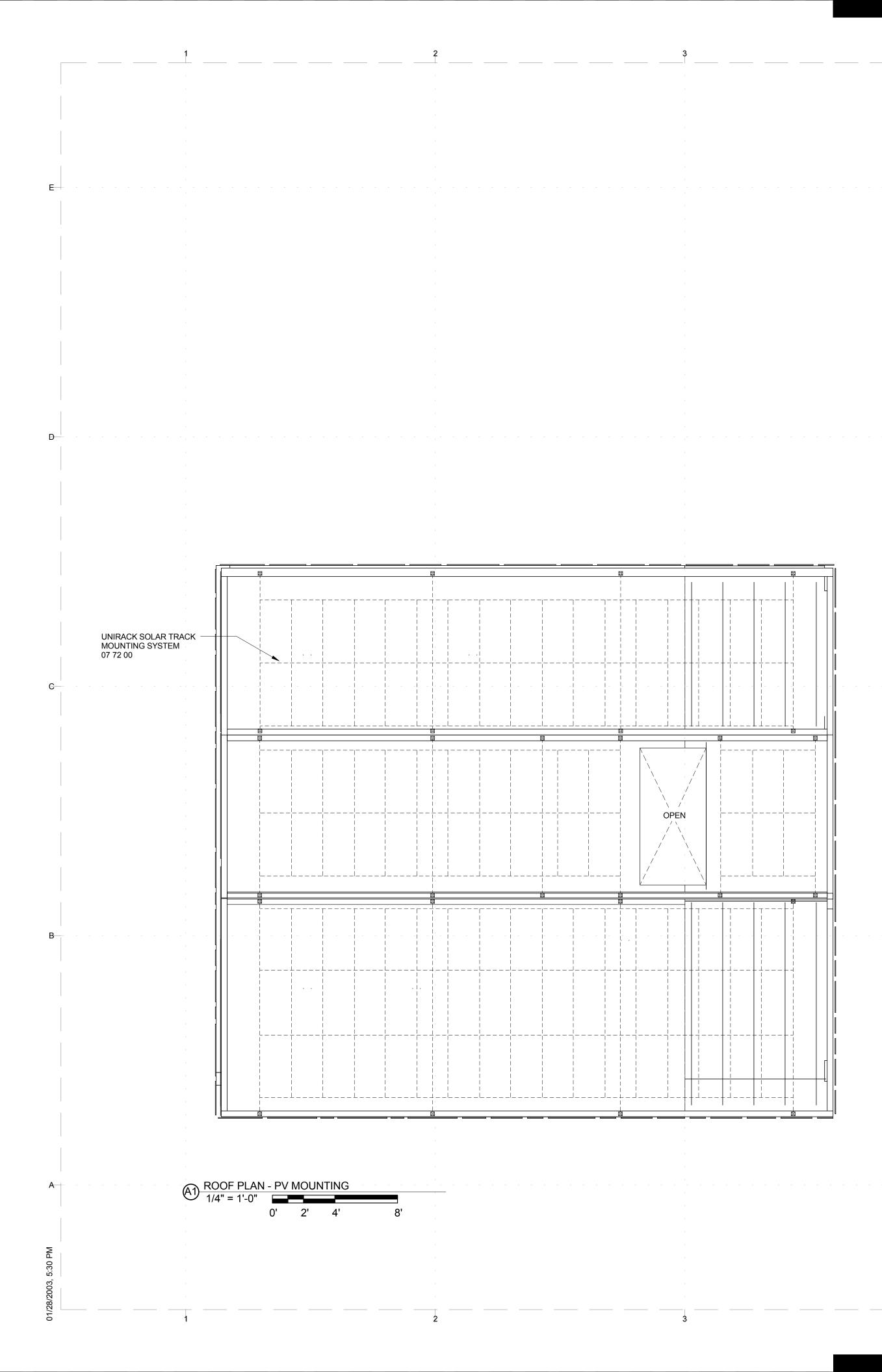


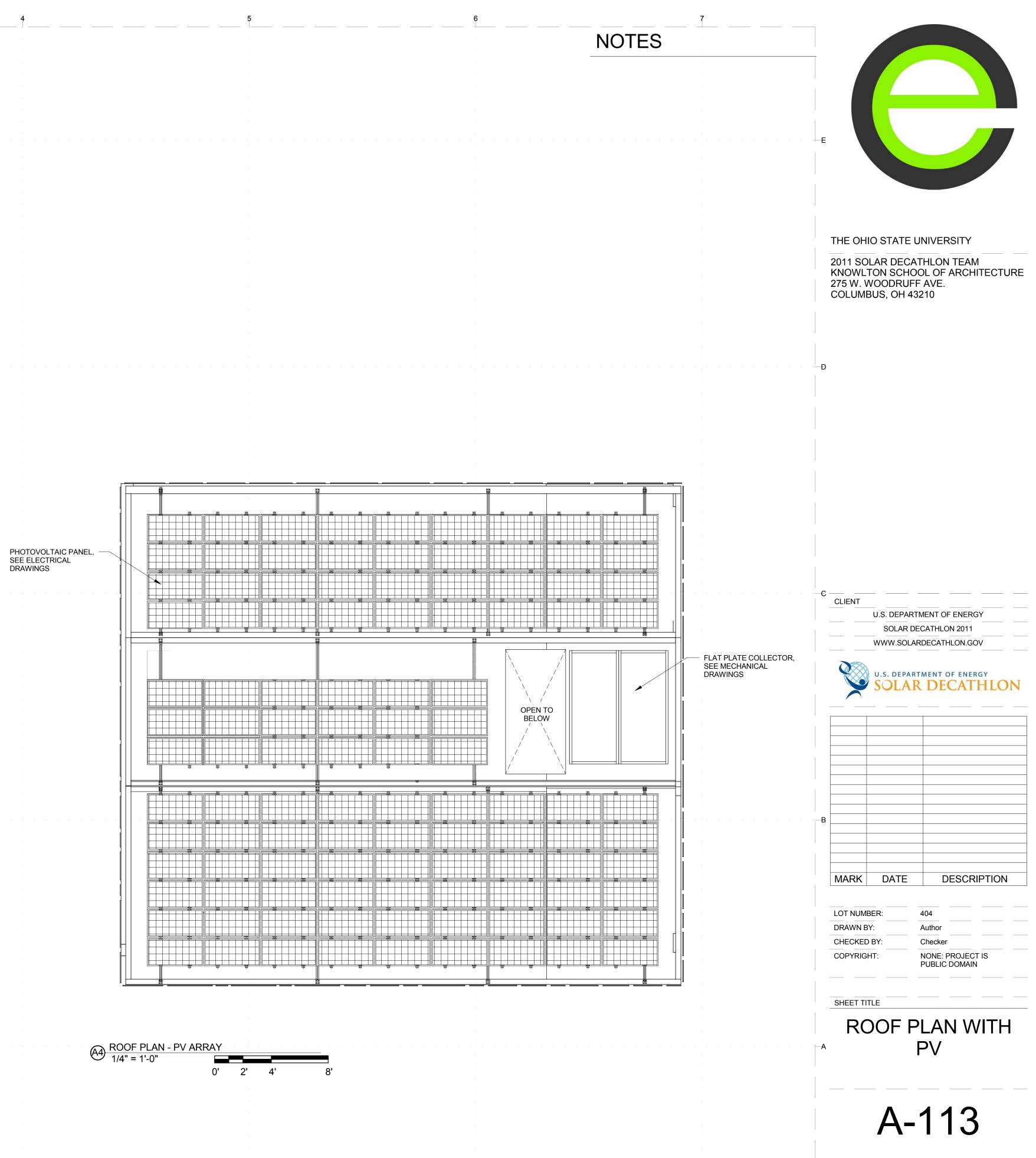




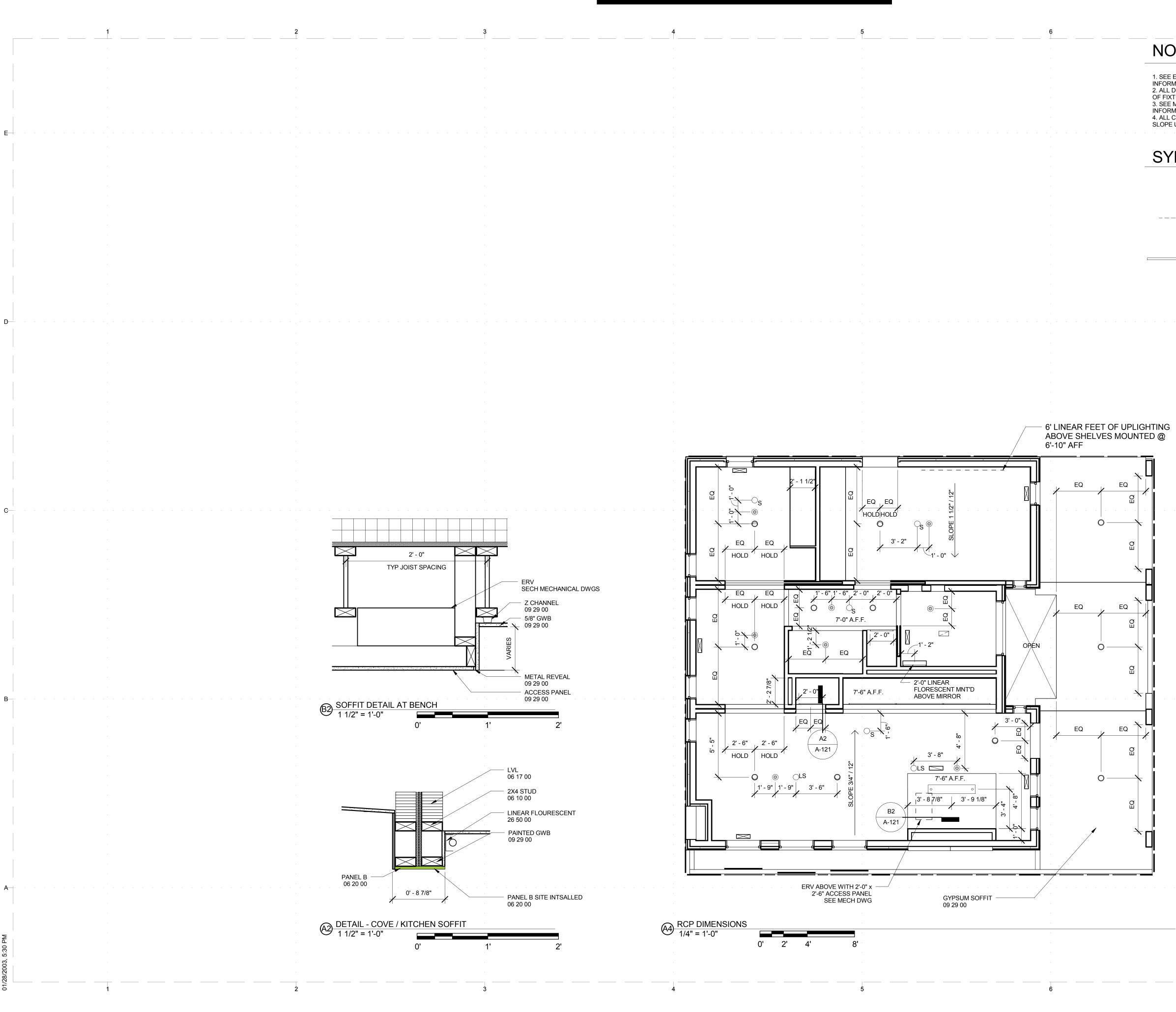
01/28/2003, 5:30 PM	B	C	Đ	E
-				
1				1
-				_
_				
-				_
-				
2				
-				-
-				
_				
3				3
_				











NOTES

SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING LIGHT FIXTURES, SENSORS, ETC.
 ALL DIMENSIONS FROM WALL FINISHED FACE TO CENTER OF FIXTURE.
 SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING HVAC EQUIMENT.
 ALL CEILINGS MINIMUM 7'-6 3/4" A.F.F. WITH INDICATED SLOPE UNLESS NOTED OTHERWISE.

7

SYMBOL KEY

	BATHROOM EXHAUST
۰	CEILING-MOUNTED SHOWER HEAD
	COVE LIGHT
\odot_{LS}	LIGHT SENSOR
	LINEAR FLOURESCENT
\bigcirc_{0}	OCCUPANCY SENSOR
\bigcirc	PENDANT
	RECESSED DOWNLIGHT
	RETURN GRILLE
\circ_{s}	SMOKE DETECTOR
۲	SPRINKLER HEAD
	SUPPLY GRILLE



THE OHIO STATE UNIVERSITY

2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210

CLIENT

U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV



MARK	DATE	DESCRIPTION
	DAIE	DESCRIPTION

ECZ, LFW
LFW
NONE: PROJECT IS PUBLIC DOMAIN
-

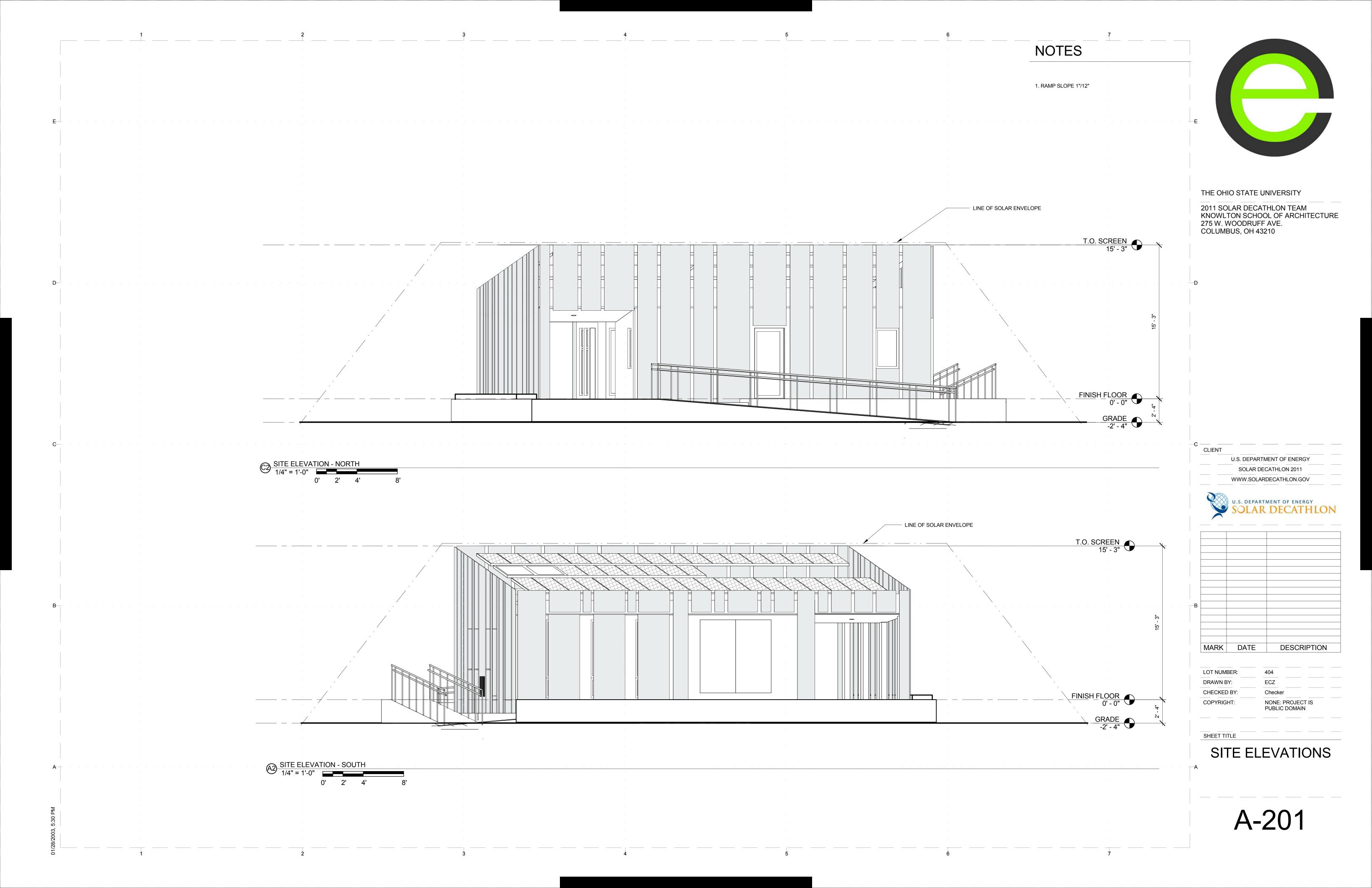
RCP

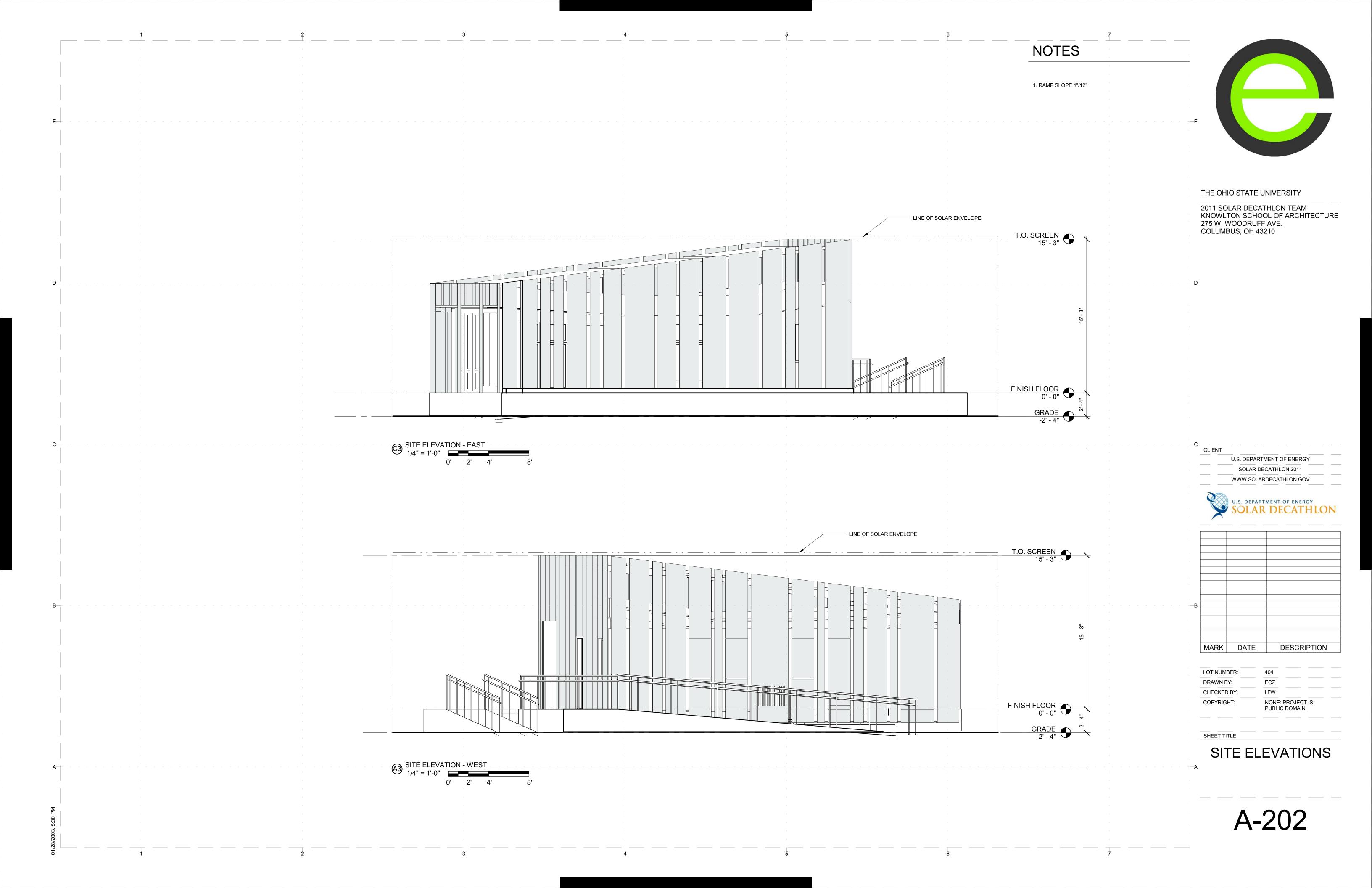
A-121

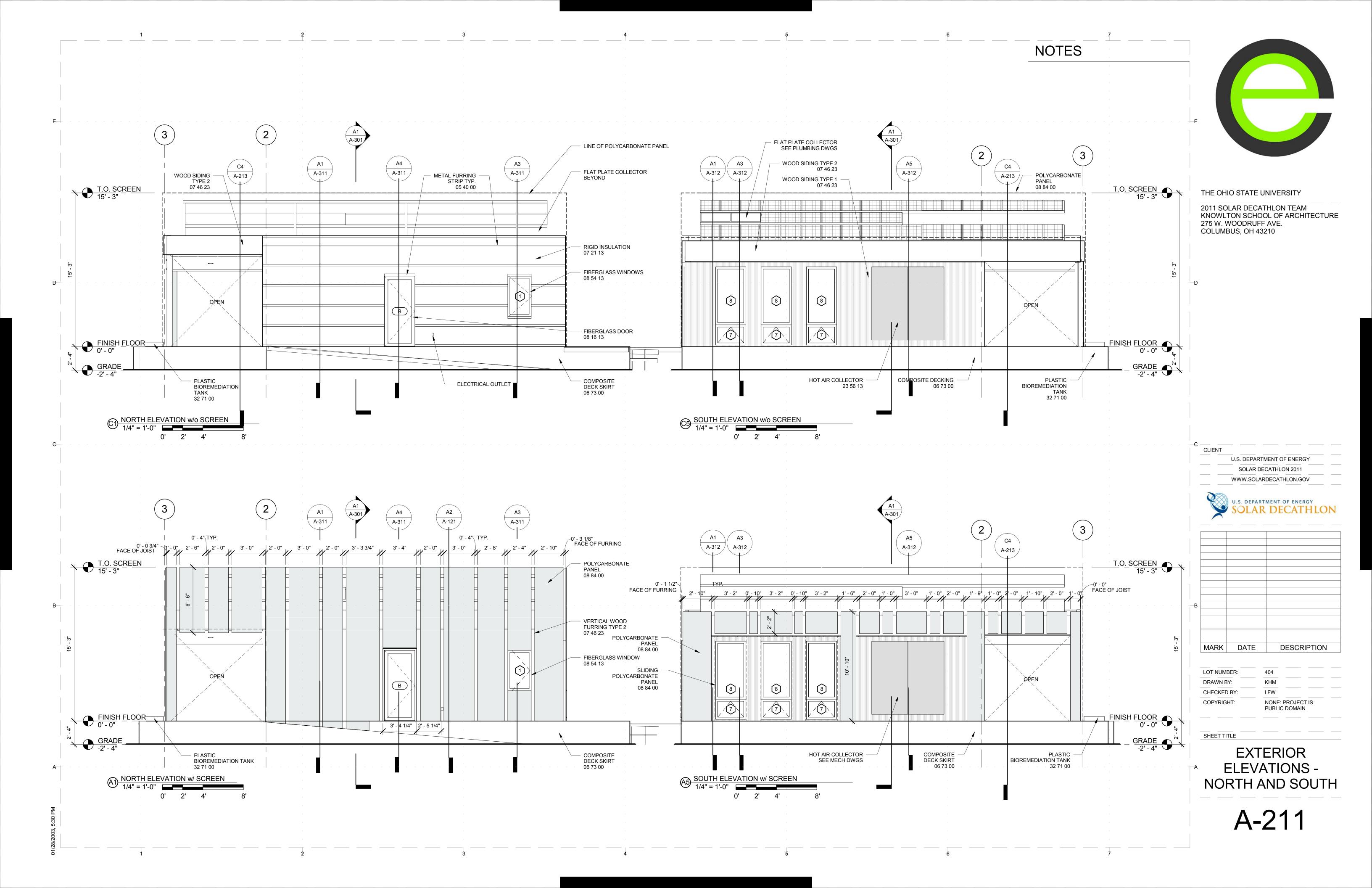


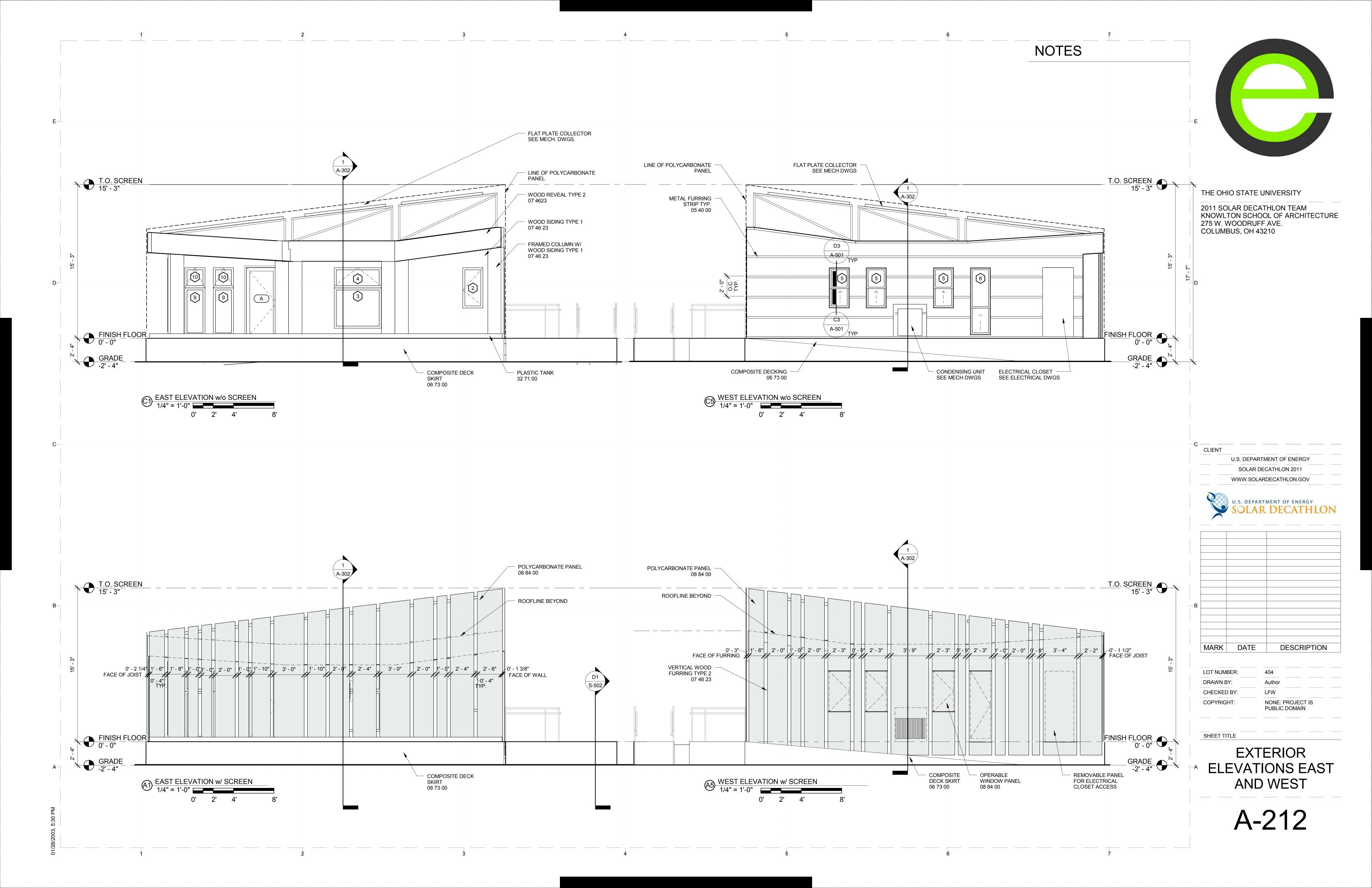
SHEET TITLE

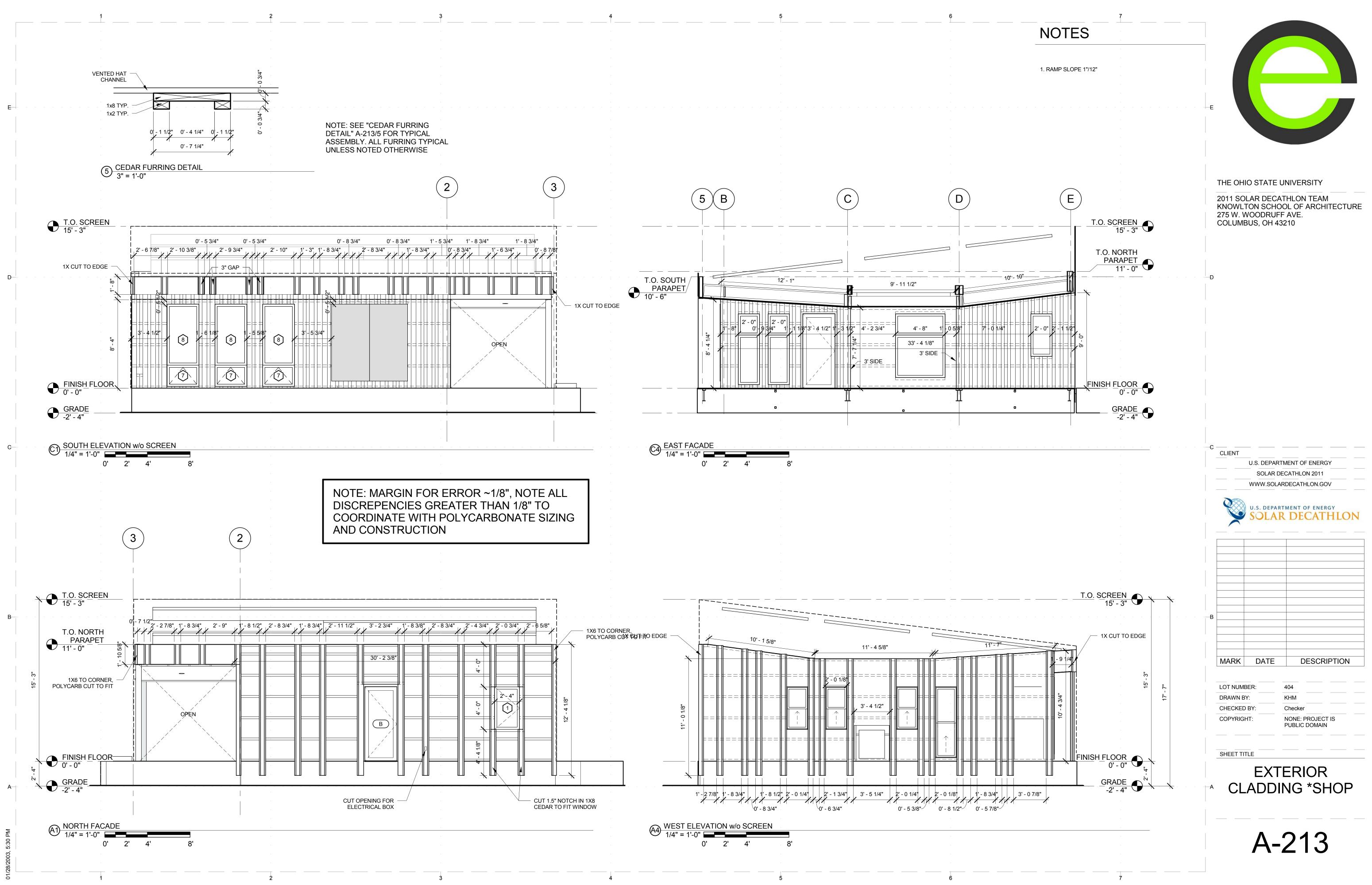
EQ \mathbf{X} EQ Ø EQ 🕇



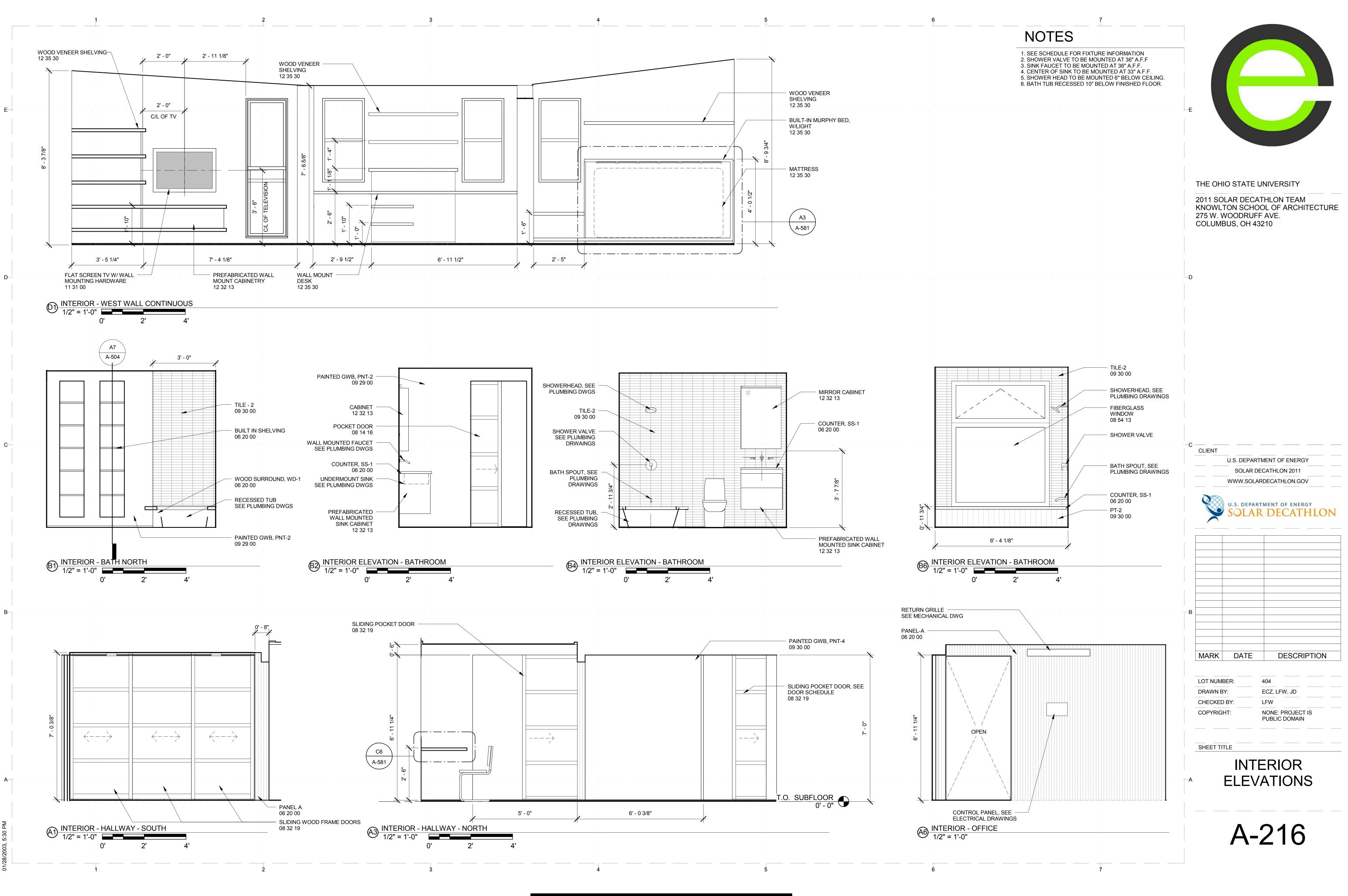


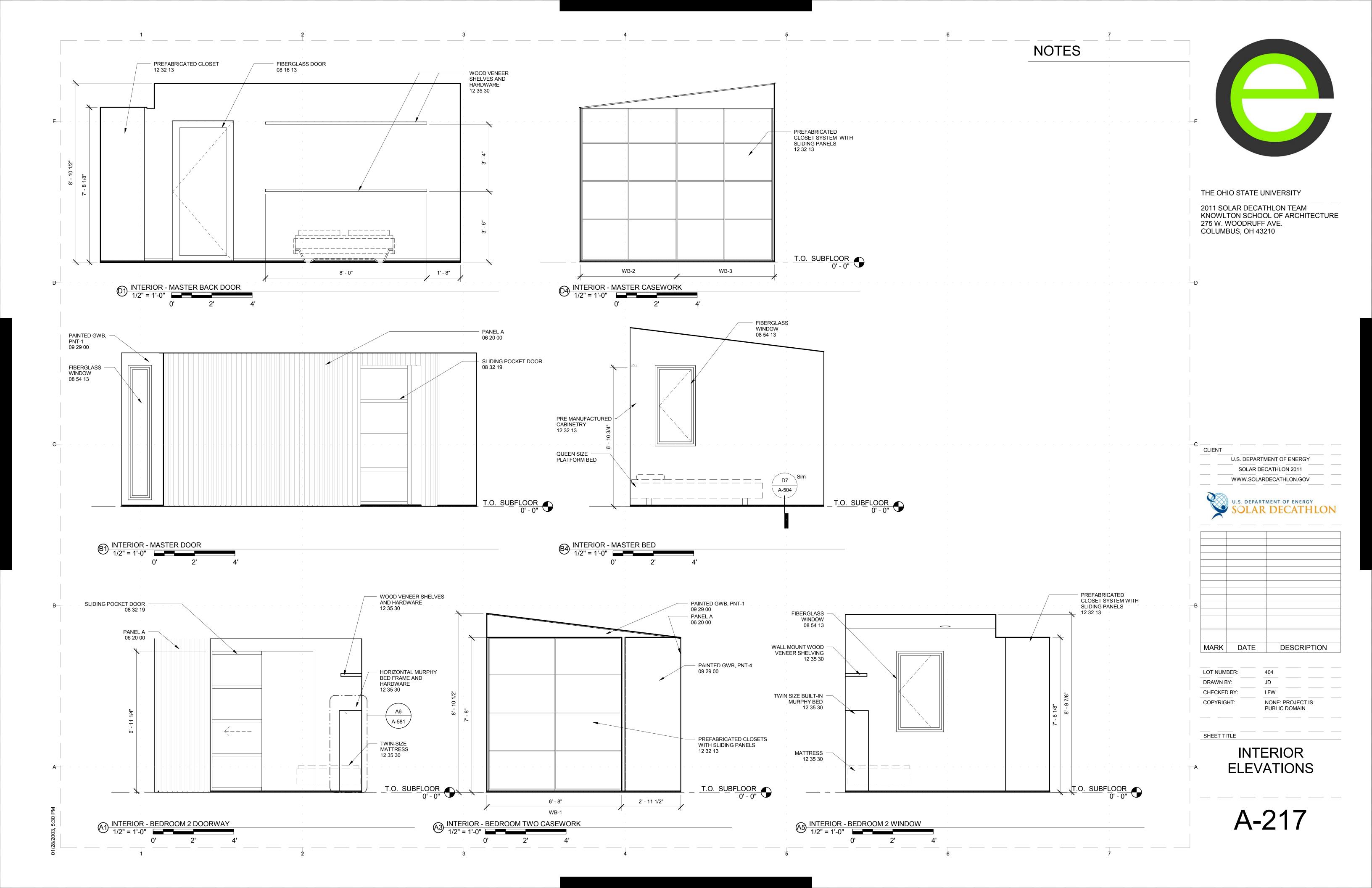


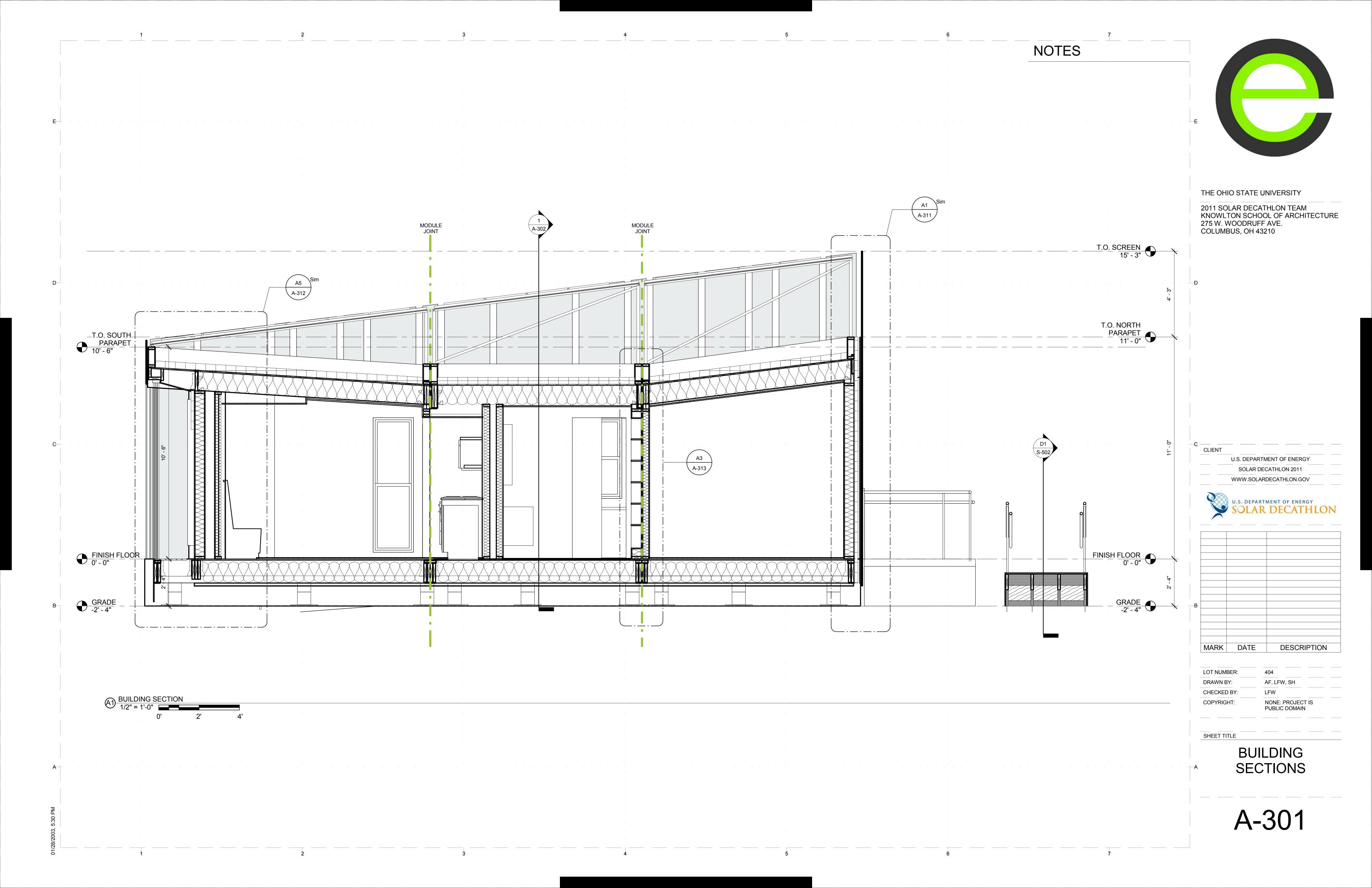


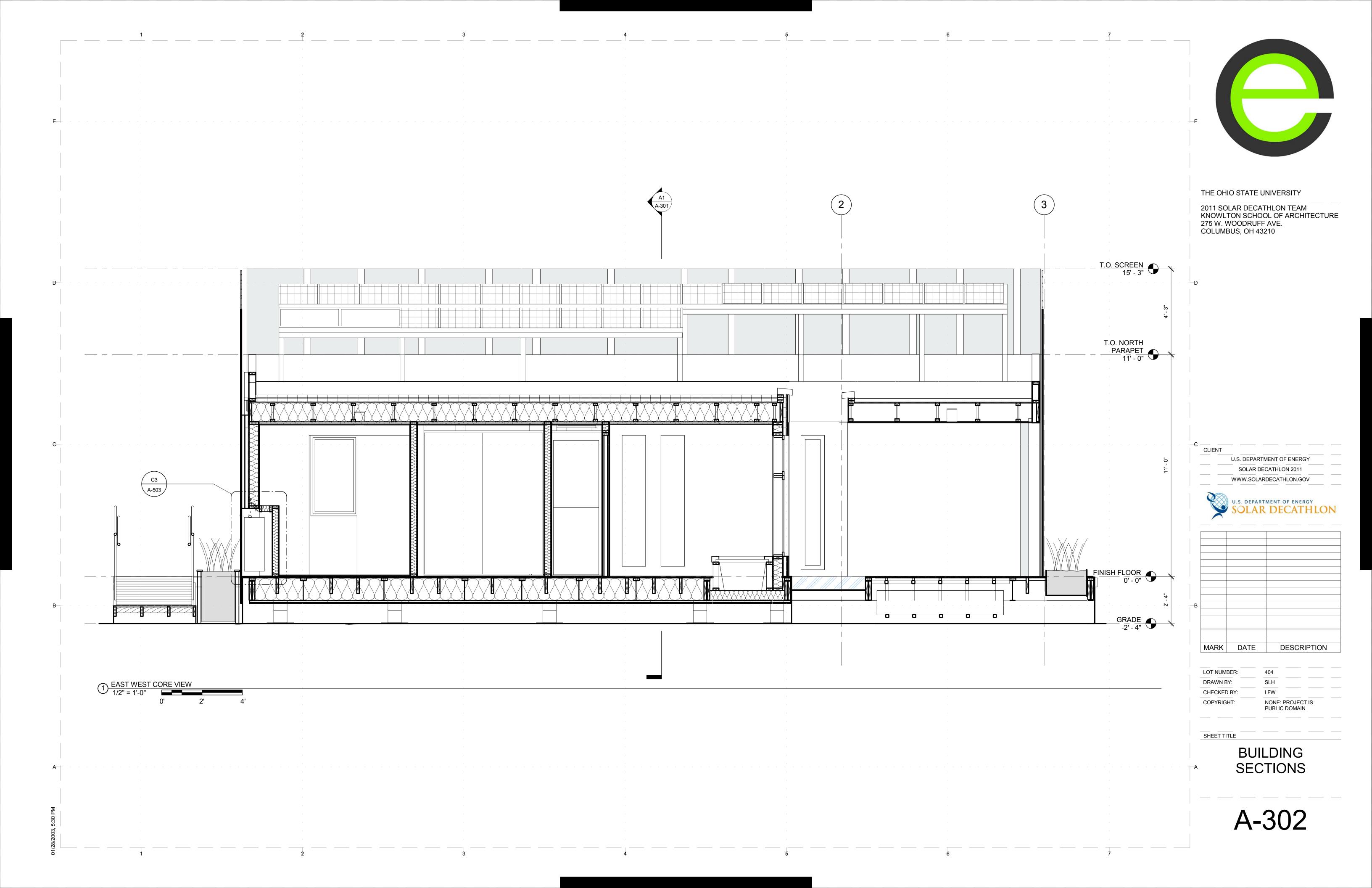


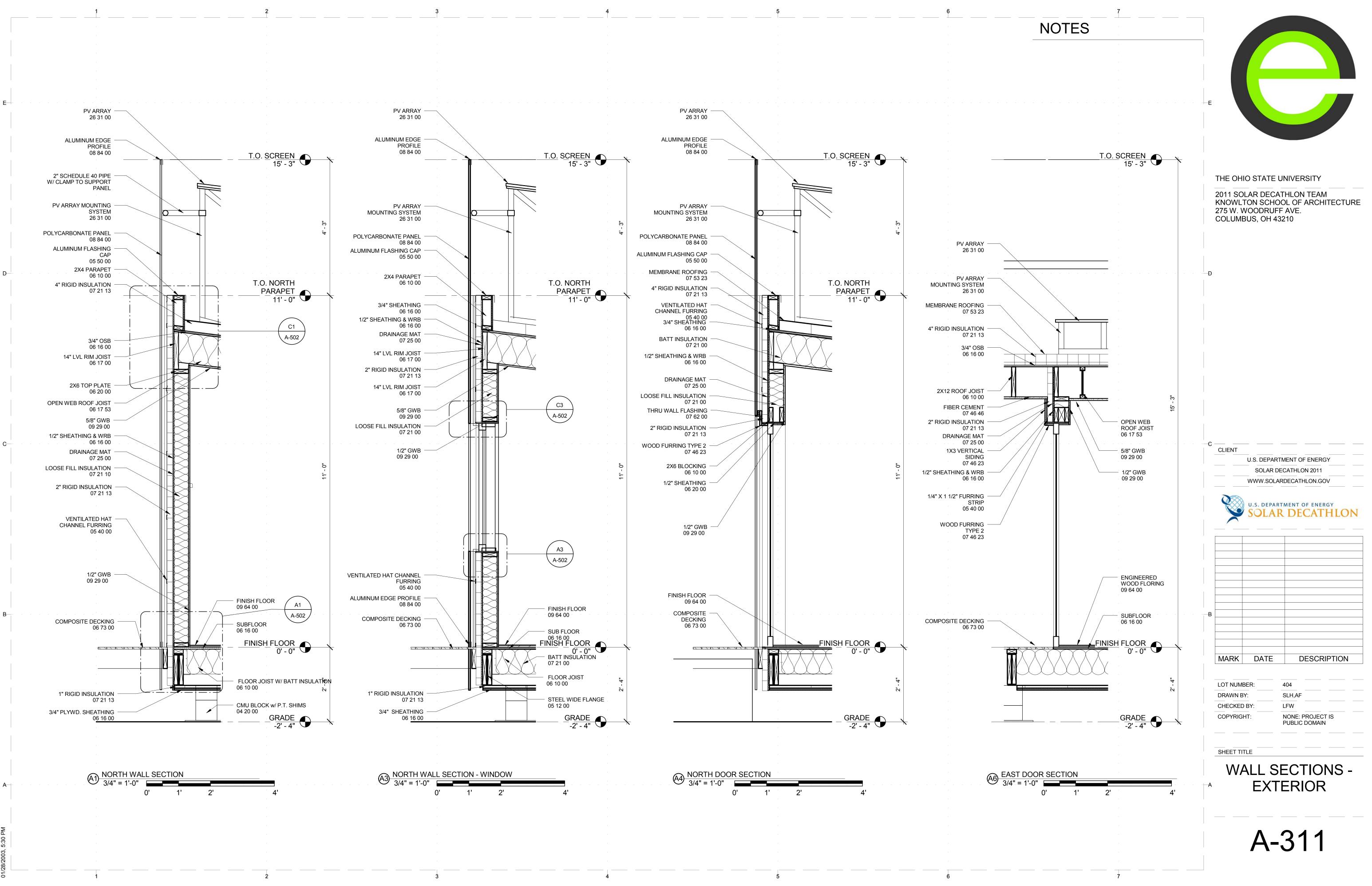


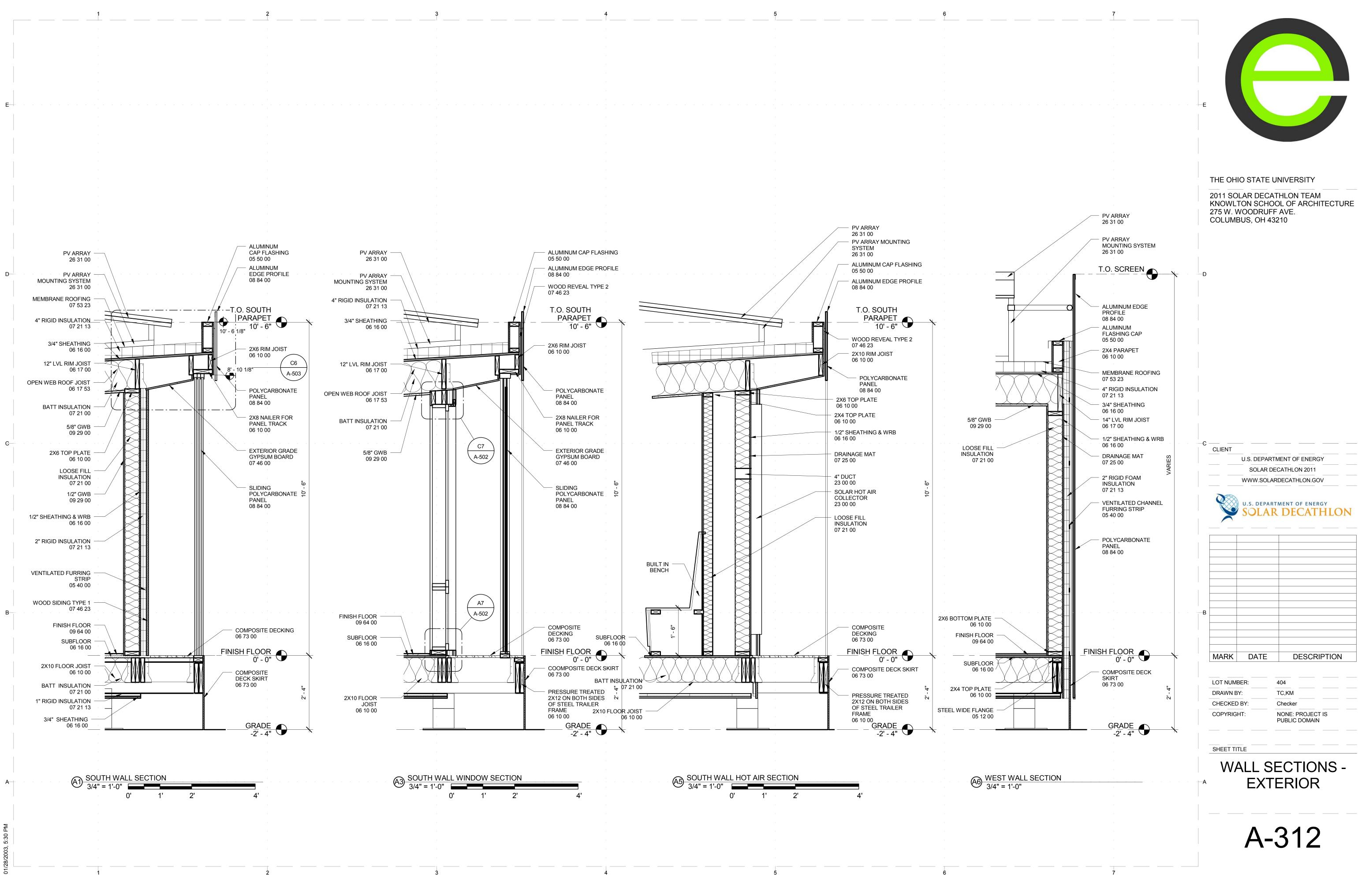


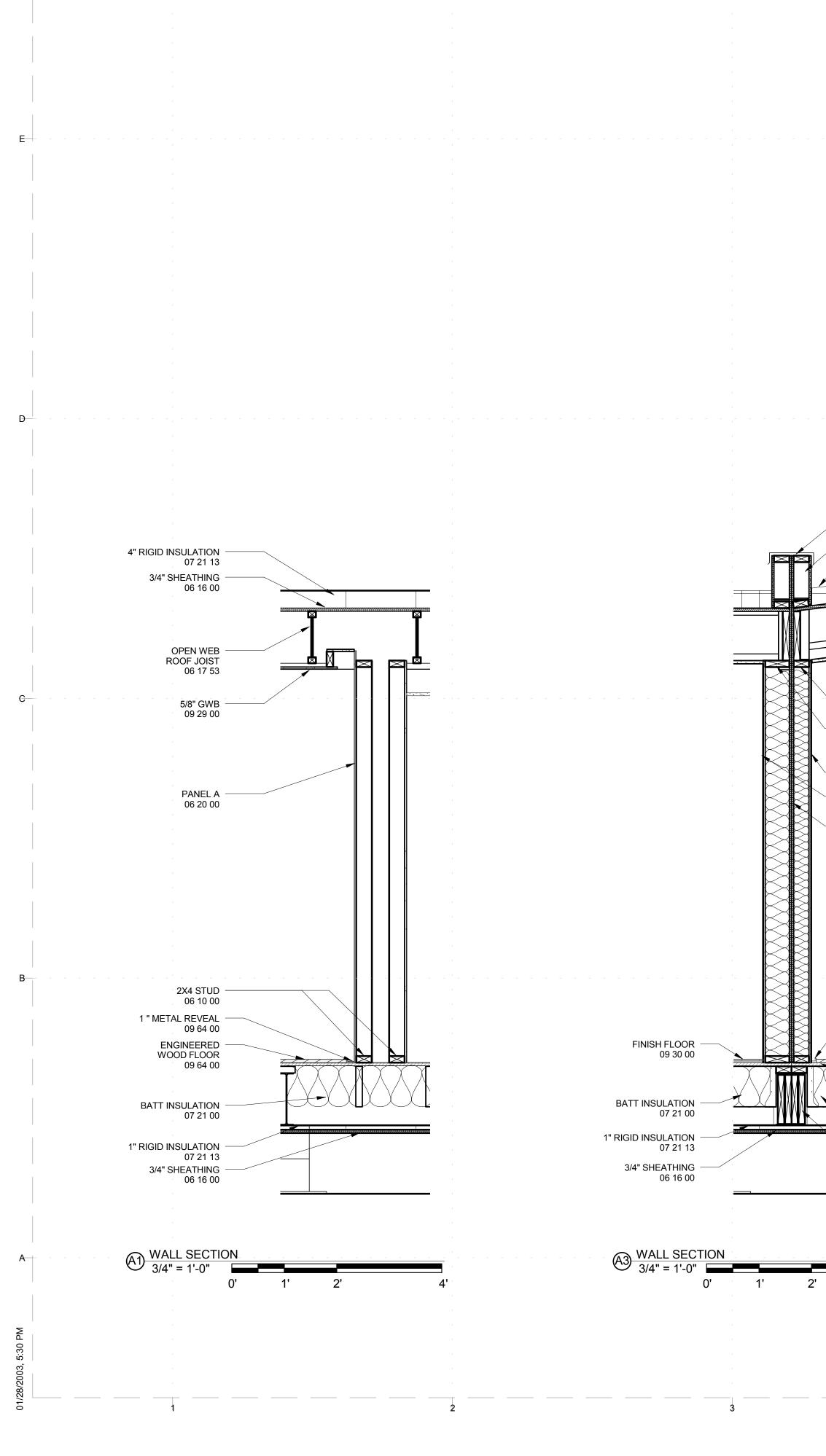






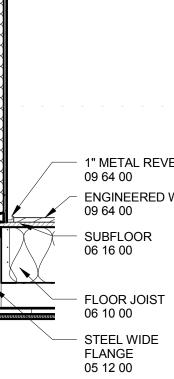






1

3



- 1" METAL REVEAL 09 64 00 - ENGINEERED WOOD FLOOR 09 64 00

4

4

 PANEL A
 06 20 00 - 1/2" GWB 09 29 00 1/2" SHEATHING
 06 10 00

- 2X4 STUD 06 10 00 2X6 STUD 06 10 00

- 5/8" GWB 09 29 00

ALUMINUM CAP FLASHING 05 50 00 2X4 PARAPET 06 10 00 - RIGID INSULATION 07 21 13 — 3/4" SHEATHING 06 16 00

4

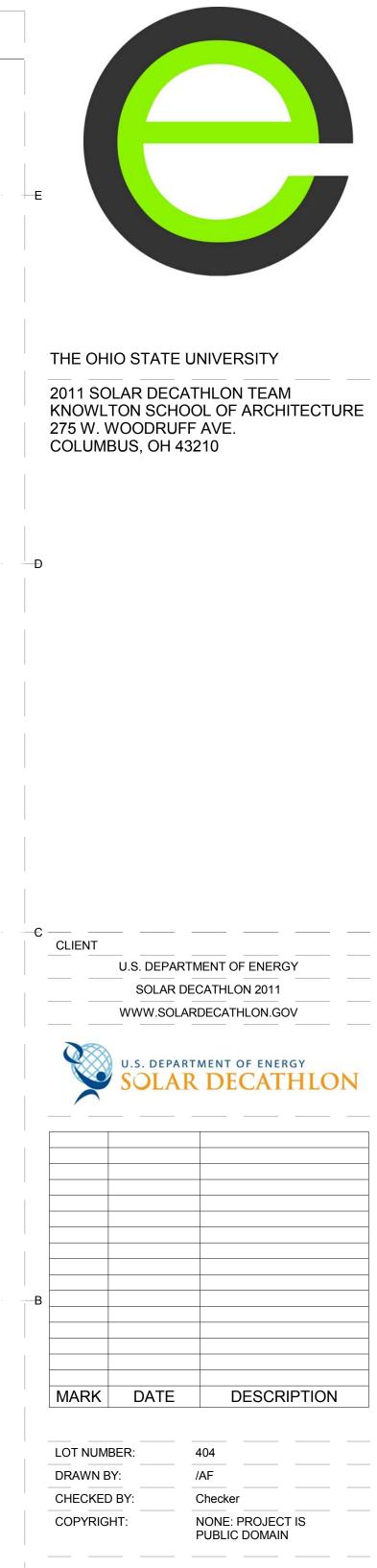
5

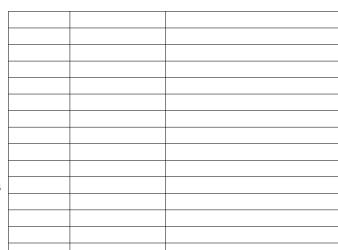
5



7

6



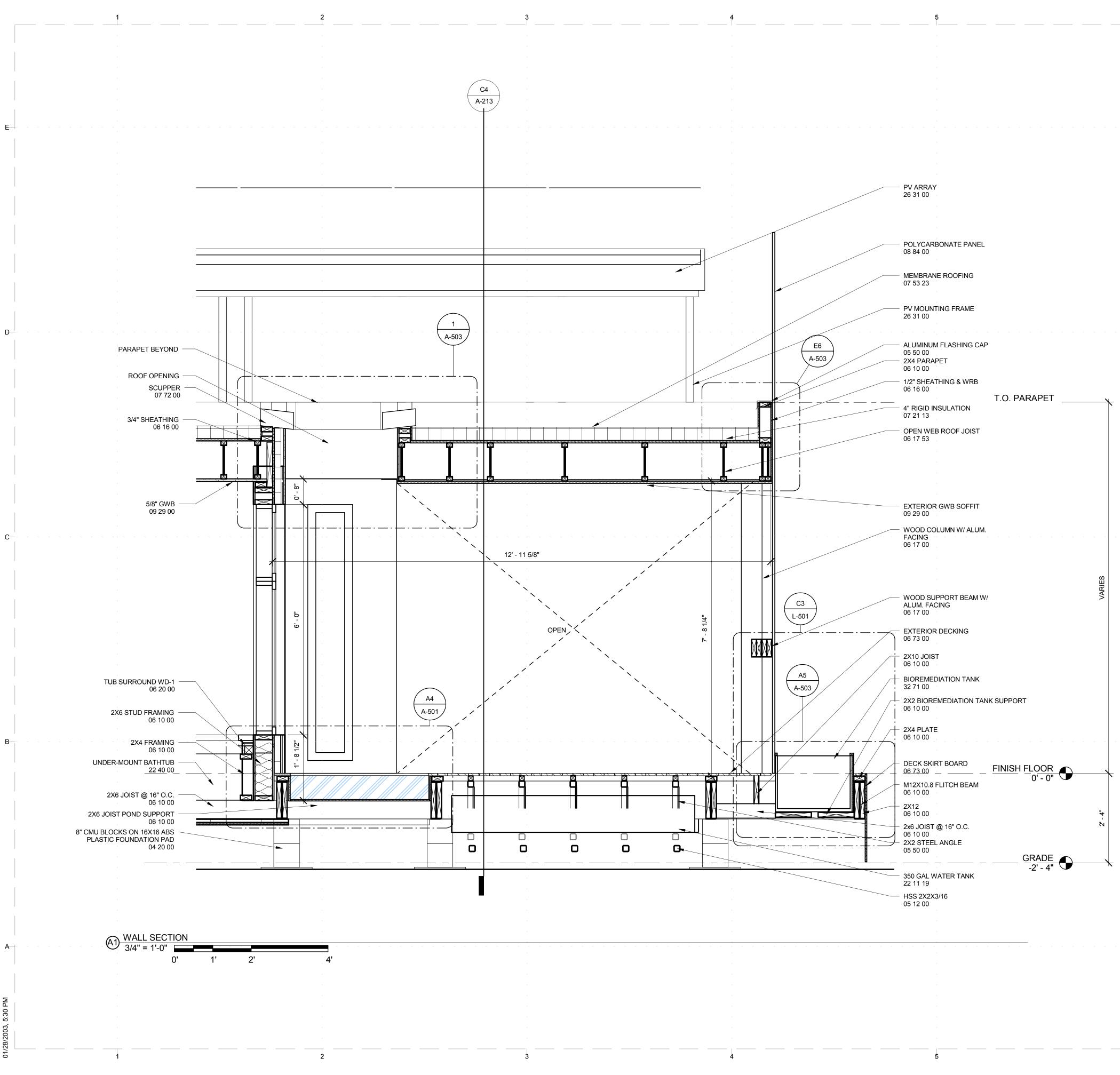


WALL SECTIONS -INTERIOR

A-313

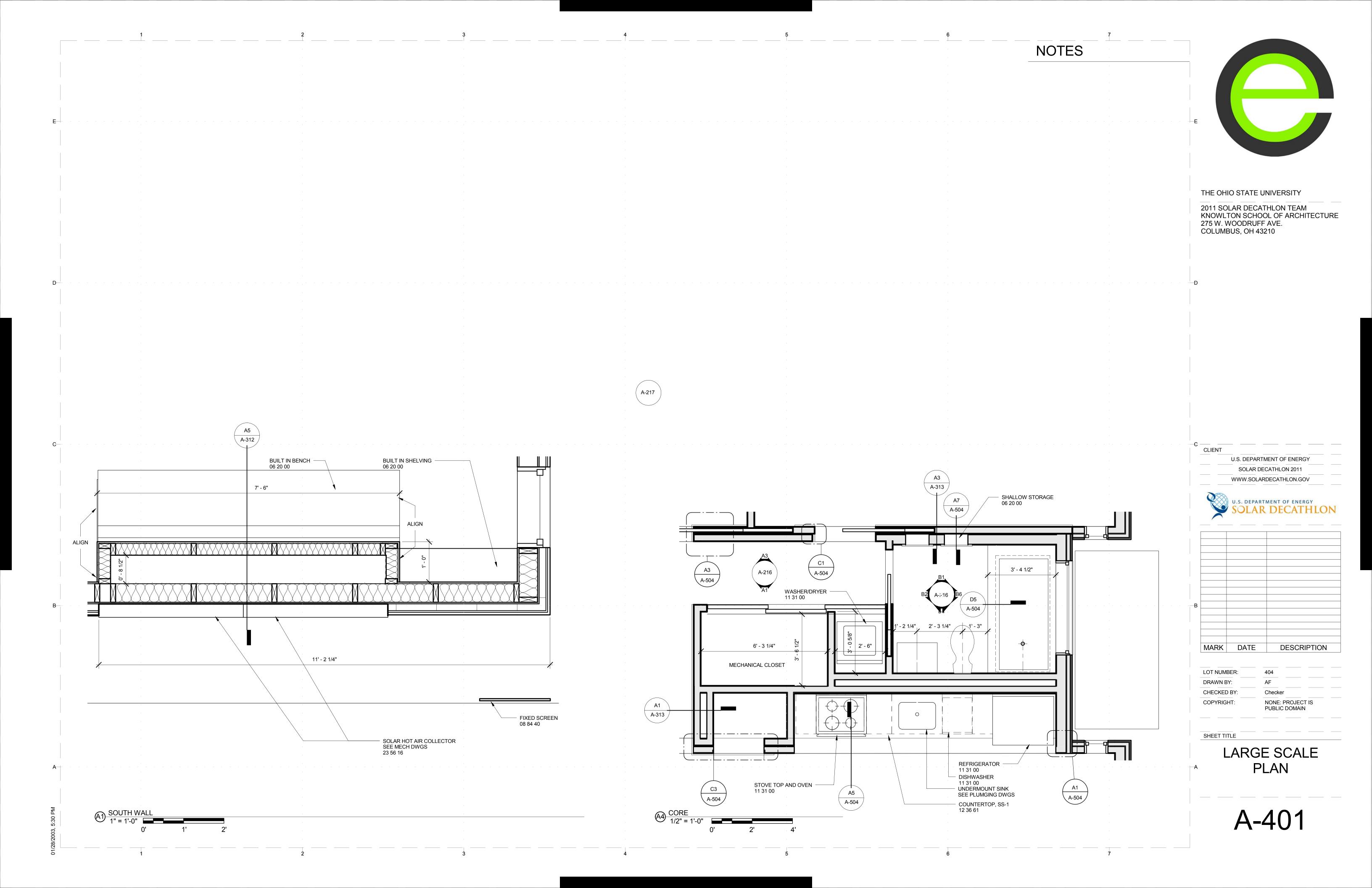
SHEET TITLE

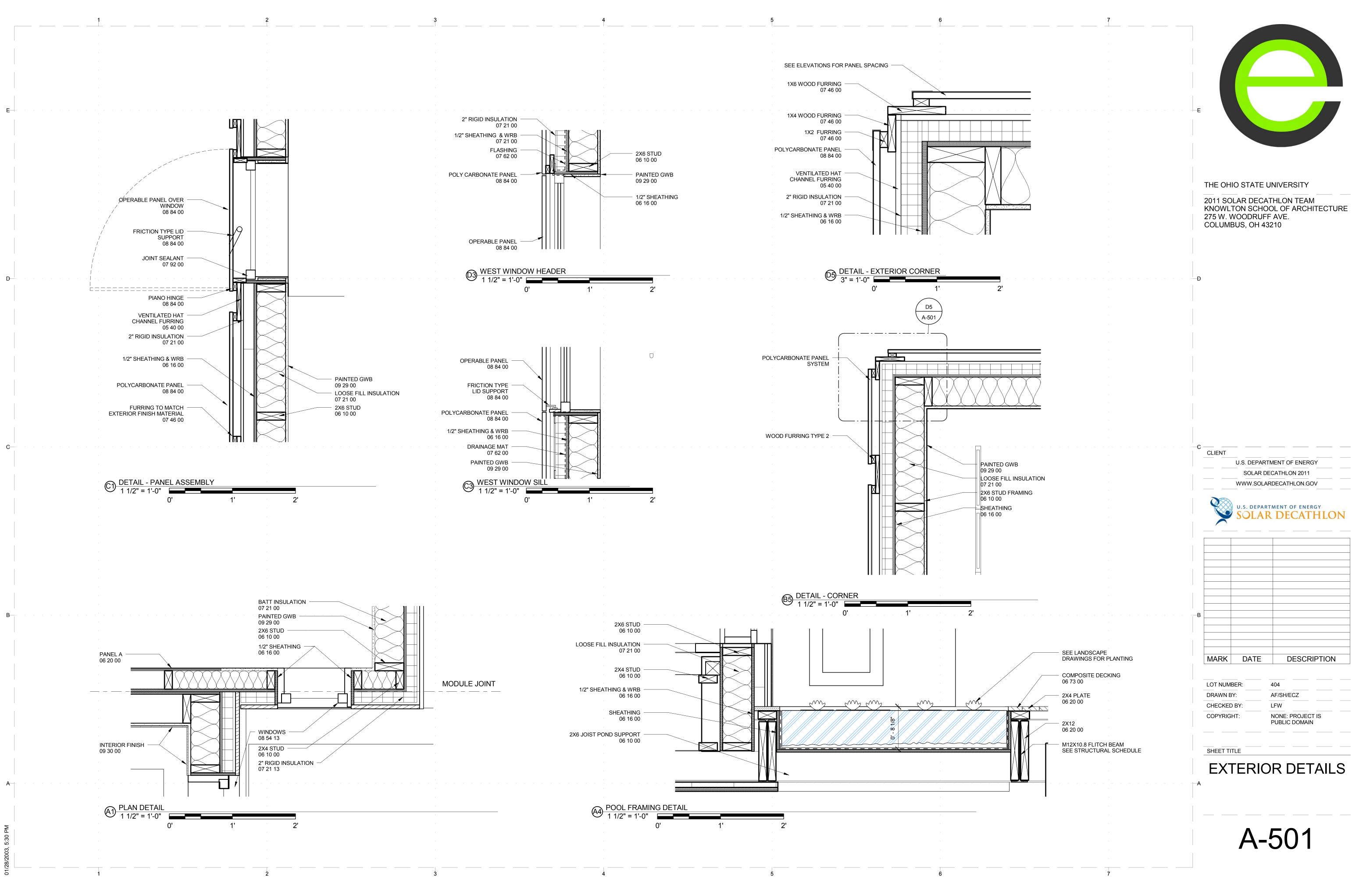
7

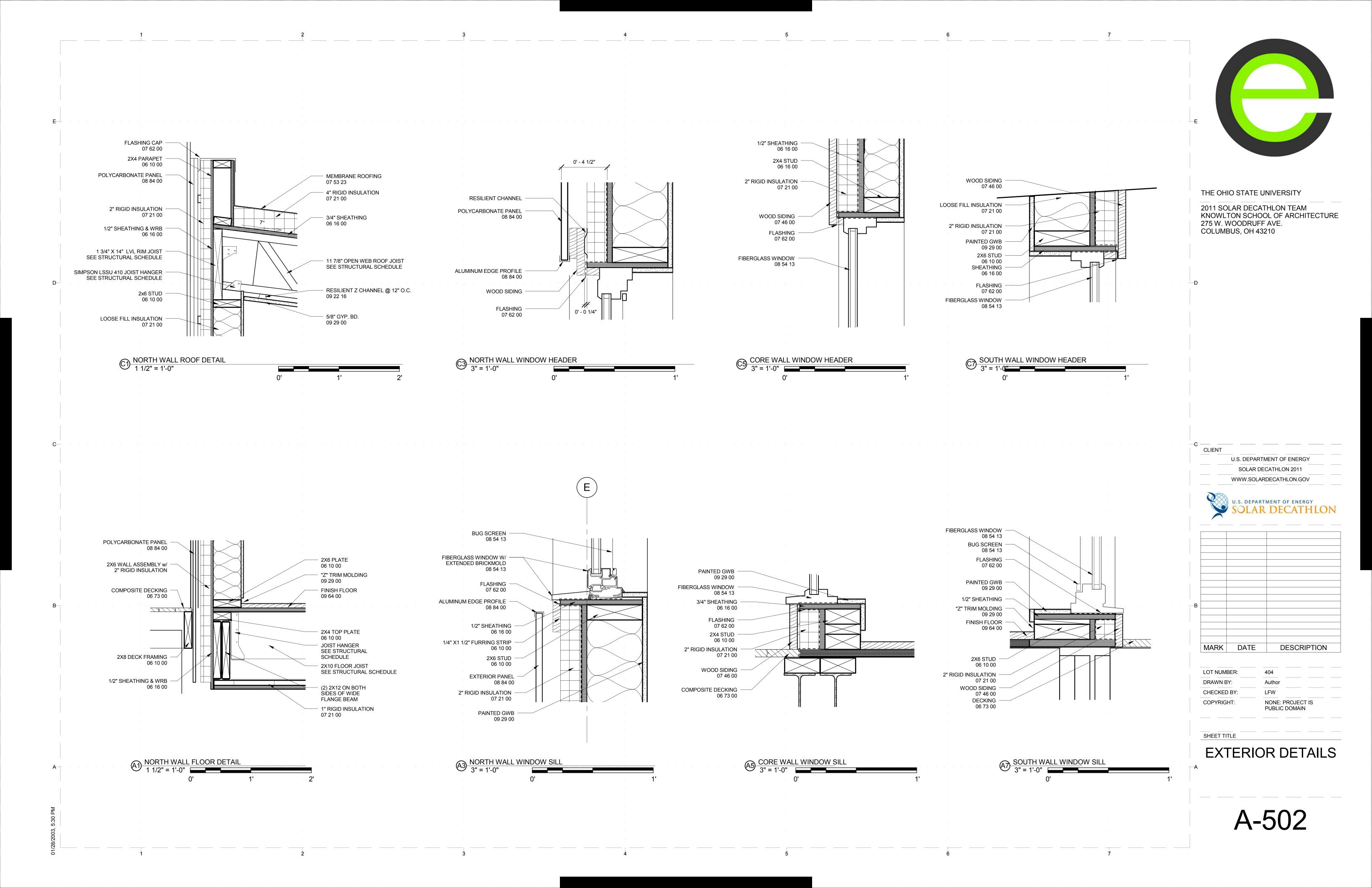


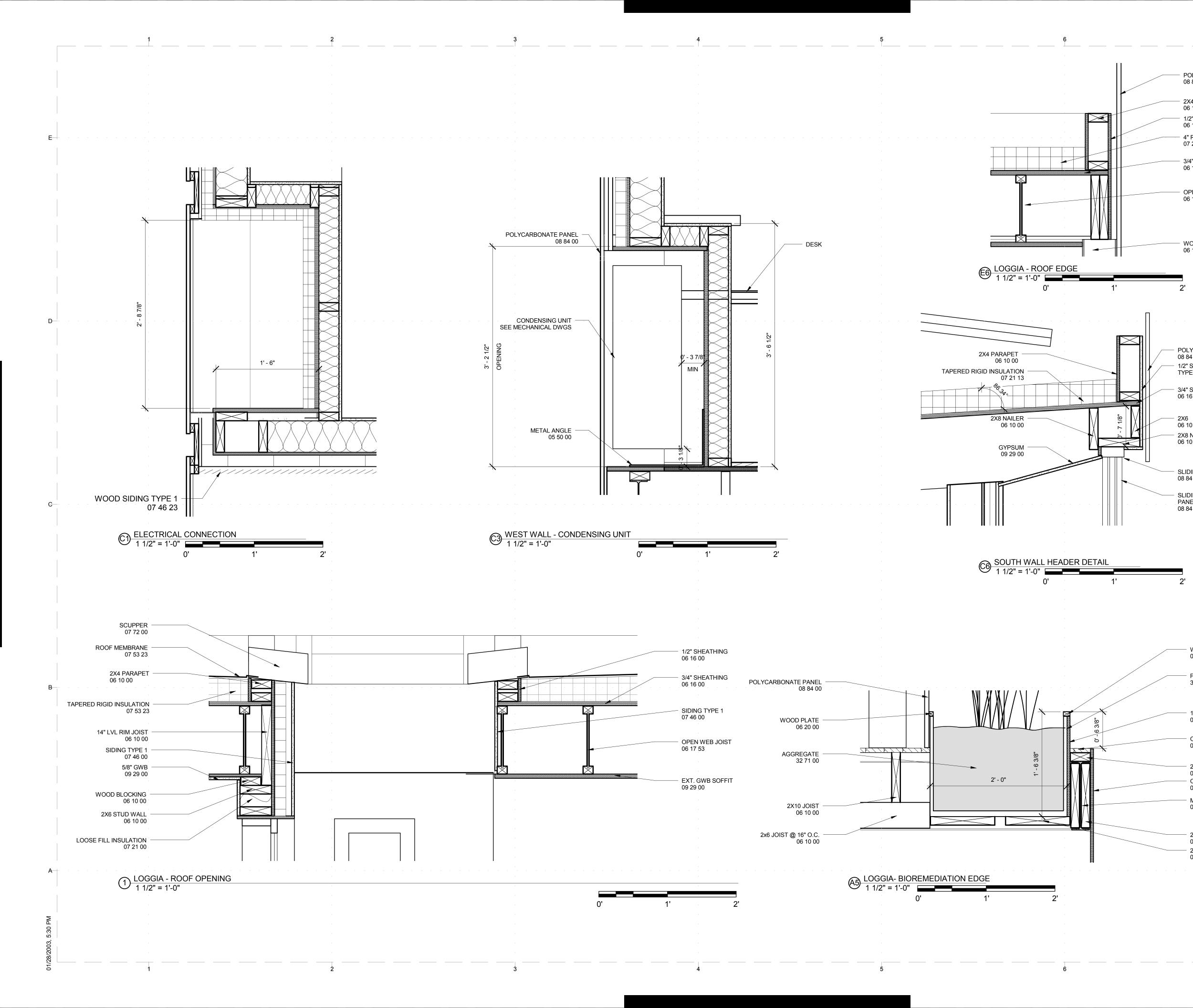












- 2X12 06 10 00 2X12 SUPPORT 06 10 00

- 2X4 PLATE 06 10 00 - COMPOSIT SKIRT BOARD 06 73 00 M12X10.8 FLITCH BEAM 05 12 00

COMPOSITE DECKING 06 73 00

- 1/2" SHEATHING 06 16 00

PLASTIC TANK
 32 71 00

- WOOD PLATE 06 20 00

SLIDING POLYCARBONATE PANEL 08 84 00

SLIDING SCREEN HARDWARE 08 84 00

- 2X6 06 10 00 2X8 NAILER
 06 10 00

3/4" SHEATHING
 06 16 00

08 84 00 1/2" SHEATHING W/ WOOD TYPE 2 REVEAL

POLYCARBONATE PANEL

WOOD COLUMN W/ ALUM. FACING

OPEN WEB JOIST 06 17 53

POLYCARBONATE PANEL 08 84 00

1/2" SHEATHING & WRB

4" RIGID INSULTATION

2X4 PARAPET 06 10 00

06 16 00

07 21 13

06 17 00

- 3/4" SHEATHING 06 16 00

7

E

-E

MARK

LOT NUMBER:

DRAWN BY:

CHECKED BY:

COPYRIGHT:

SHEET TITLE

DATE

404

ECZ

LFW

EXTERIOR DETAILS

A-503

NONE: PROJECT IS PUBLIC DOMAIN

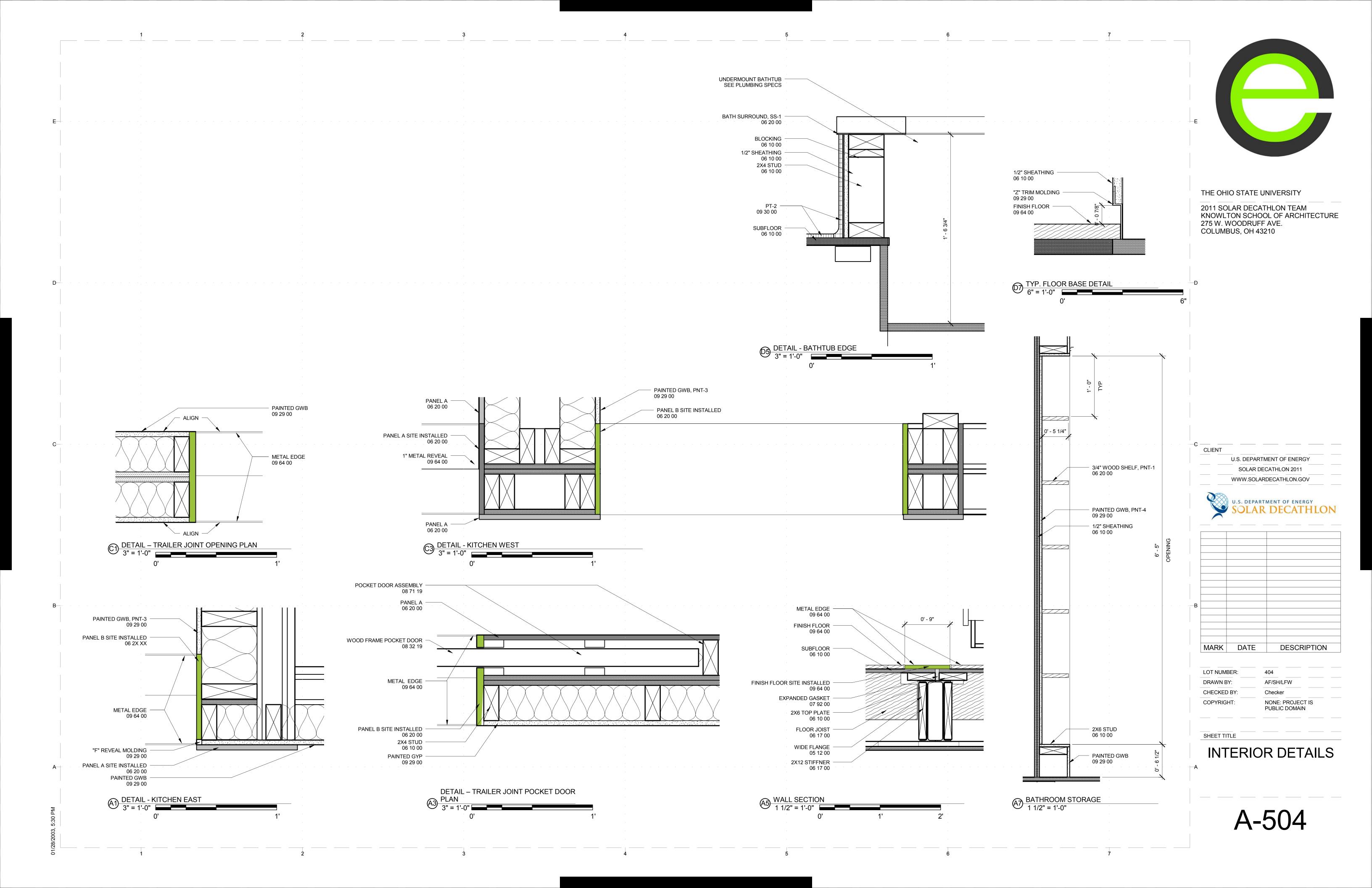
2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210

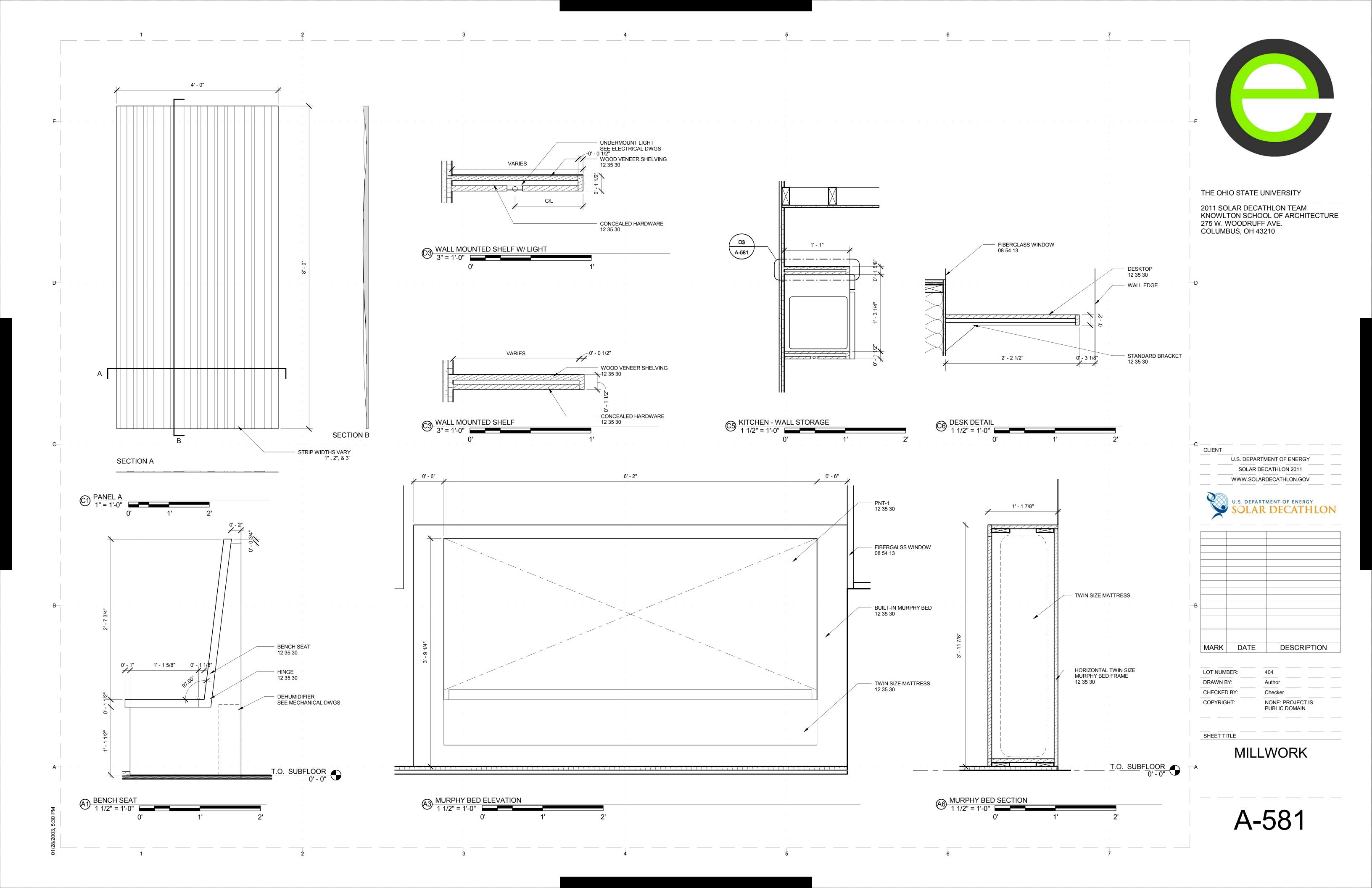
THE OHIO STATE UNIVERSITY

SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON

DESCRIPTION

CLIENT U.S. DEPARTMENT OF ENERGY





			R	OOM FINISH SCH	HEDULE			
ROOM #	ROOM NAME	FLOOR	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	CEILING	
100	LIVING/DINING/KITCHEN	FL-1	*SEE ELEV.	PNT-1	PNT-1	PNT-1	PNT-5	
101	OFFICE / HALL	FL-1	PNT-1	PNT-4	PNT-1	PNT-1	PNT-5	
102	MECH. RM.	CT-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-5	
103	LAUNDRY	CT-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-5	
104	BATH	PT-2	*SEE ELEV.	CT-2	CT-2	PNT-2	PNT-5	
105	BEDROOM / DEN	FL-1	PNT-1	*SEE ELEV.	PNT-1	PNT-1	PNT-5	
106	MASTER BEDROOM	FL-1	PNT-1	PNT-1	*SEE ELEV	PNT-1	PNT-5	

FINISHES

1

WALL/CEILING

PNT-1 BASIC - PERIMETER WALLS MFG: OLYMPIC PREMIUM COLOR: CRUMB COOKIE FINISH: SATIN

PNT-2 ACCENT - BATHROOM MFG: OLYMPIC PREMIUM KITCHEN/BATH COLOR: BY ARCHITECT EINISH: SATIN FINISH: SATIN

PNT-3 ACCENT - KITCHEN MFG: OLYMPIC PREMIUM KITCHEN/BATH COLOR: BY ARCHITECT FINISH: SATIN

PNT-4 ACCENT - CORE MFG: OLYMPIC PREMIUM COLOR: BY ARCHITECT FINISH: SEMI-GLOSS

PNT-5 CEILING MFG: OLYMPIC PREMIUM CEILING PAINT COLOR: CEILING WHITE FINISH: FLAT

TILE - 2 MOSAIC BATHROOM TILE MFG: JEFFRY COURT TYPE: GLASS MOSAIC SIZE: 12"X12" TILE COLOR: GLACIER ICE bRICK

TILE - 3 MOSAIC KITCHEN TILE MFG: JEFFRY COURT TYPE: GLASS MOSAIC SIZE: 12"X12" TILE COLOR: GLACIER ICE bRICK

1

FLOOR

FL-1 HARDWOOD WOOD MFG: SOMERSET TYPE: 3/4" HARDWOOD FLOORING SIZE: 5"X 1/2" RANDOM LENGHTS COLOR: MAPLE NATURAL

CT-1 MAT FLOORING MFG: 2X2 LINKING MAT w/GREY EDGES TYPE: LINKING MAT SIZE: 24"X24" COLOR: GREY

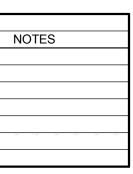
PT-2 PORCELAIN TILE MFG: AMERICAN OLEAN TYPE: PORCELAIN SIZE: 4"X24" COLOR: BY ARCHITECT

OTHER

PP-1 PLASTIC PANEL MFG: 3-FORM TYPE: VARIA ECORESIN COLOR: WHITE OUT

SS-1 KITCHEN AND BATHROOM COUNTERS MFG: PAPERSTONE TYPE: 1 1/4" SOLID SURFACE COLOR: GUNMETAL

3



4

3

												2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECT 275 W. WOODRUFF AVE.	JRE
						SCHEDULE						COLUMBUS, OH 43210	
MARK	DESCRIPTIC	JN	WIDTH	HEIGHT	OPERATION	INFILL	MANUFA	ACTURER	HARDWA	ARE COMMENTS	COUNT		
Α	ENTRY, FULL LITE		3' - 0"		SWING LEFT	GLD-1	PRO VIA	A	SLEDGE	EXTERIOR	1		
B	ENTRY, FULL LITE		3' - 0"		SWING LEFT	GLD-2			SLEDGE		1	D	
D	POCKET, BATH POCKET, MASTER	BDRM	2' - 9" - 3' - 1"	7' - 0" 7' - 0"	POCKET POCKET	SPEC 08 32 19 SPEC 08 32 19	CUSTON CUSTON		JOHNSON		1		
E	POCKET, BDRM		5' - 1"	7' - 0"	POCKET	SPEC 08 32 19	CUSTON		JOHNSON		1		
F	SOLID CORE, MEC		3' - 0"		SLIDING	NA	TBD		JOHNSON		3		
G	SOLID CORE, PAN	TRY	2' - 6"	6' - 8"	SWING LEFT	NA	TBD		JOHNSON	INTERIOR	1		
			1		WINDOW	SCHEDULE							
MARK	DESCRIPTION	HEIGHT	WIDTH	LOCATIO		MANUFACTUR	ER M		HEAD EIGHT	COMMENTS	COUNT		
1	CASEMENT	<u>4' 0"</u>	2' 4"	EAST)5 7 '	0" EC		1		
2	CASEMENT CASEMENT	4' - 0" 4' - 0"	2' - 4" 2' - 0"	EAST EAST	GLW-2 GLW-2	SERIOUS WINDOW			- 0" EG - 0"	RESS WINDOW	1		
3	FIXED	4' - 0"	4' - 8"	EAST	GLW-5	SERIOUS WINDOV	VS 92	25 5' -	- 0" TE	MPERED	1		
4	AWNING	2' - 0"	4' - 8"	EAST	GLW-1	SERIOUS WINDOV			- 0"		1		
<u> 5 </u>	SINGLE HUNG	<u> </u>	2' - 0" 2' - 0"	WEST WEST	GLW-3 GLW-3	SERIOUS WINDOV	1		0" - 0"TE	MPERED	<u> </u>	CLIENT	
7	AWNING	2' - 0"	3' - 0"	SOUTH	GLW-3	SERIOUS WINDOV				MPERED	3	U.S. DEPARTMENT OF ENERGY	
8	FIXED	5' - 9"	3' - 0"	SOUTH	GLW-1	SERIOUS WINDOV				MPERED	3	SOLAR DECATHLON 2011	
9	FIXED AWNING	4' - 8" 2' - 0"	2' - 0" 2' - 0"	EAST	GLW-4	SERIOUS WINDOV			- 0" TE - 0"	MPERED	2	WWW.SOLARDECATHLON.GOV	
10	FIXED	2 - 0 6' - 8"	2 - 0	EAST NORTH	GLW-2 GLW-2	SERIOUS WINDOV				MPERED	2		
12	FIXED	6' - 8"	1' - 2"	SOUTH	GLW-1	SERIOUS WINDOV				MPERED	1	U.S. DEPARTMENT OF ENERGY	N
MEETS	S WINDOW IRC REMENTS	4, - 0" 4'- 0"	4			2' - 8" - 4' - 0" → - 0 → - 0	2 ⁻ - 0"	8	4'-8"	9 a a a a a a a a a a a a a a a a a a a	11/12	B A A A A A A A A A A A A A A A A A A A	
EXTERIC	OR DOORS	INTERIOR	DOORS									LOT NUMBER:404DRAWN BY:AF	
				FRAME 9		OOD FRAME 32 19		WOOD FF 08 32 19		$\leftarrow - \rightarrow$		CHECKED BY: Checker Checker COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN	
		<u> </u>										SHEET TITLE	
		g N	PP-1 08 32 1	9		P-1 32 19		+ PP-1 08 32 19				SCHEDULES	
A	B		<u>└</u>	IM CHANNEL] ALUMINUM CH 18 32 19	HANNEL	F	G	A	
	W / DOOR TYPES						1 1						
1/4" = 1	0' 2' 4'												
	-	-										A-601	
			5				6				7		
			-										

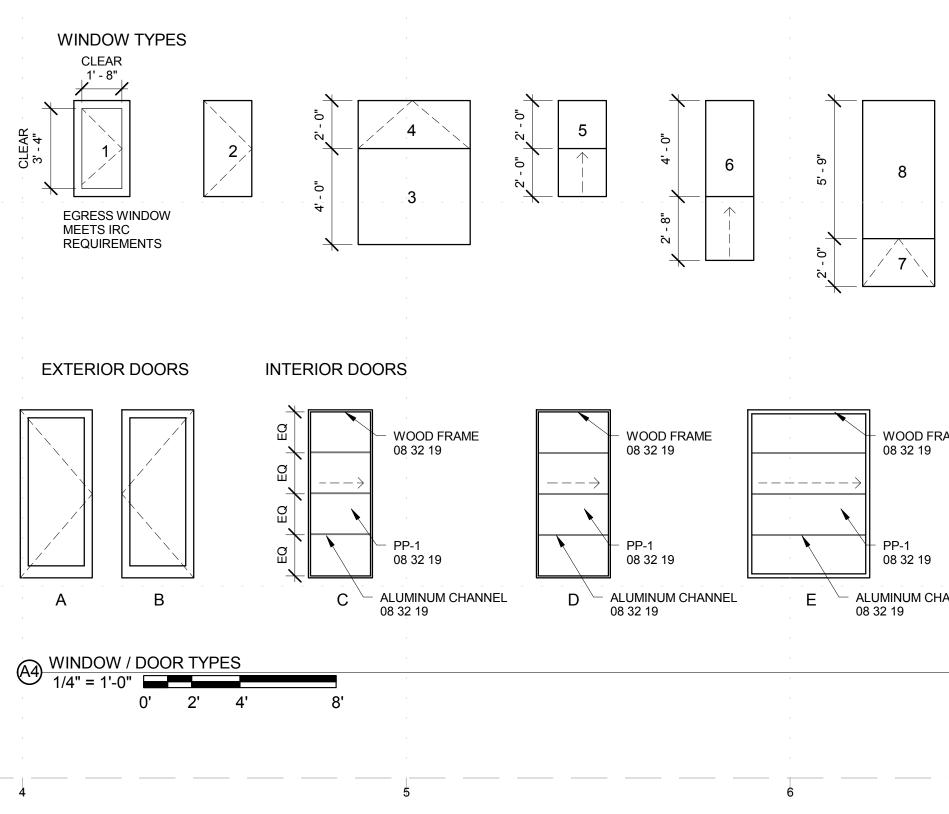
6

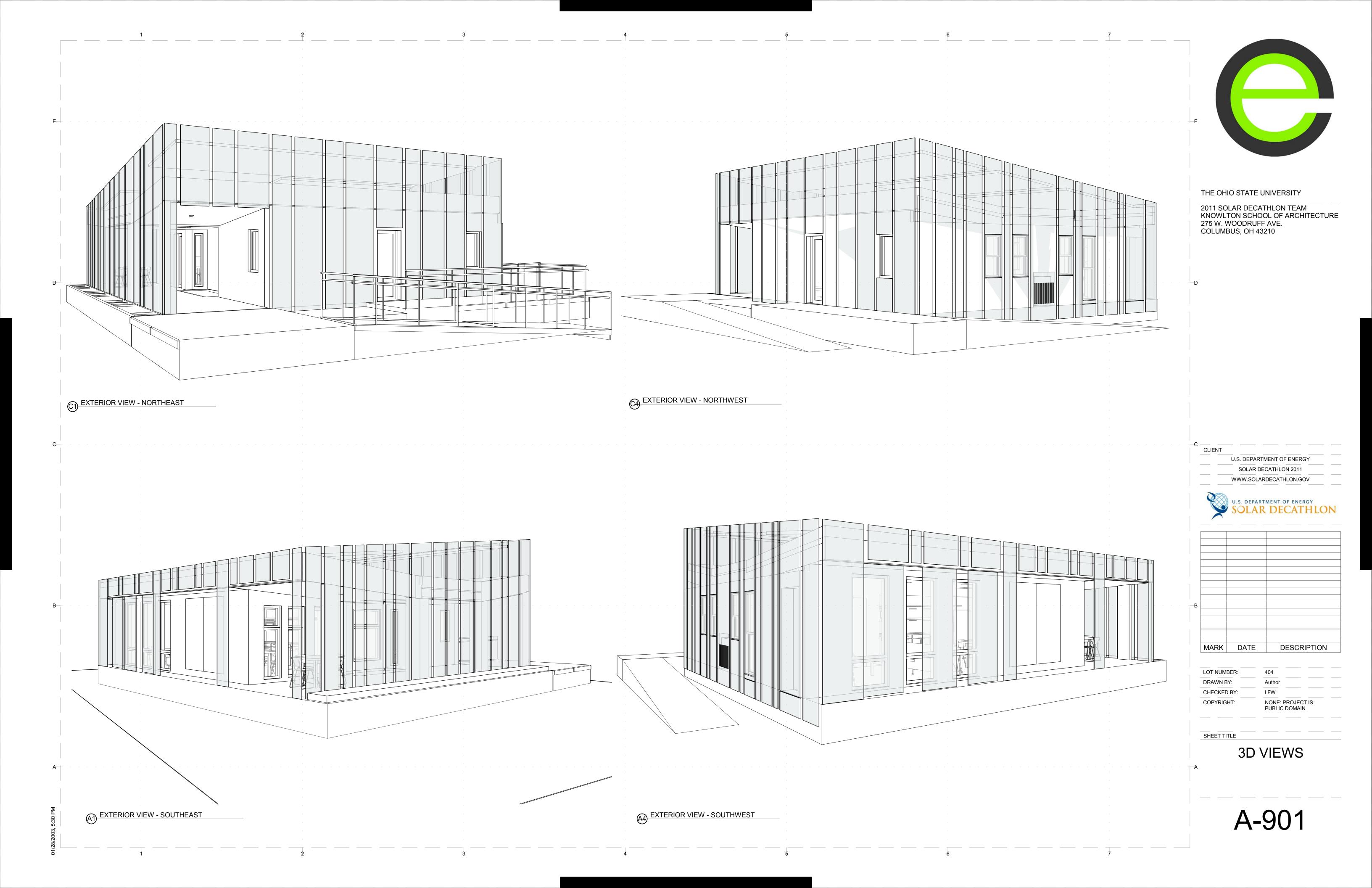
7

E

THE OHIO STATE UNIVERSITY

MARK	DESCRIPTIO	N	WIDTH	HEIGHT	OPERATION	INFILL	MANUFACTUR	ER HARDWARE	COMMENTS	COUNT			
A	ENTRY, FULL LITE		3' - 0"	7' - 0"	SWING LEFT	GLD-1	PRO VIA	SLEDGE	EXTERIOR	1			
B	ENTRY, FULL LITE		3' - 0"	7' - 0"	SWING LEFT	GLD-2	PRO VIA	SLEDGE	EXTERIOR	1			
• C •	POCKET, BATH		2' - 9"	· 7' - °0" · ·	POCKET	SPEC 08 32 19	CUSTOM	JOHNSON	INTERIOR ^a	- 1		Đ	
D	POCKET, MASTER	BDRM	3' - 1"	7' - 0"	POCKET	SPEC 08 32 19	CUSTOM	JOHNSON	INTERIOR	1			
E	POCKET, BDRM		5' - 1"	7' - 0"	POCKET	SPEC 08 32 19	CUSTOM	JOHNSON		1			
F G	SOLID CORE, MECH SOLID CORE, PANT		3' - 0" 2' - 6"	7' - 0" 6' - 8"	SLIDING SWING LEFT	NA NA	TBD TBD	JOHNSON JOHNSON	INTERIOR INTERIOR	3			
G	SOLID CORE, FANT		2 - 0	0-0	SWING LEFT	INA		JOHNSON	INTERIOR	I			
MARK		HEIGHT	WIDTH	LOCATIC		SCHEDULE	ER MODEL	HEAD HEIGHT C	OMMENTS	COUNT			
1	CASEMENT	4' - 0"	2' - 4"	EAST		SERIOUS WINDOW	VS 925	7' - 0" EGRE	SS WINDOW	1			
2	CASEMENT	4' - 0"	2' - 0"	EAST	GLW-2	SERIOUS WINDOW		7' - 0"		1			
3	FIXED	4' - 0"	4' - 8"	EAST		SERIOUS WINDOW			ERED	1			
4	AWNING SINGLE HUNG	2' - 0" 4' - 0"	4' - 8" 2' - 0"	EAST WEST		SERIOUS WINDOW	1	7' - 0" 7' - 0"		1 3			
6 <u>5</u>	SINGLE HUNG	<u> 4 </u>	2' - 0"	WEST		SERIOUS WINDOW			ERED	1		CLIENT	
7	AWNING	2' - 0"	3' - 0"	SOUTH		SERIOUS WINDOW			ERED	3			ARTMENT OF ENERGY
8	FIXED	5' - 9"	3' - 0"	SOUTH		SERIOUS WINDOW			ERED	3		SOLAF	R DECATHLON 2011
9	FIXED	4' - 8"	2' - 0"	EAST		SERIOUS WINDOW			ERED	2		WWW.SC	LARDECATHLON.GOV
10	AWNING	2' - 0"	2' - 0"	EAST		SERIOUS WINDOW		7' - 0"		2			
11	FIXED FIXED	6' - 8" 6' - 8"	1' - 2" 1' - 2"	NORTH SOUTH		SERIOUS WINDOW		7' - 0" TEMP 7' - 0" TEMP		1		U.S. DEP	ARTMENT OF ENERGY
CLEA 1'-8 1 1 1 1 1 1 EGRESS MEETS REQUIR	8" 2 2 S WINDOW IRC REMENTS	4'-0" 2'-0"	4	2' - 0'' 2' - 0''	5		8 io - - - - - - - - - - 7	4, - 8, - 2, -0,	9	11/12		B MARK DATE	
EXTERIC	DR DOORS		DOORS				1					DRAWN BY:	AF Checker
			- → WOOD 08 32 19			DOD FRAME	₩00 08 32	D FRAME 19 ←-	$- \rightarrow$			COPYRIGHT:	NONE: PROJECT IS PUBLIC DOMAIN
		a a			X							SHEET TITLE	
		a V	PP-1		PP		PP-1						IEDULES
		ű, L	08 32 19	9	08	32 19	08 32	19					
A	В	C	ALUMINUI 08 32 19	M CHANNEL	D ALUM 08 32	IINUM CHANNEL 19	E ALUMINUM 08 32 19	M CHANNEL F	:	G		A	
	W / DOOR TYPES '-0"	8'					· · · · · · · · · · · · · · · · · · ·						-601
			5				δ			7	· ·	1	

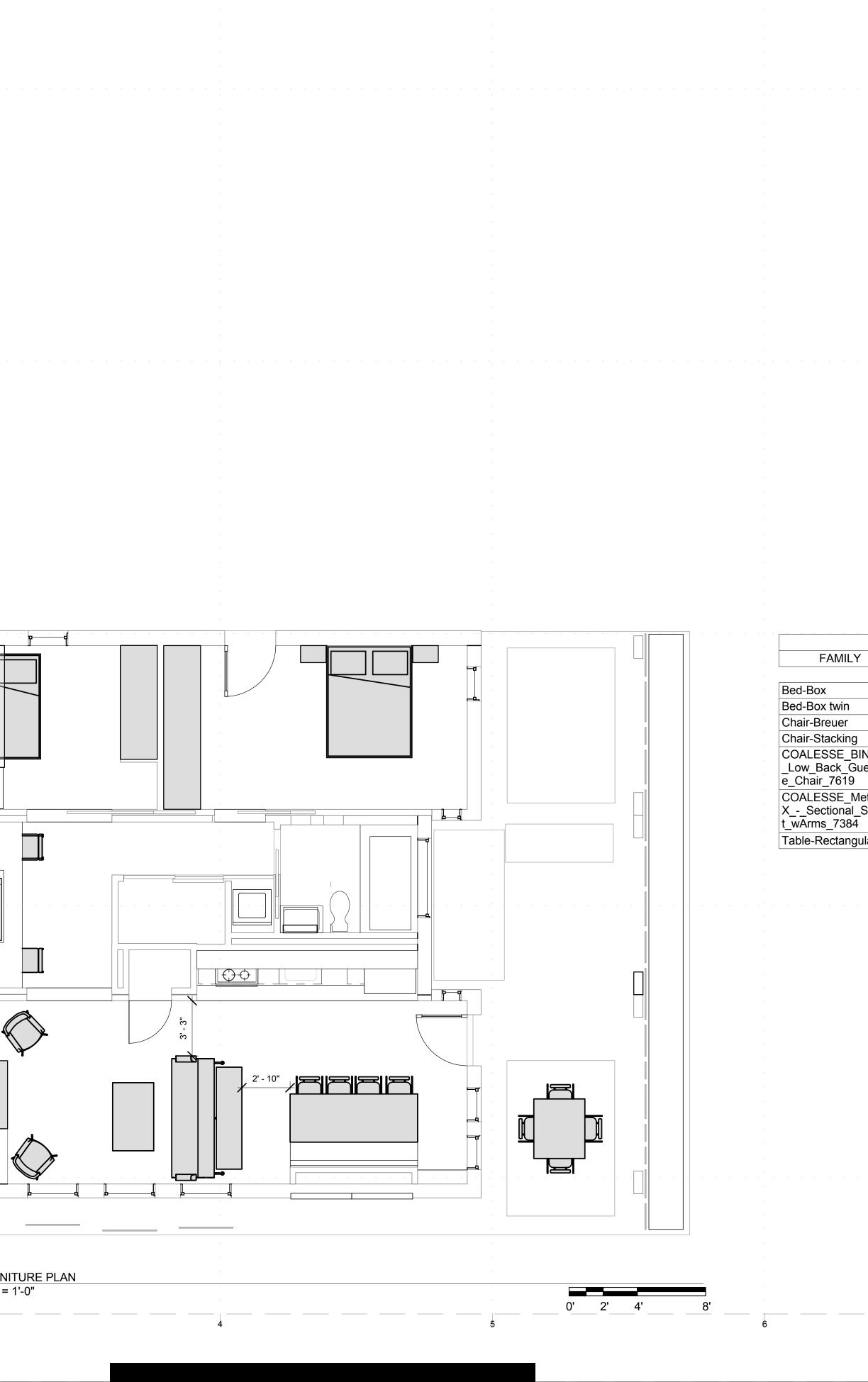








		2	3
B A A A A A A A A A A A A A A A A A A A		2	



4

NOTES

7

6

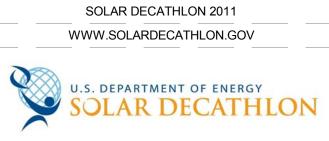
THE OHIO STATE UNIVERSITY

E

2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210

FL	JRNITURE S	CHEDULE
•	COUNT	COMMENTS
	1	
	1	
	3	
	9	
INDU uestSid	2	
etro_BI Straigh	1	
ular	4	

7



404 AF, LFW

LFW

FURNITURE PLAN

I-111

NONE: PROJECT IS PUBLIC DOMAIN

U.S. DEPARTMENT OF ENERGY

CLIENT

MARK DATE

LOT NUMBER:

CHECKED BY:

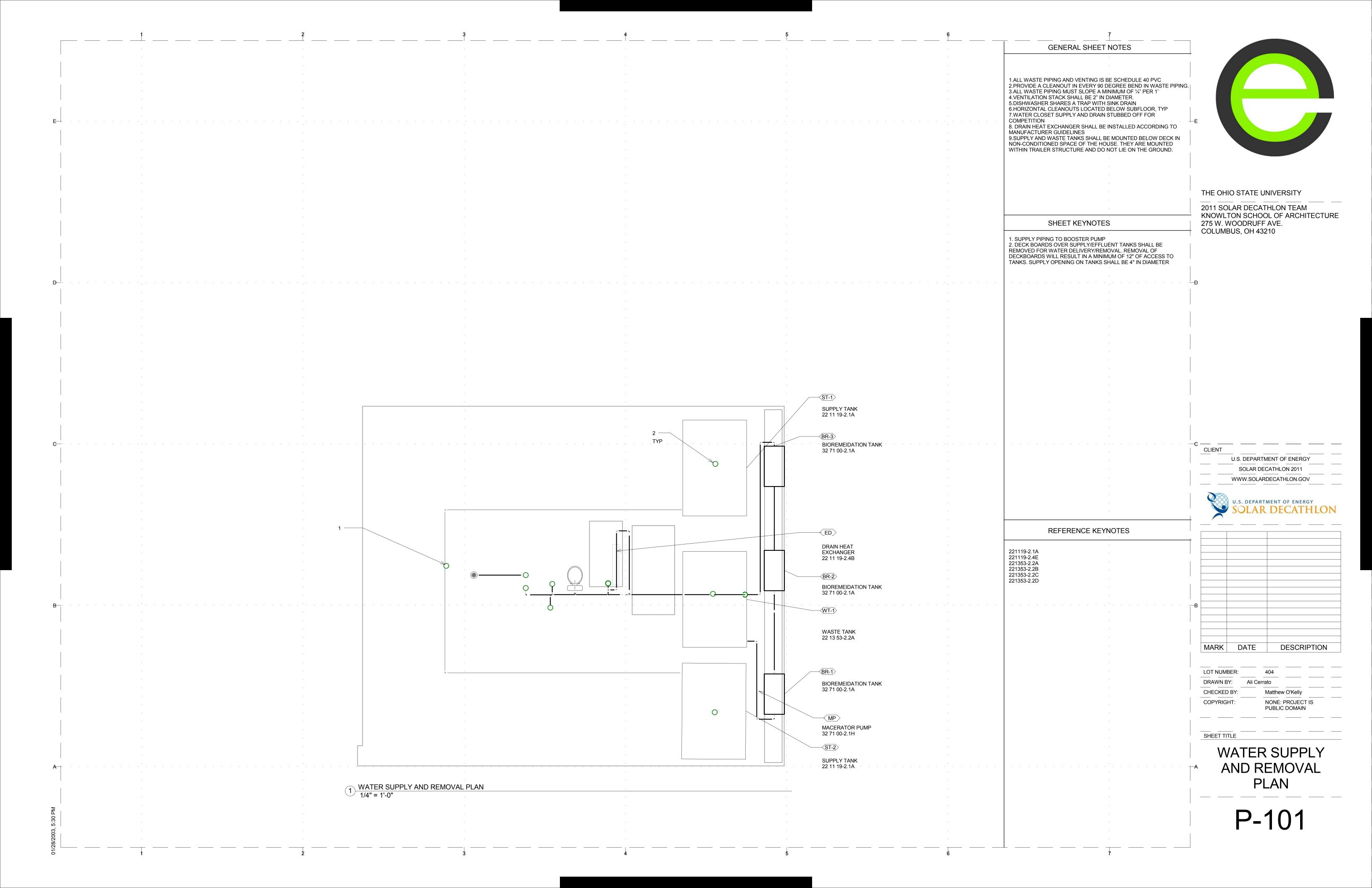
DRAWN BY:

COPYRIGHT:

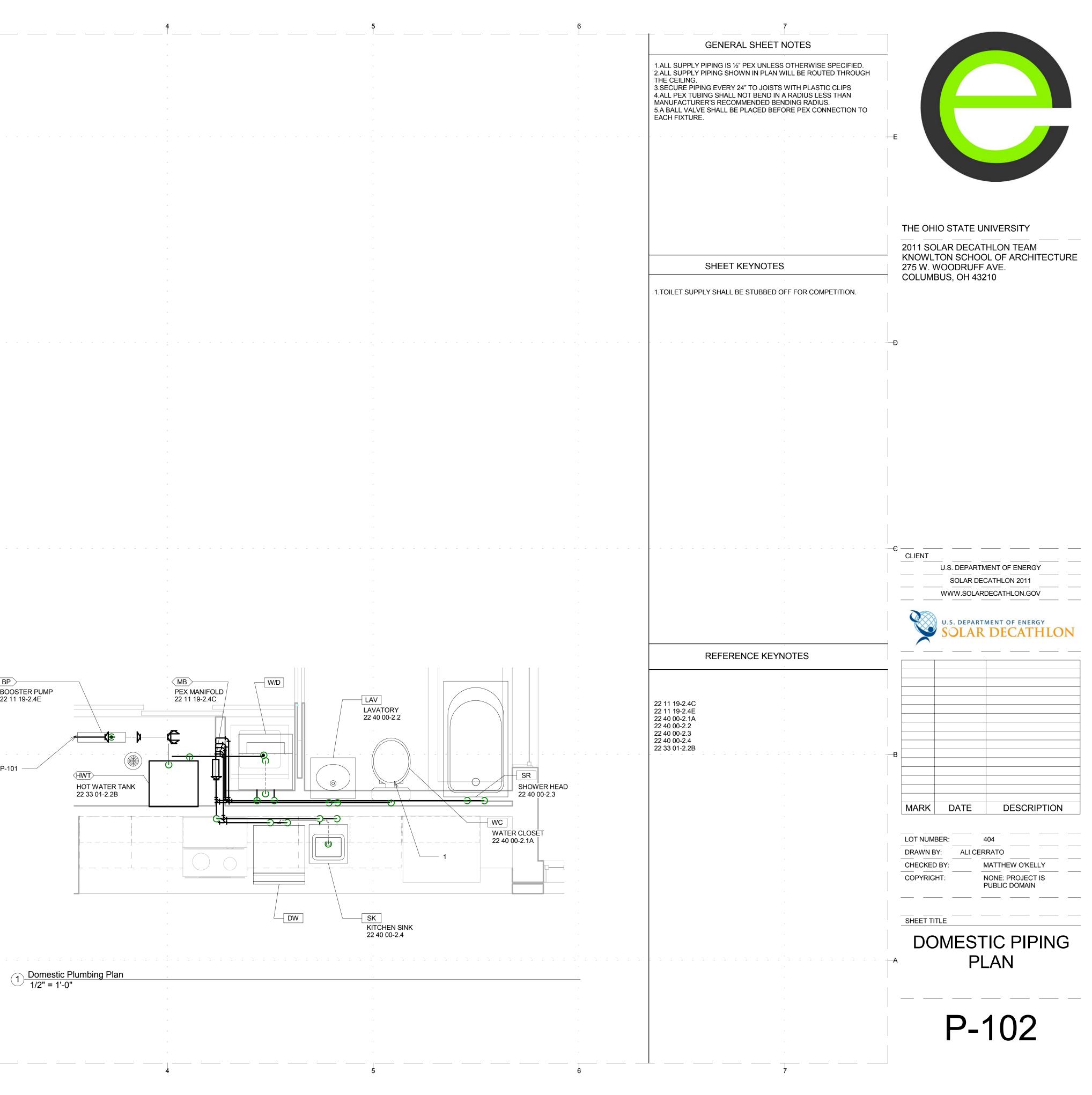
SHEET TITLE

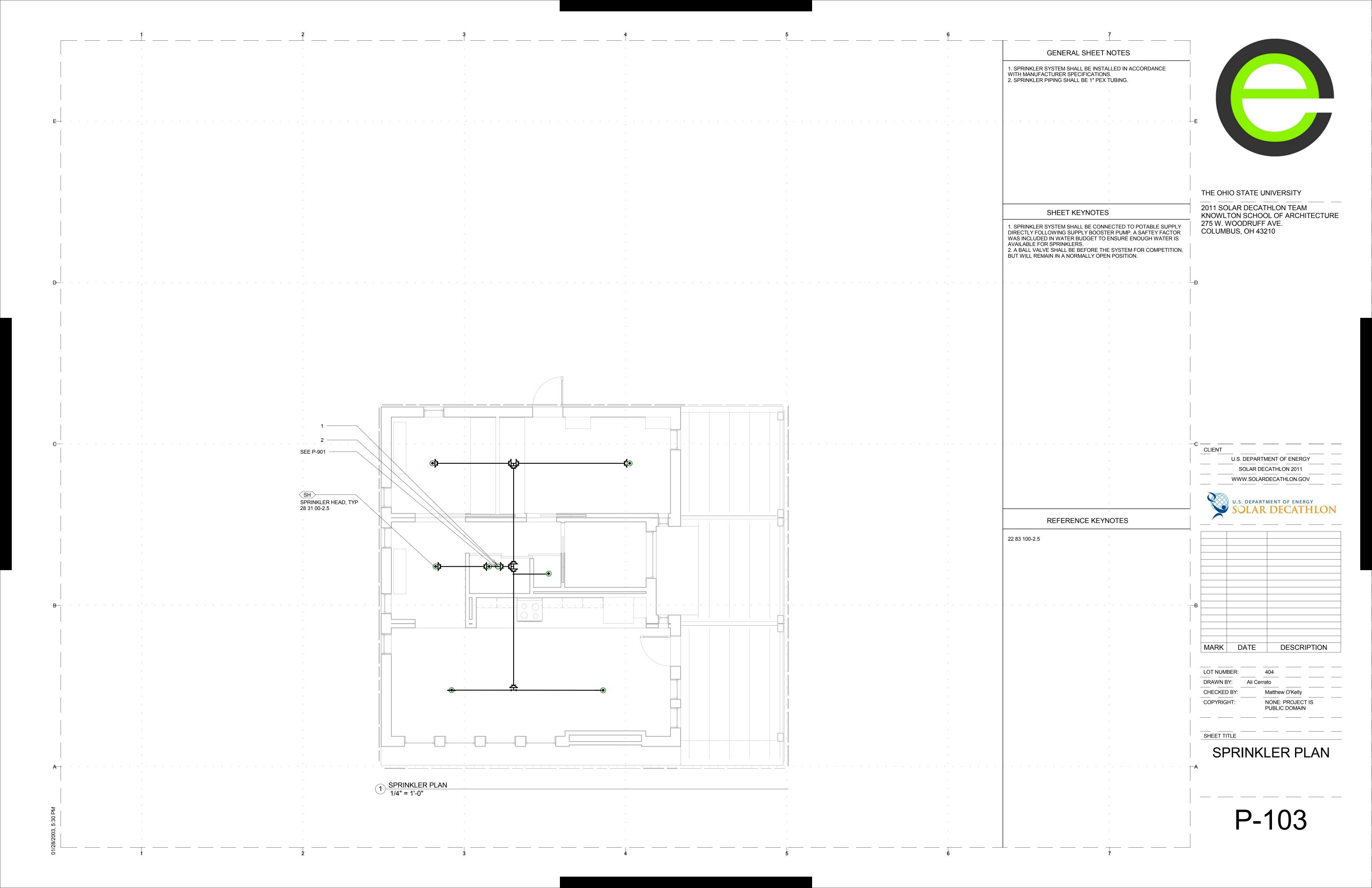


DESCRIPTION

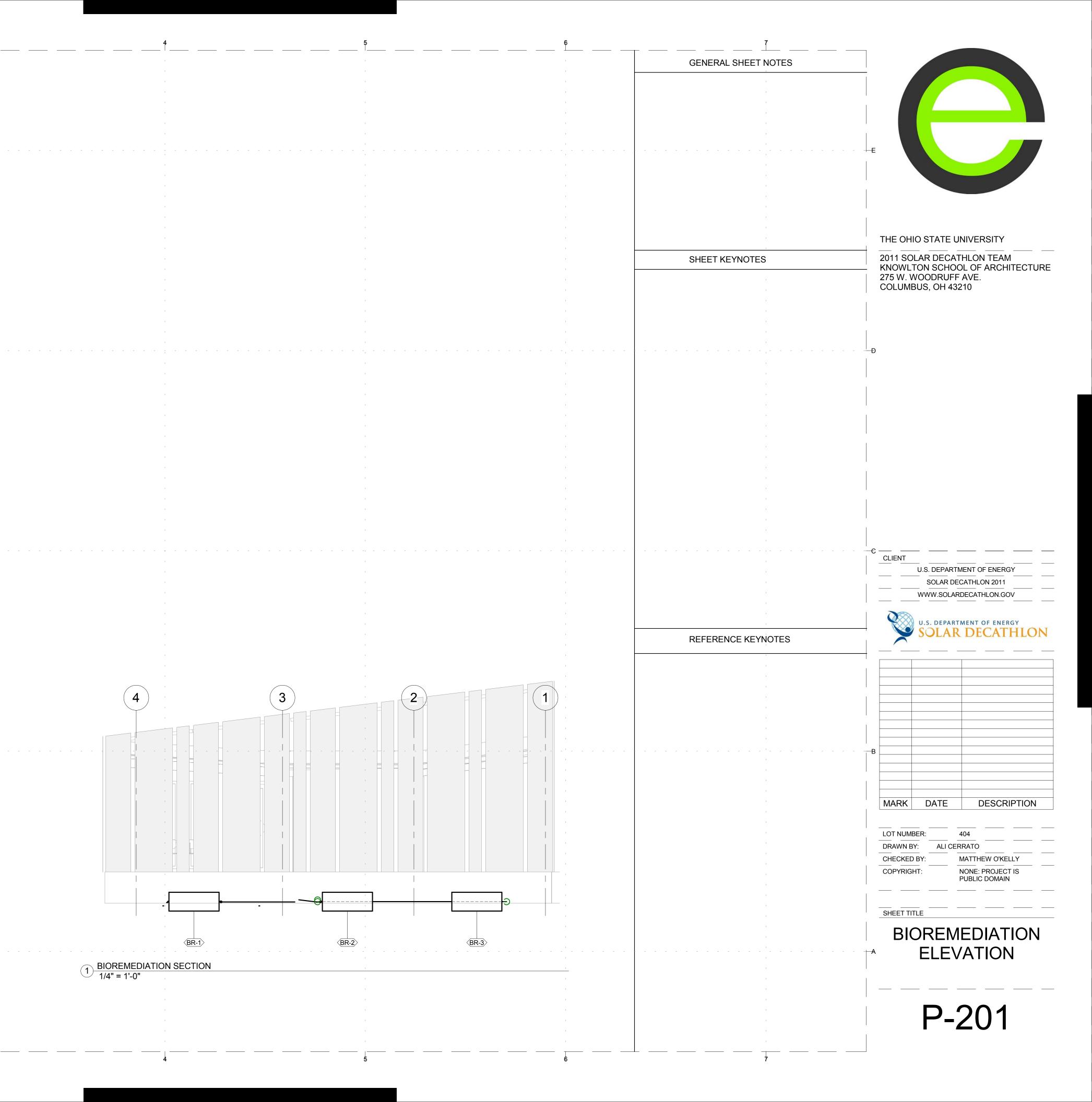


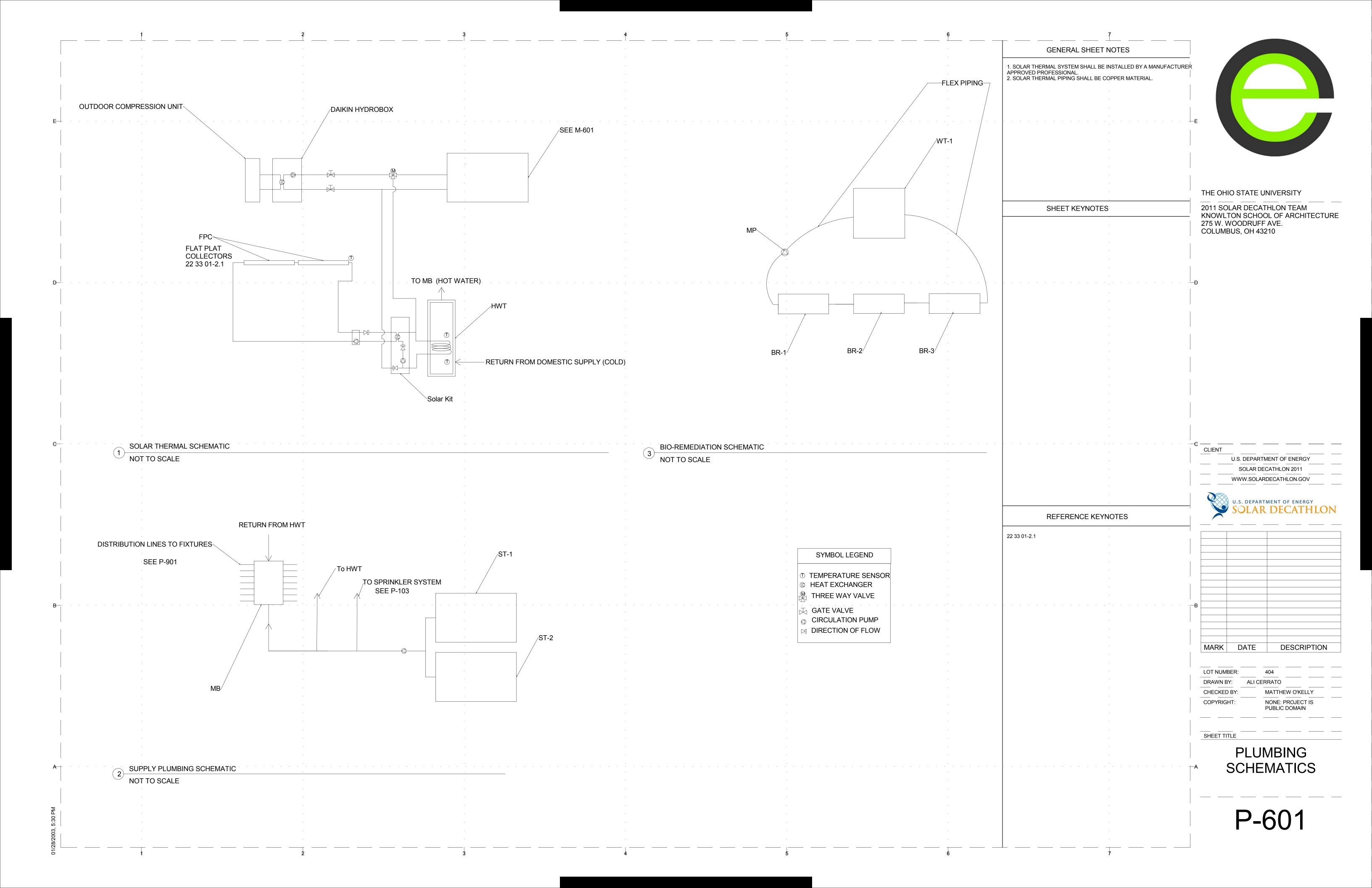
555		01/28/2003, 5:30 PM	в-	C	E	
	199 	-	-			
		-	-		-	
		-			-	
στ					-	
		1	1			1
Sec.		-			-	
SE	ت				-	
и и и и и и и и и и и и и и и и и и и	****					
	۲۵۵ ۲۵۵ ۲۵۵ ۲۵۵ ۲۵۵ ۲۵۵ ۲۵۵ ۲۵۵ ۲۵۵ ۲۵۵					
		-	-			
Sec.	SEE P 1	-	_		-	
SF	ERI SEEM		-	-	_	
Str	SEC P 1	-	-			
se	Caracteria and a second		-		-	
νει	SEE M	-	_		-	
SFF	SET MI	-	_		-	
SEE	/res mon 22 SEE P-1	-	-			
se	SEE*1	-	_			
SE	SEL 11	-				
SE	SEE P-1	-				
S	SEE P-1					
se	GPP BO2 22 SEE PA	, , , ,	1			1
se	SEE P-1	-			-	
SEE	SEE P-1	-			-	
see	EP 22 SEE P-1	-				
SEE	SEE P1	-	_			
se	SEE P-1	-	_	_	-	
SEE	(BP BO 22 SEE P-1		_		-	
SEE	EP BO 22 SEE P41	-	-		-	
SEE	BP BO 27 SEE P-1					_
SEE	BP BO 21 SEE P-1					
SEE	BP BO 22 SEE P-1		-			
SEE	BP BO 22 SEE P-1	-	_		-	
SEE	BP BO(22'		-			
SEE	EP BO 22	-	-		-	
SEE	BP BOO 22 1		-		-	
SEE	BP BO 22	_			-	
	BP BO 22					
	BP BOO 22	· · · · · · · · · · · · · · · · · · ·	1			
	BP BO 22	-			-	
-	BO0 22 2	-	S			
	BO 22	-	_		-	



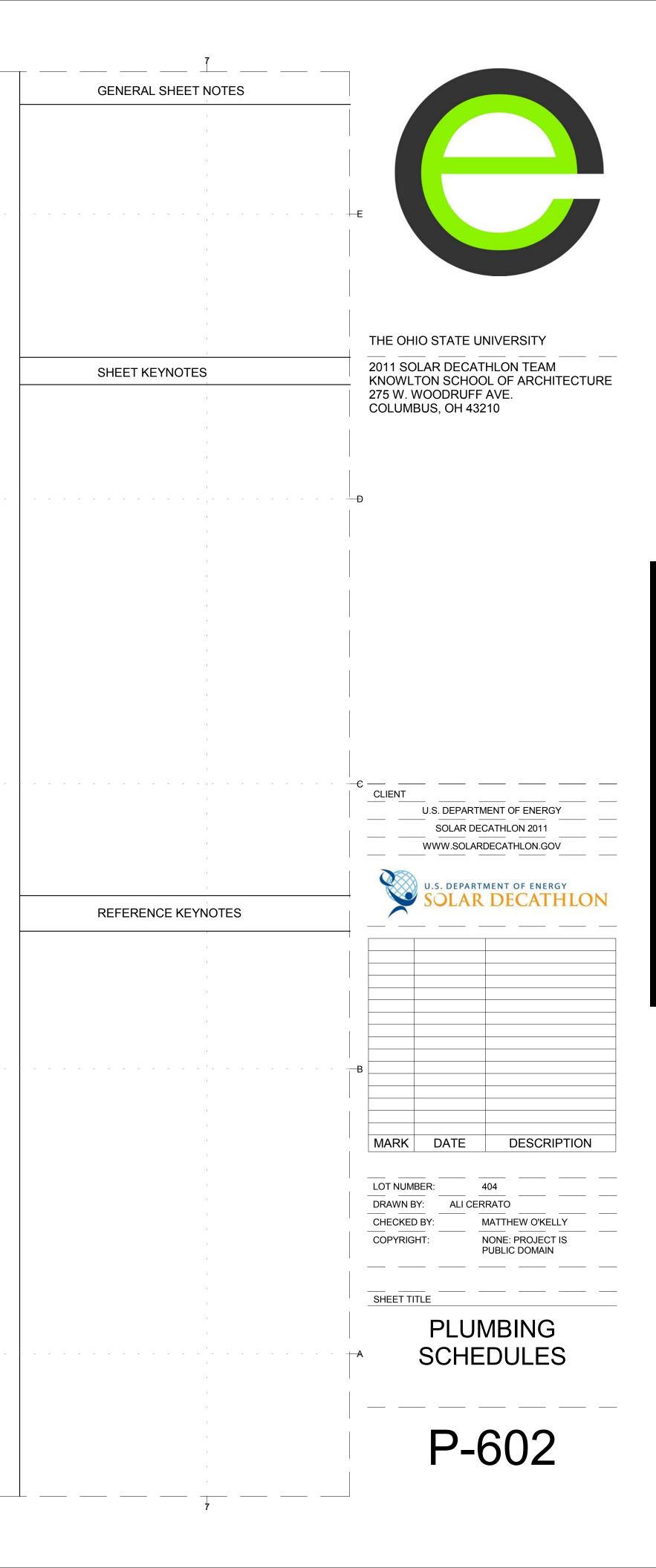


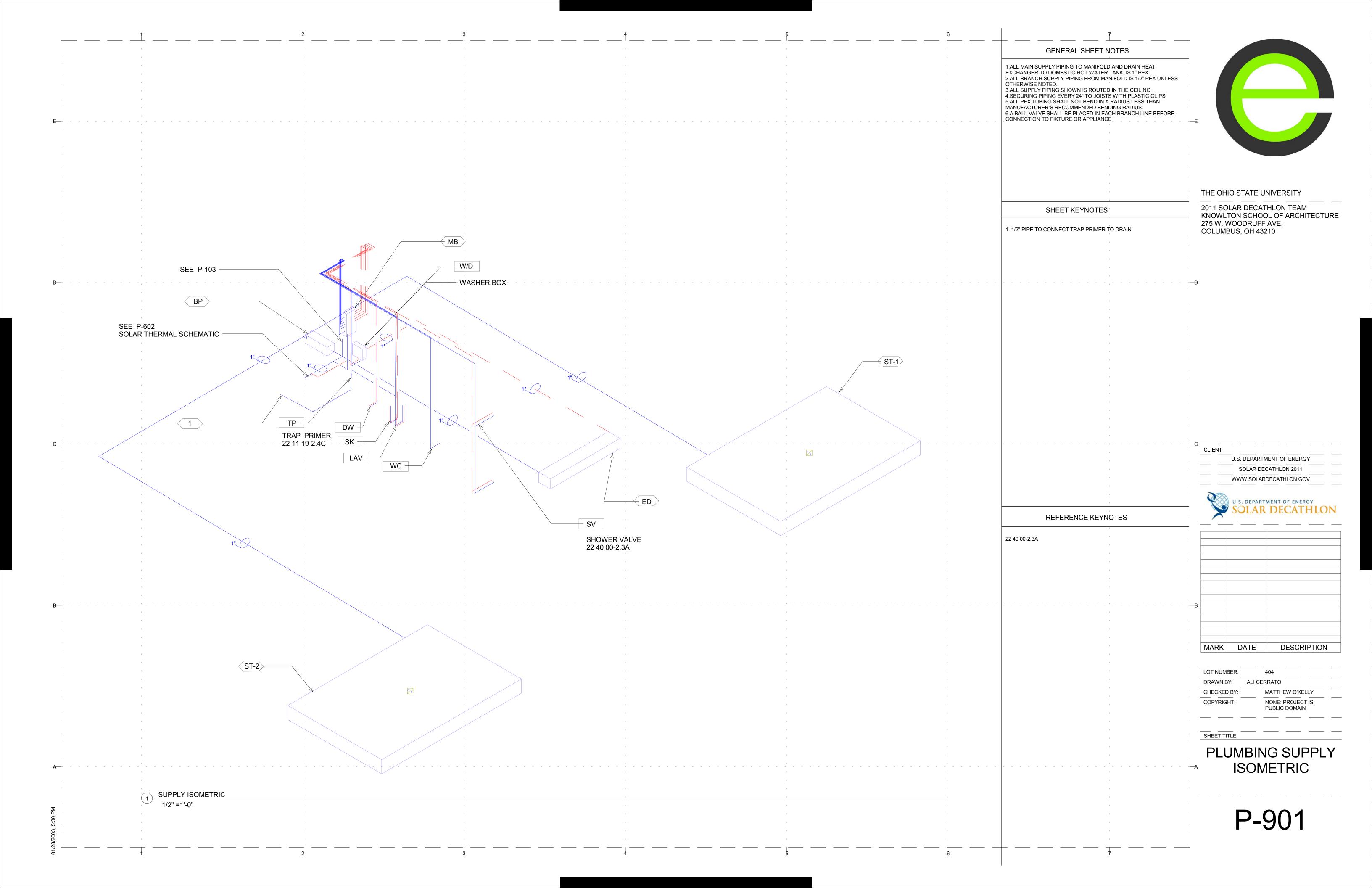
01/28/2003, 5:30 PM	C	E	
			<u>1</u>
			2
1			

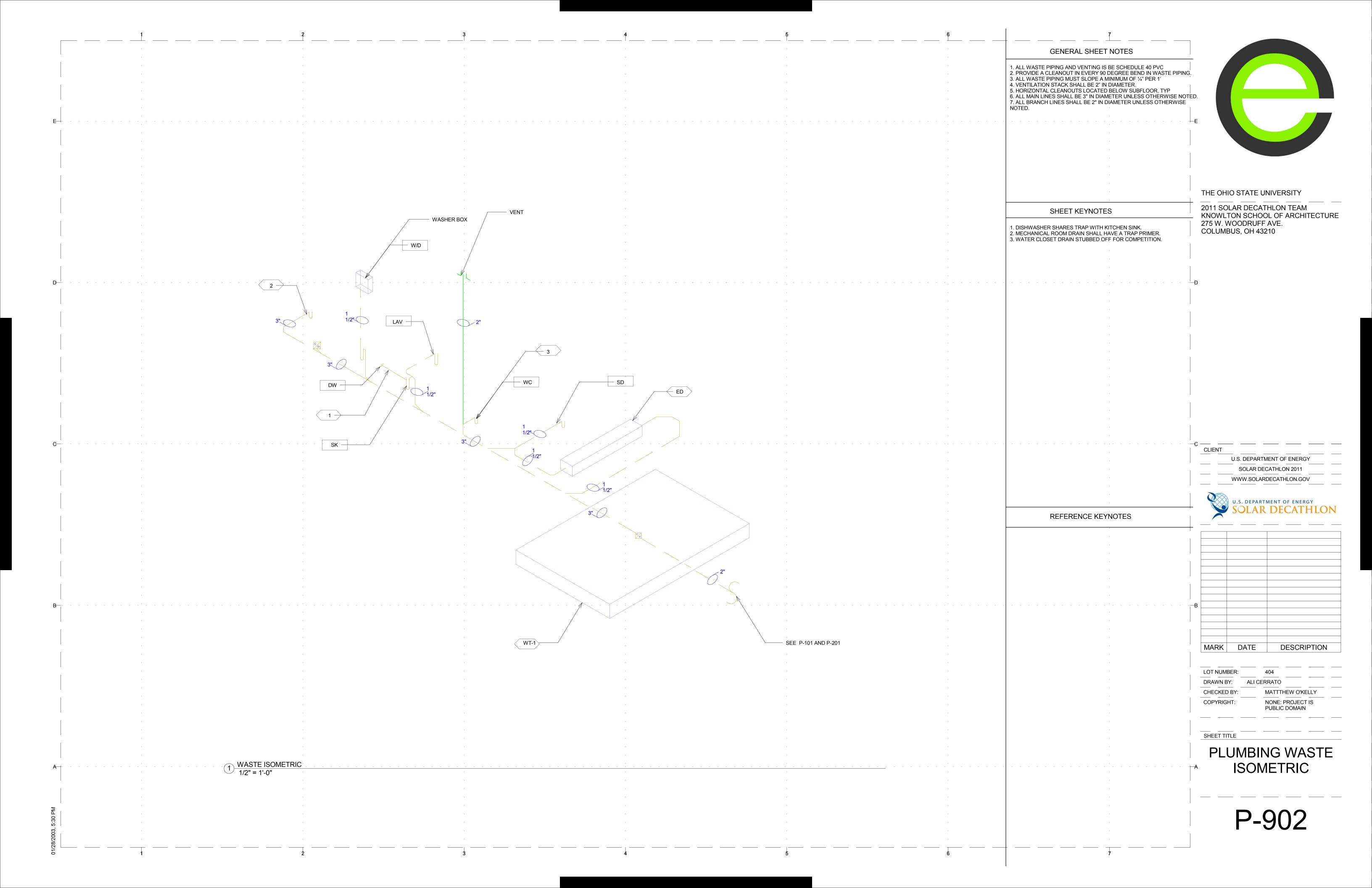




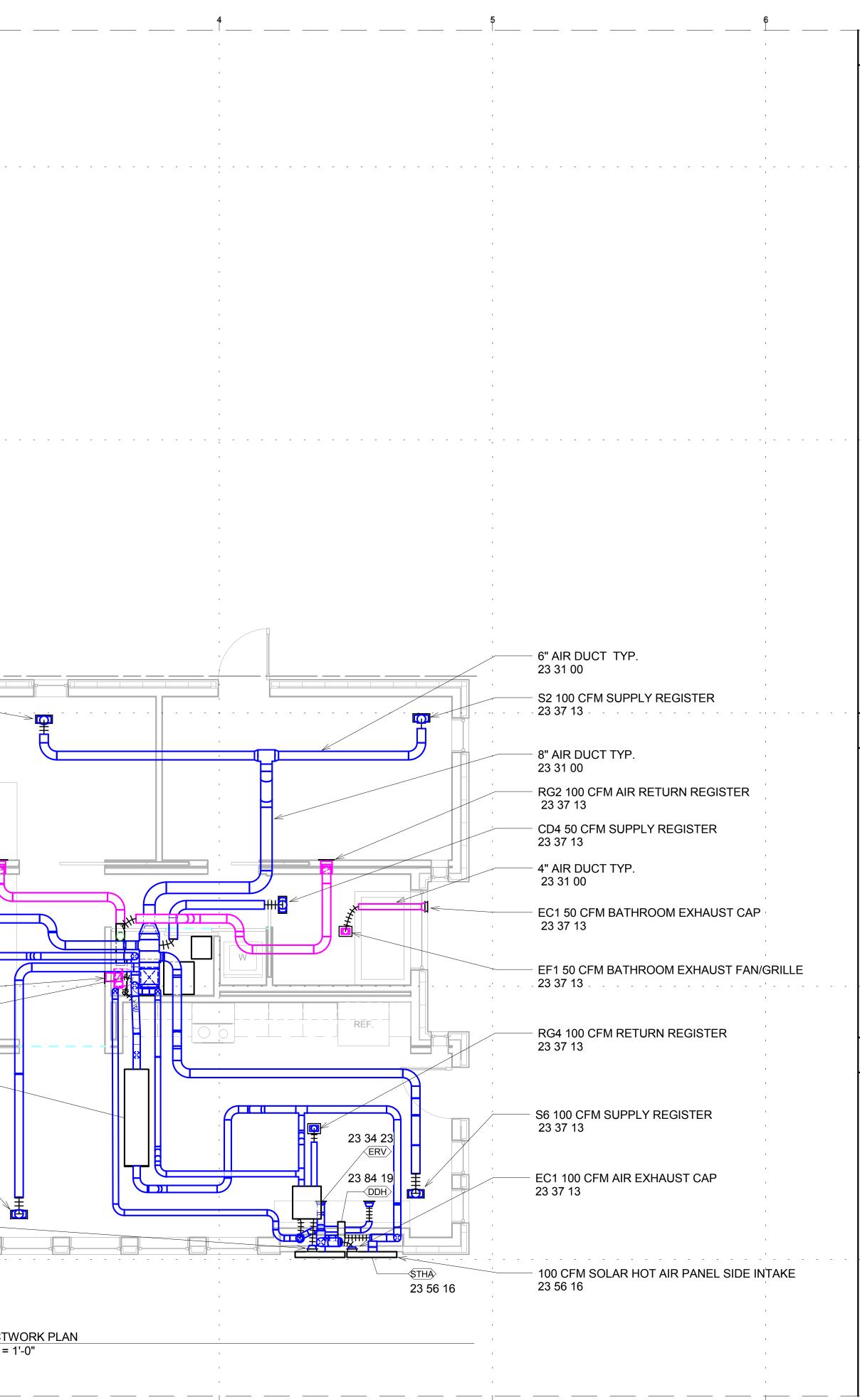
1 2			3		4	5		6
					I			<u> </u>
			1	PLUMBING	FIXTURE SCHEDULE	1		
		MARK	MANUFACTURER		DESCRIPTION		N HW TRAP	 /
	-	LAV	KOHLER		BATHROOM SINK	1 1/		I
		SR	KOHLER	K-997-CP	SHOWER HEAD	1 N	/A N/A N/A	
		DW	KITCHENAID	KUDD03ST [DISHWASHER	1 1/	2" 1/2" 1 1/2"	ī
		W/D	WHIRLPOOL	WFC7500V (CLOTHES WASHER	1 1/	2" 1/2" 1 1/2"	
		SK	KOHLER	K-3325	KITCHEN SINK	1 1/	2" N/A 11/2'	
		WC	KOHLER	K-2564	FOILET		2" N/A 11/2'	
		F-1	KOHLER		_AVATORY FAUCET		′2″ 1/2″ N/A	_
	+	F-2	KOHLER				2" 1/2" N/A	_
		F-3	KOHLER				2" 1/2" N/A	_
	-	SV	KOHLER		SHOWER VALVE		'2" 1/2" N/A	
D		SD	KOHLER KOHLER		SHOWER DRAIN		2" N/A 11/2"	
	-	SA o	LG		REFRIGERATOR		/A N/A N/A /A N/A N/A	_
		R			ALFRIGERATOR			
						1		
						1		
						1		
			1 1					
			н 1					
	Γ					1		
				BING EQUIPMEN	· · · · ·	COLINIT		
G	-	MARK MP	MANUFACTURER JABSCO	JA1409	DESCRIPTION MACEATER PUMP			
	-	BP	GRUNDFOS	MQ3-45	BOOSTER PUMP	1		
	-	HWT	DAIKIN	EKHWS080BA3VJU	HOT WATER TANK	1		
	_	SK	DAIKIN	EKSOLHWBAVJU	SOLAR KIT	1		
	-	ED FPC		A1000 TITANDOWED DI LIS	-SU2 FLAT PLATE COLLECTOR	1		
	-	PEX-S	VIEGA	32061	1" PEX	SEE SPEC		
		PEX-B	VIEGA	32225	1/2" PEX	SEE SPEC		
	_	MB	VIEGA	32225	1/2" PEX MANIFOLD	1		
	_	SH	RELIABLE	RFC43	SPRINKLER HEAD	7		
B		Τ_Ρ	MIFAB	M-500		<u> 1 1 </u>		
			1			1		· · · · · ·
			1 1		1	1		
								н 1
					PLUMBING TANK SCHE			
		MARK	MANUFACTURER M			· · · · · ·	L CONNECTION	SYSTEM CONNECTION
	-		1		25 GALLONS	1	4"	1"
	Ś	ST-2	PLASTIC MART R3	S25T SUPPLY 32	25 GALLONS	1	4"	1"
A		WT-1			25 GALLONS		4"	1"
	-		I		EDIATION 102 GALLONS		N/A N/A	2X2"
	-				EDIATION 102 GALLONS EDIATION 102 GALLONS		N/A N/A	2X2" 2X2"
		כ-אט		NUUZ410 DIU-KEIVIE		⊥ <u> </u>	••/ / `	
003, 5:3						1		
11/28/20					, 	·		·
o 1 2			3		4	5		6





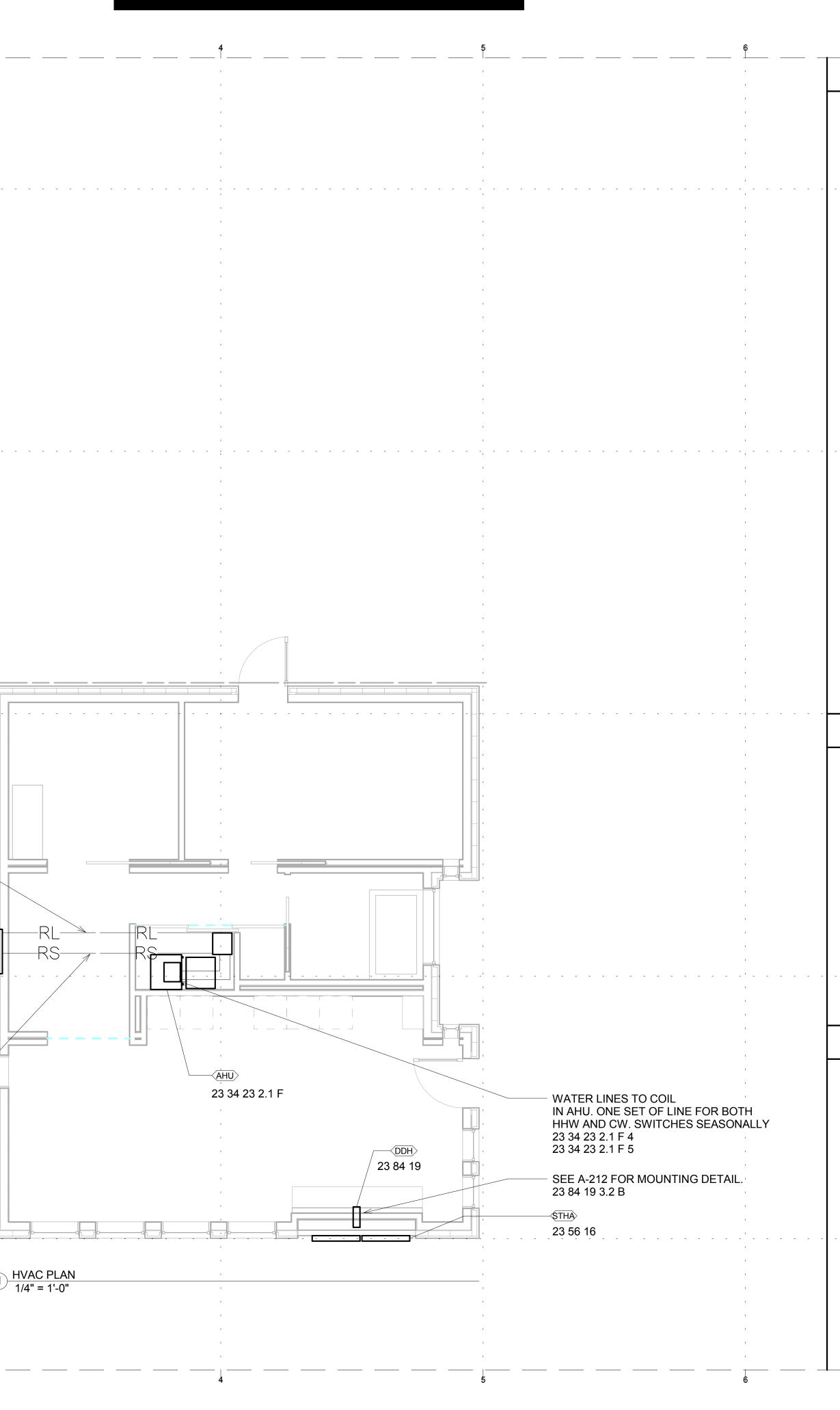


E-		
	S1 75 CFM SUPPLY DIFFUSER	
G	23 37 13 — RG1 75 CFM AIR RETURN REGISTER 23 37 13 — S3 75 CFM SUPPLY DIFFUSER 23 37 13 —	
B	RG3 200 CFM AIR RETURN REGISTER 23 37 13 AHU 23 34 23 23 37 13 23 71 13 S5 100 CFM SUPPLY DIFFUSER 23 37 13	
01/28/2003, 5:30 PM	IC1 60 CFM AIR INTAKE CAP 23 37 13	1 <u>DU(</u> 1/4'



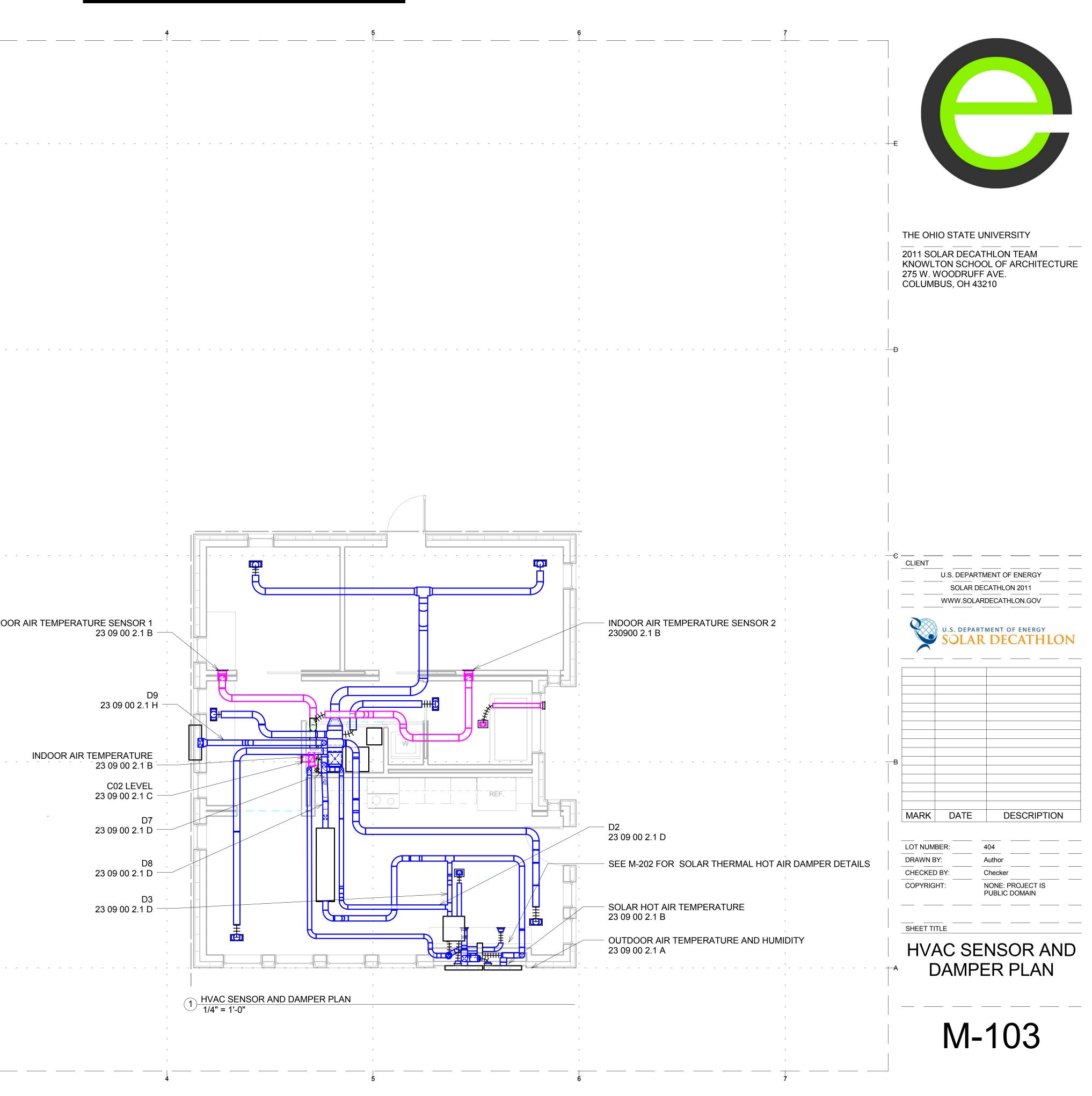
7	7				
GENERAL NOTES					
 DUCT LAYOUT IS SCHEM, FITTINGS AND TRANSISTION INSTALL DUCT SYSTEM. DUCT SIZES ARE SHOW INSIDE DIMENSIONS. EXTERIOR HEAT PUMP U MOUNTED ON A PAD AS NO MANUFACTURER. EXHAUST FROM MECHAN BATHROOM FAN ARE LOCA FROM THE OUTDOOR FF FOR THE ERV. FOLLOW SMACNA GUIDEL DUCTWORK. ALL DUCTS ARE TO BE CO INSULATED. 	NS NECESSARY TO AS NET CLEAR NIT MUST BE TED BY NICAL ROOM AND TED A MINIMUM OF RESH AIR INTAKE	-	2011 SO KNOWL ⁻ 275 W. V	LAR DECA	
	, ,	Đ			
SHEET KEYNOTES					
	· ·	-			ECATHLON 2011
			Ŵ	u.s. depar SOLAF	TMENT OF ENERGY
		-			
	· ·	 —В			
REFERENCE KEYNOTES		 	MARK	DATE	DESCRIPTION
23 31 00 23 34 23 23 37 13 23 56 16 23 71 13 23 84 19			LOT NUME DRAWN B CHECKED COPYRIG	Y:	404 BRETT KRAMER MATTHEW O'KELLY NONE: PROJECT IS PUBLIC DOMAIN
		-		·	
· · · · · · · · · · · · · · · · · · ·					ORK PLAN
	· · · · · · · · · · · · ·	A	_ •	• • •	
	7	- 		M-	101

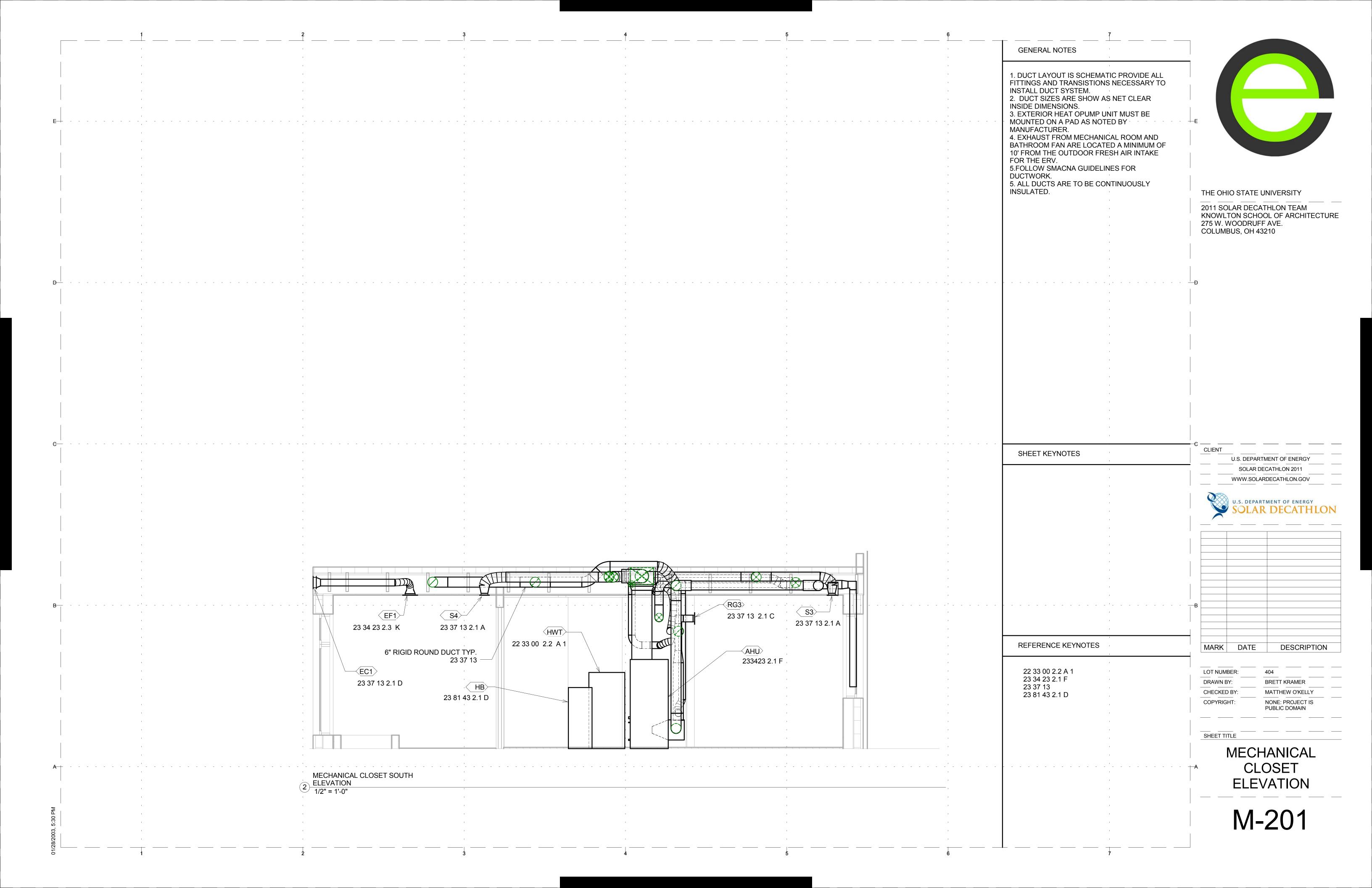
01/28/2003, 5:30 PM	B	Ċ-	Ð	E-
	PROVIDE THERMAL AND PROVIDE /	REFRIG UNIT'S FI SO AS NO DRAIN		
- · · · · · · · · · · · · · · · · · · ·	212 FOR MOUNTING DETAIL 23 81 43 3.2 B EXPANSION VALVE ACCESS TO VALVES N AND LIQUID LINES 23 81 43 2.1 B	ECT PRE-CHARGED GERANT TUBING TO TTING. RUN TUBING DT INTERFERE WITH ACCESS TO UNIT. 23 81 43 3.1 C AC 23 84 19 CONNECT UNIT TO ST INDIRECT WASTE LINE 23 81 43 3.1 F		
				-



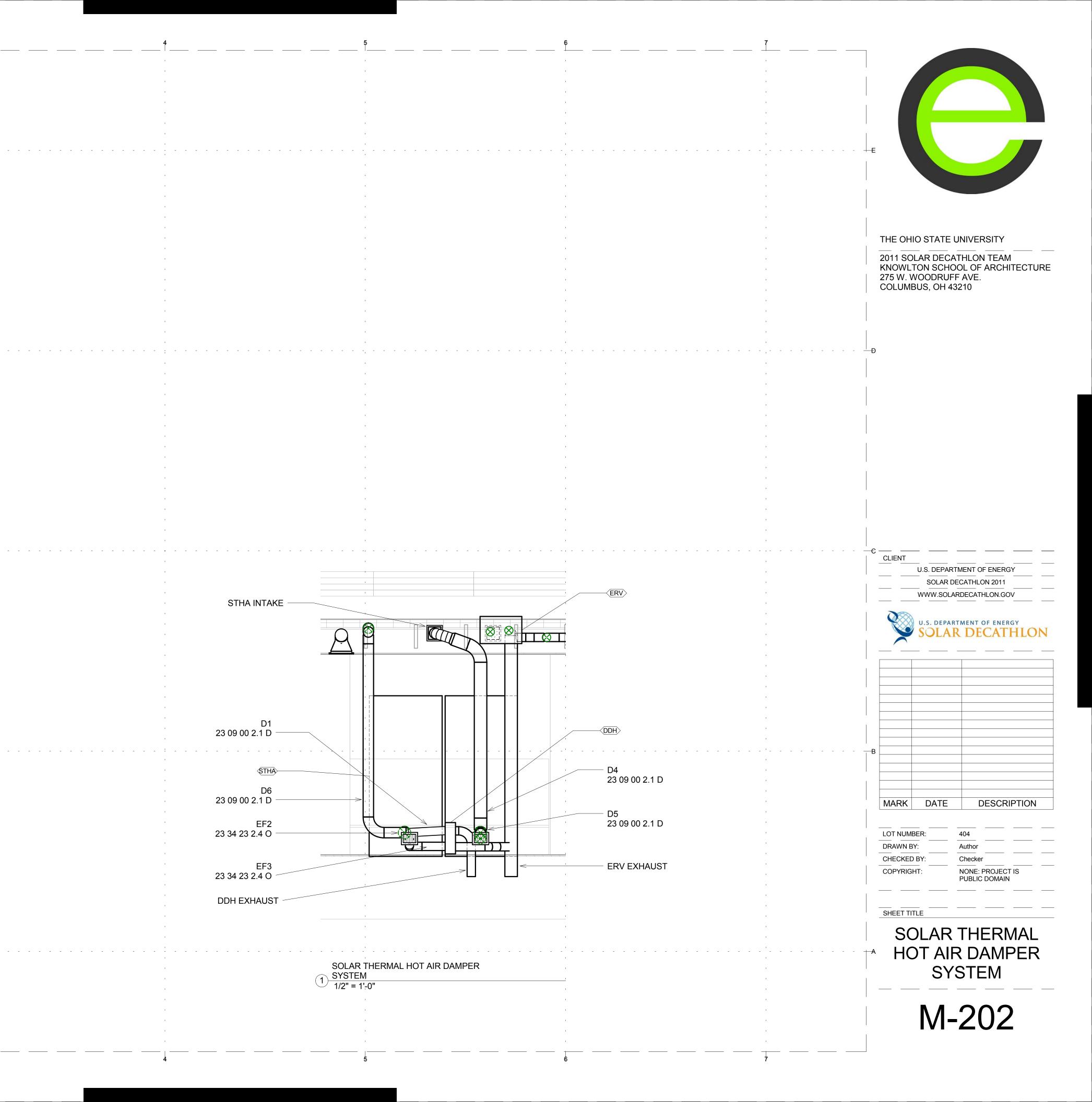
GENERAL NOTES	7				
 DUCT LAYOUT IS SCHEMA ALL FITTINGS AND TRANSITI TO INSTALL DUCT SYSTEM. DUCT SIZES ARE SHOW A INSIDE DIMENSIONS. EXTERIOR HEAT PUMP UN MOUNTED ON A PAD AS NOT MANUFACTURER. EXHAUST FROM MECHAN BATHROOM FAN ARE LOCAT OF 10' FROM THE OUTDOOR INTAKE FOR THE ERV. FOLLOW SMACNA GUIDEL DUCTWORK. 	IONS NECESSARY AS NET CLEAR NIT MUST BE TED BY ICAL ROOM AND TED A MINIMUM FRESH AIR	 - E			
5. ALL DUCTS ARE TO BE CO	ONTINUOUSLY	.	2011 SO KNOWL ⁻ 275 W. V	LAR DECA	
	· · · ·	 Đ			
	· · · · · · · · · · · · · · · · · · ·				
	· · · · · · · · · · · · · · · · · · ·				
	· · · · · · · · · · · · · · · · · · ·				
SHEET KEYNOTES				SOLAR D WWW.SOLA	TMENT OF ENERGY ECATHLON 2011 RDECATHLON.GOV
	• • • •				
	· · ·	 			
REFERENCE KEYNOTES	r 1		MARK	DATE	DESCRIPTION
233423 2.1 F 4 233423 2.1 F 5 238142 2.1 B 238143 3.1 C 238143 3.1 F 238143 3.2 B 238419 3.2 B	· · · · · · · · · · · · · · · · · · ·		LOT NUME DRAWN B CHECKED COPYRIGI	Y: BY: HT:	404 BRETT KRAMER MATTHEW O'KELLY NONE: PROJECT IS PUBLIC DOMAIN
	· · · · · · · · · · · · · · · · · · ·	 	HV	AC E	QUIPMENT LAN
	, , , , 7			M-	102

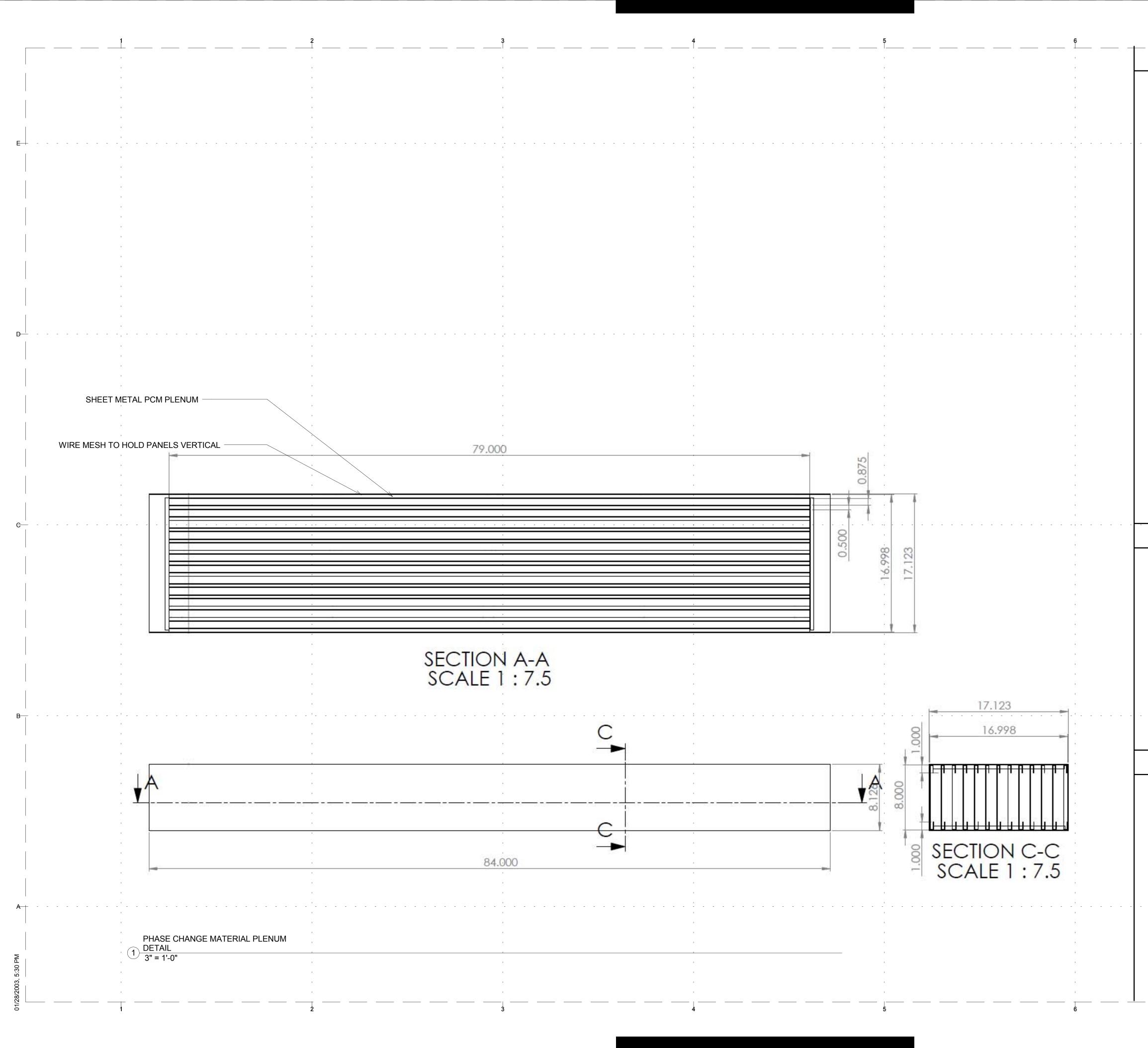
01/28/2003, 5:30 PM	B	C	Đ	E-
-	-	-	-	
	-	-		
-	-	-		
-	-			_
-	-	-		_
-	-			
-				
-				
-	-			
				_
-	-	-	-	
-	-			_
-	-			
-	-			
-	-	_		_
-	-			_
-	-	-		_
-	-	-		-
				· · · · · · · · · · · · · · · · · · ·
_	-	_		-
-	-	-		_
-	-	_	-	
-	-	-	-	
-				
_				_
-	-	-	-	
_	-			
-	-	-		
-	-	-	-	
-	-			
-	-	_	-	
-				
-	-	-	-	
-	ND(-	-	_
-	00		-	



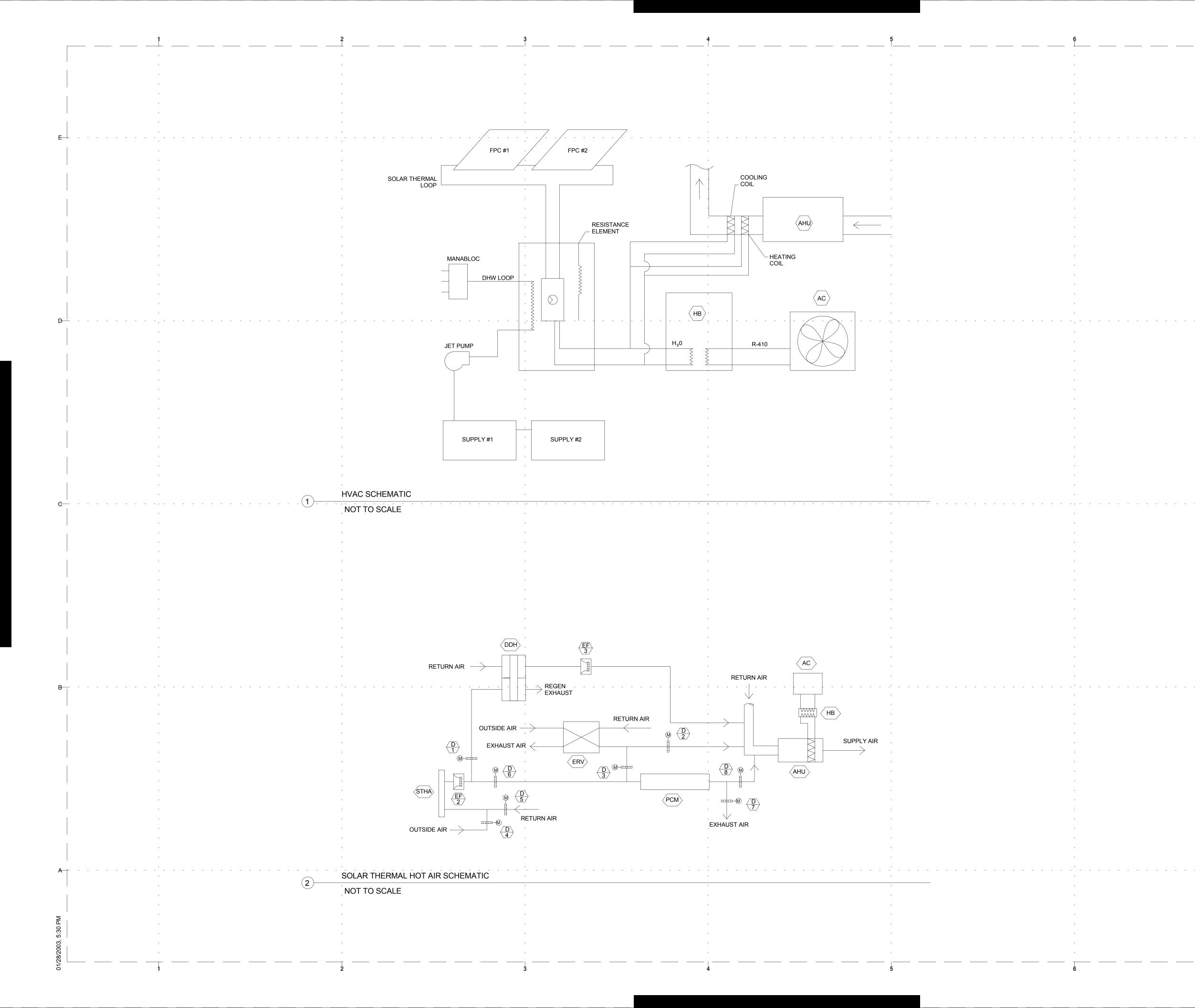


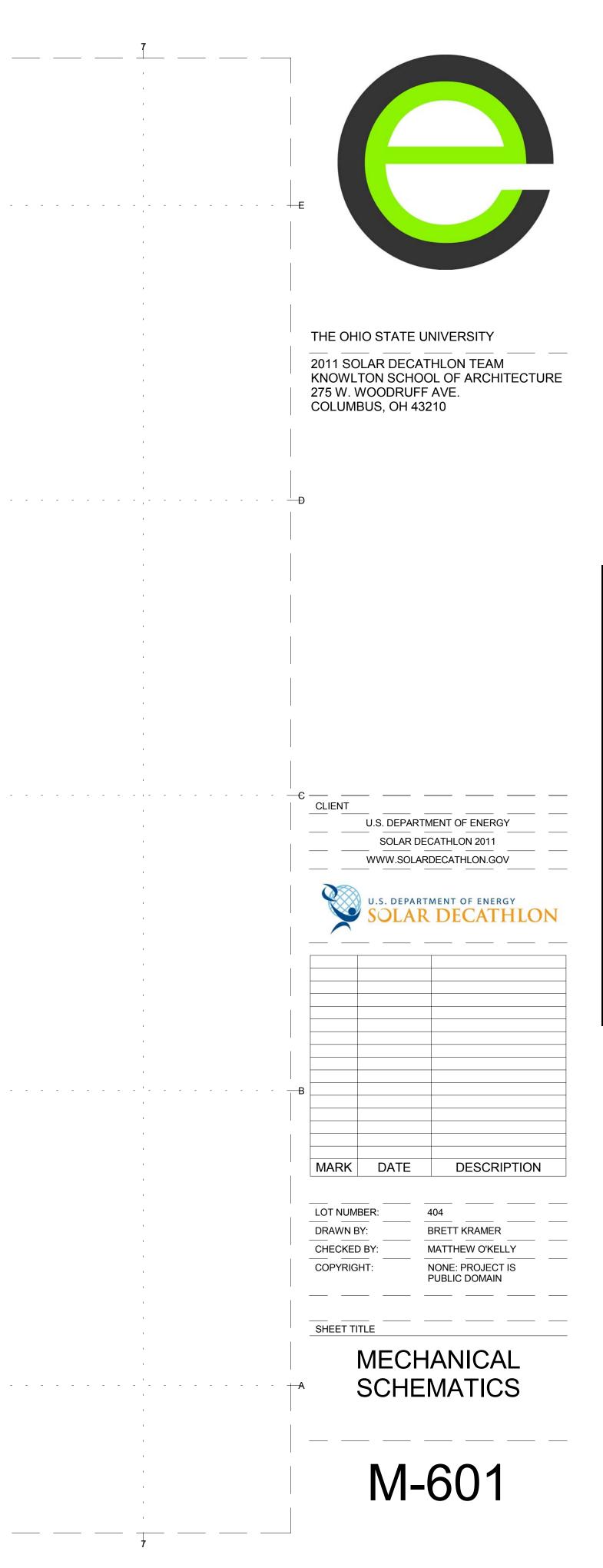
01/28/2003, 5:30 PM	в-	C-	Đ	E
2				
				1





GENERAL NOTES	7				
 DUCT LAYOUT IS SCHEMA ALL FITTINGS AND TRANSIS NECESSARY TO INSTALL DU DUCT SIZES ARE SHOW A INSIDE DIMENSIONS. EXTERIOR HEAT OPUMP U MOUNTED ON A PAD AS NOT MANUFACTURER. EXHAUST FROM MECHAN AND BATHROOM FAN ARE LO MINIMUM OF 10' FROM THE O FRESH AIR INTAKE FOR THE 5.FOLLOW SMACNA GUIDEL DUCTWORK. ALL DUCTS ARE TO BE CO 	TIONS ICT SYSTEM. AS NET CLEAR JNIT MUST BE TED BY ICAL ROOM OCATED A OUTDOOR E ERV. INES FOR	' 			
5. ALL DUCTS ARE TO BE CC INSULATED.		.			
	· · · · · · · · · · · · · · · · · · ·		KNOWL ⁻ 275 W. V		
	, ,				
SHEET KEYNOTES	, ,				TMENT OF ENERGY
					RDECATHLON.GOV
	, , ,	 В			
	· · · · · · · · · · · · · · · · · · ·	 			
REFERENCE KEYNOTES	, ,	 	MARK	DATE	DESCRIPTION
23 71 13 1.2 A 23 71 13 1.2 B 23 31 00 2.1 A 23 21 00 1.1 G	•		LOT NUME DRAWN B CHECKED COPYRIG	Y:) BY:	404 BRETT KRAMER MATTHEW O'KELLY NONE: PROJECT IS PUBLIC DOMAIN
	· · · · · · · · · · · · · · · · · · ·	- -	SHEET TI	 TLE	
	· · · · · · · · · · · · · · · · · · · ·	A			HANICAL TAILS
	, , , , 7	.		M-	501





01/28/2003, 5:30 PM	в-	C-	Đ	E
2				
				1

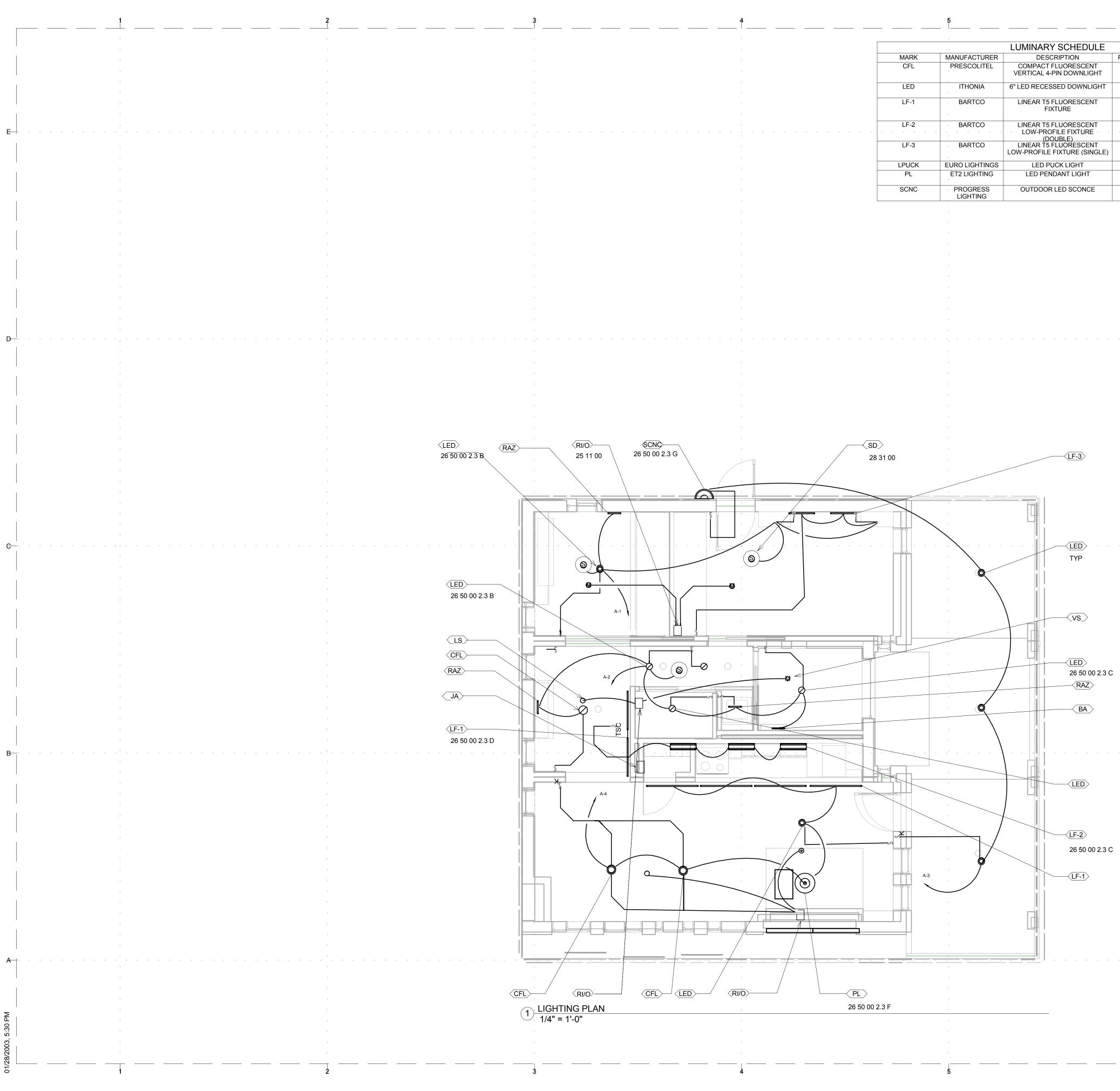
	EQUIPMEN	T SCHEDULE
TAG	MANUFACTURER AND MODEL NUMBER	DESCRIPTION
 ERV	FANTECH SE704N	COMPACT ENERGY RECOVERY VENTILATOR
	NOVEL AIRE GEN A 300X100	DESICCANT WHEEL DEHUMIDIFIER
PCM	RGEES PCM29P	PHASE CHANGE MATERIAL
STHA	YOUR SOLAR HOME 1500GS	SOLAR THERMAL HOT AIR COLLECTOR
AHU	MAGIC AIRE DVA04	VERTICAL AIR HANDLER
HB	DAIKIN EKHBX030BA3VJU	HYDROBOX REFRIGERANT TO WATER HEAT EXCHANGER
	DAIKIN ERLQ018BAVJU	SPLIT SYSTEM HEATPUMP OUTDOOR UNIT

		AIR TERMIN	AL SCEHDULE	Ē	
AT	٩G	MANUFACTURER AND MODEL NUMBER	DESCRIPTION	AREA SERVED	CFM
	5 1	HART & COOLEY 682 14"X4"	CEILING REGISTER	BEDROOM 1	75
	S 2	HART & COOLEY 682 14"X4"	CEILING REGISTER	BEDROOM 2	100
	<u>S</u> 3	HART & COOLEY 682 14"X4"	CEILING REGISTER	CORRIDOR	75
	S 4	HART & COOLEY 682 14"X4"	CEILING REGISTER	BATHROOM	50
	<u>S</u> 5_	HART & COOLEY 682 14"X4"	CEILING REGISTER	LIVING ROOM	100
		HART & COOLEY 681 8"X4"	CEILING REGISTER	LIVING ROOM	100
	RG 1	HART & COOLEY 650 14"X4"	SIDE-WALL REGISTER	BEDROOM 1	75
	2 2	HART & COOLEY 650 14"X4"	SIDE-WALL REGISTER	BEDROOM 2	100
	RG 3	HART & COOLEY 650 14"X4"	SIDE-WALL REGISTER	CORRIDOR & LIVING ROOM	325
	RG 4	HART & COOLEY 650 14"X4"	CEILING REGISTER	ERV	60
	C 1	BROAN 885AL	EXHAUST CAP	BATHROOM	50
	C 2	BROAN 885AL	EXHAUST CAP	ERV EXHAUST	50
		IMPERIAL MANU PA-4W	IN-TAKE CAP	ENTIRE HOME	60
· · · · · · · · · · · · · · · · · · ·	-	· · · · · · · ·			

6					7	 	
					1 1		
							THE OHIO STATE UNIVERSITY
							2011 SOLAR DECATHLON TEAM
							KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210
	N SCHEDU						
MANUFACTURER AND MODEL NUMBER	AREA SERVED	SERVICE	CFM	NOTES	- , -	 	Đ
PANASONIC FV-05VK3	BATHROOM	EXHAUST	50	RETURN			
EBM PAPST DV 5214 Ņ	DESICCANT	EXHAUST / BOOSTER	100		.		
EBM PAPST DV 5214 N	PCM	EXHAUST / BOOSTER	100				
DAMPER SC	CHEDULE						
MANUFACTURER AND MODEL NUMBER	DESCRIPTIO	N OPERATIC	DN				
DURODYNE NSPRD024-4	CONTROL DAMPER	MOTOR CONTROLL	_ED				
DURODYNE NSPRD024-4	CONTROL DAMPER	MOTOR	ED		1		
DURODYNE NSPRD024-4	CONTROL				- 1 -	 	C
DURODYNE NSPRD024-5	CONTROL	MOTOR					U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011
DURODYNE NSPRD024-5	CONTROL	MOTOR					WWW.SOLARDECATHLON.GOV
DURODÝNE NSPRD024-5	CONTROL	MOTOR					U.S. DEPARTMENT OF ENERGY
DURODYNE	CONTROL	MOTOR					
NSPRD024-5	CONTROL	MOTOR					
NSPRD024-5 FANTECH	DAMPER BACKDRAF	CONTROLL T PASSIVE					
RSK5	DAMPER						
			_			 	
CHANICAL SYMBOLS							
							MARK DATE DESCRIPTION
M AUTOMATIC DAMPE	ER				•		LOT NUMBER: 404 DRAWN BY: BRETT KRAMER
BACKDRAFT DAMPE	ER						CHECKED BY: MATTHEW O'KELLY COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN
HEAT EXCHANGER							
					· · ·	 	MECHANICAL EQUIPMENT SCHEDULE
					• • • •		M-602

4 	⁵ ۴ ۴ ۴ ۴					
					THE OHIO STAT 2011 SOLAR DE KNOWLTON SCI 275 W. WOODRI COLUMBUS, OH	CATHLON TEAM HOOL OF ARCHITECTUR
TAG MANUFACTURER AND MODEL NUMBER	COMPACT ENERGY		FAN SCHIANUFACTURER AND ODEL NUMBERAREA SERVEPANASONIC EV 05//K3BATHRO	D SERVICE CFM NOTES OM EXHAUST 50 INCLUDES RETURN		
ERV SE704N DDH NOVEL AIRE GEN A 300X100 PCM RGEES PCM29P STHA YOUR SOLAR HOME 1500GS	RECOVERY VENTILATOR DESICCANT WHEEL DEHUMIDIFIER PHASE CHANGE MATERIAL E SOLAR THERMAL HOT AIR COLLECTOR	$\begin{array}{c} 1 \\ \hline \\ EF \\ 2 \\ \hline \\ \hline \\ 3 \\ \hline \end{array}$	FV-05VK3EBM PAPST DV 5214 NDESICCAEBM PAPST DV 5214 NPCM	ANT EXHAUST 100 / BOOSTER 100 EXHAUST 100 / BOOSTER 100		
AHUMAGIC AIRE DVA04HBDAIKIN EKHBX030BA3VJUACDAIKIN ERLQ018BAVJU	VERTICAL AIR HANDLER HYDROBOX REFRIGERANT TO WATER HEAT EXCHANGER SPLIT SYSTEM HEATPUMP OUTDOOR UNIT	TAG M A D 1	DAMPER SCHEDUIIANUFACTURER ND MODEL NUMBERDESCRIFDURODYNE NSPRD024-4CONTR DAMPE	PTION OPERATION		
	NAL SCEHDULE	$\begin{array}{c} D\\ \hline \\ 2\\ \hline \\ \hline \\ 3\\ \hline \\ \hline \\ 4\\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\$	DURODYNE NSPRD024-4CONTR DAMPEDURODYNE NSPRD024-4CONTR 	ROL MOTOR ROL MOTOR CONTROLLED ROL ROL ROL CONTROLLED	SOLAF	ARTMENT OF ENERGY DECATHLON 2011 LARDECATHLON.GOV
AIR TERMIN TAG MANUFACTURER AND MODEL NUMBER AND MODEL NUMBER S HART & COOLEY 682 14"X4" ART & COOLEY 2 HART & COOLEY 682 14"X4" ART & COOLEY 682 14"X4" ART & COOLEY 1 COOLEY 2	NAL SCENDULE DESCRIPTION AREA SERVED CFM CEILING REGISTER BEDROOM 1 75 CEILING REGISTER BEDROOM 2 100	$ \begin{array}{c} D\\ 5\\ \hline \\ \hline \\$	DURODYNE NSPRD024-5CONTR DAMPEDURODYNE NSPRD024-5CONTR DAMPEDURODYNE NSPRD024-5CONTR DAMPEDURODYNE NSPRD024-5CONTR DAMPEDURODYNE CONTR DAMPECONTR DAMPE	ROL MOTOR ROL MOTOR ROL MOTOR ROL MOTOR CONTROLLED		ARTMENT OF ENERGY
S HART & COOLEY 3 682 14"X4" S HART & COOLEY 682 14"X4" S HART & COOLEY 682 14"X4" S HART & COOLEY 682 14"X4"	CEILING REGISTERCORRIDOR75CEILING REGISTERBATHROOM50CEILING REGISTERLIVING ROOM100		NSPRD024-5 DAMPE FANTECH BACKD RSK5 DAMPE	R CONTROLLED		
S 6HART & COOLEY 681 8"X4"RG 1HART & COOLEY 650 14"X4"RG 2HART & COOLEY 650 14"X4"RG 	CEILING REGISTERLIVING ROOM100SIDE-WALL REGISTERBEDROOM 175SIDE-WALL REGISTERBEDROOM 2100SIDE-WALL REGISTERCORRIDOR & LIVING325	MECH/ SYMBOL	ANICAL SYMBOLS DESCRIPTION PUMP		MARK DATE	DESCRIPTION
3 650 14"X4" RG HART & COOLEY 4 650 14"X4" EC BROAN 1 885AL	SIDE-WALL REGISTERCORKIDOR & LIVING ROOM325CEILING 		BACKDRAFT DAMPER		DRAWN BY: CHECKED BY: COPYRIGHT: SHEET TITLE	BRETT KRAMER MATTHEW O'KELLY NONE: PROJECT IS PUBLIC DOMAIN
EC 2 BROAN 885AL IC 1 PA-4W	CAP EXHAUST IN-TAKE ENTIRE CAP HOME		IN-LINE DUCT FAN		MEC EQU	HANICAL JIPMENT HEDULE
					M	-602

	1
MECHAN	NICAL SYMBOLS
SYMBOL	DESCRIPTION
	PUMP
M	AUTOMATIC DAMPER
	BACKDRAFT DAMPER
-////-	HEAT EXCHANGER
	IN-LINE DUCT FAN

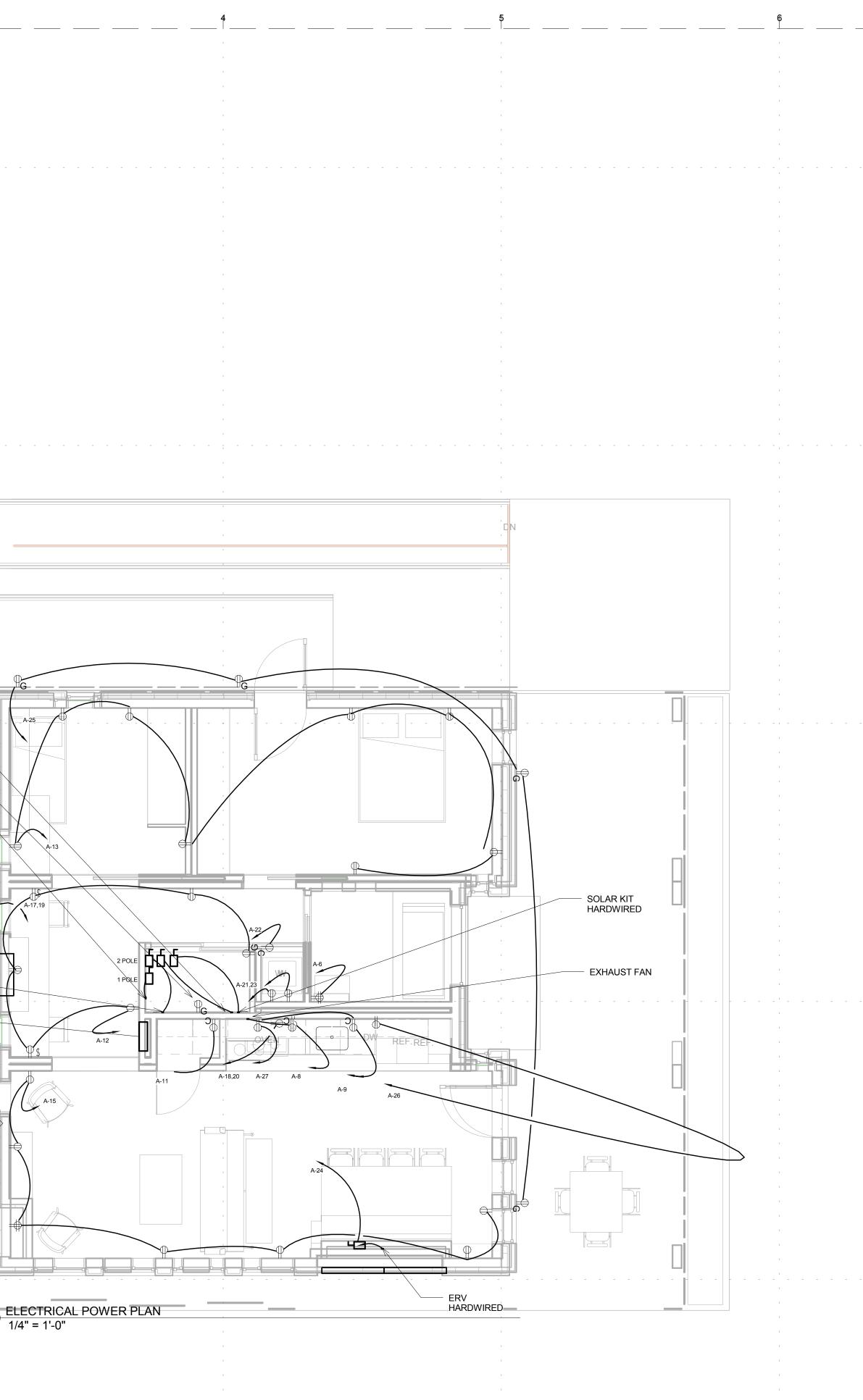


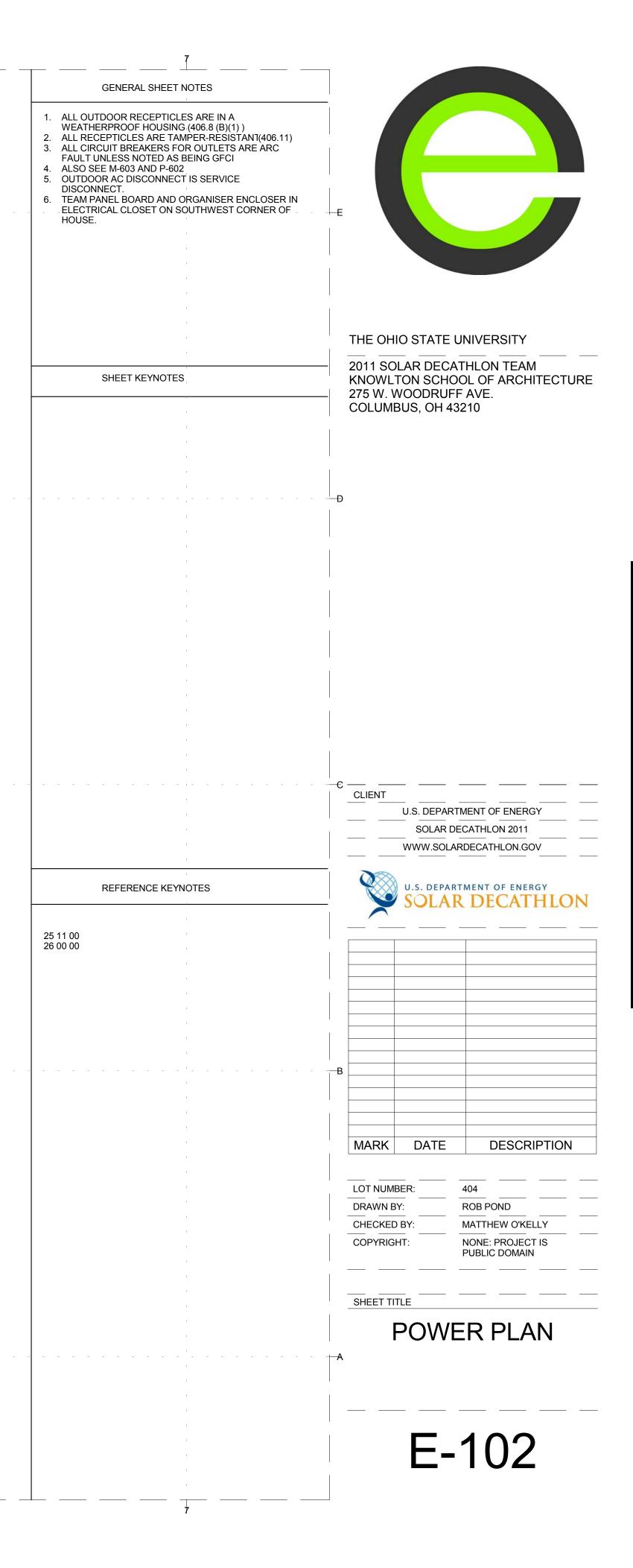
6	

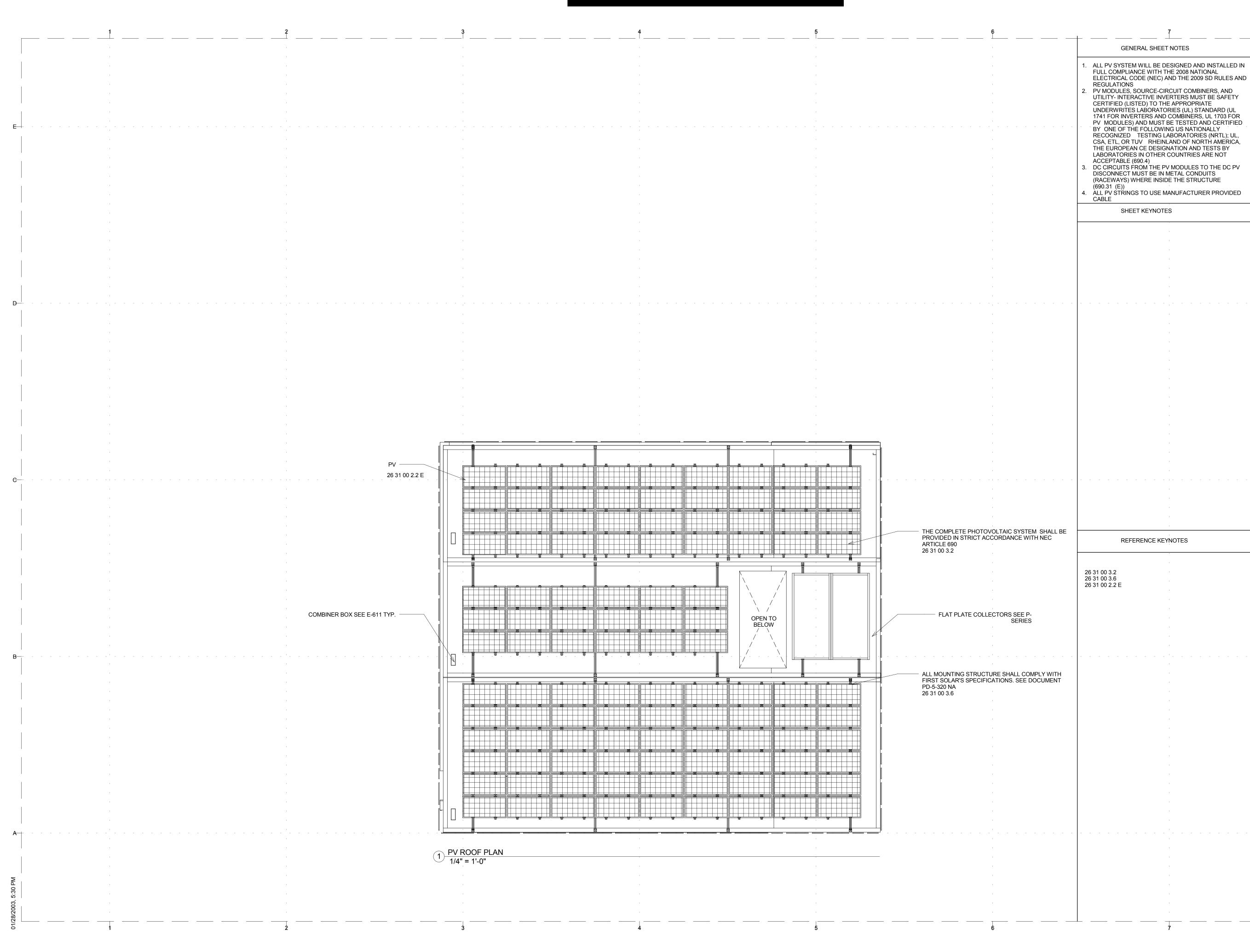
		1		1	
		I	LUMINARY SCHEDULE	1	
	MARK	MANUFACTURER	DESCRIPTION	POWER (WATTS)	QUANTITY
	CFL	PRESCOLITEL	COMPACT FLUORESCENT VERTICAL 4-PIN DOWNLIGHT	26	
	LED	ITHONIA	6" LED RECESSED DOWNLIGHT	12	
	LF-1	BARTCO	LINEAR T5 FLUORESCENT FIXTURE	28	
-	LF-2	BARTCO	LINEAR T5 FLUORESCENT LOW-PROFILE FIXTURE (DOUBLE)	28	
	LF-3	BARTCO	LINEAR T5 FLUORESCENT LOW-PROFILE FIXTURE (SINGLE)	. 14	
	LPUCK	EURO LIGHTINGS	LED PUCK LIGHT	1	
	PL	ET2 LIGHTING	LED PENDANT LIGHT	6	
	SCNC	PROGRESS	OUTDOOR LED SCONCE	5	

6	7	
OWER (WATTS) QUANTITY 26 1 12 9 28 3 14 1 1 4 6 1 5 1	 ALL PV SYSTEM WILL BE DESIGNED AND INSTALLED IN FULL COMPLIANCE WITH THE 2008 NATIONAL ELECTRICAL CODE (NEC) AND THE 2009 SD RULES AND REGULATIONS PV MODULES, SOURCE-CIRCUIT COMBINERS, AND UTILITY- INTERACTIVE INVERTERS MUST BE SAFETY CERTIFIED (LISTED) TO THE APPROPRIATE UNDERWRITES LABORATORIES (UL) STANDARD (UL 1741 FOR INVERTERS AND COMBINERS, UL 1703 FOR PV MODULES) AND MUST BE TESTED AND CERTIFIED BY ONE OF THE FOLLOWING US NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL); UL, CSA, ETL, OR TUV RHEINLAND OF NORTHAMERICA, THE EUROPEAN CE DESIGNATION AND TESTS BY LABORATORIES IN OTHER COUNTRIES ARE NOT ACCEPTABLE (690.4) DC CIRCUITS FROM THE PV MODULES TO THE DC PV DISCONNECT MUST BE IN METAL CONDUITS (RACEWAYS) WHERE INSIDE THE STRUCTURE (690.31(E)) ALL PV STRINGS TO USE MANUFACTURED PROVIDED CABLE ALSO SEE ME-603 AND P-602 SHEET KEYNOTES 1. STRIAGHT LINES ARE SWITCH LINES CURVED LINES ARE POWER LINES	THE OHIO STATE UNIVERSITY 2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210
	28 50 00 2.3 B 28 50 00 2.3 F	CLIENT U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON.GOV U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON.GOV U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON

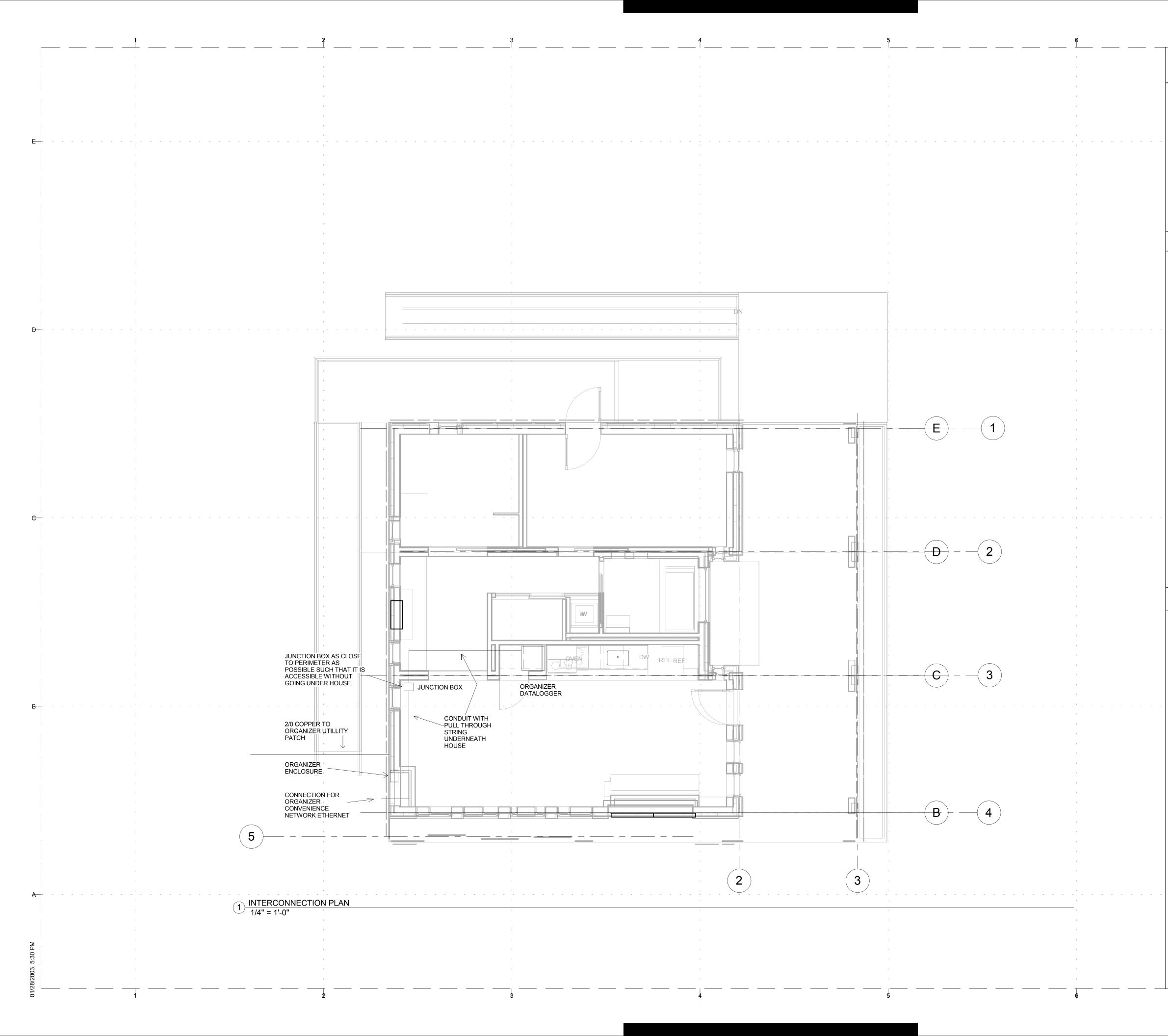
01/28/2003, 5:30 PM	B	G	Ē	
		_		_
· · · · · · · · · · · · · · · · · · ·				1
				- .
	-		_	
				_
			-	
	-			
	-	_	-	_
				_
				2
				2
	-		-	
				_
	-		-	
				_
	-			
	· •			
	-			
	HA JE JA HA CON HA			
		DN		
3	30X			3
	2 POL			_
		-		
				_
EL 1/				





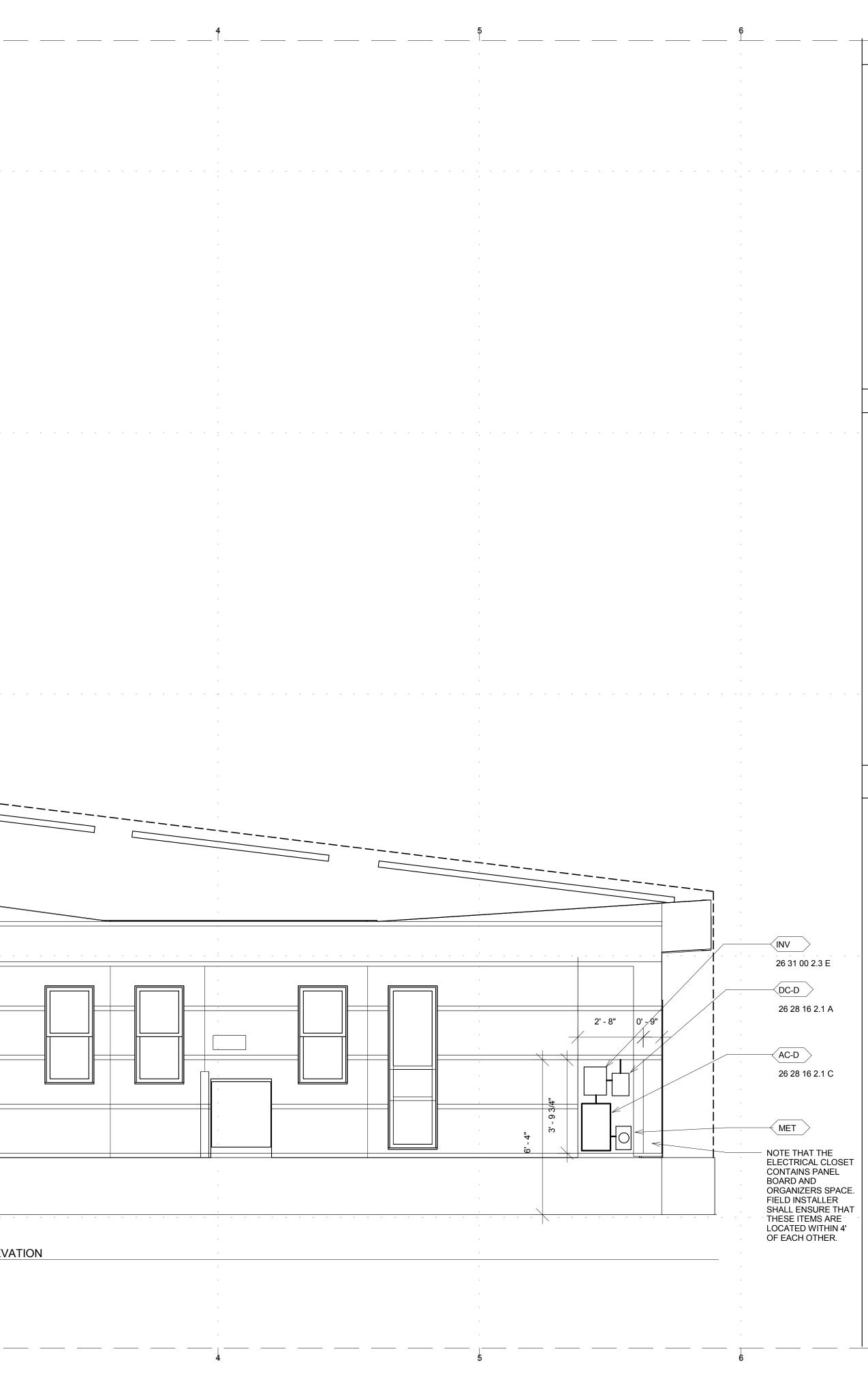


	7					
	GENERAL SHEET N	IOTES				
	 ALL PV SYSTEM WILL BE DES FULL COMPLIANCE WITH THE ELECTRICAL CODE (NEC) AN REGULATIONS PV MODULES, SOURCE-CIRC 	E 2008 NATIONAL D THE 2009 SD RULES AND				
-	UTILITY- INTERACTIVE INVER CERTIFIED (LISTED) TO THE UNDERWRITES LABORATOR 1741 FOR INVERTERS AND C PV MODULES) AND MUST BE BY ONE OF THE FOLLOWING RECOGNIZED TESTING LAB CSA, ETL, OR TUV RHEINLA	ATERS MUST BE SAFETY APPROPRIATE ES (UL) STANDARD (UL OMBINERS, UL 1703 FOR TESTED AND CERTIFIED S US NATIONALLY BORATORIES (NRTL); UL,	 E			
	 THE EUROPEAN CE DESIGNA LABORATORIES IN OTHER CO ACCEPTABLE (690.4) 3. DC CIRCUITS FROM THE PV I DISCONNECT MUST BE IN ME (RACEWAYS) WHERE INSIDE (690.31 (E)) 4. ALL PV STRINGS TO USE MAI 	ATION AND TESTS BY DUNTRIES ARE NOT MODULES TO THE DC PV ETAL CONDUITS THE STRUCTURE				
	CABLE SHEET KEYNOTES			THE OH	O STATE U	JNIVERSITY
				KNOWL ⁻ 275 W. V		
-						
-			€	CLIENT		
					SOLAR DE	MENT OF ENERGY
Ē	REFERENCE KEYN	OTES			u.s. depar SOLAF	TMENT OF ENERGY
	26 31 00 3.2 26 31 00 3.6 26 31 00 2.2 E					
	н н н					
-			B			
				MARK	DATE	DESCRIPTION
				LOT NUME DRAWN B CHECKED COPYRIG	Y: BY:	404 ROB POND MATTHEW O'KELLY NONE: PROJECT IS PUBLIC DOMAIN
				SHEET TI	 「LE	
-			 	P		VOLTAIC F PLAN
					E-	103



7	
GENERAL SHEET NOTES	
	⊢E
SHEET KEYNOTES	
1.) THE DATALOGGER ENCLOSURE SHALL BE PLACED IN	 2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE.
THE PANTRY AREA OF THE CENTRAL MODULE. THIS AREA IS CONVENIENTLY LOCATED CLOSE TO THE KITCHEN. FURTHERMORE, IT CONTAINS THE HOUSE ELECTRICAL BREAKER PANEL AND HOME AUTOMATION SYSTEMS. A RECEPTACLE WILL BE LOCATED WITHIN THE CLOSET FOR USE WITH THE DATALOGGER.	COLUMBUS, OH 43210
2.)THE ORGANIZER ENCLOSURE SHALL BE PLACED IN THE PROVIDED ELECTRICAL CLOSET. THE ELECTRICAL CLOSET IS LOCATED ON THE WEST WALL OF THE SOUTH MODULE.	Ð
3.) THE TEAM SHALL RUN CONDUIT FOR TWO REDUNDANT NETWORK CABLES BETWEEN THE ORGANIZER ENCLOSURE AND THE DATALOGGER ENCLOSURE. A POWER CABLE WILL ALSO USE THIS ROUTE. A JUNCTION BOX WILL CONNECT THE CABLES AS THEY CROSS BETWEEN MODULES. THIS JUNCTION WILL BE DISASSEMBLED BEFORE SHIPPING OF THE HOUSE AND REASSEMBLED UPON ARRIVAL IN WASHINGTON DC. PULL THROUGH STRING WILL BE SUPPLIED.	
4.) THE CONDUIT SHALL ALSO HOUSE SENSOR WIRING FROM THE TEAM METER HOUSING TO THE ORGANIZER DATALOGGER. AGAIN PULL THROUGH STRING WILL BE PROVIDED.	
5.) THE TEAM WILL PROVIDE A TEAM METER HOUSING TO ACCEPT A STANDARD 4-JAW, RINGLESS, ROUND UTILITY- GRADE SOCKET METER FOR USE WITH 240/120 V SERVICE LOCATED ON THE EXTERIOR FACE OF THEIR HOUSE AT 50"- 65" ABOVE GRADE OR ACCESSIBLE WALKING SURFACE. ORGANIZERS WILL INSTALL UTILITY METER IN THE TEAM METER HOUSING.	
6.) TEAM TO PROVIDE AND INSTALL 2/0 COPPER, 4/0 ALUMINUM OR EQUIVALENT CROSS SECTIONAL AREA POWER CABLE FROM THE TEAM PANEL BOARD VIA THE TEAM METER HOUSING TO THE ORGANIZER UTILITY PANEL. ORGANIZERS WILL MAKE FINAL CONNECTION AT	CLIENT
ORGANIZER UTILITY PANEL. 7.) ORGANIZER PROVIDED WIRED CONVENIENCE NETWORK IN THEIR HOUSE SHALL BE PREPARED TO ACCEPT A	SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV
SINGLE ETHERNET CABLE ORIGINATING AT THE ORGANIZER ENCLOSURE.	U.S. DEPARTMENT OF ENERGY
REFERENCE KEYNOTES	SOLAR DECATHLON
1	
	MARK DATE DESCRIPTION
	LOT NUMBER: 404
	CHECKED BY: Checker COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN
	INTERCONNECTION → PLAN DRAFT
	E-104

		1	2	3
		r.		1
		r.	н н	
E			, , ,	1
			· · · · · · · · · · · · · · · · · · ·	
			1	1
			r	1
		н н н		1
		r.		1
		r L	н 1	
		1	1	
Đ		· 		,
		r.		
		r.	r	1
				н 1
		r.	r	1 1
		r.	r	
		r.	r	
		r L		1 1
		н н		
C—				
		r.	r	
		r 1		1
		н н		
	I	н н н		
		· · ·	r I	
		н н		
		н н		
B		· ·	• • • • • • • • • • • • • • • • • • • •	· ·
		· ·		
		н н		1
		н н		н н
		н н н		1
		· · ·	·	
		н н		н 1
		· · · · · · · · · · · · · · · · · · ·		-
A	+	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
		r 1	1 ELECTRICAL CLC 3/8" = 1'-0"	DSET ELEVAT
, 5:30 PM		r	и 1	1
2003, 5:5				
01/28/2003,		1	2	3



	7	
	 ALL PV SYSTEM WILL BE DESIGNED AND INSTALLED IN FULL COMPLIANCE WITH THE 2008 NATIONAL ELECTRICAL CODE (NEC) AND THE 2009 SD RULES AND REGULATIONS PV MODULES, SOURCE-CIRCUIT COMBINERS, AND UTILITY- INTERACTIVE INVERTERS MUST BE SAFETY CERTIFIED (LISTED) TO THE APPROPRIATE UNDERWRITES LABORATORIES (UL) STANDARD (UL 1741 FOR INVERTERS AND COMBINERS, UL 1703 FOR PV MODULES) AND MUST BE TESTED AND CERTIFIED BY ONE OF THE FOLLOWING US NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL); UL, CSA, ETL, OR TUV RHEINLAND OF NORTHAMERICA, THE EUROPEAN CE DESIGNATION AND TESTS BY LABORATORIES IN OTHER COUNTRIES ARE NOT ACCEPTABLE (690.4) DC CIRCUITS FROM THE PV MODULES TO THE DC PV DISCONNECT MUST BE IN METAL CONDUITS (RACEWAYS) WHERE INSIDE THE STRUCTURE (690.31(E)) ALL PV STRINGS TO USE MANUFACTURED PROVIDED CABLE SUBMITTALS: PRODUCT DATA. ELECTRICAL COMPONENTS DEVICES AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGGENECY AND MARKED FOR INTENDED LOCATION AND APPLICATION. 	THE OHIO STATE UNIVERSITY 2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210
	SHEET KEYNOTES	
	، 	
	REFERENCE KEYNOTES 26 28 16 2.1-A 26 31 00 2.3-E 26 28 16 2.1-C	CLIENT U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011 WWW.SOLARDECATHLON.GOV U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON SOLAR DECATHLON Joint Contraction B B B Image: Bold Contraction
SET CE. HAT 4'		MARK DATE DESCRIPTION LOT NUMBER: 404 DRAWN BY: ROB POND CHECKED BY: MATTHEW O'KELLY COPYRIGHT: NONE: PROJECT IS SHEET TITLE ELECTRICAL A CLOSET ELEVATION ELEVATION

	Panel: A Location: Supply From: Mounting: Recessed Enclosure: Type 1				Volts: Phases: Wires:		Single			A.I.C. Rating: 10 kAlo Mains Type: Mains Rating: 200 A MCB Rating:	CMININUIM	
Notes:											· ·	
скт 1	Circuit Description BEDROOM LIGHTING	Trip	Poles	12 VA	A 37 VA		B	Poles	Trip 15 A	Circuit Des	scription	
3 5 7	OUTDOOR LIGHTING JACE Jet Pump	15 A 15 A 20 A	1 1 1	120 VA	1	37 VA 150 VA	136 VA 440 VA	1 1 1	15 A 20 A 20 A	LIVING SPACE LIGHTING BATHROOM GFCI Dishwasher	· ·	
9	KITCHEN APPLIANCE1 GFCI Power	20 A 20 A	1	1500 VA	1500 VA	180 VA	1080 VA	 1	 15 A	 MIDDLE TRAILER OUTLET	TS AFCI	
13 15	BEDROOM OUTLETS AFCI LIVING SPACE OUTLETS AFCI	20 A 20 A	1	4080 VA	23 VA	1440 VA	23 VA	2	15 A 	HOT WATER TANK SOLAF	R KIT	
17	CONDENSER	30 A	2	1180 VA	6000 VA			2	65 A	Range		
19 21	 DRYER	 30 A	2	2500 VA	1500 VA		6000 VA	 1	 20 A	 LAUNDRY ROOM GFCI		
23 25	 OVEN	 20 A		1500 VA	500 VA	2500 VA	156 VA	1	20 A 20 A	ERV REFRIGERATOR	1	
27	Outdoor Receptacles GFIC	15 A	1			720 VA	1500 VA	1	20 A	WASHER		
29 31					1							
33 35	1											
		-	- 1									
39 41	PV BREAKER	40 A	1									
			otal Load: tal Amps:		12 VA 36 A		2 VA 5 A					I
Legend:	1	10	tai Amps.			10	5.4					
					1							
Load Cla	assification		c ted Load 2 VA	C	Demand Fa 100.00%		Estimate	d Deman 2 VA	d	Pane	I Totals	
Other	i	868	32 VA		100.00%	6	868	32 VA		Total Conn. Load		
Power		319	50 VA		100.00%	6	319	50 VA		Total Est. Demand Total Conn. Current		
					1					Total Est. Demand Current		
					1							
Notes:					1							
					1							
					1							
					1							
					1							
					1						1	
					1							
					1							
	н. 1				1						1	
					1							
					I						I.	
					1							
					1							
					1							
	r T											
	1				1						1	
	1				1							
					'							
	1.				1							
1												
					1							
					1							
					1							
	1.				I						I.	
					1							
	r -											
					1							
 	н н				'							
 	н н				'							
 - 	н н											
	н н				'							
	н н				, , , , , , , , , , , , , , , , ,							
	н н											
	н н											
	н н											

		4			⁵	6 	7
Δ		WIRE SIZ	ZE CHART			D.C. CALCULATIONS	GENERAL SHEET NOTES
vı		CIRCUIT #	HOT AND NEUTRAL WIRE SIZE AWG COPPER	GROUND SIZE AWG COPPER	DC OVERCURRENT PROTECTION BETWEEN COMBINER BOXES AND INVERTER (SUM OF ALL Isc OF PARALLEL MODULES) x 1.25 SAFETY FACTOR	ALL STRINGS ARE IDENTICAL	1. ALL PV SYSTEM WILL BE DESIGNED AND IN FULL COMPLIANCE WITH THE 2008 NATION, ELECTRICAL CODE (NEC) AND THE 2009 SD REGULATIONS
		1-BEDROOM LIGHTING	12	12	6 x (1.22) x 1.25 x1.25 = 11.44 A 12 A FUSE IS NEEDED	PV STRING TO COMBINER BOX: (ISC OF MODULES)*(1.25)*(1.25) (1.23)*(1.25)*(1.25) = 1.92 AMPS	 PV MODULES, SOURCE-CIRCUIT COMBINER UTILITY- INTERACTIVE INVERTERS MUST BI CERTIFIED (LISTED) TO THE APPROPRIATE
		2- CORE LIGHTING	12	12	DC OVERCURRENT PROTECTION BETWEEN MODULES AND COMBINER BOXES	COMBINER BOX TO INVERTER: AMPS FROM PV STRING TO COMBINER BOX x	UNDERWRITES LABORATORIES (UL) STAND FOR INVERTERS AND COMBINERS, UL 1703 MODULES) AND MUST BE TESTED AND CER
	СКТ 2	3-OUTDOOR LIGHTING		12	lsc x 1.56	STRINGS COMBINED 1.92 AMPS x 6 STRINGS = 11.53 AMPS	ONE OF THE FOLLOWING US NATIONALLY F TESTING LABORATORIES (NRTL); UL, CSA, I RHEINLAND OF NORTHAMERICA, THE EURO
	2 4 6	4-LIVING SPACE LIGHTING	12	12	1.22 x 1.56 =1.9A 2A FUSE USED	B. VDI = (AMPS x FEET)/(%VOLT DROP x VOLTAGE) = (11.53 x 25)/(2 x (6 x 96.33)) = 0.25	DESIGNATION AND TESTS BY LABORATORI COUNTRIES ARE NOT ACCEPTABLE (690.4) 3. DC CIRCUITS FROM THE PV MODULES TO T
	8 10	5-JACE	12	12	AMPACITY FOR CONDUCTORS AT 25 CELSIUS	– 0.25 C. PER TABLE 310.16	DISCONNECT MUST BE IN METAL CONDUITS WHERE INSIDE THE STRUCTURE (690.31(E) 4. ALL PV STRINGS TO USE MANUFACTURED
	12 14 16	6-BATHROOM OUTLETS	12	12	(SUM OF ALL Isc IN PARRALLEL) x 1.25 x 1.25 (6 x 1.22 x 3) x 1.25 x1.25 =34.31 A	90 DEG C. RATED CABLE 12 AWG = 30 71-80 DEG C CORRECTION FACTOR = .41	CABLE SHEET KEYNOTES
	18 20	7-JET PUMP 8-DISHWASHER LINE	12 12	12 12	MAX INVERTER AC OUTPUT IS 7000VA TAKEN FROM SPEC SHEET	CORRECTED FACTOR = 12.3 (GREATER THAN 11.53)	
	22 24 26	9-KITCHEN APP 1	12	12	BUS RATING	REQUIRED CABLE: 14 AWG UF COPPER	
	20 28 30	10-DISHWASHER		12	- Isc x SAFTEY FACTOR x 1.2 1.22 x 1.25 x 1.2	REQUIRED INVERTER FUSE: 11.53 MAX AMPS SO 12 AMP FUSE	
	32 34	LINE 2 11-KITCHEN APP 2	12	12	= 1.83 A WHICH IS LESS THAN THE 2A FUSE AT THE BUS	DC STRING VOC AT EXTREME EXPECTED OPERATING TEMPERATURES	
	36 - 38 - 40	12- MIDDLE TRAILER		12		A.	
	42	OUTLETS			DC GROUND CALCULATIONS:	VMAX = VOC + ((TLOW – TREF) × α VOC) STRING VOC = 90.5 V	
		13-BEDROOM OUTLET	12	12	250.166 SIZE OF THE DIRECT-CURRENT GROUNDING ELECTRODE CONDUCTOR	TLOW = -7.2 CELSIUS TREF = 25 CELSIUS α =002	
		14-HOT WATER/SOLAR	12	12	(C) CONNECTED TO ROD, PIPE, OR PLATE ELECTRODES. WHERE CONNECTED TO ROD, PIPE, OR PLATE ELECTRODES AS IN	VMAX = 90.5 V + ((-7.2°C - 25°C) × (20%/°C × 90.5 V) = 96.33 V	
A A		KIT 15-LIVING S中外に住 OUTLETS	12	12	250.52(A)(5) OR (A)(7) THAT PORTION OF THE GROUNDING ELECTRODE CONDUCTOR THAT IS THE SOLE CONNECTION TO THE GROUNDING ELECTRODE SHALL NOT BE REQUIRED TO BE	B. NMAX = 600 Vdc / 96.33 V = 6.23 = 6 MODULES IN SERIES	
		16- HOT	12	12	LARGER THAN 6 AWG COPPER WIRE OR 4 AWG ALUMINIUM WIRE. DC GROUND CONDUCTOR SIZE = 6 AWG	C. VMIN = (VMPP + ((THI + TRISE – TREF) × β VMPP))	
		WATER/SOLAR KIT LINE 2			AC GROUND CALCULATIONS:	VMIN = 69.9 V + ((41.1°C + 20°C - 25°C) × -0.25%/°C × 69.9 V) = 63.54 V	
		17-CONDENSER LINE	10	10	PER TABLE 250.66, FOR A GROUND ELECTRODE OF 1 OR 1/0, THE SPECIFIED CONDUCTOR SIZE IS 6 AWG	SELECT AND APPLY A MULTIPLIER TO ACCOUNT FOR THE COMBINED EFFECTS OF HIGH AC GRID VOLTAGE, ARRAY DEGRADATION AND MODULE	
		18-RANGE LINE 1	8	8	GROUND CABLE TO BE SPLICED WITH AN IRREVERSIBLE CRIMPED SPLICING DEVICE TO A	VOLTAGE TOLERANCE. 0.85 IS USED IN THIS CASE: VMIN = $63.54 \text{ V} \times 0.85$	
		19-CONDENSER LINE	10	10		= 54.01 V NMIN = 250 V / 54.01 V = 4.63	
		20-RANGE LINE 2	8	8		= 5 MODULES IN SERIES	
		21-DRYER LINE 1	10	10		AC CALCULATIONS	
		22- LAUNDRY ROOM	12	12		INVERTER TO PANEL (MAX OUTPUT CURRENT)*(1.25)=NEC REQUIRED AMPS (29 AMPS SUNNYBOY 7000US)*(1.25) = 36.25 AMPS	REFERENCE KEYNOTES
		23- DRYER LINE 2	10	10		8 AWG CABLE REQUIRED IN MC CONDUIT REQUIRED BACKFED BREAKER SIZE: 40 AMPS *VOLTAGE DROP IS NEGLIGIBLE	
		24- ERV 25-OUTDOOR	12 12	12 12		TEMPERATURE OPERATION IN CONDUIT INVERTER PER TABLE 310.16	
		OUTLETS 26- REFRIGERATOR	12	12		90 DEG C. RATED CABLE 8 AWG = 55 45-50 DEG C CORRECTION FACTOR = .82	
			12	12		CORRECTED FACTOR= 45.1 (GREATER THAN 36.25AMPS)	
		27-OVEN 28-WASHER		12 12	-	SERVICE FEEDER CALCULATIONS	
						GENERAL LOAD 1000 FT2 AT 3 VA 3000 VA 2- 20 A APPLIANCE AT 1500VA 3000 VA LAUNDRY CIRCUIT 1500 VA RANGE 12000 VA WATER HEATER 3000 VA DISHWASHER 440 VA DRYER 5000 VA JET PUMP 150 VA TOTAL 28090 VA FIRST 10,000 AT 100% 10,000 VA REMAINDER AT 40% 7,236 VA HVAC 5562 VA TOAL PLUS HVAC 22,798 VA 22,798 VA / 240 V = 95 AMPS 95 AMPS x 1.25 SAFETY FACTOR = 119 AMPS USING 200 AMP MAINS	

____ ___ ___ ____ 6

	6	7	
	D.C. CALCULATIONS	GENERAL SHEET NOTES	
.25	ALL STRINGS ARE IDENTICAL	1. ALL PV SYSTEM WILL BE DESIGNED AND INSTALLED IN FULL COMPLIANCE WITH THE 2008 NATIONAL ELECTRICAL CODE (NEC) AND THE 2009 SD RULES AND	
	A. PV STRING TO COMBINER BOX: (ISC OF MODULES)*(1.25)*(1.25) (1.23)*(1.25)*(1.25) = 1.92 AMPS	REGULATIONS 2. PV MODULES, SOURCE-CIRCUIT COMBINERS, AND UTILITY- INTERACTIVE INVERTERS MUST BE SAFETY CERTIFIED (LISTED) TO THE APPROPRIATE	
	COMBINER BOX TO INVERTER: AMPS FROM PV STRING TO COMBINER BOX x STRINGS COMBINED 1.92 AMPS x 6 STRINGS = 11.53 AMPS	UNDERWRITES LABORATORIES (UL) STANDARD (UL 1741 FOR INVERTERS AND COMBINERS, UL 1703 FOR PV MODULES) AND MUST BE TESTED AND CERTIFIED BY ONE OF THE FOLLOWING US NATIONALLY RECOGNIZED TESTING LABORATORIES (NRTL); UL, CSA, ETL, OR TUV RHEINLAND OF NORTHAMERICA, THE EUROPEAN CE	
	B. VDI = (AMPS x FEET)/(%VOLT DROP x VOLTAGE) = (11.53 x 25)/(2 x (6 x 96.33)) = 0.25	 DESIGNATION AND TESTS BY LABORATORIES IN OTHER COUNTRIES ARE NOT ACCEPTABLE (690.4) 3. DC CIRCUITS FROM THE PV MODULES TO THE DC PV DISCONNECT MUST BE IN METAL CONDUITS (RACEWAYS) WHERE INSIDE THE STRUCTURE (690.31(E)) 	
5	C. PER TABLE 310.16 90 DEG C. RATED CABLE 12 AWG = 30 71-80 DEG C CORRECTION FACTOR = .41	4. ALL PV STRINGS TO USE MANUFACTURED PROVIDED CABLE SHEET KEYNOTES	THE OHIO STATE UNIVERSITY
I FROM	CORRECTED FACTOR = 12.3 (GREATER THAN 11.53) REQUIRED CABLE:		2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE.
	14 AWG UF COPPER REQUIRED INVERTER FUSE: 11.53 MAX AMPS SO 12 AMP FUSE		COLUMBUS, OH 43210
SE AT	DC STRING VOC AT EXTREME EXPECTED OPERATING TEMPERATURES		
	A. VMAX = VOC + ((TLOW – TREF) × α VOC) STRING VOC = 90.5 V		└Ð │
	TLOW = -7.2 CELSIUS TREF = 25 CELSIUS α =002 VMAX = 90.5 V + ((-7.2°C - 25°C) × (20%/°C × 90.5 V)		
5	= 96.33 V B. NMAX = 600 Vdc / 96.33 V = 6.23 = 6 MODULES IN SERIES		
	C. VMIN = (VMPP + ((THI + TRISE – TREF) × βVMPP)) VMIN = 69.9 V + ((41.1°C + 20°C – 25°C) × -0.25%/°C × 69.9 V) = 63.54 V		
<u>-</u> IS	SELECT AND APPLY A MULTIPLIER TO ACCOUNT FOR THE COMBINED EFFECTS OF HIGH AC GRID VOLTAGE, ARRAY DEGRADATION AND MODULE VOLTAGE TOLERANCE. 0.85 IS USED IN THIS CASE:		
۹	VMIN = 63.54 V x 0.85 = 54.01 V	· · · · · · · · · · · · · · · · · · ·	└────────────────────────────────────
	NMIN = 250 V / 54.01 V = 4.63 = 5 MODULES IN SERIES		U.S. DEPARTMENT OF ENERGY
	AC CALCULATIONS		U.S. DEPARTMENT OF ENERGY
	INVERTER TO PANEL (MAX OUTPUT CURRENT)*(1.25)=NEC REQUIRED AMPS (29 AMPS SUNNYBOY 7000US)*(1.25) = 36.25 AMPS 8 AWG CABLE REQUIRED IN MC CONDUIT REQUIRED BACKFED BREAKER SIZE: 40 AMPS		SOLAR DECATHLON
	*VOLTAGE DROP IS NEGLIGIBLE TEMPERATURE OPERATION IN CONDUIT INVERTER PER TABLE 310.16 90 DEG C. RATED CABLE		
	8 AWG = 55 45-50 DEG C CORRECTION FACTOR = .82 CORRECTED FACTOR= 45.1 (GREATER THAN 36.25AMPS)		
	SERVICE FEEDER CALCULATIONS		B
	GENERAL LOAD1000 FT2 AT 3 VA3000 VA2- 20 A APPLIANCE AT 1500VA3000 VALAUNDRY CIRCUIT1500 VARANGE12000 VAWATER HEATER3000 VADISHWASHER440 VA		MARK DATE DESCRIPTION
	DRYER 5000 VA JET PUMP 150 VA TOTAL 28090 VA FIRST 10,000 AT 100% 10,000 VA		LOT NUMBER: 404
	REMAINDER AT 40% 7,236 VA HVAC 5562 VA TOAL PLUS HVAC 22,798 VA		CHECKED BY: MATTHEW O'KELLY COPYRIGHT: NONE: PROJECT IS
	22,798 VA / 240 V = 95 AMPS 95 AMPS x 1.25 SAFETY FACTOR = 119 AMPS USING 200 AMP MAINS		PUBLIC DOMAIN
	NEUTRAL LOAD CALCULATIONS		PANEL SCHEDULES
	BEDROOM RECEPTACLE DUPLEX RECEPTACLE 180V-A QUANTITY 9		⊢ A
	1620VA/120V = 13.5A= 16.875 (1.25 SAFETY FACTOR) = 12 AWG COPPER		E 601
			E-601
	6	L	1

01/28/2003, 5:30 PM	C	E	
			<u>1</u>
			2
1			1

	LIGHTING EQUIPMENT SCHEDULE							
MARK	MANUFACTURER	MODEL	DESCRIPTION	NO.				
PL	Z-LITE	173-36W-NC	PENANT LIGHT	1				
LED	CAPRI	CRL6K-14-30K	120V LED 6 IN	5				
-	CAPRI	CRL6R-WHT	WHITE REFLECTOR	5				
CFL	ELCO	EL27H26ICDA	26W 120V PL HSG	8				
-	ELCO	ELM-422W	REFL W/ BFFL LENS	8				
BA	FORECAST LIGHT	F3506-36U	BATHROOM MIRROR	1				
LF-#	LITHONIA	Z COMPACT T5	VARIOUS LENGTH T5	11				
RAZ	LITHONIA	RAZ12	RAYZER LED LAMP	3				
SCNC	Y LIGHTING	AWL.18	OUTDOOR WALL LIGHT	1				

7

	CONTROLS EQUIPMENT SCHEDULE								
MARK	MANUFACTURER	MODEL	DESCRIPTION	NO.					
LS	ECT	MK7-B-CCF-0/10	LIGHT SENSOR	2					
SD			SMOKE DETECTOR	3					
VS	WATTSTOPPER	DT-305	OCCUPANCY SENSOR	2					
R I/O	VYKON	IO-16-485	REMOTE INPUT/OUTPUT	4					
-	ACI	A/AN-D-4"-GD	TEMPERATURE SENSOR	4					
-	APRILAIRE	10K	THERMOCOUPLE	4					
-	ACI	A/CO2-010-D	CO2 SENSOR	1					
	DUROZONE	NSPRD024-4	DAMPER ACTUATOR	8					
_	HONEYWELL	C7400A1004	ENTHALPY SENSOR	1					
-	GEORGIA CTRL	P/N 236-803	VPV CONVERTER	1					

	ELECTRICAL EQUIPMENT SCHEDULE							
MARK	MANUFACTURER	MODEL	DESCRIPTION					
INV	SMA	7000	7000 VA INVERTER	1				
DC-D	SQUARE D	DHU361RB	30 AMP VDC DISCONNECT	1				
AC-D	EATON	BRN222GD	200 AMP AC DISCONNECT	1				
MET	N/A	N/A	METER	1				
JA a	VYKON a a a a a	600	JACE	1				
PAN	EATON	BR4040B200V	200 AMP PANEL	1				
COM	MIDNITE SOLAR	MNPV12	COMBINER BOX	3				

6

7

RECE	PTACLES LEGEND
	DUPLEX
	QUADRUPLEX
	GFCI
₽ ^C	COUNTER HEIGHT GFCI 48"

4

5

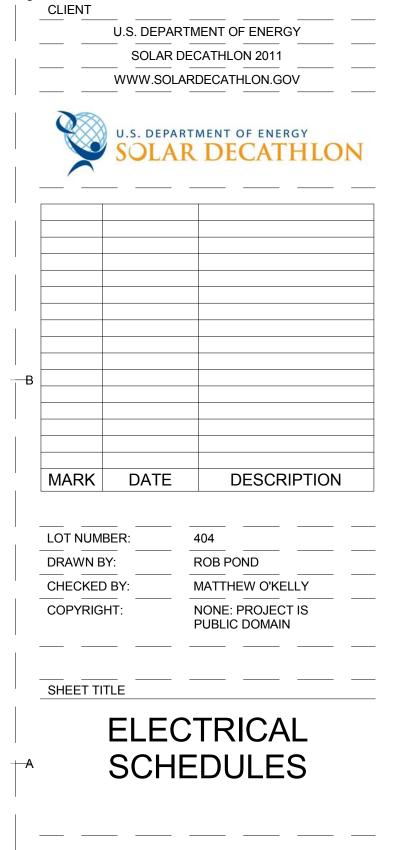
4

5

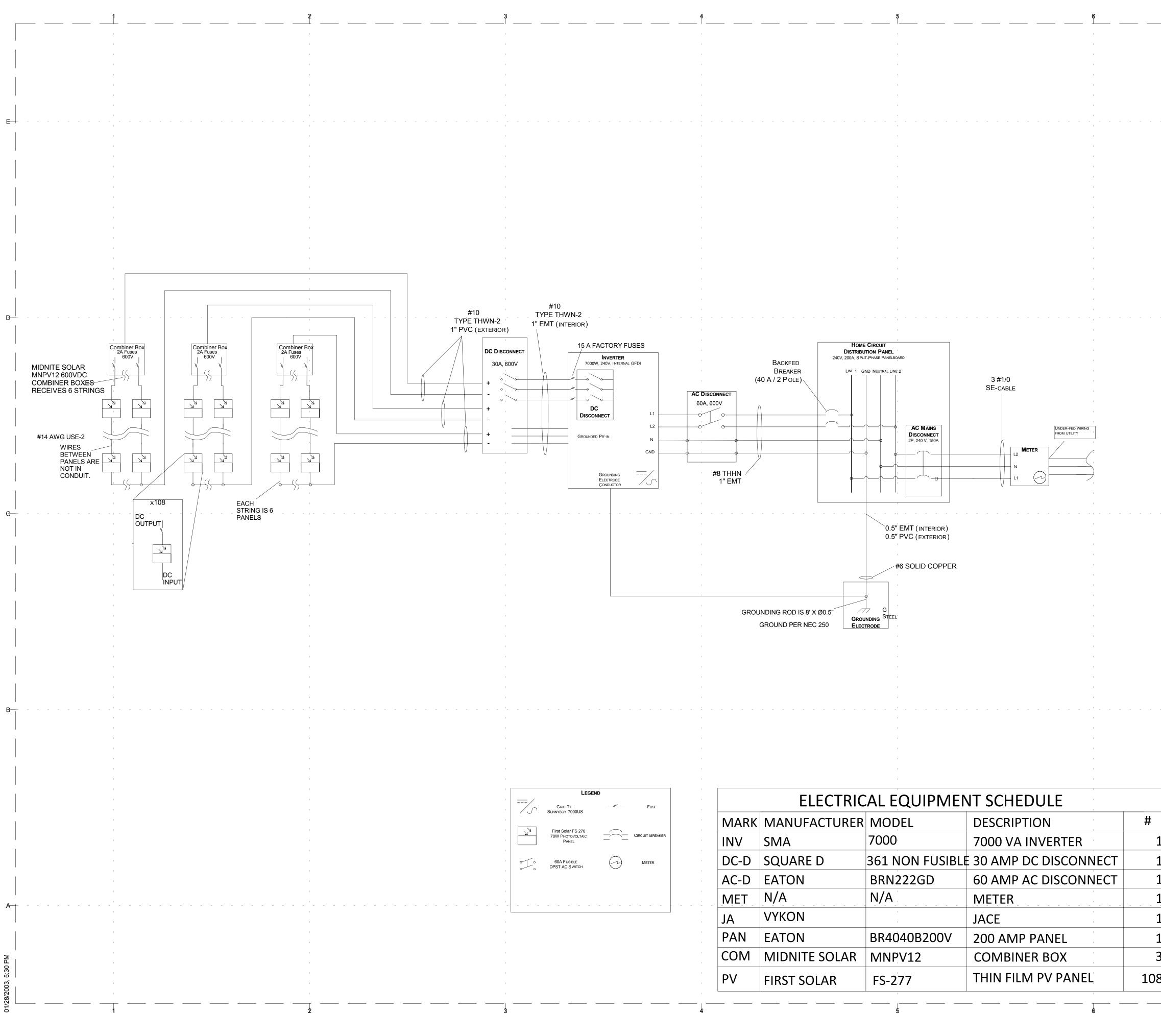
THE OHIO STATE UNIVERSITY

⊢Đ

2011 SOLAR DECATHLON TEAM KNOWLTON SCHOOL OF ARCHITECTURE 275 W. WOODRUFF AVE. COLUMBUS, OH 43210



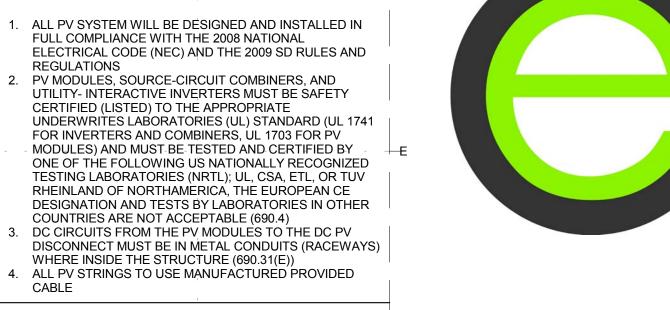
E-602



LEGEND)	
Grid Tie NNYBOY 7000US	#	Fuse
First Solar FS 270 OW PHOTOVOLTAIC PANEL		CIRCUIT BREAKER
60A FUSIBLE PST AC SWITCH		METER

	ELECTRIC	AL EQUIPMEN	IT SCHEDULE		
MARK	MANUFACTURER	MODEL	DESCRIPTION		#
INV	SMA	7000	7000 VA INVERTER		1
DC-D	SQUARE D	361 NON FUSIBLE	30 AMP DC DISCONNE	CT	1
AC-D	EATON	BRN222GD	60 AMP AC DISCONNE	CT	1
	N/A	N/A	METER		1
JA	VYKON		JACE		1
PAN	EATON	BR4040B200V	200 AMP PANEL		1
COM	MIDNITE SOLAR	MNPV12	COMBINER BOX		3
PV	FIRST SOLAR	FS-277	THIN FILM PV PANEL		108

GENERAL SHEET NOTES



—С ·

CLIENT

-----B

THE OHIO STATE UNIVERSITY

2011 SOLAR DECATHLON TEAM

275 W. WOODRUFF AVE.

COLUMBUS, OH 43210

KNOWLTON SCHOOL OF ARCHITECTURE

SHEET KEYNOTES

1. BACK-FED CIRCUIT BREAKERS ARE INSIDE MAIN PANEL 2. COLOR CODING A. AC i. HOT - ANY COLOR OTHER THAN GREEN OR WHITE/GRAY ii. NEUTRAL - WHITE/GRAY iii. GROUND - GREEN OR BARE

DC WILL USE BLACK CABLE WITH MARKINGS OF THE COLARS SHOWN BELOW ON ALL TERMINATION POINTS BY NEC 200.6 B. DC

i. UNGROUNDED CONDUCTOR - ANY COLOR OTHER THAN GREEN OR WHITE/GRAY ii. GROUNDED CONDUCTOR - WHITE/GRAY

- iii. EQUIPMENT GROUND -GREEN OR BARE 3. ALL WIRING CONDUCTOR MATERIAL IS COPPER
- 4. "EXTERIOR" &"INTERIOR" CORRELATE TO OUTSIDE OR INSIDE THE HOUSE STRUCTURE, RESPECTIVELY

D.C. CALCULATIONS

ALL STRINGS ARE IDENTICAL PV STRING TO COMBINER BOX:

(ISC OF MODULES)*(1.25)*(1.25) (1.23)*(1.25)*(1.25) = 1.92 ÅMPS

COMBINER BOX TO INVERTER: AMPS FROM PV STRING TO COMBINER BOX x STRINGS COMBINED 1.92 AMPS x 6 STRINGS = 11.53 AMPS

VDI = (AMPS x FEET)/(%VOLT DROP x VOLTAGE) = (11.53 x 25)/(2 x (6 x 96.33)) = Ò.25

PER TABLE 310.16 FROM COMBINER BOXES TO DC DISCONNECT 90 DEG C. RATED CABLE 10 AWG = 40

71-80 DEG C CORRECTION FACTOR = .41 CORRECTED FACTOR = 16.4 (GREATER THAN 11.53)

FROM DC DISCONNECT TO INVERTER 90 DEG. C. RATED CABLE 10 AWG = 40 3 LINES = 11.53 * 3 = 34.59 41-45 DEG C CORRECTION FACTOR = .87

(SHADED AND NOT DIRECTLY OUTSIDE) CORRECTED FACTOR = 34.8 (GREATER THAN 34.59)

REQUIRED CABLE: 12 AWG UF COPPER

REQUIRED INVERTER FUSE: 11.53 MAX AMPS SO 12 AMP FUSE

AMPACITY FOR CONDUCTORS AT 25 CELSIUS (SUM OF ALL Isc IN PARALLEL) x 1.25 x 1.25 (6 x 1.22) x 1.25 x1.25 =11.43 A

MAX INVERTER AC OUTPUT IS 7000VA TAKEN FROM SPEC SHEET

BUS RATING

Isc x SAFTY FACTOR x 1.2 1.22 x 1.25 x 1.2 = 1.83 A WHICH IS LESS THAN THE 2A FUSE AT THE BUS

DC OVERCURRENT PROTECTION BETWEEN COMBINER BOXES AND INVERTER

(SUM OF ALL Isc OF PARRALLE MODULES) x 1.25 SAFETY FACTOR

6 x (1.22) x 1.25 x1.25 = 11.44 A 12 A FUSE IS NEEDED

DC OVERCURRENT PROTECTION BETWEEN MODULES AND COMBINER BOXES

lsc x 1.56 1.22 x 1.56

=1.9A 2A FUSE USED

DESCRIPTION MARK DATE _____ LOT NUMBER: 404 ROB POND DRAWN BY: CHECKED BY: MATTHEW O'KELLY

U.S. DEPARTMENT OF ENERGY

SOLAR DECATHLON 2011

WWW.SOLARDECATHLON.GOV

U.S. DEPARTMENT OF ENERGY

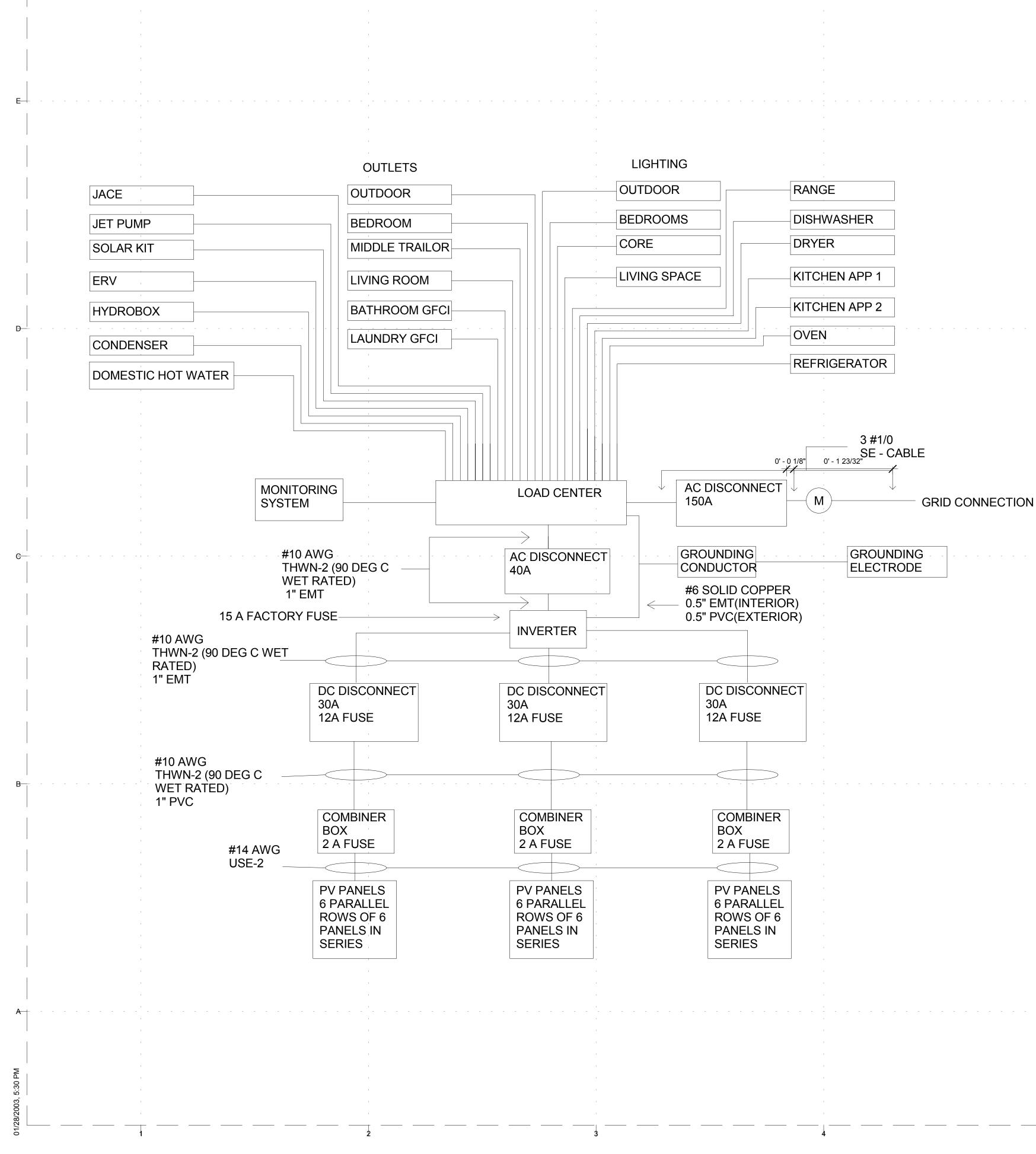
SOLAR DECATHLON

NONE: PROJECT IS COPYRIGHT: PUBLIC DOMAIN _____

SHEET TITLE

THREE LINE DIAGRAM

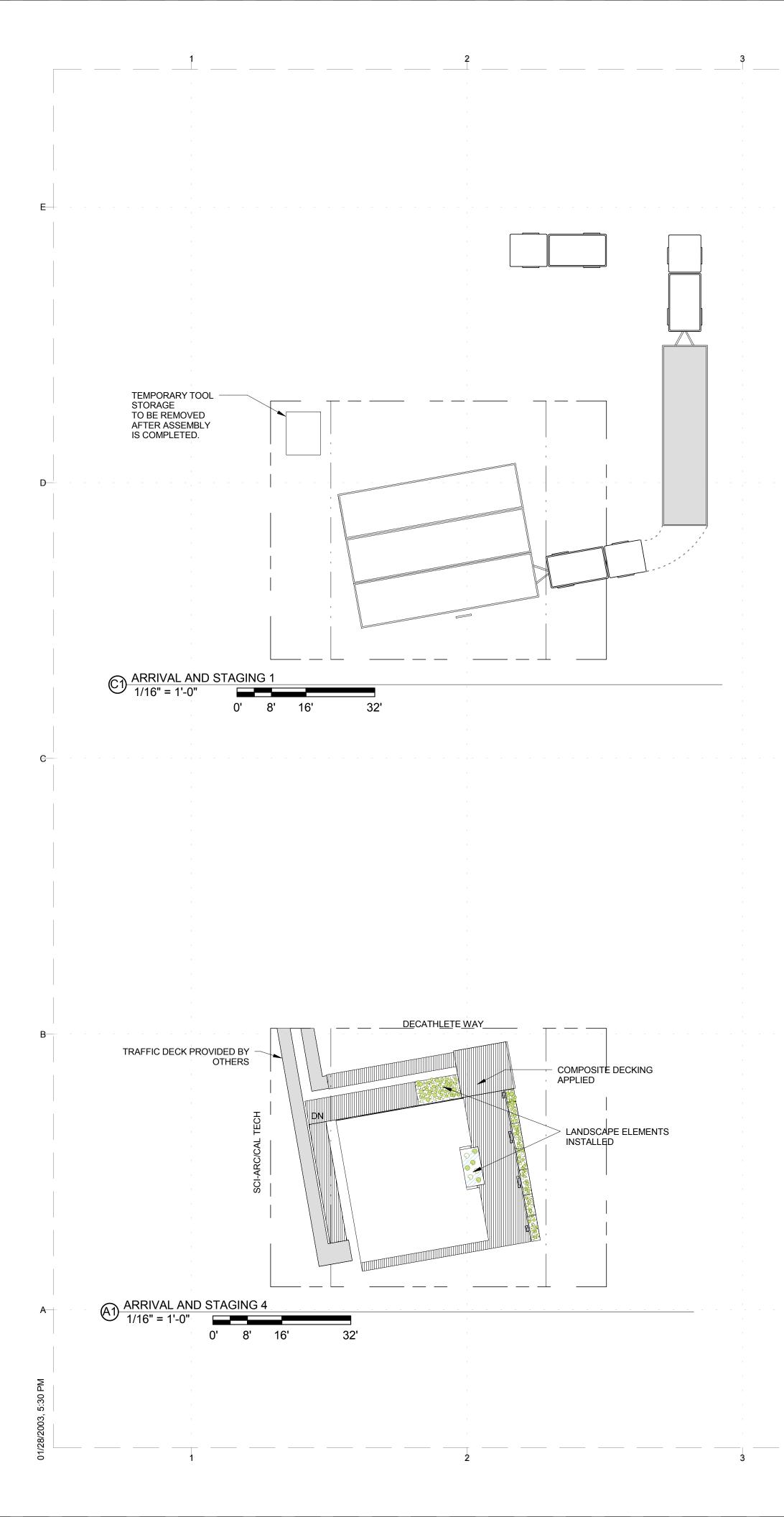
E-611

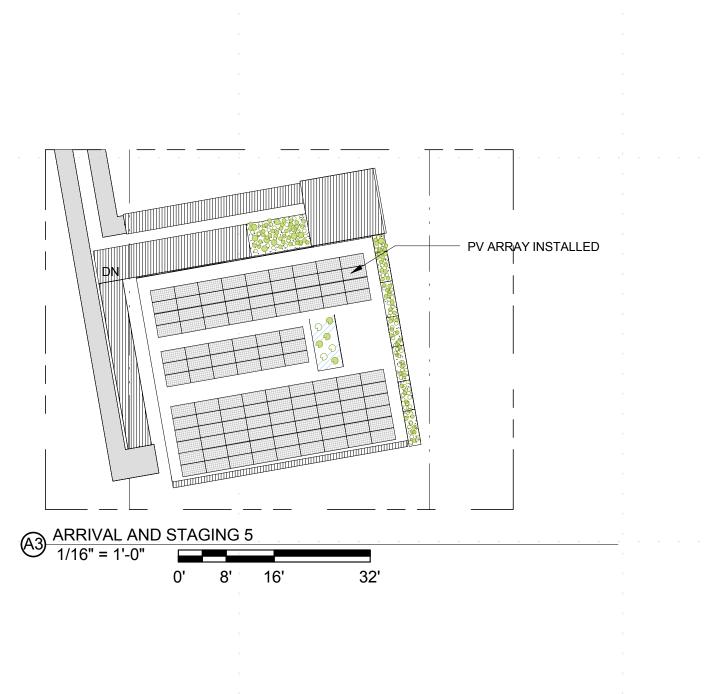


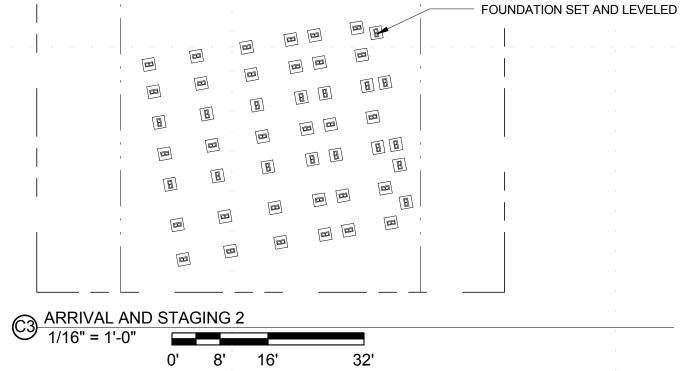
AC WIRE	E SIZE CHAF	RT
CIRCUIT #	HOT AND NEUTRAL WIRE SIZE AWG COPPER	GROUND SIZE AWG COPPER
1-BEDROOM	12	10
LIGHTING 2- CORE LIGHTING	12	10
3-OUTDOOR LIGHTING	12	10
4-LIVING SPACE LIGHTING	12	10
5-JACE	12	10
6-BATHROOM OUTLETS	12	10
7-JET PUMP	12	10
8-DISHWASHER LINE 1	12	10
9-KITCHEN APP 1	12	10
10-DISHWASHER LINE 2	12	10
11-KITCHEN APP 2	12	10
12- MIDDLE TRAILER OUTLETS	12	10
0 0 13-BEDROOM OUTLET	12	10
14-HOT WATER/SOLAR KIT LINE 1	12	10
15-LIVING SPACE OUTLETS	12	10
16- HOT WATER/SOLAR KIT LINE 2	12	10
17-CONDENSER LINE	10	8
18-RANGE LINE 1	8	6
19-CONDENSER LINE 2	10	8
20-RANGE LINE 2	8	<u>6</u>
21-DRYER LINE 1	10	8
22- LAUNDRY ROOM	12	10
23- DRYER LINE 2	10	8
24- ERV	12	10
25-OUTDOOR OUTLETS	12	10
26- REFRIGERATOR	12	10
27-OVEN	12	10
28-WASHER	12	10

-





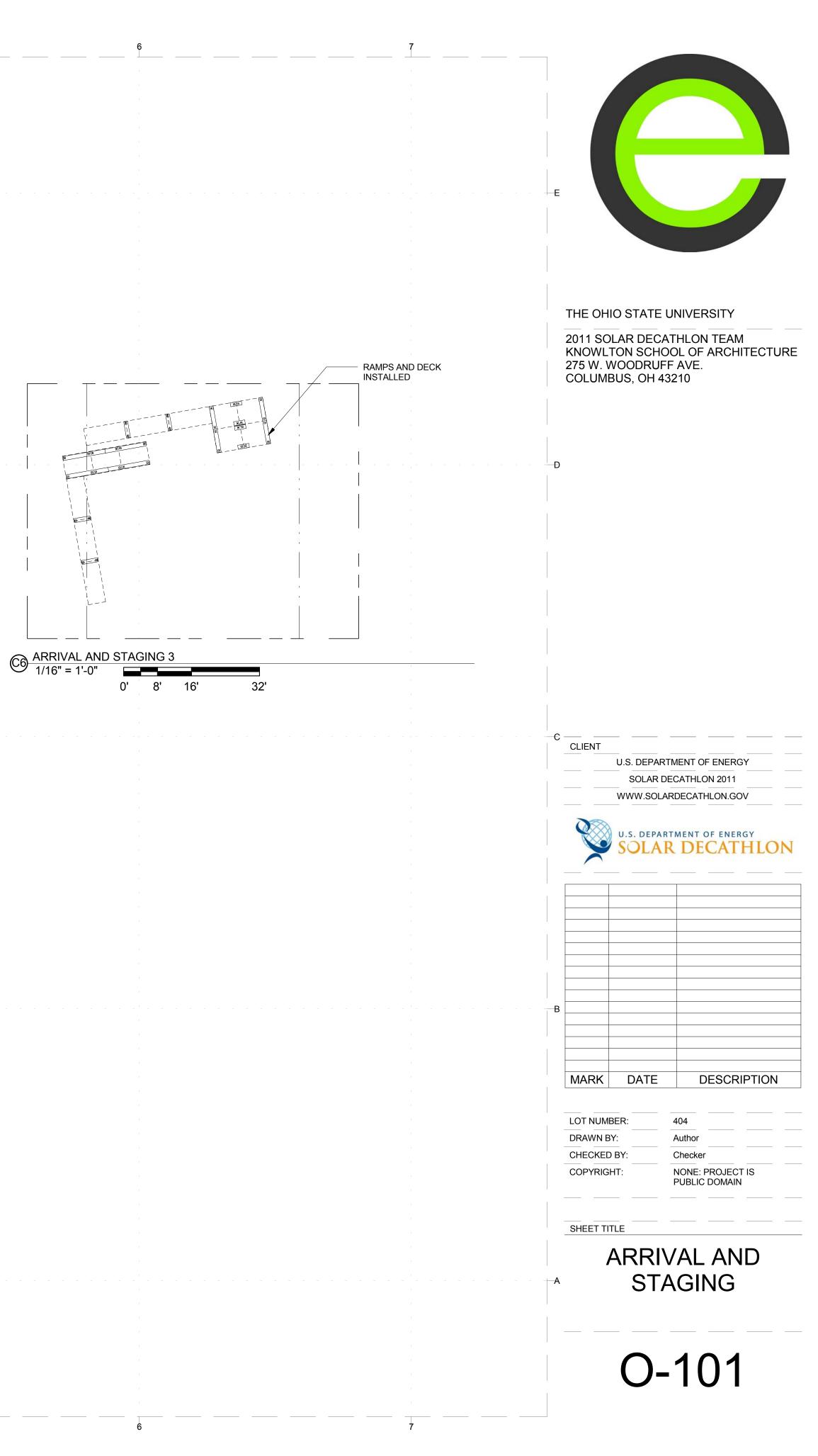


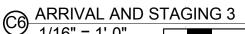


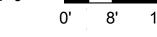
_ _ _

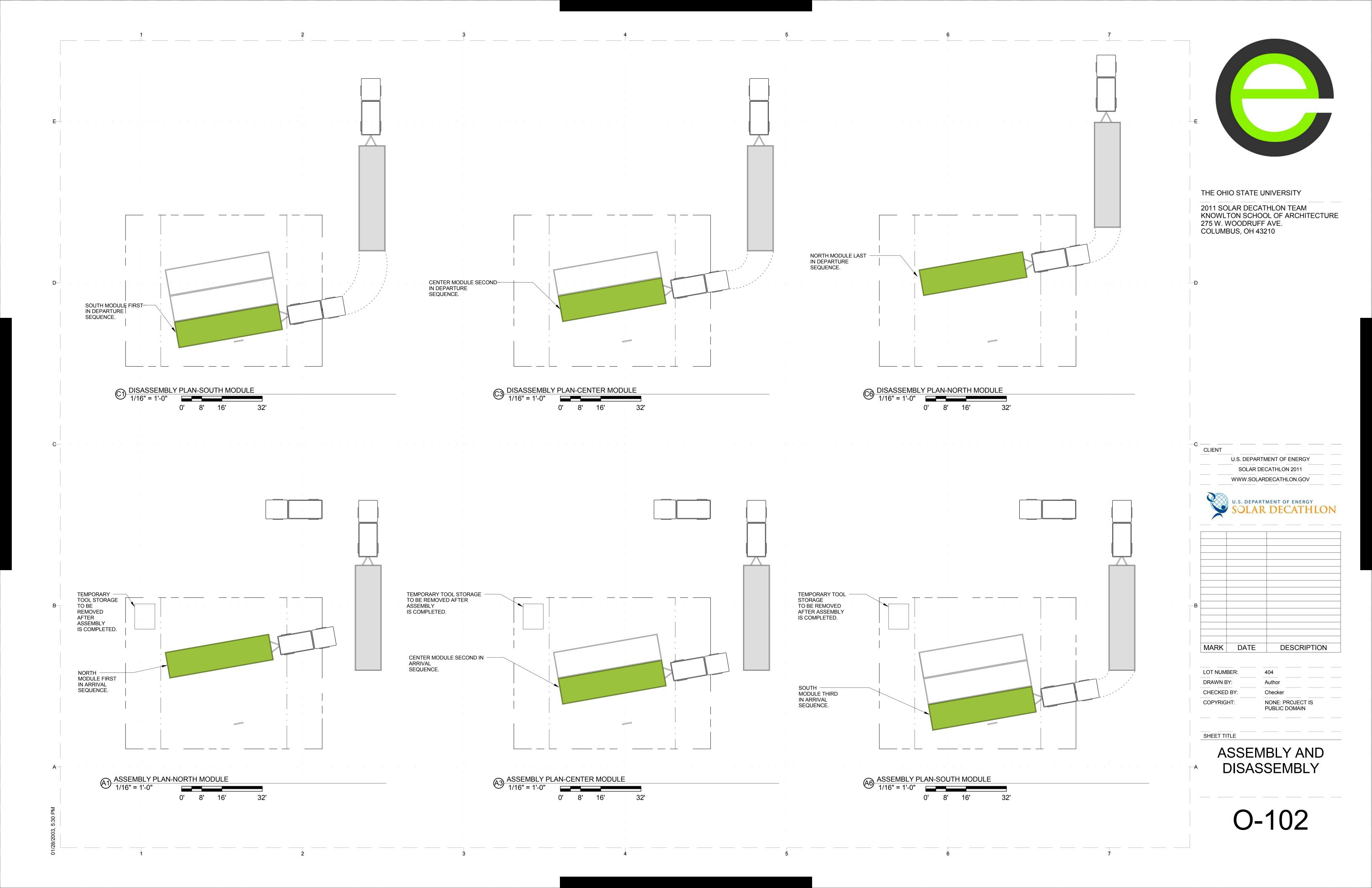
4

5









01/28/2003, 5:30 PM	B	C	Đ	E
-				
1				1
-				_
_				
-				_
-				
2				
-				-
-				
_				
3				3
_				



