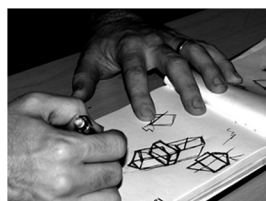




## Solar Decathlon 2007 | Construction Drawings 08.07.07

**NYIT**



OPEN House, NYIT's entry in to the 2007 Solar Decathlon, delivers the message of sustainable living through the design of a house that is adaptable, smart, and incorporates intelligent technology and creative engineering. It is the collective thought of the team that time is of the essence and we must share knowledge to survive. Thus, OPEN House is open access and open source so that many can contribute to its making, and through feedback it can evolve; this house is an open and evolving experiment in a sustainable lifestyle.

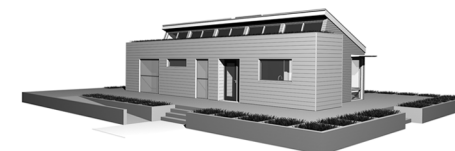
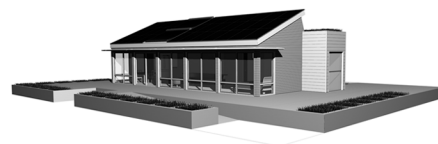
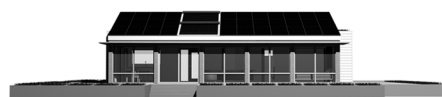
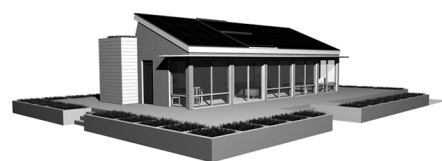
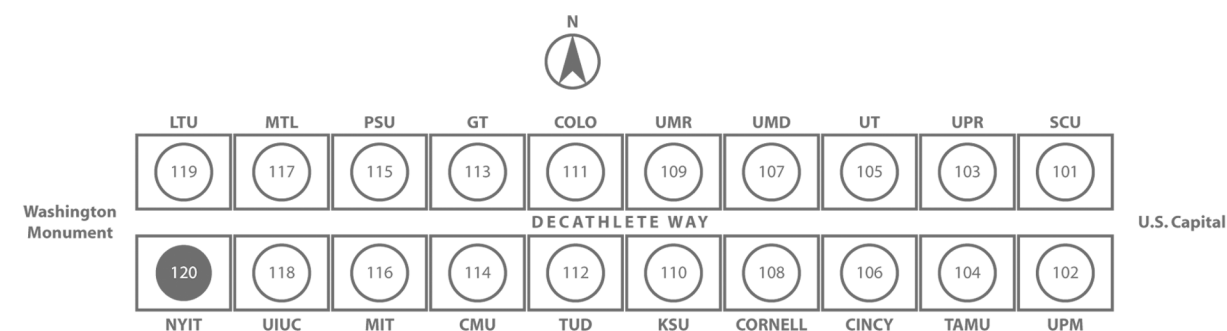
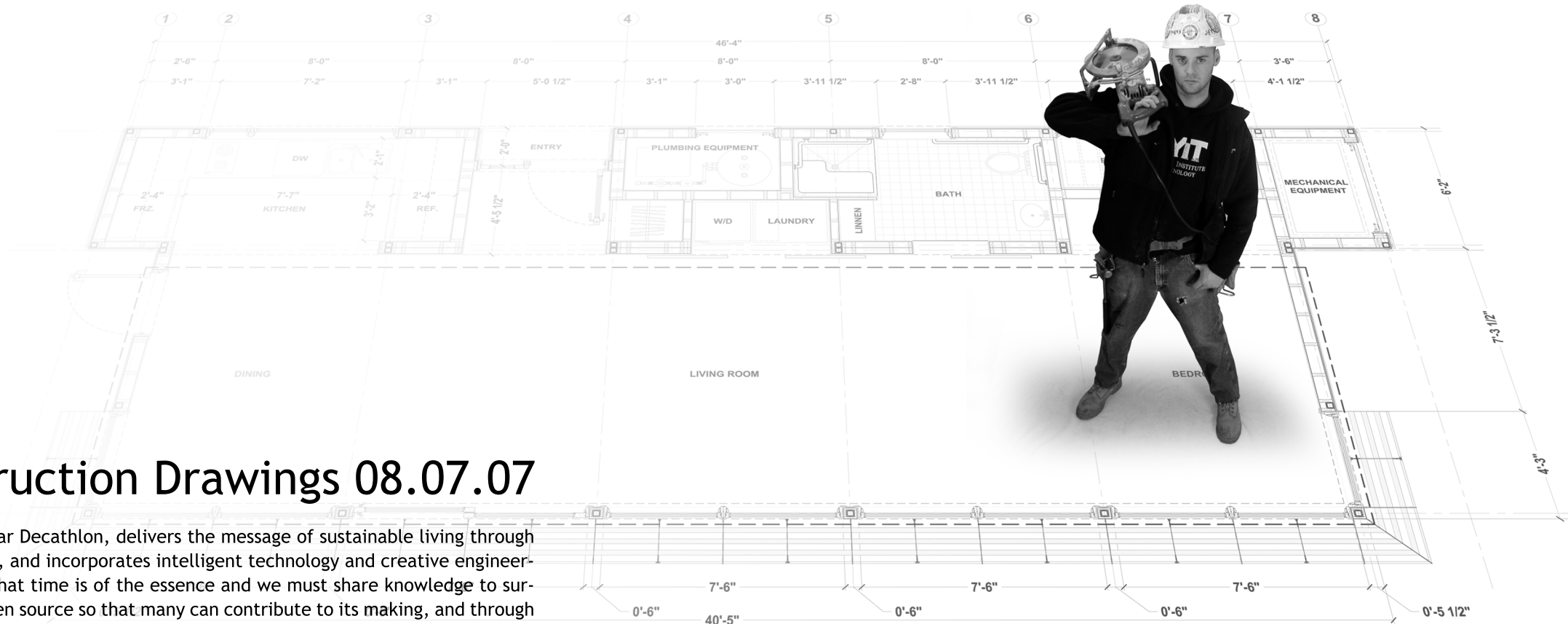
There are two parts to OPEN House: a manifold, or core, that contains kitchen, bathroom and environmental systems; and a large, open space that encourages diverse living scenarios. The house as a whole is open, adaptable and customizable. Its flexibility enables a range of lifestyles from starter home to vacation house. The prototype built for the Solar Decathlon competition is just one iteration of a myriad of design typologies that can be created with user input which connects with our philosophy of open source design.

The living space is open to interpretation. Services are distributed throughout to create flexible zones to accommodate a multiplicity of functions. Flexible furnishings create floating micro-environments for inhabitants.

Water facilitates open exchange between house and environment. On the roof of the core is a pool of water that simulates a geothermal well by storing or dissipating heat generated by OPEN House. A waterfall off the west side of the core allows water to cool and be recycled back to the roof pond allowing inhabitants to experience the poetic engineering of the home in its environment.

OPEN House is smart. It detects temperature, humidity, power usage and water deployment. It communicates these through the internet and computer technology, creating a dynamic, informational feedback loop between OPEN House and its inhabitants.

Spaces in the home can be reinterpreted by its inhabitants, creating a flexible, educational realm where people can visualize OPEN House as a unique ecosystem coexisting within the larger ecosystem of our earth. The system of OPEN House allows for design permutations encouraging life to be lived experimentally, creatively and responsibly. We hope that the interrelationships of habitat, humans and ecology will become a new basis for human community.



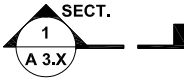



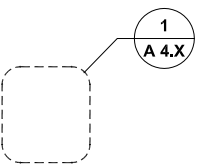









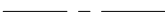






GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE INTERNATIONAL RESIDENTIAL CODE AND THE SOLAR DECATHLON 2007 RULES & REGULATIONS LATEST EDITION AND ALL OTHER GOVERNING AGENCIES BUILDING REQUIREMENTS.
2. ALL ITEMS OF WORK IDENTIFIED ON THESE DRAWINGS ARE DESIGNATED TO BE NEW UNLESS OTHERWISE NOTED.
3. WINDOW AND DOOR MODELS AS MANUFACTURED BY MARVIN. REFER TO WINDOW AND DOOR SCHEDULE ON SHEET A1.0 FOR DIMENSIONS AND SPECIFIC DETAILS.
4. THESE DRAWINGS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE PROPERTY OF THE NEW YORK INSTITUTE OF TECHNOLOGY, WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY MAY NOT BE USED ON ANY OTHER PROJECT EXCEPT BY WRITTEN AUTHORIZATION BY THE NEW YORK INSTITUTE OF TECHNOLOGY.
5. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SUPERCEDE SCALED DIMENSIONS.

DRAWING SYMBOLS

	ELEVATION BUBBLE	S	SINGLE POLE SWITCH		UNDER CABINET FLUORESCENT - 48"
	SECTION BUBBLE	S <sub>d</sub>	SINGLE POLE DIMMER SWITCH		UNDER CABINET FLUORESCENT - 24"
	INTERIOR ELEVATION CALLOUT	S <sub>3</sub>	3-WAY SWITCH		RECESSED FLOURESCENT - 36"
	DETAIL CALLOUT	S <sub>3d</sub>	3-WAY SWITCH WITH DIMMER		SURFACE MOUNTED COMPACT FLUORESCENT - 6"
	DOOR CALLOUT	S <sub>4</sub>	4-WAY SWITCH		RECESSED LED - 6"
	WINDOW CALLOUT	S <sub>dc</sub>	DIGITAL CONTROL SWITCH		RECESSED WATER RESISTANT LED - 6"
	COLUMN GRID	¢	OPERABLE CLERESTORY SWITCH		SURFACE MOUNTED LED - 12" SQUARE
	ELEVATION DATUM	⌀	120V DUPLEX RECEPTACLE		SURFACE MOUNTED SOLAR ADDRESS LIGHT
	CENTER LINE	⌀ GFI	120 V RECEPTACLE WITH GROUND FAULT INTERRUPT		
	HIDDEN LINE	⌀	120 V FLOOR RECEPTACLE		
	LINE ABOVE	⌀	JUNCTION BOX FOR DIRECT CONNECTION		
		⌀	THERMOSTAT		
		⊗	EXHAUST FAN		
		⊗	AIR SUPPLY FIXTURE		
		⊗	RETURN AIR FIXTURE		
		⊗ FE	FIRE EXTINGUISHER		
		⊗ S.D	SMOKE DETECTOR		
		⊗ C.D	CARBON MONOXIDE DETECTOR		

ABBREVIATIONS

ABV.	ABOVE	DOE	DEPARTMENT OF ENERGY	FTG.	FOOTING	MISC.	MISCELLANEOUS	SIM.	SIMILAR
A.F.F.	ABOVE FINISHED FLOOR	DET.	DETAIL	FRZ.	FREEZER	MULL.	MULLION	S.A.F.B	SOUND ATTENUATION FIRE BLANKET
A.F.G	ABOVE FINISHED GRADE	DIA.	DIAMETER	GALV.	GALVANIZED	NREL	NATIONAL RENEWABLE ENERGY LABORATORY	SQ.	SQUARE
ACC.	ACCESS	DIM.	DIMENSION	GA.	GAUGE	NAT.	NATURAL	S.S.	STAINLESS STEEL
ACQ	ALKALINE COPPER QUARTERNARY	DW	DISHWASHER	G.W.B.	GYPSUM WALL BOARD	N/A	NOT APPLICABLE	STL.	STEEL
ADA	AMERICANS WITH DISABILITES ACT	DN.	DOWN	GYP.	GYPSUM	N.J.C	NOT IN CONTRACT	STRUT	STRUCTURAL
A/C	AIR CONDITIONING	D.S.	DOWN SPOUT	HD.	HARD	N.T.S.	NOT TO SCALE	S.I.P	STRUCTURAL INSULATED PANEL
ADJ.	ADJUSTABLE	DWG.	DRAWING	HDR.	HEADER	NO.	NUMBER	SUSP.	SUSPENDED
ALUM.	ALUMINUM	EA.	EACH	HEX. HD.	HEXAGONAL HEAD	O.C.	ON CENTER	T.G.	TEMPERED GLASS
ACOUST.	ACOUSTICAL	E.O.	EDGE OF	H.P.	HIGH POINT	OPP.	OPPOSITE	TEMP.	TEMPORARY
APPROX.	APPROXIMATELY	ELEC.	ELECTRIC	HORIZ.	HOLLZONTAL	O.S.B.	ORIENTED STRAND BOARD	TH.	THICK OR THICKNESS
ARCH.	ARCHITECTURAL	EL.	ELEVATION	H.B.	HOSE BIB	O.D.	OUTSIDE DIAMETER	TBD	TO BE DETERMINED
BLK.	BLOCKING OR BLOCK	ERV	ENERGY RECOVERY VENTILATOR	HR.	HOOR	OH.	OVERHEAD	T&G	TONGUE AND GROOVE
BD.	BOARD	EQ.	EQUAL	I.B.C	INTERNATIONAL BUILDING CODE	PKG.	PACKAGE	T.O.	TOP OF
BLDG.	BUILDING	EPDM	ETHYLENE PROPYLENE DIENE MONOMER	I.F.C	INTERNATIONAL FIRE CODE	PTD.	PAINTED	T.	TREAD
BM.	BEAM	EXH.	EXHAUST	I.R.C	INTERNATIONAL FIRE CODE	PNL.	PANEL	TRTD	TREATED
B.O.	BOTTOM OF	EXP.	EXPANSION	INSUL.	INSULATION	PV	PHOTOVOLTAIC	TYP.	TYPICAL
B.P.	BASE PLATE	E.J.	EXPANSION JOINT	I.D.	INTERIOR DESIGN	PLAS.	PLASTIC	UL	UNDERWRITERS LABORATORIES
CLG.	CEILING	EXT.	EXTERIOR	JST.	JOIST	PL.	PLATE	UON.	UNLESS OTHERWISE NOTED
C.J	CEILING JOISTS	F.O.S	FACE OF STUD	LAM.	LAMINATED	PVC	POLYVINYL CHLORIDE	V.B.	VAPOR BARRIER
C.I.F	CUT IN FIELD	FG.	FIBERGLASS	L.V.L.	LAMINATED VENEER LUMBER	PREC.	PRECAST	V.I.F.	VERIFY IN FIELD
CONC.	CONCRETE	FIN.	FINISH	L.O.	LINE OF	R.	RADIUS OR RISER	W/D	WASHER / DRYER
C.M.U	CONCRETE MASONRY UNITS	F.F.	FINISHED FLOOR	L.P.	LOW POINT	REF.	REFRIGERATOR	W.P.	WATERPROOF
C.O.	CLEAN OUT	F.O.	FINISHED OPENING	MFGR.	MANUFACTURER	REINF.	REINFORCED	W/	WITH
COL.	COLUMN	F.E.	FIRE EXTINGUISHER	MAS.	MASONRY	REQD.	REQUIRED	W/O	WITHOUT
CONST.	CONSTRUCTION	F.R.	FIRE RATED/RETARDANT	M.O.	MASONRY OPENING	R.J.	ROOF JOISTS	WD.	WOOD
CONN.	CONNECTOR	FIXT.	FIXTURE	MAX.	MAXIMUM	R.R.	ROOF RAFTERS	W.S.	WOOD SCREW
CONT.	CONTINUOUS	FL.	FLOOR	MECH.	MECHANICAL	RM.	ROOM		
CORR.	CORRUGATED	F.D.	FLOOR DRAIN	MDF.	MEDIUM DENSITY FIBERBOARD	R.O.	ROUGH OPENING		
C.S.	COUNTER SUNK	F.J.	FLOOR JOISTS	MTL.	METAL	SHT.	SHEET		
D.J.	DECK JOISTS	FLUOR.	FLUORESCENT	MIN.	MINIMUM	S.G.	SAFETY GLASS		



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CONSTRUCTION DOCUMENTS

NOTES, SYMBOLS & ABBREVIATIONS

Scale: NOT TO SCALE		Date: August 7th, 2007		Checked By: MM	
REVISIONS		Description:		Drawn By: MM	
No.	Date:	Design Development Drawings		Construction Drawings Rev. 1	
1	06.13.06				
2	03.06.07				
3	08.07.07				

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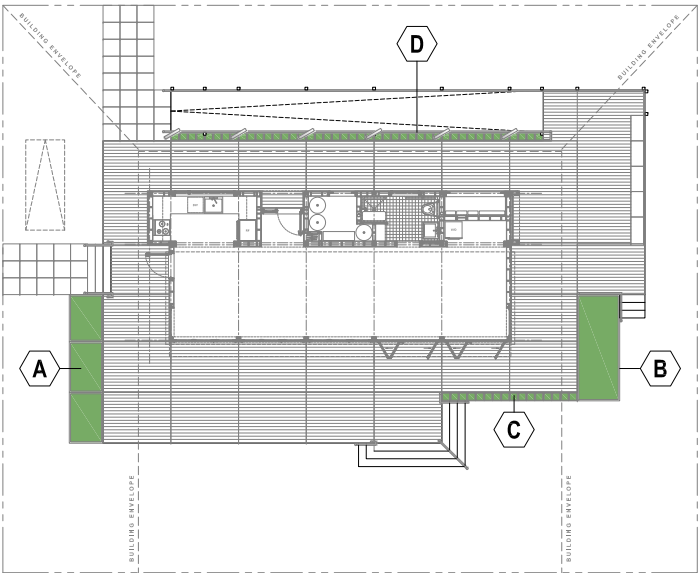
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PLANT SCHEDULE

A	FRUITS AND VEGETABLE GARDEN	GARDEN	KEY	NAME	TYPE	QTY	SIZE	REMARKS
		A	BAS	BASIL	HERB	6	2 QT	USE IN SAUCES, STEWS...
		A	SAG	SAGE	HERB			
		A	ROS	ROSEMARY	HERB			
		A	MIN	MINT	HERB			
		A	THY	THYME	HERB			
		A	BEE	BEETS	VEGETABLE			
		A	BRO	BROCCOLI	VEGETABLE			
		A	CAR	CARROTS	VEGETABLE			
		A	CAU	CAULIFLOWER	VEGETABLE			
		A	MUS	MUSTARD GREENS	VEGETABLE			
		A	SPI	SPINACH	VEGETABLE			
		A	BRU	BRUSSEL SPROUTS	VEGETABLE			
		A	LEE	LEEKs	VEGETABLE			
		A	SWI	SWISS CHARD	VEGETABLE			
		A	BEA	BEANS	VEGETABLE			
		A	PUM	PUMPKIN	VEGETABLE			
		A	TOM	TOMATOES	VEGETABLE			
		A	SQU	WINTER SQUASH	VEGETABLE			
		A	STR	STRAWBERRY	FRUIT			
B	FLOWER GARDEN	B	SHD	SHASTA DAISIES	PERRENIAL	3	POTS	
		B	BES	BLACK-EYED SUSANS	PERRENIAL	3	POTS	
		B	RUS	RUSSIAN SAGE	PERRENIAL	3	POTS	
		B	YAR	YARROW	PERRENIAL	3	POTS	
		B	MAR	MARIGOLDS	ANNUAL	1 FLAT	(48 QTY)	
		B	COR	COREOPSIS	PERRENIAL	3	POTS	
		B	SAL	SALVIA (OR VERBENA)	ANNUAL/PER.	½ FLAT	(24 QTY)	
		B	DAH	DAHLIAS	ANNUAL	6	POTS	
		B	HEL	HELIOTROPE	ANNUAL	3	POTS	
		B	BUT	BUTTERFLY BUSH	PERRENIAL	1	POT	
C	BACK GARDEN	C	BFG	BLUE FESCUE GRASS	GRASS	12		PLANT 3 TO A POT
		D	COL	COLEUS	ANNUAL	12		SHADE, COLORFUL FOLIAGE
		D	OST	OSTRICH PLUME FERN	PERRENIAL	12		SHADE, FERN
		D	IMP	IMPATIENTS	ANNUAL	12		FLOWERS, SHADE
D	FRONT GARDEN	D	BFG	BLUE FESCUE GRASS	GRASS	12		SHADE
		D	COL	COLEUS	ANNUAL	12		SHADE, COLORFUL FOLIAGE
		D	OST	OSTRICH PLUME FERN	PERRENIAL	12		SHADE, FERN
		D	IMP	IMPATIENTS	ANNUAL	12		FLOWERS, SHADE

KEY PLAN - GARDENS



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CONSTRUCTION DOCUMENTS

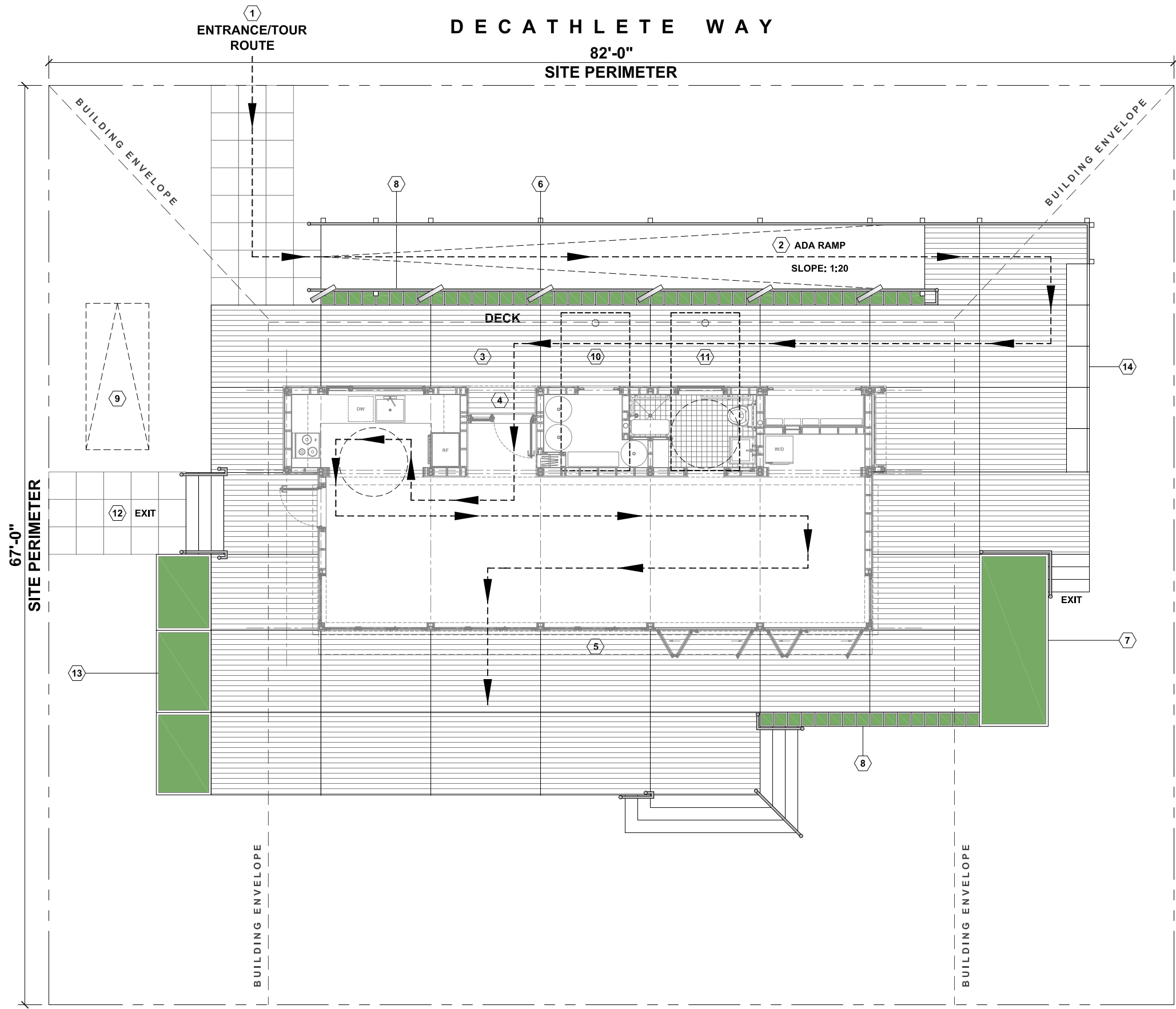
PLANT SCHEDUAL

Scale: <b>NOT TO SCALE</b>		Date: <b>August 7th, 2007</b>		Checked By: <b>MM</b>	
		Drawn By: <b>JEC</b>			
REVISIONS					
No.	Date:	Description:			
1	06.13.06	Design Development Drawings			
2	03.06.07	Construction Drawings Rev. 1			
3	08.07.07	Construction Drawings Rev. 2			

DRAWING:

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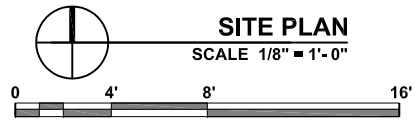
**NOTES:**

**WATER STORAGE:**  
DOMESTIC WATER SUPPLY AND GREYWATER TANKS LOCATED UNDER DECK ARE TO BE PROVIDED WITH A MINIMUM 4" FILLING PORT ON NORTH SIDE OF TANK.

FINISHED DECKING MATERIAL IS TO BE REMOVED IN ORDER TO PROVIDE A MINIMUM 12" CLEARANCE AS SPECIFIED IN SECTION 13.2 OF THE SOLAR DECATHLON RULES AND REGULATIONS.

WATER TANKS ARE TO BE POINT LOADED TO PROVIDE MINIMUM IMPACT ON TURF.

- LEGEND:**
- 1 SITE ENTRY
  - 2 ADA RAMP
  - 3 DECK
  - 4 HOUSE ENTRY
  - 5 REAR ENTRY
  - 6 INFORMATION STANDS
  - 7 NATIVE GRASSES
  - 8 NATIVE PLANT LIVE
  - 9 CAR STATION
  - 10 CUSTOM SUPPLY WATER TANK (UNDER DECK) 350 GALLONS
  - 11 CUSTOM GREY WATER TANK (UNDER DECK) 350 GALLONS
  - 12 2'x2' RUBBER MATS
  - 13 FRUIT & VEGETABLE GARDEN
  - 14 BATTERY STORAGE / BENCH





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**Solar Decathlon 2007**

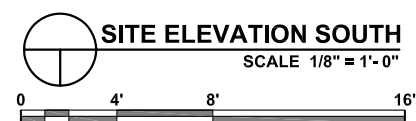
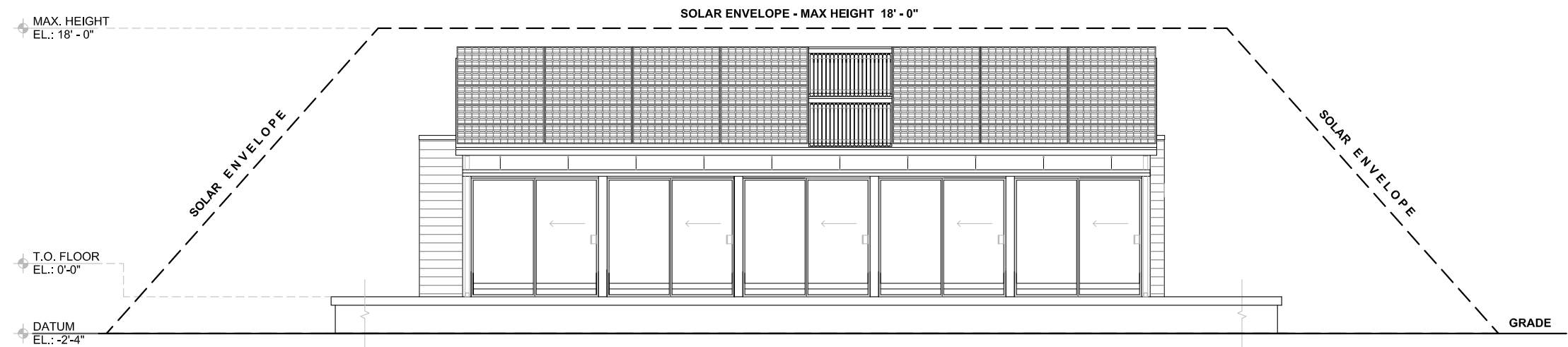
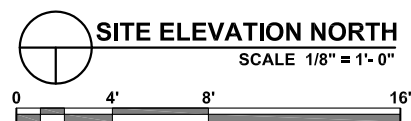
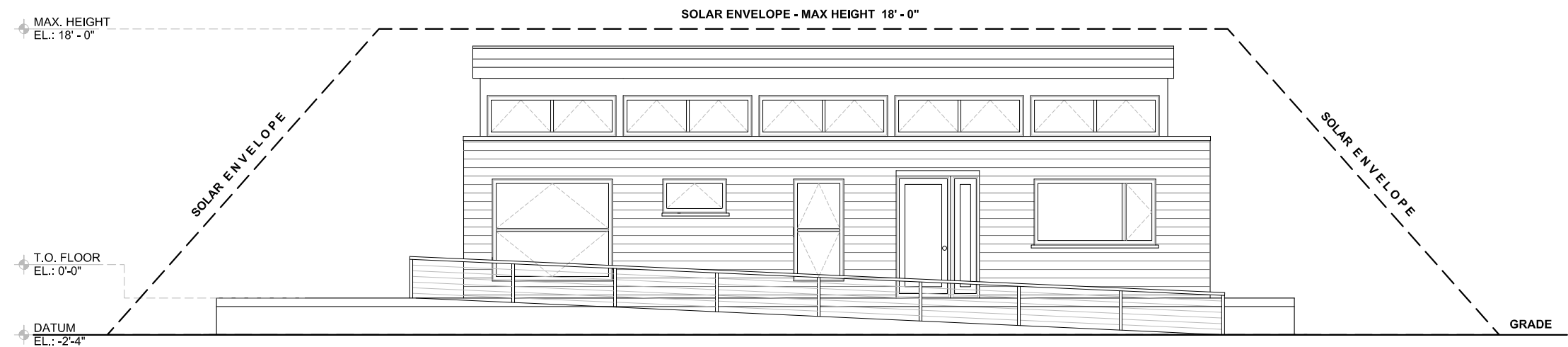
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REVISIONS			Scale: 1/8" = 1' - 0"	
No.	Date:	Description:	Date: August 7th, 2007	
1	06.13.06	Design Development Drawings	Drawn By: JEC	
2	03.06.07	Construction Drawings Rev. 1	Checked By: MM	
3	08.07.07	Construction Drawings Rev. 2		

DRAWING:

**L1.1**

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## Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

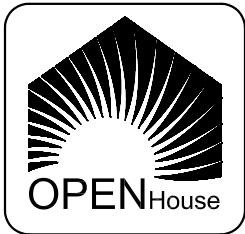
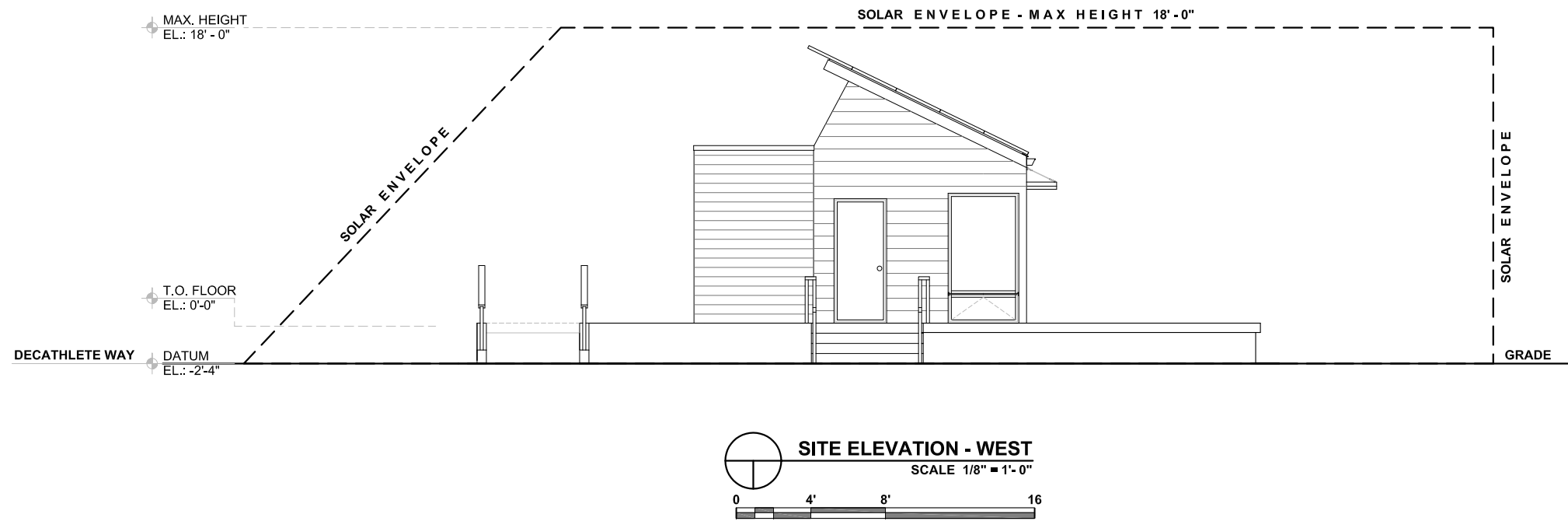
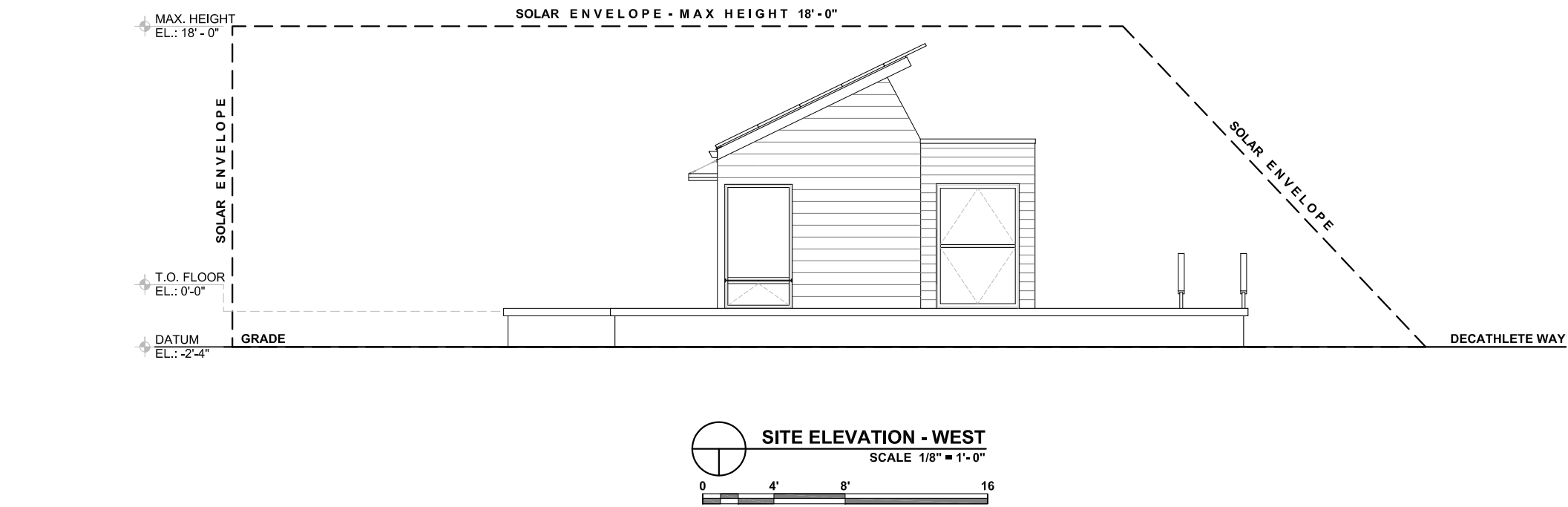
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No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		AC	Checked By: MM

DRAWING:

# L 1.2

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# Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

TITLE: SITE ELEVATIONS - EAST / WEST			
REVISIONS		Scale: 1/8" = 1' - 0"	
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
		Drawn By: AC	Checked By: MM

DRAWING:

# L 1.3

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WINDOW SCHEDULE											
UNIT	LOCATION	MANUFACTURER	PRODUCT NUMBER	QTY	UNIT SIZE	ROUGH OPENING:	SPECIES	INTERIOR FINISH	EXTERIOR FINISH	GLAZING TYPE	REMARKS
A	KITCHEN	ANDERSON	P5535-CN135 (F-R)	1	7'-1 7/16" X 3'-4 13/16"	7'-2" X 3'-5 5/8"	WOOD CLAD	WHITE	WHITE	HIGH PERFORMANCE LOW-E4 GLASS	STATIONARY PICTURE MULLED WITH OPERABLE CASEMENT WINDOW
B	BATHROOM	ANDERSON	AN351 (V)	1	3'-4 13/16" X 1'-8 1/2"	3'-5 3/8" X 1'-9"	WOOD CLAD	WHITE	WHITE	HIGH PERFORMANCE LOW-E4 GLASS	AWNING WINDOW
C	CELESTORY	ANDERSON	A351-2 (V-V)	5	6'-9 3/4" X 2'-0 1/8"	6'-10 1/4" X 2'-0 5/8"	WOOD CLAD	WHITE	WHITE	HIGH PERFORMANCE LOW-E4 GLASS	MOTORIZED AWNING WINDOW - FACTORY MULLED
D	SOUTH EAST/WEST	NANAWALL	WD68 TT	2	3'-8" X 7'-0"	3'-9" X 7'-0 1/2"	DOUGLAS FIR	NATURAL WOOD	NATURAL WOOD	LOW-E KRYPTON FILL W/HEAT MIRROR	TILT TURN



WINDOW SCHEDULE

1/4" = 1'-0"

DOOR SCHEDULE											
UNIT	LOCATION	MANUFACTURER	PRODUCT NUMBER	QTY	UNIT SIZE	ROUGH OPENING:	SPECIES	INTERIOR FINISH	EXTERIOR FINISH	GLAZING TYPE	REMARKS
1	NORTH ENTRY	ANDERSON	FWH31611-FWSL17611	1	4'-7 1/8" X 6'-10 3/8"	4'-7 7/8" X 6'-11"	WOOD CLAD	WHITE	WHITE	HIGH PERFORMANCE LOW-E4 GLASS	INSWING / LEFT HINGED DOOR W/FULL LITE MULLED WITH SIDELITE
2	WEST ENTRY	ANDERSON	FWO31611 (AL)	1	3'-1 1/2" X 7'-0"	3'-2 1/2" X 7'-1/2"	WOOD CLAD	WHITE	WHITE	HIGH PERFORMANCE LOW-E4 GLASS	OUTSWING / LEFT HINGED DOOR W/FULL LITE
3	SOUTH WALL	NANAWALL	WD66	5	7'-5" X 7'-0"	7'-6" X 7'-0 1/2"	DOUGLAS FIR	NATURAL WOOD	NATURAL WOOD	LOW-E KRYPTON FILL W/HEAT MIRROR	2L1R OUTSWING BI-FOLDING DOORS
4	MECH. ROOM	CUSTOM	NA	1	3'-0" X 7'-0"	3'-1" X 7'-0 1/2"	ALUMINUM	ALUMINUM	ALUMINUM	FROSTED GLASS	CUSTOM HORIZONTAL BIFOLD DOOR
5	ELEC. ROOM	CUSTOM	NA	1	6'-10" X 7'-0"	6'-11" X 7'-0 1/2"	ALUMINUM	ALUMINUM	ALUMINUM	FROSTED GLASS	CUSTOM HORIZONTAL BIFOLD DOOR



DOOR SCHEDULE

1/4" = 1'-0"



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Solar Decathlon 2007

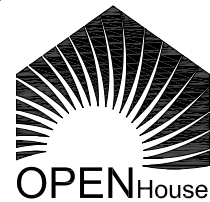
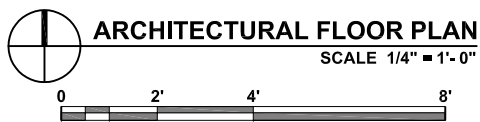
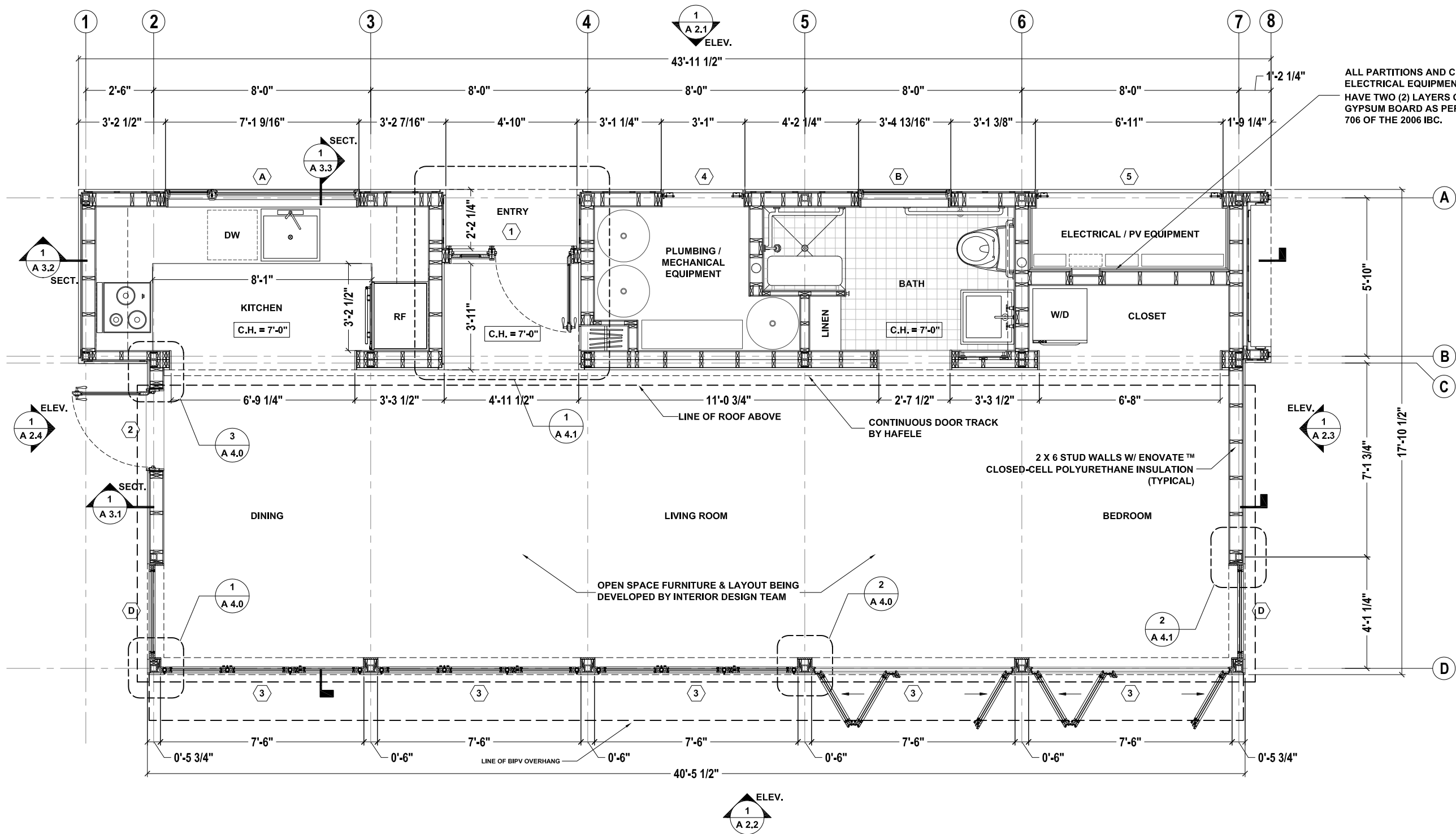
CONSTRUCTION DOCUMENTS

WINDOW & DOOR SCHEDULE						
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		Description:		Date:	Date:	
		No.	1	06.13.06	Design Development Drawings	August 7th, 2007
		2	03.06.07	Construction Drawings Rev. 1	Checked By: MM	
		3	08.07.07	Construction Drawings Rev. 2		
				Drawn By:	TZ	

DRAWING:

A 1.0

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Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

ARCHITECTURAL FLOOR PLAN

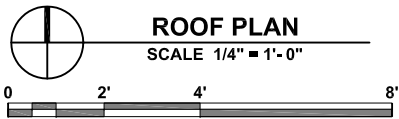
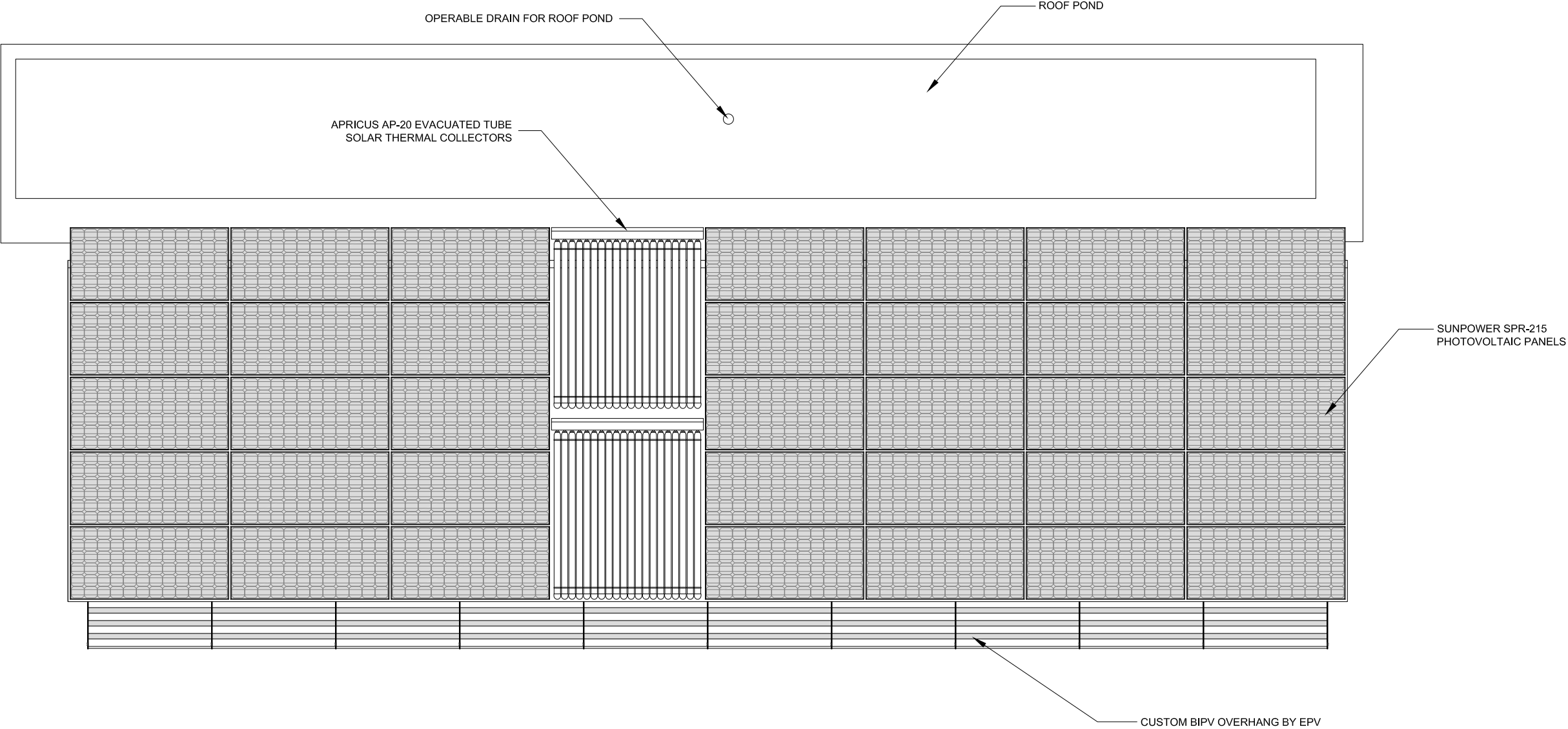
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No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		MM	Checked By:
		MM	MM

DRAWING:

A 1.1

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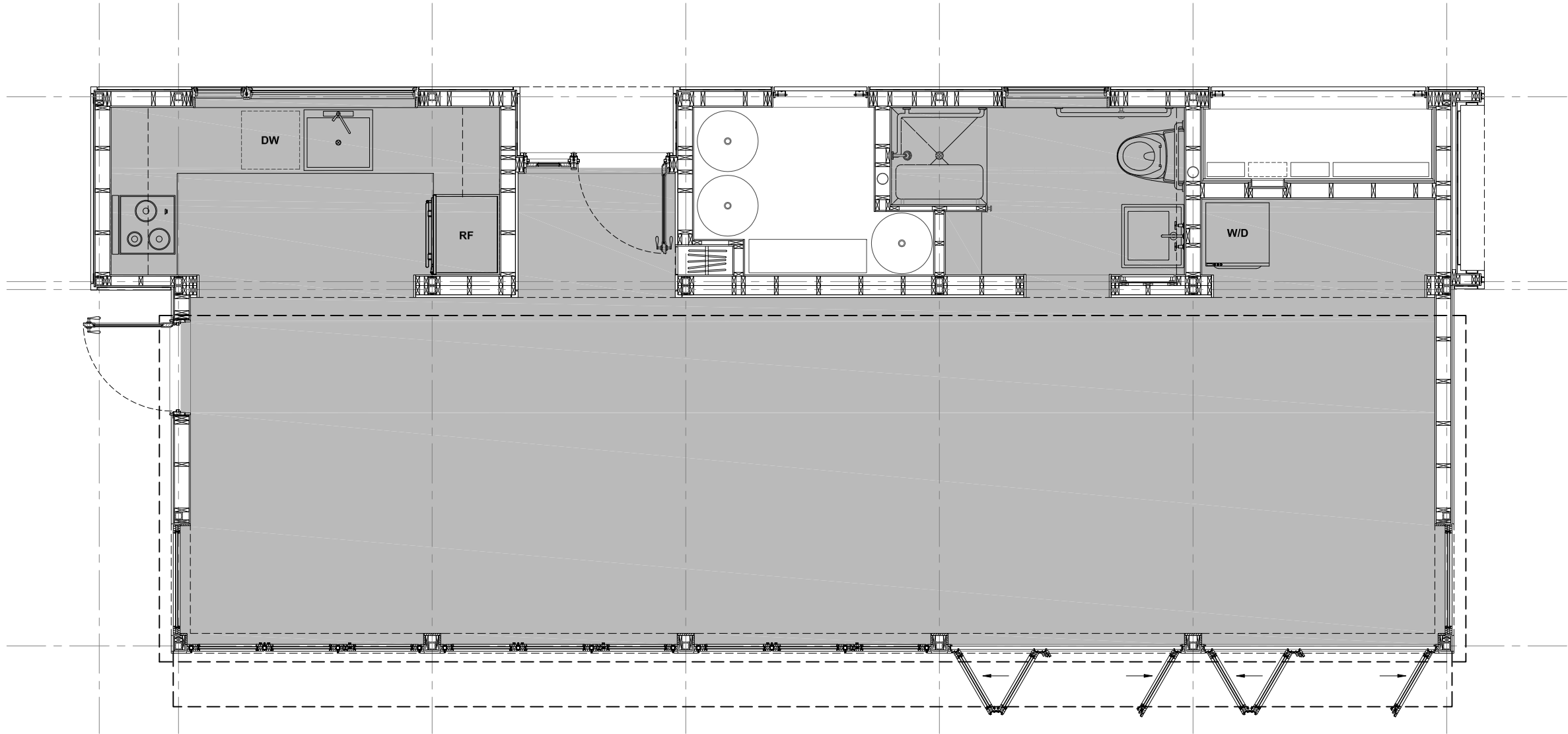
**Solar Decathlon 2007**

CONSTRUCTION DOCUMENTS

TITLE: ROOF PLAN				Scale: 1/4" = 1' - 0"
REVISIONS		Description:		Date:
No.	1	Design Development Drawings	03.06.07	06.13.06
2	Construction Drawings Rev. 1	08.07.07	03.06.07	08.07.07
3	Construction Drawings Rev. 2	08.07.07	08.07.07	08.07.07
Drawn By: MM				Checked By: MM

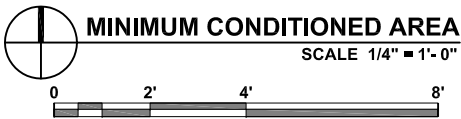
DRAWING:

A1.2



**NOTES:**

INTERIOR CONDITIONED SPACE REPRESENTED BY THE SHADED AREA IS CALCULATED TO BE APPROX. 595 SF, WHICH IS IN COMPLIANCE WITH SECTION 11.3 OF THE SOLAR DECATHLON RULES AND REGULATIONS.



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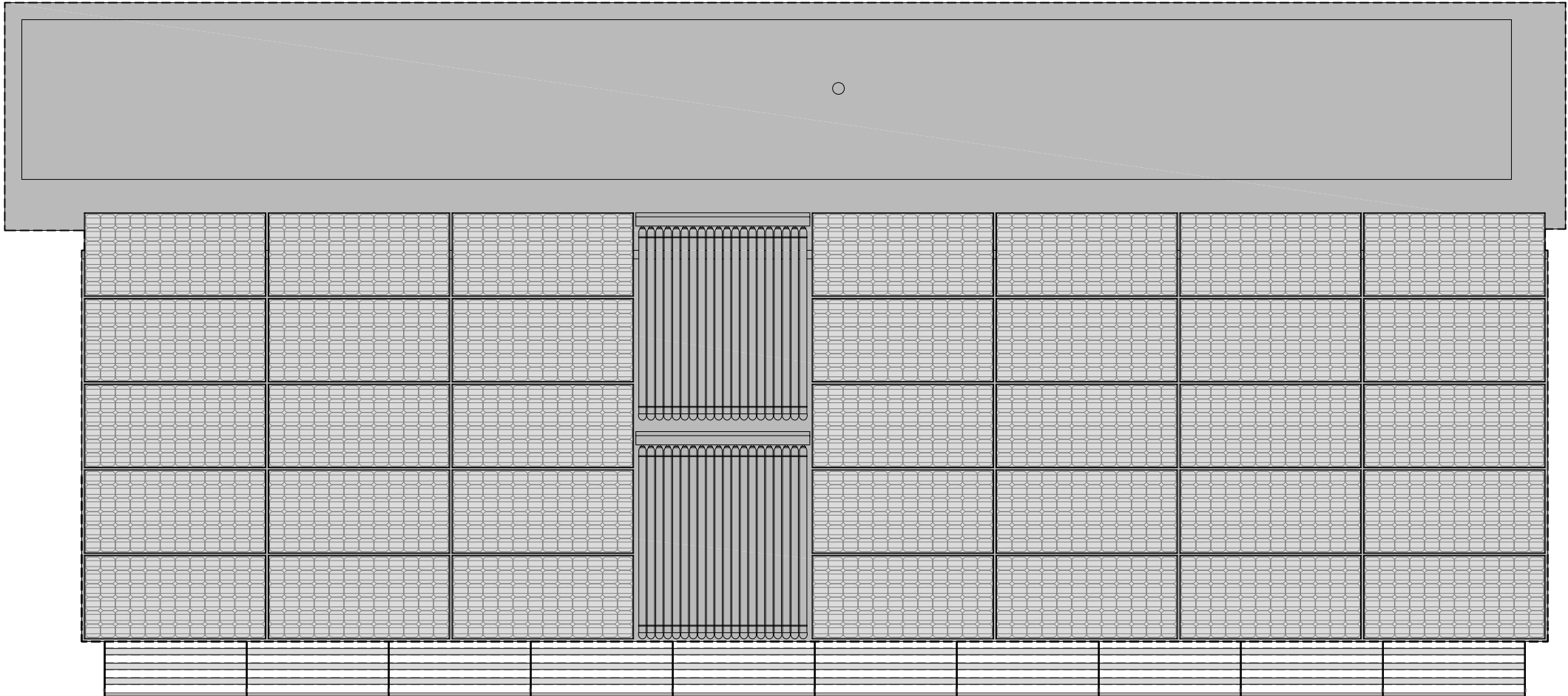
CONSTRUCTION DOCUMENTS

TITLE:			MINIMUM CONDITIONED AREA		
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No.	Date:	Description:	Date: August 7th, 2007		
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2	03.06.07	Construction Drawings Rev. 1			
3	08.07.07	Construction Drawings Rev. 2			

DRAWING:

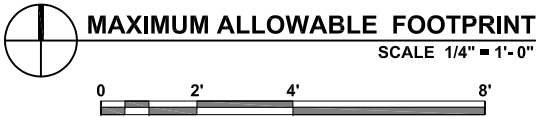
A1.3





**NOTES:**

THE FOOTPRINT REPRESENTED BY THE SHADED AREA IS CALCULATED TO BE APROX. 782 SF, WHICH IS IN COMPLIANCE WITH SECTION 11.3 OF THE RULES AND REGULATIONS.



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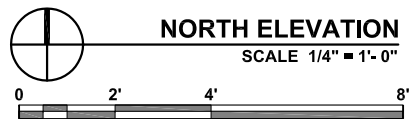
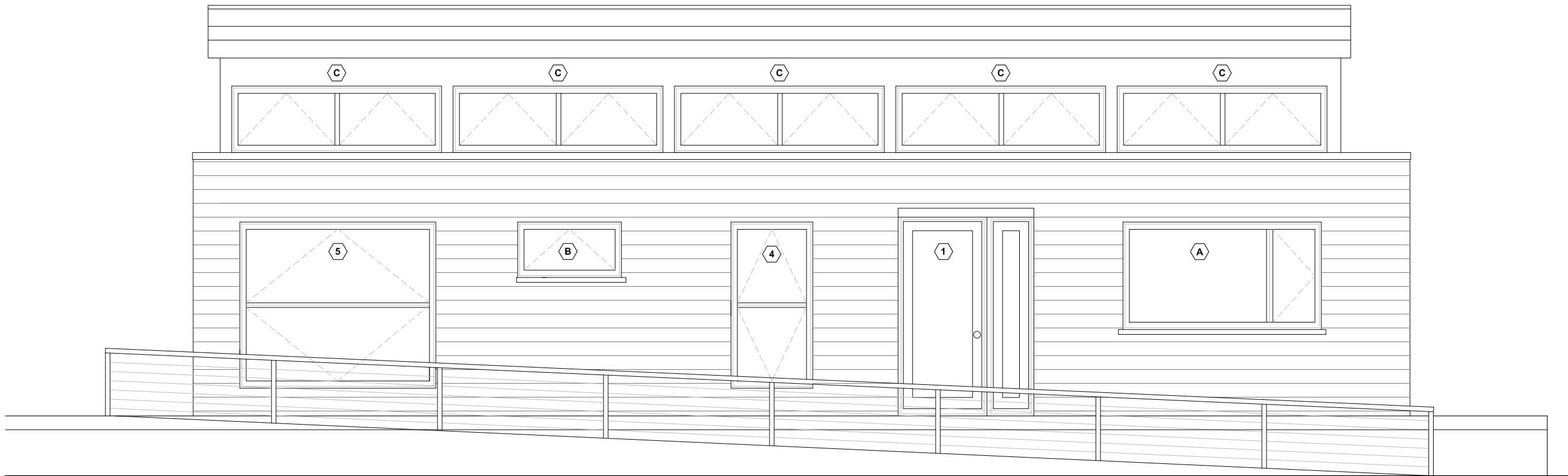
CONSTRUCTION DOCUMENTS

TITLE: MAXIMUM ALLOWABLE FOOTPRINT				Scale: 1/4" = 1' - 0"	
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2	03.06.07	Construction Drawings Rev. 1		Drawn By: MM	
3	08.07.07	Construction Drawings Rev. 2		Checked By: MM	

DRAWING:

A1.4

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CONSTRUCTION DOCUMENTS

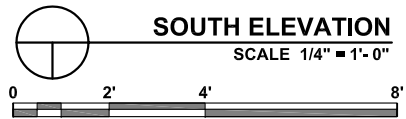
NORTH ELEVATION

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		AC	Checked By: MM

DRAWING:

A2.1

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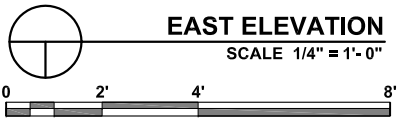
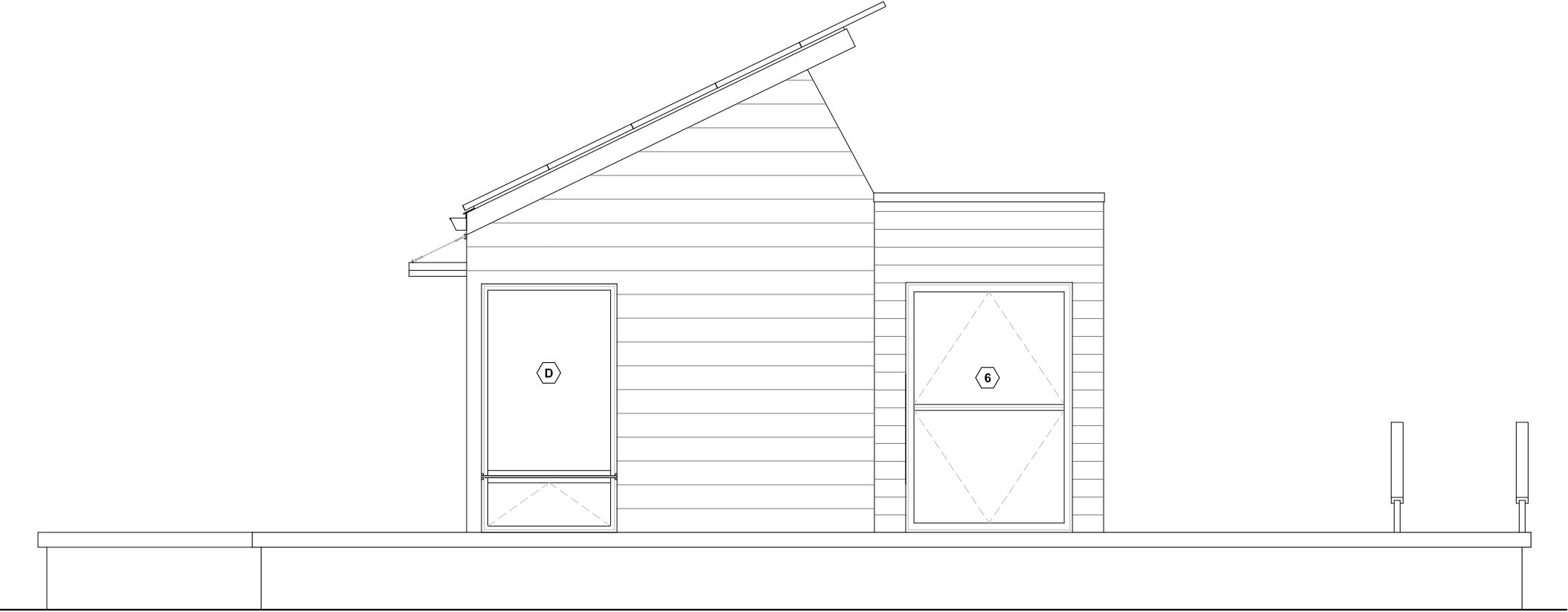
CONSTRUCTION DOCUMENTS

**SOUTH ELEVATION**

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No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		AC	Checked By: MM

DRAWING:

**A2.2**



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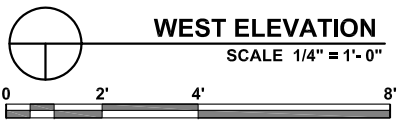
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TITLE: EAST ELEVATION				Scale: 1/4" = 1' - 0"
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No.	Date:	Description:		Date:
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2	03.06.07	Construction Drawings Rev. 1		
3	08.07.07	Construction Drawings Rev. 2		
		Drawn By: AC	Checked By: MM	

DRAWING:

**A2.3**

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CONSTRUCTION DOCUMENTS

**WEST ELEVATION**

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
		Drawn By: AC	Checked By: MM

DRAWING:

**A2.4**



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CONSTRUCTION DOCUMENTS

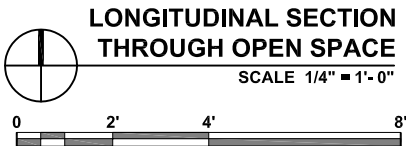
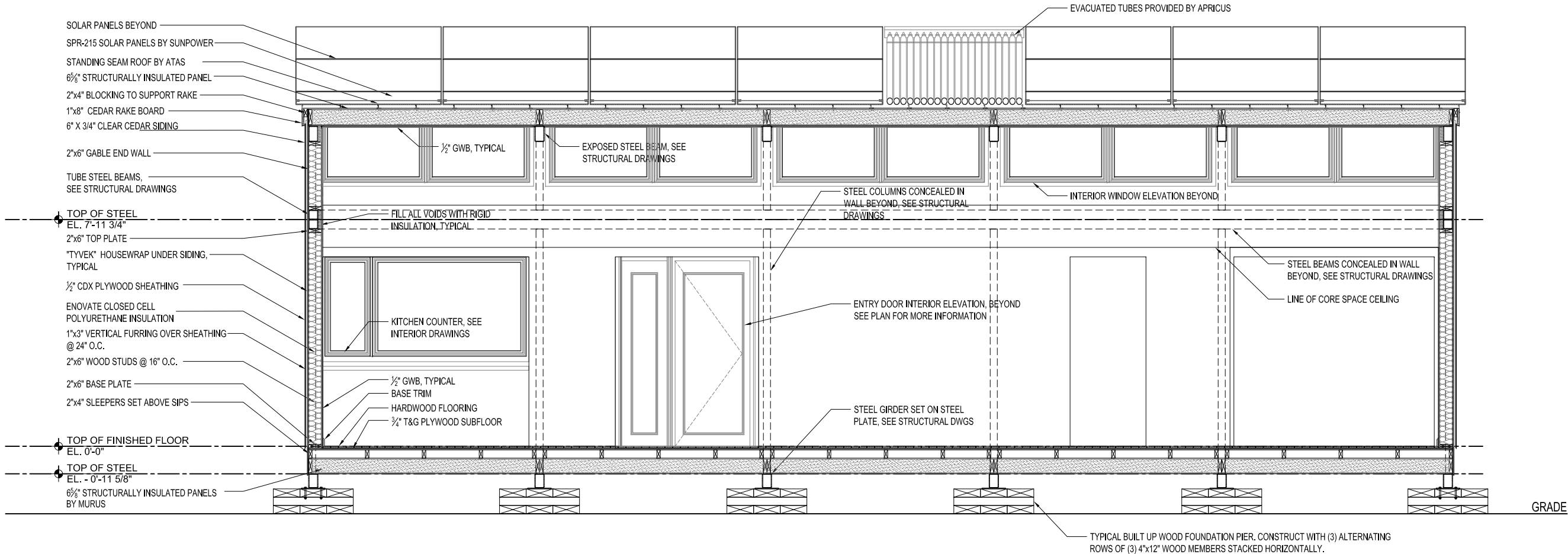
## LONGITUDINAL SECTION THROUGH OPEN SPACE

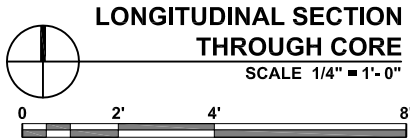
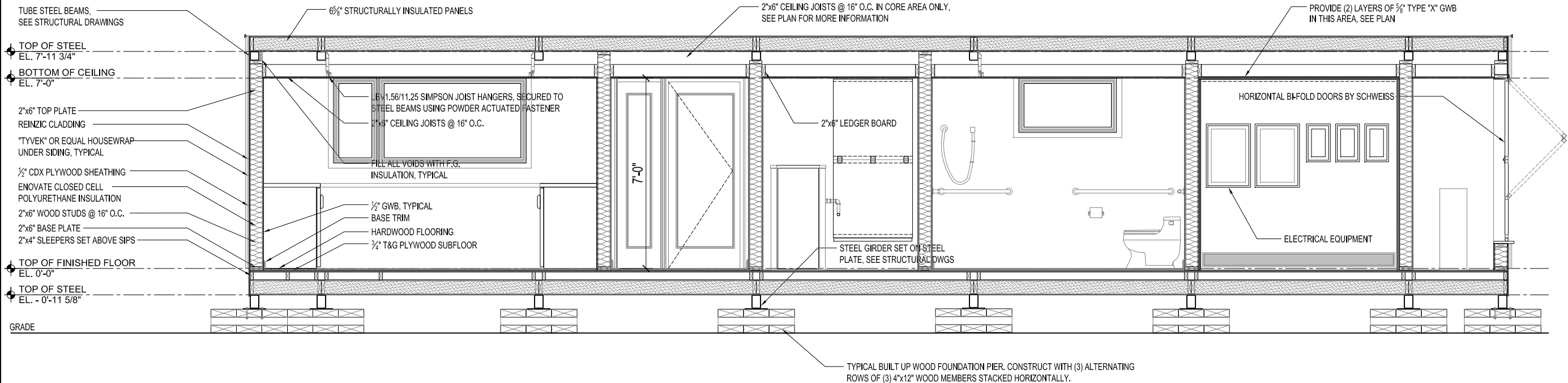
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1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
		Drawn By: TM	Checked By: MM

DRAWING:

# A3.1

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CONSTRUCTION DOCUMENTS

LONGITUDINAL SECTION  
THROUGH CORE

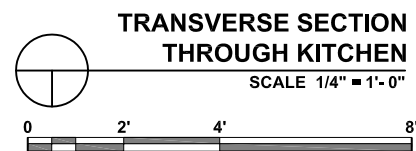
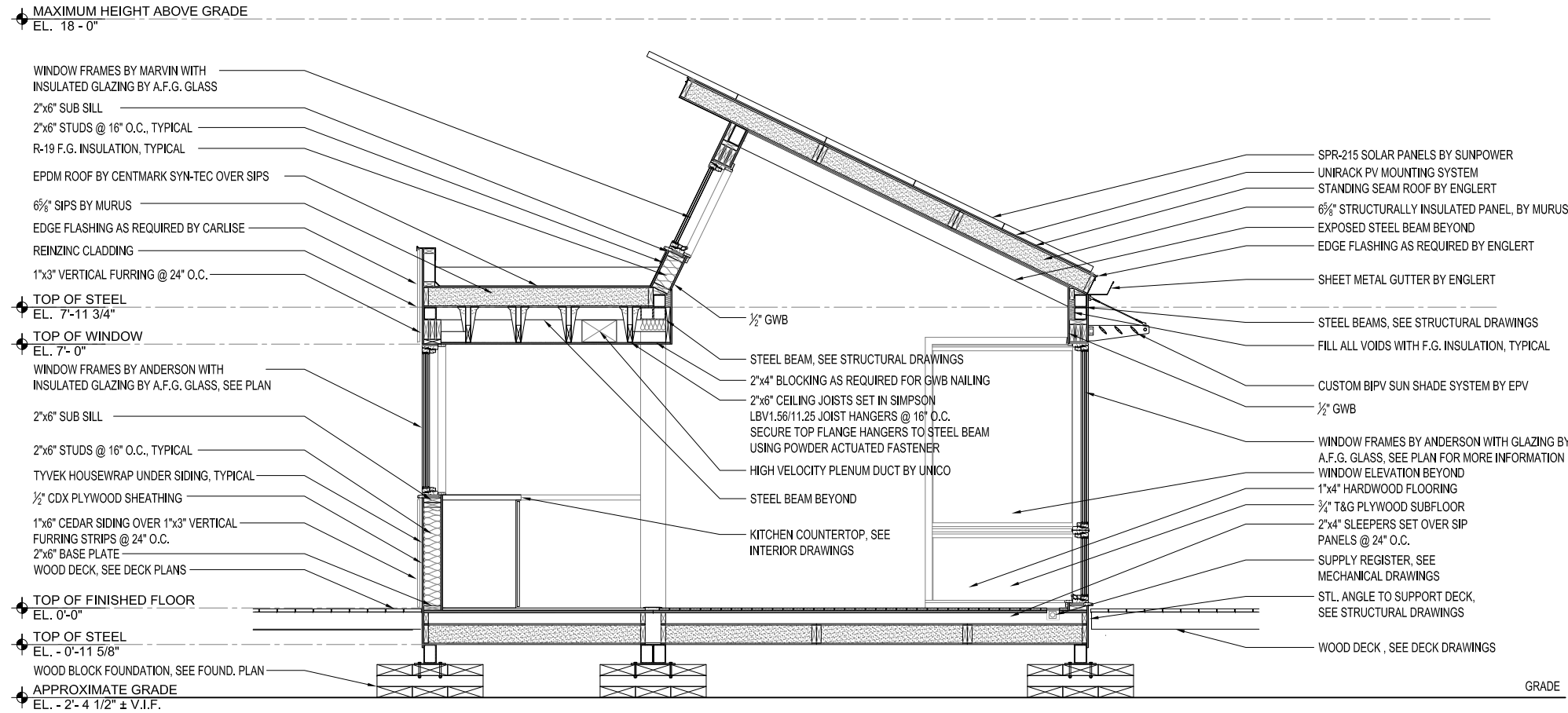
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1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: TM		Checked By: MM	

DRAWING:

A3.2

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CONSTRUCTION DOCUMENTS

**TRANSVERSE SECTION  
THROUGH KITCHEN**

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
		Drawn By:	MM
		Checked By:	MM

DRAWING:

**A 3.3**

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INSULATED GLASS DOOR  
BY NANAWALL. REFER  
TO DOOR & WINDOW SCHEDULE.

LINE OF FRAMED OUT  
HEADER ABOVE WINDOWS

6<sup>3</sup>/<sub>4</sub>"

3"x3"x<sup>1</sup>/<sub>4</sub>" STEEL TUBE COLUMN

<sup>5</sup>/<sub>4</sub>"x6" CEDAR BOARDS  
AROUND COLUMN.

WINDOW JAMB

5<sup>3</sup>/<sub>4</sub>"

1

**PLAN DETAIL:  
OPEN SPACE**  
SCALE 1-1/2" = 1'-0"

INSULATED GLASS BIFOLD  
DOORS BY NANAWALL. REFER  
TO WINDOW/DOOR SCHEDULE.

LINE OF FRAMED OUT  
HEADER ABOVE WINDOWS

INTERIOR HARDWOOD TRIM

6"

3"x3"x<sup>1</sup>/<sub>4</sub>" STEEL TUBE COLUMN

<sup>5</sup>/<sub>4</sub>"x6" CEDAR BOARDS  
AROUND COLUMN.

WINDOW JAMB

2

**PLAN DETAIL:  
OPEN SPACE**  
SCALE 1-1/2" = 1'-0"

<sup>1</sup>/<sub>2</sub>" GYPSUM BOARD

LINE OF OPENING ABOVE

LINE OF KITCHEN CABINETRY ABOVE

2x4 WOOD STUDS @ 16" O.C. WITH ENOVATE  
CLOSED-CELL POLYURETHANE INSULATION  
AS MFD. BY HONEYWELL

<sup>1</sup>/<sub>2</sub>" CD-X PLYWOOD SHEATHING

REINZINC SIDING PANELS

FURRING STRIPS FOR  
PANELIZED WALL SYSTEM

3"x3"x<sup>1</sup>/<sub>4</sub>" STEEL TUBE COLUMNS  
(TYPICAL)

2x6 WOOD STUDS @ 16" O.C. WITH ENOVATE  
CLOSED-CELL POLYURETHANE INSULATION  
MFD. BY HONEYWELL

KITCHEN DOOR AS MFD. BY ANDERSEN

DOOR JAMB

LINE OF ROOF ABOVE

3

**PLAN DETAIL:  
OPEN SPACE/CORE**  
SCALE 1-1/2" = 1'-0"



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CONSTRUCTION DOCUMENTS

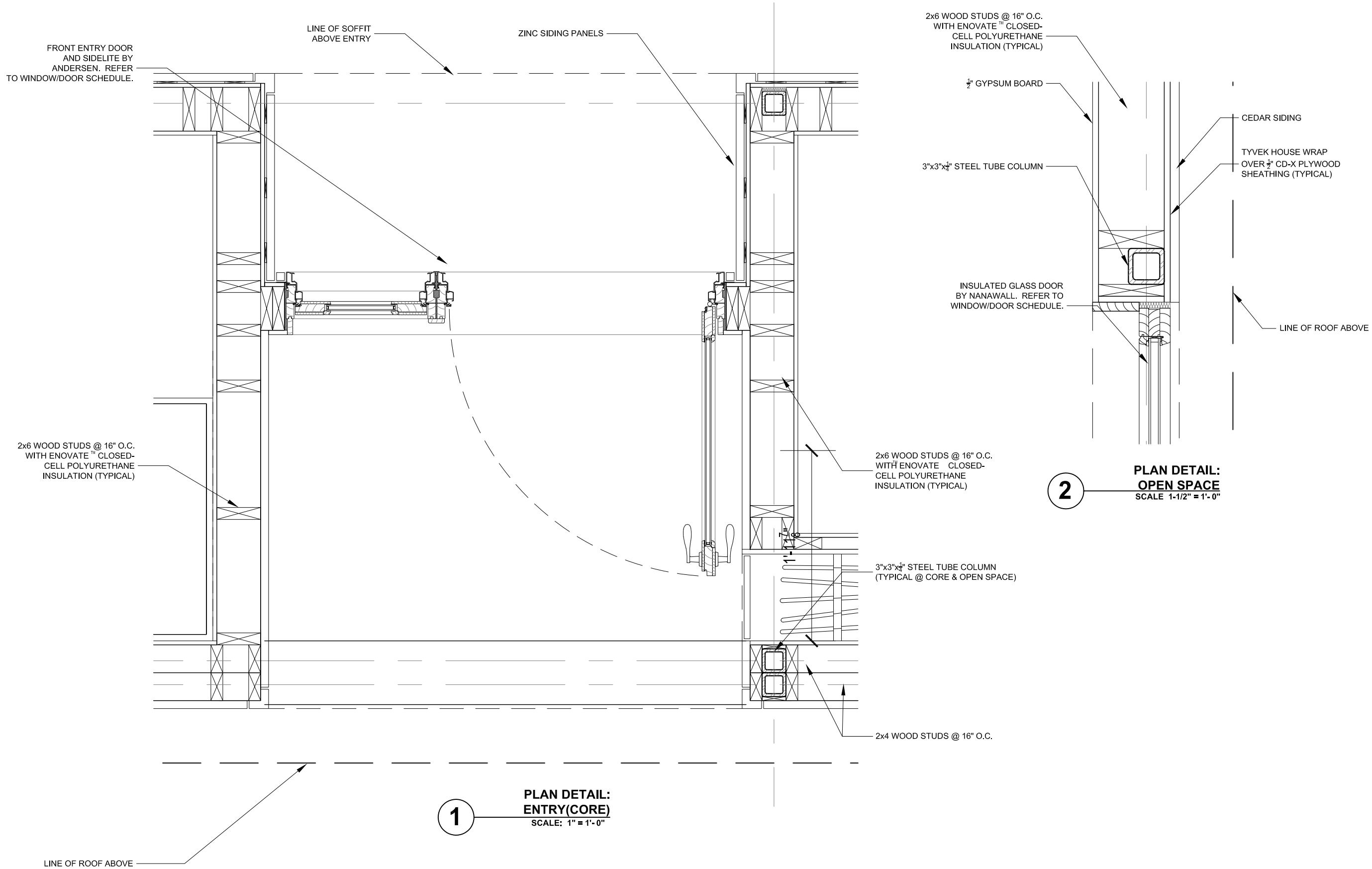
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No.	Date:	Description:
1	06.13.06	Design Development Drawings
2	03.06.07	Construction Drawings Rev. 1
3	08.07.07	Construction Drawings Rev. 2
Drawn By: MAF		Checked By: MM

DRAWING:

**A4.0**

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CONSTRUCTION DOCUMENTS

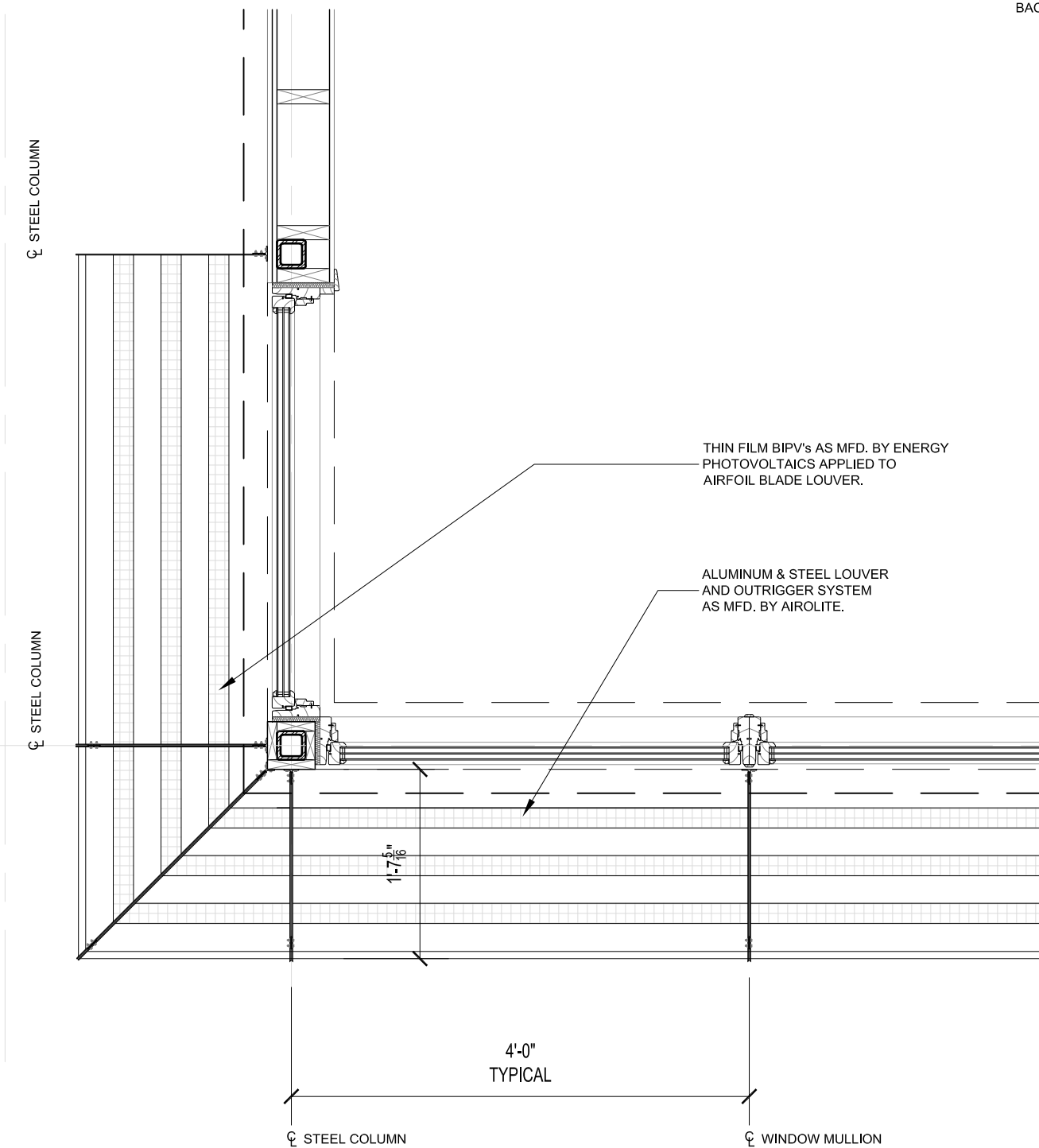
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2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		MAF	Checked By: MM

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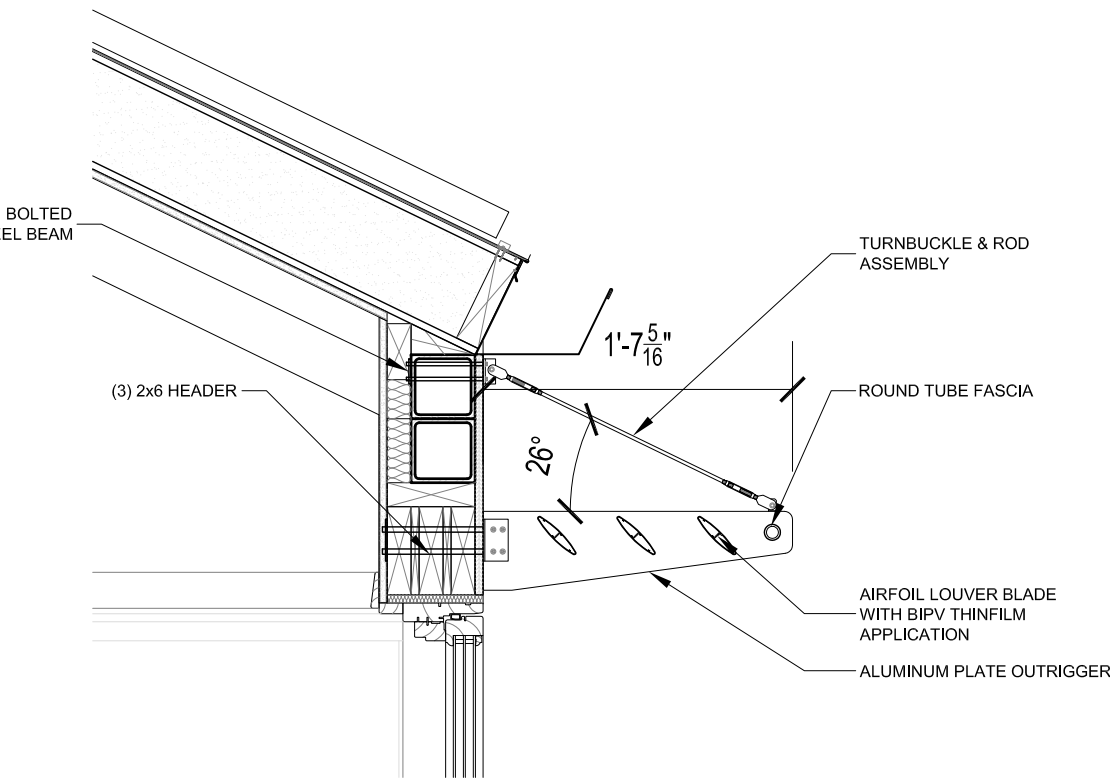
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SHEET: 21 of 66

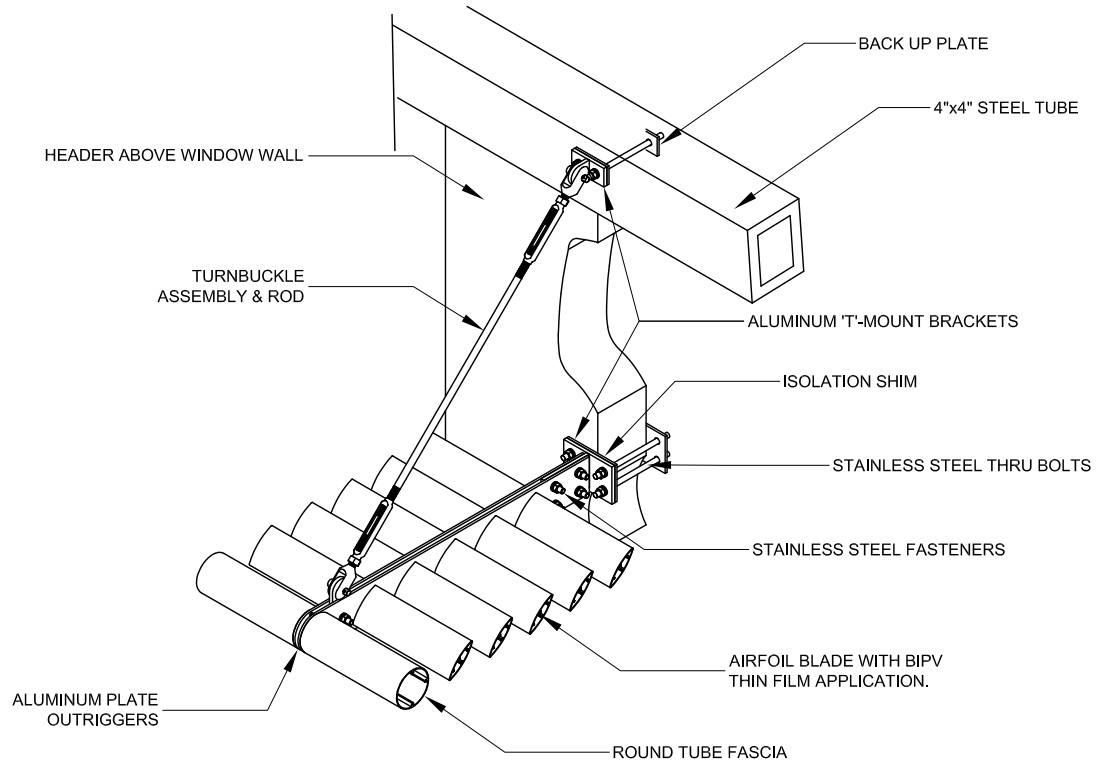
NOTE: TO BE DEVELOPED, SEE  
PLAN FOR DIMENTIONS



**1** PLAN DETAIL:  
BIPV OVERHANG  
SCALE: 1" = 1'-0"



**2** DETAIL @ BIPV OVERHANG  
SCALE: n.t.s.



**3** TYPICAL MOUNTING DETAIL  
SCALE: n.t.s.



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CONSTRUCTION DOCUMENTS

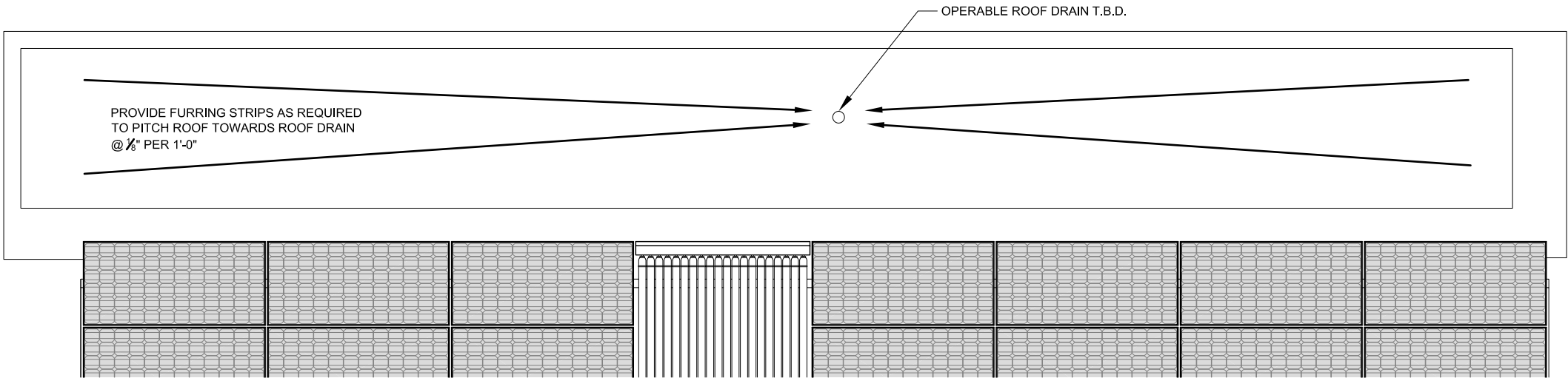
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BIPV OVERHANG DETAILS				AS NOTED	
REVISIONS				Scale:	
No.	Date:	Description:		Date:	
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2	03.06.07	Construction Drawings Rev. 1			
3	08.07.07	Construction Drawings Rev. 2		Drawn By: MAF	
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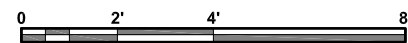
DRAWING:

**A4.2**

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**ROOF POND PLAN**  
SCALE 1/4" = 1'-0"



PROVIDE GALVANIZED ALUMINUM FLASHING WITH DRIP EDGE OVER PARAPET. RUN EPDM ROOFING UNDER FLASHING AND OVER TOP OF PARAPET. PROVIDE SILICONE SEALING AS REQUIRED. (TYPICAL)

2x4 WOOD STUDS @ 16" ON CENTER WITH 2x4 SILL PLATE AND SINGLE 2x4 CAP PLATE

APPROXIMATE LINE OF WATER

(2) LAYERS EPDM WHITE RUBBER ROOFING AS MFD. BY CARLISLE OVER SIP PANEL SHEATHING. (TYPICAL)

2x4 (ON FLAT) FRAMING AROUND ROOF VENT

PROVIDE ANGLED BLOCKING AROUND BASE OF 2x4 EXHAUST FRAMING. (TYPICAL)

6-5/8" STRUCTURAL INSULATED PANEL. CUT PANEL AS REQUIRED TO RUN ROOF VENT THROUGH. REFER TO MANUFACTURER'S SPECIFICATIONS FOR CUTTING DETAILS. (TYPICAL)

LINE OF STEEL TUBE BEAM BEYOND

EXHAUST VENT OUTLET. SIZE WILL VARY FOR DIFFERENT EQUIPMENT. REFER TO MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS FOR DETAILS. (TYPICAL)

1'-0" MAXIMUM

1'-0" MAXIMUM

9" (+/-)

PROVIDE ANGLED BLOCKING AT BASE OF PARAPET WALL. (TYPICAL)

1/2" C-D EXTERIOR GRADE PLYWOOD SHEATHING. (TYPICAL)

(3) 2x6 HEADER OVER KITCHEN WINDOW



**PARAPET DETAIL - CORE**  
SCALE 1-1/2" = 1'-0"



**TYPICAL EXHAUST VENT DETAIL**  
SCALE 1-1/2" = 1'-0"



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CONSTRUCTION DOCUMENTS

TITLE: ROOF POND DETAILS			
REVISIONS		Scale:	AS NOTED
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: MAF			Checked By: MM

DRAWING:

**A4.3**

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FINISH SCHEDULE

SPACE / ROOM	FLOOR	WALLS	CEILING	BASE	DOOR & TRIM	CABINETRY	COUNTERS	REMARKS
ENTRANCE	W-R	PL	P	P	P	--	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
KITCHEN	T-RG	P	P	P	P	W-B	C	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
BATHROOM	T-RS	P & T-MG	P	P	P	W-B	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
LIVING/DINING/ OFFICE/BEDROOM	W-HW	PL	P	P	P	--	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL

NOTES:  
1) ALL MATERIALS SUBJECT TO REVISION

FINISH LEGEND

ITEM	DESCRIPTION	MANUFACTURER/MODEL #	RATING	REMARKS
P	PAINT	BENJAMIN MOORE, ECO SPEC INTERIOR LATEX, COLOR T.B.D.	LOW VOC & SOLVENTS	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
WD	WOOD	PINE (UNLESS OTHERWISE SPECIFIED), PAINT GRADE	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
WC	WALLCOVERING	--	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
T-RG	RECYCLED GLASS TILE	ENVIROGLAS, ENVIROPLANK TERRAZZO TILE, COLOR T.B.D.	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
T-RS	RECYCLED PORCELAIN STONE TILE	CROSSVILLE, ECOCYCLE PORCELAIN STONE, COLOR T.B.D.	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
T-MG	MESH MOUNTED GLASS TILE	INTERSTYLE RIVER CRYSTALS, COLOR T.B.D.	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
W-HW	SUSTAINABLE HARDWOOD	CHERRY HARDWOOD FLOORING, MANUFACTURER AND FINISH T.B.D.	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
W-B	BAMBOO	ALTERECO BAMBOO CABINETRY, STYLE T.B.D.	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
C	PAPER BASED SHEET COMPOSITE	RICHLITE, PAPER BASED COUNTER, COLOR AND STYLE T.B.D.	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL
PL	SKIM COAT INTEGRALLY COLORED PLASTER	AMERICAN CLAY, EARTH PLASTER FINISH, STYLE AND COLOR T.B.D.	--	SUBMIT SAMPLES FOR ARCHITECT'S APPROVAL



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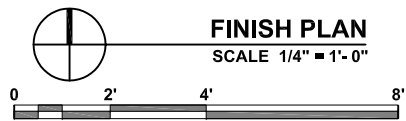
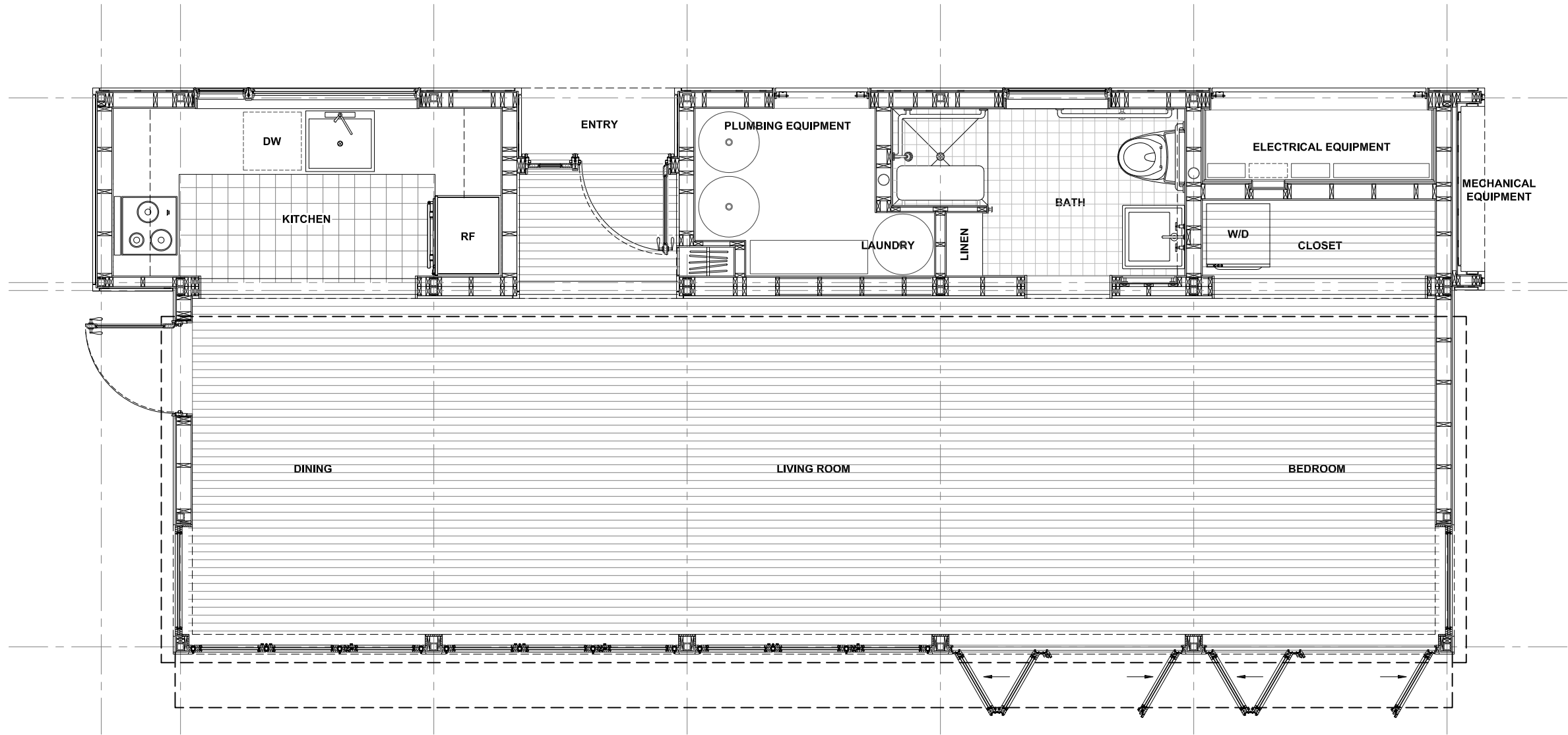
FINISH SCHEDULE AND NOTES

TITLE:

REVISIONS			Scale:	NOT TO SCALE
No.	Date:	Description:	Date:	
1	06.13.06	Design Development Drawings	August 7th, 2007	
2	03.06.07	Construction Drawings Rev. 1	Drawn By: MAF	Checked By: MM
3	08.07.07	Construction Drawings Rev. 2		

DRAWING:

A5.0



FINISH PLAN  
SCALE 1/4" = 1'-0"



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### FINISH PLAN

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		MAF	Checked By: MM

DRAWING:

# A5.1

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# Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

## SLIDING DOOR LAYOUT

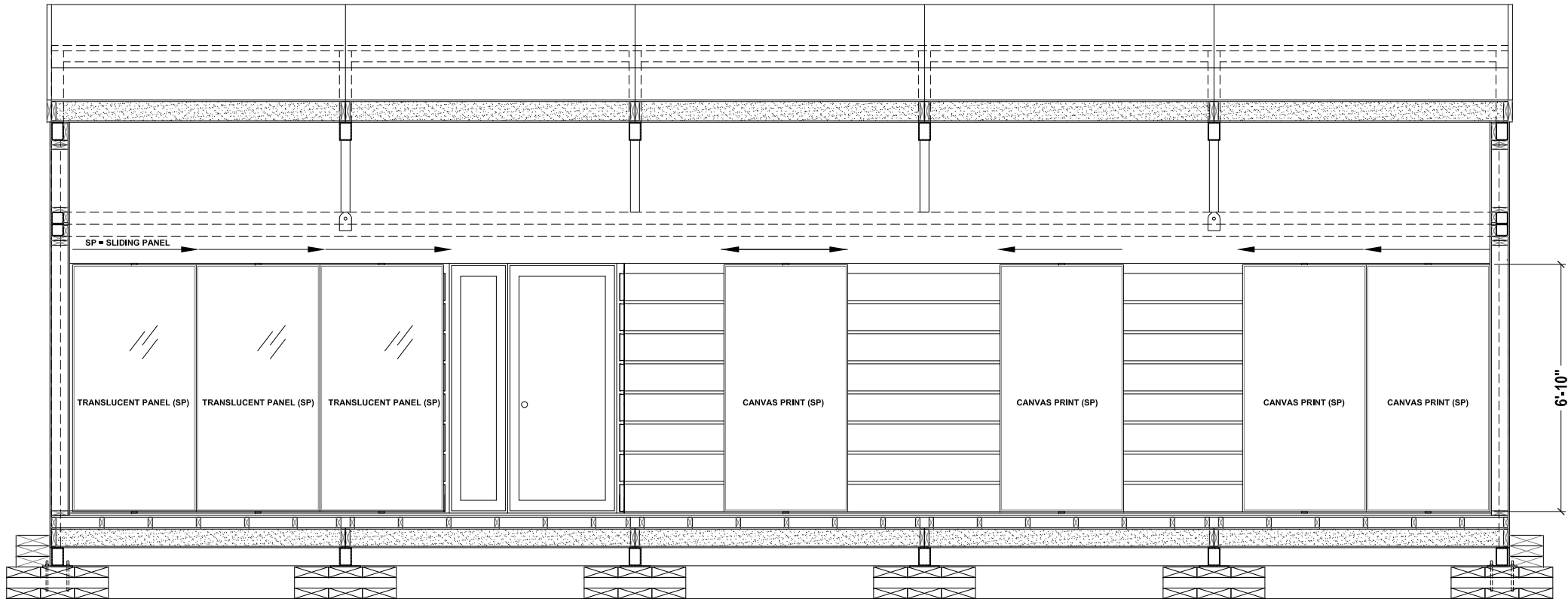
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No.	Date:	Description:	Date:
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2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
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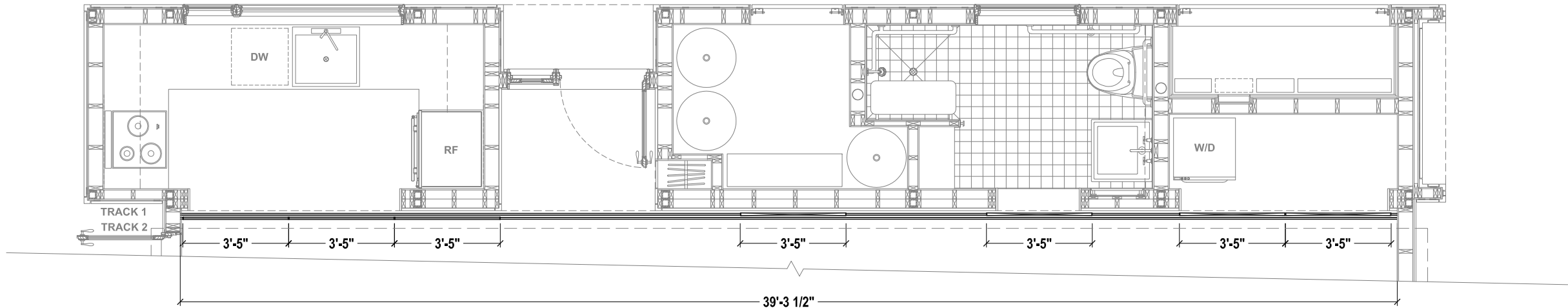
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# A5.2

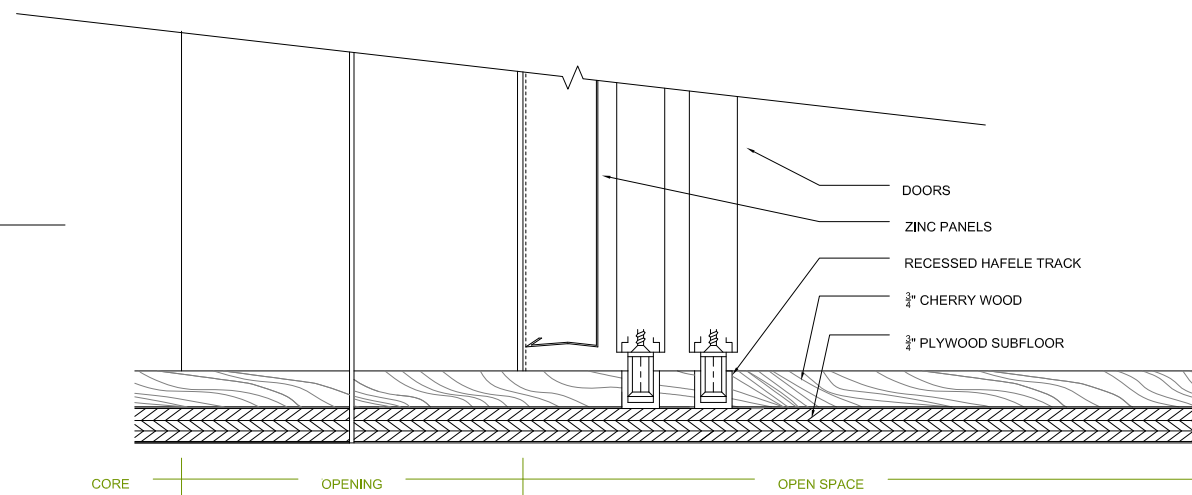
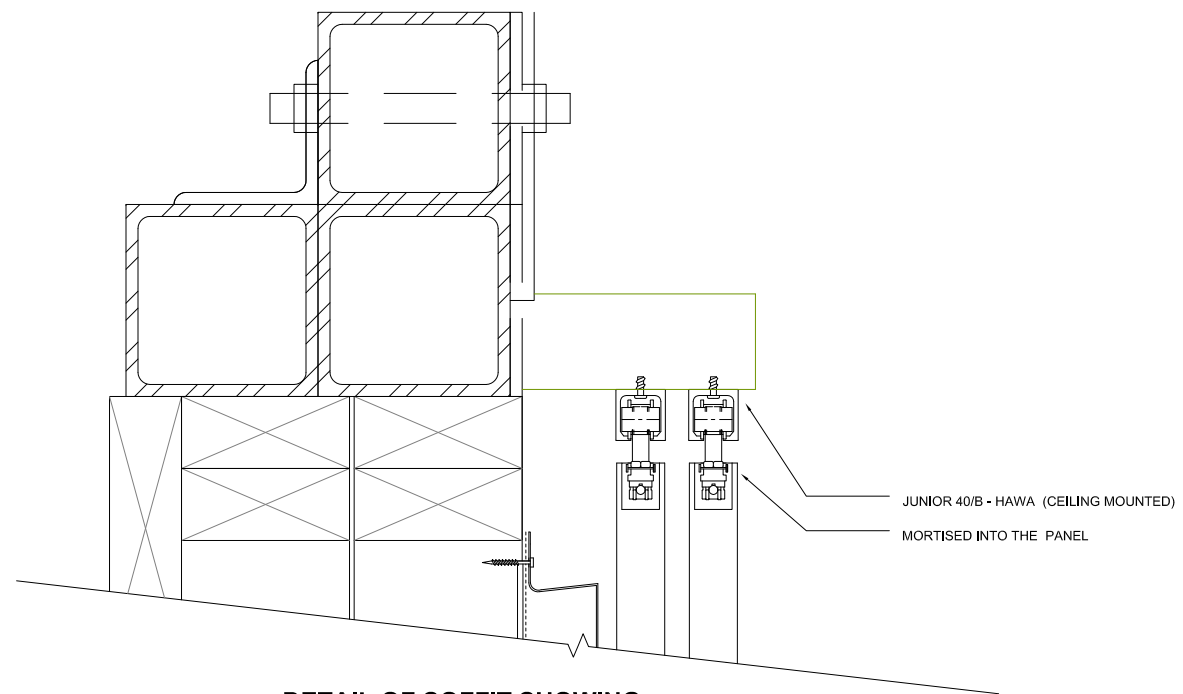
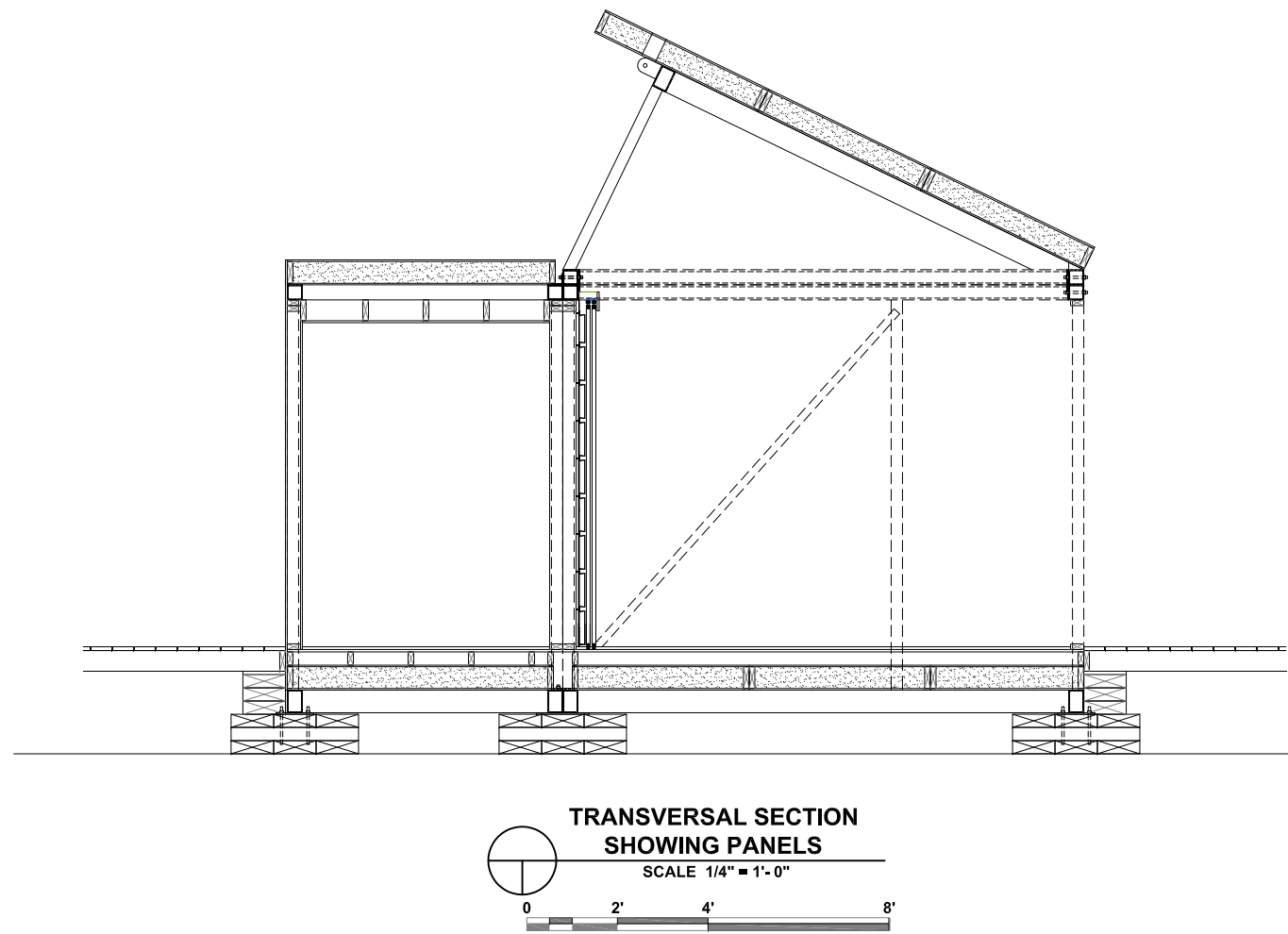
SHEET: 26 of 66



INTERIOR ELEVATION NORTH  
SCALE 1/4" = 1'-0"



PLAN OF NORTH INTERIOR  
SHOWING SLIDING PANEL  
SCALE 1/4" = 1'-0"

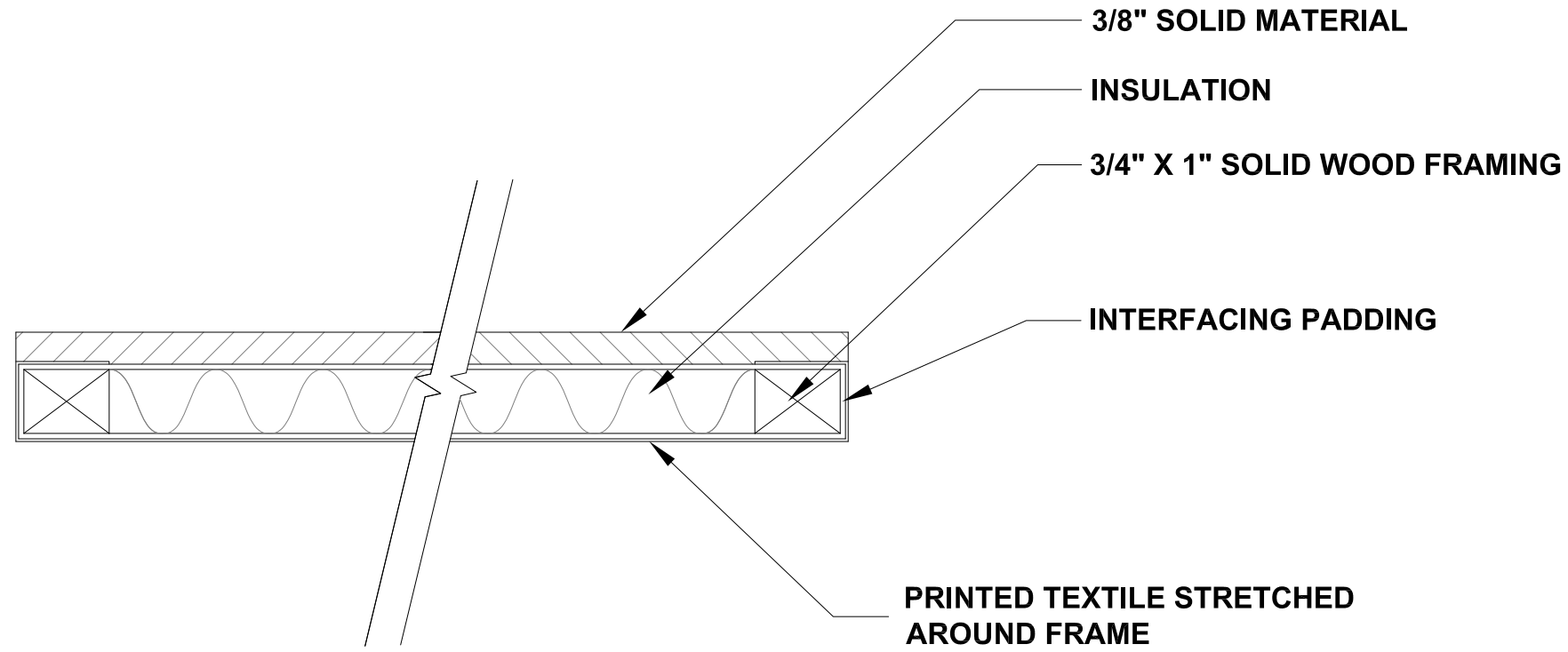


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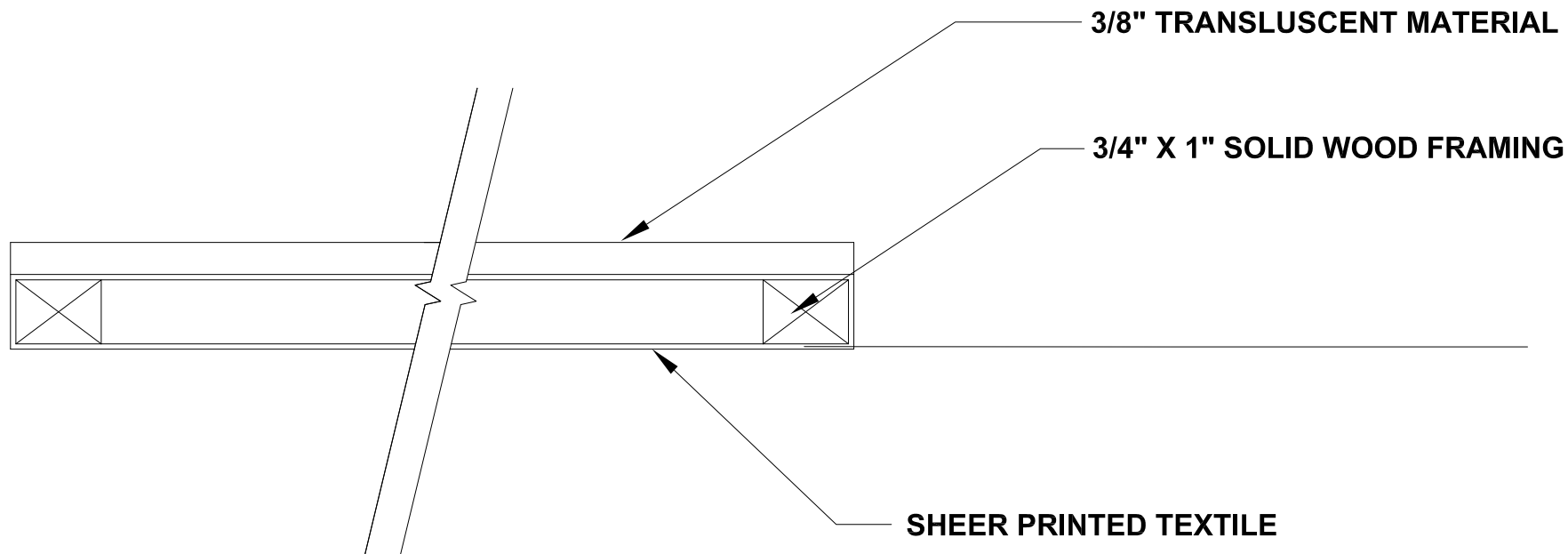
**Solar Decathlon 2007**  
CONSTRUCTION DOCUMENTS

SLIDING DOOR DETAILS			
REVISIONS		Scale:	AS NOTED
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: JS		Checked By: MM	

DRAWING:  
**A5.3**  
SHEET: 27 of 66



SECTION THROUGH OPAQUE  
PANELS, (4) FOUR  
SCALE 6" = 1'-0"



SECTION THROUGH  
TRANSPARENT PANELS, (3)  
THREE  
SCALE 6" = 1'-0"



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CONSTRUCTION DOCUMENTS

### SLIDING DOOR DETAILS

REVISIONS		Scale:		AS NOTED	
		Description:		Date:	
No.	Date:	Description:		Date:	
1	06.13.06	Design Development Drawings		August 7th, 2007	
2	03.06.07	Construction Drawings Rev. 1		Drawn By: JS	
3	08.07.07	Construction Drawings Rev. 2		Checked By: MM	

DRAWING:

# A5.4

SHEET: 28 of 66

LIFE SAFETY & ACCESSIBILITY NOTES:

FIRE PROTECTION NOTES:

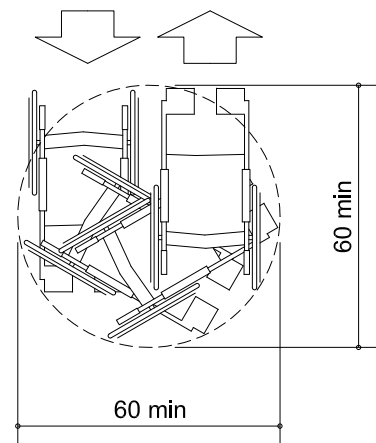
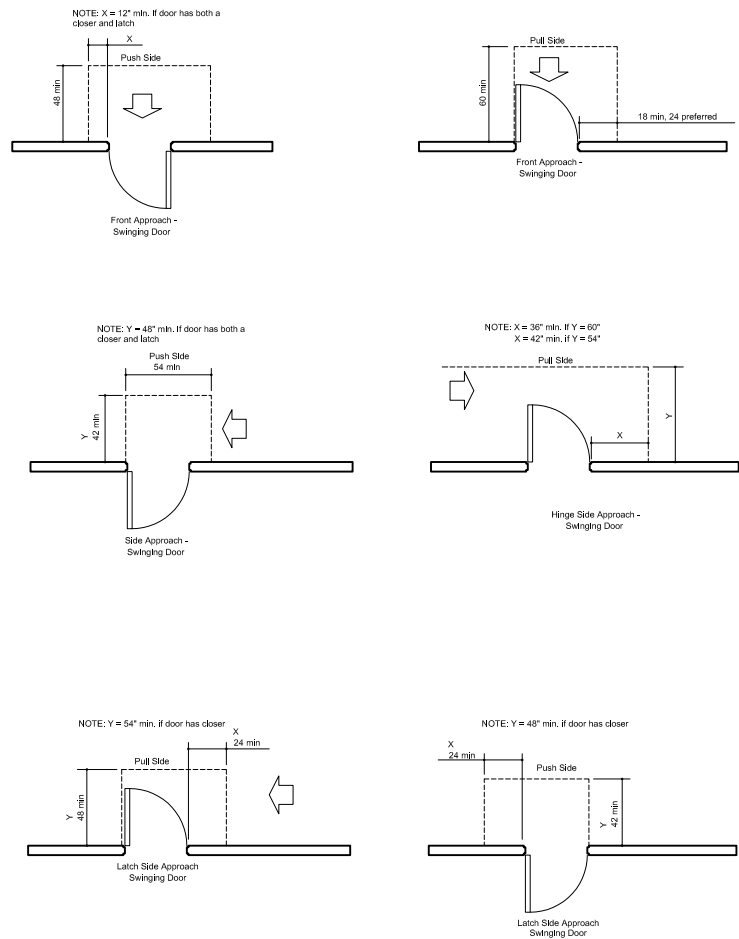
- 1. UNLESS OTHERWISE NOTED, FIRE EXTINGUISHERS SHALL HAVE A MINIMUM U.L. RATING OF 2A-10BC.
- 2. FIRE EXTINGUISHER UL CLASS 60 MARINE TYPE U.S.C.G. TYPE B-C SIZE II APP # 162.028 EX 1909 QUIK AID DRY CHEMICAL FIRE EXTINGUISHER GP 10F

NOTE: REFER TO WINDOW & DOOR SCHEDULE ON SHEET A1.0 FOR ALL GLAZING NOTES AND DETAILS.

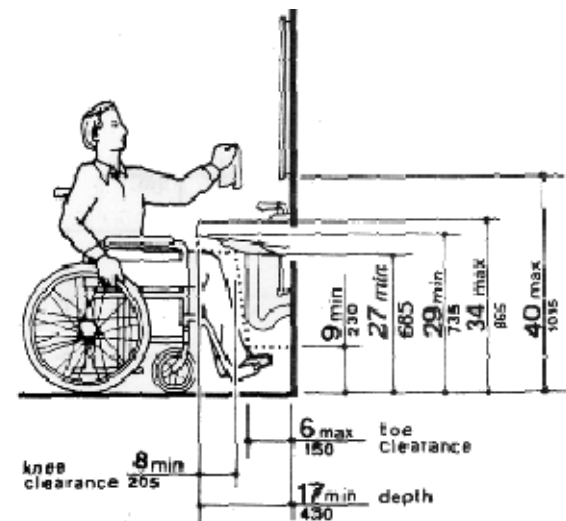
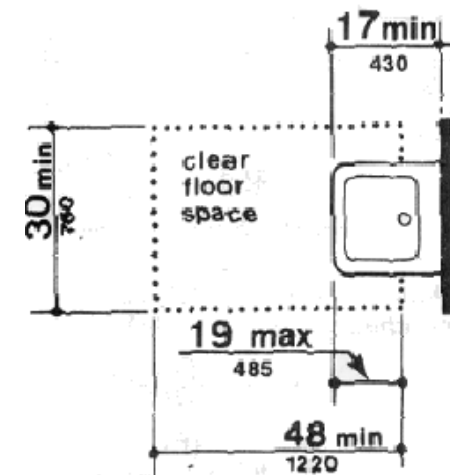
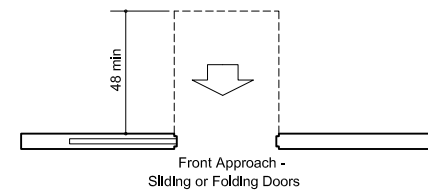
ACCESSIBILITY NOTES:  
(AS PER ICC/ANSI 117.1-2003)

- 1. MAXIMUM EFFORT TO OPEN DOORS SHALL NOT EXCEED 8.5 POUNDS FOR EXTERIOR DOORS AND 5 POUNDS FOR INTERIOR DOORS.
  - 2. REQUIRED EXIT DOORWAYS SHALL HAVE A MINIMUM 32" CLEAR OPENING WITH THE DOOR AT 90° TO THE CLOSED POSITION.
  - 3. MAXIMUM HEIGHT OF THRESHOLD TO BE ½". MAXIMUM VERTICAL CHANGE AT EDGE IS ¼" WITH A MAX BEVEL OF 45°.
- NOTE: SEE TOUR PLAN SUBMISSION FOR MORE DETAILS.

ADA REQUIREMENTS:



Wheelchair Turning Space



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CONSTRUCTION DOCUMENTS

LIFE SAFETY NOTES & SPECIFICATIONS




REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
		Drawn By: MAF	Checked By: MM

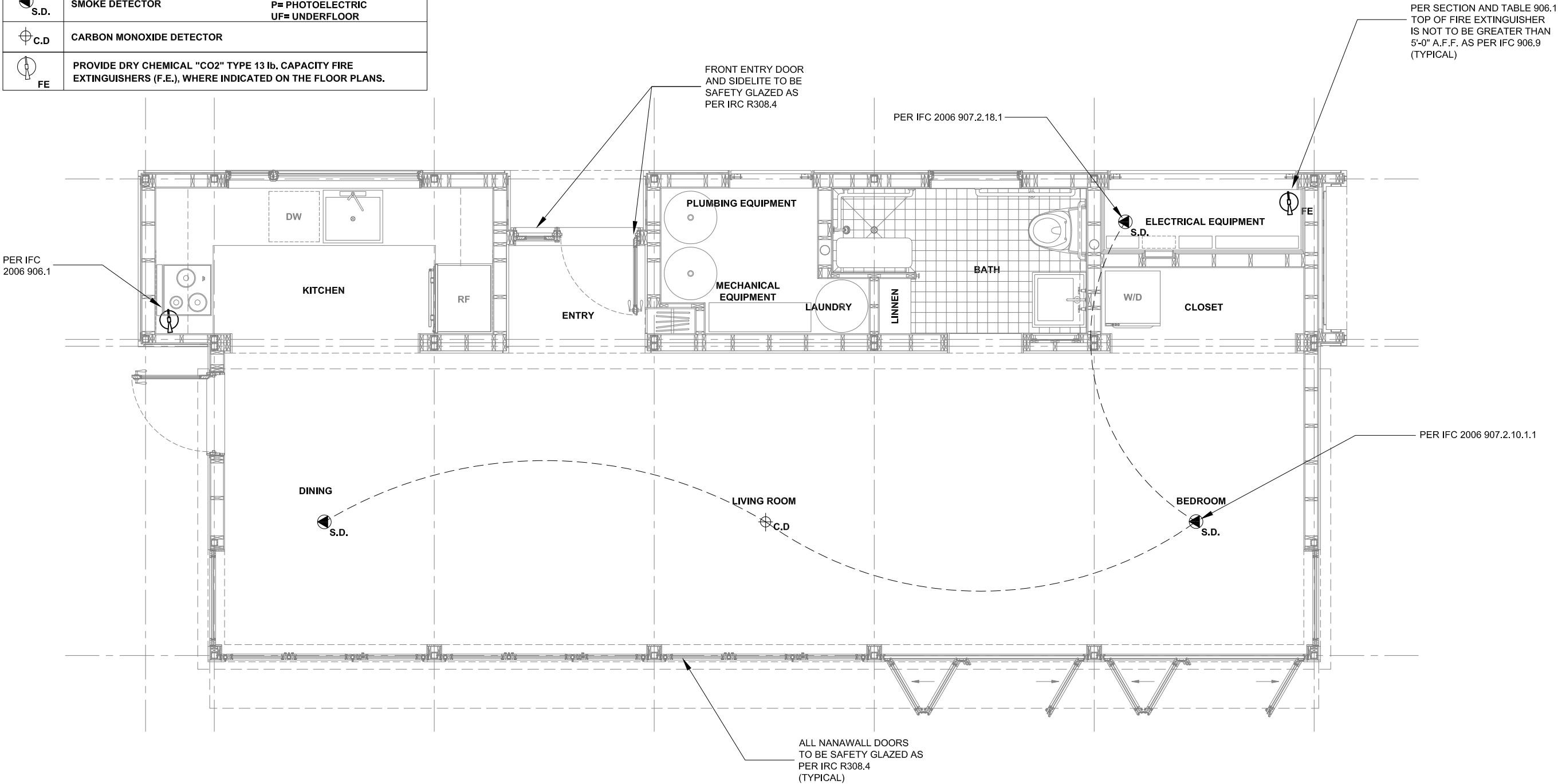
DRAWING:

A6.0

SHEET: 29 of 66

FIRE ALARM LEGEND

SYMBOL	DESCRIPTION	
 S.D.	SMOKE DETECTOR	I= IONIZATION P= PHOTOELECTRIC UF= UNDERFLOOR
 C.D.	CARBON MONOXIDE DETECTOR	
 FE	PROVIDE DRY CHEMICAL "CO2" TYPE 13 lb. CAPACITY FIRE EXTINGUISHERS (F.E.), WHERE INDICATED ON THE FLOOR PLANS.	



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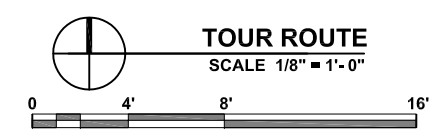
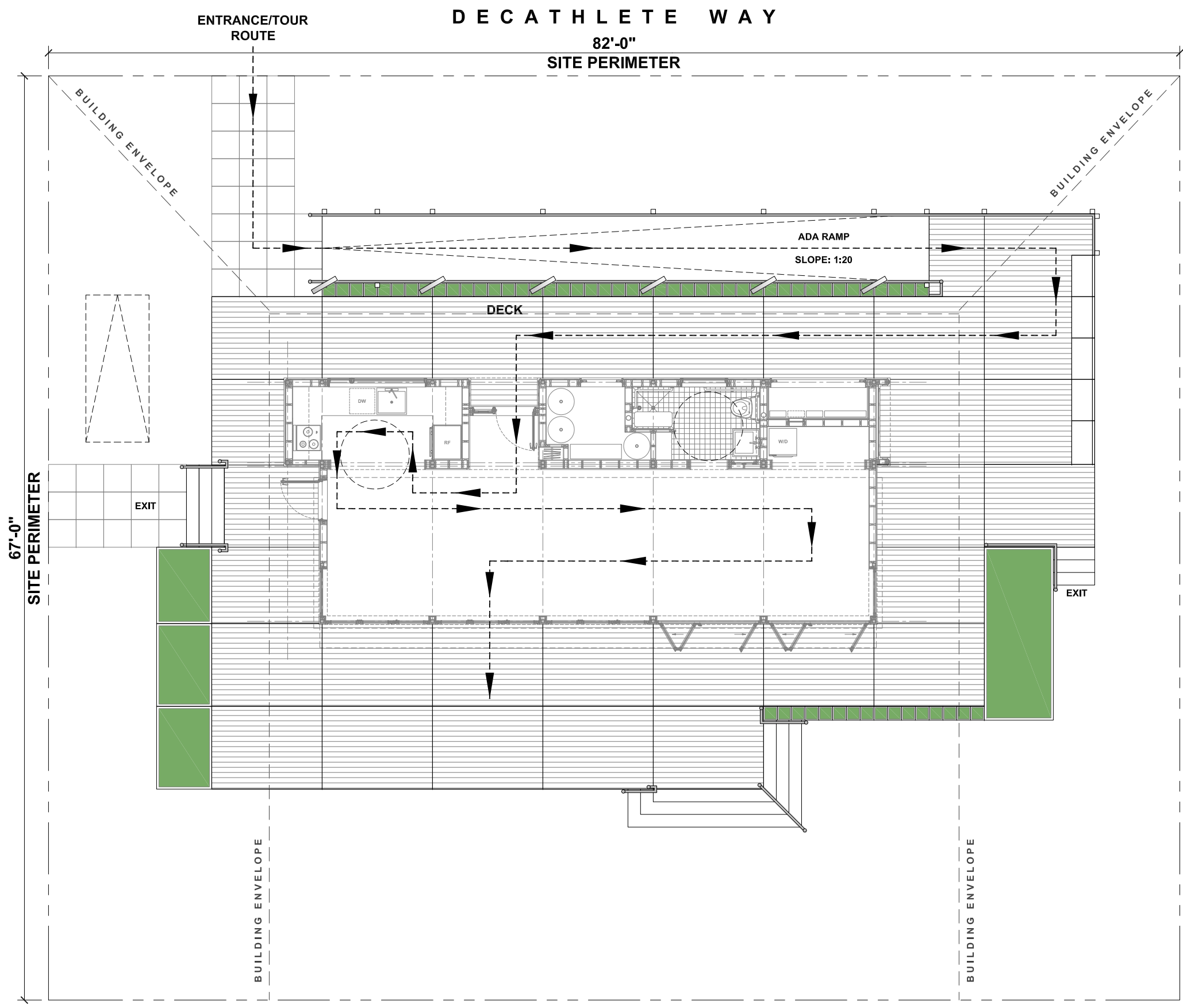
CONSTRUCTION DOCUMENTS

FIRE SAFETY PLAN

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		MAF	Checked By: MCB

DRAWING:

A6.1



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CONSTRUCTION DOCUMENTS

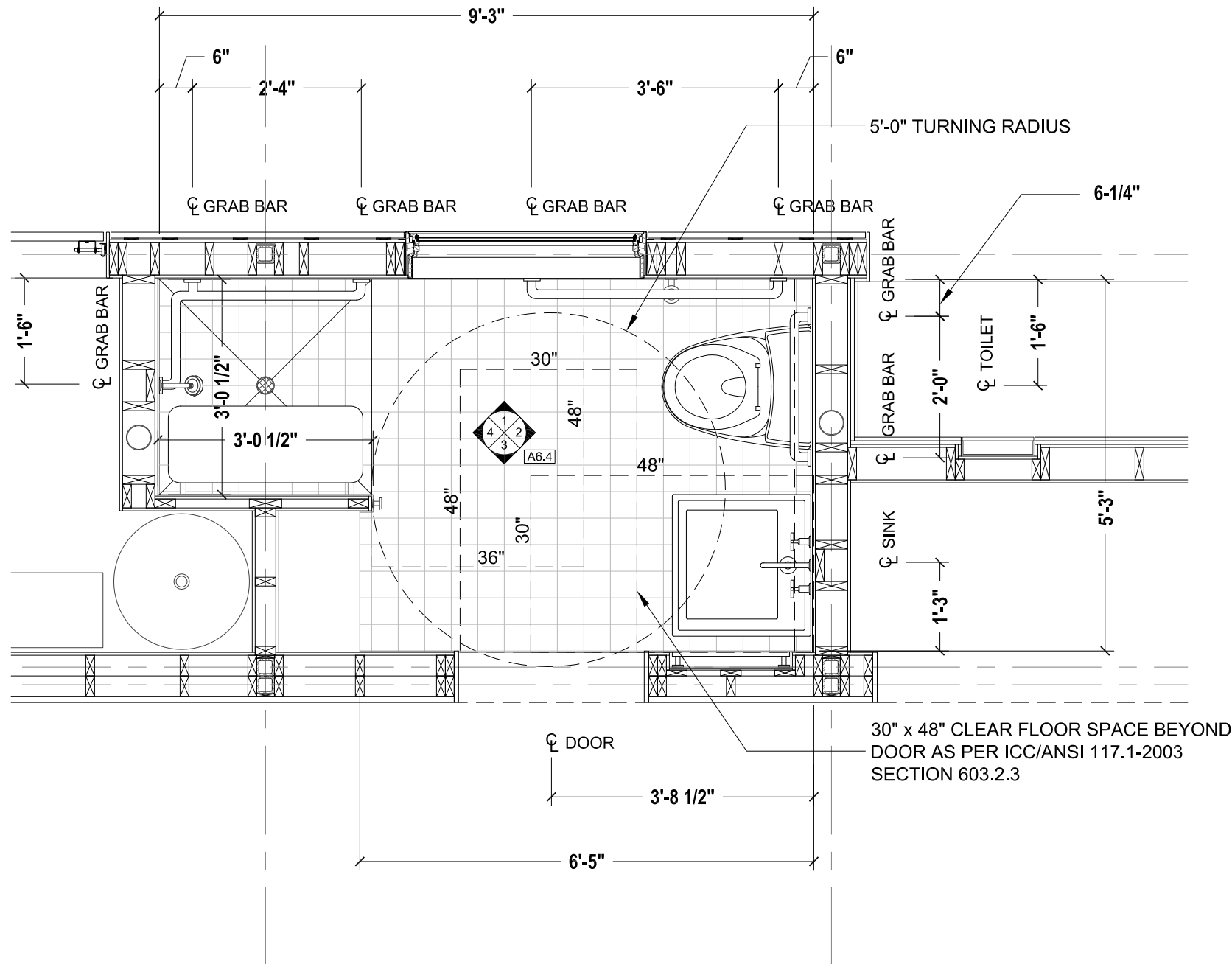
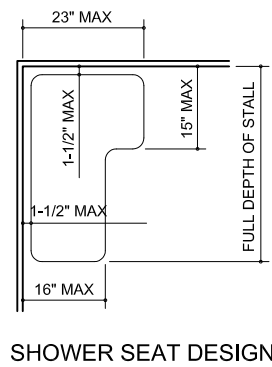
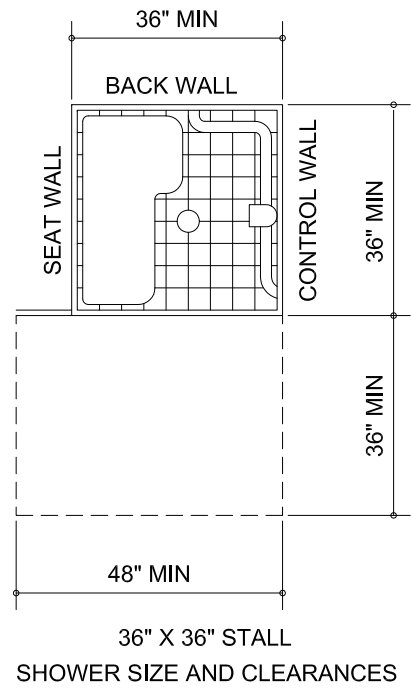
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2	03.06.07	Construction Drawings Rev. 1		
3	08.07.07	Construction Drawings Rev. 2		
Drawn By: JEC			Checked By: MM	

DRAWING:

# A6.2

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ADA SHOWER REQUIREMENTS:



ADA BATHROOM PLAN  
SCALE 1/2" = 1'-0"



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CONSTRUCTION DOCUMENTS

TITLE: ADA BATHROOM DETAILS		Scale: AS NOTED	
		Date: August 7th, 2007	
No.	Date:	Description:	
1	06.13.06	Design Development Drawings	
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: MAF		Checked By: MM	

DRAWING:

**A6.3**

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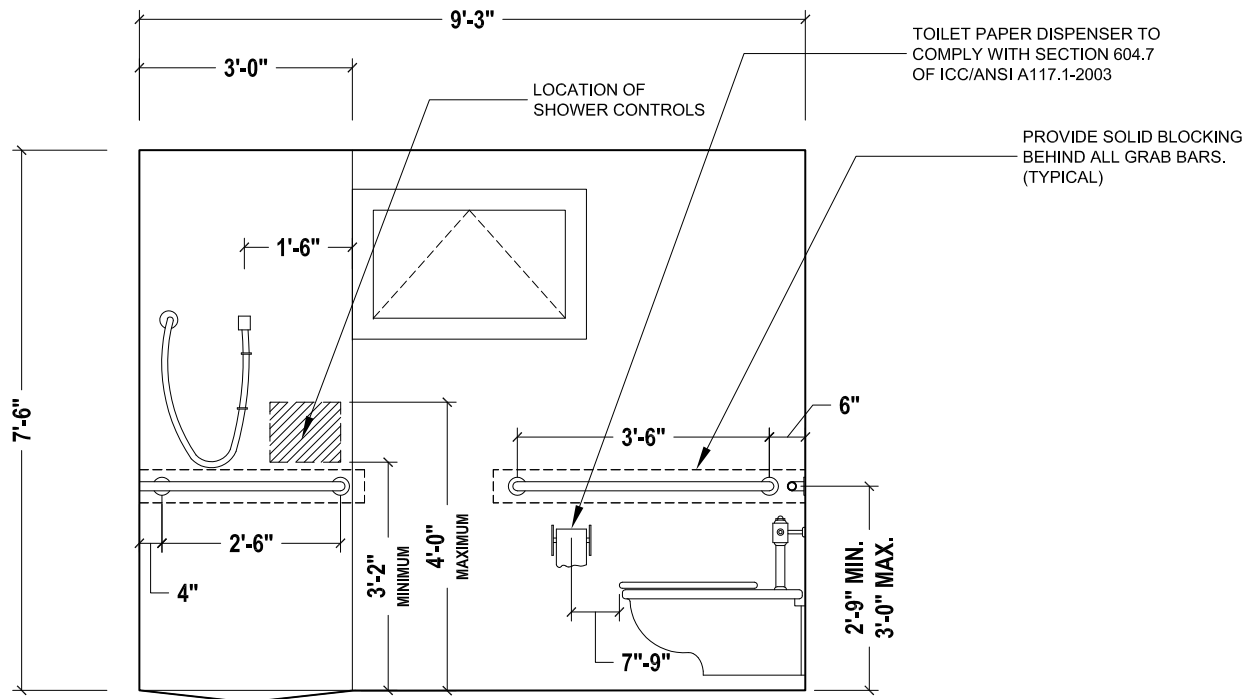
ADA BATHROOM DETAILS

TITLE:		Scale: 3/8" = 1' - 0"	
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No.	Date:	Description:	Checked By:
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2	03.06.07	Construction Drawings Rev. 1	MM
3	08.07.07	Construction Drawings Rev. 2	

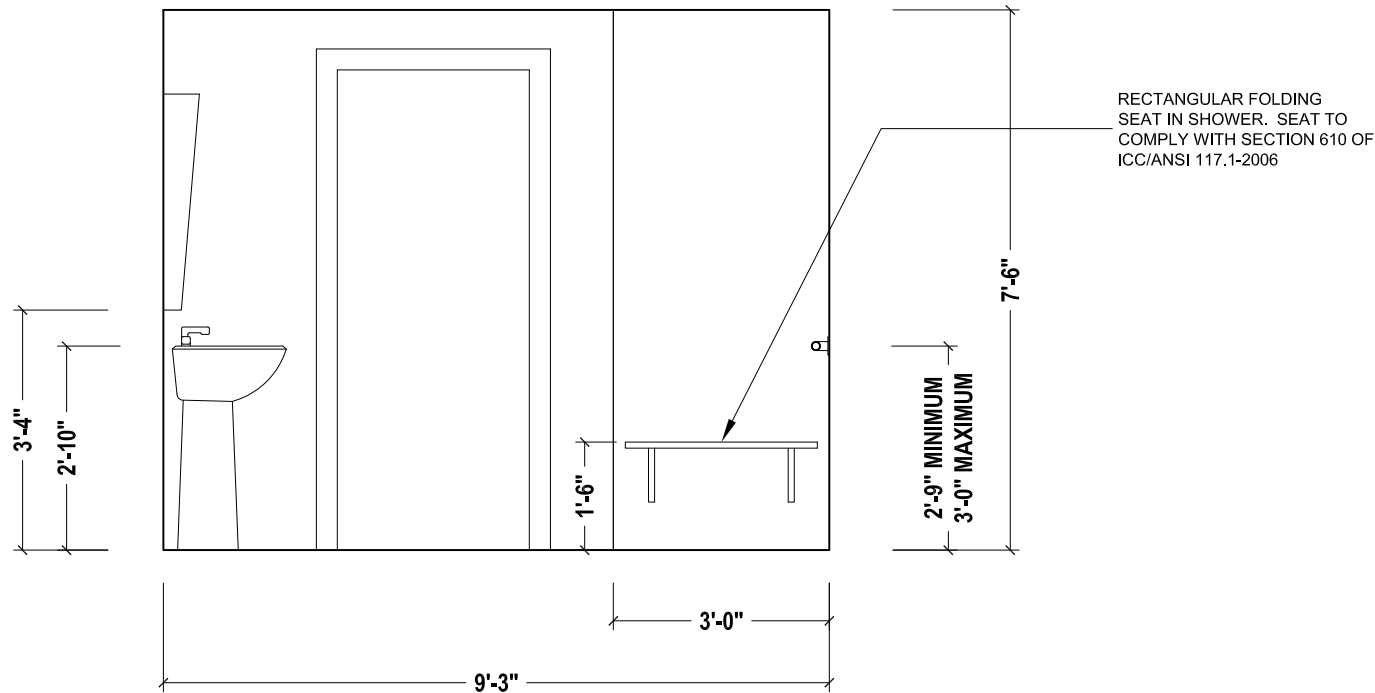
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**A6.4**

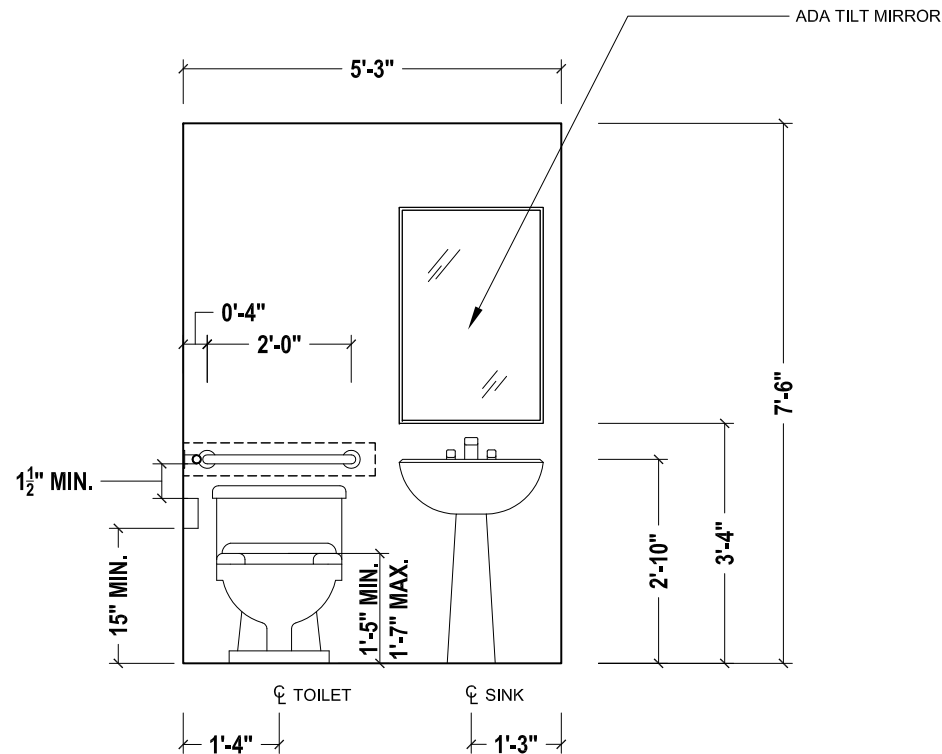
SHEET: 33 of 66



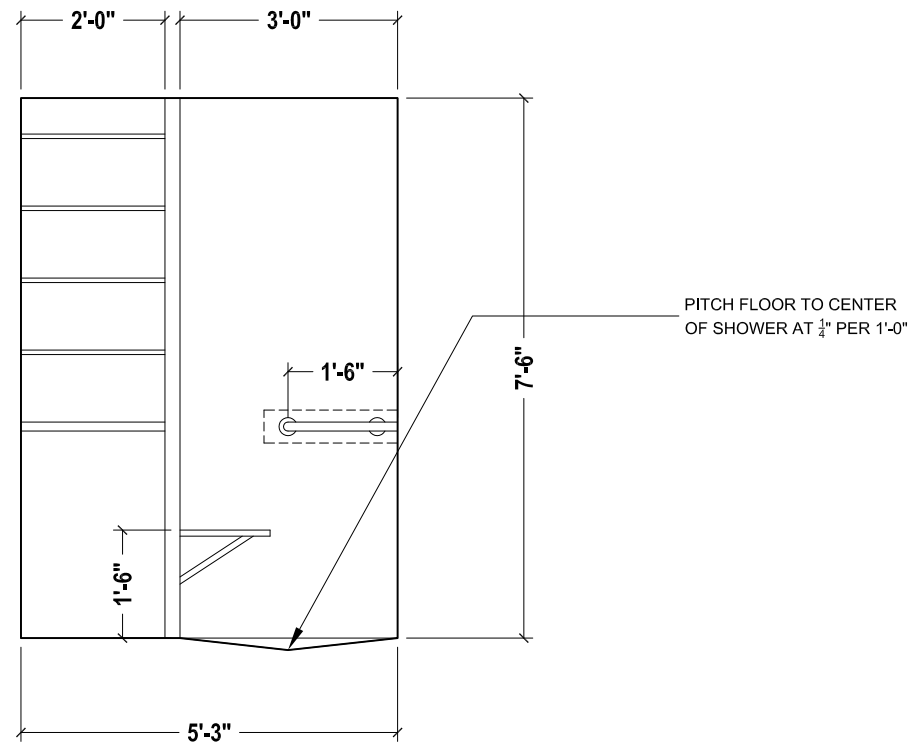
**1** BATHROOM INTERIOR ELEVATION  
SCALE 3/8" = 1'- 0"



**3** BATHROOM INTERIOR ELEVATION  
SCALE 3/8" = 1'- 0"



**2** BATHROOM INTERIOR ELEVATION  
SCALE 3/8" = 1'- 0"



**4** BATHROOM INTERIOR ELEVATION  
SCALE 3/8" = 1'- 0"

STEEL NOTES

1. DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO LOCAL ORDINANCES, NEW YORK STATE BUILDING CODES, AND THE LATEST EDITIONS OF THE AISC "SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", AND THE AISI SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED MEMBERS.
2. STRUCTURAL STEEL SHALL CONFORM TO ASTM GRADE DESIGNATION A992, GRADE 50 (STANDARD STRUCTURAL SHAPES) OR A500, GRADE B (STRUCTURAL TUBING). ALL ROOF STEEL HAS BEEN DESIGNED FOR A MINIMUM TOTAL LOAD OF 50 PSF UNLESS OTHERWISE NOTED.
3. SHOP AND FIELD CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE WELDED OR BOLTED.
4. ALL WELDING SHALL COMPLY WITH THE AMERICAN WELDING SOCIETY (AWS) STRUCTURAL WELDING CODE STANDARDS. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS. ALL WELDING IS TO BE PERFORMED WITH E70XX ELECTRODES UNLESS OTHERWISE NOTED OR REQUIRED. REMOVE ALL DIRT, GREASE, PAINT, AND BURRS WITHIN 3" OF ALL WELDS. ALL BEAM SPLICES SHALL DEVELOP THE FULL STRENGTH OF THE MEMBERS BEING JOINED.
5. ALL WELDS NOT SPECIFICALLY CALLED OUT ON THE DRAWING SHALL BE THE MINIMUM WELD SIZE, AS SPECIFIED BY THE AISC MANUAL, LATEST EDITION.
6. BOLTED CONNECTIONS SHALL BE FRICTION-TYPE USING HIGH-STRENGTH, 3/4" DIAMETER, A-325 BOLTS WITH ASTM A90 GALVANIZED COATING SET IN 13/16" DIAMETER HOLES IN ACCORDANCE WITH THE AISC SPECIFICATIONS FOR STRUCTURAL JOINTS, LATEST EDITION. MINIMUM WEB CONNECTION(S) SHALL HAVE (2) BOLTS.
7. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING AND/OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO NYIT PRIOR TO REMEDIAL ACTION. ANY SUCH ACTION SHALL REQUIRE NYIT'S APPROVAL.
8. ALL STEEL PLATES AND ANGLES SHALL CONFORM TO ASTM GRADE DESIGNATION A36.
9. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SUPERCEDE SCALED DIMENSIONS.
10. ALL STRUCTURAL STEEL TUBES TO BE DRIED AND CAPPED TO PREVENT MOISTURE DAMAGE FROM THE INSIDE OF BEAM.

STRUCTURAL INSULATED PANEL (SIP) NOTES

1. ALL ROOF AND FLOOR PANELS TO BE 6-5/8" STRUCTURAL INSULATED PANELS AS MANUFACTURED BY MURUS. (MODEL# - OSB-2165PUR) REFER TO MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.

STRUCTURAL DESIGN LOADS

REFER TO THE "STRUCTURAL CALCULATIONS FOR THE NYIT SOLAR DECATHLON 2007" BY RUDOLPH SHATARAH DATED 03/06/07 UNDER SEPARATE COVER.

STRUCTURAL DESIGN CRITERIA:

DESIGN STANDARD	ASCE 7-02
FLOOR LIVE LOAD	
-MEANS OF EGRESS	100 PSF
-ALL OTHER AREAS	50 PSF
ROOF LIVE LOAD	20 PSF
RAILINGS	200 LB. (APPLIED IN ANY DIRECTION AT ANY POINT AT TOP OF RAIL)
WIND	90 MPH (3 SECOND GUST) EXPOSURE C
ALLOWABLE SOIL BEARING	1,000 PSF



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CONSTRUCTION DOCUMENTS

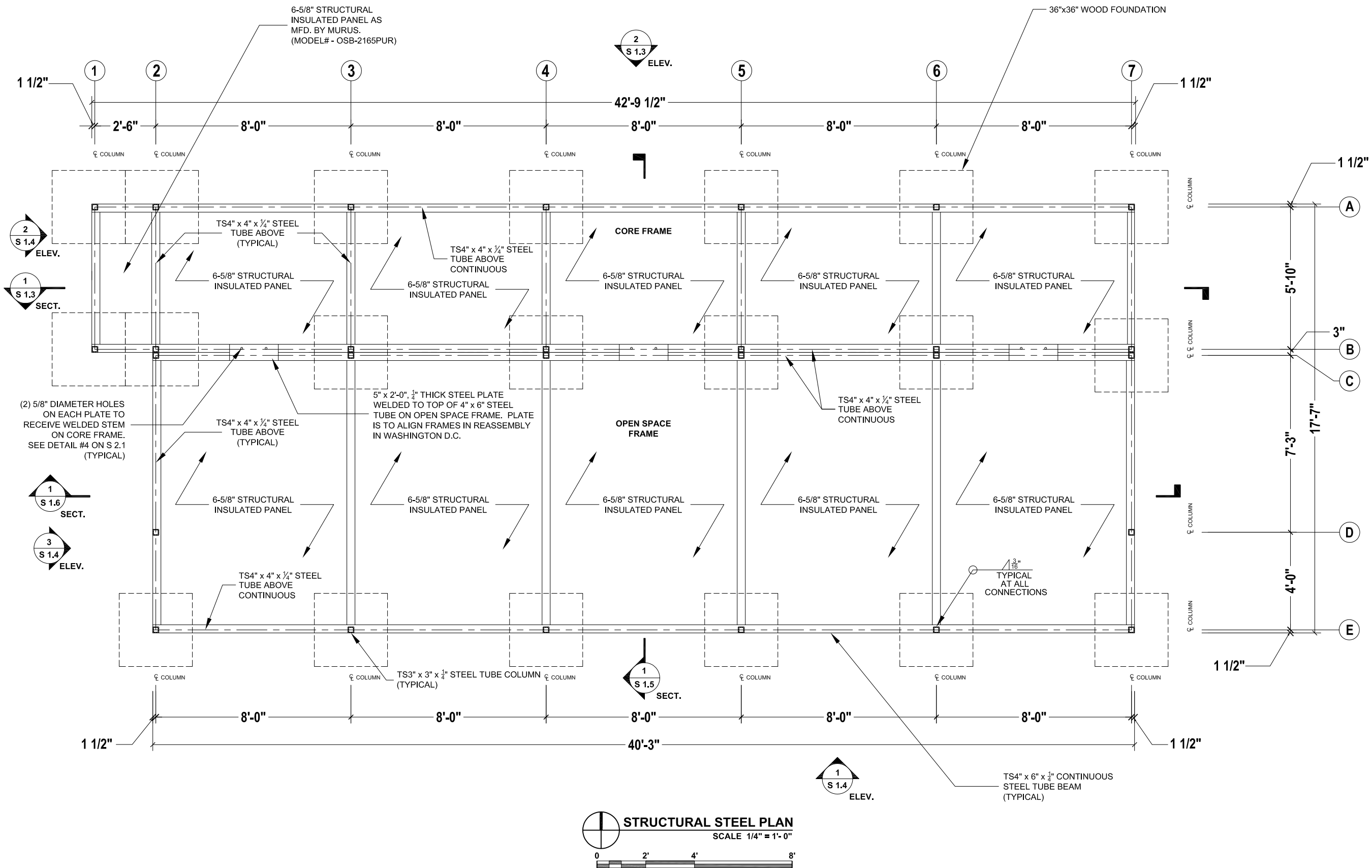
STRUCTURAL NOTES & SPECIFICATIONS

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No.	Date:	Description:		Date:	August 7th, 2007	
1	06.13.06	Design Development Drawings				
2	03.06.07	Construction Drawings Rev. 1				
3	08.07.07	Construction Drawings Rev. 2				
			Drawn By:	MAF	Checked By:	MM

DRAWING:

S 1.0

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**STRUCTURAL STEEL PLAN**  
SCALE 1/4" = 1'-0"



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CONSTRUCTION DOCUMENTS

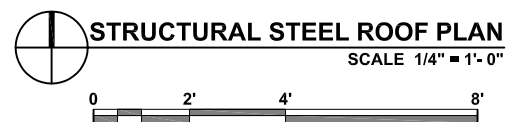
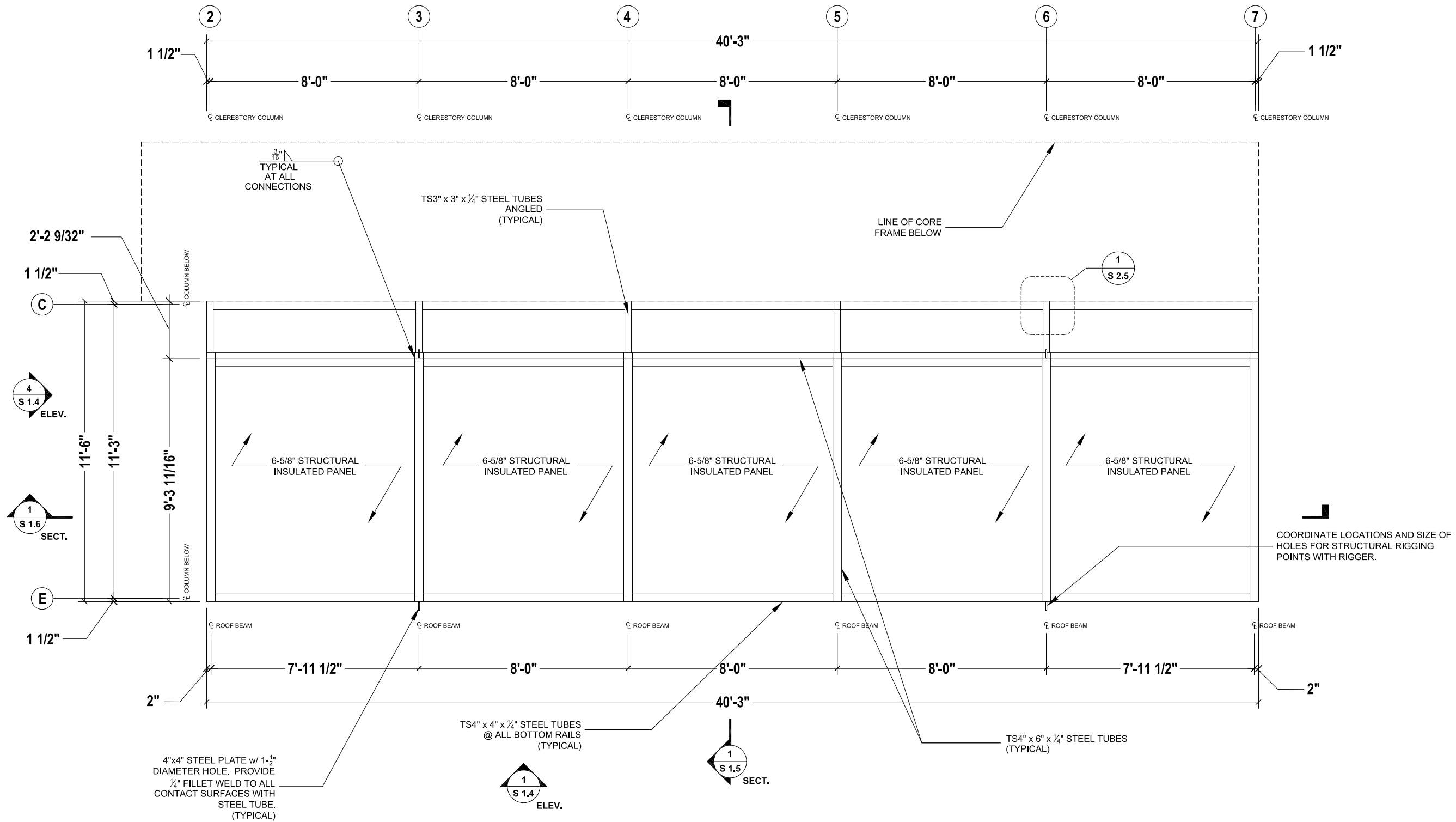
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No.	Date:	Description:							
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2	03.06.07	Construction Drawings Rev. 1							
3	08.07.07	Construction Drawings Rev. 2							

DRAWING:

**S 1.1**

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## CONSTRUCTION DOCUMENTS



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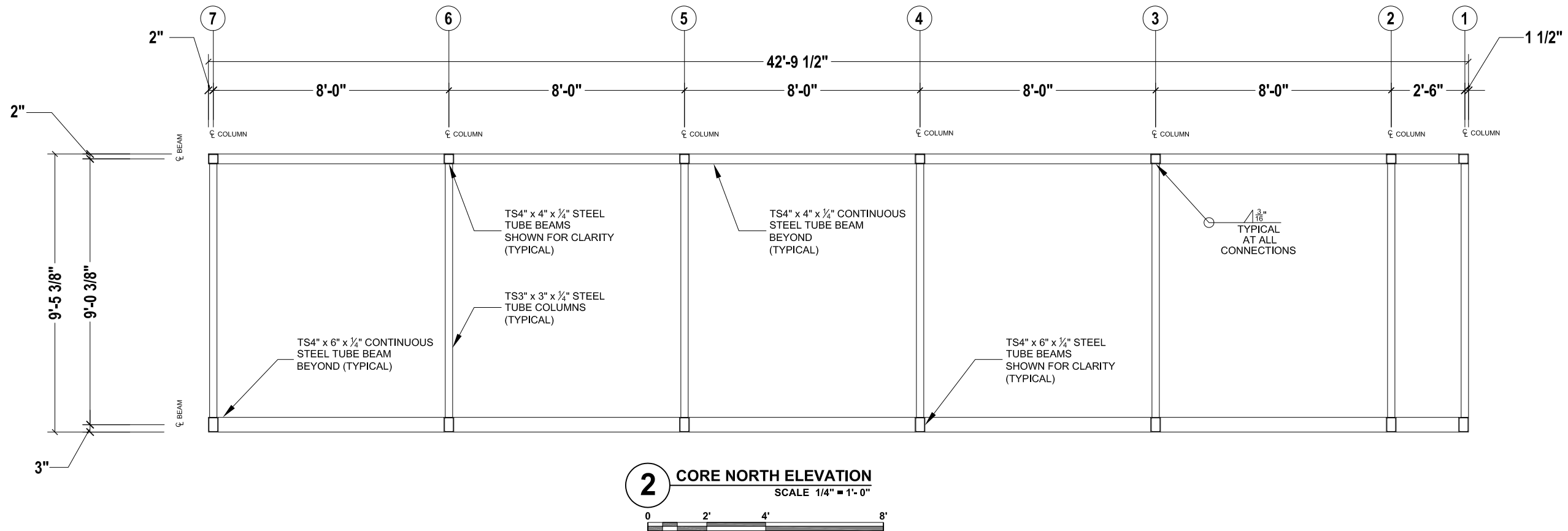
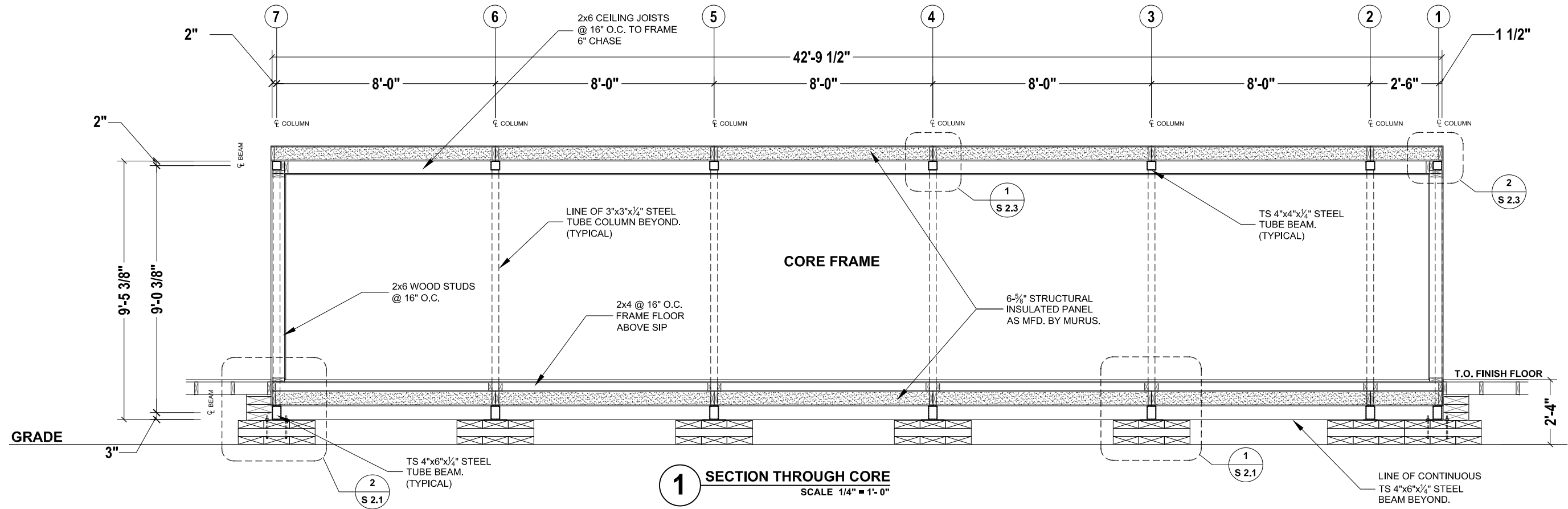
CONSTRUCTION DOCUMENTS

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No.	Date:	Description:	Date:	Checked By: MM	
1	06.13.06	Design Development Drawings	August 7th, 2007	MAF	
2	03.06.07	Construction Drawings Rev. 1			
3	08.07.07	Construction Drawings Rev. 2			

DRAWING:

**S 1.2**

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CONSTRUCTION DOCUMENTS

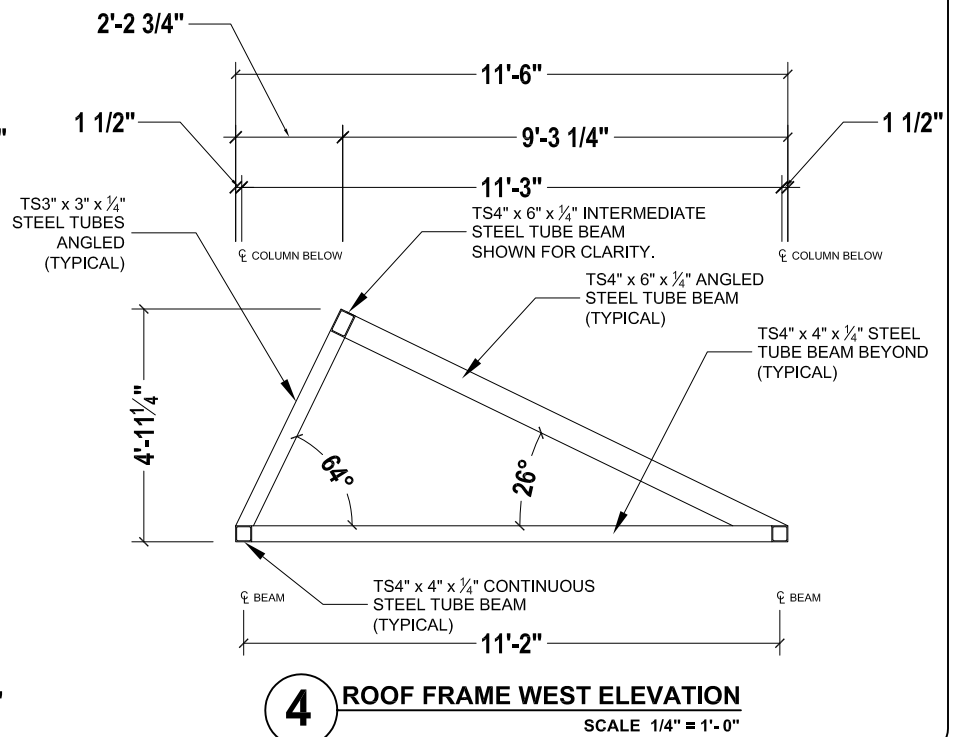
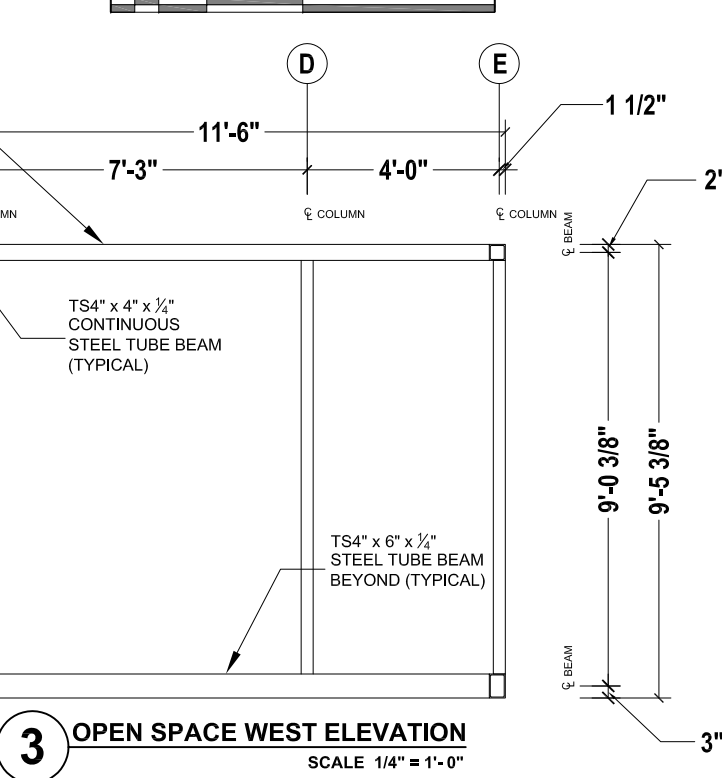
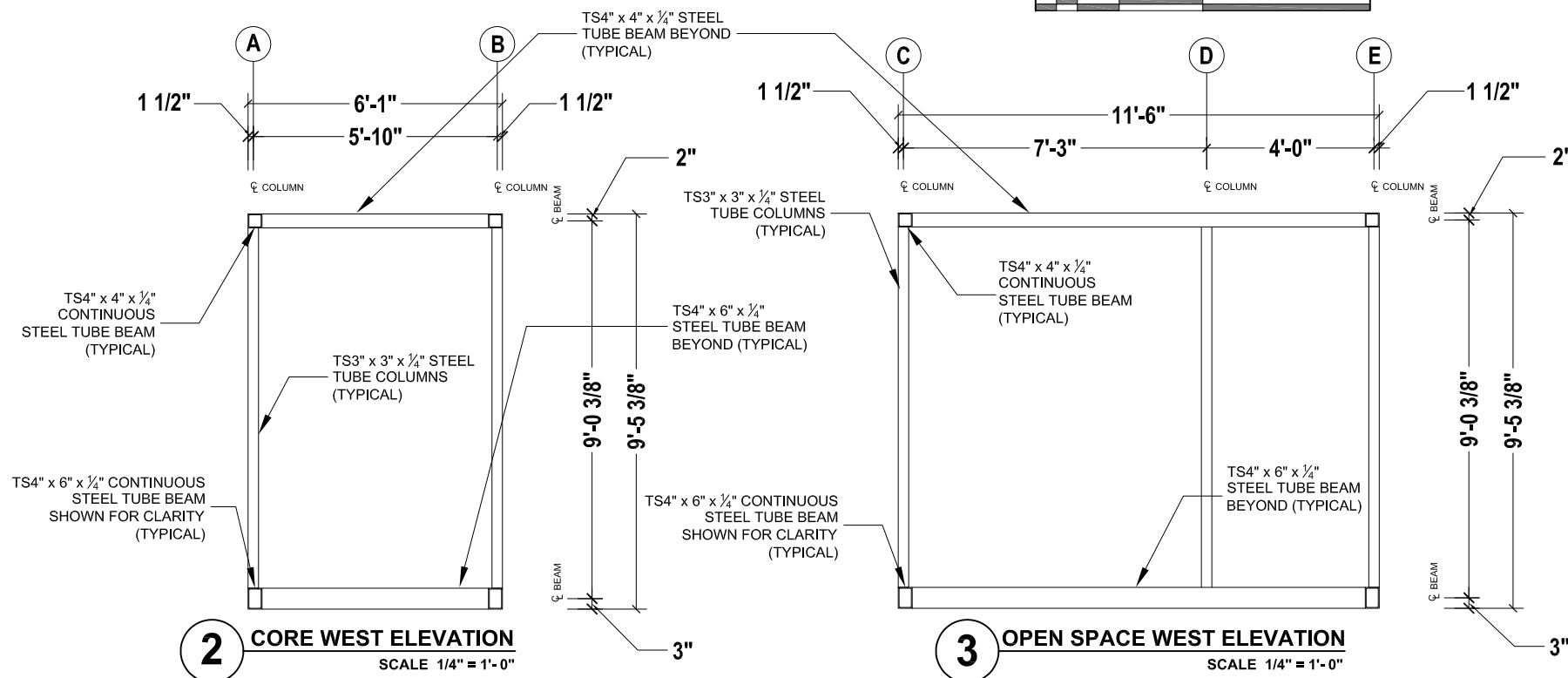
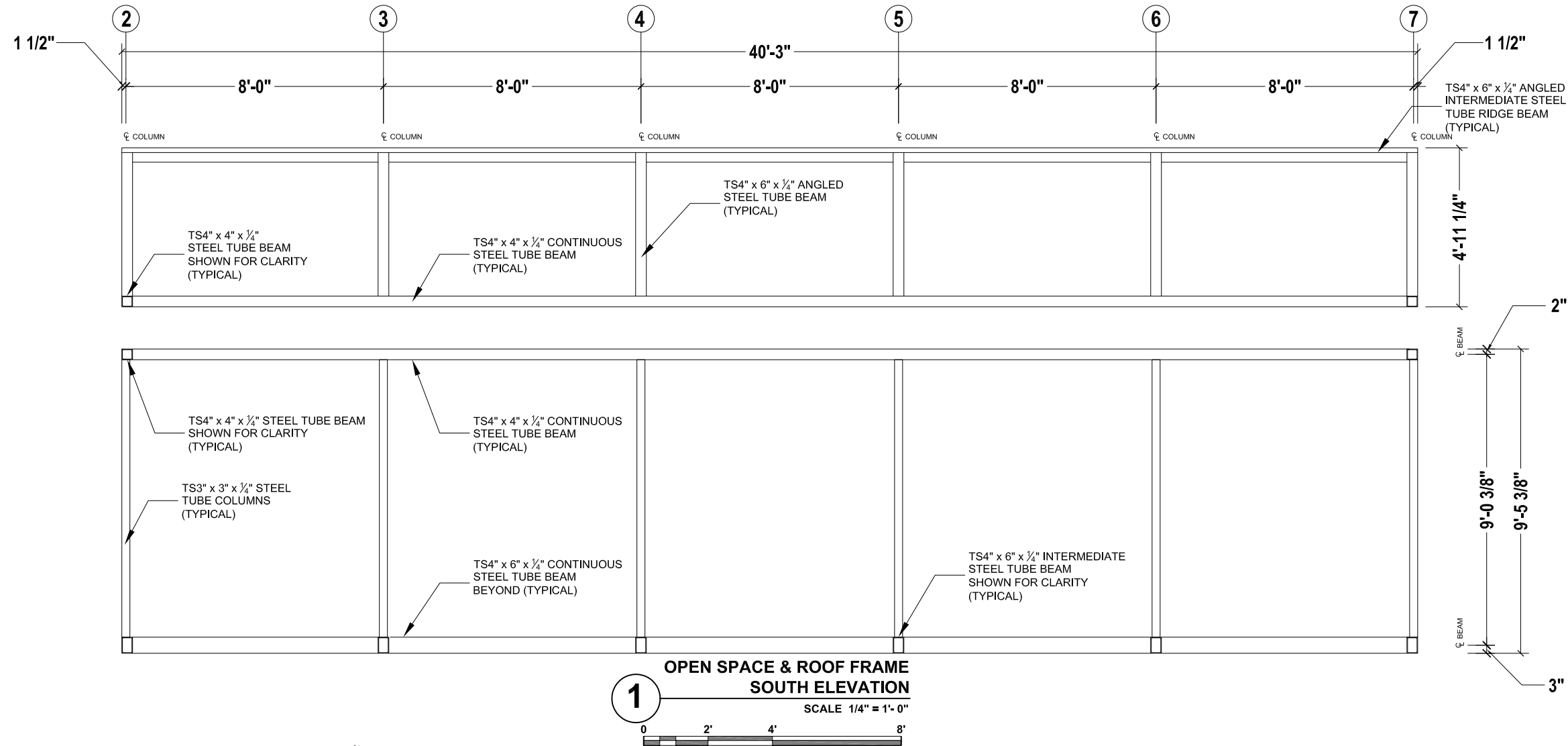
**CORE FRAME SECTION & ELEVATION**

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: MAF		Checked By: MM	

DRAWING:

**S 1.3**

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CONSTRUCTION DOCUMENTS

**STEEL FRAME ELEVATIONS**

REVISIONS		Date:	Description:
No.	1	06.13.06	Design Development Drawings
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	

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

Date: August 7th, 2007

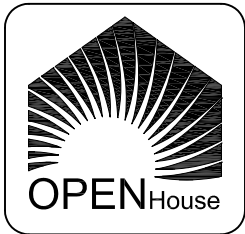
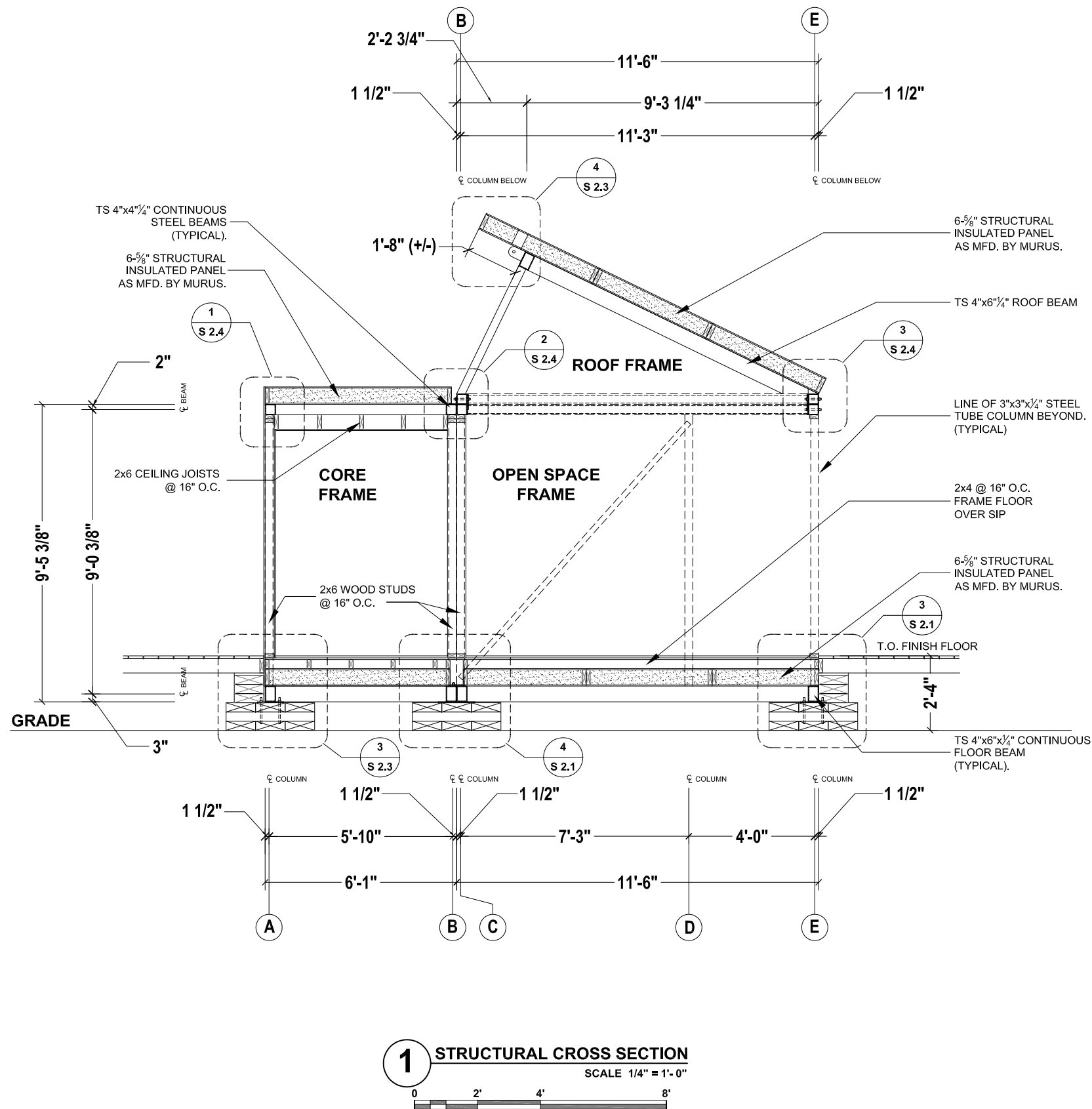
Drawn By: MAF

Checked By: MM

DRAWING:

**S 1.4**

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CONSTRUCTION DOCUMENTS

REVISIONS			Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:	
1	06.13.06	Design Development Drawings	August 7th, 2007	
2	03.06.07	Construction Drawings Rev. 1	Drawn By:	MAF
3	08.07.07	Construction Drawings Rev. 2	Checked By:	MM

DRAWING:

**S 1.5**

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CONSTRUCTION DOCUMENTS

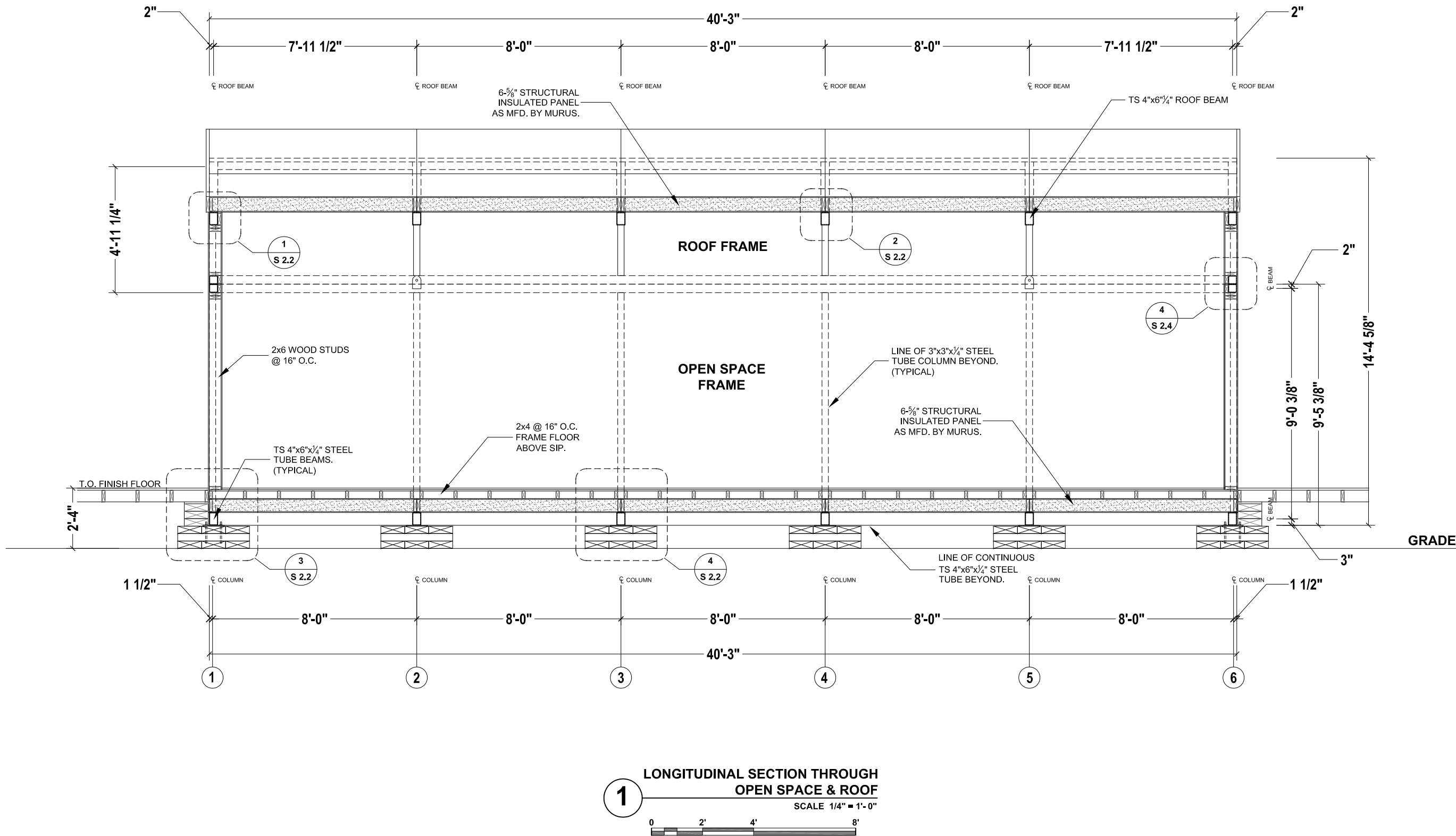
## STRUCTURAL FRAME LONGITUDINAL SECTION

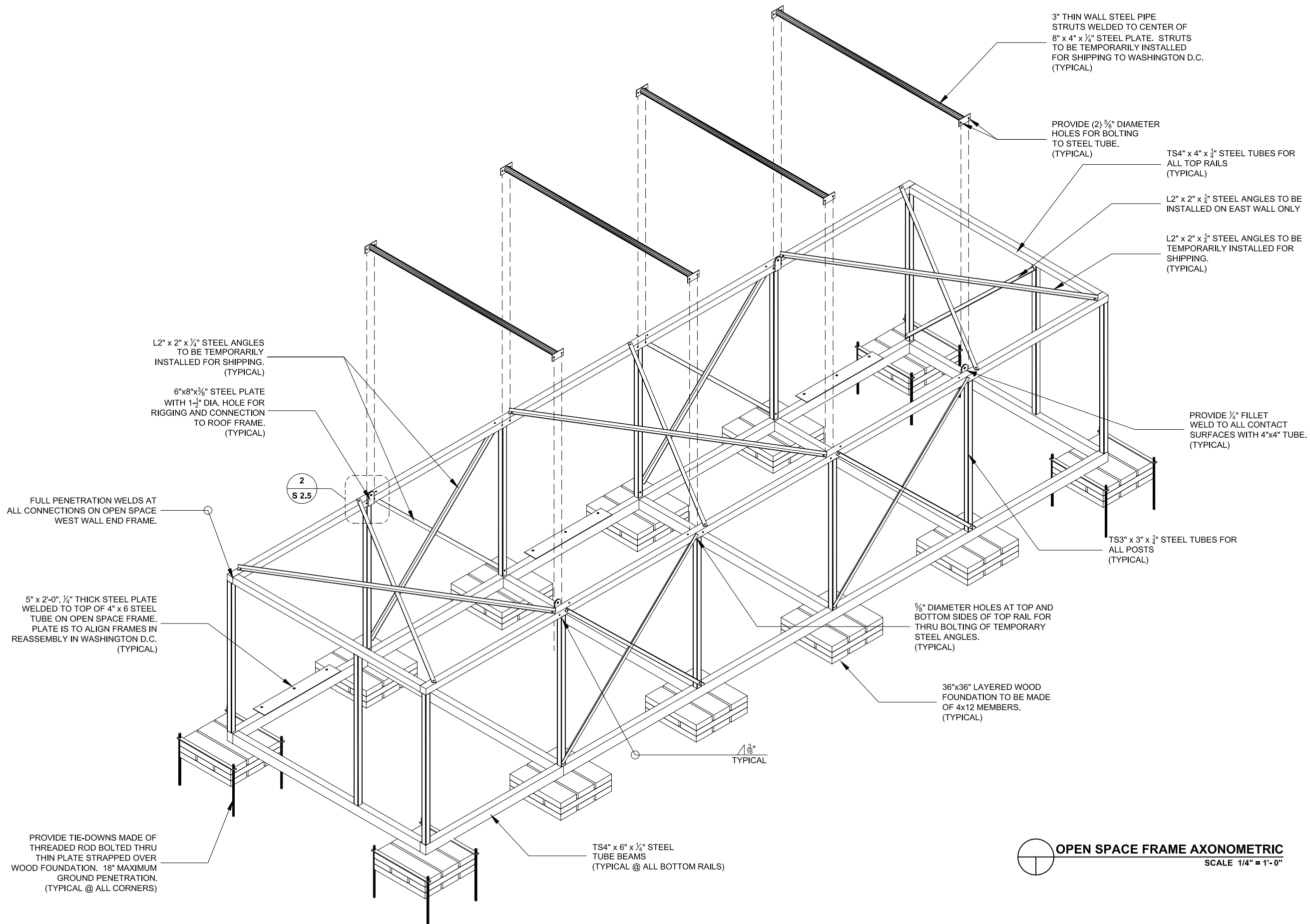
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3	08.07.07	Construction Drawings Rev. 2	
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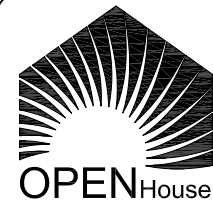
# S 1.6

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 **OPEN SPACE FRAME AXONOMETRIC**  
SCALE 1/4" = 1'-0"



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CONSTRUCTION DOCUMENTS

## OPEN SPACE FRAME AXONOMETRIC

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
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DRAWING:

# S 1.7

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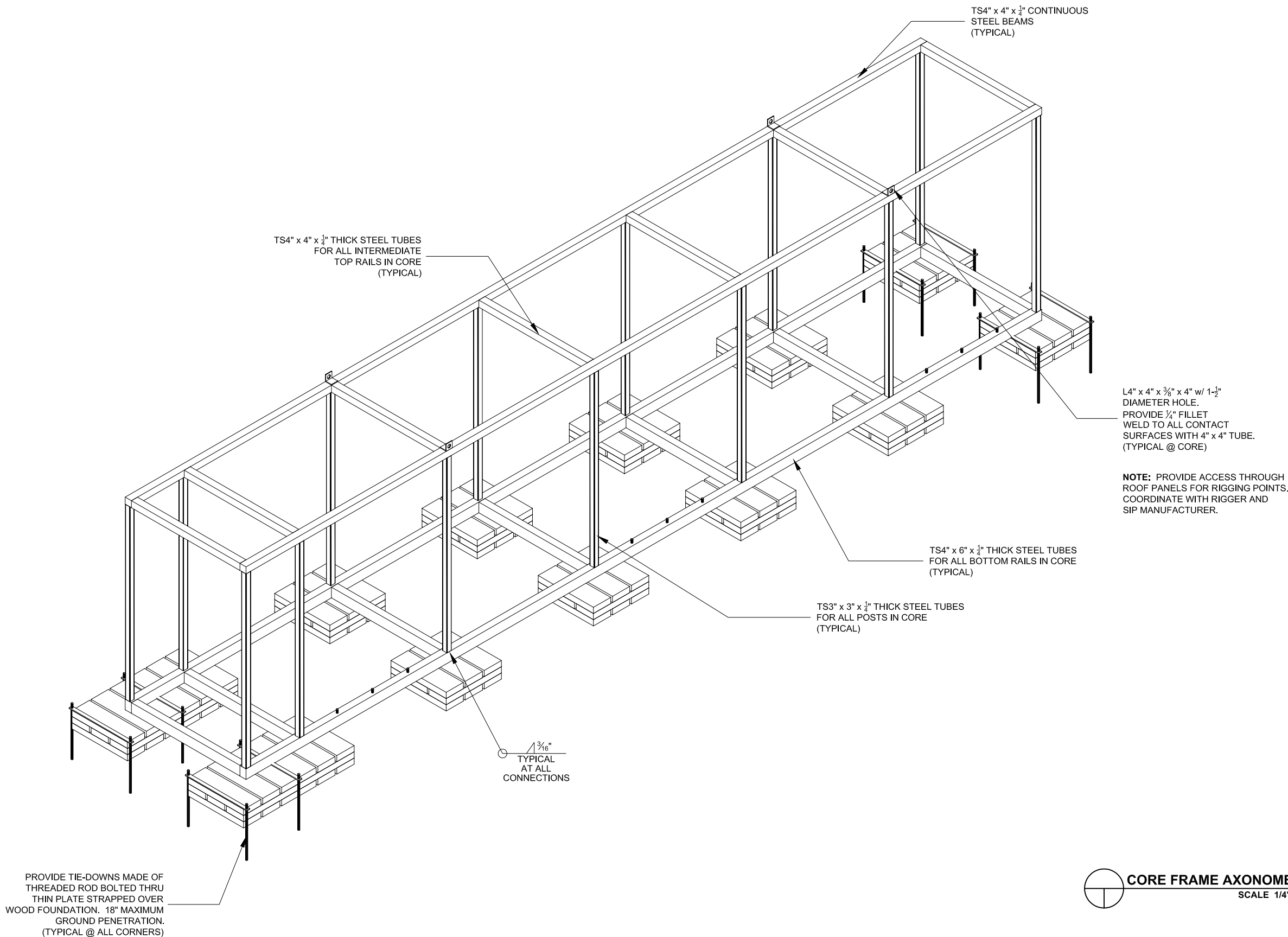
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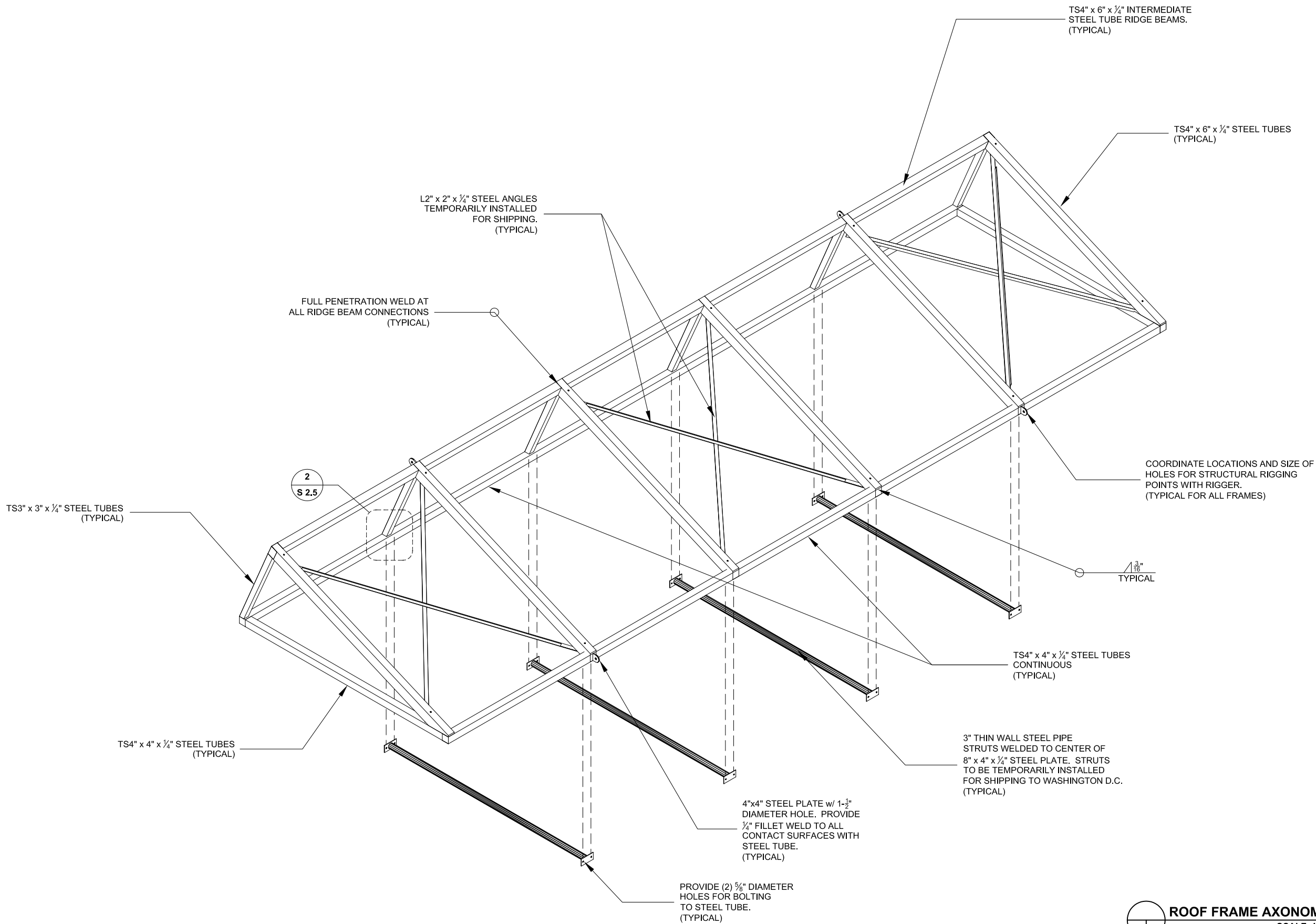
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2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: MAF		Checked By: MM	

DRAWING:

# S 1.8

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 **ROOF FRAME AXONOMETRIC**  
SCALE 1/4" = 1'-0"



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CONSTRUCTION DOCUMENTS

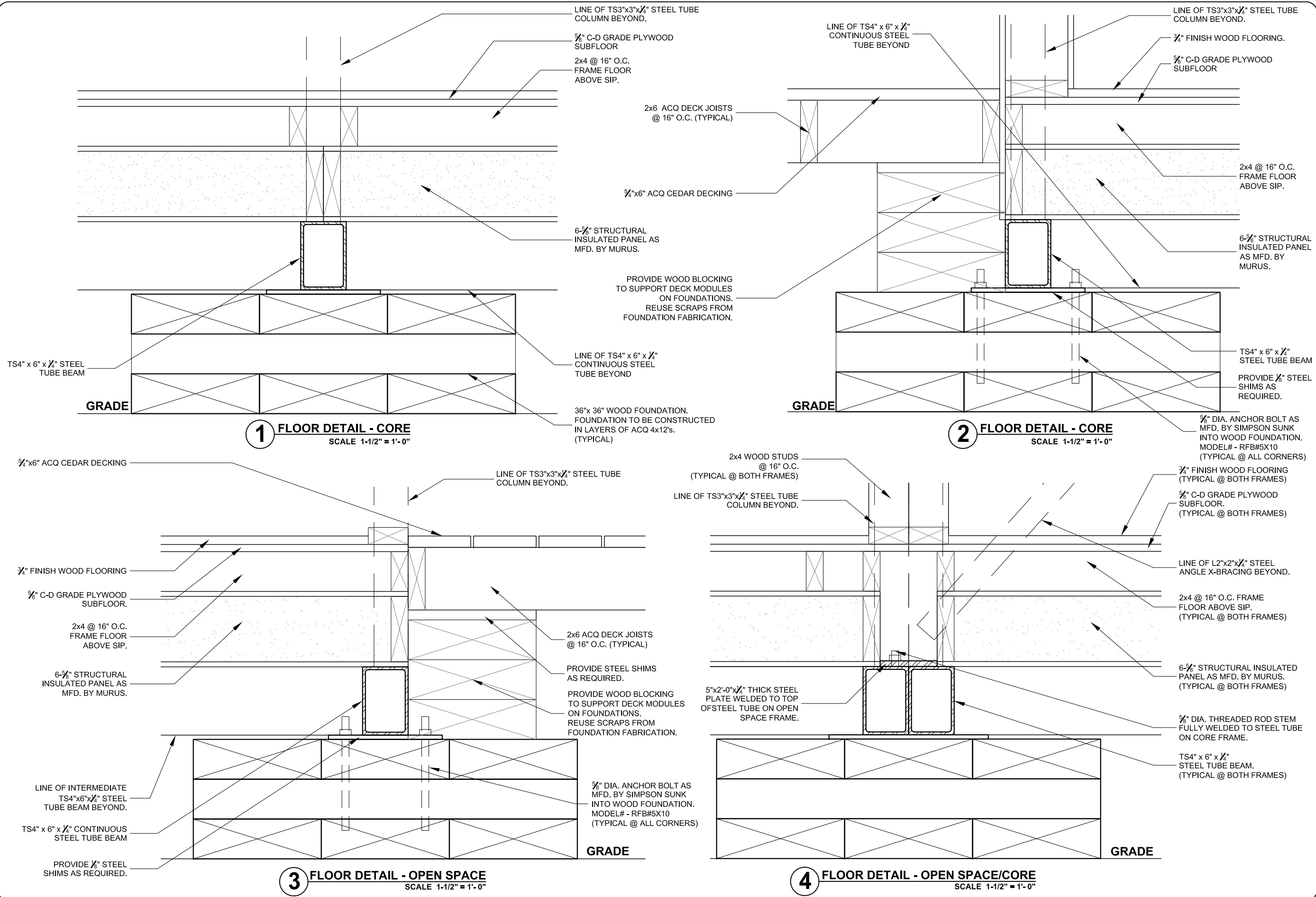
## ROOF FRAME AXONOMETRIC

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2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: MAF		Checked By: MM	

DRAWING:

# S 1.9

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# Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

TITLE:				STRUCTURAL DETAILS			
REVISIONS				Scale: 1'-1/2" = 1' - 0"		Date: August 7th, 2007	
No.	Date:	Description:		Drawn By:		Checked By:	
1	06.13.06	Design Development Drawings		MAF		MM	
2	03.06.07	Construction Drawings Rev. 1					
3	08.07.07	Construction Drawings Rev. 2					

DRAWING:

# S2.1

SHEET: 45 of 66



## STRUCTURAL DETAILS

TITLE:

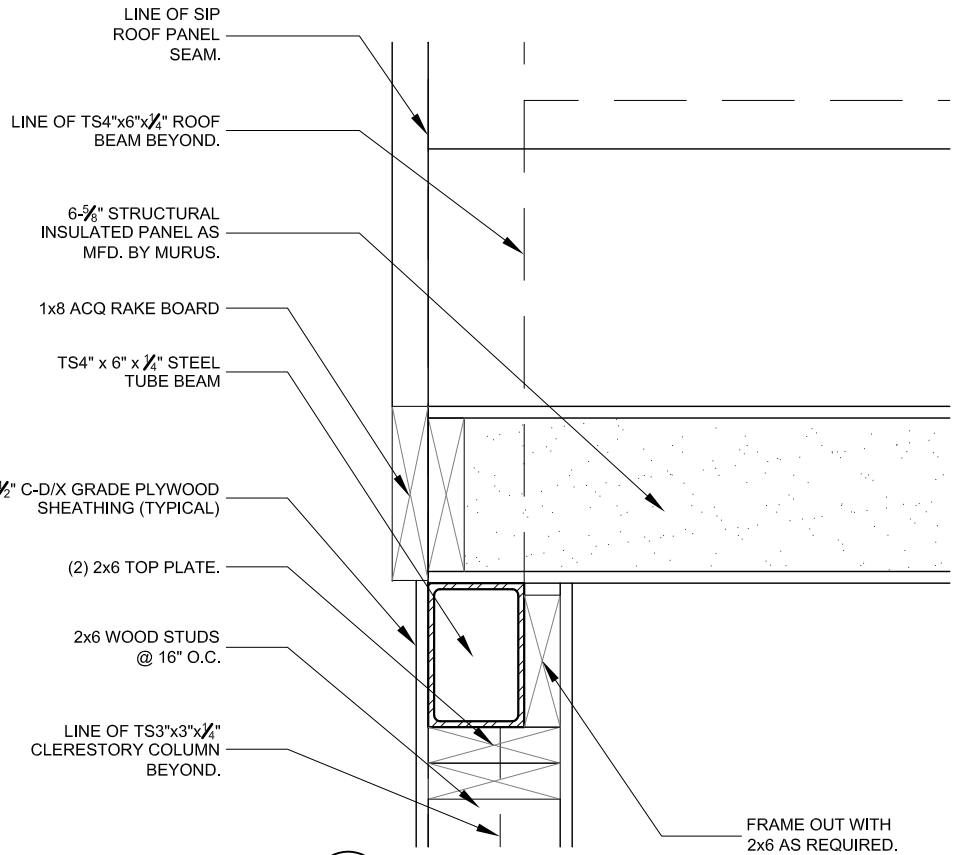
REVISIONS		No.	Date:	Description:	Scale:	1-1/2" = 1'-0"
1	06.13.06	Design Development Drawings				
2	03.06.07	Construction Drawings Rev. 1				
3	08.07.07	Construction Drawings Rev. 2				

Checked By: MAF  
Drawn By: MM

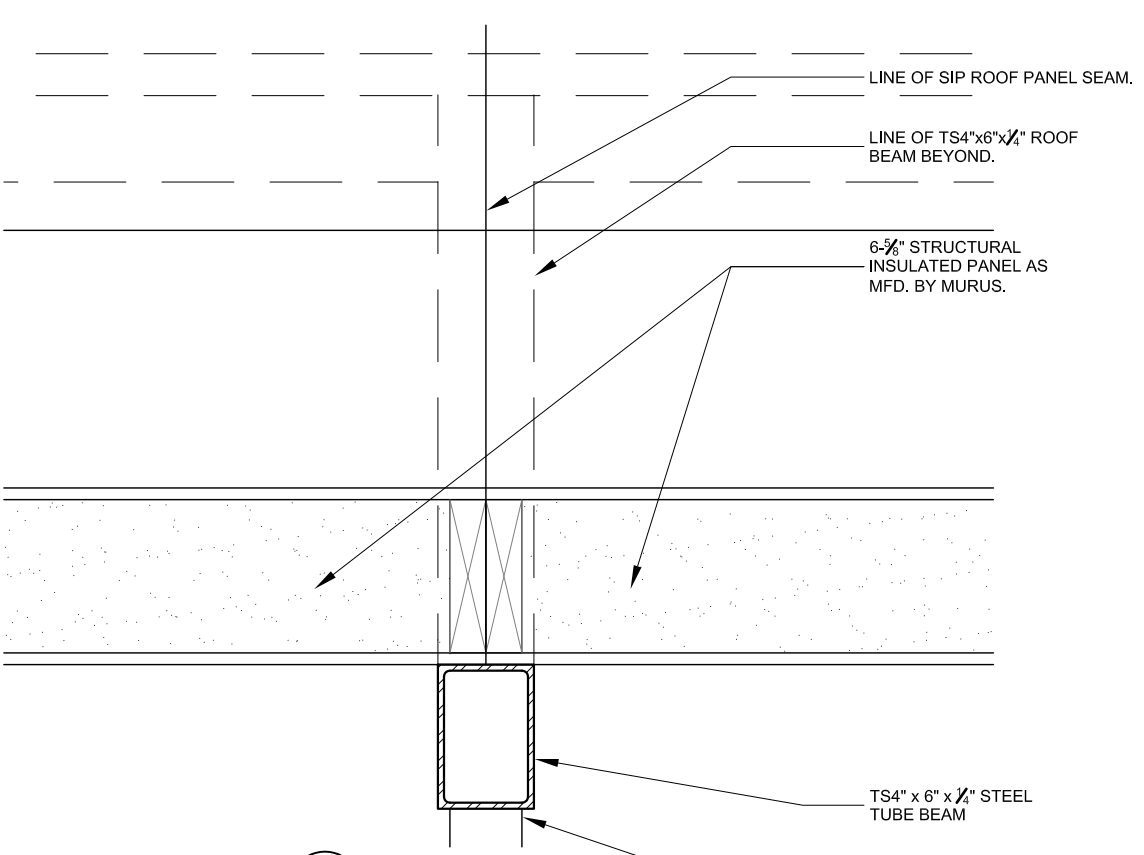
DRAWING:

# S 2.2

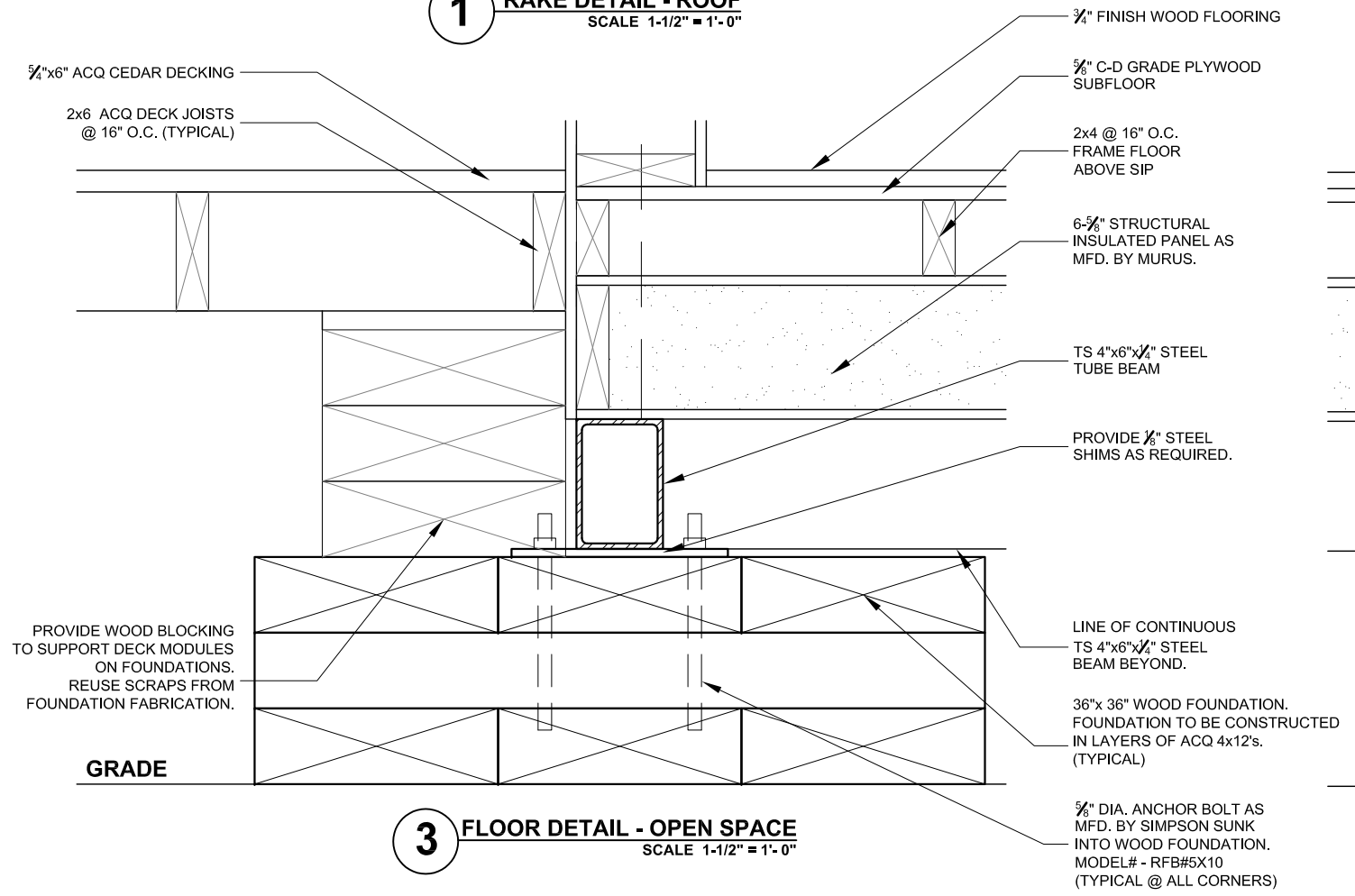
SHEET: 46 of 66



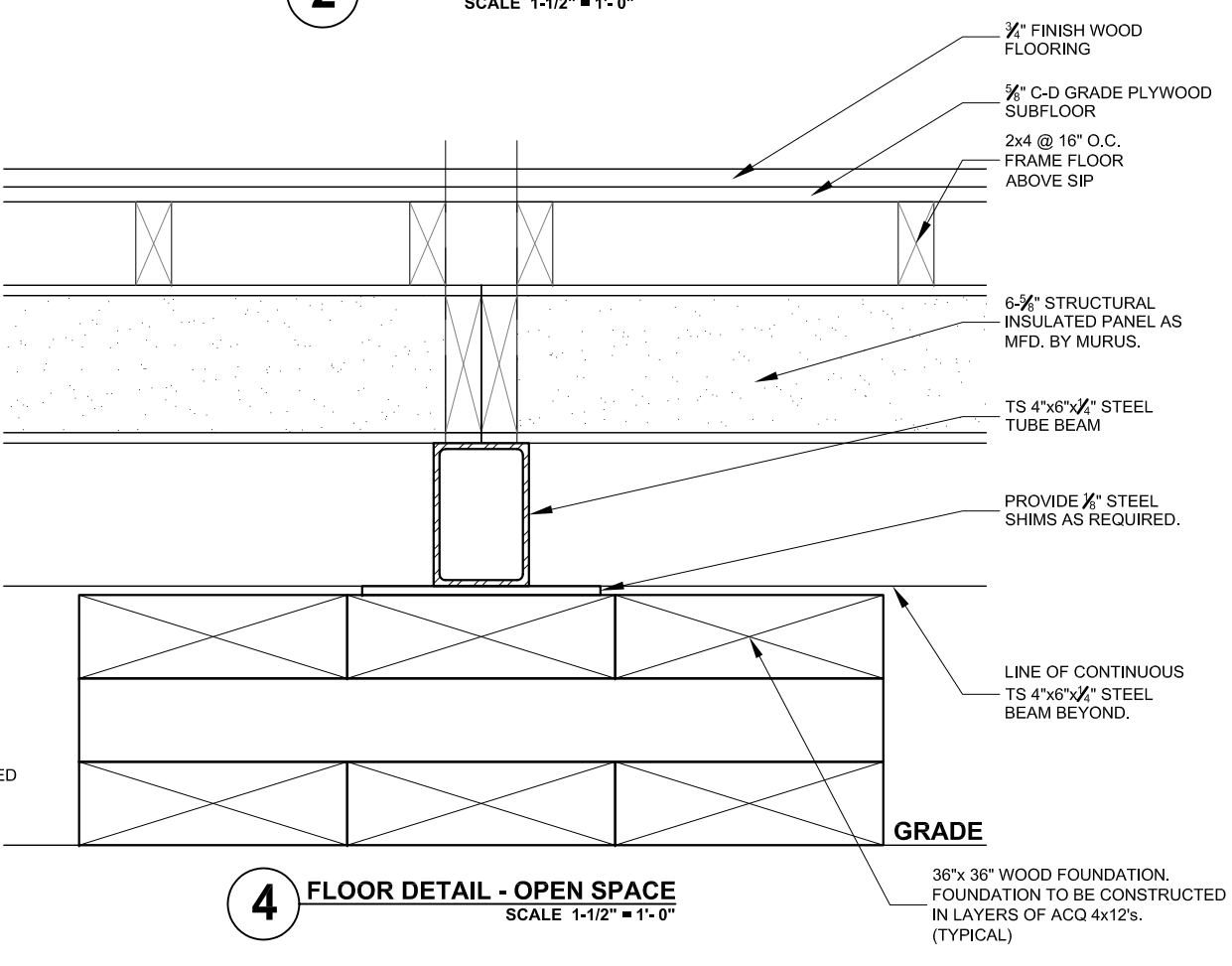
**1 RAKE DETAIL - ROOF**  
SCALE 1-1/2" = 1'-0"



**2 BEAM DETAIL - ROOF**  
SCALE 1-1/2" = 1'-0"



**3 FLOOR DETAIL - OPEN SPACE**  
SCALE 1-1/2" = 1'-0"



**4 FLOOR DETAIL - OPEN SPACE**  
SCALE 1-1/2" = 1'-0"



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# Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

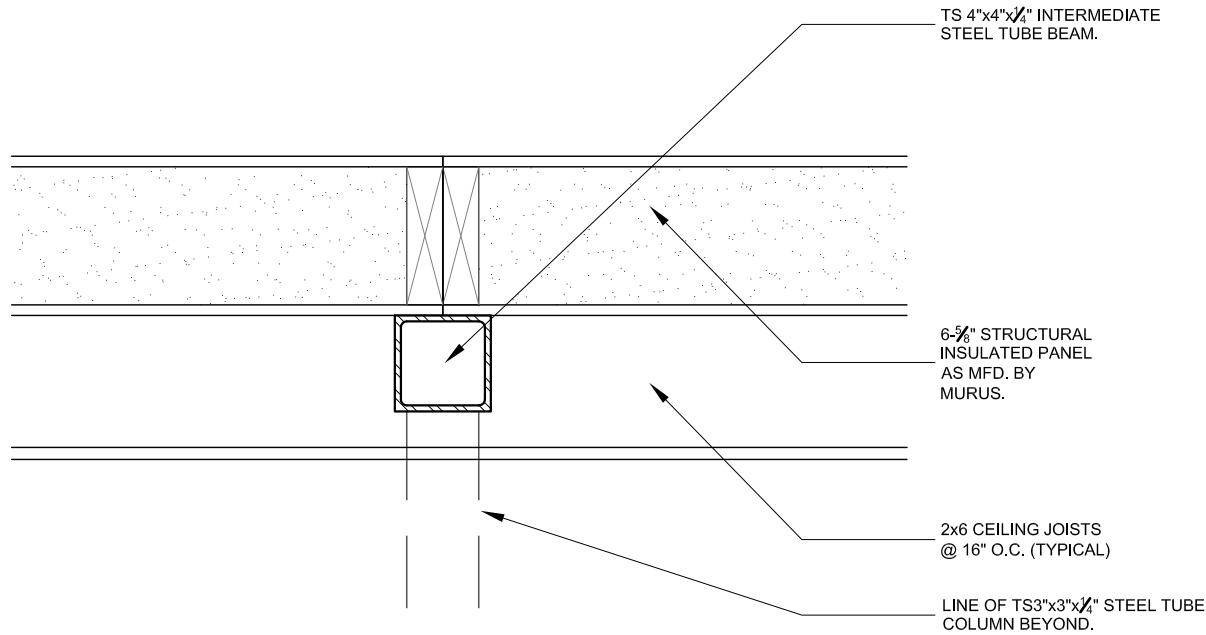
## STRUCTURAL DETAILS

REVISIONS		Scale:	1-1/2" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
		Drawn By: MAF	Checked By: MM

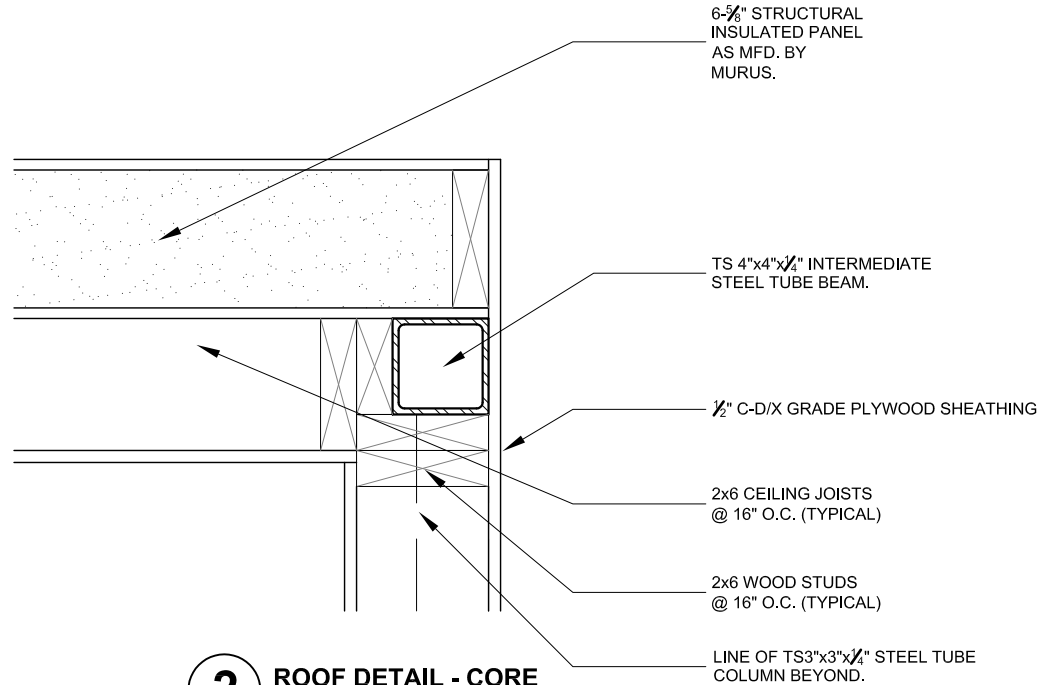
DRAWING:

# S 2.3

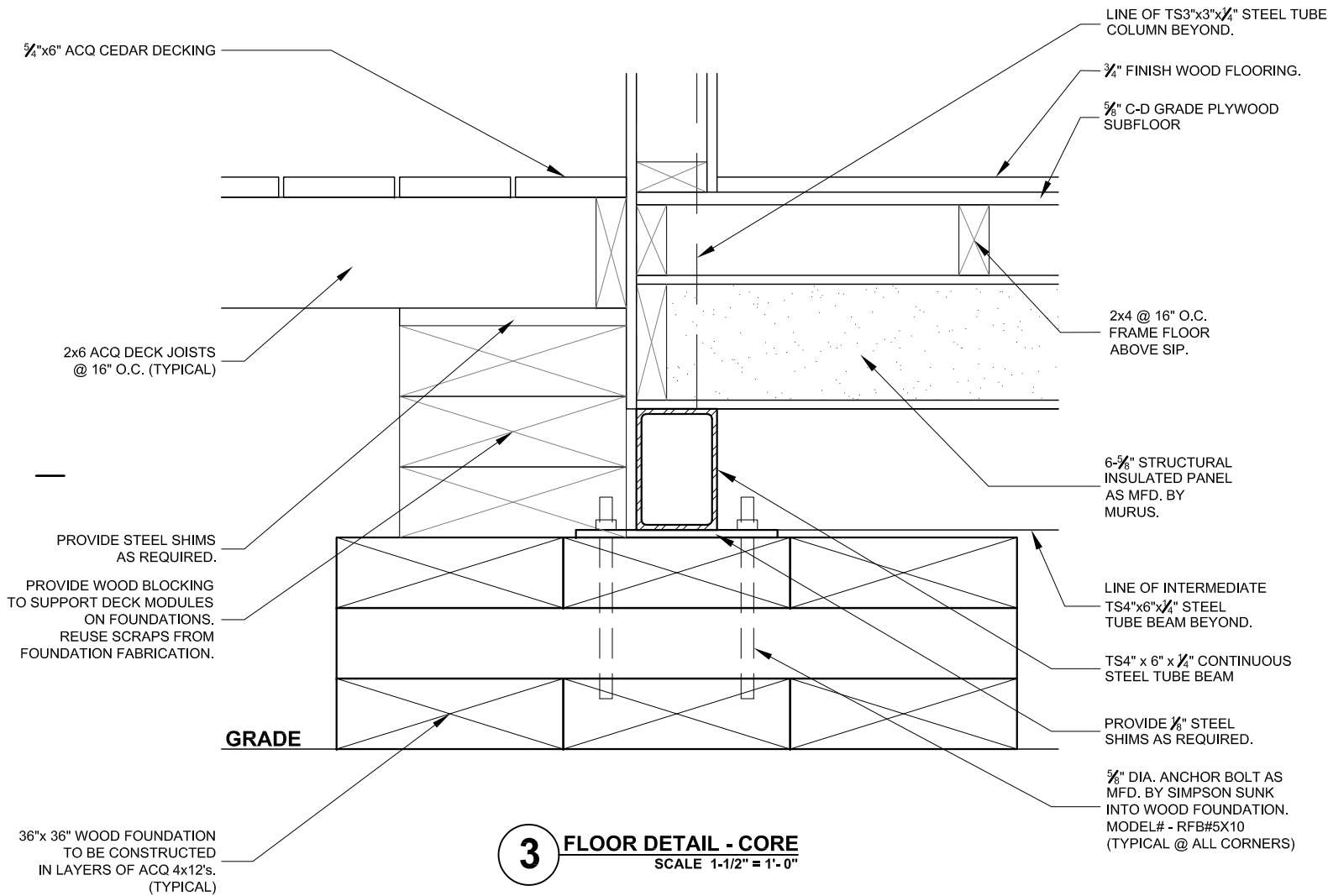
SHEET: 47 of 66



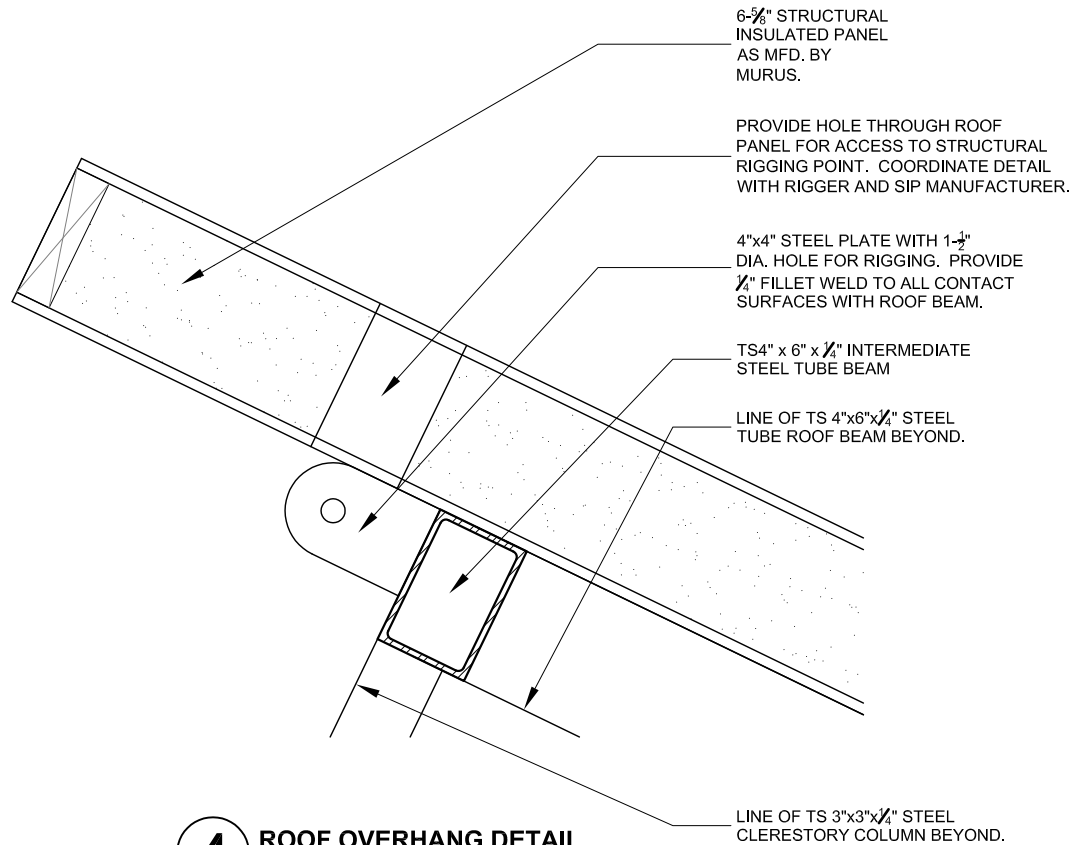
**1 ROOF DETAIL - CORE**  
SCALE 1-1/2" = 1'-0"



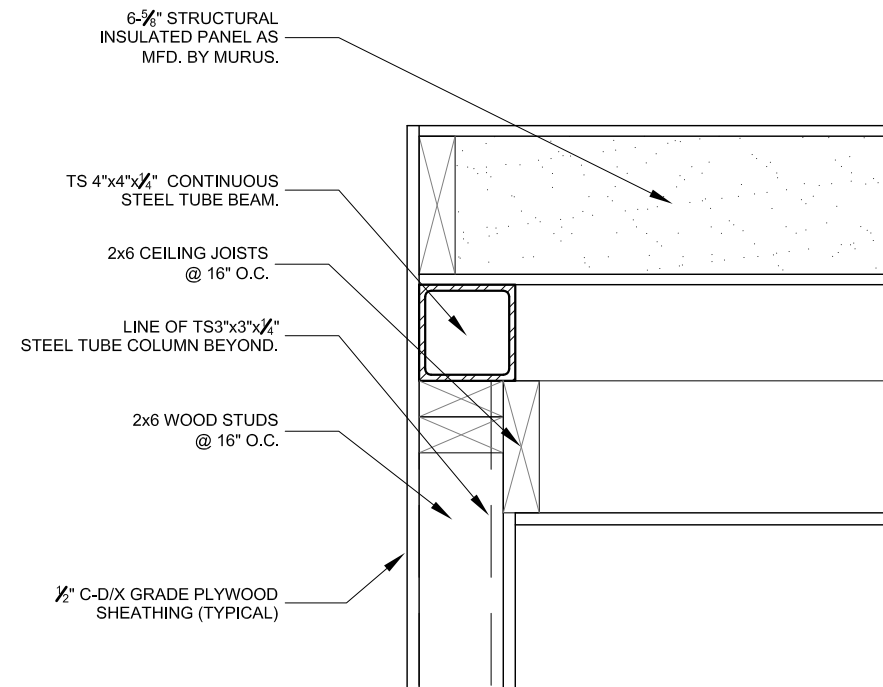
**2 ROOF DETAIL - CORE**  
SCALE 1-1/2" = 1'-0"



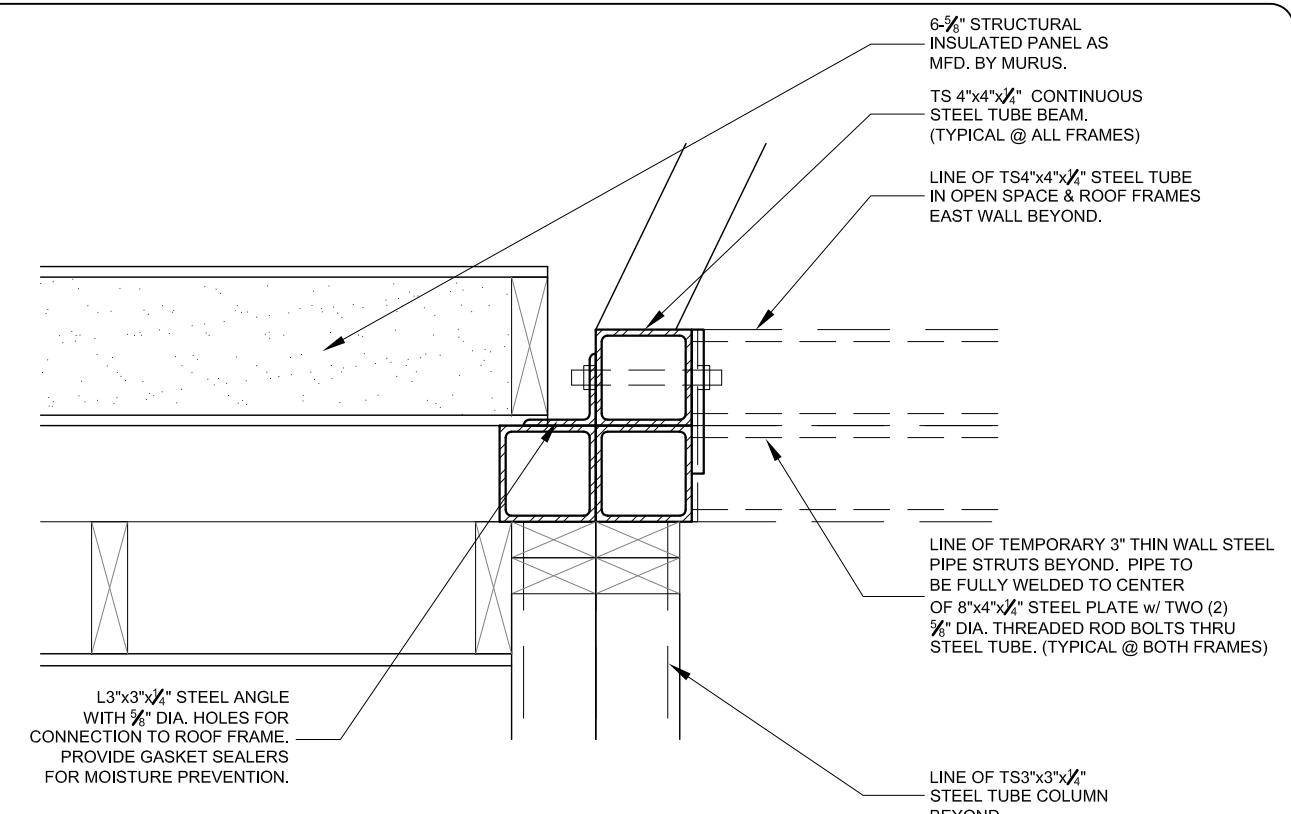
**3 FLOOR DETAIL - CORE**  
SCALE 1-1/2" = 1'-0"



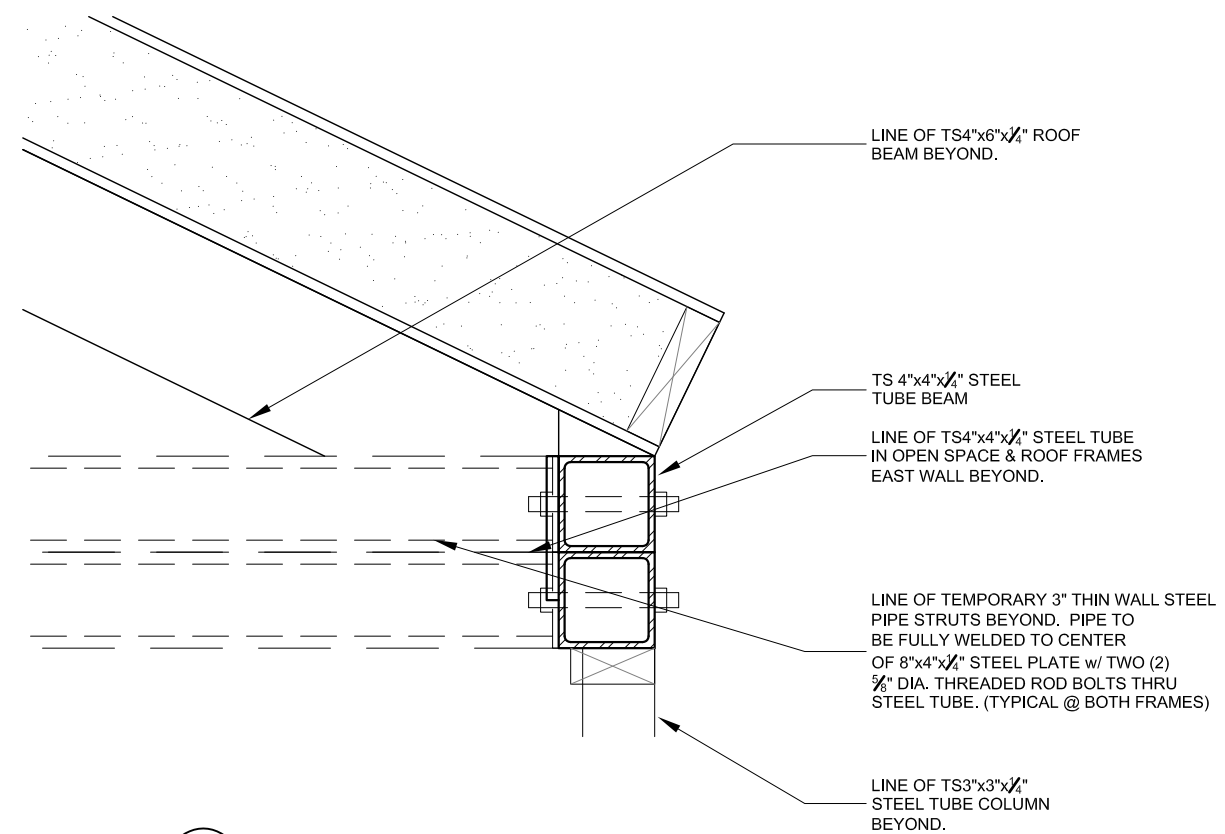
**4 ROOF OVERHANG DETAIL**  
SCALE 1-1/2" = 1'-0"



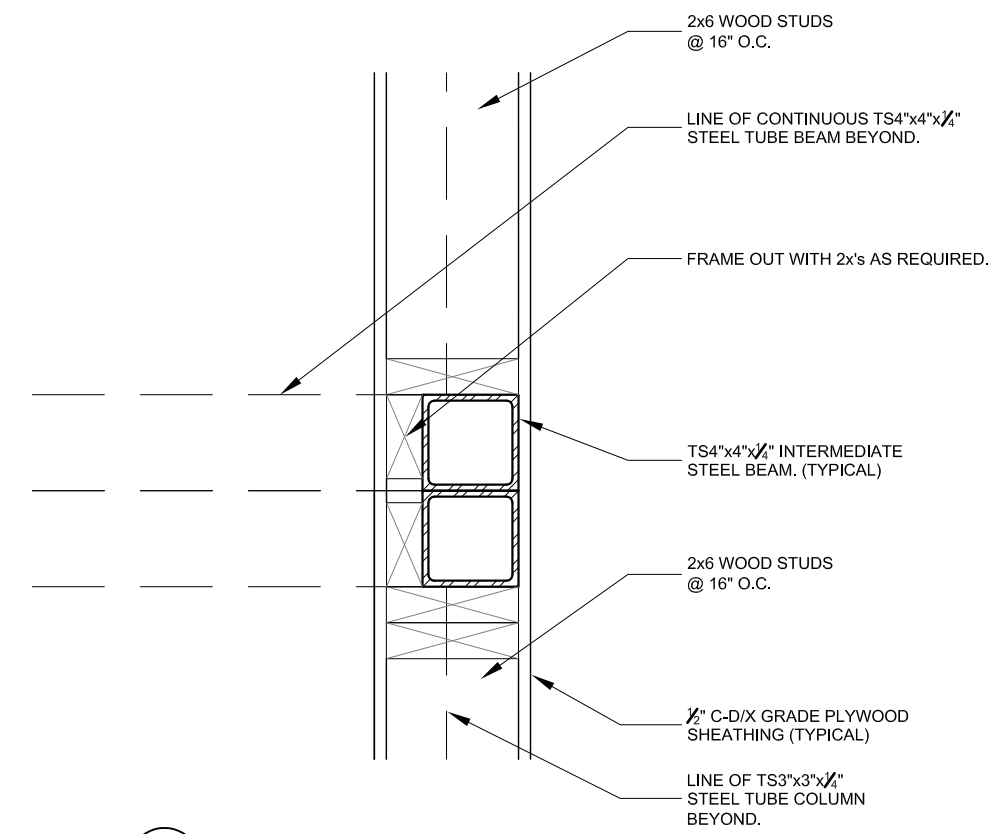
**1 ROOF DETAIL - CORE**  
SCALE 1-1/2" = 1'-0"




**2 FRAME CONNECTION DETAIL**  
SCALE 1-1/2" = 1'-0"



**3 ROOF/OPEN SPACE CONNECTION DETAIL**  
SCALE 1-1/2" = 1'-0"



**4 ROOF/OPEN SPACE CONNECTION DETAIL**  
SCALE 1-1/2" = 1'-0"



**OPENHouse**

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CONSTRUCTION DOCUMENTS

**STRUCTURAL DETAILS**

REVISIONS		Scale: 1-1/2" = 1'-0"
No.	Date:	Description:
1	06.13.06	Design Development Drawings
2	03.06.07	Construction Drawings Rev. 1
3	08.07.07	Construction Drawings Rev. 2

**DATE:** August 7th, 2007

**DRAWN BY:** MAF

**CHECKED BY:** MM

**TITLE:**

**1-1/2" = 1'-0"**

**DRAWING:**

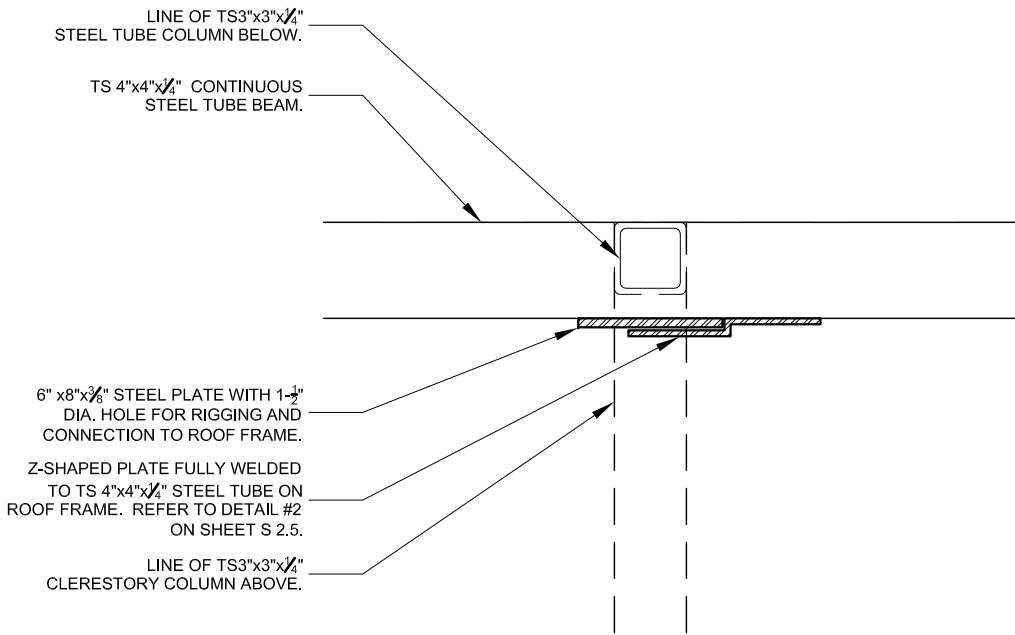
**S 2.4**

**3**

**4**

SHEET: 48 of 56

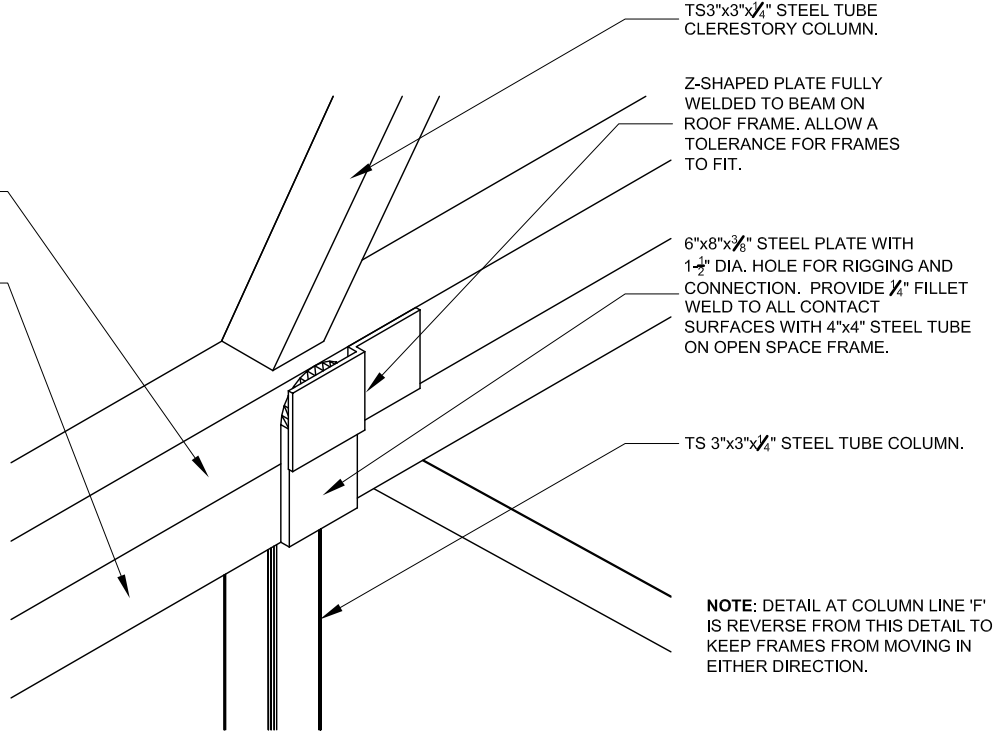




**1** **PLAN DETAIL - OPEN SPACE**  
SCALE 1-1/2" = 1'-0"

TS 4"x4"x $\frac{1}{4}$ " CONTINUOUS  
STEEL TUBE BEAM  
ON ROOF FRAME.

TS 4"x4"x $\frac{1}{4}$ " CONTINUOUS  
STEEL TUBE BEAM  
ON OPEN SPACE FRAME.



**2** **FRAME CONNECTION DETAIL**  
SCALE 1-1/2" = 1'-0"



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CONSTRUCTION DOCUMENTS

## STRUCTURAL DETAILS

TITLE:

REVISIONS		Scale:	1-1/2" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	

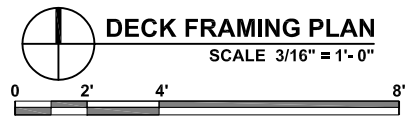
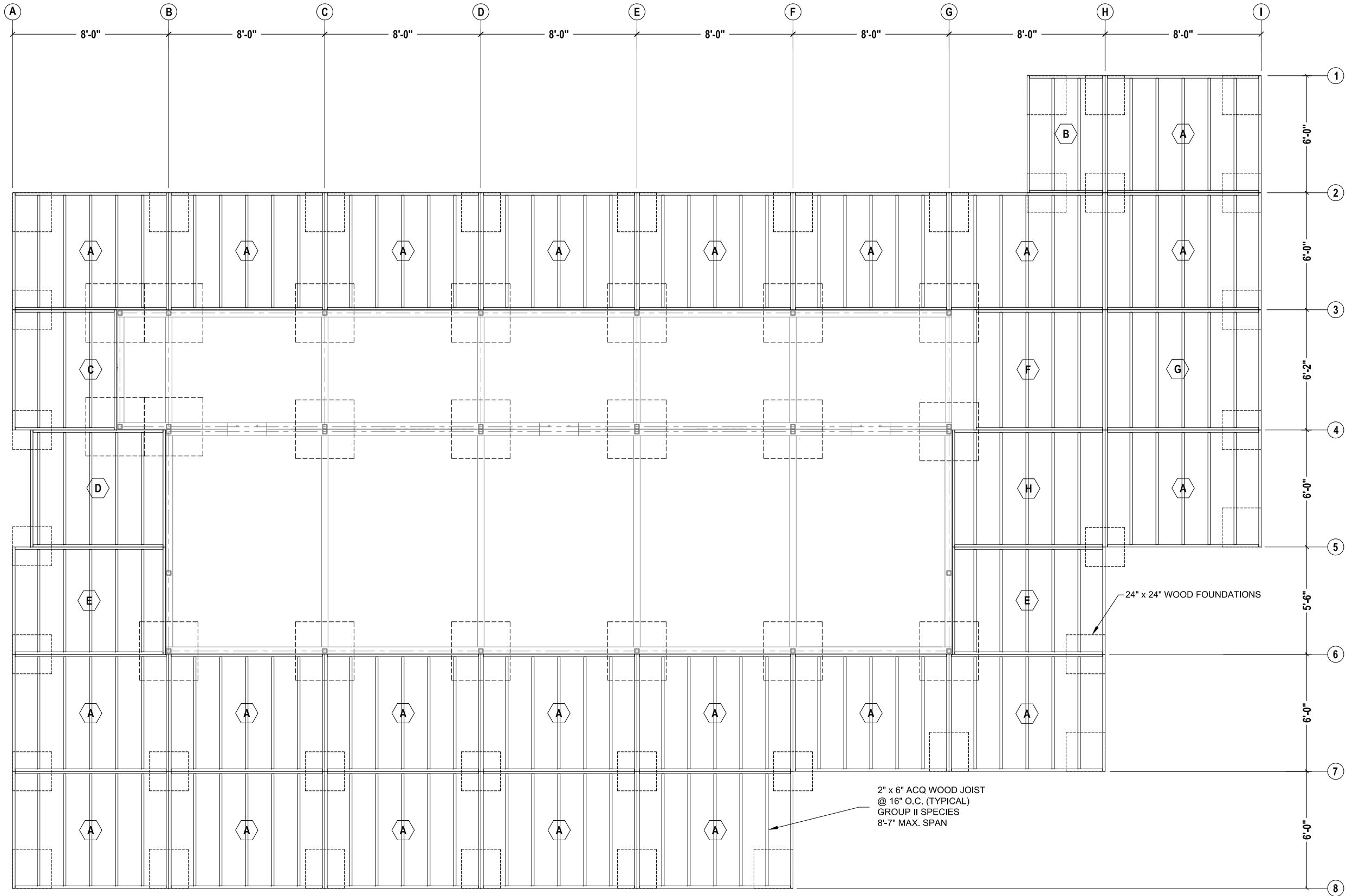
Drawn By: MAF

Checked By: MM

DRAWING:

**S 2.5**

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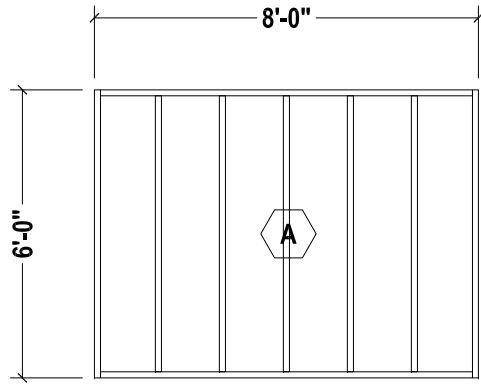
CONSTRUCTION DOCUMENTS

REVISIONS			Scale: 3/16" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: JEC			Checked By: MM

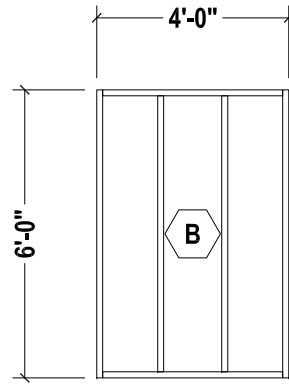
DRAWING:

**S3.1**

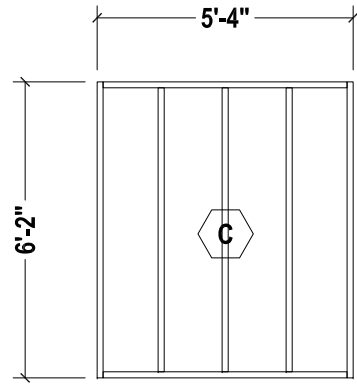
SHEET: 50 of 66



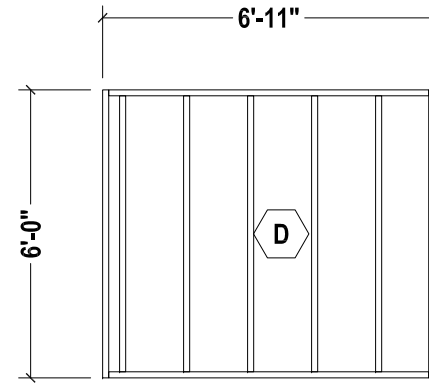
**FRAMING PLAN-MODULE "A"**  
SCALE 1/4" = 1'-0"



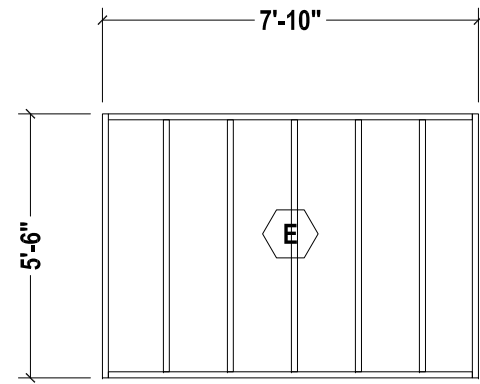
**FRAMING PLAN-MODULE "B"**  
SCALE 1/4" = 1'-0"



**FRAMING PLAN-MODULE "C"**  
SCALE 1/4" = 1'-0"

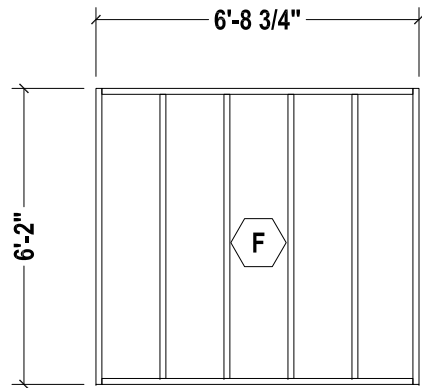


**FRAMING PLAN-MODULE "D"**  
SCALE 1/4" = 1'-0"

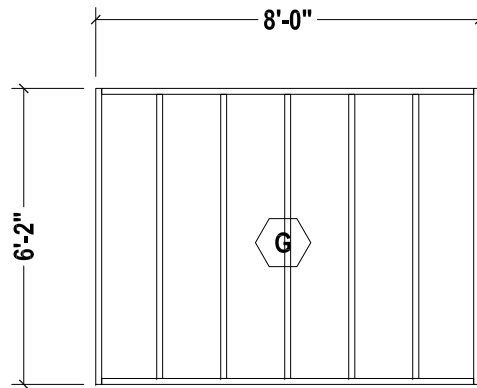


**FRAMING PLAN-MODULE "E"**  
SCALE 1/4" = 1'-0"

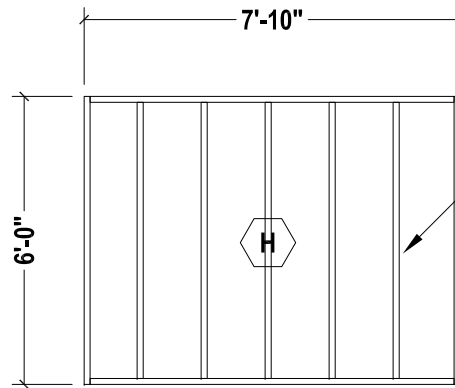
2" x 6" ACQ WOOD JOIST  
@ 16" O.C. (TYP.)  
GROUP II SPECIES



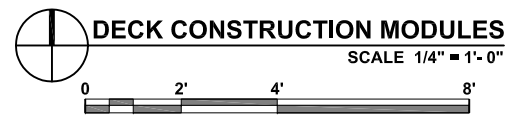
**FRAMING PLAN-MODULE "F"**  
SCALE 1/4" = 1'-0"



**FRAMING PLAN-MODULE "G"**  
SCALE 1/4" = 1'-0"



**FRAMING PLAN-MODULE "H"**  
SCALE 1/4" = 1'-0"



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CONSTRUCTION DOCUMENTS

TITLE:

**DECK CONSTRUCTION MODULES**

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	Drawn By: JEC
3	08.07.07	Construction Drawings Rev. 2	Checked By: MM

DRAWING:

**S 3.2**

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# Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

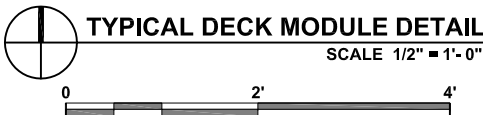
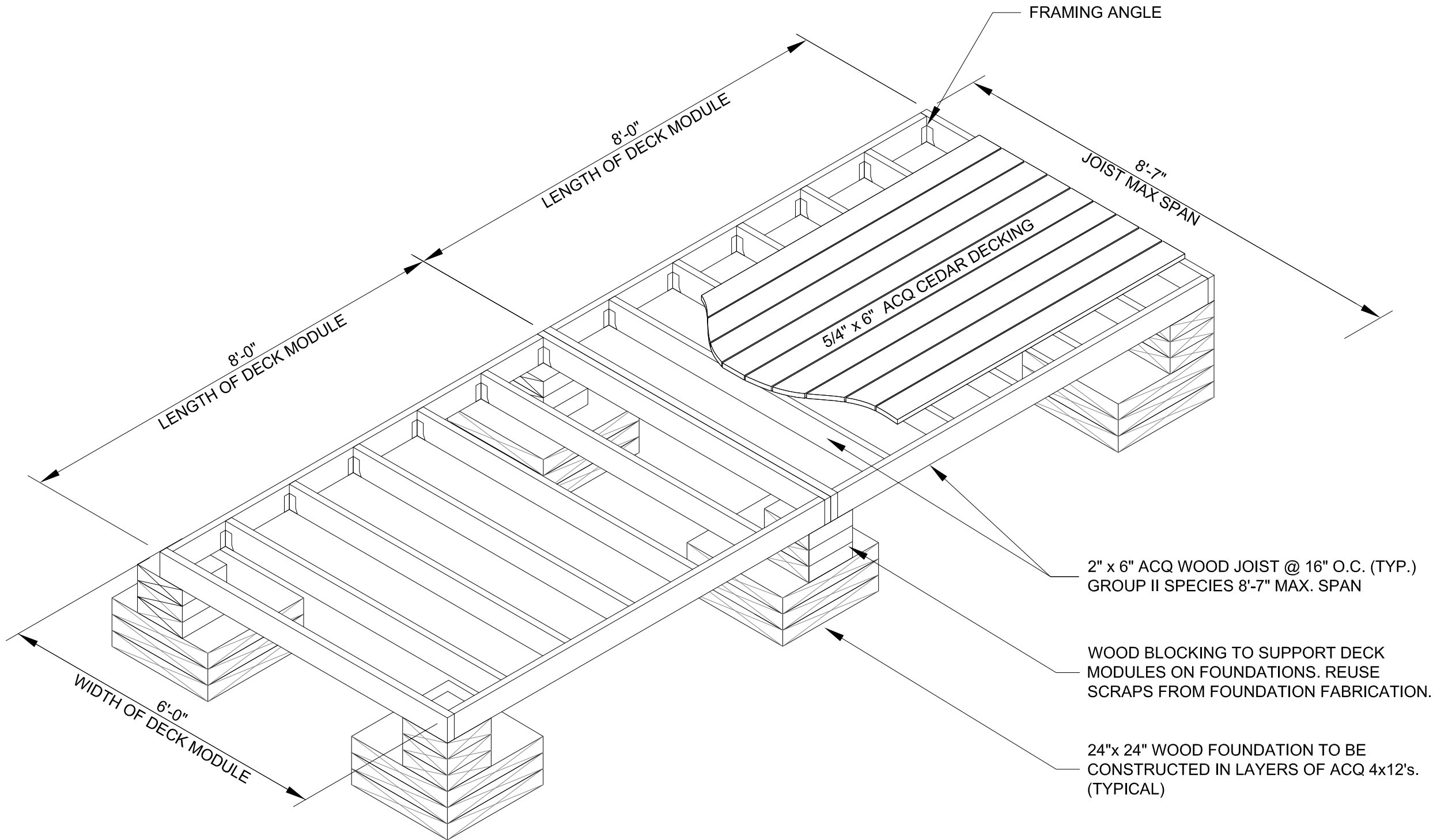
## TYPICAL DECK MODULE DETAIL

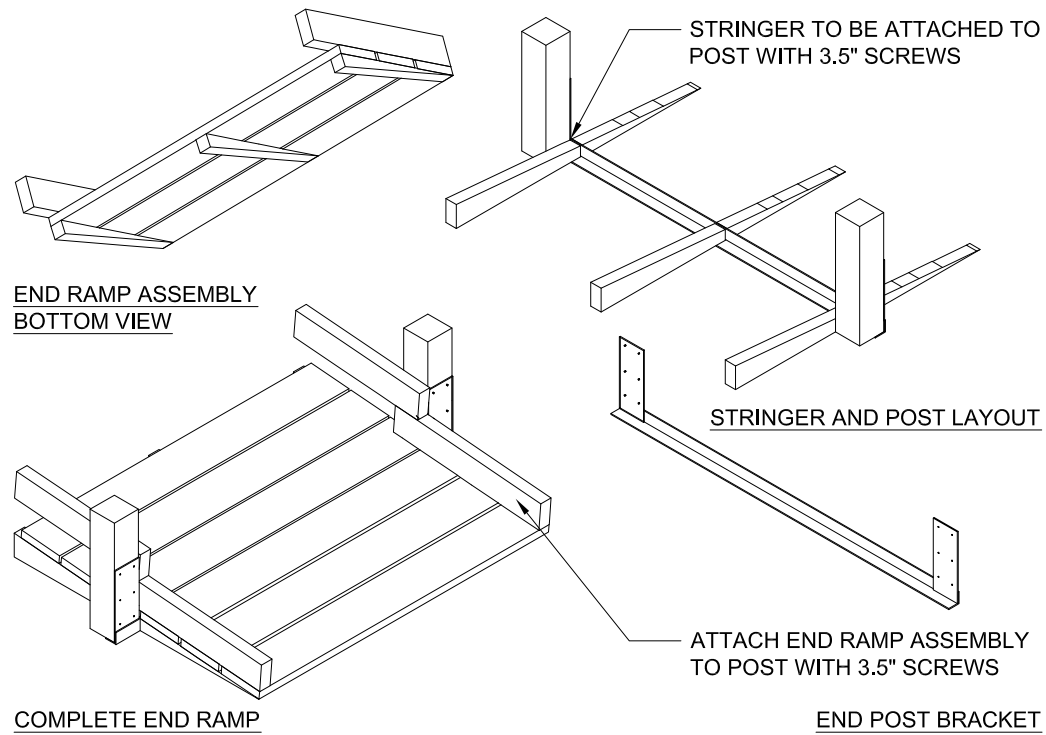
REVISIONS		Scale:	1/2" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
		Drawn By: JEC	Checked By: MM

DRAWING:

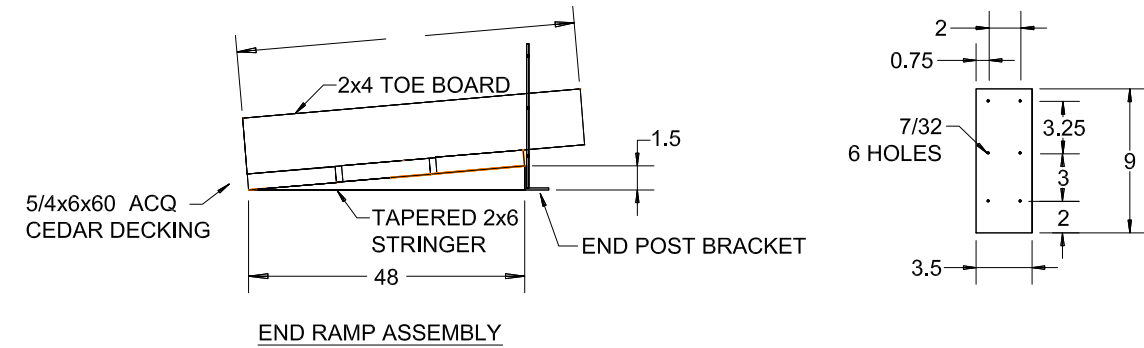
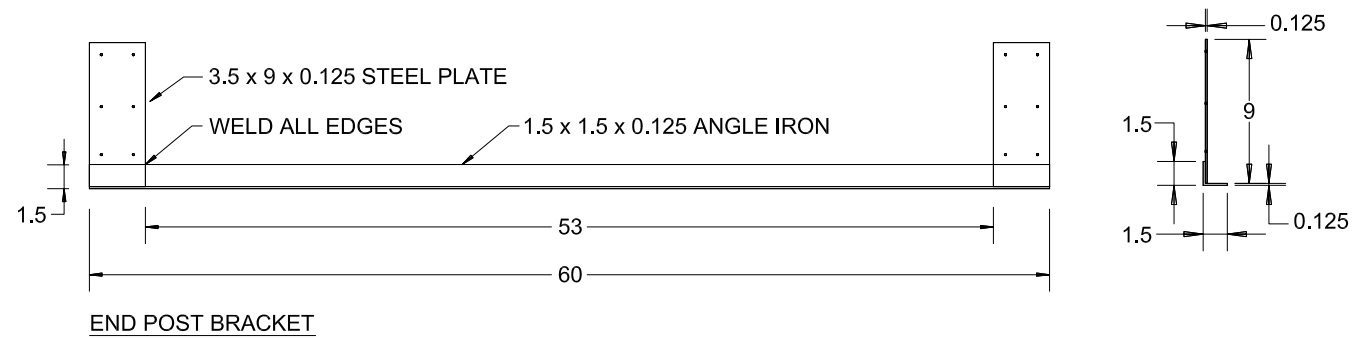
# S 3.3

SHEET: 52 of 66

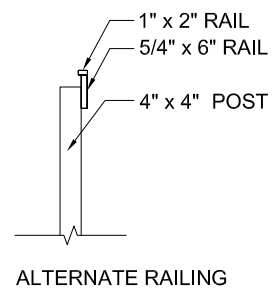
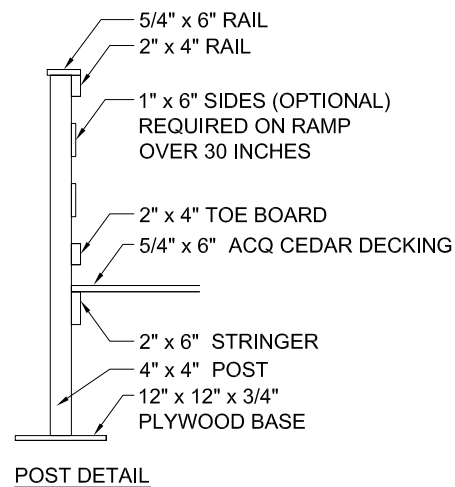




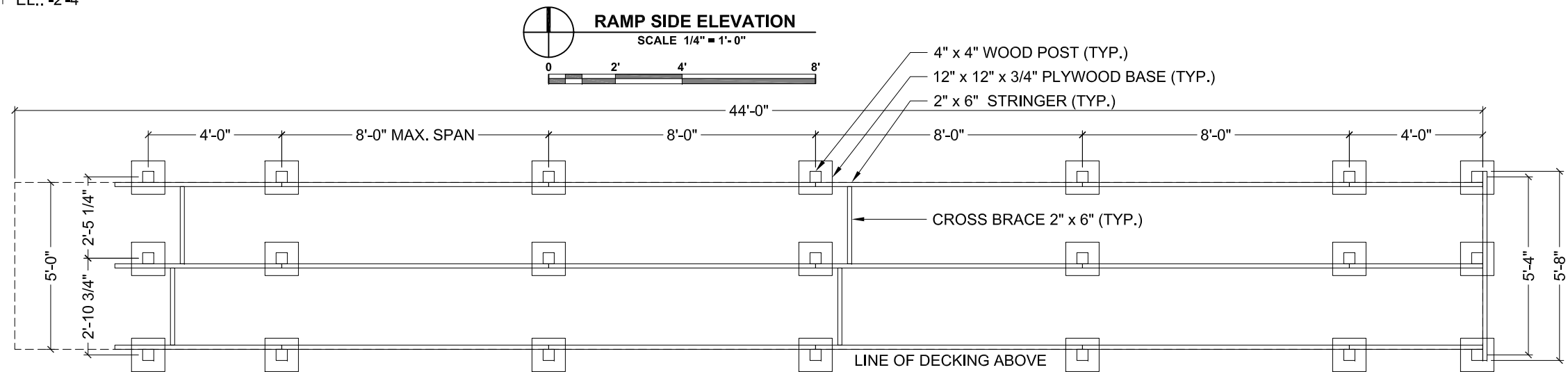
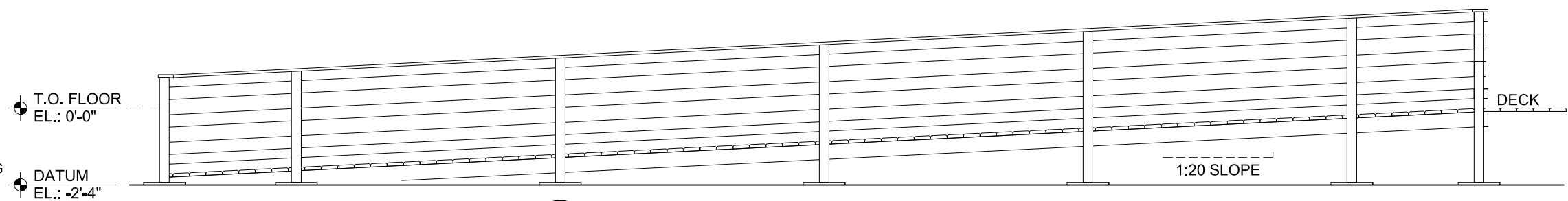
**END RAMP ASSEMBLY**  
SCALE 1/2" = 1'-0"



**END RAMP ASSEMBLY**  
SCALE 1" = 1'-0"



**WOOD POST DETAIL**  
SCALE 3/8" = 1'-0"



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**Solar Decathlon 2007**

CONSTRUCTION DOCUMENTS

**RAMP ASSEMBLY & RAILING DETAILS**

REVISIONS		Scale:	AS NOTED
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: JEC		Checked By: MM	

DRAWING:

**S 3.4**

SHEET: 53 of 66



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## Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

### SIP LAYOUT - FLOOR

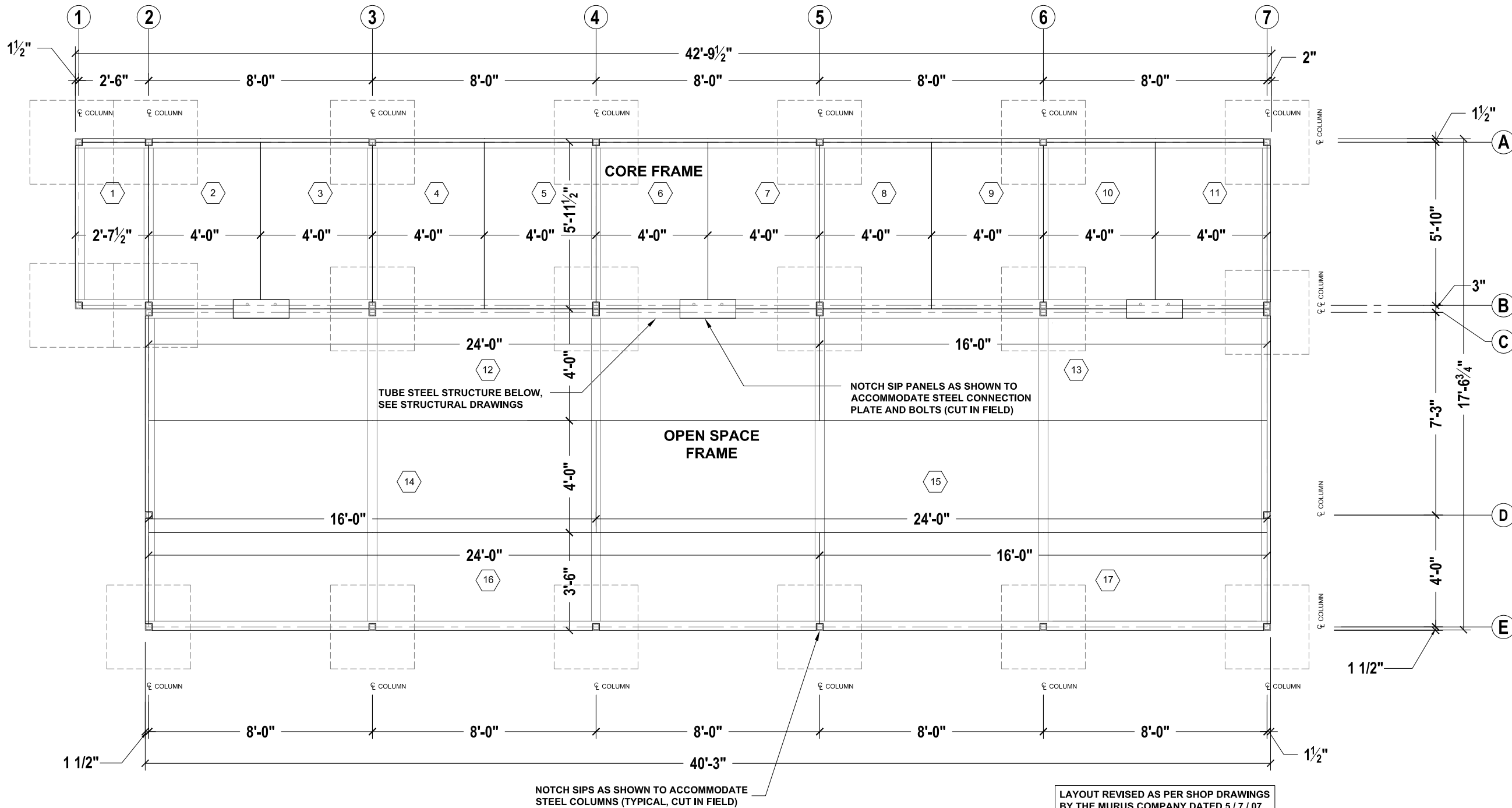
TITLE:

REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		MAF	Checked By: MM

DRAWING:

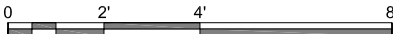
# S4.1

SHEET: 54 of 66

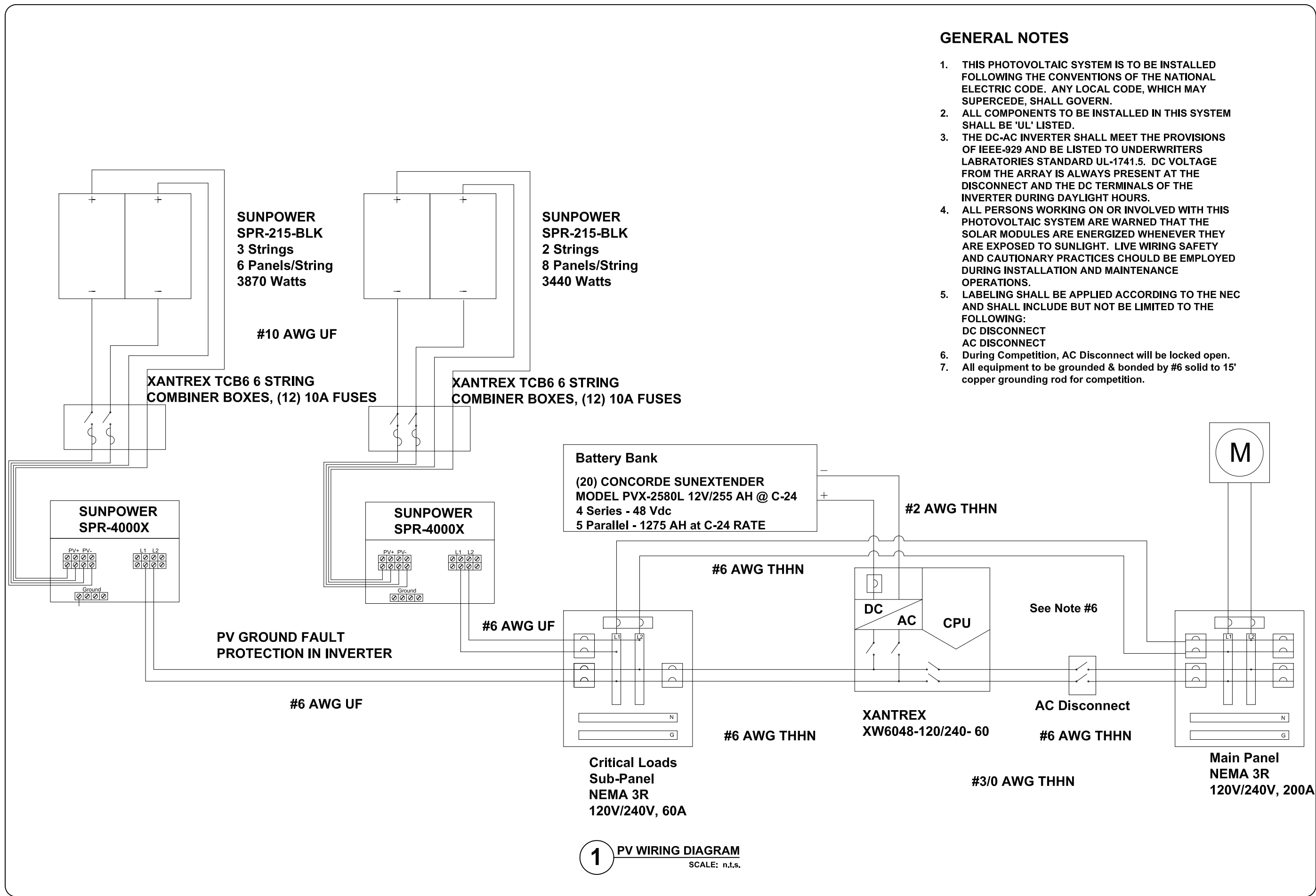


### FLOOR SIP LAYOUT PLAN

SCALE 1/4" = 1' - 0"







GENERAL NOTES

1. THIS PHOTOVOLTAIC SYSTEM IS TO BE INSTALLED FOLLOWING THE CONVENTIONS OF THE NATIONAL ELECTRIC CODE. ANY LOCAL CODE, WHICH MAY SUPERCEDE, SHALL GOVERN.
2. ALL COMPONENTS TO BE INSTALLED IN THIS SYSTEM SHALL BE 'UL' LISTED.
3. THE DC-AC INVERTER SHALL MEET THE PROVISIONS OF IEEE-929 AND BE LISTED TO UNDERWRITERS LABRATORIES STANDARD UL-1741.5. DC VOLTAGE FROM THE ARRAY IS ALWAYS PRESENT AT THE DISCONNECT AND THE DC TERMINALS OF THE INVERTER DURING DAYLIGHT HOURS.
4. ALL PERSONS WORKING ON OR INVOLVED WITH THIS PHOTOVOLTAIC SYSTEM ARE WARNED THAT THE SOLAR MODULES ARE ENERGIZED WHENEVER THEY ARE EXPOSED TO SUNLIGHT. LIVE WIRING SAFETY AND CAUTIONARY PRACTICES SHOULD BE EMPLOYED DURING INSTALLATION AND MAINTENANCE OPERATIONS.
5. LABELING SHALL BE APPLIED ACCORDING TO THE NEC AND SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:  
DC DISCONNECT  
AC DISCONNECT
6. During Competition, AC Disconnect will be locked open.
7. All equipment to be grounded & bonded by #6 solid to 15' copper grounding rod for competition.



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CONSTRUCTION DOCUMENTS


















PV WIRING DIAGRAM			TITLE:		
REVISIONS			Scale: NOT TO SCALE		
No.	Date:	Description:	Date: August 7th, 2007		
1	06.13.06	Design Development Drawings	Drawn By: DR		
2	03.06.07	Construction Drawings Rev. 1	Checked By: MM		
3	08.07.07	Construction Drawings Rev. 2			

DRAWING:

E 1.1

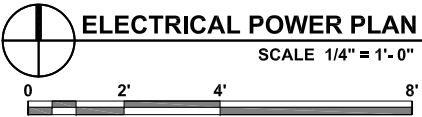
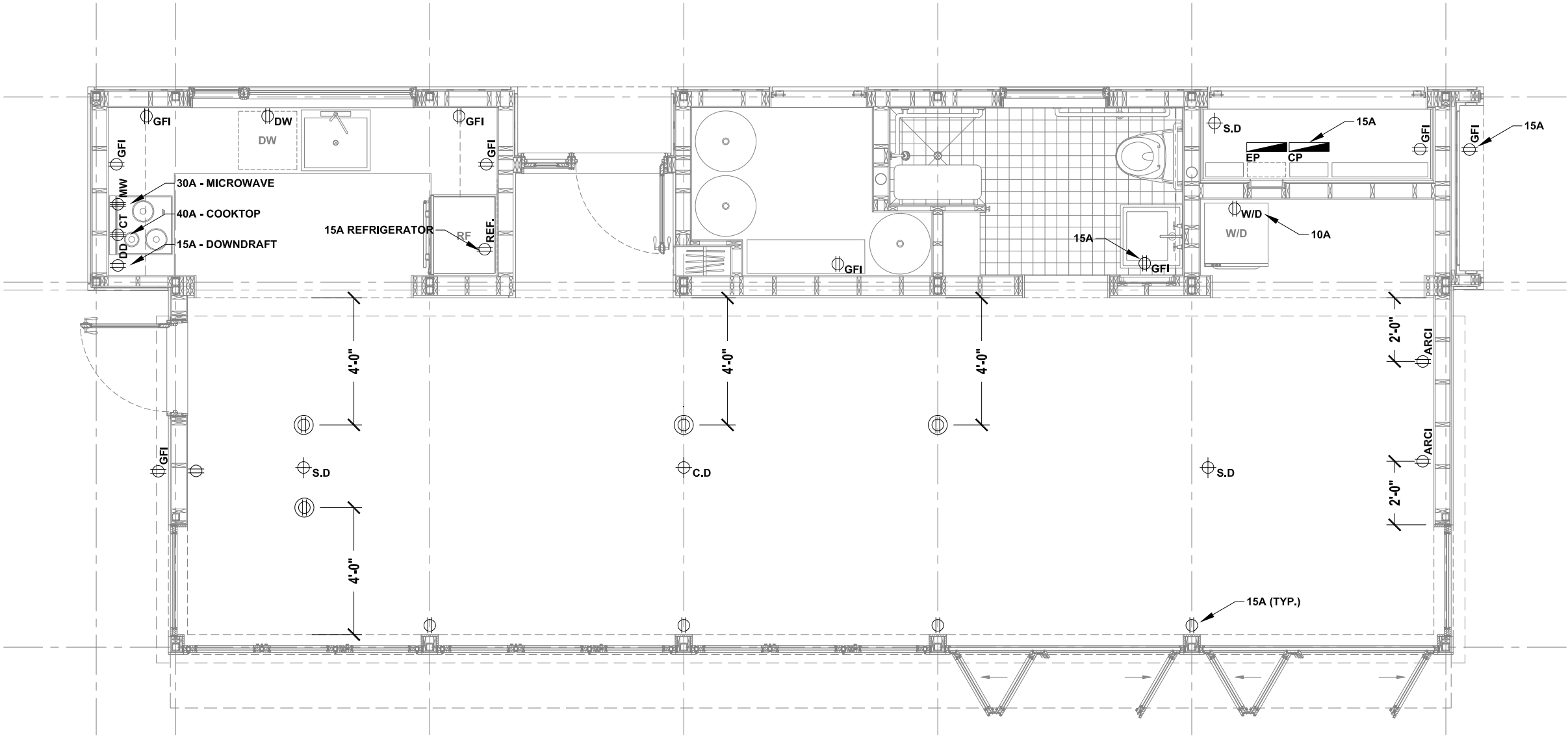
SHEET: 56 of 66



SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
S	SINGLE POLE SWITCH		120V DUPLEX RECEPTACLE		UNDER CABINET FLUORESCENT - 48"
S <sub>d</sub>	SINGLE POLE DIMMER SWITCH		240V RECEPTACLE		UNDER CABINET FLUORESCENT - 24"
S <sub>3</sub>	3-WAY SWITCH		120V RECEPTACLE WITH GROUND FAULT INTERRUPT		RECESSED FLOURESCENT - 36"
S <sub>3d</sub>	3-WAY SWITCH WITH DIMMER		120V RECEPTACLE WITH ARC FAULT CIRCUIT INTERRUPT		SURFACE MOUNTED COMPACT FLUORESCENT - 6"
S <sub>4</sub>	4-WAY SWITCH		120 V FLOOR RECEPTACLE		RECESSED LED - 6"
S <sub>dc</sub>	DIGITAL CONTROL SWITCH		OUTLET FOR NOTED APPLIANCE		RECESSED WATER RESISTANT LED - 6"
J	JUNCTION BOX FOR DIRECT CONNECTION		HARD WIRED SMOKE DETECTOR		SURFACE MOUNTED LED - 12" SQUARE
	ELECTRICAL PANEL		CO2 DETECTOR		SURFACE MOUNTED SOLAR ADDRESS LIGHT

## ELECTRICAL NOTES

- PER E3801.2.2 WALL OUTLETS TYP. 12'0" O.C.
- PER E38012.2 WALL OUTLETS LOCATED IN ANY SPACE MORE THAN 2'-0" WIDE
- PER E3801.7 OUTDOOR OUTLETS ACCESSIBLE AT GRADE INSTALLED AT FRONT AND BACK OF DWELLING UNIT
- PER E3802.3 OUTDOOR OUTLETS GFI
- PER E3802.11 BEDROOM OUTLETS TO BE ARC FAULT CIRCUIT INTERRUPTED PER E3803.3 ONE WALL CONTROLLED LIGHTING OUTLET ON EXTERIOR SIDE OF EACH OUTDOOR EGRESS DOOR
- KITCHEN COUNTERTOP OUTLETS CONFORM TO FIGURE E3801.4 AND ARE GFI PER E3802.6



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**Solar Decathlon 2007**

CONSTRUCTION DOCUMENTS

### ELECTRICAL POWER PLAN

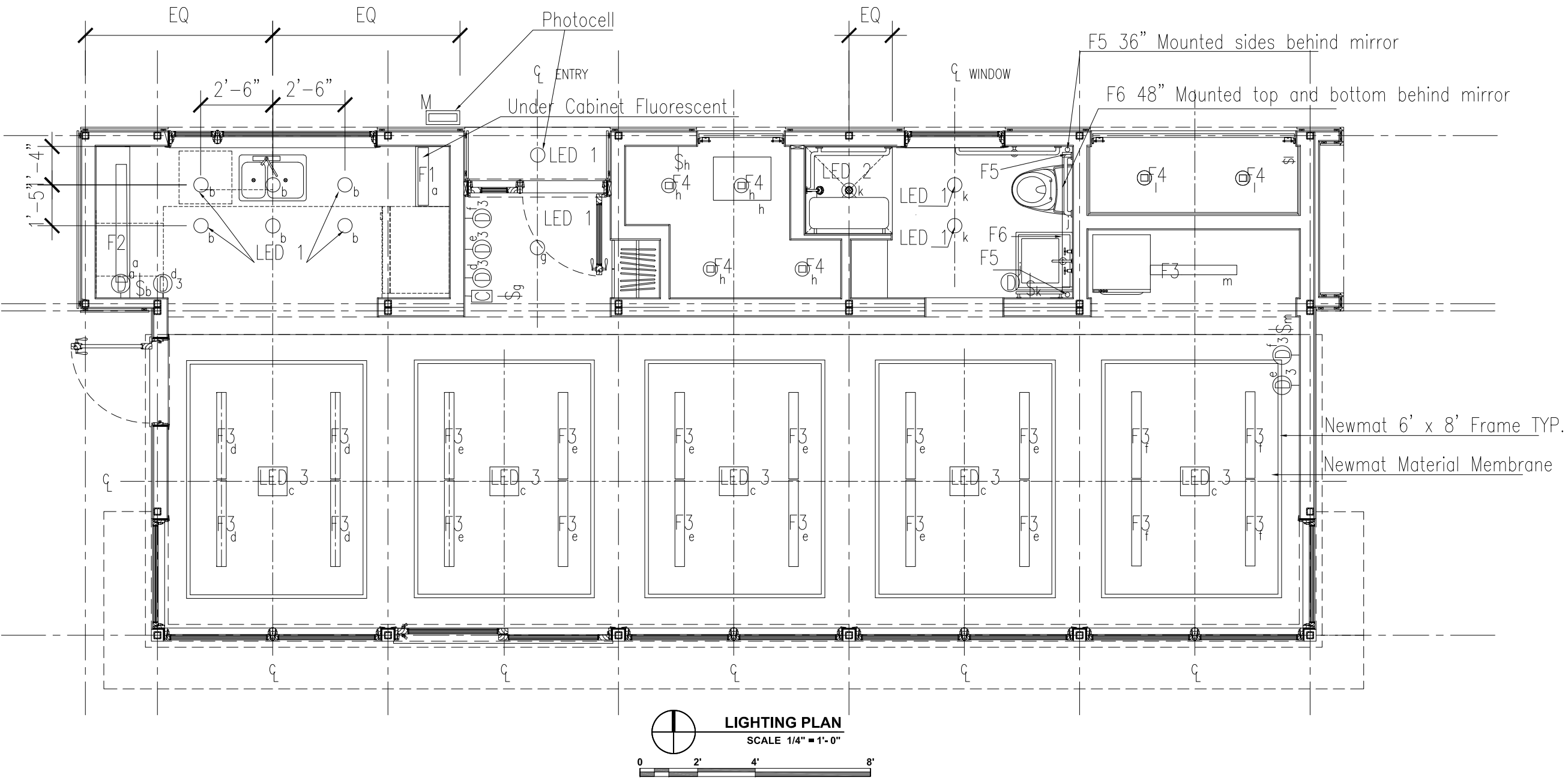
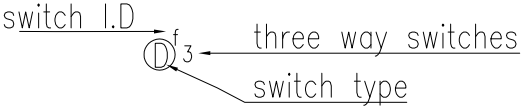
REVISIONS		Scale:	1/4" = 1' - 0"
No.	Date:	Description:	Date:
1	03.06.07	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By:		MCB	Checked By: MM

DRAWING:

**E 1.2**

SHEET: 57 of 66

REFLECTED CEILING PLAN AND SWITCHING LEGEND					
Symbols	Code	Description	Symbols	Code	Description
	F1	Cabinetry Mounted T2 Fluorescent, 24"		M	Recessed Solar Address Light (exterior)
	F2	Cabinetry Mounted T2 Fluorescent, 48"		D <sup>d</sup>	Dimmer Switch
	F3	Surface Mounted Fluorescent, 36"		D <sup>f</sup> 3	Three Way Dimmer Switch
	F4	Surface Mounted Compact Fluorescent, 6"		S <sup>b</sup>	Switch
	F5	Bathroom Mirror (sides) Fluorescent, 36"		C	Digital control switch- LED 3
	F6	Bathroom Mirror (top, bottom) Fluorescent, 48"	Dimmers d e f on three-way switch. Switches and dimmers a, b, c, g, h, j, k, l, m are single and local.		
	LED 1	Recessed LED, 6"			
	LED 2	Recessed Shower LED, 6"			
	LED 3	Surface Mounted LED 12" square			



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REVISIONS			Scale: 1/4" = 1'-0"	
No.	Date:	Description:	Date: August 7th, 2007	
1	03.06.07	Design Development Drawings	Drawn By: MS      Checked By: MM	
2	03.06.07	Construction Drawings Rev. 1		
3	08.07.07	Construction Drawings Rev. 2		

DRAWING:

**E 1.3**

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LOAD CENTER: EP - 200 AMP MCB 120/240V 1PH 3W 24 POLE											
LOAD-KVA		LOAD DESCRIPTION	CIR.BKR		TYPE		CIR.BKR		LOAD DESCRIPTION	LOAD-KVA	
A	B		TRIP	No.			No.	TRIP		A	B
1.162		LIGHTING	20	1			2	20	SM APP/REFRIG	0.167	
	0.115	CONTROL PANEL	20	3			4	20	SM APP/FREEZER		0.167
0		RECEPTACLES BDRM.	20	5	AFCI		6	20	SM APP/HOOD FAN	0.200	
	0	RECEPTACLES GENRL.	20	7			8	20	DISHWASHER		0.600
0		BATH GFCI RECEPT.	20	9			10	20	LAUNDRY	1.300	
	0.905	MECH RM PUMPS	20	11			12	20	EXHAUST UNIT		0.156
0.123		BUFFER TANK	20	13			14	30	WATER HEATER	2.75	
	0.123			15			16				2.75
0.185		AIR HANDLER UNIT	20	17			18	40	COOK TOP	3.800	
	0.185			19			20				3.800
1.875		HEAT PUMP	30	21			22	20	SPARE		
	1.875			23			24	20	SPARE		
*(AFCI) ARC-FAULT CIRCUIT-INTERUPTER PROTECTION REQUIRED											
TOTAL CONNECTED LOAD: 22.238 KVA    93 AMPS											



TITLE:			ELECTRICAL PANEL SCHEDULE			Scale: NOT TO SCALE		
REVISIONS			Description:			Date:		
No.	Date:		Design Development Drawings			Date: August 7th, 2007		
1	06.13.06		Construction Drawings Rev. 1			Drawn By: MM		
2	03.06.07		Construction Drawings Rev. 2			Checked By: MM		
3	08.07.07							

DRAWING:

E 1.4

PLUMBING NOTES:

WORK INCLUDED:  
FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND APPURTENANCES NECESSARY OR REQUIRED TO PERFORM AND COMPLETE ALL PLUMBING WORK SPECIFIED AND AS SHOWN ON THE DRAWINGS.

REFERENCES:  
2006 INTERNATIONAL PLUMBING CODE

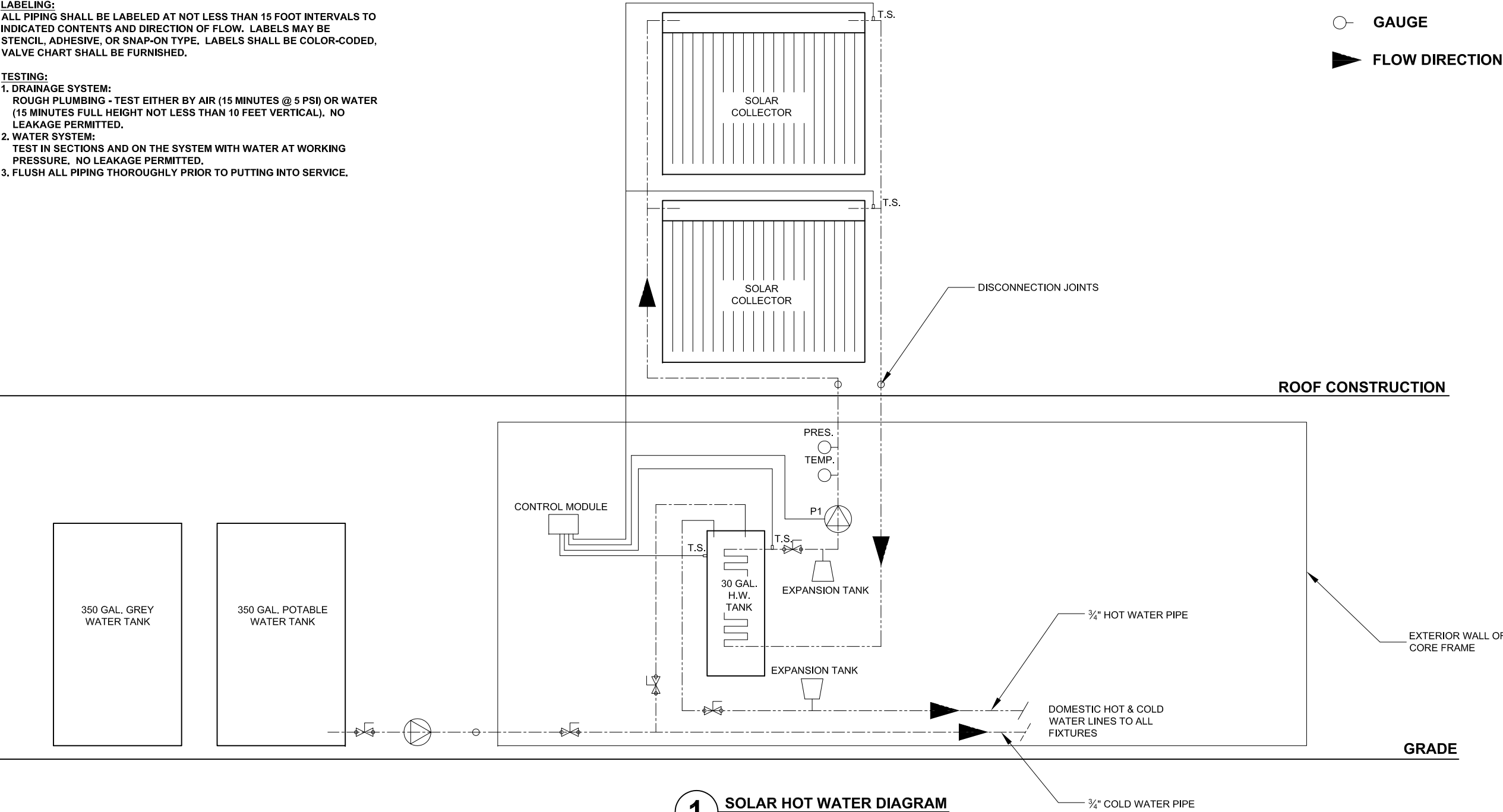
MATERIALS:  
HOT & COLD WATER PIPING - PEX TUBING, GREY WATER PIPING - PVC TUBING, DRAIN & VENT PIPING - PVC TUBING. UNLESS INDICATED OTHERWISE.

LABELING:  
ALL PIPING SHALL BE LABELED AT NOT LESS THAN 15 FOOT INTERVALS TO INDICATED CONTENTS AND DIRECTION OF FLOW. LABELS MAY BE STENCIL, ADHESIVE, OR SNAP-ON TYPE. LABELS SHALL BE COLOR-CODED, VALVE CHART SHALL BE FURNISHED.

TESTING:  
1. DRAINAGE SYSTEM:  
ROUGH PLUMBING - TEST EITHER BY AIR (15 MINUTES @ 5 PSI) OR WATER (15 MINUTES FULL HEIGHT NOT LESS THAN 10 FEET VERTICAL). NO LEAKAGE PERMITTED.  
2. WATER SYSTEM:  
TEST IN SECTIONS AND ON THE SYSTEM WITH WATER AT WORKING PRESSURE. NO LEAKAGE PERMITTED.  
3. FLUSH ALL PIPING THOROUGHLY PRIOR TO PUTTING INTO SERVICE.

PLUMBING LEGEND:

- PUMP
- HOT WATER
- COLD WATER
- VENT
- GREY WATER
- GATE VALVE
- GAUGE
- FLOW DIRECTION



1 SOLAR HOT WATER DIAGRAM  
SCALE: n.t.s.



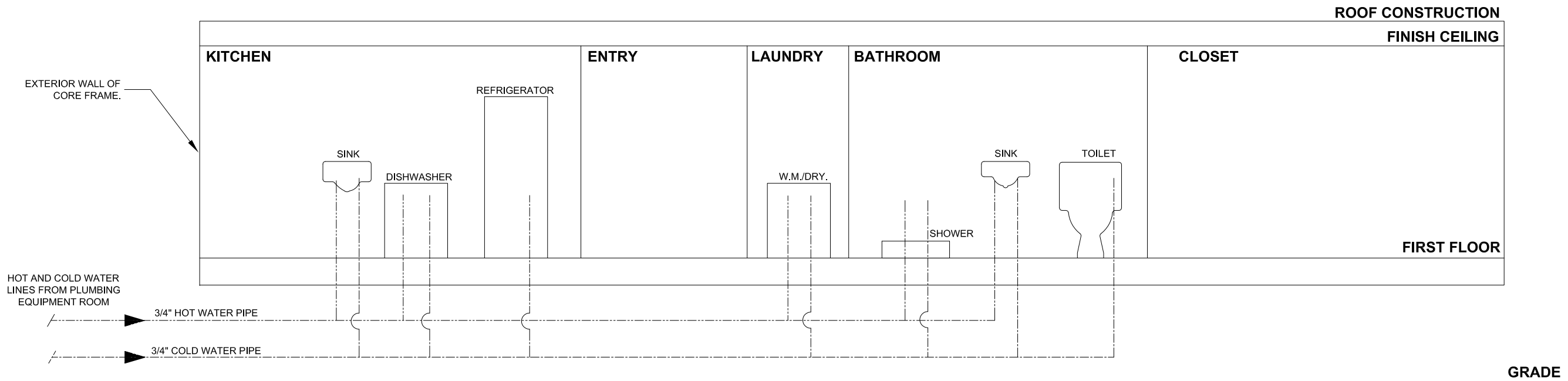
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SOLAR HOT WATER DIAGRAM

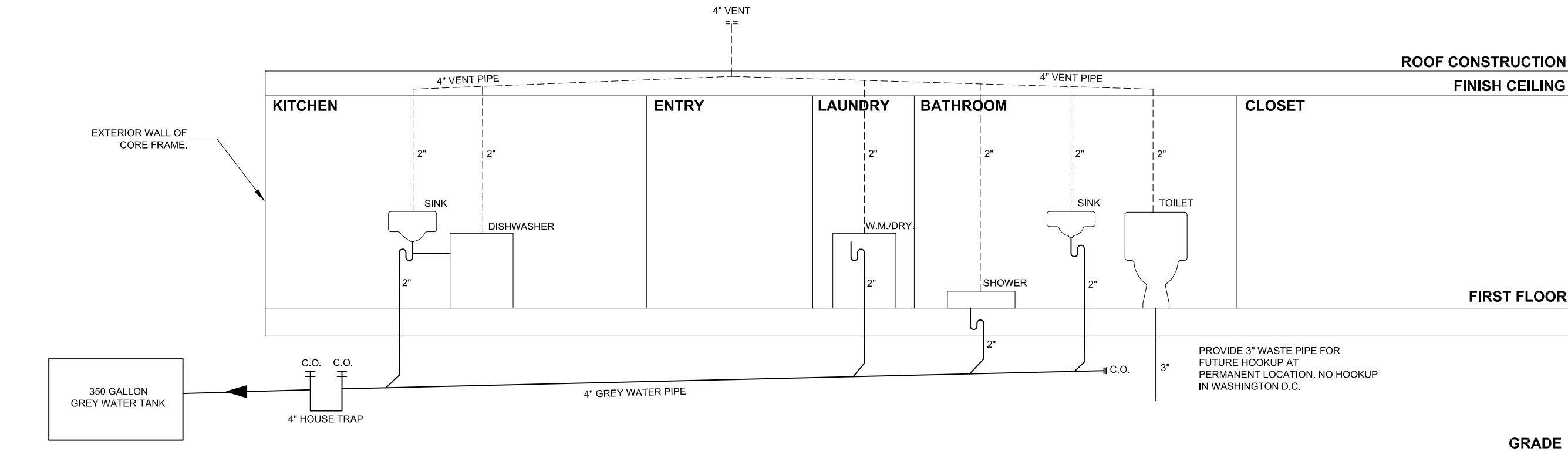
REVISIONS		Scale: NOT TO SCALE	Date: August 7th, 2007	Checked By: MM
No.	Description:	Date:	Drawn By: MAF	
1	Design Development Drawings	06.13.06		
2	Construction Drawings Rev. 1	03.06.07		
3	Construction Drawings Rev. 2	08.07.07		

DRAWING:

P 1.1



**1 DOMESTIC WATER DIAGRAM**  
SCALE: n.t.s.



**2 GREY WATER RISER DIAGRAM**  
SCALE: n.t.s.



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PLUMBING RISER DIAGRAMS			
REVISIONS		Scale:	NOT TO SCALE
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
Drawn By: MAF		Checked By: MM	

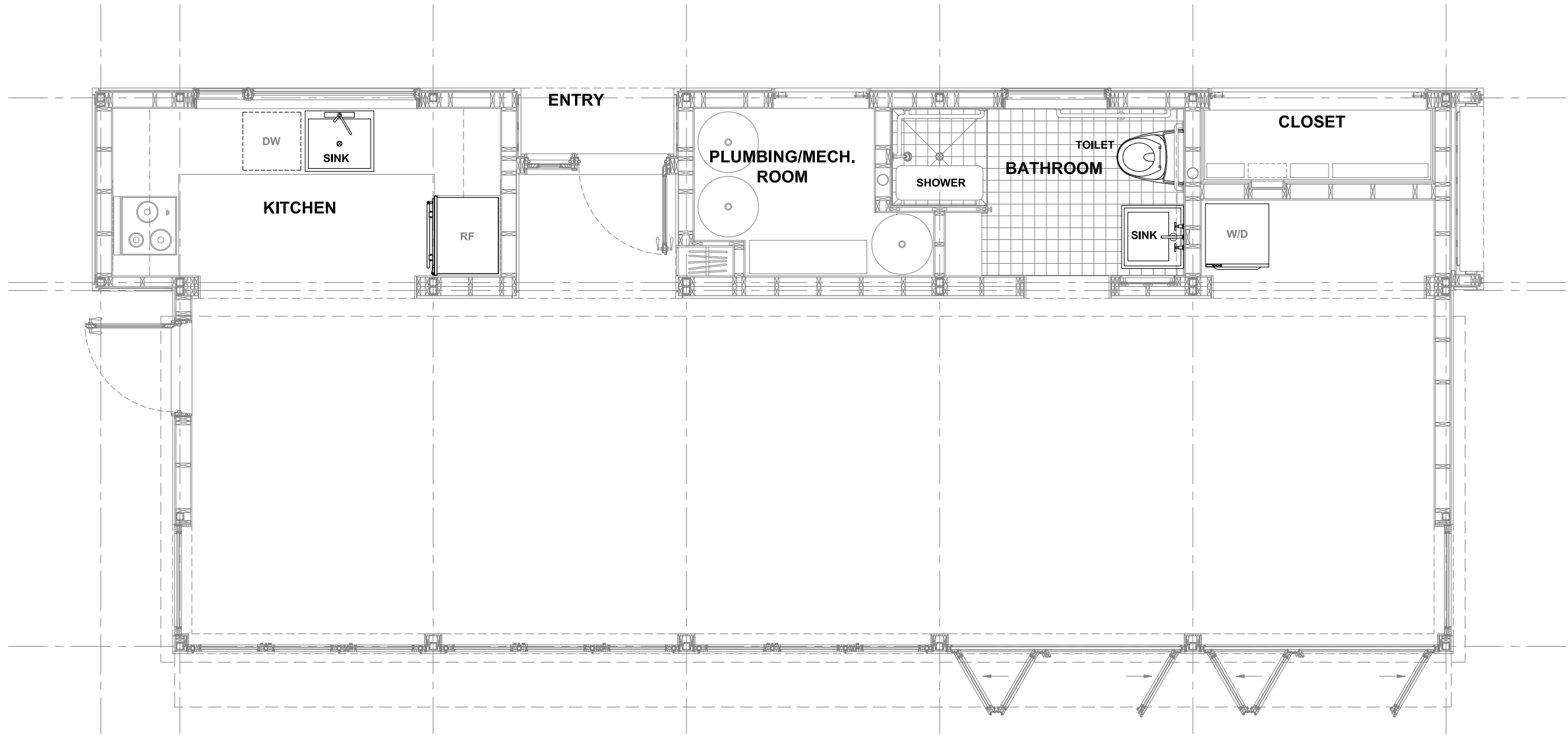
DRAWING:

**P 1.2**

SHEET: 61 of 66



NOTE: DO NOT CONNECT WATER  
SUPPLY LINE IN WASHINGTON D.C.  
SUPPLY LINE TO BE PROVIDED FOR  
HOOKUP AT FUTURE SITE.



**1** PLUMBING PLAN  
SCALE: 1/4" = 1'-0"



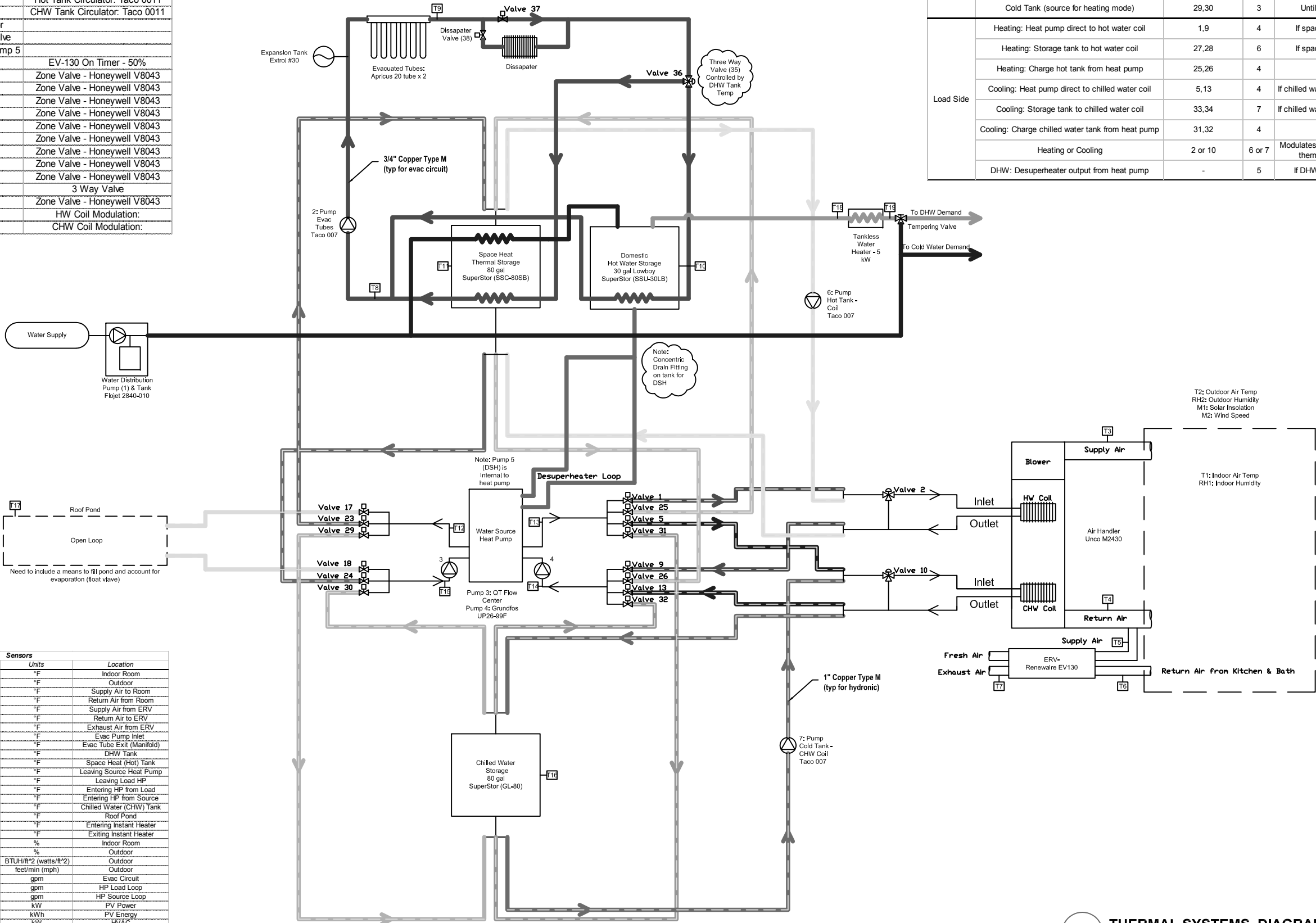
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TITLE: PLUMBING FIXTURE PLAN			
REVISIONS		Scale: 1/4" = 1'-0"	Date: August 7th, 2007 Drawn By: MAF Checked By: MM
No.	Date:	Description:	
1	06.13.06	Design Development Drawings	
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	

DRAWING:

P 1.4

Control Points		
Item	Label	Notes
1	Pump 1	Supply Water: Flojet 2840-010
2	Pump 2	Evac Tubes: Taco 007
3	Pump 3	HP Source Side: QT Flow
4	Pump 4	HP Load Side: Grundfos UP26-99
5	Pump 6	Hot Tank Circulator: Taco 0011
6	Pump 7	CHW Tank Circulator: Taco 0011
7	HP: Compressor	
8	HP: Reversing Valve	
9	HP: DSH Circuit Pump 5	
10	ERV	EV-130 On Timer - 50%
11	Valves 1,9	Zone Valve - Honeywell V8043
12	Valves 27,28	Zone Valve - Honeywell V8043
13	Valves 25,26	Zone Valve - Honeywell V8043
14	Valves 5,13	Zone Valve - Honeywell V8043
15	Valves 33,34	Zone Valve - Honeywell V8043
16	Valves 31,32	Zone Valve - Honeywell V8043
17	Valves 17,18	Zone Valve - Honeywell V8043
18	Valves 23,24	Zone Valve - Honeywell V8043
19	Valves 29,30	Zone Valve - Honeywell V8043
20	Valve 36	3 Way Valve
21	Valve 37,38	Zone Valve - Honeywell V8043
22	Valve 2	HW Coil Modulation:
23	Valve 10	CHW Coil Modulation:



Sensors				
Item	Label	Type	Units	Location
1	T1	Temperature	°F	Indoor Room
2	T2	Temperature	°F	Outdoor
3	T3	Temperature	°F	Supply Air to Room
4	T4	Temperature	°F	Return Air from Room
5	T5	Temperature	°F	Supply Air from ERV
6	T6	Temperature	°F	Return Air to ERV
7	T7	Temperature	°F	Exhaust Air from ERV
8	T8	Temperature	°F	Evac Pump Inlet
9	T9	Temperature	°F	Evac Tube Exit (Manifold)
10	T10	Temperature	°F	DHW Tank
11	T11	Temperature	°F	Space Heat (Hot) Tank
12	T12	Temperature	°F	Leaving Source Heat Pump
13	T13	Temperature	°F	Leaving Load HP
14	T14	Temperature	°F	Entering HP from Load
15	T15	Temperature	°F	Entering HP from Source
16	T16	Temperature	°F	Chilled Water (CHW) Tank
17	T17	Temperature	°F	Roof Pond
18	T18	Temperature	°F	Entering Instant Heater
19	T19	Temperature	°F	Exiting Instant Heater
20	RH1	Relative Humidity	%	Indoor Room
21	RH2	Relative Humidity	%	Outdoor
22	M1	Solar Insolation	BTUH/ft² (watts/ft²)	Outdoor
23	M2	Wind Speed	feet/min (mph)	Outdoor
24	M3	Flow	gpm	Evac Circuit
25	M4	Flow	gpm	HP Load Loop
26	M5	Flow	gpm	HP Source Loop
27	M6	Power	kW	PV Power
28	M7	Energy	kWh	PV Energy
29	M8	Power	kW	HVAC
30	M9	Energy	kWh	HVAC
31	M10	Power	kW	Battery
32	M11	Energy	kWh	Battery

Heat Pump: Valve and Pump Schedule				
Location	Mode	Valves Open	Pump	Control Detail
Source Side	Roof Pond (both heating and cooling)	17,18	3	If storage tank temps are satisfied
	Hot Tank (sink for cooling mode)	23,24	3	Until tank temp > 90°F
	Cold Tank (source for heating mode)	29,30	3	Until tank temp < 40°F
Load Side	Heating: Heat pump direct to hot water coil	1,9	4	If space heat tank < 90°F
	Heating: Storage tank to hot water coil	27,28	6	If space heat tank > 90°F
	Heating: Charge hot tank from heat pump	25,26	4	
	Cooling: Heat pump direct to chilled water coil	5,13	4	If chilled water storage temp > 50°F
	Cooling: Storage tank to chilled water coil	33,34	7	If chilled water storage temp < 50°F
	Cooling: Charge chilled water tank from heat pump	31,32	4	
	Heating or Cooling	2 or 10	6 or 7	Modulates coil temperatures when thermal storage is used
	DHW: Desuperheater output from heat pump	-	5	If DHW tank temp < 120°F



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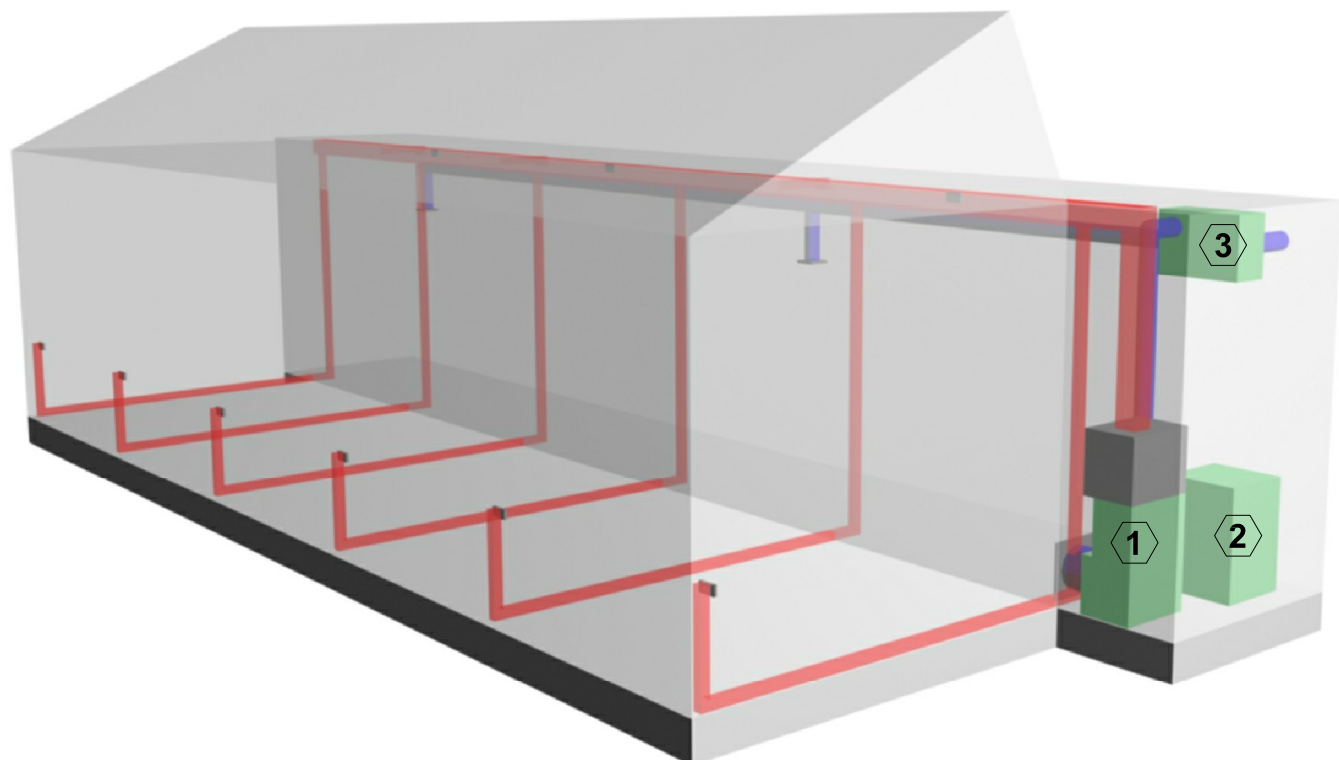
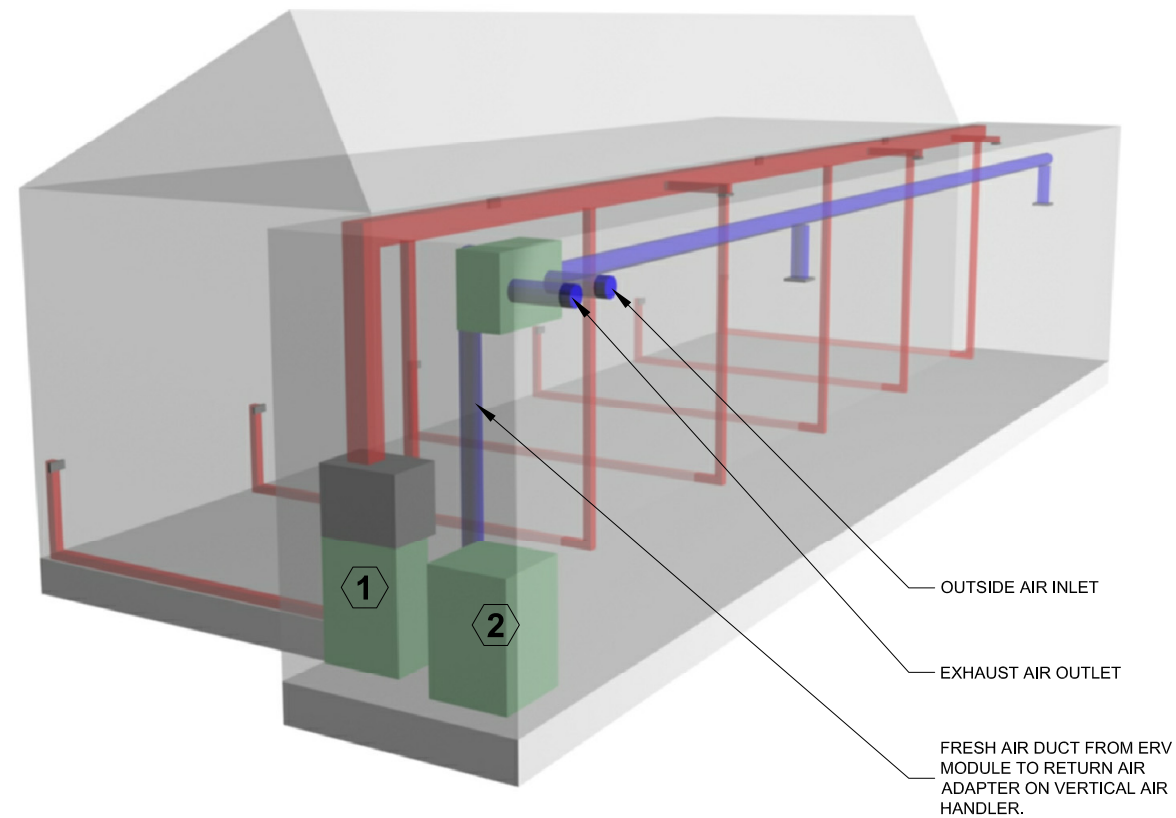
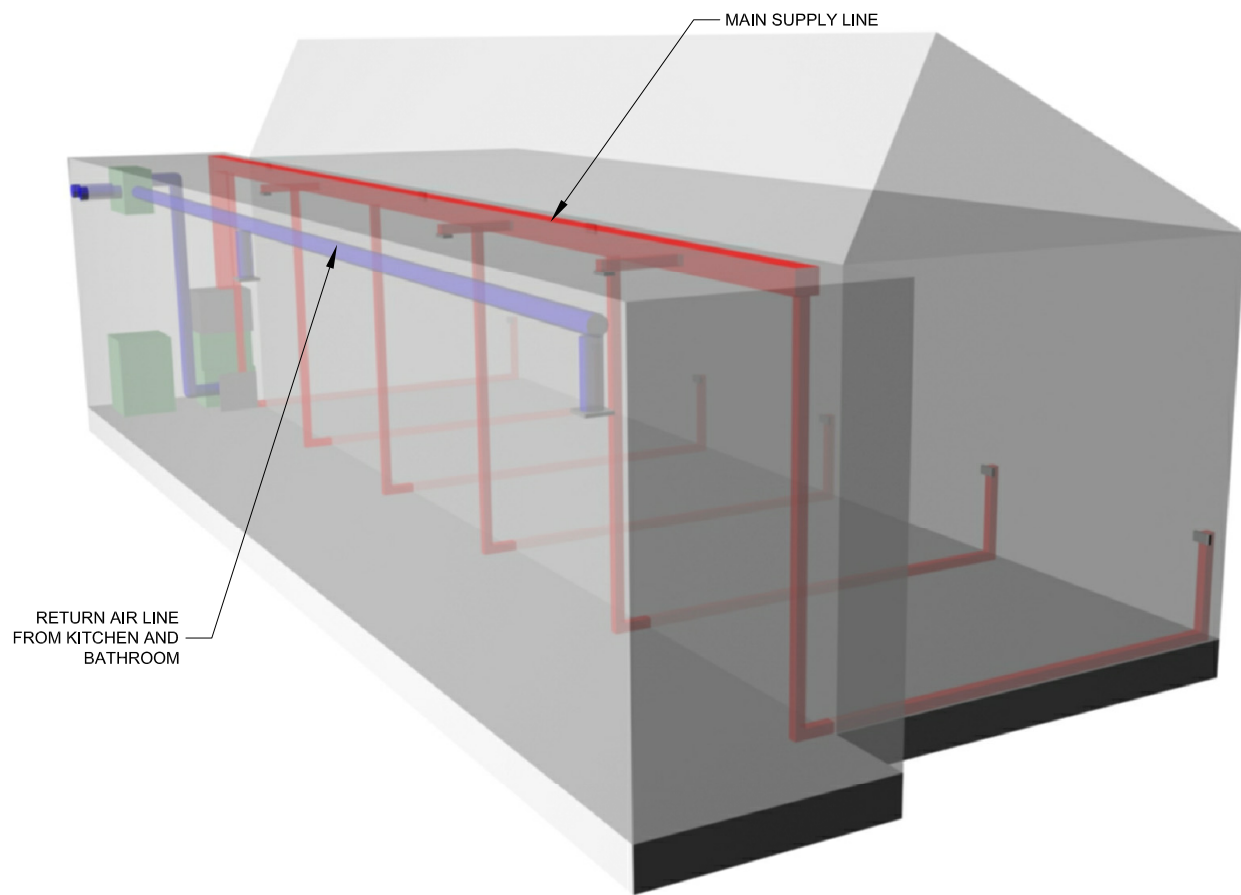
Solar Decathlon 2007

CONSTRUCTION DOCUMENTS

THERMAL SYSTEMS DIAGRAM

Scale:		NOT TO SCALE	
Date:		August 7th, 2007	
Description:		Design Development Drawings	
No.	Date:	1 06.13.06	
Description:		Construction Drawings Rev. 1	
No.	Date:	2 03.06.07	
Description:		Construction Drawings Rev. 2	
No.	Date:	3 08.07.07	
Description:		Construction Drawings Rev. 3	
No.	Date:	4 08.07.07	
Description:		Construction Drawings Rev. 4	
No.	Date:	5 08.07.07	
Description:		Construction Drawings Rev. 5	
No.	Date:	6 08.07.07	
Description:		Construction Drawings Rev. 6	
No.	Date:	7 08.07.07	
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No.	Date:	49 08.07.07	
Description:		Construction Drawings Rev. 49	
No.	Date:	50 08.07.07	
Description:		Construction Drawings Rev. 50	
Drawn By:		DJR	
Checked By:		MM	





### HVAC LEGEND

- PLENUM SUPPLY DUCT
- PLENUM RETURN DUCT
- 1 VERTICAL MODULAR AIR HANDLER  
-BLOWER UNIT  
-VERTICAL SPACER  
-CHILLED WATER MODULE  
-VERTICAL RETURN PLENUM
- 2 COMPRESSOR
- 3 ERV MODULE

1 HVAC DISTRIBUTION DIAGRAM  
SCALE: n.t.s.



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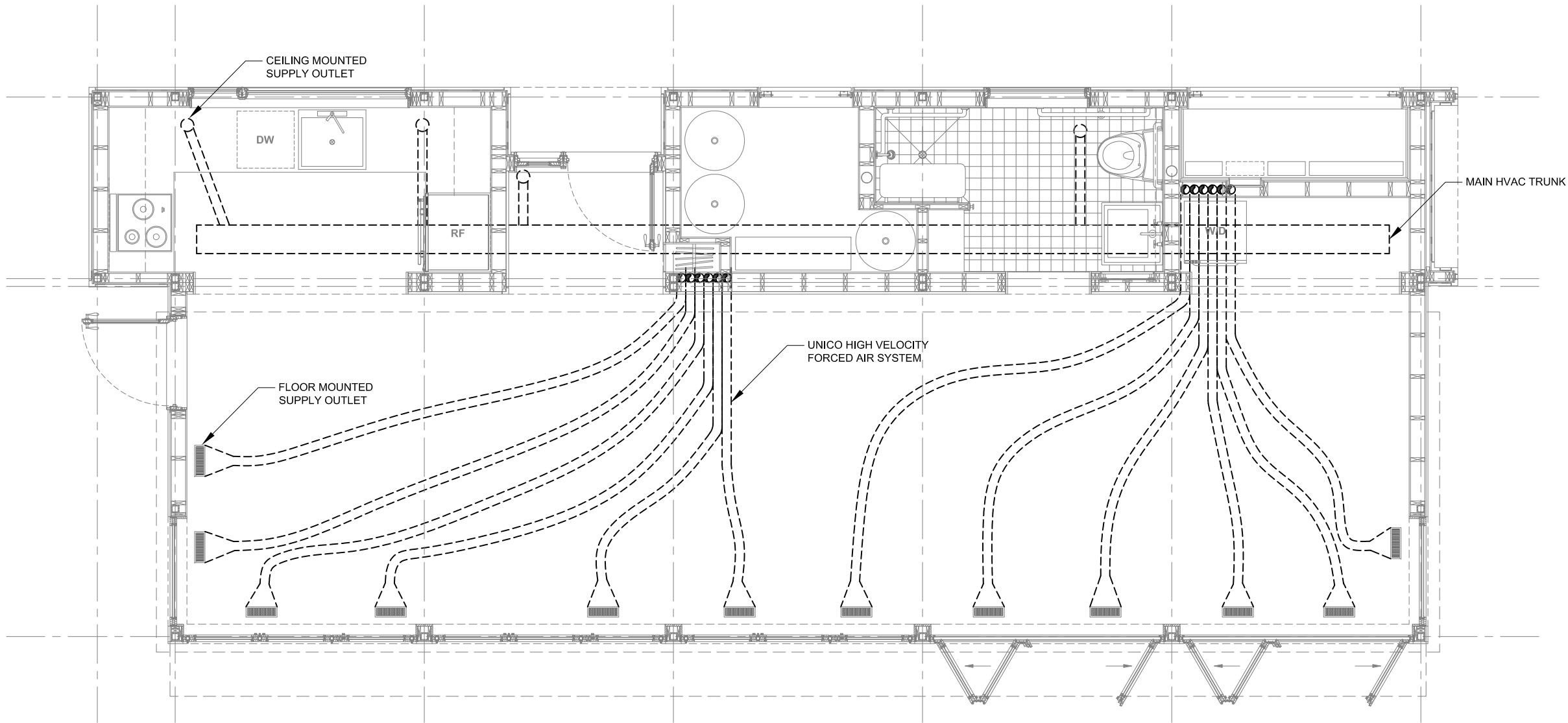
CONSTRUCTION DOCUMENTS

HVAC DISTRIBUTION DIAGRAMS			
REVISIONS		Scale: NOT TO SCALE	Date: August 7th, 2007
No.	Date:	Description:	Checked By: MM
1	06.13.06	Design Development Drawings	MAF
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	

DRAWING:

**M 1.2**

SHEET: 65 of 66



**MECHANICAL PLAN**  
SCALE 1/4" = 1'-0"



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CONSTRUCTION DOCUMENTS

### MECHANICAL PLAN

REVISIONS		Scale:	1/4" = 1'-0"
No.	Date:	Description:	Date:
1	06.13.06	Design Development Drawings	August 7th, 2007
2	03.06.07	Construction Drawings Rev. 1	
3	08.07.07	Construction Drawings Rev. 2	
		Drawn By: MAF	Checked By: MM

DRAWING:

# M 1.3

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