

2007
UNIVERSITY OF MISSOURI-ROLLA
SOLAR HOUSE
ROLLA, MISSOURI

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

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OUR MISSION

THE UMR SOLAR HOUSE TEAM EXISTS TO ENRICH STUDENTS WITH EXPERIENCE BY APPLYING CLASSROOM WORK TO A REAL WORLD SITUATION, DEVELOP LEADERSHIP SKILLS IN BOTH A GROUP AND INDIVIDUALLY, AND TO CREATE A SOLAR HOUSE THAT WILL FURTHER THE PUBLIC'S TRUST AND APPRECIATION FOR SOLAR POWER AND COMPETE IN THE DEPARTMENT OF ENERGY'S SOLAR DECATHLON.

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT						5/2007 Solar Home Design and Construction Sub-Home_0000.dwg		
GENERAL			STRUCTURAL			MECHANICAL		
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PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT						2007 UMR ATTOR SOLAR HOUSE MO		
DRAWING TITLE:						TABLE OF CONTENTS		
DESCRIPTION:								
REVISIONS:						2/1/2007 - Design Development Drawings		
SCALE:								
DATE:						5/17/2007		
DRAWN BY:						UMR		
SHEET NO:						2		

ARCHITECTURAL

ALL PAINT COLORS ARE BENJAMIN MOORE BRAND

ALL PAINTED SURFACES ARE TO BE FINISHED TO A UNIFORM, SMOOTH TEXTURE

CUSTOM MAHOGANY STAIN: 50% DARK MAHOGANY & 50% SPECIAL WALNUT

ALL WINDOWS AND GLASS DOORS THAT FALL UNDER THE SOLAR DECATHLON REQUIREMETNS FOR GLAZING HAVE TEMPERED GLASS IN THEM

ALL CEILINGS IN THE HOUSE ARE 7 F.T. OR GREATER

T G IN THE WINDOW PLAN REFERS TO TEMPURED GLASS

STRUCTURAL

ALL LUMBER IS #2 SOUTHERN WHITE PINE UNLESS OTHERWISE SPECIFIED

THE HOUSE IS DESIGNED FOR THE FOLLOING LADS:
WIND 60 MPH 3-SECOND GUST
RAILINGS 200-LB CONCENTRATED LOAD
INTERIOR FLOORS, DECKS , RAMPS 50 PSF LIVE LOAD
ROOF 20 LB PSF LIVE LOAD

FOAM PLASTIC IS SEPARATED FROM THE HOSUE BY $\frac{7}{16}$ "OSB AS SHOWN IN DRAWINGS AND SPECIFICATIONS

SPECIFICATIONS CONCERNING MATERIALS ON THE EXTERIAL ARE INCLUDED IN THE DRAWINGS AND SPECIFICATIONS AND MEET ALL APPLICABLE CODES

THE SAME PE HAD STAMPED AND DONE CALCULATIONS ON THE STRUCTDURAL SYSTEMS OF THE OUTSIDE ELEMENTS OF OUR HOUSE

THE ROOFING SYSTEM HAS BEEN INCLUDED IN THE DRAWINGS

S:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1.DWG

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DRAWING TITLE:
GENERAL NOTES

DESCRIPTION:

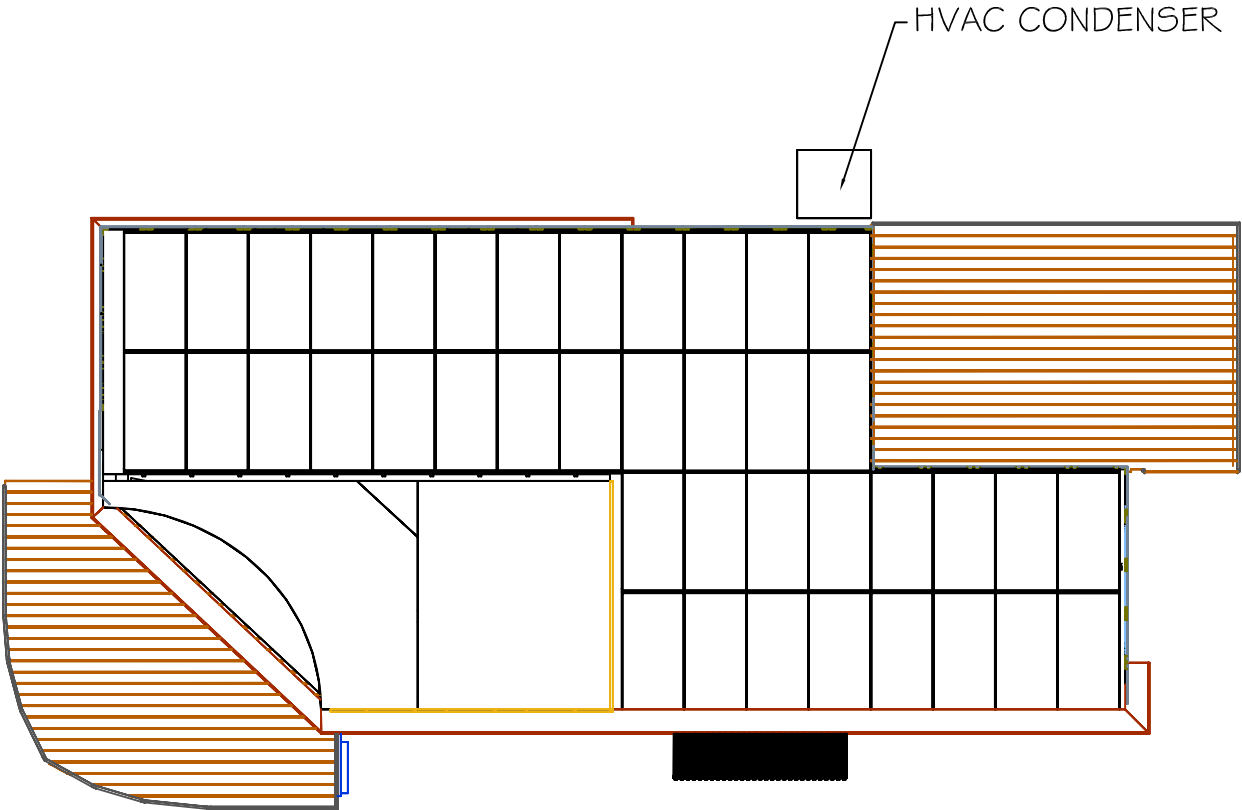
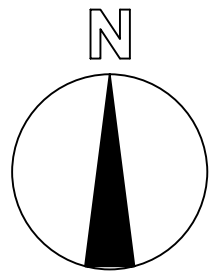
REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/3/2007 - Updated
Construction Drawings
SCALE:

DATE:
7/24/2007

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SHEET No:

3



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2007 UMR
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DRAWING TITLE:

SITE PLAN

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings
- 1/3/2008 - Updated Construction Drawings

SCALE:

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0 2' 4'

DATE:

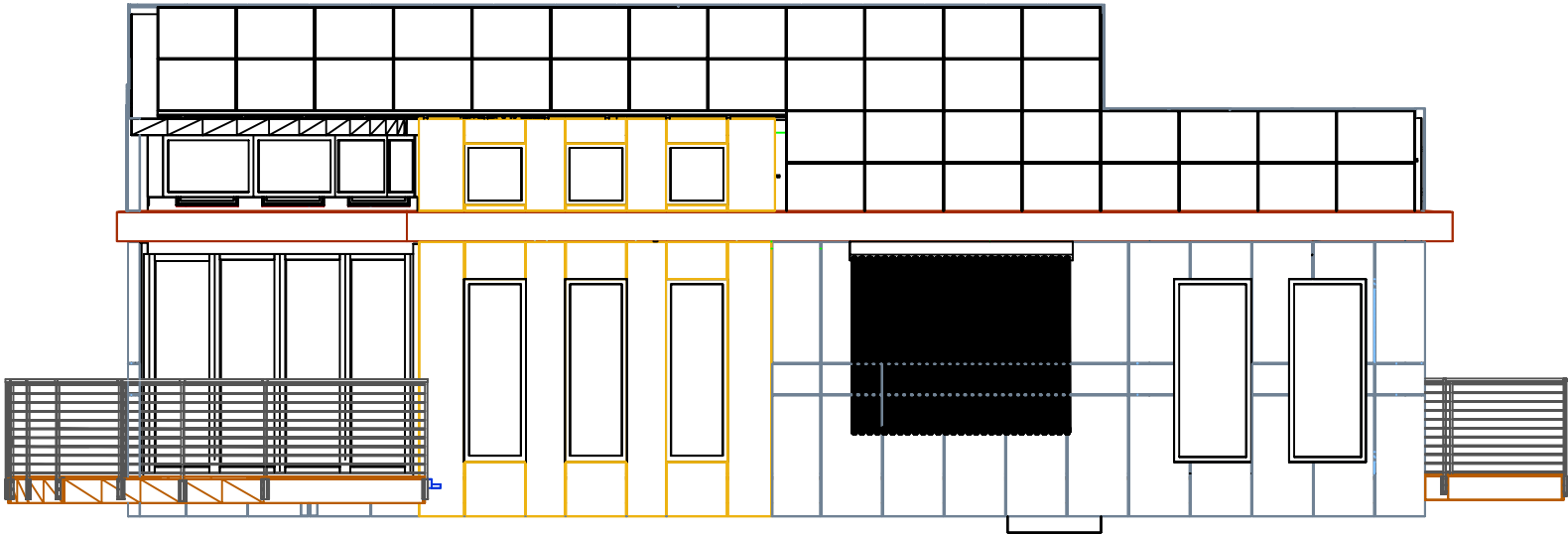
8/7/2007

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SHEET NO:

C1



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2007 UMR
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DRAWING TITLE:
SOUTH SOLAR
ENVELOPE

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings
- 1/3/2008 - Updated Construction Drawings

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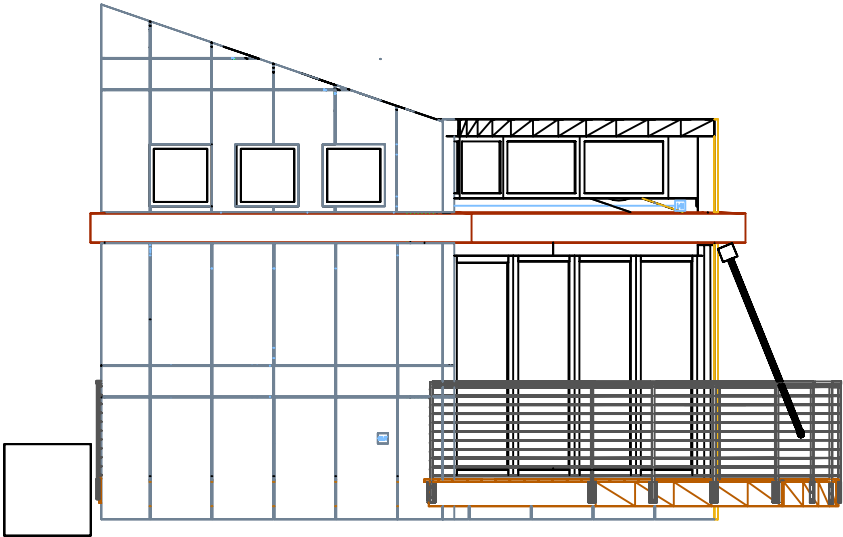
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0 2' 4'

DATE:
8/7/2007

DRAWN BY:
UMR

SHEET NO:

C2



2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_UMB.dwg

2007 UMR
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DRAWING TITLE:
WEST SOLAR
ENVELOPE

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings
- 1/3/2008 - Updated Construction Drawings

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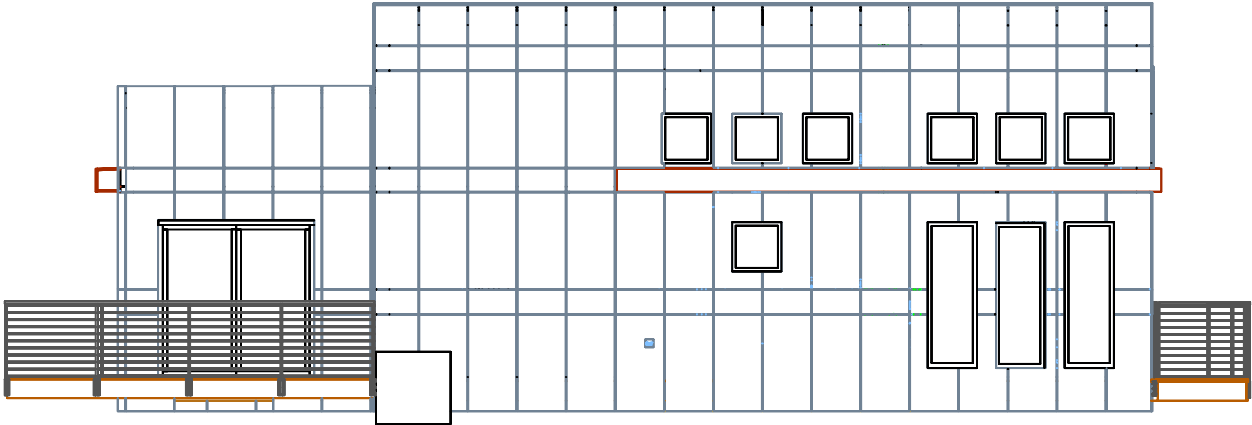
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0 2' 4'

DATE:
8/7/2007

DRAWN BY:
UMR

SHEET NO:

C3



Z:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1.DWG

2007 UMR
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DRAWING TITLE:
NORTH SOLAR
ENVELOPE

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings
- 1/3/2008 - Updated Construction Drawings

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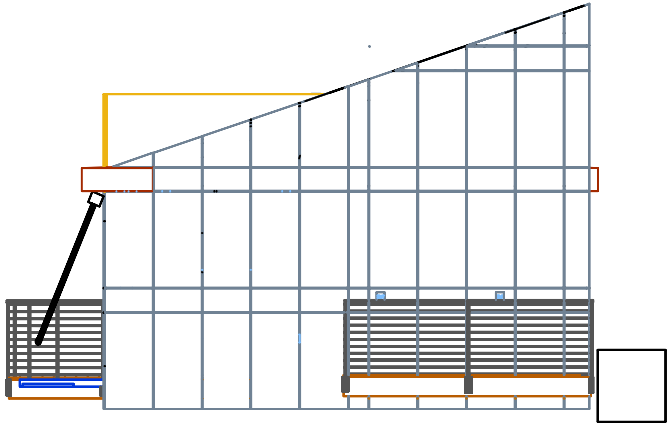
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DATE:
8/7/2007

DRAWN BY:
UMR

SHEET NO:

C4



Z:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1.DWG

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
EAST SOLAR
ENVELOPE

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design
Development Drawings
- 3/6/2007 - Design
Construction Drawings
- 6/1/2007 - Updated
Construction Drawings
- 8/7/2007 - Updated
Construction Drawings
- 1/3/2008 - Updated
Construction Drawings

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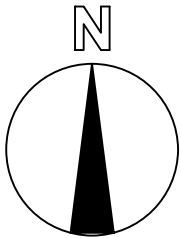
1/8" = 1'-0"
0 2' 4'

DATE:
8/7/2007

DRAWN BY:
UMR

SHEET NO:

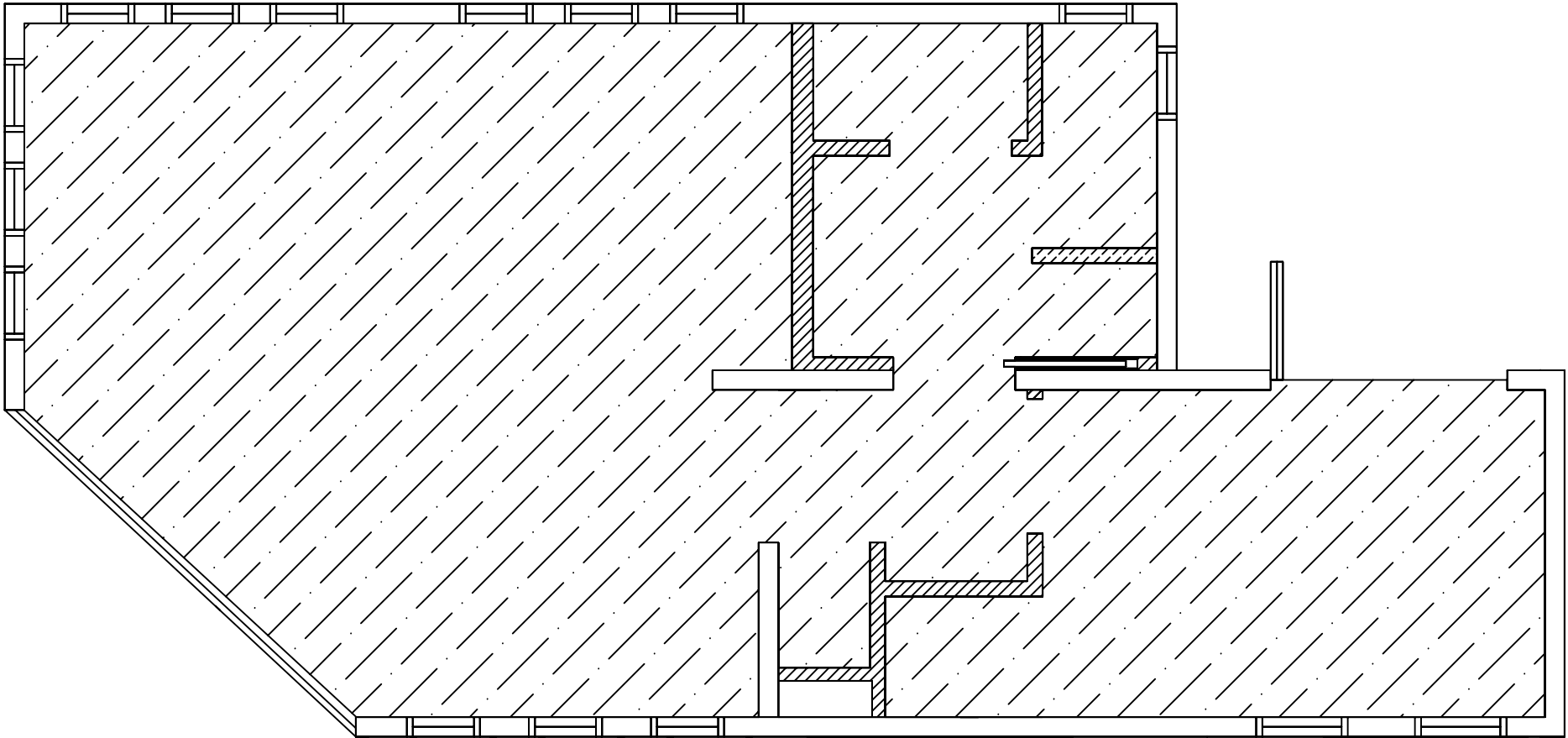
C5



Legend

Conditioned Area

Conditioned Area = 592.5 SQ.FT.



S:\2007 Solar House (Design and Construction)\Solar_House_C060.dwg

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DRAWING TITLE:
CONDITIONED AREA

DESCRIPTION:

REVISIONS:
6/13/2006 - Design Development Drawings
3/6/2007 - Design Construction Drawings
1/3/2008 - Design Construction Drawings

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

DATE:
5/17/2007

DRAWN BY:
UMR

SHEET NO:
C6



2007 UMR
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DRAWING TITLE:
FLOOR PLAN

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings

SCALE:

1/4" = 1'-0"



DATE:

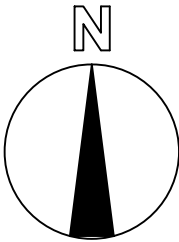
2/1/2007

DRAWN BY:

UMR

SHEET No:

A1



GENERAL NOTES:

1. DIMENSIONS OF INTERIOR WALL LOCATIONS
ARE TO FINISHED SURFACES.

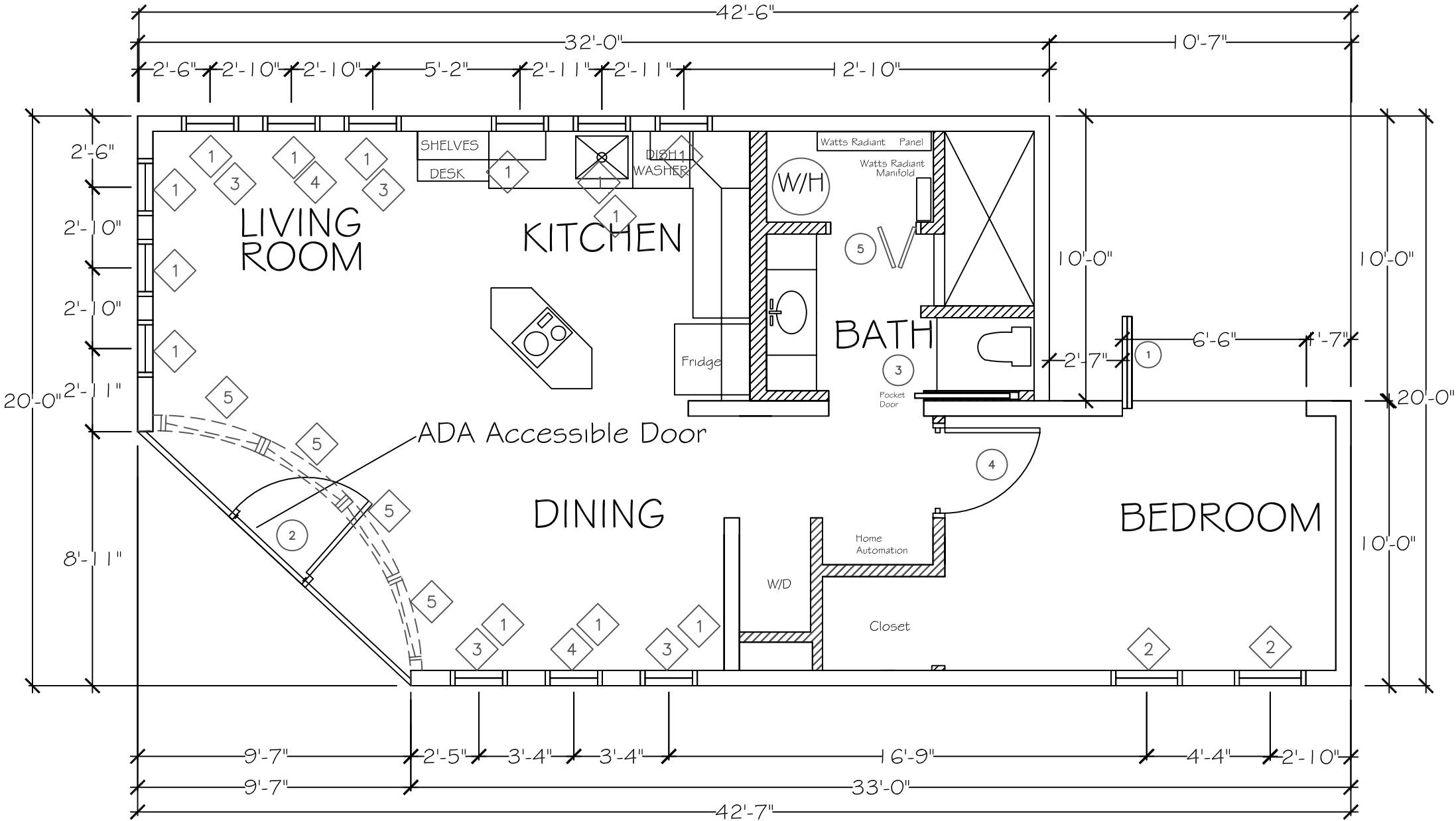
WINDOW NOTES:

1. MANUFACTURER - QUAKER
2. EXTERIOR - ALUM. CLAD (BLACK)
3. INTERIOR - WOOD (FINISH AS TRIM, SEE L1)
4. JAM THICKNESS-6 7/16"
5. GLAZING - DOUBLE 1/8" PANE, ARGON FILLED
6. SEE SHEETS A3-A6 FOR SWING ORIENTATION

LEGEND:

◊ WINDOW LABEL

○ DOOR LABEL



WINDOW SCHEDULE				
LABEL	MODEL #	QTY.	UNIT SIZE (WXH)	TYPE
1	2020	13	24" X 24"	AWNING
2	2660	2	30" X 72"	CASEMENT
3	2060	4	24" X 72"	CASEMENT
4	2060	2	24" X 72"	FIXED CASEMENT
5	3020	4	36" X 24"	FIXED DIRECT SET

DOOR SCHEDULE				
LABEL	MANUFACTURER	MODEL #	UNIT SIZE (WXH)	NOTES
1	SOLAR INNOVATION	CUSTOM	148"X90 3/4"	BEDROOM DOOR
2	SOLAR INNOVATION	CUSTOM	77"X 80"	ENTRY WAY
3	MASONITE	3/0 6 PNL PINE	36" X 80"	POCKET DOOR
4	MASONITE	3/0 6 PNL PINE	36" X 80"	REG INTERIOR DOOR
5	MASONITE	1/6 3 PNL PINE	36" X 80"	BI-FOLD DOOR



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DRAWING TITLE:

FRAMING PLAN

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings

SCALE:

1/4" = 1'-0"



DATE:

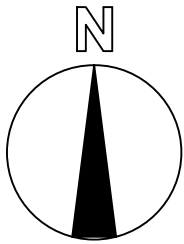
2/1/2007

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UMR

SHEET NO:

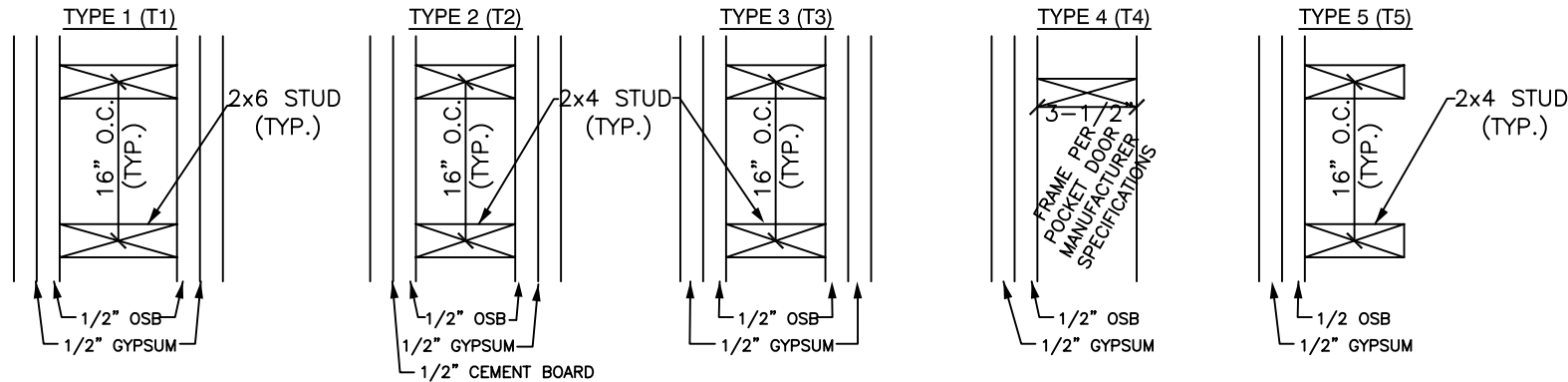
A2



GENERAL NOTES:

1. GYPSUM- USG MOLD TOUGH
2. CEMENT BOARD- USG DUROCK CEMENT BOARD
3. DIMENSIONS OF INTERIOR WALL LOCATIONS ARE FINISHED SURFACE TO FINISHED SURFACE.
4. DIMENSIONS TO SIPs ARE TO FACE OF OSB.
5. FOR SIP CONSTRUCTION DETAILS, SEE SHEETS S7-S27

WALL TYPES — PLAN VIEW (N.T.S.)



LEGEND:

—(T2) WALL LABEL

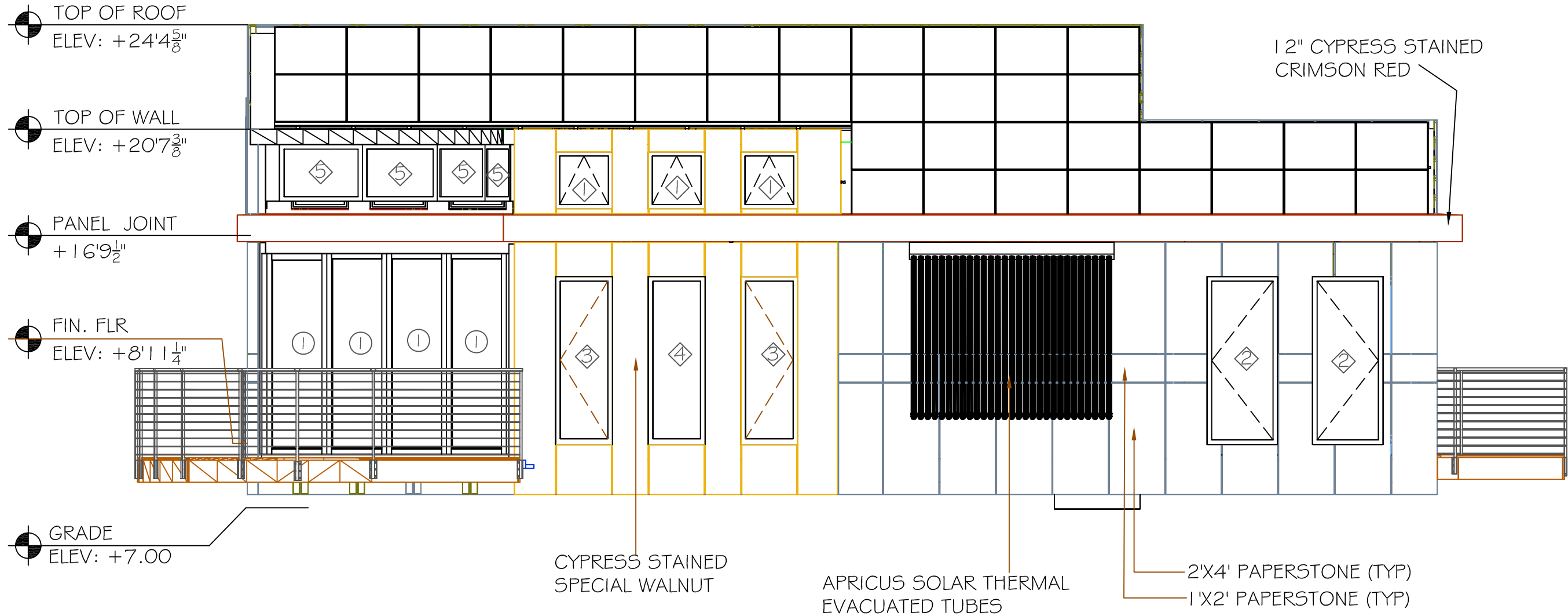
NOTES

EXT. MATERIAL: PAPERSTONE- $\frac{3}{8}$ " THICK
ROOFING: JOHNS MANVILLE 60 MIL PVC MEMBRANE

LEGEND:

WINDOW LABEL

DOOR LABEL



WINDOW SCHEDULE				
LABEL	MODEL #	QTY.	UNIT SIZE (WXH)	TYPE
1	2020	13	24" X 24"	AWNING
2	2660	2	30" X 72"	CASEMENT
3	2060	4	24" X 72"	CASEMENT
4	2060	2	24" X 72"	FIXED CASEMENT
5	3020	4	36" X 24"	FIXED DIRECT SET

DOOR SCHEDULE				
LABEL	MANUFACTURER	MODEL #	UNIT SIZE (WXH)	NOTES
1	SOLAR INNOVATION	CUSTOM	148" x 90 3/4"	FOLDING GLASS WALL (FGW)
2	SOLAR INNOVATION	CUSTOM	77"X80"	FOLDING GLASS WALL (FGW)-TG

2007 UMR
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DRAWING TITLE:
SOUTH
ELEVATION

DESCRIPTION:

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/3/2008 - Updated
Construction Drawings

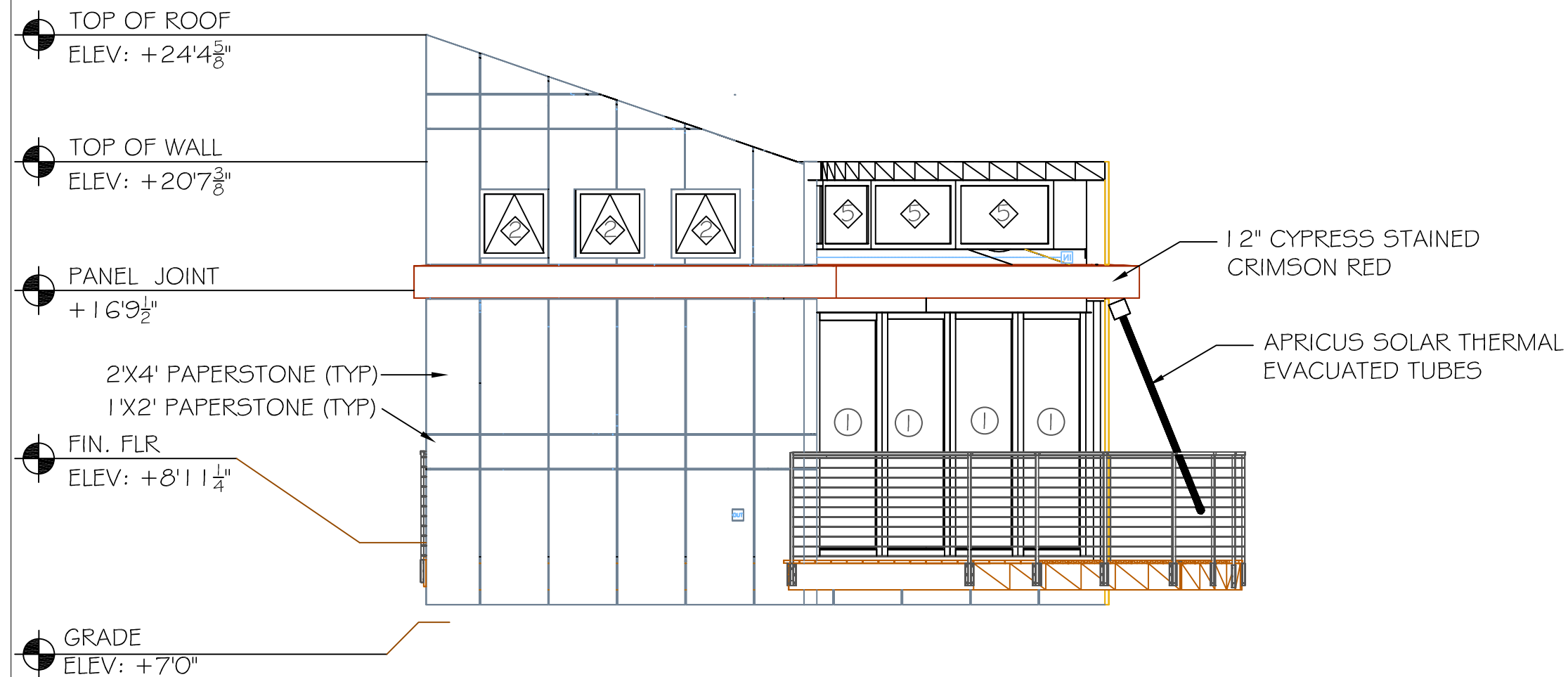
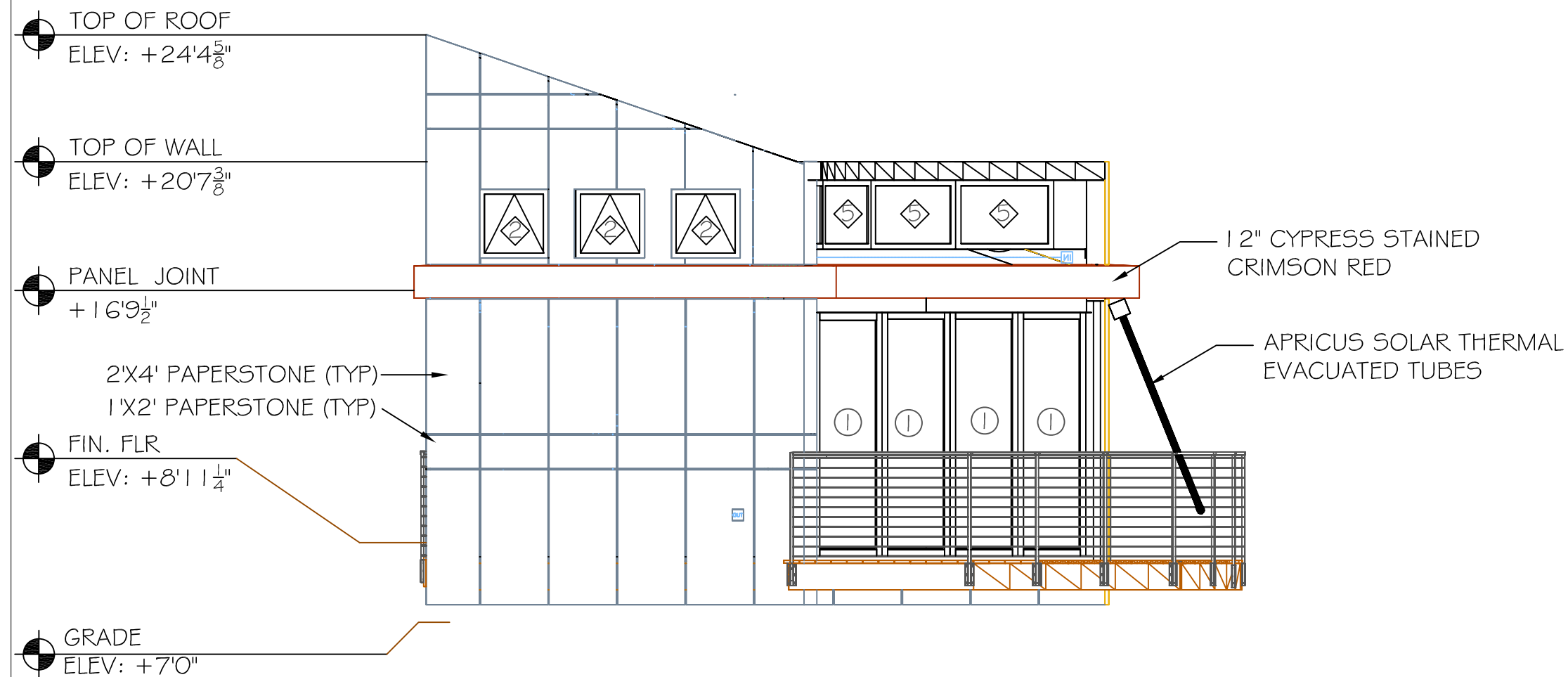
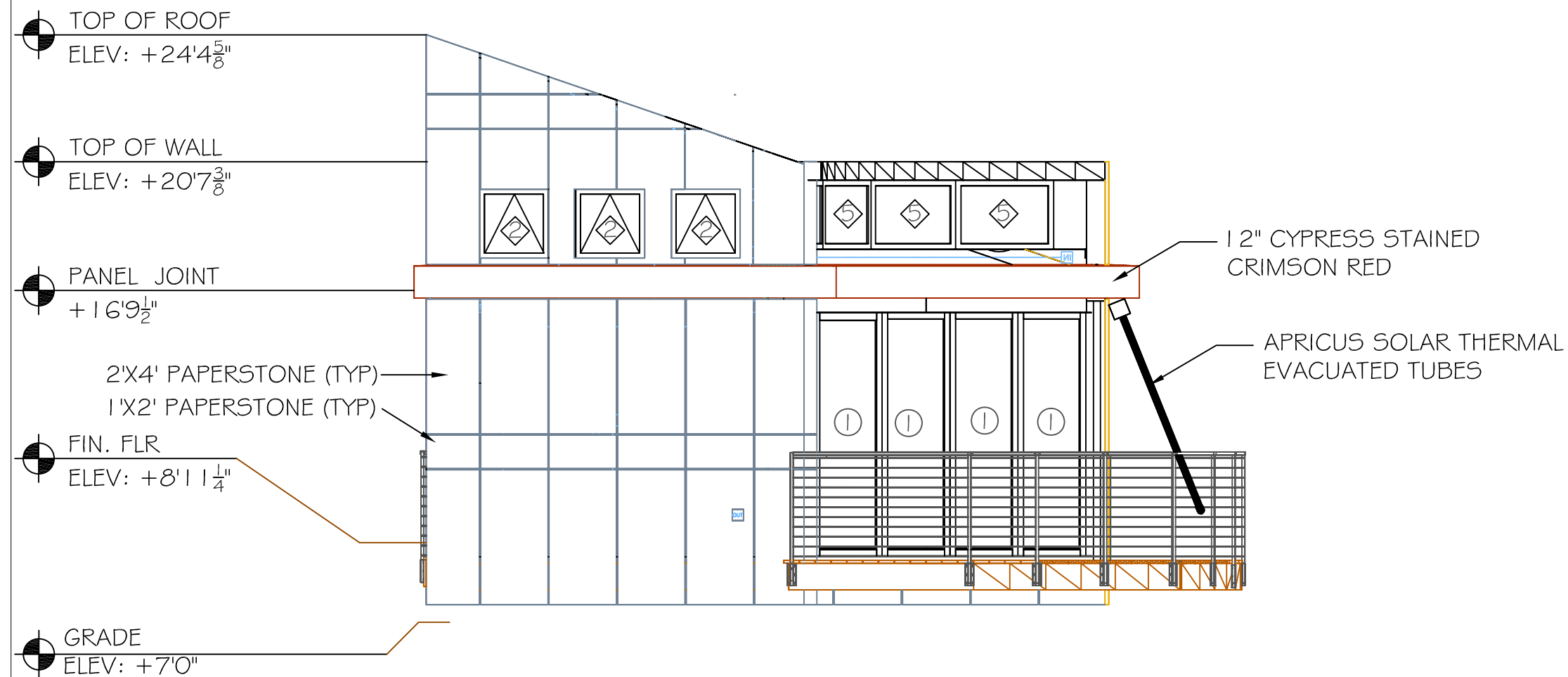
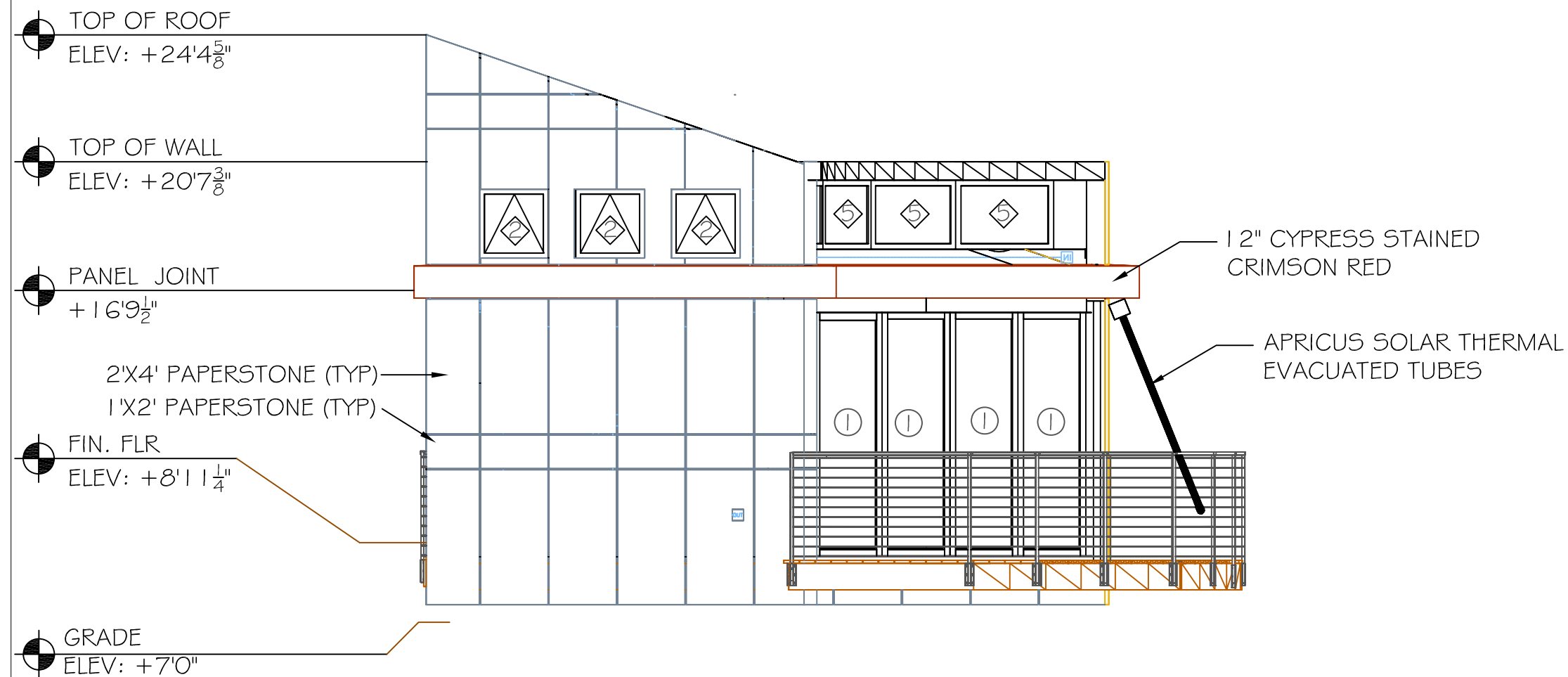
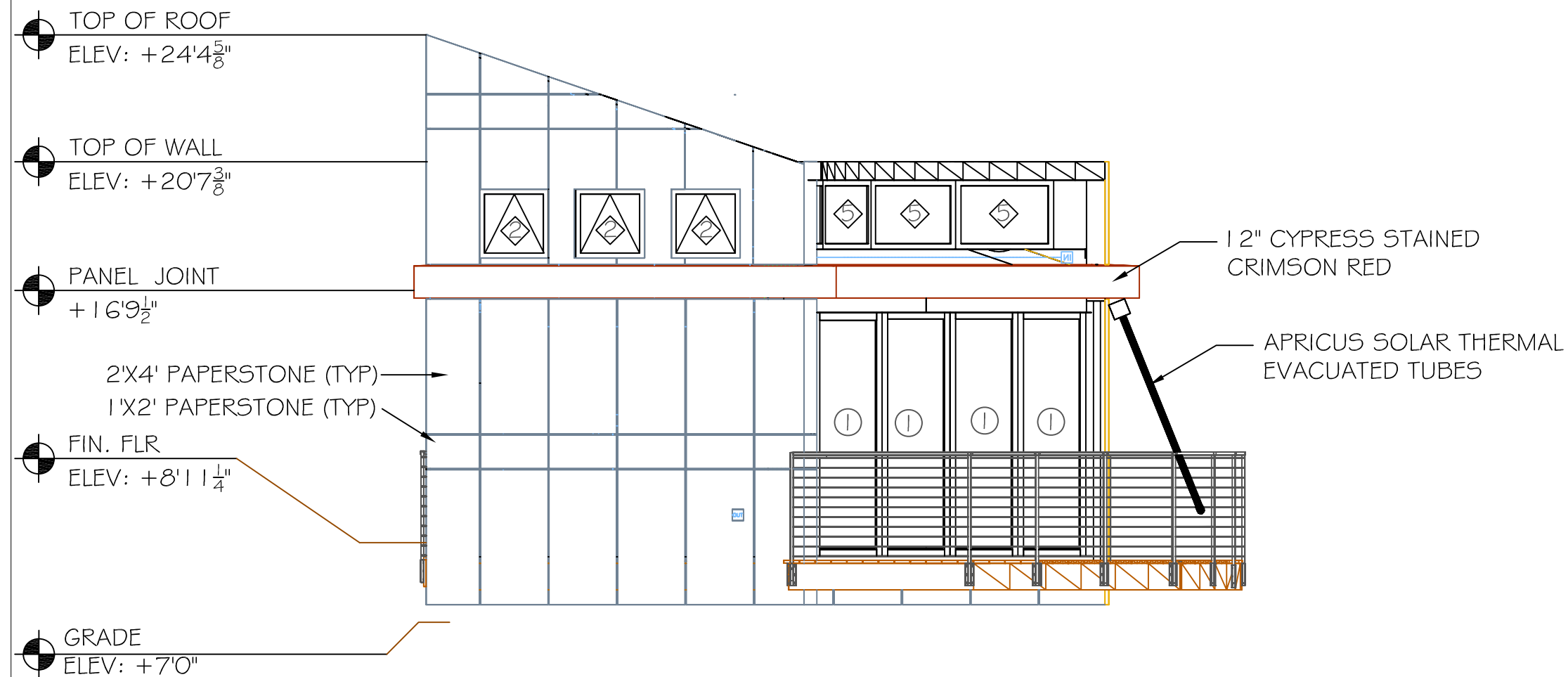
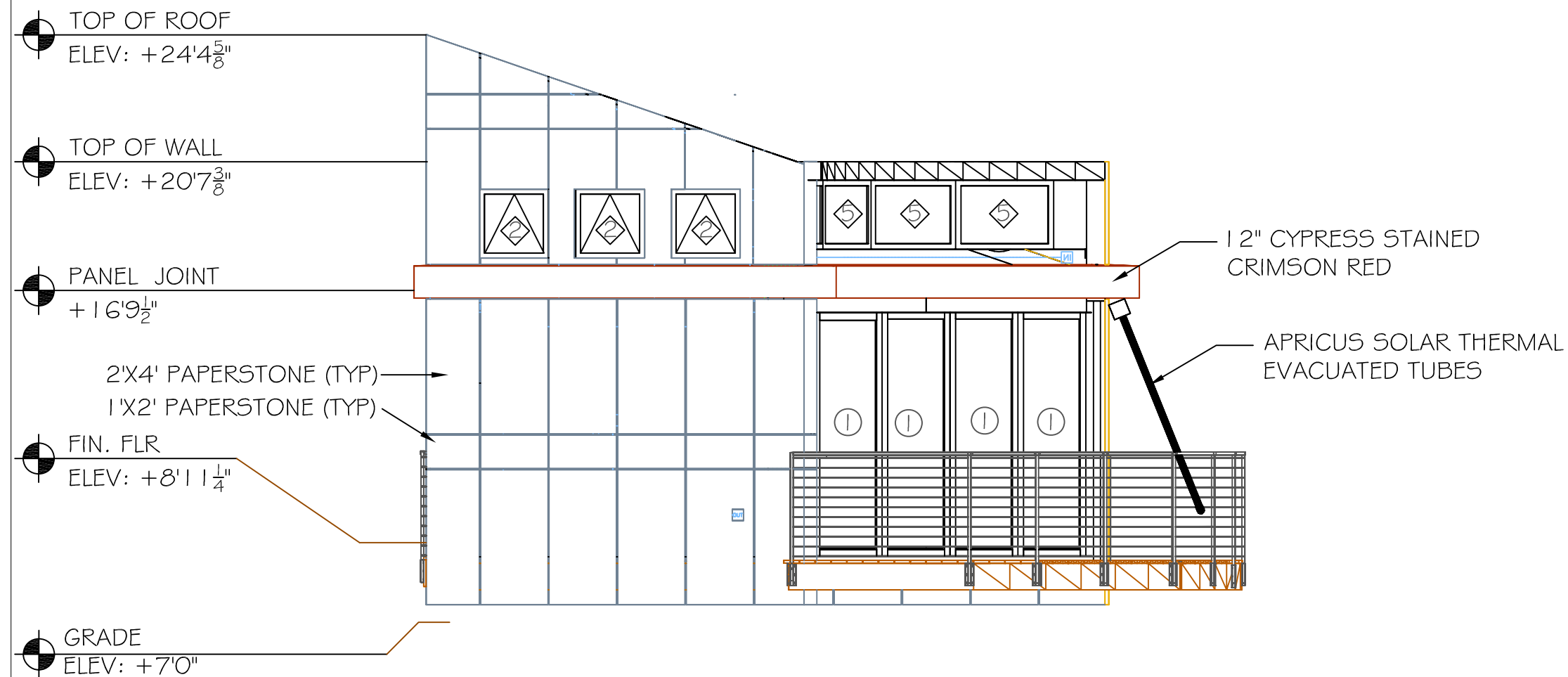
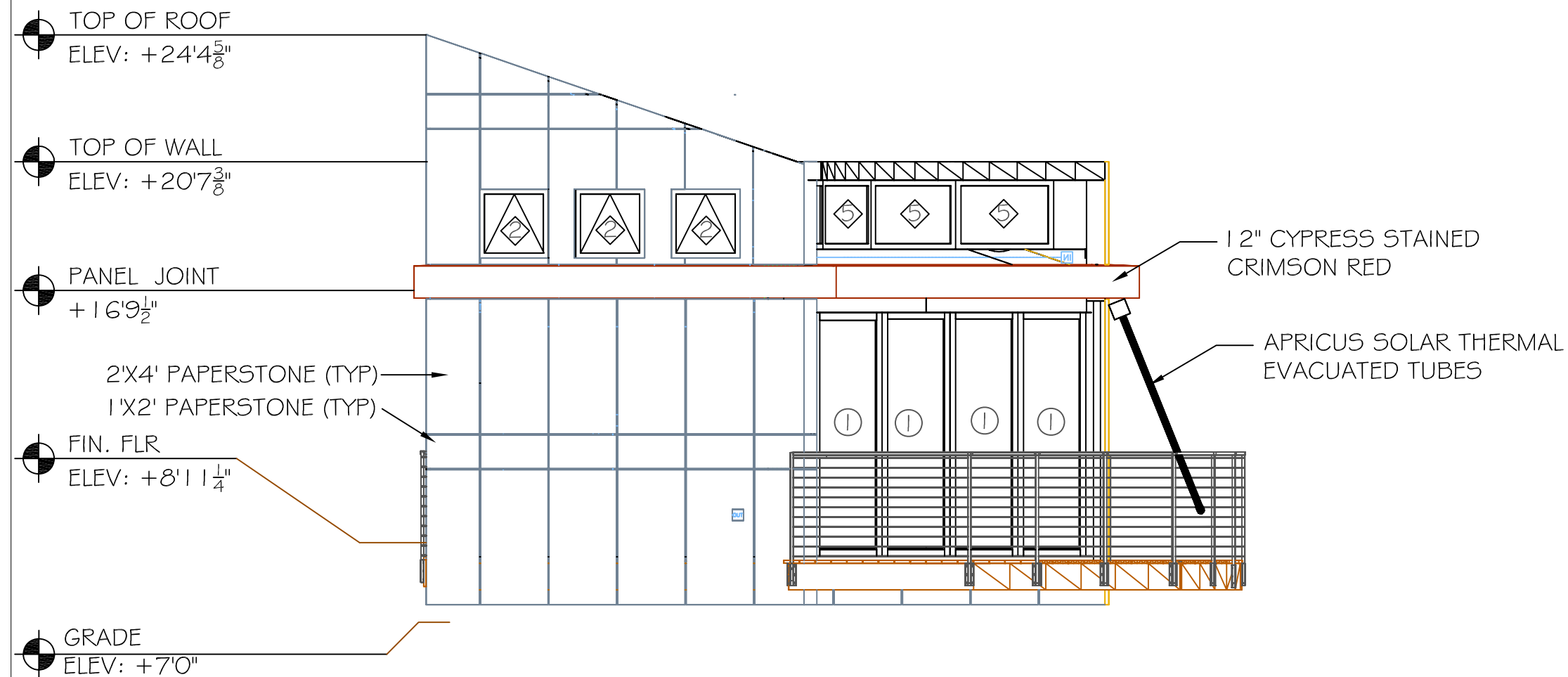
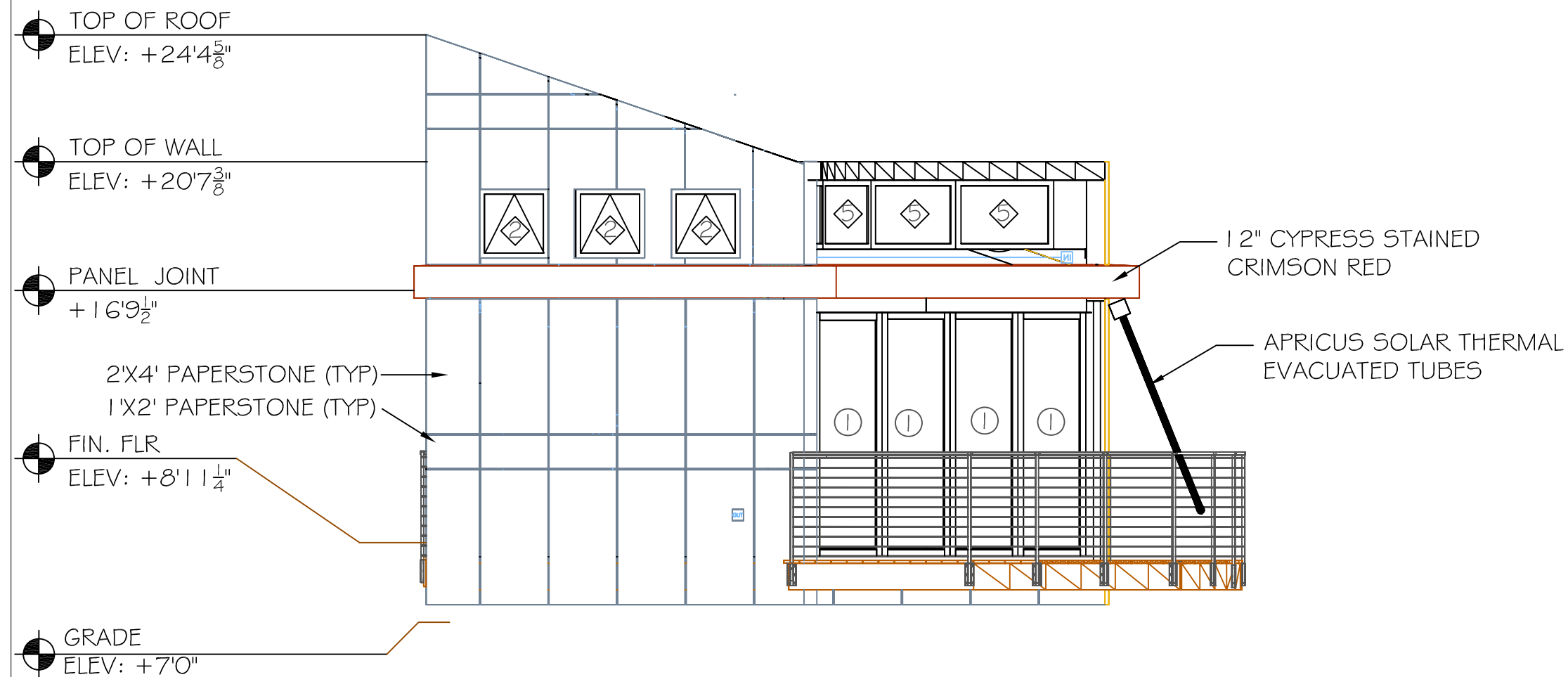
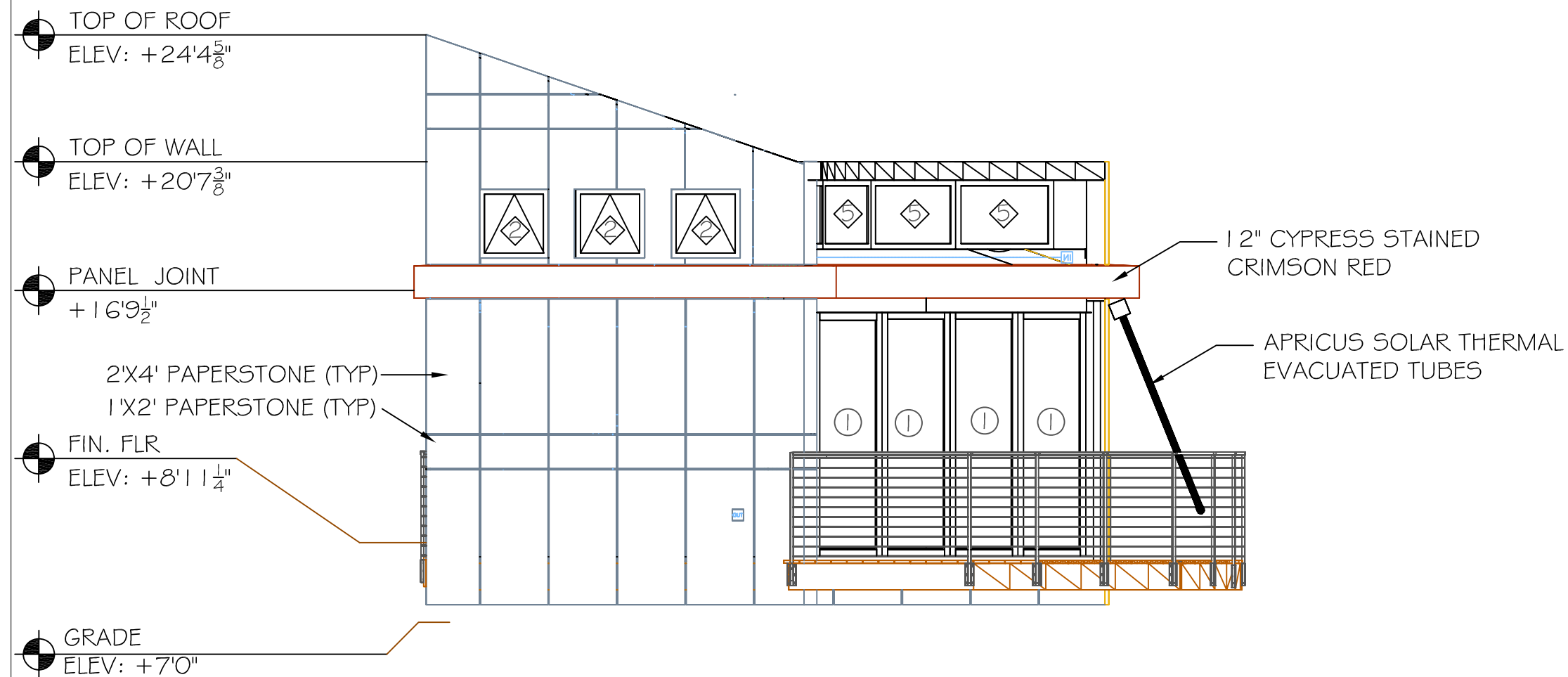
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1/4" = 1'-0"

DATE:
7/24/2007

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UMR

SHEET No:

A3



WINDOW SCHEDULE				
LABEL	MODEL #	QTY.	UNIT SIZE (WXH)	TYPE
1	2020	13	24" X 24"	AWNING
2	2660	2	30" X 72"	CASEMENT
3	2060	4	24" X 72"	CASEMENT-TG
4	2060	2	24" X 72"	FIXED CASEMENT-TG
5	3020	4	36" X 24"	FIXED DIRECT SET

DOOR SCHEDULE				
LABEL	MANUFACTURER	MODEL #	UNIT SIZE (WXH)	NOTES
1	SOLAR INNOVATION	CUSTOM	148"X90 3/4"	FOLDING GLASS WALL (FGW)-TG
2	SOLAR INNOVATION	CUSTOM	77"X80"	FOLDING GLASS WALL (FGW)-TG

LEGEND:

⑧ WINDOW LABEL

⑥ DOOR LABEL

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DRAWING TITLE:


WEST ELEVATION

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/3/2008 - Updated
Construction Drawings

SCALE:

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DATE: _____

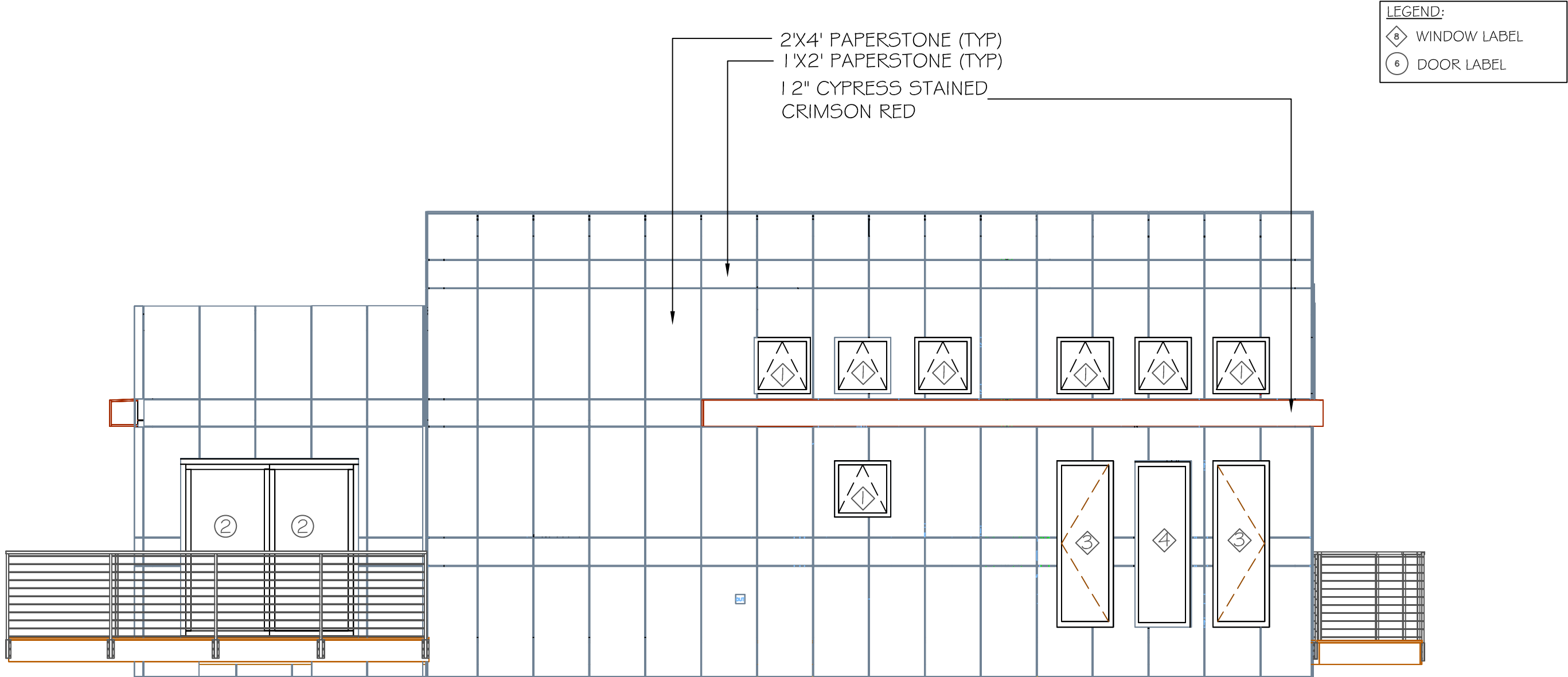
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UMR

SHEET No:

A4



WINDOW SCHEDULE				
LABEL	MODEL #	QTY.	UNIT SIZE (WXH)	TYPE
1	2020	13	24" X 24"	AWNING
2	2660	2	30" X 72"	CASEMENT
3	2060	4	24" X 72"	CASEMENT
4	2060	2	24" X 72"	FIXED CASEMENT
5	3020	4	36" X 24"	FIXED DIRECT SET

DOOR SCHEDULE				
LABEL	MANUFACTURER	MODEL #	UNIT SIZE (WXH)	NOTES
1	SOLAR INNOVATION	CUSTOM	1 48"X90 3/4"	FOLDING GLASS WALL (FGW)
2	SOLAR INNOVATION	CUSTOM	77"X80"	FOLDING GLASS WALL (FGW)-TG

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DRAWING TITLE:
NORTH ELEVATION

DESCRIPTION:

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/3/2008 - Updated
Construction Drawings

SCALE:
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0 4' 8'

DATE:
7/24/2007

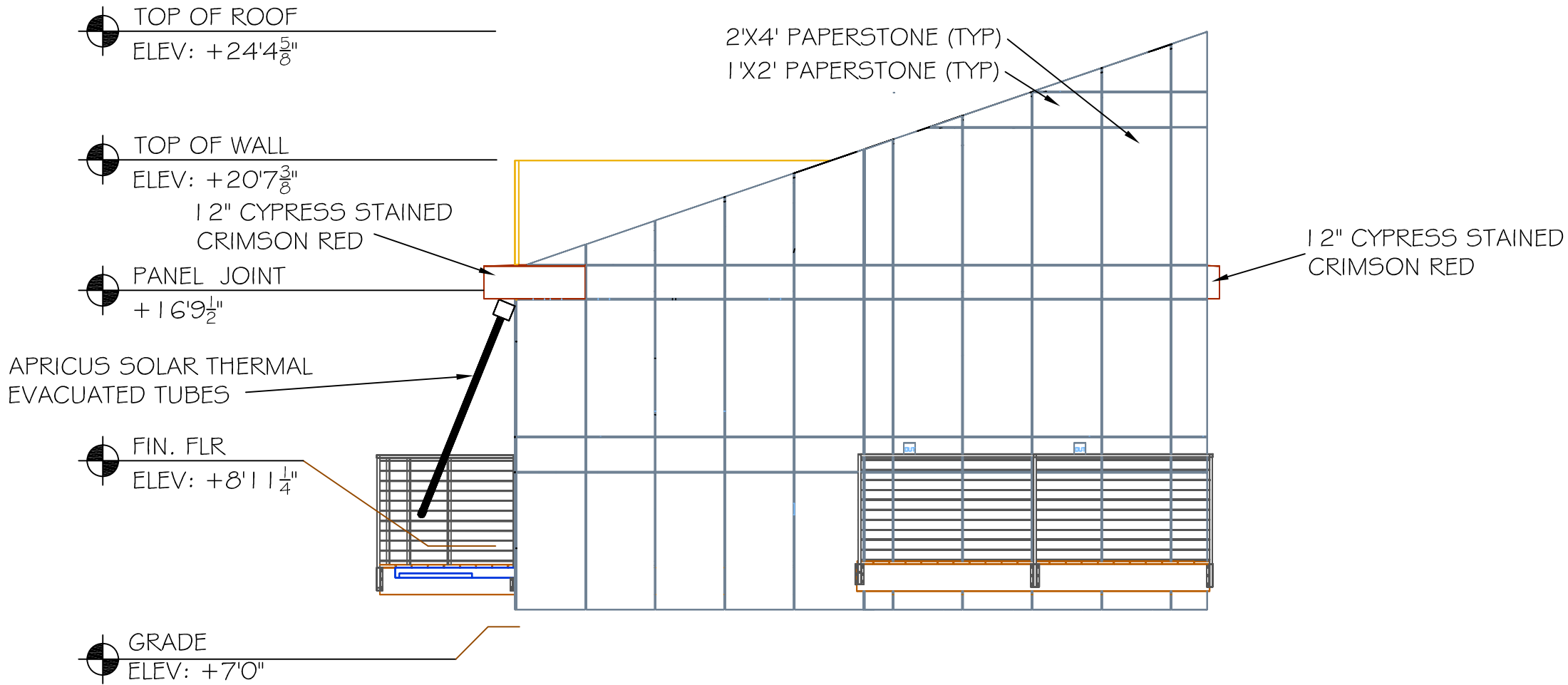
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SHEET No:

A5

LEGEND:

- 8 WINDOW LABEL
6 DOOR LABEL



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DRAWING TITLE:

EAST ELEVATION

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/3/2008 - Updated
Construction Drawings

SCALE:

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0 4' 8'

DATE:

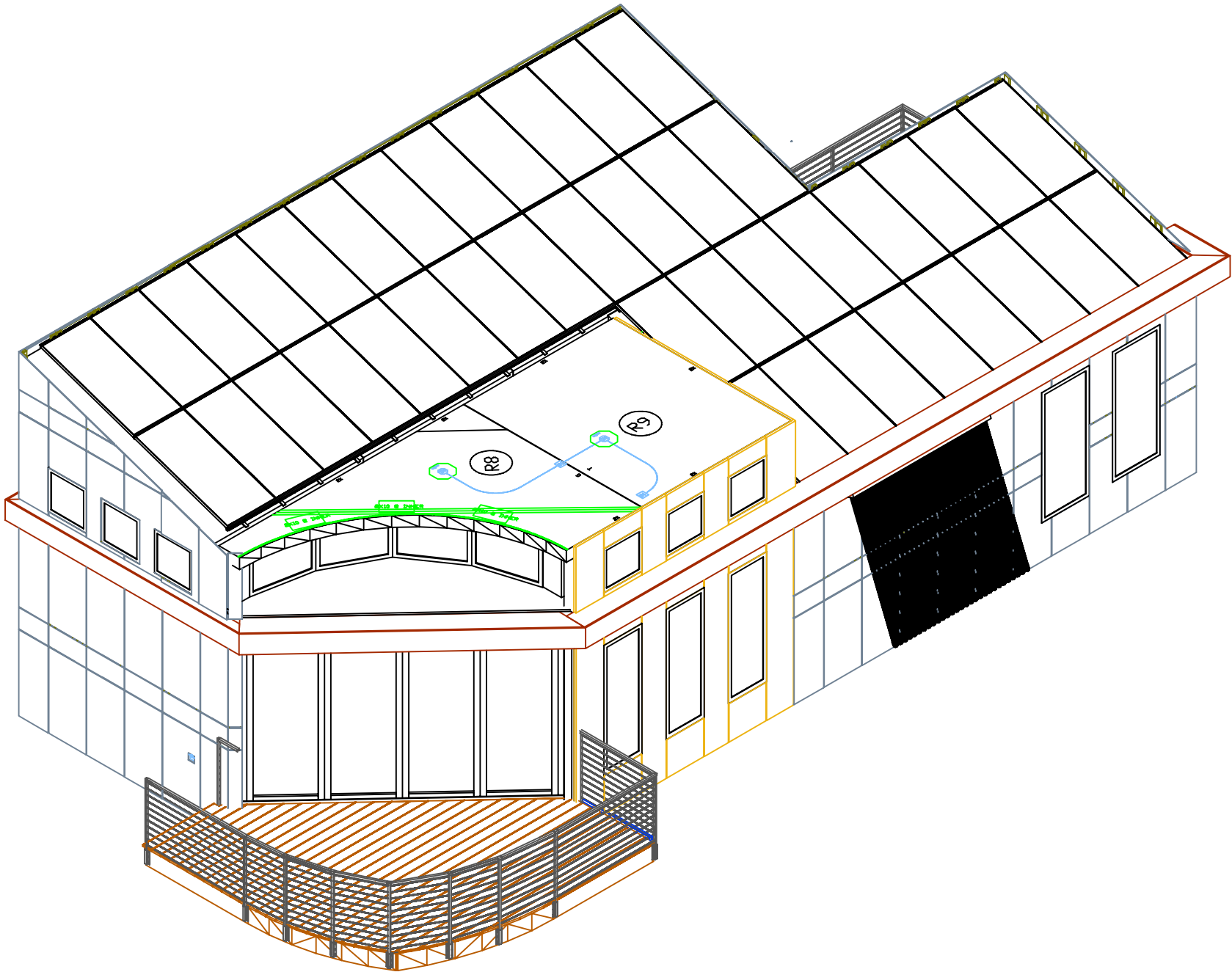
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SHEET NO:

A6



Z:\2007 Solar House\SECTION AND CONSTRUCTION\Solar_House_1.DWG

2007 UMR
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DRAWING TITLE:
SOUTHWEST
ISOMETRIC

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/3/2008 - Updated
Construction Drawings

SCALE:

3/16" = 1'-0"

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

A7

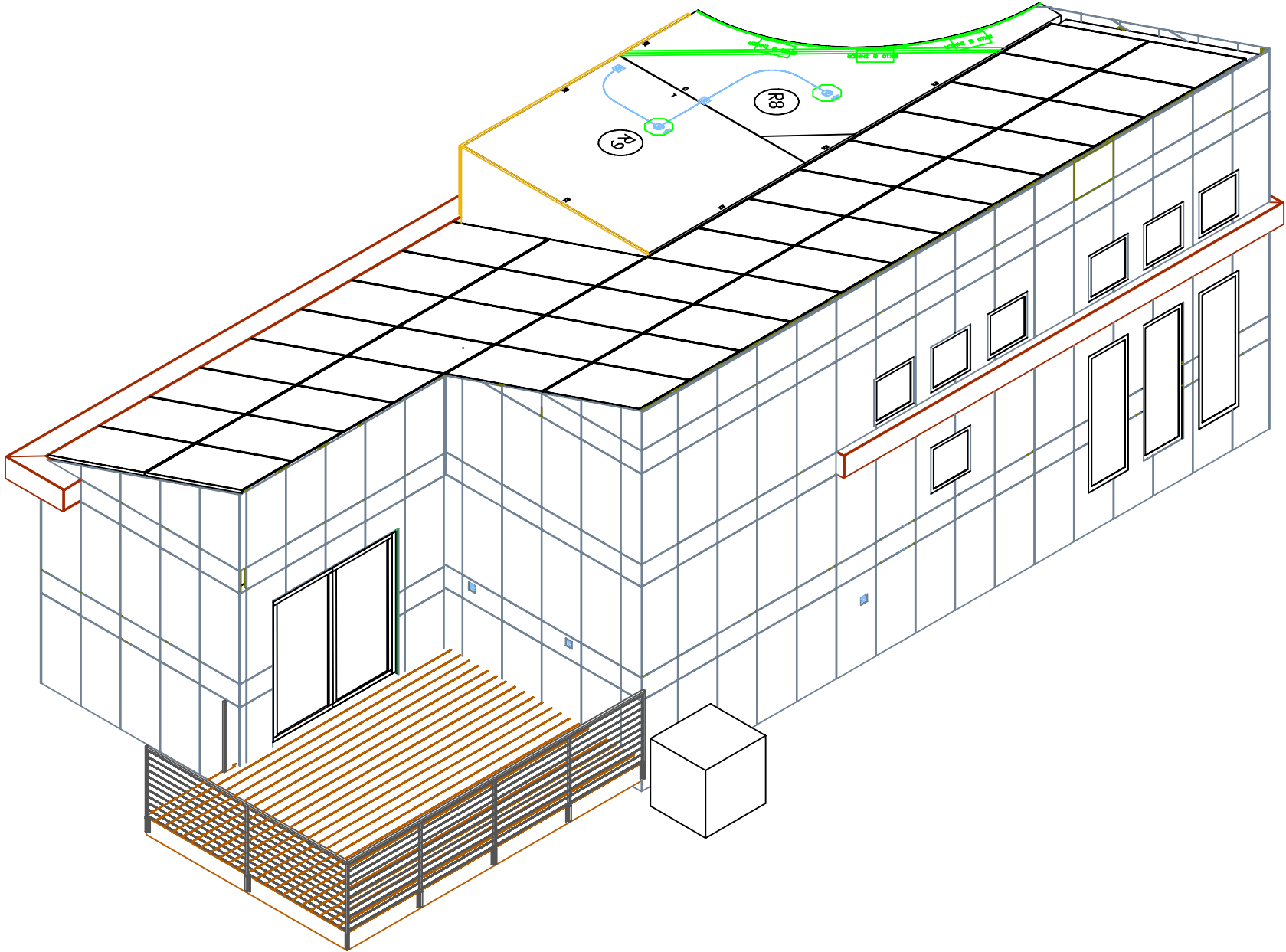
LEGEND:

8

WINDOW LABEL

6

DOOR LABEL



2007 UMR
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ROLLA, MO

DRAWING TITLE:
NORTHEAST
ISOMETRIC

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings
- 1/3/2008 - Updated Construction Drawings

SCALE:

3/16" = 1'-0"

DATE:

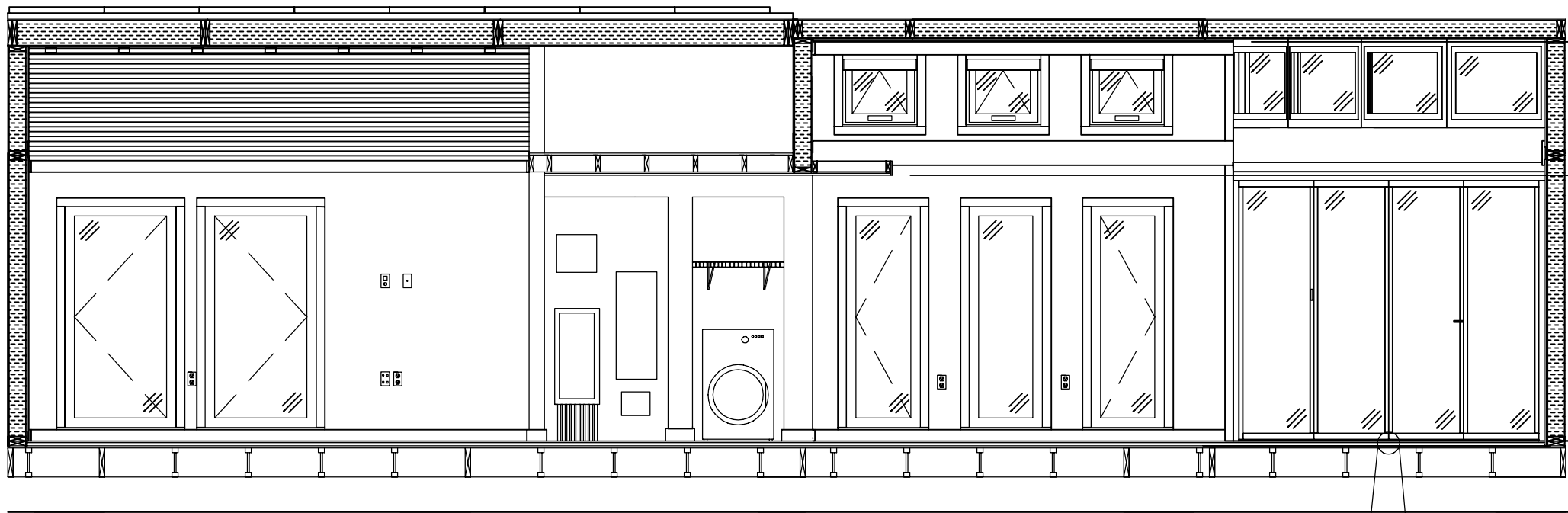
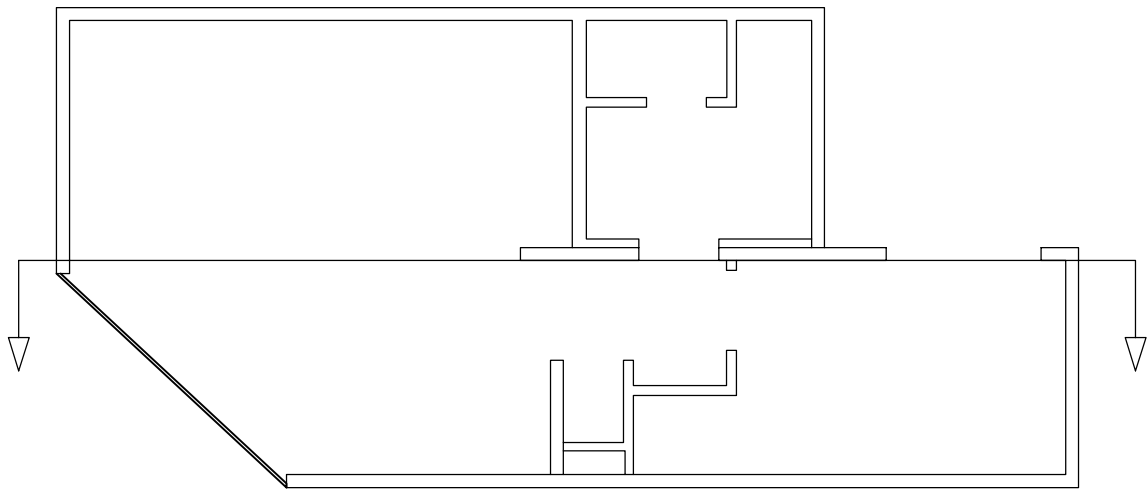
7/24/2007

DRAWN BY:

UMR

SHEET NO:

A8



FINISH CEILING
IN DINING ROOM
ELEVATION: 19'-10 1/4"

FINISH CEILING
IN HALLWAY
ELEVATION: 16'-2 1/2"

FINISH FLOOR
ELEVATION: 8'-1 1/16"
GRADE ELEVATION:
7'-0"

5/8" FLOATING
LYPTUS FLOOR
1/2" PLYWOOD
5/8" RADIANT FLOOR
3/4" SUBFLOOR

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2007 UMR SOLAR HOUSE ROLLA, MO

DRAWING TITLE:
MODULE 1
BUILDING CROSS
SECTION

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

1/4" = 1'-0"
0 4' 8'

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

A9

1: 2007 UMR Solar House ROLLA, MO

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
MODULE 2
BUILDING CROSS
SECTION

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings

SCALE:

1/4" = 1'-0"
0 4' 8'

DATE:

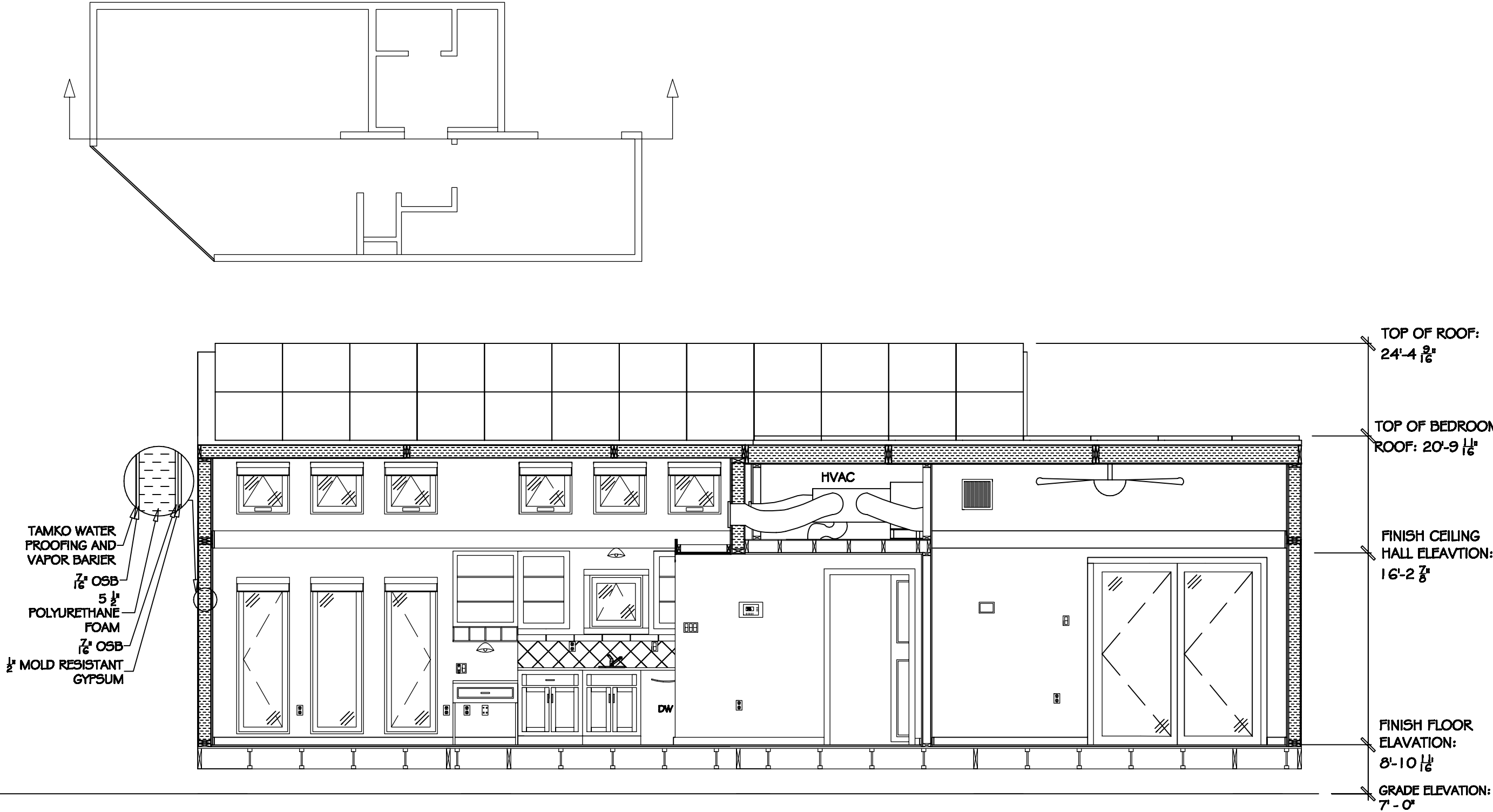
7/24/2007

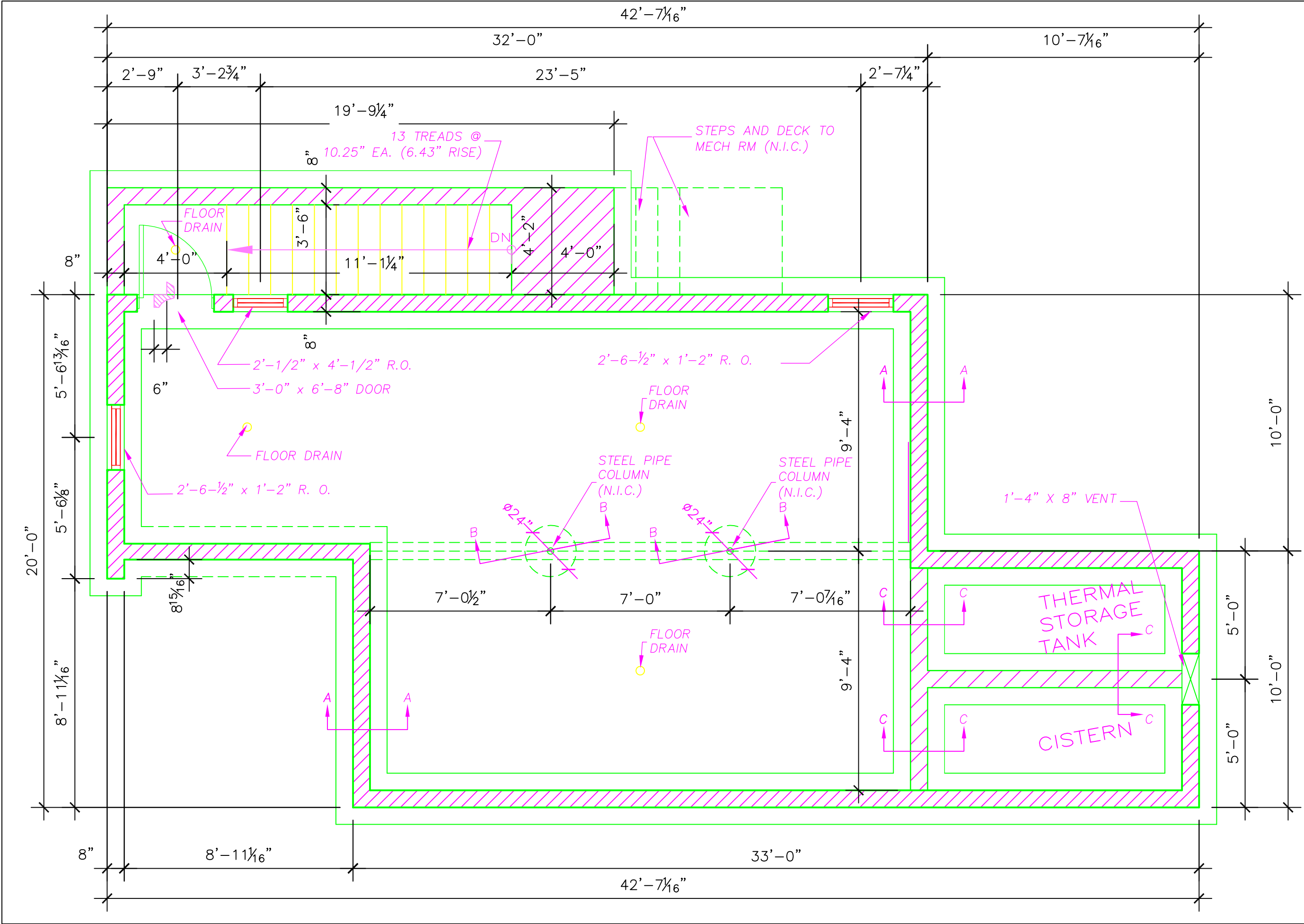
DRAWN BY:

UMR

SHEET NO:

A10





2007 UMR
SOLAR HOUSE
ROTTLA, MO

DRAWING TITLE:
FOUNDATION PLAN

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
1/3/2008 - Update
Construction Drawings

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

DATE:
2/1/2007

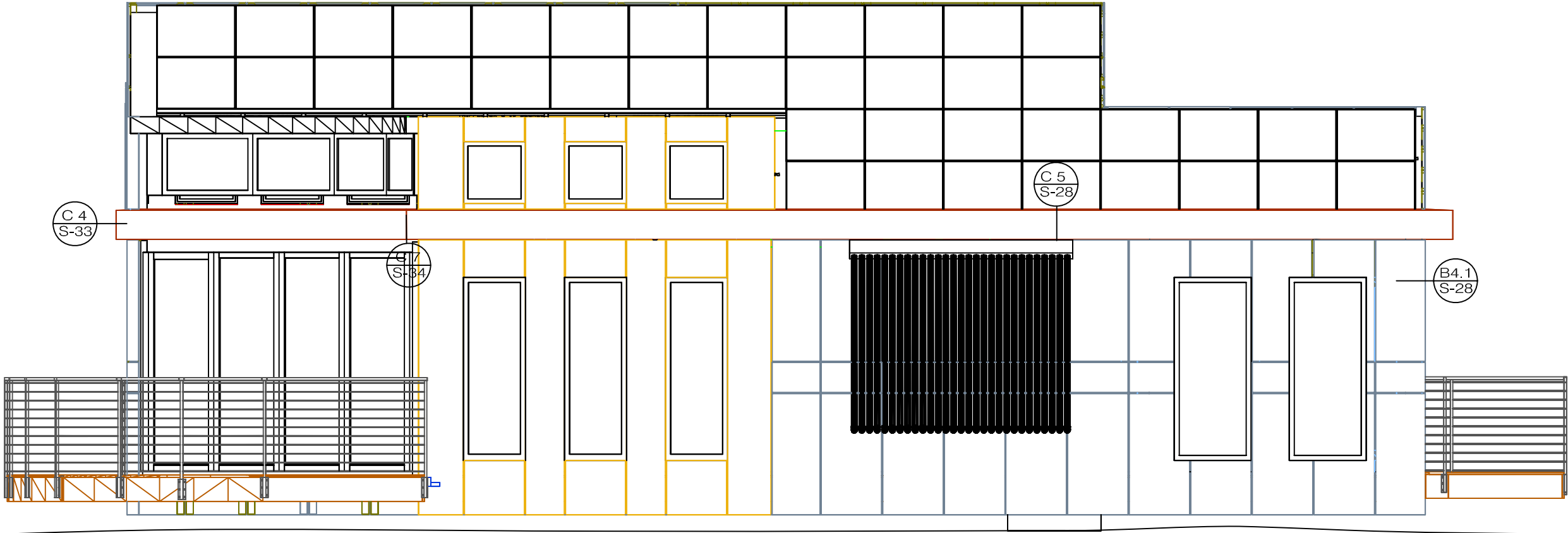
DRAWN BY:
UMR

SHEET NO:

S1

GENERAL NOTES

- 1. FOR PAPERSTONE DETAILS, SEE B1-B3 ON SHEET S28
- 2. FOR SOLAR INNOVATION DOOR DETAILS, SEE SHEETS S40-S44



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2007 UMR
SOLAR HOUSE
ROLLA, MO

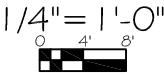
DRAWING TITLE:
SOUTH
ELEVATION

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings
- 1/3/2008 - Updated Construction Drawings

SCALE:



DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:

S3

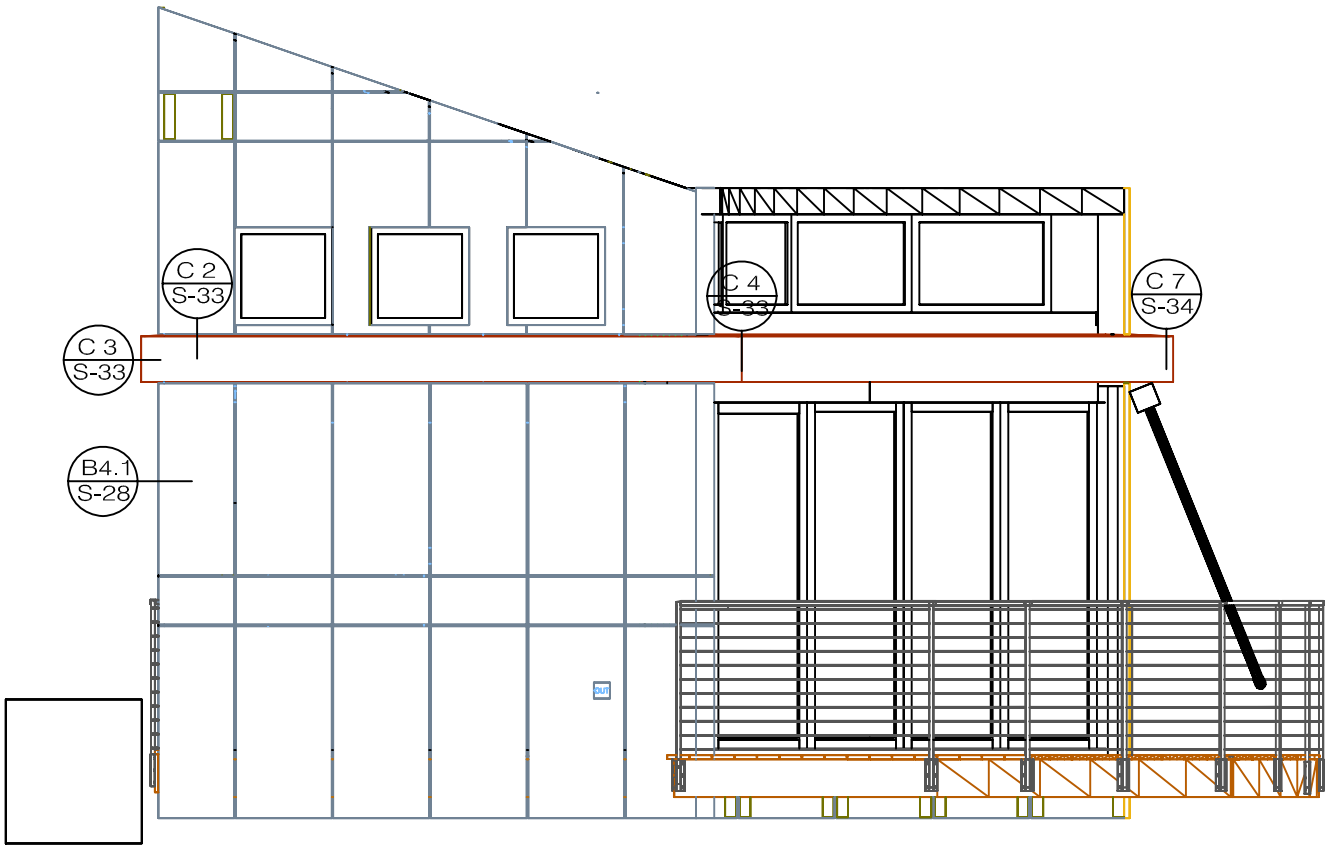
GENERAL NOTES

- 1. FOR PAPERSTONE DETAILS, SEE B1-B3 ON SHEET S28
- 2. FOR SOLAR INNOVATION DOOR DETAILS, SEE SHEETS S40-S44

LEGEND:

A 2
S-36

DETAIL NUMBER
SHEET NUMBER



2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_UMR.dwg

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:

WEST ELEVATION

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/3/2008 - Updated
Construction Drawings

SCALE:

1/4" = 1'-0"
0 4' 8'

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

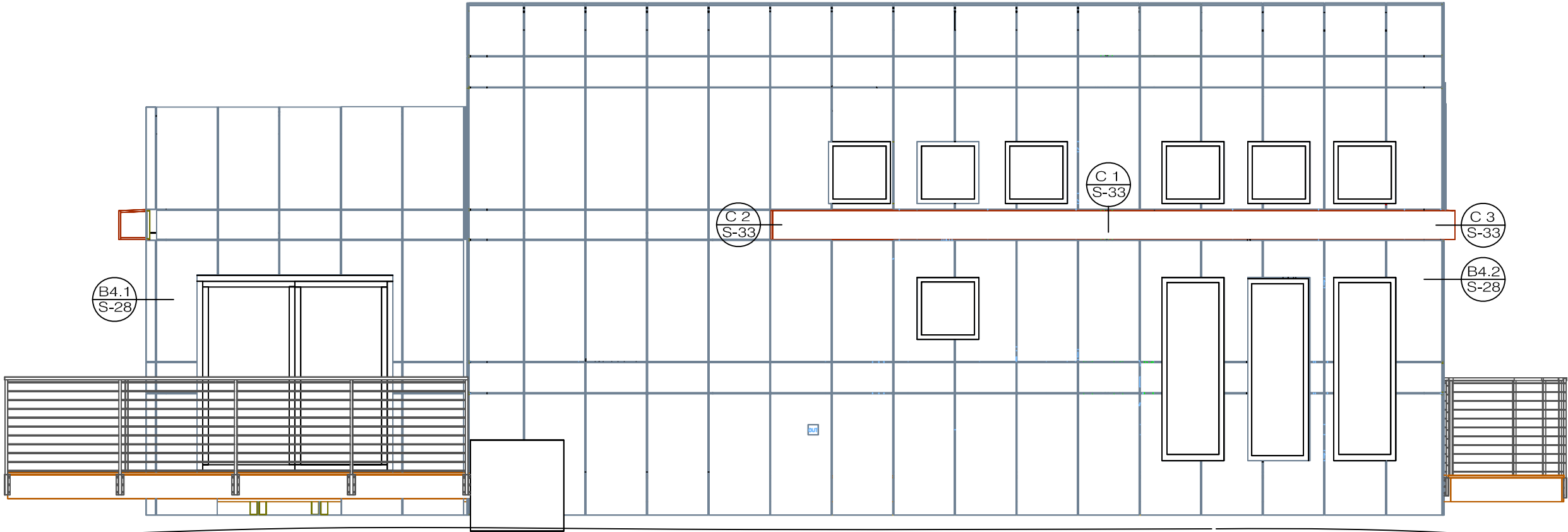
S4

GENERAL NOTES

- 1. FOR PAPERSTONE DETAILS, SEE B1-B3 ON SHEET S28
- 2. FOR SOLAR INNOVATION DOOR DETAILS, SEE SHEETS S40-S44

LEGEND:

A 2	DETAIL NUMBER
S-36	SHEET NUMBER



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2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:

NORTH ELEVATION

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings
- 1/3/2008 - Updated Construction Drawings

SCALE:

1/4" = 1'-0"

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

S5

GENERAL NOTES

- 1. FOR PAPERSTONE DETAILS, SEE B1-B3 ON SHEET S28
- 2. FOR SOLAR INNOVATION DOOR DETAILS, SEE SHEETS S40-S44

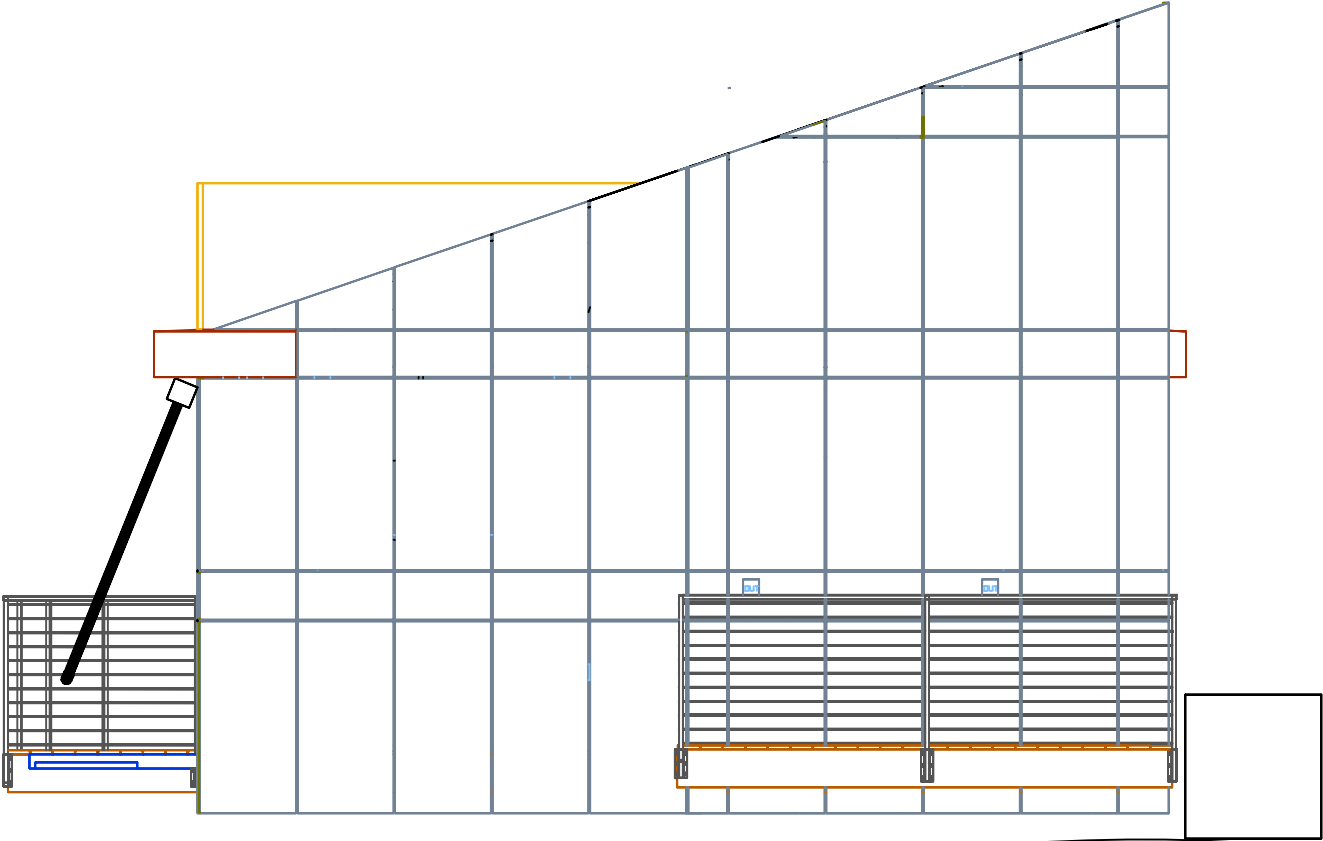
LEGEND:

A 2

S-36

DETAIL NUMBER

SHEET NUMBER



Z:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1.DWG

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
EAST ELEVATION

DESCRIPTION:

REVISIONS:
6/13/2006 - Design Development Drawings
3/6/2007 - Design Construction Drawings
6/1/2007 - Updated Construction Drawings
8/7/2007 - Updated Construction Drawings

SCALE:
1/4" = 1'-0"
0 4' 8'

DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:
S6

WALL SIP NOTES:
1. THICKNESS: 6-7/16"
2. 5-9/16" POLYURETHANE FOAM CORE
3. 7/16" WEYERHAUSER ORIENTED
STRAND BOARD (OSB) SKIN; SINGLE
SHEET INTERIOR & EXTERIOR.

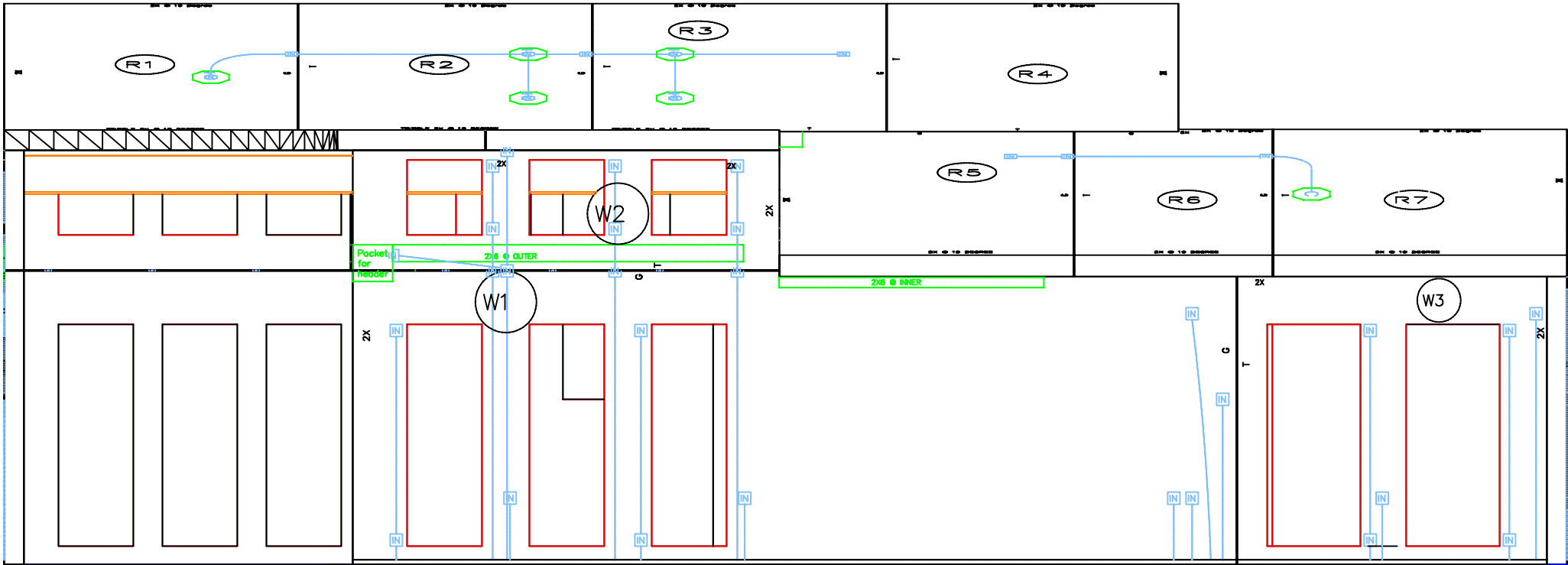
LEGEND:

W3

WALL SIP NUMBER

R2

ROOF SIP NUMBER



Z:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR
SOLAR HOUSE
ROTTLA, MO

DRAWING TITLE:
SOUTH SIP
ELEVATION

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings

SCALE:

1/4" = 1'-0"

DATE:

7/24/2007

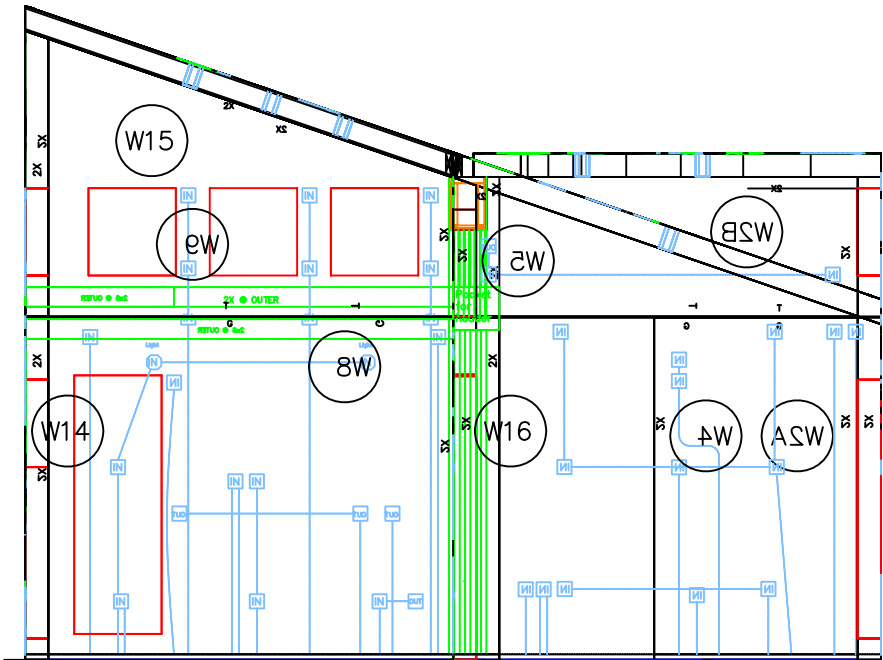
DRAWN BY:

UMR

SHEET NO:

S7

WALL SIP NOTES:
1. THICKNESS: 6-7/16"
2. 5-9/16" POLYURETHANE FOAM CORE
3. 7/16" WEYERHAUSER ORIENTED
STRAND BOARD (OSB) SKIN; SINGLE
SHEET INTERIOR & EXTERIOR.



LEGEND:

W3

WALL SIP NUMBER

R2

ROOF SIP NUMBER

2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_12000.gif

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:

WEST SIP
ELEVATION

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

1/4" = 1'-0"

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

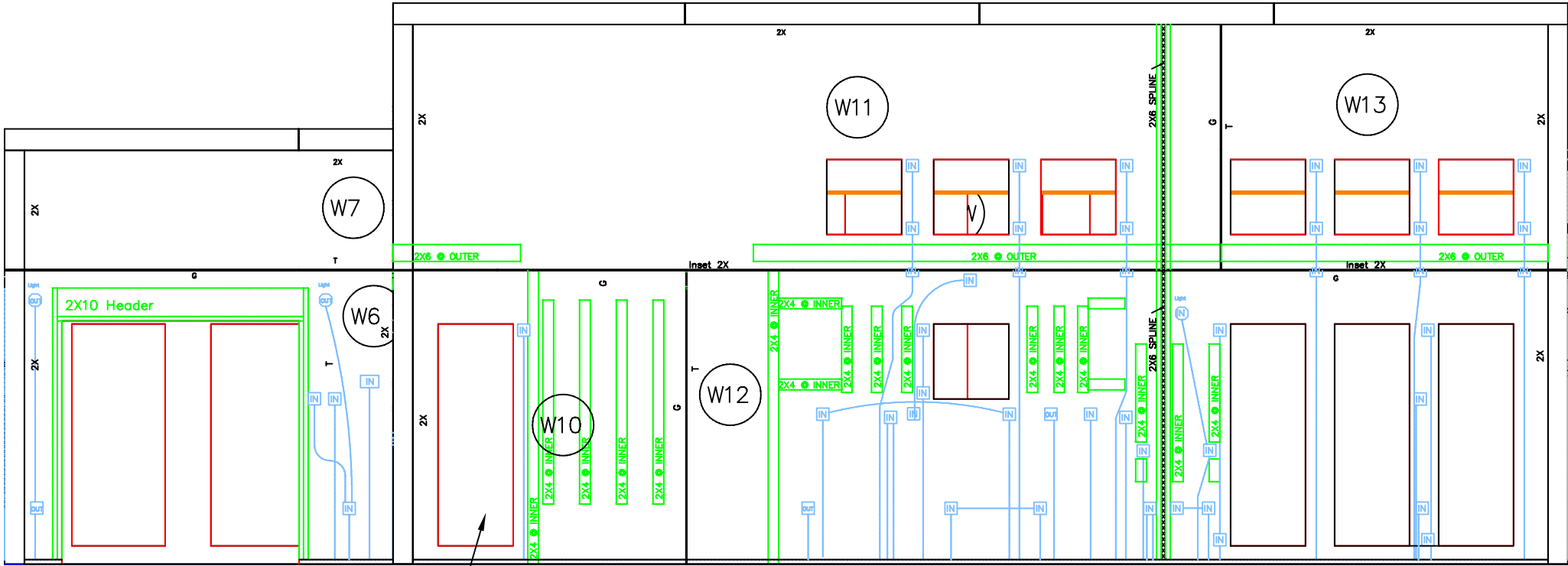
S8

WALL SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-9/16" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

LEGEND:

- W3 WALL SIP NUMBER
- R2 ROOF SIP NUMBER



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2007 UMR
SOLAR HOUSE
ROTTLA, MO

DRAWING TITLE:
NORTH SIP
ELEVATION

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings

SCALE:

1/4" = 1'-0"

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

S9

WALL SIP NOTES:
1. THICKNESS: 6-7/16"
2. 5-9/16" POLYURETHANE FOAM CORE
3. 7/16" WEYERHAUSER ORIENTED
STRAND BOARD (OSB) SKIN; SINGLE
SHEET INTERIOR & EXTERIOR.

LEGEND:

W3

WALL SIP NUMBER

R2

ROOF SIP NUMBER

2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_12000.gif

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
EAST SIP
ELEVATION

DESCRIPTION:

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

1/4" = 1'-0"

0

4'

8'

DATE:

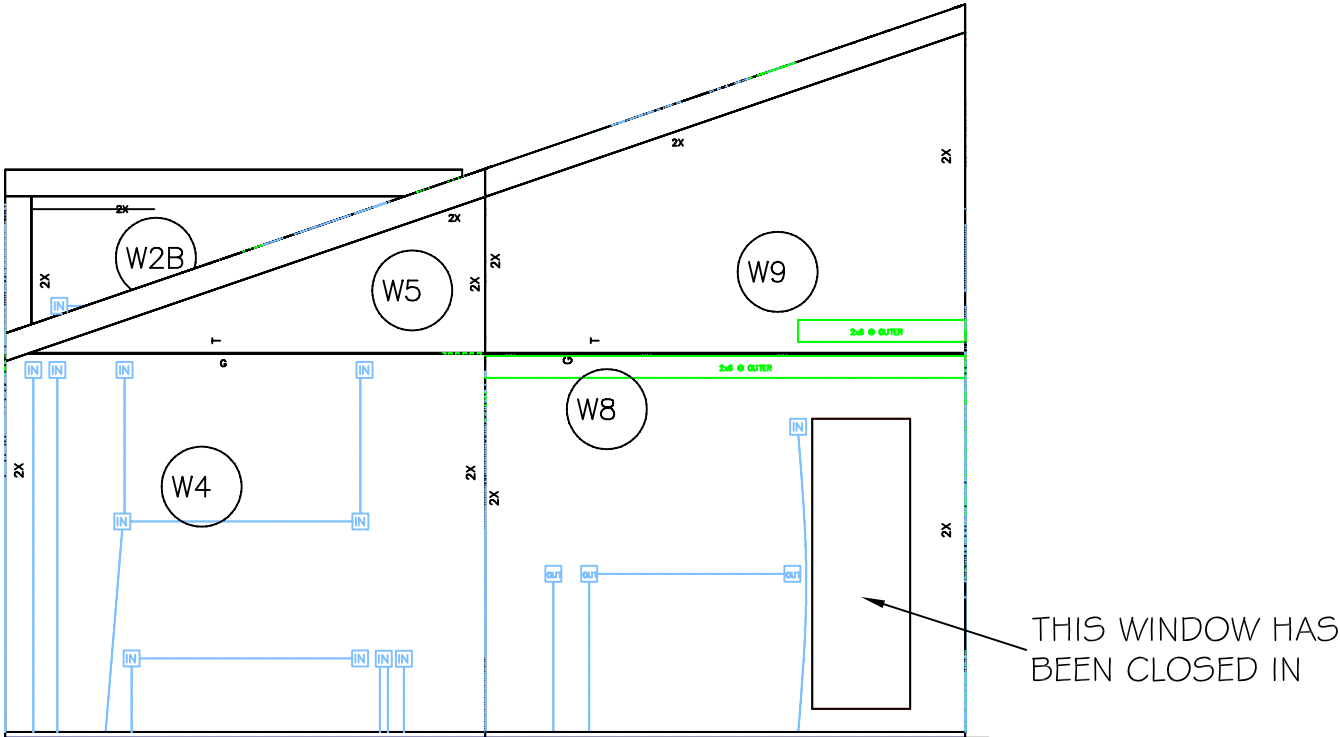
7/24/2007

DRAWN BY:

UMR

SHEET NO:

S10



WALL SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-9/16" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

ROOF SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-1/8" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

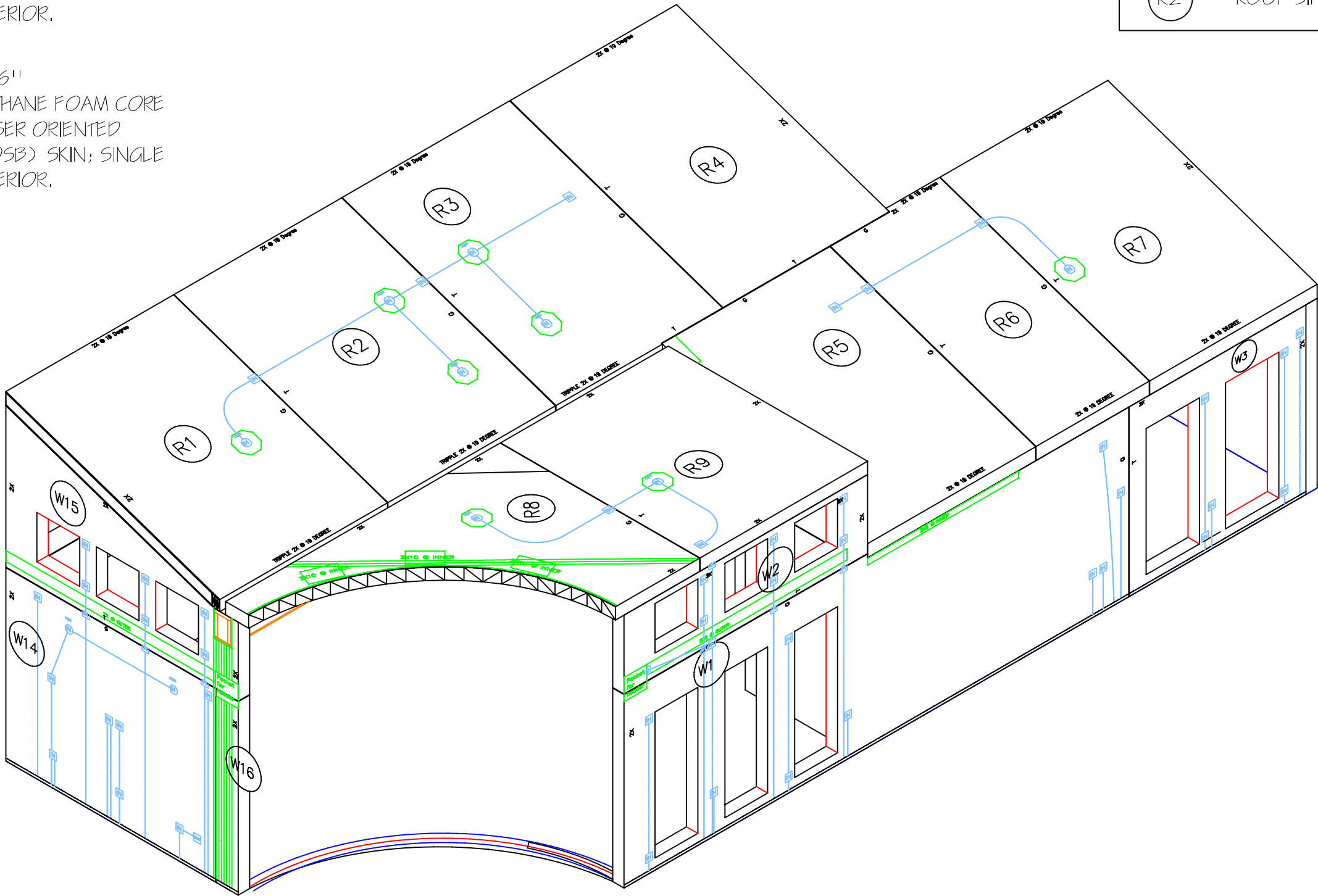
LEGEND:

W3

WALL SIP NUMBER

R2

ROOF SIP NUMBER



2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_12000.gif

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SOUTHWEST SIP
ISOMETRIC

DESCRIPTION:

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
1/4" = 1'-0"
0 4' 8'

DATE:
7/24/2007

DRAWN BY:
UMR

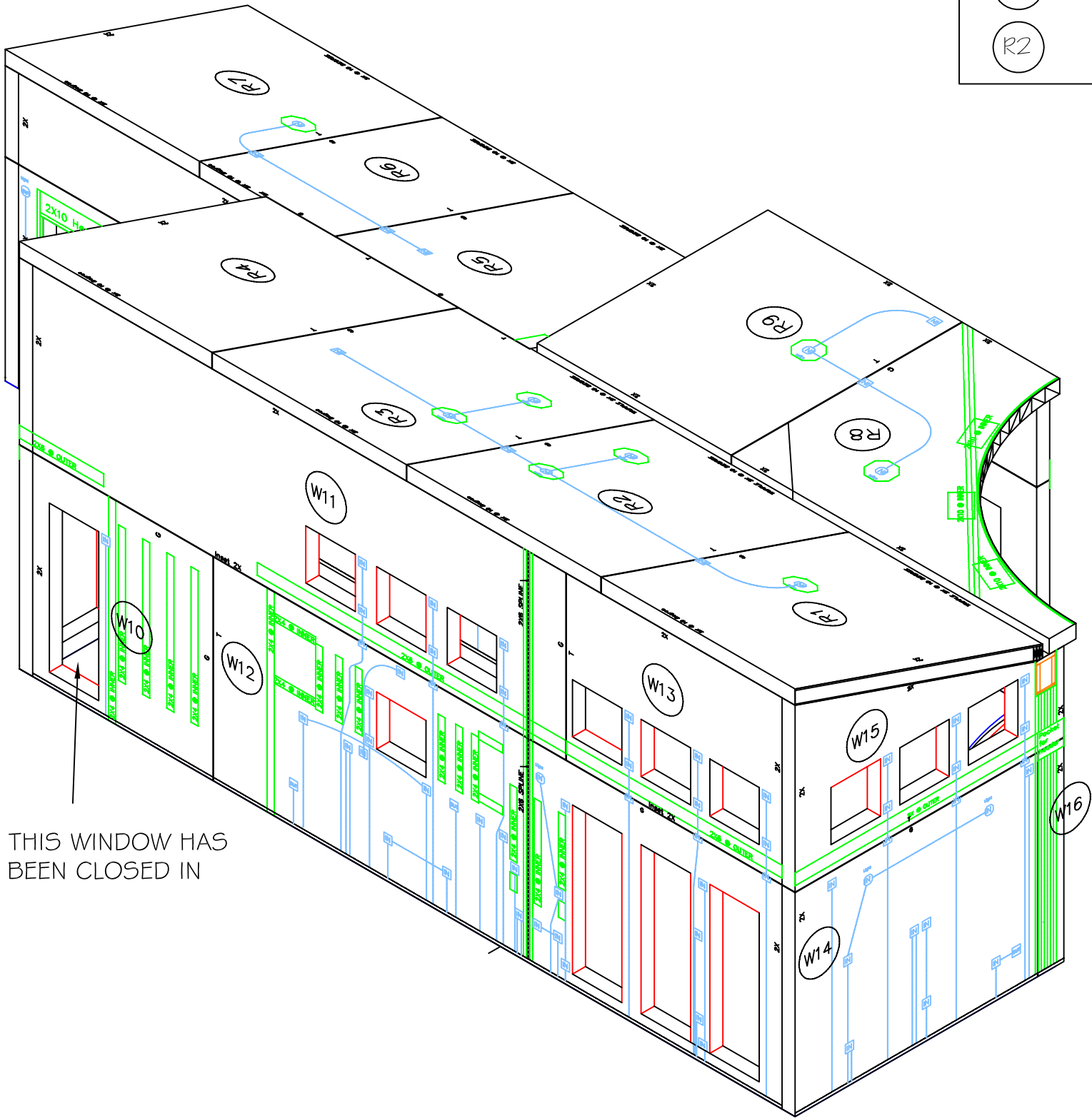
SHEET NO:
S11

WALL SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-9/16" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

ROOF SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-1/8" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.



LEGEND:

W3

WALL SIP NUMBER

R2

ROOF SIP NUMBER

2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR SOLAR HOUSE ROLLA, MO

DRAWING TITLE:

NORTHWEST SIP ISOMETRIC

DESCRIPTION:

REVISIONS:

6/13/2006 - Design Development Drawings

3/6/2007 - Design Construction Drawings

6/1/2007 - Updated Construction Drawings

8/7/2007 - Updated Construction Drawings

SCALE:

1/4" = 1'-0"

0

4'

8'

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

S12

WALL SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-9/16" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

ROOF SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-1/8" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

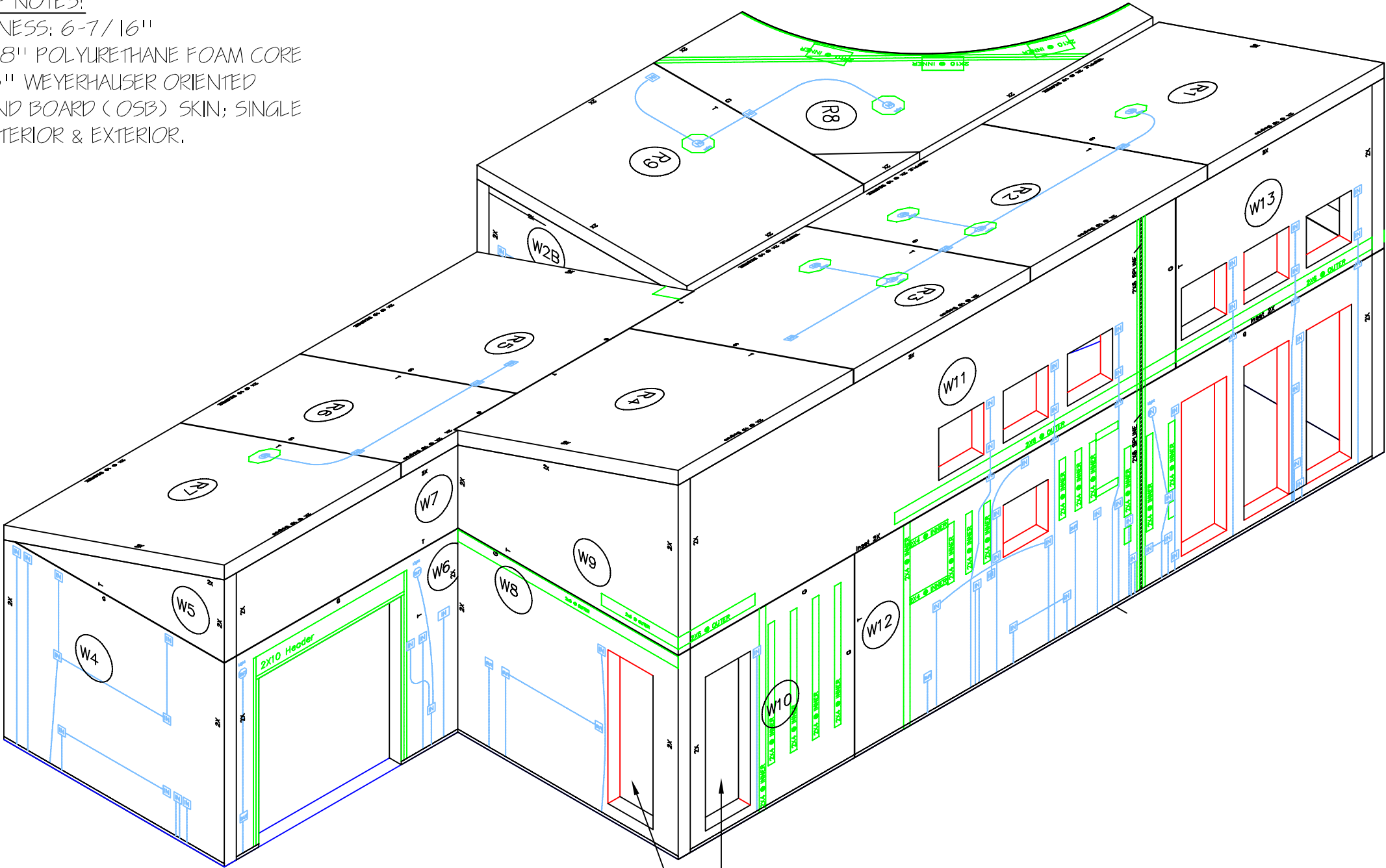
LEGEND:

W3

WALL SIP NUMBER

R2

ROOF SIP NUMBER



THESE WINDOWS HAVE BEEN CLOSED IN

2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR SOLAR HOUSE ROLL-A, MO

DRAWING TITLE:
NORTHEAST SIP ISOMETRIC

DESCRIPTION:

REVISIONS:
6/13/2006 - Design Development Drawings
3/6/2007 - Design Construction Drawings
6/1/2007 - Updated Construction Drawings
8/7/2007 - Updated Construction Drawings

SCALE:
1/4" = 1'-0"
0 4' 8'

DATE:
7/24/2007

DRAWN BY:
UMR

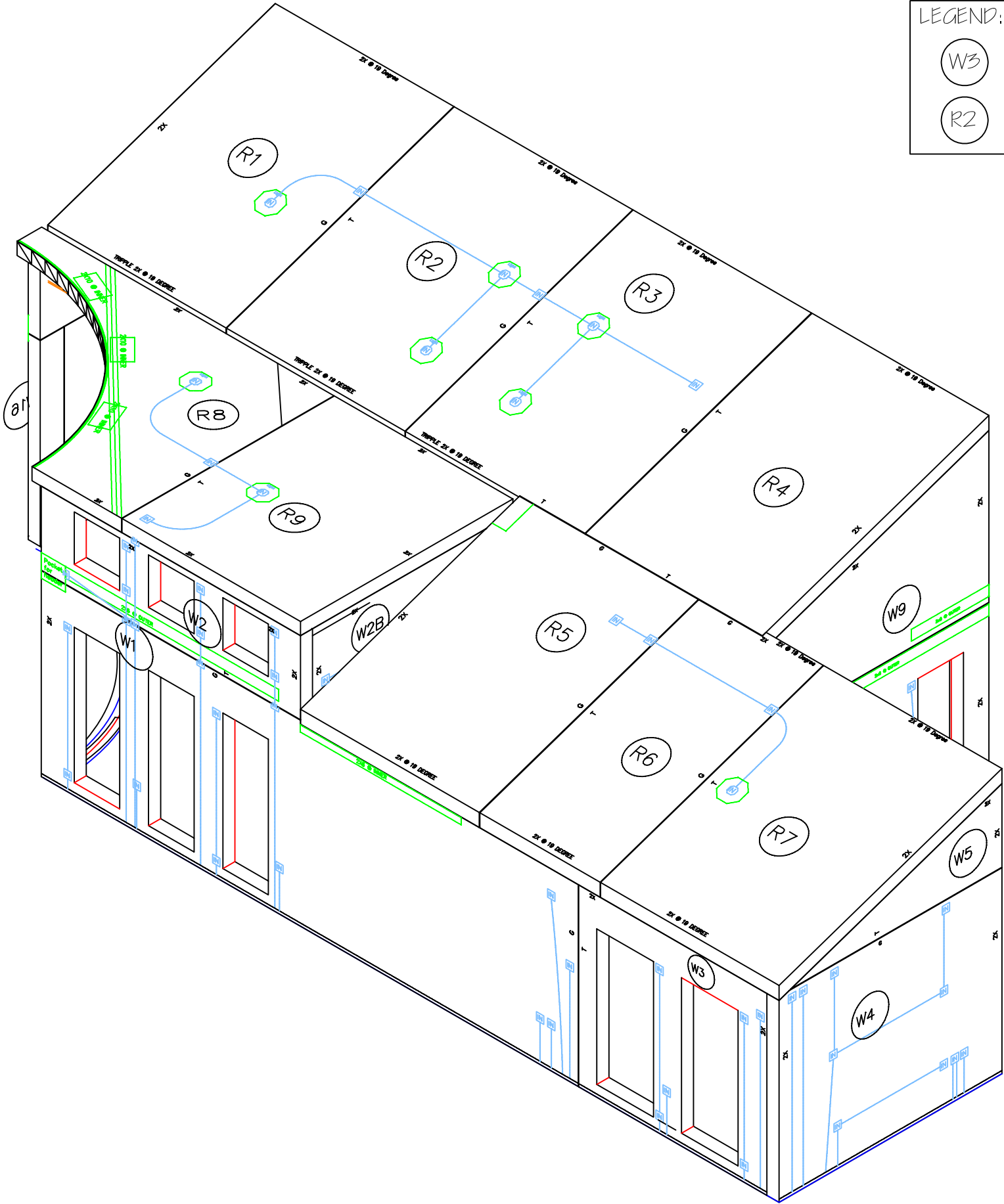
SHEET NO:
S13

WALL SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-9/16" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

ROOF SIP NOTES:

- 1. THICKNESS: 6-7/16"
- 2. 5-1/8" POLYURETHANE FOAM CORE
- 3. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.



LEGEND:

W3

WALL SIP NUMBER

R2

ROOF SIP NUMBER

2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR SOLAR HOUSE ROLLA, MO

DRAWING TITLE:

SOUTHEAST SIP ISOMETRIC

DESCRIPTION:

REVISIONS:

6/13/2006 - Design Development Drawings

3/6/2007 - Design Construction Drawings

6/1/2007 - Updated Construction Drawings

8/7/2007 - Updated Construction Drawings

SCALE:

1/4" = 1'-0"

0

4'

8'

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

S14

GENERAL NOTES:

- 1. EXTERIOR VIEW
- 2. THICKNESS: 6-7/16"
- 3. 5-9/16" POLYURETHANE FOAM CORE
- 4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

LEGEND:

A 2
S-36

DETAIL NUMBER
SHEET NUMBER

W3

SIP NUMBER

Z:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:
WALL PANEL W1

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

1/4" = 1'-0"
0 4' 8'

DATE:

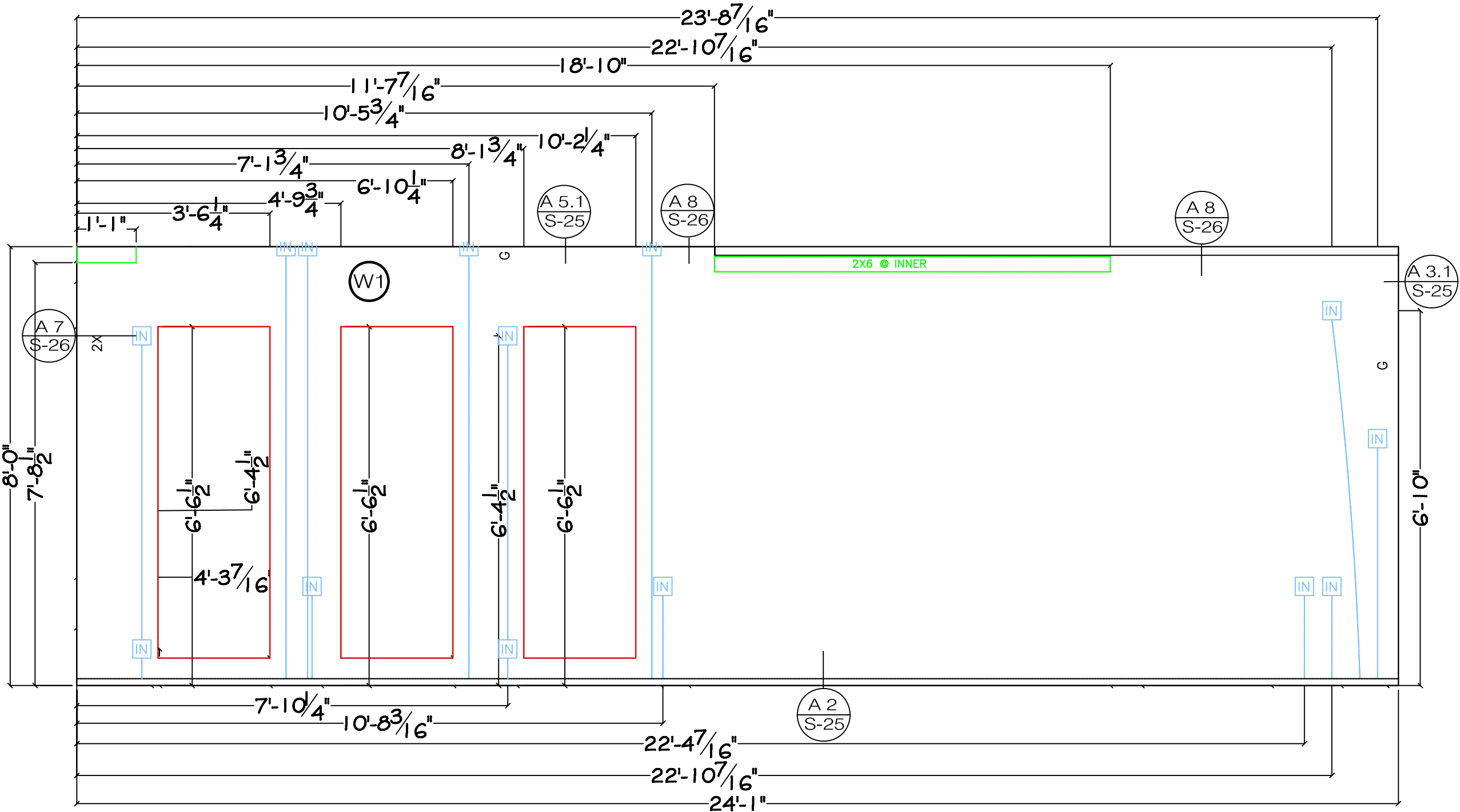
7/24/2007

DRAWN BY:

UMR

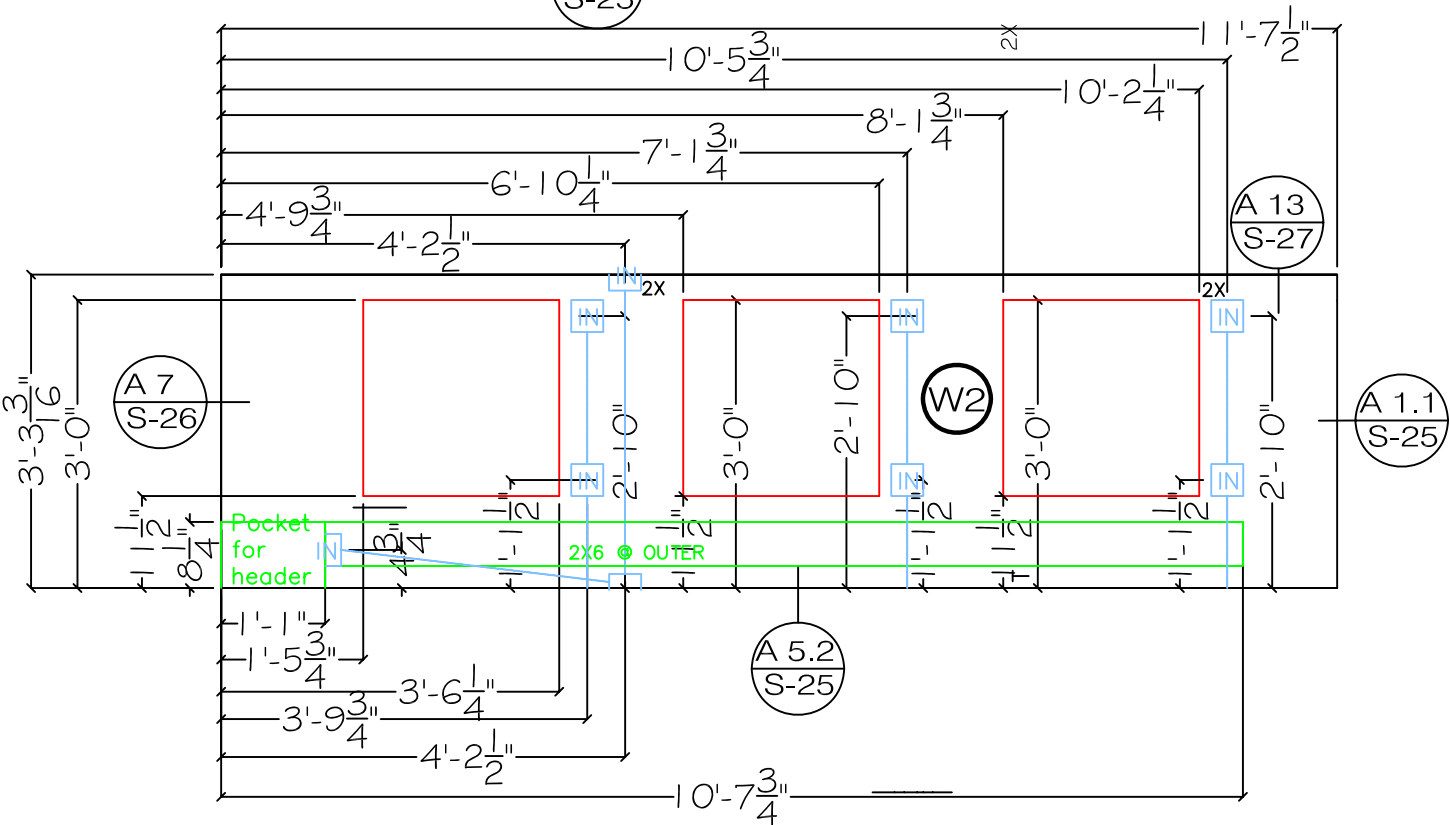
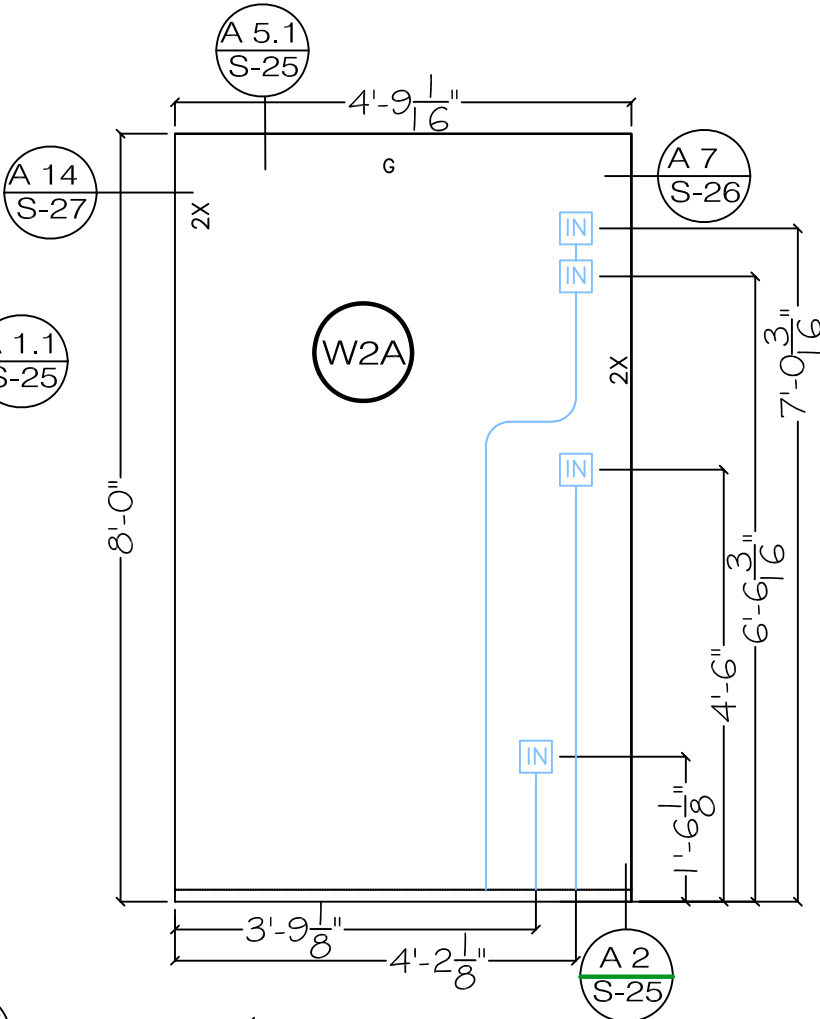
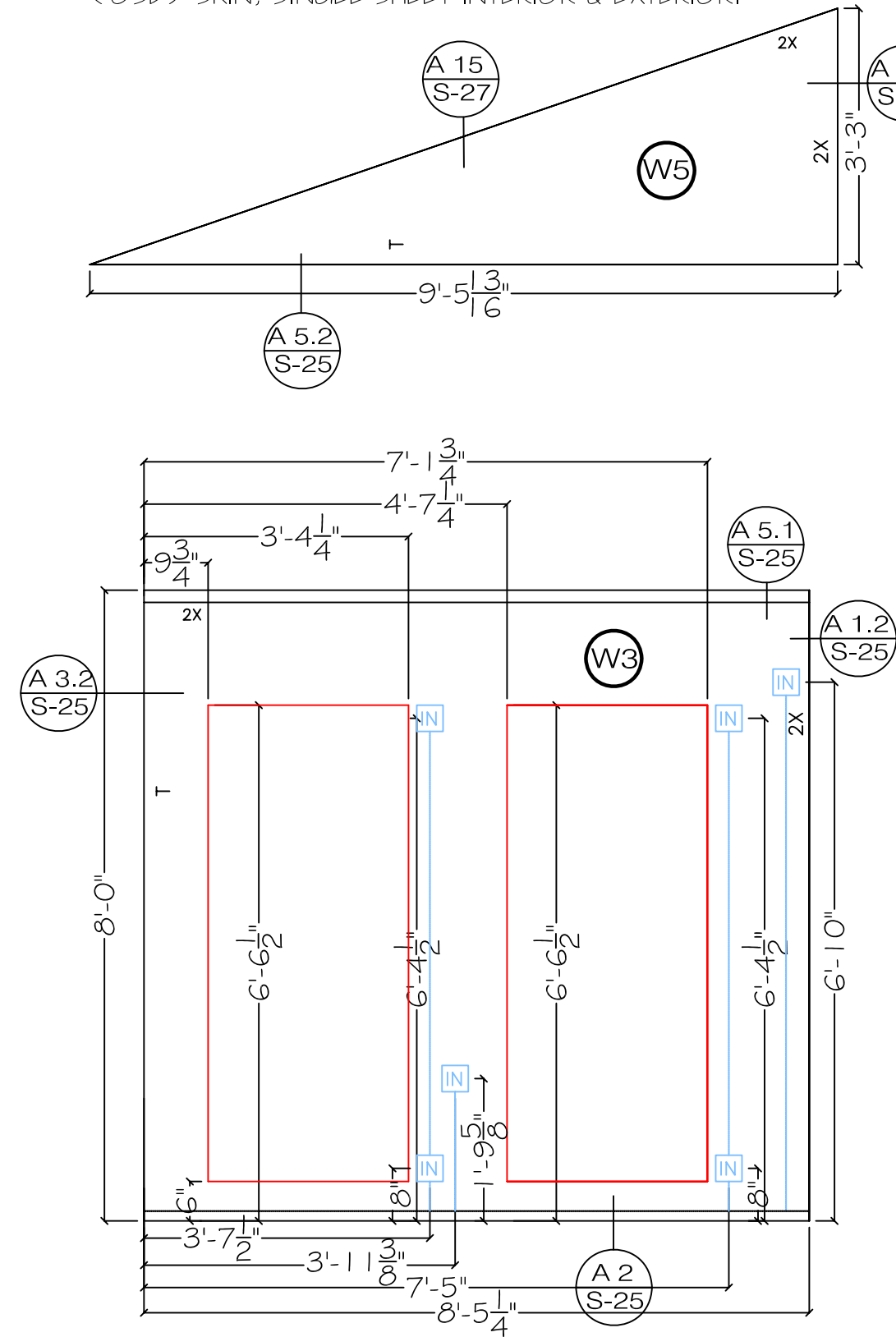
SHEET NO:

S15



GENERAL NOTES:

1. EXTERIOR VIEW
2. THICKNESS: 6-7/16"
3. 5-9/16" POLYURETHANE FOAM CORE
4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.



LEGEND:

- A 2 S-36 DETAIL NUMBER
SHEET NUMBER
W3 SIP NUMBER

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2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:
WALL PANELS W2
W2A, W3, W5

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
1/4" = 1'-0"
0 4 8

DATE:
7/24/2007

DRAWN BY:
UMR

SHEET No:

S16

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

GENERAL NOTES:

- 1. EXTERIOR VIEW
- 2. THICKNESS: 6-7/16"
- 3. 5-9/16" POLYURETHANE FOAM CORE
- 4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

LEGEND:

A 2	DETAIL NUMBER
S-36	SHEET NUMBER
W3	SIP NUMBER

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2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:
WALL PANELS W4
W2B, W7, W16

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
1/4" = 1'-0"
0 4 8

DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:

S17

GENERAL NOTES:

- 1. EXTERIOR VIEW
- 2. THICKNESS: 6-7/16"
- 3. 5-9/16" POLYURETHANE FOAM CORE
- 4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

LEGEND:

- A 2 / S-36: DETAIL NUMBER / SHEET NUMBER
- W3: SIP NUMBER

2X6

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2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:
WALL PANELS W8
W9, W10

REVISIONS:
6/13/2006 - Design Development Drawings
3/6/2007 - Design Construction Drawings
6/1/2007 - Updated Construction Drawings
8/7/2007 - Updated Construction Drawings

SCALE:
1/4" = 1'-0"
0 4 8

DATE:
7/24/2007

DRAWN BY:
UMR

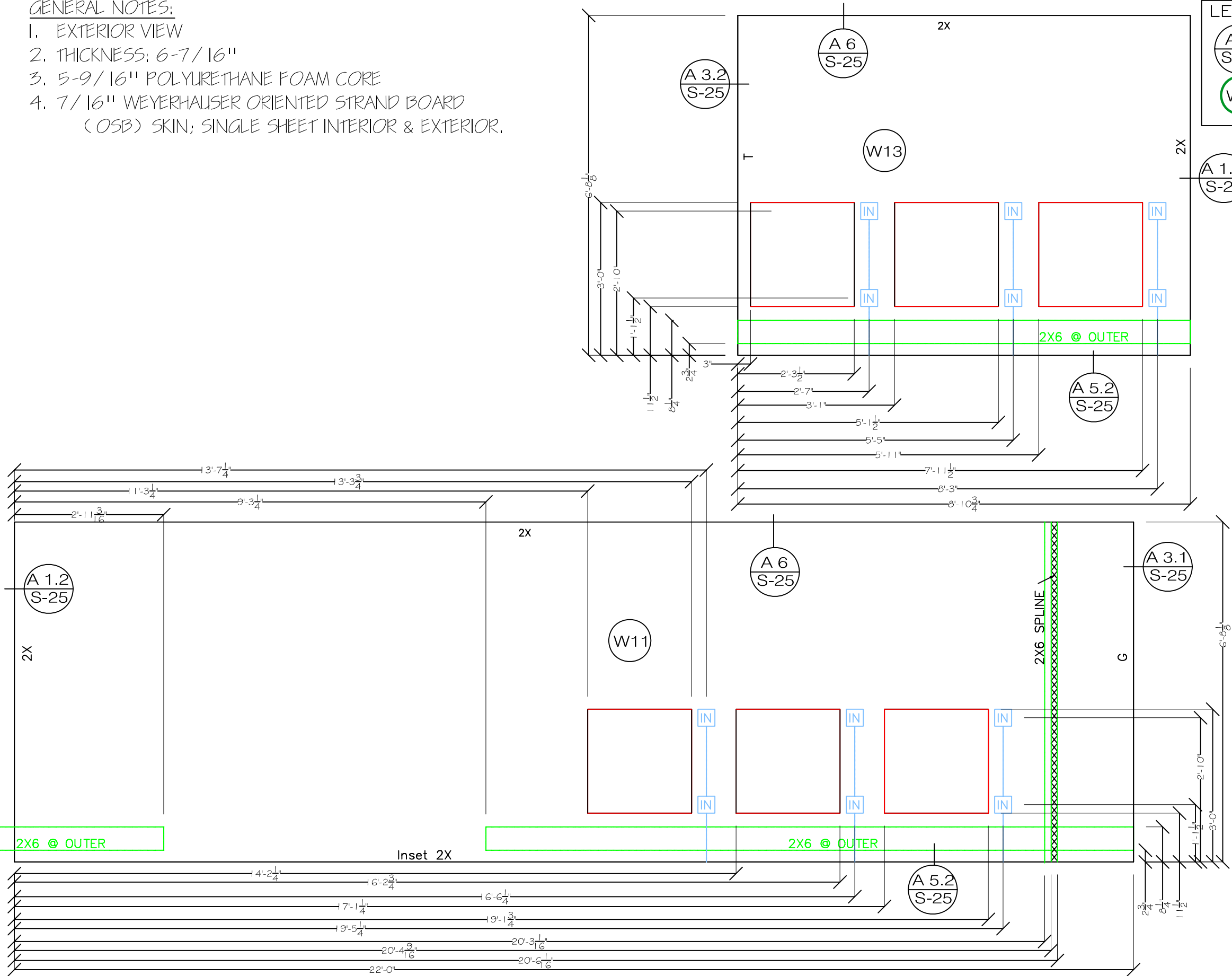
SHEET No:
S18

THIS WINDOW
OPENING
HAS BEEN
CLOSED IN

THIS WINDOW OPENING
HAS BEEN CLOSED IN

GENERAL NOTES:

- 1. EXTERIOR VIEW
- 2. THICKNESS: 6-7/16"
- 3. 5-9/16" POLYURETHANE FOAM CORE
- 4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.



LEGEND:

A 2	DETAIL NUMBER
S-36	SHEET NUMBER
W3	SIP NUMBER

2007 UMR
SOLAR HOUSE
ROTTLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:
WALL PANELS
W11 W13

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

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

DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:
S19

Z:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_12000.dwg

GENERAL NOTES:

- 1. EXTERIOR VIEW
- 2. THICKNESS: 6-7/16"
- 3. 5-9/16" POLYURETHANE FOAM CORE
- 4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

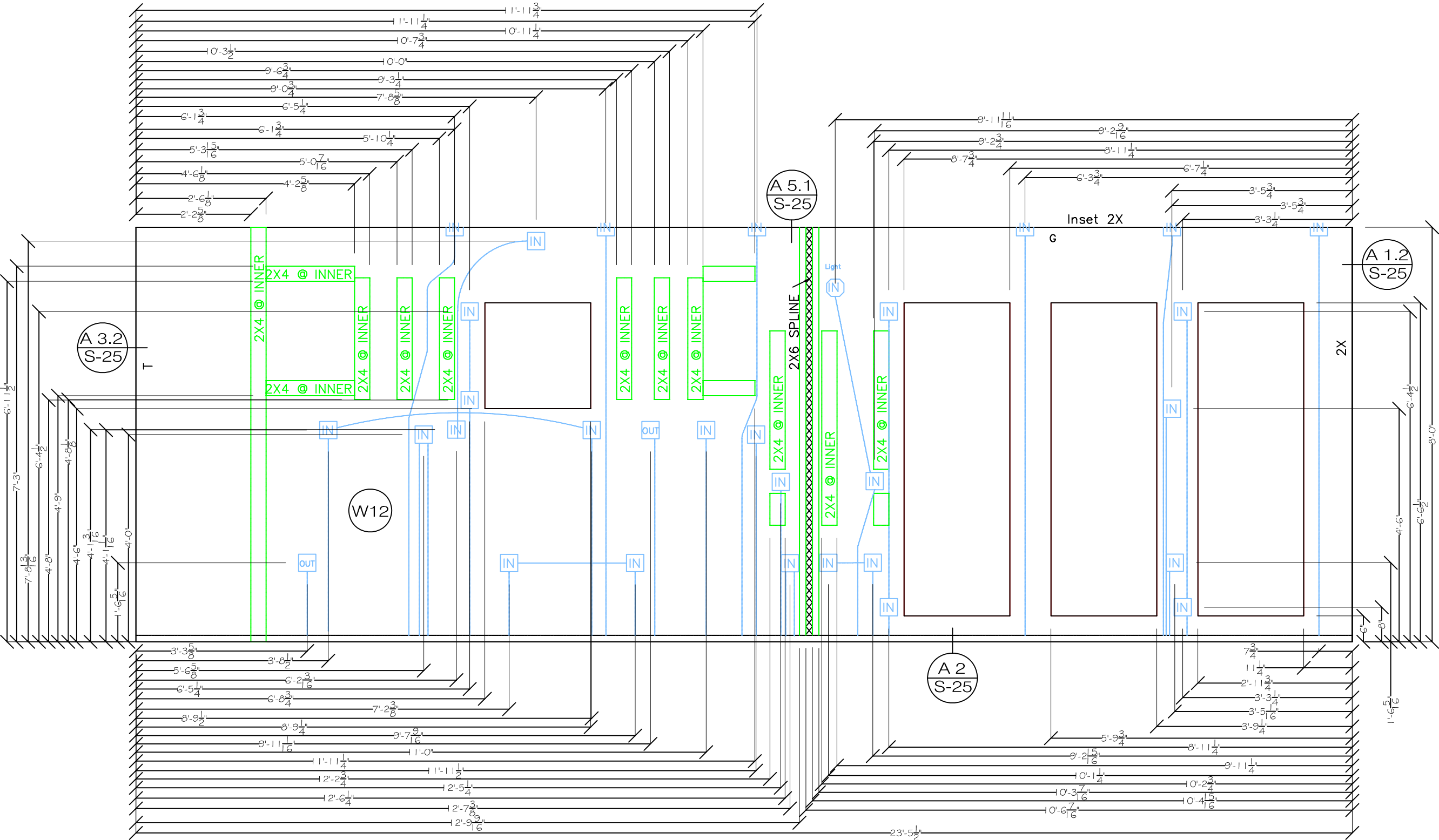
LEGEND:

A 2
S-36

DETAIL NUMBER
SHEET NUMBER

W3

SIP NUMBER



2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:

WALL PANELS
W12

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

1/4" = 1'-0"
0 4' 8'

DATE:

7/24/2007

DRAWN BY:

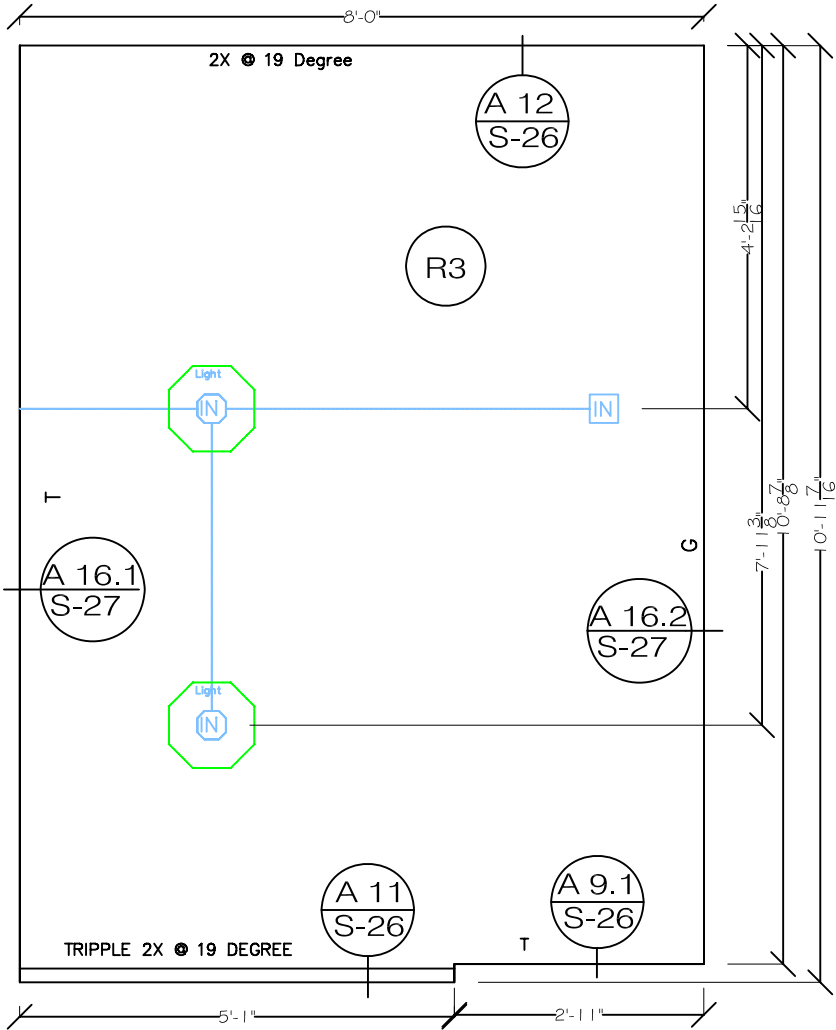
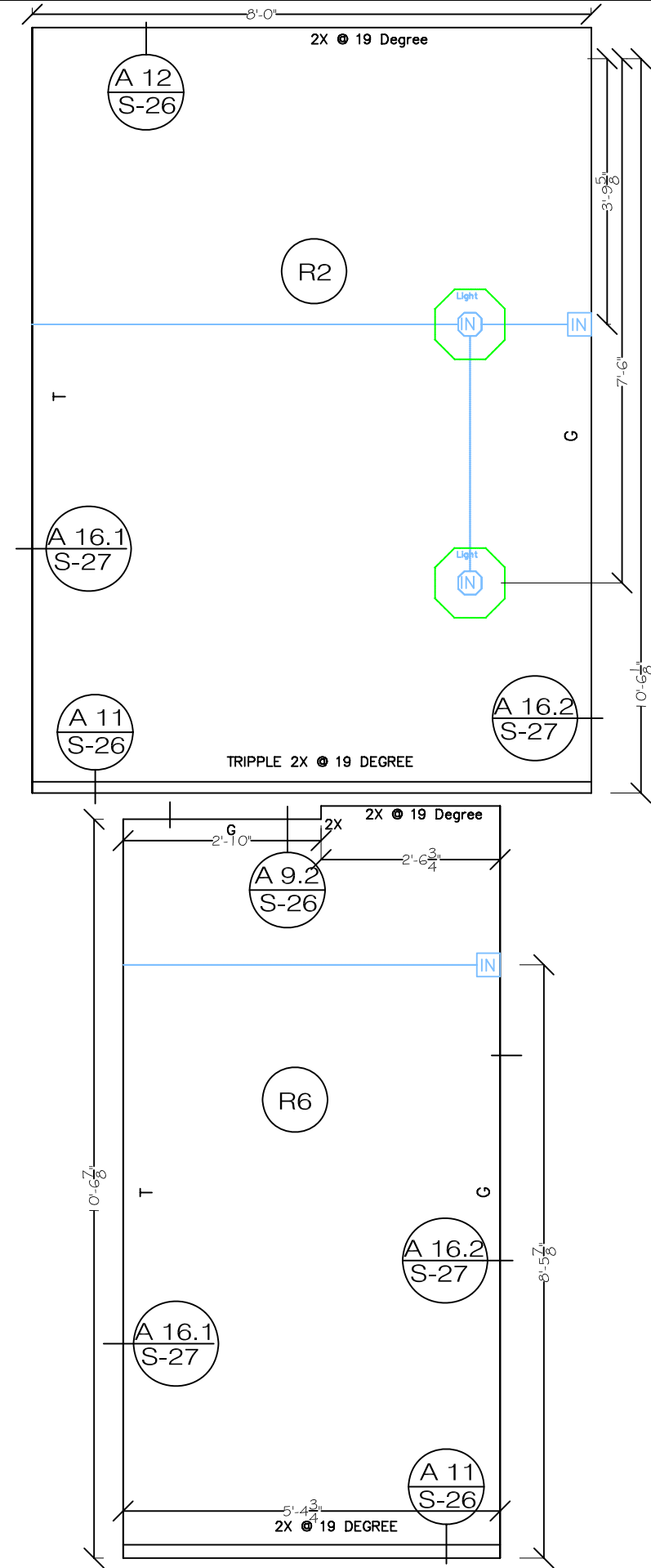
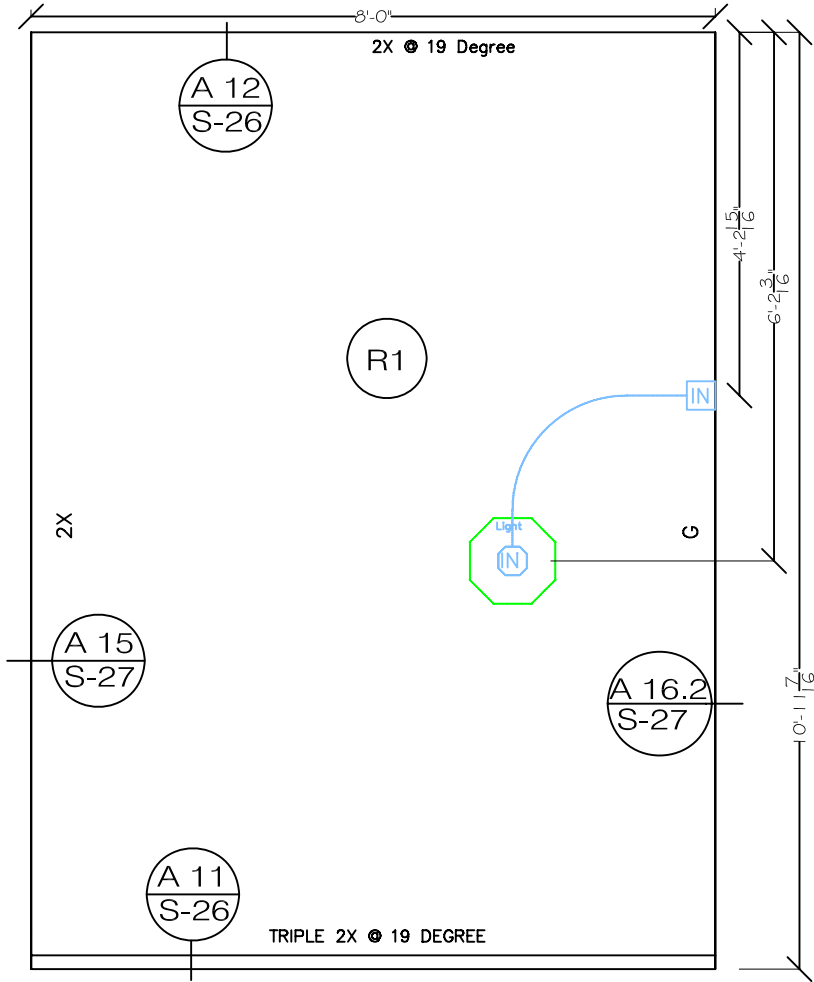
UMR

SHEET NO:

S20

GENERAL NOTES:

- 1. EXTERIOR VIEW
- 2. THICKNESS: 6-7/16"
- 3. 5-9/16" POLYURETHANE FOAM CORE
- 4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD
- 5. (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.



LEGEND:

A 2	DETAIL NUMBER
S-36	SHEET NUMBER
W3	SIP NUMBER

2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR SOLAR HOUSE ROLLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:
ROOF PANELS R1,
R2, R3, R6

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
1/4" = 1'-0"
0 4 8

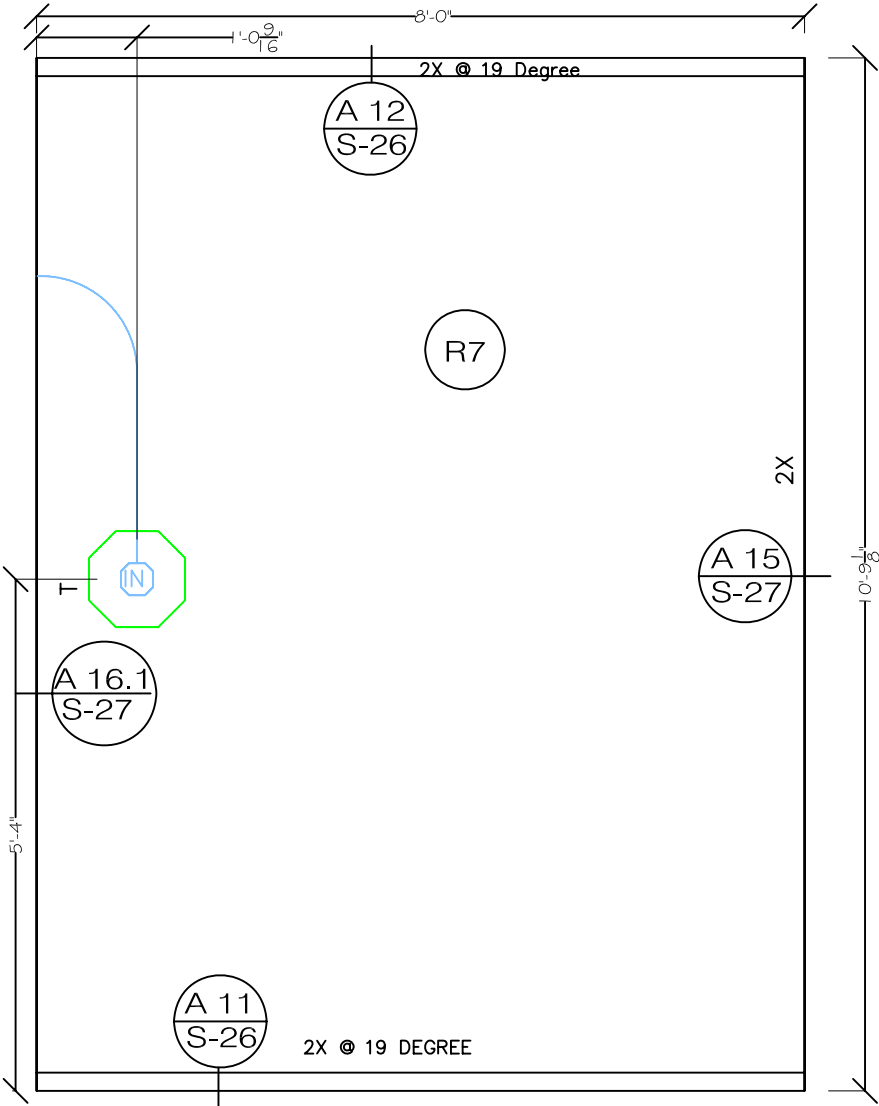
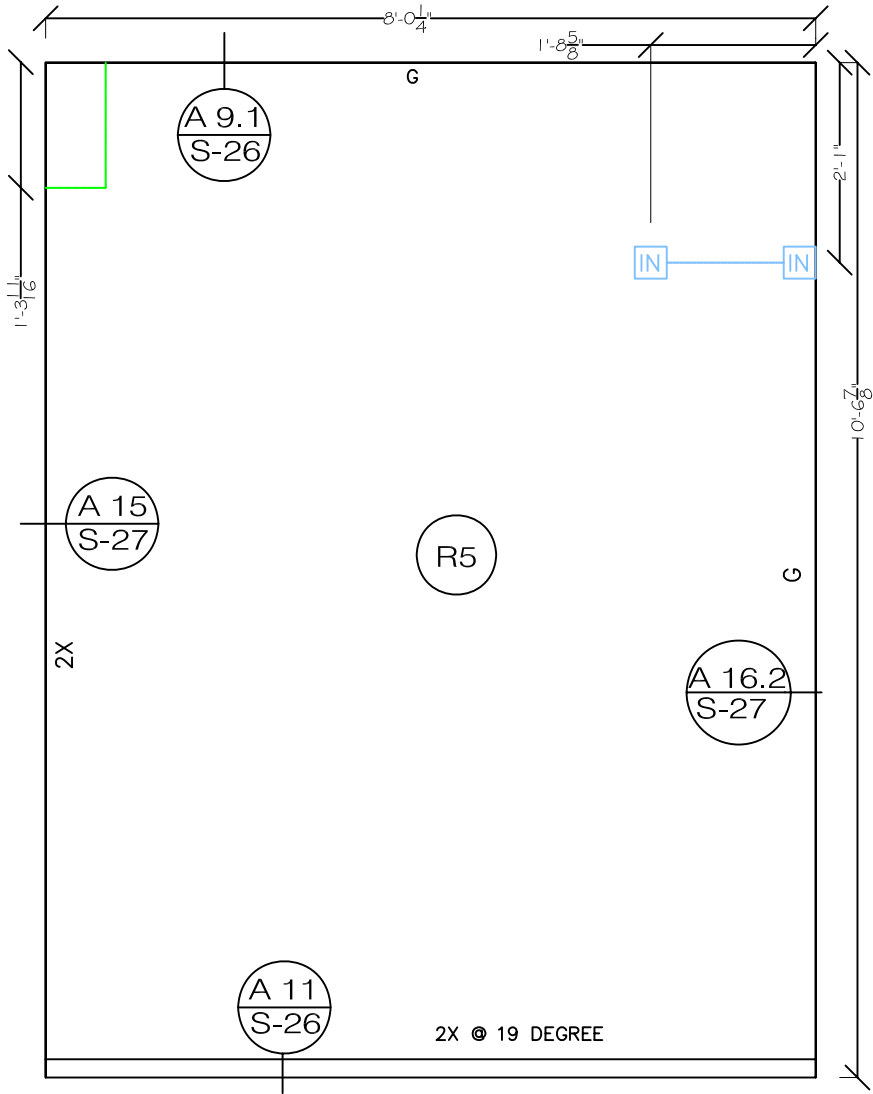
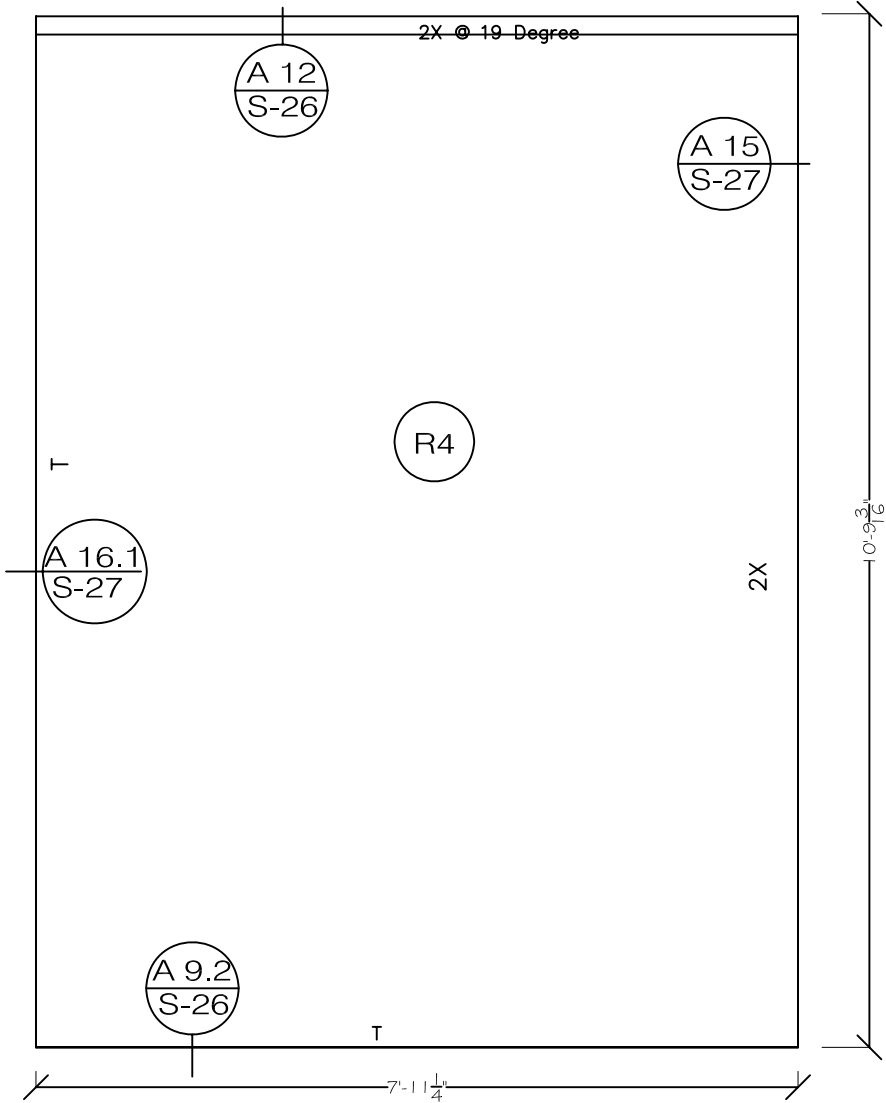
DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:
S22

GENERAL NOTES:

- 1. EXTERIOR VIEW
- 2. THICKNESS: 6-7/16"
- 3. 5-9/16" POLYURETHANE FOAM CORE
- 4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD
- 5. (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.



LEGEND:

- A 2 S-36 DETAIL NUMBER SHEET NUMBER
- W3 SIP NUMBER

2/2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:
ROOF PANELS
R4, R5, R7

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
1/4" = 1'-0"
0 4 8'

DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:
S23

- GENERAL NOTES:
1. EXTERIOR VIEW
 2. THICKNESS: 6-7/16"
 3. 5-9/16" POLYURETHANE FOAM CORE
 4. 7/16" WEYERHAUSER ORIENTED STRAND BOARD
 5. (OSB) SKIN; SINGLE SHEET INTERIOR & EXTERIOR.

LEGEND:

A 2

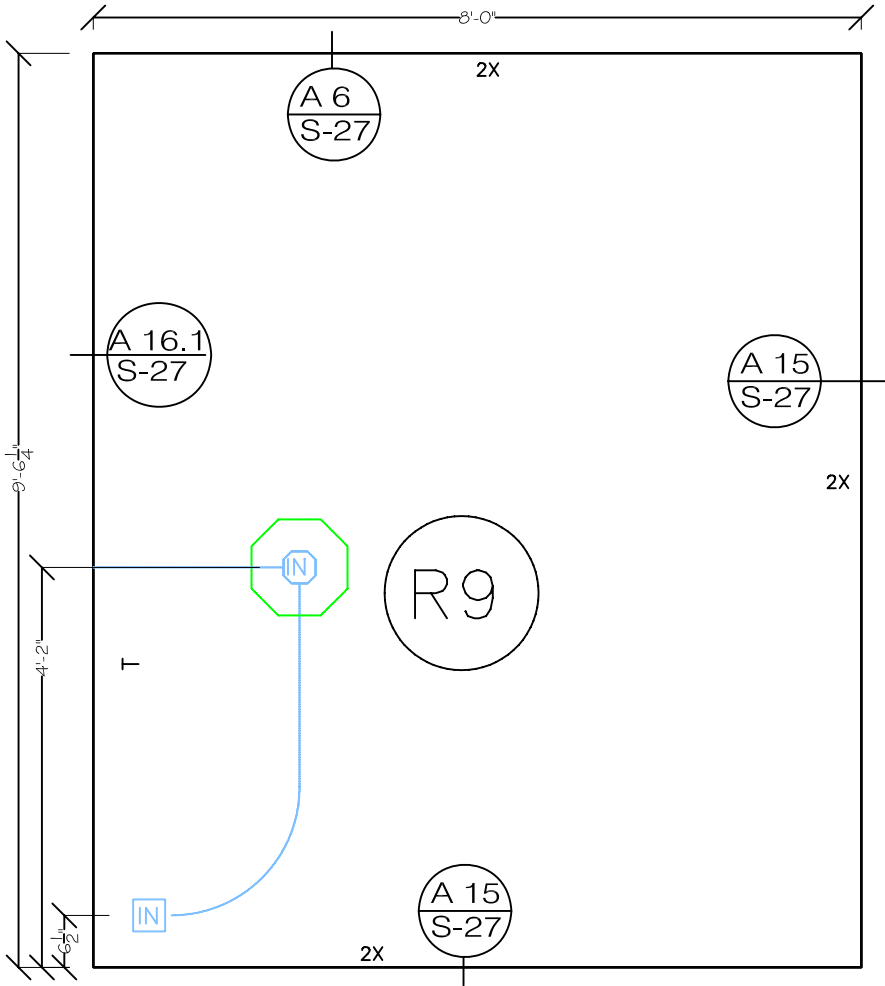
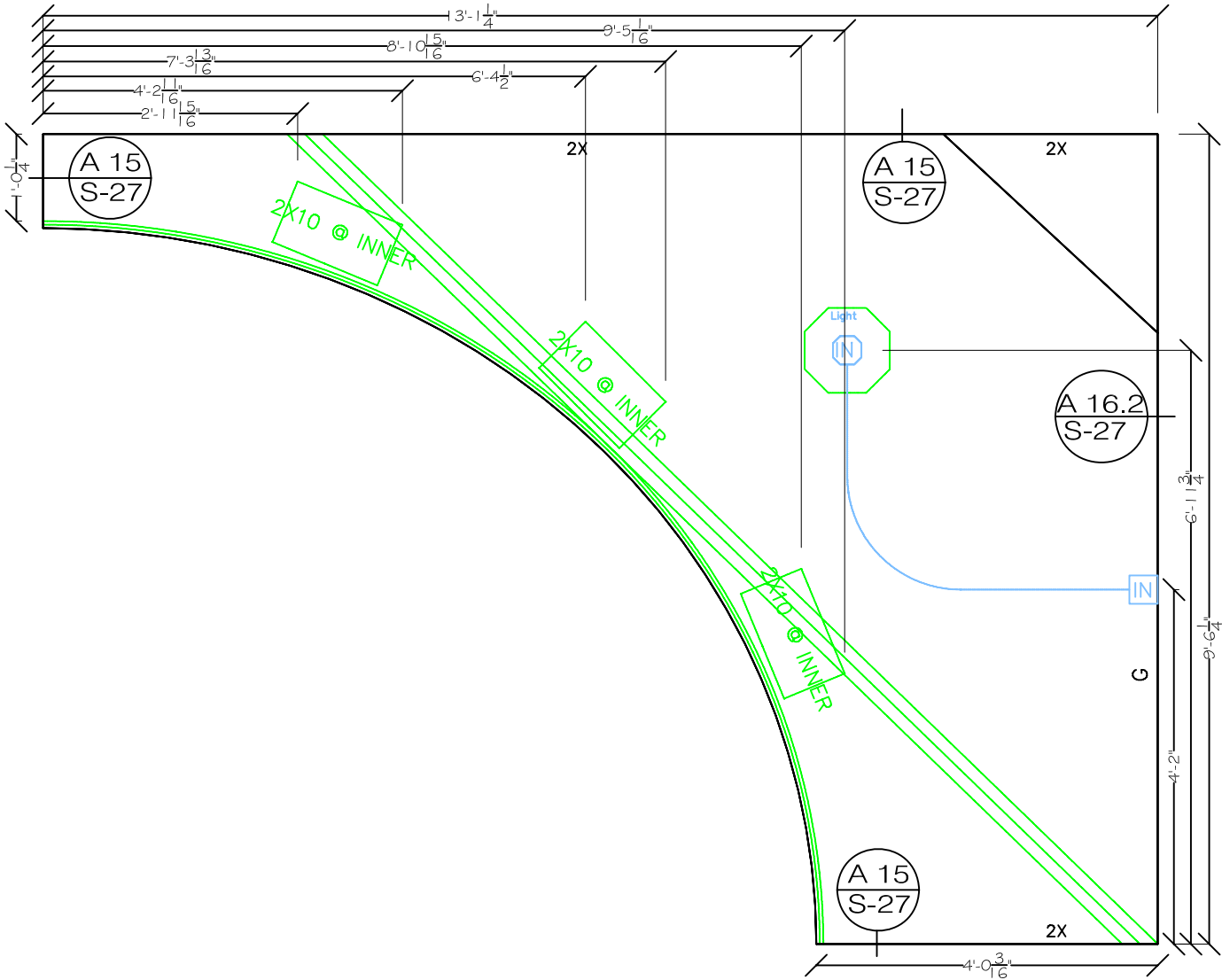
S-36

DETAIL NUMBER

SHEET NUMBER

W3

SIP NUMBER



2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SIP
CONSTRUCTION
DETAILS

DESCRIPTION:

ROOF PANELS

REVISIONS:

6/13/2006 - Design
Development Drawings

3/6/2007 - Design
Construction Drawings

6/1/2007 - Updated
Construction Drawings

8/7/2007 - Updated
Construction Drawings

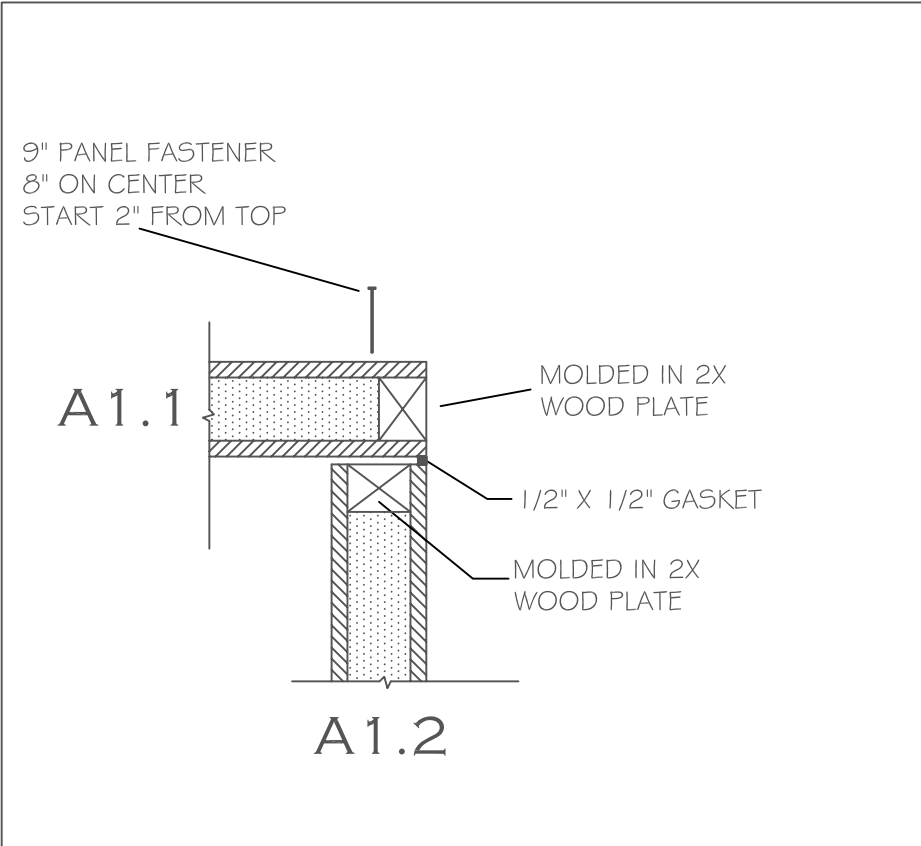
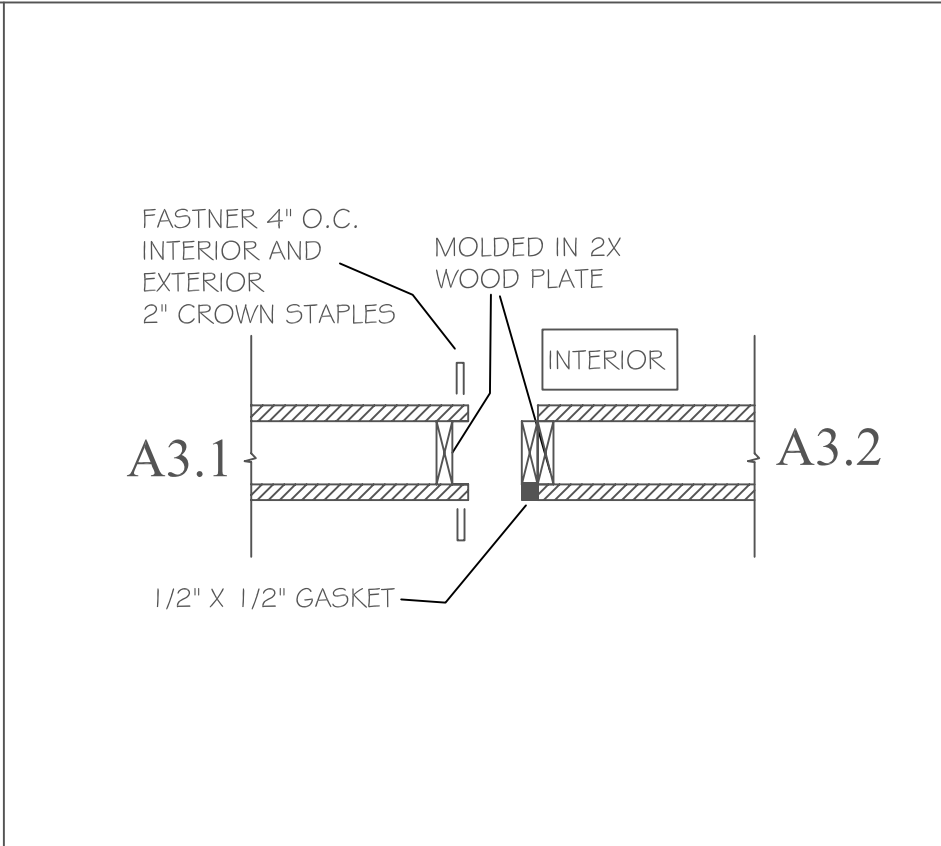
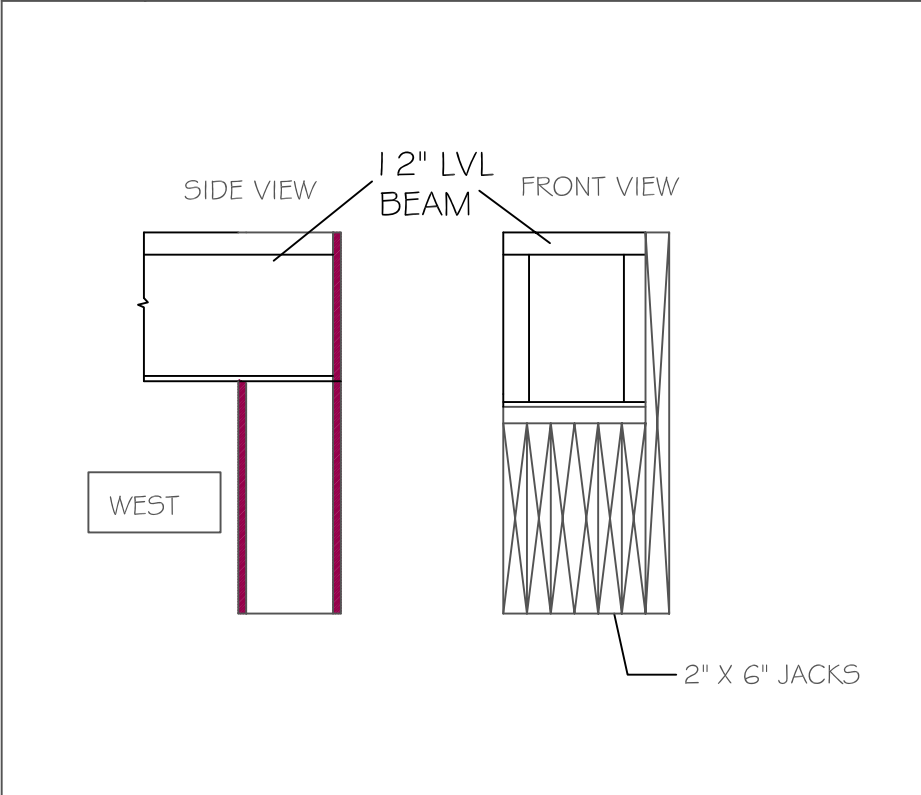
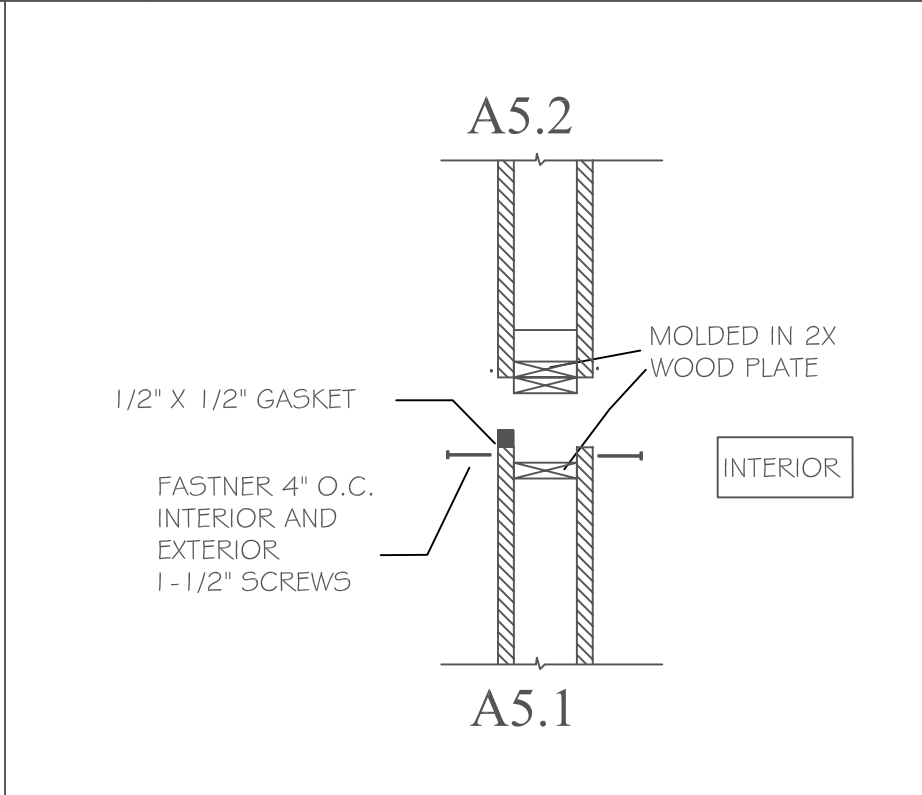
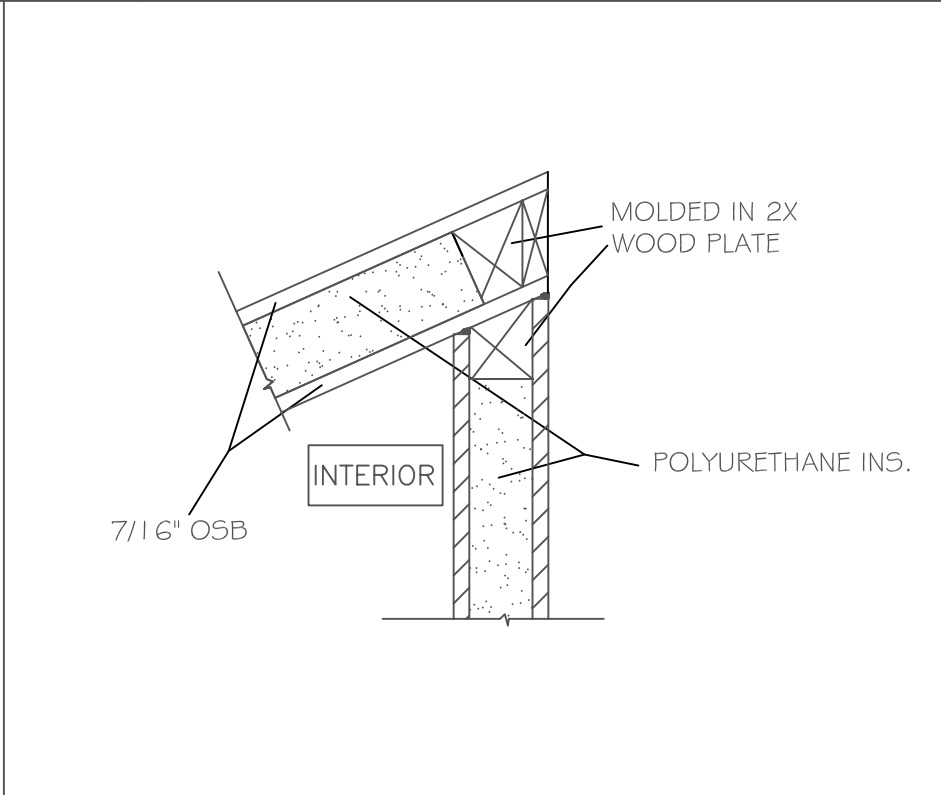
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1/4" = 1'-0"

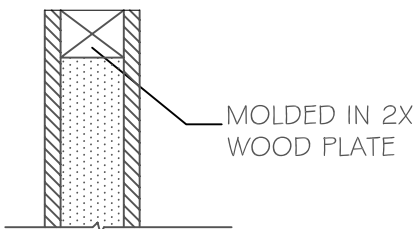
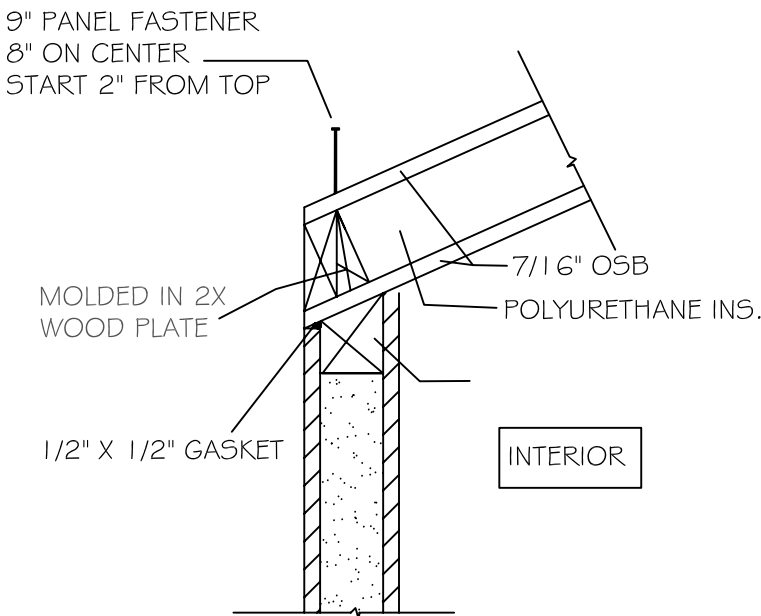
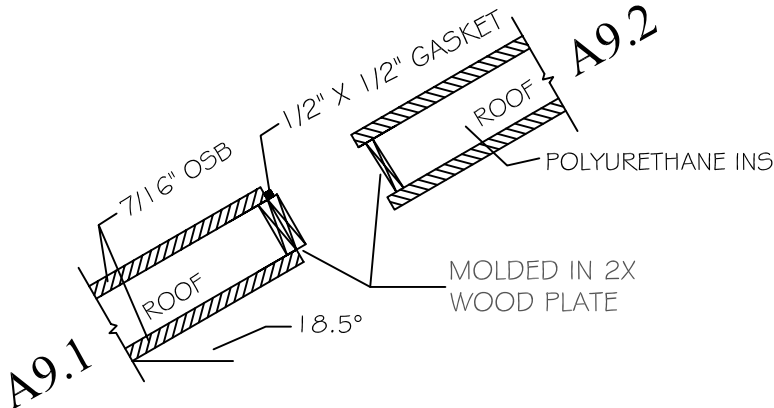
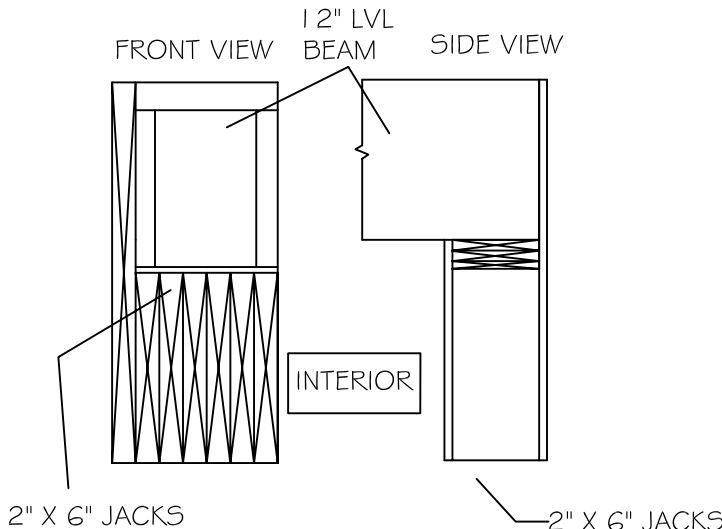
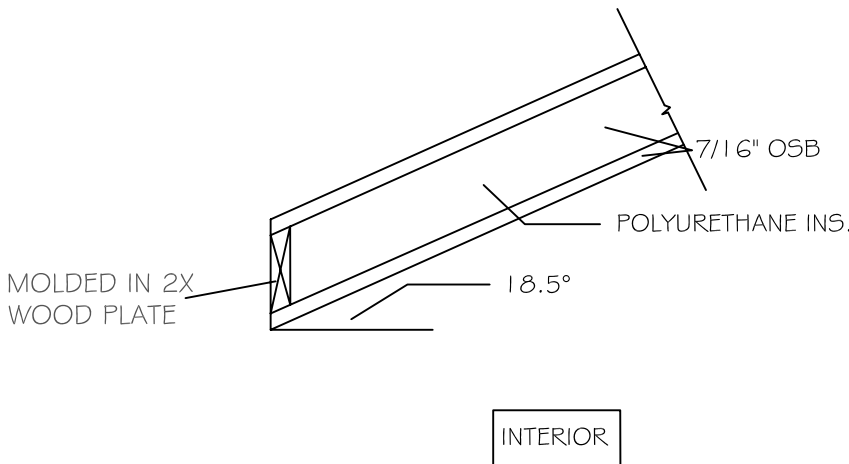
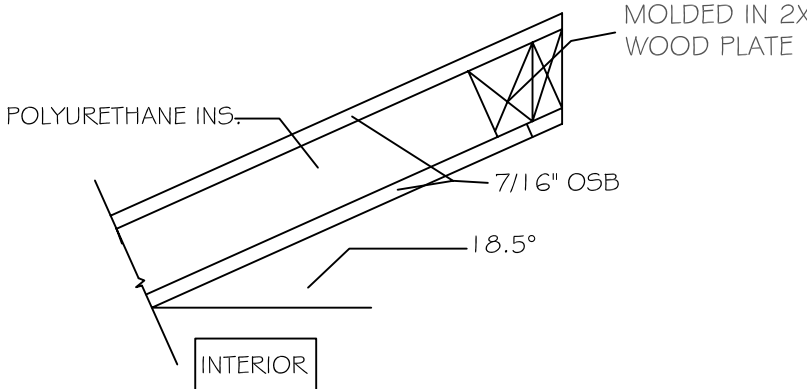

DATE:
7/24/2007

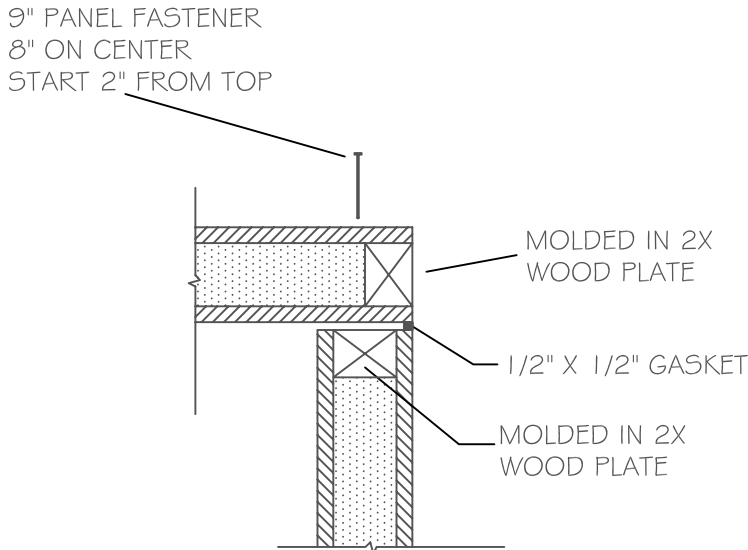
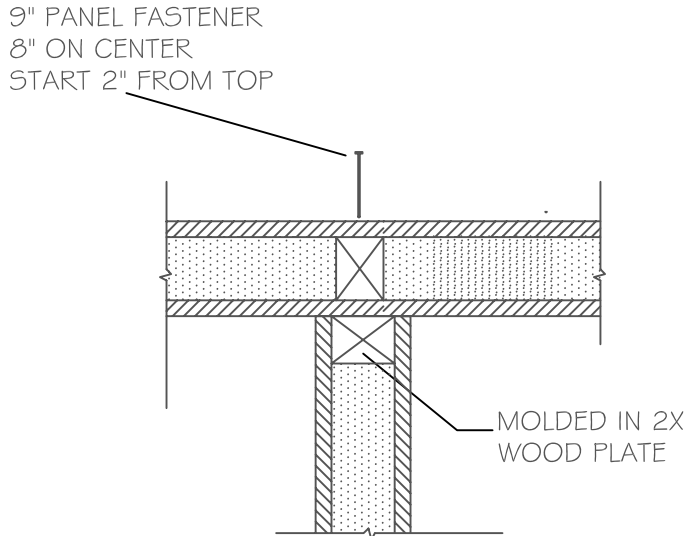
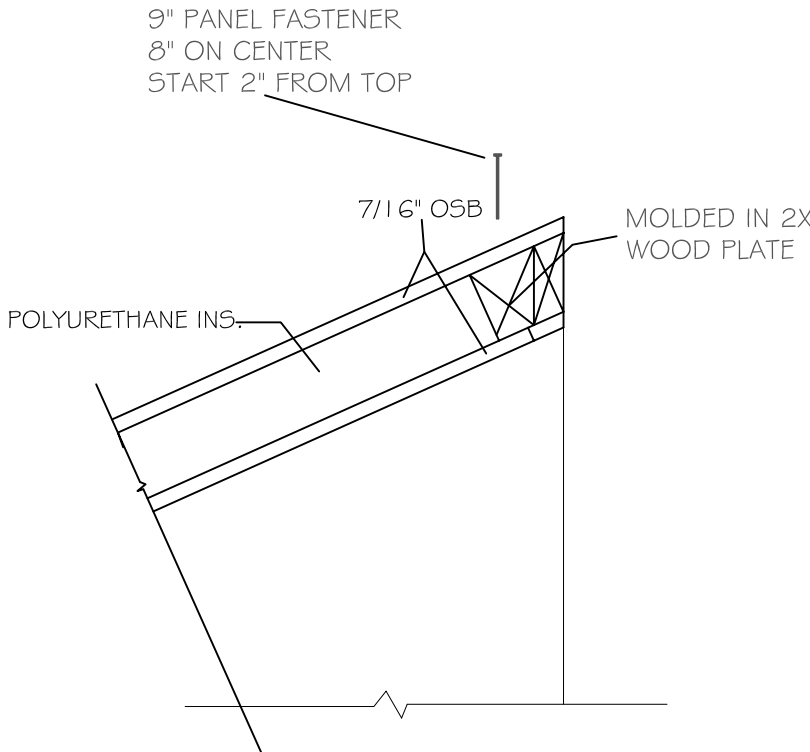

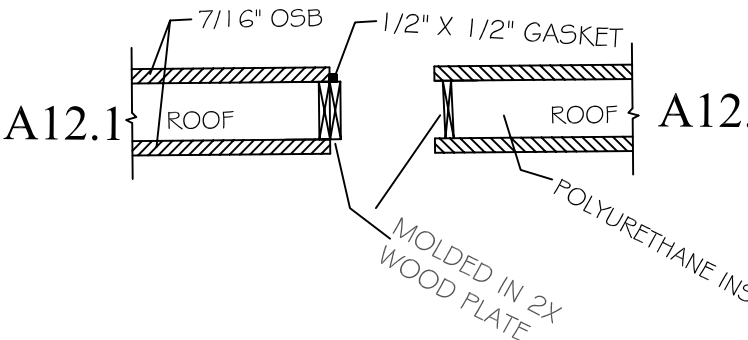
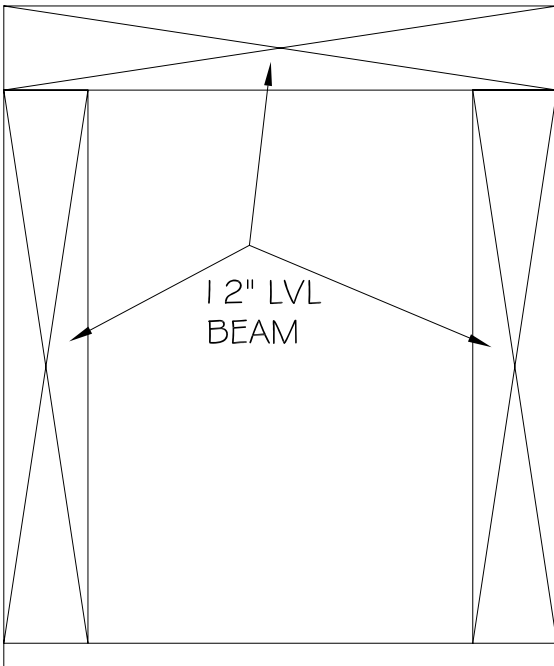
DRAWN BY:
UMR

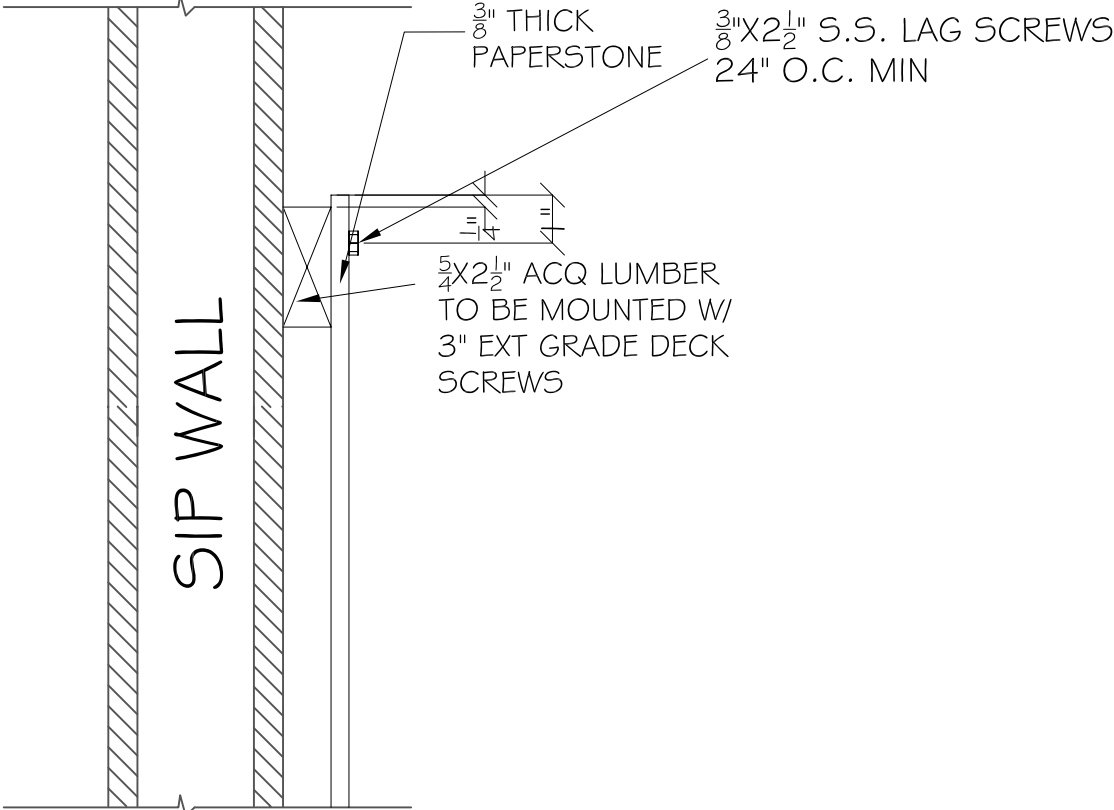
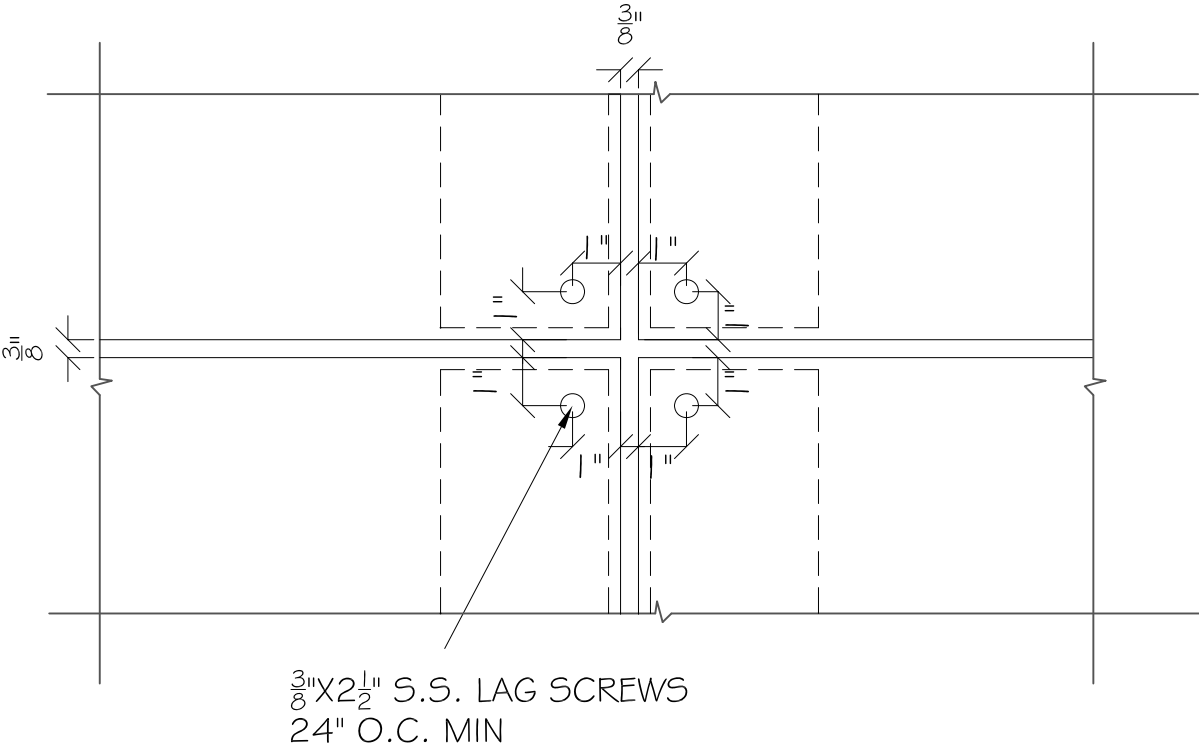
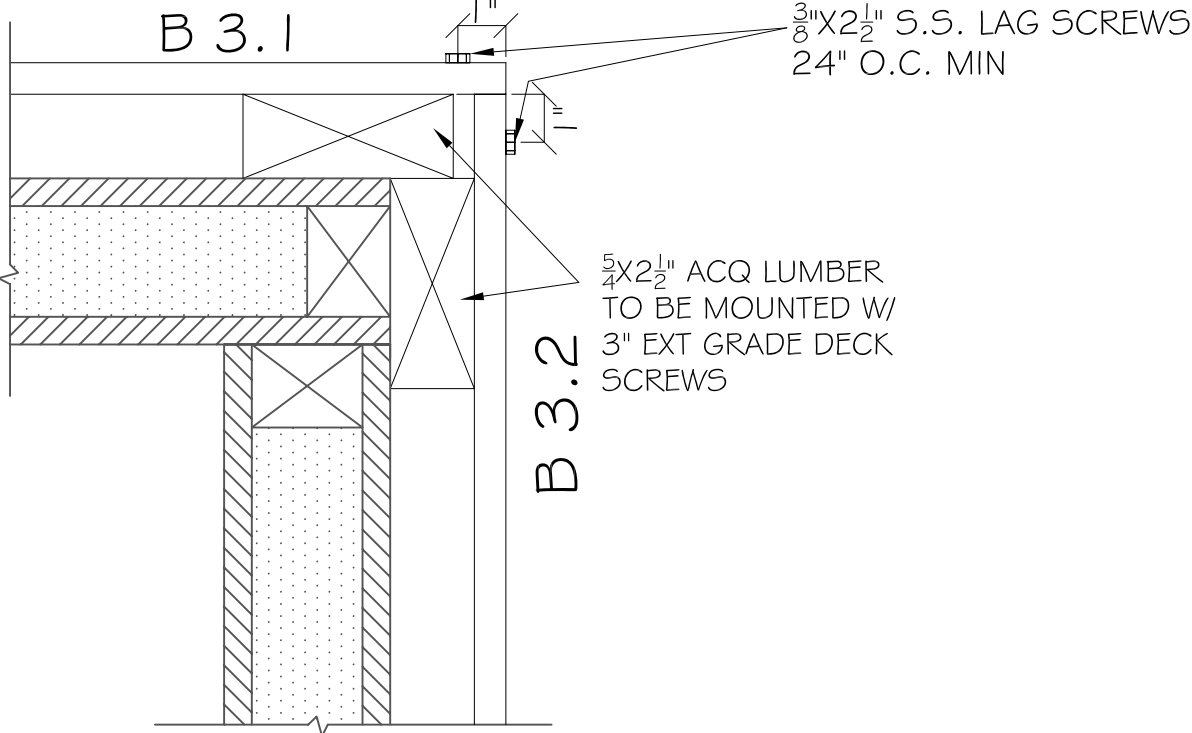
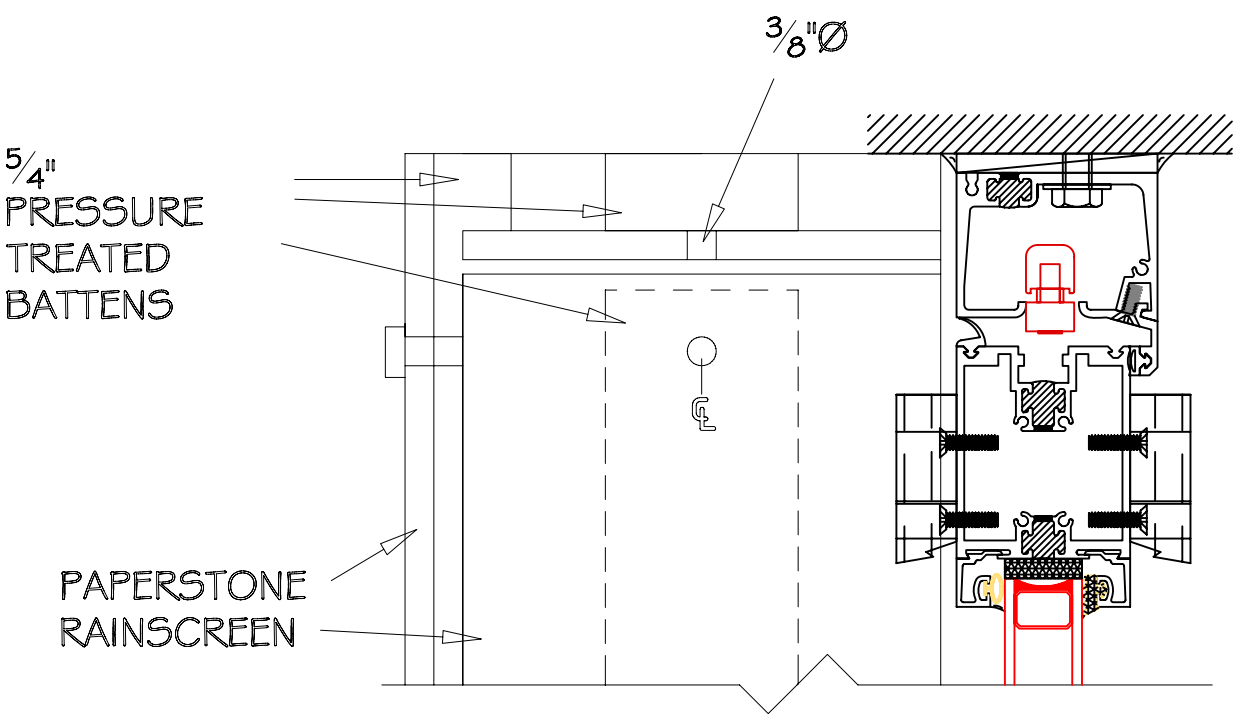
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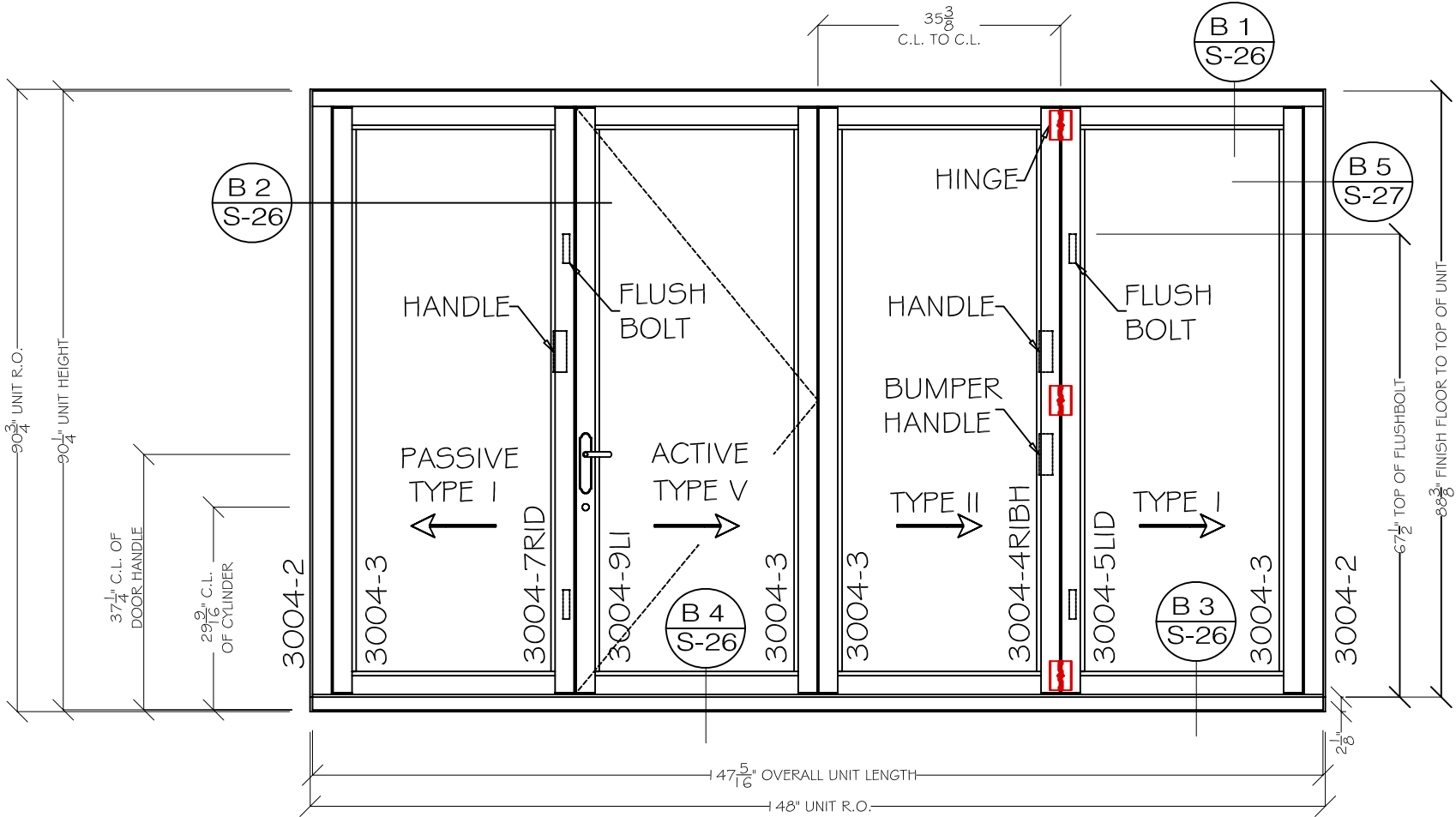
S24

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A1	WALL CORNER DETAIL	A2	WALL, FLOOR, & FOUNDATION CONNECTION	A3	WALL TO WALL CONNECTION	DRAWING TITLE: SIP CONNECTION DETAILS
						DESCRIPTION: ROOF PANELS
				REVISIONS: 6/13/2006 - Design Development Drawings 3/6/2007 - Design Construction Drawings 6/1/2007 - Updated Construction Drawings 8/7/2007 - Updated Construction Drawings		
				SCALE: 1/4" = 1'-0" 		
				DATE: 7/24/2007		
				DRAWN BY: UMR		
				SHEET NO:		
A4	BEAM POCKET WITH SUPPORT IN PANEL	A5	BOTTOM WALL TO UPPER WALL CONNECTION	A6	ROOF-RIDGE CONNECTION	S25

 <p>MOLDED IN 2X WOOD PLATE</p>		 <p>9" PANEL FASTENER 8" ON CENTER START 2" FROM TOP</p> <p>MOLDED IN 2X WOOD PLATE</p> <p>1/2" X 1/2" GASKET</p> <p>7/16" OSB</p> <p>POLYURETHANE INS.</p> <p>INTERIOR</p>		 <p>A9.1</p> <p>7/16" OSB</p> <p>1/2" X 1/2" GASKET</p> <p>ROOF</p> <p>18.5°</p> <p>A9.2</p> <p>7/16" OSB</p> <p>1/2" X 1/2" GASKET</p> <p>ROOF</p> <p>POLYURETHANE INS.</p>		<div>2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg</div> <div>2007 UMR SOLAR HOUSE ROLLA, MO</div>
A7	END WALL	A8	WALL TO ROOF DETAIL	A9	ROOF PANEL TO ROOF PANEL CONNECTION	DRAWING TITLE: SIP CONNECTION DETAILS
 <p>FRONT VIEW</p> <p>12" LVL BEAM</p> <p>SIDE VIEW</p> <p>2" X 6" JACKS</p> <p>INTERIOR</p> <p>2" X 6" JACKS</p>		 <p>MOLDED IN 2X WOOD PLATE</p> <p>7/16" OSB</p> <p>POLYURETHANE INS.</p> <p>18.5°</p> <p>INTERIOR</p>		 <p>POLYURETHANE INS.</p> <p>7/16" OSB</p> <p>18.5°</p> <p>INTERIOR</p>		DESCRIPTION: ROOF PANELS
				REVISIONS:		
				6/13/2006 - Design Development Drawings		
				3/6/2007 - Design Construction Drawings		
				6/1/2007 - Updated Construction Drawings		
				8/7/2007 - Updated Construction Drawings		
				SCALE: 1/4"= 1'-0" 		
				DATE: 7/24/2007		
				DRAWN BY: UMR		
				SHEET No:		
A10	BEAM POCKET WITH SUPPORT IN PANEL	A11	LOWER ROOF EDGE	A12	ROOF PEAK	S26

						<div>2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg</div> <div>2007 UMR SOLAR HOUSE ROLLA, MO</div> <div>DRAWING TITLE: SIP CONNECTION DETAILS</div> <div>DESCRIPTION: ROOF PANELS</div> <div>REVISIONS: 6/13/2006 - Design Development Drawings 3/6/2007 - Design Construction Drawings 6/1/2007 - Updated Construction Drawings 8/7/2007 - Updated Construction Drawings</div> <div>SCALE: 1/4" = 1'-0" </div> <div>DATE: 7/24/2007</div> <div>DRAWN BY: UMR</div> <div>SHEET NO:</div> <div>S27</div>
A13	FLAT ROOF TO WALL CONNECTION	A14	WALL TO WALL CONNECTION	A15	ROOF PANEL TO GABLE END CONNECTION	
						
A16	ROOF TO ROOF CONNECTION	A17	LVL BEAM	A18	EMPTY	

 <p>3/8" THICK PAPERSTONE</p> <p>3/8"x2 1/2" S.S. LAG SCREWS 24" O.C. MIN</p> <p>5x2 1/4" ACQ LUMBER TO BE MOUNTED W/ 3" EXT GRADE DECK SCREWS</p> <p>SIP WALL</p>		 <p>3/8"x2 1/2" S.S. LAG SCREWS 24" O.C. MIN</p>		<p>2:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_12000.dwg</p> <p>2007 UMR SOLAR HOUSE ROLLA, MO</p>	
B1	HORIZONTAL MOUNTING DETAIL	B2	PANEL SPACING	DRAWING TITLE: PAPERSTONE DETAILS	
 <p>B 3.1</p> <p>3/8"x2 1/2" S.S. LAG SCREWS 24" O.C. MIN</p> <p>5x2 1/4" ACQ LUMBER TO BE MOUNTED W/ 3" EXT GRADE DECK SCREWS</p> <p>B 3.2</p>		 <p>5/4" PRESSURE TREATED BATTENS</p> <p>3/8"Ø</p> <p>PAPERSTONE RAINSCREEN</p>		DESCRIPTION: CONSTRUCTION DETAILS	
B3		B4		CORNER DETAIL	
				DOOR TRIM DETAIL	
				REVISIONS:	
				6/13/2006 - Design Development Drawings	
				3/6/2007 - Design Construction Drawings	
				6/1/2007 - Updated Construction Drawings	
				8/7/2007 - Updated Construction Drawings	
				SCALE:	
				NTS	
				DATE:	
				7/24/2007	
				DRAWN BY:	
				UMR	
				SHEET No:	
				S28	



LEGEND:

DETAIL NUMBER	SHEET NUMBER
A 2	S-36

- NOTE:
- HANDLES AND FLUSHBOLTS ARE SHOWN ON THE EXTERIOR ELEVATION FOR REFERENCE ONLY. ACTUAL LOCATION IS INTERIOR.
 - FINISHED FLOOR CANNOT EXCEED 1 7/8" AT ANY POINT. THIS WOULD CAUSE INTERFERENCE WHEN OPERATING THE FGW.
 - MAX HEADER DEFLECTION: .125"
 - MUST SHIM TO FIT EXISTING R.O.

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SOLAR
INNOVATIONS
DETAILS

DESCRIPTION:
EXT ELEVATION
& PLAN VIEW
UNIT "I"

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

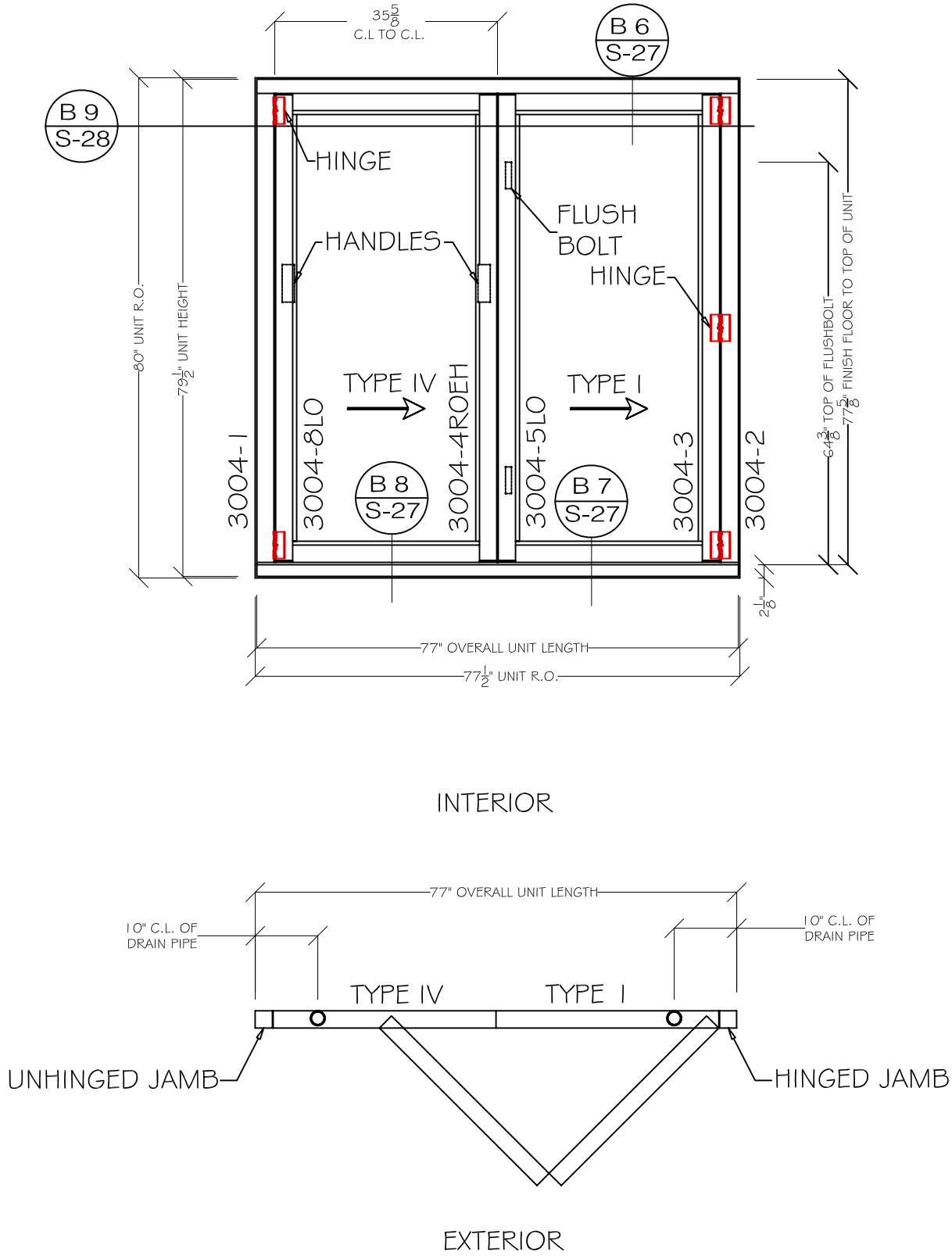
SCALE:
1/4" = 1'-0"

DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:

S29



LEGEND:

A 2	DETAIL NUMBER
S-36	SHEET NUMBER

- NOTE:
- HANDLES AND FLUSHBOLTS ARE SHOWN ON THE EXTERIOR ELEVATION FOR REFERENCE ONLY ACTUAL LOCATION IS INTERIOR
 - FINISHED FLOOR CANNOT EXCEED 1 7/8" AT ANY POINT. THIS WOULD CAUSE INTERFERENCE WHEN OPERATING THE FGW.
 - MAX HEADER DEFLECTION: .125"
 - MUST SHIM TO FIT EXISTING R.O.

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
SOLAR
INNOVATIONS
DETAILS

DESCRIPTION:
EXT ELEVATION
& PLAN VIEW
UNIT "2"

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

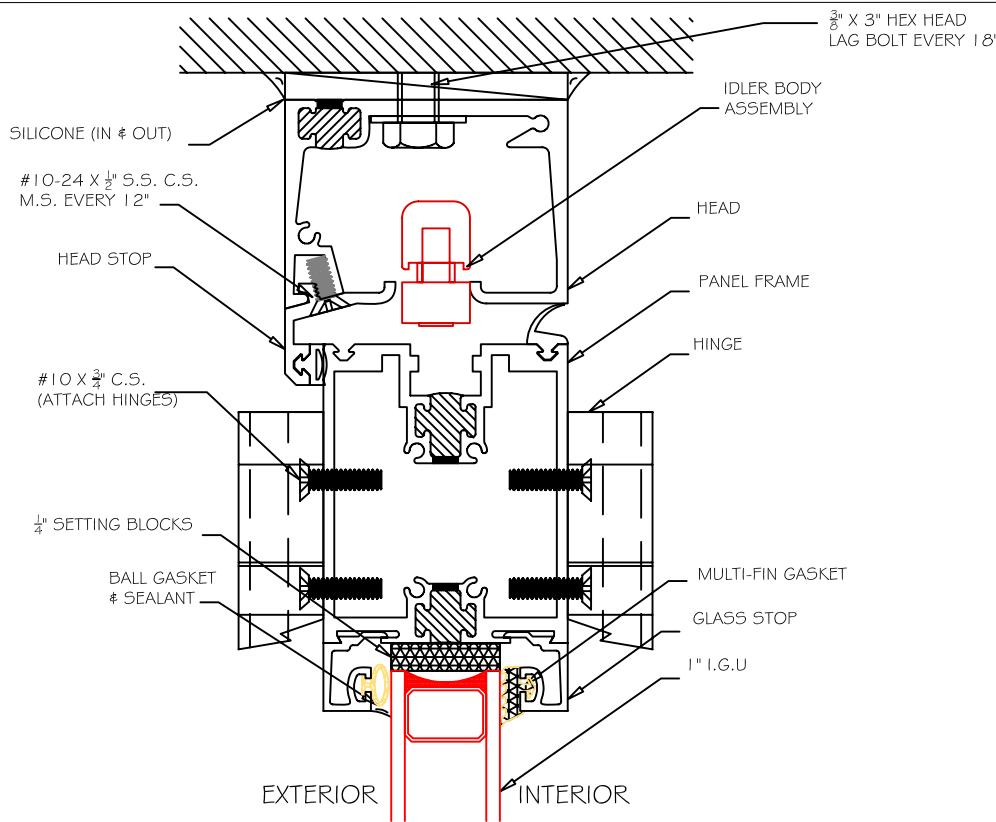
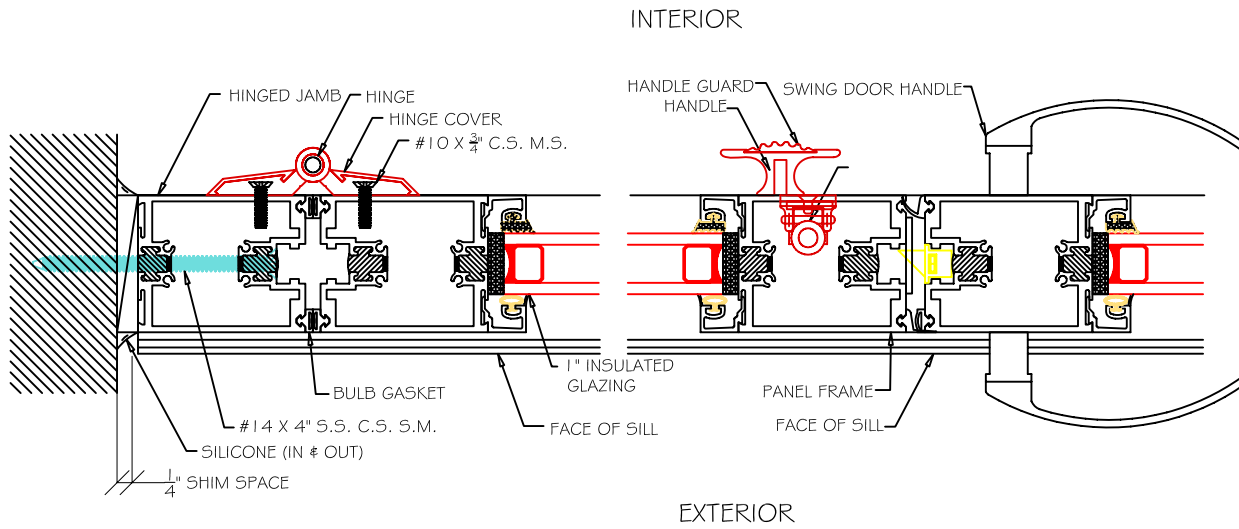
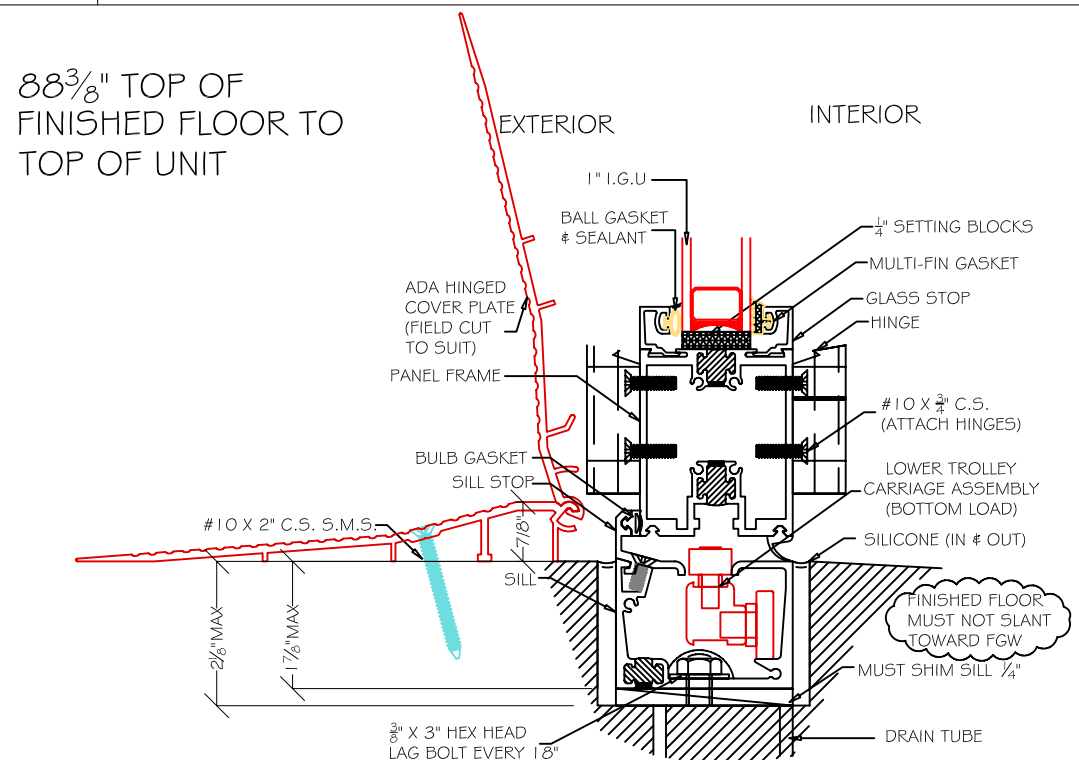
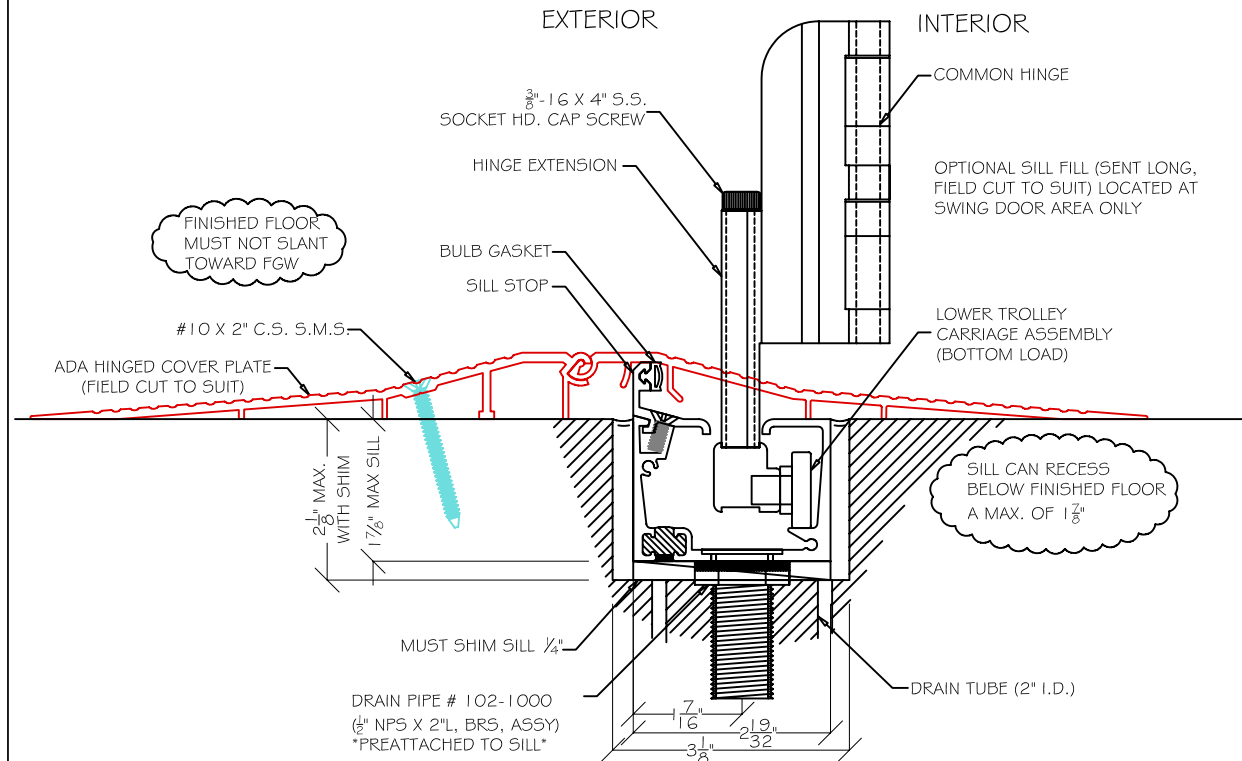
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0 2' 4'

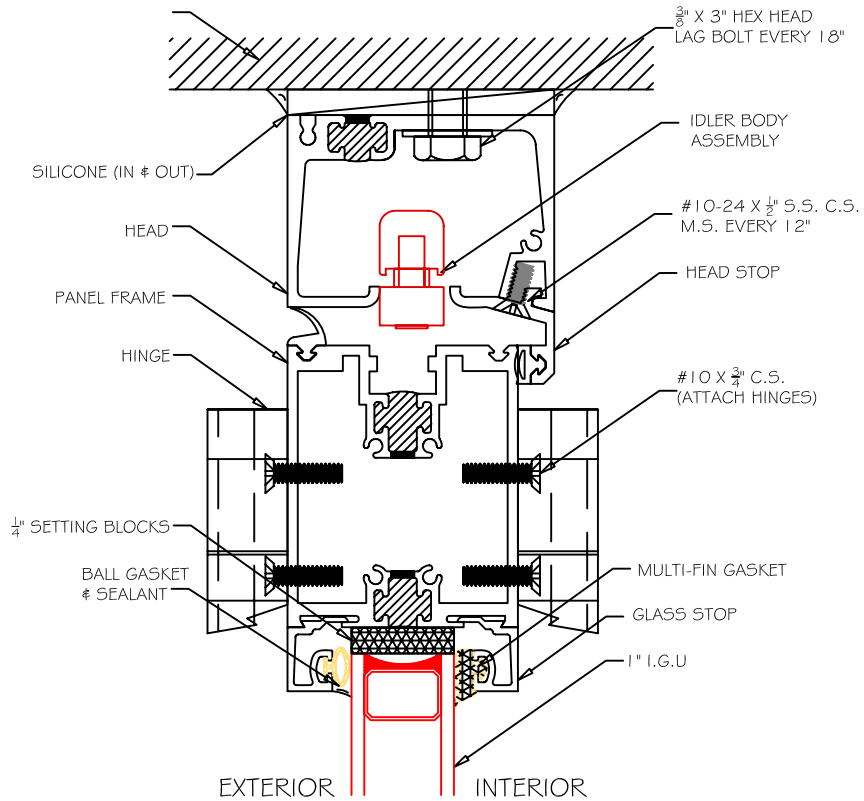
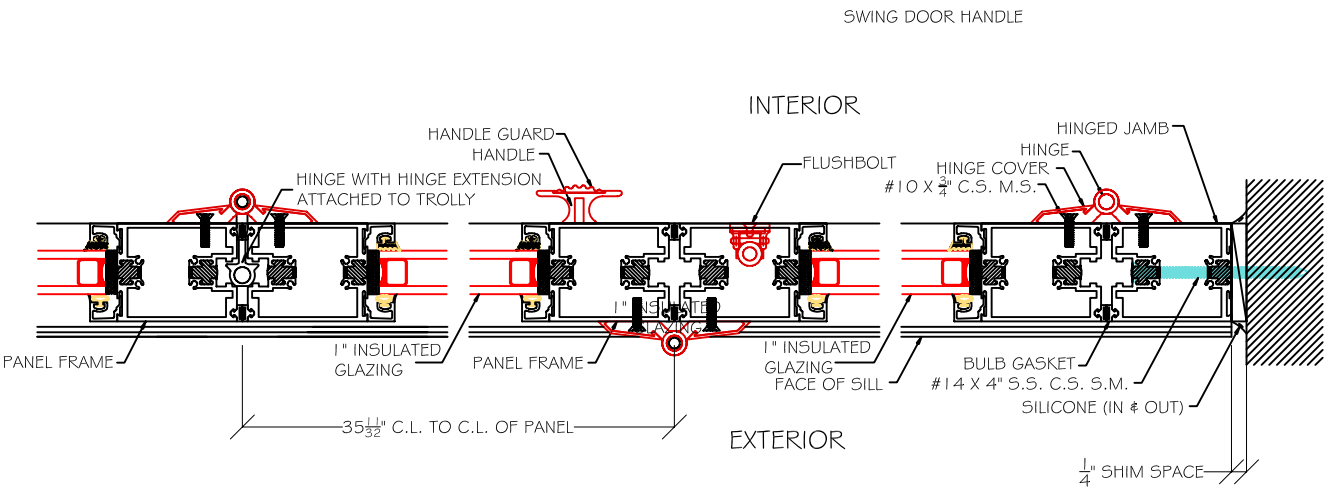
DATE:
7/24/2007

DRAWN BY:
UMR

SHEET No:

S30

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B1	BOTTOM LOAD HEAD INSWING	B2	UNIT A SECTION @ HINGED JAMB	
				
B3	BOTTOM LOAD SILL INSWING	B4	WEEP HOLE AND HINGE EXTENSION REFERENCE DETAIL	



2007 UMR
SOLAR HOUSE
ROLLA, MO

B5

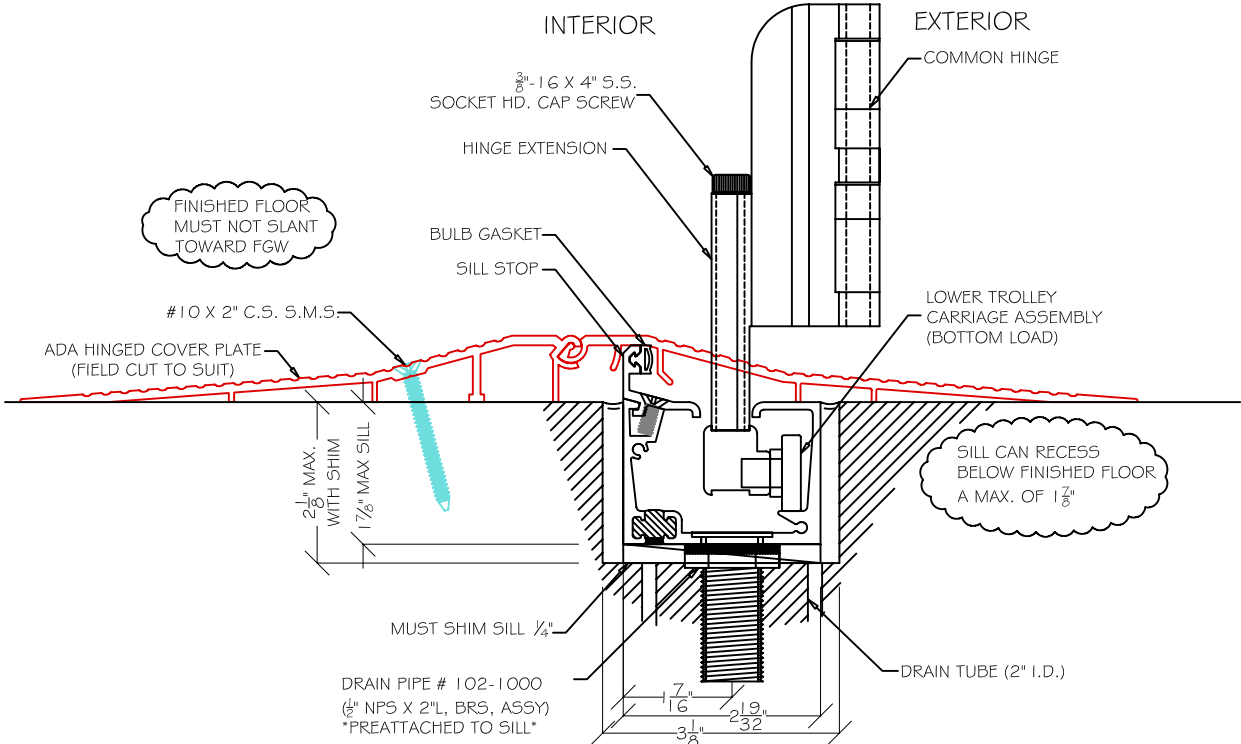
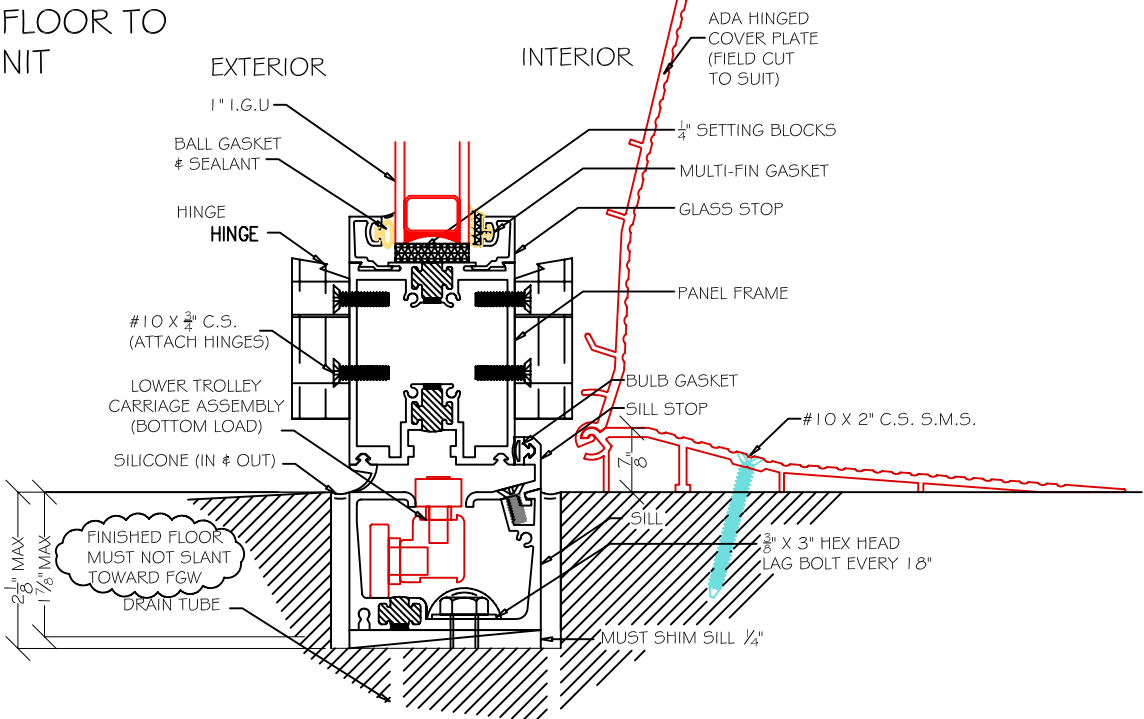
UNIT A SECTION @ HINGED JAMB

B6

BOTTOM LOAD HEAD
OUTSWING

DRAWING TITLE:
SOLAR
INNOVATIONS
DETAILS

77 5/8" TOP OF
FINISHED FLOOR TO
TOP OF UNIT



DESCRIPTION:
CONSTRUCTION
DETAILS

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
NTS

DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:

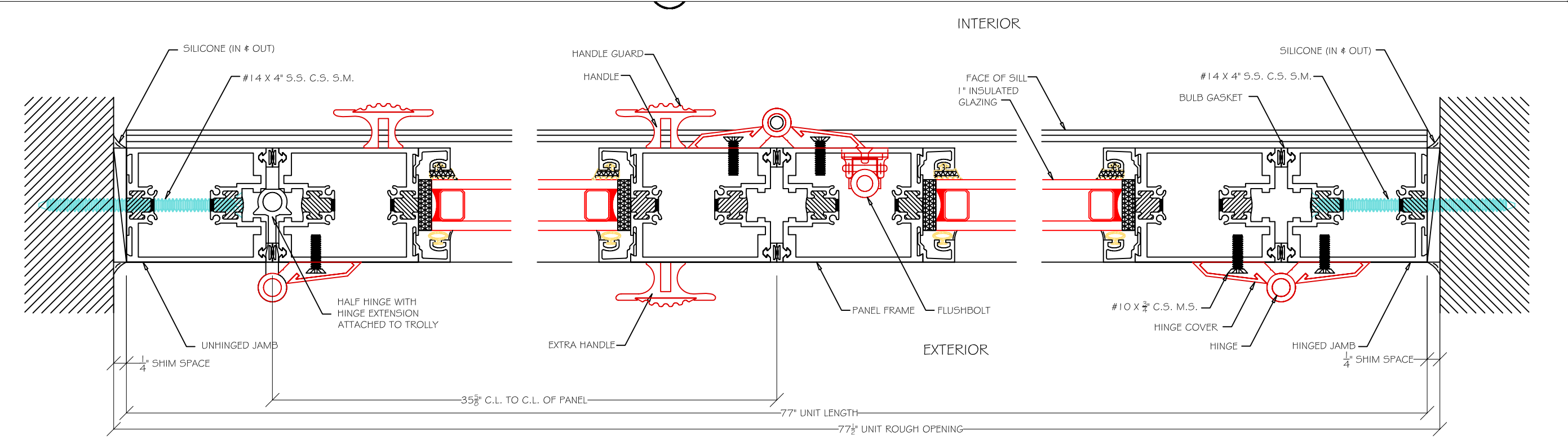
S32

B7

BOTTOM LOAD SILL
OUTSWING

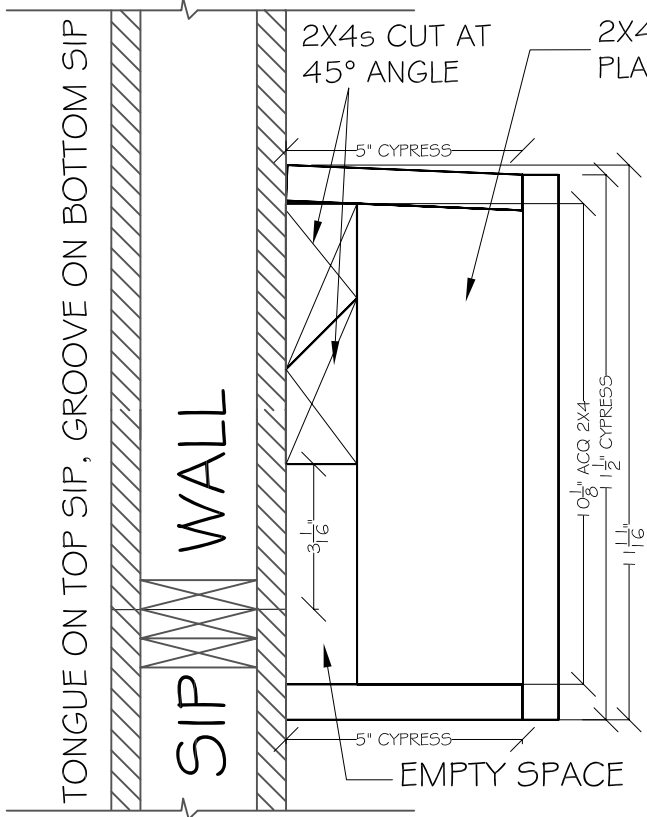
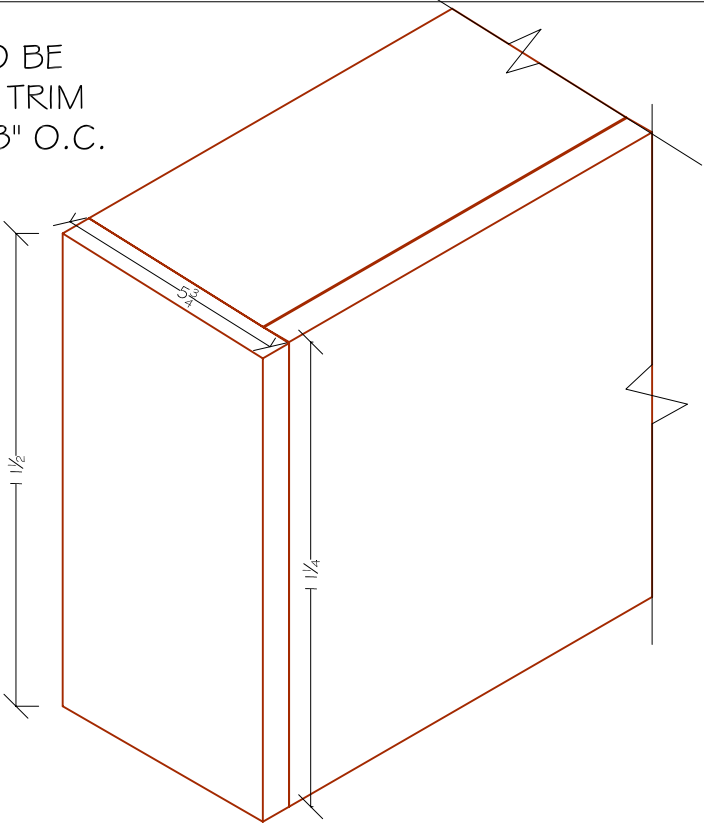
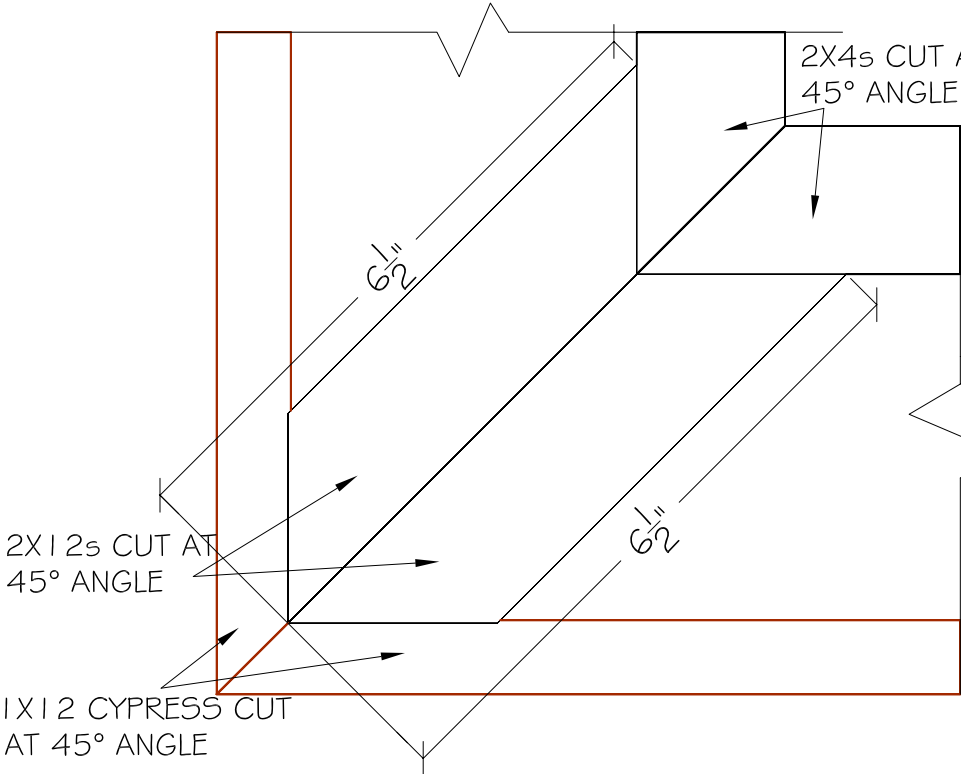
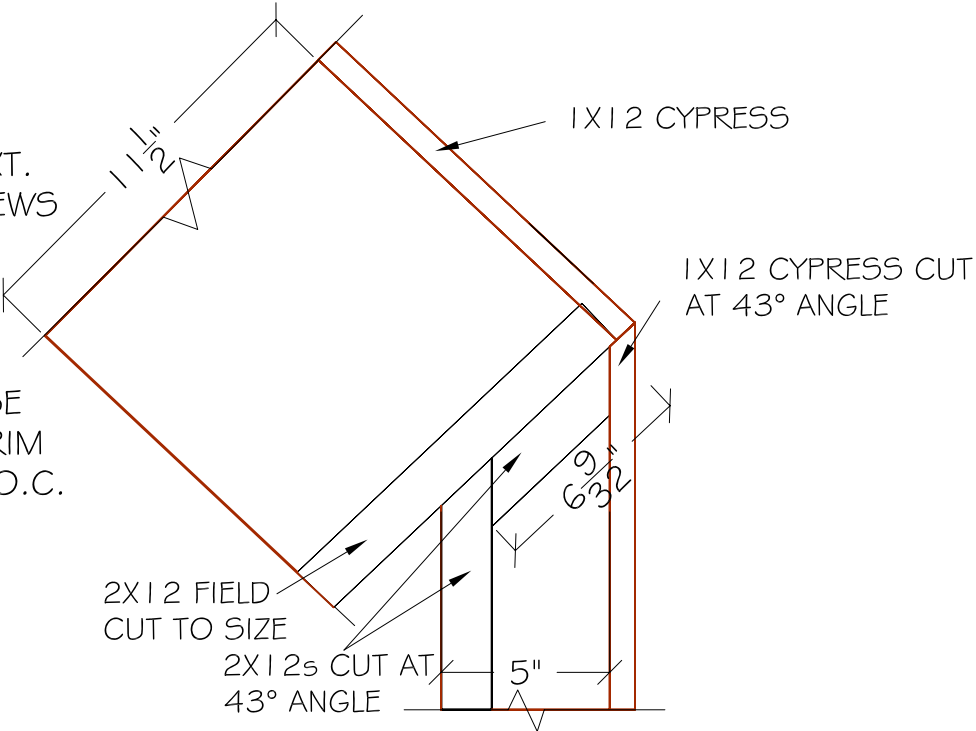
B8

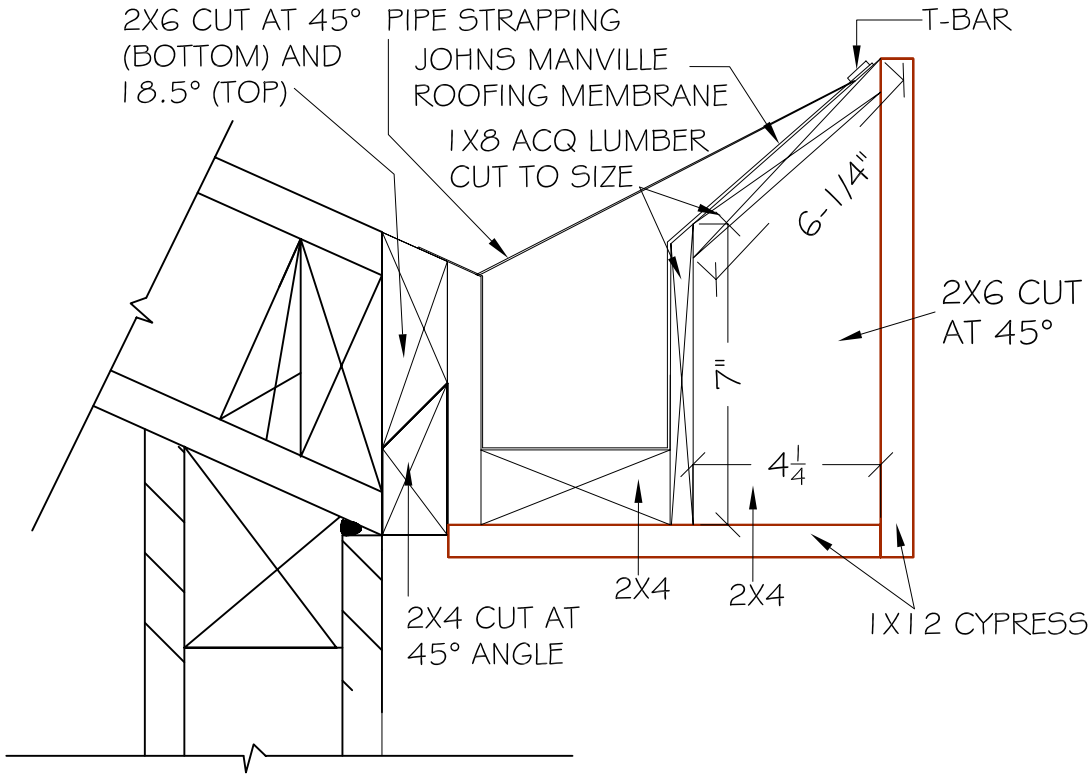
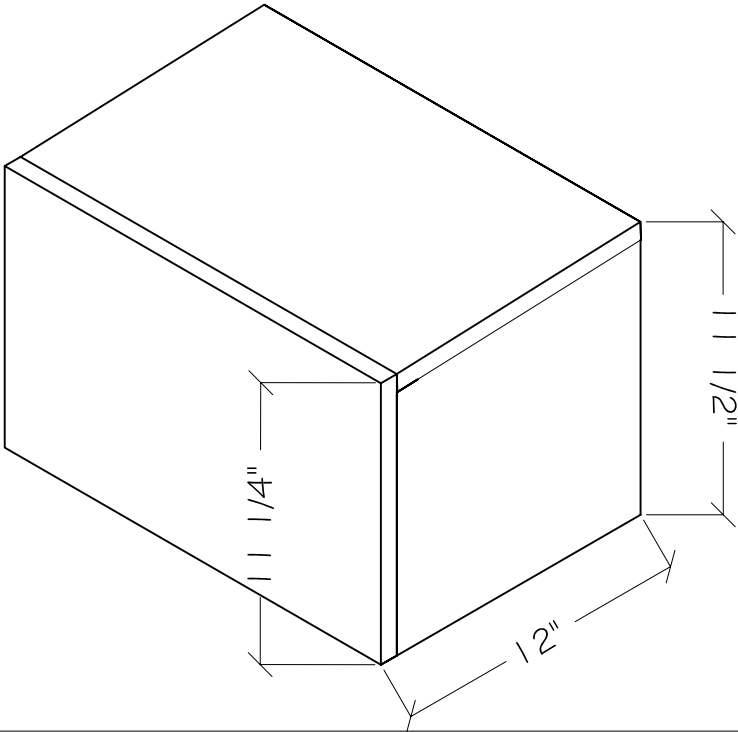
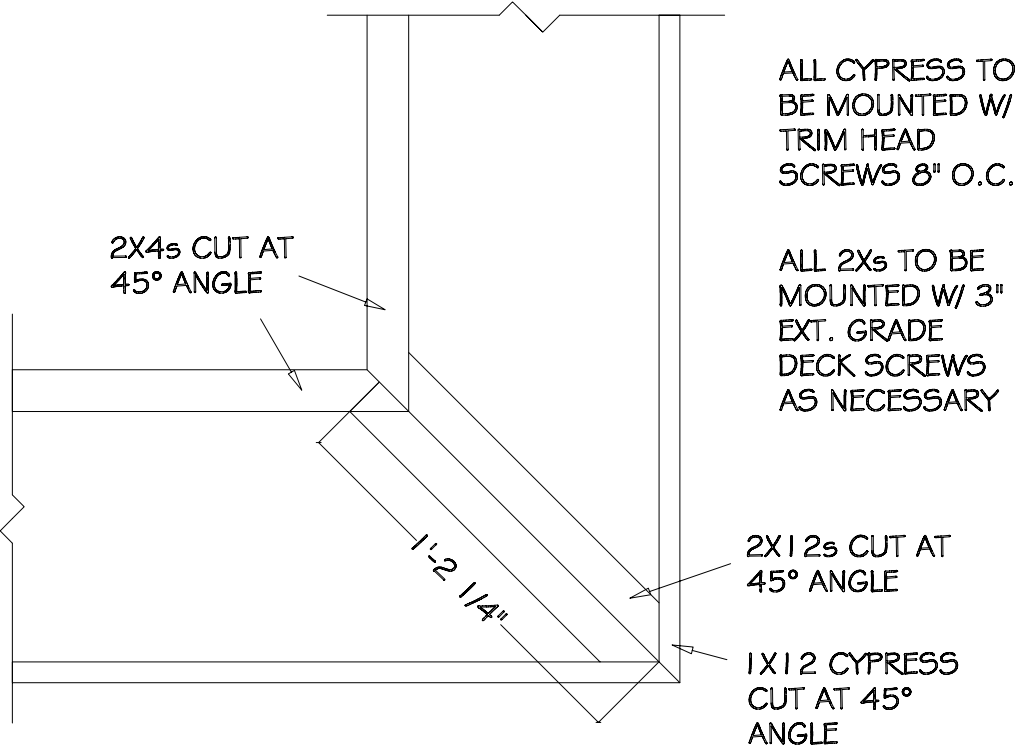
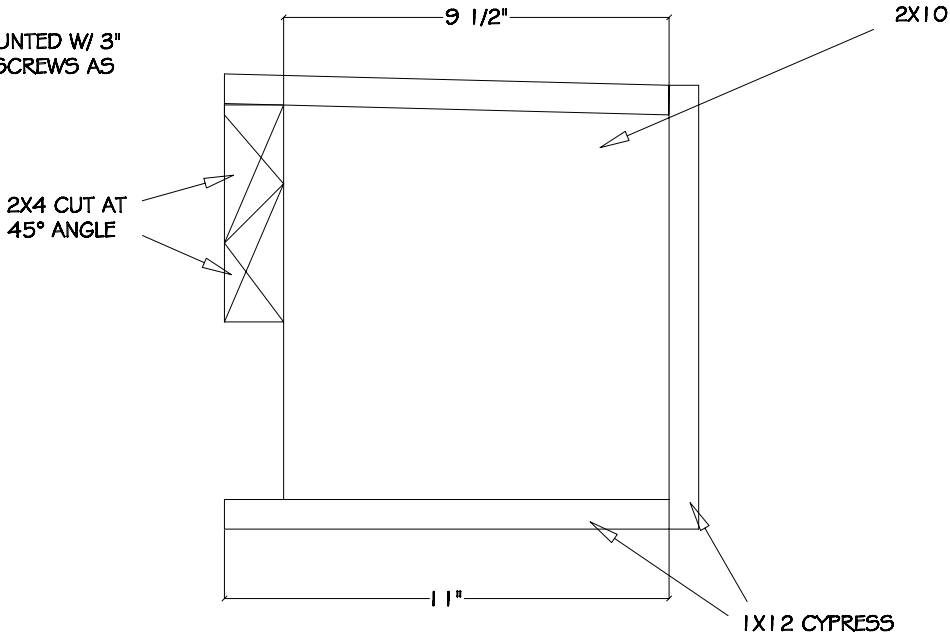
WEEP HOLE AND HINGE
EXTENSION REFERENCE DETAIL



B9UNIT B SECTION

2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg	
2007 UMR SOLAR HOUSE ROLLA, MO	
DRAWING TITLE:	SOLAR INNOVATIONS DETAILS
DESCRIPTION:	CONSTRUCTION DETAILS
REVISIONS:	
	6/13/2006 - Design Development Drawings
	3/6/2007 - Design Construction Drawings
	6/1/2007 - Updated Construction Drawings
	8/7/2007 - Updated Construction Drawings
SCALE:	NTS
DATE:	7/24/2007
DRAWN BY:	UMR
SHEET NO:	S33

 <p>TONGUE ON TOP SIP, GROOVE ON BOTTOM SIP</p> <p>SIP WALL</p> <p>2X4s CUT AT 45° ANGLE</p> <p>2X4 CUT AT 4.5° PLACED 24" O.C.</p> <p>5" CYPRESS</p> <p>10 1/2" ACQ 2X4</p> <p>1 1/2" CYPRESS</p> <p>3 1/16"</p> <p>EMPTY SPACE</p> <p>ALL 2X4s TO BE CONNECTED W/ 3" EXT. GRADE DECK SCREWS</p> <p>ALL CYPRESS TO BE MOUNTED W/ 2" TRIM HEAD SCREWS 8" O.C.</p>		<p>ALL CYPRESS TO BE MOUNTED W/ 2" TRIM HEAD SCREWS 8" O.C.</p>  <p>1 1/2"</p> <p>1 1/4"</p>		<div>2/2007 Solar House/VERSION AND CONSTRUCTION/Solar_House_1000.dwg</div> <div>2007 UMR SOLAR HOUSE ROLLA, MO</div>
C1	SOFFIT CROSS SECTION	C2	END CAP DETAIL	DRAWING TITLE: SOFFIT DETAIL
 <p>2X4s CUT AT 45° ANGLE</p> <p>6 1/2"</p> <p>6 1/2"</p> <p>2X1 2s CUT AT 45° ANGLE</p> <p>1X1 2 CYPRESS CUT AT 45° ANGLE</p> <p>ALL 2Xs TO BE MOUNTED W/ 3" EXT. GRADE DECK SCREWS AS NECESSARY</p> <p>ALL CYPRESS TO BE MOUNTED W/ 2" TRIM HEAD SCREWS 8" O.C.</p>		<p>ALL 2Xs TO BE MOUNTED W/ 3" EXT. GRADE DECK SCREWS AS NECESSARY</p> <p>ALL CYPRESS TO BE MOUNTED W/ 2" TRIM HEAD SCREWS 8" O.C.</p>  <p>1 1/2"</p> <p>1X1 2 CYPRESS</p> <p>1X1 2 CYPRESS CUT AT 43° ANGLE</p> <p>6 3/4"</p> <p>6 3/4"</p> <p>2X1 2 FIELD CUT TO SIZE</p> <p>2X1 2s CUT AT 43° ANGLE</p> <p>5"</p>		DESCRIPTION: CONSTRUCTION DETAILS
				REVISIONS:
				6/13/2006 - Design Development Drawings
				3/6/2007 - Design Construction Drawings
				6/1/2007 - Updated Construction Drawings
				8/7/2007 - Updated Construction Drawings
				SCALE:
				NTS
				DATE:
				7/24/2007
				DRAWN BY:
				UMR
				SHEET No:
C3	NW CORNER DETAIL	C4	SW CORNER DETAIL	S34

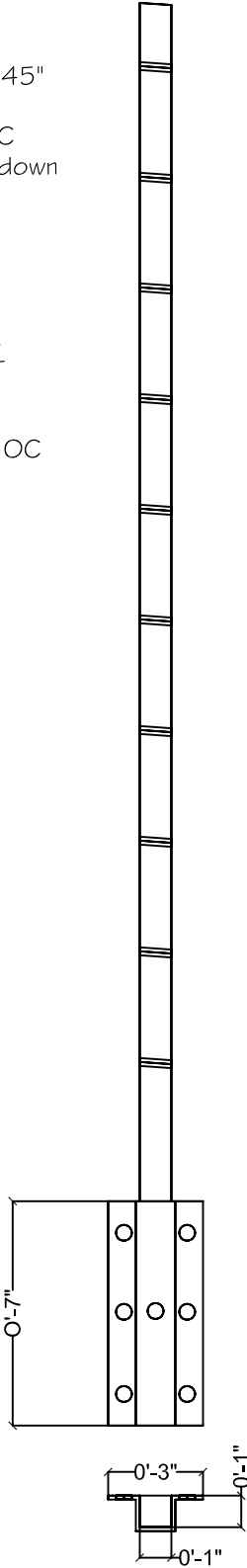
 <p>2X6 CUT AT 45° (BOTTOM) AND 18.5° (TOP)</p> <p>PIPE STRAPPING</p> <p>JOHNS MANVILLE ROOFING MEMBRANE</p> <p>1X8 ACQ LUMBER CUT TO SIZE</p> <p>T-BAR</p> <p>6-1/4"</p> <p>2X6 CUT AT 45°</p> <p>7"</p> <p>4 1/4"</p> <p>2X4 CUT AT 45° ANGLE</p> <p>2X4</p> <p>2X4</p> <p>1X12 CYPRESS</p>		<p>ALL CYPRESS TO BE MOUNTED W/ 2" TRIM HEAD SCREWS 8" O.C.</p> 		<div><div></div><div>2\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1200.dwg</div></div> <div>2007 UMR SOLAR HOUSE ROLLA, MO</div>
C5	SOFFIT WITH GUTTER CROSS SECTION	C6	END CAP DETAIL	DRAWING TITLE: SOFFIT DETAIL
 <p>2X4s CUT AT 45° ANGLE</p> <p>1'-2 1/4"</p> <p>2X12s CUT AT 45° ANGLE</p> <p>1X12 CYPRESS CUT AT 45° ANGLE</p> <p>ALL CYPRESS TO BE MOUNTED W/ 2" TRIM HEAD SCREWS 8" O.C.</p> <p>ALL 2Xs TO BE MOUNTED W/ 3" EXT. GRADE DECK SCREWS AS NECESSARY</p>		<p>ALL 2Xs TO BE MOUNTED W/ 3" EXT. GRADE DECK SCREWS AS NECESSARY</p>  <p>9 1/2"</p> <p>2X10</p> <p>11"</p> <p>1X12 CYPRESS</p> <p>2X4 CUT AT 45° ANGLE</p>		DESCRIPTION: CONSTRUCTION DETAILS
C7		C8		REVISIONS:
				6/13/2006 - Design Development Drawings
				3/6/2007 - Design Construction Drawings
				6/1/2007 - Updated Construction Drawings
				8/7/2007 - Updated Construction Drawings
				SCALE: NTS
				DATE: 7/24/2007
				DRAWN BY: UMR
				SHEET NO: S35

Ramp Post Notes

Post Dimensions- 1"x1"x45"
Cable Hole Size- 1/4"
Hole Spacing- 3-1/2" OC
Hole Angle- 4 degrees down
Top Angle- 4 degrees
Qty-9

RAMP BRACKET NOTES

BRACKET DIMENSIONS-
3"x1-1/8"x7"
BOLT HOLE SIZE- 1/2"
HOLE SPACING- 2-1/2" OC
HOLE ANGLE- 90
QTY-9

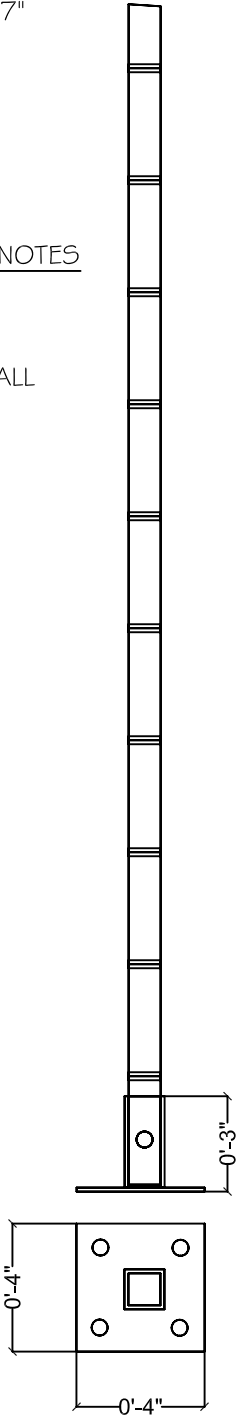


GROUND LEVEL 1 POST NOTES

POST DIMENSIONS- 1"x1"x37"
CABLE HOLE SIZE- 1/4"
HOLE SPACING- 3-1/2" OC
HOLE ANGLE- 90
TOP ANGLE- 4 DEGREES
QTY- 2

GROUND LEVEL 1 BRACKET NOTES

BRACKET DIMENSIONS-
4"x4"x2-7/8"
BOLT HOLE SIZE- 1/2"
HOLE SPACING- 3/4" FROM ALL
EDGES
HOLE ANGLE- 90
QTY-2

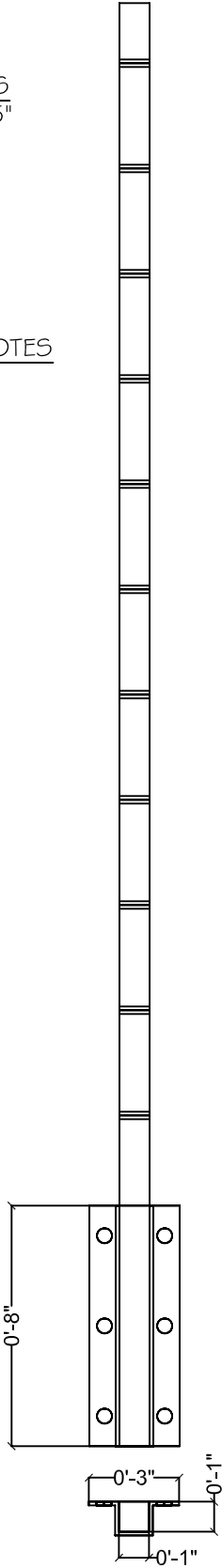


BACK ENTRANCE POST NOTES

POST DIMENSIONS- 1"x1"x45"
CABLE HOLE SIZE- 1/4"
HOLE SPACING- 3-1/2" OC
HOLE ANGLE- 90
TOP ANGLE- 90
QTY-5

BACK ENTRANCE BRACKET NOTES

BRACKET DIMENSIONS-
3"x1-1/8"x8"
BOLT HOLE SIZE- 1/2"
HOLE SPACING- 3-1/2" OC
HOLE ANGLE- 90
QTY-5



GENERAL NOTES

POST HOLES: BEGIN 2" FROM THE TOP
OF THE POSTS
FINISH: BLACK
CABLE SIZE: VINYL COATED 3/32"
BRACKET HOLES: 1" FROM TOP UNLESS
OTHERWISE NOTED
ALL MATERIALS MUST BE MINIMUM 1/8"
THICK STURCTURAL GRADE AA 6063
ALUMINUM

TOP RAIL NOTES

CONSTRUCTED FROM 1-1/4"
C-CHANNEL WITH MAXIMUM 1/8"
THICK FLANGES
MATERIAL TO BE FIELD CUT TO SIZE
AND INSTALLED ON SITE
FINISH: BLACK

TOP RAIL
LENGTHS

6'-2
10'-1
19'-2
12'-2
7'-1
5'-1
3'-5



2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:

EAST DECK
DETAILS

DESCRIPTION:

RAILING DETAILS

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

2" = 1'-0"
0 2" 4"

DATE:

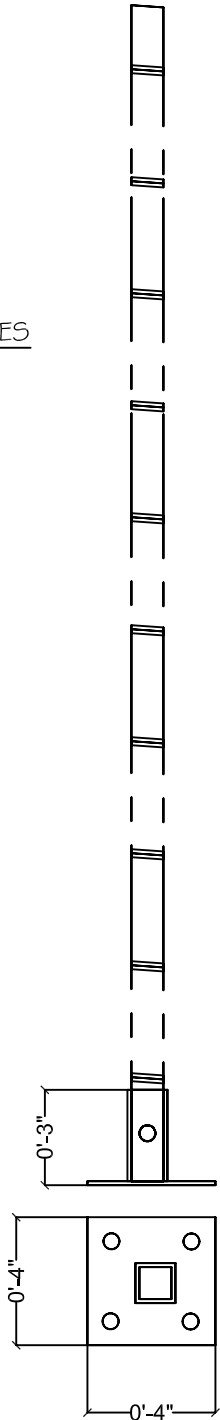
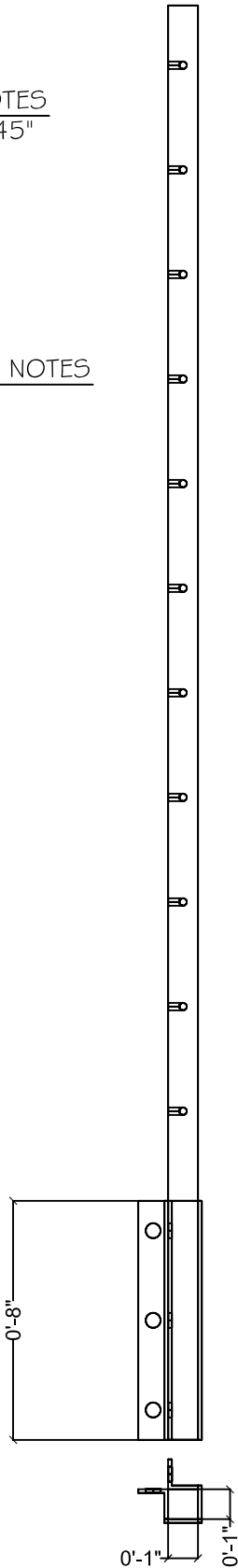
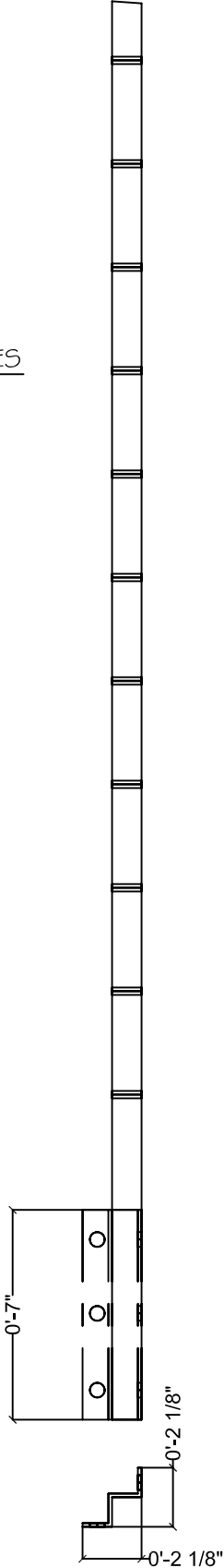


8/7/2007

DRAWN BY:

UMR

SHEET NO:

S36

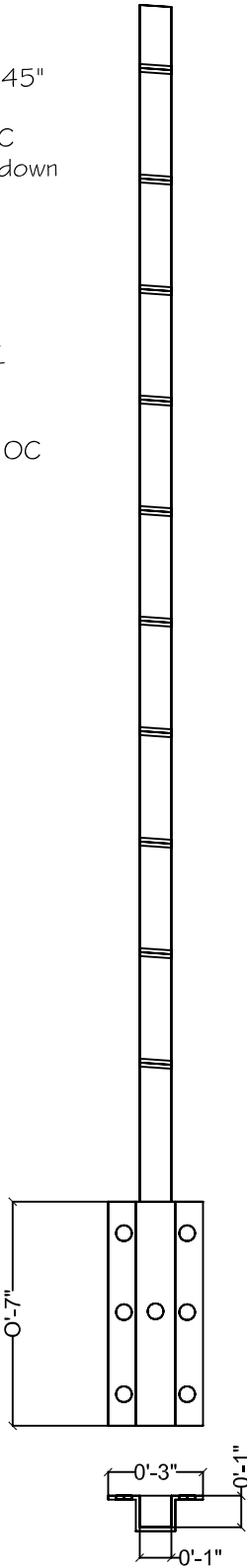
<div>GROUND LEVEL 2 POST NOTES POST DIMENSIONS- 1"x1"x37" CABLE HOLE SIZE- 1/4" HOLE SPACING- 3-1/2" OC HOLE ANGLE- 90 TOP ANGLE- 4 DEGREES QTY- 2</div> <div>GROUND LEVEL 2 BRACKET NOTES BRACKET DIMENSIONS- 4"x4"x2-7/8" BOLT HOLE SIZE- 1/2" HOLE SPACING- 3/4" FROM ALL EDGES HOLE ANGLE- 90 QTY-2</div> 		<div>OUTSIDE CORNER POST NOTES POST DIMENSIONS- 1"x1"x45" CABLE HOLE SIZE- 1/4" HOLE SPACING- 3-1/2" OC HOLE DEPTH: 3/4" HOLE ANGLE- 90 TOP ANGLE- 90 QTY-1</div> <div>OUTSIDE CORNER BRACKET NOTES BRACKET DIMENSIONS- 2-1/8"x2-1/8"x8" BOLT HOLE SIZE- 1/2" HOLE SPACING-3-1/2" OC HOLE ANGLE- 90 QTY-1</div> 		<div>INSIDE CORNER POST NOTES POST DIMENSIONS- 1"x1"x45" CABLE HOLE SIZE- 1/4" HOLE SPACING- 3-1/2" OC HOLE ANGLE- 90 TOP ANGLE- 90 QTY-1</div> <div>INSIDE CORNER BRACKET NOTES BRACKET DIMENSIONS- 2-1/8"x2-1/8"x7" BOLT HOLE SIZE- 1/2" HOLE SPACING-2-1/2" OC HOLE ANGLE- 90 QTY-1</div> 		<div> 2007 UMR SOLAR HOUSE ROLLA, MO</div> <div>DRAWING TITLE: EAST DECK DETAILS</div> <div>DESCRIPTION: RAILING DETAILS</div> <div>REVISIONS: 6/13/2006 - Design Development Drawings 3/6/2007 - Design Construction Drawings 6/1/2007 - Updated Construction Drawings 8/7/2007 - Updated Construction Drawings</div> <div>SCALE: 2" = 1'-0" </div> <div>DATE: 8/7/2007</div> <div>DRAWN BY: UMR</div> <div>SHEET NO: S37</div>
D 4	GROUND LEVEL 2 POST & BRACKET	D 5	OUTSIDE CORNER POST & BRACKET	D 6	INSIDE CORNER POST & BRACKET	

Ramp Post Notes

Post Dimensions- 1"x1"x45"
Cable Hole Size- 1/4"
Hole Spacing- 3-1/2" OC
Hole Angle- 4 degrees down
Top Angle- 4 degrees
Qty- 12

RAMP BRACKET NOTES

BRACKET DIMENSIONS-
3"x1-1/8"x7"
BOLT HOLE SIZE- 1/2"
HOLE SPACING- 2-1/2" OC
HOLE ANGLE- 90
QTY-9

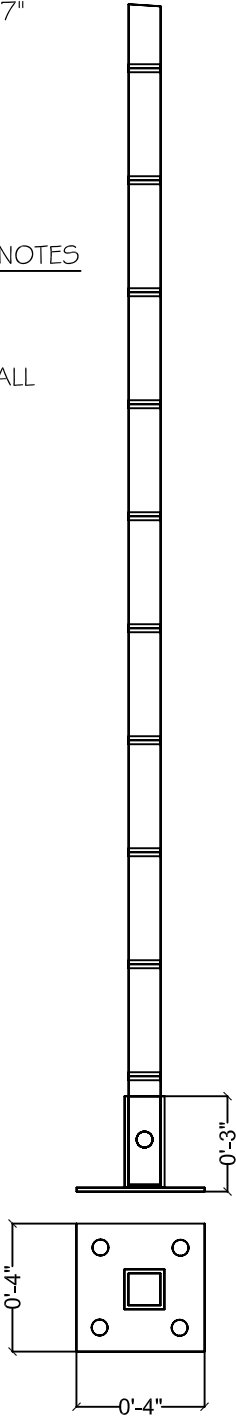


GROUND LEVEL 1 POST NOTES

POST DIMENSIONS- 1"x1"x37"
CABLE HOLE SIZE- 1/4"
HOLE SPACING- 3-1/2" OC
HOLE ANGLE- 90
TOP ANGLE- 4 DEGREES
QTY- 2

GROUND LEVEL 1 BRACKET NOTES

BRACKET DIMENSIONS-
4"x4"x2-7/8"
BOLT HOLE SIZE- 1/2"
HOLE SPACING- 3/4" FROM ALL
EDGES
HOLE ANGLE- 90
QTY-2

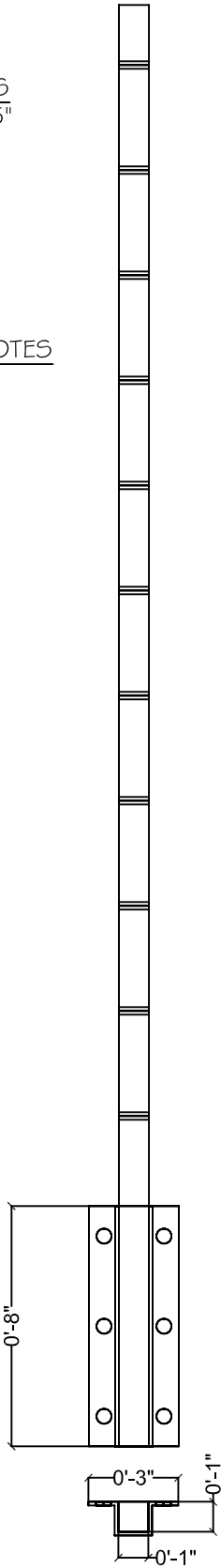


BACK ENTRANCE POST NOTES

POST DIMENSIONS- 1"x1"x45"
CABLE HOLE SIZE- 1/4"
HOLE SPACING- 3-1/2" OC
HOLE ANGLE- 90
TOP ANGLE- 90
QTY- 13

BACK ENTRANCE BRACKET NOTES

BRACKET DIMENSIONS-
3"x1-1/8"x8"
BOLT HOLE SIZE- 1/2"
HOLE SPACING- 3-1/2" OC
HOLE ANGLE- 90
QTY- 13



GENERAL NOTES

POST HOLES: BEGIN 2" FROM THE TOP
OF THE POSTS
FINISH: BLACK
CABLE SIZE: VINYL COATED 3/32"
BRACKET HOLES: 1" FROM TOP UNLESS
OTHERWISE NOTED
ALL MATERIALS MUST BE MINIMUM 1/8"
THICK STURCTURAL GRADE AA 6063
ALUMINUM

TOP RAIL NOTES

CONSTRUCTED FROM 1-1/4"
C-CHANNEL WITH MAXIMUM 1/8" THICK
FLANGES
MATERIAL TO BE FIELD CUT TO SIZE
AND INSTALLED ON SITE
FINISH: BLACK

TOP RAIL
LENGTHS

15'-1
11'-1
29'-2



2007 UMR
SOLAR HOUSE
ROTTA, MO

DRAWING TITLE:

WEST DECK
DETAILS

DESCRIPTION:

RAILING DETAILS

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

2" = 1'-0"
0 2" 4"

DATE:

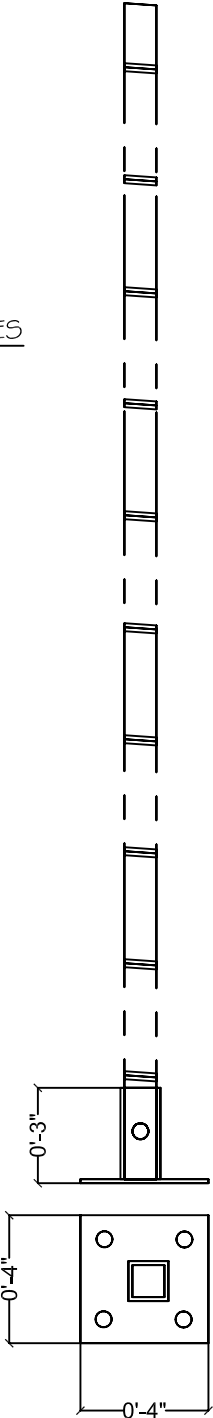
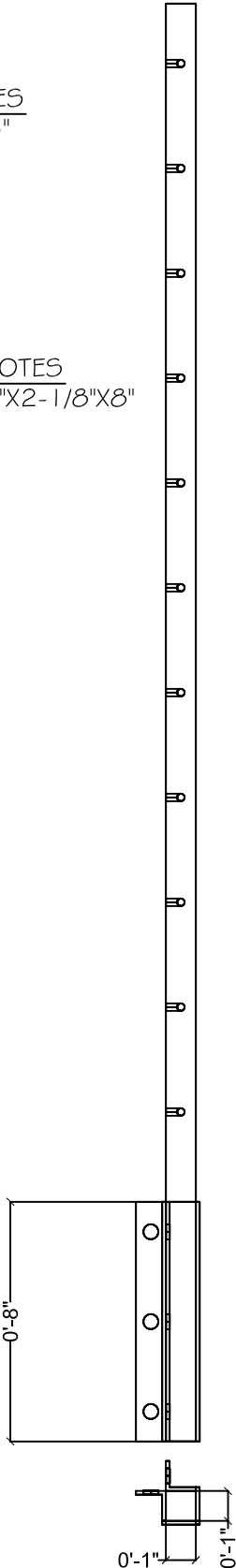
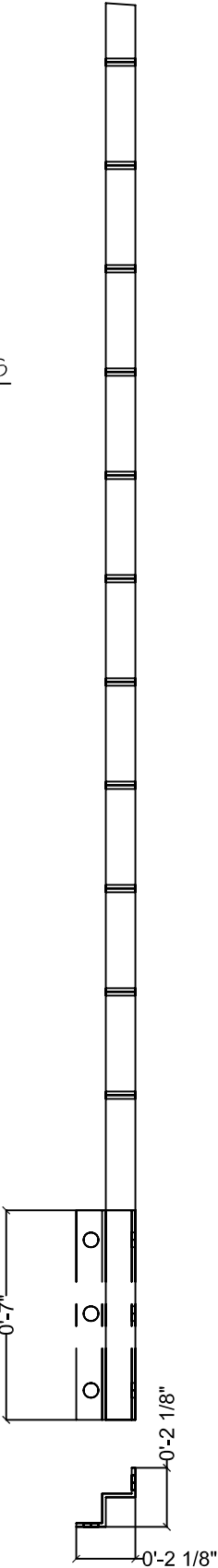

8/7/2007

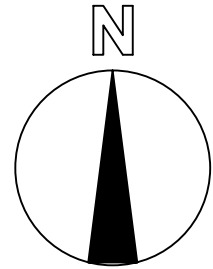
DRAWN BY:

UMR

SHEET NO:

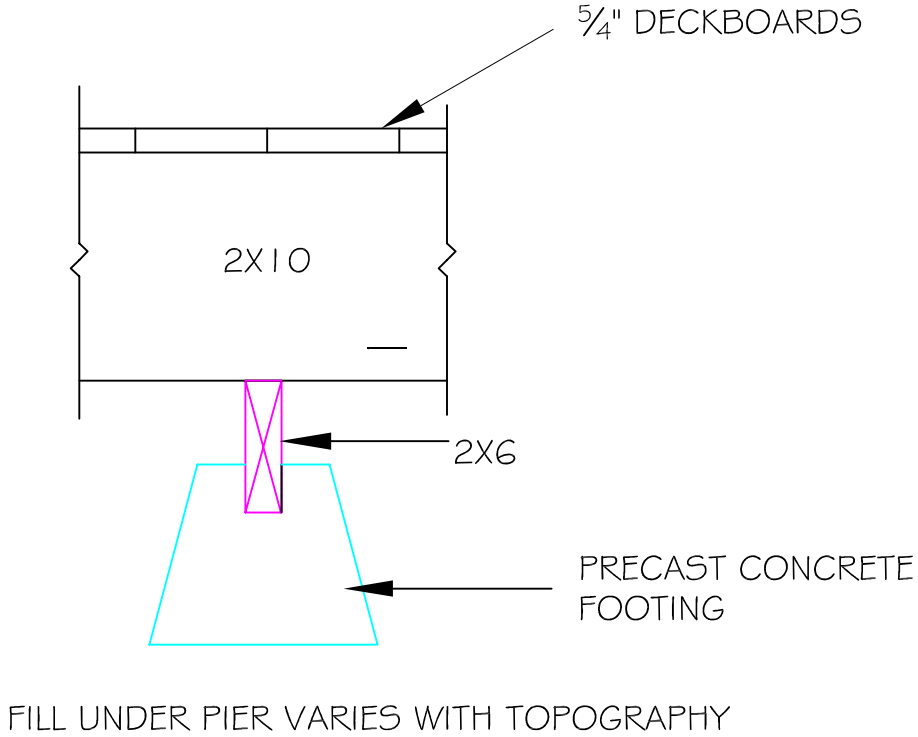
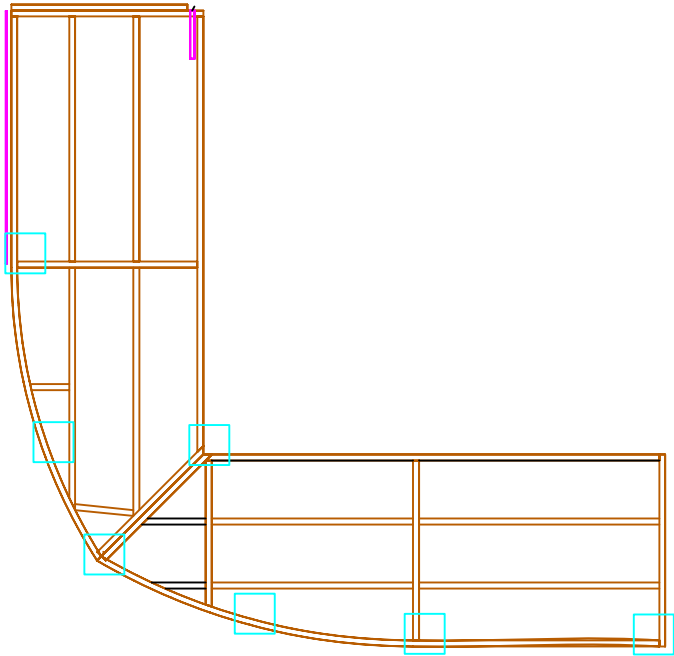
S38

<div>GROUND LEVEL 2 POST NOTES POST DIMENSIONS- 1"x1"x37" CABLE HOLE SIZE- 1/4" HOLE SPACING- 3-1/2" OC HOLE ANGLE- 90 TOP ANGLE- 4 DEGREES QTY- 2</div> <div>GROUND LEVEL 2 BRACKET NOTES BRACKET DIMENSIONS- 4"x4"x2-7/8" BOLT HOLE SIZE- 1/2" HOLE SPACING- 3/4" FROM ALL EDGES HOLE ANGLE- 90 QTY-2</div> 		<div>OUTSIDE CORNER POST NOTES POST DIMENSIONS- 1"x1"x45" CABLE HOLE SIZE- 1/4" HOLE SPACING- 3-1/2" OC HOLE DEPTH: 3/4" HOLE ANGLE- 90 TOP ANGLE- 90 QTY-1</div> <div>OUTSIDE CORNER BRACKET NOTES BRACKET DIMENSIONS- 2-1/8"x2-1/8"x8" BOLT HOLE SIZE- 1/2" HOLE SPACING-3-1/2" OC HOLE ANGLE- 90 QTY-3</div> 		<div>INSIDE CORNER POST NOTES POST DIMENSIONS- 1"x1"x45" CABLE HOLE SIZE- 1/4" HOLE SPACING- 3-1/2" OC HOLE ANGLE- 90 TOP ANGLE- 90 QTY-3</div> <div>INSIDE CORNER BRACKET NOTES BRACKET DIMENSIONS- 2-1/8"x2-1/8"x7" BOLT HOLE SIZE- 1/2" HOLE SPACING-2-1/2" OC HOLE ANGLE- 90 QTY-4</div> 		<div> 2007 UMR SOLAR HOUSE ROLLA, MO</div> <div>DRAWING TITLE: WEST DECK DETAILS</div> <div>DESCRIPTION: RAILING DETAILS</div> <div>REVISIONS: 6/13/2006 - Design Development Drawings 3/6/2007 - Design Construction Drawings 6/1/2007 - Updated Construction Drawings 8/7/2007 - Updated Construction Drawings</div> <div>SCALE: 2"= 1'-0" 0 2" 4"</div> <div>DATE: 8/7/2007</div> <div>DRAWN BY: UMR</div> <div>SHEET NO:</div> <div>S39</div>
D 4	GROUND LEVEL 2 POST & BRACKET	D 5	OUTSIDE CORNER POST & BRACKET	D 6	INSIDE CORNER POST & BRACKET	



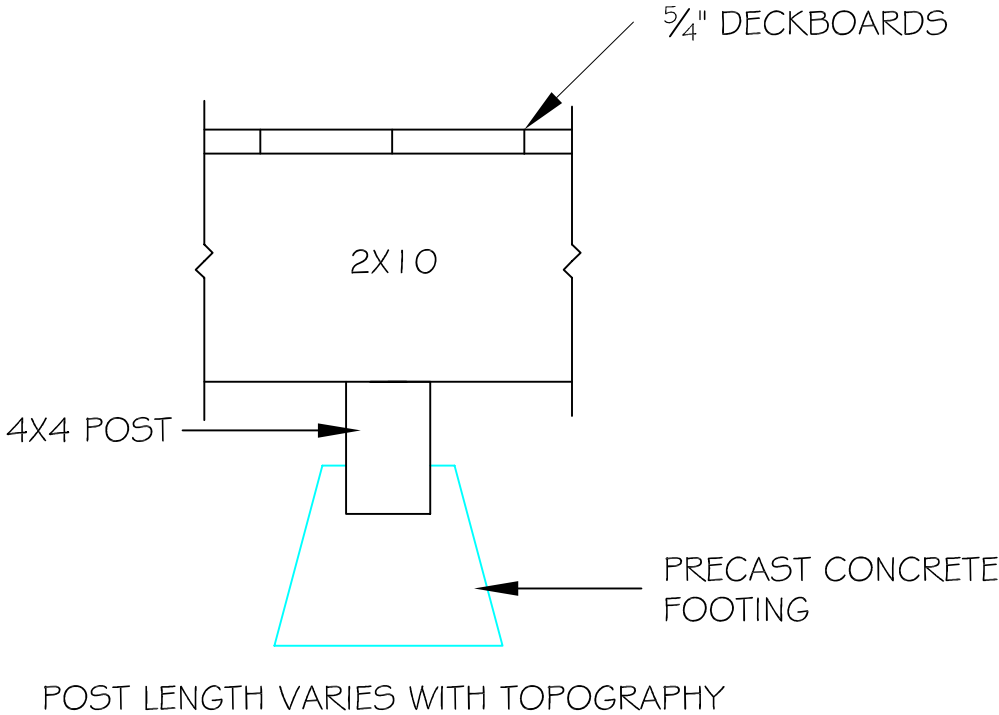
GENERAL NOTES:

- 1. ALL JOISTS & BEAMS ARE FIR 2 X 10
- 2. ALL POSTS ARE FIR 4 X 4
- 3. DECKING: 5 / 4 X 6 (NOMINAL SIZE) , RUNS PERPENDICULAR TO JOISTS
- 4. SHIM FOOTINGS AS REQUIRED DUE TO TOPOGRAPHY
- 5. RAMP SECTIONS AND STAIRS DETACH FROM DECK AT LOCATIONS OF DOUBLE JOISTS WITH STAINLESS STEELCARRIAGE BOLTS TO BE APPROVED BY THE ENGINEER.



E 1

DECKING SUPPORT DETAIL



E 2

DECKING SUPPORT DETAIL

S:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1.DWG

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
DECK FRAMING
PLAN

DESCRIPTION:
WEST DECK

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/3/2008 - Updated
Construction Drawings

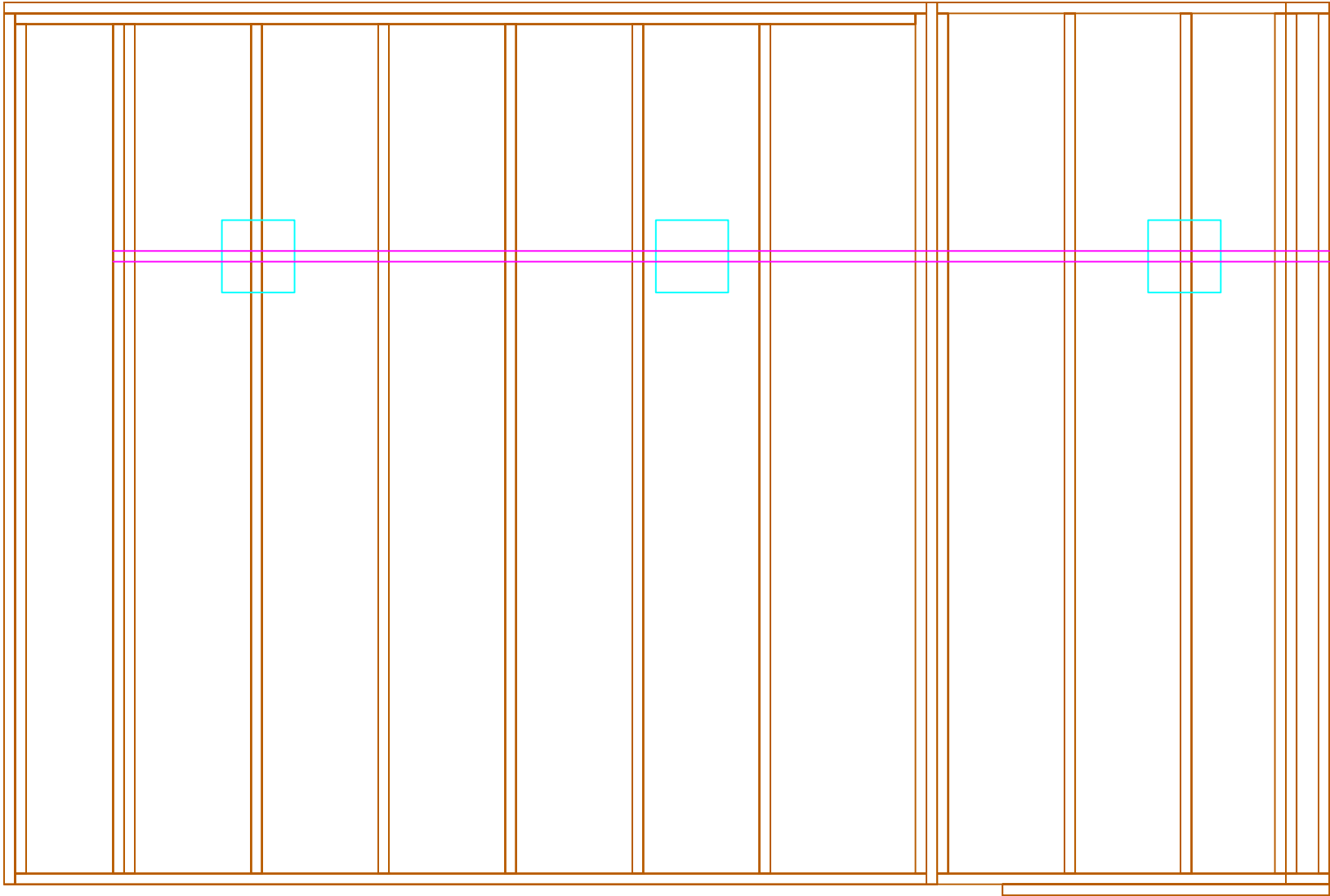
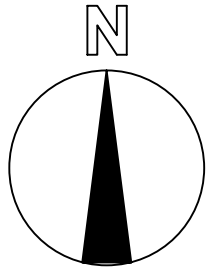
SCALE:
1/4" = 1'-0"
0 4' 8'

DATE:
7/24/2007

DRAWN BY:
UMR

SHEET No:

S40



GENERAL NOTES:
1. ALL JOISTS & BEAMS ARE FIR 2 X 10
2. ALL POSTS ARE FIR 4 X 4
3. DECKING: 5 / 4 X 6 (NOMINAL SIZE) ,
RUNS PERPENDICULAR TO JOISTS
4. SHIM FOOTINGS AS REQUIRED DUE TO TOPOGRAPHY
5. RAMP SECTIONS AND STAIRS DETACH FROM DECK AT
LOCATIONS OF DOUBLE JOISTS WITH STAINLESS STEEL
CARRIAGE BOLTS TO BE APPROVED BY THE ENGINEER.

S:\2007 Solar House\SECTION AND CONSTRUCTION\Solar_House_1.DWG

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
DECK FRAMING
PLAN

DESCRIPTION:
EAST DECK

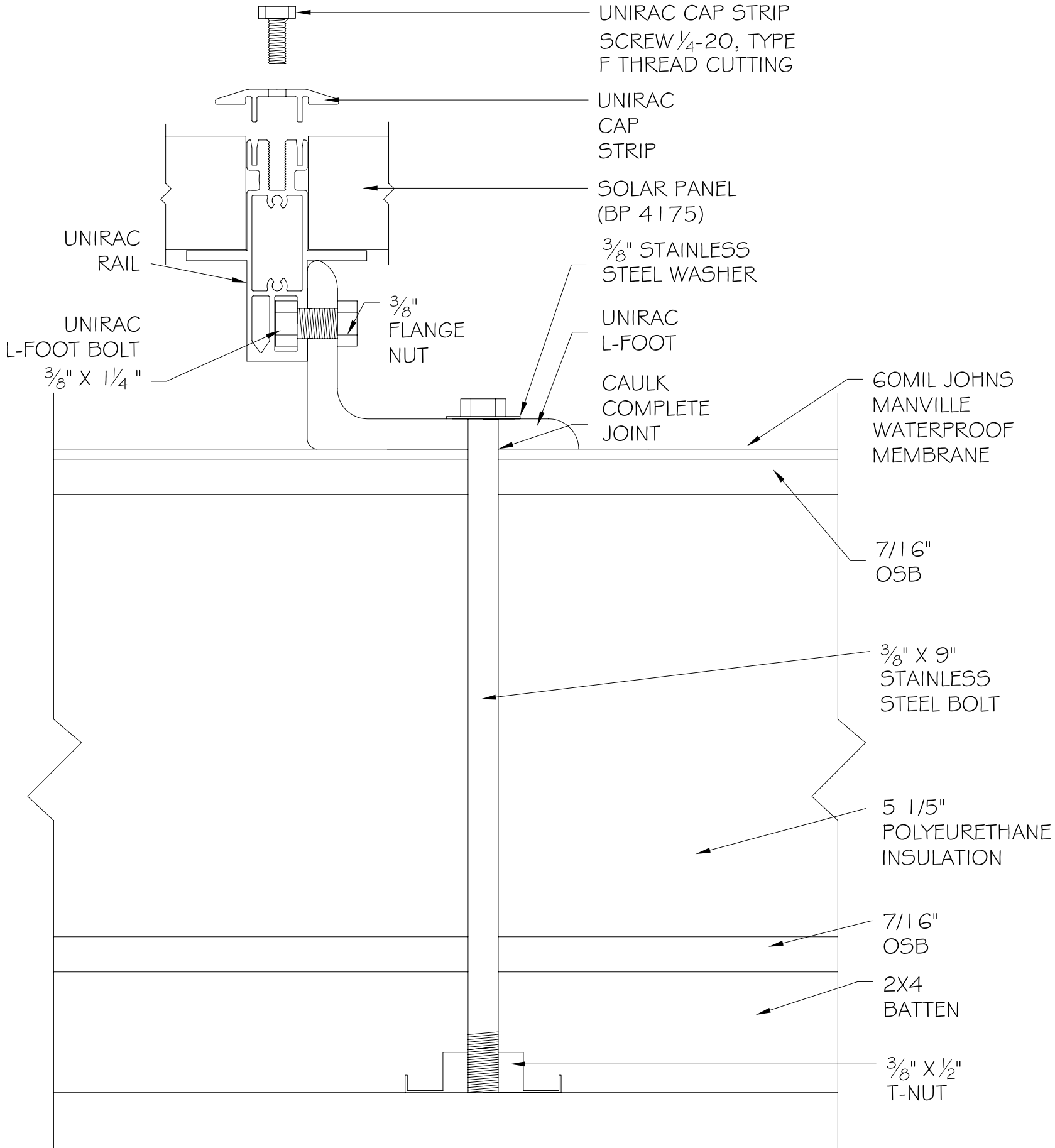
REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings
1/4/2008 - Updated
Construction Drawings

SCALE:
1/4" = 1'-0"
0 4' 8'

DATE:
8-7-07

DRAWN BY:
UMR

SHEET NO:
S41



2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:

UNIRAC DETAILS

DESCRIPTION:

MOUNTING DETAIL

REVISIONS:

6/13/2006 - Design
Development Drawings

3/6/2007 - Design
Construction Drawings

6/1/2007 - Updated
Construction Drawings

8/7/2007 - Updated
Construction Drawings

SCALE:

NTS

DATE:

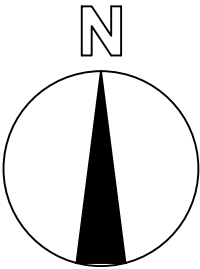
8-7-07

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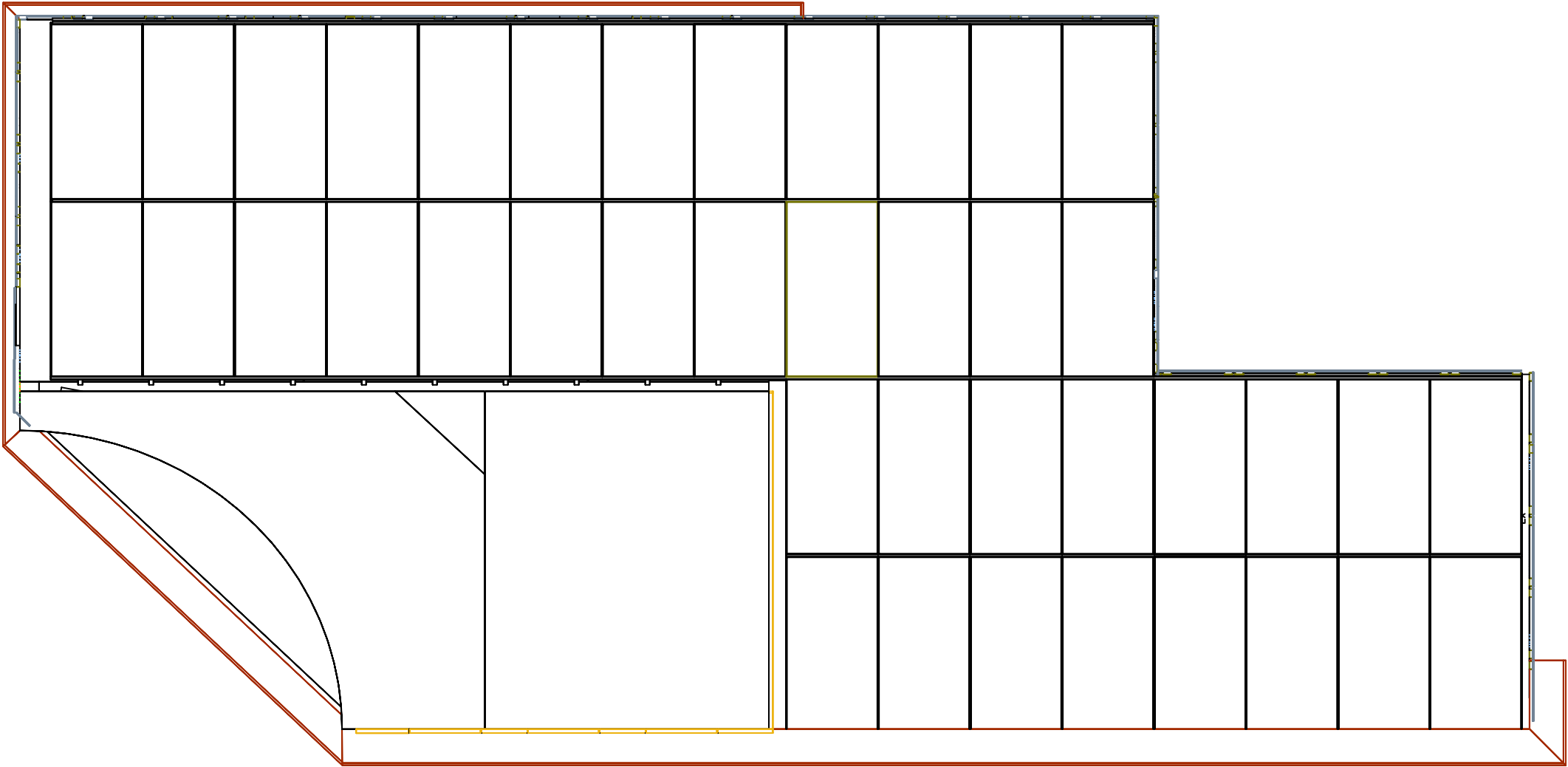
UMR

SHEET No:

S42



NOTES
PANEL MANUFACTURER: BP SOLAR
MODEL: 4175
PANEL DIMENSIONS: 62-3/4" X 31-1/8" X 1-1/2"
PANEL ANGLE: 18.5 FROM HORIZONTAL
FOR MOUNTING DETAILS, SEE SHEETS 529-530



Z:\2007 Solar House\SECTION AND CONSTRUCTION\Solar_House_LAYOUT.dwg

**2007 UMR
SOLAR HOUSE
ROLLA, MO**

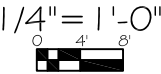
DRAWING TITLE:
PHOTOVOLTAIC
LAYOUT

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings

SCALE:

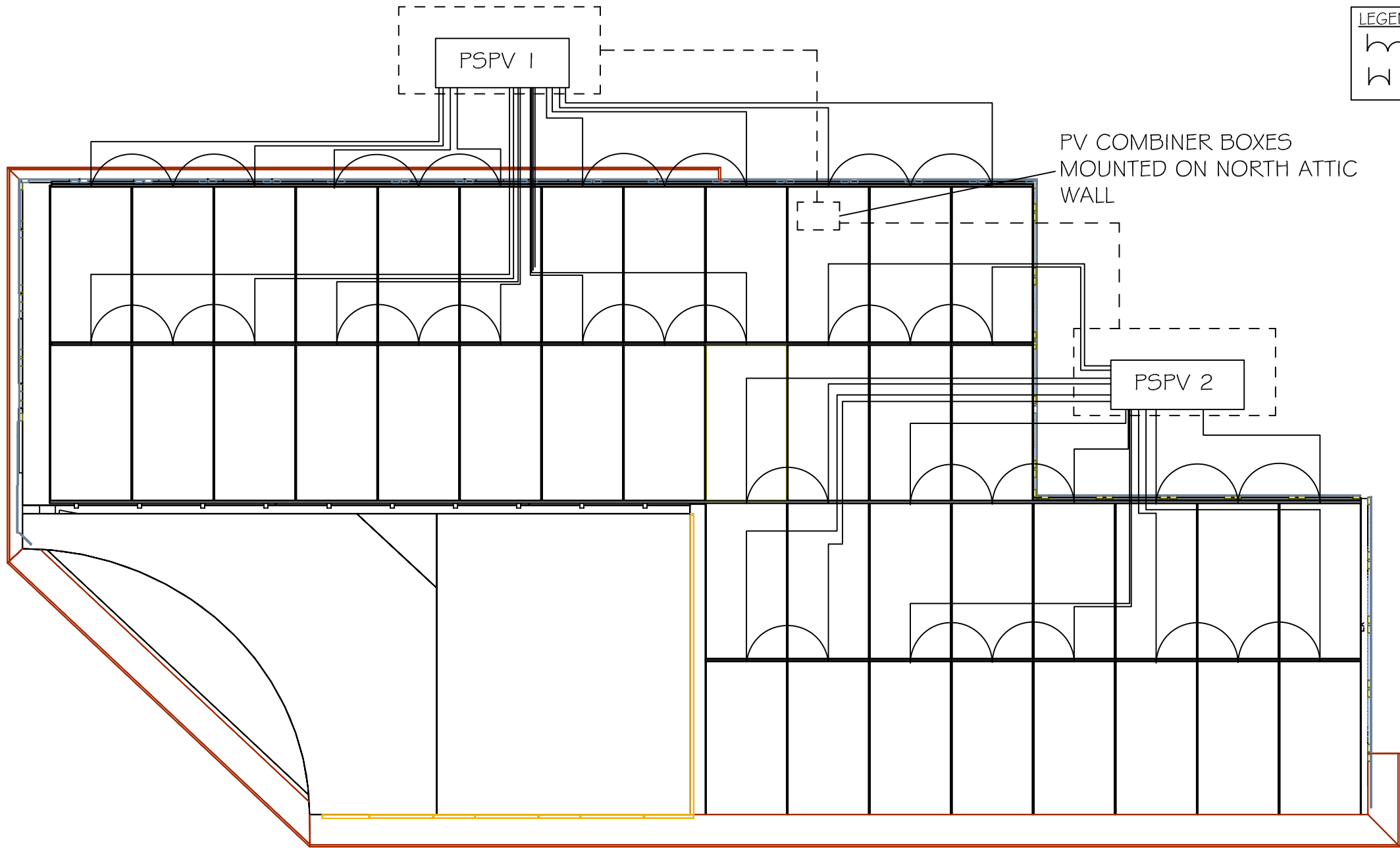
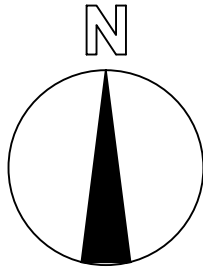


DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:

E1



LEGEND:
W 72 V SUBARRAY
V 48 V SUBARRAY

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
PV WIRING PLAN

DESCRIPTION:

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
NTS

DATE:
7/24/2007

DRAWN BY:
UMR

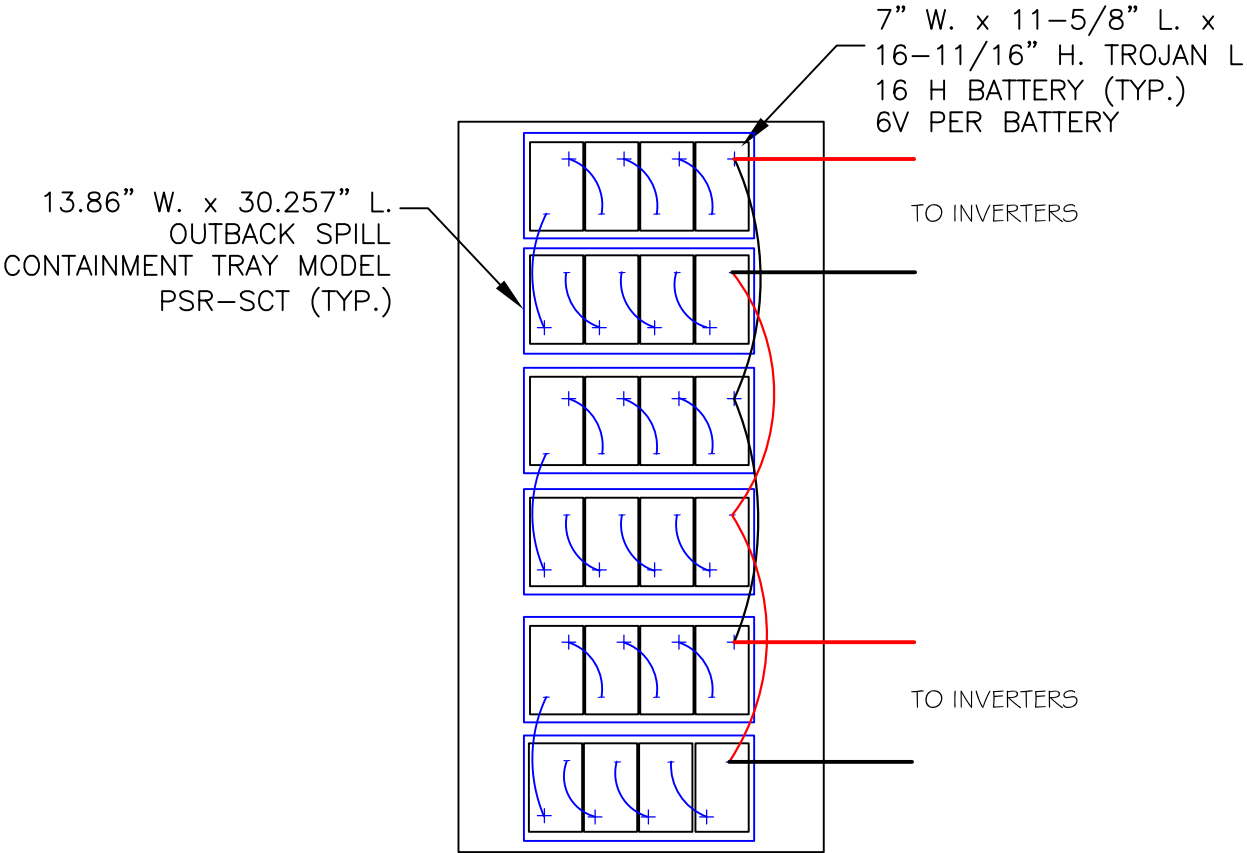
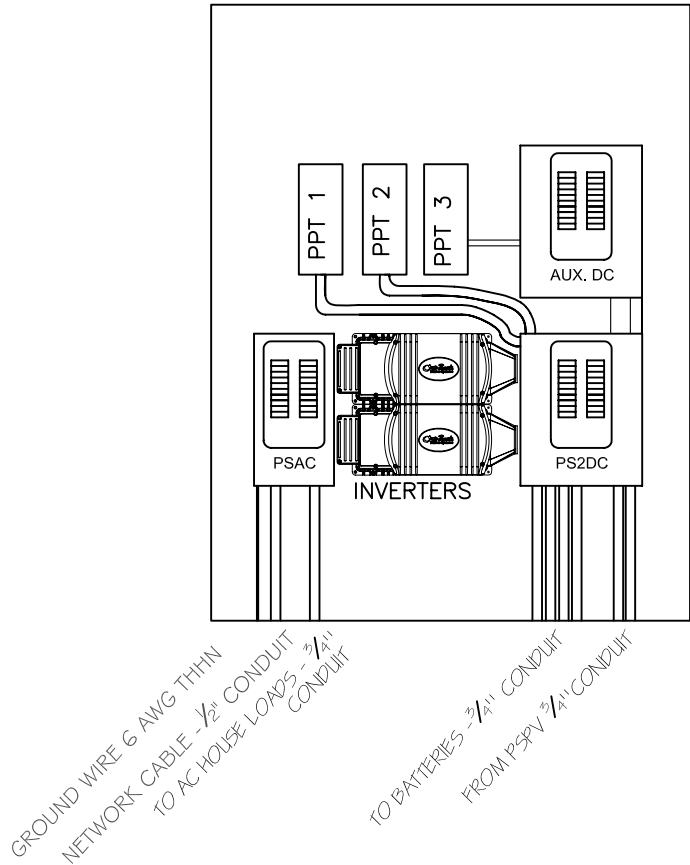
SHEET NO:

E2

SOLAR PANELS
MANUFACTURER: BP SOLAR
MODEL: 4175
RATED POWER: 175 W
MAX VOLTAGE: 35.7 V

NOTES
SUBARRAY 1: 3.675 kW
SUBARRAY 2: 2.625 kW
SUBARRAY 3: .7 kW
TOTAL ARRAY: 7.0 kW

NOTES
PSPV HAS A MAX LIMIT OF 12 CIRCUITS @ 60 AMPS EACH
MPPT HAS A MAX 140 VOC
EACH PANEL HAS A 44 VOC MAX, THEREFORE EACH STRING
HAS A 132 VOC MAX
MPPT ACCEPTS MAX 4800 W



NOTES:
48V SERIES STRING
BATTERY TEMRINALS CONNECTED WITH 2 pairs of 2/0 CABLE



2007 UMR
SOLAR HOUSE
ATTORNO

DRAWING TITLE:
PV SYSTEM
DETAIL

DESCRIPTION:

REVISIONS:
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings

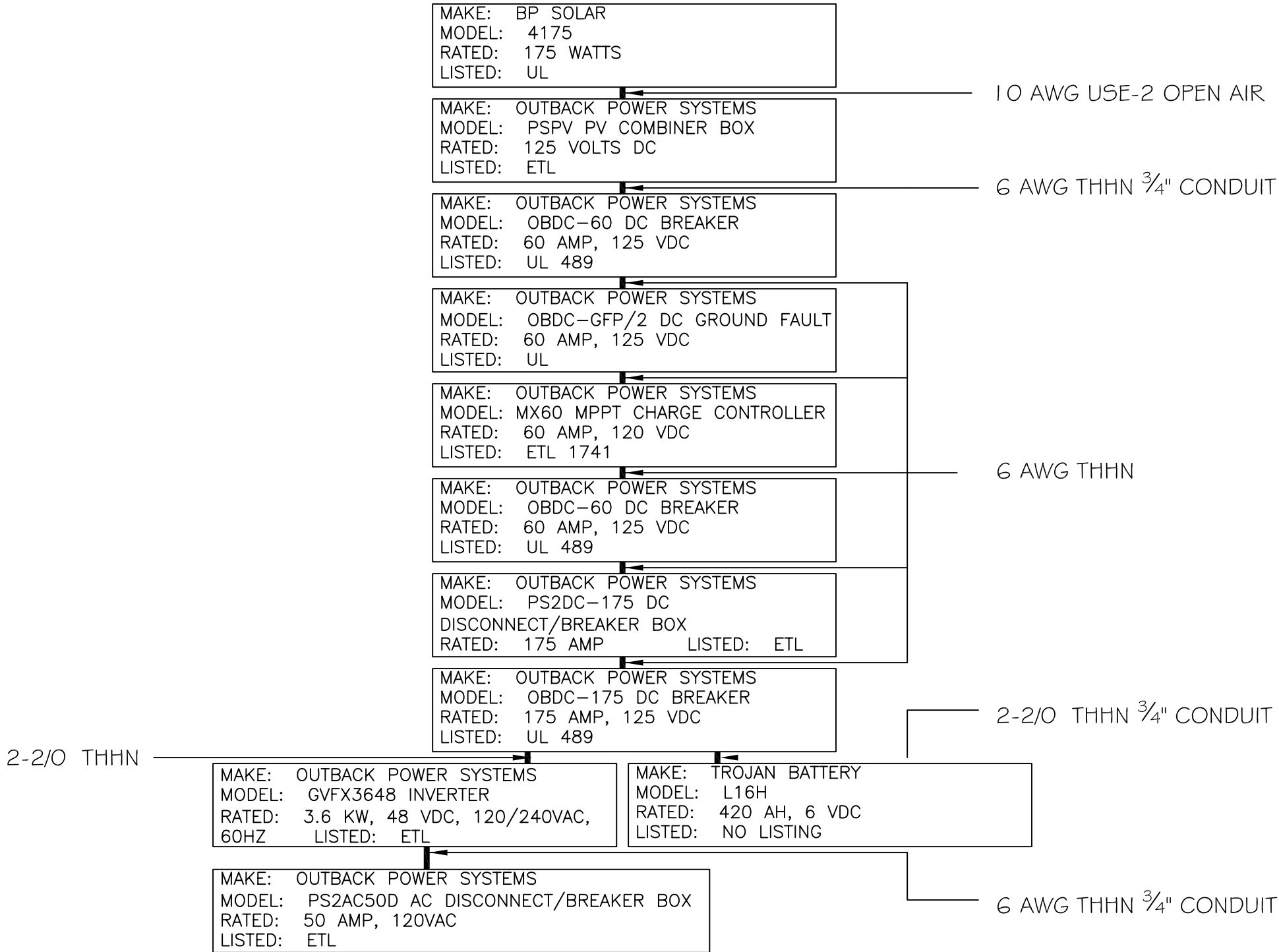
SCALE:
1/4" = 1'-0"
0 2' 4'

DATE:
2/3/2007

DRAWN BY:
UMR

SHEET No:

E3



S:\2007 Solar House\DESIGN AND CONSTRUCTION\Solar_House_1.DWG.dwg

2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:

ONE LINE
DRAWING

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design
Development Drawings
- 3/6/2007 - Design
Construction Drawings
- 6/1/2007 - Updated
Construction Drawings
- 8/7/2007 - Updated
Construction Drawings

SCALE:

NTS

DATE:

7/24/2007

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E4





2007 UMR
SOLAR HOUSE
ROLLA, MO

- 1

Mech./Attic outlet & Mech./Shower Light
- 3

Bathroom Sconces
- 5

Bathroom Light/Fan
- 7

Bedroom Fan/Light/Sconces
- 9

Back Deck Lights/Front Entrance Lights
- 11

Bedroom Outlets
- 13

Dining Room Outlets
- 15

Back Deck/Bedroom North Outlets
- 17

Refridgerator
- 19

Dishwasher/Water Pumps
- 21

Living Room Outlets
- 23

A/C Condenser/Air Handler
- 25

A/C Condenser/Air Handler
- 27

Isand Outlet
- 29

Home Automation Closet Outlet
- 2

Kitchen Outlets
- 4

Bathroom Outlets
- 6

Dining/Hallway Outlets
- 8

TV/Entertainment Outlets
- 10

Office Outlets/Light
- 12

Washer/Dryer & Hallway Outlets
- 14

Kitchen Lights
- 16
- 18

Living Room Sconces
- 20

Car Charging Outlet
- 22

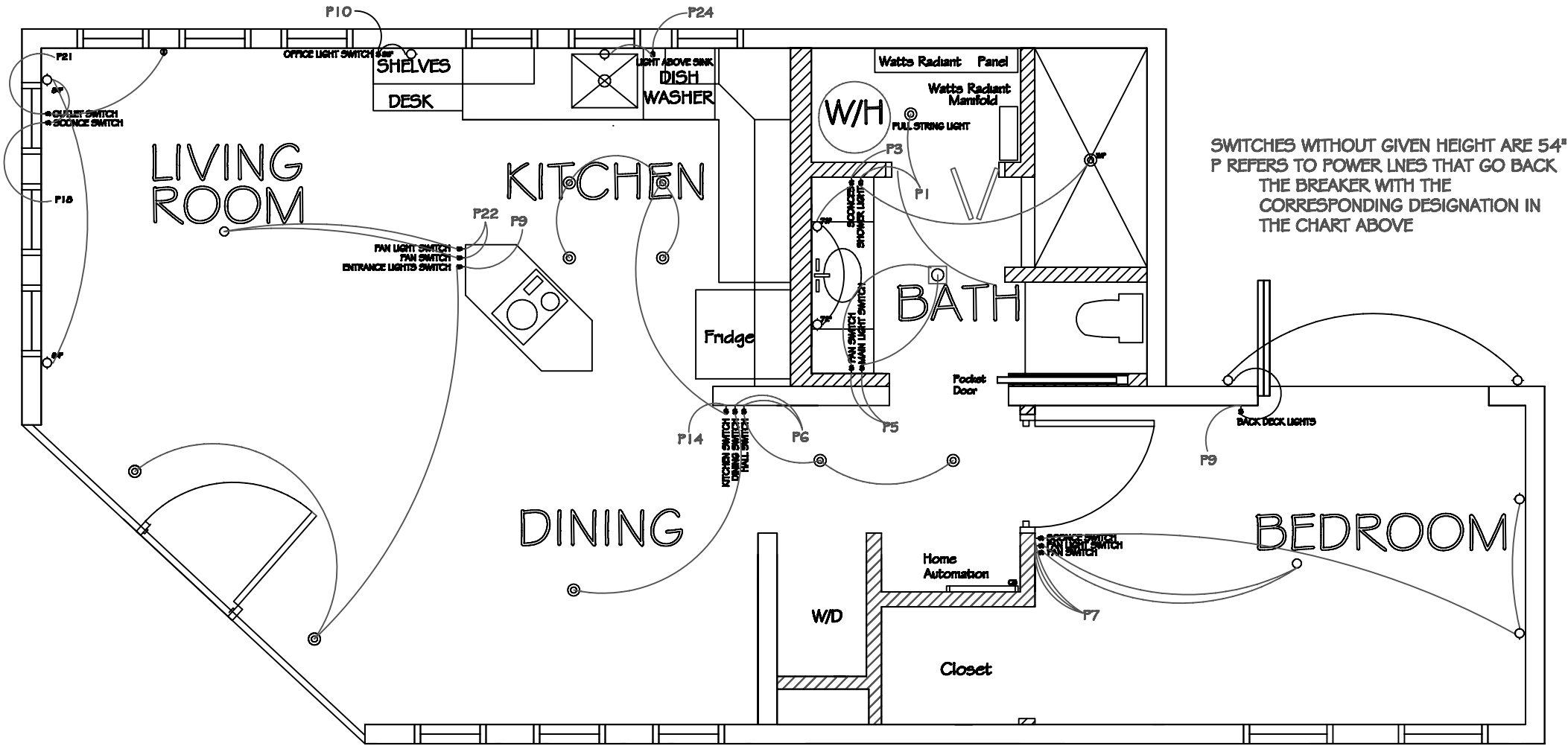
Fan and Fan Light Switch
- 24

Light Above Kitchen Sink
- 26

Water Heater Outlets
- 28

Pump Board Outlet
- 30

Island Light



DRAWING TITLE:
LIGHTING
SWITCHES AND
WIRING

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design
- Development Drawings
- 3/6/2007 - Design
- Construction Drawings
- 6/1/2007 - Updated
- Construction Drawings
- 8/7/2007 - Updated
- Construction Drawings

SCALE:

1/4" = 1'-0"

DATE:

7/24/2007

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SHEET NO:

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2007 UMR
SOLAR HOUSE
ROLLA, MO

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

- 1

Mech./Attic outlet & Mech./Shower Light
- 3

Bathroom Sconces
- 5

Bathroom Light/Fan
- 7

Bedroom Fan/Light/Sconces
- 9

Back Deck Lights/Front Entrance Lights
- 11

Bedroom Outlets
- 13

Dining Room Outlets
- 15

Back Deck/Bedroom North Outlets
- 17

Refridgerator
- 19

Dishwasher/Water Pumps
- 21

Living Room Outlets
- 23

A/C Condenser/Air Handler
- 25

A/C Condenser/Air Handler
- 27

Isand Outlet
- 29

Home Automation Closet Outlet
- 2

Kitchen Outlets
- 4

Bathroom Outlets
- 6

Dining/Hallway Outlets
- 8

TV/Entertainment Outlets
- 10

Office Outlets/Light
- 12

Washer/Dryer & Hallway Outlets
- 14

Kitchen Lights
- 16
- 18

Living Room Sconces
- 20

Car Charging Outlet
- 22

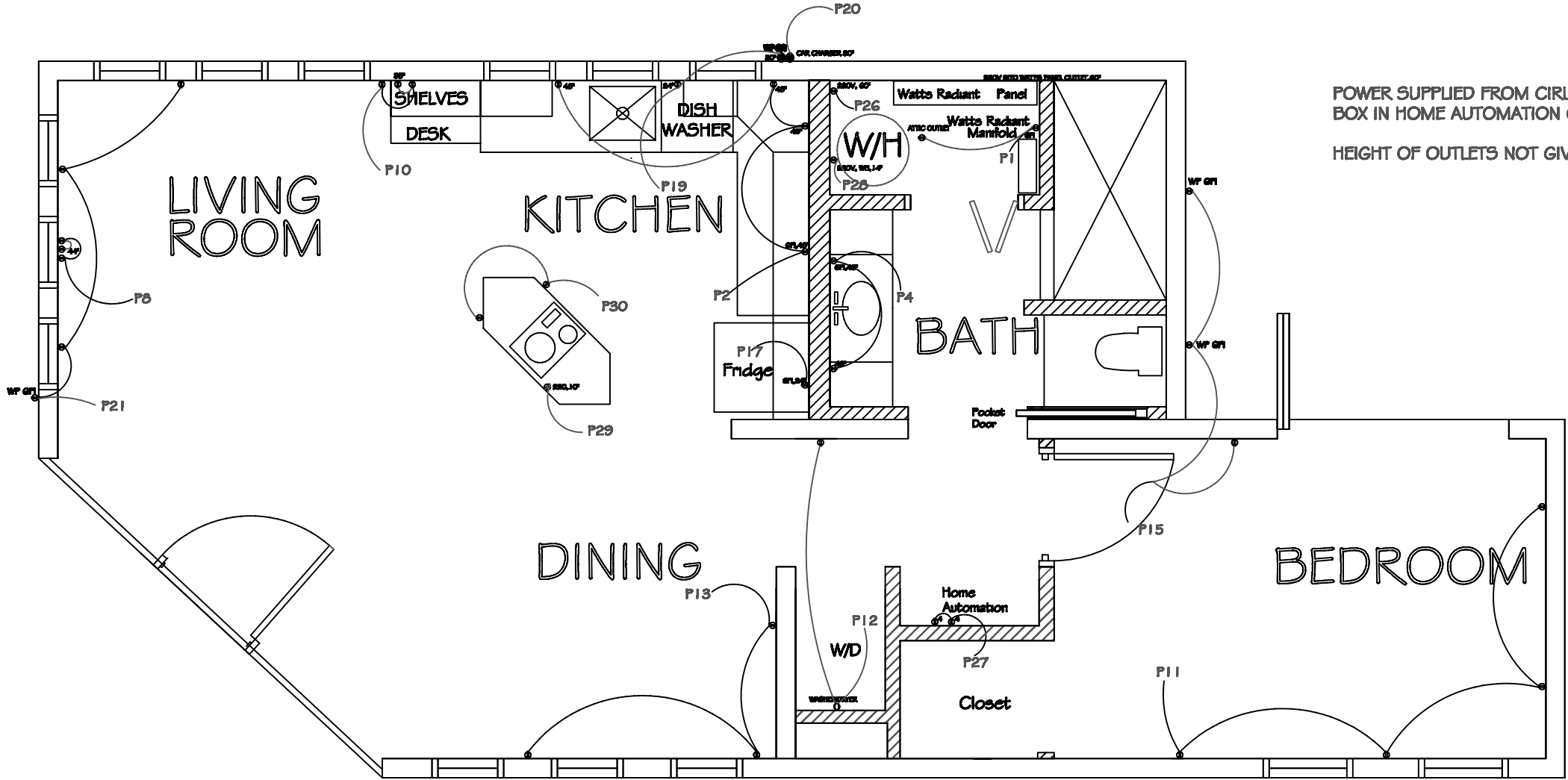
Fan and Fan Light Switch
- 24

Light Above Kitchen Sink
- 26

Water Heater Outlets
- 28

Pump Board Outlet
- 30

Island Light



POWER SUPPLIED FROM CIRUIT BREAKER
BOX IN HOME AUTOMATION CLOSET

HEIGHT OF OUTLETS NOT GIVEN ARE 18"

DRAWING TITLE:
ELECTRICAL
OUTLETS AND
WIRING

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design
- Development Drawings
- 3/6/2007 - Design
- Construction Drawings
- 6/1/2007 - Updated
- Construction Drawings
- 8/7/2007 - Updated
- Construction Drawings

SCALE:

1/4" = 1'-0"

DATE:

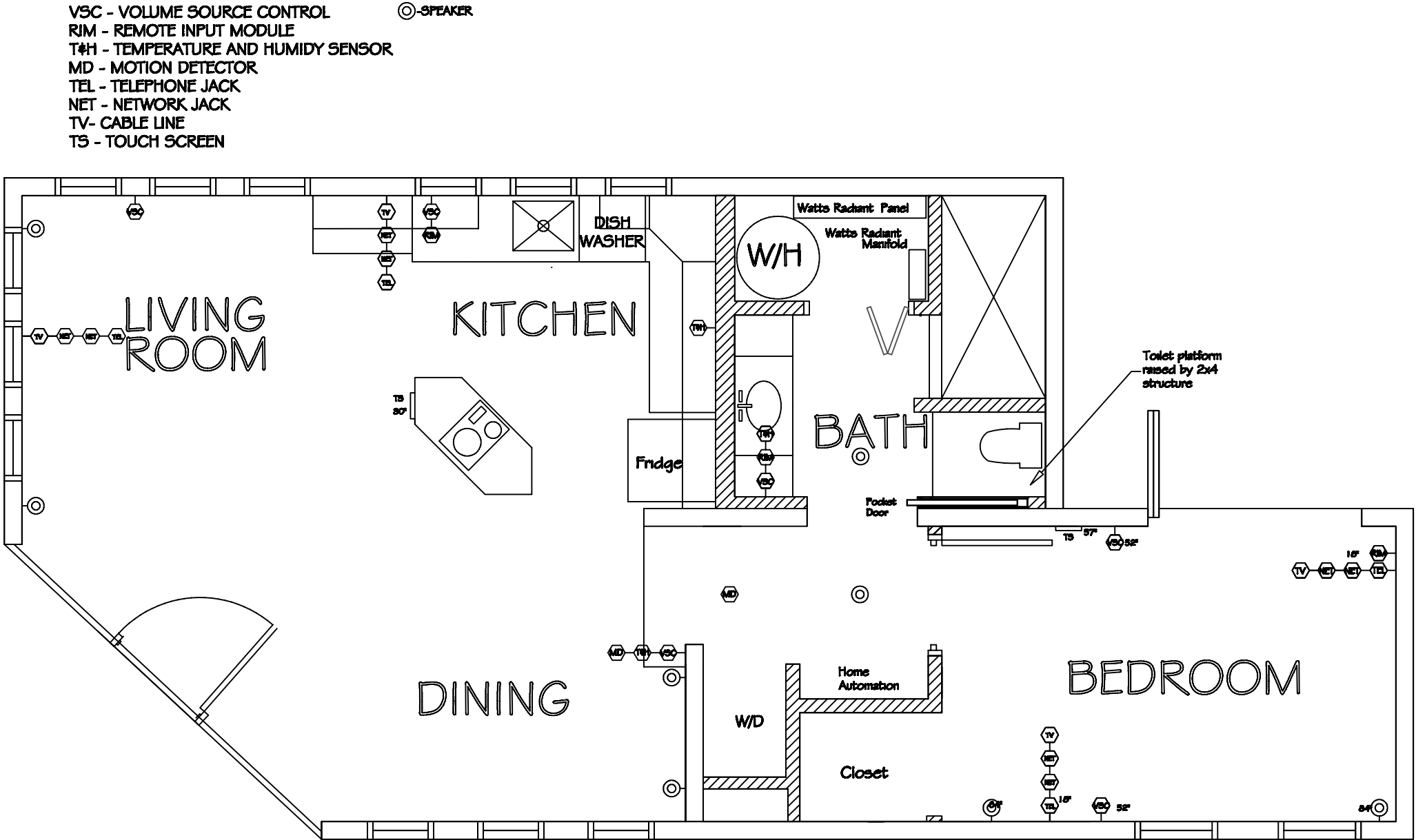
7/24/2007

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SHEET NO:

E7



2007 UMR SOLAR HOUSE ROLLA, MO

DRAWING TITLE:
HOME
AUTOMATION
COMPONENTS

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design
Development Drawings
- 3/6/2007 - Design
Construction Drawings
- 6/1/2007 - Updated
Construction Drawings
- 8/7/2007 - Updated
Construction Drawings

SCALE:

1/4" = 1'-0"
0 1' 2'

DATE:

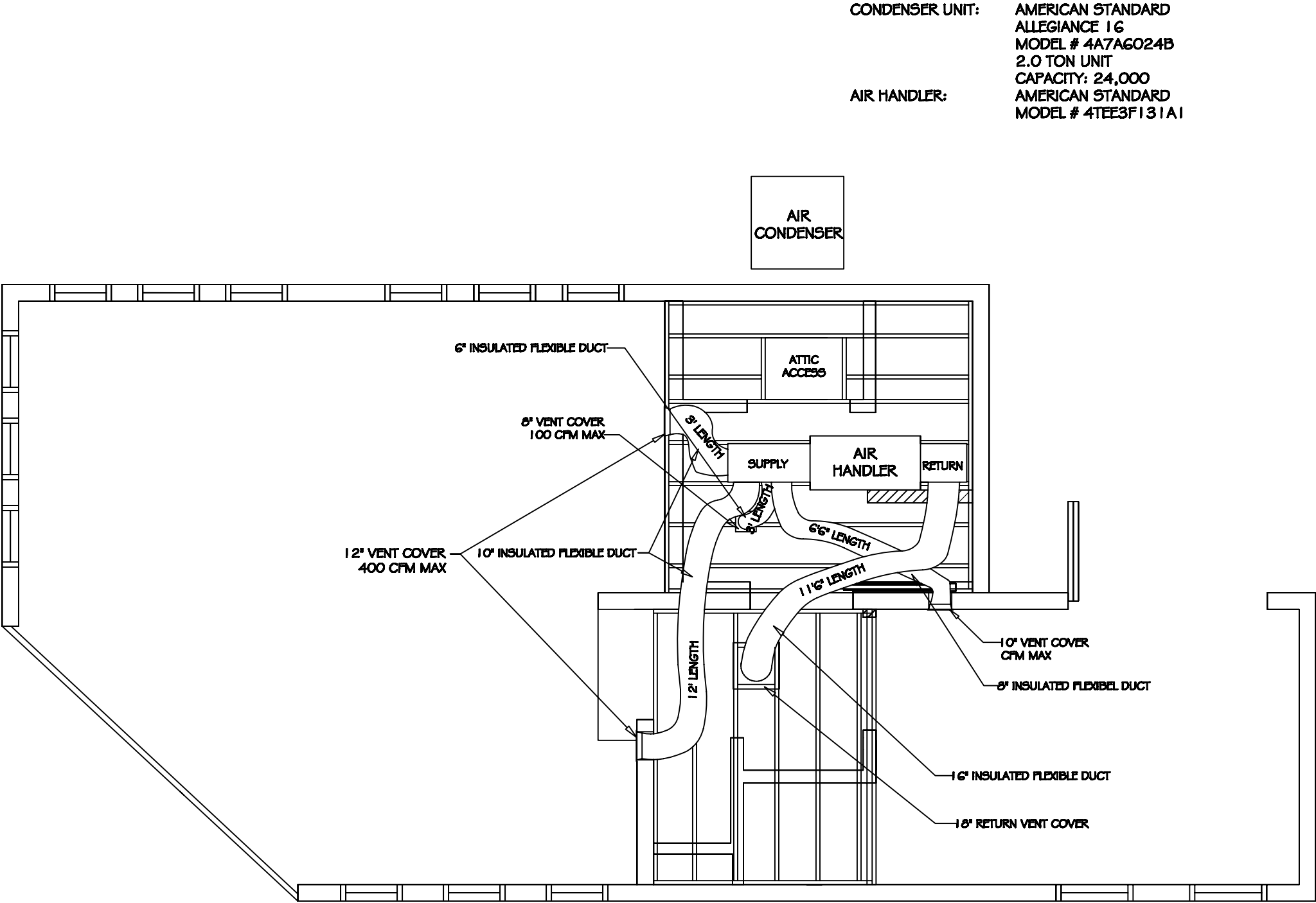
7/24/2007

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SHEET NO:

E8



CONDENSER UNIT: AMERICAN STANDARD
ALLEGIANCE 16
MODEL # 4A7AG024B
2.0 TON UNIT
CAPACITY: 24,000
AIR HANDLER: AMERICAN STANDARD
MODEL # 4TEE3F131A1



2007 UMR
SOLAR HOUSE
ROLLA, MO

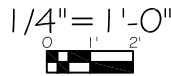
DRAWING TITLE:
AIR
CONDITIONING
PLAN

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design
Development Drawings
- 3/6/2007 - Design
Construction Drawings
- 6/1/2007 - Updated
Construction Drawings
- 8/7/2007 - Updated
Construction Drawings

SCALE:



DATE:

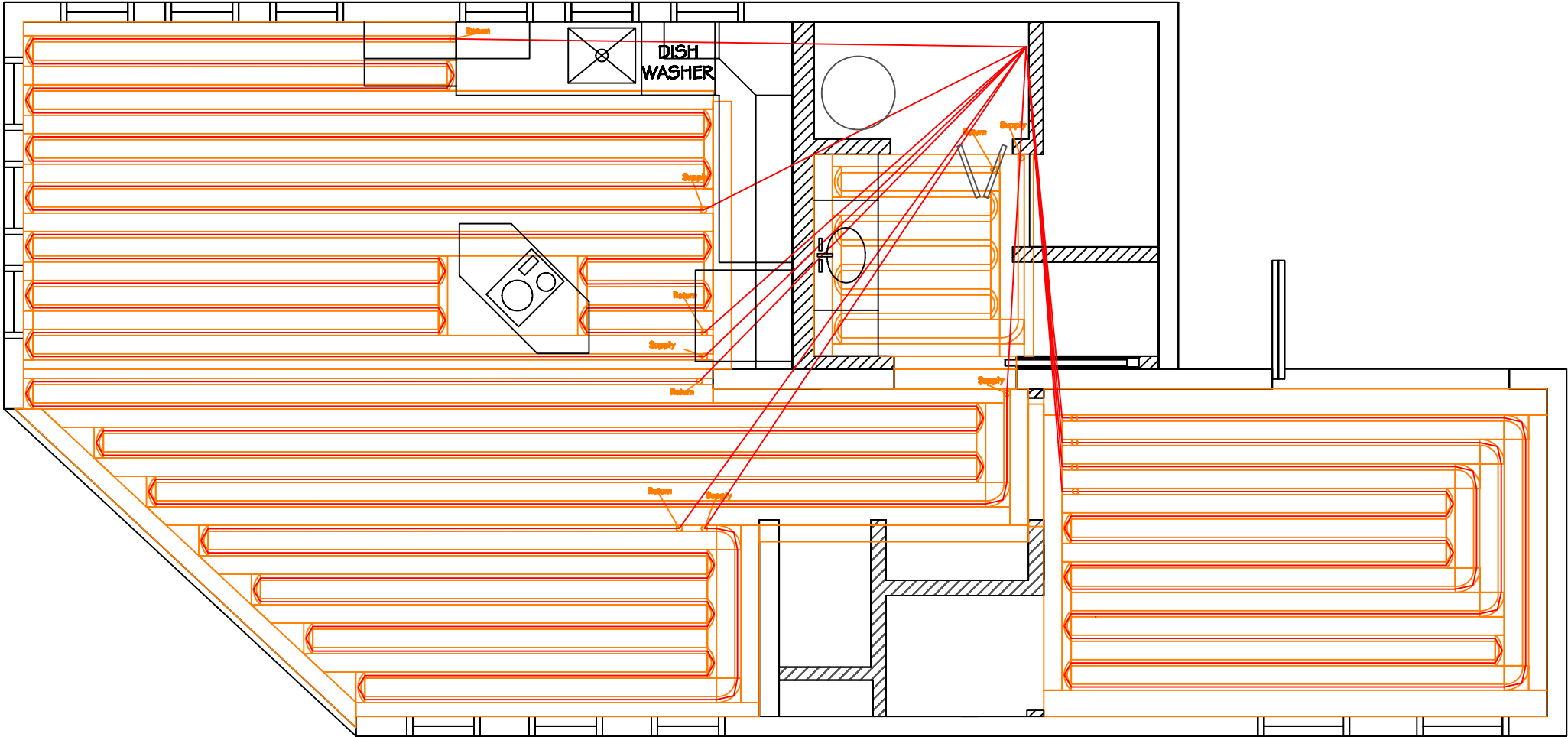
7/24/2007

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SHEET NO:

M1



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SOLAR HOUSE
ROLLA, MO**

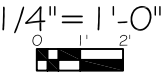
DRAWING TITLE:
RADIANT FLOOR
PLAN

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings

SCALE:



DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

M2



2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
WASTE WATER
PLUMBING
ISOMETRIC

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings

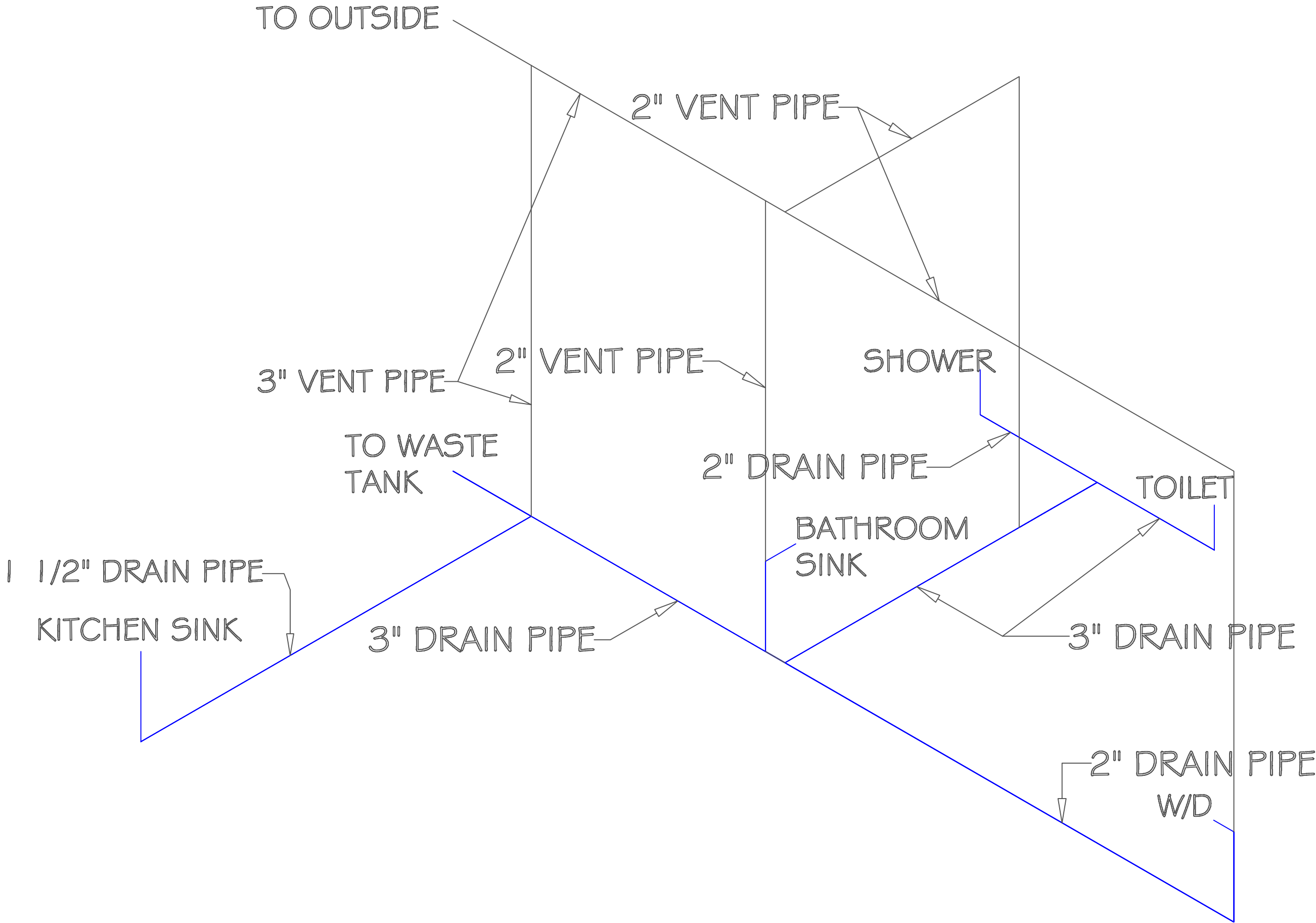
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NTS

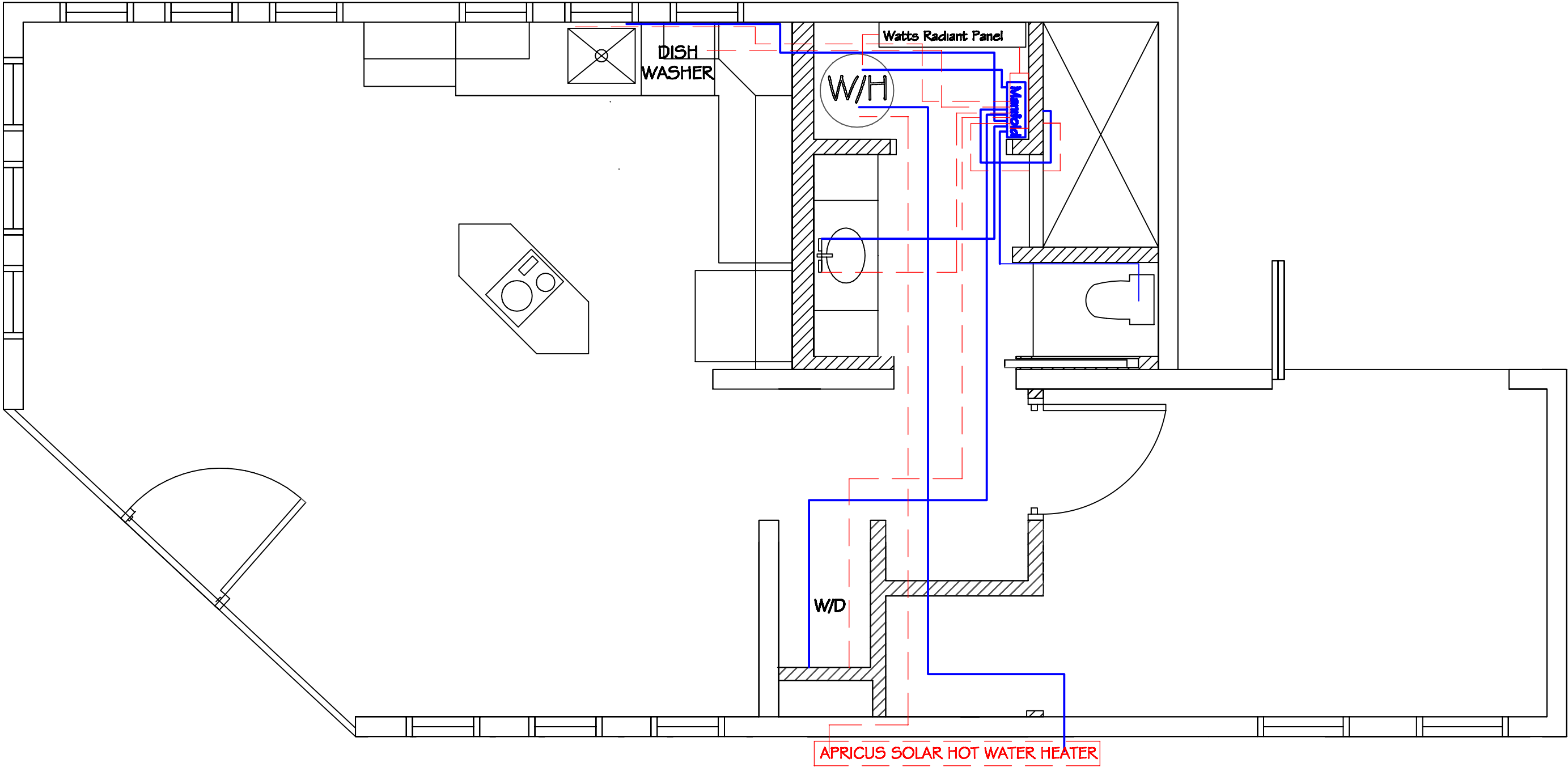
DATE:
7/24/2007

DRAWN BY:
UMR

SHEET NO:

P1





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2007 UMR SOLAR HOUSE ROLLA, MO

DRAWING TITLE:
SUPPLY WATER
PLUMBING

DESCRIPTION:

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings
- 1/4/2008 - Updated Construction Drawings

SCALE:



DATE:
7/24/2007

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UMR

SHEET NO:

P2



2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
INTERIOR
ELEVATIONS

DESCRIPTION:
KITCHEN ISLAND
NORTH HALLWAY

REVISIONS:

- 6/13/2006 - Design Development Drawings
- 3/6/2007 - Design Construction Drawings
- 6/1/2007 - Updated Construction Drawings
- 8/7/2007 - Updated Construction Drawings

SCALE:

1/2" = 1'-0"

DATE:

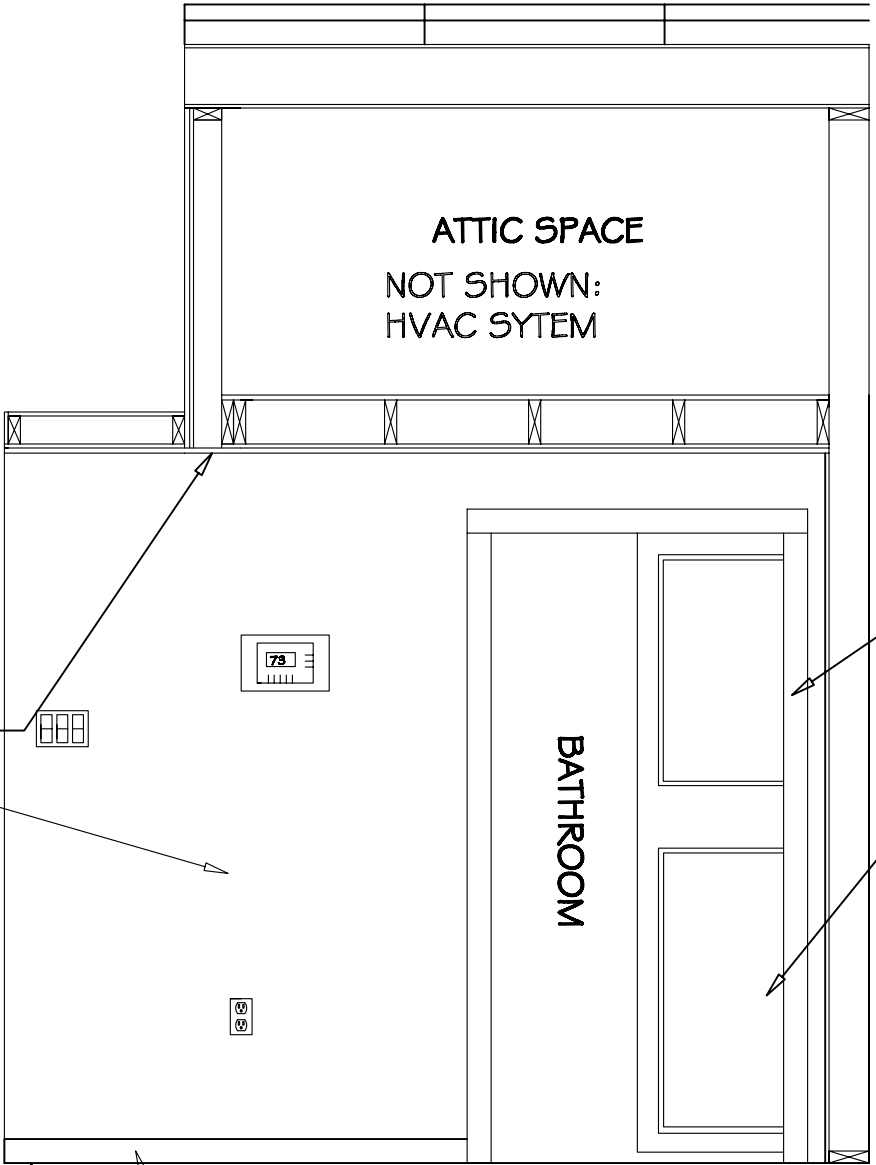
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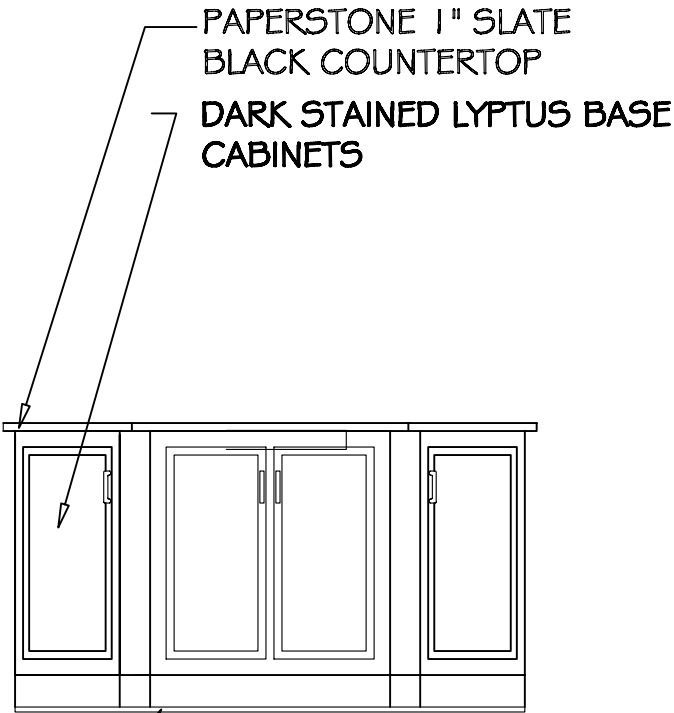
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SHEET NO:

L1



NORTH HALLWAY



KITCHEN ISLAND

STONE COLOR LYPTUS
FLOATING FLOORING

STONE COLOR LYPTUS
FLOATING FLOORING

4" CUSTOM MAHOGANY
STAINED CYPRESS BASE
BOARD

3" CUSTOM
MAHOGANY
STAINED CYPRESS

CUSTOM
MAHOGANY
STAINED WOOD
POCKET DOOR

PAINTED WHITE DOVE
PAINTED WINDS BREATH



2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
INTERIOR
ELEVATIONS

DESCRIPTION:
BEDROOM
NORTH AND
EAST WALLS

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

$\frac{3}{8}'' = 1' - 0''$
0' 8" 16"

DATE:

7/24/2007

DRAWN BY:

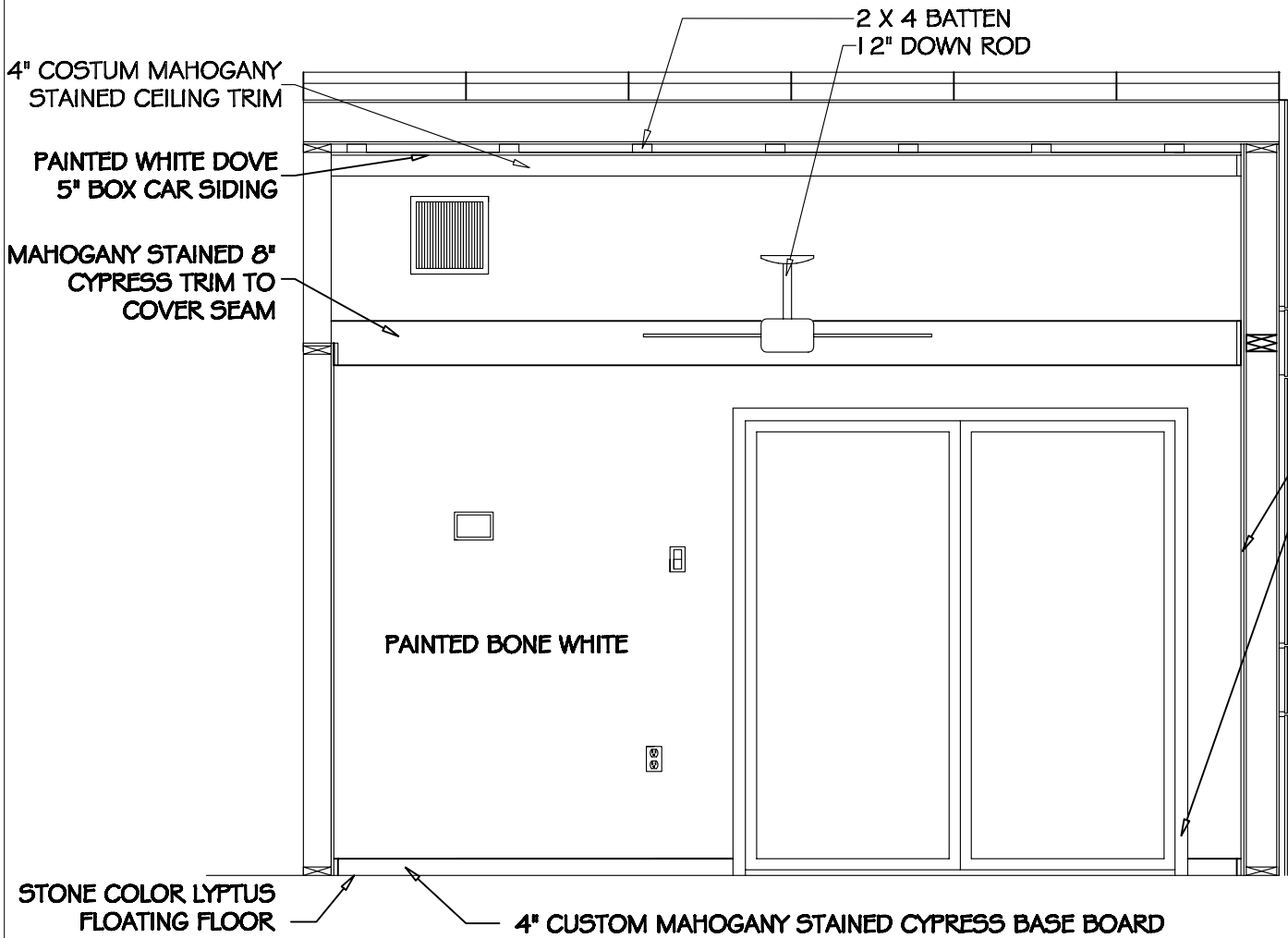
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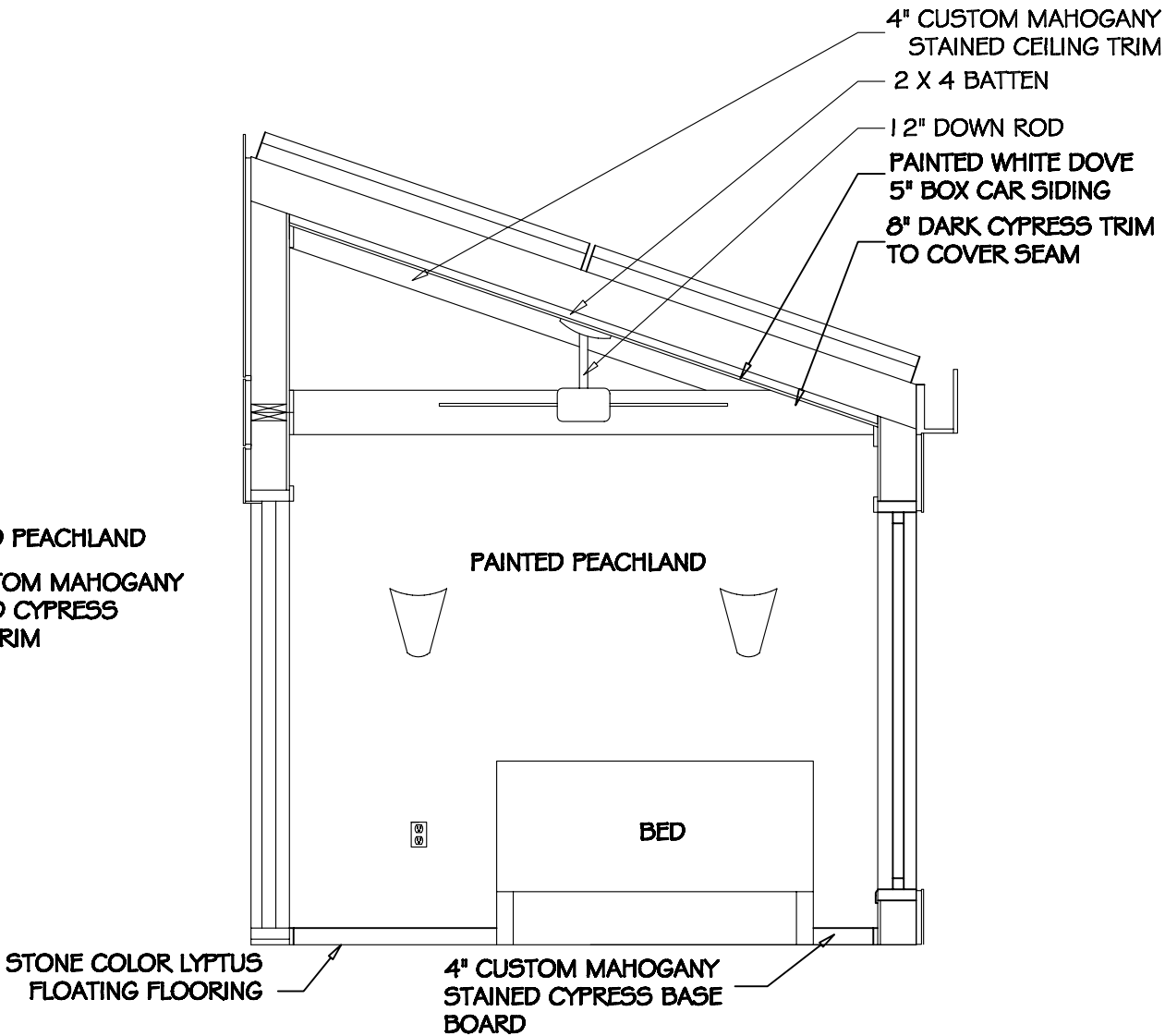
L2

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BEDROOM NORTH WALL



BEDROOM EAST WALL



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SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
INTERIOR
ELEVATIONS

DESCRIPTION:
BEDROOM
SOUTH AND
WEST WALL

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

1/2" = 1'-0"
0 6" 1"

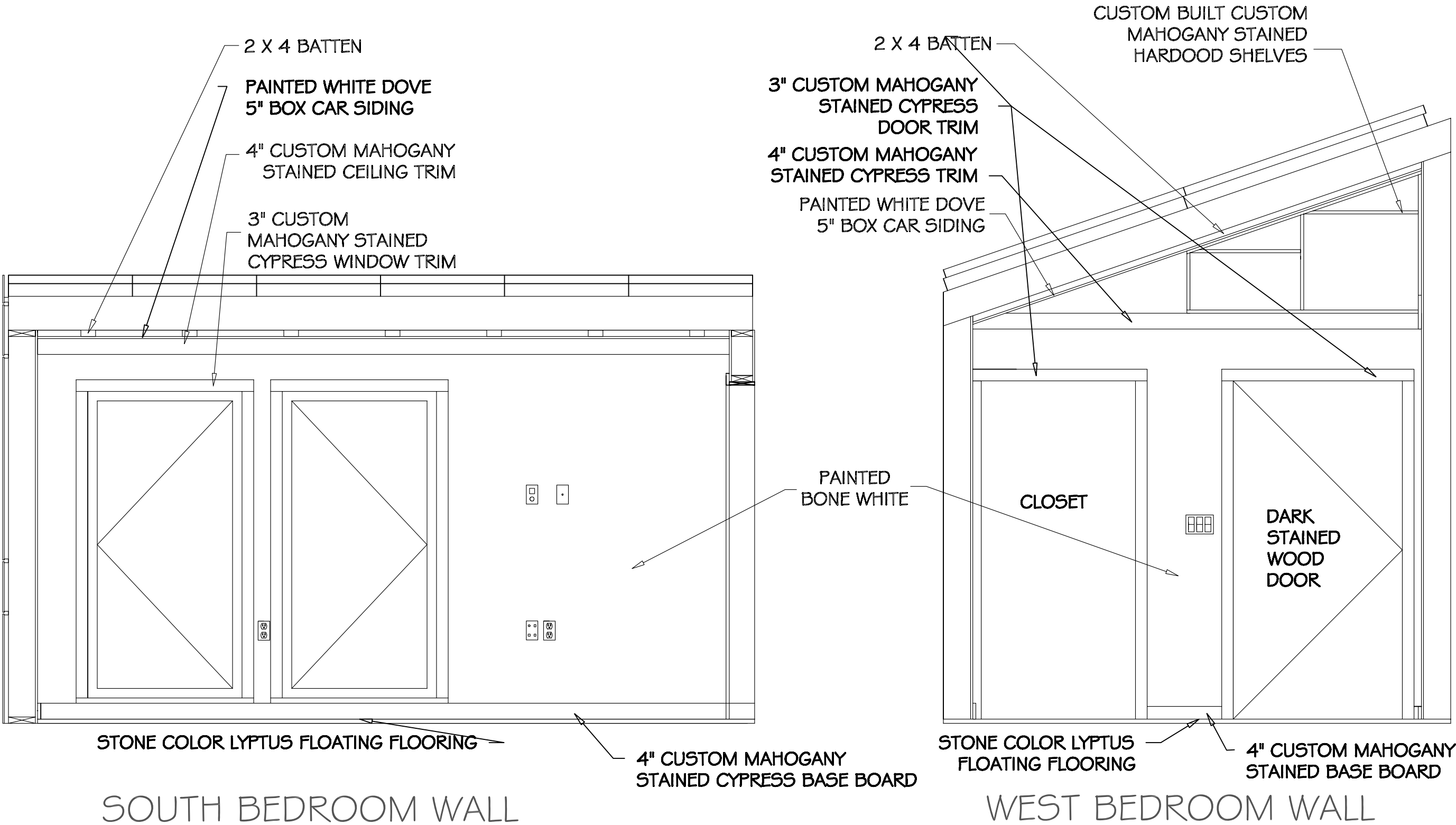
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L3

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2007 UMR
SOLAR HOUSE
ROTTA, MO

DRAWING TITLE:
INTERIOR
ELEVATIONS

DESCRIPTION:
SOUTH HALLWAY
SOUTH DINING
ROOM WALLS

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
 $\frac{3}{8}'' = 1'-0''$
0 8' 16'

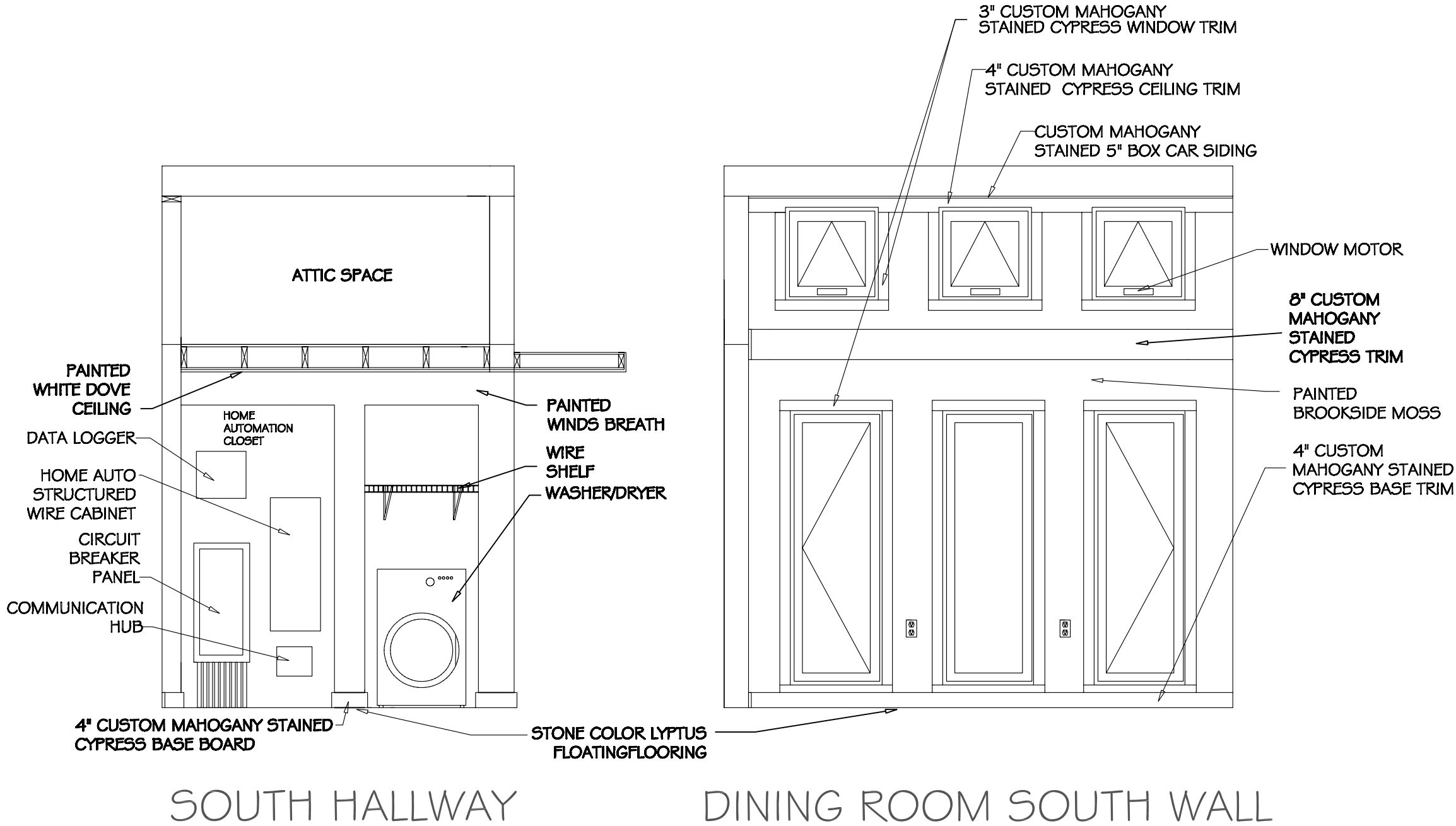
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7/24/2007

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L4

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2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
INTERIOR
ELEVATIONS

DESCRIPTION:
BATHROOM AND
MECHANICAL
CLOSET

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
 $1/2" = 1'-0"$

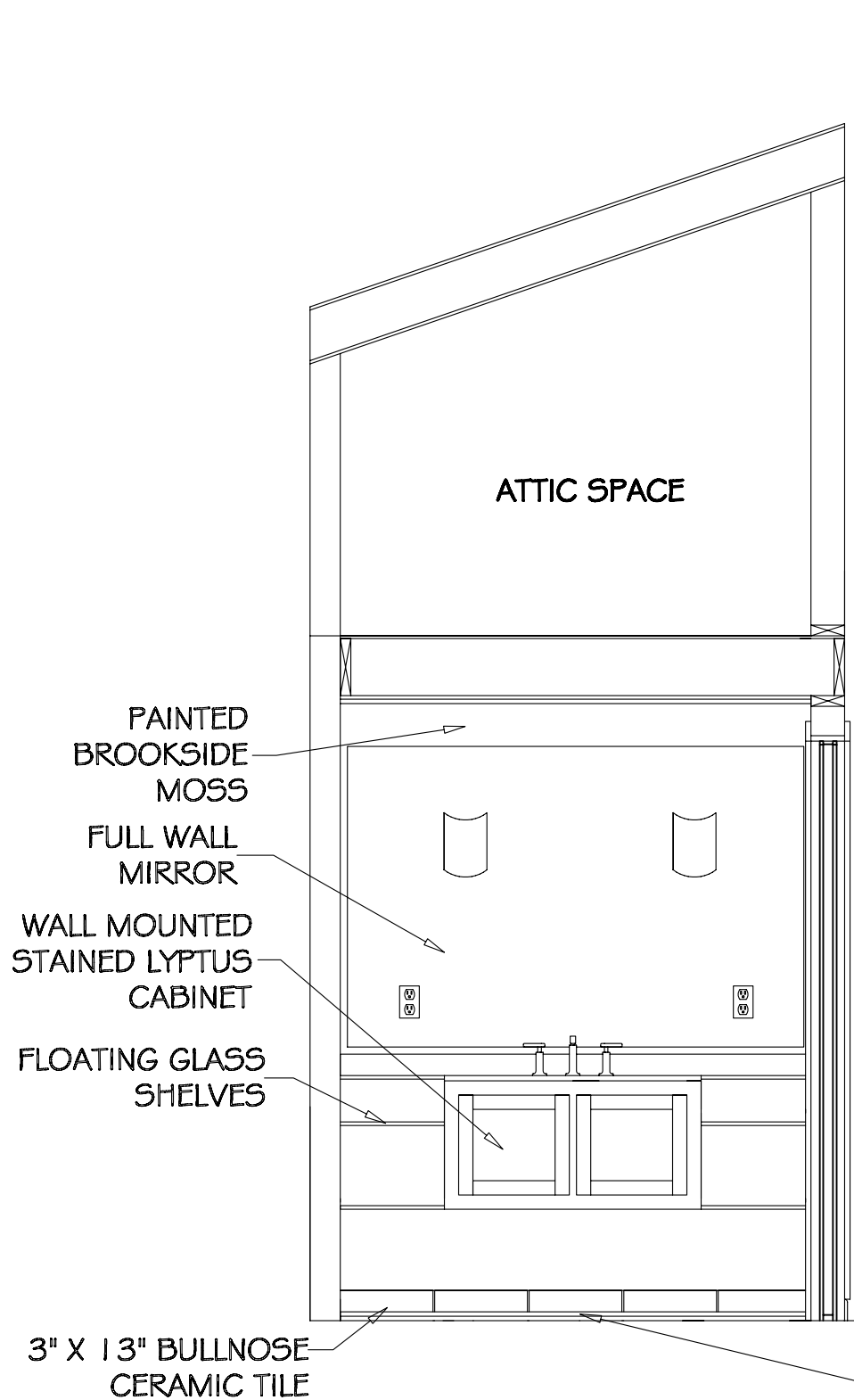
DATE:
7/24/2007

DRAWN BY:
UMR

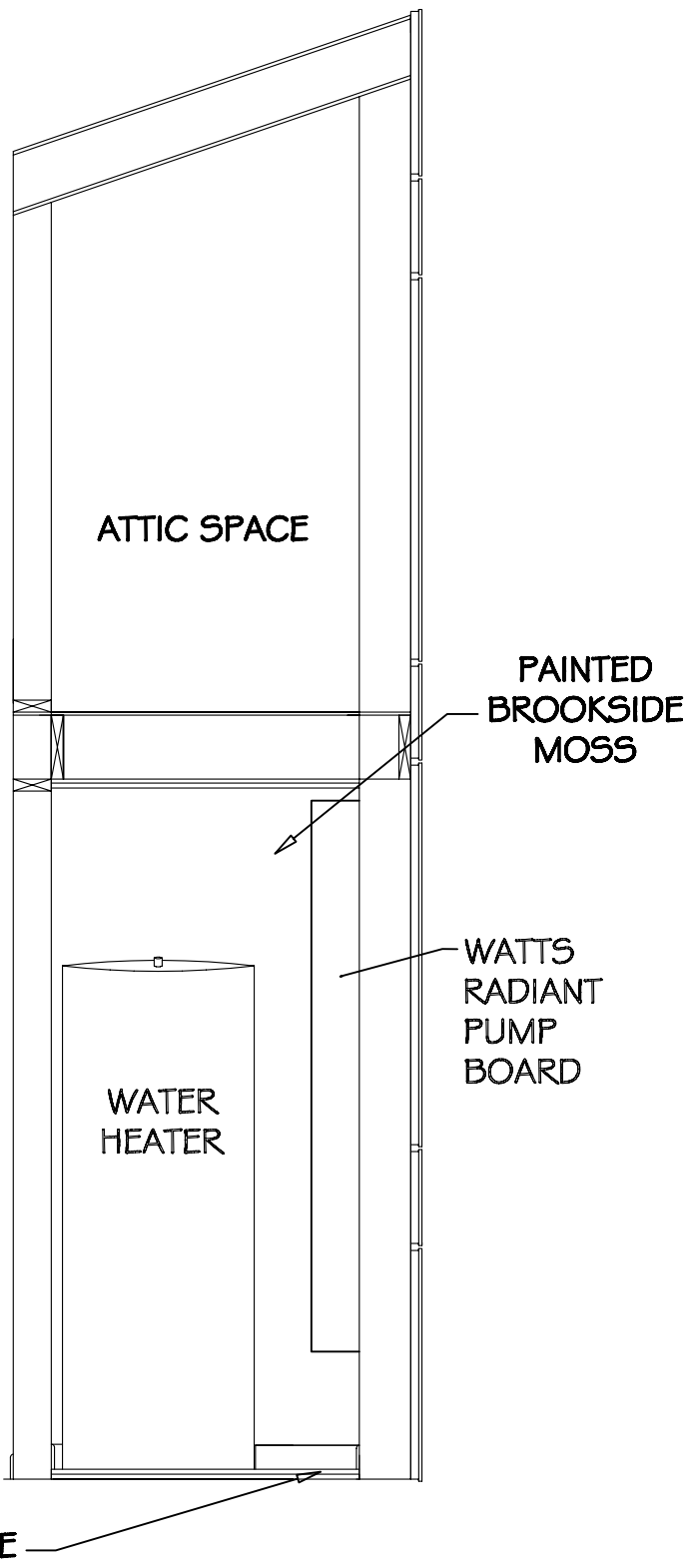
SHEET NO:
L5

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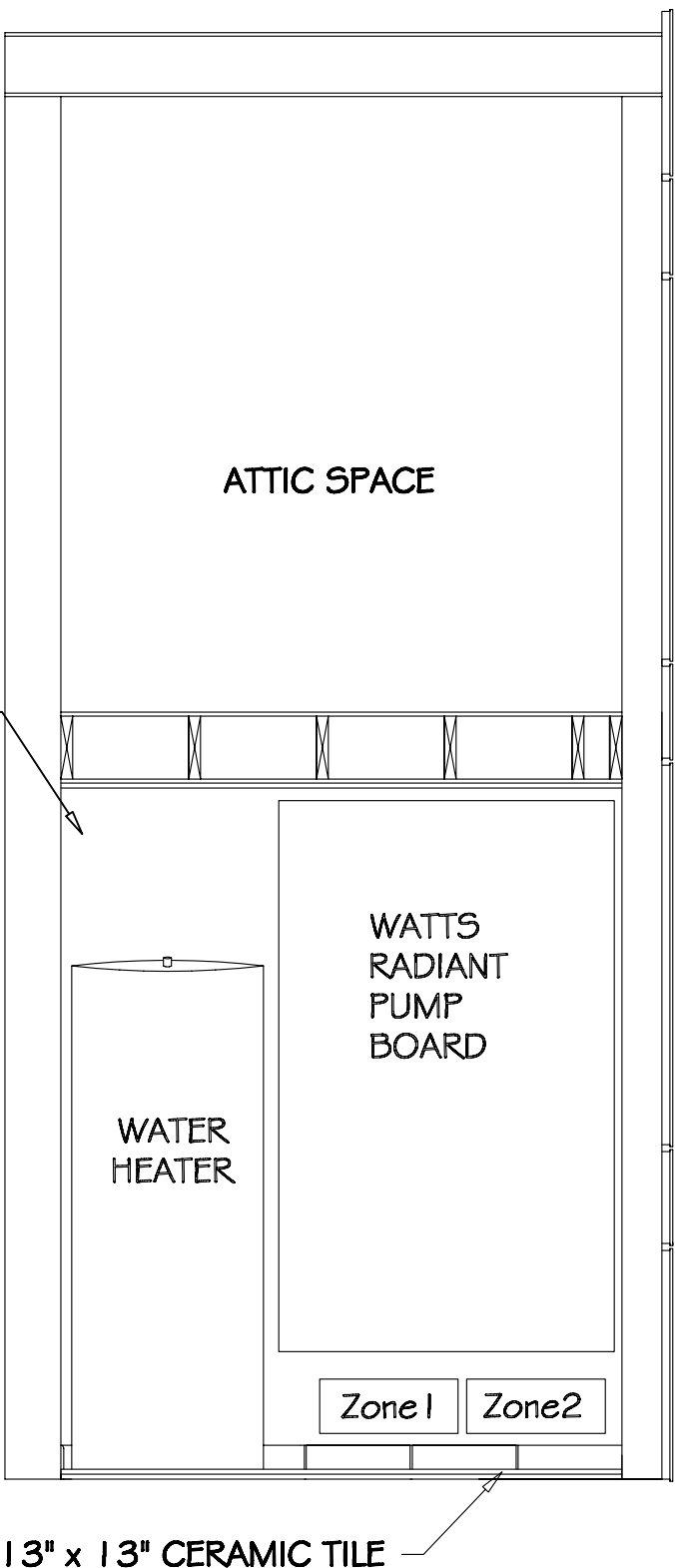
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BATHROOM WEST WALL



MECHANICAL ROOM WEST WALL



MECHANICAL ROOM SOUTH WALL



2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
INTERIOR
ELEVATIONS

DESCRIPTION:
MAIN ROOM
NORTH WALL

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

1/2" = 1'-0"
0 6" 1"

DATE:

7/24/2007

DRAWN BY:

UMR

SHEET NO:

L6

4" CUSTOM MAHOGANY STAINED CYPRESS TRIM

2 X 4 BATTEN

HOME AUTOMATION WINDOW MOTOR

3" CUSTOM
MAHOGANY
STAINED CYPRESS
TRIM

PAINTED WINDS BREATH

8" CUSTOM
MAHOGANY STAINED
CYPRESS TRIM

PAINTED WINDS BREATH

4" CUSTOM
MAHOGANY
STAINED CYPRESS
TRIM

STAINED
LYPTUS WALL
CABINETS

3" X 13"
BULLNOSE
CERAMIC TILE

6.5" X 6.5"
CERAMIC TILE

1.25"
PAPERSTONE
"SLATE BLACK"
COUNTERTOPS

STONE COLOR LYPTUS FLOATING FLOORING

DESK

OFFICE SHELVES

OFFICE

STAINED LYPTUS BASE CABINETS

KITCHEN NORTH WALL

LIVING ROOM NORTH WALL



2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
INTERIOR
ELEVATIONS

DESCRIPTION:
LIVING WEST
AND KITCHEN
EAST WALLS

REVISIONS:

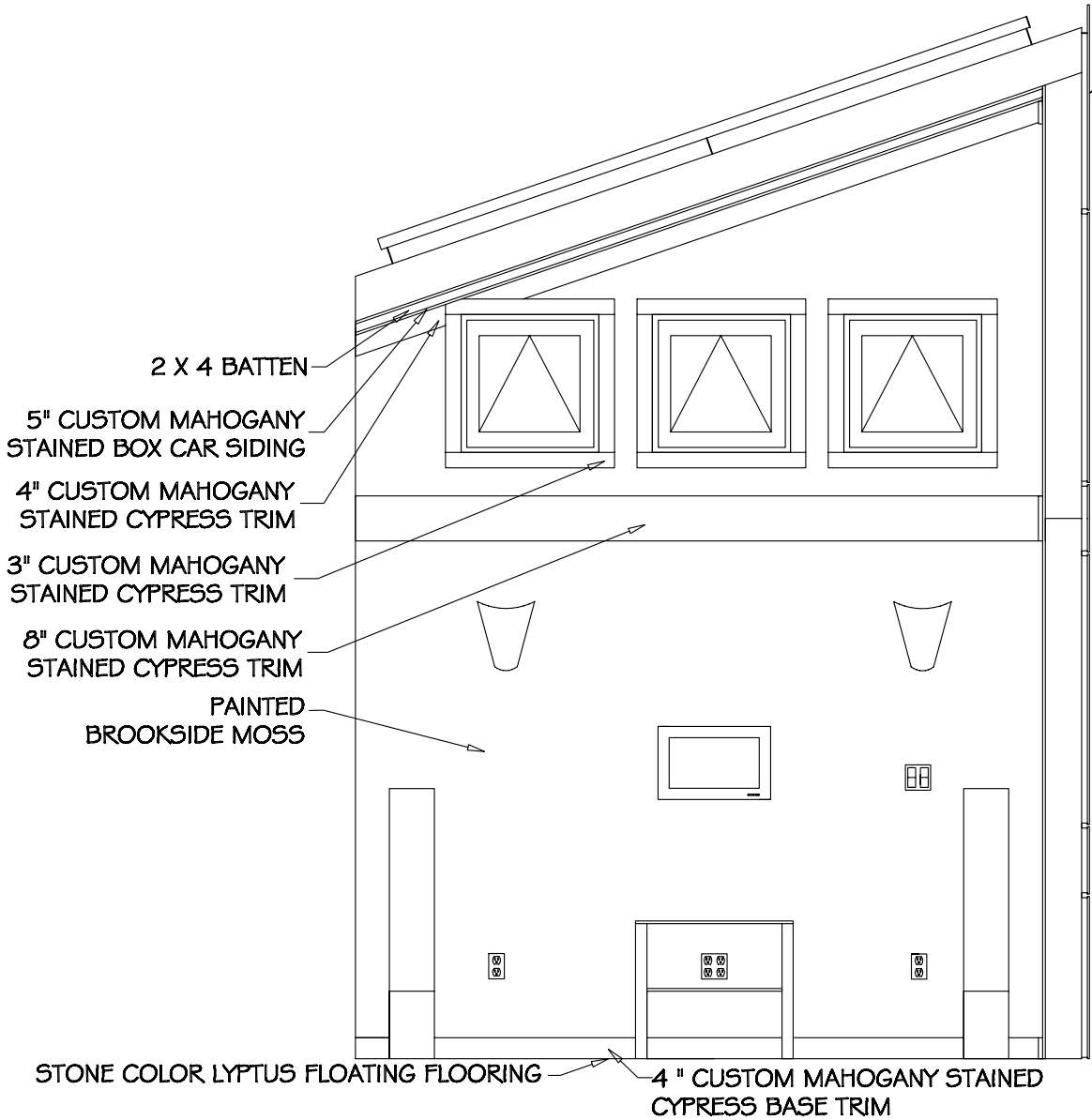
6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:
3/8" = 1'-0"
0 8' 16'

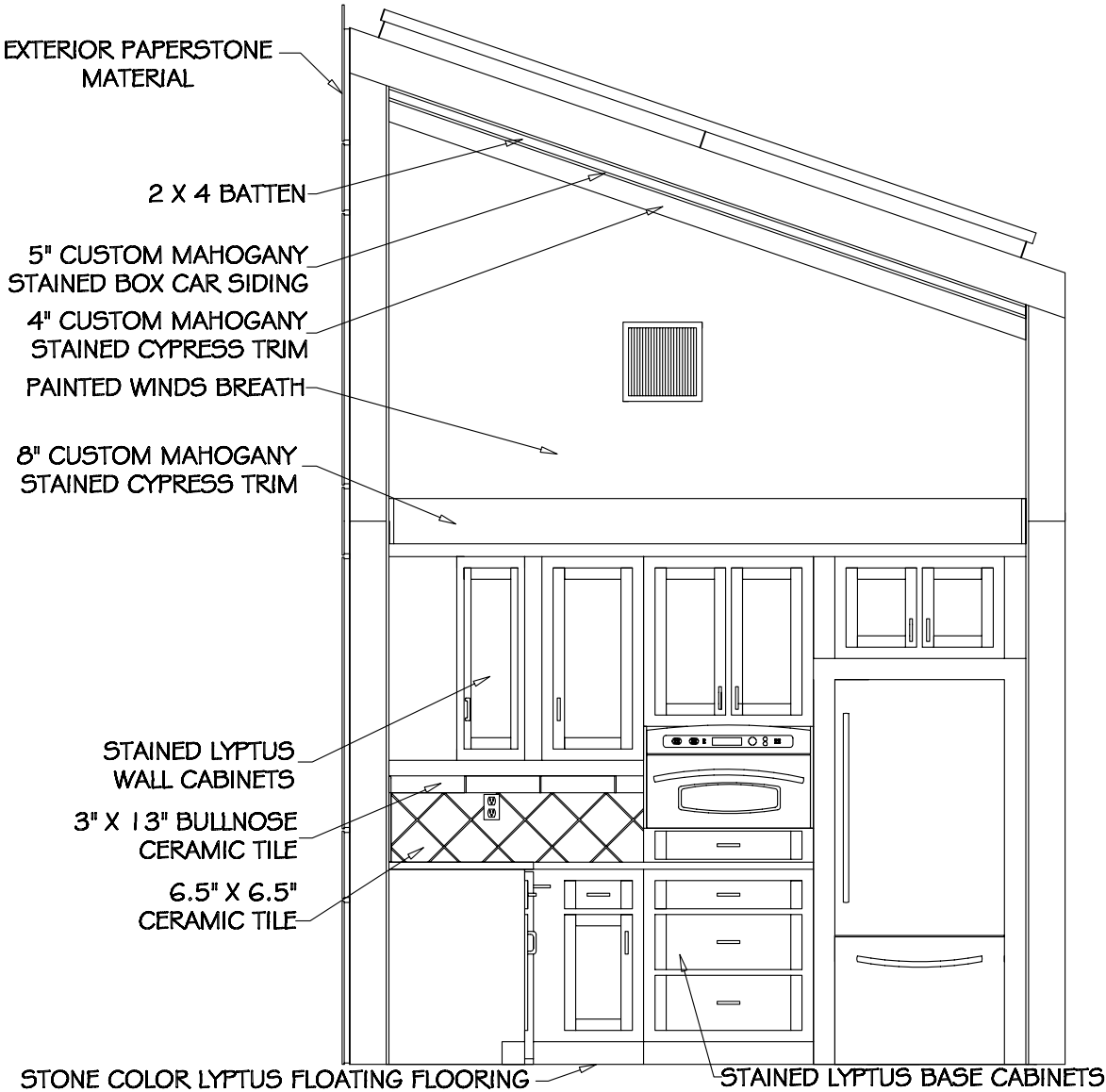
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SHEET NO:
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LIVING ROOM WEST WALL



KITCHEN EAST WALL



2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:
INTERIOR
ELIVATIONS

DESCRIPTION:
BATHROOM
SOUTH AND
EAST WALLS

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

$\frac{3}{8}'' = 1'-0''$
0 8 16

DATE:

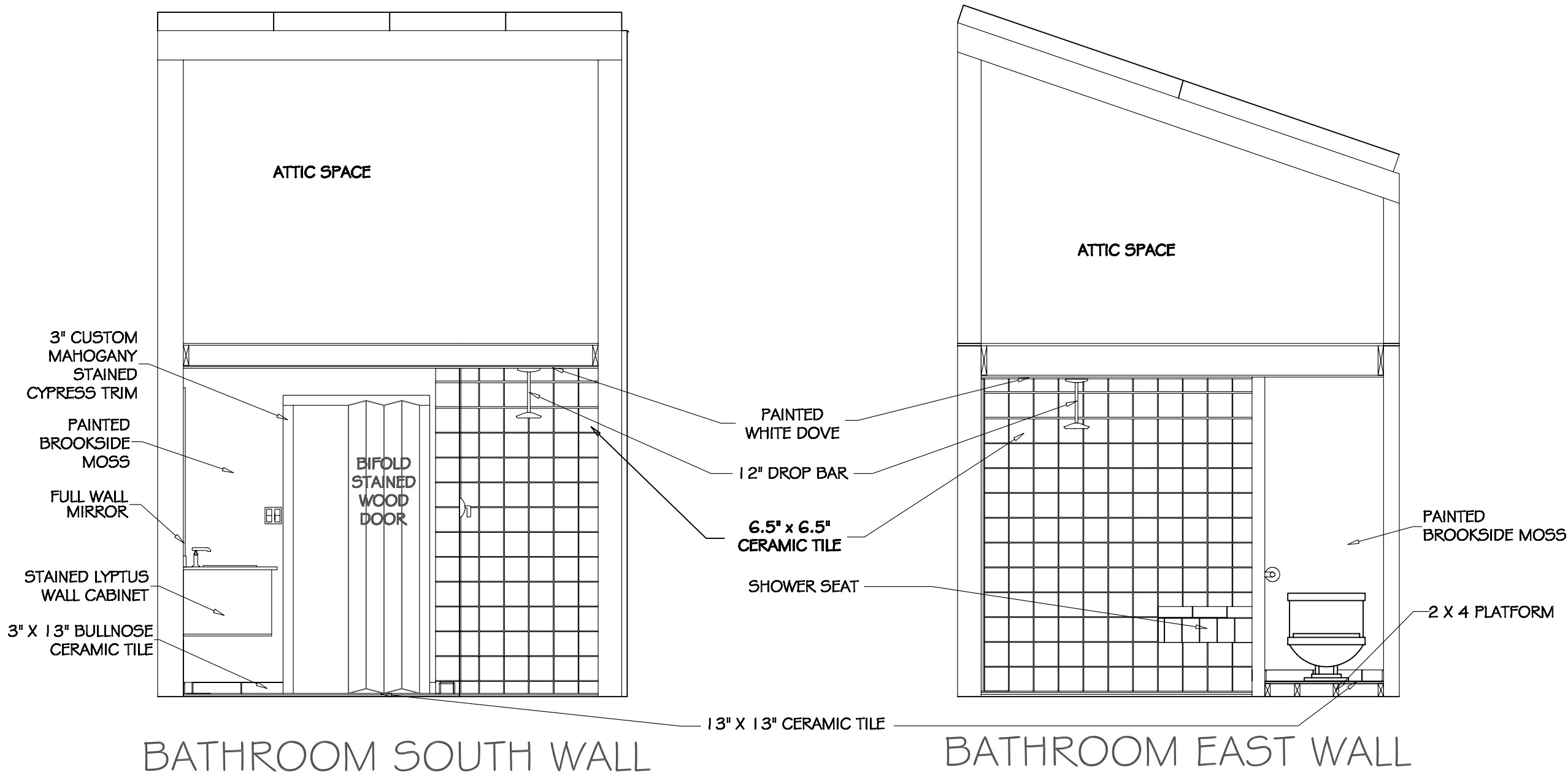
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SHEET NO:

L8





2007 UMR
SOLAR HOUSE
ROLLA, MO

DRAWING TITLE:

INTERIOR
ELEVATION

DESCRIPTION:

DINING ROOM
EAST WALL

REVISIONS:

6/13/2006 - Design
Development Drawings
3/6/2007 - Design
Construction Drawings
6/1/2007 - Updated
Construction Drawings
8/7/2007 - Updated
Construction Drawings

SCALE:

1/2" = 1'-0"
0 6" 1"

DATE:

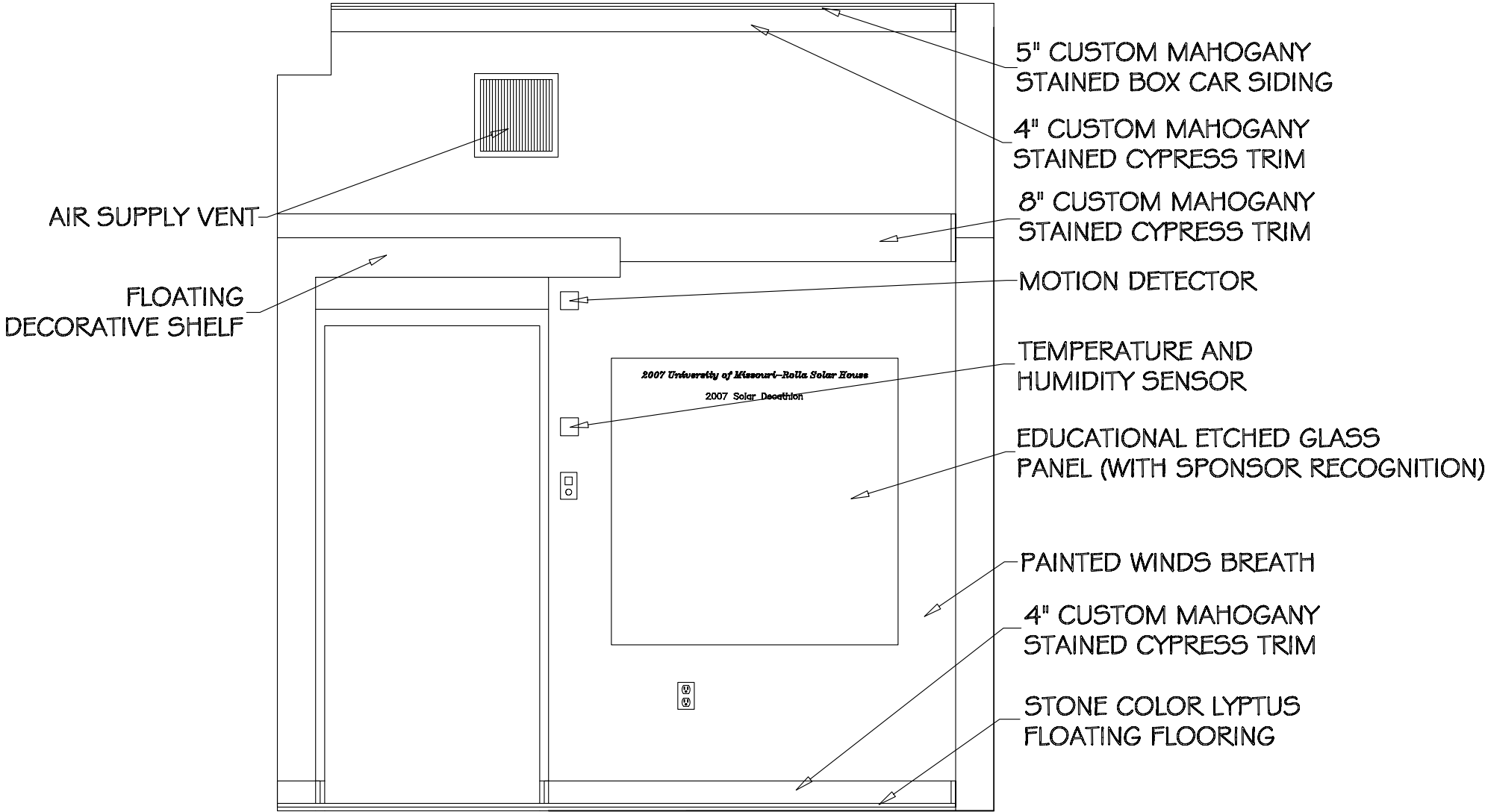
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SHEET NO:

L9



DINING ROOM EAST WALL