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**Note:** This is a table of contents for a project involving various architectural and engineering plans. Each sheet is referenced with its number and name, providing an organized overview of the project's contents.
NOTES:
1. The area of the house is measured from the exterior side of the walls. The mechanical room is not a conditioned area and therefore is not included in the square footage of the home.
THE STRUCTURAL DRAWINGS SHALL BE COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

1. THE STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS SHALL CONFORM TO THE 2010 INTERNATIONAL RESIDENTIAL CODE AS MODIFIED BY THE LOCAL GOVERNMENT AND THE SOLAR DECACTION.

FOUNDATION
1. THE FOUNDATION SHAL BE 10" HIGH ADVANCED SUBFLOOR. PLYWOOD SHALL BE FASTENED TO FLOOR JOISTS WITH LIQUID NAIL #18 AND SELF TAPPING SCREW.
2. INTERIOR SHEATHING SHALL BE 5/8" DRYWALL ATTACHED WITH SCREWS.
3. EXTERIOR SHEATHING SHALL BE THE ZIP SYSTEM EXTERIOR SHEATHING WITH THE SEAMS TAPE TO PROVIDE THE VAPOR BARRIER.
4. ROOF SHEATHING SHALL BE 12" ZIP SYSTEM ROOF SHEATHING WITH THE SEAMS TAPE TO PROVIDE THE VAPOR BARRIER.
5. THE INTERIOR AND EXTERIOR SHEATHING ARE AN INTEGRAL SYSTEM THAT IS COMBINED TO MEET THE WIND AND SEISMIC CODE REQUIREMENTS.

STRUCTURAL STEEL
1. ALL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
   a. ASTM A500 GRB: HSS RECT. SECTIONS
   b. ASTM A572: W, H, M, TIM, COLUMNS
   c. ASTM A992: W, H, M, TIM, COLUMNS
   d. ASTM A606-3: DESIGNATED STEEL
   e. ASTM A36: MISCELLANEOUS STEEL
   f. ASTM A522: HILTON STEEL
   g. ASTM A588: CORROSION RESISTANT STEEL
   h. ASTM A709 GR 50W: WELDED STRUCTURAL STEEL
   i. ASTM A709 GR 70W: WELDED STRUCTURAL STEEL
   j. ASTM A709 GR 100W: WELDED STRUCTURAL STEEL
   k. ASTM A36: STRESS RELIEVED STEEL
   l. ASTM A36: HEAVY HILTON STEEL
   m. ASTM A500-02: STRONG HILTON STEEL
   n. ASTM A500-02: STRONG HILTON STEEL
   o. ASTM A500-02: STRONG HILTON STEEL
   p. ASTM A500-02: STRONG HILTON STEEL
   q. ASTM A500-02: STRONG HILTON STEEL
   r. ASTM A500-02: STRONG HILTON STEEL
   s. ASTM A500-02: STRONG HILTON STEEL
   t. ASTM A500-02: STRONG HILTON STEEL
   u. ASTM A500-02: STRONG HILTON STEEL
   v. ASTM A500-02: STRONG HILTON STEEL
   w. ASTM A500-02: STRONG HILTON STEEL
   x. ASTM A500-02: STRONG HILTON STEEL
   y. ASTM A500-02: STRONG HILTON STEEL
   z. ASTM A500-02: STRONG HILTON STEEL

WOOD
1. WOOD MONOTRUSSES SHALL BE DESIGNED AND STAMPED BY THE MANUFACTURERS LICENCED PROFESSIONAL ENGINEER AND SUBMITTED FOR REVIEW AND APPROVAL.
2. WOOD ORDERS TRUSSES SHALL BE DESIGNED AND STAMPED BY THE MANUFACTURERS LICENCED PROFESSIONAL ENGINEER AND SUBMITTED FOR REVIEW AND APPROVAL.
3. WOOD MONOTRUSSES CONNECTION TO GIRDER TRUSSES SHALL USE SIMPSON STRONG TIE LUCZ JOIST HANGER.
4. 2010 DEC OR CONNECTION TO GIRDER TRUSSES SHALL USE SIMPSON STRONG TIE LUCZ JOIST HANGER.

CONNECTIONS
1. CONNECTION SPECIFICATIONS UNLESS OTHERWISE NOTED IN THE PLANS:
   a. WOOD TO STEEL: 1-1/2" #14 SELF TAPPING SCREW
   b. WOOD TO WOOD: 3" #14 SELF TAPPING SCREW
   c. STEEL TO STEEL: 7/8" STEEL BOLT
   d. STEEL TO STEEL: 1-1/2" STEEL BOLT
   e. STEEL TO STEEL: 1-1/2" STEEL BOLT
   f. STEEL TO STEEL: 1-1/2" STEEL BOLT
   g. STEEL TO STEEL: 1-1/2" STEEL BOLT
   h. STEEL TO STEEL: 1-1/2" STEEL BOLT
   i. STEEL TO STEEL: 1-1/2" STEEL BOLT
   j. STEEL TO STEEL: 1-1/2" STEEL BOLT
   k. STEEL TO STEEL: 1-1/2" STEEL BOLT
   l. STEEL TO STEEL: 1-1/2" STEEL BOLT
   m. STEEL TO STEEL: 1-1/2" STEEL BOLT
   n. STEEL TO STEEL: 1-1/2" STEEL BOLT
   o. STEEL TO STEEL: 1-1/2" STEEL BOLT
   p. STEEL TO STEEL: 1-1/2" STEEL BOLT
   q. STEEL TO STEEL: 1-1/2" STEEL BOLT
   r. STEEL TO STEEL: 1-1/2" STEEL BOLT
   s. STEEL TO STEEL: 1-1/2" STEEL BOLT
   t. STEEL TO STEEL: 1-1/2" STEEL BOLT
   u. STEEL TO STEEL: 1-1/2" STEEL BOLT
   v. STEEL TO STEEL: 1-1/2" STEEL BOLT
   w. STEEL TO STEEL: 1-1/2" STEEL BOLT
   x. STEEL TO STEEL: 1-1/2" STEEL BOLT
   y. STEEL TO STEEL: 1-1/2" STEEL BOLT
   z. STEEL TO STEEL: 1-1/2" STEEL BOLT

DESIGN LOADS AND FACTORS (PSF, POU):
PRESSURE PLATES AT SCREW JACK LOCATIONS B1, D1, E1, F1, A3.1, B3.1, A9.1, B9.1, D11, E11 AND F11 WILL HAVE A 36" LONG 1" DIA STL. ROD TO ANCHOR THE STRUCTURE.
FLOOR CONNECTION DETAIL 1

DECK CONNECTION DETAIL 2

DECK CONNECTION DETAIL 3

1" x 1 1/4" TYP. 6" STL. JOIST

5/8" DECKING MATERIAL

#14 x 1 1/2" SELF TAPPING SCREW

2X10 WOOD DECK JOIST

W6X15 STL.
6" STL. BOX HEADER BEAMS
D6

1X6 FASCIA BOARD
5/8" DRYWALL
7/16" ZIP SYSTEM SHEATHING
2X6 DOUBLE TOP PLATE
EXTERIOR SIDING

1/2" ZIP ROOF SHEATHING
WOOD MONOTRUSS
1/2" SOFFIT RAFTER
CEILING

8' - 0" STANDING SEAM METAL ROOF

STL. BAR JOIST WELDED TO THE BUILT UP COLUMN
6" STL. CHANNELS
2X6 BLOCKING AND LAI BOLTED TO 6" STL. CHANNELS

S-504

DETAILS

S-504
ALL MATERIAL SHALL BE PROVIDED AS SPECIFIED BELOW

ALUMINUM
1) ALUMINUM STRUCTURE SHALL BE CLEAR ANODIZED
2) TWO PIECE HEAD, RECEPTOR, TOP AND SIDES
3) ALUMINUM SHALL HAVE THERMAL BREAKS EXCLUDING THE RADIUS PORTION

GLASS
1) MAXIMUM U VALUE 0.3
2) MAXIMUM SHGC 0.25
3) DOUBLE PANE AND TEMPERED
4) HAVE RELIEF VALVES (GLASS WILL BE TRANSPORTED TO DENVER AND BACK)
5) INSTALLED, DISASSMBLED AND CRATED FOR TRANSPORTATION @ ROLLA SITE BY GLASS SHOP

DOOR
1) 1/2 BOTTOM RAIL
2) ADJUSTIBLE SILL
3) PREPARED FOR BEST CYLINDRICAL LOCK SET
4) WIDE STILE DOOR

TERMS
1) GLASS SHALL BE PROVIDED BY "MANCO" DENVER CO.
2) ALL MEASUREMENTS SHALL BE FIELD VERIFIED BY GLASS SHOP PRIOR TO GLASS ORDER
3) SEE INVITATION TO BID FOR GUIDELINES
WALL SECTIONS

1. WALL TYPE - W1
   - 2x6 wood stud @16" O.C.
   - Closed cell spray foam insulation
   - 5/8" drywall
   - Siding
   - Vapor barrier

2. WALL TYPE - W2
   - 2x4 wood stud @16" O.C.
   - Closed cell spray foam insulation
   - 5/8" drywall
DOOR DETAILS

1. INT DOOR HEAD DETAIL TYP

   - GYPSUM BOARD ASSEMBLIES
   - TYPE EA. SIDE
   - SPRAY FOAM INSULATION
   - ROUGH CARPENTRY
   - 2" HEADER
   - JOINT PROTECTION
   - CONT. AROUND FRAM, TYP. EA. SIDE
   - ROUGH CARPENTRY
   - WOOD TRIM, TYP. EA. SIDE
   - WOOD DOORS
   - WOOD DOOR AND FRAME

2. INT DOOR JAMB DETAIL TYP

   - GYPSUM BOARD ASSEMBLIES
   - TYPE EA. SIDE
   - SPRAY FOAM INSULATION
   - ROUGH CARPENTRY
   - 2" HEADER
   - JOINT PROTECTION
   - CONT. AROUND FRAM, TYP. EA. SIDE
   - ROUGH CARPENTRY
   - 2x6 WOOD STUD WALL
   - ROUGH CARPENTRY
   - WOOD TRIM, TYP. EA. SIDE
   - JOINT PROTECTION
   - CONT. AROUND FRAM, TYP. EA. SIDE
   - WOOD DOORS
   - WOOD DOOR AND FRAME
WINDOW DETAILS

CASEMENT WINDOW HEAD DETAIL TYP

SIDING
ROUGH CARPENTRY
BLOCKING
GYPSUM BOARD ASSEMBLIES
CORNER BEAD
ROUGH CARPENTRY
BLOCK AND SHIM AS REQUIRED
J OINT PROTECTION
BACKER ROD AND SEALANT TYP
ALUMINUM WINDOWS
GLAZING

CASEMENT WINDOW JAMB DETAIL TYP

GLAZING
ALUMINUM WINDOWS
GYPSUM BOARD ASSEMBLIES
CORNER BEAD
ROUGH CARPENTRY
BLOCK AND SHIM AS REQUIRED
J OINT PROTECTION
BACKER ROD AND SEALANT TYP
ROUGH CARPENTRY
BLOCKING
GYPSUM BOARD ASSEMBLIES
SPRAY FOAM INSULATION
SIDING

CASEMENT WINDOW DETAIL TYP

3" = 1'-0"

CASEMENT WINDOW JAMB DETAIL TYP

3" = 1'-0"
DOOR SCHEDULE

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<th>Mark</th>
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<th>TYPE</th>
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<tr>
<td>1</td>
<td>3</td>
<td>3' - 0&quot;</td>
<td>7' - 0&quot;</td>
<td>SINGLE-FLUSH</td>
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<tr>
<td>2</td>
<td>3</td>
<td>3' - 0&quot;</td>
<td>7' - 0&quot;</td>
<td>SINGLE-HALF GLAZED</td>
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<tr>
<td>3</td>
<td>2</td>
<td>2' - 6&quot;</td>
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<td>4</td>
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<td>5</td>
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A-601 DOOR SCHEDULE

1. Door Type "A"
2. Door Type "B"
3. Door Type "C"
4. Door Type "D"
5. Door Type "E"
### WINDOW SCHEDULE

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<td>1</td>
<td>2' - 8&quot;</td>
<td>4' - 0&quot;</td>
<td>3' - 0&quot;</td>
<td>CASEMENT</td>
<td>QM600 WHITE DOUBLE</td>
<td>QUAKER</td>
<td>M600</td>
<td>WHITE</td>
<td>LOW E</td>
<td>YES</td>
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<tr>
<td>B</td>
<td>6</td>
<td>4' - 6&quot;</td>
<td>2' - 6&quot;</td>
<td>3' - 6&quot;</td>
<td>AWNING-AUTOMATED</td>
<td>QM600 WHITE DOUBLE</td>
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## Accordian Door Schedule

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<th>TYPE FINSIH</th>
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<tr>
<td>D</td>
<td>14' - 9&quot;</td>
<td>6' - 10&quot;</td>
<td>NanaWall</td>
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<td>WHITE</td>
<td>DOUBLE PANE LOW E</td>
<td>o3L</td>
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<tr>
<td>E</td>
<td>7' - 10&quot;</td>
<td>6' - 10&quot;</td>
<td>NanaWall</td>
<td>S</td>
<td>WHITE</td>
<td>DOUBLE PANE LOW E</td>
<td>o5R</td>
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FINISH PLAN

NOTES:
1) SEE PROJECT MANUAL FOR INSTALLATION DETAILS

FINISH LEGEND

- C-1 WHITE PAINT
- F-1 GREY LUXURY VINYL TILE
- F-2 GREY PORCELAIN TILE
- F-3 GREY MOSAIC TILE
- F-4 BROWN VINYL TILE
- PT-1 WHITE CLAY PLASTER
- PT-2 WHITE PAINT
- PT-3 WHITE PAINT (TRIM)
- W-1 WHITE SUBWAY TILE
- S-1 LP SMART SIDING PAINTED WHITE

1/4" = 1'-0"
KITCHEN NORTH INT ELEV

KITCHEN WEST INT ELEV

KITCHEN SOUTH INT ELEV

KITCHEN EAST INT ELEV
INTERIOR ELEVATIONS

1/2" = 1'-0"

MISSOURI S&T SOLAR HOUSE DESIGN TEAM

1051 N. BISHOP AVENUE
116 KUMER STUDENT DESIGN CENTER
ROLLA, MO 65401

CONTACT:
LUKE MUELLER
sunhome@mst.edu
NOTES:
1. DRAIN PAN PROVIDED UNDER WATER HEATER

SUPPLY PLAN

500 GALLON SUPPLY TANK HIDDEN UNDER THE DECK

MISSOURI S&T SOLAR HOUSE DESIGN TEAM
ADDRESS: 1051 N. BISHOP AVENUE
116 KUMER STUDENT DESIGN CENTER
ROLLA, MO 65401

CONTACT: LUKE MUELLER
sunhome@mst.edu
GENERAL NOTES:
2. PENETRATIONS THROUGH WALLS AND ROOF SHALL BE SEALED AIR TIGHT AND WATER PROOFED.
3. ALL DUCT SHALL BE CONSTRUCTED AND SEALED TO IAMONA LOW PRESSURE 2" WATER GAGE AND BELOW STANDARDS.
4. ALL DUCT SHALL BE SECURED EVERY 4'.
5. ALL DUCT UNDER THE HOUSE SHALL BE INSULATED WITH 1 ½" FSK DUCT WRAP OR OTHER APPROVED INSULATION.
6. EQUIPMENT SHALL BE INSTALLED TO MANUFACTURER'S RECOMMENDATIONS; PROVIDE 1' CLEARANCE FROM MOVING PARTS.
7. AIR HANDLING UNIT SHALL BE INSTALLED ON VIBRATION ISOLATION PADS.
8. REFRIGERATION (HVAC) SHALL BE DESIGNED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS; INSTALL INSULATION IN DUCTS AND AIR HANDLING UNITS.
9. INSTALL THERMOSTAT AT 48" SF.
10. MECHANICAL EQUIPMENT MUST BE ABLE TO BE INTEGRATED WITH THE "NEST" THERMOSTAT.

ABBREVIATIONS
ACF  ACTIVATED CHARCOAL FILTER
AFC  ABOVE FINISHED CEILING
AFF  ABOVE FINISHED FLOOR
AHU  AIR HANDLING UNIT
BTU  BRITISH THERMAL UNITS
CFM  CUBIC FEET PER MINUTE
DC  DIRECT CURRENT
DDW  DOMESTIC COLD WATER
DHW  DOMESTIC HOT WATER
DV  DRAIN VALVE
ERV  ENERGY RECOVERY VENTILATION
EVA  EXHAUST AIR
EXK  EXPANSION TANK
FSD  FIRE SUPPRES. DIFFUSER
GWD  GREYWATER DRAIN
GWF  GREYWATER FEED
HFP  HEAT PUMP
HVAC  HEATING, VENTILATION AND AIR CONDITIONING
IRV  INSULATED REFLECTIVE VACUUM
OP  OUTSIDE AIR
PV  PHOTOVOLTAIC
PT  PRESSURE TANK
PUMP
RA  RETURN AIR
RD  RETURN DUCT
RR  REFRIGERANT RETURN
RS  REFRIGERANT SUPPLY
SAN  SANITARY SEWER
SF  SPIN FILTER
SP  SPIN X-FACTOR
TOA  TEMPERED OUTSIDE AIR
U  ULTRAVIOLET
W  WATTS
UV  ULTRAVIOLET FILTER
UVF  ULTRAVIOLET FILTER
W  WATTS
M-101 GENERAL NOTES
1. EACH TAKE-OFF TO A SUPPLY GRILLE SHALL INCLUDE A BALANCING DAMPER UPSTREAM OF THE FLEX DUCT
2. ALL FLOOR-MOUNTED SUPPLY GRILLES SHALL BE TRUE FIT OR APPROVED EQUIVALENT.
3. TRUE INTERIOR DIMENSIONS CORRESPOND TO TRUE INTERIOR DIMENSIONS. THE CONTRACTOR SHALL ACCOUNT FOR INSULATION THICKNESS IF INSTALLED INTERNALLY.
4. SUPPLY DUCTWORK TO BE LOCATED WITHIN CRAWLSPACE.
5. SUPPLY DUCTWORK SHALL BE INSTALLED WITH A VAPOR BARRIER AND A THERMAL INSULATION VALUE OF NO LESS THAN R-6.

M-101 KEY NOTES
A. INSTALL 2 TON VARIABLE SPEED HEAT PUMP (CARRIER INFINITY SERIES)
B. INSTALL 3 TON VARIABLE SPEED AIR HANDLING UNIT (CARRIER INFINITY SERIES)

DUCTWORK SUPPLY PLAN
M-102 KEY NOTES

A. INSTALL ENERGY RECOVERY VENTILATOR TO TEMPEST INCOMING FRESH AIR DUCTWORK.
B. 12"X8" RETURN GRILLE (TYP. OF 3)

DUCTWORK RETURN PLAN
ELECTRICAL DESIGN GUIDELINES

1. All conductors shall be Thhn copper.
2. Dedicated neutral conductors shall be used for all single-phase loads unless approved in writing by the project manager.
3. All neutral conductors will be a minimum of full size. Designer will evaluate need for oversized
4. Metal conductors shall be used.
5. Minimum insulation rating is 85 degrees celsius.
6. Not permitted in-wire systems such as Type AC (Armored Cable), Type M (Metal Clad) and Type NM (Nonmetallic Sheathed Cable) in areas where damage to the raceway is likely to occur. Use of in-wire systems will be at the discretion of the project manager.

GROUNDING AND BONDING

7. Grounding systems shall be installed to provide a resistance of five (5) ohms or less.
8. grounding electrode conductors shall be insulated stranded copper conductors. Conduit shall be considered for all exterior conduit.
9. All conductors shall be Thhn copper.
10. All neutral conductors will be a minimum of full size. Designer will evaluate need for oversized

GROUNDING AND BONDING

11. All conductors should be installed in a Raceway system.
12. Indoor raceway system shall be any, rigid metal, or approved surface wire.
13. Schedule thhn Pvc conduit will be utilized anywhere underground conduit emerges from concrete.
14. Rigid metal conduit or Schedule thhn Pvc conduit shall be used for exterior locations. Expansion shall be avoided.
15. Elbows for rigid metal conduit shall be either nonmetallic. Rigid metal conduit to prevent damage from pullers. Rigid metal conduit shall be used for at least the first 6 feet of horizontal runout from the building to allow for building settling over time.
16. Conduits, ductwork, in-wire Amps, in interior general spaces, exposed Amps will not be allowed below 7 feet. Any areas where conduit may receive physical abuse such as hallways, mechanical rooms, storage rooms, and janitor closets, unless the conduit is 2" larger or larger in diameter.
17. Garages and similar areas shall be considered a wet location. Electrical rooms in a garage shall be considered a wet location. All panels and electrical devices shall be installed on Unistruct in electrical rooms in garages.
18. Conduit will be supported from the building structure. Attachment to other pipes, conduits, devices, ductwork etc. will not be allowed.
19. Pvc conduit will be a schedule thhn Pvc unless otherwise indicated, and shall be designed and listed for multiple conductors.
20. All metal fittings will be compression type rated for ground connection.
21. For branch circuits a separate grounding conductor will be installed. Use of the conduit or ground system for this purpose is not permitted. All metal raceway shall be electrical continuous and bonded to the grounding conductor.
22. For branch circuits, the minimum cross section shall be 10" except for switchless lighting whips (supplying a single fixture circuit), and control wiring which may be 6".
23. All receptacles and switches will have a minimum rating of 15 Amps and have commercial specification for the electric application with all connections solvent welded.
24. Preferred color for receptacles and switches is ivory. Other colors may be used to match existing devices or for special uses.
25. In areas required to have ground fault interrupting capability, ground fault conductors shall be used in lieu of GFI breakers, unless approved by the project manager.
26. Gfi breakers shall be used in lieu of GFI breakers.
27. The preferred maximum heights, above finished floor, are 4' for switches, and 1' for receptacles.
28. Each receptacle shall have a minimum of one receptacle and it shall be GFI protected.
29. Gfi breakers shall be used. Plug-in breakers are not allowed. Square D and Ge Spectra series are acceptable.
30. All circuit breakers shall have an internal common trip, and all circuit breakers frame sizes rated 20 Amps and larger shall have interlatchable trips.
31. Only one circuit breaker shall be connected to each circuit breaker, unless the circuit breaker is designed and listed for multi conductor.
32. All purpose breakers shall be a minimum of 30 Amps.
33. All general purpose power Circuits shall be a minimum of 30 Amps.
NOTES:
1. ALL WALL RECEPTICLES ARE AT A STANDARD 18" UNLESS OTHERWISE SPECIFIED.
2. FLOOR RECEPTICLES NEAR TO STOREFRONT WINDOWS SHOULD ALL BE 3" AWAY FROM THE BASE OF THE STOREFRONT.
3. SMOKE DETECTORS ARE HARDWIRED WITH BATTERY BACKUP.

AC WIRING PLAN

AC-201

MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY
U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON 2017
WWW.SOLARDECATHLON.GOV

MISSOURI S&T SOLAR HOUSE DESIGN TEAM
1051 N. BISHOP AVENUE
116 KUMER STUDENT DESIGN CENTER
ROLLA, MO 65401-11410

CONTACT:
LUKE MUELLER
sunhome@mst.edu

8/9/2017 3:52:17 PM
NOTES:
1. CEILING FAN WILL BE CONTROLLED THROUGH A REMOTE
2. SWITCHES ARE LOW VOLTAGE BUT ARE WIRED AS
   TYPICAL SWITCHES
3. SMOKE DETECTORS ARE HARD WIRED WITH BATTERY
   BACKUP
4. SMOKE DETECTORS ARE UL 217 RATED
NOTES:
1. ON TRUSSES B, C, AND D JUNCTION BOXES ARE TO BE INSTALLED ON TOP OF THE TRUSS NEXT TO THE WALL
2. DASHED LINE INDICATES HOW SWITCHES WILL WIRE TO LIGHTS ON TRUSSES
### Electrical Schedule

**Branch Panel: LP1**

<table>
<thead>
<tr>
<th>Circuit</th>
<th>Description</th>
<th>Type</th>
<th>Mark</th>
<th>Type</th>
<th>Count</th>
<th>Wattage</th>
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<tbody>
<tr>
<td>1</td>
<td>Lighting - Dwelling Unit</td>
<td>Surface Mounted Can Light</td>
<td>6&quot;</td>
<td>16</td>
<td>60 W</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Lighting - Bathroom</td>
<td>Bathroom Vanity</td>
<td></td>
<td>1</td>
<td>32 W</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Lighting - Exterior</td>
<td>Exterior Sconce</td>
<td></td>
<td>5</td>
<td>60 W</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Lighting - Kitchen</td>
<td>LED Strip Light</td>
<td></td>
<td>1</td>
<td>40 W</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lighting - Living Room</td>
<td>Dining Pendant</td>
<td></td>
<td>1</td>
<td>100 W</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Lighting - Mechanical Room</td>
<td>Track Lighting</td>
<td></td>
<td>6</td>
<td>40 W</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Lighting - Entry and Kitchen</td>
<td>Ceiling Fan</td>
<td></td>
<td>1</td>
<td>21.34 W</td>
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</table>

**Branch Panel: LP2**

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<th>Circuit</th>
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<td>Ceiling Fan</td>
<td></td>
<td>1</td>
<td>21.34 W</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- Enclosure: NEMA 1
- MCB Rating: 100 A
- Mounting: Wall Mounted
- Wires: 3
- Volts: Single Phase
- Branch Panel: LP1
- Supply From: MECHANICAL ROOM M1
- Mounting: WALL MOUNTED
- Enclosure: NEMA
- Mains Rating: 225 A
- Mains Type: 120/240V
- A.I.C. Rating: 60 A
- Location: MECHANICAL ROOM M1
- Supply From: MECHANICAL ROOM M1

**Lighting Schedule**

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<td>1</td>
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<td></td>
<td>3</td>
<td>100 W</td>
</tr>
<tr>
<td>F</td>
<td>DINING PENDANT</td>
<td></td>
<td>1</td>
<td>100 W</td>
</tr>
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<td>G</td>
<td>TRACK LIGHTING</td>
<td></td>
<td>6</td>
<td>40 W</td>
</tr>
<tr>
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<td>CEILING FAN</td>
<td></td>
<td>1</td>
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</tbody>
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**Notes:**

- Enclosure: NEMA 1
- MCB Rating: 100 A
- Mounting: Wall Mounted
- Wires: 3
- Volts: Single Phase
- Branch Panel: LP2
- Supply From: MECHANICAL ROOM M1
- Mounting: WALL MOUNTED
- Enclosure: NEMA
- Mains Rating: 225 A
- Mains Type: 120/240V
- A.I.C. Rating: 60 A
- Location: MECHANICAL ROOM M1
- Supply From: MECHANICAL ROOM M1

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AC ONE LINE DIAGRAM

ENPHASE IQ6+ MI
MAIN SERVICE PANEL LP1
25A
TO HOUSE

TO UTILITY

SOLAR METER FOR LOCAL UTILITY COMPANY

SOLAR ARRAY AND BATTERY DISCONNECT

ENPHASE COMBINED ENVOY Q

ENPHASE Q - CABLE

MAIN UTILITY METER WITH AC DISCONNECT

LG360 SOLAR PANEL

TO UTILITY

INSIDE

OUTSIDE

SHEET TITLE
LOT NUMBER:
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U.S. DOE SOLAR DECATHLON 2017

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116 KUMER STUDENT DESIGN CENTER
ROLLA, MO 65401

CONTACT:
LUKE MUELLER
sunhome@mst.edu

8/9/2017 3:52:22 PM
STEP 1: POSITION THE CRANE ON THE WEST SIDE OF THE BUILDING ENVELOPE IN TEAM CONSTRUCTION AREA, EXTEND OUTRIGGERS SO THAT THE CRANE IS READY TO USE.

STEP 2: PLACE SCREW JACKS ON THE SITE IN PREDESIGNATED POSITIONS, DROPS THE FIRST DELIVERY TRUCK INTO POSITION IN THE UNLOADING ZONE.

STEP 3: UNLOAD THE ROOF MODULE AND PLACE OFF TO THE NORTH SIDE OF THE CONSTRUCTION SITE.

STEP 4: UNLOAD THE TWO I-BEAM FRAMES ON THE TRUCK AND PLACE THEM DIRECTLY ONTO THE SCREW JACKS, MOVE THE FIRST DELIVERY TRUCK AWAY FROM THE SITE.

STEP 5: DRIVE THE SECOND DELIVERY TRUCK INTO POSITION IN THE UNLOADING ZONE, UNLOAD THE MIDDLE FLOOR SECTIONS AND PLACE OFF TO THE NORTH SIDE OF THE CONSTRUCTION SITE.

STEP 6: UNLOAD THE BEDROOM MODULE, PLACE THE MIDDLE MODULE DIRECTLY ONTO THE CORRESPONDING I-BEAM FRAME, MOVE THE SECOND DELIVERY TRUCK AWAY FROM THE SITE.

STEP 7: DRIVE THE THIRD DELIVERY TRUCK INTO POSITION IN THE UNLOADING ZONE, UNLOAD THE MAIN MODULE.

STEP 8: PLACE THE MAIN MODULE DIRECTLY ONTO THE CORRESPONDING I-BEAM FRAME, MOVE THE THIRD DELIVERY TRUCK AWAY FROM THE SITE.

STEP 9: PICK UP THE MIDDLE FLOOR SECTIONS FROM THE NORTH SIDE OF THE SITE, PLACE THE MIDDLE FLOOR SECTIONS INTO POSITION.

STEP 10: PICK UP THE ROOF MODULE FROM THE NORTH SIDE OF THE SITE, PLACE THE ROOF MODULE INTO POSITION, SET STOREFRONT WINDOWS INTO PLACE.

STEP 11: DRIVE THE PICKUP TRUCK WITH FLATBED TRAILER INTO THE UNLOADING ZONE, UNLOAD THE DECK SECTIONS AND RAMP SECTIONS AND PLACE DIRECTLY INTO POSITION.

STEP 12: MOVE THE PICKUP TRUCK WITH FLATBED TRAILER AWAY FROM THE SITE, FILL EXTERNAL WATER STORAGE TANK.
STEP 1: EMPTY EXTERNAL WASTE WATER TANK. POSITION THE CRANE ON THE WEST SIDE OF THE BUILDING ENVELOPE IN TEAM CONSTRUCTION AREA. EXTEND OUTRIGGERS SO THAT THE CRANE IS READY TO USE.

STEP 2: DRIVE THE PICKUP TRUCK WITH FLATBED TRAILER INTO THE UNLOADING ZONE, REMOVE THE DECK SECTIONS AND RAMPS SECTIONS AND LOAD THEM ONTO THE TRAILER.

STEP 3: MOVE THE PICKUP TRUCK WITH FLATBED TRAILER AWAY FROM THE SITE.

STEP 4: REMOVE THE STOREFRONT WINDOWS, REMOVE THE ROOF MODULE AND PLACE OFF TO THE NORTH SIDE OF THE CONSTRUCTION SITE TO BE LOADED LATER.

STEP 5: REMOVE MIDDLE FLOOR SECTIONS AND PLACE OFF TO THE NORTH SIDE OF THE CONSTRUCTION SITE TO BE LOADED LATER. DRIVE THIRD DELIVERY TRUCK IN THE LOADING ZONE.

STEP 6: PICK UP THE MAIN MODULE FROM ITS I-BEAM FRAME AND LOAD ONTO THE THIRD DELIVERY TRUCK.

STEP 7: MOVE THE THIRD DELIVERY TRUCK AWAY FROM THE SITE.

STEP 8: DRIVE THE SECOND DELIVERY TRUCK INTO THE LOADING ZONE, LOAD THE MIDDLE FLOOR SECTIONS ONTO THE TRUCK, PICK UP THE BEDROOM MODULE FROM ITS I-BEAM FRAME AND LOAD ONTO THE SECOND DELIVERY TRUCK.

STEP 9: MOVE THE SECOND DELIVERY TRUCK AWAY FROM THE SITE.

STEP 10: DRIVE THE FIRST DELIVERY TRUCK INTO THE LOADING ZONE, LOAD THE TWO I-BEAM FRAMES DIRECTLY ONTO THE TRUCK.

STEP 11: PICK UP THE ROOF MODULE FROM THE NORTH SIDE OF THE SITE AND LOAD DIRECTLY ONTO THE TRUCK.

STEP 12: MOVE THE FIRST DELIVERY TRUCK AWAY FROM THE SITE, REMOVE THE SCREW JACKS FROM THE SITE.