1. The finished area of this house has been calculated in accordance with the American National Standard for Detached Single-Family Residential Buildings Z765-2003.

2. Square footage of mechanical room not included in final square footage of house per ANSI requirements.

3. Finished square footage calculations for this house were made based on plan dimensions only and may vary from the finished square footage of the house as built.

4. For finished areas adjacent to unfinished areas, the finished square footage is calculated to exterior edge or unfinished surface of any interior partition between spaces in compliance with ANSI Z765-2003.

5. All measurements are rounded to the nearest whole square foot in accordance with ANSI Z765-2003.

6. Total area calculated according to ANSI Z765-2003 is 876 square feet which demonstrates compliance with Rule 6-2: Finished Square Footage.
SLOPE 1 : 21
7'-3"
5'-0"
3'-0"
DECATHLETE WAY
KITCHEN
BATHROOM
MECHANICAL
ENTRY DECK
PERGOLA

REFERENCE KEYNOTES
5 DOORS WILL REMAIN FIXED IN OPEN POSITION DURING PUBLIC TOURS
6 INTERIOR OF MODULE C WILL BE DISPLAYED IN OFFICE CONFIGURATION WITH RECONFIGURABLE TABLE DEPLOYED DURING TOUR; BED WILL REMAIN IN UP POSITION
15 5'-0" DIAMETER ADA COMPLIANT TURNING AREA, TYP
16 TERMINAL BOX
24 WALKWAY MAT TO BE PROVIDED BY COMPETITION ORGANIZERS
83 60" X 60" TURNING SQUARE PER ADA COMPLIANCE; LANDING ON WALKING SURFACE TO HAVE NO SLOPE
84 KITCHEN TABLE AND CHAIRS TO BE IN STATIONARY POSITION DURING ALL PUBLIC TOURS; TABLE SHOWN IN DINING CONFIGURATION IN FURNITURE PLAN ONLY

GENERAL SHEET NOTES
1. PLAN COMPLIES WITH OPTIONAL ACCESSIBILITY PATH TYPE B - OPTIONAL, COMPLYING WITH REQUIREMENTS PROVIDED IN ICC A117.1-2003 AS "ADAPTABLE" FOR ACCESSIBLE ELEMENTS.
2. BOTH MILLWORK AND FURNITURE SHOWN ON TOUR PLAN TO REMAIN FIXED IN OPEN POSITION DURING PUBLIC TOURS.
3. MAXIMUM SLOPE OF RAMP TO BE BUILT TO LONGER DIMENSION AND CUT TO FIT GRADE OF SITE. MAXIMUM SLOPE OF RAMP SHALL BE 1:21.
4. HOUSE TOUR PLAN PROVIDED FOR COMPETITION PURPOSES ONLY AND HAS NO IMPACT ON CONSTRUCTION REQUIREMENTS OR SEQUENCING.

SHEET KEYNOTES
1. PLAN COMPLIES WITH OPTIONAL ACCESSIBILITY PATH TYPE B - OPTIONAL; COMPLYING WITH REQUIREMENTS PROVIDED IN ICC A117.1-2003 AS "ADAPTABLE" FOR ACCESSIBLE ELEMENTS.
2. MILLWORK AND FURNITURE SHOWN ON TOUR PLAN.
3. RAMP TO BE BUILT TO LONGER DIMENSION AND CUT TO FIT GRADE OF SITE.; MAXIMUM SLOPE OF RAMP SHALL BE 1:21.
4. HOUSE TOUR PLAN PROVIDED FOR COMPETITION PURPOSES ONLY AND HAS NO IMPACT ON CONSTRUCTION REQUIREMENTS OR SEQUENCING.
LIQUID LOCATION & SPILL CONTAINMENT

REFERENCE KEYNOTES

11 31 13.A1 REFRIGERATOR
11 31 13.A7 DISHWASHER
11 31 23 RESIDENTIAL LAUNDRY APPLIANCES
22 12 19 FACILITY POTABLE WATER STORAGE TANKS
22 41 16 RESIDENTIAL LAVATORIES AND SINKS
23 56 13.19 HEATING SOLAR VACUUM-TUBE COLLECTORS

SHEET KEYNOTES

27 500 GALLON BLACK WATER PILLOW TANK
28 CONSTRUCTED WETLANDS ARE TO HAVE SEPARATE OVERFLOW VALVE TO CONTROL WATER; RECIRCULATION PUMPS WILL BE USED TO REMOVE WATER AT END OF COMPETITION
32 WALL HUNG TOILET CAPPED PER COMPETITION REQUIREMENTS
33 SHOWER
34 LIQUID DESICCANT WALL (SEE P-103)
35 LIQUID DESICCANT REGENERATOR TO HAVE SECONDARY CONTAINMENT SYSTEM
87 GREY WATER PREFILTRATION TANK

GENERAL SHEET NOTES

1. HATCH PATTERN INDICATES ALL CONTAINERS, EQUIPMENT, AND FIXTURES THAT WILL CONTAIN LIQUID ON SITE AT ANY POINT DURING COMPETITION. IN COMPLIANCE WITH RULE 4-6 SPILL CONTAINMENT
2. ALL PRESSURIZED WATER SYSTEMS SHALL HAVE PROPER CONTAINMENT AND SHALL BE EQUIPPED WITH AN OVERFLOW PAN OR VALVE AND DRAIN BELOW UNIT
3. IN THE EVENT OF A SPILL, TEAM TO CONSULT SAFETY PLAN AND CONTACT EVENT ORGANIZERS
4. FOR A SCHEDULE OF LIQUID CONTAINMENT DEVICES AND FIXTURES REFER TO P-SERIES

LIQUID LOCATION AND SPILL CONTAINMENT PLAN

H-101
REFERENCE KEYNOTES

- 05 53 00 METAL GRATINGS
- 23 56 13.19 HEATING SOLAR VACUUM-TUBE COLLECTORS
- 23 81 26 SPLIT SYSTEM AIR CONDITIONERS
- 23 84 00 HUMIDITY CONTROL EQUIPMENT
- 26 31 00 PHOTOVOLTAIC COLLECTORS
- 32 71 00 CONSTRUCTED WETLANDS

SHEET KEYNOTES

- 1 SOLAR ENVELOPE
- 10 CONSTRUCTED WETLANDS FOR GREY WATER FILTRATION (SEE A-412)
- 11 CONSTRUCTED WETLANDS FOR GREEN ROOF RUNOFF (SEE A-412)
- 12 CONSTRUCTED WETLANDS RAINWATER HARVESTING AND FILTRATION SYSTEM (SEE A-411)
- 13 POTTED PLANTS (SEE L-SERIES)
- 69 PERGOLA STRUCTURE WITH INTEGRATED PV PANELS
- 81 REFER TO ELEVATION (A-202) FOR INFORMATION ON PROTECTIVE MEASURES ASSOCIATED WITH SOLAR THERMAL

GENERAL SHEET NOTES

1. SITE INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY IS SUBJECT TO CHANGE
2. ORGANIZERS TO PROVIDE LIMITS OF LOT AND ACCESS TO THE NATIONAL MALL PRIOR TO CONSTRUCTION.
3. TEAM HOUSES ARE TO REMAIN WITHIN SOLAR ENVELOPE PROPERTY LINES ESTABLISHED BY COMPETITION ORGANIZERS

SHEET TITLE

A1 SITE PLAN

DECATHLETE WAY
GENERAL SHEET NOTES

1. All foundation and auxiliary elements residing on grade shall not exceed the
maximum allowable soil load of 1500 PSF and shall comply with Rule 4-3: Ground
Penetration and 4-4: Impact on Turf.

2. While wetland construction consists of series of trusses, the truss point loads
are distributed over bottom ground plates and therefore distributed load remains
less than 1500 PSF in all conditions.

REFERENCE KEYNOTES

11. Constructed wetlands for grey water filtration (see A-412)

12. Constructed wetlands rainwater harvesting and filtration system (see
A-411)

94. Structural foundations for solar thermal “South Wall” (see S-500 for more
information, including light gauge hold down hardware)

95. Continuous (2)2x10 foundations for pergola framing (see S-500 for more
information)

96. All stand alone site and building components to be elevated on 2x4
sleepers per competition requirements.

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information)

96. All stand alone site and building components to be elevated on 2x4
sleepers per competition requirements.
GENERAL SHEET NOTES

1. ALL ELEMENTS OF HOUSE AND ASSOCIATED COMPONENTS AND LANDSCAPE TO REMAIN WITHIN SOLAR ENVELOPE CONSTRAINTS IMPLEMENTED BY COMPETITION ORGANIZERS. IF ELEMENTS EXCEED DIMENSIONS OF SOLAR ENVELOPE, ADJUSTMENTS MAY BE MADE PRIOR TO PROCEEDING TO COMPETITION SITE.

2. DRAWINGS TO INDICATE SOLAR ENVELOPE COMPLIANCE

3. FOR FURTHER INFORMATION ON PLANT LAYOUT, SEE LANDSCAPE SERIES (L-101)

4. ALL EXTERIOR DECKING ABOVE 30" FROM GRADE, OR ADJACENT LANDING, TO HAVE GUARDRAILS PER IRC 2009 STANDARDS

REFERENCE KEYNOTES

1 SOLAR ENVELOPE

85 POTS CONTAINING LANDSCAPE TO SIT 3 1/2" OFF GRADE (ON PLYWOOD AND RISERS) PER COMPETITION GROUND CONTACT REQUIREMENTS

SHEET KEYNOTES

1. ALL ELEMENTS OF HOUSE AND ASSOCIATED COMPONENTS AND LANDSCAPE TO REMAIN WITHIN SOLAR ENVELOPE CONSTRAINTS IMPLEMENTED BY COMPETITION ORGANIZERS. IF ELEMENTS EXCEED DIMENSIONS OF SOLAR ENVELOPE, ADJUSTMENTS MAY BE MADE PRIOR TO PROCEEDING TO COMPETITION SITE.

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4. ALL EXTERIOR DECKING ABOVE 30" FROM GRADE, OR ADJACENT LANDING, TO HAVE GUARDRAILS PER IRC 2009 STANDARDS

PRODUCED BY AN AUTODESK STUDENT PRODUCT
1. Placement of all pots will be fixed in accordance with Rule 7-1. Placement of pots is not to interfere with necessary placement of water lines or gas lines.
2. For plant type schedule see L-401.

1. PLACEMENT OF ALL POTS WILL BE FIXED IN RESPONSE TO RULE 7-1: PLACEMENT. ALL POTTED PLANTS ARE TO FIT WITHIN SECONDARY POT FIXED TO PLYWOOD BASE ON 2X4 SLEEPERS TO REMAIN 3" (MIN) OFF GRADE.
2. FOR PLANT TYPE SCHEDULE SEE L-401.
GENERAL SHEET NOTES

1. ALL CONTENT IN S-SERIES DRAWINGS IS A REQUIRED TO COMPLY WITH NATIONAL CAD STANDARDS. SEE EXTERNAL PDF FOR SIGNED ENGINEERED WOOD PRODUCTS.

2. TIMBER LUMBER SHALL CONFORM TO THE FOLLOWING SPECIES AND GRADE:

- **STL. STEEL BEAMS AND STRINGERS: SOUTHERN PINE #1 (Fb=1800 PSI, E=1,900,000 PSI)**
- **ASTM A572 (Fy=50,000 PSI): STEEL COLUMNS AND BEAMS**
- **ASTM A-53, GRADE B: STRUCTURAL STEEL PIPE.**

3. ENGINEERED TIMBER DECKING: PROVIDE CONTINUOUSLY SUPPORTED, RANDOM LENGTH LAMINATED DECKING WITH THE MANUFACTURER'S STANDARD RECOMMENDATIONS AND DETAILS.

4. ROOF SHEATHING: 5/8" THICK, 48/24 SPAN RATING.

5. GALVANIZE ALL STRUCTURAL STEEL EXPOSED TO WEATHER. SHOP PAINT STEEL MEMBERS NOT ENCASED IN CONCRETE OR MASONRY, OR AS OTHERWISE INDICATED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. ACZA TREATMENT IS NOT PERMITTED. TREATED LUMBER AND/OR PLYWOOD SHALL BEAR THE LABEL OF AN ACCREDITED AGENCY SHOWING 0.40 PCF RETENTION. WHERE LUMBER AND/OR PLYWOOD IS CUT OR DRILLED OR MASONRY, OR AS OTHERWISE INDICATED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS. ACZA TREATMENT IS NOT PERMITTED. TREATED LUMBER AND/OR PLYWOOD SHALL BEAR THE LABEL OF AN ACCREDITED AGENCY SHOWING 0.40 PCF RETENTION.

6. LEAVE 1/16" SPACE AT ALL PLYWOOD PANEL END JOINTS AND 1/8" SPACE AT ALL PANEL EDGE JOINTS.

7. WHERE FRAMING LUMBER IS FLUSH FRAMED TO MICROLLAM, STEEL OR FLITCH-PLATE GIRDER, SET FULL-SECTION BLOCKING FOR 3 BAYS @ 4'-0" O.C. MAX. WHERE SHEATHING IS NOT CONTINUOUSLY SHEATHED TO FLOOR BEAMS.

8. **RAILINGS (CONCENTRATED)**

9. **200# GREEN ROOF MODULES**

10. **RAILINGS (EQUIVALENT)**

11. **PARAMETER VALUE SHEAR WALL TYPE**

12. **DESIGN CODE: IRC 2009**

13. **RAILINGS (EQUIVALENT)**

14. **PARAMETER VALUE SHEAR WALL TYPE**

15. **DESIGN LOADS AND FACTORS**

16. **RECORD**

17. **CONNECTIONS SCHEDULE**

18. **SCHEDULE**

19. **DIEU SUCHE**

20. **SCHEDULE**

21. **DIEU SUCHE**

22. **SCHEDULE**

23. **GENERAL STRUCTURAL NOTES**

S-000
LEGEND
SPAN DIRECTION OF DECK
WOOD BEAM
BEARING WALL ABOVE
WOOD BEARING WALL (2x4 @ 16" U.N.O.)
DENOTES STEEL PLATE (SEE SCHEDULE ON DTL. 1/S-400)
INDICATES (3) 2x6 STUD PACK POSTABOVE
INDICATES (3) 2x6 STUD PACK POSTTHRU OR DOWN
INDICATES STEEL SUPPORT BASE (SEE DTL. 1/S-400)
DENOTES CONNECTION REQUIREMENTS (SEE SCHEDULE ON S-000)
PICK POINT
PL# 323 5 4 5 21.7 1.3 3.2 3.6 4 5 1 66 5 7 8 2'-0" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0" 4'-0" 2'-0" 4'-0" 3'-4" 3'-4" 3'-4" 3'-4" 3'-4" 3'-4" 3'-4"
SCALE: 1/4"=1'-0"
2x10 @ 16" 2x6 @ 16"
(3) 2x10
9 1/4" LVL RIM (CONT.)
(3) 2x10 (3) 2x10 (3) 2x10
9 1/4" LVL RIM 9 1/4" LVL RIM
(4) 2x10 (4) 2x10
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 (2) 2x10
(3) 2x10
(2) 2x10 W/ 2x BLOCKING BTWN.
(2) 2x10 W/ 2x BLOCKING BTWN.
SCALE: 1/4" = 1'-0"

BRACED WALL LINE SCHEDULE

<table>
<thead>
<tr>
<th>WALL LINE</th>
<th>AMOUNT OF BRACING</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>SUM OF END POSITIONS LESS THAN 12'-6&quot;? LOCATED @ 25'-0&quot; O.C.?</td>
</tr>
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<td>YES</td>
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MINIMUM PANEL LENGTHS

WALL HEIGHT MAXIMUM OPENING HEIGHT (IN.)

<table>
<thead>
<tr>
<th>MIN. PANEL LENGTH (IN.)</th>
<th>WALL TYPE</th>
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<tbody>
<tr>
<td>9'-0&quot;</td>
<td>CS-WSP</td>
</tr>
<tr>
<td>9'-0&quot;</td>
<td>27</td>
</tr>
<tr>
<td>10'-0&quot;</td>
<td>30</td>
</tr>
<tr>
<td>10'-0&quot;</td>
<td>42</td>
</tr>
<tr>
<td>10'-0&quot;</td>
<td>60</td>
</tr>
</tbody>
</table>

GENERAL WIND NOTES

1. UNLESS NOTED OTHERWISE IN PLANS OR ELEVATIONS, ALL SHEAR WALL LINES MEET OR EXCEED EITHER:
   A. PRESCRIPTIVE REQUIREMENTS OF IRC 2009 R602.10
   B. PRESCRIPTIVE REQUIREMENTS OF APA NARROW WALL BRACING METHOD

2. WALLS NOT MEETING THE ABOVE REQUIREMENTS HAVE BEEN ENGINEERED AND DETAILED HEREIN TO RESIST WIND FORCES CALCULATED USING PARAMETERS DEFINED IN THE DRAWINGS.

NOTES:

1. REFER TO IRC 2009 TABLE R602.10.3.1
2. SEISMIC CATEGORY: C3. WIND SPEED: 90 MPH

REQUIRED PROVIDED

A 2'-6" 19'-0
B 6'-6" 13'-8"
C 2'-6" 15'-4 3/4"
D 6'-6" 8'-0" (EQ.)
E 2'-6" 14'-2"
F 4'-9" 8'-0" (EQ.)
G 2'-6" 10'-10"
H 4'-9" 12'-1"

9'-0" 72 TYPICAL WINDOW
27
9'-0" 84 TYPICAL DOOR
36
9'-0" 108 ADJ. TO CHIMNEY
54

10'-0" 72 TYPICAL WINDOW
30
10'-0" 96 TYPICAL DOOR
42
10'-0" 120 ADJ. TO CHIMNEY
60

CONT. 2x (NOM.) T&G TIMBER DECKING -- SEE DTLS THIS SHEET

NO

PFH INTERMITTENT PORTAL FRAME

S-600 1/4"=1'-0"

LATERAL SYSTEM PLAN

TYPICAL T&G TIMBER DECK
SHEARWALL FASTENING PATTERN
GENERAL SHEET NOTES
1. SLOPE OF ROOF IS SHOWN AS APPROXIMATE
   REFER TO STRUCTURAL DRAWINGS FOR EXACT
2. ANY ELEVATED MAINTENANCE OR CONSTRUCTION
   WORK REQUIRES THE USE OF PFAS EQUIPMENT.
   USE OF NEAREST CONNECTION POINTS PROVIDED
   ON ROOF AND OUTLINED IN THE DRAWING
   SET ARE REQUIRED WITH THESE SYSTEMS PER
   SOLAR DECATHLON RULES

REFERENCE KEYNOTES
07 33 63 VEGETATED ROOFING
19 07 54 23 THERMOPLASTIC-POLYOLEFIN ROOFING
07 61 13 STANDING SEAM SHEET METAL ROOFING
07 62 00 SHEET METAL FLASHING AND TRIM
07 71 00 ROOF SPECIALTIES
26 31 00 PHOTOVOLTAIC COLLECTORS

SHEET KEYNOTES
19 WEATHERHEAD (SEE A-516)
20 STACK VENT (SEE A-516)
21 TIE-OFF POINTS TO ANCHOR FOR FALL ARREST SYSTEM (PFAS) HARDWARE. (SEE A-516 FOR INSTALLATION)

GENERAL SHEET NOTES
1. SLOPE OF ROOF IS SHOWN AS APPROXIMATE. REFER TO STRUCTURAL DRAWINGS FOR EXACT ANGLES.
2. ANY ELEVATED MAINTENANCE OR CONSTRUCTION WORK REQUIRES THE USE OF PFAS EQUIPMENT. USE OF NEAREST CONNECTION POINTS PROVIDED ON ROOF AND OUTLINED IN THE DRAWING SET ARE REQUIRED WITH THESE SYSTEMS PER SOLAR DECATHLON RULES.
6. INTERIOR OF MODULE C WILL BE DISPLAYED IN OFFICE CONFIGURATION WITH RECONFIGURABLE TABLE DEPLOYED DURING TOUR; BED WILL REMAIN IN UP POSITION.

34. LIQUID DESICCANT WALL (SEE P-103)

80. LINE OF CABINETRY AND SHELVING ABOVE

84. KITCHEN TABLE AND CHAIRS TO BE IN STATIONARY POSITION DURING ALL PUBLIC TOURS; TABLE SHOWN IN DINING CONFIGURATION IN FURNITURE PLAN ONLY.

GENERAL SHEET NOTES
1. PLAN PORTRAYS ONE POSSIBLE CONFIGURATION OF FURNITURE. SEE PROJECT MANUAL FOR FURTHER DESCRIPTION OF TRANSFORMABLE COMPONENTS AND POSSIBLE CONFIGURATIONS.
GENERAL SHEET NOTES

REFERENCE KEYNOTES
01 54 23 TEMPORARY SCAFFOLDING AND PLATFORMS
07 33 63 VEGETATED ROOFING
12 35 30.13 KITCHEN CASEWORK
26 31 00 PHOTOVOLTAIC COLLECTORS
31 66 00 SPECIAL FOUNDATIONS
32 71 00 CONSTRUCTED WETLANDS

SHEET KEYNOTES
34 LIQUID DESICCANT WALL - SEE P. 103
39 DASH-DOT-DOT LINE TO REPRESENT SEPARATION OF MODULES

CHILD SHEETS
A-311
A-313
A-315
A-316

TEAM NAME:
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 Client: U.S. DEPARTMENT OF ENERGY
SOLAR DECATHLON 2011
WWW.SOLARDECATHLON.GOV

Issue Date: 11/11/2010
80% DOE/NREL DD SUBMISSION
01/08/2011
80% DOE/NREL RE-SUBMISSION
01/18/2011
100% DOE/NREL CD SUBMISSION
03/18/2011
100% DOE/NREL RE-SUBMISSION
05/02/2011
AS-BUILT DRAWING SUBMISSION
08/11/2011
1. EAST SIDE CONSTRUCTED WETLANDS AT ENTRY DOOR TO SERVE AS RAINWATER COLLECTION AND FILTRATION SYSTEM. RAIN WATER FROM PV ROOF WILL BE HARVESTED AND MANUALLY EXTRACTED FOR LANDSCAPE IRRIGATION PURPOSES.

2. WETLANDS SHALL SIT MIN. 3 1/2" OFF GRADE.

3. MAX ELEVATION DIFFERENCE BETWEEN DECK AND BASE OF WETLANDS SHALL NOT EXCEED 18". HANDRAILS WILL ALLOW FOR ADDITIONAL PUBLIC SAFETY.

4. METAL GRATE TO REPLACE DECKING MATERIAL OVER WETLANDS. BAR GRATING SHALL BE ADA COMPLIANT.

5. MAXIMUM WATER CAPACITY FOR RAIN WATER COLLECTION IN EAST WETLANDS IS 314 GALLONS. PLEASE SEE 0-111 FOR WATER REMOVAL.
1. WEST SIDE CONSTRUCTED WETLANDS TO SERVE AS A TWO PART GREY WATER FILTRATION SYSTEM. 10' MODULE CLOSEST TO HOUSE SHALL COLLECT AND FILTER GREY WATER FROM GREEN ROOF. TWO 5'-0" MODULES WILL FILTER GREY WATER FROM HOUSE APPLIANCES 2. WETLANDS SHALL SIT MIN OF 3 1/2" OFF GRADE 3. SEE P-SERIES FOR PLUMBING DETAILS 4. MAXIMUM WATER CAPACITY FOR RAIN WATER COLLECTION IN WEST WETLANDS IS 394 GALLONS. MAX WATER CAPACITY FOR GREY WATER IN WEST WETLANDS IS 364 GALLONS. PLEASE SEE 0-111 FOR WATER REMOVAL.
1. Verify all dimensions in field prior to fabrication and installation.

REFERENCE KEYNOTES
- ROOF JOINT (9'-9 1/4"
- ROOF A JOINT AT WEST GABLE
- MODULE A AT WEST DOOR
- MODULE A AT EAST FLOOR

GENERAL SHEET NOTES
- ROOF JOINT (9'-9 1/4"
- ROOF A JOINT AT WEST GABLE
- MODULE A AT WEST DOOR
- MODULE A AT EAST FLOOR
### Door Schedule

<table>
<thead>
<tr>
<th>MARK</th>
<th>DR TYPE</th>
<th>DR SIZE</th>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>FRAME</th>
<th>FIRE RATING</th>
<th>DETAILS</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>101</td>
<td>ENTRY/KITCHEN</td>
<td>83 1/16&quot; x 93 1/8&quot;</td>
<td>LOEWEN</td>
<td>FD2 2224</td>
<td>LAR</td>
<td>WOOD</td>
<td>A-51</td>
<td>A-501</td>
</tr>
<tr>
<td>102</td>
<td>ENTRY/KITCHEN</td>
<td>83 1/16&quot; x 93 1/8&quot;</td>
<td>LOEWEN</td>
<td>FD2 2224</td>
<td>LAR</td>
<td>WOOD</td>
<td>A-513</td>
<td>A-501</td>
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<tr>
<td>103</td>
<td>OFFICE</td>
<td>60&quot;W x 93 1/8&quot;H</td>
<td>LOEWEN</td>
<td>FDR 1824</td>
<td>LAR</td>
<td>WOOD</td>
<td>A-516</td>
<td>A-501</td>
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<tr>
<td>104</td>
<td>BEDROOM</td>
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<tr>
<td>105</td>
<td>MECHANICAL ROOM</td>
<td>SD_2011_72&quot;W x 93&quot;H</td>
<td>LOEWEN</td>
<td>FDR 1824</td>
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<td>WOOD</td>
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<td>106</td>
<td>BEDROOM DOOR</td>
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<td>FD2 1520</td>
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<td>WOOD</td>
<td>A-512</td>
<td>A-501</td>
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<td>107</td>
<td>LAUNDRY</td>
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### Window Schedule

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<th>MATERIAL</th>
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<tr>
<td>01</td>
<td>5'-3 3/4&quot; x 7'-11 1/4&quot;</td>
<td>Fixed</td>
<td>LOEWEN</td>
<td>PS1 1624</td>
<td>WOOD</td>
<td>WOOD</td>
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<td>02</td>
<td>4'-7 1/8&quot; x 7'-11 1/4&quot;</td>
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<td>LOEWEN</td>
<td>PS1 1424</td>
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<td>03</td>
<td>2'-8 1/4&quot; x 4'-11 7/8&quot;</td>
<td>Casement with Trim</td>
<td>LOEWEN</td>
<td>CA1 0815</td>
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<td>WOOD</td>
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<td>04</td>
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<td>05</td>
<td>3'-0&quot;</td>
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<td>MAJOR INDUSTRIES GUARDIAN</td>
<td>275 WALL SYSTEM</td>
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<td>Metal - Aluminum</td>
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<td>15'-6 3/4&quot;</td>
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<td>2'-0&quot;</td>
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### General Sheet Notes

#### Reference Keynotes

#### Sheet Keynotes

### Floor, Wall, and Finishes Schedules

#### Floor Schedule

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#### Wall Schedule

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#### Room Finish Schedule

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References:
- UNIVERSITY OF MARYLAND
- SCHOOL OF ARCHITECTURE, PLANNING & PRESERVATION
- BLDG 145, COLLEGE PARK, MD 20742
- A-602

**Reference Keynotes**

**Room Finish Schedules**

**Floor Schedule**

**Wall Schedule**

**General Sheet Notes**

**Room Finish Schedules**

**Floor, Wall, and Finishes Schedules**

**A-602**
CRAWL SPACE PLAN DIAGRAM

FIRE SUPPRESSION RCP

GENERAL SHEET NOTES

1. THIRD PARTY ENGINEER RESPONSIBLE FOR ALL REPRESENTATIVE ENGINEER AND INSPECTOR:

2. CRAWL SPACE NO RE/ Lesser Engine ARE REQUIRED PER NFPA13D 2007 EDITION

SCOPE: THE SCOPE OF THIS PROJECT IS TO REPRESENTATIVE ENGINEER AND INSPECTOR:

CODES: ALL WORK SHALL COMPLY WITH NFPA 13D RE/ LESSER ENGINE ARE REQUIRED PER NFPA13D 2007 EDITION

BUILDING CONSTRUCTION: BUILDING CONSISTS OF ORDINARY WOOD CONSTRUCTION. WALLS CONSIST OF DRYWALL.

SPRINKLER SYSTEM NOTES:

1. THE HOME SHALL BE PROVIDED WITH A HYDRAULICALLY DESIGNED, TREE-TYPE WET PIPE AUTOMATIC SPRINKLER SYSTEM.

2. PIPING SHALL CONSIST OF BLAZEMASTER CPVC PLASTIC PIPING. ALL PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE UL LISTING.

3. HANGERS SHALL SATISFY THE PLUMBING CODE REQUIREMENTS. HANGERS SHALL CONSIST OF TWO INSULATION SHALL BE PROVIDED AND INSTALLED.

4. EXPOSED PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPING. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE UL LISTING.

5. THE FOLLOWING DISTANCES MUST BE MAINTAINED:

   - 1'-6" LATERALLY FROM THE SURFACES OF RANGES AND WALL OVENS.
   - 3'-0" LATERALLY FROM THE EDGES OF FIRE PLACES AND 5'-0" FROM THE FRONT OF A FIREPLACE.
   - 6" LATERALLY FROM HEATERS AND LIGHT FIXTURES.
   - 1'-6" LATERALLY FROM INSULATED HEATING DUCTS, AND UN-INSULATED WATER PIPES.
   - 2'-0" LATERALLY FROM THE EDGES OF A CEILING MOUNTED HOT AIR DIFFUSER.

6. MAXIMUM SPACING SHALL BE:

   - 16' X 16' FOR TWO HEADS PER COMPARTMENT.
   - 16' X 16' FOR TWO HEADS PER COMPARTMENT.

SPRINKLER SYSTEM PIPING SHALL BE INSPECTED AND TESTED AS REQUIRED BY THE AHJ.

HYDRAULIC CALCULATION NOTES:

PRESSURE: 11/4" (129 PSI) TWO UP/LINE PRESSURE

PUMP 1 1/4" 0.75HP 115V 1PH 1750 RPM 34 GPM 1-1/2" X 1-1/2" INLET OUTLET 1" WATTS BRAZED CHECK VALVE PUMP CONTROL PRESSURE SWITCH 50-70 PSI PRESSURE "STAY HANGING" 175° WHITE 4.9 PENDENT SEMI REC. VIKING VK468 QR

UNION 1" LEAD-TUBES TO WATER STORAGE TANKS" 1" LEAD TUBES TO WATER STORAGE TANKS

LEGEND

NEW SPRINKLER PIPING WITH HANGER
HYDRAULIC REFERENCE NODE

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<tr>
<th>SYMBOL</th>
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<td>PUMP DETAIL</td>
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INFORMATION:

- MODEL PRODUCED BY AN AUTODESK STUDENT PRODUCT
- COPYRIGHT: NONE: PROJECT IS PUBLIC DOMAIN
- Sheet Title: FIRE PROTECTION
- Sheet Number: F-101
- Issue Date: 25 MAY 2011
- Document Status: PUBLIC DOMIN
- Document Type: DRAWING
- Document Format: Dwg
- Document Authority: SOLAR DECATHLON
- Document Language: English
- Document Origin: SOLAR DECATHLON
HEAT EXCHANGER FOR EXCESS SOLAR THERMAL (HXEST) PLAN

GENERAL SHEET NOTES
1. ALL HXEST SYSTEM RUNS WITHIN WALL STRUCTURE AND UNDER HOUSE TO BE PLUMBED WITH 3/4" COPPER. ALL EXPOSED HXEST RUNS TO BE 3/4" COPPER.

REFERENCE KEYNOTES
22 12 19 FACILITY POTABLE WATER STORAGE TANKS
23 57 00 HEAT EXCHANGERS FOR HVAC

SHEET KEYNOTES
102 SHARK BITE DISCONNECT FOR TRANSPORTATION
104 HXEST ACCESS BOX WITH SHUTOFF VALVES FOR TRANSPORTATION

1. ALL HXEST SYSTEM RUNS WITHIN WALL STRUCTURE AND UNDER HOUSE TO BE PLUMBED WITH 3/4" PEX; ALL EXPOSED HXEST RUNS TO BE 3/4" COPPER.
GENERAL SHEET NOTES

1. FOR ACRONYMS & ABBREVIATIONS REFER TO P-001.
2. ALL BLACKWATER TO BE 3" PVC UNLESS OTHERWISE SPECIFIED.
3. ALL GREYWATER TO BE 2" PVC UNLESS OTHERWISE SPECIFIED.
4. ALL WASTE PIPES SLOPE 1/4" ACCORDING TO UPC OR IPC.

REFERENCE KEYNOTES

11 31 13 RESIDENTIAL KITCHEN APPLIANCES
11 31 23 RESIDENTIAL LAUNDARY APPLIANCES
22 11 19 DOMESTIC WATER PIPING SPECIALTIES
22 13 16 SANITARY WASTE AND VENT PIPING
22 13 53 FACILITY SEPTIC TANKS
22 41 13 RESIDENTIAL WATER CLOSETS, URINALS, AND BIDETS
22 41 16 RESIDENTIAL LAVATORIES AND SINKS
22 41 23 RESIDENTIAL SHOWER RECEPTORS AND BASINS
22 41 26 RESIDENTIAL DISPOSERS
23 20 00 HVAC PIPING AND PUMPS
32 71 00 CONSTRUCTED WETLANDS

SHEET KEYNOTES

32 WALL HUNG TOILET CAPPED FOR COMPETITION REQUIREMENTS
41 OVERFLOW VALVE FOR DRAINAGE OF EXCESS RAINWATER; RECIRCULATION PUMP WILL BE USED TO REMOVE WATER AT END OF COMPETITION
87 GREY WATER PREFILTRATION TANK
96 ALL STAND ALONE SITE AND BUILDING COMPONENTS TO BE ELEVATED ON 2x4 SLEEPERS PER COMPETITION REQUIREMENTS
101 11/16"Ø CONDENSATE PIPE CONNECTED TO RAINWATER CISTERN
105 WASHER ACCESS BOX FOR PLUMBING CONNECTIONS
108 KITCHEN WASTE PIPE CAPPED FOR COMPETITION
111 DISHWASHER CONNECTS TO GARBAGE DISPOSAL WITH 3/4"Ø FLEXIBLE HOSE

GENERAL NOTES

1. FOR ACRONYMS & ABBREVIATIONS REFER TO P-001.
2. ALL BLACKWATER TO BE 3" PVC UNLESS OTHERWISE SPECIFIED.
3. ALL GREYWATER TO BE 2" PVC UNLESS OTHERWISE SPECIFIED.
4. ALL WASTE PIPES SLOPE 1/4" ACCORDING TO UPC OR IPC.

WASTE WATER CORE AND FILTRATION SYSTEM

WASTE WATER CORE PLAN

WASTE FILTRATION SYSTEM
C1 PEX MANIFOLD MECHANICAL CLOSET ISOMETRIC

A1 PEX MANIFOLD DETAIL

REFERENCES

KEYNOTES

109 PEX MANIFOLD FOR HOT DOMESTIC WATER SUPPLY

110 PEX MANIFOLD FOR COLD DOMESTIC WATER SUPPLY
### PLUMBING SCHEDULE

#### MARK | REFERENCE NO. | DESCRIPTION | COUNT | MANUFACTURER | MODEL | Supply Fitting | Supply Pipe | Drain

| VP-1 | 01-11 | 3" LAV INLET | 1 | GROHE | 0010 | P" | 3" | NA
| VP-2 | 01-12 | 12" INHEAT | 1 | GROHE | 0024 | P" | 3" | NA
| VP-3 | 03-11 | 3" LAV INLET 1 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-4 | 03-12 | 12" INHEAT 1 | 1 | GROHE | 0024 | P" | 3" | NA
| VP-5 | 01-11 | 3" LAV INLET 2 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-6 | 01-11 | 3" LAV INLET 3 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-7 | 01-11 | 3" LAV INLET 4 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-8 | 01-11 | 3" LAV INLET 5 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-9 | 01-11 | 3" LAV INLET 6 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-10 | 01-11 | 3" LAV INLET 7 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-11 | 01-11 | 3" LAV INLET 8 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-12 | 01-11 | 3" LAV INLET 9 | 1 | GROHE | 0010 | P" | 3" | NA
| VP-13 | 01-11 | 3" LAV INLET 10 | 1 | GROHE | 0010 | P" | 3" | NA

#### VALVES

| V-1 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-2 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-3 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-4 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-5 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-6 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-7 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-8 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-9 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-10 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-11 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA
| V-12 | 01-11 | Ball Valve | 1 | GROHE | 0026 | LF | 3" | NA

#### GAUGES

| G-1 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-2 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-3 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-4 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-5 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-6 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-7 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-8 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-9 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-10 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-11 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA
| G-12 | 01-11 | Pressure Gauge | 1 | GROHE | 0026 | LF | 3" | NA

#### PUMPS

| P-1 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-2 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-3 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-4 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-5 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-6 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-7 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-8 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-9 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-10 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-11 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA
| P-12 | 01-11 | 1" CENTRIFUGAL PUMP | 1 | GROHE | 0026 | LF | 3" | NA

#### TANKS

| T-1 | 01-11 | 30" X 42" TANK | 1 | GROHE | 0026 | LF | 3" | NA
| T-2 | 01-11 | 30" X 42" TANK | 1 | GROHE | 0026 | LF | 3" | NA
| T-3 | 01-11 | 30" X 42" TANK | 1 | GROHE | 0026 | LF | 3" | NA
| T-4 | 01-11 | 30" X 42" TANK | 1 | GROHE | 0026 | LF | 3" | NA
| T-5 | 01-11 | 30" X 42" TANK | 1 | GROHE | 0026 | LF | 3" | NA
| T-6 | 01-11 | 30" X 42" TANK | 1 | GROHE | 0026 | LF | 3" | NA

#### HEAT EXCHANGERS AND FLUIDS

| H-1 | 01-11 | ALUMINUM ALUMINUM | 1 | GROHE | 0026 | LF | 3" | NA
| H-2 | 01-11 | ALUMINUM ALUMINUM | 1 | GROHE | 0026 | LF | 3" | NA
| H-3 | 01-11 | ALUMINUM ALUMINUM | 1 | GROHE | 0026 | LF | 3" | NA

#### REFERENCE KEYNOTES

- SHEET TITLE
- LOT NUMBER:
- DRAWN BY:
- CHECKED BY:
- COPYRIGHT:
- CLIENT
- U.S. DEPARTMENT OF ENERGY
- SOLAR DECATHLON 2011
- WWW.SOLARDECATHLON.GOV
- TEAM NAME:
- ADDRESS:
- CONTACT:
- CONSULTANTS
- NONE: PROJECT IS PUBLIC DOMAIN
- ISSUE DATE:
- UMDOF/NREL DD SUBMISSION
- UMDOF/NREL RE-SUBMISSION
- UMDOF/NREL CD SUBMISSION
- UMDOF/NREL RE SUBMISSION
- AS-BUILT DRAWING SUBMISSION
- 8/13/2011 12:21:07 PM
- UNIVERSITY OF MARYLAND
- SCHOOL OF ARCHITECTURE, PLANNING & PRESERVATION
- BLDG 145, COLLEGE PARK, MD 20742
- P-601
- INFO@SOLARDECATHLON.GOV
- HTTP://2011.SOLARTEAM.ORG

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**PRODUCED BY AN AUTODESK STUDENT PRODUCT**
DOMESTIC WASTE AND WETLANDS DIAGRAM

ABBREVIATIONS LEGEND
CW  CLOTHES WASHER
DW  DISHWASHER
S  SINK
SH  SHOWERS
WC  TOILET
WT  WATER TANK

GENERAL SHEET NOTES

REFERENCE KEYNOTES

SHEET KEYNOTES

DOMESTIC WASTE AND WETLANDS DIAGRAM

A1

SHEET TITLE
DOMESTIC WASTE AND WETLANDS DIAGRAM

P-612
HVAC EQUIPMENT AND DISTRIBUTION PLAN

REFERENCE KEYNOTES

23 23 00 REFRIGERANT PIPING
23 31 13 METAL DUCTS
23 37 13 DIFFUSERS, REGISTERS AND GRILLES
23 81 26 SPLIT SYSTEM AIR CONDITIONERS

SHEET KEYNOTES

96 ALL STAND ALONE SITE AND BUILDING COMPONENTS TO BE ELEVATED ON 2x4 SLEEPERS PER COMPETITION REQUIREMENTS
121 1/4" LIQUID WITH 5/16" INSULATION AND 3/8" GAS WITH 5/16" INSULATION BUNDLED AND INSTALLED WITH STRAPS TO BOTTOM OF FLOOR JOISTS

GENERAL SHEET NOTES

0 2' 4' 8'

MARK DATE DESCRIPTION

PRODUCED BY AN AUTODESK STUDENT PRODUCT

HVAC PLAN

M-101
# Mechanical Equipment Schedule

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<th>MODEL</th>
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<td>GU</td>
<td>23.36.26</td>
<td>Outdoor variable speed compressor</td>
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<td>MITSUBISHI</td>
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<td>GP</td>
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<td>Rooftop heat pump</td>
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<td>MM4A-05GNA</td>
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<td>GF</td>
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<td>Mechanical room thermal actuator</td>
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## Ducting Schedule

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<td>MB/51</td>
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<td>Round elbow turning</td>
<td>3</td>
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<td>PD-F</td>
<td>23.36.13</td>
<td>Straight register boot</td>
<td>1</td>
<td>SHARO AND CANON</td>
<td>CUSTOM</td>
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<tr>
<td>PD-F</td>
<td>23.36.13</td>
<td>Straight register boot</td>
<td>1</td>
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<td>CUSTOM</td>
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<td>FS</td>
<td>23.36.13</td>
<td>Rigid air duct coupling</td>
<td>10</td>
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<td>23.36.13</td>
<td>Rigid air duct coupling</td>
<td>10</td>
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<td>GMC</td>
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<tr>
<td>FL</td>
<td>23.36.13</td>
<td>Angle fire flame</td>
<td>0</td>
<td>MASTER CARR</td>
<td>LT69K15</td>
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## Grille Schedule

<table>
<thead>
<tr>
<th>MARK</th>
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<th>SYSTEM NAME</th>
<th>COUNT</th>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>COMMENTS</th>
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<tr>
<td>81</td>
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<td>Air supply wall grille</td>
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<td>RDD100</td>
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<td>Air supply wall grille</td>
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<td>RDD150</td>
<td>BEDROOM</td>
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<td>83</td>
<td>23.37.13</td>
<td>Return grille</td>
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<td>Aaxis air handler</td>
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<td>SCUL VENTILATOR</td>
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<td>5</td>
<td>SEINO</td>
<td>SE24F</td>
<td>EXTERIOR GRILLE</td>
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<td>86</td>
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<td>SE4</td>
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<td>Aluminum vent cap</td>
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<td>SE4</td>
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<tr>
<td>88</td>
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### Symbols

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<td>TAMPER-RESISTANT QUADRAPLEX RECEPTACLE</td>
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<td>TAMPER-RESISTANT DUPERX RECEPTACLE</td>
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<tr>
<td>⬜</td>
<td>TAMPER-RESISTANT DUPERX RECEPTACLE GFCI</td>
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<tr>
<td>⬜</td>
<td>TAMPER-RESISTANT WEATHER PROOF RECEPTACLE</td>
</tr>
<tr>
<td>⬜</td>
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<tr>
<td>⬜</td>
<td>TAMPER-RESISTANT SWITCHED DUPERX RECEPTACLE</td>
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<tr>
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<td>⬜</td>
<td>CEILING FAN</td>
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<tr>
<td>⬜</td>
<td>UNDER CABINET LIGHT</td>
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<tr>
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<td>CRESTRON DIMMER PANEL</td>
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<tr>
<td>⬜</td>
<td>CEILING LIGHT</td>
</tr>
<tr>
<td>⬜</td>
<td>PUMP</td>
</tr>
<tr>
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<td>SMOKE DETECTOR</td>
</tr>
<tr>
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<td>L1 HOT</td>
</tr>
<tr>
<td>⬜</td>
<td>L2 HOT</td>
</tr>
<tr>
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</tr>
<tr>
<td>⬜</td>
<td>GROUND</td>
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</tbody>
</table>

### Electrical Symbols and Notes

- **BUTTON PANEL**: Used for controlling lights or other devices.
- **SWITCH**: Used for turning devices on or off.
- **CEILING FAN**: Used for ventilation.
- **UNDER CABINET LIGHT**: Used for lighting cabinets.
- **CRESTRON DIMMER PANEL**: Used for controlling lighting levels.
- **CEILING LIGHT**: Used for lighting ceilings.
- **PUMP**: Used for water circulation.
- **SMOKE DETECTOR**: Used for detecting smoke.

---

**General Sheet Notes**

**Sheet Title**: E-001

**Issue Date**: 11 August 2011

**Revision**: 01

**Copyright**: U.S. Department of Energy

**Website**: www.solardecathlon.gov

**Team Name**: UNIVERSITY OF MARYLAND

**Contact**: Info@solardecathlon.gov

**Address**: BLDG 145, COLLEGE PARK, MD 20742

---

**Reference Keynotes**

- **Interior Neutral**
- **Ground**
ABBREVIATIONS LEGEND

GFCI: GROUND FAULT CIRCUIT INTERRUPTER
WP: WEATHER PROOF
NSP: NORTH SUB PANEL
SSP: SOUTH SUB PANEL
MSP: MAIN SERVICE PANEL

GENERAL SHEET NOTES

1. REFER TO PANEL SCHEDULES ON E-601 FOR MORE INFORMATION
2. ALL WP OUTLETS TO BE 18" ABOVE F.F.
3. ALL GFCI OUTLETS TO BE MOUNTED ON UNDERSIDE OF HOUSE STRUCTURE

REFERENCE KEYNOTES

23 84 00 HUMIDITY CONTROL EQUIPMENT
32 71 00 CONSTRUCTED WETLANDS

GENERAL SHEET NOTES

150 OUTLET DEDICATED TO LIGHTING PER DIMMER PANEL CONTROL

1. REFER TO PANEL SCHEDULES ON E-601 FOR MORE INFORMATION
2. ALL WP OUTLETS TO BE 18" ABOVE F.F.
3. ALL GFCI OUTLETS TO BE MOUNTED ON UNDERSIDE OF HOUSE STRUCTURE

EXTERIOR ELECTRICAL DISTRIBUTION PLAN

E-102
ABBREVIATIONS LEGEND

1. ALL WIRE SHOWN IN THIS SHEET IS 12 GAUGE UF WIRE
2. REFER TO E-602, E-603 AND E-604 FOR LINE DIAGRAMS AND CALCULATIONS

REFERENCE KEYNOTES

155 ENPHASE CABLE INSTALLED PER 2008 NATIONAL ELECTRICAL CODE

GENERAL SHEET NOTES

PHOTOVOLTAIC ARRAY PLAN

PHOTOVOLTAIC SCHEDULE

<table>
<thead>
<tr>
<th>DRN#</th>
<th>REFERENCE NO.</th>
<th>SYSTEM NAME</th>
<th>COUNT</th>
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<th>MODEL</th>
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<td>MICROARRAY</td>
<td>4</td>
<td>ENPHASE</td>
<td>EN-MICROARRAY</td>
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<tr>
<td>26</td>
<td>21193</td>
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<td>EN-MICROARRAY</td>
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</table>

Sheet: E-103

1/4" = 1'-0"
REFERENCE KEYNOTES

151 GROUNDING ROD 8 FEET BELOW GROUND LEVEL

GENERAL SHEET NOTES

1/2" = 1'-0"

ABBREVIATIONS LEGEND
JE JUNCTION BOX
MSP MAIN SERVICE PANEL
OE ORGANIZER BOX
UM UTILITY METER

ELECTRICAL SERVICE

E-401
### Reference Keynotes

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<td>80% DOE/NREL DD SUBMISSION</td>
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<tr>
<td>02</td>
<td>01/18/2011</td>
<td>80% DOE/NREL RE-SUBMISSION</td>
</tr>
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<td>03</td>
<td>03/18/2011</td>
<td>100% DOE/NREL CD SUBMISSION</td>
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<tr>
<td>04</td>
<td>05/02/2011</td>
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</tr>
<tr>
<td>05</td>
<td>08/11/2011</td>
<td>AS-BUILT DRAWING SUBMISSION</td>
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### Sheet Notes

#### Mark Date Description

Refer to the sheet notes for detailed information on the marks and dates mentioned in the document.

### General Sheet Notes

- **Team Name:** UNIVERSITY OF MARYLAND
  - SCHOOL OF ARCHITECTURE, PLANNING & PRESERVATION
  - BLDG 145, COLLEGE PARK, MD 20742
- **Address:**
  - E-601
- **Contact:** INFO@SOLARDECATHLON.GOV
  - HTTP://2011.SOLARTEAM.ORG

### Schedule

- **Issue Date:** 11 AUGUST 2011
- **Status:** MARYLAND
- **Consultants:** NONE: PROJECT IS PUBLIC DOMAIN

---

### Main Service Panel - Rated at 207V DC

<table>
<thead>
<tr>
<th>No.</th>
<th>Load</th>
<th>Type</th>
<th>ZC</th>
<th>AM</th>
<th>K/C</th>
<th>Sheet</th>
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<tr>
<td>1</td>
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<td>SOUTH SUB PANEL</td>
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<tr>
<td>2</td>
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<td>PV PANEL 1</td>
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<td>0</td>
<td>UNL</td>
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</tr>
<tr>
<td>3</td>
<td>PV ARRAY STRING 1</td>
<td>PV ARRAY STRING 1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>PV ARRAY STRING 2</td>
<td>PV ARRAY STRING 2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Wiring interconnect outlet connection DO NOT ROUTE THIS CABLE ON TOP SIDE.
PV ARRAY
SANYO HIT-220A01
STRING A: 12 MODULES
STRING B: 12 MODULES
STRING C: 12 MODULES
STRING D: 6 MODULES

MAIN SERVICE PANEL RATING
SQUARE D QO124M125
AMPERAGE: 125 A
VOLTAGE: 120/240 V
AIC: 22 kA

SUB SERVICE PANEL RATING
SQUARE D QO124M125
AMPERAGE: 125 A
VOLTAGE: 120/240 V
AIC: 22 kA

MICROINVERTERS
ENPHASE M210-84-240-S12
STRING A: 12 MICROINVERTERS
STRING B: 12 MICROINVERTERS
STRING C: 12 MICROINVERTERS
STRING D: 6 MICROINVERTERS

UTILITY SERVICE
AWG #6, BARE COPPER
AWG #14/4, IN 1-1/4" EMT (<24")
2 CCC/1 NEUTRAL/1 UNUSED

[Diagram showing connections and labels]
PHOTOVOLTAIC THREE LINE DIAGRAM

EXTERIOR

A1
A11
A12
B1
B11
B12
C1
C11
C12
D1
D6
D6

WEATHERHEAD

JUNCTION BOX

INTERIOR

EXTERIOR

UTILITY SERVICE

MAIN SERVICE PANEL RATING
SQUARE D QO124M125
AMPERAGE: 125 A
VOLTAGE: 120/240 V
AIC: 22kA
PANEL SCHEDULE: E-601

SUB SERVICE PANEL RATING
SQUARE D QO200M200RB
AMPERAGE: 200 A
VOLTAGE: 124/240 V
AIC: 22kA
PANEL SCHEDULE: E-601

WIRE RUN 1
WIRE RUN 2
WIRE RUN 3
WIRE RUN 4
WIRE RUN 5
WIRE RUN 6

PV THREE LINE DIAGRAM
ARRIVAL SEQUENCE PLANS

**Phase 1**
- The crane sets up and begins unloading the main body of the component carrier onto the temporary support beams. The crane begins moving the components onto the support beams.

**Phase 2**
- The crane begins lifting the components and positioning them into place. The components are secured into place with additional support beams and equipment.

**Phase 3**
- The crane continues to lift and position the remaining components into place. The crane then begins the process of lifting and positioning the final components into their final positions.

---

**Construction Equipment Schedule**

<table>
<thead>
<tr>
<th>Arrival/Departure Equipment</th>
<th>Condition Site</th>
<th>Campus Site</th>
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<tbody>
<tr>
<td>1. Crane</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>2. Bucket</td>
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<td>Y</td>
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<tr>
<td>3. Power Generator</td>
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<td>Y</td>
</tr>
<tr>
<td>4. Generator</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>5. Generators</td>
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<td>6. Generators</td>
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<td>7. Generators</td>
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<td>8. Generators</td>
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<td>9. Generators</td>
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<td>Y</td>
</tr>
<tr>
<td>10. Generators</td>
<td>Y</td>
<td>Y</td>
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</tbody>
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**General Sheet Notes**

1. All arrival and departure times are estimates only.
2. The crane will begin the process of lifting and positioning the components as soon as the components are unloaded.
3. The crane will continue to lift and position the components until they are all in place.
4. The crane will then begin the process of lifting and positioning the final components into their final positions.

---

**Reference Keynotes**

- **Sheet Title:** O-101
- **Issue Date:** 8/13/2011
- **Copyright:** © 2011 WaterShed at the University of Maryland

---

**Arrival Sequence Plans**

- **Lot Number:** A1101
- **Checkered By:** J. Smith
- **Copyright:** © 2011 WaterShed at the University of Maryland

---

**Site Notes**

- **Site Notes:** This site plan is for the purpose of visualizing the components and their movement during the construction phase of the project. The site plan is intended to provide an overview of the components and their movement during the construction phase of the project.

---

**Construction Notes**

- **Construction Notes:** This construction plan is for the purpose of providing an overview of the components and their movement during the construction phase of the project. The construction plan is intended to provide an overview of the components and their movement during the construction phase of the project.
PHASE 1:
BUILDING HOUSE UPON 70'-0" CARRIERS TO UTILIZE AS BUILDING FOUNDATION & TRANSPORTATION PLATFORM, WHEN DEPARTURE PHASE BEGINS.

PHASE 2:
REMOVE DECKING, LANDSCAPING & OTHER COMPONENTS THAT ARE NOT WITHIN THE DISTINCT THREE MODULES OF THE BUILDING. THE MODULES DEFINED AS MODULE A (KITCHEN/LIVING), MODULE B (BATH), AND MODULE C (BEDROOM/OFFICE). THESE COMPONENTS TO SHIP LOOSE UPON THE CARRIERS, FLAT BED TRAILERS AND ENCLOSED BOX TRUCKS (AS DETERMINED BY SENSITIVITY OF EACH COMPONENT).

PHASE 3:
SEPARATE THE MODULES.

PHASE 4:
STRAP, SECURE, WEATHERPROOF, AND PREP FOR TRANSPORT (PRO-BUILT MODULAR HOMES CERTIFIED DRIVERS TO TAG, TAIL, LIGHT THE TRAILERS, AND DRIVE MODULES TO THE MALL).
GENERAL SHEET NOTES

1. Water delivery to be received through access hatch on southeast deck; 1500 gallons requested.
2. Access hatch to supply line required at least 12" x 12" square, with 8 feet of clearance above when hatch is open.
3. Potable water tanks have a total capacity of 1500 gallons.
4. Grey water tanks have a total capacity of 1000 gallons.
5. Grey water filtration constructed wetland capacity is 364 gallons.
6. Constructed wetland rainwater cistern capacity is 708 gallons.
7. Remaining water in potable tanks to be pumped to grey water tanks for removal.
8. Excess grey water in grey water filtration constructed wetland to be pumped to grey water tanks for removal.
9. Water removal valve located on northwest deck, estimated quantity to be removed: approximately 1400 gallons.

REFERENCE KEYNOTES

10 Constructed wetlands for grey water filtration (see A-412).
11 Constructed wetlands for green roof runoff (see A-412).

ADDRESS:
UNIVERSITY OF MARYLAND
SCHOOL OF ARCHITECTURE, PLANNING & PRESERVATION
BLDG 145, COLLEGE PARK, MD 20742

SHEET KEYNOTES

1. WATER DELIVERY & REMOVAL

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WATER DELIVERY & REMOVAL