ANSI AREA CALCULATIONS

FIRST FLOOR AREA = 918 SF

ROOM AREAS AND EGRESS PLAN

DECATHLETE WAY

ACCESS LANE

FLEX ROOM

LIVING/DINING

KITCHEN

HALLWAY

LAUNDRY ROOM

MECHANICAL ROOM

BATHROOM

MASTER BEDROOM

EGRESS WINDOW

EGRESS DOOR

ROOM AREAS AND EGRESS PLAN

ALL AREA CALCULATIONS ARE MEASURED IN ACCORDANCE WITH ANSI STANDARD Z765-2003

TOTAL AREA = 918 SF

CALCULATION OF SQUARE FOOTAGE FOR ALL ROOMS INCLUDED IN THE SQUARE FOOTAGE CALCULATION, THE FLOOR LOCATED UNDER SLOPING CEILINGS MEETS THE REQUIREMENT OF AT LEAST 5 FEET (1.52METERS); FURTHER, AT LEAST ONE-HALF OF THE SQUARE FOOTAGE IN THE ROOM HAS AT LEAST 7 FEET (2.13METERS) IN HEIGHT

FOR ALL ROOMS INCLUDED IN THE SQUARE FOOTAGE CALCULATION, THE FLOOR LOCATED UNDER SLOPING CEILINGS MEETS THE REQUIREMENT OF AT LEAST 5 FEET (1.52METERS); FURTHER, AT LEAST ONE-HALF OF THE SQUARE FOOTAGE IN THE ROOM HAS AT LEAST 7 FEET (2.13METERS) IN HEIGHT

THE CALCULATION OF SQUARE FOOTAGE INCLUDES THE SQUARE FOOTAGE OF THE MECHANICAL ROOM, SINCE IT EMBODIES WALLS, FLOORS, AND CEILINGS THAT ARE SIMILAR TO THE REST OF THE HOUSE.

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT

PRODUCED BY AN AUTODESK STUDENT PRODUCT
SOLAR ENVELOPE - SOUTH

SOLAR ENVELOPE - WEST
1. Footing Base Plate Size
   - House Footing (Typ.) 16"x16"
   - Deck Footing (Typ.) 16"x16"

2. Bearing Pressure
   - House Footing (Typ.)
     - Wet Module 5073.3 PSF
     - Dry Module 4174.3 PSF
   - Deck Footing (Typ.) 3754 PSF
   - With Column (Typ.) 4720.6 PSF
   - Ramp Footing (Typ.) 1183.9 PSF
   - Ramp Joist (Typ.) 1287.7 PSF
   - 600 Gal Water Tank 1.57 PSF
   - 900 Gal Water Tank 2.12 PSF
   - 1500 Gal Water Tank 2.11 PSF
   - 150 Gal Water Tank 1.18 PSF
ELECTRICAL UTILITY PANEL

2" CONDUIT FROM UTILITY METER TO TEAM PANEL (UNDER THE HOUSE)
A1 GREEN WALL ELEVATION

D1 IRRIGATION DIAGRAM
## PLANTER SCHEDULE

<table>
<thead>
<tr>
<th>MARK</th>
<th>LATIN NAME</th>
<th>COMMON NAME</th>
<th>TYPE</th>
<th>QUANTITY</th>
<th>POT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Ceanothus 'Joyce Coletter'</td>
<td>Wild Lilac</td>
<td>Shrub</td>
<td>3</td>
<td>6 IN</td>
</tr>
<tr>
<td>P2</td>
<td>Kalimeris pinnatifida</td>
<td>False Aster</td>
<td>Herbaceous Perennial</td>
<td>7</td>
<td>14 IN</td>
</tr>
<tr>
<td>P3</td>
<td>Mimulus 'Jack'</td>
<td>False Heather</td>
<td>Broadleaf Evergreen</td>
<td>4</td>
<td>12 IN</td>
</tr>
<tr>
<td>P4</td>
<td>Mimulus 'Pink'</td>
<td>False Heather</td>
<td>Shrub</td>
<td>15</td>
<td>8 IN</td>
</tr>
<tr>
<td>P5</td>
<td>PolYGala fruticosa</td>
<td>Pink Monkeyflower</td>
<td>Shrub</td>
<td>20</td>
<td>8 IN</td>
</tr>
<tr>
<td>P6</td>
<td>Agapanthus africans</td>
<td>African Lily</td>
<td>Bulb</td>
<td>11</td>
<td>8 IN</td>
</tr>
<tr>
<td>P7</td>
<td>Erysimum insulare</td>
<td>Island Wallflower</td>
<td>Perennial</td>
<td>20</td>
<td>10 IN</td>
</tr>
<tr>
<td>P8</td>
<td>Penstemon 'Apple Blossom'</td>
<td>Apple Blossom, Penstemon</td>
<td>Perennial</td>
<td>4</td>
<td>8 IN</td>
</tr>
<tr>
<td>P9</td>
<td>Gaillardia 'Grandiflora'</td>
<td>Blanket Flower</td>
<td>Herbaceous Perennial</td>
<td>4</td>
<td>8 IN</td>
</tr>
</tbody>
</table>

## VEGETABLE/HERB GARDEN SCHEDULE

<table>
<thead>
<tr>
<th>MARK</th>
<th>LATIN NAME</th>
<th>COMMON NAME</th>
<th>TYPE</th>
<th>QUANTITY</th>
<th>POT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1</td>
<td>Rosemary officinalis</td>
<td>Rosemary</td>
<td>Herbaceous</td>
<td>8</td>
<td>NA</td>
</tr>
<tr>
<td>V2</td>
<td>Oregano vulgarensis</td>
<td>Oregano</td>
<td>Herbaceous</td>
<td>8</td>
<td>NA</td>
</tr>
<tr>
<td>V3</td>
<td>Cilantro</td>
<td>Cilantro</td>
<td>Herbaceous</td>
<td>8</td>
<td>NA</td>
</tr>
<tr>
<td>V4</td>
<td>Parsley</td>
<td>Parsley</td>
<td>Herbaceous</td>
<td>8</td>
<td>NA</td>
</tr>
<tr>
<td>V5</td>
<td>Carrots</td>
<td>Carrots</td>
<td>Vegetable</td>
<td>16</td>
<td>N/A</td>
</tr>
<tr>
<td>V6</td>
<td>Common Bean</td>
<td>Common Bean</td>
<td>Vegetable</td>
<td>95</td>
<td>NA</td>
</tr>
<tr>
<td>V7</td>
<td>Bell Pepper</td>
<td>Bell Pepper</td>
<td>Vegetable</td>
<td>9</td>
<td>NA</td>
</tr>
<tr>
<td>V8</td>
<td>Zucchini</td>
<td>Zucchini</td>
<td>Vegetable</td>
<td>7</td>
<td>NA</td>
</tr>
<tr>
<td>V9</td>
<td>Radish</td>
<td>Radish</td>
<td>Vegetable</td>
<td>95</td>
<td>NA</td>
</tr>
</tbody>
</table>

## GREEN WALL SCHEDULE

<table>
<thead>
<tr>
<th>MARK</th>
<th>LATIN NAME</th>
<th>COMMON NAME</th>
<th>TYPE</th>
<th>QUANTITY</th>
<th>POT SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>Alternanthera floccosa 'Nana'</td>
<td>Dwarf Rose, Joseph's Coat</td>
<td>Annual</td>
<td>6</td>
<td>NA</td>
</tr>
<tr>
<td>G2</td>
<td>Onagranthium floer-daeham</td>
<td>Ice Plant</td>
<td>Herbaceous Perennial</td>
<td>5</td>
<td>NA</td>
</tr>
<tr>
<td>G3</td>
<td>Pachysandra</td>
<td>Japanese Pachysandra</td>
<td>Herbaceous Perennial</td>
<td>42</td>
<td>NA</td>
</tr>
<tr>
<td>G4</td>
<td>Sedum sieboldii</td>
<td>October Dazzle, Stonecrop</td>
<td>Perennial</td>
<td>9</td>
<td>NA</td>
</tr>
</tbody>
</table>
GENERAL NOTES:

1. THE PROJECT SHALL CONFORM TO THE 2012 INTERNATIONAL BUILDING CODE, THE 2012 INTERNATIONAL RESIDENTIAL BUILDING CODE, ALONG WITH THE ASCE STANDARD 7-10: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES. ALL LOADS SHOWN ARE UNFACTORED.

2. ALL STRUCTURAL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS, ALL DRAWING NOTES, AND APPLICABLE REFERENCE STANDARDS. THE SCOPE OF WORK IS NOT SOLELY DEFINED BY THESE DOCUMENTS.

3. TYPICAL DETAILS APPLY THROUGHOUT THE PROJECT, EVEN IF NOT SPECIFICALLY REFERENCED IN PLANS OR DETAILS. DETAILS OF CONSTRUCTION NOT FULLY SHOWN OR NOTED ON THE DRAWINGS SHALL BE AS SHOWN ON THE DRAWINGS OR SHALL BE OF THE SAME SIZE AND CHARACTER AS FOR SIMILAR CONDITIONS WHICH ARE SHOWN ON THE DRAWINGS.

4. DO NOT USE SCALED DIMENSIONS; USE ONLY WRITTEN DIMENSIONS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ARCHITECT FOR CLARIFICATIONS BEFORE PROCEEDING WORK.

5. SEE ARCHITECTURAL DRAWINGS FOR SITE POSITIONING AND PROJECT DATUM REFERENCE (0'-0"") SHOWN.

6. THE CONSTRUCTION MANAGER SHALL BE SOLELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF PERSONS AND PROPERTY AND THE MEANS AND METHODS OF CONSTRUCTION.

7. STRUCTURAL ELEMENTS SHALL BE CENTERED ABOUT GRIDLINES OR DIMENSION LINES, UNLESS OTHERWISE NOTED.

8. ALL STRUCTURAL WORK SHALL BE COORDINATED WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ETC. REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT SHOWN ON PLANS. DISCREPANCIES AND/or INTERFACES SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ENGINEERED DESIGNS AND COORDINATION OF FINAL SUPPORT DETAILS OF NON-STRUCTURAL ITEMS IDENTIFIED IN CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO:

  A. MECHANICAL EQUIPMENT ATTACHMENTS

10. DETAILS SHOWN IN STRUCTURAL DRAWINGS ARE INDICATIVE IN NATURE. CONTRACTOR TO DESIGN, COORDINATE, AND/OR PROVIDE ADDITIONAL FRAMING AS REQUIRED.

11. OPENINGS SHOWN IN STRUCTURAL DRAWINGS ARE INDICATIVE IN NATURE. CONTRACTOR TO DESIGN, COORDINATE, AND/OR PROVIDE ADDITIONAL FRAMING AS REQUIRED.

12. DEFICIENT WORK AND WORK NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AS IDENTIFIED BY THE ARCHITECT OR INSPECTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL COMPENSATE OWNER FOR SERVICES ARISING FROM DEFICIENT WORK.

DESIGN LOADS:

BUILDING LOADS

1. STRUCTURAL DESIGN OF THIS BUILDING IS IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE. THE 2012 INTERNATIONAL RESIDENTIAL BUILDING CODE, ALONG WITH THE ASCE STANDARD 7-10: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.

A. LIVE ASSEMBLY LOAD* 50 PSF

*NOT CONSIDERED RESIDENTIAL LOADING

B. SUPERIMPOSED DEAD LOADS

  1. DRY WOOD ROOF ASSEMBLY 90 PSF
  2. WET MODULE ROOF ASSEMBLY 80 PSF
  3. INTERIOR FLOOR ASSEMBLY 175 PSF
  4. EXTERIOR FLOOR ASSEMBLY 175 PSF

C. VEHICLE LOAD

  1. BASIC VEHICLE SPEED 30 MPH
  2. IMPORTANCE FACTOR EXPOSURE B

D. SNOW LOAD 25 PSF

E. SEISMIC LOAD* 0.002” = 1/8” = 1’-0” FOR TEMPORARY PAD FOOTINGS AT TEMPORARY SITE LOCATION IN IRVINE, CA. NOTIFY ENGINEER OF ANY CHANGE TO SITE LOCATION.

F. ROOF LIVE LOAD 10 PSF

STEEL

1. STEEL MUST BE MINIMUM GRADE A36 WITH YIELD STRESS OF 36 KSI.

2. ALL STEEL AND METAL CONNECTORS SUCH AS JOIST/BEAM HANGERS, POST BASES, POST CAPS, AND TIE-DOWNS SHALL BE GALVANIZED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS IN ALL LOCATIONS UNLESS NOTED OTHERWISE.
FIRST FLOOR FRAMING PLAN

A1
TYPICAL WET MODULE STRUCTURAL SECTION

S-703
EAST ELEVATION

WEST ELEVATION

RED CEDAR PLANKS
GREEN WALL MODULAR ALUMINUM
CABINET BACK PANEL 5/4" x 4" RED CEDAR
DECK SKIRT 4" x 5/4" RED CEDAR
PLANTER FINISH 4" x 5/4" RED CEDAR
RAIN SCREEN 4" x 1" RED CEDAR WOOD
RAIN SCREEN FRAME 1/4" PAINTED STEEL
RAILING STAINLESS STEEL
RAMP FLOORING 5/4" x 4" RED CEDAR
WOOD PLANTER PALNTERMARINE GRADE PLYWOOD
CEMENT BOARD SIDING
WOOD CLADDED ROOF SOFFIT

STEVENS INSTITUTE ECOHABIT HOUSE 1 CASTLE POINT ON HUDSON HOBOKEN, NJ 07030
SOLARDECATHLON@STEVENS.EDU WWW.STEVENS.EDU/SD2013

PRODUCED BY AN AUTODESK STUDENT PRODUCT

ELEVATIONS
CUSTOM MILLWORK; REFER TO MILLWORK DRAWINGS FOR DETAILS

4 3/8" FLUSH WOOD BASE WITH 3/8" X 3/8" RABBET EDGE ON TOP; TYP.

U.S. D107 INTERIOR CLG.
11'-5"
BATHROOM - SOUTH

APPLIED CERAMIC TILE FIN. FL.

BATHROOM - EAST

APPLIED CERAMIC TILE FIN. FL.

BATHROOM - NORTH

APPLIED CERAMIC TILE FIN. FL.

BATHROOM - WEST

APPLIED CERAMIC TILE FIN. FL.
**FIXED WINDOW**

**BY PELLA**

4" X 1" RED CEDER WOOD

RAIN SCREEN

RAIN SCREEN FRAMING

1/4" PAINTED STEEL

THERMAL BARIER

5/8" GYPSUM BOARD

FLASHING

---

**CASEMENT WINDOW**

**BY PELLA**

2" x 6" F.D. LUMBER

HEAD PLATE

5/8" GYPSUM BOARD

EXTERIOR

INTERIOR

FLASHING

---

**AWNING WINDOW**

**BY PELLA**

(2) 2" x 6" D.F. LUMBERSILL PLATE

5/8" GYPSUM BOARD

FLASHING

EXTERIOR

INTERIOR

---

**CASEMENT WINDOW**

**BY PELLA**

6" CEMENT BOARD SIDING

1 3/16" SUBSTRUCTURE

THERMAL BARIER

5/8" GYPSUM BOARD

FLASHING

EXTERIOR

INTERIOR

---

**FIXED CASEMENT WINDOW**

**BY PELLA**

4" X 1" RED CEDER WOOD

RAIN SCREEN

RAIN SCREEN FRAMING

1/4" PAINTED STEEL

THERMAL BARIER

5/8" GYPSUM BOARD

FLASHING

EXTERIOR

INTERIOR

---

**CASEMENT WINDOW**

**BY PELLA**

6" CEMENT BOARD SIDING

1 3/16" SUBSTRUCTURE

THERMAL BARIER

5/8" GYPSUM BOARD

FLASHING

EXTERIOR

INTERIOR

---

**WINDOW DETAILS**

A-531
A1: DRY ROOF DETAIL @ NORTH WALL

1/4" RUBBER MODIFIED ASPHALT MEMBRANE
1 1/2" OSB EXTERIOR SHEATING
4" WOOD SIDING
RAIN SCREEN STRUCTURE 1/3"
PAINTED STEEL
SOLAR SHINGLES
UNDERLAYMENT
3/4" PLYWOOD
SEE STRUCTURAL DRAWINGS
1 X 6 T&G STAINED CEDAR
ASPHALT SHINGLES
UNDERLAYMENT
SOLAR SHINGLES
ASPHALT SHINGLES
### Room Finish Schedule

<table>
<thead>
<tr>
<th>ROOM NO</th>
<th>ROOM NAME</th>
<th>FLOOR</th>
<th>WALL</th>
<th>CEILING</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>FLEX ROOM</td>
<td>3/4&quot; HARDWOOD FLOORING</td>
<td>TBD</td>
<td>RECESSED WOOD BASE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIGH GLOSS</td>
<td>WHITE PAINT</td>
<td>EGGSHELL - TBC</td>
</tr>
<tr>
<td>102</td>
<td>KITCHEN</td>
<td>3/4&quot; HARDWOOD FLOORING</td>
<td>TBD</td>
<td>RECESSED WOOD BASE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIGH GLOSS</td>
<td>WHITE PAINT</td>
<td>EGGSHELL - TBC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BACKSPLASH</td>
<td>1&quot; x 1&quot; RECYCLED GLASS TILES - SKY GLOSS</td>
<td>COUNTERTOP - CAESARSTONE BLIZZARD 2141</td>
</tr>
<tr>
<td>103</td>
<td>HALLWAY</td>
<td>3/4&quot; HARDWOOD FLOORING</td>
<td>TBD</td>
<td>RECESSED WOOD BASE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIGH GLOSS</td>
<td>WHITE PAINT</td>
<td>EGGSHELL - TBC</td>
</tr>
<tr>
<td>104</td>
<td>LAUNDRY ROOM</td>
<td>3/4&quot; HARDWOOD FLOORING</td>
<td>TBD</td>
<td>RECESSED WOOD BASE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIGH GLOSS</td>
<td>WHITE PAINT</td>
<td>EGGSHELL - TBC</td>
</tr>
<tr>
<td>105</td>
<td>BATHROOM</td>
<td>13&quot;X13&quot; PORCELAIN FLOOR</td>
<td>UNGLAZED</td>
<td>SILK BLANCO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8&quot; X 13&quot; PORCELAIN TILE</td>
<td>GLAZED</td>
<td>SILK BLANCO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXPO PAINT</td>
<td>EGGSHELL - TBC</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SHOWER WALLS</td>
<td>8&quot; X 13&quot; PORCELAIN TILES</td>
<td>COUNTERTOP - CAESARSTONE BLIZZARD 2141</td>
</tr>
<tr>
<td>106</td>
<td>MASTER BEDROOM</td>
<td>3/4&quot; HARDWOOD FLOORING</td>
<td>TBD</td>
<td>RECESSED WOOD BASE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIGH GLOSS</td>
<td>WHITE PAINT</td>
<td>EGGSHELL - TBC</td>
</tr>
<tr>
<td>107</td>
<td>MECHANICAL ROOM</td>
<td>VCT GREY 4&quot;</td>
<td>APPLIED VINYL BASE</td>
<td>GREY PAINT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EGGSHELL - TBC</td>
<td>PAINT FLAT - DECORATORS WHITE</td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>LIVING / DINING</td>
<td>3/4&quot; HARDWOOD FLOORING</td>
<td>TBD</td>
<td>RECESSED WOOD BASE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIGH GLOSS</td>
<td>WHITE PAINT</td>
<td>EGGSHELL - TBC</td>
</tr>
</tbody>
</table>

### Millwork Schedule

<table>
<thead>
<tr>
<th>MARK</th>
<th>DESCRIPTION</th>
<th>LOCATIONS</th>
<th>QUANTITY</th>
<th>MILLWORK SCHEDULE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW-10</td>
<td>FLEX WALL UNIT</td>
<td>LIVING / DINING</td>
<td>1</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-101</td>
<td>MOBILE SEATING</td>
<td>LIVING / DINING</td>
<td>4</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-102</td>
<td>MOBILE SEATING</td>
<td>LIVING / DINING</td>
<td>2</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-105</td>
<td>HANGING CUBBY</td>
<td>LIVING / DINING</td>
<td>2</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-106</td>
<td>HANGING SHELF</td>
<td>LIVING / DINING</td>
<td>3</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-200</td>
<td>MURPHY BED</td>
<td>FLEX ROOM</td>
<td>1</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-201</td>
<td>SHELVING UNIT</td>
<td>FLEX ROOM</td>
<td>1</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-202</td>
<td>WARDROBE</td>
<td>FLEX ROOM</td>
<td>1</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-300</td>
<td>KITCHEN CABINETRY</td>
<td>KITCHEN</td>
<td>1</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-301</td>
<td>KITCHEN ISLAND</td>
<td>KITCHEN</td>
<td>1</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-501</td>
<td>BED</td>
<td>MASTER BEDROOM</td>
<td>1</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
<tr>
<td>MW-800</td>
<td>EXTERIOR CABINETRY</td>
<td>EXTERIOR</td>
<td>1</td>
<td>EASTERN MILLWORK INC.</td>
</tr>
</tbody>
</table>

### Equipment Schedule

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>DIMENSIONS (WxHxD)</th>
<th>FINISH</th>
<th>QUANTITY</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>REFRIGERATOR</td>
<td>LG STAINLESS STEEL</td>
<td>LTC19340</td>
<td>30&quot;x65&quot;x32&quot;</td>
<td>ESTIMATED BY EML</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>DISHWASHER</td>
<td>LG STAINLESS STEEL</td>
<td>LDF8072ST</td>
<td>27&quot;x38.75&quot;x29.75&quot;D</td>
<td>ESTIMATED BY EML</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>MICROWAVE</td>
<td>LG STAINLESS STEEL</td>
<td>LMW1683</td>
<td>16.75&quot;x11.25&quot;x18&quot;</td>
<td>ESTIMATED BY EML</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>RANGE HOOD</td>
<td>RANGE HOOD</td>
<td>KX12536YSS</td>
<td>SEE SPECIFICATIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RANGE</td>
<td>RANGE</td>
<td>LMVX3250ST</td>
<td>29.75&quot;x29.25&quot;x24.5&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDUCTION COOKTOP</td>
<td>LG STAINLESS STEEL</td>
<td>LCE30845</td>
<td>30.25&quot;x2.25&quot;x21.5&quot;</td>
<td>ESTIMATED BY EML</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>RANGE HOOD</td>
<td>RANGE</td>
<td>KXI2536YSS</td>
<td>SEE SPECIFICATIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOLENOID</td>
<td>SOLENOID</td>
<td>SD-300</td>
<td>SEE SPECIFICATIONS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RANGE</td>
<td>RANGE</td>
<td>DLEX2655V</td>
<td>27&quot;x38.75&quot;x29.75&quot;</td>
<td>ESTIMATED BY EML</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
KITCHEN ISLAND COOKTOP; REFER TO SPECIFICATIONS FOR DETAILS & INSTALLATION REQUIREMENTS

STONE ISLAND COUNTERTOP
SLAB FACE OVERLAY DOORS AND DRAWER FACE
OVEN; REFER TO SPECIFICATIONS FOR DETAILS & INSTALLATION REQUIREMENTS

EUROPEAN HINGE; TYP.
RECESSED TOE KICK

STONE COUNTERTOP WITH PLYWOOD BACKING; ALL VISIBLE EDGES TO BE MITERED
DRAWERS TO RECEIVE UNDERMOUNT DRAWER SLIDES; REFER TO SPECIFICATIONS & ADJUST AS REQUIRED TO PROVIDE CHAMFERED EDGE FOR DRAWER FAUCET

FLUSH PANEL WITH 1/4" X 1/4" RABBET REVEAL AROUND PERIMETER OF PANEL
BLOCKING AS REQUIRED; FULLY REINFORCED AS PER FABRICATOR REQUIREMENTS

EUROPEAN HINGE, TYP.
ADJUSTABLE SHLF, OVRFLOW & PIN ON SIDES

1 1/2" = 1'-0"

A1 KITCHEN ISLAND ELEVATION
A5 KITCHEN ISLAND - OVEN SECTION
B1 KITCHEN ISLAND - REAR ELEVATION
D1 KITCHEN ISLAND ELEVATION
D5 KITCHEN ISLAND - DRAWER SECTION

CUSTOM WOOD CLADDING MOUNTED ON SPECIALTY MOUNTING SYSTEM AS PER SPECIFICATIONS.

MOUNTING BLOCKS BY SPECIALTY MOUNTING SYSTEM

CUSTOM SHELVING AND CLOSET MODULES TO BE MOUNTED ON SPECIALTY MOUNTING SYSTEM

BLKING AS REQUIRED; FABRICATOR TO REFER TO SPECIALTY MOUNTING SYSTEM AS PER SPECIFICATIONS

CUSTOM HUNG SHELVING SYSTEM

CUSTOM MILLWORK COAT CLOSET WITH A METAL HANGER ROD

EUROPEAN HINGE, TYP.

CUSTOM WOOD CLADDING OVER SPECIFIED MOUNTING SYSTEM

A1 LIVING ROOM - DETAIL PLAN

A1 LIVING ROOM - ELEVATION

A1 LIVING ROOM - DETAIL PLAN
FLAT SLAB OVERLAY DOORS
EUROPEAN HINGES; TYP.
BLOCKING AS REQUIRED; REFER TO MANUFACTURER SPECS FOR SPECIALTY MOUNTING SYSTEM

DOUBLE FLAT SLAB OVERLAY DOORS
EUROPEAN HINGES; TYP.
BLOCKING AS REQUIRED; REFER TO MANUFACTURER SPECS FOR SPECIALTY MOUNTING SYSTEM

MURPHY BED; BED HARDWARE AND MECHANISMS BY SPECIALTY VENDOR;
REFER TO MANUFACTURER SPECS FOR INSTALLATION REQUIREMENTS
CUSTOM PANEL TO BE MOUNTED ON MURPHY BED SYSTEM. TO MATCH MILLWORK FINISH
SLAB FACE OVERLAY DOOR TO MATCH MILLWORK FINISH

EUROPEAN HINGES; TYP.

FIXED SHELVING UNITS

CUSTOM WOOD CLADDING OVER SPECIFIED MOUNTING SYSTEM

HARDWOOD NOSING WITH ALL VISIBLE EDGES MITERED; TYP.

CUSTOM WOOD CLADDING OVER SPECIFIED MOUNTING SYSTEM

SLAB FACE OVERLAY DOOR FOR STORAGE CLOSET

FIXED SHELVING
CUSTOM FIXED ENCLOSED SHELVING UNITS

CUSTOM SIDE CLOSETS WITH FLAT SLAB OVERLAY DOORS; TO BE MOUNTED ON EUROPEAN HINGES

CUSTOM BEVELED DRAWERShana S. T. S. C. 4'-0" X 2'-0" ENCLOSURES TO BE MOUNTED ON EUROPEAN HINGES

CUSTOM BEVELED DRAWERS

PULL OUT DRAWERS

QUEEN SIZED BED

MILLWORK DETAILS

MASTER BEDROOM MILLWORK - ELEVATION

A1
GENERAL NOTES:

According to R313.1 of IRC 2012, the house shall have an automatic fire suppression system designed and installed according to P2904.

P2904.1 General. Where installed, residential fire sprinkler systems, or portions thereof, shall be in accordance with NFPA 13D or section P2904, which shall be considered equivalent to NFPA 13D. Section P2904 shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall supply domestic water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the water distribution system. A backflow flow preventers shall not be required to separate a stand-alone sprinkler system from the water distribution system.

P2904.1.1 Required sprinkler locations. Sprinklers shall be installed to protect all areas of a dwelling unit.

Exceptions:

- Closets, linen closets and pantries not exceeding 24 square feet (2.2 m²) in area, with the floor, smallest dimension, not greater than 1 feet (0.3 m) and having walls and ceilings of gypsum board.
- Bathrooms not more than 55 square feet (5.1 m²) in area.

P2904.3 Sprinkler piping system. Sprinkler piping shall be supported in accordance with the requirements for cold water distribution piping. Sprinkler piping shall comply with all requirements for cold water distribution piping. For multipurpose piping systems, the sprinkler piping shall connect to and be a part of the cold water distribution piping system.

P2904.2.4 Sprinkler coverage areas were based on manufacturers installation instructions.

P2904.4 The dedicated fire suppression water supply (260gal), has sufficient capacity to provide the required design flow rate for 10 minutes.

P2904.6 Fire suppression water distribution pipes were sized by determining the available pressure to offset friction loss in piping and identifying a piping material, diameter and length using the equation in section P2904.6.1 and the procedure in section P2904.6.2 of the 2009 IRC.

Fire suppression water distribution piping is 1" CPVC unless otherwise noted.

Smoke detectors and notification systems shall be designed and installed in accordance to R314.1, R314.3 & R314.4 of the IRC 2012.

R314.3 Smoke alarms will be tied together so that when one alarm is triggered all alarms within the building will go off.

R314.4 Smoke alarms will be powered primarily from the building wiring with batteries as backups.

Fire extinguishers have a minimum rating of 2A-10BC.
1. ALL SPRINKLERS HAVE COVER PLATES RATED FOR 135 DEG F (SEE F04).
2. PIPING IS CPVC WITH A 3/4" TRUNK LINE GOING INTO 1/2" BRANCHES AT EACH HEAD (SEE F07).
3. MINIMUM SPACING REQUIRED FOR SIDEWALL SPRINKLERS IS 7 FT.

LEGEND

SPRINKLER HEAD COVERAGE

FIRE PROTECTION REFLECTED CEILING PLAN

REFERENCE SHEET

FIRE PROTECTION REFLECTED CEILING PLAN

FIRE PROTECTION REFLECTED CEILING PLAN
<table>
<thead>
<tr>
<th>Matl.</th>
<th>Description</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Nominal K-Factor</th>
<th>Width</th>
<th>Height</th>
<th>Depth</th>
<th>Diameter (&quot;0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F81</td>
<td>1/2&quot; Residential Standard Coverage Concealed Breakaway Sprinkler</td>
<td>Viking</td>
<td>VM401</td>
<td>5.0</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>2.00</td>
<td>0.25</td>
</tr>
<tr>
<td>F82</td>
<td>1/2&quot; Residential Concealed Ceiling Concealed Sprinkler</td>
<td>Viking</td>
<td>VMU2E</td>
<td>4.0</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>2.00</td>
<td>0.25</td>
</tr>
<tr>
<td>F83</td>
<td>1/2&quot; Residential Standard Response Fuelle Litt Pendant Sprinkler</td>
<td>Viking</td>
<td>VK110</td>
<td>5.0</td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>2.00</td>
<td>0.25</td>
</tr>
<tr>
<td>F84</td>
<td>Standard Sprinkler Cover (Dia 1/2&quot;&quot;)</td>
<td>Viking</td>
<td>12231AVW</td>
<td></td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F85</td>
<td>CO and Smoke Alarm and Sensors</td>
<td>Kidde</td>
<td>991C08A-1</td>
<td></td>
<td>0.25</td>
<td></td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>F86</td>
<td>Residential Series Long Area III, rated 2A:10-100 Fire Extinguisher</td>
<td>Kidde</td>
<td>P12301R</td>
<td></td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td>16.07</td>
<td>4.90</td>
</tr>
<tr>
<td>F87</td>
<td>Fire Suppression Piping</td>
<td>Elcon Master</td>
<td></td>
<td></td>
<td>1/2&quot;</td>
<td>1/2&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DOMESTIC SUPPLY PLAN

ALL HOT WATER LINES MUST BE INSULATED.
THE HEAT PUMP WATER HEATER, EXPANSION TANK, AND WATER CONDITIONER WILL BE STRAPPED AND SECURED TO AN ADJACENT WALL.

ALL PIPING MUST BE LOCATED AT LEAST 4" ABOVE THE FIRST FLOOR FINISHING;

COPPER TUBING MUST BE USED FOR AT LEAST 18" OUT FROM THE HOT WATER SIDE OF THE WATER HEATER.

SUPPLY LINE FROM RAIN WATER TANK TO GREEN WALL
PSD BALL VALVE "MAIN SHUT OFF"
P21 1388 GAL SUPPLY TANK

RAIN WATER TANK SWAGE UP
P21 128 GALLON RAIN WATER TANK
FROM ROOF DOWNSPOUT

SCHEDULE SHEET

ALL HOT WATER LINES MUST BE INSULATED.
THE HEAT PUMP WATER HEATER, EXPANSION TANK, AND WATER CONDITIONER WILL BE STRAPPED AND SECURED TO AN ADJACENT WALL.

ALL PIPING MUST BE LOCATED AT LEAST 4" ABOVE THE FIRST FLOOR FINISHING;

COPPER TUBING MUST BE USED FOR AT LEAST 18" OUT FROM THE HOT WATER SIDE OF THE WATER HEATER.

SUPPLY LINE FROM RAIN WATER TANK TO GREEN WALL
PSD BALL VALVE "MAIN SHUT OFF"
P21 1388 GAL SUPPLY TANK

RAIN WATER TANK SWAGE UP
P21 128 GALLON RAIN WATER TANK
FROM ROOF DOWNSPOUT
**GENERAL SHEET NOTES**

All horizontal runs will be sloped at a 1/4" drop per 1' of pipe run.

All vertical runs will be sloped between 0 and 45 degrees from vertical.

The toilet will be capped and unoperable during the competition.

---

**DOMESTIC RETURN PLAN**

- **1/2" FLOOR DRAIN**
- **TOILET (CAPPED)**
- **BATHROOM SINK**
- **500 GALLON WASTE WATER TANK**
- **SLUMP PUMP**
- **SLUMP BASIN**
- **CLOTHES WASHER CONNECTION**
- **STACK VENT**
- **KITCHEN SINK**
- **DISHWASHER CONNECTION**
- **BATH TUB**
- **BATHROOM SINK**
- **TOILET (CAPPED)**
- **SUMP BASIN**
- **SUMP PUMP**
- **P22 SUMP PUMP**
- **P10 500 GALLON WASTE WATER TANK**
- **P21 KITCHEN SINK**
- **P20 DISHWASHER CONNECTION**
- **P29 FLOOR DRAIN**
- **P09 KITCHEN SINK**
- **P07 BATHROOM SINK**
- **P06 TOILET (CAPPED)**
- **P05 BATH TUB**
- **P04 CLOTHES WASHER CONNECTION**
- **P03 STACK VENT**
- **P02 SLUMP PUMP**
- **P01 BATH TUB**
- **P-201 A2**
- **P-202 B1**
- **P-202 B3**
RECIRC PUMP PLACED AT LEAST 6' 6" FROM FLOOR.
### PLUMBING EQUIPMENT SCHEDULE

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Jest Descriptions (H)</th>
<th>Width</th>
<th>Depth</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Sump Pump</td>
<td>3M</td>
<td>M400</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>P2</td>
<td>Water Heater</td>
<td>Rinnai</td>
<td>RWH-1</td>
<td></td>
<td>30</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>P3</td>
<td>Water Softener</td>
<td>A.O. Smith</td>
<td>CS3700</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>P4</td>
<td>Reverse Osmosis System</td>
<td>Reverse</td>
<td>RO500</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>P5</td>
<td>Water Purification System</td>
<td>Brita</td>
<td>Cullina</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>P6</td>
<td>Ice Maker</td>
<td>Scotsman</td>
<td>1200</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>P7</td>
<td>Water Dispenser</td>
<td>Elkay</td>
<td>K-D2</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>P8</td>
<td>Water Cooler</td>
<td>Whirlpool</td>
<td>1200</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
</tbody>
</table>

### TANK AND WATER STORAGE SCHEDULE

<table>
<thead>
<tr>
<th>Item</th>
<th>Tank Type</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Jest Descriptions (H)</th>
<th>Width</th>
<th>Depth</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>80 Gallon Hot Water Tank</td>
<td>AO Smith</td>
<td>CS3700</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>T2</td>
<td>50 Gallon Cold Water Tank</td>
<td>AO Smith</td>
<td>CS3700</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>T3</td>
<td>150 Gallon Hot Water Tank</td>
<td>AO Smith</td>
<td>CS3700</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>T4</td>
<td>150 Gallon Cold Water Tank</td>
<td>AO Smith</td>
<td>CS3700</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
</tbody>
</table>

### PUMP SCHEDULE

<table>
<thead>
<tr>
<th>Item</th>
<th>Pump Type</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Jest Descriptions (H)</th>
<th>Width</th>
<th>Depth</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Booster Pump</td>
<td>Goulds</td>
<td>CM100</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>P2</td>
<td>Fire Pump</td>
<td>Goulds</td>
<td>CM100</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
</tbody>
</table>

### WATER HEATER SCHEDULE

<table>
<thead>
<tr>
<th>Item</th>
<th>Water Heater Type</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Jest Descriptions (H)</th>
<th>Width</th>
<th>Depth</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Gas Water Heater</td>
<td>Rinnai</td>
<td>RWH-1</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>H2</td>
<td>Electric Water Heater</td>
<td>AO Smith</td>
<td>ES100</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
</tbody>
</table>

### SPECIALTY SCHEDULE

<table>
<thead>
<tr>
<th>Item</th>
<th>Specialty Type</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Jest Descriptions (H)</th>
<th>Width</th>
<th>Depth</th>
<th>Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Filter</td>
<td>Pentair</td>
<td>200</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>S2</td>
<td>Water Softener</td>
<td>AO Smith</td>
<td>CS3700</td>
<td></td>
<td>24</td>
<td>32</td>
<td>10</td>
</tr>
</tbody>
</table>

### PLUMBING SCHEDULES

**P-601**
The WC will not be operable during the course of the competition.

All piping diameters are inner diameters.
ALL PIPE DIMENSIONS ARE DIAMETERS.
ALL PIPING DIAMETERS LISTED ARE INNER DIAMETERS.

LEGEND

WT - WATER TANK
SB - SUMP BASIN
PU - PUMP
WC - TOILET
S - SINK
SH - SHOWER
CW - CLOTHES WASHER
DW - DISHWASHER
FD - FLOOR DRAIN

EXTENDS 6' ABOVE ROOF.
Liquid Desiccant Flow Diagram

- Roof Unit
- Transfer Tank
- Inside Unit
- Solenoid Valve
- Temperature Sensor
- Humidity Sensor
- Salinity Sensor
- Packing Material
- Fan
- Pump
- Outside
- Inside

ECOHABIT
Stevens Solar Decathlon 2013
1 CASTLE POINT ON HUDSON
HOBOKEN, NJ 07030
SOLARDECATHLON@STEVENS.EDU
WWW.STEVENS.EDU/SD2013
Modular Trays filled with Jager Media
Solution Path
Air Path

PolyCorbonate Cover
- UV resistant

Evaporation Tray
- Black Rubber coated Plywood

Heat Strip
- only for cold days

Cooling Tank
- HDPE
- Solenoid Valve

Outdoor Dessicant

Cooling / Expansion tank

Head Unit
- Fans
- Pex Water Sprayer

Modular Mixing Trays
- Allow scalability
- 76mm Helix Rings, Polypropylene
- Air and Water flow partitions

Base Unit
- Houses:
  - Intake Fan
  - Circulation Pump
  - Pump to outdoor unit
  - Return from Outdoor unit
  - Sensors

Fan

Indoor Dessicant

Pumps and sensors

Liquid Desiccant
Explored Axon

P-606
OCT.
FEB
DESIGN
DATE

MI411.3.2 DRAIN PIPE MATERIALS AND SIZES.

MI411.3.2.1 DRAIN PIPE MATERIALS AND SIZES.

SECTION M1403
NOTES

SECTION M1306
4. MINIMUM THICKNESS OF METAL DUCT MATERIAL SHALL BE AS LISTED IN TABLE M1601.1.1 (2). GALVANIZED STEEL

M1306.1 APPLIANCE CLEARANCE. APPLIANCES SHALL BE INSTALLED WITH THE CLEARANCES

5. USE OF GYPSUM PRODUCTS TO CONSTRUCT RETURN AIR

AND RETURN AIR DUCTS OR OPENINGS TO A HEAT PUMP SHALL

INDICATED ON THE APPLIANCE LABEL AND IN THE

2.

SECTION M1306
2.

IN ACCORDANCE WITH THE MATERIALS SPECIFIED IN

SECTION M1601.

CHAPTER 30. CONDENSATE WASTE AND DRAIN LINE SIZESHALL BE NOT LESS THAN 3/4-INCH (19 MM) INTERNAL

SUPPORTS AND FOUNDATIONS FOR THE OUTDOOR UNIT OF A

HEATING AND COOLING EQUIPMENT

DRAINAGE, THE PIPE OR TUBING SHALL BE SIZED IN

ACCORDANCE WITH AN APPROVED METHOD.

SECTION M1601
M1601.2.1 VIBRATION ISOLATORS. VIBRATION ISOLATORS

AND SHALL NOT EXCEED 10 INCHES (254 MM) IN LENGTH.

M1601.3 DUCT INSULATION MATERIALS. DUCT INSULATION

SHALL NOT BE EXHAUSTED INTO AN ATTIC, SOFFIT, RIDGE

WHERE USED, SHALL HAVE A FLAME SPREAD INDEX NOT

M1601.4 INSTALLATION.

DUCT INSTALLATION SHALL COMPLY WITH SECTIONSM1601.4.1 THROUGH M1601.4.7.

MINIMUM THICKNESS OF NOT LESS THAN 0.0236-INCH

(0.6010 MM) (NO. 24 GAGE). NONMETALLIC PANS SHALL HAVE

A MINIMUM THICKNESS OF NOT LESS THAN 0.0625 INCH (1.6

2. A SEPARATE OVERFLOW DRAIN LINE SHALL BE CONNECTED
to the drain pan or to the heat exchanger drain pan. On
roof-mounted equipment, the drain pan shall be drained
to a point lower than the drain pan on the main equipment.
3. AN AUXILIARY DRAIN PAN WITH A SEPARATE DRAIN SHALL
BE INSTALLED UNDER THE COILS ON WHICH CONDENSATION
SHALL NOT BE LESS THAN 3 INCHES (76 MM) LARGER THAN
THE UNIT OR THE COIL DIMENSIONS IN WIDTH AND LENGTH
AND SHALL BE CONSTRUCTED OF CORROSION-RESISTANT
STEEL OR ALUMINUM SHEET METAL FITTINGS SHALL BE MECHANICALLY
FASTENED. MECHANICAL FASTENERS FOR

CONTACT LAP OF AT LEAST 111/2 INCHES (38 MM) AND SHALL
HAVE A MINIMUM THICKNESS OF NOT LESS THAN 0.0625 INCH (1.6

CM) (1/16 IN), WITH SHEET-METAL SCREWS OR RIVETS EQUALLY
SPACED AROUND THE JOINT. CLOSURE SYSTEMS USED TO

PREVENT EXCESSIVE VIBRATION, SETTLEMENT ORMOVEMENT OF THE EQUIPMENT. SUPPORTS AND

FOUNDATIONS SHALL BE LEVEL AND CONFORM TO THE

MANUFACTURER’S INSTALLATION INSTRUCTIONS.

4. A WATER LEVEL DETECTION DEVICE CONFORMING TO UL

TABLE M1601.3.

KITCHENS
SIX CRIMPERIGHTS OR
ST6 CONTINUOUS

HOLDING CAPACITY OF
BATHROOMS-TOILETS R5 CI CRIMPERTIGHT OR 20
CONTINUOUS

278 CFM OR LESS (931 L/S). ALTERNATIVE TO A SINGLE
DISCHARGE TO A POINT LOWER THAN THE PRIMARY DRAIN LINE
CONNECTION AND SHALL BE INSTALLED IN ACCORDANCE WITH THE
APPPLICABLE PROVISIONS OF SECTION M1411.3.

3. FIBEROUS DUCT CONSTRUCTION SHALL CONFORM TO THE
SMALL FIBEROUS GLASS DUCT CONSTRUCTION STANDARDS
OR NARROW FIBEROUS GLASS DUCT CONSTRUCTION
STANDARDS.

4. MINIMUM THICKNESS OF METAL DUCT MATERIAL SHALL BE AS
LISTED IN TABLE M1601.1.1 (2). GALVANIZED STEEL

5. USE OF CYLINDRICAL PRODUCTS TO CONSTRUCT RETURN AIR

AND DRAINAGE LINES SHALL BE PERMITTED PROVIDED THAT THE AIR TEMPERATURE DOES NOT EXCEED 135°F (57°C) AND EXPANDED SURFACES ARE NOT SUBJECT TO

6. DUCT SYSTEMS SHALL BE CONSTRUCTED OF MATERIALS

EXCLUDING A FIBERglas SPREAD DOES NOT GREATER THAN 225
CFM (824 L/S) AND SHALL ALLOW FOR THE INSTALLATION OF THE
EQUIPMENT-SUPPLIED DRAIN PAN, LOCATED AT A POINTHIGHER THAN THE PRIMARY DRAIN LINE CONNECTION AND
CONNECTED TO THE DRAIN PAN AT A HIGHER LEVEL

MI601.1 100 CFM INTERMITTENT OR 20 CFM CONTINUOUS.
MI601.2 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS.
MI601.3 20 CFM CONTINUOUS.
MI601.4 10 CFM CONTINUOUS.

MI601.1 DUCTS. WHERE EXHAUST DUCT CONSTRUCTION IS
CONSTRUCTED OF METAL, THE CONSTRUCTION SHALL COMPLY
WITH CHAPTER 16.

MI601.7 VIBRATIONS.

VIBRATION ISOLATORS INSTALLED BETWEEN MECHANICAL EQUIPMENT AND METAL DUCTS SHALL BE FAUCETED FROM THE DUCTS AND SHALL NOT EXCEED 10 INCHES (254 MM) IN LENGTH.

MI601.1 100 CFM INTERMITTENT OR 20 CFM CONTINUOUS.
MI601.2 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS.
MI601.3 20 CFM CONTINUOUS.
MI601.4 10 CFM CONTINUOUS.

MI601.7 VIBRATIONS. VIBRATION ISOLATORS INSTALLED BETWEEN MECHANICAL EQUIPMENT AND METAL DUCTS SHALL BE FAUCETED FROM THE DUCTS AND SHALL NOT EXCEED 10 INCHES (254 MM) IN LENGTH.

MI601.1 DUCTS. WHERE EXHAUST DUCT CONSTRUCTION IS
CONSTRUCTED OF METAL, THE CONSTRUCTION SHALL COMPLY
WITH CHAPTER 16.

MI601.7 VIBRATIONS.

VIBRATION ISOLATORS INSTALLED BETWEEN MECHANICAL EQUIPMENT AND METAL DUCTS SHALL BE FAUCETED FROM THE DUCTS AND SHALL NOT EXCEED 10 INCHES (254 MM) IN LENGTH.

MI601.1 DUCTS. WHERE EXHAUST DUCT CONSTRUCTION IS
CONSTRUCTED OF METAL, THE CONSTRUCTION SHALL COMPLY
WITH CHAPTER 16.

MI601.7 VIBRATIONS.

VIBRATION ISOLATORS INSTALLED BETWEEN MECHANICAL EQUIPMENT AND METAL DUCTS SHALL BE FAUCETED FROM THE DUCTS AND SHALL NOT EXCEED 10 INCHES (254 MM) IN LENGTH.
HVAC REFRIGERANT - PLAN

HVAC REFRIGERANT - NORTH

HVAC REFRIGERANT - WEST

M01 INDOOR AIR HANDLER

3/8" REFRIGERANT LINE

REFRIGERANT LINE IS RUN INSIDE SOUTH WALL

M02 OUTDOOR UNIT

3/8" = 1'-0"
# Mechanical Equipment Schedule

<table>
<thead>
<tr>
<th>Mark</th>
<th>Description</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Width</th>
<th>Height</th>
<th>Depth</th>
<th>Diameter</th>
<th>Cowl</th>
<th>Static Pressure [&quot;WC&quot;]</th>
<th>Efficiency [SEER]</th>
<th>Electrical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1401</td>
<td>DOCUMENTATION HARDWARE</td>
<td>DAPIN</td>
<td>EPM-1000</td>
<td>20</td>
<td>30</td>
<td>60</td>
<td>16</td>
<td>180</td>
<td>205.5</td>
<td>90 - 120</td>
<td>150 - 200</td>
</tr>
<tr>
<td>1402</td>
<td>DOCUMENTATION STAND MOUNT</td>
<td>EPM-1000</td>
<td>20</td>
<td>30</td>
<td>60</td>
<td>16</td>
<td>180</td>
<td>205.5</td>
<td>90 - 120</td>
<td>150 - 200</td>
<td>100 - 150</td>
</tr>
<tr>
<td>1403</td>
<td>DOCUMENTATION STAND MOUNT</td>
<td>EPM-1000</td>
<td>20</td>
<td>30</td>
<td>60</td>
<td>16</td>
<td>180</td>
<td>205.5</td>
<td>90 - 120</td>
<td>150 - 200</td>
<td>100 - 150</td>
</tr>
<tr>
<td>1404</td>
<td>DOCUMENTATION STAND MOUNT</td>
<td>EPM-1000</td>
<td>20</td>
<td>30</td>
<td>60</td>
<td>16</td>
<td>180</td>
<td>205.5</td>
<td>90 - 120</td>
<td>150 - 200</td>
<td>100 - 150</td>
</tr>
</tbody>
</table>

# Draft Accessories

<table>
<thead>
<tr>
<th>Mark</th>
<th>Description</th>
<th>Manufacturer</th>
<th>Model</th>
<th>Width</th>
<th>Height</th>
<th>Depth</th>
<th>Diameter</th>
<th>Cowl</th>
<th>Static Pressure [&quot;WC&quot;]</th>
<th>Efficiency [SEER]</th>
<th>Electrical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1405</td>
<td>PROJECT HARDWARE</td>
<td>DAPIN</td>
<td>EPM-1000</td>
<td>20</td>
<td>30</td>
<td>60</td>
<td>16</td>
<td>180</td>
<td>205.5</td>
<td>90 - 120</td>
<td>150 - 200</td>
</tr>
<tr>
<td>1406</td>
<td>PROJECT HARDWARE</td>
<td>DAPIN</td>
<td>EPM-1000</td>
<td>20</td>
<td>30</td>
<td>60</td>
<td>16</td>
<td>180</td>
<td>205.5</td>
<td>90 - 120</td>
<td>150 - 200</td>
</tr>
<tr>
<td>1407</td>
<td>PROJECT HARDWARE</td>
<td>DAPIN</td>
<td>EPM-1000</td>
<td>20</td>
<td>30</td>
<td>60</td>
<td>16</td>
<td>180</td>
<td>205.5</td>
<td>90 - 120</td>
<td>150 - 200</td>
</tr>
</tbody>
</table>

*Note: All equipment is designed for public domain use.*
- Insulate refrigerant lines separately.
- Use closed-foam cell 3/4" pipe insulation.
- Pipe fittings should only be used when necessary.
### Electrical Symbols and Notes

**Sheet List**

<table>
<thead>
<tr>
<th>Sheet Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-001</td>
<td>Electrical Symbols and Notes</td>
</tr>
<tr>
<td>E-011</td>
<td>Electrical Distribution Plan</td>
</tr>
<tr>
<td>E-012</td>
<td>Electrical Hardwired Distribution Plan</td>
</tr>
<tr>
<td>E-103</td>
<td>Lighting Plan</td>
</tr>
<tr>
<td>E-401</td>
<td>Mechanical Closet Elevations</td>
</tr>
<tr>
<td>E-601</td>
<td>One Line Diagram</td>
</tr>
<tr>
<td>E-602</td>
<td>Three Line Diagram</td>
</tr>
<tr>
<td>E-603</td>
<td>Schedules</td>
</tr>
</tbody>
</table>

**Electrical Symbols and Notes**

**Abbreviation List**

- AC: Alternating Current
- AWG: American Wire Gauge
- DC: Direct Current
- EMT: Electrical Metallic Tubing - Conduit
- ERV: Energy Recovery Ventilator
- MCB: Main Circuit Breaker
- NM-B: Non-Metallic Sheathed Cable
- PV: Photovoltaic
- THHN: Thermoplastic High Heat Resistant Nylon-Coated - Wire Insulation

**Symbol Legend**

- 120V Above Counter Duplex Receptacle
- 120V Duplex Receptacle
- 120V USB Duplex Receptacle
- 120V GFI Duplex Receptacle
- 240V Single Receptacle
- 120V Two Duplex Receptacle
- Junction Box
- ECOHABIT Sensor Modules
- Smoke/CO2 Detector
- Current Transformer (CT)
- Circuit Breaker
- Solar Shingle
- 120V Duplex Receptacle
- 120V USB Duplex Receptacle
- 120V GFI Duplex Receptacle
- 240V Single Receptacle
- 120V Two Duplex Receptacle
- Junction Box
- ECOHABIT Sensor Modules
- Smoke/CO2 Detector
- Current Transformer (CT)
- Circuit Breaker
- Solar Shingle

**Important Notes**

1. All exterior outlets shall be surface-mounted GFCI. Use GFCI receptacles as specified in the electrical plan and shall comply with NEC 406.12.
2. Bond wire shall be run in all conduit where required. Bond wire shall be AWG 6 copper.
3. All panel boards shall be provided with a factory installed ground bus for connecting to the green wire in all conduits.
4. The conductor used shall be specified in the electrical drawings and shall comply with NEC 250.121(A).

**Electrical Notes**

1. All interior outlets must have surface-mounted GFCI. Use GFCI receptacles as specified in the electrical plan and shall comply with NEC 406.12.
2. Bond wire shall be run in all conduit where required. Bond wire shall be AWG 6 copper.
3. All panel boards shall be provided with a factory installed ground bus for connecting to the green wire in all conduits.
4. The conductor used shall be specified in the electrical drawings and shall comply with NEC 250.121(A).

**Coordination Requirements**

1. Coordinate with equipment supplier for all final connection requirements before installation of mechanical equipment.
2. Provide identification of all branch circuits on a type-written directory card in the panel door.
3. Use electrical sockets as specified in the Electrical Plan and shall comply with NEC 250.121(A).

**MEP Coordination**

- MEP Consultant: Buero Happold Engineers P.C.
- MEP Contractor: Craft Engineering Studio Consulting Engineers
- MEP Engineer: New York, NY

**Structural Coordination**

- Structural Consultant: Joelson Design Group P.C.
- Structural Engineer: New York, NY

**Architectural Coordination**

- Architectural Consultant: Nastasi Architects
- Architect: Hoboken, NJ

**Construction Notes**

- Construction Administrator: Stevens Institute of Technology
- Construction Manager: Stevens Institute of Technology
- Construction Engineer: Stevens Institute of Technology

**Client Information**

- Client: US Department of Energy

**Project Information**

- Project Title: Solar Decathlon 2013
- Project Location: New York, NY

**Copyright Notice**

- Copyright © 2013 Solar Decathlon
- All rights reserved.
INSTALLATION OF ELECTRICAL WIRES, RACEWAYS, AND DEVICES SHALL CONFORM TO THE 2011 NATIONAL ELECTRIC CODE, 2012 INTERNATIONAL RESIDENTIAL CODE OF THE

ALL JUNCTION BOXES SHALL BE PROPERLY SIZED ACCORDING TO NEC 314.16.

MINIMUM WIRE SIZE SHALL BE #14 AWG.

PROVIDE IDENTIFICATION OF ALL BRANCH CIRCUITS ON A TYPEWRITTEN DIRECTORY CARD IN THE PANEL DOOR.

EXTERIOR RACEWAYS AND WIRING DEVICES BELOW THE FIRST FLOOR SHALL HAVE TYPE "NM" CABLE WHERE ALLOWED BY CODE.

MAXIMUM LOAD FOR ALL BRANCH CIRCUITS IS 80%. FOR MECHANICAL EQUIPMENT DETAIL REFER TO MECHANICAL DRAWINGS AND EQUIPMENT SPECIFICATIONS IN THE PROJECT MANUAL.

INSTALLED GROUND BUS FOR CONNECTING TO GROUND THE GREEN OR BARE GROUNDS WIRE IN ALL CIRCUITS.

CONDUCTORS SPECIFIED IN THE ELECTRICAL PLAN SHALL COMPLY WITH NEC TABLE 310.15(B)(16)

NAME

RACEWAYS BETWEEN PULL BOXES SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL).

LIVING RM.

KITCHEN 2

KITCHEN 1

DISCONNECTED DURING INSTALLATION, DE-INSTALLATION, OR SERVICING OF PHOTOVOLTAIC MODULES AND INVERTERS.

THE EQUIPMENT GROUNDING ELECTRODE CONDUCTOR SHALL BE PROTECTED. EXTERIOR FITTINGS FOR RACEWAYS SHALL BE COMPRESSION TYPE AND LIQUIDTIGHT.

EXCEPT WHERE OTHERWISE INDICATED WIRE SHALL BE COPPER WITH 600 VOLT INSULATION. USE TYPE "NM" CABLE WHERE ALLOWED BY CODE.

NOTE: RECEPTICLES ON CIRCUIT ARE 3'-6" A.F.F.

LP1-5/7

LP1-36

LP1-22

LP1-19 ARE 3'-6" A.F.F.

NOTE: RECEPTICLE IS 6' A.F.F.

NOTE: 79" AFF

LP1-40

NOTE: 42" AFF FOR BRULTECH

NOTE: 83" AFF

NOTE: 73" AFF

NOTE: 92" AFF

NOTE: 56" AFF

NOTE: 89" AFF

NOTE: 73" AFF
INSTALLATION OF ELECTRICAL WIRES, RACEWAYS, AND DEVICES SHALL CONFORM TO THE 2011 NATIONAL ELECTRIC CODE, 2012 INTERNATIONAL RESIDENTIAL CODE OF THE INTERNATIONAL CODE COUNCIL WITH SPECIFIC PROVISIONS.

ALL JUNCTION BOXES SHALL BE PROPERLY SIZED ACCORDING TO MINIMUM WIRE SIZE SHALL BE #14 AWG. PROVIDE IDENTIFICATION OF ALL BRANCH CIRCUITS ON A EXTERIOR RACEWAYS AND WIRING DEVICES BELOW THE FIRST LEVEL FLOOR SHALL BE SELECTED FOR MECHANICAL PROTECTION. EXTERIOR FITTINGS FOR RACEWAYS SHALL BE COMPRESSION TYPE AND LIQUIDTIGHT. COPPER WITH 600 VOLT INSULATION. USE TYPE "NM" CABLE WHERE ALLOWED BY CODE.

DRAWINGS AND EQUIPMENT SPECIFICATIONS IN THE PROJECT MANUAL.

ALL PANEL BOARDS SHALL BE PROVIDED WITH A FACTORY INSTALLED GROUND BUS FOR CONNECTING TO GROUND THE GREEN OR BARE GROUNDS WIRE IN ALL CIRCUITS. CONDUCTORS SPECIFIED IN THE ELECTRICAL PLAN SHALL COMPLY WITH NEC TABLE 310.15(B)(16) THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL).

ALL EXTERIOR RECEPTACLES SHALL BE WEATHER-RESISTANT, GROUND FAULT PROTECTED, AND EQUIPPED WITH "IN-USE" TYPE WEATHER PROTECTION. THE EQUIPMENT GROUNDING ELECTRODE CONDUCTOR SHALL BE THE FIRST TO BE CONNECTED AND LAST TO BE DISCONNECTED DURING INSTALLATION, DE-INSTALLATION, OR SERVICING OF PHOTOVOLTAIC MODULES AND INVERTERS.

2/0 COPPER POWER CABLES SHALL BE PROVIDED FROM TEAM PANEL BOARD TO ORGANIZER UTILITY PANEL VIA TEAM METER HOUSING SHALL BE PROVIDED TO ACCEPT METER FOR 240/120 V SERVICE LOCATED ON THE EXTERIOR FACE OF THE HOUSE. POWER CABLES FROM THE ORGANIZER UTILITY PANEL TO THE TEAM SHALL PROVIDE AN ORGANIZER ENCLOSURE UP TO REQUIRED SPECIFICATIONS AND ALLOW ORGANIZER INSTALLATION CONDUIT AND SENSOR WIRE TO BE INSTALLED.

BREAKERS SHALL BE TEMPER RESISTANT AS PER NEC 406.12. ALL 120V 15 AND 20 AMP CIRCUITS SHALL HAVE AFCI CIRCUIT BREAKERS.
ALL LIGHTING FIXTURES SHALL BE WIRING AS PER N.E.C. ARTICLE 410

1. DRY MODULE INDOOR/OUTDOOR LIGHTS LOCATED ON CIRCUIT LP-9
2. WET MODULE INDOOR/OUTDOOR LIGHTS LOCATED ON CIRCUIT LP-11

NOTE: FANS CONNECTED TO INDOOR LIGHTING CIRCUIT LP-9
ALL PANEL BOARDS SHALL BE PROVIDED WITH A FACTORY INSTALLED GROUND BUS FOR CONNECTING TO THE GREEN OR BARE GROUND WIRE IN ALL CIRCUITS.

CONDUCTORS SPECIFIED IN THE ELECTRICAL PLAN SHALL COMPLY WITH NEC TABLE 310.15(B)(16).

THHN 2-12 AWG + 10 AWG GND IN 1/2" MC - (6,7,8,9)

THHN 4-12 AWG + 10 AWG GND (10)

THHN 3-12 AWG + 10 AWG GND (10)

THHN 3-2/0 AWG + 1/0 AWG GROUND IN 2" EMT

3-2/0 AWG + 10 AWG GROUND IN 1/2" EMT - (6,7,8,9)

SEPARATE GROUND CONDUCTORS AC - 6 AWG, DC - 10 AWG

SEPARATE GROUND CONDUCTORS AC - 6 AWG, DC - 10 AWG

THE TEAM SHALL PROVIDE CABLE RUNNING TO SERVICE CONNECTION

THE TEAM SHALL PROVIDE CABLE RUNNING TO SERVICE CONNECTION

THIN 3-12 AWG + 10 AWG GND (10) + 6 AWG GND IN 1/2" MC

3,725 kW INVERTER INCLUDES AC AND DC DISCONNECTS AND HAS MULTIPLE MPP TRACKING

3,725 kW INVERTER INCLUDES AC AND DC DISCONNECTS AND HAS MULTIPLE MPP TRACKING

SEPARATE GROUND CONDUCTORS

4 AWG GROUND IN 1/2" EMT

4 AWG GROUND IN 1/2" EMT

MWP AS DESIGN

MWP AS DESIGN

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM

THREE-LINE DIAGRAM
<table>
<thead>
<tr>
<th>PANEL</th>
<th>LOAD PANEL 1</th>
<th>MILO</th>
<th>LOCATION</th>
<th>MECHANICAL ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLT</td>
<td>YAC</td>
<td>BUS TAPR</td>
<td>20A</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>POOL</td>
<td>IBF</td>
<td>LOAD DESCRIPTION</td>
<td>AMPS VA</td>
</tr>
<tr>
<td>LP-1</td>
<td>2</td>
<td>20</td>
<td>PV BACK FEED 1</td>
<td>19.0</td>
</tr>
<tr>
<td>LP-2</td>
<td>3</td>
<td>30</td>
<td>WATER HEATER</td>
<td>21.0</td>
</tr>
<tr>
<td>LP-3</td>
<td>1</td>
<td>16</td>
<td>LIGHTING 1</td>
<td>2.0</td>
</tr>
<tr>
<td>LP-4</td>
<td>1</td>
<td>16</td>
<td>LIGHTING 2</td>
<td>2.0</td>
</tr>
<tr>
<td>LP-5</td>
<td>1</td>
<td>15</td>
<td>BEDROOM / Hallway</td>
<td>13.5</td>
</tr>
<tr>
<td>LP-6</td>
<td>1</td>
<td>10</td>
<td>BATHROOM</td>
<td>12.5</td>
</tr>
<tr>
<td>LP-7</td>
<td>1</td>
<td>15</td>
<td>LIGHTING 3</td>
<td>5.5</td>
</tr>
<tr>
<td>LP-8</td>
<td>1</td>
<td>15</td>
<td>LIGHTING 4</td>
<td>5.5</td>
</tr>
<tr>
<td>LP-9</td>
<td>1</td>
<td>10</td>
<td>KITCHEN 1</td>
<td>12.5</td>
</tr>
<tr>
<td>LP-10</td>
<td>1</td>
<td>15</td>
<td>KITCHEN 2</td>
<td>18.5</td>
</tr>
<tr>
<td>LP-11</td>
<td>1</td>
<td>20</td>
<td>KITCHEN 3</td>
<td>30.0</td>
</tr>
<tr>
<td>LP-12</td>
<td>1</td>
<td>15</td>
<td>LIGHTING</td>
<td>5.5</td>
</tr>
<tr>
<td>LP-13</td>
<td>1</td>
<td>20</td>
<td>LIGHTING</td>
<td>30.0</td>
</tr>
<tr>
<td>LP-14</td>
<td>1</td>
<td>15</td>
<td>DEMOLITION</td>
<td>5.5</td>
</tr>
<tr>
<td>LP-15</td>
<td>2</td>
<td>20</td>
<td>DEMOLITION</td>
<td>5.5</td>
</tr>
<tr>
<td>LP-16</td>
<td>2</td>
<td>20</td>
<td>DEMOLITION</td>
<td>5.5</td>
</tr>
<tr>
<td>LP-17</td>
<td>2</td>
<td>20</td>
<td>DEMOLITION</td>
<td>5.5</td>
</tr>
<tr>
<td>LP-18</td>
<td>2</td>
<td>20</td>
<td>ELECTRICAL</td>
<td>2.0</td>
</tr>
<tr>
<td>LP-19</td>
<td>2</td>
<td>20</td>
<td>ELECTRICAL</td>
<td>2.0</td>
</tr>
<tr>
<td>LP-20</td>
<td>2</td>
<td>20</td>
<td>ELECTRICAL</td>
<td>2.0</td>
</tr>
<tr>
<td>LP-21</td>
<td>2</td>
<td>20</td>
<td>ELECTRICAL</td>
<td>2.0</td>
</tr>
<tr>
<td>LP-22</td>
<td>2</td>
<td>20</td>
<td>ELECTRICAL</td>
<td>2.0</td>
</tr>
</tbody>
</table>

**INDICATES AC/DC BREAKER** **INDICATES GFCI BREAKER**
TELECOMMUNICATIONS WIRING PLAN

PRODUCT NUMBER: 04-004
DATE: 8/21/2013
TIME: 9:10:18 PM

Team Name: ECOHABIT

1. All penetrations through walls for the PEMF generator equipment shall be minimum 1" clear inside diameter as specified.

PCB MASTER MODULE
PCB SLAVE ASSEMBLY
PCB SLAVE CURRENT TRANSFORMERS
SPOUSER WITH BID REFLECTOR
TRAP TRAP
EXIT EXIT
STAIRWAY AND CABLE
PCB SLAVE CURRENT MODULE

TELECOM WIRING DIAGRAM

1/4" = 1'-0"
- Place and secure all house foundations
- Lay out conduit for house main power connection to micro-grid
- Install dry module on foundations
- Secure dry module on house's foundations
- Install wet module
- Secure wet module on house's foundations
- Structurally connect the dry and the wet modules together
- Make all mechanical & electrical connections between the two modules
- Connect electrical conduit to micro-grid
- Install columns for roof support
- Install rafters on dry module
- Install roof on dry module
- Install rainscreen on dry module
- Install solar shingles
- Install deck structure
- Install deck & planters
- Install railings
- Install roof garden on wet module
- Install vegetable garden