Sterling M. Adames
Arch 3630
Advanced Detailing Studio
Prof. A. Aptekar

1) Czech - 2nd Place

-The used of the wood on the exterior.

-The open floor plan.

-The small patio in front.

2) SCI-Arch/Cal tech- 14th Place

-Interesting idea with the moving modules.

-Plenty of space.

-It lets lot of natural light in.

3) North Carolina- 13th Place

-Plenty of Glass walls to let natural lights in.

-The used of the green wall for privacy.

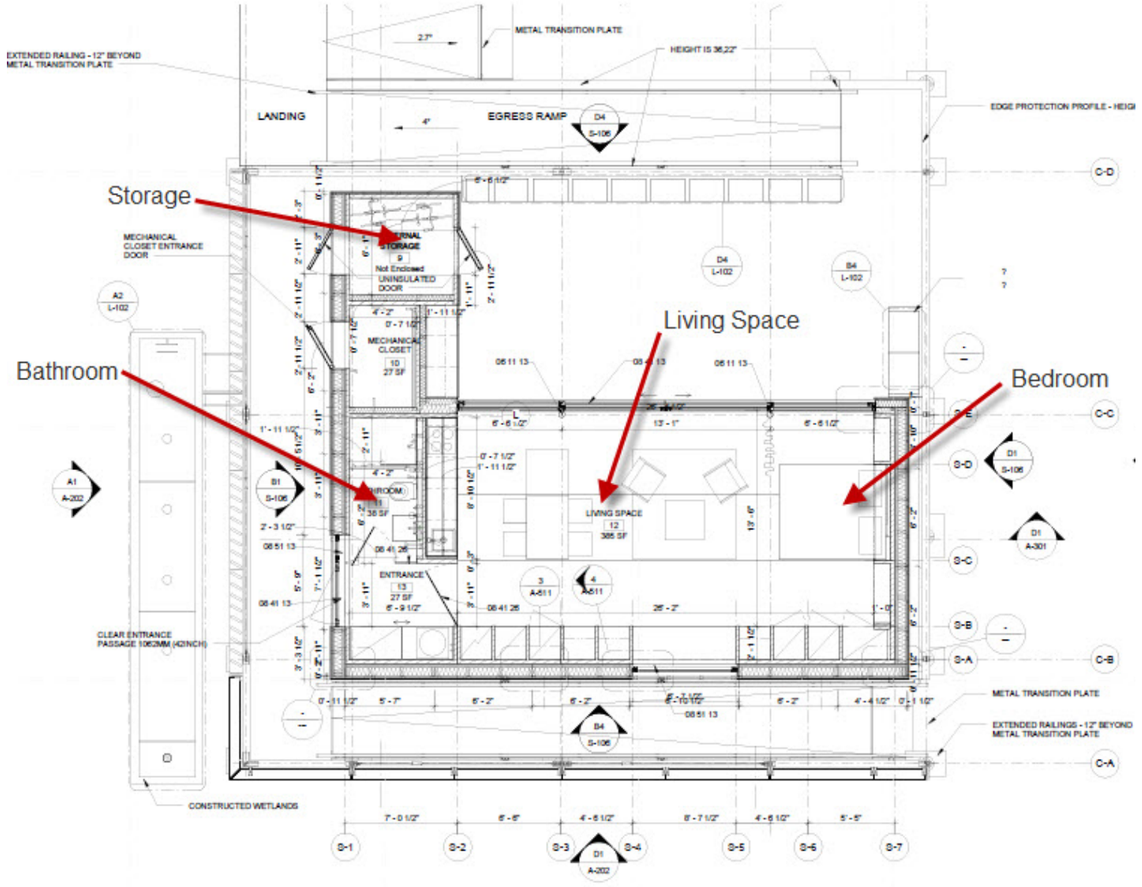
-The open plan layout.

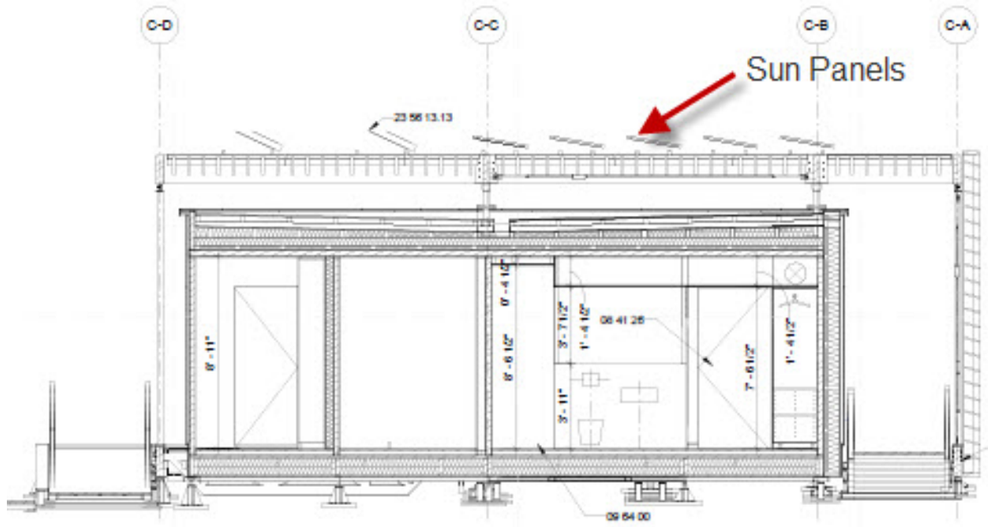
4) Team Norwich

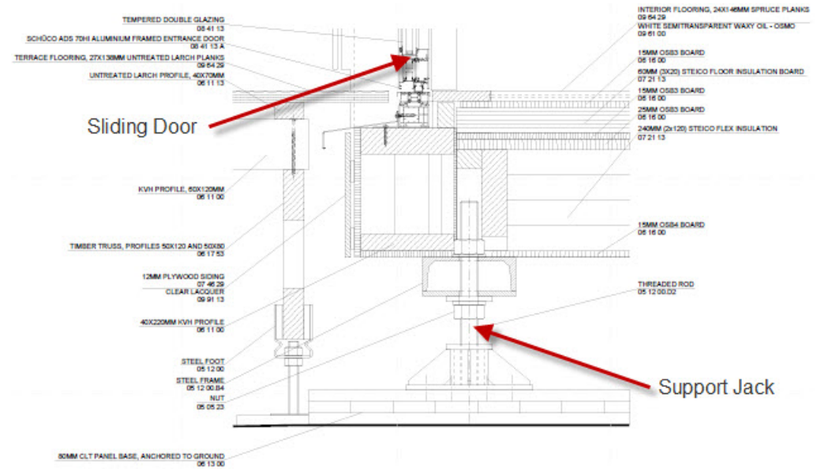
-The way the wood was used on both the exterior and interior.

-Interesting floor layout.

Team Czech







Interest:

-The used of the wood on the exterior.

-The open floor plan.

-The small patio in front.

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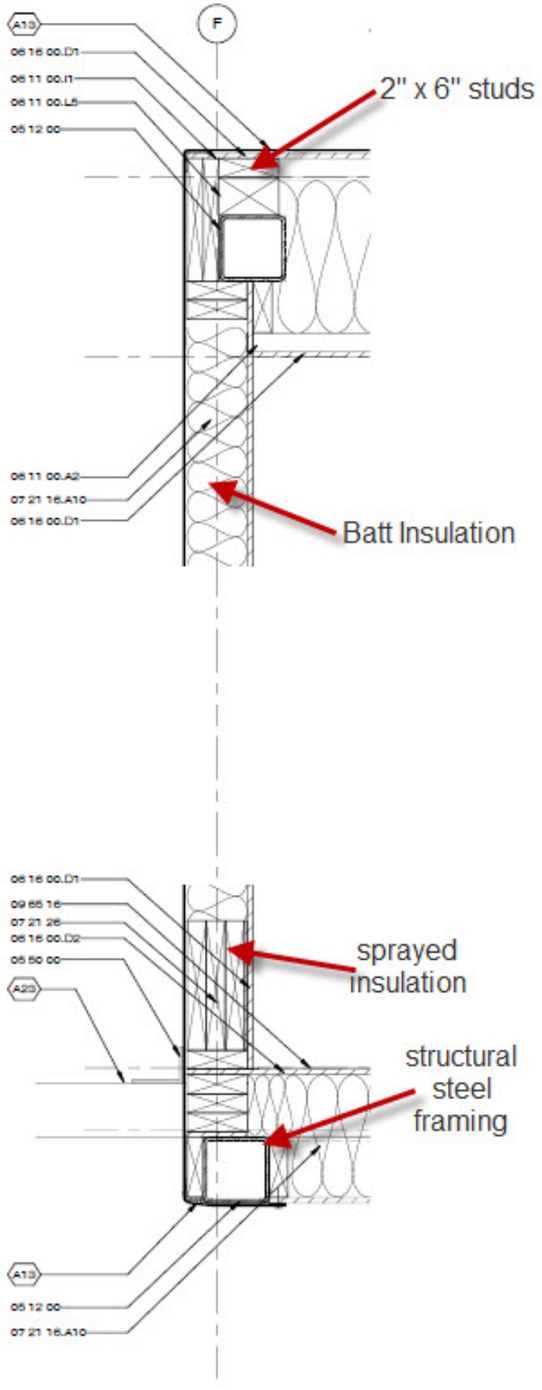
Team SCI-Arc/Caltech

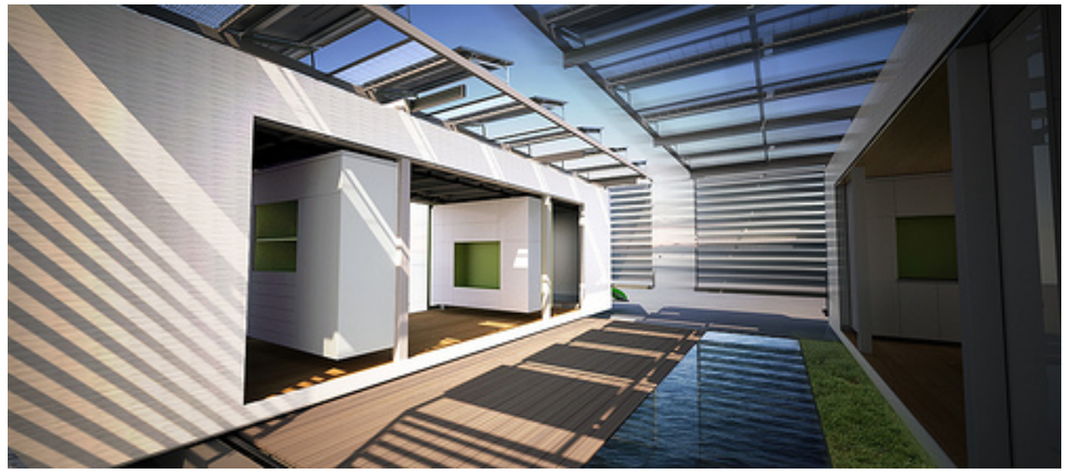


Interest:

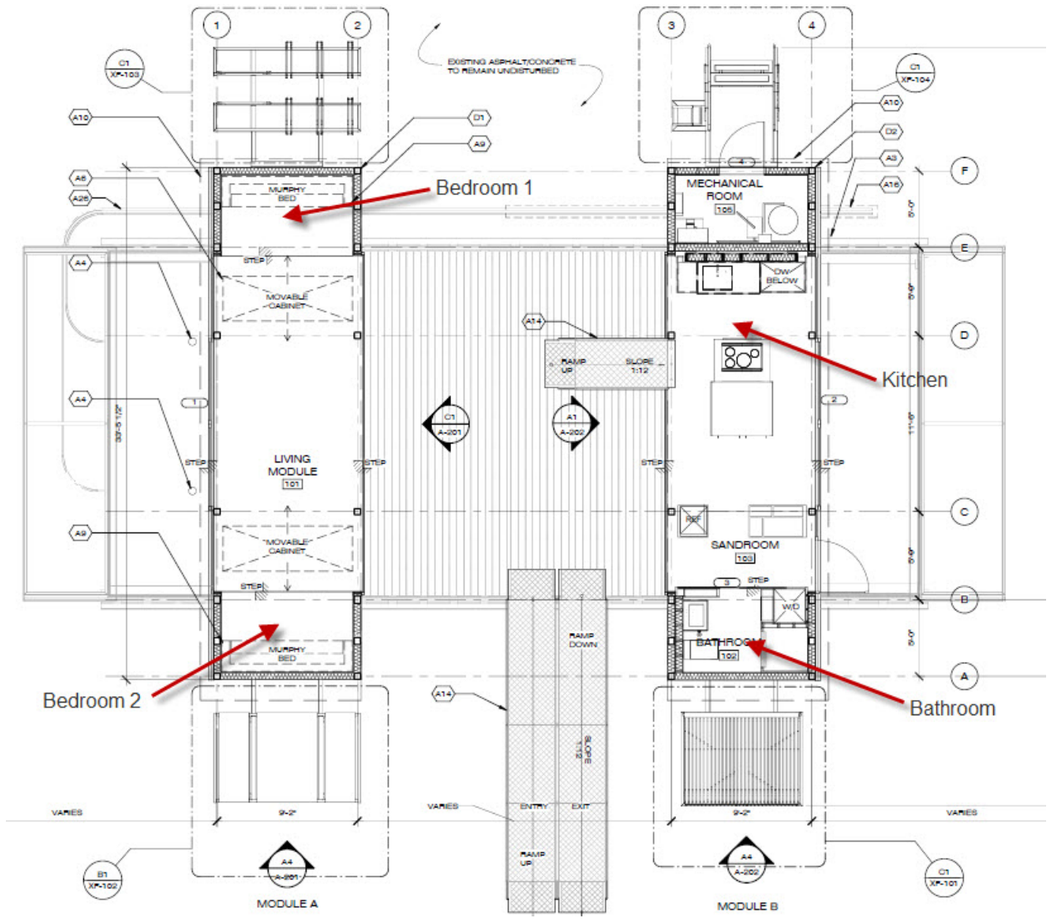
-Interesting idea with the moving modules.

-Plenty of space.

-It lets lot of natural light in.



A1 WALL SECTION TYP.
1 1/2" = 1'-0"



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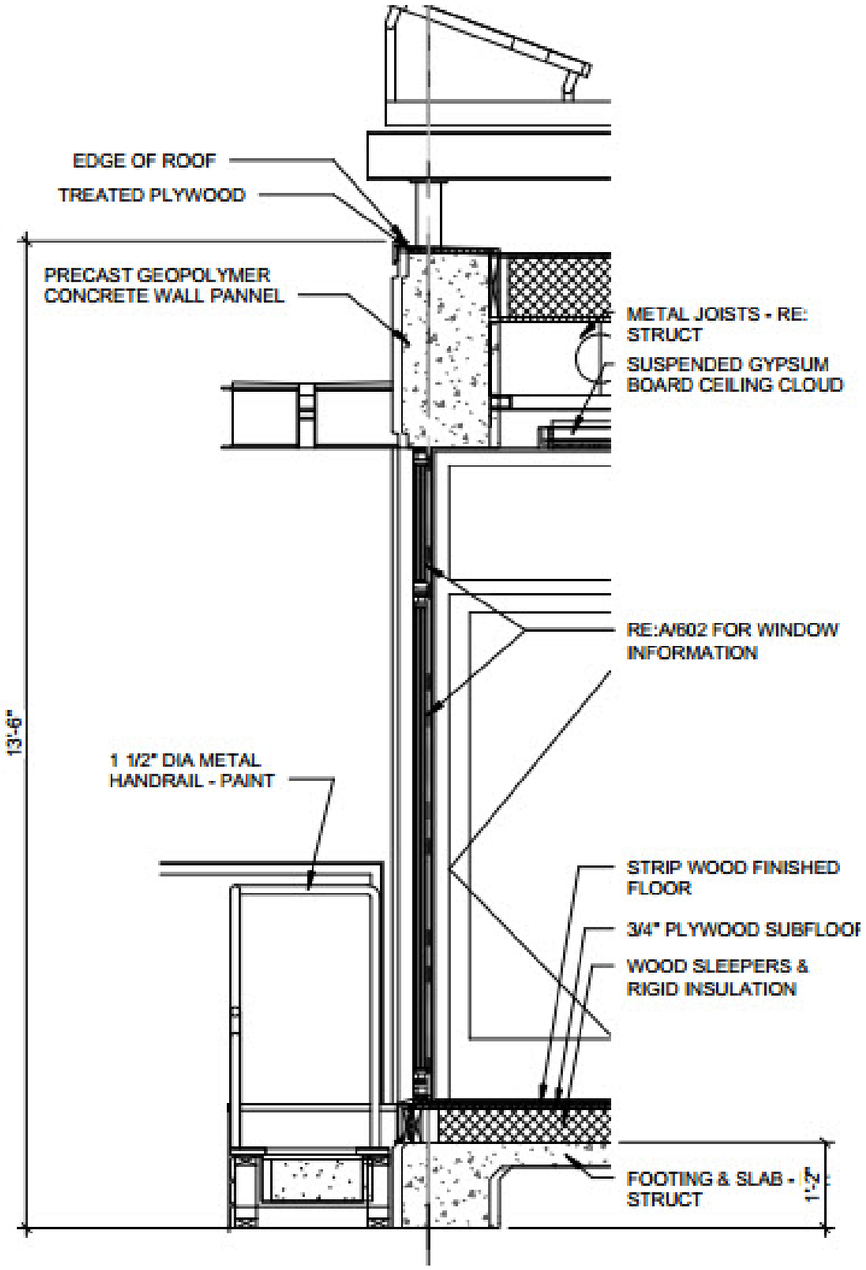
Team North Carolina

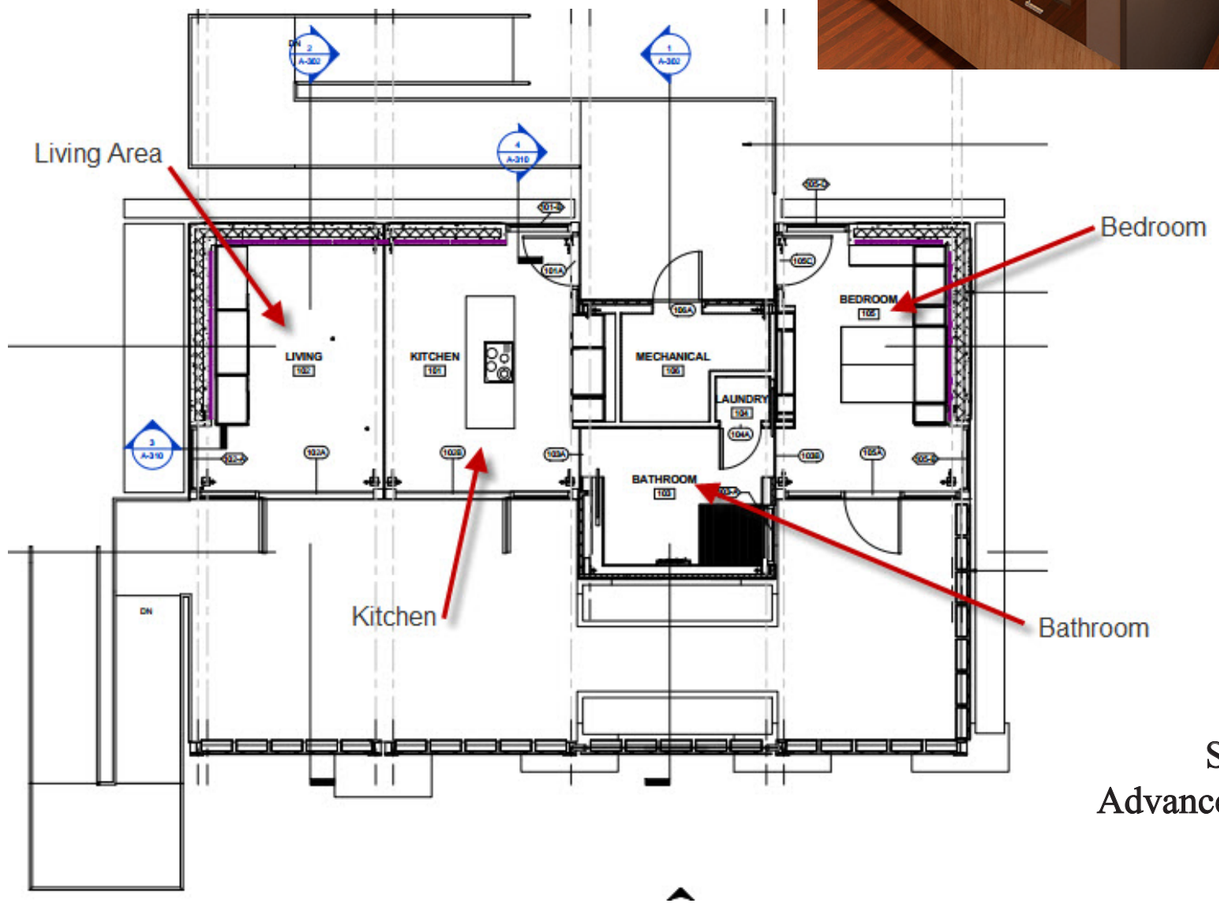
Interest:

-Plenty of Glass walls to let natural lights in.

-The used of the green wall for privacy.

-The open plan layout.





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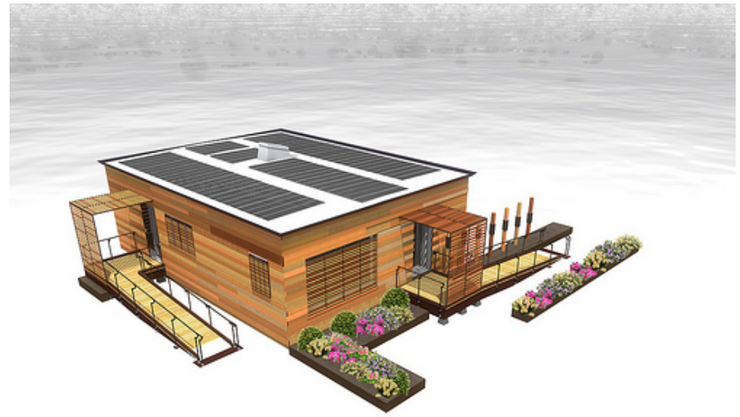
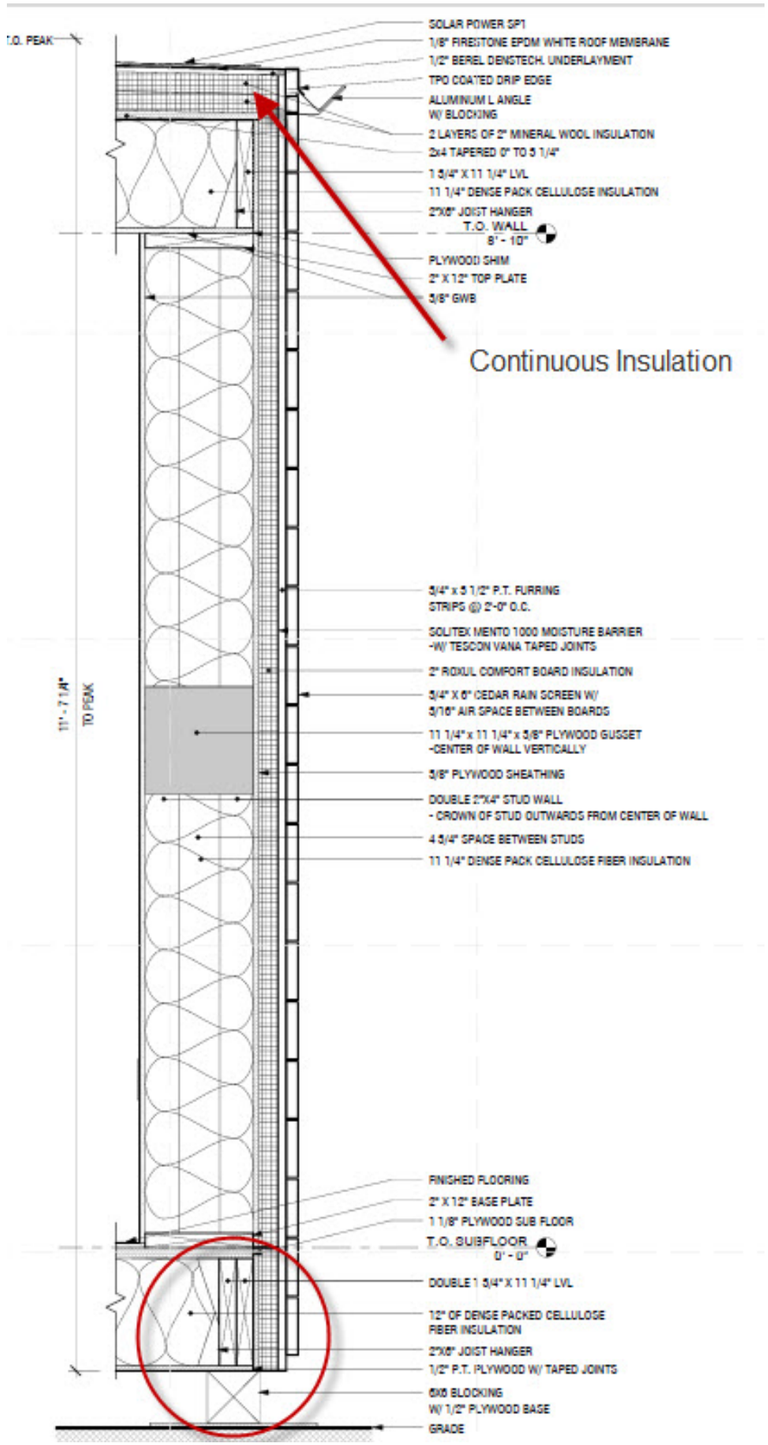
Team Norwhich

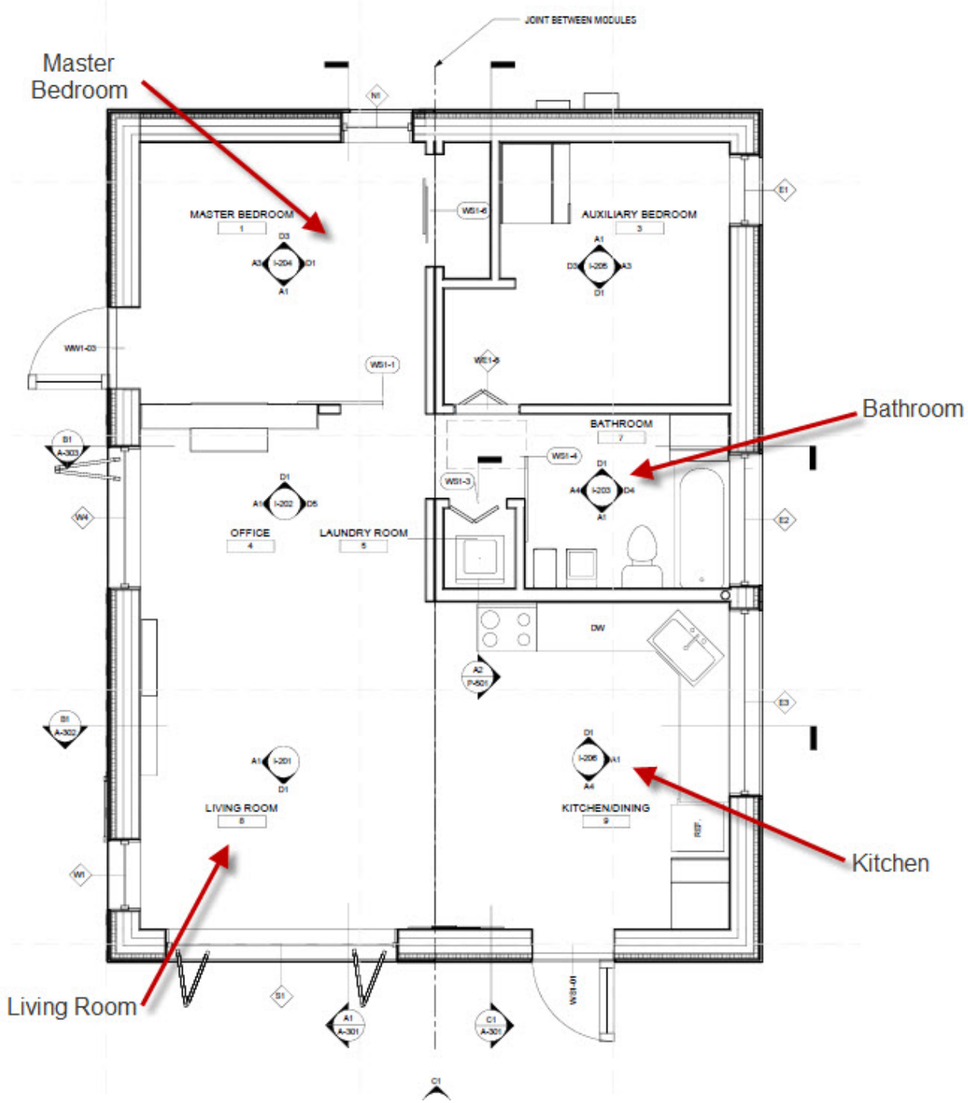
Interest:

-The way the wood was used on both the exterior and interior.

-Interesting floor layout.







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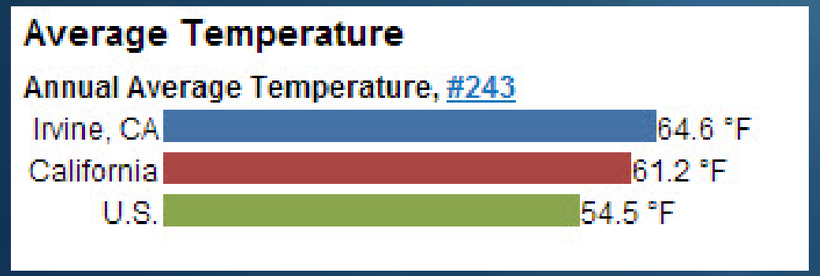
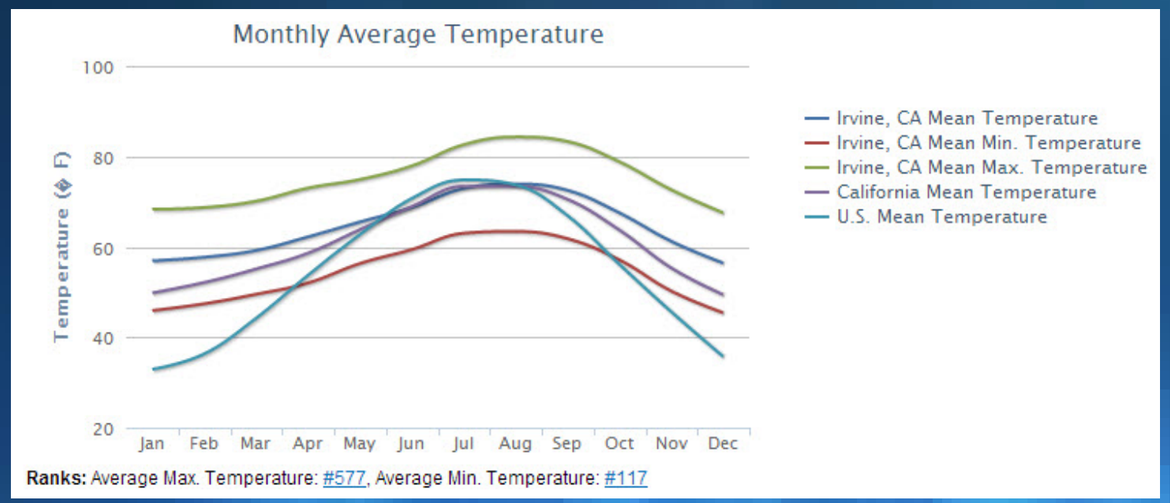
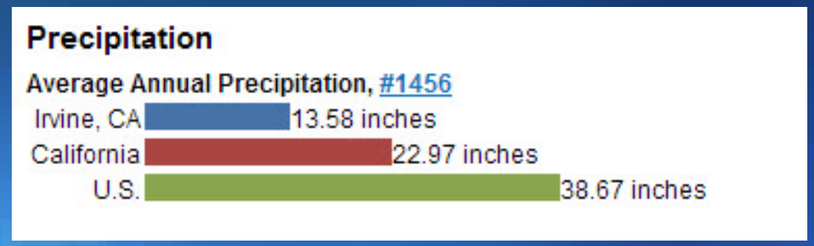
IRVINE CALIFORNIA
AVERAGE TEMP. & PERCIPITATION



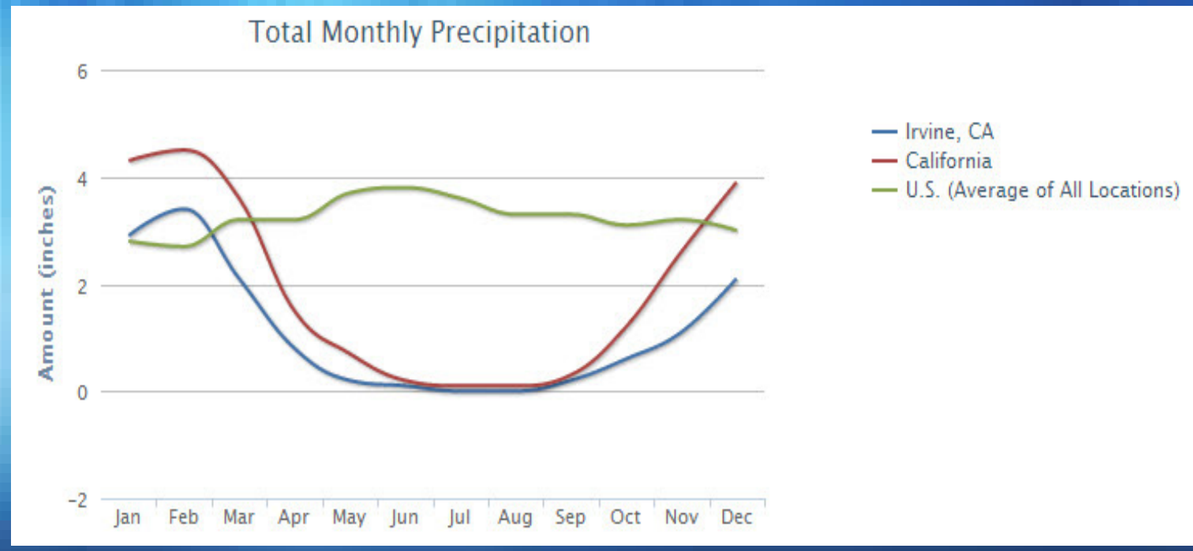


Ranks: Average Max. Temperature: #577, Average Min. Temperature: #117

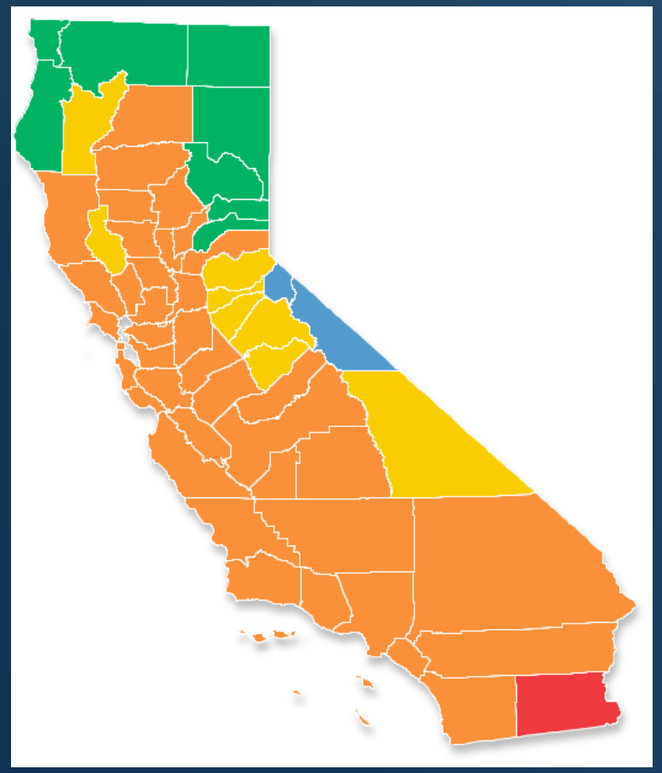


THE TEMPERATURE, SNOW FALL, AND PRECIPITATION INFORMATION ON THIS PAGE WERE CALCULATED FROM THE HISTORICAL DATA OF 18,000+ U.S WEATHER STATIONS FOR THE PERIOD OF TIME FROM 1980 TO 2010.

ON AVERAGE, THE WARMEST MONTH IS AUGUST.
THE HIGHEST RECORDED TEMPERATURE WAS 111°F IN 1963.
ON AVERAGE, THE COOLEST MONTH IS DECEMBER.
THE LOWEST RECORDED TEMPERATURE WAS 18°F IN 1937.
THE MAXIMUM AVERAGE PRECIPITATION OCCURS IN FEBRUARY.



HTTP://WWW.USA.COM/IRVINE-CA-WEATHER.HTM#HISTORICALPRECIPITATION



Climate Zone 3

Ceiling R-value	30
Wood Frame Wall R-value	13
Mass Wall R-value [i]	5/8
Floor R-value	19
Basement Wall R-value [c]	5/13[f]
Slab R-value [d], Depth	0
Crawlspace Wall R-value [c]	5/13
Fenestration U-Factor [b]	0.50[j]
Skylight U-Factor [b]	0.65
Glazed fenestration SHGC [b, e]	0.30

a. R-values are minimums. U-factors and SHGC are maximums. R-19 batts compressed into a nominal 2x6 framing cavity such that the R-value is reduced by R-1 or more shall be marked with the compressed batt R-value in addition to the full thickness R-value.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. "15/19" means R-15 continuous insulated sheathing on he interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in zones 1 through 3 for heated slabs.

e. There are no SHGC requirements in the Marine zone.

f. Basement Wall Insulation is not required in warm-humid locations.

g. Or insulation sufficient to fill the framing cavity. R-19 is minimum.

h. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percnt or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exteriror, structural sheathing shall be supplemented with insulated sheathing of atleast R-2.

i. The second R-value applies when more than half the insulation is on the interior of the wall.

j. For impact rated fenestration complying with SectionR301.2.1.2 of the International Residential Code or Section 1608.1.2 of the International Building code, the maximum U-factor shall be 0.75 in Zone 2 and 0.65 in Zone 3.

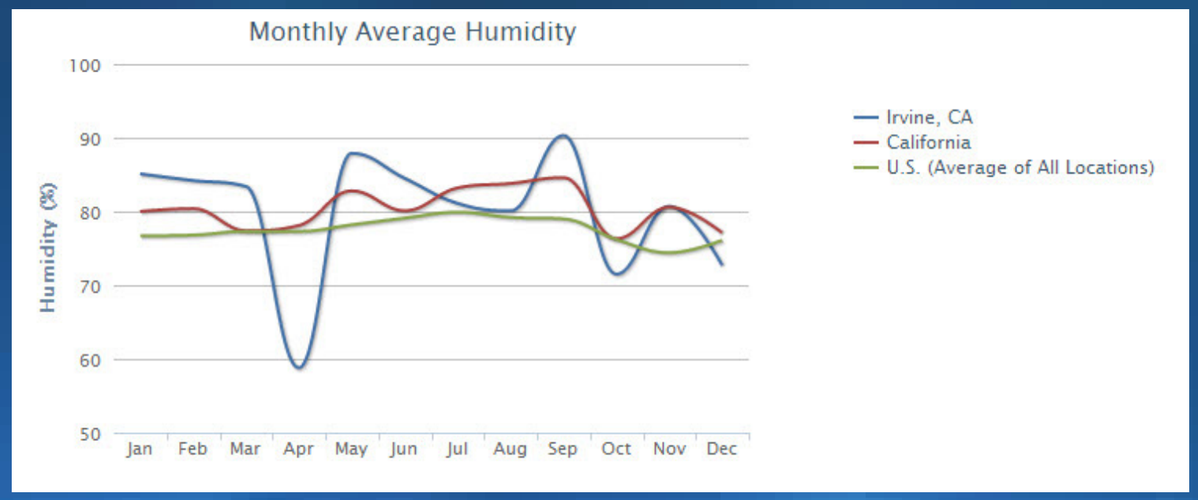
IRVINE CALIFORNIA HUMIDITY & CLIMATE ZONE

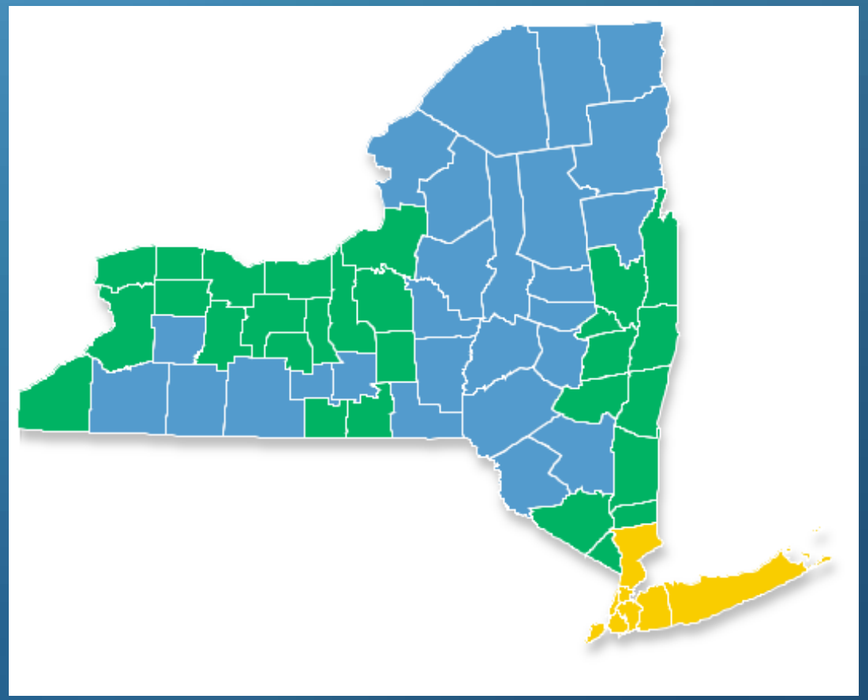
THE HUMIDITY AND WIND SPEED INFORMATION WERE CALCULATED FROM DATA FROM 15,000 WORLDWIDE STATIONS FOR THE PERIOD OF TIME FROM 1980 TO 2010.

Humidity

Annual Average Humidity, #1108

Irvine, CA	80.04%
California	80.36%
U.S.	77.52%





Climate Zone 4 (Except Marine)	
Ceiling R-value	38
Wood Frame Wall R-value	13
Mass Wall R-value [i]	5/10
Floor R-value	19
Basement Wall R-value [c]	10/13
Slab R-value [d], Depth	10, 2 ft
Crawlspace Wall R-value [c]	10/13
Fenestration U-Factor [b]	0.35
Skylight U-Factor [b]	0.60
Glazed fenestration SHGC [b, e]	NR

a. R-values are minimums. U-factors and SHGC are maximums. R-19 batts compressed into a nominal 2x6 framing cavity such that the R-value is reduced by R-1 or more shall be marked with the compressed batt R-value in addition to the full thickness R-value.

b. The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. "15/19" means R-15 continuous insulated sheathing on he interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

d. R-5 shall be added to the required slab edge R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in zones 1 through 3 for heated slabs.

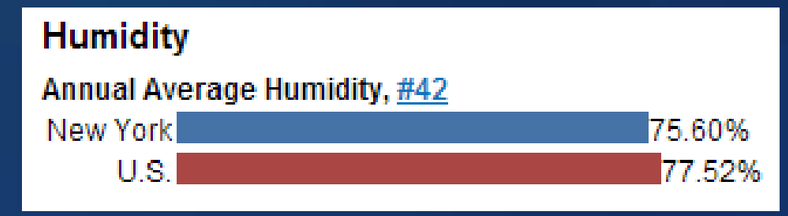
e. There are no SHGC requirements in the Marine zone.

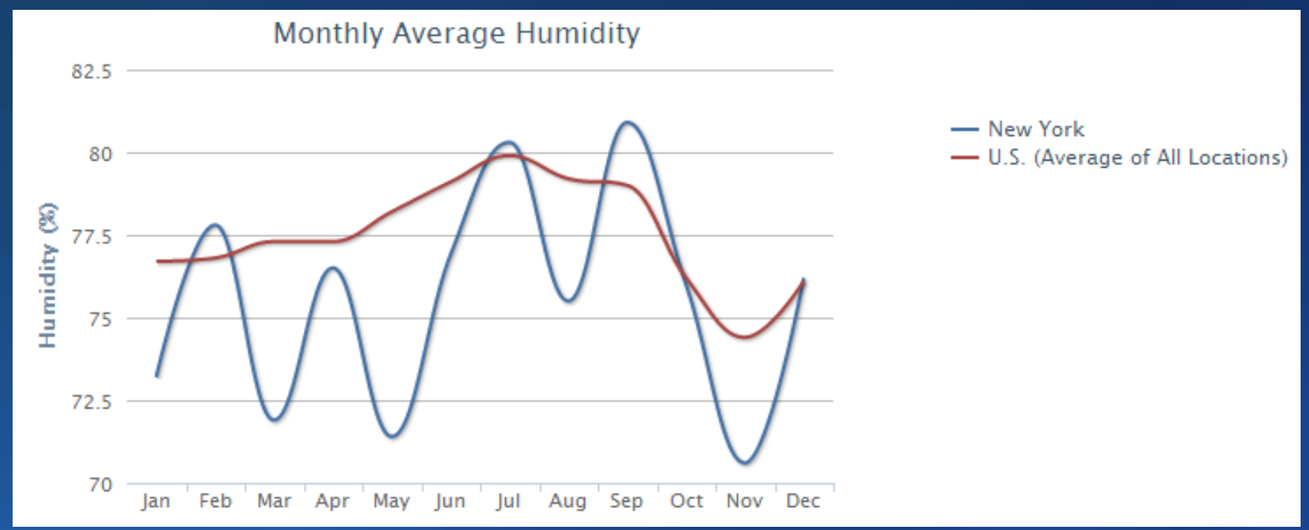
f. Basement Wall Insulation is not required in warm-humid locations.

g. Or insulation sufficient to fill the framing cavity. R-19 is minimum.

NEW YORK
HUMIDITY & CLIMATE ZONE

THE HUMIDITY AND WIND SPEED INFORMATION WERE CALCULATED FROM DATA FROM 15,000 WORLDWIDE STATIONS FOR THE PERIOD OF TIME FROM 1980 TO 2010.

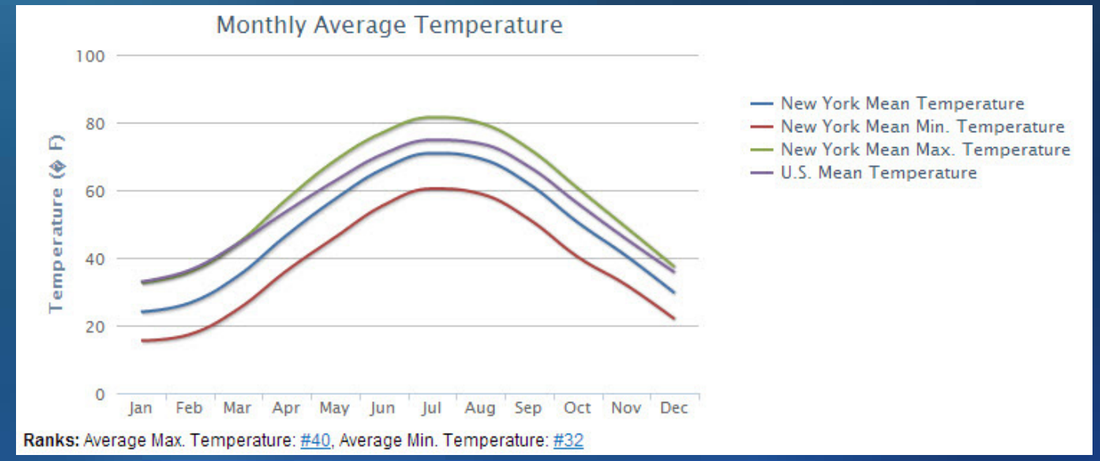


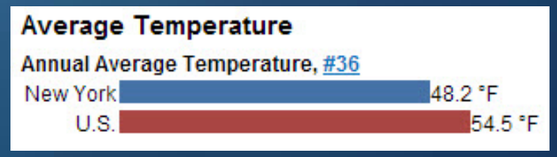


NEW YORK
PERCIPITATION & TEMPERATURE

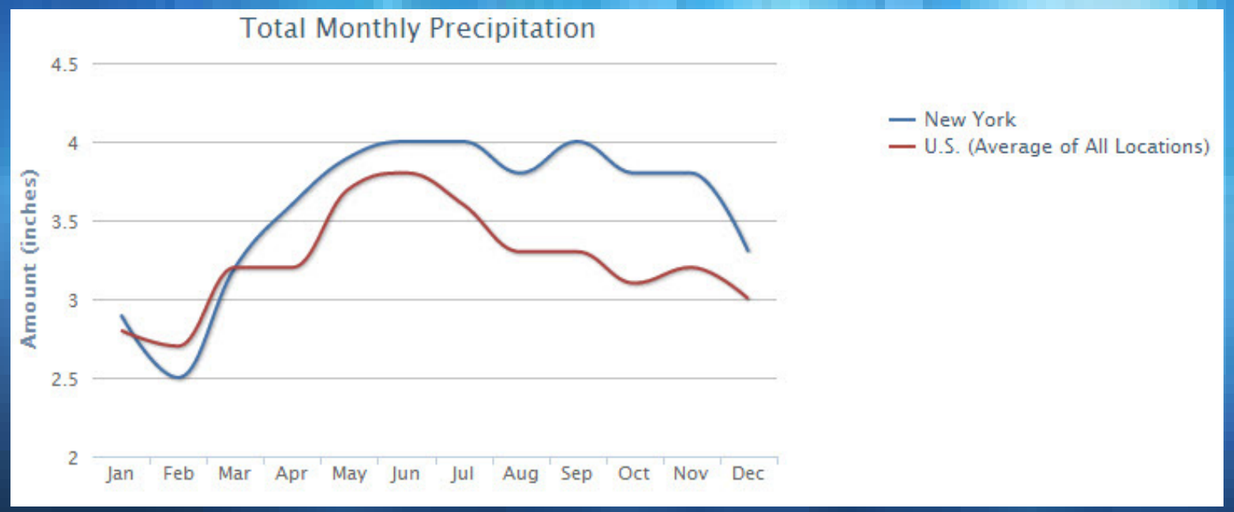
THE HIGHEST RECORDED TEMPERATURE WAS 102°F IN JULY OF 1966.

THE LOWEST RECORDED TEMPERATURE WAS -4°F IN JANUARY OF 1994.





Ranks: Average Max. Temperature: #40, Average Min. Temperature: #32



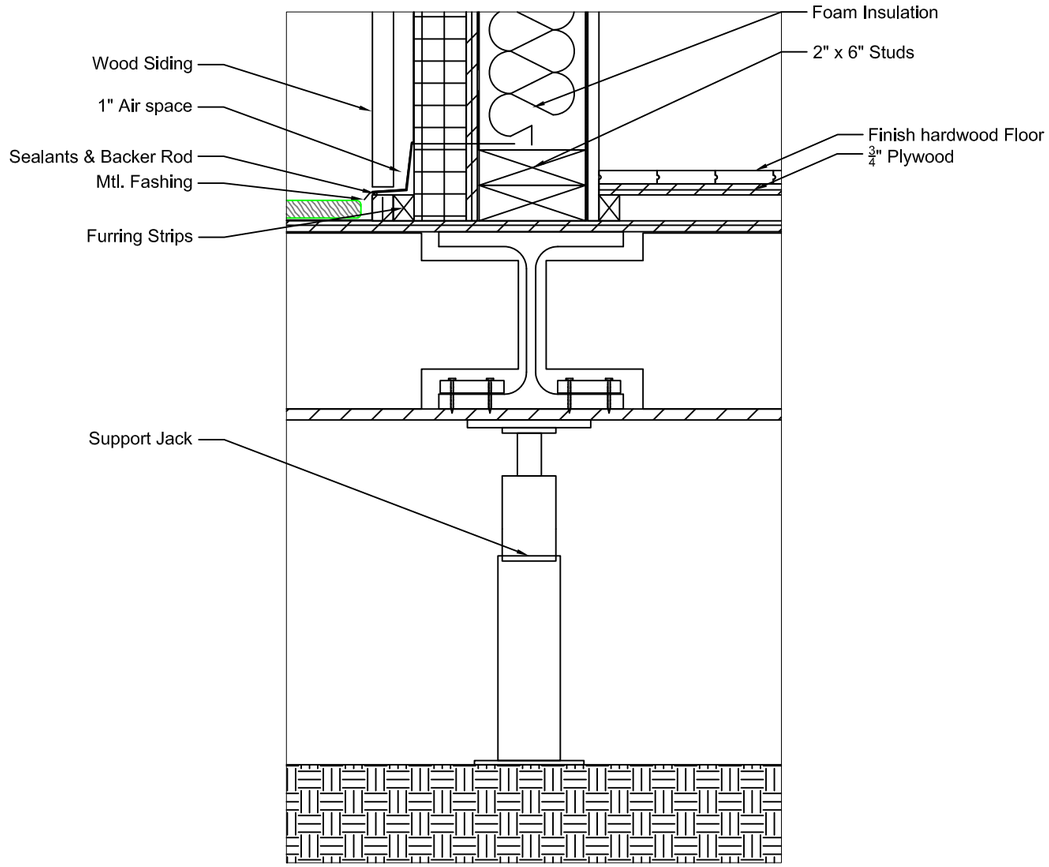
THE TEMPERATURE, SNOW FALL, AND PRECIPITATION INFORMATION ON THIS PAGE WERE CALCULATED FROM THE HISTORICAL DATA OF 18,000+ U.S WEATHER STATIONS FOR THE PERIOD OF TIME FROM 1980 TO 2010.

RECORDS:
JULY IS THE WARMEST MONTH.

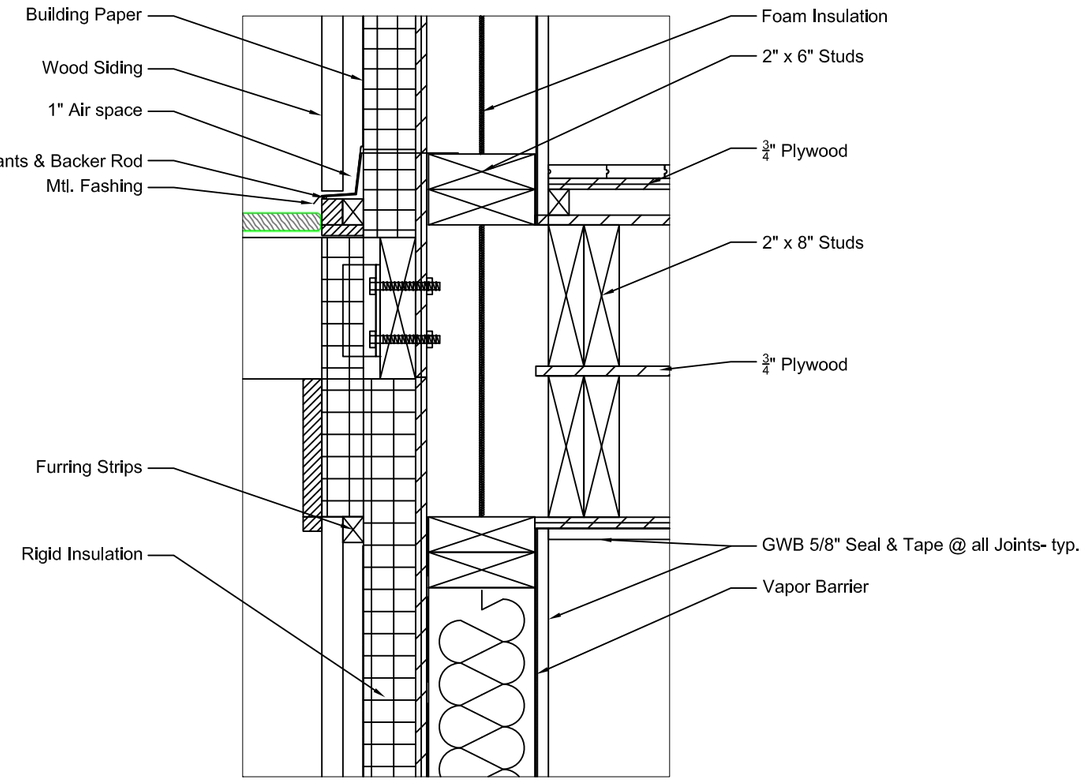
JANUARY IS THE COOLEST MONTH.

MAY IS THE WETTEST MONTH.

FEBRUARY IS THE DRIEST MONTH.



Foundation Detail
Scale: N.T.S



Connection Detail
Scale: N.T.S

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Sterlin M. Adames

Assignment 5

Team Stanford

Brand: Stion Corporation

Model: STN-135 / STN-140 / STN-145 / STN-150

Size: 65.2” x 23.9” x 1.4”

Max System Voltage: 600V

Panels Used: 48 panels.

Website: http://www.stion.com/wp-content/uploads/2013/03/Stion-Product-Data-Sheet-STN-Module-135-150.pdf

Team Sci-Arch

Brand: Hanwha Solar one

Model: SF 160 Mono Black Diamond

Size: 62.2” x 31.8” x 1.38”

Max System Voltage: 1000V (IEC), 600V (VL)

Panels Used: 38 panels.

Website: http://www.oneroofenergy.com/wp-content/uploads/sf_black_diamond.pdf

Team Czech Republic

Brand: SANYO HIT(Heterojunction with Intrinsic Thin)

Model: HIP-240HDE4

Size: 63.3” x 33.8” x 1.3”

Max System Voltage: 1000V

Panels Used: 33 panels.

Website: http://www.terms.eu/pdf/03_SANYO_HDE4_240_235_Product_list_en.pdf

Team Norwich

Brand: Solo Power

Model: SP1

Size: 86.1” x 15.7” x .1”

Max System Voltage: 600V

Panels Used: 30 panels.

Website: http://solopower.com/wp-content/uploads/2013/03/solopower_solopanel_sp1_product_specs.pdf

Team Czech Republic

Brand: SANYO HIT(Heterojunction with Intrinsic Thin)

Model: HIP-240HDE4

Size: 63.3” x 33.8” x 1.3”

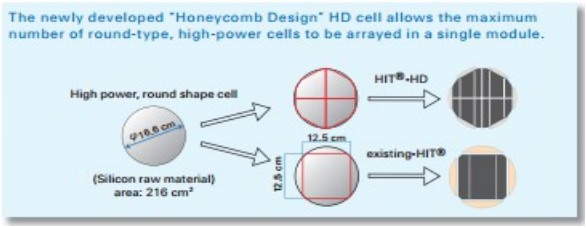
Max System Voltage: 1000V

The SANYO HIT® (Heterojunction with Intrinsic Thin layer) solar cell is made of a thin mono crystalline silicon wafer surrounded by ultra-thin amorphous silicon layers. This product provides the industry‘s leading performance and value using state-of-the-art manufacturing techniques.

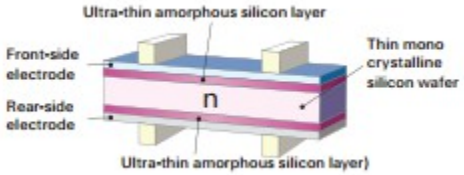
Environmentally-Friendly Solar Cell

More Clean Energy

HIT® can generate more clean Energy than other conventional crystalline solar cells.



HIT® Solar Cell Structure



Development of HIT® solar cell was supported in part by the New Energy and Industrial Technology Development Organization (NEDO).

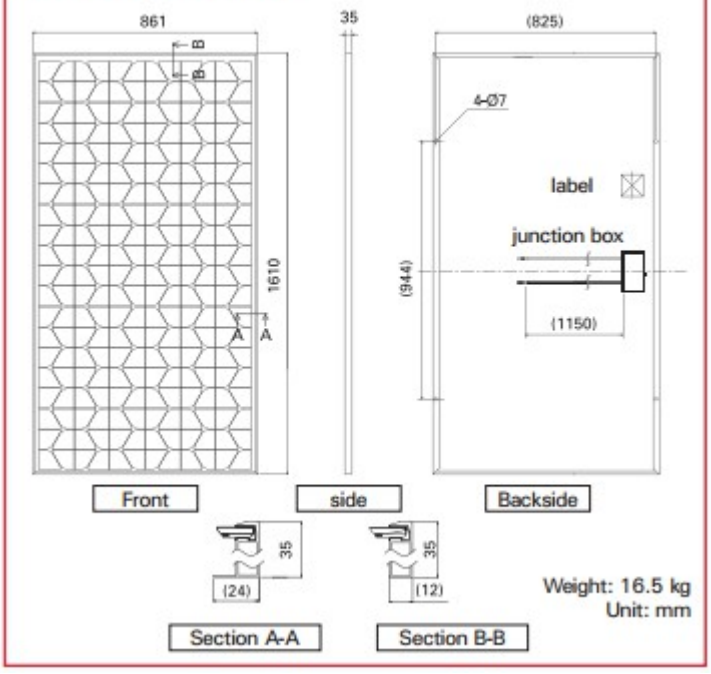
Electrical and Mechanical Characteristics

HIP-240HDE4, HIP-235HDE4

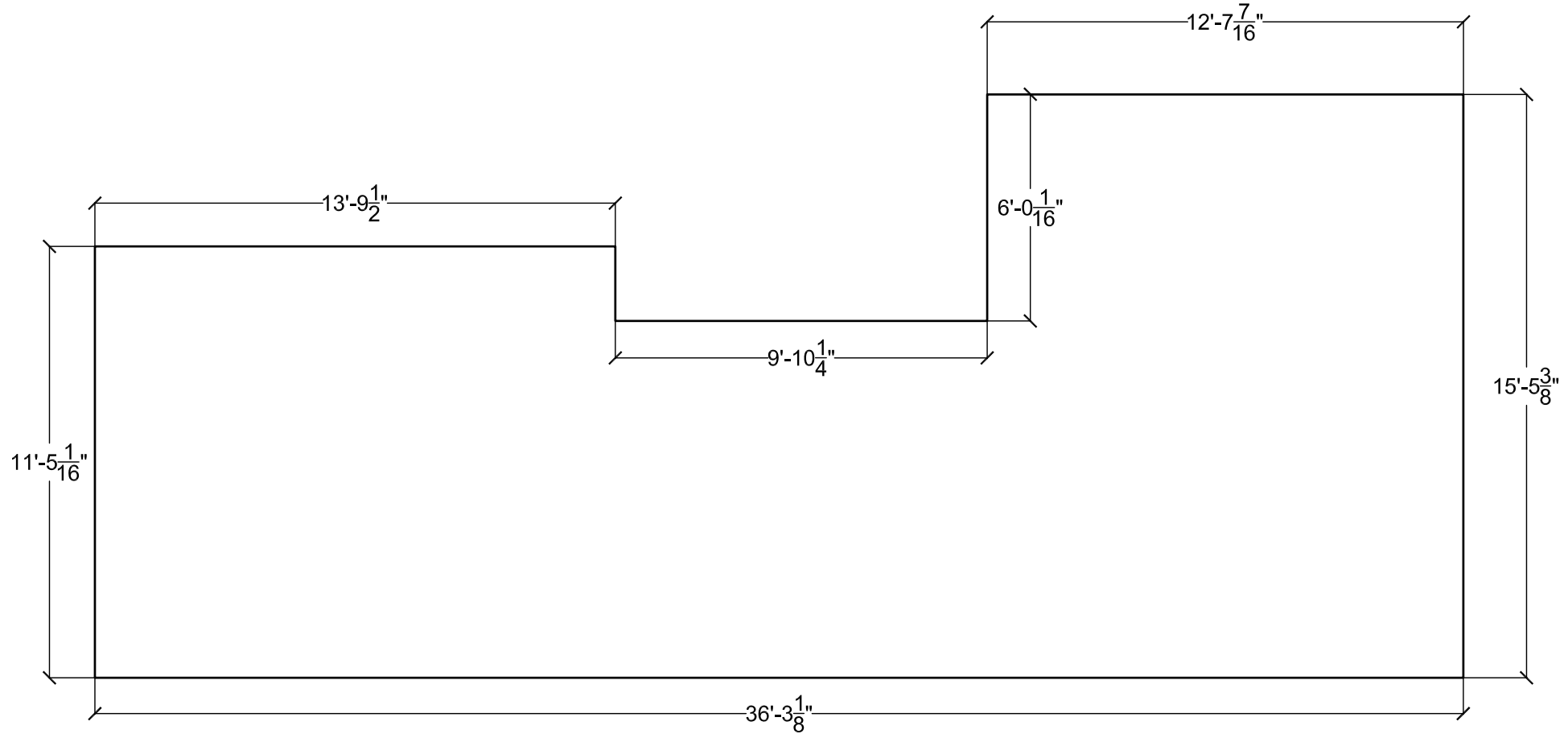
	Models HIP-xxxHDE4	
Technical data	**240**	**235**
Maximum power (Pmax) [W]	240	235
Max. power voltage (Vpm) [V]	35.5	35.1
Max. power current (Ipm) [A]	6.77	6.70
Open circuit voltage (Voc) [V]	43.6	43.4
Short circuit current (Isc) [A]	7.37	7.33
Warranted min. power (Pmin) [W]	228.0	223.3
Maximum over current rating [A]	15	
Output power tolerance [%]	+ 10/-5	
Max. system voltage [Vdc]	1000	
Temperature coeff. of Pmax [%/˚C]	-0.30	
Temperature coeff. of Voc [V/˚C]	-0.109	-0.109
Temperature coeff. of Isc [mA/˚C]	2.21	2.20

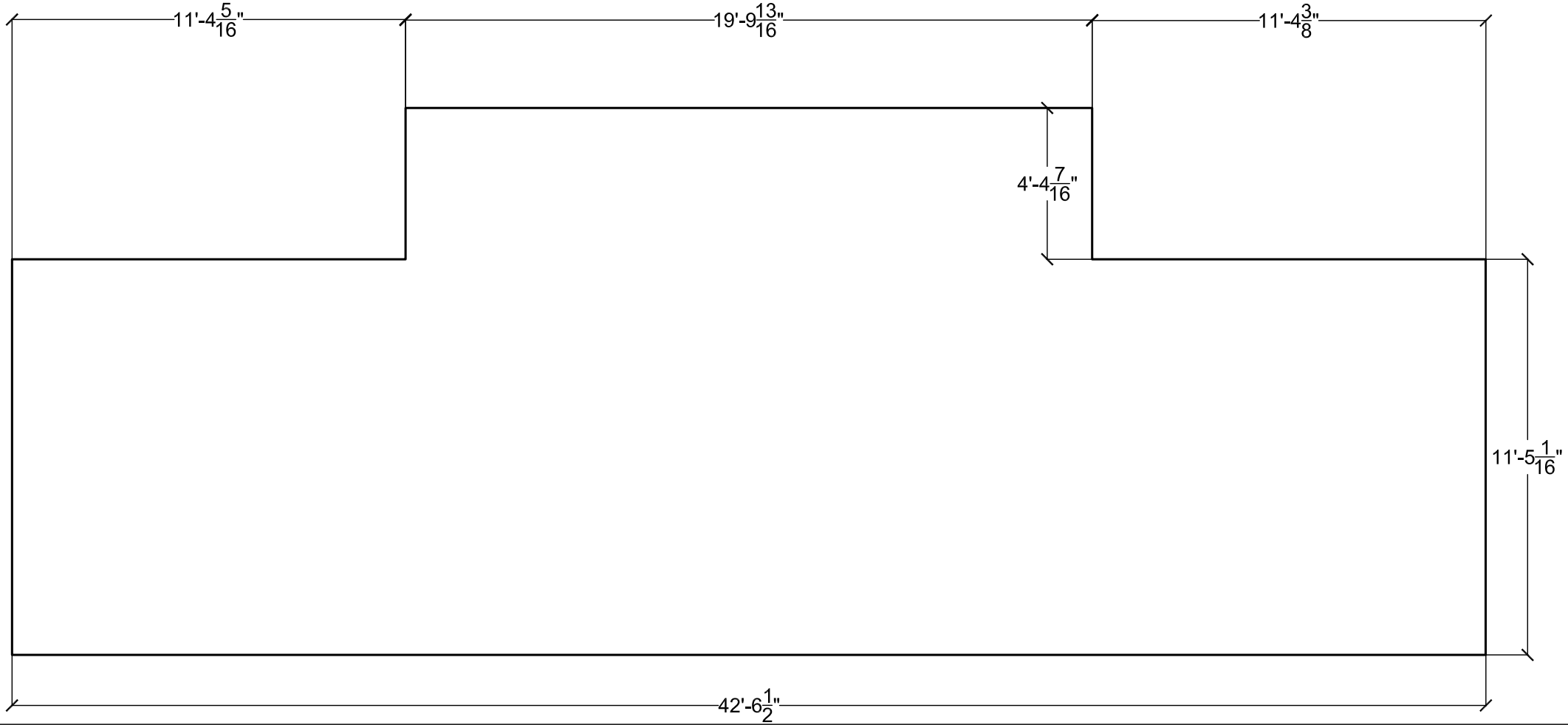
Note 1: Standard test conditions: Air mass 1.5, Irradiance = 1000 W/m², Cell temperature = 25˚C.
Note 2: The values in the above table are nominal.

Dimensions and weight



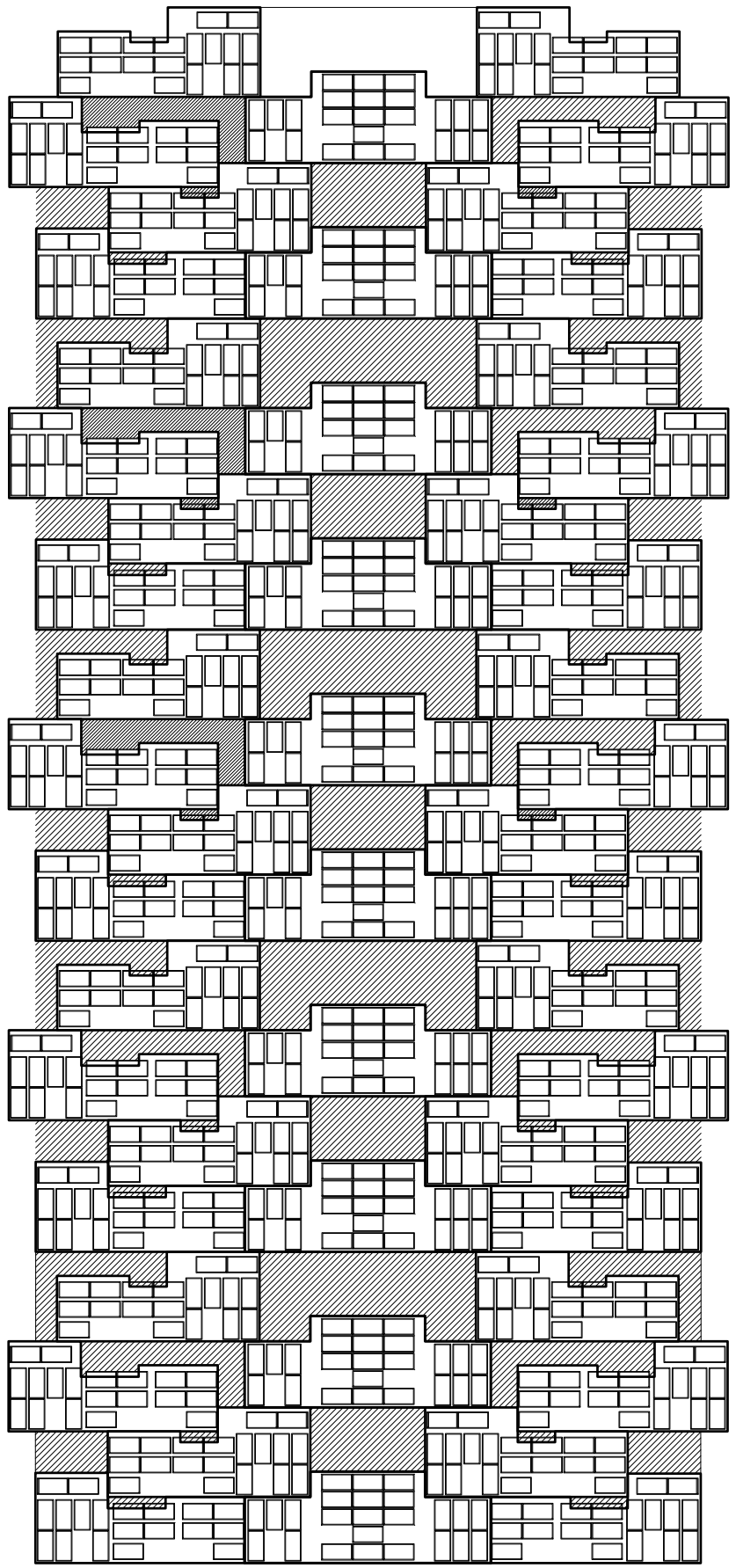
UNIT 1



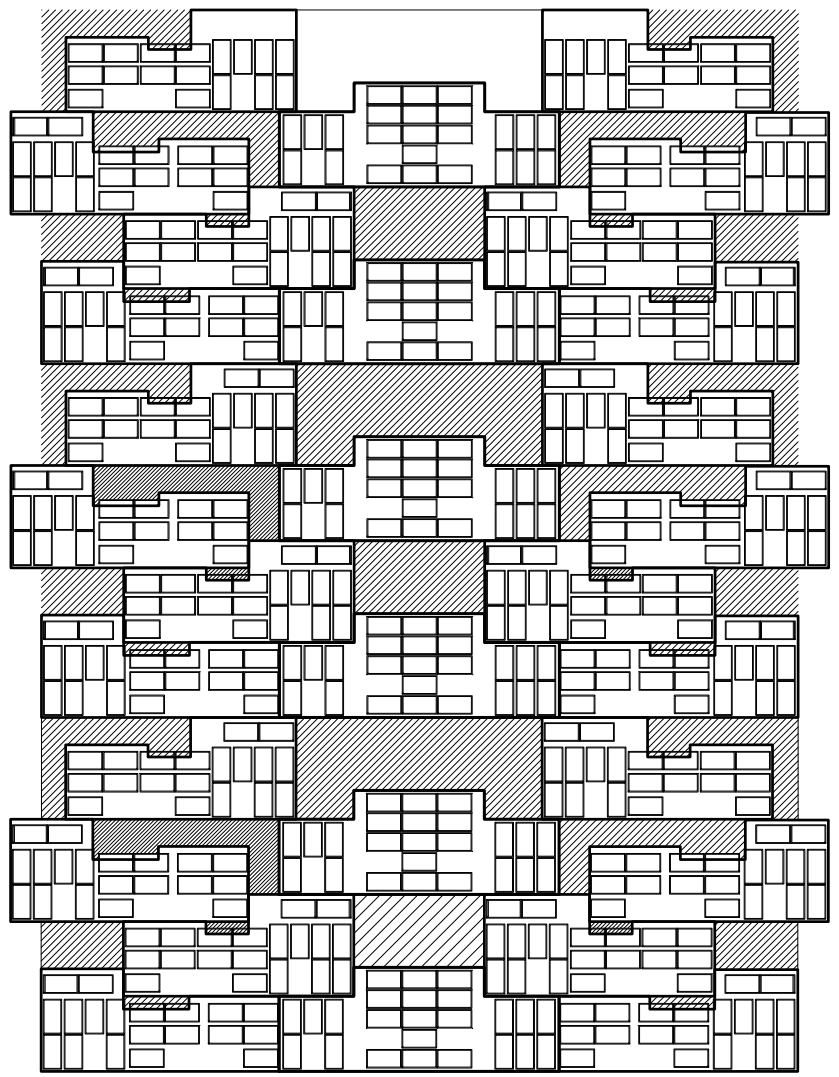


UNIT 2

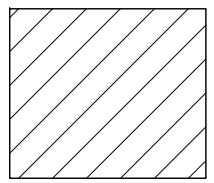
Sterlin M. Adames



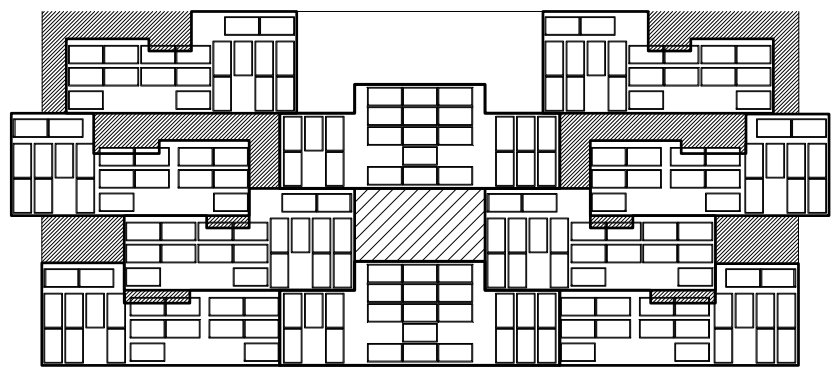
50 UNITS



30 UNITS



OPEN SPACE



10 UNITS

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT